ENGINEERING
TOMORROW

Quick Selection Catalogue - Global (Products for all regions)

Products and technologies for all your application needs, today and **tomorrow**

REFRIGERATION & AIR CONDITIONING
Automatic Controls | Electronic Controllers | Compressors and Condensing Units



Easy

selection of future-proof solutions and components.

www.danfoss.in

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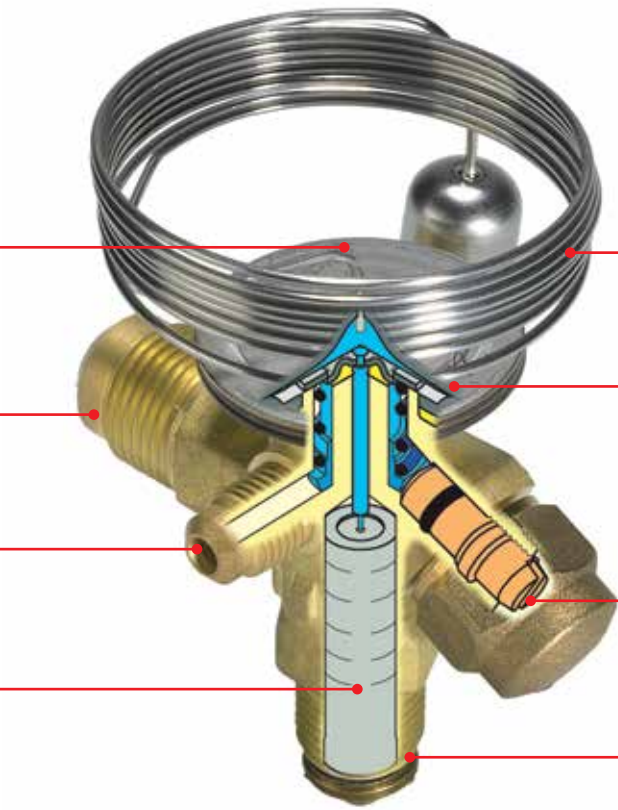
T2 / TE2, Thermostatic expansion valves

T2 / TE2 thermostatic expansion valves are used for liquid injection into evaporators on both refrigeration and air conditioning systems. T2 / TE2 valves are supplied as a parts programme, with separate thermostatic element/valve body and orifice assembly.

Available as angleway valves with flare x flare or flare x solder connections, with internal and external equalisation.



Features
T2 / TE2



Laser-welded power element in stainless steel
- long diaphragm life
- high pressure tolerance and working pressure
- high corrosion resistance

Flare or solder outlet

Flare or solder pressure equalization

Interchangeable orifice assembly with dirt protection strainer

Stainless steel capillary tube and bulb:
- high corrosion resistance
- high strength and vibration resistance

Laser-engraved label

Easy adjustment of superheat setting

Flare inlet
Solder adaptor available as an option

Facts

Applications:
- Traditional refrigeration
- Heat pump systems
- Air conditioning units
- Liquid coolers
- Transport refrigeration

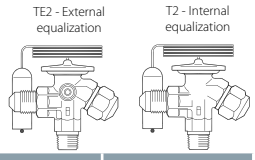
- Applicable to R22 / R407C, R134a, R404A / R507, R407C, R407F, R407A, R448A,R449A, R452A and R513A
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers,where refrigerants are listed as part of product specifications.
- Large temperature range
- Equally applicable to freezing, refrigeration and air conditioning applications

- Interchangeable orifice assembly
  - easy stocking
  - easy capacity matching
  - better service
- Can be supplied with MOP (Max. Operating Pressure)
- Protects the compressor motor against excessive evaporating pressure during normal operation
- Valves for special temperature ranges and refrigerants can be supplied
- Flare / solder adaptor can be supplied

Technical data and ordering



Thermostatic element + Orifice



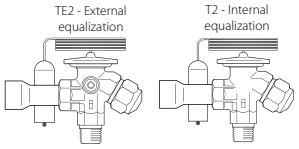
T2 / TE2

Thermostatic element with bulb strap (flare x flare)

Type	Refrigerant	Range		MOP		Pressure equalization Flare		Connection flare inlet × outlet		Code no. Multi pack
		[°C]	[°F]	[°C]	[°F]	[mm]	[in]	[mm]	[in]	
T2	R22 / R407C [1]	-40 – 10	-40 – 50	–	–	–	–	10 × 12	3/8 × 1/2	068Z3206
		-40 – 10	-40 – 50	15	60	–	–	10 × 12	3/8 × 1/2	068Z3208
		-40 – -5	-40 – 25	0	32	–	–	10 × 12	3/8 × 1/2	068Z3224
		-40 – -15	-40 – 5	-10	14	–	–	10 × 12	3/8 × 1/2	068Z3226
		-60 – -25	-75 – -15	–	–	–	–	10 × 12	3/8 × 1/2	068Z3207
		-60 – -25	-75 – -15	-20	-5	–	–	10 × 12	3/8 × 1/2	068Z3228
TE2		-40 – 10	-40 – 50	–	–	6	1/4	10 × 12	3/8 × 1/2	068Z3209
		-40 – 10	-40 – 50	15	60	6	1/4	10 × 12	3/8 × 1/2	068Z3211
		-40 – -5	-40 – 25	0	32	6	1/4	10 × 12	3/8 × 1/2	068Z3225
		-40 – -15	-40 – 5	-10	14	6	1/4	10 × 12	3/8 × 1/2	068Z3227
		-60 – -25	-75 – -15	–	–	6	1/4	10 × 12	3/8 × 1/2	068Z3210
		-60 – -25	-75 – -15	-20	-5	6	1/4	10 × 12	3/8 × 1/2	068Z3229
T2	R407C	-40 – 10	-40 – 50	–	–	–	–	10 × 12	3/8 × 1/2	068Z3496
		-40 – 10	-40 – 50	15	60	–	–	10 × 12	3/8 × 1/2	068Z3516
TE2		-40 – 10	-40 – 50	–	–	6	1/4	10 × 12	3/8 × 1/2	068Z3501
		-40 – 10	-40 – 50	15	60	6	1/4	10 × 12	3/8 × 1/2	068Z3517
T2	R134a	-40 – 10	-40 – 50	–	–	–	–	10 × 12	3/8 × 1/2	068Z3346
		-40 – 10	-40 – 50	15	60	–	–	10 × 12	3/8 × 1/2	068Z3347
		-40 – -5	-40 – 25	0	32	–	–	10 × 12	3/8 × 1/2	068Z3393
		-40 – -15	-40 – 5	-10	14	–	–	10 × 12	3/8 × 1/2	068Z3369
TE2		-40 – 10	-40 – 50	–	–	6	1/4	10 × 12	3/8 × 1/2	068Z3348
		-40 – 10	-40 – 50	15	60	6	1/4	10 × 12	3/8 × 1/2	068Z3349
		-40 – -5	-40 – 25	0	32	6	1/4	10 × 12	3/8 × 1/2	068Z3392
		-40 – -15	-40 – 5	-10	14	6	1/4	10 × 12	3/8 × 1/2	068Z3370
T2	R404A / R507	-40 – 10	-40 – 50	–	–	–	–	10 × 12	3/8 × 1/2	068Z3400
		-40 – 10	-40 – 50	15	60	–	–	10 × 12	3/8 × 1/2	068Z3402
		-40 – -5	-40 – 25	0	32	–	–	10 × 12	3/8 × 1/2	068Z3406
		-40 – -15	-40 – 5	-10	14	–	–	10 × 12	3/8 × 1/2	068Z3408
		-60 – -25	-75 – -15	–	–	–	–	10 × 12	3/8 × 1/2	068Z3401
		-60 – -25	-75 – -15	-20	-5	–	–	10 × 12	3/8 × 1/2	068Z3410
TE2		-40 – 10	-40 – 50	–	–	6	1/4	10 × 12	3/8 × 1/2	068Z3403
		-40 – 10	-40 – 50	15	60	6	1/4	10 × 12	3/8 × 1/2	068Z3405
		-40 – -5	-40 – 25	0	32	6	1/4	10 × 12	3/8 × 1/2	068Z3407
		-40 – -15	-40 – 5	-10	14	6	1/4	10 × 12	3/8 × 1/2	068Z3409
		-60 – -25	-75 – -15	–	–	6	1/4	10 × 12	3/8 × 1/2	068Z3404
		-60 – -25	-75 – -15	-20	-5	6	1/4	10 × 12	3/8 × 1/2	068Z3411
T2	R407F / R407A	-40 – 10	-40 – 50	–	–	–	–	10 × 12	3/8 × 1/2	068Z3715
TE2		-40 – 10	-40 – 50	–	–	6	1/4	10 × 12	3/8 × 1/2	068Z3714
T2	R448A / R449A	-40 – 10	-40 – 50	–	–	–	–	–	3/8 × 1/2	068Z3727
TE2		-40 – 10	-40 – 50	–	–	6	1/4	10 × 12	3/8 × 1/2	068Z3728

[1]) *For R407C plants, please select valves from the dedicated R407C program*
Capillary tube: 1.5 m / 59 in

Technical data and ordering



T2 / TE2

Thermostatic element with bulb strap (flare x solder)

Type	Refrigerant	Range		MOP		Pressure equalization solder		Connection inlet (Flare) × outlet (Solder)		Code no. Multi pack
		[°C]	[°F]	[°C]	[°F]	[mm]	[in]	[mm]	[in]	
T2	R22 / R407C [1)]	-40 – 10	-40 – 50	–	–	–	–	–	3/8 × 1/2	068Z3281
		-40 – 10	-40 – 50	–	–	–	–	10 × 12	–	068Z3302
		-40 – 10	-40 – 50	15	60	–	–	–	3/8 × 1/2	068Z3287
		-40 – 10	-40 – 50	15	60	–	–	10 × 12	–	068Z3308
		-60 – -25	-75 – -15	–	–	–	–	–	3/8 × 1/2	068Z3357
		-60 – -25	-75 – -15	–	–	–	–	10 × 12	–	068Z3361
TE2		-40 – 10	-40 – 50	–	–	–	1/4	–	3/8 × 1/2	068Z3284
		-40 – 10	-40 – 50	–	–	6	–	10 × 12	–	068Z3305
		-40 – 10	-40 – 50	15	60	–	1/4	–	3/8 × 1/2	068Z3290
		-40 – 10	-40 – 50	15	60	6	–	10 × 12	–	068Z3311
		-40 – -15	-40 – -5	-10	-15	6	–	10 × 12	–	068Z3367
		-60 – -25	-75 – -15	–	–	–	1/4	–	3/8 × 1/2	068Z3359
		-60 – -25	-75 – -15	–	–	6	–	10 × 12	–	068Z3363
T2	R407C	-40 – 10	-40 – 50	–	–	–	–	10 × 12	–	068Z3502
		-40 – 10	-40 – 50	15	60	–	–	–	3/8 × 1/2	068Z3329
		-40 – 10	-40 – 50	15	60	–	–	10 × 12	–	068Z3514
TE2		-40 – 10	-40 – 50	–	–	–	1/4	–	3/8 × 1/2	068Z3446
		-40 – 10	-40 – 50	–	–	6	–	10 × 12	–	068Z3503
		-40 – 10	-40 – 50	15	60	–	1/4	–	3/8 × 1/2	068Z3447
		-40 – 10	-40 – 50	15	60	6	–	10 × 12	–	068Z3515
T2	R134a	-40 – 10	-40 – 50	–	–	–	–	–	3/8 × 1/2	068Z3383
		-40 – 10	-40 – 50	–	–	–	–	10 × 12	–	068Z3384
		-40 – 10	-40 – 50	15	60	–	–	–	3/8 × 1/2	068Z3387
		-40 – 10	-40 – 50	15	60	–	–	10 × 12	–	068Z3388
TE2		-40 – 10	-40 – 50	–	–	–	1/4	–	3/8 × 1/2	068Z3385
		-40 – 10	-40 – 50	–	–	6	–	10 × 12	–	068Z3386
		-40 – 10	-40 – 50	15	60	–	1/4	–	3/8 × 1/2	068Z3389
		-40 – 10	-40 – 50	15	60	6	–	10 × 12	–	068Z3390
T2	R404A / R507	-40 – 10	-40 – 50	–	–	–	–	–	3/8 × 1/2	068Z3414
		-40 – 10	-40 – 50	–	–	–	–	10 × 12	–	068Z3435
		-40 – 10	-40 – 50	15	60	–	–	–	3/8 × 1/2	068Z3416
		-40 – 10	-40 – 50	15	60	–	–	10×12	–	068Z3423
		-40 – -15	-40 – -5	-10	-15	–	–	–	3/8 × 1/2	068Z3429
		-40 – -15	-40 – -5	-10	-15	–	–	10×12	–	068Z3436
		-60 – -25	-75 – -15	–	–	–	–	–	3/8 × 1/2	068Z3418
		-60 – -25	-75 – -15	–	–	–	–	10 × 12	–	068Z3425
		-60 – -25	-75 – -15	-20	-5	–	–	–	3/8 × 1/2	068Z3420
		-60 – -25	-75 – -15	-20	-5	–	–	10 × 12	–	068Z3427
TE2		-40 – 10	-40 – 50	–	–	–	1/4	–	3/8 × 1/2	068Z3415
		-40 – 10	-40 – 50	–	–	6	–	10 × 12	–	068Z3422
		-40 – 10	-40 – 50	15	60	–	1/4	–	3/8 × 1/2	068Z3417
		-40 – 10	-40 – 50	15	60	6	–	10×12	–	068Z3424
		-40 – -15	-40 – -5	-10	-15	–	1/4	–	3/8 × 1/2	068Z3430
		-40 – -15	-40 – -5	-10	-15	6	–	10×12	–	068Z3437
		-60 – -25	-75 – -15	–	–	–	1/4	–	3/8 × 1/2	068Z3419
		-60 – -25	-75 – -15	–	–	6	–	10 × 12	–	068Z3426
		-60 – -25	-75 – -15	-20	-5	–	1/4	–	3/8 × 1/2	068Z3421
		-60 – -25	-75 – -15	-20	-5	6	–	10 × 12	–	068Z3428
T2	R407F / R407A	-40 – 10	-40 – 50	–	–	–	–	–	3/8 × 1/2	068Z3716
TE2		-40 – 10	-40 – 50	–	–	–	1/4	–	3/8 × 1/2	068Z3713
T2	R448A / R449A	-40 – 10	-40 – 50	–	–	–	–	–	3/8 × 1/2	068Z3729
TE2		-40 – 10	-40 – 50	–	–	–	1/4	–	3/8 × 1/2	068Z3730
T2	R452A	-40 – 10	-40 – 50	–	–	–	–	–	3/8 × 1/2	068Z3806
TE2		-40 – 10	-40 – 50	–	–	–	1/4	–	3/8 × 1/2	068Z3807
T2		-40 – 10	-40 – 50	–	–	–	–	10 × 12	–	068Z3808
TE2		-40 – 10	-40 – 50	–	–	6	–	10 × 12	–	068Z3809

[1)] For R407C plants, please select valves from the dedicated R407C program
Capillary tube: 1.5 m / 59 in

Technical data and ordering

T2 / TE2

Orifice assembly for flare version

Range: -40 – 10 °C / -40 – 50 °F



Type	Orifice	R22		R407C		R134a		R513A		R404A / R507		R407A		R407F		R448A		R449A		R452A		Code no.
		[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	
T2 / TE2	0X	0.9	0.25	0.92	0.26	0.68	0.19	0.58	0.16	0.64	0.18	0.88	0.25	1	0.28	0.9	0.26	0.88	0.25	0.69	0.20	068-2002
	00	1.8	0.51	1.8	0.51	1.2	0.34	1	0.29	1.3	0.37	1.7	0.49	2	0.56	1.8	0.51	1.7	0.49	1.3	0.38	068-2003
	01	3.5	1	3.5	1	2.1	0.59	1.8	0.51	2.6	0.75	3.4	1	3.9	1.1	3.5	1	3.4	0.97	2.7	0.78	068-2010
	02	4.7	1.3	4.8	1.4	2.6	0.73	2.2	0.62	3.7	1	4.7	1.3	5.4	1.5	4.8	1.4	4.6	1.3	3.8	1.1	068-2015
	03	8	2.3	8.1	2.3	4.3	1.2	3.7	1	6.3	1.8	8	2.3	9.2	2.6	8.1	2.3	7.9	2.3	6.4	1.8	068-2006
	04	12.1	3.4	12.4	3.5	6.4	1.8	5.4	1.5	9.9	2.8	12.4	3.5	14.3	4.1	12.6	3.6	12.1	3.5	10.0	2.9	068-2007
	05	16.7	4.8	16.5	4.7	8.4	2.4	6.9	2	13	3.7	16.3	4.6	19	5.4	16.3	4.6	15.7	4.5	12.6	3.6	068-2008
	06	19.7	5.6	19.7	5.6	10.1	2.9	8.6	2.5	15.5	4.4	19.6	5.6	22.9	6.5	19.8	5.7	19.1	5.5	15.8	4.5	068-2009

The rated capacity is based on:
Evaporating temperature t_e = 4.4 °C / 40 °F
Condensing temperature t_c = 38 °C / 100 °F
Refrigerant temperature ahead of valve t_l = 37 °C / 98 °F

T2 / TE2

Orifice assembly for solder adapter version

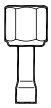
Range: -40 – 10 °C / -40 – 50 °F



Type	Orifice	R22		R407C		R134a		R513A		R404A / R507		R407A		R407F		R448A		R449A		R452A		Code no.
		[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	
T2 / TE2	0X	0.9	0.25	0.92	0.26	0.68	0.19	0.58	0.16	0.64	0.18	0.88	0.25	1	0.28	0.9	0.26	0.88	0.25	0.69	0.20	068-2089
	00	1.8	0.51	1.8	0.51	1.2	0.34	1	0.29	1.3	0.37	1.7	0.49	2	0.56	1.8	0.51	1.7	0.49	1.3	0.38	068-2090
	01	3.5	1	3.5	1	2.1	0.59	1.8	0.51	2.6	0.75	3.4	1	3.9	1.1	3.5	1	3.4	0.97	2.7	0.78	068-2091
	02	4.7	1.3	4.8	1.4	2.6	0.73	2.2	0.62	3.7	1	4.7	1.3	5.4	1.5	4.8	1.4	4.6	1.3	3.8	1.1	068-2092
	03	8	2.3	8.1	2.3	4.3	1.2	3.7	1	6.3	1.8	8	2.3	9.2	2.6	8.1	2.3	7.9	2.3	6.4	1.8	068-2093
	04	12.1	3.4	12.4	3.5	6.4	1.8	5.4	1.5	9.9	2.8	12.4	3.5	14.3	4.1	12.6	3.6	12.1	3.5	10.0	2.9	068-2094
	05	16.7	4.8	16.5	4.7	8.4	2.4	6.9	2	13	3.7	16.3	4.6	19	5.4	16.3	4.6	15.7	4.5	12.6	3.6	068-2095
	06	19.7	5.6	19.7	5.6	10.1	2.9	8.6	2.5	15.5	4.4	19.6	5.6	22.9	6.5	19.8	5.7	19.1	5.5	15.8	4.5	068-2096

The rated capacity is based on:
Evaporating temperature t_e = 4.4 °C / 40 °F
Condensing temperature t_c = 38 °C / 100 °F
Refrigerant temperature ahead of valve t_l = 37 °C / 98 °F

Solder adaptor without orifice assembly



Connection – ODF solder	Code no.
¼ in	068-2062
6 mm	068-2063
6 mm	068-4101 [1])
⅜ in	068-2060
10 mm	068-2061
10 mm	068-4100 [1])

[1]) *Including filter.*

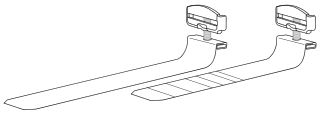
Filter as accessories



Filter type	Code no.
For flare connection	068-0003
For solder adaptor	068-0015

The solder adaptor is for use with thermostatic expansion valves T2 and TE2.
When the solder adaptor is fitted correctly it meets the sealing requirements of DIN 8964. The flare orifice in T2 and TE2 can be used with a solder adaptor when the orifice filter is replaced with a specific filter intended for solder adaptors. Only in this way the sealing requirements of DIN 8964 can be fulfilled.
Solder adaptors for filter driers (FSA) must not be used on the T2 inlet.

Bulb strap as accessories



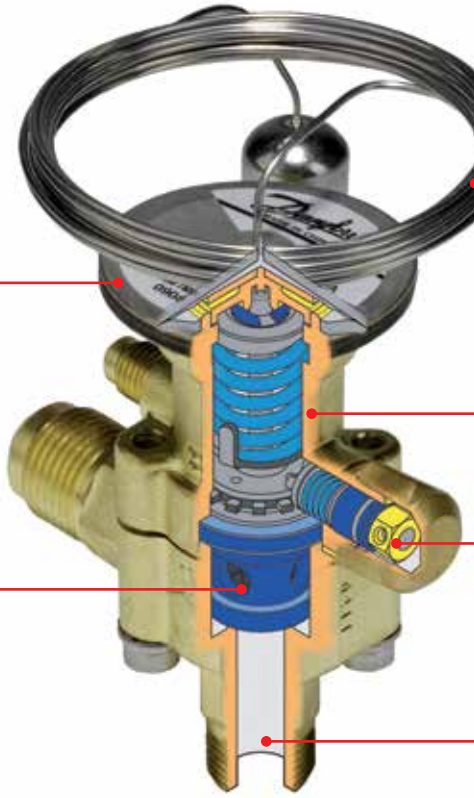
Type	Length	Max. diameter of suction line		Code no.
	[mm]	[mm]	[in]	
T2 / TE2 Accessories	110	28	1 ⅛	068U3507
	190	50	2	068U3508

TE 5 – TE 55, Thermostatic expansion valves

TE 5 – TE 55 thermostatic expansion valves regulate the injection of refrigerant liquid into evaporators for medium sized plants. Injection is controlled by the refrigerant superheat. Therefore the valves are especially suitable for liquid injection in "*dry*" evaporators where the superheat at the evaporator outlet should always be kept constant. TE 5 – TE 55 valves are supplied as parts programme, built up of three main components - thermostatic element, orifice assembly, and valve body with connections, and have external pressure equalization.



Features
TE 5 - TE 55



Laser-welded power element in stainless steel
- longer diaphragm life
- high pressure tolerance and working pressure
- high corrosion resistance

Stainless steel capillary tube and bulb
- high corrosion resistance
- high strength and vibration resistance

Large parts programme ensures minimal stocks

To ensure long operating life, the valve cone and seat are made of a special alloy with particularly good wear qualities

Easy adjustment of superheat setting

More connection possibilities
- solder × solder
- flare × flare
- flanges
- straightway or angleway

Facts

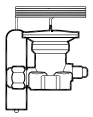
Applications:
- Air conditioning system
- Chiller
- Cold room
- Freezer
- Other refrigeration systems

- Applicable to R22, R134a, R404A, R507, R407A, R407F, R407C, R448A, R449A, R452A and R513A
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- Interchangeable orifice assembly designed for:
  - easy storage
  - easy capacity matching
  - better service
- Wide operating range:
  -40 – 10 °C / -40 – 50 °F
  -60 – -25 °C / -75 – -15 °F
- TE 55 has balanced port design
- Available with MOP (Max. Operating Pressure)
- Wide capacity range, rated capacity:
  R448A / R449A : 9 – 225 kW / 2.5 – 64 TR
  R407F: 11 – 250 kW / 3 – 71 TR
  R404A / R507: 7 – 183 kW / 2 – 52 TR
- Maximum Working Pressure PS / MWP:
  28 bar / 400 psig

Technical data and ordering



Element for expansion valve + Orifice + Valve body



TE 5 – TE 55, R404A / R507

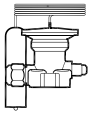
Element for expansion valve - including bulb strap

Type	Range		MOP		Pressure equalization			Capillary tube		Code no. Multi pack
	[°C]	[°F]	[°C]	[°F]	[mm]	[in]	Type	[m]	[in]	
TE 5	-40 – 10	-40 – 50	–	–	6	1/4	Flare	3	118	067B3342
	-40 – 10	-40 – 50	–	–	–	1/4	Solder ODF	3	118	067B3380
	-40 – 10	-40 – 50	15	60	6	1/4	Flare	3	118	067B3238
	-40 – -5	-40 – 25	0	32	6	1/4	Flare	3	118	067B3357
	-40 – -15	-40 – 5	-10	15	6	1/4	Flare	3	118	067B3358
	-40 – -15	-40 – 5	-10	15	–	1/4	Solder ODF	3	118	067B3384
	-60 – -25	-75 – -15	–	–	6	1/4	Flare	3	118	067B3344
	-60 – -25	-75 – -15	–	–	6	–	Solder ODF	3	118	067B3392
	-60 – -25	-75 – -15	-20	-5	6	1/4	Flare	3	118	067B3343
	-60 – -25	-75 – -15	-20	-5	–	1/4	Solder ODF	3	118	067B3381
TE 12	-40 – 10	-40 – 50	–	–	6	1/4	Flare	3	118	067B3347
	-40 – -5	-40 – 25	0	32	6	1/4	Flare	3	118	067B3345
	-40 – -15	-40 – 5	-10	15	6	1/4	Flare	3	118	067B3348
	-60 – -25	-75 – -15	-20	-5	6	1/4	Flare	3	118	067B3349
	-60 – -25	-75 – -15	–	–	6	1/4	Flare	3	118	067B3368
	-40 – 10	-40 – 50	–	–	6	1/4	Flare	5	197	067B3346
	-60 – -25	-75 – -15	-20	-5	6	1/4	Flare	5	197	067B3350
TE 20	-40 – 10	-40 – 50	–	–	6	1/4	Flare	3	118	067B3352
	-40 – -5	-40 – 25	0	32	6	1/4	Flare	3	118	067B3351
	-40 – -15	-40 – 5	-10	15	6	1/4	Flare	3	118	067B3353
	-60 – -25	-75 – -15	-20	-5	6	1/4	Flare	3	118	067B3354
	-40 – 10	-40 – 50	–	–	6	1/4	Flare	5	197	067B3356
	-60 – -25	-75 – -15	-20	-5	6	1/4	Flare	5	197	067B3355
TE 55	-40 – 10	-40 – 50	–	–	6	1/4	Flare	3	118	067G3302
	-40 – -5	-40 – 25	0	32	6	1/4	Flare	3	118	067G3303
	-40 – -15	-40 – 5	-10	15	6	1/4	Flare	3	118	067G3304
	-60 – -25	-75 – -15	-20	-5	6	1/4	Flare	3	118	067G3305
	-40 – 10	-40 – 50	–	–	6	1/4	Flare	5	197	067G3301
	-60 – -25	-75 – -15	-20	-5	6	1/4	Flare	5	197	067G3306

Technical data and ordering

TE 5 – TE 55, R22 / R407C

Element for expansion valve - including bulb strap

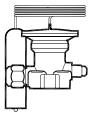


Type	Range		MOP		Pressure equalization			Capillary tube		Code no. Multi pack
	[°C]	[°F]	[°C]	[°F]	[mm]	[in]	Type	[m]	[in]	
TE 5	-40 – 10	-40 – 50	–	–	6	1/4	Flare	3	118	067B3250
	-40 – 10	-40 – 50	–	–	–	1/4	Solder ODF	3	118	067B3420
	-40 – 10	-40 – 50	15	60	6	1/4	Flare	3	118	067B3267
	-40 – -5	-40 – 25	0	32	6	1/4	Flare	3	118	067B3249
	-40 – -15	-40 – 5	-10	15	6	1/4	Flare	3	118	067B3253
	-60 – -25	-75 – -15	–	–	6	1/4	Flare	3	118	067B3263
	-60 – -25	-75 – -15	-20	-5	6	1/4	Flare	3	118	067B3251
TE 12	-40 – 10	-40 – 50	–	–	6	1/4	Flare	3	118	067B3210
	-40 – 10	-40 – 50	15	60	6	1/4	Flare	3	118	067B3227
	-40 – -5	-40 – 25	0	32	6	1/4	Flare	3	118	067B3207
	-40 – -15	-40 – 5	-10	15	6	1/4	Flare	3	118	067B3213
	-60 – -25	-75 – -15	-20	-5	6	1/4	Flare	3	118	067B3211
	-60 – -25	-75 – -15	–	–	6	1/4	Flare	3	118	067B3225
	-40 – 10	-40 – 50	–	–	6	1/4	Flare	5	197	067B3209
	-60 – -25	-75 – -15	-20	-5	6	1/4	Flare	5	197	067B3212
TE 20	-40 – 10	-40 – 50	–	–	6	1/4	Flare	3	118	067B3274
	-40 – 10	-40 – 50	15	60	6	1/4	Flare	3	118	067B3286
	-40 – -5	-40 – 25	0	32	6	1/4	Flare	3	118	067B3273
	-40 – -15	-40 – 5	-10	15	6	1/4	Flare	3	118	067B3275
	-60 – -25	-75 – -15	-20	-5	6	1/4	Flare	3	118	067B3276
	-40 – 10	-40 – 50	–	–	6	1/4	Flare	5	197	067B3290
	-60 – -25	-75 – -15	-20	-5	6	1/4	Flare	5	197	067B3287
TE 55	-40 – 10	-40 – 50	-	–	6	1/4	Flare	3	118	067G3205
	-40 – 10	-40 – 50	15	60	6	1/4	Flare	3	118	067G3220
	-40 – -5	-40 – 25	0	32	6	1/4	Flare	3	118	067G3206
	-60 – -25	-75 – -15	-20	-5	6	1/4	Flare	3	118	067G3207
	-40 – 10	-40 – 50	–	–	6	1/4	Flare	5	197	067G3209
	-60 – -25	-75 – -15	-20	-5	6	1/4	Flare	5	197	067G3217

For R407C plants. please select elements from the dedicated R407C program

TE 5 – TE 55, R134a

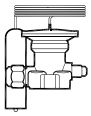
Element for expansion valve - including bulb strap



Type	Range		MOP		Pressure equalization			Capillary tube		Code no. Multi pack
	[°C]	[°F]	[°C]	[°F]	[mm]	[in]	Type	[m]	[in]	
TE 5	-40 – 10	-40 – 50	–	–	6	1/4	Flare	3	118	067B3297
	-40 – 10	-40 – 50	–	–	–	1/4	Solder ODF	3	118	067B3430
	-40 – 10	-40 – 50	15	60	6	1/4	Flare	3	118	067B3298
TE 12	-40 – 10	-40 – 50	–	–	6	1/4	Flare	3	118	067B3232
	-40 – 10	-40 – 50	15	60	6	1/4	Flare	3	118	067B3233
	-40 – 10	-40 – 50	–	–	6	1/4	Flare	5	197	067B3363
TE 20	-40 – 10	-40 – 50	–	–	6	1/4	Flare	3	118	067B3292
	-40 – 10	-40 – 50	15	60	6	1/4	Flare	3	118	067B3293
	-40 – 10	-40 – 50	–	–	6	1/4	Flare	5	197	067B3370
TE 55	-40 – 10	-40 – 50	–	–	6	1/4	Flare	3	118	067G3222
	-40 – 10	-40 – 50	15	60	6	1/4	Flare	3	118	067G3223
	-40 – 10	-40 – 50	–	–	6	1/4	Flare	5	197	067G3230

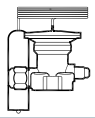
TE 5 – TE 55, R407C

Element for expansion valve - including bulb strap



Type	Range		MOP		Pressure equalization			Capillary tube		Code no. Multi pack
	[°C]	[°F]	[°C]	[°F]	[mm]	[in]	Type	[m]	[in]	
TE 5	-40 – 10	-40 – 50	-	-	6	1/4	Flare	3	118	067B3278
	-40 – 10	-40 – 50	15	60	6	1/4	Flare	3	118	067B3277
TE 12	-40 – 10	-40 – 50	-	-	6	1/4	Flare	3	118	067B3366
	-40 – 10	-40 – 50	15	60	6	1/4	Flare	3	118	067B3367
TE 20	-40 – 10	-40 – 50	-	-	6	1/4	Flare	5	197	067B3371
	-40 – 10	-40 – 50	15	60	6	1/4	Flare	5	197	067B3372
TE 55	-40 – 10	-40 – 50	-	-	6	1/4	Flare	5	197	067G3240
	-40 – 10	-40 – 50	15	60	6	1/4	Flare	5	197	067G3241

Technical data and ordering

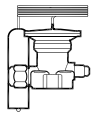


TE 5 – TE 55, R407F / R407A

Element for expansion valve - including bulb strap

Type	Range		MOP		Pressure equalization			Capillary tube		Code no. Multi pack
	[°C]	[°F]	[°C]	[°F]	[mm]	[in]	Type	[m]	[in]	
TE 5	-40 – 10	-40 – 50	–	–	6	1/4	Flare	3	118	067B3501
	-40 – -5	-40 – 25	0	32	6	1/4	Flare	3	118	067B3502
	-40 – -15	-40 – 5	-10	15	6	1/4	Flare	3	118	067B3503
	-40 – 10	-40 – 50	–	–	–	1/4	Solder ODF	3	118	067B3504
TE 12	-40 – 10	-40 – 50	–	–	6	1/4	Flare	3	118	067B3532
	-40 – -5	-40 – 25	0	32	6	1/4	Flare	3	118	067B3531
	-40 – -15	-40 – 5	-10	15	6	1/4	Flare	3	118	067B3533
TE 20	-40 – 10	-40 – 50	–	–	6	1/4	Flare	3	118	067B3561
	-40 – -5	-40 – 25	0	32	6	1/4	Flare	3	118	067B3560
	-40 – -15	-40 – 5	-10	15	6	1/4	Flare	3	118	067B3562
TE 55	-40 – 10	-40 – 50	–	–	6	1/4	Flare	3	118	067G3500

On systems charged with R407A, static sueprheat(SS) will different from standard 4K / 7.2 °F.
For range -40 – 10 °C / -40 – 50 °F, SS = 2.7 K / 4.9 °F.
For range -40 – -5 °C / -40 – 25 °F and range -40 – -15 °C / -40 – 5 °F, SS = 2.8K / 5.0 °F.

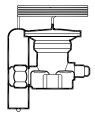


TE 5 – TE 55, R448A / R449A

Element for expansion valve - including bulb strap

Type	Range		MOP		Pressure equalization			Capillary tube		Code no. Multi pack
	[°C]	[°F]	[°C]	[°F]	[mm]	[in]	Type	[m]	[in]	
TE 5	-40 – 10	-40 – 50	–	–	6	1/4	Flare	3	118	067B3252
	-60 – -25	-75 – -15	-20	-5	6	1/4	Flare	3	118	067B3600
TE 12	-40 – 10	-40 – 50	–	–	6	1/4	Flare	3	118	067B2512
TE 20	-40 – 10	-40 – 50	–	–	6	1/4	Flare	3	118	067B3294
TE 55	-40 – 10	-40 – 50	–	–	6	1/4	Flare	3	118	067G3219

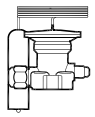
On systems charged with R449A, static sueprheat(SS) will be 2.7 K / 4.9 °F



TE 5 – TE 55, R452A

Element for expansion valve - including bulb strap

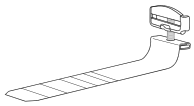
Type	Range		MOP		Pressure equalization			Capillary tube		Code no. Multi pack
	[°C]	[°F]	[°C]	[°F]	[mm]	[in]	Type	[m]	[in]	
TE 5	-40 – 10	-40 – 50	–	–	6	1/4	Flare	3	118	067B3601
	-60 – -25	-75 – -15	-20	-5	6	1/4	Flare	3	118	067B3602
TE 12	-40 – 10	-40 – 50	–	–	6	1/4	Flare	3	118	067B3652
TE 20	-40 – 10	-40 – 50	–	–	6	1/4	Flare	3	118	067B3680
TE 55	-40 – 10	-40 – 50	–	–	6	1/4	Flare	3	118	067G3600



TE 5 – TE 55, R513A

Element for expansion valve - including bulb strap

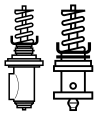
Type	Range		MOP		Pressure equalization			Capillary tube		Code no. Multi pack
	[°C]	[°F]	[°C]	[°F]	[mm]	[in]	Type	[m]	[in]	
TE 5	-40 – 10	-40 – 50	–	–	6	1/4	Flare	3	118	067B3603
TE 12	-40 – 10	-40 – 50	–	–	6	1/4	Flare	3	118	067B3651
TE 20	-40 – 10	-40 – 50	–	–	6	1/4	Flare	3	118	067B3681
TE 55	-40 – 10	-40 – 50	–	–	6	1/4	Flare	3	118	067G3601



Bulb strap supplied separately as spare part

Max. diameter of suction line		Quantity / box	Code no. Industrial pack
[mm]	[in]		
53	2 1/8	40 pcs	067N0557
78	3 1/8	40 pcs	067N0559

Technical data and ordering



TE 5 – TE 55

Orifice assembly - Rated capacity

Type	Orifice	R407F		R407A		R448A/R449A		R452A		R404A/R507		R22		R513A		R134a		R407C		Code no. Multi pack
		[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	
TE 5	0.5	11	3	9	2.5	9	2.5	7	2	7	2	9	2.5	5	1.5	5	1.5	11	3	067B2788
	01	18	5	18	5	18	5	14	4	14	4	16	4.5	11	3	11	3	18	5	067B2789
	02	28	8	25	7	25	7	21	6	19	5.5	25	7	14	4	16	4.5	25	7	067B2790
	03	35	10	32	9	32	9	28	8	25	7	32	9	18	5	21	6	32	9	067B2791
	04	46	13	42	12	46	13	39	11	35	10	42	12	25	7	28	8	46	13	067B2792
TE 12	05	70	20	56	16	53	15	46	13	49	14	56	16	30	8.5	35	10	53	15	067B2708
	06	95	27	74	21	70	20	63	18	63	18	74	21	39	11	49	14	74	21	067B2709
	07	113	32	95	27	91	26	81	23	81	23	95	27	53	15	63	18	91	26	067B2710
TE20	08	141	40	127	36	123	35	84	24	84	24	127	36	74	21	77	22	116	33	067B2771 [1])
	09	158	45	148	42	141	40	98	28	102	29	148	42	81	23	91	26	134	38	067B2773 [1])
TE 55	9B	123	35	109	31	113	32	84	24	84	24	113	32	70	20	74	21	109	31	067G2705 [1])
	10	172	49	165	47	155	44	116	33	127	36	169	48	98	28	109	31	162	46	067G2701
	11	186	53	183	52	169	48	127	36	137	39	183	52	106	30	120	34	176	50	067G2704
	12	208	59	200	57	186	53	141	40	151	43	200	57	116	33	134	38	190	54	067G2707
	13	250	71	243	69	225	64	172	49	183	52	246	70	144	41	165	47	232	66	067G2710

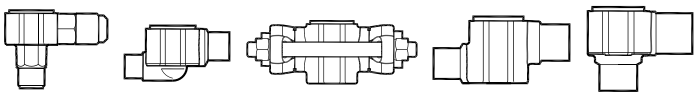
The rated capacity is based on:
Evaporating temperature t_e = 4.4 °C / 40 °F
Condensing temperature t_c = 38 °C / 100 °F
Refrigerant temperature ahead of valve t_l = 37 °C / 98 °F

[1]) Recommend to use orifice no. 9B as alternative for orifice no. 08 and 09 on TE 55 when selecting the valve to work in range -60 – -25 °C / -75 – -15 °F. Please contact Danfoss for more information.

Technical data and ordering

TE 5 - TE 55

Valve body



Type	Connection / Flow direction	Connection Type	Connection inlet × outlet		Code no. Multi pack
			[mm]	[in]	
TE 5	Flare angleway	–	12 × 16	½ × ⅝	067B4013
	Solder angleway	ODF × ODF	–	½ × ⅝	067B4009
	Solder angleway	ODF × ODF	–	½ × ⅞	067B4010
	Solder angleway	ODF × ODF	–	⅝ × ⅞	067B4011
	Solder angleway	ODF × ODM	–	⅞ × 1 ⅛	067B4034
	Solder angleway	ODF × ODF	12 × 16	–	067B4004
	Solder angleway	ODF × ODF	12 × 22	–	067B4005
	Solder angleway	ODF × ODF	16 × 22	–	067B4012
	Solder angleway	ODF × ODM	22 × 28	–	067B4037
	Solder straightway	ODF × ODF	–	½ × ⅝	067B4007
	Solder straightway	ODF × ODF	–	½ × ⅞	067B4008
	Solder straightway	ODF × ODF	–	⅝ × ⅞	067B4032
	Solder straightway	ODF × ODM	–	⅞ × 1 ⅛	067B4033
	Solder straightway	ODF × ODF	12 × 16	–	067B4002
	Solder straightway	ODF × ODF	12 × 22	–	067B4003
	Solder straightway	ODF × ODF	16 × 22	–	067B4035
	Solder straightway	ODF × ODM	22 × 28	–	067B4036
TE 12	Solder angleway	ODF × ODF	–	⅝ × ⅞	067B4022
	Solder angleway	ODF × ODM	–	⅞ × 1 ⅛	067B4023
	Solder angleway	ODF × ODM	22 × 28	–	067B4017
	Solder straightway	ODF × ODF	–	⅝ × ⅞	067B4020
	Solder straightway	ODF × ODM	–	⅞ × 1 ⅛	067B4021
	Solder straightway	ODF × ODM	22 × 28	–	067B4016
	Solder flanges	ODF × ODF	–	⅝ × ⅞	067B4025
	Solder flanges	ODF × ODF	–	⅞ × 1	067B4026
	Solder flanges	ODF × ODF	16 × 22	–	067B4027
	Solder flanges	ODF × ODF	22 × 25	–	067B4015
TE 20	Solder angleway	ODF × ODM	–	⅞ × 1 ⅛	067B4023
	Solder angleway	ODF × ODM	22 × 28	–	067B4017
	Solder straightway	ODF × ODM	–	⅞ × 1 ⅛	067B4021
	Solder straightway	ODF × ODM	22 × 28	–	067B4016
TE 55	Solder angleway	ODM × ODM	–	1 ⅛ × 1 ⅜	067G4004
	Solder angleway	ODM × ODM	28 × 35	–	067G4002
	Solder straightway	ODM × ODM	–	1 ⅛ × 1 ⅜	067G4003
	Solder straightway	ODM × ODM	28 × 35	–	067G4001

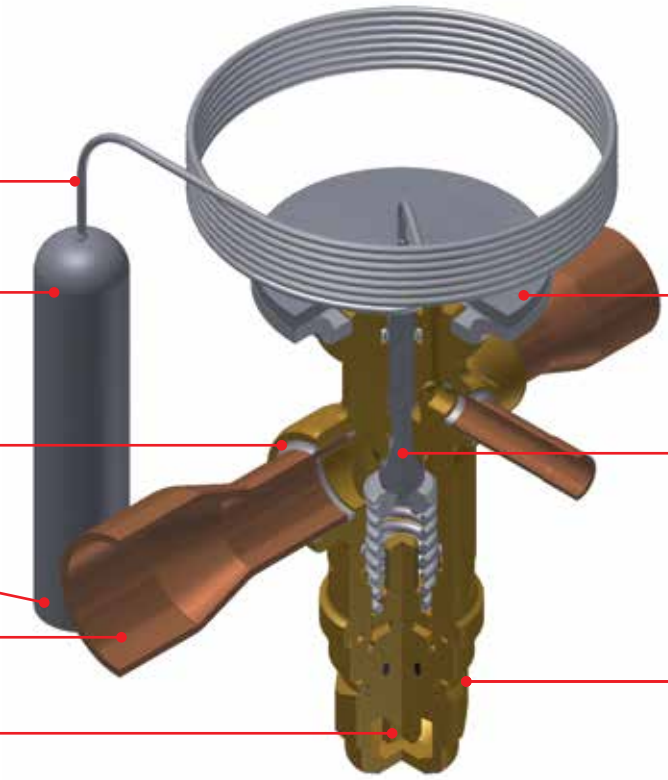
ODF = internal diameter
ODM = External diameter

TGE, Thermostatic expansion valve

TGE is an innovatively designed series of thermostatic expansion valves for fluorinated refrigerants.
TGE has copper connections upgraded for high-pressure applications with tight soldering, and is available with a wide variety of connection types such as solder, flare, MIO, and ORFS, and a wide variety of connection sizes.



Features
TGE



Facts

Applications:
- Water chillers
- Bus A/C
- Rooftop units
- Heat pumps
- Refrigerated containers
- Others A/C and refrigeration system

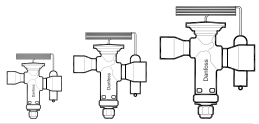
- Refrigerants: R410A, R32, R452B, R454B, R22,R134a, R1234ze, R407F, R407A,R404A, R507, R407C and R290

For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers,where refrigerants are listed as part of product specifications.
- Capacity range: 3.5 – 52 TR / 12 – 182 kW for R410A
- Balance port design
- Biflow with expansion in both directions
- Low hysteresis
- Long lifetime for heat pump applications
- Mechanical connections types solder ODF, flare, MIO, ORFS are available
- Laser welded, stainless steel power element, capillary tube, and bulb
- MOP (Max. Operating Pressure) function is available
- Optional bleed function
- PS / MWP (maximum working pressure): 46 bar/ 667 psig
- Straightway flow
- Adjustable superheat setting
- Cylindrical bulb and patented bulb strap design
- Compliance with ATEX hazard zone 2
- UL certified

Technical data and ordering

TGE - R22 / R407C

Thermostatic expansion valve with bulb strap
Range: -40 – 10 °C / -40 – 50 °F



Type	Orifice no.	Rated capacity [1]		Connections solder ODF				Capillary tube		Code no. Multi pack
				Inlet x Outlet		Pressure equalization				
		[kW]	[TR]	[mm]	[in]	[mm]	[in]	[m]	[in]	
TGE 10	3	10	3	–	3/8 x 5/8	–	1/4	1.5	59	067N2150
	3	10	3	–	1/2 x 5/8	–	1/4	1.5	59	067N2151
	4	14	4	–	1/2 x 7/8	–	1/4	1.5	59	067N2152
	6	20	6	–	1/2 x 5/8	–	1/4	1.5	59	067N2153
	6	20	6	–	1/2 x 7/8	–	1/4	1.5	59	067N2154
	6	20	6	12 × 22	–	6	–	1.5	59	067N2194
	6	20	6	16 × 16	–	6	–	1.5	59	067N2263
	6	20	6	–	5/8 x 7/8	–	1/4	1.5	59	067N2155
	8	27	7.5	–	5/8 x 7/8	–	1/4	1.5	59	067N2156
	8	27	7.5	16 × 22	–	6	–	1.5	59	067N2196
	9	32	9	–	5/8 x 7/8	–	1/4	1.5	59	067N2460
	9	32	9	16 x 22	–	6	–	1.5	59	067N2281
	11	38	11	–	5/8 x 7/8	–	1/4	1.5	59	067N2157
	11	38	11	16 × 22	–	6	–	1.5	59	067N2197
	11	38	11	–	5/8 x 1 1/8	–	1/4	1.5	59	067N2158
	11	38	11	16 × 28	–	6	–	1.5	59	067N2198
	12.5	43	12	–	5/8 x 7/8	–	1/4	1.5	59	067N2720
	16	50	14	–	5/8 x 1 1/8	–	1/4	1.5	59	067N2721
	16	50	14	–	7/8 x 1 1/8	–	1/4	1.5	59	067N2722
TGE 20	12.5	43	12	–	5/8 x 7/8	–	1/4	1.5	59	067N2159
	12.5	43	12	–	5/8 x 1 1/8	–	1/4	1.5	59	067N2160
	12.5	43	12	16 × 28	–	6	–	1.5	59	067N2200
	16	54	15	–	5/8 x 7/8	–	1/4	1.5	59	067N2255
	16	54	15	–	5/8 x 1 1/8	–	1/4	1.5	59	067N2161
	16	54	15	–	7/8 x 1 1/8	–	1/4	1.5	59	067N2162
	20	63	18	–	7/8 x 1 1/8	–	1/4	1.5	59	067N2163
	20	63	18	–	7/8 x 1 3/8	–	1/4	1.5	59	067N2164
TGE 40	26	92	26	–	7/8 x 1 1/8	–	1/4	3	118	067N2251
	26	92	26	–	7/8 x 1 3/8	–	1/4	3	118	067N2165
	30	104	30	–	7/8 x 1 3/8	–	1/4	3	118	067N2167
	30	104	30	–	1 1/8 x 1 3/8	–	1/4	3	118	067N2168
	40	134	38	–	1 1/8 x 1 3/8	–	1/4	3	118	067N2169
	42	148	42	–	1 1/8 x 1 3/8	–	1/4	3	118	067N2283

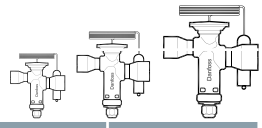
[1]) The rated capacity is based on:
Evaporating temperature t_e = 4.4 °C / 40 °F
Condensing temperature t_c = 38 °C / 100 °F
Refrigerant temperature ahead of valve t_l = 37 °C / 98 °F

For R407C plants, please select valves from the dedicated R407C program.

Technical data and ordering

TGE - R22 / R407C

Thermostatic expansion valve with bulb strap
Range: - 25 – 10 °C / -15 – 50 °F with MOP 100 psig / 6.9 bar



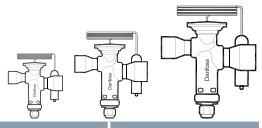
Type	Orifice no.	Rated capacity [1]		Connections solder ODF		Capillary tube		Code no. Multi pack
				Inlet x Outlet	Pressure equalization			
		[kW]	[TR]	[in]	[in]	[m]	[in]	
TGE 10	3	10	3	3/8 x 5/8	1/4	1.5	59	067N2000
	3	10	3	1/2 x 5/8	1/4	1.5	59	067N2001
	4	14	4	1/2 x 7/8	1/4	1.5	59	067N2002
	6	20	6	1/2 x 5/8	1/4	1.5	59	067N2003
	6	20	6	5/8 x 7/8	1/4	1.5	59	067N2005
	8	27	7.5	5/8 x 7/8	1/4	1.5	59	067N2006
	11	38	11	5/8 x 7/8	1/4	1.5	59	067N2007
	11	38	11	5/8 x 1 1/8	1/4	1.5	59	067N2008
	12.5	43	12	5/8 x 7/8	1/4	1.5	59	067N2700
	16	50	14	7/8 x 1 1/8	1/4	1.5	59	067N2701
TGE 20	12.5	43	12	5/8 x 7/8	1/4	1.5	59	067N2009
	12.5	43	12	5/8 x 1 1/8	1/4	1.5	59	067N2010
	16	54	15	5/8 x 1 1/8	1/4	1.5	59	067N2011
	16	54	15	7/8 x 1 1/8	1/4	1.5	59	067N2012
	20	63	18	7/8 x 1 1/8	1/4	1.5	59	067N2013
	20	63	18	7/8 x 1 3/8	1/4	1.5	59	067N2014
TGE 40	26	92	26	7/8 x 1 3/8	1/4	3	118	067N2015
	26	92	26	1 1/8 x 1 3/8	1/4	3	118	067N2016
	30	104	30	7/8 x 1 3/8	1/4	3	118	067N2017
	30	104	30	1 1/8 x 1 3/8	1/4	3	118	067N2018
	40	134	38	1 1/8 x 1 3/8	1/4	3	118	067N2019

[1]) The rated capacity is based on:
Evaporating temperature t_e = 4.4 °C / 40 °F
Condensing temperature t_c = 38 °C / 100 °F
Refrigerant temperature ahead of valve t_l = 37 °C / 98 °F

For R407C plants, please select valves from the dedicated R407C program.

TGE - R22 / R407C

Thermostatic expansion valve with bulb strap
Range: -30 – 15 °C / -22 – 60 °F with anti hunting charge



Type	Orifice no.	Rated capacity [1]		Connections solder ODF		Capillary tube		Code no. Multi pack
				Inlet x Outlet	Pressure equalization			
		[kW]	[TR]	[in]	[in]	[m]	[in]	
TGE 10	6	20	6	1/2 x 7/8	1/4	1.5	59	067N9404
	8	27	7.5	5/8 x 7/8	1/4	1.5	59	067N9406
	11	38	11	5/8 x 1 1/8	1/4	1.5	59	067N9407
TGE 20	12.5	43	12	5/8 x 7/8	1/4	1.5	59	067N9409
	16	54	15	7/8 x 1 1/8	1/4	1.5	59	067N9412
	20	63	18	7/8 x 1 3/8	1/4	1.5	59	067N9413
TGE 40	26	92	26	7/8 x 1 3/8	1/4	3	118	067N9415
	30	104	30	1 1/8 x 1 3/8	1/4	3	118	067N9418
	40	134	38	1 1/8 x 1 3/8	1/4	3	118	067N9419

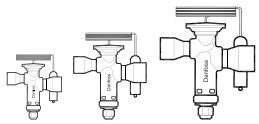
[1]) The rated capacity is based on:
Evaporating temperature t_e = 4.4 °C / 40 °F
Condensing temperature t_c = 38 °C / 100 °F
Refrigerant temperature ahead of valve t_l = 37 °C / 98 °F

For R407C plants, please select valves from the dedicated R407C program.

Technical data and ordering

TGE - R134a

Thermostatic expansion valve with bulb strap
Range: -40 – 10 °C / -40 – 50 °F

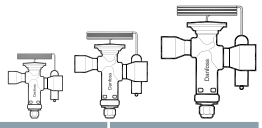


Type	Orifice no.	Rated capacity [1]		Connections solder ODF				Capillary tube		Code no. Multi pack
		[kW]	[TR]	Inlet x Outlet		Pressure equalization				
				[mm]	[in]	[mm]	[in]	[m]	[in]	
TGE 10	3	6	1.5	–	3/8 x 5/8	–	1/4	1.5	59	067N5150
	3	6	1.5	12 x 16	–	6	–	1.5	59	067N5191
	4	8	2.5	–	1/2 x 7/8	–	1/4	1.5	59	067N5152
	4	8	2.5	12 x 22	–	6	–	1.5	59	067N5192
	6	12	3.5	–	1/2 x 5/8	–	1/4	1.5	59	067N5153
	6	12	3.5	–	1/2 x 7/8	–	1/4	1.5	59	067N5154
	6	12	3.5	16 x 22	–	6	–	1.5	59	067N5195
	8	17	4.5	–	5/8 x 7/8	–	1/4	1.5	59	067N5156
	8	17	4.5	16 x 22	–	6	–	1.5	59	067N5196
	9	20	5.5	–	5/8 x 7/8	–	1/4	1.5	59	067N5260
	11	24	7	–	5/8 x 7/8	–	1/4	1.5	59	067N5157
	12.5	29	8	–	5/8 x 7/8	–	1/4	1.5	59	067N5720
	16	35	9.5	–	7/8 x 1 1/8	–	1/4	1.5	59	067N5721
TGE 20	12.5	29	8	–	5/8 x 7/8	–	1/4	1.5	59	067N5159
	16	37	10	–	5/8 x 1 1/8	–	1/4	1.5	59	067N5161
	16	37	10	–	7/8 x 1 1/8	–	1/4	1.5	59	067N5162
	20	44	12	–	7/8 x 1 1/8	–	1/4	1.5	59	067N5163
TGE 40	26	61	17	–	7/8 x 1 3/8	–	1/4	3	118	067N5165
	26	61	17	–	1 1/8 x 1 3/8	–	1/4	3	118	067N5166
	30	70	20	–	7/8 x 1 3/8	–	1/4	3	118	067N5167
	30	70	20	–	1 1/8 x 1 3/8	–	1/4	3	118	067N5168
	40	87	25	–	1 1/8 x 1 3/8	–	1/4	3	118	067N5169

[1]) The rated capacity is based on:
Evaporating temperature t_e = 4.4 °C / 40 °F
Condensing temperature t_c = 38 °C / 100 °F
Refrigerant temperature ahead of valve t_l = 37 °C / 98 °F

TGE - R134a

Thermostatic expansion valve with bulb strap
Range: -25 – 10 °C / -15 – 50 °F with MOP 55 psig / 3.8 bar



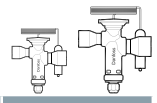
Type	Orifice no.	Rated capacity [1]		Connections solder ODF				Capillary tube		Code no. Multi pack
		[kW]	[TR]	Inlet x Outlet		Pressure equalization				
				[mm]	[in]	[mm]	[in]	[m]	[in]	
TGE 10	3	6	1.5	–	3/8 x 5/8	–	1/4	1.5	59	067N5000
	4	8	2.5	–	1/2 x 7/8	–	1/4	1.5	59	067N5002
	6	12	3.5	–	1/2 x 5/8	–	1/4	1.5	59	067N5003
	6	12	3.5	12 x 16	–	6	–	1.5	59	067N5043
	6	12	3.5	–	5/8 x 7/8	–	1/4	1.5	59	067N5005
	8	17	4.5	–	5/8 x 7/8	–	1/4	1.5	59	067N5006
	11	24	7	–	5/8 x 7/8	–	1/4	1.5	59	067N5007
	11	24	7	16 x 22	–	6	–	1.5	59	067N5047
	11	24	7	–	5/8 x 1 1/8	–	1/4	1.5	59	067N5008
	12.5	29	8	–	5/8 x 7/8	–	1/4	1.5	59	067N5700
TGE 20	12.5	29	8	–	5/8 x 7/8	–	1/4	1.5	59	067N5009
	16	37	10	–	5/8 x 1 1/8	–	1/4	1.5	59	067N5011
	20	44	12	–	7/8 x 1 1/8	–	1/4	1.5	59	067N5013
TGE 40	26	61	17	–	7/8 x 1 3/8	–	1/4	3	118	067N5015
	30	70	20	–	1 1/8 x 1 3/8	–	1/4	3	118	067N5018
	40	87	25	–	1 1/8 x 1 3/8	–	1/4	3	118	067N5019

[1]) The rated capacity is based on:
Evaporating temperature t_e = 4.4 °C / 40 °F
Condensing temperature t_c = 38 °C / 100 °F
Refrigerant temperature ahead of valve t_l = 37 °C / 98 °F

Technical data and ordering

TGE - R134a

Thermostatic expansion valve with bulb strap
Range: -40 – 10 °C / -40 – 50 °F



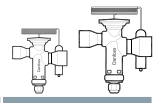
Type	Orifice no.	Rated capacity [1]		Connections Flare / MIO				Capillary tube		Code no. Multi pack
		[kW]	[TR]	Inlet x Outlet [in]		Pressure equalization [in]		[m]	[in]	
				Flare	MIO	Flare	MIO			
TGE 10	3	6	1.5	–	1/2 × 5/8	–	1/4	1.5	59	067N7150
	4	8	2.5	–	3/8 × 1/2	1/4	–	1.5	59	067N7153
	4	8	2.5	3/8 x 1/2	–	1/4	–	1.5	59	067N7154
	6	12	3.5	–	1/2 × 5/8	–	1/4	1.5	59	067N7171
	6	12	3.5	1/2 x 5/8	–	1/4	–	1.5	59	067N7157
	6	12	3.5	–	3/8 × 1/2	1/4	–	1.5	59	067N7158
	6	12	3.5	3/8 x 1/2	–	1/4	–	1.5	59	067N7160
	6	12	3.5	–	3/8 × 1/2	–	1/4	1.5	59	067N7177
	8	17	4.5	–	3/8 × 1/2	–	1/4	1.5	59	067N7176
	8	17	4.5	–	1/2 × 5/8	–	1/4	1.5	59	067N7161
	8	17	4.5	1/2 × 5/8	–	1/4	–	1.5	59	067N7163
	8	17	4.5	–	3/8 × 1/2	1/4	–	1.5	59	067N7164
	8	17	4.5	–	5/8 × 3/4	–	1/4	1.5	59	067N7165
	9	20	5.5	–	5/8 × 3/4	–	1/4	1.5	59	067N7181
	11	24	7	–	5/8 × 3/4	–	1/4	1.5	59	067N7166
	12.5	29	8	–	5/8 × 3/4	–	1/4	1.5	59	067N7200
	16	35	9.5	–	5/8 × 3/4	–	1/4	1.5	59	067N7201
	16	35	9.5	5/8 x 3/4	–	1/4	–	1.5	59	067N7203
TGE 20	12.5	29	8	–	5/8 × 3/4	–	1/4	1.5	59	067N7167
	16	37	10	–	5/8 × 3/4	–	1/4	1.5	59	067N7169
	16	37	10	5/8 x 3/4	–	1/4	–	1.5	59	067N7168
	20	44	12	–	5/8 × 3/4	–	1/4	1.5	59	067N7174

[1]) The rated capacity is based on:
Evaporating temperature t_e = 4.4 °C / 40 °F
Condensing temperature t_c = 38 °C / 100 °F
Refrigerant temperature ahead of valve t_l = 37 °C / 98 °F

MIO: Male inserts O-ring

TGE - R134a

Thermostatic expansion valve with bulb strap
Range: -25 – 10 °C / -15 – 50 °F with MOP 55 psig / 3.8 bar



Type	Orifice no.	Rated capacity [1]		Connections Flare / MIO				Capillary tube		Code no. Multi pack
		[kW]	[TR]	Inlet x Outlet [in]		Pressure equalization [in]		[m]	[in]	
				Flare	MIO	Flare	MIO			
TGE 10	4	8	2.5	–	1/2 × 5/8	–	1/4	1.5	59	067N7002
	6	12	3.5	3/8 × 1/2	–	1/4	–	1.5	59	067N7003
	6	12	3.5	1/2 × 5/8	–	1/4	–	1.5	59	067N7004
	8	17	4.5	–	1/2 × 5/8	–	1/4	1.5	59	067N7010
	8	17	4.5	1/2 × 5/8	–	1/4	–	1.5	59	067N7008
	8	17	4.5	–	5/8 × 3/4	–	1/4	1.5	59	067N7012
	8	17	4.5	5/8 × 3/4	–	1/4	–	1.5	59	067N7013
	9	20	5.5	–	5/8 × 3/4	–	1/4	1.5	59	067N7046
	11	24	7	–	5/8 × 3/4	–	1/4	1.5	59	067N7015
	11	24	7	5/8 × 3/4	–	1/4	–	1.5	59	067N7016
	12.5	29	8	–	5/8 × 3/4	–	1/4	1.5	59	067N7210
	12.5	29	8	5/8 × 3/4	–	1/4	–	1.5	59	067N7212
	16	35	9.5	–	5/8 × 3/4	–	1/4	1.5	59	067N7211
TGE 20	12.5	29	8	–	5/8 × 3/4	–	1/4	1.5	59	067N7017
	12.5	29	8	5/8 × 3/4	–	1/4	–	1.5	59	067N7018
	16	37	10	–	5/8 × 3/4	–	1/4	1.5	59	067N7019
	16	37	10	5/8 × 3/4	–	1/4	–	1.5	59	067N7020
	20	44	12	5/8 × 3/4	–	1/4	–	1.5	59	067N7021

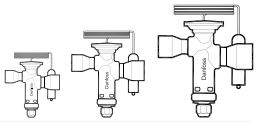
[1]) The rated capacity is based on:
Evaporating temperature t_e = 4.4 °C / 40 °F
Condensing temperature t_c = 38 °C / 100 °F
Refrigerant temperature ahead of valve t_l = 37 °C / 98 °F

MIO: Male inserts O-ring.

Technical data and ordering

TGE - R407C

Thermostatic expansion valve with bulb strap
Range: -40 – 10 °C / -40 – 50 °F



Type	Orifice no.	Rated capacity [1]		Connections solder ODF				Capillary tube		Code no. Multi pack
		[kW]	[TR]	Inlet x Outlet		Pressure equalization				
				[mm]	[in]	[mm]	[in]	[m]	[in]	
TGE 10	3	9	2.5	–	1/2 × 5/8	–	1/4	1.5	59	067N4151
	3	9	2.5	12 × 16	–	6	–	1.5	59	067N4191
	4	13	3.5	–	1/2 × 7/8	–	1/4	1.5	59	067N4152
	4	13	3.5	12 × 22	–	6	–	1.5	59	067N4192
	6	19	5	–	1/2 × 5/8	–	1/4	1.5	59	067N4153
	6	19	5	12 × 16	–	6	–	1.5	59	067N4193
	8	25	7	–	1/2 × 5/8	–	1/4	1.5	59	067N4236
	8	25	7	–	5/8 × 7/8	–	1/4	1.5	59	067N4156
	8	25	7	16 × 22	–	6	–	1.5	59	067N4196
	11	36	10	–	5/8 × 7/8	–	1/4	1.5	59	067N4157
	11	36	10	16 × 22	–	6	–	1.5	59	067N4197
	12.5	39	11	–	5/8 × 7/8	–	1/4	1.5	59	067N4410
	16	49	14	–	7/8 × 1 1/8	–	1/4	1.5	59	067N4411
TGE 20	12.5	42	12	–	5/8 × 7/8	–	1/4	1.5	59	067N4159
	16	53	15	–	5/8 × 1 1/8	–	1/4	1.5	59	067N4161
	16	53	15	–	7/8 × 1 1/8	–	1/4	1.5	59	067N4162
	20	62	18	–	7/8 × 1 1/8	–	1/4	1.5	59	067N4163
TGE 40	26	84	24	–	7/8 × 1 3/8	–	1/4	3	118	067N4165
	30	95	27	–	7/8 × 1 3/8	–	1/4	3	118	067N4167
	40	121	34	–	1 1/8 × 1 3/8	–	1/4	3	118	067N4169

[1]) The rated capacity is based on:
Evaporating temperature t_e = 4.4 °C / 40 °F
Condensing temperature t_c = 38 °C / 100 °F
Refrigerant temperature ahead of valve t_l = 37 °C / 98 °F

TGE - R407C

Thermostatic expansion valve with bulb strap
Range: -40 – 10 °C / -40 – 50 °F



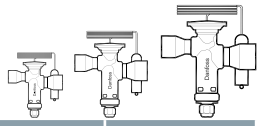
Type	Orifice no.	Rated capacity [1]		Connections MIO		Capillary tube		Code no. Multi pack
		[kW]	[TR]	Inlet x Outlet	Pressure equalization			
				[in]	[in]	[m]	[in]	
TGE 10	4	13	3.5	1/2 x 5/8	1/4	1.5	59	067N7400
	6	19	5	1/2 x 5/8	1/4	1.5	59	067N7401
	8	25	7	5/8 x 3/4	1/4	1.5	59	067N7402
	11	36	10	5/8 x 3/4	1/4	1.5	59	067N7403

[1]) The rated capacity is based on:
Evaporating temperature t_e = 4.4 °C / 40 °F
Condensing temperature t_c = 38 °C / 100 °F
Refrigerant temperature ahead of valve t_l = 37 °C / 98 °F

Technical data and ordering

TGE - R407C

Thermostatic expansion valve with bulb strap
Range: -25 – 10 °C / -15 – 50 °F with MOP 95 psig / 6.6 bar



Type	Orifice no.	Rated capacity [1]		Connections solder ODF				Capillary tube		Code no. Multi pack
				Inlet x Outlet		Pressure equalization				
		[kW]	[TR]	[mm]	[in]	[mm]	[in]	[m]	[in]	
TGE 10	3	9	2.5	–	3/8 x 5/8	–	1/4	1.5	59	067N4000
	3	9	2.5	12 × 16	–	6	–	1.5	59	067N4041
	4	13	3.5	–	1/2 x 7/8	–	1/4	1.5	59	067N4002
	6	19	5	–	1/2 x 5/8	–	1/4	1.5	59	067N4003
	6	19	5	–	1/2 x 7/8	–	1/4	1.5	59	067N4004
	8	25	7	–	5/8 x 7/8	–	1/4	1.5	59	067N4006
	8	25	7	16 × 22	–	6	–	1.5	59	067N4046
	11	36	10	–	5/8 x 7/8	–	1/4	1.5	59	067N4007
	11	36	10	16 × 22	–	6	–	1.5	59	067N4047
	12.5	39	11	–	5/8 x 1 1/8	–	1/4	1.5	59	067N4400
	16	49	14	–	5/8 x 1 1/8	–	1/4	1.5	59	067N4401
TGE 20	12.5	42	12	–	5/8 x 7/8	–	1/4	1.5	59	067N4009
	12.5	42	12	–	5/8 x 1 1/8	–	1/4	1.5	59	067N4010
	16	53	15	–	5/8 x 1 1/8	–	1/4	1.5	59	067N4011
	20	62	18	–	7/8 x 1 1/8	–	1/4	1.5	59	067N4013
TGE 40	26	84	24	–	7/8 x 1 3/8	–	1/4	3	118	067N4015
	30	95	27	–	7/8 x 1 3/8	–	1/4	3	118	067N4017
	40	121	34	–	1 1/8 x 1 3/8	–	1/4	3	118	067N4019

[1]) The rated capacity is based on:
Evaporating temperature t_e = 4.4 °C / 40 °F
Condensing temperature t_c = 38 °C / 100 °F
Refrigerant temperature ahead of valve t_l = 37 °C / 98 °F

TGE - R407F / R407A

Thermostatic expansion valve with bulb strap
Range: -40 – 10 °C / -40 – 50 °F



Type	Orifice no.	Rated capacity [1]				Connections solder ODF		Capillary tube		Code no. Multi pack
		R407F		R407A		Inlet x Outlet	Pressure equalization			
		[kW]	[TR]	[kW]	[TR]	[in]	[in]	[m]	[in]	
TGE 10	4	14	4	12	3.5	1/2 x 7/8	1/4	1.5	59	067N4700
	6	20	6	17	5	5/8 x 7/8	1/4	1.5	59	067N4701
	8	27	7.5	23	6.5	5/8 x 7/8	1/4	1.5	59	067N4702
	9	32	9	28	8	5/8 x 7/8	1/4	1.5	59	067N4703
	11	40	11	34	10	5/8 x 1 1/8	1/4	1.5	59	067N4704

[1]) The rated capacity is based on:
Evaporating temperature t_e = 4.4 °C / 40 °F
Condensing temperature t_c = 38 °C / 100 °F
Refrigerant temperature ahead of valve t_l = 37 °C / 98 °F

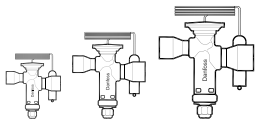
On systems charged with R407F, SS = 4.0°C / 7.2 °F,
On systems charged with R407A, SS = 2.7 °C / 4.9 °F.

Technical data and ordering

Only solder versions, connection size 28 mm / 1 1/8 in. or smaller are approved for flammable refrigerants.

TGE - R410A / R32

Thermostatic expansion valve with bulb strap
Range: -40 – 10 °C / -40 – 50 °F

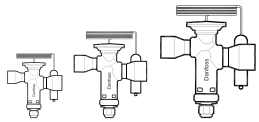


Type	Orifice no.	Rated capacity [1]				Connections solder ODF		Capillary tube		Code no. Multi pack
		R410A		R32		Inlet x Outlet	Pressure equalization			
		[kW]	[TR]	[kW]	[TR]	[in]	[in]	[m]	[in]	
TGE 10	3	12	3.5	18	5	3/8 x 5/8	1/4	1.5	59	067N3150
	3	12	3.5	18	5	1/2 x 5/8	1/4	1.5	59	067N3151
	4	16	4.5	24	7	1/2 x 7/8	1/4	1.5	59	067N3152
	6	24	6.5	35	10	1/2 x 5/8	1/4	1.5	59	067N3153
	6	24	6.5	35	10	1/2 x 7/8	1/4	1.5	59	067N3154
	6	24	6.5	35	10	5/8 x 7/8	1/4	1.5	59	067N3155
	8	32	9	47	13	1/2 x 5/8	1/4	1.5	59	067N3293
	8	32	9	47	13	5/8 x 7/8	1/4	1.5	59	067N3156
	9	37	11	54	15	5/8 x 7/8	1/4	1.5	59	067N3296
	11	45	13	68	19	5/8 x 7/8	1/4	1.5	59	067N3157
	12.5	50	14	74	21	5/8 x 7/8	1/4	1.5	59	067N3410
TGE 20	12.5	54	15	81	23	5/8 x 7/8	1/4	1.5	59	067N3159
TGE 40	26	110	31	165	47	1 1/8 x 1 1/8	1/4	3	118	067N3234

[1]) The rated capacity is based on:
Evaporating temperature t_e = 4.4 °C / 40 °F
Condensing temperature t_c = 38 °C / 100 °F
Refrigerant temperature ahead of valve t_l = 37 °C / 98 °F

TGE - R410A

Thermostatic expansion valve with bulb strap
Range: -40 – 10 °C / -40 – 50 °F



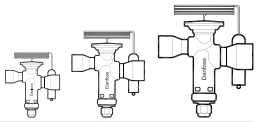
Type	Orifice no.	Rated capacity [1]		Connections solder ODF		Capillary tube		Code no. Multi pack
				Inlet x Outlet	Pressure equalization			
		[kW]	[TR]	[in]	[in]	[m]	[in]	
TGE 10	11	45	13	5/8 x 1 1/8	1/4	1.5	59	067N3158
	16	60	17	7/8 x 1 1/8	1/4	1.5	59	067N3411
TGE 20	12.5	54	15	5/8 x 1 1/8	1/4	1.5	59	067N3160
	12.5	54	15	7/8 x 7/8	1/4	1.5	59	067N3231
	12.5	54	15	7/8 x 1 1/8	1/4	1.5	59	067N3232
	16	68	19	5/8 x 1 1/8	1/4	1.5	59	067N3161
	16	68	19	7/8 x 1 1/8	1/4	1.5	59	067N3162
	20	79	23	7/8 x 1 1/8	1/4	1.5	59	067N3163
	20	79	23	7/8 x 1 3/8	1/4	1.5	59	067N3164
TGE 40	26	110	31	7/8 x 1 3/8	1/4	3	118	067N3165
	26	110	31	1 1/8 x 1 3/8	1/4	3	118	067N3166
	30	125	35	1 1/8 x 1 3/8	1/4	3	118	067N3168
	40	161	46	1 1/8 x 1 3/8	1/4	3	118	067N3169
	42	182	52	1 1/8 x 1 3/8	1/4	3	118	067N3400

[1]) The rated capacity is based on:
Evaporating temperature t_e = 4.4 °C / 40 °F
Condensing temperature t_c = 38 °C / 100 °F
Refrigerant temperature ahead of valve t_l = 37 °C / 98 °F

Technical data and ordering

TGE - R410A

Thermostatic expansion valve with bulb strap
Range: -25 – 10 °C / -15 – 50 °F with MOP 165 psig / 11.4 bar

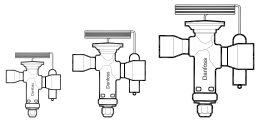


Type	Orifice no.	Rated capacity [1]		Connections solder ODF		Capillary tube		Code no. Multi pack
				Inlet x Outlet	Pressure equalization			
		[kW]	[TR]	[in]	[in]	[m]	[in]	
TGE 10	3	12	3.5	3/8 x 5/8	1/4	1.5	59	067N3000
	3	12	3.5	1/2 x 5/8	1/4	1.5	59	067N3001
	4	16	4.5	1/2 x 7/8	1/4	1.5	59	067N3002
	6	24	6.5	1/2 x 5/8	1/4	1.5	59	067N3003
	6	24	6.5	5/8 x 7/8	1/4	1.5	59	067N3005
	8	32	9	5/8 x 7/8	1/4	1.5	59	067N3006
	9	37	11	5/8 x 7/8	1/4	1.5	59	067N3340
	11	45	13	5/8 x 7/8	1/4	1.5	59	067N3007
	11	45	13	5/8 x 1 1/8	1/4	1.5	59	067N3008
	12.5	50	14	5/8 x 1 1/8	1/4	1.5	59	067N3402
	16	60	17	5/8 x 1 1/8	1/4	1.5	59	067N3401
TGE 20	12.5	54	15	5/8 x 7/8	1/4	1.5	59	067N3009
	12.5	54	15	5/8 x 1 1/8	1/4	1.5	59	067N3010
	16	68	19	5/8 x 1 1/8	1/4	1.5	59	067N3011
	16	68	19	7/8 x 1 1/8	1/4	1.5	59	067N3012
	20	79	23	7/8 x 1 1/8	1/4	1.5	59	067N3013
TGE 40	26	110	31	7/8 x 1 1/8	1/4	3	118	067N3135
	26	110	31	7/8 x 1 3/8	1/4	3	118	067N3015
	30	125	35	1 1/8 x 1 3/8	1/4	3	118	067N3018
	40	161	46	1 1/8 x 1 3/8	1/4	3	118	067N3019
	42	182	52	1 1/8 x 1 3/8	1/4	3	118	067N3341

[1]) The rated capacity is based on:
Evaporating temperature t_e = 4.4 °C / 40 °F
Condensing temperature t_c = 38 °C / 100 °F
Refrigerant temperature ahead of valve t_l = 37 °C / 98 °F

TGE - R410A

Thermostatic expansion valve with bulb strap
Range: -30 – 15 °C / -22 – 60 °F with anti hunting charge



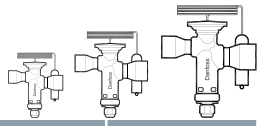
Type	Orifice no.	Rated capacity [1]		Connections solder ODF		Capillary tube		Code no. Multi pack
				Inlet x Outlet	Pressure equalization			
		[kW]	[TR]	[in]	[in]	[m]	[in]	
TGE 10	3	12	3.5	1/2 x 5/8	1/4	1.5	59	067N9201
	4	16	4.5	1/2 x 7/8	1/4	1.5	59	067N9202
	6	24	6.5	1/2 x 5/8	1/4	1.5	59	067N9203
	6	24	6.5	5/8 x 7/8	1/4	1.5	59	067N9200
	8	32	9	5/8 x 7/8	1/4	1.5	59	067N9206
	9	37	11	5/8 x 7/8	1/4	1.5	59	067N9287
	11	45	13	5/8 x 7/8	1/4	1.5	59	067N9207
	12.5	50	14	5/8 x 7/8	1/4	1.5	59	067N9509
	16	60	17	7/8 x 1 1/8	1/4	1.5	59	067N9512
TGE 20	12.5	54	15	5/8 x 7/8	1/4	1.5	59	067N9209
	12.5	54	15	5/8 x 1 1/8	1/4	1.5	59	067N9210
	16	68	19	7/8 x 1 1/8	1/4	1.5	59	067N9212
	20	79	23	7/8 x 1 1/8	1/4	1.5	59	067N9213
TGE 40	26	110	31	7/8 x 1 3/8	1/4	3	118	067N9215
	26	110	31	1 1/8 x 1 3/8	1/4	3	118	067N9216
	30	125	35	1 1/8 x 1 3/8	1/4	3	118	067N9218
	40	161	46	1 1/8 x 1 3/8	1/4	3	118	067N9219
	42	182	52	1 1/8 x 1 3/8	1/4	3	118	067N9289

[1]) The rated capacity is based on:
Evaporating temperature t_e = 4.4 °C / 40 °F
Condensing temperature t_c = 38 °C / 100 °F
Refrigerant temperature ahead of valve t_l = 37 °C / 98 °F

Technical data and ordering

TGE - R404A/R507

Thermostatic expansion valve with bulb strap
Range: -40 – 10 °C / -40 –50 °F



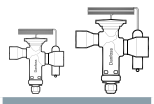
Type	Orifice no.	Rated capacity [1]		Connections solder ODF		Capillary tube		Code no. Multi pack
				Inlet x Outlet	Pressure equalization			
		[kW]	[TR]	[in]	[in]	[m]	[in]	
TGE 10	3	7	2	3/8 × 5/8	1/4	1.5	59	067N6170
	4	9	2.5	1/2 × 7/8	1/4	1.5	59	067N6172
	6	14	4	1/2 × 5/8	1/4	1.5	59	067N6173
	6	14	4	1/2 × 7/8	1/4	1.5	59	067N6151
	8	18	5	1/2 × 5/8	1/4	1.5	59	067N6175
	8	18	5	5/8 × 7/8	1/4	1.5	59	067N6150
	9	21	6	5/8 × 7/8	1/4	1.5	59	067N6167
	11	26	7.5	5/8 × 7/8	1/4	1.5	59	067N6154
	12.5	31	9	5/8 × 7/8	1/4	1.5	59	067N6300
	16	35	10	5/8 × 1 1/8	1/4	1.5	59	067N6301
TGE 20	12.5	31	9	5/8 × 7/8	1/4	1.5	59	067N6158
	16	39	11	5/8 × 1 1/8	1/4	1.5	59	067N6155
	16	39	11	1 1/8 × 1 3/8	1/4	1.5	59	067N6188
	16	39	11	7/8 × 1 1/8	1/4	1.5	59	067N6181
	20	45	13	7/8 × 1 1/8	1/4	1.5	59	067N6162
TGE 40	26	64	18	7/8 × 1 3/8	1/4	3	118	067N6161
	30	72	21	1 1/8 × 1 3/8	1/4	3	118	067N6186
	40	92	26	1 1/8 × 1 3/8	1/4	3	118	067N6187

[1]) The rated capacity is based on:
Evaporating temperature t_e = 4.4 °C / 40 °F
Condensing temperature t_c = 38 °C / 100 °F
Refrigerant temperature ahead of valve t_l = 37 °C / 98 °F

⚠ Only solder versions, connection size 28 mm / 1 1/8 in. or smaller are approved for flammable refrigerants.

TGE - R290

Thermostatic expansion valve with bulb strap
Range: -40 – 10 °C / -40 – 50 °F



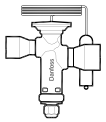
Type	Orifice no.	Rated capacity [1]		Connections solder ODF		Capillary tube		Code no. Multi pack
				Inlet x Outlet	Pressure equalization			
		[kW]	[TR]	[in]	[in]	[m]	[in]	
TGE 10	6	19	5	5/8 × 7/8	1/4	1.5	59	067N9100
	11	36	10	5/8 × 7/8	1/4	1.5	59	067N9103
TGE 20	12.5	44	12	5/8 × 7/8	1/4	1.5	59	067N9104
	16	54	15	7/8 × 7/8	1/4	1.5	59	067N9105
	20	63	18	7/8 × 7/8	1/4	1.5	59	067N9106

[1]) The rated capacity is based on:
Evaporating temperature t_e = 4.4 °C / 40 °F
Condensing temperature t_c = 38 °C / 100 °F
Refrigerant temperature ahead of valve t_l = 37 °C / 98 °F

SS = 5K / 9°F (except 067N9100, 067N9103)

TGE - R290

Thermostatic expansion valve with bulb strap
Range: -25 – 10 °C / -15 – 50 °F



Type	Orifice no.	Rated capacity [1]		Connections solder ODF		Capillary tube		Code no. Multi pack
				Inlet x Outlet	Pressure equalization			
		[kW]	[TR]	[in]	[in]	[m]	[in]	
TGE 40	26	92	26	7/8 × 7/8	1/4	3	118	067N9107
	40	133	38	7/8 × 7/8	1/4	3	118	067N9109

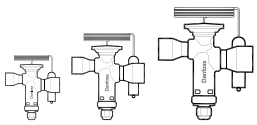
[1]) The rated capacity is based on:
Evaporating temperature t_e = 4.4 °C / 40 °F
Condensing temperature t_c = 38 °C / 100 °F
Refrigerant temperature ahead of valve t_l = 37 °C / 98 °F

Technical data and ordering

Only solder versions, connection size 28 mm / 1 1/8 in. or smaller are approved for flammable refrigerants.

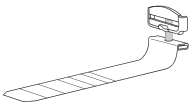
TGE - R1234ze

Thermostatic expansion valve with bulb strap
Range: -30 – 10 °C / -22 – 50 °F



Type	Orifice no.	Rated capacity [1]		Connections solder ODF		Capillary tube		Code no. Multi pack
				Inlet x Outlet	Pressure equalization			
		[kW]	[TR]	[in]	[in]	[m]	[in]	
TGE 10	8	14	4	5/8 x 7/8	1/4	1.5	59	067N8001
	11	20	5.5	5/8 x 7/8	1/4	1.5	59	067N8002
	12.5	22	6	5/8 x 7/8	1/4	1.5	59	067N8003
TGE 20	20	31	8.5	7/8 x 1 1/8	1/4	1.5	59	067N8004
TGE 40	26	49	14	7/8 x 1 1/8	1/4	3	118	067N8005

[1]) The rated capacity is based on:
Evaporating temperature t_e = 4.4 °C / 40 °F
Condensing temperature t_c = 38 °C / 100 °F
Refrigerant temperature ahead of valve t_l = 37 °C / 98 °F



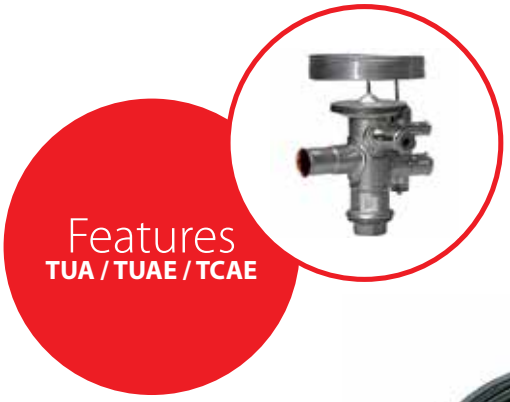
Bulb strap supplied separately as spare part

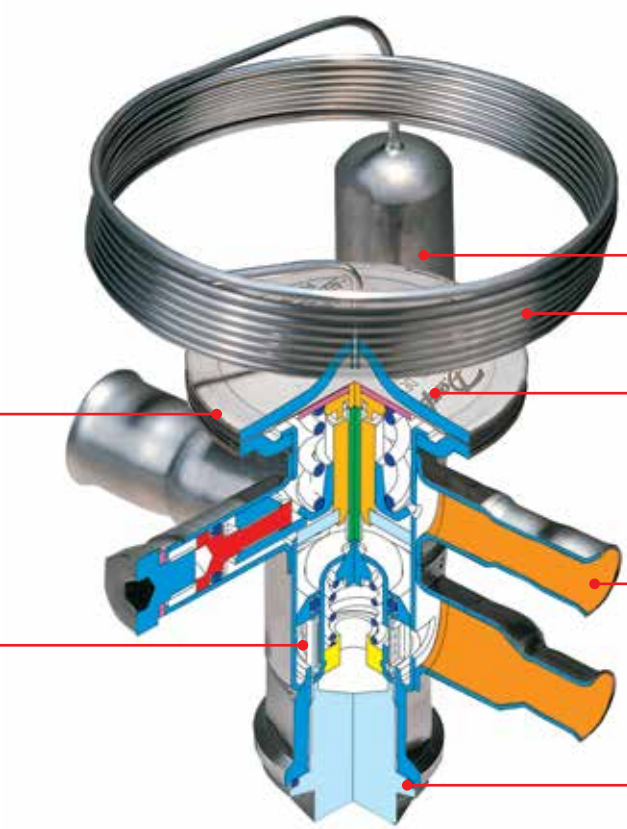
Max. diameter of suction line		Quantity / box	Code no. Industrial pack
[mm]	[in]		
22	7/8	40 pcs	067N0551
53	2 1/8	40 pcs	067N0557
78	3 1/8	40 pcs	067N0559

Quick Selection Notes:

TUA / TUAE / TCAE, Thermostatic expansion valves

TUA / TUAE / TCAE stainless steel thermostatic expansion valves are used for liquid injection into evaporators on both refrigeration and air conditioning systems. Valves are compact in design, light weight and have steel / copper bi-metal connections for fast soldering. They are supplied as parts programme, with separate thermostatic element / valve body, and orifice assembly. TUA has internal equalization, TUAE / TCAE external equalization. TUA / TUAE / TCAE are straightway valves, and have adjustable superheat setting.





Stainless steel capillary tube and bulb:
- high corrosion resistance
- high strength and vibration resistance

Laser-engraved label

Laser welded stainless steel thermostatic element for unsurpassed joint strength and operational lifetime

Bi-metal connections Stainless steel with rolled on copper cladding for safe, fast and convenient copper-to-copper soldering

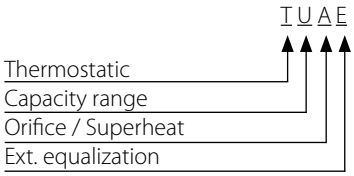
Separate strainer, mounted on the orifice assembly for easy maintenance and cleaning

Orifice assembly with an unmatched hermetic seal

Facts

Applications:
- Traditional refrigeration
- Heat pump systems
- Air conditioning units
- Liquid coolers
- Ice cube machines
- Transport refrigeration
- Applicable to R134a, R404A, R407C, R22, R507 and R410A
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- The use of stainless steel makes the valves light and strong
- Bi-metal connections for safe, fast and convenient soldering
- Stainless steel capillary tube for superior strength and ductility
- Allen key superheat setting screw is convenient and space-saving compared to the standard screwdriver adjustment used in most conventional valves
- Can be supplied with MOP (Max. Operating Pressure) Protects the compressor motor against excessive evaporating pressure during normal operation
- Valves for special temperature ranges can be supplied
- 4 K / 7.2 °F opening superheat
- Bi-flow function (TUAE: only orifice 1 – 8, TCAE: Only orifice 1 and 2)

Technical data

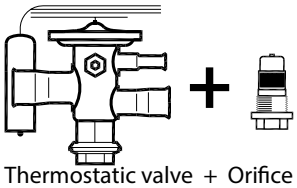


Orifice / Superheat

	Interchangeable	Adjustable
A	YES	YES
B	NO	YES
C	NO	NO

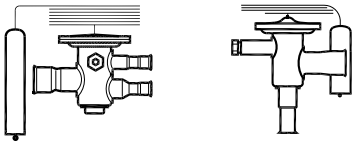
N = -40 °C – 10 °C / -40 – 50 °F
NM = -40 °C – -5 °C MOP 0 °C / -40 – 25 °F MOP 32 °F
NL = -40 °C – -15 °C with MOP - 10 °C / -40 – 5 °F MOP 14 °F
B = -60 °C – -25 °C / -75 – -15 °F

TUA
TUAE
TCAE



Thermostatic valve + Orifice

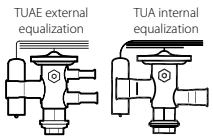
TUB
TUBE
TUC
TUCE
TCBE
TCCE



Thermostatic valve including Orifice

Valve types **TUB / TUBE / TUC / TUCE** and **TCBE / TCCE** can be replaced by **TUA / TUAE** and **TCAE** types

Technical data and ordering



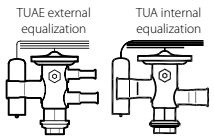
TUA / TUAE - Solder

Thermostatic element with bulb strap

Type	Refrigerant	Range		MOP		Ext. pressure equalization		Solder connections inlet × outlet		Code no.
		[°C]	[°F]	[°C]	[°F]	[mm]	[in]	[mm]	[in]	
TUA	R22 / R407C	-40 – 10	-40 – 50	–	–	–	–	–	1/4 × 1/2	068U2234
		-40 – 10	-40 – 50	–	–	–	–	6 × 12	–	068U2230
		-40 – 10	-40 – 50	–	–	–	–	–	3/8 × 1/2	068U2235
		-40 – 10	-40 – 50	–	–	–	–	10 × 12	–	068U2231
TUAE		-40 – 10	-40 – 50	–	–	–	1/4	–	1/4 × 1/2	068U2236
		-40 – 10	-40 – 50	–	–	–	1/4	–	3/8 × 1/2	068U2237
		-40 – 10	-40 – 50	–	–	6	–	10 × 12	–	068U2233
		-40 – 10	-40 – 50	15	60	–	1/4	–	3/8 × 1/2	068U2245
		-40 – 10	-40 – 50	15	60	6	–	10 × 12	–	068U2241
TUA	R134a / R513A	-40 – 10	-40 – 50	–	–	–	–	–	1/4 × 1/2	068U2204
		-40 – 10	-40 – 50	–	–	–	–	6 × 12	–	068U2200
		-40 – 10	-40 – 50	–	–	–	–	–	3/8 × 1/2	068U2205
		-40 – 10	-40 – 50	–	–	–	–	10 × 12	–	068U2201
		-40 – 10	-40 – 50	15	60	–	–	–	1/4 × 1/2	068U2212
		-40 – 10	-40 – 50	15	60	–	–	6 × 12	–	068U2208
		-40 – 10	-40 – 50	15	60	–	–	–	3/8 × 1/2	068U2213
TUAE		-40 – 10	-40 – 50	–	–	–	1/4	–	1/4 × 1/2	068U2206
		-40 – 10	-40 – 50	–	–	6	–	6 × 12	–	068U2202
		-40 – 10	-40 – 50	–	–	–	1/4	–	3/8 × 1/2	068U2207
		-40 – 10	-40 – 50	–	–	6	–	10 × 12	–	068U2203
		-40 – 10	-40 – 50	15	60	–	1/4	–	1/4 × 1/2	068U2214
		-40 – 10	-40 – 50	15	60	–	1/4	–	3/8 × 1/2	068U2215
		-40 – 10	-40 – 50	15	60	6	–	10 × 12	–	068U2211
TUA	R404A / R507	-40 – 10	-40 – 50	–	–	–	–	–	1/4 × 1/2	068U2284
		-40 – 10	-40 – 50	–	–	–	–	6 × 12	–	068U2280
		-40 – 10	-40 – 50	–	–	–	–	–	3/8 × 1/2	068U2285
		-40 – 10	-40 – 50	–	–	–	–	10 × 12	–	068U2281
		-40 – 10	-40 – 50	15	60	–	–	–	1/4 × 1/2	068U2292
		-40 – 10	-40 – 50	15	60	–	–	–	3/8 × 1/2	068U2293
		-60 – -25	-75 – -15	–	–	–	–	–	1/4 × 1/2	068U2308
		-60 – -25	-75 – -15	–	–	–	–	–	3/8 × 1/2	068U2309
		-40 – -5	-40 – 25	0	32	–	–	–	1/4 × 1/2	068U2300
		-40 – -5	-40 – 25	0	32	–	–	6 × 12	–	068U2296
		-60 – -25	-75 – -15	-20	-5	–	–	–	1/4 × 1/2	068U2316
		-60 – -25	-75 – -15	-20	-5	–	–	6 × 12	–	068U2312
		-60 – -25	-75 – -15	-20	-5	–	–	–	3/8 × 1/2	068U2317
TUAE		-40 – 10	-40 – 50	–	–	–	1/4	–	1/4 × 1/2	068U2286
		-40 – 10	-40 – 50	–	–	6	–	6 × 12	–	068U2282
		-40 – 10	-40 – 50	–	–	–	1/4	–	3/8 × 1/2	068U2287
		-40 – 10	-40 – 50	–	–	6	–	10 × 12	–	068U2283
		-40 – 10	-40 – 50	15	60	–	1/4	–	3/8 × 1/2	068U2295
		-40 – -5	-40 – 25	0	32	–	1/4	–	3/8 × 1/2	068U2303
		-40 – -5	-40 – 25	0	32	6	–	10 × 12	–	068U2299
		-60 – -25	-75 – -15	-20	-5	–	1/4	–	1/4 × 1/2	068U2318
		-60 – -25	-75 – -15	-20	-5	–	1/4	–	3/8 × 1/2	068U2319
		-60 – -25	-75 – -15	-20	-5	6	–	10 × 12	–	068U2315

Capillary tube: 1.5 m / 59 in

Technical data and ordering

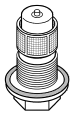


TUA / TUAE - Solder

Thermostatic element with bulb strap

Type	Refrigerant	Range		MOP		Ext. pressure equalization		Solder connections inlet × outlet		Code no.
		[°C]	[°F]	[°C]	[°F]	[mm]	[in]	[mm]	[in]	
TUA	R407C	-40 – 10	-40 – 50	15	60	–	–	–	1/4 × 1/2	068U2332
		-40 – 10	-40 – 50	15	60	–	–	–	3/8 × 1/2	068U2333
		-40 – 10	-40 – 50	–	–	–	–	–	1/4 × 1/2	068U2324
		-40 – 10	-40 – 50	–	–	–	–	6 × 12	–	068U2320
		-40 – 10	-40 – 50	–	–	–	–	–	3/8 × 1/2	068U2325
		-40 – 10	-40 – 50	–	–	–	–	10 × 12	–	068U2321
TUAE		-40 – 10	-40 – 50	–	–	–	1/4	–	1/4 × 1/2	068U2326
		-40 – 10	-40 – 50	–	–	6		6 × 12	–	068U2322
		-40 – 10	-40 – 50	–	–		1/4	–	3/8 × 1/2	068U2327
		-40 – 10	-40 – 50	–	–	6	–	10 × 12	–	068U2323
		-40 – 10	-40 – 50	15	60	6	–	6 × 12	–	068U2330
		-40 – 10	-40 – 50	15	60	–	1/4	–	3/8 × 1/2	068U2335
		-40 – 10	-40 – 50	15	60	6	–	10 × 12	–	068U2331
TUA	R410A	-40 – 10	-40 – 50	–	–	–	–	–	3/8 × 1/2	068U2414
TUAE		-40 – 10	-40 – 50	–	–	–	1/4	–	3/8 × 1/2	068U1714
		-40 – 10	-40 – 50	–	–	6		10 × 12	–	068U2780

Capillary tube: 1.5 m / 59 in



TUA / TUAE

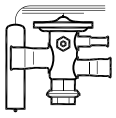
Orifice assembly with filter and gasket

Valve	Orifice no.	Bleed	R134a		R404A / R507		R407C		R22		R410A		R513A		R448A		R449A		Code no.
			[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	
TUA / TUAE	0	–	0.42	0.12	0.48	0.14	0.66	0.19	0.63	0.18	0.99	0.28	0.36	0.10	0.63	0.18	0.61	0.17	068U1030
	1	–	0.61	0.18	0.71	0.20	0.94	0.27	0.92	0.26	1.3	0.38	0.53	0.15	0.93	0.26	0.90	0.25	068U1031
	1	15%	0.61	0.18	0.71	0.20	0.94	0.27	0.92	0.26	1.3	0.38	0.53	0.15	0.93	0.26	0.90	0.25	068U1131
	2	–	0.72	0.21	0.87	0.25	1.1	0.32	1.1	0.32	1.7	0.48	0.62	0.18	1.1	0.32	1.1	0.31	068U1032
	2	15%	0.72	0.21	0.87	0.25	1.1	0.32	1.1	0.32	1.7	0.48	0.62	0.18	1.1	0.32	1.1	0.31	068U1132
	3	–	0.94	0.27	1.1	0.32	1.5	0.42	1.4	0.41	2.1	0.60	0.82	0.23	1.4	0.41	1.4	0.40	068U1033
	3	15%	0.94	0.27	1.1	0.32	1.5	0.42	1.4	0.41	2.1	0.60	0.82	0.23	1.4	0.41	1.4	0.40	068U1133
	4	–	1.6	0.46	2	0.57	2.5	0.72	2.5	0.72	4.1	1.2	1.4	0.39	2.5	0.72	2.4	0.69	068U1034
	4	15%	1.6	0.46	2	0.57	2.5	0.72	2.5	0.72	4.1	1.2	1.4	0.39	2.5	0.72	2.4	0.69	068U1134
	5	–	2.1	0.61	2.7	0.76	3.4	0.96	3.4	0.96	5.3	1.5	1.8	0.53	3.4	0.96	3.2	0.92	068U1035
	5	15%	2.1	0.61	2.7	0.76	3.4	0.96	3.4	0.96	5.3	1.5	1.8	0.53	3.4	0.96	3.2	0.92	068U1135
	6	–	3.4	0.95	4.2	1.1	5.3	1.5	5.3	1.5	8.5	2.4	2.9	0.82	5.3	1.5	5.1	1.4	068U1036
	6	15%	3.4	0.95	4.2	1.1	5.3	1.5	5.3	1.5	8.5	2.4	2.9	0.82	5.3	1.5	5.1	1.4	068U1136
	7	–	4.4	1.3	5.6	1.6	7	2	7	2	11.2	3.2	3.8	1.1	7.0	2.0	6.7	1.9	068U1037
	7	15%	4.4	1.3	5.6	1.6	7	2	7	2	11.2	3.2	3.8	1.1	7.0	2.0	6.7	1.9	068U1137
	8	–	6.5	1.9	8	2.3	10.2	2.9	10.1	2.9	15.8	4.5	5.6	1.6	10.1	2.9	9.8	2.8	068U1038
	8	15%	6.5	1.9	8	2.3	10.2	2.9	10.1	2.9	15.8	4.5	5.6	1.6	10.1	2.9	9.8	2.8	068U1138
	9 [1])	–	9	2.6	11.3	3.2	14	4	14.1	4	23.1	6.6	7.7	2.2	13.9	4.0	13.6	3.9	068U1039
	9 [1])	15%	9	2.6	11.3	3.2	14	4	14.1	4	23.1	6.6	7.7	2.2	13.9	4.0	13.6	3.9	068U1139

The rated capacity is based on:
Evaporating temperature t_e = 4.4 °C / 40 °F
Liquid temperature t_l = 37 °C / 98 °F
Condensing temperature t_c = 38 °C / 100 °F

[1]) *TUAE with orifice no. 9 cannot be used for Biflow operation.*

Technical data and ordering



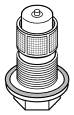
TCAE

Thermostatic element, with bulb strap

Type	Refrigerant	Range		MOP		Ext. pressure equalization		Solder connection inlet × outlet		Code no.
		[°C]	[°F]	[°C]	[°F]	[mm]	[in]	[mm]	[in]	
TCAE	R22 / R407C	-40 – 10	-40 – 50	–	–	–	1/4	–	3/8 × 5/8	068U4280
		-40 – 10	-40 – 50	–	–	–	1/4	–	1/2 × 5/8	068U4281
		-40 – 10	-40 – 50	15	59	–	1/4	–	1/2 × 5/8	068U4283
TCAE	R134a / R513A	-40 – 10	-40 – 50	–	–	–	1/4	–	3/8 × 5/8	068U4292
		-40 – 10	-40 – 50	–	–	–	1/4	–	1/2 × 5/8	068U4293
		-40 – 10	-40 – 50	–	–	6	–	10 × 16	–	068U4296
		-40 – 10	-40 – 50	–	–	6	–	12 × 16	–	068U4297
		-40 – 10	-40 – 50	15	59	–	1/4	–	1/2 × 5/8	068U4295
		-40 – 10	-40 – 50	15	59	6	–	12 × 16	–	068U4299
TCAE	R404A / R507	-40 – 10	-40 – 50	–	–	–	1/4	–	3/8 × 5/8	068U4304
		-40 – 10	-40 – 50	–	–	–	1/4	–	1/2 × 5/8	068U4305
		-40 – 10	-40 – 50	–	–	6	–	10 × 16	–	068U4308
		-40 – 10	-40 – 50	–	–	6	–	12 × 16	–	068U4309
		-40 – 10	-40 – 50	15	59	–	1/4	–	1/2 × 5/8	068U4307
		-40 – 10	-40 – 50	15	59	6	–	10 × 16	–	068U4310
		-40 – -5	-40 – 25	0	32	–	1/4	–	1/2 × 5/8	068U4313
		-40 – -5	-40 – 25	0	32	6	–	10 × 16	–	068U4314
		-40 – -5	-40 – 25	0	32	6	–	12 × 16	–	068U4315
		-60 – -25	-75 – -15	–	–	–	1/4	–	1/2 × 5/8	068U4317
		-60 – -25	-75 – -15	–	–	6	–	12 × 16	–	068U4321
		-60 – -25	-75 – -15	-20	68	–	1/4	–	1/2 × 5/8	068U4319
		-60 – -25	-75 – -15	-20	68	6	–	10 × 16	–	068U4322
TCAE	R407C	-40 – 10	-40 – 50	–	–	–	1/4	–	3/8 × 5/8	068U4324
		-40 – 10	-40 – 50	–	–	–	1/4	–	1/2 × 5/8	068U4325
		-40 – 10	-40 – 50	–	–	6	–	10 × 16	–	068U4328
		-40 – 10	-40 – 50	–	–	6	–	12 × 16	–	068U4329
		-40 – 10	-40 – 50	15	59	–	1/4	–	3/8 × 5/8	068U4326
		-40 – 10	-40 – 50	15	59	–	1/4	–	1/2 × 5/8	068U4327
		-40 – 10	-40 – 50	15	59	6	–	12 × 16	–	068U4331
TCAE	R410A	-40 – 10	-40 – 50	–	–	–	1/4	–	3/8 × 5/8	068U4336
		-40 – 10	-40 – 50	–	–	–	1/4	–	1/2 × 5/8	068U4337
		-40 – 10	-40 – 50	–	–	6	–	12 × 16	–	068U4341
		-40 – 10	-40 – 50	15	59	–	1/4	–	1/2 × 5/8	068U4339
		-40 – 10	-40 – 50	15	59	6	–	12 × 16	–	068U4343

Capillary tube: 1.5 m / 59 in

Technical data and ordering



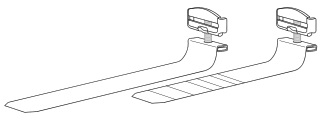
TCAE

Orifice assembly with filter and gasket

Type	Orifice no.	Bleed	R134a		R404A / R507		R407C		R22		R410A		R448A		R449A		R513A		Code no.
			[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	
TCAE	1	–	13	3.7	13	3.7	17.8	5.1	18.3	5.2	21.2	6	17.6	5.0	16.9	4.8	11.5	3.3	068U4100
	1	15%	13	3.7	13	3.7	17.8	5.1	18.3	5.2	21.2	6	17.6	5.0	16.9	4.8	11.5	3.3	068U4097
	2	–	14.9	4.3	15.1	4.3	20.4	5.8	21.2	6	24.5	7	20.3	5.8	19.3	5.5	13.2	3.8	068U4101
	2	15%	14.9	4.3	15.1	4.3	20.4	5.8	21.2	6	24.5	7	20.3	5.8	19.3	5.5	13.2	3.8	068U4098
	3 [1])	–	18.6	5.3	18.9	5.4	25.2	7.2	26.7	7.6	30.6	8.7	25.1	7.1	23.9	6.8	16.5	4.7	068U4102
	3 [1])	15%	18.6	5.3	18.9	5.4	25.2	7.2	26.7	7.6	30.6	8.7	25.1	7.1	23.9	6.8	16.5	4.7	068U4099

The rated capacity is based on:
Evaporating temperature, t_e = 4.4 °C / 40 °F
Liquid temperature, t_l = 37 °C / 98 °F
Condensing temperature, t_c = 38 °C / 100 °F

[1]) TCAE with orifice no. 3 cannot be used for Biflow operation.



Bulb strap (delivered with the valve) and accessories

Type	Length		Max. diameter of suction line		Code no.
	[mm]	[in]	[mm]	[in]	
TCAE Accessories	110	4 5/16	28	1 1/8	068U3507
	190	7 3/8	50	2	068U3508

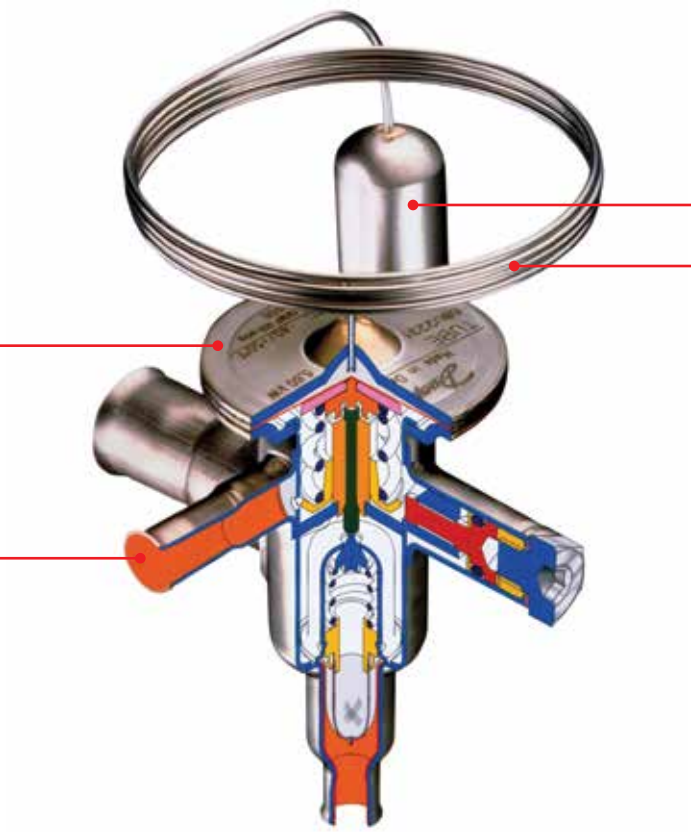
TUB / TUBE / TCBE, Thermostatic expansion valves

TUB / TUBE / TCBE stainless steel thermostatic expansion valves are used for liquid injection into evaporators on both refrigeration and air conditioning systems.
Valves are compact in design, light weight and have steel / copper bi-metal connections for fast soldering.

TUB has internal equalization, TUBE / TCBE external equalization. TUB / TUBE and TCBE are available in straightway or angleway versions, have a fixed orifice and adjustable superheat.



Features
TUB / TUBE / TCBE



Stainless steel capillary tube and bulb:
- high corrosion resistance
- high strength and vibration resistance

Laser welded stainless steel thermostatic element for unsurpassed joint strength and operational lifetime

Bi-metal connections
Stainless steel with rolled on copper cladding for safe, fast and convenient copper-to-copper soldering

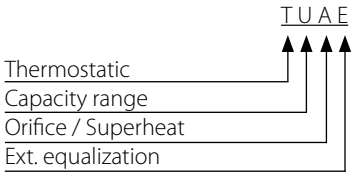
Facts

Applications:
- Traditional refrigeration
- Heat pump systems
- Air conditioning units
- Liquid coolers
- Ice cube machines
- Transport refrigeration
- Applicable to R134a, R404A, R407C, R22, R507 and R410A
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.

- The use of stainless steel makes the valves light and strong
- Bi-metal connections for safe, fast and convenient soldering
- Stainless steel capillary tube for superior strength and ductility
- Allen key superheat setting screw is convenient and space-saving compared to the standard screwdriver adjustment used in most conventional valves

- Can be supplied with MOP (Max. Operating Pressure) - protects the compressor motor against excessive evaporating pressure during normal operation
- Valves for special temperature ranges can be supplied
- 4 K / 7.2 °F opening superheat
- Bi-flow function
- Can be supplied as non adjustable OEM versions

Technical data

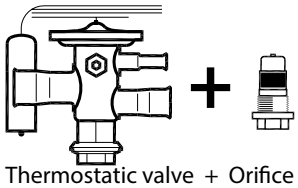


Orifice / Superheat

	Interchangeable	Adjustable
A	YES	YES
B	NO	YES
C	NO	NO

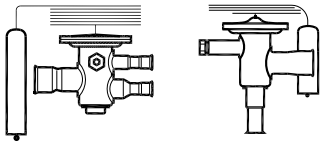
Range N = -40 – 10 °C / -40 – 50 °F
Range NM = -40 – -5 °C with MOP / -40 – 25 °F with MOP
Range NL = -40 – -15 °C with MOP / -40 °C – 5 °F with MOP
Range B = -60 – -25 °C with MOP / -75 – -15 °F with MOP

TUA
TUAE
TCAE



Thermostatic valve + Orifice

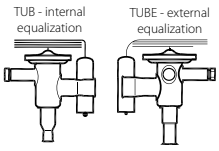
TUB
TUBE
TUC
TUCE
TCBE
TCCE



Thermostatic valve including Orifice

Valve types **TUB / TUBE / TUC / TUCE** and **TCBE / TCCE** can be replaced by **TUA / TUAE** and **TCAE** types.

Technical data and ordering



TUB / TUBE

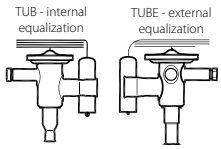
Thermostatic element, angle way, with bulb strap

Type	Refrigerant	Orifice no. [2]	Range		Rated capacity $Q_{nom.}$ [1]		Ext. pressure equalization		Connection inlet × outlet		Code no.
			[°C]	[°F]	[kW]	[TR]	[mm]	[in]	[mm]	[in]	
TUB	R22 / R407C	1	-40 – 10	-40 – 50	0.92	0.26	–	–	–	1/4 × 1/2	068U2057
		2	-40 – 10	-40 – 50	1.1	0.32	–	–	–	1/4 × 1/2	068U2058
		3	-40 – 10	-40 – 50	1.4	0.41	–	–	–	1/4 × 1/2	068U2059
		4	-40 – 10	-40 – 50	2.5	0.72	–	–	–	1/4 × 1/2	068U2060
		5	-40 – 10	-40 – 50	3.4	0.96	–	–	–	1/4 × 1/2	068U2061
		6	-40 – 10	-40 – 50	5.3	1.5	–	–	–	1/4 × 1/2	068U2062
		7	-40 – 10	-40 – 50	7	2	–	–	–	3/8 × 1/2	068U2063
		8	-40 – 10	-40 – 50	10.1	2.9	–	–	–	3/8 × 1/2	068U2064
TUBE		5	-40 – 10	-40 – 50	3.4	0.96	–	1/4	–	1/4 × 1/2	068U2071
		6	-40 – 10	-40 – 50	5.3	1.5	–	1/4	–	1/4 × 1/2	068U2072
		7	-40 – 10	-40 – 50	7	2	–	1/4	–	3/8 × 1/2	068U2073
		8	-40 – 10	-40 – 50	10.1	2.9	–	1/4	–	3/8 × 1/2	068U2074
		9	-40 – 10	-40 – 50	14.1	4	–	1/4	–	3/8 × 1/2	068U2075
TUB	R407C	1	-40 – 10	-40 – 50	0.94	0.27	–	–	6 × 12	–	068U1901
		3	-40 – 10	-40 – 50	1.5	0.42	–	–	6 × 12	–	068U1903
		4	-40 – 10	-40 – 50	2.5	0.72	–	–	6 × 12	–	068U1904
		5	-40 – 10	-40 – 50	3.4	0.96	–	–	6 × 12	–	068U1905
		6	-40 – 10	-40 – 50	5.3	1.5	–	–	6 × 12	–	068U1906
		7	-40 – 10	-40 – 50	7	2	–	–	10 × 12	–	068U1907
		8	-40 – 10	-40 – 50	10.2	2.9	–	–	10 × 12	–	068U1908
		9	-40 – 10	-40 – 50	14	4	–	–	10 × 12	–	068U1909
TUBE		2	-40 – 10	-40 – 50	1.1	0.32	6	–	6 × 12	–	068U1912
		3	-40 – 10	-40 – 50	1.5	0.42	6	–	6 × 12	–	068U1913
		4	-40 – 10	-40 – 50	2.5	0.72	6	–	6 × 12	–	068U1914
		5	-40 – 10	-40 – 50	3.4	0.96	–	1/4	–	1/4 × 1/2	068U1935
		5	-40 – 10	-40 – 50	3.4	0.96	6	–	6 × 12	–	068U1915
		6	-40 – 10	-40 – 50	5.3	1.5	–	1/4	–	1/4 × 1/2	068U1936
		6	-40 – 10	-40 – 50	5.3	1.5	6	–	6 × 12	–	068U1916
		7	-40 – 10	-40 – 50	7	2	–	1/4	–	3/8 × 1/2	068U1937
		7	-40 – 10	-40 – 50	7	2	6	–	10 × 12	–	068U1917
		8	-40 – 10	-40 – 50	10.2	2.9	–	1/4	–	3/8 × 1/2	068U1938
		8	-40 – 10	-40 – 50	10.2	2.9	6	–	10 × 12	–	068U1918
		9	-40 – 10	-40 – 50	14	4	–	1/4	–	3/8 × 1/2	068U1939
		9	-40 – 10	-40 – 50	14	4	6	–	10 × 12	–	068U1919
TUB	R410A	1	-40 – 10	-40 – 50	1.34	0.38	–	–	–	1/4 × 1/2	068U1958
		2	-40 – 10	-40 – 50	1.7	0.48	–	–	–	1/4 × 1/2	068U1959
		3	-40 – 10	-40 – 50	2.1	0.60	–	–	–	1/4 × 1/2	068U1960
		4	-40 – 10	-40 – 50	4.1	1.2	–	–	–	1/4 × 1/2	068U1961
		5	-40 – 10	-40 – 50	5.3	1.5	–	–	–	1/4 × 1/2	068U1962
		6	-40 – 10	-40 – 50	8.5	2.4	–	–	–	1/4 × 1/2	068U1963
TUBE		7	-40 – 10	-40 – 50	11.2	3.2	–	1/4	–	3/8 × 1/2	068U1973
		8	-40 – 10	-40 – 50	15.8	4.5	–	1/4	–	3/8 × 1/2	068U1974
		9	-40 – 10	-40 – 50	23.1	6.6	–	1/4	–	3/8 × 1/2	068U1975

[1]) The rated capacity is based on:
Evaporating temperature: t_e = 4.4 °C / 40 °F
Condensing temperature: t_c = 38 °C / 100 °F
Liquid temperature: t_l = 37 °C / 98 °F
[2]) TUBE with orifice 0 and 9 and all TUB (internal pressure equalization) cannot be used for biflow operation.

For R407C plants, please select valves from the dedicated R407C program.

Technical data and ordering



TUB / TUBE

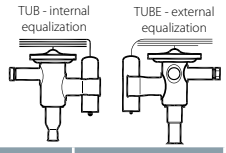
Thermostatic element, angle way, with bulb strap

Type	Refrigerant	Orifice no. [2]	Range		Rated capacity $Q_{nom.}$ [1]		Ext. pressure equalization		Connection inlet × outlet		Code no.
			[°C]	[°F]	[kW]	[TR]	[mm]	[in]	[mm]	[in]	
TUB	R290	0	-40 – 10	-40 – 50	0.64	0.18	–	–	–	1/4 × 3/8	068U3701
		1	-40 – 10	-40 – 50	0.94	0.27	–	–	–	1/4 × 3/8	068U3702
TUBE		2	-40 – 10	-40 – 50	1.12	0.32	–	1/4	–	1/4 × 3/8	068U3703
		3	-40 – 10	-40 – 50	1.46	0.42	–	1/4	–	1/4 × 3/8	068U3704
		4	-40 – 10	-40 – 50	2.55	0.72	–	1/4	–	1/4 × 3/8	068U3705
		5	-40 – 10	-40 – 50	3.39	0.96	–	1/4	–	1/4 × 3/8	068U3706
		6	-40 – 10	-40 – 50	5.33	1.51	–	1/4	–	1/4 × 3/8	068U3707
		7	-40 – 10	-40 – 50	7.03	2	–	1/4	–	1/4 × 3/8	068U3708
		8	-40 – 10	-40 – 50	10.2	2.91	–	1/4	–	3/8 × 1/2	068U3709
		9	-40 – 10	-40 – 50	14.3	4.05	–	1/4	–	3/8 × 1/2	068U3710
TUB		0	-40 – 10	-40 – 50	0.64	0.18	–	–	6 × 12	–	068U3712
		1	-40 – 10	-40 – 50	0.94	0.27	–	–	6 × 12	–	068U3713
TUBE		2	-40 – 10	-40 – 50	1.12	0.32	6	–	6 × 12	–	068U3714
		3	-40 – 10	-40 – 50	1.46	0.42	6	–	6 × 12	–	068U3715
		4	-40 – 10	-40 – 50	2.55	0.72	6	–	6 × 12	–	068U3716
		5	-40 – 10	-40 – 50	3.39	0.96	6	–	6 × 12	–	068U3717
		6	-40 – 10	-40 – 50	5.33	1.51	6	–	6 × 12	–	068U3718
		7	-40 – 10	-40 – 50	7.03	2	6	–	6 × 12	–	068U3719
		8	-40 – 10	-40 – 50	10.2	2.91	6	–	10 × 12	–	068U3720
		9	-40 – 10	-40 – 50	14.3	4.05	6	–	10 × 12	–	068U3721
TUB		1	-40 – 10	-40 – 50	0.94	0.27	–	–	–	1/4 × 1/2	068U3731
		2	-40 – 10	-40 – 50	1.12	0.32	–	–	–	1/4 × 1/2	068U3732
		3	-40 – 10	-40 – 50	1.46	0.42	–	–	–	1/4 × 1/2	068U3733
		4	-40 – 10	-40 – 50	2.55	0.72	–	–	–	1/4 × 1/2	068U3735
TUBE		5	-40 – 10	-40 – 50	3.39	0.96	–	1/4	–	1/4 × 1/2	068U3734

[1]) The rated capacity is based on:
Evaporating temperature: t_e = 4.4 °C / 40 °F
Condensing temperature: t_c = 38 °C / 100 °F
Liquid temperature: t_l = 37 °C / 98 °F
[2]) TUBE with orifice 0 and 9 and all TUB (internal pressure equalization) cannot be used for biflow operation.

For R407C plants, please select valves from the dedicated R407C program.

Technical data and ordering



TUB / TUBE

Thermostatic element, angle way, with bulb strap

Type	Refrigerant	Orifice no. [2]	Range		Rated capacity $Q_{nom.}$ [1]		Ext. pressure equalization		Connection inlet × outlet		Code no.
			[°C]	[°F]	[kW]	[TR]	[mm]	[in]	[mm]	[in]	
TUB	R134a / R513A	0	-40 – 10	-40 – 50	0.42	0.12	–	–	–	1/4 × 1/2	068U2660
		1	-40 – 10	-40 – 50	0.61	0.17	–	–	–	1/4 × 1/2	068U2027
		1	-40 – 10	-40 – 50	0.61	0.17	–	–	6 × 12	–	068U2000
		2	-40 – 10	-40 – 50	0.72	0.20	–	–	–	1/4 × 1/2	068U2028
		2	-40 – 10	-40 – 50	0.72	0.20	–	–	6 × 12	–	068U2001
		3	-40 – 10	-40 – 50	0.95	0.27	–	–	–	1/4 × 1/2	068U2029
		3	-40 – 10	-40 – 50	0.95	0.27	–	–	6 × 12	–	068U2002
		4	-40 – 10	-40 – 50	1.6	0.46	–	–	–	1/4 × 1/2	068U2030
		4	-40 – 10	-40 – 50	1.6	0.46	–	–	6 × 12	–	068U2003
		5	-40 – 10	-40 – 50	2.1	0.61	–	–	–	1/4 × 1/2	068U2031
		5	-40 – 10	-40 – 50	2.1	0.61	–	–	6 × 12	-	068U2004
		6	-40 – 10	-40 – 50	3.4	0.95	–	–	–	1/4 × 1/2	068U2032
		6	-40 – 10	-40 – 50	3.4	0.95	–	–	6 × 12	–	068U2005
TUBE		1	-40 – 10	-40 – 50	0.61	0.17	6	–	6 × 12	–	068U2009
		2	-40 – 10	-40 – 50	0.72	0.20	6	–	6 × 12	–	068U2010
		3	-40 – 10	-40 – 50	0.95	0.27	–	1/4	–	1/4 × 1/2	068U2020
		3	-40 – 10	-40 – 50	0.95	0.27	6	–	6 × 12	–	068U2011
		4	-40 – 10	-40 – 50	1.6	0.46	–	1/4	–	1/4 × 1/2	068U2021
		4	-40 – 10	-40 – 50	1.6	0.46	6	–	6 × 12	–	068U2012
		5	-40 – 10	-40 – 50	2.1	0.61	–	1/4	–	1/4 × 1/2	068U2022
		5	-40 – 10	-40 – 50	2.1	0.61	6	–	6 × 12	–	068U2013
		6	-40 – 10	-40 – 50	3.4	0.95	–	1/4	–	1/4 × 1/2	068U2023
		6	-40 – 10	-40 – 50	3.4	0.95	6	–	6 × 12	–	068U2014
		7	-40 – 10	-40 – 50	4.4	1.3	–	1/4	–	3/8 × 1/2	068U2024
		7	-40 – 10	-40 – 50	4.4	1.3	6	–	10 × 12	–	068U2015
		8	-40 – 10	-40 – 50	6.5	1.9	–	1/4	–	3/8 × 1/2	068U2025
		8	-40 – 10	-40 – 50	6.5	1.9	6	–	10 × 12	–	068U2016
		9	-40 – 10	-40 – 50	9	2.6	–	1/4	–	3/8 × 1/2	068U2026
		9	-40 – 10	-40 – 50	9	2.6	6	–	10 × 12	–	068U2017
TUB	R404A / R507	1	-40 – 10	-40 – 50	0.71	0.20	–	–	–	1/4 × 1/2	068U2094
		1	-40 – 10	-40 – 50	0.71	0.20	–	–	6 × 12	–	068U2076
		2	-40 – 10	-40 – 50	0.87	0.25	–	–	–	1/4 × 1/2	068U2095
		2	-40 – 10	-40 – 50	0.87	0.25	–	–	6 × 12	–	068U2077
		3	-40 – 10	-40 – 50	1.1	0.32	–	–	–	1/4 × 1/2	068U2096
		3	-40 – 10	-40 – 50	1.1	0.32	–	–	6 × 12	–	068U2078
		4	-40 – 10	-40 – 50	2	0.57	–	–	–	1/4 × 1/2	068U2097
		4	-40 – 10	-40 – 50	2	0.57	–	–	6 × 12	–	068U2079
		5	-40 – 10	-40 – 50	2.7	0.76	–	–	–	1/4 × 1/2	068U2098
		5	-40 – 10	-40 – 50	2.7	0.76	–	–	6 × 12	–	068U2080
		6	-40 – 10	-40 – 50	4.2	1.2	–	–	–	1/4 × 1/2	068U2099
TUBE		1	-40 – 10	-40 – 50	0.71	0.20	–	1/4	–	1/4 × 1/2	068U2103
		2	-40 – 10	-40 – 50	0.87	0.25	–	1/4	–	1/4 × 1/2	068U2104
		2	-40 – 10	-40 – 50	0.87	0.25	6	–	6 × 12	–	068U2086
		3	-40 – 10	-40 – 50	1.1	0.32	–	1/4	–	1/4 × 1/2	068U2105
		3	-40 – 10	-40 – 50	1.1	0.32	6		6 × 12	–	068U2087
		4	-40 – 10	-40 – 50	2	0.57	–	1/4	–	1/4 × 1/2	068U2106
		4	-40 – 10	-40 – 50	2	0.57	6	–	6 × 12	–	068U2088
		5	-40 – 10	-40 – 50	2.7	0.76	–	1/4	–	1/4 × 1/2	068U2107
		5	-40 – 10	-40 – 50	2.7	0.76	6	–	6 × 12	–	068U2089
		6	-40 – 10	-40 – 50	4.2	1.2	–	1/4	–	1/4 × 1/2	068U2108
		6	-40 – 10	-40 – 50	4.2	1.2	6	–	6 × 12	–	068U2090
		7	-40 – 10	-40 – 50	5.6	1.6	–	1/4	–	3/8 × 1/2	068U2109
		7	-40 – 10	-40 – 50	5.6	1.6	6	–	10 × 12	–	068U2091
		8	-40 – 10	-40 – 50	8	2.3	–	1/4	–	3/8 × 1/2	068U2110
		8	-40 – 10	-40 – 50	8	2.3	6	–	10 × 12	–	068U2092
		9	-40 – 10	-40 – 50	11.3	3.2	–	1/4	–	3/8 × 1/2	068U2111
		9	-40 – 10	-40 – 50	11.3	3.2	6	–	10 × 12	–	068U2093

[1]) The rated capacity is based on:
Evaporating temperature, t_e = 4.4 °C / 40 °F
Liquid temperature, t_l = 37 °C / 98 °F
Condensing temperature, t_c = 38 °C / 100 °F
[2]) TUBE with orifice 0 and 9 and all TUB (internal pressure equalization) cannot be used for biflow operation.

Capillary tube: 0.8 m / 31 in



TCBE

Thermostatic element, Straight way, with bulb strap

Type	Refrigerant	Orifice no.	Range		MOP		Rated capacity $Q_{nom.}$ [1])		Pressure equalization		Connection inlet × outlet		Code no.
			[°C]	[°F]	[°C]	[°F]	[kW]	[TR]	[mm]	[in]	[mm]	[in]	
TCBE	R22 / R407C	1	-40 – 10	-40 – 50	–	–	18.3	5.2	–	1/4	–	1/2 × 5/8	068U4201
		1	-40 – 10	-40 – 50	15	60	18.3	5.2	–	1/4	–	3/8 × 5/8	068U4204
		1	-40 – 10	-40 – 50	15	60	18.3	5.2	–	1/4	–	1/2 × 5/8	068U4205
		1	-40 – 10	-40 – 50	15	60	18.3	5.2	6	–	12 × 16	–	068U4213
		2	-40 – 10	-40 – 50	–	–	21.2	6	–	1/4	–	1/2 × 5/8	068U4202
		3	-40 – 10	-40 – 50	15	60	26.7	7.6	–	1/4	–	1/2 × 5/8	068U4207
TCBE	R134a / R513A	1	-40 – 10	-40 – 50	–	–	13	3.7	–	1/4	–	1/2 × 5/8	068U4217
		2	-40 – 10	-40 – 50	–	–	14.9	4.3	–	1/4	–	1/2 × 5/8	068U4218
		3	-40 – 10	-40 – 50	–	–	18.6	5.3	–	1/4	–	1/2 × 5/8	068U4219
TCBE	R404A / R507	1	-40 – 10	-40 – 50	–	–	13	3.7	6	–	12 × 16	–	068U4225
		1	-40 – 10	-40 – 50	15	60	13	3.7	6	–	10 × 16	–	068U4244
		2	-40 – 10	-40 – 50	–	–	15.1	4.3	–	1/4	–	1/2 × 5/8	068U4234
		2	-40 – 10	-40 – 50	–	–	15.1	4.3	6	–	12 × 16	–	068U4226
		2	-40 – 10	-40 – 50	15	60	15.1	4.3	6	–	12 × 16	–	068U4246
		3	-40 – 10	-40 – 50	–	–	19.8	5.4	–	1/4	–	1/2 × 5/8	068U4235
		3	-40 – 10	-40 – 50	–	–	19.8	5.4	6	–	12 × 16	–	068U4231
		3	-40 – 10	-40 – 50	15	60	19.8	5.,4	6	–	12 × 16	–	068U4247
TCBE	R407C	1	-40 – 10	-40 – 50	–	–	17.8	5.1	–	1/4	–	1/2 × 5/8	068U4249
		1	-40 – 10	-40 – 50	15	60	17.8	5.1	–	1/4	–	1/2 × 5/8	068U4253
		1	-40 – 10	-40 – 50	–	–	17.8	5.1	6	–	10 × 16	–	068U4256
		1	-40 – 10	-40 – 50	–	–	17.8	5.1	6	–	12 × 16	–	068U4257
		1	-40 – 10	-40 – 50	15	60	17.8	5.1	6	–	10 × 16	–	068U4260
		1	-40 – 10	-40 – 50	15	60	17.8	5.1	6	–	12 × 16	–	068U4261
		2	-40 – 10	-40 – 50	–	–	20.4	5.8	–	1/4	–	1/2 × 5/8	068U4250
		2	-40 – 10	-40 – 50	15	60	20.4	5.8	–	1/4	–	1/2 × 5/8	068U4254
		2	-40 – 10	-40 – 50	–	–	20.4	5.8	6	–	12 × 16	–	068U4258
		2	-40 – 10	-40 – 50	15	60	20.4	5.8	6	–	12 × 16	–	068U4262
		3	-40 – 10	-40 – 50	–	–	25.2	7.2	–	1/4	–	1/2 × 5/8	068U4251
		3	-40 – 10	-40 – 50	–	–	25.2	7.2	6	–	12 × 16	–	068U4259
		3	-40 – 10	-40 – 50	15	60	25.2	7.2	6	–	12 × 16	–	068U4263
TCBE	R410A	1	-40 – 10	-40 – 50	–	–	21.2	6	–	1/4	–	3/8 × 5/8	068U4264
		1	-40 – 10	-40 – 50	–	–	21.2	6	–	1/4	–	1/2 × 5/8	068U4265
		1	-40 – 10	-40 – 50	–	–	21.2	6	6	–	12 × 16	–	068U4273
		2	-40 – 10	-40 – 50	–	–	24.5	7	–	1/4	–	1/2 × 5/8	068U4266
		2	-40 – 10	-40 – 50	15	60	24.5	7	–	1/4	–	1/2 × 5/8	068U4270
		2	-40 – 10	-40 – 50	–	–	24.5	7	6	–	12 × 16	–	068U4274
		3	-40 – 10	-40 – 50	–	–	30.6	8.7	–	1/4	–	1/2 × 5/8	068U4267
		3	-40 – 10	-40 – 50	–	–	30.6	8.7	6	–	12 × 16	–	068U4275
		3	-40 – 10	-40 – 50	15	60	30.6	8.7	6	–	12 × 16	–	068U4279
TCBE	R290	1	-40 – 10	-40 – 50	–	–	19.1	5.43	–	1/4	–	3/8 × 5/8	068U4383
		1	-40 – 10	-40 – 50	–	–	19.1	5.43	6	–	10 × 16	–	068U4386
		2	-40 – 10	-40 – 50	–	–	22.2	6.3	–	1/4	–	1/2 × 5/8	068U4384
		2	-40 – 10	-40 – 50	–	–	22.2	6.3	6	–	12 × 16	–	068U4387
		3	-40 – 10	-40 – 50	–	–	27.9	7.93	–	1/4	–	1/2 × 5/8	068U4385
		3	-40 – 10	-40 – 50	–	–	27.9	7.93	6	–	12 × 16	–	068U4388

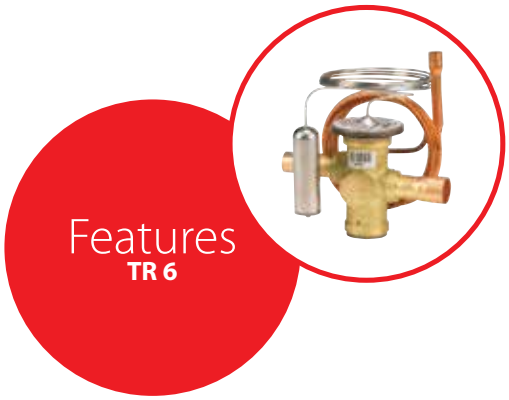
[1]) The rated capacity is based on:
Evaporating temperature, t_e = 4.4 °C / 40 °F
Liquid temperature, t_l = 37 °C / 98 °F
Condensing temperature, t_c = 38 °C / 100 °F

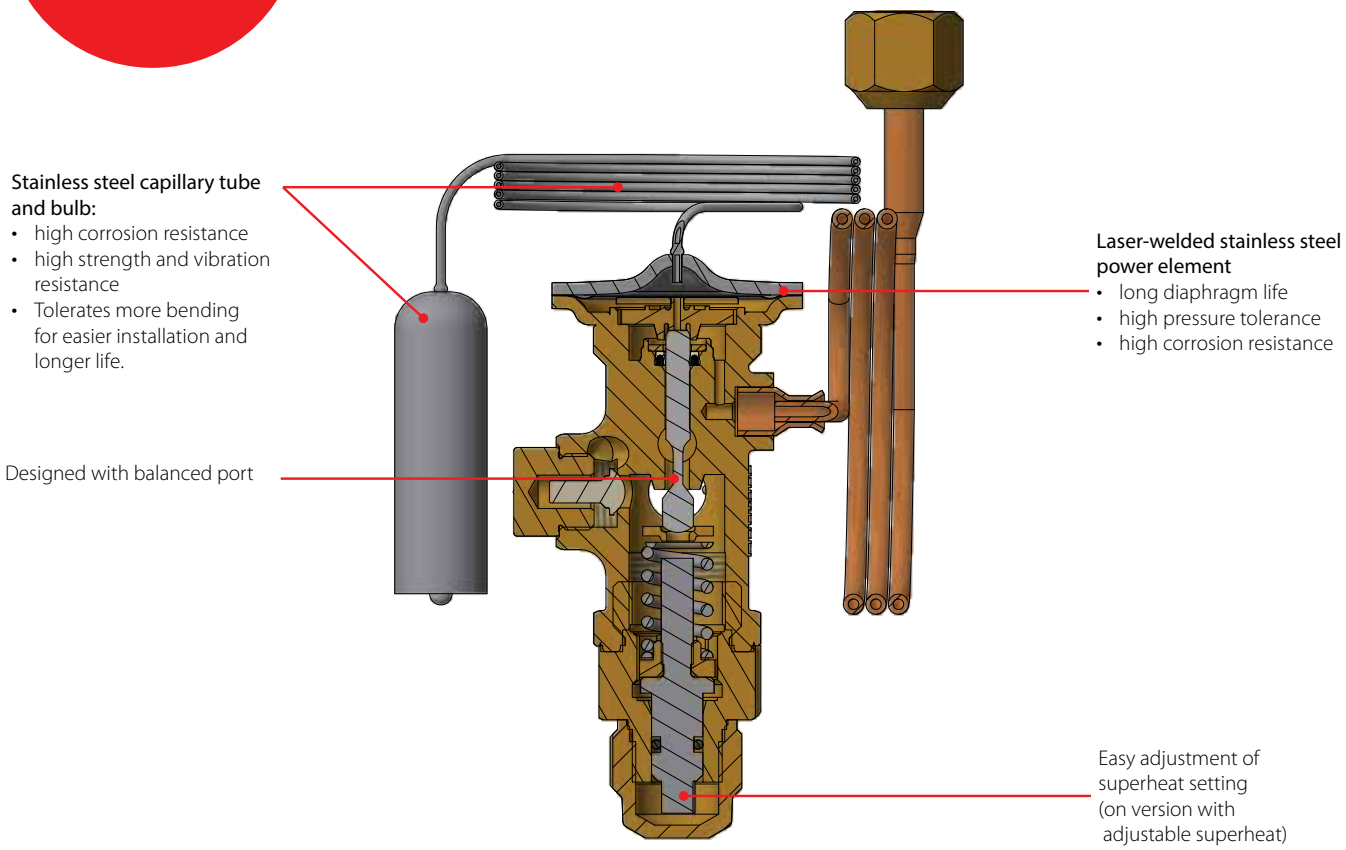
Capillary tube: 0.8 m / 31 in

TR 6, Thermostatic expansion valve

The TR 6 thermostatic expansion valves is a hermetic design, developed with features for use in air conditioning and heat pump applications. The TR 6 expansion valves are controlling liquid injection into the evaporators.

The TR 6 design incorporates a forged brass body with the power element, including the capillary tube and bulb, fabricated from stainless steel. All valves are designed with balanced port which reduces the influence from varying condensing pressures.





Facts

Applications:
- Residential air conditioning
- Split Systems/ Heatpumps/ Geothermal
- Light commercial air conditioning
- Rooftop units/ Heatpumps/ Split Systems/
- Chillers

- Compact size - hermetic design, straightway configuration with external equalization.
- Refrigerants & rated capacities ranging up to
  - R22/R407C: 23.6 kW / 6.7 TR
  - R410A: 24.5 kW / 7 TR
- Laser-welded power element
- Stainless steel capillary tube.
- Stainless steel bulb
- Balance port design

- A complete program with and without internal check valve, with low pressure drop in reverse flow.
- Adjustable or non-adjustable superheat, for customer specific factory setting
- Bleed function available
- Solder, chatleff and aeroquip connections
- UL listed, file SA7200
- The valves can be delivered with special connections and fittings both at the inlet and outlet and at the equalizer connection

Technical data and ordering

TR 6

Range: -10 – 15 °C / 14 – 59 °F

Type	Orifice no.	Rated capacity						Connections solder ODF		Code no. Multi pack [2)]
		R410A[1)]		R407C		R22		Inlet x Outlet	Pressure equalization	
		[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[in]	Outlet [in]	
TR 6	3	–	–	9.82	2.8	11.02	3.13	3/8 × 3/8	1/4	067L5855
	4	–	–	13.75	3.92	15.49	4.4	3/8 × 3/8	1/4	067L5856
	5	–	–	16.39	4.67	18.4	5.23	3/8 × 3/8	1/4	067L5857
	6	–	–	17.35	4.94	19.56	5.56	3/8 × 3/8	1/4	067L5858
	7	–	–	20.89	5.95	23.78	6.76	3/8 × 3/8	1/4	067L5859
	3	11.27	3.21	–	–	–	–	3/8 × 3/8	1/4	067L5955
	4	15.91	4.53	–	–	–	–	3/8 × 3/8	1/4	067L5956
	5	19.03	5.42	–	–	–	–	3/8 × 3/8	1/4	067L5957
	6	20.2	5.75	–	–	–	–	3/8 × 3/8	1/4	067L5958
	7	24.49	6.97	–	–	–	–	3/8 × 3/8	1/4	067L5959

[1)]The rated capacity is based on:
Evaporating temperature te : 4.4 °C / 40 °F
Condensing temperature tc : 38 °C / 100 °F
Refrigerant temperature ahead of valve tl : 37 °C / 98 °F

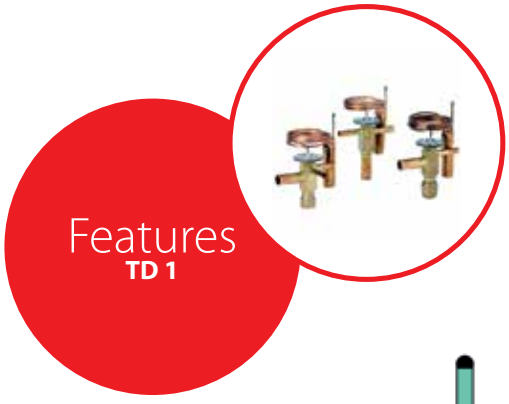
[2)] Kit part numbers consist of a valve, bulb strap, insulation tape, installation instruction, and the following connectors:
1 Chatleff female 3/4 in connector
1 Aeroquip female 5/8 in connector
1 Flare 3/8 in connector

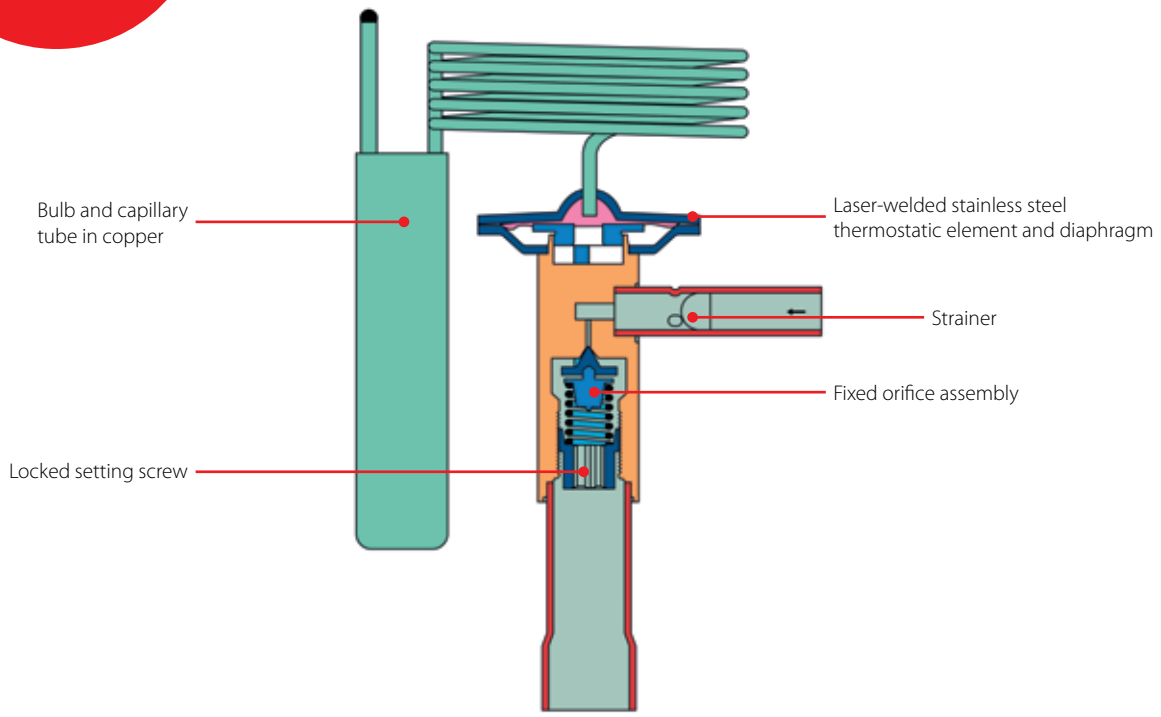
TR6 with fixed superheat setting are available upon request.
Single pack = 1 valve kit in a box
Industrial pack = 12 pieces in one box

TD 1, Thermostatic expansion valve

TD 1 is a thermostatic expansion valve designed to regulate refrigerant injection into evaporators. The injection depends on the refrigerant superheat at the evaporator outlet, where the bulb must be placed.

TD 1 is constructed for soldering into sealed systems and supplied as angleway and straightway version.





Facts

OEM Applications:
- GDM (Glass Door Merchandiser)
- Commercial fridge and freezer
- Heat Pump

- Refrigerants: R134a, R290, R448A, R449A, R452A, R404A, R22, R407C
  Other refrigerants are on request
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers,where refrigerants are listed as part of product specifications.
- Rated capacities from 0.4 to 3.8 kW / 0.11 to 1.1 TR for R134a
- Double contact bulb:
  – Fast and easy to install
  – Good temperature transfer from pipe to bulb
- MOP (Max. Operating Pressure) function is available
- Supplied with fixed superheat setting as well as adjustable straightway version for setting customization
- Optional bleed function
- Laser welded stainless steel element:
  - optimum regulation properties
  - long life of diaphragm
  - high compressive strength
- Compliance with ATEX hazard zone 2

Technical data and ordering

As TD1 is a customer specific valve, we have set up limited standard code numbers covering general market demand.
Other code numbers are available on demand.
The valves including bulb clip are supplied in multi pack or industrial pack.
Multi pack: 20 pcs pr. full pack, min. order quantity = 1 pc.
Industrial pack: 32 pcs pr. pack (min. ordering quantity). Please contact Danfoss.

TD 1 - R290

Thermostatic expansion valve with bulb clip

Type	Flow Direction	Orifice no.	Range		MOP		Rated capacity [1]		Bleed	Connection solder ODF Inlet x Outlet		Capillary tube		Code no. Multi pack
			[°C]	[°F]	[°C]	[°F]	[kW]	[TR]		[mm]	[in]	[m]	[in.]	
TD 1	Angleway	0	-40 – 10	-40 – 50	–	–	0.6	0.16	–	–	1/4 × 3/8	0.75	30	068N2019
	Angleway	1	-40 – 10	-40 – 50	–	–	1.2	0.34	–	–	1/4 × 3/8	0.75	30	068N2020
	Angleway	1	-25 – 15	-15 – 60	20	68	1.2	0.34	–	6 x 10	–	0.75	30	068N2021
	Angleway	2	-40 – 10	-40 – 50	–	–	2.3	0.65	–	–	1/4 × 3/8	0.75	30	068N2022
	Angleway	2	-25 – 15	-15 – 60	20	68	2.3	0.65	–	6 x 10	–	0.75	30	068N2023
	Angleway	3	-40 – 10	-40 – 50	–	–	3.0	0.87	–	–	1/4 × 3/8	0.75	30	068N2024
	Angleway	3	-25 – 15	-15 – 60	20	68	3.0	0.87	–	6 x 10	–	0.75	30	068N2025
	Angleway	4	-40 – 10	-40 – 50	–	–	4.6	1.3	–	–	3/8 × 1/2	0.75	30	068N2026
	Angleway	5	-40 – 10	-40 – 50	–	–	5.6	1.6	–	–	3/8 × 1/2	0.75	30	068N2028

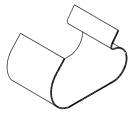
[1])The rated capacity is based on:
Evaporating temprature t_e = 5 °C / 41 °F
Condensing temperature t_c = 32 °C / 90 °F
Refrigerant temperature ahead of valve t_l = 28 °C / 82 °F

TD1 - R134a

Thermostatic expansion valve with bulb clip

Type	Flow Direction	Orifice no.	Range		MOP		Rated capacity [1]		Bleed	Connection solder ODF Inlet x Outlet		Capillary tube		Code no. Multi pack
			[°C]	[°F]	[°C]	[°F]	[kW]	[TR]		[mm]	[in]	[m]	[in.]	
TD 1	Angleway	0	-40 – 10	-40 – 50	–	–	0.4	0.11	–	–	1/4 × 3/8	0.75	30	068N2002
	Angleway	1	-40 – 10	-40 – 50	–	–	0.8	0.23	–	–	1/4 × 3/8	0.75	30	068N2003
	Angleway	1	-40 – 10	-40 – 50	–	–	0.8	0.23	15%	–	1/4 × 3/8	0.75	30	068N2004
	Angleway	1	-25 – 15	-15 – 60	20	68	0.8	0.23	–	6 x 10	–	0.75	30	068N2005
	Angleway	2	-40 – 10	-40 – 50	–	–	1.6	0.45	–	–	1/4 × 3/8	0.75	30	068N2006
	Angleway	2	-40 – 10	-40 – 50	–	–	1.6	0.45	15%	–	1/4 × 3/8	0.75	30	068N2007
	Angleway	2	-25 – 15	-15 – 60	20	68	1.6	0.45	–	6 x 10	–	0.75	30	068N2008
	Angleway	3	-40 – 10	-40 – 50	–	–	2.1	0.6	–	–	1/4 × 3/8	0.75	30	068N2009
	Angleway	3	-40 – 10	-40 – 50	–	–	2.1	0.6	15%	–	1/4 × 3/8	0.75	30	068N2010
	Angleway	3	-25 – 15	-15 – 60	20	68	2.1	0.6	–	6 x 10	–	0.75	30	068N2011
	Angleway	4	-40 – 10	-40 – 50	–	–	3.1	0.9	–	–	3/8 × 1/2	0.75	30	068N2012
	Angleway	4	-40 – 10	-40 – 50	–	–	3.1	0.9	15%	–	3/8 × 1/2	0.75	30	068N2013
	Angleway	4	-25 – 15	-15 – 60	20	68	3.1	0.9	–	10 x 12	–	0.75	30	068N2014
	Angleway	5	-40 – 10	-40 – 50	–	–	3.8	1.1	–	–	3/8 × 1/2	0.75	30	068N2015
	Angleway	5	-40 – 10	-40 – 50	–	–	3.8	1.1	15%	–	3/8 × 1/2	0.75	30	068N2027
	Angleway	5	-25 – 15	-15 – 60	20	68	3.8	1.1	–	10 x 12	–	0.75	30	068N2017

[1])The rated capacity is based on:
Evaporating temprature t_e = 5 °C / 41 °F
Condensing temperature t_c = 32 °C / 90 °F
Refrigerant temperature ahead of valve t_l = 28 °C / 82 °F

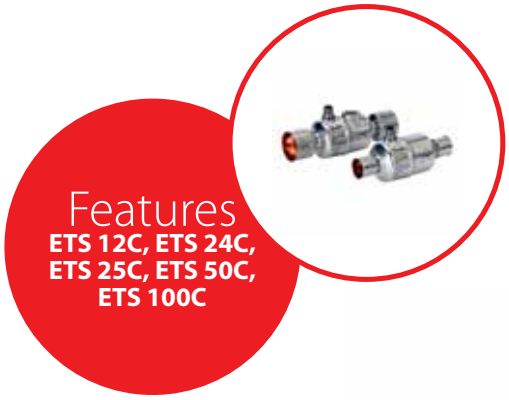


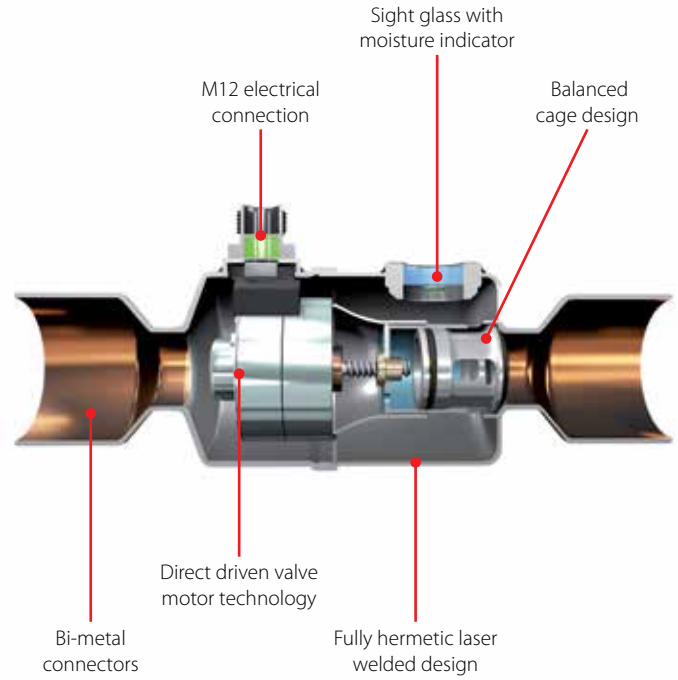
Bulb clip supplied separately as spare part

Max. diameter of suction line		Quantity / box	Code no. Industrial pack
[mm]	[in]		
8	5/16	96 pcs	068N2529
10	3/8	96 pcs	068N2530
12	1/2	96 pcs	068N2531

ETS 12C / ETS 24C / ETS 25C / ETS 50C / ETS 100C, Electric expansion valves

ETS Colibri® is an electric stepper motor valve. The valve has been designed for precise liquid injection into evaporators for air conditioning and refrigeration applications.
The valves are compact, lightweight and in-line design. The valves are compact, lightweight and in-line design includes a balanced cage and slider assembly operated by the direct driven motor technology.
This ensures solenoid tight shut-off in both flow directions, thus providing smooth operation of the system.
The valve incorporates a powerful bi-polar motor which precisely controls flow regulation.
ETS Colibri® valves are compatible with electronic control solutions from Danfoss and other manufacturers.





Facts

Applications:
- Air Conditioning
  - Chillers, heat pumps
  - Roof top and ducted split systems
  - VRF and other split systems
  - Close control cooling
- Refrigeration
  - Cold Rooms, Food retail and Transport
- Applicable to R410A, R404A, R507, R134a, R407A, R407B, R407C, R407F, R32, R290, R1234ze, R1234yf, R449A, R449B, R452A, R1270, R600, R600a, R22, R23, R227, R417A, R444B, R447A, R448A, R454B, R422A, R422D, R427A, R502, R513A, R413A, R438A, R450A, R455B, R454C, R454A, R452B, L40*)
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- Precise control of liquid injection
- Linear Flow characteristic
- Higher MOPD and MWP
- ETS Colibri® approvals: CE, REACH, UL, LLC CDC EURO TYSK, EAC, ATEX II 3G Ex nA T6 (applied for)
- Supports variety of refrigerants, approved for oil free applications
- Fast opening/closing time of 4 sec.
- Solenoid tight shut-off
- Sight glass / moisture indicator
- Compact, lightweight and in-line design
- Bi-metal connectors allows fast and improved brazing process
- Internal and external corrosion resistant
- Manufactured according to ISO/TS16949

**) R-number allocation by ASHRAE is pending*

Technical data and ordering

ETS Colibri®

Technical data

Refrigerant oil	POE, PVE, All mineral oils, ester oils and supports oil free
Complies with PED	Yes, Fluid group 1*) and group 2.
MOPD	40 bar / 580 psi
Max. working pressure PS/MWP	50 bar(g) / 725 psi(g)
Refrigerant temperature range (measured at the inlet of the valve)	-40 – 70 °C / -40 – 158 °F
Ambient temperature	-40 – 70 °C / -40 – 158 °F
Capacity control range	10% - 100% of total opening degree
Initial opening	5% = 30 full steps
Environmental transport / storage temperature and humidity	Max. +75 °C / 167 °F, Humidity: <100% RH
Material of construction	Body: Stainless Steel / Connector: Bimetal (stainless steel and copper)
Sightglass / moisture indicator	Type N moisture indicator

**) Variants with connector size 1-1/8 in. and smaller.*

Electrical data

Motor enclosure	IP67
Stepper motor type	Bi-polar - permanent magnet
Step mode	Microstepping (recommended), 2 phase full step or half step
Phase current	800 mA peak / 600 mA RMS
Holding current	No permanent holding current needed. Max. 20% permanent holding current allowed with refrigerant flow through valve. For optimal performance, driver should keep 100% current on coils 10ms after last step
Phase resistance	10 Ω ±10% at 20 °C / 68 °F
Inductance	14 mH ±25%
Duty cycle	100% possible, requiring refrigerant flow through valve. Less than 50% over 120 sec period recommended
Nominal Power consumption	7.44 W RMS at 20 °C (total, both coils)
Total number of full steps	600
Step rate	Current control driver: a. Step type: Microstep (1/4th or higher): 160 full steps/sec. recommended b. Step type: Full step or Half steps: 50 full steps/sec. recommended Emergency close : 250 full steps/sec. OEMs with 3rd party controller, please contact Danfoss.
Step translation	0.0167 mm / step
Full travel time	3.75 at 160 steps/sec
Opening stroke	10 mm / 0.4 in.
Reference position	Overdriving against the full close position
Overdriving performance	1% (6 full steps) Overdrive is recommended for optimum performance 628 steps in closing direction recommended for initialisation Overdriving in open position not recommended
Electrical connection	According to EN 61076-2-101
Compatible controllers / driver	Danfoss EKE 1A, EKE 1B, EKE 1C, MCX061V, MCX152V Certain third party controllers / drivers. Contact Danfoss for details

Technical data and ordering

ETS Colibri®



Ordering - Without sight glass

Type	K_v value	C_v value	Rated capacity [1]										Connection		Code no. single pack
			R410A		R407C		R1234ze		R134a		R290		ODF × ODF (A × B)		
	[m³/h]	[gpm]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[in]	[mm]	
ETS 12C	0.60	0.69	105	29.8	95.1	27.0	53.6	15.2	68.0	19.0	91.0	26.0	1/2 × 1/2	–	034G7500
	0.60	0.69	105	29.8	95.1	27.0	53.6	15.2	68.0	19.0	91.0	26.0	5/8 × 5/8	16 × 16	034G7501
	0.60	0.69	105	29.8	95.1	27.0	53.6	15.2	68.0	19.0	91.0	26.0	7/8 × 7/8	22 × 22	034G7502
ETS 24C	1.20	1.39	170	48.5	155	44.0	87.3	24.8	111	31.5	149	42.0	1/2 × 1/2	–	034G7900
	1.20	1.39	170	48.5	155	44.0	87.3	24.8	111	31.5	149	42.0	5/8 × 5/8	16 × 16	034G7901
	1.20	1.39	170	48.5	155	44.0	87.3	24.8	111	31.5	149	42.0	7/8 × 7/8	22 × 22	034G7902



Ordering - With sight glass

Type	K_v value	C_v value	Rated capacity [1]										Connection		Code no. single pack
			R410A		R407C		R1234ze		R134a		R290		ODF × ODF (A × B)		
	[m³/h]	[gpm]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[in]	[mm]	
ETS 25C	1.20	1.39	170	48.5	155	44.0	87.3	24.8	111	31.5	149	42.0	7/8 × 7/8	22 × 22	034G7602
ETS 50C	2.50	2.89	323	92.0	294	83.5	166	47.1	210	59.7	282	80.0	7/8 × 7/8	22 × 22	034G7700
	2.50	2.89	323	92.0	294	83.5	166	47.1	210	59.7	282	80.0	7/8 × 1 1/8	22 × 28	034G7701
	2.50	2.89	323	92.0	294	83.5	166	47.1	210	59.7	282	80.0	1 1/8 × 1 1/8	28 × 28	034G7702
	2.50	2.89	323	92.0	294	83.5	166	47.1	210	59.7	282	80.0	1 1/8 × 1 3/8	28 × 35	034G7703
ETS 100C	5.00	5.78	635	181	577	164	325	92.5	413	117	554	157	1 1/8 × 1 1/8	28 × 28	034G7800
	5.00	5.78	635	181	577	164	325	92.5	413	117	554	157	1 1/8 × 1 3/8	28 × 35	034G7801
	5.00	5.78	635	181	577	164	325	92.5	413	117	554	157	1 3/8 × 1 3/8	35 × 35	034G7802
	5.00	5.78	635	181	577	164	325	92.5	413	117	554	157	1 5/8 × 1 5/8	–	034G7803

[1]) The above estimated capacities, are based on the following conditions:
Evaporating temperature t_e: 5 °C / 40 °F
Liquid temperature t_l: 28 °C / 82 °F
Condensing temperature t_c: 32 °C / 90 °F.
Full stroke opening in normal flow direction.
Capacity is ± 10% in full open state in reverse flow direction.

Note: for fast and precise selection of valve, use Danfoss' CoolSelector2® software. You can download it from http://coolselector.danfoss.com

M12 angle cable

Specification

Jacket	PVC - black
Cable outer sheath	Oil - resistant
Water proof rating	IP 67
Operating temperature range	-40 – 80 °C
Wire type	Twisted pair, cross section 20 AWG / 0.5 mm²
Cable outer diameter	7.0 mm
Minimum bending radius	10 x cable diameter
Cable combustibility / test	Flame retardant / VW-1 / CSA FT - 1
M12 standard	EN 61076-2-101
Reference standard	UL style 2464 and DIN VDE 0812
LVD directive	2014/35/EU
Approval	CE, RoHS, UL, EAC, LLC CDC EURO TYSK



Ordering

Cable	Cable length (L)	Insulation	Packing format	Code no.
PVC - Black	2 m / 6.6 ft	SR-PVC	Single pack	034G7073
	8 m / 26.2 ft	SR-PVC	Single pack	034G7074

Caution: M12 angle cable is not approved for flammable applications.

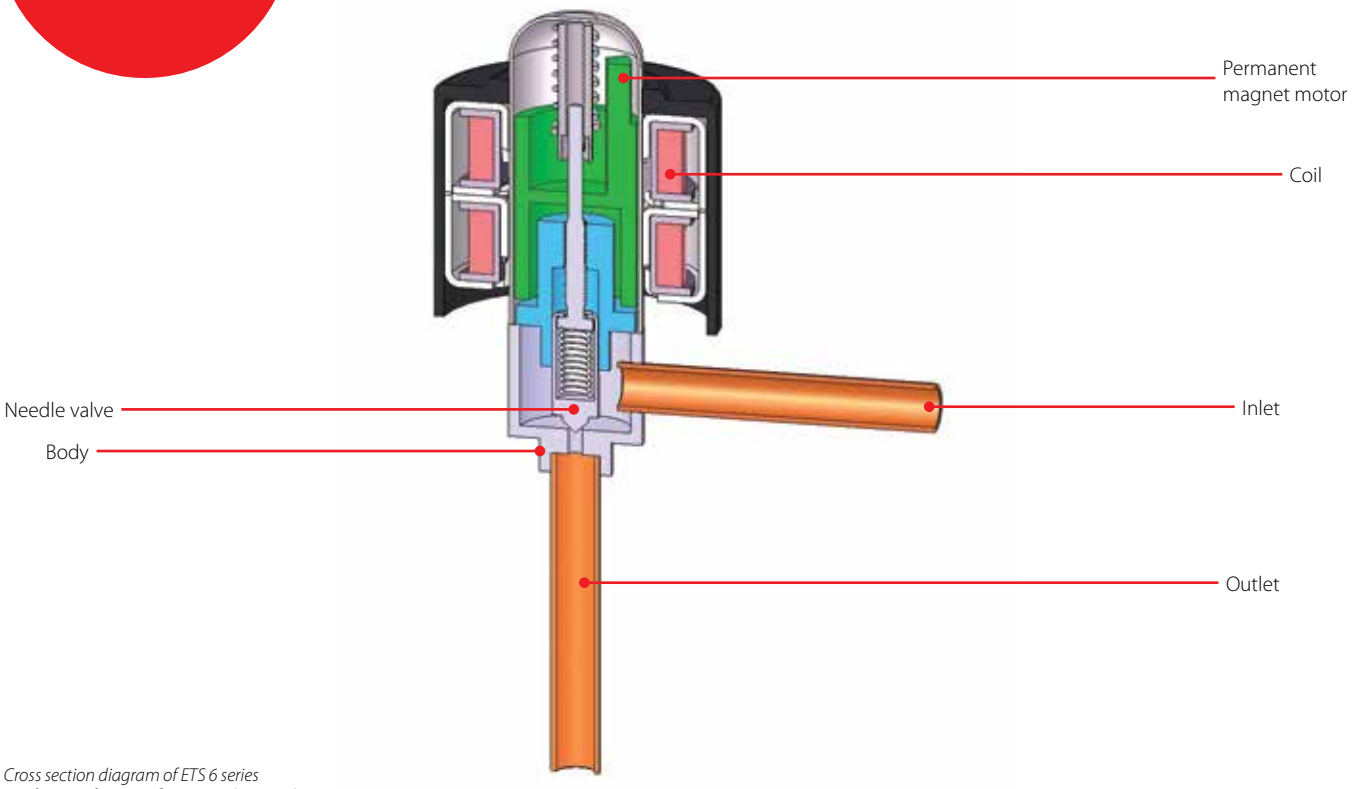
Quick Selection Notes:

ETS 6, Electric expansion valve

ETS 6 are compact and lightweight electric expansion valves.
Bi-flow operation is possible for heat pump systems.
The valve operation is by means of a unipolar motor, which can be controlled by a number of controllers from Danfoss or third party vendors.

With a Danfoss EKE 1A, EKE 1B, EKE 1C and EIM 336 (current drivers) and an AKS sensor, an accuracy better than ± 0.5 K can be obtained.





Cross section diagram of ETS 6 series
** Refers to refrigerant flow in cooling mode*

Facts

Applications:
- Heat pumps
- Modular air-cooled chillers
- VRF
- Multi split
- Inverter mini split
- Bus air conditioning
- IT cooling
- Applicable to R410A, R407C, R404A, R507, R134a, R22, R448A, R449A, R452A
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.

- Precision flow control
- Proven know-how and high reliability
- Power saving design that enables energy efficiency
- Compact and lightweight hermetic design with removable coil

- Bi-flow operation for reversible systems
- Controller: Danfoss supplies electronic controller EKE 1 Series, temperature sensors and transmitters

Technical data and ordering

ETS 6

Technical data

Maximum working pressure	47 bar / 681 psig
Refrigerant oil	All mineral oils and ester oils (to lubricate ETS 6 valve)
Ambient temperature	-30 – 70 °C / -22 – 158 °F
Fluid temperature	-30 – 70 °C / -22 – 158 °F
Durability	- Tested for 60 Million total pulses supplied to the valve during partially open valve, which is comparable to 150.000 cycles if the valve is operated between 100 to 300 pulses open - Tested for 30.000 full stroke cycles including 20 pulse overdrive at each closure
Ambient humidity	95% RH or less
Modulation	Permanent magnet type direct operating stepper motor
Excitation method	1 – 2 phase
Electrical connection	JST XHP-6 and JST XHP-5
Excitation speed	min 30 pps (pulses per second) to max. 90 pps, recommended 31.3 pps
Operating range	0 – 480 pulses, no holding power required (NOTE: do not apply more than 520 pulses)
Full motion transit time	e.g. 16 second at 30 pps, 6 second at 80 pps
Installation position Liquid line solenoid valve	With coil on the upper side and the valve / coil assembly within ±15° of the vertical axis. If a liquid line solenoid valve is used, it must be installed in such a way that it does not create liquid hammering in the ETS 6 valve.
Max. coil winding temperature	115 °C / 239 °F
Approvals	EAC, LLC CDC EURO TYSK, CE, UL, RoHS, CQC



ETS 6 - Valve excl. coil

Valve ordering

Type	Orifice no.	Nominal Capacity [kW]					Connection (solder)		Valve tube confi-guration	MWP	MOPD	Max. Reverse Pressure [1]	Flow direction charact.	Code no.
		R22	R134a	R404A / R507	R407C	R410A	A [mm]	B [mm]		[bar]	[bar]	[bar]		
ETS 6 – 08	08	1.5	1.2	1.1	1.6	1.8	6.35	7.94	90°	47	35	20	Bi-flow	034G5095
ETS 6 – 10	10	2.6	2	1.8	2.7	3.1	7.94	7.94	90°	47	35	35	Bi-flow	034G5005
ETS 6 – 14	14	5.8	4.5	4.1	5.9	6.8	7.94	7.94	90°	47	35	20	Bi-flow	034G5015
ETS 6 – 18	18	10.3	8.1	7.3	10.6	12.1	6.35	6.35	90°	47	35	28	Bi-flow	034G5026
ETS 6 – 25	25	19.6	15.3	13.8	20.1	23	7.94	7.94	90°	47	35	22	Bi-flow	034G5035
ETS 6 – 32	32	28.8	22.5	20.3	29.6	33.9	7.94	7.94	90°	47	28	12 [2]	Bi-flow	034G5055
ETS 6 – 40	40	39.1	30.6	27.6	40.2	46	7.94	7.94	90°	47	21	7	Bi-flow	034G5065

The Rated capacity is based on:
Evaporating temperature t_e: 5 °C, Condensing temperature t_c: 38 °C, Subcooling t_{sub}: 0 K, Superheat SH: 0 K
[1]) Max. Reverse Pressure = Pressure at which the valve can still close tightly in reverse direction.
[2]) Please contact Danfoss if higher maximum reverse pressure valve is required.

ETS 6 - Valve excl. coil

Valve ordering

Type	Orifice no.	Nominal Capacity [TR]					Connection (solder)		Valve tube confi-guration	MWP	MOPD	Max. Reverse Pressure [1]	Flow direction charact.	Code no.
		R22	R134a	R404A / R507	R407C	R410A	A [in]	B [in]		[psig]	[psig]	[psig]		
ETS 6 – 08	08	0.426	0.341	0.312	0.454	0.511	1/4	1/4	90°	681	507	290	Bi-flow	034G5095
ETS 6 – 10	10	0.74	0.57	0.51	0.77	0.88	5/16	5/16	90°	681	507	507	Bi-flow	034G5005
ETS 6 – 14	14	1.65	1.28	1.16	1.68	1.93	5/16	5/16	90°	681	507	290	Bi-flow	034G5015
ETS 6 – 18	18	2.93	2.30	2.07	3.01	3.44	1/4	1/4	90°	681	507	406	Bi-flow	034G5026
ETS 6 – 25	25	5.57	4.35	3.92	5.72	6.54	5/16	5/16	90°	681	507	319	Bi-flow	034G5035
ETS 6 – 32	32	8.19	6.40	5.77	8.42	9.64	5/16	5/16	90°	681	406	174	Bi-flow	034G5055
ETS 6 – 40	40	11.12	8.70	7.85	11.43	13.08	5/16	5/16	90°	681	305	101	Bi-flow	034G5065

The Rated capacity is based on:
Evaporating temperature t_e: 41 °F, Condensing temperature t_c: 100 °F, Subcooling t_{sub}: 32 °F, Superheat SH: 32 °F
[1]) Max. Reverse Pressure = Pressure at which the valve can still close tightly in reverse direction.
Please contact Danfoss if higher maximum reverse pressure valve is required.

Technical data and ordering

Coil for ETS 6



Ordering

Model No.	Voltage (current)	Enclosure	Insulation class	Cable length [m]	Connector	Code no.
Coil ordering for ETS 6, Single pack						
ETS 6 Coil	12 V DC (0.26A / phase)	IP66	Class "E" (UL Class 105 (A))	0.7	JST XHP-6	034G5105
				0.7	JST XHP-5	034G5115
				1.5	JST XHP-5	034G5145
				2.0	JST XHP 5 1	034G5185
				3.0	JST XHP-5	034G5135
				0.6	AMP UPC- 6	034G5175

Related products

Electronic control
Type EKE 1A, EKE 1B, EKE 1C and EIM 336 (current drivers)
Temperature sensors and pressure transmitters
Type AKS

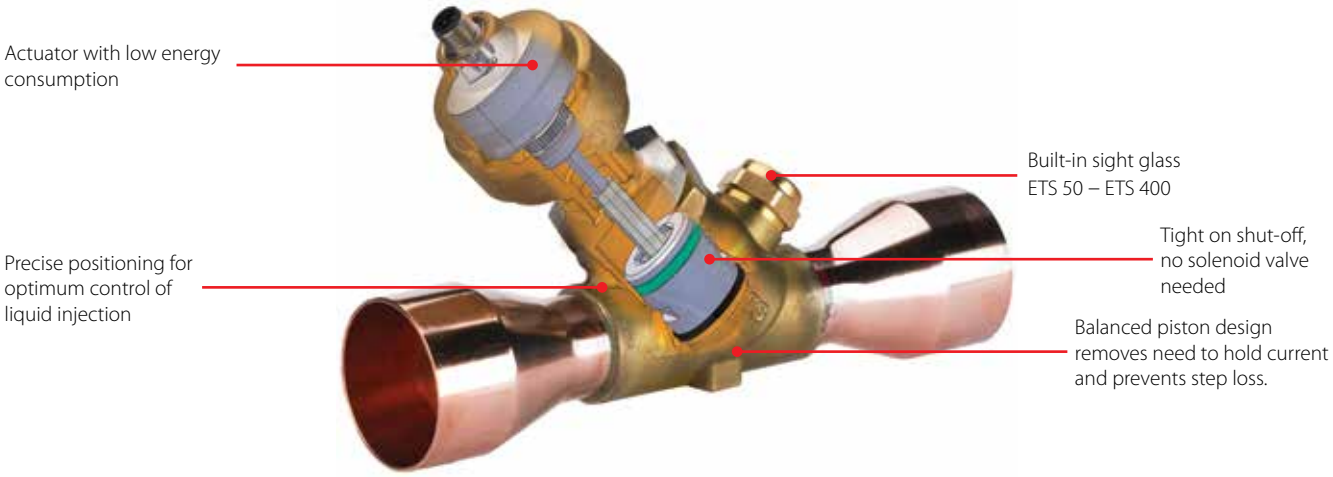
Quick Selection Notes:

ETS 12.5 – ETS 400, Electric expansion valves

ETS 12.5 - ETS 400 are electric expansion valves for precise liquid injection in evaporators for air conditioning and refrigeration applications.
The valve piston and linear positioning design is fully balanced, providing bi-flow feature as well as solenoid tight shut function in both flow directions.

ETS valves are operated with a current or voltage driver such as Danfoss Controllers EKE 1A, EKE 1B, EKE 1C, MCX.





Facts

Applications:
- Heat pumps
- Refrigeration
- Air conditioning
- Chillers
- Applicable to R22, R134a, R404A, R407A, R407C, R407F, R422B, R422D, R438A, R448A, R449A, R450A, R452A, R507, R513A, R410A, R1234ze. Special ETS versions for systems with R744 (CO_2) are available.
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.

- Balanced design (ETS 12.5 – ETS 400) providing bi-flow operation as well as solenoid tight shut-off function in both flow directions
- Lower energy consumption
- ETS 50 and ETS 100 feature improved process and productivity due to waterless brazing i.e. soldering without wet cloth for cooling
- ETS 50 to ETS 400 are all designed with built-in sight glass with moisture indicator
- Internal and external corrosion resistant design

- Precise positioning for optimum control of liquid injection
- ETS 12.5, ETS 25, ETS 50, ETS 100 provide working pressure of 45.5 bar / 660 psig and ETS 250, ETS 400 provide 34 bar / 493 psig
- EKE 1 Series and MCX are examples of Danfoss controllers with drivers matching ETS requirements
- Equipped with M12 connector for cable connection (cable and connector assemblies as accessories)
- Approvals: CE, REACH, LLC CDC EURO TYSK, EAC

Technical data and ordering

ETS 12.5 – ETS 400

Technical data

Refrigerant oil	All mineral oils and ester oils Full life time of ETS can only be ensured if oil is present in the system
PED compliance	Yes
MOPD normal flow	33 bar / 479 psig
MOPD reverse flow	ETS 12.5, ETS 25, ETS 50, ETS 100: 33 bar / 479 psig ETS 250, ETS 400: 10 bar / 145 psig
Max. working pressure (PS / MWP)	ETS 12.5, ETS 25, ETS 50, ETS 100: 45.5 bar / 660 psig ETS 250, ETS 400: 34 bar / 493 psig
Refrigerant temperature range	-40 – 65 °C / -40 – 150 °F
Ambient temperature	-40 – 60 °C / -40 – 150 °F
Material of construction	ETS 50, ETS 100: Body and AST enclosure in brass, connections in bi-metal (stainless steel / copper) ETS 12.5, ETS 250, ETS 400: Body and AST enclosure in brass, connections in copper

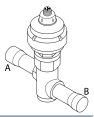
ETS 12.5 – ETS 400

Electrical data

Motor enclosure	IP67	
Stepper motor type	Bi-polar - permanent magnet	
Step mode	2 phase full step	
Phase resistance	52 Ω ±10%	
Phase inductance	85 mH	
Holding current	Depends on application. Full current allowed (100% duty cycle)	
Step angle	7.5° (motor) 0.9° (lead screw) Gearing ratio 8.5:1	
Nominal voltage	(Constant voltage drive) 12 V DC -4% / 15%, 150 steps / second	
Phase current	(Using chopper drive) 100 mA RMS -4% / 15%	
Max. total power	Voltage / current drive: 5.5 / 1.3 W (UL: NEC class 2)	
Step rate	150 steps / sec (constant voltage drive) 0-300 steps / sec 300 recommended (chopper current drive)	
Total steps	ETS 12.5, ETS 25, ETS 50 ETS 100 ETS 250, ETS 400	2625 (160 / 0) steps 3530 (160 / 0) steps 3810 (160 / 0) steps
Full travel time	ETS 12.5, ETS 25, ETS 50 ETS 100 ETS 250 and ETS 400	17 / 8.5 seconds (voltage / current) 23 / 11.5 seconds (voltage / current) 25.4 / 12.7 seconds (voltage / current)
Lifting height	ETS 12.5, ETS 25, ETS 50 ETS 100 ETS 250 and ETS 400	13 mm / 0.5 in 16 mm / 0.63 in 17.2 mm / 0.68 in
Reference position	Overdriving against the full close position	
Electrical connection	M12 connector	
Compatible controller/driver	Danfoss EKE 1A, EKE 1B, EKE 1C, MCX Certain third party controllers / drivers. Contact Danfoss for details	

Technical data and ordering

ETS 12.5 / ETS 25 - Valve included actuator (without sight glass)

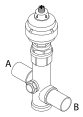


Ordering

Type	Rated capacity [1]										Connection		Code no.
	R410A		R407C		R22		R134a		R404A		ODF × ODF (A × B)		
	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[in]	[mm]	
Straightway, Single pack													
ETS 12.5	70	20	63	18	57	16	45	13	43	12	1/2 × 1/2	–	034G4209
	70	20	63	18	57	16	45	13	43	12	–	12 × 12	034G4208
	70	20	63	18	57	16	45	13	43	12	5/8 × 5/8	16 × 16	034G4210
	70	20	63	18	57	16	45	13	43	12	7/8 × 7/8	22 × 22	034G4211
ETS 25	144	41	129	37	117	34	93	27	88	25	1/2 × 1/2	–	034G4201
	144	41	129	37	117	34	93	27	88	25	–	12 × 12	034G4200
	144	41	129	37	117	34	93	27	88	25	5/8 × 5/8	16 × 16	034G4202
	144	41	129	37	117	34	93	27	88	25	7/8 × 7/8	22 × 22	034G4203
Angleway, Single pack													
ETS 12.5	70	20	63	18	57	16	45	13	43	12	1/2 × 1/2	–	034G4213
	70	20	63	18	57	16	45	13	43	12	–	12 × 12	034G4212
	70	20	63	18	57	16	45	13	43	12	5/8 × 5/8	16 × 16	034G4214
	70	20	63	18	57	16	45	13	43	12	7/8 × 7/8	22 × 22	034G4215
ETS 25	144	41	129	37	117	34	93	27	88	25	1/2 × 1/2	–	034G4205
	144	41	129	37	117	34	93	27	88	25	–	12 × 12	034G4204
	144	41	129	37	117	34	93	27	88	25	5/8 × 5/8	16 × 16	034G4206
	144	41	129	37	117	34	93	27	88	25	7/8 × 7/8	22 × 22	034G4207

[1]) The rated capacity is based on:
Evaporating temperature t_e: 5 °C / 41 °F
Liquid temperature t_l: 28 °C / 82 °F
Condensing temperature t_c: 32 °C / 90 °F
Full stroke opening in normal flow direction.

ETS 50 / ETS 100 - Valve included actuator (with sight glass)

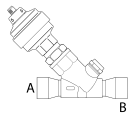


Ordering

Type	Rated capacity [1]										Connection		
	R410A		R407C		R22		R134a		R404A		ODF × ODF (A × B)		Code no.
	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[in]	[mm]	Single pack
ETS 50	262	75	240	69	215	62	170	48	161	46	7/8 × 7/8	22 × 22	034G1708
	262	75	240	69	215	62	170	48	161	46	7/8 × 1 1/8	22 × 28	034G1705
	262	75	240	69	215	62	170	48	161	46	1 1/8 × 1 1/8	28 × 28	034G1706
	262	75	240	69	215	62	170	48	161	46	1 1/8 × 1 3/8	28 × 35	034G1704
ETS 100	488	140	447	128	400	115	316	91	300	86	1 1/8 × 1 1/8	28 × 28	034G0507
	488	140	447	128	400	115	316	91	300	86	1 1/8 × 1 3/8	28 × 35	034G0501
	488	140	447	128	400	115	316	91	300	86	1 3/8 × 1 3/8	35 × 35	034G0508
	488	140	447	128	400	115	316	91	300	86	1 5/8 × 1 5/8	–	034G0505

[1]) The rated capacity is based on:
Evaporating temperature t_e: 5 °C / 41 °F5
Liquid temperature t_l: 28 °C / 82 °F
Condensing temperature t_c: 32 °C / 90 °F
Full stroke opening in normal flow direction.

ETS 250 / ETS 400 - Valve included actuator (with sight glass)



Ordering

Type	Rated capacity [1]								Connection		
	R407C		R22		R134a		R404A		ODF × ODF (A × B)		Code no.
	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[in]	[mm]	Single pack
ETS 250	1212	349	1106	319	874	252	828	239	1 1/8 × 1 1/8	28 × 28	034G2600
	1212	349	1106	319	874	252	828	239	1 3/8 × 1 3/8	35 × 35	034G2601
	1212	349	1106	319	874	252	828	239	1 5/8 × 1 5/8	–	034G2602
	1212	349	1106	319	874	252	828	239	–	42 × 42	034G2611
ETS 400	1933	556	1764	509	1394	402	1320	381	1 5/8 × 1 5/8	–	034G3500
	1933	556	1764	509	1394	402	1320	381	2 1/8 × 2 1/8	54 × 54	034G3501

[1]) The rated capacity is based on:
Evaporating temperature t_e: 5 °C / 41 °F
Liquid temperature t_l: 28 °C / 82 °F
Condensing temperature t_c: 32 °C / 90 °F
Full stroke opening in normal flow direction.

Technical data and ordering



Ordering

Cable	Cable length (L)	Insulation	Packing format	Code no.
PVC - Black	2 m / 6.6 ft	SR-PVC	Single pack	034G7073
	8 m / 26.2 ft	SR-PVC	Single pack	034G7074

Caution: M12 angle cable is not approved for flammable applications.

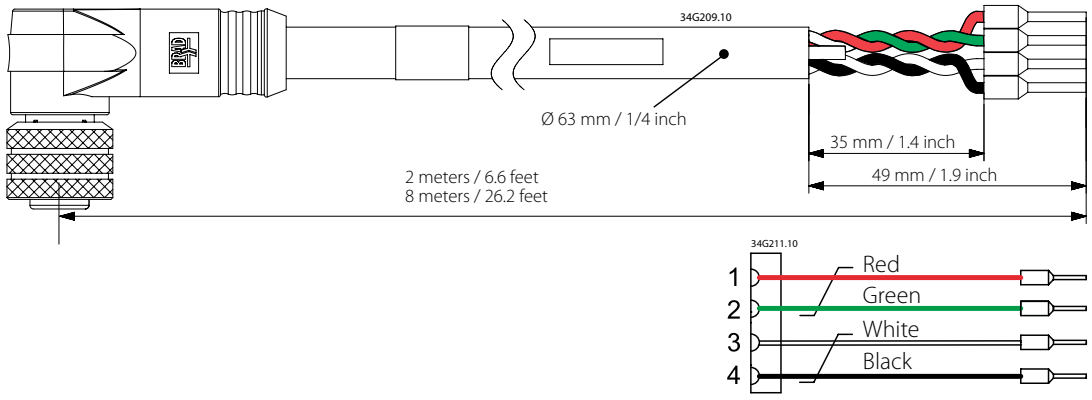
M12 angle cable

Specification

Jacket	PVC - black
Cable outer sheath	Oil - resistant
Water proof rating	IP 67
Operating temperature range	-40 – 80 °C
Wire type	Twisted pair, cross section 20 AWG / 0.5 mm²
Cable outer diameter	7.0 mm
Minimum bending radius	10 x cable diameter
Cable combustibility / test	Flame retardant / VW-1 / CSA FT - 1
M12 standard	EN 61076-2-101
Reference standard	UL style 2464 and DIN VDE 0812
LVD directive	2014/35/EU
Approval	CE, RoHS, UL, EAC, LLC CDC EURO TYSK

Accessory

Type	Description	Type designation	Code no. single pack
AST-G service driver	Hand held driver for installation and servicing.	AST-G driver	034G0013



Related products

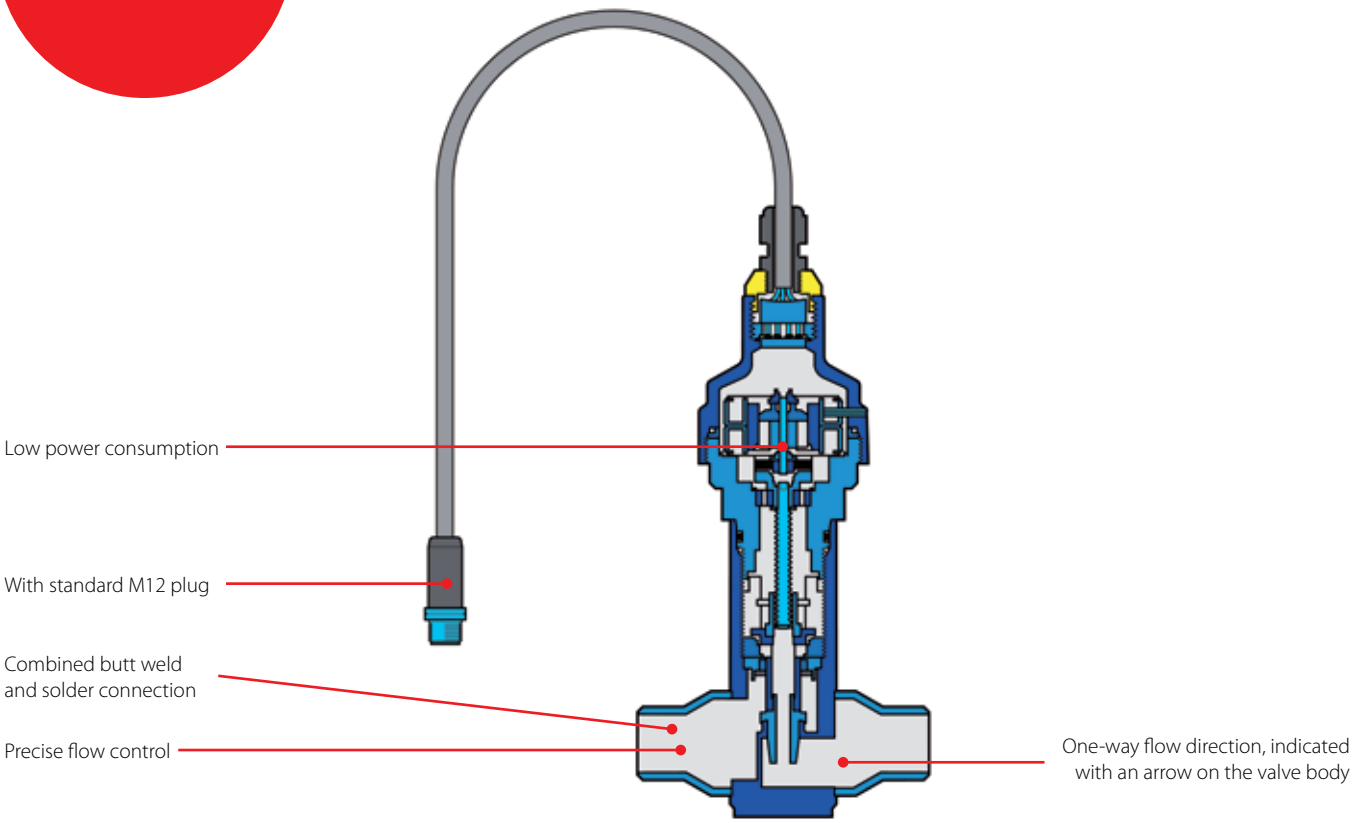
Electronic control
Type EKE 1A, EKE 1B, EKE 1C or MCX
Temperature sensors and pressure transmitters
Type AKS

CCM, Electric expansion valve

CCM are electric expansion valves designed specifically for operation in R744 (CO_2) systems with working pressures of up to 90 bar / 1305 psig and an MOPD up to 50 bar / 725 psig.
CCM functions both as an expansion valve, and as a gas bypass valve with back-pressure regulation in subcritical applications.

The pressure rating allows for operation in environments where system standby capability is required without the need for auxiliary cooling systems during servicing or power outages.





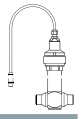
Facts

Application:
- Gas bypass in a transcritical R744 booster system
- Expansion valve for R744

- Up to 90 bar / 1305 psig working pressure to accommodate R744 system pressures during standstill conditions
- Precise positioning for optimal control of intermediate pressures in transcritical R744 systems or liquid injection in heat exchangers
- MOPD up to 50 bar / 725 psig

- Combined stainless steel butt weld / solder connections for installation in copper piped systems (K65 alloy or standard) as well as steel piped systems
- Standard M12 connector for simple and flexible connection to the motor driver
- For manual operation and service of the CCM, an AST-g service driver is available
- UL recognised

Technical data and ordering



CCM

Technical data

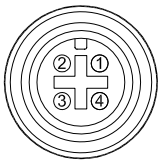
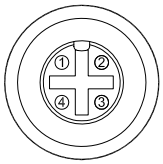
Parameter	CCM
Compatibility	R744 (CO_2)
MOPD	50 bar / 725 psig
Max. working pressure (PS / MWP)	90 bar / 1305 psig
Refrigerant temperature range	-40 – 60 °C / -40 – 140 °F
Ambient temperature	-40 – 60 °C / -40 – 140 °F
Material specification	Stainless steel

CCM

Electrical data

Parameter	CCM
Motor enclosure	IP67
Stepper motor type	Bi-polar - permanent magnet
Step mode	2 phase full step
Phase resistance	52 Ω ± 10%
Phase inductance	85 mH
Holding current	Depends on application Full current allowed (100% duty cycle)
Step angle	7.5° (motor) 0.9° (lead screw) Gearing ratio 8.5:1
Nominal voltage	(Constant voltage drive) 12 V DC -4% / 15%, 150 steps / second
Phase current	(Using chopper drive) 100 mA RMS -4% / 15%
Max. total power	Voltage / current drive: 5.5 / 1.3 W (UL: NEC class 2)
Step rate	150 steps / second. (constant voltage drive) 0–300 steps / second. 300 recommended (chopper current drive)
Total steps	CCM 10, CCM 20, CCM 30 2625 (160 / 0) steps CCM 40 3530 (160 / 0) steps
Full travel time	CCM 10, CCM 20, CCM 30 17 / 8.5 second. (voltage / current) CCM 40 23 / 11.5 second. (voltage / current)
Lifting height	CCM 10, CCM 20, CCM 30 13 mm / 0.51 in CCM 40 16 mm / 0.63 in
Reference position	Overdriving against the full close position
Electrical connection	4 wire 0.5 mm² / 20 AWG, 0.3 m / 12 in long cable
Total stroke	13 mm / 16 mm / 0.51 in / 0.63 in

Stepper motor switch sequence:

CCM				Connector
	4	Black	4	
	3	White	3	
	2	Green	2	
	1	Red	1	
	Connection 1	Wire colour	Connection 2	
		Pin out		

Stepper motor switch sequence:

	STEP	Coil I		Coil II		
		Red	Green	White	Black	
	1	+	–	+	–	
↑ CLOSING ↑	2	+	–	–	+	↓ OPENING ↓
	3	–	+	–	+	
	4	–	+	+	–	
	1	+	–	+	–	

Technical data and ordering

Valve included actuator

Ordering

Type	Connections (Combi)		K_v value [2] [m^3/h]	C_v value [2] [gpm]	Code no. single pack
	Weld [1] [in]	Solder ODF × ODF [in]			
CCM 10	1/2 × 1/2	5/8 × 5/8	0.7	0.81	027H7188
CCM 20	3/4 × 3/4	7/8 × 7/8	1.6	1.87	027H7187
CCM 30	1 × 1	1 1/8 × 1 1/8	2.4	2.78	027H7186
CCM 40	1 × 1	1 1/8 × 1 1/8	4.2	4.87	027H7185

[1]) OD according to EN 10220.
[2]) The K_v / C_v value is the water flow in [m^3/h] / [gpm] at a pressure drop across the valve of 1 bar. p = 1000 kg/m^3 / 62.4 lb/ft^3.

Accessories

Type	Description	Code no.
M12 Cable	Cable with M12 connector - 2 m / 6.6 ft, Insulation - SR-PVC	034G7073
	Cable with M12 connector - 8 m / 26.2 ft, Insulation - SR-PVC	034G7074
AST-G	Manual valve driver for service	034G0013

Spare parts

Type	Description	Code no.
AST	Actuator for CCM R744 valve	027H7184
	O-ring spare part kit for CCM / CCMT (2 O-rings)	027H7230

Related products

Electronic control
Type EKE 1-series (EKE 1A, EKE 1B and EKE 1C)
Temperature sensors and pressure transmitters
Type AKS

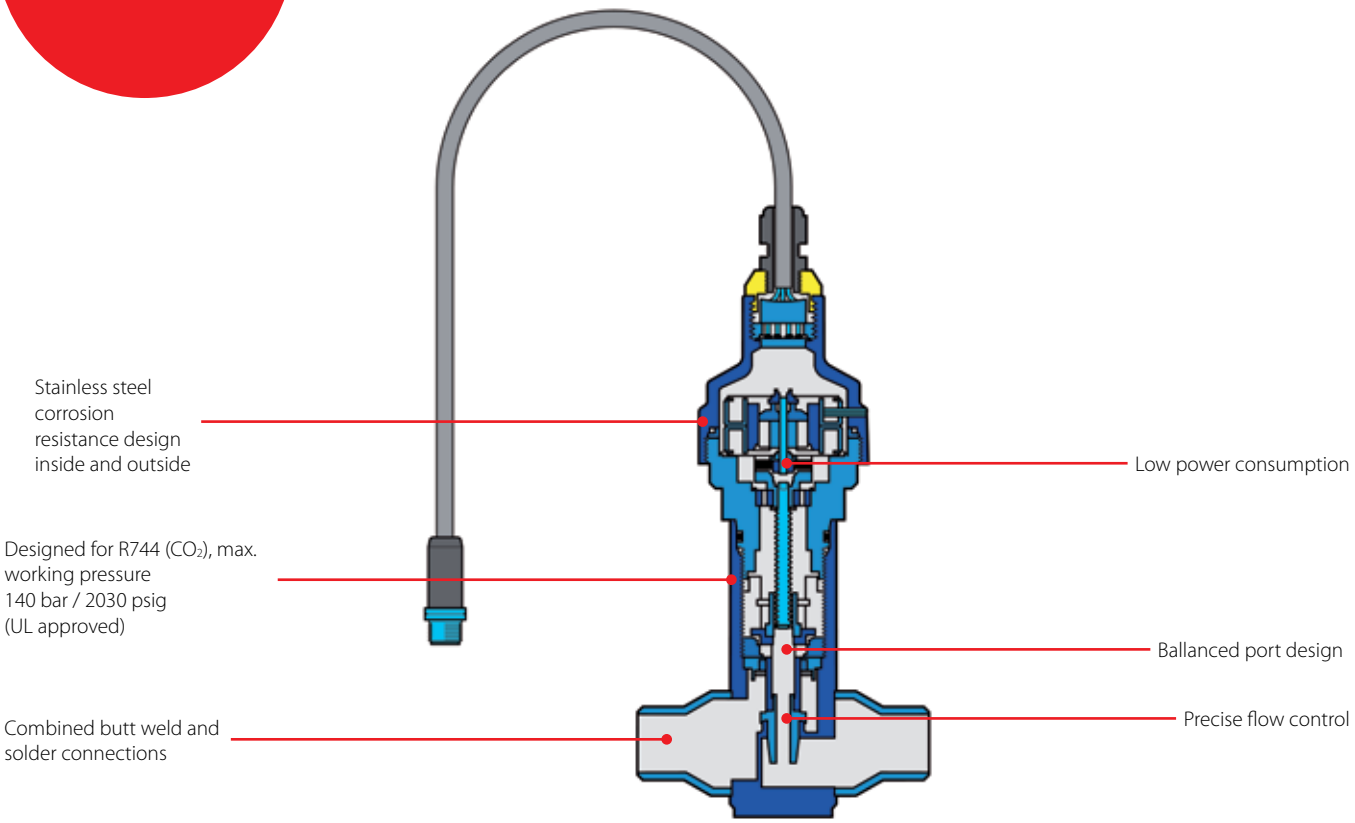
Quick Selection Notes:

CCMT, Electric expansion valve

CCMT are electric expansion valves designed specifically for operation in R744 (CO_2) systems. CCMT is used as an expansion valve, as a pressure regulator for the gas cooler or as a gas bypass valve with back-pressure regulation in transcritical or subcritical applications.

Designed for R744 systems with maximum working pressure of 140 bar / 2031 psig.
Applicable to R744 (CO_2) and other common refrigerants.
CCMT is compatible with oil types PAG, POE and PVE.





Facts

Application:
- High pressure valve
- Gas bypass in a transcritical R744 booster system
- Liquid expansion for R744, R744 cascades or R744 evaporators

- Designed for R744 systems with maximum working pressure of 140 bar
- UL approved
- Applicable to R744 and other common refrigerants. The CCMT is compatible with the oil types PAG, POE and PVE
- Regulating cone ensures optimum regulating accuracy, particularly at part load
- Patented cone and balance design
- The PEEK seat provides excellent valve tightness and robustness
- Combined butt weld and sold connections

- Top part with built-in strainer
- MOPD up to 90 bar / 1305 psi
- Standard M12 connector for simple and flexible connection to the motor drive
- Low weight and compact design
- Easy to service
- Insert easily taken out by removing top part
- For manual operation and service of the CCMT an AST-g service driver is available

Technical data and ordering

CCMT

Technical data

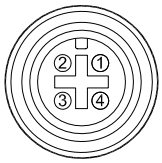
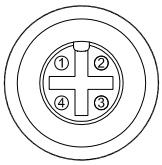
Parameter	CCMT
Compatibility	R744 (CO_2) and other refrigerants Not applicable for flammable refrigerants and Ammonia
MOPD	90 bar / 1305 psig
Max. working pressure (PS / MWP)	140 bar / 2030 psig
Refrigerant temperature range	-40 – 60 °C / -40 – 140 °F
Ambient temperature	-40 – 60 °C / -40 – 140 °F
PED compliance	Fluid group II / Article 4, Paragraph 3
Material specification	Stainless steel
Step rate	max. 150 steps / second (constant voltage drive) max. 300 steps / second (chopper current drive)
Total steps	CCMT 2, CCMT 4, CCMT 8: 1100 steps
Full travel time	CCMT 2, CCMT 4, CCMT 8: 5 second at 220 steps / second
Reference position	Overdriving against the full close position
Approval	CE, UL, RoHS

CCMT

Electrical data

Parameter	CCMT
Stepper motor type	Bi-polar - permanent magnet
Motor enclosure	IP67
Step mode	2 phase full step
Phase resistance	52 Ω ± 10%
Phase inductance	85 mH
Holding current	Voltage driver: Depends on application Current controller: Full current allowed
Nominal voltage	(Constant voltage drive) 12 V DC -4% / 15%, 150 steps / second
Phase current	(Using chopper drive) 100 mA RMS -4% / 15%
Max. total power	Voltage / current drive: 5.5 / 1.3 W (UL: NEC class 2)
Electrical connection	4 wire 0.5 mm², 0.3 m / 1 ft long cable

Stepper motor switch sequence:

CCMT				Connector
	4	Black	4	
	3	White	3	
	2	Green	2	
	1	Red	1	
	Connection 1	Wire colour	Connection 2	
		Pin out		

Stepper motor switch sequence:

	STEP	Coil I		Coil II		
		Red	Green	White	Black	
	1	+	–	+	–	
↑ CLOSING ↑	2	+	–	–	+	↓ OPENING ↓
	3	–	+	–	+	
	4	–	+	+	–	
	1	+	–	+	–	

Technical data and ordering

Valve incl. actuator

Ordering

Type	Connections (Combi)		K_V value [2] [m^3/h]	C_V value [2] [gpm]	Max. working pressure		Code no.
	Weld [1] [in]	Solder ODF × ODF [in]			[bar]	[psig]	
Standard							
CCMT 2	1/2 × 1/2	5/8 × 5/8	0.17	0.20	140	2030	027H7200
CCMT 4	1/2 × 1/2	5/8 × 5/8	0.45	0.52	140	2030	027H7201
CCMT 8	1/2 × 1/2	5/8 × 5/8	0.80	0.93	140	2030	027H7202

[1]) OD according to EN 10220.
[2]) The K_V / C_V value is the water flow in [m^3/h] / [gpm] at a pressure drop across the valve of 1 bar. p = 1000 kg/m^3 / 62.4 lb/ft^3.

Accessories

Type	Description	Code no.
M12 Cable	Cable with M12 connector - 2 m / 6.6 ft, Insulation - SR-PVC	034G7073
	Cable with M12 connector - 8 m / 26.2 ft, Insulation - SR-PVC	034G7074
AST-G	Manual valve driver for service	034G0013
EKE 1A	Superheat controller / driver	080G5300
EKE 1B	Superheat controller / driver	080G5350
EKE 1C	Superheat controller / driver	080G5400
MMIGRS2	Remote display for EKE 1 series	080G0294

Spareparts

Type	Description	Code no.
Gasket	O-ring spare part kit for CCM / CCMT (2 O-rings)	027H7230

Related products

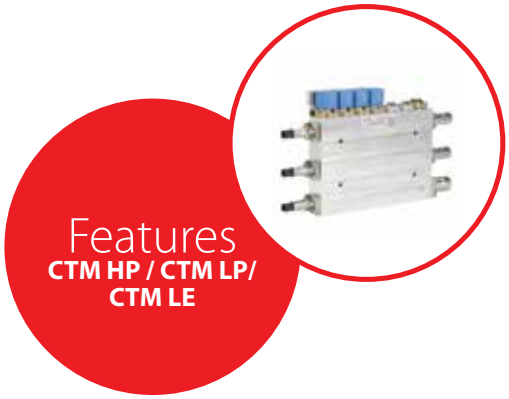
Electronic control
Type EKE 1-series (EKE 1A, EKE 1B and EKE 1C)
Temperature sensors and pressure transmitters
Type AKS

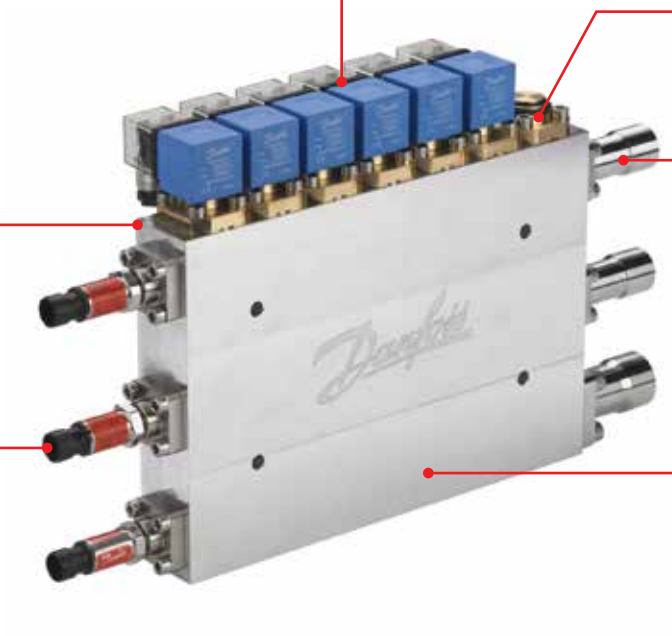
Quick Selection Notes:

CTM, Multi Ejector Solution™ for R744 (CO_2)

Danfoss Multi Ejector makes CO_2 refrigeration systems economically competitive with the HFC systems at all ambient temperatures by improving COP in comparison to standard booster and parallel compressor systems.

Multi Ejector can be installed in any climate delivering lower energy consumption than i.e. R404A. It removes the CO_2 equator entirely.

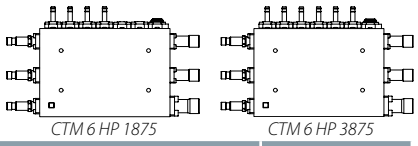




Facts

- Multi Ejector types:
  - CTM 6 HP for CO_2 systems with parallel compression to lift a part of the gas from MT suction and mix it with the gas coming from the gas cooler at medium pressure level
  - CTM 6 LP for CO_2 booster systems to lift a part of the gas from MT suction and mix it with the gas coming from the gas cooler at medium pressure level
  - CTM 1 and CTM 2 Liquid Ejector for CO_2 booster and parallel compression systems to pump the CO_2 liquid from the low point in the suction accumulator back to the receiver resulting even in 5 bar pressure lift after mixing with gas coming from the gas cooler
- Lower first cost compared to standard booster and parallel compression systems due to lower swept volume of compressors (i.e. smaller compressors or less number of compressors).
- CTM 6 HP and LP enables 15 – 35% savings on compressor swept volume, compared to booster systems without Multi Ejector systems
- CTM 1 – 2 Liquid Ejectors enables 5 – 10% savings on compressor swept volume, compared to standard booster systems
- Improved COP, enhanced operation of parallel compressors and/or lower swept volume to the MT compressors, resulting in lower energy consumption
- Less compressors and higher efficiency on the systems, leads to shorter payback time
- Fully integrated solution not requiring any additional components like check valves or motorized ball valves
- Fully serviceable - wide range of spare parts and accessories.
- The combination of Multi Ejector and the AK-PC 782A ensure an easy setup and commissioning, robust control of the system that ensures many years of problem free operation.
- CE (PED) approved and UL Recognized
- Maximum working pressure: 140 bar / 2031 psi

Technical data and ordering



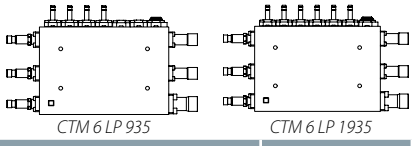
CTM 6 HP 1875 CTM 6 HP 3875

Multi Ejector CTM 6 HP (High Pressure)

Ordering

Type	Capacity - Mass flow [1] [kg/h]	Capacity - Mass flow [2] [lb/h]	Code no. Single pack
CTM 6 HP 1875	1875	4134	032F5673
CTM 6 HP 3875	3875	8543	032F5674

[1] R744 at 90 bar / 35 °C
[2] R744 at 1305 psi /95 °F
(HP = High Pressure lift)
(The above code numbers are without coils which should be ordered separately – see coil ordering below).



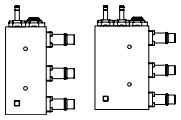
CTM 6 LP 935 CTM 6 LP 1935

Multi Ejector CTM 6 LP (Low Pressure)

Ordering

Type	Capacity - Mass flow [1] [kg/h]	Capacity - Mass flow [2] [lb/h]	Code no. Single pack
CTM 6 LP 935	935	2061	032F5678
CTM 6 LP 1935	1935	4266	032F5679

[1] R744 at 90 bar / 35 °C
[2] R744 at 1305 psi /95 °F
(LP = Low Pressure lift)
(The above code numbers are without coils which should be ordered separately – see coil ordering below).



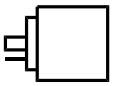
CTM 1 CTM 2

Multi Ejector CTM 1 and CTM 2 LE (Liquid Ejector)

Ordering

Type	Capacity - Mass flow [1] [kg/h]	Capacity - Mass flow [2] [lb/h]	Code no. Single pack
CTM 1 LE 200	200	441	032F5683
CTM 1 LE 400	400	882	032F5684
CTM 2 LE 600	600	1323	032F5685

[1] R744 at 90 bar / 35 °C
[2] R744 at 1305 psi /95 °F
(LE = Liquid Ejector)
(The above code numbers are without coils which should be ordered separately – see coil ordering below).



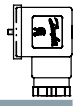
Coils

Ordering

Type	Voltage	Frequency / Power consumption				Code no. Single pack
	[V]	[Hz]	[W]	[Hz]	[W]	with DIN plug [1]
AS230CS	230	50	8	60	7	042N7601
AZ120CS	110 - 120	50	8.5	60	7	042N4202

[1] The three pins on the coil can be fitted with spade tabs, 6.3 mm wide (to DIN 46247). The two current carrying pins can also be fitted with spade tabs, 4.8 mm wide.
Max. lead cross section: 1.5 mm².

Voltage variation: V AC -15% - 10%,
If DIN plug is used (DIN 43650) the leads must be connected in the socket. The socket is fitted with a Pg 11 screwed entry for 6 – 12 mm.



Accessories

Ordering

Type	Voltage [V]	Frequency [Hz]	Code no. Single pack
DIN plug (LED)	230	50 / 60	042N0265 [2]
DIN plug	Max. 250	50 / 60	042N0156

[1] Only for AS230CS.

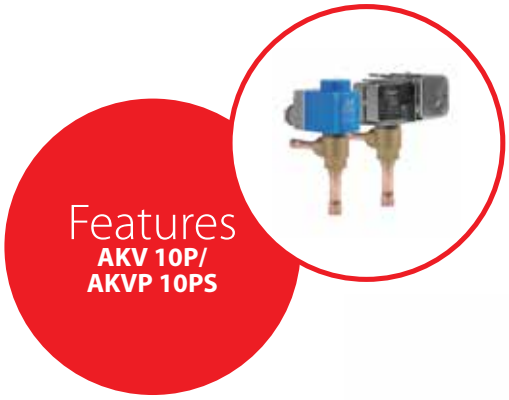
Spare parts

Please refer to the Data Sheet where you will find list of Spare Parts - individual ejectors, strainer, o-rongs, connectors.

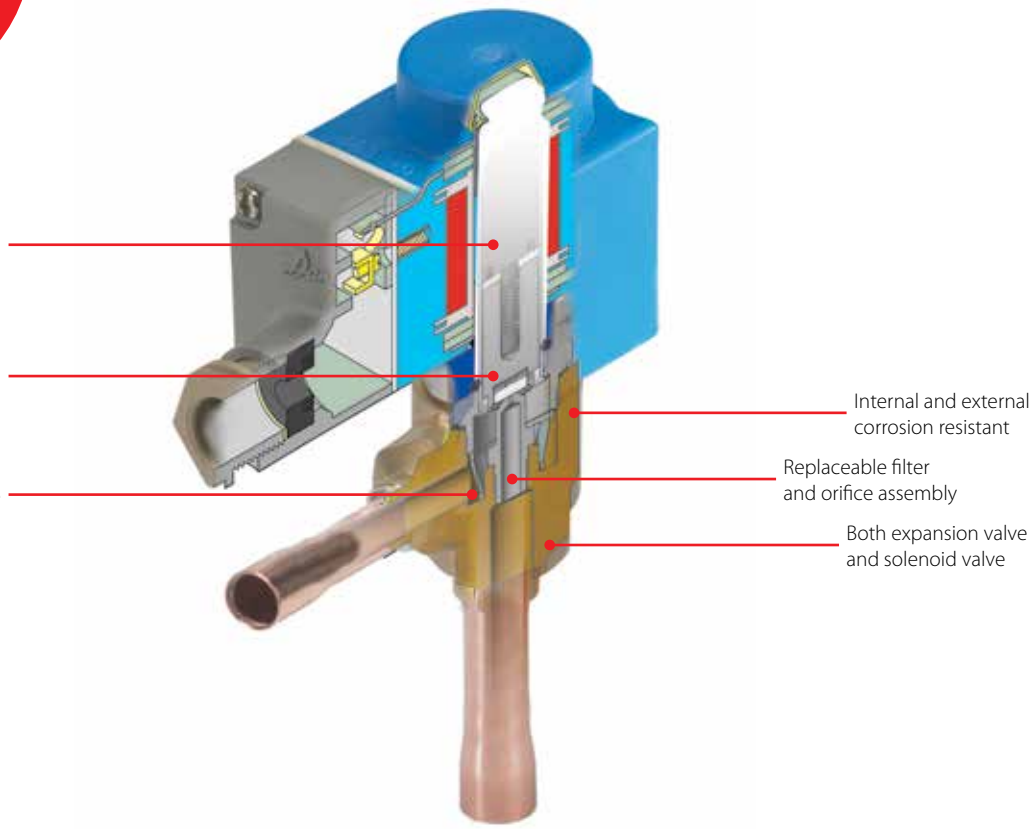
AKV 10P / AKV 10PS, Electric expansion valves

AKV 10P and AKV10PS are electric operated expansion valves designed for refrigerating plants.
The AKV 10P and AKV 10PS valves are normally controlled by a controller from Danfoss range of ADAP- KOOL® controllers, that ensures a precise liquid injection into evaporators.

AKV 10P and AKV10PS valves are fully serviceable valves and are supplied as a parts programme with separate valve body and coil (with terminal box, cable or DIN plug).



Features
AKV 10P/ AKVP 10PS



Facts

Applications:
- Traditional refrigeration
- Cold rooms
- Water chillers
- Applicable to R744, R22, R23, R134a, R404A, R407A, R407C, R407F, R410A, R422B, R422D, R448A, R449A,R449B, R450A, R452A, R507, R513A
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- Precise control of liquid injection
- The AKV 10P/10PS valves cover a capacity range from 0.2 – 12.5 kW / 0.06 – 3.55 TR (404A / R507) and are divided into 8 capacity ranges
- Supports variety of refrigerants
- Solenoid tight shut-off
- Fully serviceable valve
- Superior valve technology that provides soft pulse operation
- Approvals: REACH, UL, LLC CDC EURO TYSK, EAC
- The AKV 10P/10PS valves are supplied as a parts programme, as follows:
  - separate valve incl. exchangeable orifice
  - separate coil
- The valve requires no adjustment
- Manufactured according to ISO/TS16949

Technical data and ordering

AKV 10P / AKV 10PS

Direct operated Valve

Valve type	AKV 10P0 to AKV 10P7
Working principle	PWM (Pulse-width modulation)
Recommended period of cycle time	6 Seconds
Regulation range (Capacity range)	10 – 100%
Connection type	Solder
Evaporating temperature	-60 – 60 °C / -76 – 140 °F
Ambient temperature	-50 – 50 °C / -58 – 122 °F
MOPD, AKV 10P0 to AKV 10P6	35 bar / 508 psig
MOPD, AKV 10P7	18 bar / 261 psi
Min. OPD, AKV 10P0 to AKV 10P7	0 bar / 0 psi
Filter, replaceable	Internal 100 µm
Max. working pressure	90 barg / 1305 psig
MAP (Max. Abnormal Pressure)	1305 psig
COT (Continuous Operation Temperature)	140 °F

Note: It is recommended to selected Servo operated AKV 10PS valves for those application where higher MOPD (with low coil power) and high dampening is required.

Servo operated Valve

Valve type	AKV 10PS4 to AKV 10PS7
Working principle	PWM (Pulse-width modulation)
Recommended period of cycle time	6 Seconds
Regulation range (Capacity range)	10 – 100%
Connection type	Solder
Evaporating temperature	-60 – 60 °C / -76 – 140 °F
Ambient temperature	-50 – 50 °C / -58 – 122 °F
MOPD	35 bar / 508 psig
Min. OPD, AKV 10PS4 to AKV 10PS7	0.1 bar / 1.45 psi
Filter, replaceable	Internal 53 µm
Max. working pressure	90 barg / 1305 psig
MAP (Max. Abnormal Pressure)	1305 psig
COT (Continuous Operation Temperature)	140 °F
Recommended Danfoss Filter	ELIMINATOR® Hermetic filter drier, type DML / DMSC

Note: It is recommended to selected Servo operated AKV 10PS valves for those application where higher MOPD (with low coil power) and high dampening is required.

Technical data and ordering

AKV 10P / AKV 10PS

AKV 10P - Rated capacity

Valve type / orifice no.	R744 [2]				R407A [1]		R404A/ R507 [1]		K_v value	C_v value	Connection size Solder ODF/ODF		Code no. Single pack	Code no. Industrial pack 16 pcs. pr. pack
	Refrig.	Freezing	Refrig.	Freezing										
	[kW]	[kW]	[TR]	[TR]	[kW]	[TR]	[kW]	[TR]	[m³/h]	[gpm]	[in]	[mm]		
AKV 10P0	0.44	0.69	0.13	0.20	0.34	0.10	0.21	0.06	0.003	0.0035	$^3/_8 \times ^1/_2$	–	068F5210	068F5230
AKV 10P0	0.44	0.69	0.13	0.20	0.34	0.10	0.21	0.06	0.003	0.0035	–	10 x 12	068F5200	068F5220
AKV 10P1	1.17	1.84	0.33	0.53	0.90	0.26	0.8	0.23	0.09	0.104	$^3/_8 \times ^1/_2$	–	068F5211	068F5231
AKV 10P1	1.17	1.84	0.33	0.53	0.90	0.26	0.8	0.23	0.09	0.104	–	10 x 12	068F5201	068F5221
AKV 10P2	2.06	3.25	0.59	0.93	1.59	0.45	1.3	0.37	0.016	0.021	$^3/_8 \times ^1/_2$	–	068F5212	068F5232
AKV 10P2	2.06	3.25	0.59	0.93	1.59	0.45	1.3	0.37	0.016	0.021	–	10 x 12	068F5202	068F5222
AKV 10P3	3.14	4.97	0.90	1.41	2.43	0.69	2.0	0.57	0.024	0.028	$^3/_8 \times ^1/_2$	–	068F5213	068F5233
AKV 10P3	3.14	4.97	0.90	1.41	2.43	0.69	2.0	0.67	0.024	0.028	–	10 x 12	068F5203	068F5223
AKV 10P4	6.10	9.64	1.74	2.75	4.71	1.34	3.1	0.88	0.046	0.053	$^3/_8 \times ^1/_2$	–	068F5214	068F5234
AKV 10P4	6.10	9.64	1.74	2.75	4.71	1.34	3.1	0.88	0.046	0.053	–	10 x 12	068F5204	068F5224
AKV 10P5	8.49	13.4	2.42	3.82	6.55	1.87	4.9	1.39	0.064	0.074	$^3/_8 \times ^1/_2$	–	068F5215	068F5235
AKV 10P5	8.49	13.4	2.42	3.82	6.55	1.87	4.9	1.39	0.064	0.074	–	10 x 12	068F5205	068F5225
AKV 10P6	15.1	23.9	4.31	6.81	11.7	3.32	7.8	2.22	0.114	0.132	$^3/_8 \times ^1/_2$	–	068F5216	068F5236
AKV 10P6	15.1	23.9	4.31	6.81	11.7	3.32	7.8	2.22	0.114	0.132	–	10 x 12	068F5206	068F5226
AKV 10P7	24.6	39.3	7.00	11.1	18.9	5.39	12.5	3.55	0.185	0.214	$^1/_2 \times ^5/_8$	–	068F5217	–
AKV 10P7	24.6	39.3	7.00	11.1	18.9	5.39	12.5	3.55	0.185	0.214	–	12 x 16	068F5207	–

AKV 10PS- Rated capacity

Valve type / orifice no.	R744 [2]				R407A [1]		R404A/ R507 [1]		K_v value	C_v value	Connection size Solder ODF/ODF		Code no. Single pack	Code no. Industrial pack 16 pcs. pr. pack
	Refrig.	Freezing	Refrig.	Freezing										
	[kW]	[kW]	[TR]	[TR]	[kW]	[TR]	[kW]	[TR]	[m³/h]	[gpm]	[in]	[mm]		
AKV 10PS4	6.10	9.64	1.74	2.75	4.71	1.34	3.1	0.88	0.046	0.053	$^3/_8 \times ^1/_2$	–	068F4044	068F5184
AKV 10PS4	6.10	9.64	1.74	2.75	4.71	1.34	3.1	0.88	0.046	0.053	–	10 x 12	068F4034	068F5174
AKV 10PS5	8.49	13.4	2.42	3.82	6.55	1.87	4.9	1.39	0.064	0.074	$^3/_8 \times ^1/_2$	–	068F4045	068F5185
AKV 10PS5	8.49	13.4	2.42	3.82	6.55	1.87	4.9	1.39	0.064	0.074	–	10 x 12	068F4035	068F5175
AKV 10PS6	15.1	23.9	4.31	6.81	11.7	3.32	7.8	2.22	0.114	0.132	$^3/_8 \times ^1/_2$	–	068F4046	068F5186
AKV 10PS6	15.1	23.9	4.31	6.81	11.7	3.32	7.8	2.22	0.114	0.132	–	10 x 12	068F4036	068F5176
AKV 10PS7	24.6	39.3	7.00	11.1	18.9	5.39	12.5	3.55	0.185	0.214	$^1/_2 \times ^5/_8$	–	068F4047	–
AKV 10PS7	24.6	39.3	7.00	11.1	18.9	5.39	12.5	3.55	0.185	0.214	–	10 x 16	068F4037	–

[1]) Rated capacities are based on:
Condensing temperature tc = 38 °C / 100 °F
Liquid temperature tl = 37 °C / 98 °F
Evaporating temperature te = 4 °C / 39 °F

[2]) Rated capacities are based on:
Condensing temperature tc = 0 °C / 32 °F
Evaporating temperature Refrig. te = -10 °C / 14 °F
Evaporating temperature Freezing. te = -30 °C / -22 °F
Subcooling = 1°C / 1.8 °F

C_v value is calculated from Kv value in above table

Spare part ordering - Single pack

Kit	Description	Code no.
Kit 1	Orifice kit direct operated AKV 10P0-3	068F5151
Kit 2	orifice kit direct operated AKV 10P4-7	068F5152
Kit 3	Armature kit direct operated AKV 10P0-7	068F5153
Kit 4	Filter kit direct operated AKV 10P	068F5154
Kit 5	Orifice kit servo operated AKV 10PS4-7	068F5155
Kit 6	Filter kit servo operated AKV 10PS	068F5156
Kit 7	Armature kit servo operated AKV 10PS4-7	068F5161

Coolselector®2

Valve sizing using calculation software

It is strongly recommended to use **Coolselector®2** to find the correct valve for your application.
The software can be downloaded from the Danfoss website. When using the calculation software it is recommended to choose a valve that is between 50% and 75% loaded at the nominal capacity.
In addition, the liquid velocity in the line leading to the valve should not exeed 1m/s (3ft/s).

You can download it from http://coolselector.danfoss.com

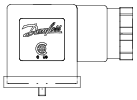
Technical data and ordering

AKV 10P / AKV 10PS



Standard coil for AKV 10P/ AKV 10PS

Coil type	MOPD (Max. Operation Pressure Differential)						
	Voltage	Frequecy	Power consumption	Connection	Multi pack Code no.	Industrial pack Code no.	
	[V AC]	[Hz]	[W]			Code no.	Pcs. per pack
BE230CS	230	50	17	terminal box	018F6732	–	50
BE230CS	230	50	17	DIN plugs	018F6193	–	50
BF230CS	230	50	17	1 m cable	018F6282	018F8232	24
BF230CS	230	50	17	3 m cable	–	018F8290	12
BF230CS	230	50	17	8 m cable	018F4961	018F8291	6
BE240CS	240	60	15	terminal box	018F6713	–	–
BE240CS	240	60	15	terminal box	018F6814	–	–
BE240CS	240	60	15	1 m cable	018F6264	–	–
BG110BS	240	60	15	terminal box	018F6813	–	–



Acessories (coil)

Type	Voltage	Frequency	Quantity	Code no. Multi pack
	[V]	[Hz]	[Pcs]	
DIN plug	Max. 250	50 / 60	100	042N0156

Single pack = 1 product in a box with installation guide
Multi pack = box with x pieces single pack (can be split)
Industrial pack = x pieces in one box (cannot be split)

AKV 10P / AKV 10PS



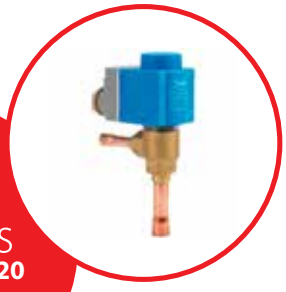
UL coil for AKV 10P / AKV 10PS

Coil type	Wire length		Voltage	Frequency	Power consumption	Multi pack Code no.
	[in]	[cm]	[V AC]	[Hz]	[W]	
Junction box NEMA 2 for AKV 10P / AKV 10PS						
BJ024CS	–	–	24	50 / 60	14	018F4100
BJ120CS	–	–	110	50	16	018F4110
BJ120CS	–	–	120	60	15	
BJ240CS	–	–	208 – 240	60	14	018F4120
BJ240CS	–	–	230	50	17	
Conduit boss NEMA 4 for AKV 10P / AKV 10PS						
BX024CS	18	46	24	50 / 60	14	018F4102
BX024CS	71	180	24	50 / 60	14	018F4103
BX024CS	98	250	24	50 / 60	14	018F4104
BX120CS	18	46	110	50	16	018F4112
BX120CS	18	46	120	60	15	
BX120CS	36	91	110	50	16	018F4113
BX120CS	36	91	120	60	15	
BX120CS	71	180	110	50	16	018F4114
BX120CS	71	180	120	60	15	
BX120CS	98	250	110	50	16	018F4115
BX120CS	98	250	120	60	15	
BX240CS	18	46	208 – 240	60	14	018F4122
BX240CS	98	250	230	50	17	
BX240CS	18	46	208 – 240	60	14	018F4123
BX240CS	98	250	230	50	17	

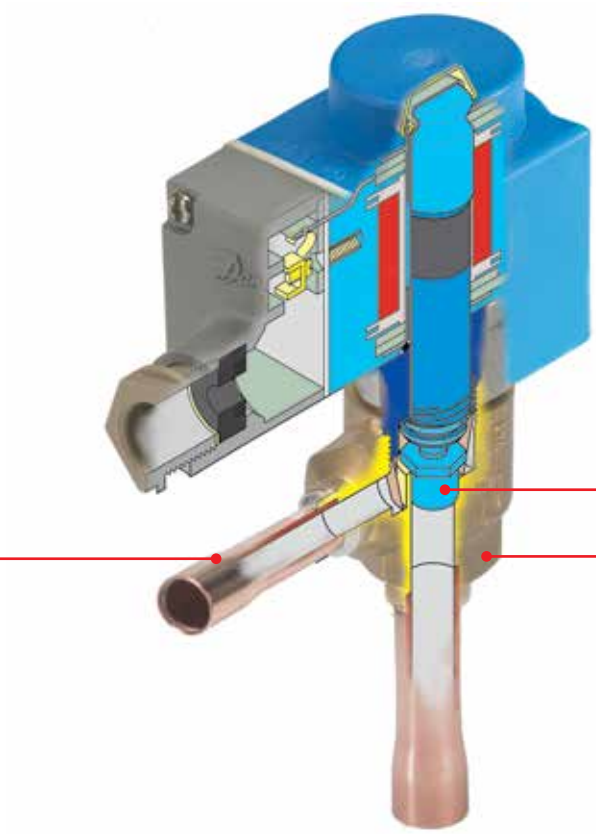
AKV 15 / AKV 20, Electric expansion valves

AKV are electrically operated expansion valves designed for refrigeration plants.
The AKV valves are designed for use with a controller from Danfoss' range of ADAP-KOOL® controllers.

The AKV valves are supplied as a parts programme with separate valve body and coil (with terminal box, cable or DIN plug).
AKV has an exchangeable orifice.



Features
AKV 15 / AKV 20



Available with ODF solder connections (AKV 15 and AKV 20 – straightway,

The orifice assembly is replaceable

Both expansion valve and solenoid valve

Facts

Applications:
- Traditional refrigeration
- Cold rooms
- Water chillers

- Applicable to R744, R22 / R407C, R404A / R507, R410A, R134a, R407A, R23, R407F, R422B, R422D, R448A, R449A, R449B, R450A, R452A, R513A
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications

- The AKV valves are supplied as a parts programme, as follows:
  - separate valve incl. exchangeable orifice
  - separate coil
- The valve requires no adjustment

- The AKV 15 valves cover a capacity range from 14 – 85 kW / 3.98 – 24.1 TR (404A / R507) and are divided into 4 capacity ranges
- The AKV 20 valves cover a capacity range from 56 – 530 kW / 15.9 – 150 TR (404A / R507) and are divided into 5 capacity ranges.

Technical data and ordering

AKV

Technical data

Valve type	AKV 15	AKV 20
Tolerance of coil voltage	10% / -15%	10% / -15%
Enclosure to IEC 529	IP67	IP67
Working principle	PWM	PWM
Recommended period of time	6 Seconds	6 Seconds
Capacity (404A / R507)	14 – 85 kW / 3.98 – 24.1 TR	56 – 530 kW / 15.9 – 150 TR
Regulation range (Capacity range)	10 – 100%	10 – 100%
Connection	Solder	Solder or weld
Evaporating temperature	-50 – 60 °C / -58 – 140 °F	-40 – 60 °C / -40 – 140 °F
Ambient temperature	-40 – 120 °F / -40 – 50 °C	-40 – 120 °F / -40 – 50 °C
Leak of valve seat	<0.02% of K_V value / C_V value	<0.02% of K_V value / C_V value
MOPD	22 bar / 318 psig	18 bar / 260 psig
Filter, replaceable	External 100 µm	External 100 µm
Max. working pressure	AKV 15 – 1,2,3 PS / MWP = 42 bar g / 610 psig AKV 15 – 4 PS / MWP = 28 bar g / 400 psig	PS / MWP = 28 bar g / 400 psig

Ordering

AKV 15 - Valve excluded coil

Valve type	Rated capacity [1]								K_V value	C_V value	Connections	
											Solder ODF	
	R22 / R407C		R134a		R404A / R507		R407C					
	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[m³/h]	[gpm]	Inlet × outlet [in]	Code no.
Solder ODF [in]												
AKV 15 – 1	25.5	7.25	21.2	6.02	19.6	5.57	25.2	7.16	0.25	0.28	¾ × ¾	068F5000
AKV 15 – 2	40.8	11.6	33.8	9.61	31.4	8.92	40.4	11.4	0.40	0.46	¾ × ¾	068F5005
AKV 15 – 3	64	18.2	53	15.1	49.4	14.0	63	18.1	0.63	0.72	⅞ × ⅞	068F5010
AKV 15 – 4	102	29.0	84	24.0	78	22.2	101	28.7	1.0	1.15	1 ⅛ × 1 ⅛	068F5015
Solder ODF [mm]												
AKV 15 – 1	25.5	7.25	21.2	6.02	19.6	5.57	25.2	7.16	0.25	0.28	18 × 18	068F5001
AKV 15 – 2	40.8	11.6	33.8	9.61	31.4	8.92	40.4	11.4	0.40	0.46	18 × 18	068F5006
AKV 15 – 3	64	18.2	53	15.1	49.4	14.0	63	18.1	0.63	0.72	22 × 22	068F5010
AKV 15 – 4	102	29.0	84	24.0	78	22.2	101	28.7	1.0	1.15	28 × 28	068F5016

AKV 20 - Valve excluded coil

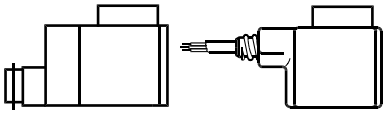
Solder ODF [in]												
AKV 20 – 1	102	29.0	84	24.0	78	22.2	101	28.7	1.0	1.15	1 ⅜ × 1 ⅜	042H2020
AKV 20 – 2	163	46.3	135	38.3	125	35.5	170	48.3	1.6	1.85	1 ⅜ × 1 ⅜	042H2022
AKV 20 – 3	255	72	212	60	196	55	252	71	2.5	2.89	1 ⅝ × 1 ⅝	042H2024
AKV 20 – 4	408	116	338	96	314	89	404	114	4.0	4.62	2 ⅛ × 2 ⅛	042H2027
AKV 20 – 5	643	182	533	151	494	140	637	181	6.3	7.28	2 ⅛ × 2 ⅛	042H2029
Solder ODF [mm]												
AKV 20 – 1	102	29.0	84	24.0	78	22.2	101	28.7	1.0	1.15	35 × 35	042H2020
AKV 20 – 2	163	46.3	135	38.3	125	35.5	170	48.3	1.6	1.85	35 × 35	042H2022
AKV 20 – 3	255	72	212	60	196	55	252	71	2.5	2.89	42 × 42	042H2025
AKV 20 – 4	408	116	338	96	314	89	404	114	4.0	4.62	54 × 54	042H2027
AKV 20 – 5	643	182	533	151	494	140	637	181	6.3	7.28	54 × 54	042H2029
Weld [in]												
AKV 20 – 1	102	29.0	84.6	24.0	78	22.2	101	28.7	1.0	1.15	1 ¼ × 1 ¼	042H2021
AKV 20 – 2	163	46.3	135	38.3	125	35.5	170	48.3	1.6	1.85	1 ¼ × 1 ¼	042H2023
AKV 20 – 3	255	72	212	60	196	55	252	71	2.5	2.89	1 ¼ × 1 ¼	042H2026
AKV 20 – 4	408	116	338	96	314	89	404	114	4.0	4.62	1 ½ × 1 ½	042H2028
AKV 20 – 5	643	182	533	151	494	140	637	181	6.3	7.28	2 × 2	042H2030

[1]) The Rated capacity is based on:
Evaporating temperature t_e: 5 °C / 41 °F
Liquid temperature t_l: 28 °C / 82 °F
Condensing temperature t_c: 32 °C / 90 °F

Technical data and ordering

Coils for AKV valves

Ordering



Terminal box | Cable | DIN spade + cap

DC coils	Connection	Valve size and orifice no. AKV 15 – 1, AKV 15 – 2, AKV 15 – 3, AKV 15 – 4	AKV 20 – 1, AKV 20 – 2, AKV 20 – 3	AKV 20 – 4, AKV 20 – 5	Code no.
220 V DC 20 W, standard	Terminal box	+	+	+	018F6851
100 V DC 18 W, special	Terminal box	+	+	+	018F6780
230 V DC 18 W, special	Terminal box	+	+	+	018F6781 [1])
	DIN spade + cap	+	+	+	018F6991 [1])
230 V DC 18 W, special	2.5 m / 8.2 ft cable	+	+	+	018F6288 [1])
	4.0 m / 13.0 ft cable	+	+	+	018F6278 [1])
	8.0 m / 26.0 ft cable	+	+	+	018F6279 [1])

[1]) *Recommended for commercial refrigeration plant.*

AC coils	Connection				Code no.
240 V AC 10 W, 50 Hz	Terminal box	+	–	–	018F6702
	DIN spade + cap	+	–	–	018F6177
240 V AC 10 W, 60 Hz	Terminal box	+	–	–	018F6713
240 V AC 12 W, 50 Hz	Terminal box	+	+	–	018F6802
230 V AC 10 W, 50 Hz	Terminal box	+	–	–	018F6701
	DIN spade + cap	+	–	–	018F6176
230 V AC 10 W, 60 Hz	Terminal box	+	–	–	018F6714
	DIN spade + cap	+	–	–	018F6189
230 V AC 10 W, 50 / 60 Hz	Terminal box	+	–	–	018F6732
	DIN spade + cap	+	–	–	018F6193
230 V AC 12 W, 50 Hz	Terminal box	+	+	–	018F6801
230 V AC 12 W, 60 Hz	Terminal box	+	+	–	018F6814
230 V AC 20 W, 50 Hz	Terminal box	+	+	+	018F6905
115 V AC 10 W, 50 Hz	Terminal box	+	–	–	018F6711
115 V AC 10 W, 60 Hz	Terminal box	+	–	–	018F6710
	DIN spade + cap	+	–	–	018F6185
110 V AC 12 W, 50 Hz	Terminal box	+	+	–	018F6811
110 V AC 12 W, 60 Hz	Terminal box	+	+	–	018F6813
24 V AC 10 W, 50 Hz	Terminal box	+	–	–	018F6707
	DIN spade + cap	+	–	–	018F6182
24 V AC 10 W, 60 Hz	Terminal box	+	–	–	018F6715
24 V AC 12 W, 50 Hz	Terminal box	+	+	+	018F6807
24 V AC 12 W, 60 Hz	Terminal box	+	+	+	018F6815
24 V AC 20 W, 50 Hz	Terminal box	+	+	+	018F6903
24 V AC 20 W, 60 Hz	Terminal box	+	+	+	018F6906

Related products

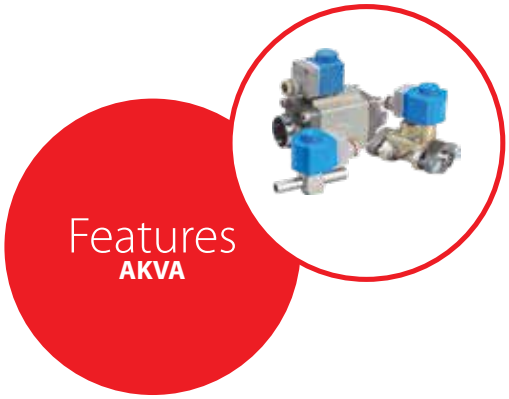
Electric suction modulating valves
Type AK-CC 550 / EKC 315 / EKC 414A
Temperature sensors and pressure transmitters
Type AKS

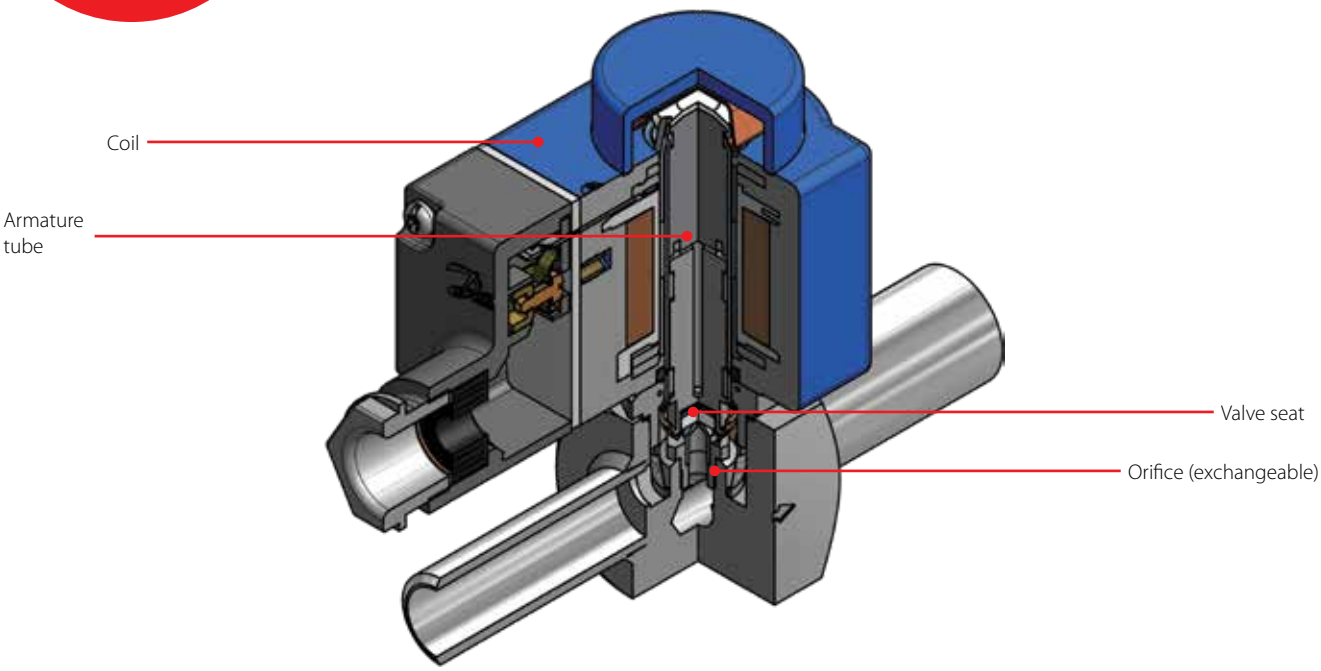
Quick Selection Notes:

AKVA, Electric expansion valve

AKVA are electric expansion valves designed for ammonia refrigerating plants. The AKVA valves can be used for flooded evaporation (high / low pressure), pump separators and direct expansion.

The AKVA valves are normally controlled by a controller from Danfoss' range of ADAP-KOOL® controllers.





Facts

- Applicable to R717, R744, R134a, R22, R401A, R402A, R404A, R407A, R407B, R407C, R407F, R409A, R410A, R421A, R502 and R507
- The valve requires no adjustment
- Wide regulation range
- Replaceable orifice assembly
- Wide range of coils for DC and AC
- Quick reaction in whole range of stated capacity
- In some applications AKVA can be used both as expansion valve and solenoid valve
- The AKVA 10 valves cover a capacity range from 4 kW to 100 kW (R 717) and are divided up into 8 capacity ranges
  The AKVA 10 valve bodies are made in stainless steel and have weld connections.
- The AKVA 15 valves have flange connections
  The valve covers a capacity range from 125 kW to 500 kW (R 717) and are divided up into 4 capacity ranges
- The AKVA 20 valves cover a capacity range from 500 kW to 3150 kW (R 717) and are divided up into 5 capacity ranges
  The AKVA 20 valve has weld connections

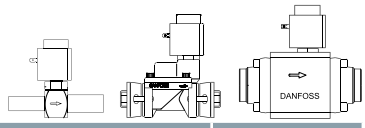
Technical data and ordering

AKVA

Technical data

	AKVA 10	AKVA 15	AKVA 20
Tolerance of coil voltage	10 / -15%	10 / -15%	10 / -15%
Enclosure to IEC 529	IP67	IP67	IP67
Working principle (Pulse-width modulation)	PWM	PWM	PWM
Recommend period of time	6 seconds	6 seconds	6 seconds
Capacity (R717)	4 – 100 kW	125 – 500 kW	500 – 3150 kW
Regulation range	10 – 100%	10 – 100%	10 – 100%
Connection	Weld	Weld	Weld
Media temperature	- 50 – 60 °C	- 40 – 60 °C	- 40 – 60 °C
Ambient temperature	- 50 – 50 °C	- 40 – 50 °C	- 40 – 50 °C
Leak of valve seat	< 0.02% of K_V value	< 0.02% of K_V value	< 0.02% of K_V value
MOPD	18 bar	22 bar	18 bar
Strainer	Internal 100 µm replaceable	external 100 µm *)	external 100 µm *)
Max. working pressure	PS = 42 bar g	PS = 42 bar g	PS = 42 bar g

**) On plants with ammonia and similar industrial plant a strainer must be mounted in front of AKVA 15 and AKVA 20. AKVA 10 has built-in strainer and external strainer is not necessary. See the sections FIA and FIA SS for more inforamtion on availbale Danfoss strainers.*

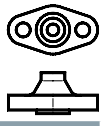


AKVA

Ordering valve excluding coil

Valve type	Rated capacity[1] NH_3		K_V value	Connections - inlet x outlet	Code no.
	[kW]	[TR]	[m³/h]	[in]	
AKVA 10 – 1	4	1.1	0.010	3/8 × 1/2	068F3261
	4	1.1	0.010	1/2 × 3/4	068F3281
AKVA 10 – 2	6.3	1.8	0.015	3/8 × 1/2	068F3262
	6.3	1.8	0.015	1/2 × 3/4	068F3282
AKVA 10 – 3	10	2.8	0.022	3/8 × 1/2	068F3263
	10	2.8	0.022	1/2 × 3/4	068F3283
AKVA 10 – 4	16	4.5	0.038	3/8 × 1/2	068F3264
	16	4.5	0.038	1/2 × 3/4	068F3284
AKVA 10 – 5	25	7.1	0.055	3/8 × 1/2	068F3265
	25	7.1	0.055	1/2 × 3/4	068F3285
AKVA 10 – 6	40	11.4	0.103	3/8 × 1/2	068F3266
	40	11.4	0.103	1/2 × 3/4	068F3286
AKVA 10 – 7	63	17.9	0.162	1/2 × 3/4	068F3267
AKVA 10 – 8	100	28.4	0.251	1/2 × 3/4	068F3268
AKVA 15 – 1	125	35	0.25	Flange	068F5020 [2]
AKVA 15 – 2	200	60	0.40	Flange	068F5023 [2]
AKVA 15 – 3	300	90	0.63	Flange	068F5026 [2]
AKVA 15 – 4	500	140	1.0	Flange	068F5029 [2]
AKVA 20 – 1	500	140	1.0	1 1/4 × 1 1/4	042H2101
AKVA 20 – 2	800	240	1.6	1 1/4 × 1 1/4	042H2102
AKVA 20 – 3	1250	350	2.5	1 1/4 × 1 1/4	042H2103
AKVA 20 – 4	2000	600	4.0	1 1/2 × 1 1/2	042H2104
AKVA 20 – 5	3150	900	6.3	2 × 2	042H2105

[1]) *Rated capacities are based on*
Condensing temperature t_c = 32 °C
Liquid temperature t_l = 28 °C
Evaporating temperature t_e = 5 °C
[2]) *Incl. bolts and gaskets but without flanges*



AKVA 15

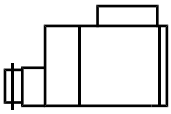
Ordering flange set for AKVA 15

Valve type	Connection	Code no.
	[in]	
AKVA 15 – 1 to 4	3/4	027N1220
	1	027N1225

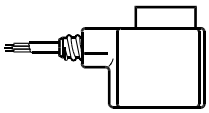
Technical data and ordering

AKVA

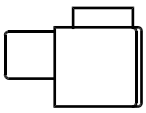
Ordering coils



Terminal box



Cable



DIN spade + cap

		Valve size and orifice no.						
		AKVA 10 – 1 AKVA 10 – 2 AKVA 10 – 3 AKVA 10 – 4 AKVA 10 – 5	AKVA 10 – 6	AKVA 10 – 7 AKVA 10 – 8	AKVA 15 – 1 AKVA 15 – 2 AKVA 15 – 3 AKVA 15 – 4	AKVA 20 – 1 AKVA 20 – 2 AKVA 20 – 3	AKVA 20 – 4 AKVA 20 – 5	
DC coils	**Connection**							**Code no.**
220 V DC 20 W, standard	**Terminal box**	+	+	+	+	+	+	018F6851
100 V DC 18 W, special	**Terminal box**	+	+	+	+	+	+	018F6780
230 V DC 18 W, special	**Terminal box**	+	+	+	+	+	+	018F6781 [1])
	DIN spade	+	+	+	+	+	+	018F6991 [1])
230 V DC 18 W, special	**2.5 m / 8.2 ft cable**	+	+	+	+	+	+	018F6288 [1])
	4.0 m / 13.0 ft cable	+	+	+	+	+	+	018F6278 [1])
	8.0 m / 26.0 ft cable	+	+	+	+	+	+	018F6279 [1])

[1]) *Recommended for commercial refrigeration plant.*

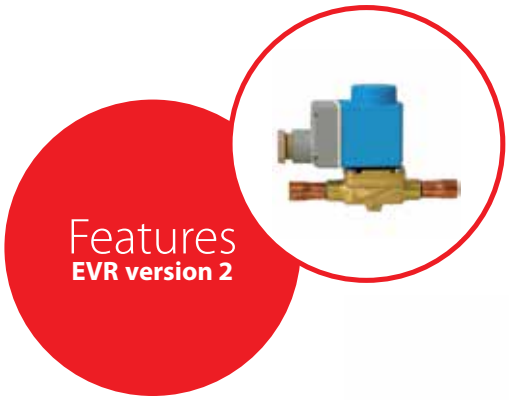
AC coils	**Connection**							**Code no.**
240 V AC 10 W, 50 Hz	**Terminal box**	+	+	–	+	–	–	018F6702
	DIN spade + cap	+	+	–	+	–	–	018F6177
240 V AC 10 W, 60 Hz	**Terminal box**	+	+	–	+	–	–	018F6713
240 V AC 12 W, 50 Hz	**Terminal box**	+	+	+	+	+	–	018F6802
220 V AC 10 W, 50 Hz	**Terminal box**	+	+	–	+	–	–	018F6701
	DIN spade + cap	+	+	–	+	–	–	018F6176
220 V AC 10 W, 60 Hz	**Terminal box**	+	+	–	+	–	–	018F6714
	DIN spade + cap	+	+	–	+	–	–	018F6189
230 V AC 10 W, 50 / 60 Hz	**Terminal box**	+	+	–	+	–	–	018F6732
	DIN spade + cap	+	+	–	+	–	–	018F6193
220 V AC 12 W, 50 Hz	**Terminal box**	+	+	–	+	+	–	018F6801
220 V AC 12 W, 60 Hz	**Terminal box**	+	+	–	+	+	–	018F6814
230 V AC 20 W, 50 Hz	**Terminal box**	+	+	+	+	+	+	018F6905
115 V AC 10 W, 50 Hz	**Terminal box**	+	+	–	+	–	–	018F6711
115 V AC 10 W, 60 Hz	**Terminal box**	+	+	–	+	–	–	018F6710
	DIN spade + cap	+	+	–	+	–	–	018F6185
110 V AC 12 W, 50 Hz	**Terminal box**	+	+	–	+	+	–	018F6811
110 V AC 12 W, 60 Hz	**Terminal box**	+	+	–	+	+	–	018F6813
24 V AC 10 W, 50 Hz	**Terminal box**	+	–	–	+	–	–	018F6707
	DIN spade + cap	+	–	–	+	–	–	018F6182
24 V AC 10 W, 60 Hz	**Terminal box**	+	–	–	+	–	–	018F6715
24 V AC 12 W, 50 Hz	**Terminal box**	+	–	–	+	+	+	018F6807
24 V AC 12 W, 60 Hz	**Terminal box**	+	–	–	+	+	+	018F6815
24 V AC 20 W, 50 Hz	**Terminal box**	+	+	+	+	+	+	018F6903
24 V AC 20 W, 60 Hz	**Terminal box**	+	+	+	+	+	+	018F6906

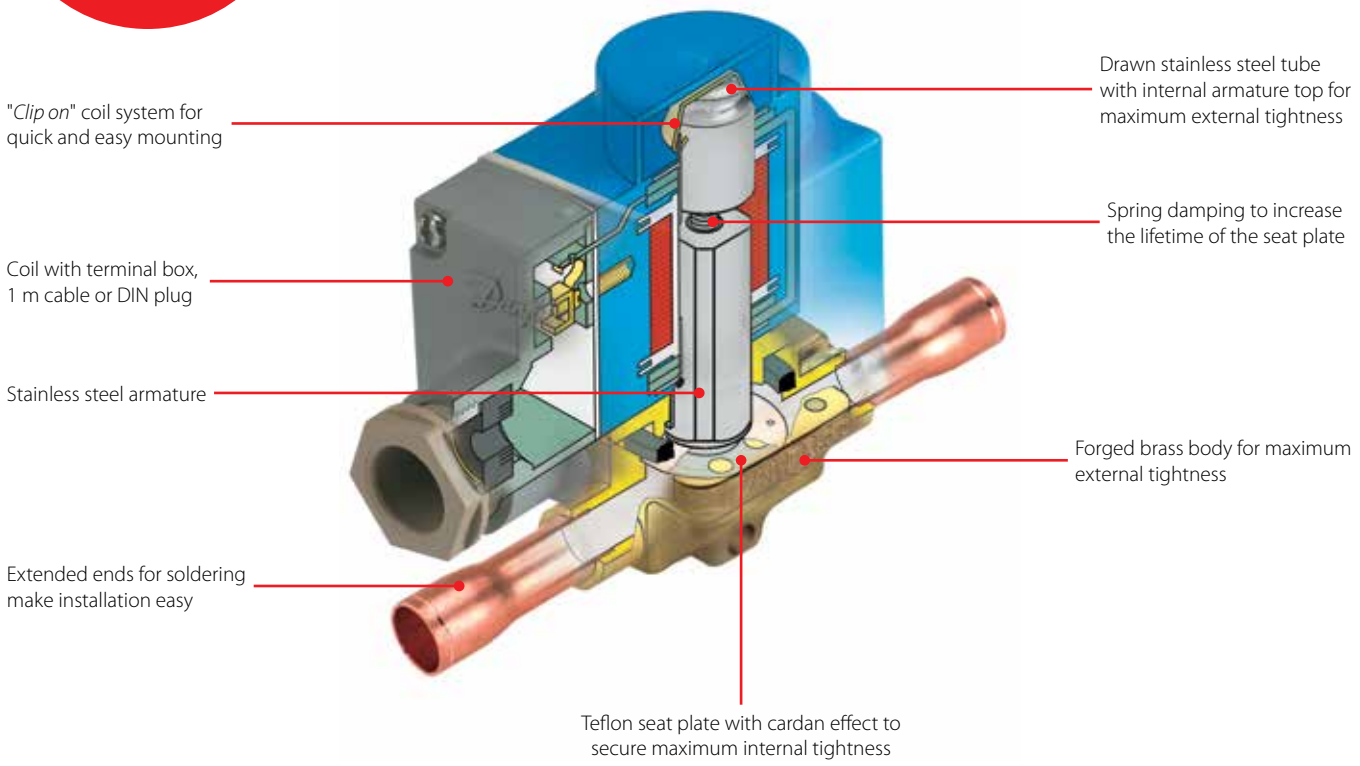
Quick Selection Notes:

EVR version 2, Solenoid valve

EVR v2 solenoid valves are direct or servo operated solenoid valves for liquid, suction and hot gas lines with most refrigerants, including flammable refrigerants. They are suitable for condensing units and power packs in all refrigeration, freezing and air conditioning applications.

The valves can be delivered as normally open or normally closed valves and with or without manual operation.
EVR v2 valves are available with flare, solder or flange connections.





Facts

Application:
- Food service and Cold rooms
- Heat pump systems
- Air conditioning units
- Liquid coolers
- Transport refrigeration
- Complete programme of valves and coils for every application
- Wide range of coils for AC and DC
- Wide range of connection types and sizes
- Normally open or normally closed
- With or without manual operation
- High reliability and durability due to maximum internal and external tightness

- Applicable to R22 / R407C, R134a, R404A / R507, R410A, R407A, R32, R290, R600, R600a, R1234yf, R1234ze, R404A, R407A, R407C, R407F, R125, R152A, R448A, R449A, R452A, and R450A
  EVR 2 – EVR 22 with solder connections and without manual stem are suitable for use with the flammable refrigerants R152A, R32, R290, R600, R600a, R1234yf, and R1234ze
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.

- Temperature range:
  -40 – 105 °C / -40 – 221 °F
- Media temperature:
  -40 – 105 °C / -40 – 221 °F
  Max. 130 °C / 266 °F during defrosting
- Max. working pressure (PS / MWP):
  - EVR v2 solder and flare connections: 45.2 bar / 655 psi
  - EVR v2 flange connections: 32 bar / 460 psi
- MOPD up to 38 bar / 550 psi
- 100% test of functionality, internal / external leakage and electrical characteristics

Technical data and ordering

EVR v2

Technical data

Type	Opening differential pressure with standard coil Δp [bar]		
	Min.	Max. (= MOPD) liquid	
		AC coil 10 W	DC coil 20 W
EVR 2 NC	0.00	38	33
EVR 3 NC	0.00	38	18
EVR 4 NC	0.03	38	28
EVR 6 NC	0.03	38	28
EVR 6 NO	0.03	21	21
EVR 8 NC	0.03	38	28
EVR 10 NC	0.03	38	20
EVR 10 NO	0.03	21	21
EVR 15 NC	0.03	38	20
EVR 15 NO	0.03	21	21
EVR 18 NC	0.03	38	20
EVR 20 NC	0.03	38	20
EVR 20 NO	0.03	19	19
EVR 22 NC	0.03	38	20
EVR 22 NO	0.03	19	19
EVR 25 NC	0.20	38	17
EVR 32 NC	0.20	38	17
EVR 40 NC	0.20	38	17

For higher MODP 12 W and 20 W AC coils are available on request.

Technical data and capacities

EVR v2

Rated capacity [kW] – Liquid

Type	R22 / R407C	R134a	R404A / R507	R410A	R32	R290	R600a
EVR 2	3.02	2.79	2.04	2.96	4.23	3.36	3.38
EVR 3	5.43	5.02	3.68	5.32	7.61	6.05	6.09
EVR 4	13.68	12.66	9.26	13.41	19.17	15.23	15.33
EVR 6	17.90	16.56	12.12	17.55	25.09	19.93	20.07
EVR 8	21.32	19.73	14.44	20.90	29.88	23.74	23.90
EVR 10	37.62	34.80	25.47	36.88	52.71	41.88	42.17
EVR 15	57.93	53.60	39.23	56.79	81.18	64.49	64.94
EVR 18	75.84	70.16	51.36	74.35	106.26	84.43	85.01
EVR 20	120.29	111.29	81.46	117.93	168.56	133.92	134.85
EVR 22	137.19	126.92	92.90	134.49	192.23	152.73	153.79
EVR 25	149.23	138.06	101.06	146.30	–	–	–
EVR 32	254.97	235.89	172.66	249.96	–	–	–
EVR 40	368.74	341.15	249.71	361.49	–	–	–

Rated capacity [kW] – Suction vapour

Type	R22 / R407C	R134a	R404A / R507	R410A	R32	R290	R600a
EVR 2	0.33	0.24	0.29	0.42	0.54	0.41	0.23
EVR 3	0.60	0.44	0.52	0.75	0.96	0.73	0.41
EVR 4	1.51	1.10	1.32	1.90	2.43	1.85	1.03
EVR 6	1.98	1.44	1.72	2.48	3.18	2.42	1.35
EVR 8	2.35	1.71	2.05	2.96	3.78	2.88	1.60
EVR 10	4.15	3.02	3.62	5.22	6.67	5.09	2.83
EVR 15	6.40	4.65	5.57	8.03	10.28	7.83	4.36
EVR 18	8.37	6.09	7.30	10.52	13.45	10.26	5.70
EVR 20	13.28	9.66	11.57	16.68	21.34	16.27	9.04
EVR 22	15.15	11.02	13.20	19.02	24.34	18.55	10.31
EVR 25	16.33	11.79	14.25	20.58	–	–	–
EVR 32	27.90	20.14	24.35	35.16	–	–	–
EVR 40	40.35	29.12	35.21	50.85	–	–	–

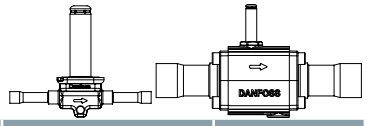
Rated capacity [kW] – Hot gas

Type	R22 / R407C	R134a	R404A / R507	R410A	R32	R290	R600a
EVR 2	1.35	1.04	1.10	1.65	2.18	1.54	0.94
EVR 3	2.42	1.87	1.99	2.98	3.92	2.76	1.70
EVR 4	6.10	4.70	5.01	7.50	9.86	6.96	4.28
EVR 6	7.99	6.16	6.56	9.81	12.91	9.11	5.61
EVR 8	9.51	7.33	7.81	11.68	15.37	10.85	6.68
EVR 10	16.78	12.94	13.78	20.61	27.12	19.14	11.78
EVR 15	25.85	19.93	21.22	31.74	41.77	29.48	18.14
EVR 18	33.84	26.08	27.77	41.55	54.67	38.59	23.75
EVR 20	53.68	41.37	44.05	65.91	86.72	61.21	37.67
EVR 22	61.22	47.18	50.24	75.17	98.91	69.81	42.96
EVR 25	87.87	67.73	72.12	107.91	–	–	–
EVR 32	150.17	115.75	123.24	184.40	–	–	–
EVR 40	217.22	167.43	178.27	266.74	–	–	–

Rated liquid and suction vapor capacity is based on:
Evaporating temperature t_e = -10 °C
Liquid temperature ahead of valve t_l = 25 °C
Pressure drop in valve Δp = 0.15 bar

Rated hot gas capacity is based on:
Condensing temperature t_c = 40 °C
Pressure drop across valve Δp = 0.8 bar
Hot gas temperature t_h = 65 °C
Subcooling of refrigerant Δt_{sub} = 4 K

Technical data and ordering



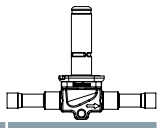
EVR v2 solder connection, Normally Closed (NC) - separate valve bodies

Ordering

Type	Current type	Connection size		Manual operation	K_v value [m^3/h]	Code no.
		[mm]	[in]			
EVR 2	AC / DC	–	1/4	No	0.15	032F1201
	AC / DC	–	1/4	No	0.15	032F7100
	AC / DC	6	–	No	0.15	032F1202
EVR 3	AC / DC	–	1/4	No	0.26	032F1206
	AC / DC	–	3/8	No	0.26	032F1204
	AC / DC	6	–	No	0.26	032F1207
	AC / DC	10	–	No	0.26	032F1208
EVR 4	AC / DC	–	3/8	No	0.70	032L7110
EVR 6	AC / DC	–	3/8	No	1.0	032L1212
	AC / DC	–	3/8	Yes	0.87	032L7116
	AC / DC	10	–	No	1.0	032L1213
	AC / DC	12	–	No	1.0	032L1236
	AC / DC	–	1/2	No	1.0	032L1209
	AC / DC	–	1/2	Yes	0.87	032L7144
	AC / DC	–	5/8	No	1.0	032L7117
EVR 8	AC /DC	–	1/2	No	1.15	032L7121
	AC / DC	–	1/2	Yes	1.09	032L7148
	AC / DC	–	5/8	No	1.15	032L7122
EVR 10	AC / DC	–	3/8	No	1.47	032L7125
	AC / DC	12	–	No	2.2	032L1218
	AC / DC	–	1/2	No	2.2	032L1217
	AC / DC	–	1/2	Yes	2.2	032L1188
	AC / DC	16	5/8	No	2.2	032L1214
	AC / DC	–	5/8	Yes	2.2	032L7149
EVR 15	AC / DC	16	5/8	No	3.3	032L1228
	AC / DC	16	5/8	Yes	3.3	032L1227
	AC / DC	22	7/8	No	3.3	032L1225
EVR 18	AC / DC	–	7/8	Yes	3.9	032L1004
EVR 20	AC / DC	–	7/8	No	6.0	032L1240
	AC / DC	–	7/8	Yes	6.0	032L1254
	AC / DC	–	1 1/8	No	6.0	032L1244
	AC / DC	28	–	No	6.0	032L1245
EVR 22	AC / DC	–	1 1/8	No	6.0	032L7145
	AC / DC	–	1 1/8	Yes	6.0	032L7137
	AC / DC	–	1 3/8	No	6.0	032L3267
EVR 25	AC / DC	–	1 1/8	Yes	9.8	032L2200
	AC / DC	–	1 1/8	No	9.8	032L2201
	AC / DC	28	–	Yes	9.8	032L2205
	AC / DC	28	–	No	9.8	032L2206
	AC / DC	–	1 3/8	Yes	9.8	032L2207
	AC / DC	–	1 3/8	No	9.8	032L2208
EVR 32	AC / DC	35	1 3/8	Yes	16.7	032L1105
	AC / DC	35	1 3/8	No	16.7	032L1106
	AC / DC	–	1 5/8	Yes	16.7	032L1103
	AC / DC	–	1 5/8	No	16.7	032L1104
	AC / DC	42	–	Yes	16.7	032L1107
	AC / DC	42	–	No	16.7	032L1108
	AC / DC	–	2 1/8	No	16.7	032L1180
	AC / DC	–	2 1/8	Yes	16.7	032L1181
EVR 40	AC / DC	–	1 5/8	Yes	24.2	032L1109
	AC / DC	–	1 5/8	No	24.2	032L1110
	AC / DC	42	–	Yes	24.2	032L1113
	AC / DC	42	–	No	24.2	032L1114
	AC / DC	–	2 1/8	Yes	24.2	032L1111
	AC / DC	–	2 1/8	No	24.2	032L1112

Technical data and capacities

EVR v2 solder connection, Normally Open (NO) - separate valve bodies

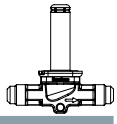


Ordering

Type	Current type	Connection size		Manual operation	K_v value [m^3/h]	Code no.
		[mm]	[in]			
EVR 6	AC / DC	–	3/8	No	1.0	032L1290
	AC / DC	10	–	No	1.0	032L1295
EVR 10	AC / DC	–	1/2	No	2.2	032L1291
	AC / DC	12	–	No	2.2	032L1296
EVR 15	AC / DC	16	5/8	No	3.3	032L1299
	AC / DC	–	7/8	No	3.3	032L3270
EVR 20	AC / DC	–	7/8	No	6.0	032L1260
	AC / DC	–	1 1/8	No	6.0	032L1269
	AC / DC	28	–	No	6.0	032L1279
EVR 22	AC	–	1 3/8	No	6.0	032L3268

The normal range of coils can be used for the NO valves, with the exception of the double frequency versions of 110 V, 50/60 Hz and 220 V, 50/60 Hz.

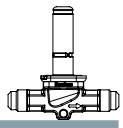
EVR v2 flare connection, Normally Closed (NC) - separate valve bodies



Ordering

Type	Current type	Connection size		Manual operation	K_v value [m^3/h]	Code no.
		[mm]	[in]			
EVR 2	AC	6	1/4	No	0.15	032F8056
EVR 3	AC / DC	6	1/4	No	0.26	032F8107
	AC / DC	10	3/8	No	0.26	032F8116
EVR 6	AC / DC	10	3/8	No	1.0	032L8072
	AC / DC	12	1/2	No	1.0	032L8079
EVR 10	AC / DC	12	1/2	No	2.2	032L8095
	AC / DC	16	5/8	No	2.2	032L8098
EVR 15	AC / DC	16	5/8	Yes	3.3	032L8100
	AC / DC	16	5/8	No	3.3	032L8101

EVR v2 flare connection, Normally Open (NO) - separate valve bodies



Ordering

Type	Current type	Connection size		Manual operation	K_v value [m^3/h]	Code no.
		[mm]	[in]			
EVR 6	AC / DC	10	3/8	No	1.0	032L8085
EVR 10	AC / DC	12	1/2	No	2.2	032L8090

The normal range of coils can be used for the NO valves, with the exception of the double frequency versions of 110 V, 50/60 Hz and 220 V, 50/60 Hz.

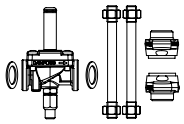
Valve bodies are supplied without flare nuts.
Separate flare nuts:
– 6 mm or 1/4 in, code no. ***011L1101***
– 10 mm or 3/8 in, code no. ***011L1135***
– 12 mm or 1/2 in, code no. ***011L1103***
– 16 mm or 5/8 in, code no. ***011L1167***

Technical data and ordering

EVR v2 flange connection, Normally Closed (NC) - separate valve bodies

Ordering

Type	Current type	Connection	Manual operation	Code no.
EVR 15	AC / DC	Flanges	No	032L1224
	AC / DC	Flanges	Yes	032L1234
EVR 20	AC / DC	Flanges	No	032L1243
	AC / DC	Flanges	Yes	032L1253

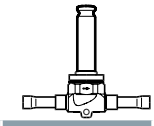


EVR v2 flange sets, Normally Closed (NC) - separate valve bodies

Ordering

Type	Connection size		Connection type			Code no.
			Solder		Weld	
	[mm]	[in]	[mm]	[in]	[in]	
EVR 15	–	1/2	–	–	Yes	027N1115
	–	5/8	Yes	–	–	027L1117
	16	–	–	Yes	–	027L1116
	–	3/4	–	–	Yes	027N1120
	–	7/8	Yes	–	–	027L1123
	22	–	–	Yes	–	027L1122
EVR 20	–	3/4	–	–	Yes	027N1220
	–	7/8	Yes	–	–	027L1223
	22	–	–	Yes	–	027L1222
	–	1	–	–	Yes	027N1225
	–	1 1/8	Yes	–	–	027L1229
	28	–	–	Yes	–	027L1228

Example:
EVR 15 without manual operation - code no. ***032L1224****.*
1/2 in weld flange set. - code no. ***027N1115****.*
+ coil with terminal box, 220 V, 50 Hz, - code no. ***018F6701****.*



EVRC solder connection, Normally Closed (NC) - separate valve bodies

Ordering

Type	Current type	Connection size		Manual operation	K_v value [m^3/h]		Code no.
		[mm]	[in]		Flow in arrow direction	Flow against arrow direction	
EVRC 15	AC / DC	16	5/8	No	2.7	2.5	032L1255
EVRC 20	AC / DC	22	7/8	No	3.6	5.0	032L1258

Technical data and ordering

EVR v2

Technical data

Type	Opening differential pressure with UL listed or standard coil Δp [psi]		
	Min.	Max. (= MOPD) liquid	
		UL listed AC coil 14 – 17 W	Standard DC coil 20 W
EVR 2 NC	0	550	478
EVR 3 NC	0	550	261
EVR 4 NC	0.44	550	406
EVR 6 NC	0.44	550	406
EVR 6 NO	0.44	305	305
EVR 8 NC	0.44	550	406
EVR 10 NC	0.44	550	290
EVR 10 NO	0.44	305	305
EVR 15 NC	0.44	550	290
EVR 15 NO	0.44	305	305
EVR 18 NC	0.44	550	290
EVR 20 NC	0.44	550	290
EVR 20 NO	0.44	305	305
EVR 22 NC	0.44	550	290
EVR 22 NO	0.44	305	305
EVR 25 NC	2.9	450	246
EVR 32 NC	2.9	450	246
EVR 40 NC	2.9	450	246

Technical data and capacities

EVR v2

Rated capacity [TR] – Liquid

Type	R22 / R407C	R134a	R404A / R507	R410A	R32	R290	R600a
EVR 2	0.92	0.85	0.59	0.86	1.25	1.03	1.06
EVR 3	1.66	1.54	1.07	1.55	2.26	1.85	1.91
EVR 4	4.18	3.87	2.68	3.9	5.69	4.65	4.81
EVR 6	5.47	5.07	3.51	5.11	7.44	6.08	6.3
EVR 8	6.52	6.03	4.18	6.08	8.87	7.25	7.5
EVR 10	11.5	10.64	7.38	10.73	15.64	12.78	13.24
EVR 15	17.71	16.39	11.37	16.53	24.09	19.68	20.39
EVR 18	23.18	21.46	14.88	21.64	31.53	25.77	26.69
EVR 20	36.76	34.04	23.6	34.32	50.01	40.87	42.33
EVR 22	41.93	38.82	26.92	39.14	57.04	46.61	48.28
EVR 25	60.19	55.72	38.64	56.18	–	–	–
EVR 32	102.85	95.23	66.03	96.01	–	–	–
EVR 40	148.77	137.75	95.51	138.88	–	–	–

Rated capacity for liquid is based on:
Pressure drop across valve: 3 psi
Liquid temperature: 100 °F
Subcooling: 10 °F
Evaporating temperature: 40 °F
Superheat: 0 °F

Rated capacity [TR] – Suction vapour

Type	R22 / R407C	R134a	R404A / R507	R410A	R32	R290	R600a
EVR 2	0.08	0.06	0.06	0.09	0.12	0.09	0.06
EVR 3	0.14	0.11	0.12	0.17	0.22	0.17	0.1
EVR 4	0.35	0.27	0.29	0.42	0.55	0.42	0.26
EVR 6	0.46	0.35	0.38	0.55	0.72	0.55	0.34
EVR 8	0.55	0.41	0.46	0.66	0.86	0.66	0.4
EVR 10	0.96	0.73	0.8	1.16	1.51	1.16	0.71
EVR 15	1.48	1.13	1.24	1.79	2.32	1.79	1.1
EVR 18	1.94	1.47	1.62	2.34	3.04	2.34	1.44
EVR 20	3.08	2.34	2.57	3.71	4.82	3.71	2.28
EVR 22	3.51	2.67	2.93	4.23	5.5	4.24	2.61
EVR 25	4.67	3.5	3.9	5.65	–	–	–
EVR 32	7.97	5.99	6.66	9.65	–	–	–
EVR 40	11.53	8.66	9.63	13.96	–	–	–

Rated capacity for Suction vapour is based on:
Pressure drop across valve: 1 psi (EVR 25, EVR 32, EVR 40: 2 psi)
Liquid temperature: 100 °F
Subcooling: 10 °F
Evaporating temperature: 40 °F
Superheat: 0 °F

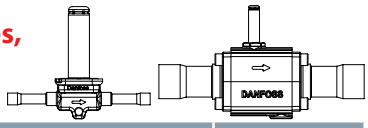
Rated capacity [TR] – Hot gas

Type	R22 / R407C	R134a	R404A / R507	R410A	R32	R290	R600a
EVR 2	0.21	0.17	0.18	0.25	0.33	0.25	0.16
EVR 3	0.37	0.30	0.32	0.46	0.59	0.44	0.29
EVR 4	0.94	0.76	0.82	1.16	1.48	1.12	0.73
EVR 6	1.23	0.99	1.07	1.51	1.94	1.46	0.95
EVR 8	1.47	1.18	1.27	1.80	2.31	1.74	1.13
EVR 10	2.59	2.09	2.25	3.18	4.07	3.07	2.00
EVR 15	4.00	3.22	3.46	4.89	6.26	4.73	3.08
EVR 18	5.23	4.21	4.53	6.40	8.20	6.19	4.03
EVR 20	8.30	6.69	7.18	10.16	13.01	9.81	6.4
EVR 22	9.46	7.62	8.19	11.59	14.83	11.19	7.3
EVR 25	13.58	10.94	11.76	16.63	–	–	–
EVR 32	23.21	18.70	20.09	28.42	–	–	–
EVR 40	33.58	27.05	29.06	41.11	–	–	–

Rated capacity for Hot gas is based on:
Pressure drop across valve: 3 psi
Condensing temperature: 10 °F
Subcooling: 10 °F
Hot gas temperature: 40 °F
Evaporating temperature: 40 °F
Superheat: 0 °F

Technical data and ordering

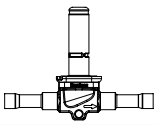
EVR v2 solder ODF connections, Normally Closed (NC) - separate valve bodies, UL listed



Ordering

Type	Current type	Connection size		Manual operation	Code no.
		[mm]	[in]		
EVR 2	AC / DC	1/4	–	No	032F1201
	AC / DC	1/4	–	No	032F7100
	AC / DC	–	6	No	032F1202
EVR 3	AC / DC	1/4	–	No	032F1206
	AC / DC	3/8	–	No	032F1204
	AC / DC	–	6	No	032F1207
	AC / DC	–	10	No	032F1208
EVR 4	AC / DC	3/8	–	No	032L7110
EVR 6	AC / DC	3/8	–	No	032L1212
	AC / DC	3/8	–	Yes	032L7116
	AC / DC	–	10	No	032L1213
	AC / DC	–	12	No	032L1236
	AC / DC	1/2	–	No	032L1209
	AC / DC	1/2	–	Yes	032L7144
	AC / DC	5/8	–	No	032L7117
EVR 8	AC /DC	1/2	–	No	032L7121
	AC / DC	1/2	–	Yes	032L7148
	AC / DC	5/8	–	No	032L7122
EVR 10	AC / DC	3/8	–	No	032L7125
	AC / DC	–	12	No	032L1218
	AC / DC	1/2	–	No	032L1217
	AC / DC	1/2	–	Yes	032L1188
	AC / DC	5/8	16	No	032L1214
	AC / DC	5/8	–	Yes	032L7149
EVR 15	AC / DC	5/8	16	No	032L1228
	AC / DC	5/8	16	Yes	032L1227
	AC / DC	7/8	22	No	032L1225
EVR 18	AC / DC	7/8	–	Yes	032L1004
EVR 20	AC / DC	7/8	–	No	032L1240
	AC / DC	7/8	–	Yes	032L1254
	AC / DC	1 1/8	–	No	032L1244
	AC / DC	–	28	No	032L1245
EVR 22	AC / DC	1 1/8	–	No	032L7145
	AC / DC	1 1/8	–	Yes	032L7137
	AC / DC	1 3/8	–	No	032L3267
EVR 25	AC / DC	1 1/8	–	Yes	032L2200
	AC / DC	1 1/8	–	No	032L2201
	AC / DC	–	28	Yes	032L2205
	AC / DC	–	28	No	032L2206
	AC / DC	1 3/8	–	Yes	032L2207
	AC / DC	1 3/8	–	No	032L2208
EVR 32	AC / DC	1 3/8	35	Yes	032L1105
	AC / DC	1 3/8	35	No	032L1106
	AC / DC	1 5/8	–	Yes	032L1103
	AC / DC	1 5/8	–	No	032L1104
	AC / DC	–	42	Yes	032L1107
	AC / DC	–	42	No	032L1108
	AC / DC	2 1/8	–	No	032L1180
	AC / DC	2 1/8	–	Yes	032L1181
EVR 40	AC / DC	1 5/8	–	Yes	032L1109
	AC / DC	1 5/8	–	No	032L1110
	AC / DC	–	42	Yes	032L1113
	AC / DC	–	42	No	032L1114
	AC / DC	2 1/8	–	Yes	032L1111
	AC / DC	2 1/8	–	No	032L1112

Technical data and capacities

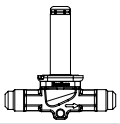


EVR v2 flare connections, Normally Closed (NC) - separate valve bodies

Ordering

Type	Current type	Connection size		Manual operation	Code no.
		[mm]	[in]		
EVR 6	AC / DC	–	3/8	No	032L1290
	AC / DC	10	–	No	032L1295
EVR 10	AC / DC	–	1/2	No	032L1291
	AC / DC	12	–	No	032L1296
EVR 15	AC / DC	16	5/8	No	032L1299
	AC / DC	–	7/8	No	032L3270
EVR 20	AC / DC	–	7/8	No	032L1260
	AC / DC	–	1 3/8	No	032L1269
	AC / DC	28	–	No	032L1279
EVR 22	AC	–	1 3/8	No	032L3268

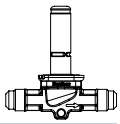
The normal range of coils can be used for the NO valves, with the exception of the double frequency versions of 110 V, 50/60 Hz and 220 V, 50/60 Hz.



EVR v2 flare connections, Normally Closed (NC) - separate valve bodies

Ordering

Type	Current type	Connection size		Manual operation	Code no.
		[mm]	[in]		
EVR 2	AC / DC	6	1/4	No	032F8056
EVR 3	AC / DC	6	1/4	No	032F8107
	AC / DC	10	3/8	No	032F8116
EVR 6	AC / DC	10	3/8	No	032L8072
	AC / DC	12	1/2	No	032L8079
EVR 10	AC / DC	12	1/2	No	032L8095
	AC / DC	16	5/8	No	032L8098
EVR 15	AC / DC	16	5/8	Yes	032L8100
	AC / DC	16	5/8	No	032L8101



EVR v2 flare connection, Normally Open (NO) - separate valve bodies

Ordering

Type	Current type	Connection size		Manual operation	Code no.
		[mm]	[in]		
EVR 6	AC / DC	10	3/8	No	032L8085
EVR 10	AC / DC	12	1/2	No	032L8090

The normal range of coils can be used for the NO valves, with the exception of the double frequency versions of 110 V, 50/60 Hz and 220 V, 50/60 Hz.

Valve bodies are supplied without flare nuts.
Separate flare nuts:
– 6 mm or 1/4 in, code no. ***011L1101***
– 10 mm or 3/8 in, code no. ***011L1135***
– 12 mm or 1/2 in, code no. ***011L1103***
– 16 mm or 5/8 in, code no. ***011L1167***

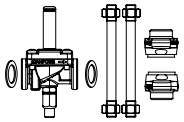
Technical data and ordering

EVR v2 flange connection, Normally Closed (NC) - separate valve bodies

Ordering

Type	Current type	Connection	Manual operation	Code no.
EVR 15	AC / DC	Flanges	No	032L1224
	AC / DC	Flanges	Yes	032L1234
EVR 20	AC / DC	Flanges	No	032L1243
	AC / DC	Flanges	Yes	032L1253

EVR v2 flange sets, Normally Closed (NC) - separate valve bodies



Ordering

Type	Connection size		Connection type			Code no.
	[mm]	[in]	Solder		Weld	
			[mm]	[in]	[in]	
EVR 15	–	1/2	–	–	Yes	027N1115
	–	5/8	Yes	–	–	027L1117
	16	–	–	Yes	–	027L1116
	–	3/4	–	–	Yes	027N1120
	–	7/8	Yes	–	–	027L1123
	22	–	–	Yes	–	027L1122
EVR 20	–	3/4	–	–	Yes	027N1220
	–	7/8	Yes	–	–	027L1223
	22	–	–	Yes	–	027L1222
	–	1	–	–	Yes	027N1225
	–	1 1/8	Yes	–	–	027L1229
	28	–	–	Yes	–	027L1228

Example:
EVR 15 without manual operation - code no. ***032L1224****.*
1/2 in weld flange set. - code no. ***027N1115****.*
+ coil with terminal box, 220 V, 50 Hz, - code no. ***018F6701****.*

Quick Selection Notes:

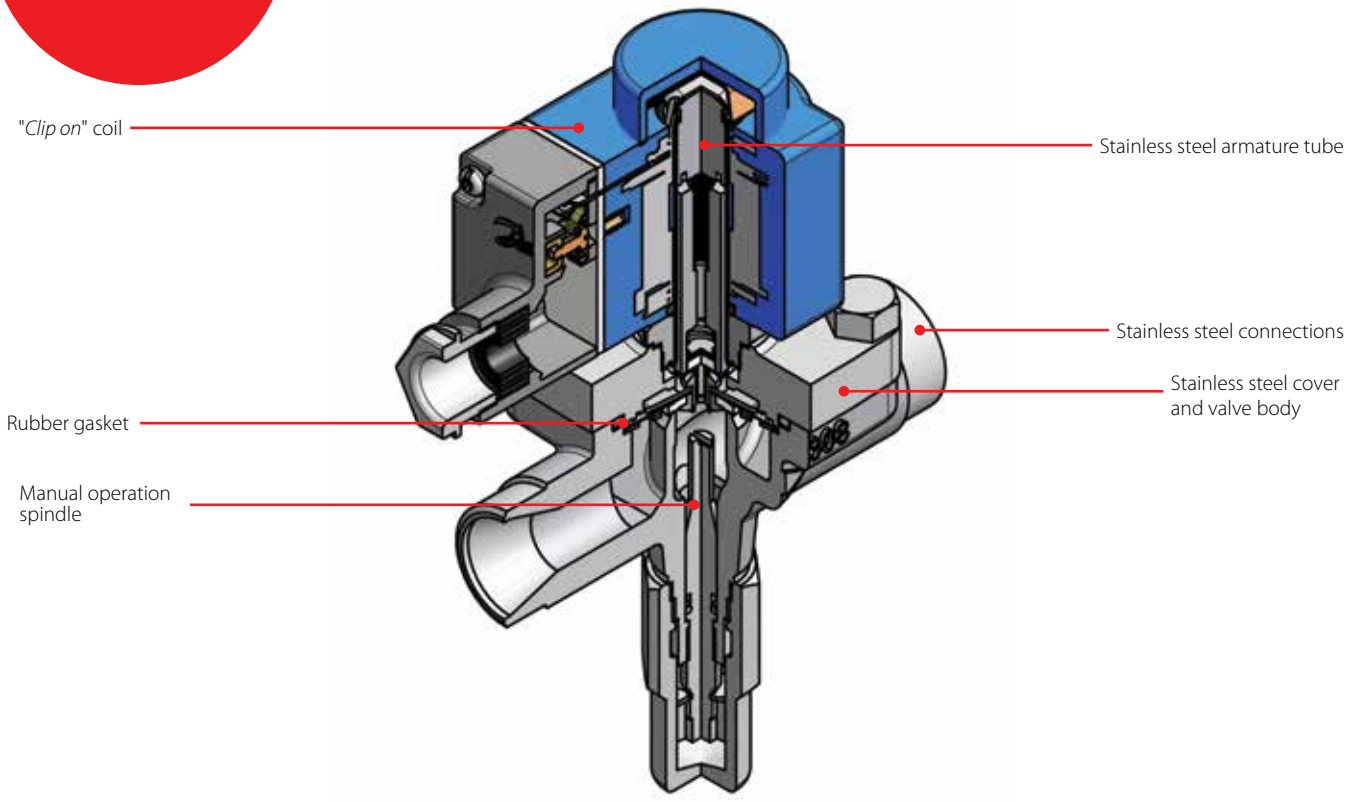
EVRS / EVRST, Solenoid valves

EVRS and EVRST solenoid valves are made in stainless steel.
EVRS 3 is direct operated, EVRS 10 / EVRS 15 / EVRS 20 are servo operated.
EVRST 10 / EVRST 15 / EVRST 20 are forced servo operated valves.
EVRS and EVRST are used in liquid, suction, hot gas and oil return lines.

EVRS and EVRST are supplied as a parts programme, i.e. separate valve, body and coil. EVRS / EVRST 10, EVRS / EVRST 15, EVRS / EVRST 20 are equipped with spindle for manual opening.



Features
EVRS / EVRST



Facts

- Stainless steel valve body and connections
- Max. working pressure 50 bar (suitable for CO_2 subcritical)
- Applicable to R717, R744, R401A, R402A, R404A, R407A, R407B, R407C, R407F, R409A, R410A, R421A, R502, R507, R134a and R22
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- MOPD up to 38 bar with 20 watt AC coil
- Wide choice of AC and DC coils
- Designed for temperatures of media up to 105 °C
- Manual system on EVRS 10 / EVRS 15 / EVRS 20 and EVRST 10 / EVRST 15 / EVRST 20

Technical data and ordering

EVRS / EVRST solenoid valves, Normally closed (NC)

Technical data

Type	Opening differential pressure Δp [bar]					K_v value [2] [m³/h]	Max. working pressure PS [bar]
	Min. [bar]	Max. (MOPD) liquid [1] [bar]					
		10 W AC	12 W AC	20 W AC	20 W DC		
EVRS 3	0.0	21	25	38	14	0.23	50.0
EVRS 10	0.05	21	25	38	18	1.5	50.0
EVRST 10	0.0	14	21	38	16	1.5	50.0
EVRS 15	0.05	21	25	38	18	2.7	50.0
EVRST 15	0.0	14	21	38	18	2.7	50.0
EVRS 20	0.05	21	25	38	13	4.5	50.0
EVRST 20	0.0	14	21	38	13	4.5	50.0

[1]) MOPD for media in gas form is approx. 1 bar greater.
[2]) The K_v value is the water flow in [m³/h] with a pressure drop across the valve of 1 bar, ρ = 1000 kg/m³.

EVRS / EVRST solenoid valves, Normally Closed (NC)

Technical data

Type	Rated capacity [1] [kW]														
	Liquid					Suction vapour					Hot gas [2]				
	R717	R22	R134a	R404A / R507	R410A	R717	R22	R134a	R404A / R507	R410A	R717	R22	R134a	R404A / R507	R410A
EVRS 3	21.8	4.6	4.3	3.2	4.5	–	–	–	–	–	6.5	2.1	1.7	1.7	2.3
EVRS / EVRST 10	142.0	30.2	27.8	21.1	29.7	9.0	3.4	2.5	3.1	4.3	42.6	13.9	11.0	11.3	14.9
EVRS / EVRST 15	256.0	54.4	50.1	38.0	53.5	16.1	6.2	4.4	5.5	7.7	76.7	24.9	19.8	20.3	26.7
EVRS / EVRST 20	426.0	90.6	83.5	63.3	89.1	26.9	10.3	7.3	9.2	12.0	128.0	41.5	32.9	33.9	44.5

[1]) Rated liquid and suction vapour capacity is based on evaporating temperature t_e = -10 °C, liquid temperature ahead of valve t_l = 25 °C, and pressure drop across valve Δp = 0.15 bar.
[2]) Rated hot gas capacity is based on condensing temperature t_c = 40 °C, pressure drop across valve Δp = 0.8 bar, hot gas temperature t_h = 60 °C, and subcooling of refrigerant Δt_{sub} = 4 K.

EVRS / EVRST solenoid valves, Normally Closed (NC)

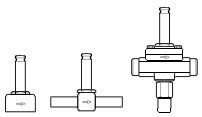
Technical data

Type	R 744 Rated capacity [kW] [1]	
	Liquid	Suction
EVRS 3	6.65	–
EVRS / EVRST 10	43.3	6.9
EVRS / EVRST 15	78.0	12.4
EVRS / EVRST 20	130.0	20.7

[1]) Rated liquid and suction vapour capacity is based on evaporating temperature t_e = -40 °C, liquid temperature ahead of the valve t_l = -8 °C and pressure drop across the valve Δp = 0.15 bar.

EVRS / EVRST solenoid valves, Normally Closed (NC)

Ordering



Type	Max. working pressure PS	Connection		Manual stem	Code no.
	[bar g]	Weld [in]	Pipe thread ISO 228/1	[with / without]	
EVRS 3	50	3/8	–	without	032F3080
EVRS 3	50	–	G 1/4	without	032F3081
EVRS 10	50	1/2	–	with	032F3082
EVRST 10	50	1/2	–	with	032F3083
EVRS 15	50	3/4	–	with	032F3084
EVRST 15	50	3/4	–	with	032F3085
EVRS 20	50	1	–	with	032F5437
EVRST 20	50	1	–	with	032F5438

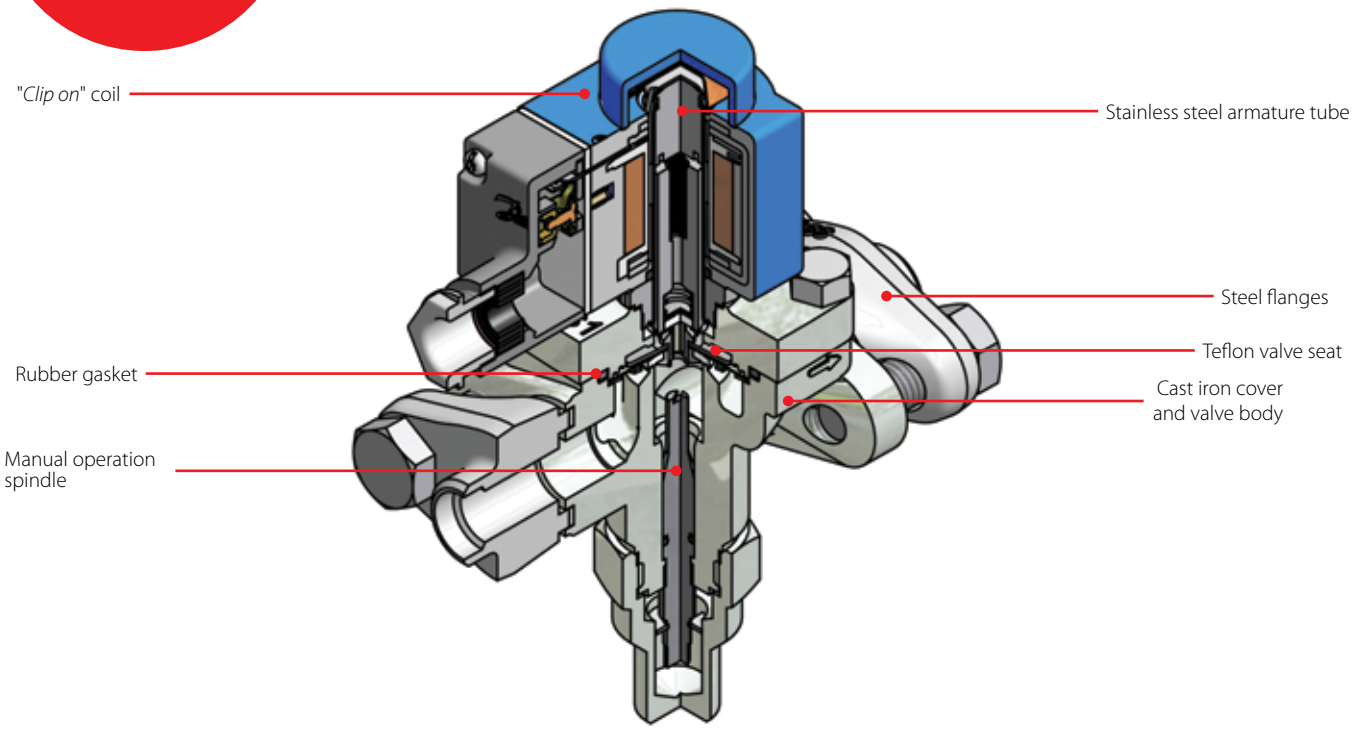
EVRA / EVRAT, Solenoid valves

EVRA and EVRAT are solenoid valves for liquid, suction and hot gas lines. EVRA is a direct or servo operated valve, EVRAT is an assisted lift, servo operated valve.
EVRA valves are supplied complete or as a parts programme, i.e. valve body, coil and flanges can be ordered separately.
EVRAT is specially designed to open – and stay open – at a pressure drop of 0 bar.

The EVRAT solenoid valve is thus suitable for use in all plants where the required opening differential pressure is 0 bar.
EVRAT is available as a parts programme, i.e. separate valve body, flanges and coil.
EVRAT 10 / EVRAT 15 / EVRAT 20 all have a spindle for manual operation.



Features
EVRA / EVRAT



Facts

- Applicable to R717, R401A, R402A, R404A, R407A, R407B, R407C, R407F, R409A, R410A, R421A, R502, R507, R134a and R22
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- EVRA and EVRAT valves use a teflon gasket which ensures great tightness across the valve seat
- EVRA valves have a low pressure drop
- EVRAT valves have a minimum opening differential pressure of 0 (zero)
- EVRA and EVRAT valve range can be used with the wide range of standard Danfoss coils
- Strainer type FA can be mounted directly on the valve body except for EVRA 32 / EVRA 40
- EVRA 3 – EVRA 25 and EVRAT 10 / EVRAT 20 valves offer a wide range of flange connection dimensions in accordance with connection standards DIN, ANSI, SOC, Solder and FPT, and a wide range of connection types
- Butt welding DIN (DIN 2448)
- Butt welding ANSI (ANSI B36.10 schedule 80) (3/8 – 1 1/2 in valve sizes)
- Butt welding ANSI (ANSI B36.10 schedule 40) (2 in valve sizes)
- Socket welding ANSI (ANSI B 16.11)
- Solder connection DIN (DIN 2856)
- Solder connection ANSI (ANSI B 16.22)
- FPT internal thread, NPT (ANSI / ASME B 1.20.1)
- EVRA 32 and EVRA 40 are supplied with integrated flanges for either:
  - Welding DIN (DIN 2448)
  - Welding ANSI (ANSI B 36.10)

Technical data and ordering



EVRA / EVRAT Solenoid valves

Ordering valve with coil

Type	Manual Stem	Inlet connection type	Orifice size [mm]	Max OPD 10 W AC [bar]	Max OPD 20 W DC [bar]	Coil type	Coil connection	Supply voltage [V] AC	Frequency [Hz]	Power consumption [W]	Singlepack/ Multipack (12 pcs.)	Code no.
EVRA 3	No	Flange *)	3	21	14	BF230AS	Cable (1 m/3.3 ft)	220 – 230	50	10	Multipack	032F310231
	No	Flange *)	3	21	14	BE230AS	Connection Box	220 – 230	50	10	Multipack	032F310331
	No	Flange *)	3	21	14	BE230CS	Connection Box	220 – 230	50 / 60	10	Multipack	032F310332
EVRA 10	No	Flange *)	10	21	18	BE230AS	Connection Box	220 – 230	50	10	Multipack	032F620831
	Yes	Flange *)	10	21	18	BF230AS	Cable (1 m/3.3 ft)	220 – 230	50	10	Singlepack	032F621231
	Yes	Flange *)	10	21	18	BE230AS	Connection Box	220 – 230	50	10	Singlepack	032F621331
	Yes	Flange *)	10	21	18	BE230CS	Connection Box	220 – 230	50 / 60	10	Singlepack	032F621332
EVRA 15	No	Flange *)	15	21	18	BF230AS	Cable (1 m/3.3 ft)	220 – 230	50	10	Singlepack	032F621731
	No	Flange *)	15	21	18	BF230CS	Cable (1 m/3.3 ft)	220 – 230	50 / 60	10	Singlepack	032F621732
	No	Flange *)	15	21	18	BE230AS	Connection Box	220 – 230	50	10	Singlepack	032F621831
	No	Flange *)	15	21	18	BE230CS	Connection Box	220 – 230	50 / 60	10	Singlepack	032F621832
EVRA 20	No	Flange *)	20	21	13	BF230AS	Cable (1 m/3.3 ft)	220 – 230	50	10	Singlepack	032F622231
	No	Flange *)	20	21	13	BE230AS	Connection Box	220 – 230	50	10	Singlepack	032F622331
	No	Flange *)	20	21	13	BE230CS	Connection Box	220 – 230	50 / 60	10	Singlepack	032F622332
EVRA 25	Yes	Flange *)	25	21	14	BE230CS	Connection Box	220 – 230	50 / 60	10	Singlepack	032F803432

*) For ordering flanges; please downlad the data sheet DKRCI.PY.000.B from www.danfoss.com



EVRA / EVRAT Solenoid valves

Ordering valve without coil

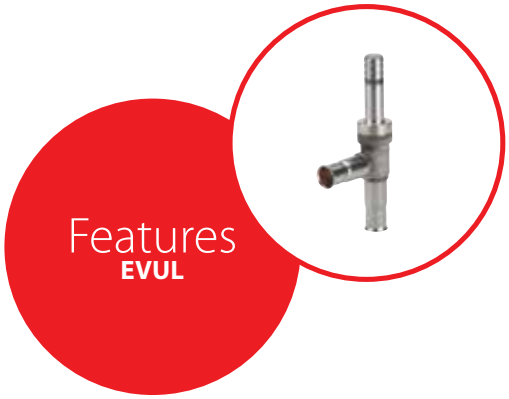
Type	Manual Stem	Inlet connection type	Inlet size [in]	Orifice size [mm]	Max OPD 10 W AC [bar]	Max OPD 12 W AC [bar]	Max OPD 20 W DC [bar]	Required coil type **)	Singlepack/ Multipack (12 pcs.)	Code no.
EVRA 3	No	Flange *)	–	3	21	25	14	AC / DC	Multipack	032F3050
EVRA 10	Yes	Flange *)	–	10	21	25	18	AC / DC	Singlepack	032F6210
	No	Flange *)	–	10	21	25	18	AC / DC	Singlepack	032F6211
EVRAT 10	Yes	Flange *)	–	10	14	21	16	AC / DC	Singlepack	032F6214
EVRA 15	Yes	Flange *)	–	15	21	25	18	AC / DC	Singlepack	032F6215
EVRAT 15	Yes	Flange *)	–	15	14	21	16	AC / DC	Singlepack	032F6216
EVRAT 20	Yes	Flange *)	–	20	14	21	13	AC / DC	Singlepack	032F6219
EVRA 20	Yes	Flange *)	–	20	21	25	13	AC	Singlepack	032F6220
	Yes	Flange *)	–	20	19	21	16	AC / DC	Singlepack	032F6221
EVRA 25	Yes	Flange *)	–	25	21	25	14	AC / DC	Singlepack	032F6225
	No	Flange *)	–	25	21	25	14	AC / DC	Singlepack	032F6226
EVRA 32	Yes	Butt weld DIN	1 ¼	22.2	21	25	14	AC / DC	Singlepack	042H1126
	No	Butt weld DIN	1 ¼	22.2	21	25	14	AC / DC	Singlepack	042H1127
EVRA 40	Yes	Butt weld DIN	1 ½	25.4	21	25	14	AC / DC	Singlepack	042H1128
	No	Butt weld DIN	1 ½	25.4	21	25	14	AC / DC	Singlepack	042H1129
EVRA 32	Yes	Butt weld DIN	1 ½	22.2	21	25	14	AC / DC	Singlepack	042H1131
EVRA 40	Yes	Butt weld DIN	2	25.4	21	25	14	AC / DC	Singlepack	042H1132
EVRA 32	Yes	Butt weld ANSI 36.10	1 ¼	22.2	21	25	14	AC / DC	Singlepack	042H1140
	Yes	Butt weld ANSI 36.10	1 ½	22.2	21	25	14	AC / DC	Singlepack	042H1141
EVRA 40	Yes	Butt weld ANSI 36.10	1 ½	25.4	21	25	14	AC / DC	Singlepack	042H1142
	Yes	Butt weld ANSI 36.10	2	25.4	21	25	14	AC / DC	Singlepack	042H1143

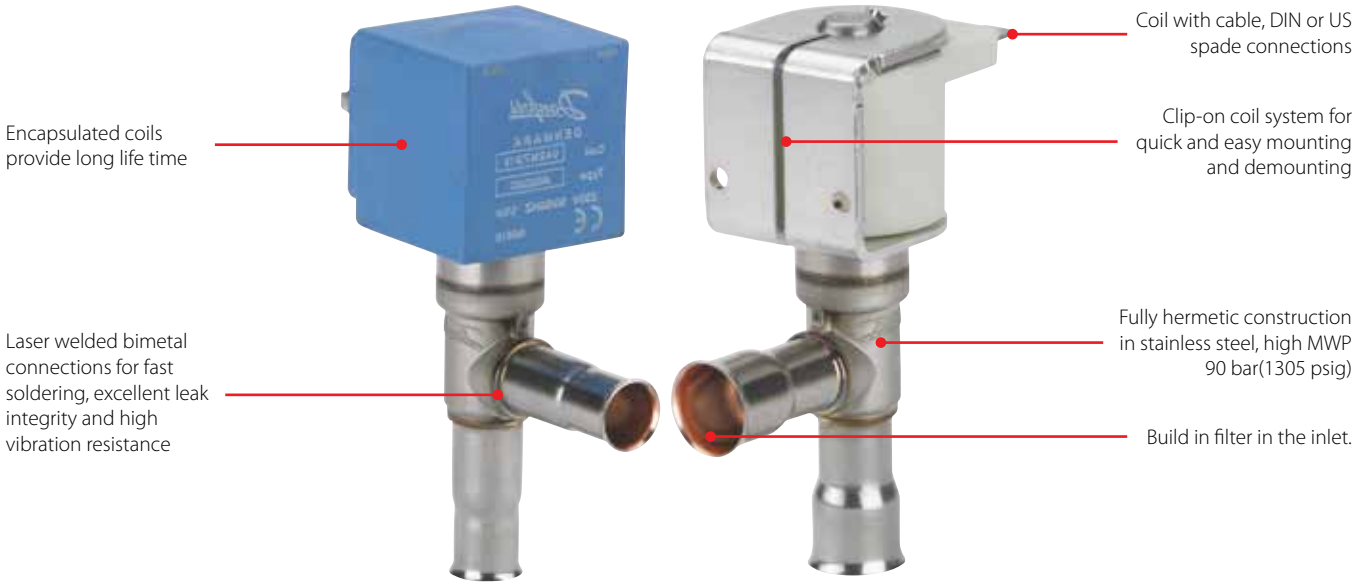
*) Includes flange gaskets and bolts. For ordering flanges; please downlad the data sheet DKRCI.PY.000.B from www.danfoss.com
**) For ordering coils; please download the data sheet DKRCC.PD.BS0.F from www.danfoss.com

EVUL, Solenoid valve

EVUL solenoid valves are designed to fit into compact refrigeration systems.

Available in servo operated versions they can be applied in liquid, suction, and hot gas lines.





Facts

Application:
- Commercial refrigeration systems
- Refrigeration appliances
- Liquid coolers
- Ice cube machines
- Mobile refrigeration systems
- Heat pump systems
- Air conditioning units

- Applicable to R744, R22 / R407C, R404A R507, R410A, R134a, R407A, R23, R290 R407F, R448A, R449A, R450A, and R452A.
- For R290, The EVUL is validated in accordance to ATEX, ISO 5149, IEC 60335, and UL. Ignition risk is evaluated in accordance to ISO 5149 and IEC 60335. *For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.*
- Ambient temperature range: -40 – 105 °C / -40 – 221 °F
- Media temperature: -40 – 105 °C / -40 – 221 °F Max. 130 °C / 266 °F during defrosting
- Max. working pressure (PS / MWP): - 90 bar / 1305 psi
- MOPD up to 38 bar / 550 psi
- 100% test of functionality, internal / external leakage and electrical characteristics

Technical data and ordering

EVUL

Rated capacity [kW] – Liquid

Type	R22/R407C	R134a	R404A/R507	R407A	R410A	R290
EVUL 1	2.01	1.65	1.38	1.85	2.02	2.24
EVUL 2	4.02	3.31	2.76	3.70	4.04	4.48
EVUL 3	6.03	4.96	4.14	5.55	6.06	6.72
EVUL 4	10.05	8.27	6.91	9.25	10.10	11.20
EVUL 5	13.06	10.75	8.98	12.02	13.13	14.55
EVUL 6	15.07	12.40	10.36	13.87	15.15	16.79
EVUL 8	18.09	14.88	12.43	16.65	18.18	20.15

Rated capacity [kW] – Suction vapour

Type	R22/R407C	R134a	R404A/R507	R407A	R410A	R290
EVUL 1	0.16	0.13	0.14	0.16	0.21	0.27
EVUL 2	0.32	0.26	0.29	0.31	0.41	0.54
EVUL 3	0.48	0.38	0.43	0.47	0.62	0.82
EVUL 4	0.79	0.64	0.71	0.78	1.04	1.36
EVUL 5	1.03	0.83	0.93	1.01	1.35	1.77
EVUL 6	1.19	0.96	1.07	1.17	1.56	2.04
EVUL 8	1.43	1.15	1.29	1.40	1.87	2.45

Rated capacity [kW] – Hot gas

Type	R22/R407C	R134a	R404A/R507	R407A	R410A	R290
EVUL 1	0.42	0.32	0.34	0.41	0.49	1.02
EVUL 2	0.85	0.64	0.67	0.82	0.98	2.05
EVUL 3	1.27	0.96	1.01	1.22	1.46	3.07
EVUL 4	2.11	1.60	1.69	2.04	2.44	5.12
EVUL 5	2.75	2.08	2.19	2.65	3.17	6.67
EVUL 6	3.17	2.40	2.53	3.06	3.66	7.78
EVUL 8	3.80	2.88	3.03	3.67	4.39	9.21

Rated liquid and suction vapor capacity is based on:
Evaporating temperature t_e = -10 °C
Liquid temperature ahead of valve t_l = 25 °C
Pressure drop in valve Δp = 0.15 bar

Rated hot gas capacity is based on:
Condensing temperature t_c = 40 °C
Pressure drop across valve Δp = 0.8 bar
Hot gas temperature t_h = 65 °C
Subcooling of refrigerant Δt_{sub} = 4 K

Technical data and ordering

EVUL

Rated capacity [kW] – Liquid

Type	R22/R407C	R134a	R404A / R507	R407A	R410A	R290
EVUL 1	0.58	0.47	0.39	0.53	0.57	0.68
EVUL 2	1.15	0.93	0.79	1.06	1.15	1.37
EVUL 3	1.73	1.40	1.18	1.59	1.72	2.05
EVUL 4	2.88	2.33	1.97	2.65	2.87	3.42
EVUL 5	3.74	3.02	2.57	3.44	3.73	4.44
EVUL 6	4.32	3.49	2.96	3.97	4.31	5.13
EVUL 8	5.18	4.19	3.55	4.77	5.17	6.15

Rated capacity [TR] – Suction vapour

Type	R22/R407C	R134a	R404A / R507	R407A	R410A	R290
EVUL 1	0.05	0.04	0.04	0.05	0.06	0.06
EVUL 2	0.10	0.08	0.09	0.09	0.12	0.12
EVUL 3	0.14	0.12	0.13	0.14	0.19	0.19
EVUL 4	0.24	0.20	0.22	0.24	0.31	0.31
EVUL 5	0.31	0.25	0.28	0.31	0.40	0.40
EVUL 6	0.36	0.29	0.32	0.35	0.47	0.47
EVUL 8	0.43	0.35	0.39	0.42	0.56	0.56

Rated capacity [TR] – Hot gas

Type	R22/R407C	R134a	R404A / R507	R407A	R410A	R290
EVUL 1	0.10	0.07	0.08	0.09	0.11	0.13
EVUL 2	0.19	0.15	0.15	0.18	0.22	0.27
EVUL 3	0.29	0.22	0.23	0.28	0.33	0.40
EVUL 4	0.48	0.37	0.38	0.46	0.54	0.67
EVUL 5	0.62	0.48	0.49	0.60	0.70	0.86
EVUL 6	0.72	0.56	0.57	0.69	0.81	1.00
EVUL 8	0.86	0.67	0.68	0.83	0.98	1.19

Rated liquid and suction capacity are based on:
- evaporating temperature t_e = 40 °F,
- liquid temperature ahead of the valve t_l = 100 °F,
- pressure drop Δp across valve – with liquid:
- Δp = 2 psi for R134a
- Δp = 3 psi for R22, R404A/R507 – with suction vapor: Δp = 1 psi

Rated hot gas capacity is based on:
- condensing temperature t_c = 100 °F,
- hot gas temperature t_h = 140 °F,
- pressure drop across valve Δp = 2 psi

Technical data and ordering

EVUL solder connection, Normally Closed (NC) - separate valve bodies

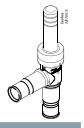


Ordering

Valve type	Connections	Industrial pack		Multi pack	Connections	Industrial pack		Multi pack
	[in.]	Code no.	Pcs.	Code no.	[mm]	Code no.	Pcs.	Code no.
EVUL 1	1/4	032F8200	40	–	6	032F8227	40	–
	1/4	–	–	032F9506	6	–	-	032F9508
EVUL 2	1/4	032F8201	40	032F9510	6	032F8228	40	032F9516
EVUL 3	1/4	032F8202	40	032F9511	6	032F8229	40	032F9517
	3/8	032F8203	40	–	10	032F8230	40	–
EVUL 4	1/4	032F8204	40	032F9512	6	032F8231	40	032F9518
	3/8	032F8205	40	–	10	032F8232	40	–
	1/2	032F8206	40	–	12	032F8233	40	–
EVUL 5	3/8	032F8207	40	032F9513	10	032F8234	40	032F9519
	1/2	032F8208	40	–	12	032F8235	40	–
EVUL 6	3/8	032F8209	40	–	10	032F8236	40	–
	1/2	032F8210	40	032F9514	12	032F8237	40	032F9521
EVUL 8	1/2	032F8211	40	032F9515	12	032F8238	40	032F9522

Single pack = 1 product in a box with installation guide
Multi pack = box with x pieces single pack (can be split)
Industrial pack = x pieces in one box (cannot be split)

EVUL solder connection, Normally Closed (NC)- only works with UL/UR approved coils - separate valve bodies



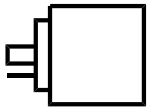
Ordering

Valve type	Connections [in.]	Industrial pack	
		Code no.	Pcs.
EVUL 1	1/4	032F8245	40
EVUL 2	1/4	032F8246	40
EVUL 3	1/4	032F8247	40
	3/8	032F8248	40
EVUL 4	1/4	032F8249	40
	3/8	032F8250	40
	1/2	032F8251	40
EVUL 5	3/8	032F8252	40
	1/2	032F8253	40
EVUL 6	3/8	032F8254	40
	1/2	032F8255	40
EVUL 8	1/2	032F8256	40

Single pack = 1 product in a box with installation guide
Multi pack = box with x pieces single pack (can be split)
Industrial pack = x pieces in one box (cannot be split)

Technical data and ordering

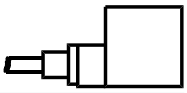
EVUL Coil



Alternating current AC - with DIN plug 1) - IP65

Type	Ambient Temp. [°C]	Supply voltage [V]	Voltage variation [%]	Frequency [Hz]	Power consumption		Industrial pack		Multi pack
					[W]	[VA]	Code no.	Pcs.	Code no.
AS024CS	-40 – 50	24	-15 – 10	50	9.5	18	–	-	042N7608
		24	-15 – 10	60	7.0	14			
AS230CS	-40 – 50	230	-15 – 10	50	8.0	16	–	-	042N7601
		208 – 240	-15 – 10	60	7.0	14			
AS240CS	-40 – 50	240	-15 – 10	50	6.5	13	–	-	042N7602
		240	-15 – 10	60	5.0	10			

[1]) The three pins on the coil can be fitted with spade tabs, 6.3 mm wide (to DIN 46247). The two current carrying pins can also be fitted with spade tabs, 4.8. mm wide. Max. lead cross section: 1.5 mm². If DIN plug is used (DIN 43650) the leads must be connected in the socket. The socket is fitted with a Pg 11 screwed entry for 6 – 12 mm.



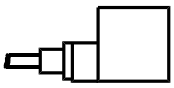
Alternating current AC with 1 m cable - IP67

Type	Ambient Temp. [°C]	Supply voltage [V]	Voltage variation [%]	Frequency [Hz]	Power consumption		Industrial pack		Multi pack
					[W]	[VA]	Code no.	Pcs.	Code no.
AU115CS	-40 – 50	115	-15 – 10	50	7.0	14	–	-	042N7662
		115	-15 – 10	60	5.0	10			
AU230CS	-40 – 50	230	-15 – 10	50	7.0	14	042N8651	20	042N7651
		230	-15 – 10	60	5.0	10			
AU240CS	-40 – 50	240	-15 – 10	50	6.5	13	042N8652	20	–
		240	-15 – 10	60	5.0	10			

Single pack = 1 product in a box with installation guide
Multi pack = box with x pieces single pack (can be split)
Industrial pack = x pieces in one box (cannot be split)

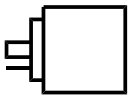
Technical data and ordering

EVUL Coil



Direct current DC with 1 m cable IP67

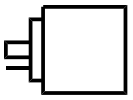
Type	Ambient Temp. [°C]	Supply voltage [V]	Voltage variation [%]	Frequency [Hz]	Power consumption		Industrial pack		Multi pack
					[W]	[VA]	Code no.	Pcs.	Code no.
AU012DS	-40 – 50	12	±10	DC	12	–	042N8696	20	042N7696
AU024DS	-40 – 50	24	±10	DC	14	–	042N8697	20	042N7697



Direct current DC with DIN spade IP00

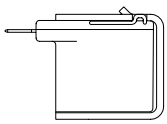
Type	Ambient Temp. [°C]	Supply voltage [V]	Voltage variation [%]	Frequency [Hz]	Power consumption		Industrial pack		Multi pack
					[W]	[VA]	Code no.	Pcs.	Code no.
AS012DS	-40 – 60	12	±10	DC	14	–	042N8686	40	–
AS024D	-40 – 50	24	±10	DC	14	–	042N8687	40	042N7687

DC coils with 0.25 in. US spade can be supplied on request.



Alternating current AC with DIN spade (UL recognized version) IP00

Type	Ambient Temp. [°C]	Supply voltage [V]	Voltage variation [%]	Frequency [Hz]	Power consumption		Industrial pack		Multi pack
					[W]	[VA]	Code no.	Pcs.	Code no.
AZ240CS	-40 – 50	230	-15 – 10	50	8.0	16	042N8201	40	042N4201
		208 – 240	-15 – 10	60	7.0	14			
AZ120CS	-40 – 50	115	-15 – 10	50	8.5	16	042N8202	40	042N4202
		110 – 120	-15 – 10	60	7.0	14			
AZ024CS	-40 – 50	24	-15 – 10	50	9.5	18	042N8203	40	042N4203
		24	-15 – 10	60	7.0	14			



Alternating current AC with US spade IP00

Type	Ambient Temp. [°C]	Supply voltage [V]	Voltage variation [%]	Frequency [Hz]	Power consumption		Industrial pack		Multi pack
					[W]	[VA]	Code no.	Pcs.	Code no.
AY240C	-40 – 50	208 – 240	-15 – 10	50	8.0	16	042N8230	40	042N4230
		208 – 240	-15 – 10	60	8.0	16			
AY120C	-40 – 50	110 – 120	-15 – 10	50	8.0	16	042N8233	40	042N4233
		110 – 120	-15 – 10	60	8.0	16			
AY024C	-40 – 50	24	-15 – 10	50	8.0	16	042N8236	40	–
		24	-15 – 10	60	8.0	16			

Single pack = 1 product in a box with installation guide
Multi pack = box with x pieces single pack (can be split)
Industrial pack = x pieces in one box (cannot be split)



Accessories

Description	Multi pack	
	Code no.	Pcs.
DIN plug	042N0156	100
O-ring for sealing the coil. Industrial pack (50 pcs.) NB: Valve body suppplied with O-ring	032F6115	125

Solenoid coils

The coils are specially designed to operate in the aggressive environment of high humidity and temperature fluctuations that you find in most refrigeration systems.

The Clip-on fastening system ensures a faultless installation and makes the coils easy to mount and dismount. A Danfoss Clip-on coil can be mounted without any tools at all, and it is simple to dismount the coil by means of a screwdriver.

The Clip-on coils are available for the entire range of Danfoss solenoid valves for refrigeration, freezing and air conditioning purposes.





Clip-on system for easy and fast mounting and demounting

Many voltage and frequency combinations for flexible installation worldwide

Many power versions for high MOPD performance on different valve types

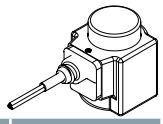
Terminal box, DIN plug or cable for flexible electrical installation

Facts

- Encapsulated coils with long operating life, even under extreme conditions
- Standard coils for AC or DC
- Standard coils available with 3-core cable, terminal box or DIN plugs
- Standard coils from 12 V to 420 V, 50, 60 or 50 / 60 Hz
- Coil version for max. opening differential pressure (MOPD) of up to 38 bar.
- Coils can be fitted without the use of tools.
- ATEX approved coil version for use in EX zone 2

Technical data and ordering

BF solenoid coil with 1m 3-core cable IP67



Ordering

Type	Valve type	Tambient [°C]	Supply voltage [V]	Voltage variation [%]	Frequency [Hz]	Power consumption		Code no.
						[W]	[VA]	
BF024AS	EVR 2 – EVR 40 (NC) EVR 6 – EVR 22 (NO) EVRH 10 – EVR 40 EVRC EVRA EVRAT EVRS / EVRST EVM (NC)	-40T80	24	-15, +10	50	12	20	018F6257
BF230AS		-40T80	230	-15, +10	50	12	22	018F6251
BF230AS		-40T80	220	-15, +10	50	11	20	018F6251
BF240AS		-40T80	240	-15, +10	50	11	19	018F6252
BF400AS		-40T80	380 / 400	±10	50	10	21	018F6253
BF024BS		-40T80	24	-15, +10	60	14	25	018F6265
BF115CS		-40T80	115	-15, +10	60	13	22	018F6260
BF115CS		-40T80	100	-15, +10	50	11	19	018F6260
BF220BS		-40T80	220	-15, +10	60	14	23	018F6264
BF110CS		-40T50	110	±10	50	15	29	018F6280
BF110CS		-40T50	110	±10	60	13	23	018F6280
BF230CS		-40T50	220 – 230	±10	50	16	31	018F6282
BF230CS		-40T50	220 - 230	±10	60	14	24	018F6282

BE solenoid coil with terminal box IP67

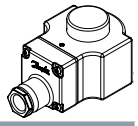


Ordering

Type	Valve type	Tambient [°C]	Supply voltage [V]	Voltage variation [%]	Frequency [Hz]	Power consumption		Code no.
						[W]	[VA]	
BE012AS	EVR 2 – EVR 40 (NC) EVR 6 – EVR 22 (NO) EVRH 10 – EVRH 40 EVRC EVRA EVRAT EVRS / EVRST EVM (NC)	-40T80	12	-15, +10	50	10	18	018F6706
BE024AS		-40T80	24	-15, +10	50	12	21	018F6707
BE042AS		-40T80	42	-15, +10	50	10	21	018F6708
BE048AS		-40T80	48	-15, +10	50	10	21	018F6709
BE115AS		-40T80	115	-15, +10	50	11	19	018F6711
BE230AS		-40T80	230	-15, +10	50	12	22	018F6701
BE230AS		-40T80	220	-15, +10	50	11	19	018F6701
BE240AS		-40T80	240	-15, +10	50	11	19	018F6702
BE440CS		-40T80	380 – 400	-15, +10	50	13	23	018F6703
BE440CS		-40T80	440	-15, +10	60	14	24	018F6703
BE440AS		-40T80	420	-15, +10	50	11	21	018F6704
BE024BS		-40T80	24	-15, +10	60	14	25	018F6715
BE115CS		-40T80	100	-15, +10	50	11	19	018F6710
BE115CS		-40T80	115	-15, +10	60	13	22	018F6710
BE220BS		-40T80	220	-15, +10	60	13	23	018F6714
BE240CS		-40T80	200	-15, +10	50	11	20	018F6713
BE240CS		-40T80	240	-15, +10	60	15	25	018F6713
BE110CS		-40T50	110	±10	50	15	28	018F6730
BE110CS		-40T50	110	±10	60	13	22	018F6730
BE230CS		-40T50	220 - 230	±10	50	17	31	018F6732
BE230CS		-40T50	220 - 230	±10	60	14	24	018F6732

See „Opening differential pressure" under „Technical data" for the valve concerned.
When replacing a coil with terminal box, it is sufficient to change the coil unit itself. Therefore, order coil with DIN plugs and protective cap.

Technical data and ordering

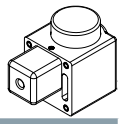


BG solenoid coil with terminal box IP67

Ordering

Type	Valve type	Tambient [°C]	Supply voltage [V]	Voltage variation [%]	Frequency [Hz]	Power consumption		Code no.
						[W]	[VA]	
BG024AS	EVR 3 – EVR 40 EVRC EVRA EVRAT EVRS/EVRST EVM (NC/NO)	-40T80	24	-15, +10	50	11	21	018F6807
BG048AS		-40T80	48	-15, +10	50	12	26	018F6809
BG110AS		-40T80	110	-15, +10	50	13	25	018F6811
BG230AS		-40T80	230	-15, +10	50	15	28	018F6801
BG230AS		-40T80	220	-15, +10	50	13	25	018F6801
BG240AS		-40T80	240	-15, +10	50	13	25	018F6802
BG400AS		-40T80	380 / 400	-15, +10	50	12	26	018F6803
BG024BS		-40T80	24	-15, +10	60	12	26	018F6815
BG110BS		-40T80	110	-15, +10	60	16	29	018F6813
BG220BS		-40T80	220	-15, +10	60	16	29	018F6814
BG012DS	EVR 2 – EVR 15 (NC) EVR 25 – EVR 40 (NC/NO) EVR 6 – EVR 15 (NO) EVRC 10 – EVRC 15 EVRA 3 – EVRA 15 (NC) EVRA 25 – EVRA 40 (NC) EVRAT 10 – EVRAT 15 (NC) EVRS/EVRST 3 – EVRS/EVRST 15 EVM (NC/NO)	-40T50	12	±10	DC	20	–	018F6856
BG024DS		-40T50	24	±10	DC	16	–	018F6857
BG048DS		-40T50	48	±10	DC	20	–	018F6859
BG110DS		-40T50	110	±10	DC	16	–	018F6860
BG115DS		-40T50	115	±10	DC	19	–	018F6861
BG220DS		-40T50	220	±10	DC	20	–	018F6851
BG012DS	EVR 20 to 22 (NC/NO) EVRC 20 EVRA 20 EVRAT 20 EVRST 20	-40T50	12	±10	DC	20	–	018F6886
BG024DS		-40T50	24	±10	DC	20	–	018F6887
BG048DS		-40T50	48	±10	DC	20	–	018F6889
BG110DS		-40T50	110	±10	DC	20	–	018F6890
BG220DS		-40T50	220	±10	DC	20	–	018F6881

See „Opening differential pressure" under „Technical data" for the valve concerned.
When replacing a coil with terminal box, it is sufficient to change the coil unit itself. Therefore, order coil with DIN plugs and protective cap.



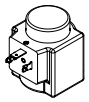
BE solenoid coil with DIN spade and protection cap IP20

Ordering

Type	Valve type	Tambient [°C]	Supply voltage [V]	Voltage variation [%]	Frequency [Hz]	Power consumption		Code no.
						[W]	[VA]	
BE024AS	EVR 2 – EVR 40 (NC) EVR 6 – EVR 22 (NO) EVRH 10 – EVRH 40 EVRC EVRA EVRAT EVRS/EVRST EVM (NC)	-40T80	24	-15, +10	50	12	21	018F6182
BE230AS		-40T80	230	-15, +10	50	12	22	018F6176
BE230AS		-40T80	220	-15, +10	50	11	19	018F6176
BE240AS		-40T80	240	-15, +10	50	11	19	018F6177
BE420AS		-40T80	420	-15, +10	50	10	21	018F6179
BE115CS		-40T80	100	-15, +10	50	11	19	018F6185
BE115CS		-40T80	115	-15, +10	60	13	22	018F6185
BE220BS		-40T80	220	-15, +10	50	13	23	018F6189
BE110CS		-40T50	110	±10	50	15	28	018F6192
BE110CS		-40T50	110	±10	60	13	22	018F6192
BE230CS		-40T50	220-230	±10	50	17	31	018F6193
BE230CS		-40T50	220-230	±10	60	14	24	018F6193

Technical data and ordering

BB solenoid coil with DIN spade *)

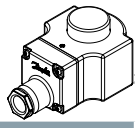


Ordering

Type	Valve type	Tambient [°C]	Supply voltage [V]	Voltage variation [%]	Frequency [Hz]	Power consumption		Code no.
						[W]	[VA]	
BB024AS	EVR 2 – EVR 40 (NC) EVR 6 – EVR 22 (NO) EVRH 10 – EVRH 40 EVRC EVRA EVRAT EVRS/EVRST EVM (NC)	-40T80	24	-15, +10	50	11	19	018F7358
BB115AS		-40T80	115	-15, +10	50	11	19	018F7361
BB230AS		-40T80	220 - 230	-15, +10	50	11	19	018F7351
BB240AS		-40T80	240	-15, +10	50	11	19	018F7352
BB024BS		-40T80	24	-15, +10	60	14	23	018F7365
BB110CS		-40T50	110	±10	50	15	28	018F7360
BB110CS		-40T50	110	±10	60	13	22	018F7360
BB230CS		-40T50	220 - 230	±10	50	16	31	018F7363
BB230CS		-40T50	220 - 230	±10	60	13	24	018F7363

See „Opening differential pressure" under „Technical data" for the valve concerned.
When replacing a coil with terminal box, it is sufficient to change the coil unit itself. Therefore, order coil with DIN plugs and protective cap.
**) Can only be used with DIN plug.*

BN special solenoid coil with terminal box IP67

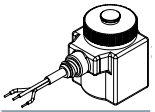


Ordering

Type	Valve type	Tambient [°C]	Supply voltage [V]	Voltage variation [%]	Frequency [Hz]	Power consumption		Code no.
						[W]	[VA]	
BN024AS	EVR 2 – EVR 40 (NC) EVR 6 – EVR 22 (NO) EVRH 4 – EVRH 40 EVRC/EVRA/EVRAT/ EVRS/EVRST/EVM (NC)	-40T50	24	-15, +10	50	24	49	018F6903 [1])
BN024BS		-40T50	24	-15, +10	60	22	42	018F6906 [1])
BN230AS		-40T50	230	-15, +10	50	19	43	018F6905 [1])

[1]) *Recommended use for EVRH with high MOPD (38 bar).*

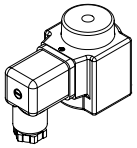
BV solenoid coils with ATEX (Zone 2) approval IP65



Ordering

Coil type	Coil for valve type	Power consumption	Frequency [Hz]	Voltage [V] AC	Code no.
					With 1 m cable
BV	EVR 2 – EVR 40 (NC) EVR 6 – EVR 22 (NO) EVRC EVRA / EVRAT EVRS / EVRST EVM (NC / NO)	Holding: 11 W 21 VA Inrush: 44 VA	50	24	018Z6120
			50	110	018Z6121
			50	230	018Z6122
			50	240	018Z6123
			60	24	018Z6125
			60	230	018Z6127

Coil with DIN plug



Ordering

Terminal box	With built-in light emitting indicator diode for solenoid valves (only for AC)	018Z0089
DIN plug	Enclosure IP65, EN 175301-803A	042N0156

Technical data and ordering



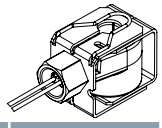
BJ coils - Junction box NEMA 2 ~ (UL listed) IP12 – IP32

Ordering

Coil type	Valve type	Power consumption [W]	Frequency [Hz]	Voltage [V] AC	Wire length		Code no.
					[in]	[cm]	
BJ	AKV / EVR EVRH / EVRA EVRAT / EVRS EVRST / EVM EV220B 6-50 EV210B EV215B EV225B EV250B	14	50 / 60	24	7	18	018F4100
		16 15	50 / 60 60	110 120	7	18	018F4110
		14 17	60 50	208 – 240 230	7	18	018F4120
	AKVH / EVRH	16	60	120	7	18	018F4130
		16	60	208	7	18	018F4132
		16	60	240	7	18	018F4134

Permissible voltage variation
Alternating current (AC):
50 Hz and 60 Hz: -10% – 15%
50/60 Hz: +/- 10%

Insulation of coil wire
Class H according to IEC 85
Enclosure. IEC 60529
Ambient temperature:
-40 – 50 °C / -40 – 122 °F



BX coils - Conduit boss NEMA 4 ~ (UL listed) IP54

Ordering

Coil type	Valve type	Power consumption [W]	Frequency [Hz]	Voltage [V] AC	Wire length		Code no.
					[in]	[cm]	
BX	AKV / EVR EVRH / EVRA EVRAT / EVRS EVRST / EVM EV220B 6-50 EV210B EV215B EV225B EV250B	14	50 / 60	24	18	46	018F4102
		14	50 / 60	24	71	180	018F4103
		14	50 / 60	24	98	250	018F4104
		16 15	50 / 60 60	110 120	18	46	018F4112
					36	91	018F4113
					71	180	018F4114
					98	250	018F4115
		14 17	60 50	208 – 240 230	18	46	018F4122
					98	250	018F4123
	AKVH / EVRH	16	60	120	98	250	018F4131
		16	60	208	98	250	018F4133
		16	60	240	98	250	018F4135

Permissible voltage variation
Alternating current (AC):
50 Hz and 60 Hz: -10% – 15%
50/60 Hz: +/- 10%

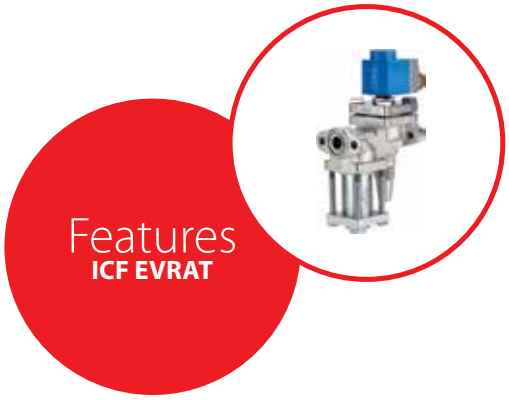
Insulation of coil wire
Class H according to IEC 85
Enclosure. IEC 60529
Ambient temperature:
-40 – 50 °C / -40 – 122 °F

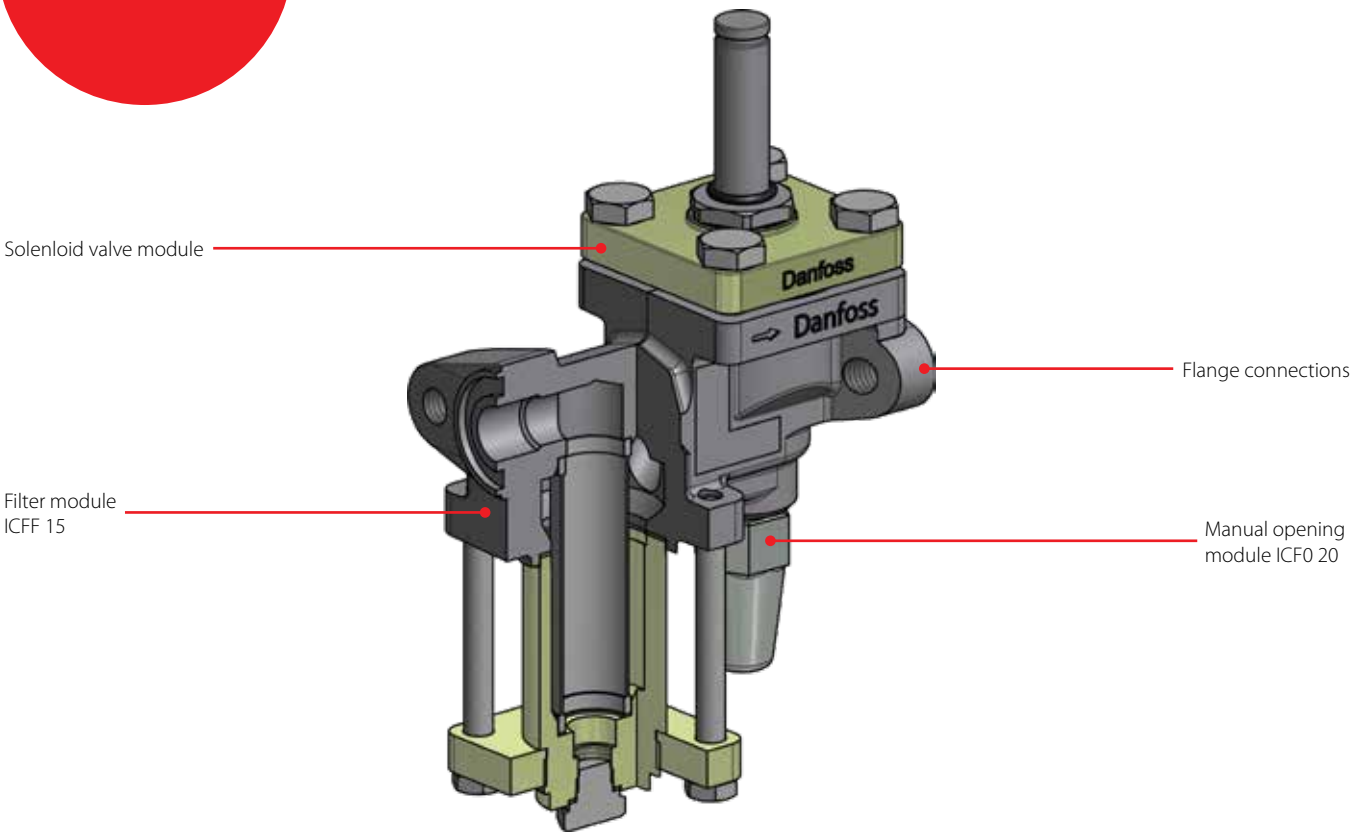
Quick Selection Notes:

ICF EVRAT - FA + solenoid valve

Based on advanced technology the ICF EVRAT retrofit valve incorporates three functions in one housing, which can replace the widely used direct coupled FA + EVRAT, as a drop-in solution.

The two function modules - solenoid valve and manual opener are identical to the function modules in the ICF 20 valve station concept thus facilitating logistics and service.

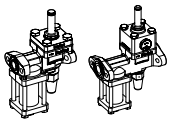




Facts

- Applicable to R717, R744, R401A, R402A, R404A, R407A, R407B, R407C, R407F, R409A, R410A, R421A, R502, R507, R134a and R22
  The use of ICF EVRAT with flammable hydrocarbons is not recommended.
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- Designed for industrial refrigeration applications for a maximum working pressure of 42 bar / 610 psig
- Low temperature steel housing
- Low weight and compact design
- The solenoid valve ICFE 20 is designed to open - and stay open at a pressure drop of 0 bar thus suitable for lines with low pressure drop
- UL approved

Technical data and ordering



ICF EVRAT

Technical data

Temperature range	-40 – 105 °C / -40 – 221 °F
Presssure range	The ICF EVRAT is designed for a max. working pressure of 42 bar g / 610 psig
Ambient temperature	-30 °C – 50 °C / -22 °F – 122 °F
Surface protection	The external surface is zinc-TLP treated to provide corrosion protection according to EN ISO 2081:2009 Additional on-site corrosion protection is recommended

Ordering

ICF EVRAT valves are intended as drop-in replacement valves.
To identify the correct code number simply select the same size as the replaced valve.

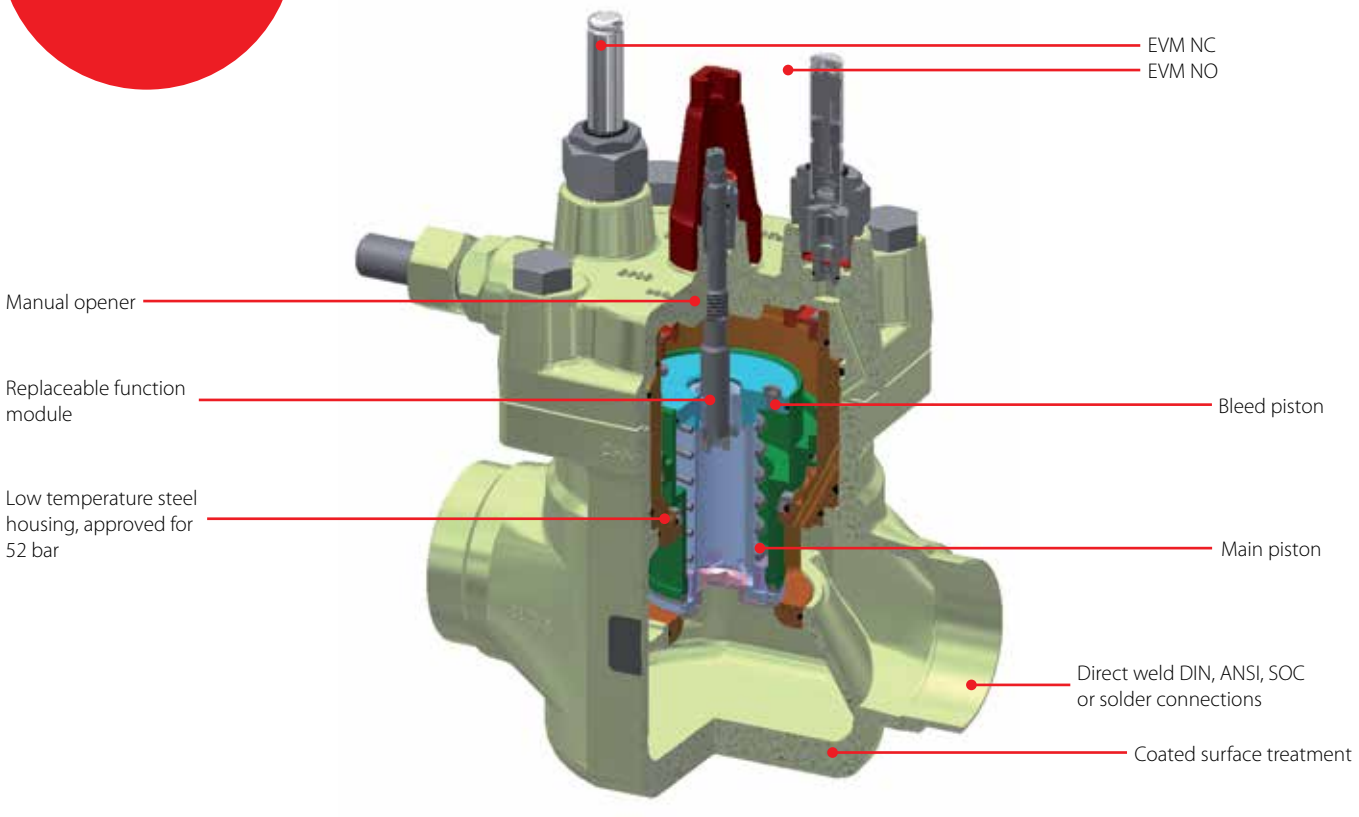
Type	Solenoid	K_v value [m³/h]	C_v value [US gal/min]	Code no.
ICF 15 EVRAT	ICFE 20	2.4	2.8	027L4517
ICF 20 EVRAT	ICFE 20	3.0	3.5	027L4518
ICF 20 EVRAT	ICFE 20H	3.7	4.3	027L4519

ICLX, 2-step solenoid valve

ICLX 2-step solenoid valves are used in suction lines for opening against a high differential pressure, e.g. after hot gas defrost in large industrial refrigeration systems. ICLX can be used in chemical and petro-chemical applications.
ICLX servo valves belong to the ICV (Industrial Control Valve) family.
The ICLX valve is factory configured to open in 2 steps.
By following a simple procedure the valve can be configured to open in 1 step only.

In 2-step configuration, step 1 opens to approx. 10% of the capacity after the pilot solenoid valves are energised.
Step 2 opens automatically when the pressure differential across the valve has decreased to approx. 1.25 bar / 18 psig.
The ICLX servo valve is based on five main components:
Valve body, top cover, function module and 2 pilot solenoid valves.
The top cover and function module are factory-assembled.





Facts

- Designed for industrial refrigeration applications for a maximum working pressure of 52 bar / 754 psig
- Modular concept
  - Each valve body is available with several different connection types and sizes
  - Valve overhaul is performed by replacing the function module
  - Possible to convert ICLX servo to ICM motor valve
- Low weight and compact design
- Low temperature steel body
- Direct coupled connections
- Connection types include butt weld, socket weld, solder and threaded connections
- Easy change from 2 to 1 step opening
- Manual operating spindle
- Only one signal needed to control both EVM NC and EVM NO coils
- Applicable to R717, R744, R401A, R402A, R404A, R407A, R407B, R407C, R407F, R409A, R410A, R421A, R502, R507, R134a and R22. Use with flammable hydrocarbons is not recommended.
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- Temperature range:
  -60 – 120 °C / -76 – 248 °F
- Surface protection
  - The external surface is zinc-plated to provide good corrosion protection

The ICLX concept

The ICLX concept has been developed on a modular principle. This makes it possible to combine function modules and top covers with valve bodies, which are available in many different sizes and with a variety of connection options.

The valve body

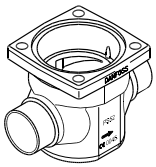
There are seven valve bodies available.



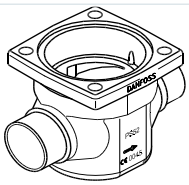
ICV 32



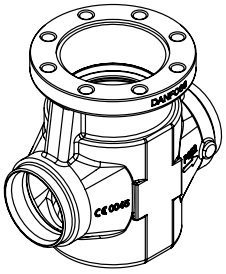
ICV 40



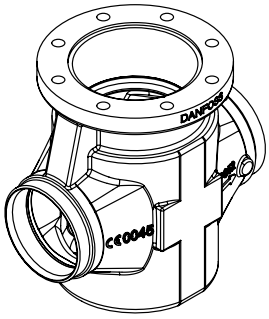
ICV 50



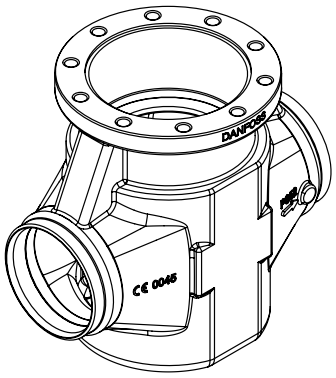
ICV 65



ICV 100



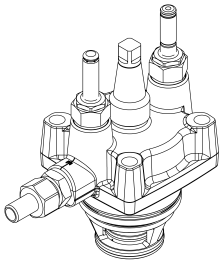
ICV 125



ICV 150

Top / function module

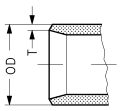
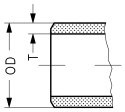
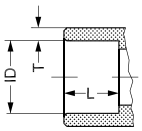
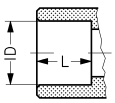
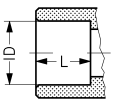
Top covers are fitted with external connector, EVM NC and EVM NO pilots and a complete function module.



Coils

Both coils to be IP67.
EVM NC: 10 W AC (or higher) for MOPD up to 21 bar - EVM NC: 20W AC for MOPD 21– 40 bar.
EVM NO: 10 W AC (or higher).

Valve bodies in the sizes ICV 32–ICV 65 are available with a range of nominal through oversized connection sizes and types.
ICV 100-ICV 150 are available in butt-weld DIN and butt-weld ANSI nominal sizes.

D	A	SOC	SD	SA
				
Butt-weld DIN	Butt-weld ANSI	Socket weld ANSI	Solder DIN	Solder ANSI

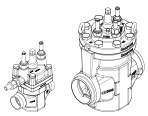
Capacities

	ICLX 32	ICLX 40	ICLX 50	ICLX 65	ICLX 100	ICLX 125	ICLX 150
K_v value [m³/h]	22	29	47	82	151	225	390
C_v value [US gal/min]	25.5	33.6	54.5	95	175	261	452

Ordering

ICLX

Ordering factory assembled valve including external connector, EVM NC and EVM NO pilot

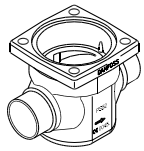


Type	Available connections		Connection type	Connection designation	Code no.
	[in]	[mm]			
ICLX 32	1 ¼	32	Butt weld, EN 10220	D	027H3040
	1 ¼	32	Butt weld, ANSI (B 36.10)	A	027H3041
	1 ¼	32	Socket weld, ANSI (B 16.11)	SOC	027H3042
ICLX 40	1 ½	40	Butt weld, EN 10220	D	027H4040
	1 ½	40	Butt weld, ANSI (B 36.10)	A	027H4041
	1 ½	40	Socket weld, ANSI (B 16.11)	SOC	027H4042
ICLX 50	2	50	Butt weld, EN 10220	D	027H5040
	2	50	Butt weld, ANSI (B 36.10)	A	027H5041
	2	50	Socket weld, ANSI (B 16.11)	SOC	027H5042
ICLX 65	2 ½	65	Butt weld, EN 10220	D	027H6040
	2 ½	65	Butt weld, ANSI (B 36.10)	A	027H6041
	2 ½	65	Socket weld, ANSI (B 16.11)	SOC	027H6042
ICLX 80	3	80	Butt weld, EN 10220	D	027H8040
	3	80	Butt weld, ANSI (B 36.10)	A	027H8042
ICLX 100	4	100	Butt weld, EN 10220	D	027H7147
	4	100	Butt weld, ANSI (B 36.10)	A	027H7148
ICLX 125	5	125	Butt weld, EN 10220	D	027H7157
	5	125	Butt weld, ANSI (B 36.10)	A	027H7158
ICLX 150	6	150	Butt weld, EN 10220	D	027H7167
	6	150	Butt weld, ANSI (B 36.10)	A	027H7168

Ordering

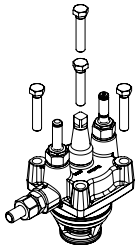
Ordering from the parts programme (valve body + top / function module)

Example:



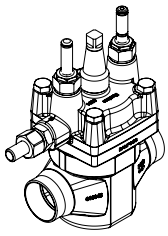
Valve body 50 D (2 in)
027H5120
Table I

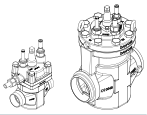
+



Top / function module
ICLX 50
027H5204
Table II

=





ICLX 32

ICV 32 Valve body

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
ICV 32	1 1/4	32	Butt weld, EN 10220	D	027H3120
	1 1/4	32	Butt weld, ANSI (B 36.10)	A	027H3121
	1 1/4	32	Socket weld, ANSI (B 16.11)	SOC	027H3122
	1 3/8	35	Solder connection, DIN (2856)	SD	027H3123
	1 1/2	40	Butt weld, EN 10220	D	027H3125
	1 1/2	40	Butt weld, ANSI (B 36.10)	A	027H3126
	1 5/8	42	Solder connection, ANSI (B 16.22)	SA	027H3127
	1 5/8	42	Solder connection, DIN (2856)	SD	027H3128

ICLX 32 top / function module [1])

Type		Code no.
ICLX 32		027H3204

ICLX 40

ICV 40 Valve body

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
ICV 40	1 1/2	40	Butt weld, EN 10220	D	027H4120
	1 1/2	40	Butt weld, ANSI (B 36.10)	A	027H4121
	1 1/2	40	Socket weld, ANSI (B 16.11)	SOC	027H4122
	1 5/8	42	Solder connection, ANSI (B 16.22)	SA	027H4124
	1 5/8	42	Solder connection, DIN (2856)	SD	027H4123
	2	50	Solder connection, DIN (2856)	D	027H4126
	2	50	Butt weld, ANSI (B 36.10)	A	027H4127

ICLX 40 top/function module [1])

Type		Code no.
ICLX 40		027H4204

ICLX 50

ICV 50 Valve body

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
ICV 50	2	50	Butt weld, EN 10220	D	027H5120
	2	50	Butt weld, ANSI (B 36.10)	A	027H5121
	2	50	Socket weld, ANSI (B 16.11)	SOC	027H5122
	2 1/8	54	Solder connection, DIN (2856)	SD	027H5123
	2 1/2	65	Butt weld, EN 10220	D	027H5124
	2 1/2	65	Butt weld, ANSI (B 36.10)	A	027H5125

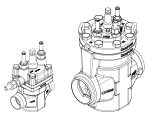
ICLX 50 top / function module [1])

Type		Code no.
ICLX 50		027H5204

[1]) Top / function module includes external connector, EVM N C and EVM N O pilots, gaskets and O-rings.

Ordering

ICLX 65



ICV 65 Valve body

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
ICV 65	2 1/2	65	Butt weld, EN 10220	D	027H6120
	2 1/2	65	Butt weld, ANSI (B 36.10)	A	027H6121
	2 1/2	65	Socket weld, ANSI (B 16.11)	SOC	027H6123
	2 5/8	67	Solder connection, ANSI (B 16.22)	SA	027H6125
	3	76	Solder connection, DIN (2856)	SD	027H6124
	3	80	Butt weld, EN 10220	D	027H6126
	3	80	Butt weld, ANSI (B 36.10)	A	027H6127

ICLX 65 top / function module [1])

Type		Code no.
ICLX 65		027H6204

[1]) Top / function module includes external connector, EVM N C and EVM N O pilots, gaskets and O-rings.

Quick Selection Notes:

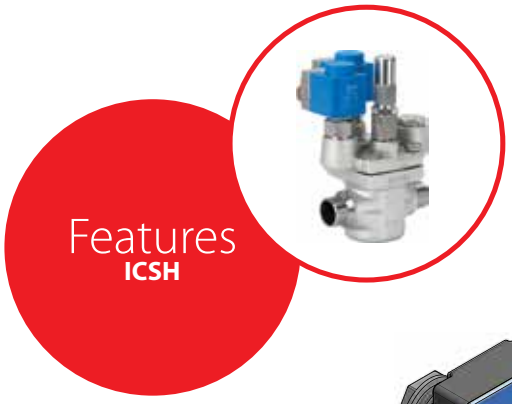
ICSH, Dual position solenoid valve

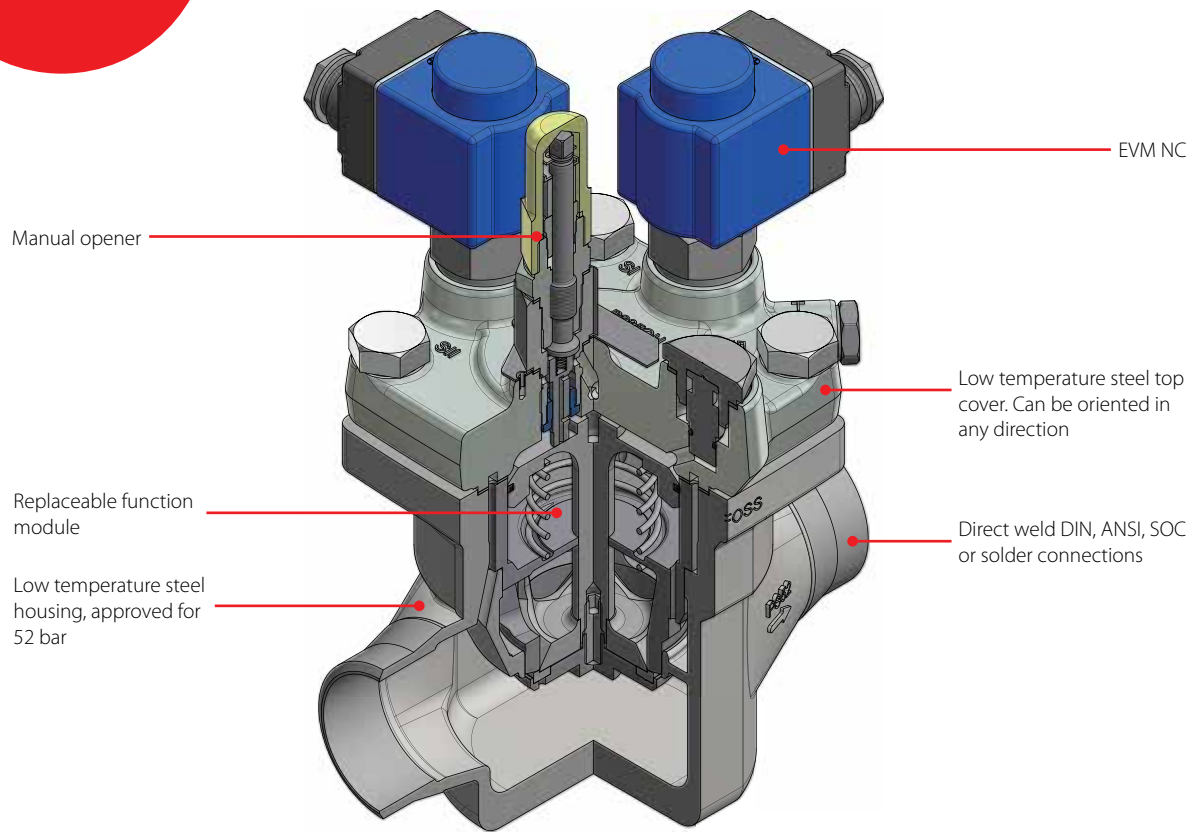
ICSH dual position solenoid valve belongs to the ICV family and consists of an ICV housing, an ICS insert together with an ICSH top cover with 2 EVM normally closed solenoid pilots installed in the top cover.

ICSH is used in hot gas lines for the opening of hot gas defrost flow to the evaporator in 2 steps. Both steps are activated by a controller or a PLC energizing the magnetic coils in a time delay sequence.

Step 1 (approx. 20% of full flow) is to allow a smooth pressure build-up in the evaporator, while the subsequent step 2 opens the flow to 100% to get the full defrost capacity.

The ICSH is designed for large industrial refrigeration systems with ammonia, fluorinated refrigerants or CO_2.





Facts

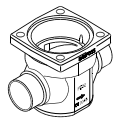
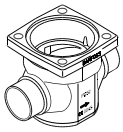
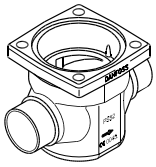
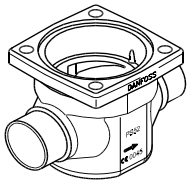
- Designed for Industrial Refrigeration applications for a maximum working pressure of 52 bar g / 754 psig
- Applicable to R717, R744, R134a, R22, R401A, R402A, R404A, R407A, R407B, R407C, R407F, R409A, R410A, R421A, R502 and R507.
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- Direct welded connections
- Connection types include butt weld, socket weld and solder connections
- Low temperature steel body
- Low weight and compact design
- 2-wire connection for use with a timer relay or 4 wire connection for connecting to a controller or a PLC
- The ICSH main valve top cover can be oriented in any direction without the function of pilot valves being affected
- Stabilizes working conditions and eliminates pressure pulsations during opening of hot gas
- Manual opening possible
- PTFE seat provides excellent valve tightness
- Service friendly design

The ICSH concept

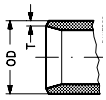
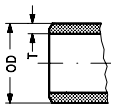
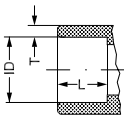
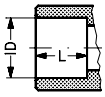
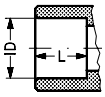
The ICSH concept is developed to highest flexibility of direct welded connections. For valve sizes ICV 25 – ICV 65 a wide range of connection sizes and types is available. The direct welded (non-flanged) connections secure low risk of leakage.

The valve body

There are five valve bodies available.

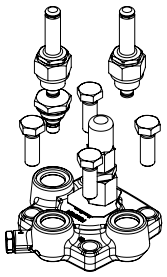
				
ICV 25	ICV 32	ICV 40	ICV 50	ICV 65

Valve bodies in the sizes ICV 25 – ICV 65 are available with a range of undersizes through oversized connection sizes and types.

D	A	SOC	SD	SA
				
Butt-weld DIN	Butt-weld ANSI	Socket weld ANSI	Solder DIN	Solder ANSI

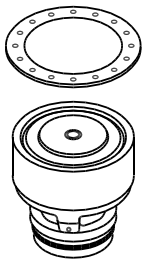
The top cover

Including bolts, one blanking plug and 2 EVM NC



The function module

The ICS funtion module is also used for ISCH. Multiple function modules are available to give different capacities.



Type	Valve body size	K_v value [m³/h]
ICS 25 – 5	25	1.7
ICS 25 – 10	25	3.5
ICS 25 – 15	25	6.0
ICS 25 – 20	25	8
ICS 25 – 25	25	11.5
ICS 32	32	17
ICS 40	40	27
ICS 50	50	44
ICS 65	65	70
ICS 80	80	85

Ordering



ICSH

Ordering factory assembled valve including 2 EVM NC pilot valves and 1 blanking plug

Type	Available connections		Connection type	Connection designation	Code no.
	[in]	[mm]			
ICSH 25	1	25	Butt weld, EN 10220	D	027H2309
	1	25	Butt weld, ANSI (B 36.10)	A	027H2308
	1	25	Socket weld, ANSI (B 16.11)	SOC	027H2307
ICSH 32	1 ¼	32	Butt weld, EN 10220	D	027H3309
	1 ¼	32	Butt weld, ANSI (B 36.10)	A	027H3378
	1 ¼	32	Socket weld, ANSI (B 16.11)	SOC	027H3377
ICSH 40	1 ½	40	Butt weld, EN 10220	D	027H4309
	1 ½	40	Butt weld, ANSI (B 36.10)	A	027H4308
	1 ½	40	Socket weld, ANSI (B 16.11)	SOC	027H4307
ICSH 50	2	50	Butt weld, EN 10220	D	027H5309
	2	50	Butt weld, ANSI (B 36.10)	A	027H5308
	2	50	Socket weld, ANSI (B 16.11)	SOC	027H5307
ICSH 65	2 ½	65	Butt weld, EN 10220	D	027H6309
	2 ½	65	Butt weld, ANSI (B 36.10)	A	027H6311
	2 ½	65	Socket weld, ANSI (B 16.11)	SOC	027H6308
ICSH 80	3	80	Butt weld, EN 10220	D	027H7302
	3	80	Butt weld, ANSI (B 36.10)	A	027H7303

Ordering

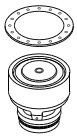
Ordering from the parts programme (valve body + function module + top cover)

Example:



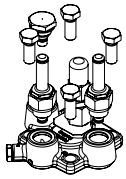
Valve body 32 D (1¼ in.)
027H3120

+



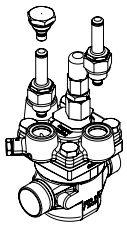
Function module ICS 32
027H3200

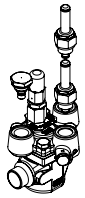
+



Top cover ICSH
027H0164

=





ICSH 25 / ICV 25 Valve body

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
ICV 25	3/4	20	Butt weld, EN 10220	D	027H2128
	3/4	20	Butt weld, ANSI (B 36.10)	A	027H2131
	3/4	20	Socket weld, ANSI (B 16.11)	SOC	027H2132
	3/4	20	Female pipe thread (ANSI/ASME B 1.20.1)	FTP	027H2133
	7/8	22	Solder connection, ANSI (B 16.22)	SA	027H2125
	7/8	22	Solder connection, DIN (2856)	SD	027H2123
	1	25	Butt weld, EN 10220	D	027H2120
	1	25	Butt weld, ANSI (B 36.10)	A	027H2121
	1	25	Socket weld, ANSI (B 16.11)	SOC	027H2122
	1	25	Female pipe thread (ANSI/ASME B 1.20.1)	FTP	027H2127
	1 1/8	28	Solder connection, ANSI (B 16.22)	SA	027H2126
	1 1/8	28	Solder connection, DIN (2856)	SD	027H2124
	1 1/4	32	Butt weld, EN 10220	D	027H2129
	1 1/4	32	Butt weld, ANSI (B 36.10)	A	027H2130
	1 3/8	35	Solder connection, DIN (2856)	SD	027H2134
	1 1/2	40	Butt weld, EN 10220	D	027H2135

ICSH 25 / ICS 25 Function module

Type	C_v value [gal/min]	K_v value [m^3/h]	Code no.
ICSH / ICS 25 – 5	13.30	11.500	027H2201 [1]
ICSH / ICS 25 – 10	2.00	1.700	027H2202 [1]
ICSH / ICS 25 – 15	4.10	3.500	027H2203 [1]
ICSH / ICS 25 – 20	7.00	6.000	027H2204 [1]
ICSH / ICS 25 – 25	13.90	12.000	027H2200 [1]

ICSH 25 Top cover

Type	Code no.
ICSH 25	027H0159 [2]

ICSH 32 / ICV 32 Valve body

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
ICV 32	1 1/4	32	Butt weld, EN 10220	D	027H3120
	1 1/4	32	Butt weld, ANSI (B 36.10)	A	027H3121
	1 1/4	32	Socket weld, ANSI (B 16.11)	SOC	027H3122
	1 3/8	35	Solder connection, DIN (2856)	SD	027H3123
	1 1/2	40	Butt weld, EN 10220	D	027H3125
	1 1/2	40	Butt weld, ANSI (B 36.10)	A	027H3126
	1 5/8	42	Solder connection, ANSI (B 16.22)	SA	027H3127
	1 5/8	42	Solder connection, DIN (2856)	SD	027H3128

ICSH 32 / ICS 32 Function module

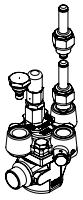
Type	Code no.
ICSH / ICS 32	027H3200 [1]

ICSH 32 Top cover

Type	Code no.
ICSH 32	027H0164 [2]

[1] Including gasket and O-rings
[2] Including bolts, one blanking plug and 2 EVM NC

Ordering



ICSH 40 / ICV 40 Valve body

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
ICV 40	1 1/2	40	Butt weld, EN 10220	D	027H4120
	1 1/2	40	Butt weld, ANSI (B 36.10)	A	027H4121
	1 1/2	40	Socket weld, ANSI (B 16.11)	SOC	027H4122
	1 5/8	42	Solder connection, ANSI (B 16.22)	SA	027H4124
	1 5/8	42	Solder connection, DIN (2856)	SD	027H4123
	2	50	Butt weld, EN 10220	D	027H4126
	2	50	Butt weld, ANSI (B 36.10)	A	027H4127

ICSH 40 / ICS 40 Function module

Type		Code no.
ICSH / ICS 40		027H4200 [1]

ICSH 40 Top cover

Type		Code no.
ICSH 40		027H0169 [2]

ICSH 50 / ICV 50 Valve body

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
ICV 50	2	50	Butt weld, EN 10220	D	027H5120
	2	50	Butt weld, ANSI (B 36.10)	A	027H5121
	2	50	Socket weld, ANSI (B 16.11)	SOC	027H5122
	2 1/8	54	Solder connection, DIN (2856)	SD	027H5123
	2 1/2	65	Butt weld, EN 10220	D	027H5124
	2 1/2	65	Butt weld, ANSI (B 36.10)	A	027H5125

ICSH 50 / ICS 50 Function module

Type		Code no.
ICSH / ICS 50		027H5200 [1]

ICSH 50 Top cover

Type		Code no.
ICSH 50		027H0174 [2]

ICSH 65 – 80 / ICV 65-80 Valve body

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
ICV 65 – 80	2 1/2	65	Butt weld, EN 10220	D	027H6120
	2 1/2	65	Butt weld, ANSI (B 36.10)	A	027H6121
	2 1/2	65	Socket weld, ANSI (B 16.11)	SOC	027H6123
	2 1/2	65	Butt weld, JIS (B S 602)	J	027H6122
	2 5/8	67	Solder connection, ANSI (B 16.22)	SA	027H6125
	3	76	Solder connection, DIN (2856)	SD	027H6124
	3	80	Butt weld, EN 10220	D	027H6126
	3	80	Butt weld, ANSI (B 36.10)	A	027H6127

ICSH 65 – 80 / ICS 65 – 80 Function module

Type		Code no.
ICSH / ICS 65		027H6200 [1]
ICSH / ICS 80		027H8200 [1]

ICSH 65 – 80 Top cover

Type		Code no.
ICSH 65		027H0179 [2]
ICSH 80		027H0227 [2]

[1] *Including gasket and O-rings*
[2] *Including bolts, one blanking plug and 2 EVM NC*

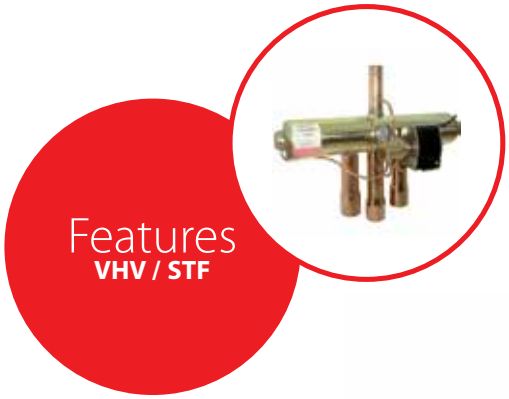
Note:
The capacity of the ICS 80 module can only be achieved when using the valve body with 80 D or A (3 in) connections. If any other ICV 65 valve body is used the capacity of the complete valve will be reduced by up to 6%.

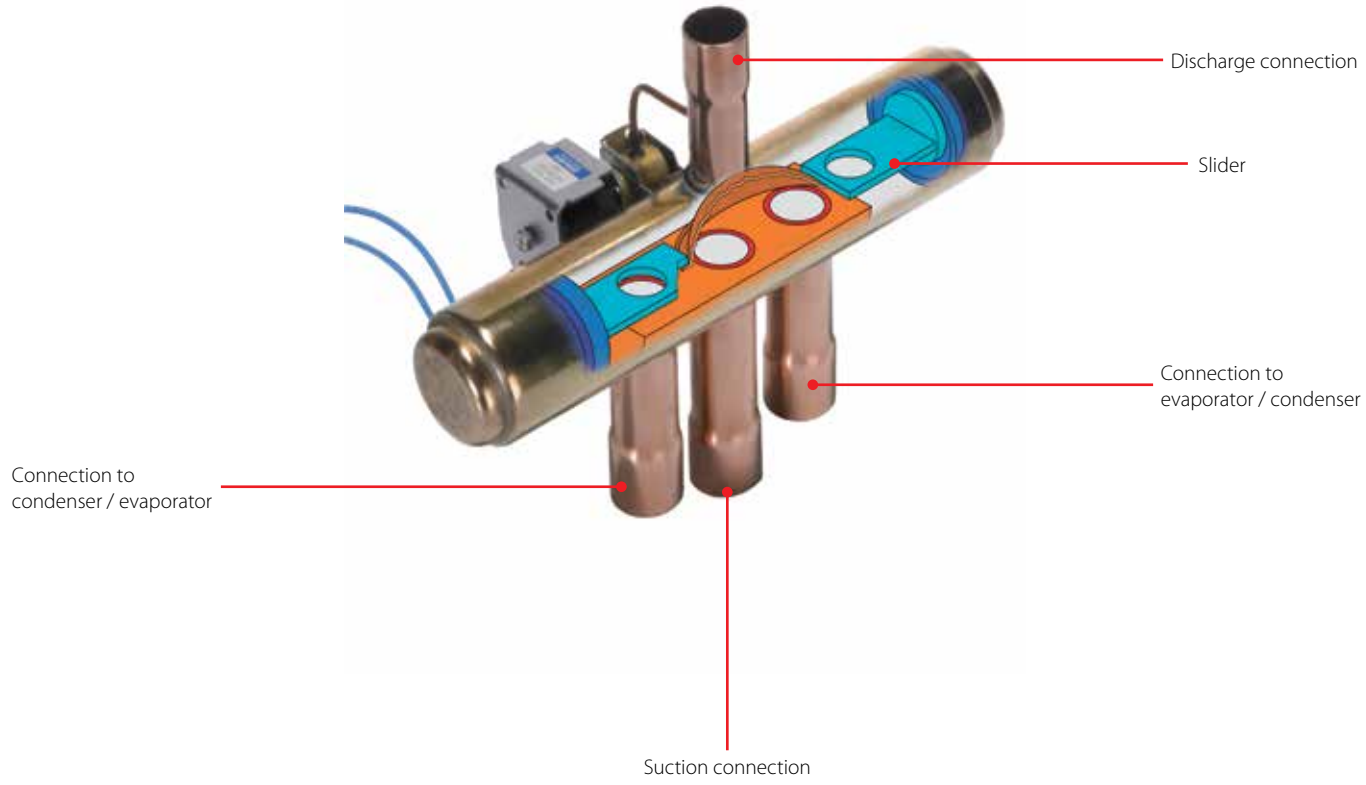
Quick Selection Notes:

VHV / STF, 4-way reversing valves

Danfoss Saginomiya STF and VHV 4-way reversing valves are used in reversible applications such as heat pumps or reversible air conditioning units and chillers.
The 4-way valve allows an inversion of the refrigeration cycle, changing from cooling mode in summer to heating mode in winter.

The cycle inversion is initiated by a small solenoid pilot valve controlling the movement of a slider, which changes the direction of the refrigerant.
The 4-way reversing valves are available with many different connection sizes. Capacities: 1.5 – 400 kW.
The 4-way reversing valves are UL and CE approved.





Facts

Application:
- Heat pump applications
- Reversing chillers
- Packaged air conditioning systems
- Room air conditioning systems

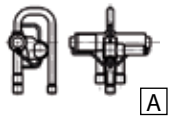
- Applicable to R410A, R407C, R134a, R404A, R22
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- Different connection sizes and connection configurations available
- Designed for instantaneous changeover with minimum pressure differential
- Minimal leakage in the valve
- Reduced pressure drop thanks to unique design (shape of internal elements)
- Max. working pressure PS: 45 bar
- Ambient temperature: -20 – 55 °C
- Full capacity range up to 400 kW
- Largest valve available on the market (VHV-6001)
- 30 years of experience and know-how

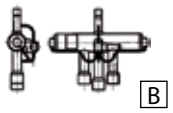
Technical data and ordering

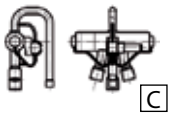
STF / VHV

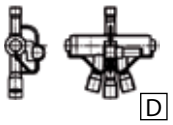
Technical data

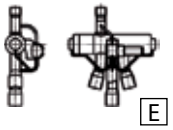
Type	Discharge		Suction		Nominal capacity [1]	Style	Box qty.	Code no.
	I.D. [mm]	O.D. [in]	I.D. [mm]	O.D. [in]	[kW]			
STF-0101G	7.95	5/16	9.50	3/8	1.6 – 5.1	A	4	061L1206
	7.95	5/16	9.50	3/8	1.6 – 5.1	A	45	061L1188
STF-0104G	7.95	5/16	9.50	3/8	2.4 – 6.4	A	45	061L1143
STF-0201G	9.50	3/8	12.70	1/2	2.8 – 11.4	A	3	061L1207
	9.50	3/8	12.70	1/2	2.8 –11.4	A	32	061L1144
STF-0204G	9.50	3/8	15.90	5/8	2.8 – 11.4	D	32	061L1145
STF-0205G	7.95	5/16	12.70	1/2	2.8 – 11.4	B	32	061L1146
STF-0208G	9.50	3/8	15.90	5/8	2.8 – 11.4	C	32	061L1147
STF-0209G	9.50	3/8	12.70	1/2	2.8 – 11.4	B	32	061L1148
STF-0214G	12.70	1/2	15.90	5/8	2.8 – 11.4	D	32	061L1149
STF-0301G	12.70	1/2	15.90	5/8	5.3 – 14.6	E	4	061L1208
STF-0306G	12.70	1/2	19.05	3/4	5.3 – 14.6	E	32	061L1151
STF-0401G	12.70	1/2	19.05	3/4	8.3 – 29.2	B	2	061L1209
	12.70	1/2	19.05	3/4	8.3 – 29.2	B	24	061L1152
STF-0409G	12.70	1/2	22.20	7/8	8.3 – 29.2	B	24	061L1154
STF-0413G	15.90	5/8	22.20	7/8	8.3 – 29.2	B	24	061L1155
STF-0420G	12.70	1/2	22.20	7/8	8.4 – 33	B	24	061L1156
STF-0712G	19.05	3/4	22.20	7/8	21 – 53	B	1	061L1223
	19.05	3/4	22.20	7/8	21 – 53	B	6	061L1195
STF-0715G	22.20	7/8	28.60	1 1/8	21 – 53	B	6	061L1158
STF-0728G	22.20	7/8	22.20	7/8	21 – 53	B	6	061L1160
STF-1511G	22.20	7/8	28.60	1 1/8	41 – 61	F	1	061L1224
STF-1513G	22.20	7/8	34.95	1 3/8	41 – 61	F	1	061L1217
STF-1514G	28.60	1 1/8	34.95	1 3/8	41 – 61	F	1	061L1218
STF-2011G	22.20	7/8	28.60	1 1/8	41 – 77	B	1	061L1219
STF-2017G	28.60	1 1/8	34.95	1 3/8	41 – 77	B	1	061L1225
STF-2501G [2]	25.40	1	31.80	1 1/4	55 – 98	G	1	061L1278
STF-2505G	28.60	1 1/8	34.95	1 3/8	55 – 98	G	1	061L1279
STF-2506G	28.60	1 1/8	41.30	1 5/8	55 – 98	G	1	061L1280
STF-3001G	31.80	1 1/4	38.10	1 1/2	68 – 129	G	1	061L1281
STF-3003G	28.60 [3]	1 1/8 [5]	41.30	1 5/8	68 – 129	G	1	061L1282
STF-4001G	38.10	1 1/2	44.50	1 3/4	122 – 195	G	1	061L1284
STF-4002G	41.30 [3]	1 5/8 [5]	41.30	1 5/8	122 – 195	G	1	061L1285
STF-5001G	38.10	1 1/2	54.00	2 1/8	183 – 256	G	1	061L1286
STF-5002G	41.30 [3]	1 5/8 [5]	54.00	2 1/8	183 – 256	G	1	061L1287

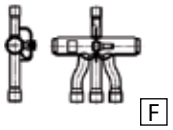


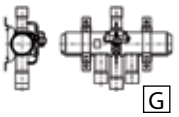












STF / VHV

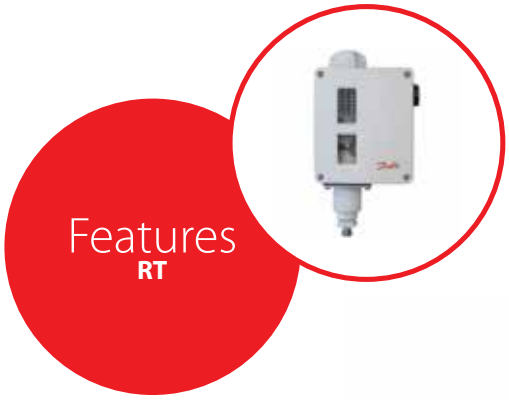
Ordering

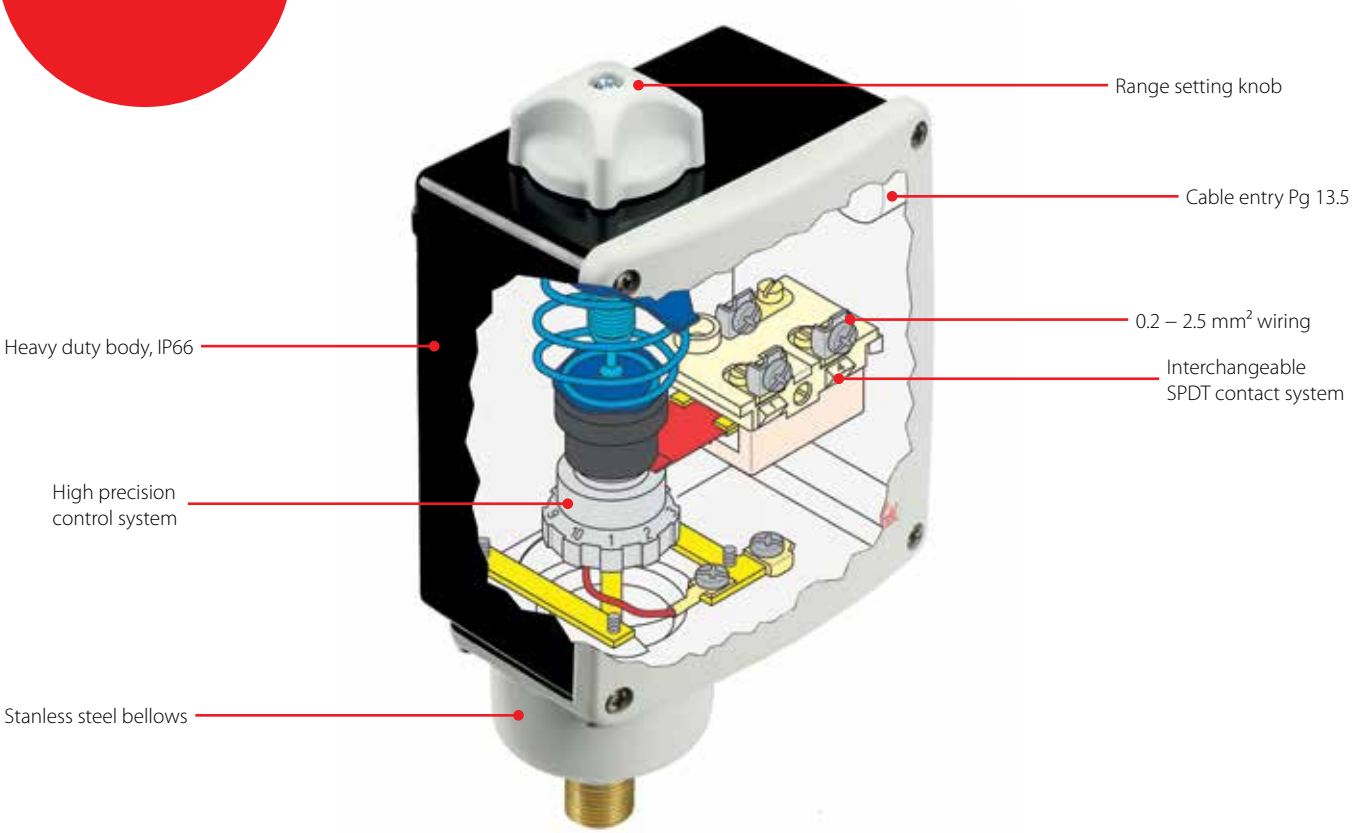
Coil for 4-way reversing valves [4]	Cable length [mm]	Rated voltage	Box qty.	Code no.
STF-01AB500A1	600	24 V AC	10	061L2092
STF-01AB503B1	1200	24 V AC	100	061L2038
STF-01AJ506B1	600	220 – 240 V AC	10	061L2093
STF-01AJ504F1	1200	208 – 240 V AC	1	061L2125
	1200	208 – 240 V AC	10	061L2094
STF-01AJ512D1	2000	220 – 240 V AC	10	061L2095
	2000	220 – 240 V AC	60	061L2074

[1]) The nominal capacities for R407C.
[2]) STF-2501G does not have a bracket.
[3]) Refers to O.D.
[4]) STF coils can be used with all STF and VHV valves.
[5]) Refers to I.D.
Note: R407C and R410A: for discharge and suction, I.D. describes exact inner diameter of valve connections.
O.D. relates to the outer diameter of connection pipe in the system.

RT, Pressure switch

RT pressure switches contain a pressure operated single-pole changeover contact, the position of which depends on the pressure in the inlet connection and the set scale value.
The RT series includes pressure switches for general applications within industrial and maritime refrigeration, as well as differential pressure switches for neutral zone regulation, and special pressure switches with gold-plated contact surfaces for PLC applications.





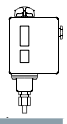
Facts

Application:
- General applications within industrial and marine refrigeration

- Pressure switches for fluorinated refrigerants and R717 (NH_3)
- Wide regulating range
- Suitable for both alternating and direct current (AC and DC)
- Interchangeable contact system
- Special versions with gold plated contact surfaces for PLC applications
- Versions for neutral zone regulation
- High stability and accuracy
- Long operating life time

- Enclosure: IP66 to EN 60529 / IEC 60529, except for versions with ext. reset which are IP54
- Insulation 400 V
- Ambient temperature: -50 – 70 °C for housing
- Cable connection: Pg 13.5
- Cable diameter: 6 – 14 mm

Technical data and ordering

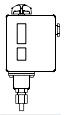


RT pressure switches for R22, R134a, R404A, R407A, R407C, R407F, R422B, R422D

Ordering

Type	Pressure	Regulation range [bar]	Differential Δp [bar]	Reset	Max. working pressure [bar]	Max. test pressure [bar]	Connection type	Code no.
RT 1	Low	-0.8 – 5	0.5 – 1.6	Auto	22	25	1/4 in / 6 mm flare	017-524566
	Low	-0.8 – 5	0.5	Man. (Min.)	22	25	1/4 in / 6 mm flare	017-524666
RT 200	Low	0.2 – 6	0.25 – 1.2	Auto	22	25	G 3/8 A [1]	017-523766
RT 117	High	10 – 30	1 – 4	Auto	42	47	G 3/8 A [1]	017-529566

[1]) G ext. thread, ISO 228-1

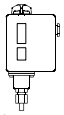


RT safety pressure switches for R22, R134a, R404A, R407A, R407C, R407F, R422B, R422D, R507A, R717 (NH_3)

Ordering

Type	Pressure	Regulation range [bar]	Differential Δp [bar]	Reset	Max. working pressure [bar]	Max. test pressure [bar]	Connection type	Code no.
RT 1A	Low	-0.8 – 5	0.5 – 1.6	Auto	22	25	1/4 in / 6 mm flare	017-501966
	Low	-0.8 – 5	0.5 – 1.6	Auto	22	25	G 3/8 A [1]	017-500166
	Low	-0.8 – 5	0.5	Man. (Min.)	22	25	1/4 in / 6 mm flare	017-502766
	Low	-0.8 – 5	0.5	Man. (Min.)	22	25	G 3/8 A [1]	017-500266
	Low	-0.8 – 5	1.3 – 2.4	Auto	22	25	G 3/8 A [1]	017-500766
RT 5A	High	4 – 17	1.2 – 4	Auto	22	25	1/4 in / 6 mm flare	017-505266
	High	4 – 17	1.2 – 4	Auto	22	25	G 3/8 A [1]	017-504666
	High	4 – 17	1.3	Man. (Max.)	22	25	1/4 in / 6 mm flare	017-506166
	High	4 – 17	1.3	Man. (Max.)	22	25	G 3/8 A [1]	017-504766

[1]) G external thread, ISO 228-1



RT pressure switches with adjustable neutral zone for R22, R134a, R404A, R407A, R407C, R407F, R507A, R717 (NH_3) *)

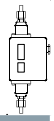
Ordering

Type	Pressure	Regulation range [bar]	Mechanical differential Δp [bar]	Neutral zone Δp [bar]	Max. working pressure [bar]	Max. test pressure [bar]	Connection type	Code no.
RT 1AL	Low	-0.8 – 5	0.2	0.2 – 0.9	22	25	cutting ring ø6 mm	017L001666
	Low	-0.8 – 5	0.2	0.2 – 0.9	22	25	G 3/8 A [1] + weld nipple ø6.5 / 10 mm	017L003366
RT 200L	Low	0.2 – 6	0.25	0.25 – 0.7	22	25	G 3/8 A [1] + weld nipple ø6.5 / 10 mm	017L003266
RT 5AL	High	4 – 17	0.35	0.35 – 1.4	22	25	cutting ring ø6 mm	017L001766 [2])
	High	4 – 17	0.35	0.35 – 1.4	22	25	G 3/8 A [1] + weld nipple ø6.5 / 10 mm	017L004066 [2])
RT 117L	High	10 – 30	1	1 – 3	42	47	G 3/8 A [1] + weld nipple ø6.5 / 10 mm	017L004266 [2])

[1]) G external thread, ISO 228-1
[2]) Without nipple
*) Only types with letter A are suitable for R717.

Technical data and ordering

RT differential pressure switches for R22, R134a, R404A, R407A, R407C, R407F, R422B, R422D, R507A, R717 (NH_3)

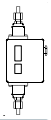


Ordering

Type	Regulation range [bar]	Mechanical differential Δp [bar]	Operating range for LP bellows [bar]	Max. working pressure [bar]	Max. test pressure [bar]	Connection type	Code no.
RT 260A	0.5 – 4	0.3	-1 – 18	22	25	cutting ring ø6 mm	017D001466
	0.5 – 4	0.3	-1 – 18	22	25	G 3/8 A [1]) + weld nipple ø6.5 / 10 mm	017D002166
	0.5 – 4	0.3	-1 – 18	22	25	G 3/8 A [1]) + weld nipple ø6.5 / 10 mm	017D002266 [2])
	0.5 – 6	0.5	-1 – 36	42	47	cutting ring ø6 mm	017D001566
	0.5 – 6	0.5	-1 – 36	42	47	G 3/8 A [1]) + weld nipple ø6.5 / 10 mm	017D002366
	1.5 – 11	0.5	-1 – 31	42	47	cutting ring ø6 mm	017D001666
	1.5 – 11	0.5	-1 – 31	42	47	G 3/8 A [1]) + weld nipple ø6.5 / 10 mm	017D002466
RT 262A	0.1 – 1.5	0.1	-1 – 9	11	13	cutting ring ø6 mm	017D001366
	0.1 – 1.5	0.1	-1 – 9	11	13	G 3/8 A [1]) + weld nipple ø6.5 / 10 mm	017D002566
RT 265A [3])	1 – 6	0.5	-1 – 36	42	47	G 3/8 A [1]) + weld nipple ø6.5 / 10 mm	017D007266

[1]) G external thread, ISO 228-1
[2]) Manual reset
[3]) Filter monitor: Alarm Δp = 0.8 bar, cut-out Δp = 1 bar (factory setting)

RT differential pressure switches with adjustable neutral zone for R22, R134a, R404A, R407A, R407C, R407F, R422B, R422D, R507A, R717 (NH_3)

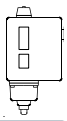


Ordering

Type	Regulation range [bar]	Mechanical differential Δp [bar]	Adjustable Neutral zone [bar]	Operating range for LP bellows [bar]	Max. working pressure [bar]	Max. test pressure [bar]	Connection type	Code no.
RT 262 AL	0.1 – 1.5	0.1	1 – 0.33	-1 – 9	11	13	G 1/2 A [1]) + weld nipple ø6.5 / 10 mm	017D004366

[1]) G external thread, ISO 228-1

RT safety pressure switches with EN 12263 approval and CE marked according to PED, Pressure Equipment Directive For R22, R134a, R404A, R407A, R407C, R407F, R422B, R422D, R507A, R717 (NH_3) *)



Ordering

Type	Pressure	Regulation range [bar]	Differential (fixed) Δp [bar]	Reset	Max. working pressure [bar]	Max. test pressure [bar]	Connection type	Code no.
RT 6W	High	5 – 25	3	Auto	28 [2])	38	1/4 in / 6 mm flare	017-503166
RT 6B	High	10 – 28	1	Man. (Max.)	28 [2])	38	1/4 in / 6 mm flare	017-503466
RT 6S	High	10 – 28	1	Man. (Max.)	28 [2])	38	1/4 in / 6 mm flare	017-507566
RT 30AW	High	1 – 10	0.8	Auto	22	25	G 1/2 A [1])	017-518766
RT 30AB	High	1 – 10	0.4	Man. (Max.)	22	25	G 1/2 A [1])	017-518866
RT 30AS	High	1 – 10	0.4	Man. (Max.)	22	25	G 1/2 A [1])	017-518966
RT 6AW	High	5 – 25	3	Auto	28 [2])	38	cutting ring ø6 mm	017-513166
	High	5 – 25	3	Auto	28 [2])	38	G3/8 A [1]) + weld nipple ø6.5 / 10 mm	017-503266
RT 6AB	High	10 – 28	1.5	Man. (Max.)	28 [2])	38	cutting ring ø6 mm	017-513366
	High	10 – 28	1.5	Man. (Max.)	28 [2])	38	G3/8 A [1]) + weld nipple ø6.5 / 10 mm	017-503566
RT 6AS	High	10 – 28	1.5	Man. (Max.)	28 [2])	38	cutting ring ø6 mm	017-514666
	High	10 – 28	1.5	Man. (Max.)	28 [2])	38	G3/8 A [1]) + weld nipple ø6.5 / 10 mm	017-507666

[1]) G external thread, ISO 228-1
[2]) Max. working pressure acc. to PED is limited to 28 bar. If the unit is going to be used outside PED regulation, then MWP may be increased to 34 bar.
**) Only types with letter A are suitable for R717*

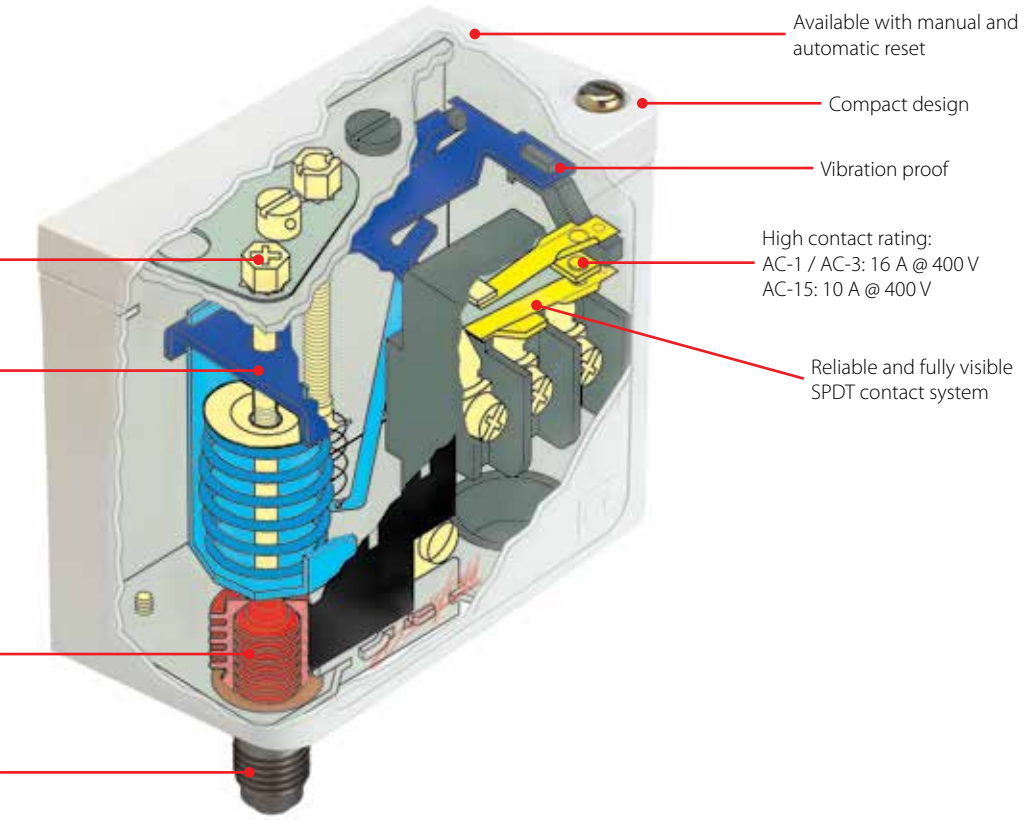
Quick Selection Notes:

KP, Pressure switch

KP pressure switches are designed to protect refrigeration systems from excessively high discharge pressures, excessively low suction pressures, to start / stop compressors or to operate fans of aircooled condensers.

The enhanced contact system for 16 A makes it possible to operate electrical motors up to 2 kW directly, without the use of contactors. KP pressure switches are available in IP30 and IP44 enclosures.





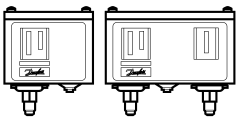
Facts

Application: Food Retail, Heavy Commercial Refrigeration, Light Commercial Refrigeration, Commercial Air Conditioning, Food Processing and Storage.

- Easy to handle compact design with large and visible scale plates
- Vibration and shock resistant
- Accurate and reliable compressor operation due to excellent electro-mechanical function
- High reliability both electrically and mechanically-a KP switch can be connected directly to a single-phase AC motor of up to approximately 2 kW or installed in the control circuit of DC motors and large AC motors
- Easy to install electrical connection which also facilitates rack mounting
- Bellows without any welding points, which makes them stress free and completely tight
- Wide range of approvals - Danfoss offers a wide range of approval suited for specific applications and geographical markets
- Available with flare, solder or capillary tube connections
- Pressure switches PED 97 / 23 / EC approved available
- Wide pressure ranges
  The programme covers working ranges:
  -0.9 – 46.5 bar / -1.3 – 674 psi
- Versions with IP30 enclosure rating can be updated to IP44 or IP55 enclosure rating using top plate (IP44) or IP55 enclosure (IP55), available as accessories

Technical data and ordering

KP pressure switches for R22, R134a, R404A, R407A, R407C, R407F, R422B, R422D, R438A, R448A, R449A, R450A, R452A, R507A, R513A



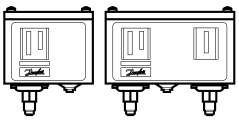
Ordering

Type	Pressure	Low pressure (LP)		High pressure (HP)		Reset		Contact System	Connection type	Code no.
		Regulating range [bar]	Differential Δp [bar]	Regulating range [bar]	Differential Δp [bar]	Low pressure LP	High pressure HP			
KP 1	Low	-0.2 – 7.5	0.7 – 4.0	–	–	Auto	–	SPDT	1/4 in / 6 mm flare	060-110166 [1] [4]
	Low	-0.2 – 7.5	0.7 – 4.0	–	–	Auto	–	SPDT	1/4 in ODF solder	060-111266 [4]
	Low	-0.2 – 7.5	0.7 – 4.0	–	–	Auto	–	SPDT	6 mm ODF solder	060-111066 [4]
	Low	-0.2 – 7.5	0.7 – 4.0	–	–	Auto	–	SPDT	1/4 in / 6 mm flare	060-114166 [2] [4]
	Low	-0.9 – 7.0	0.7	–	–	Man. (Min.)	–	SPDT	1/4 in / 6 mm flare	060-110366 [1]
	Low	-0.9 – 7.0	0.7	–	–	Man. (Min.)	–	SPDT	1/4 in ODF solder	060-111166
	Low	-0.9 – 7.0	0.7	–	–	Man. (Min.)	–	SPDT	6 mm ODF solder	060-110966
KP 2	Low	-0.2 – 5.0	0.4 – 1.5	–	–	Auto	–	SPDT	1/4 in / 6 mm flare	060-112066 [1] [4]
	Low	-0.2 – 5.0	0.4 – 1.5	–	–	Auto	–	SPDT	6 mm ODF solder	060-112366 [4]
KP 5	High	–	–	8 – 32	1.8 – 6.0	–	Auto	SPDT	1/4 in / 6 mm flare	060-117166 [1] [4]
	High	–	–	8 – 32	1.8 – 6.0	–	Auto	SPDT	1/4 in / ODF solder	060-117966 [4]
	High	–	–	8 – 32	1.8 – 6.0	–	Auto	SPDT	6 mm ODF solder	060-117766 [4]
	High	–	–	8 – 32	3	–	Man. (Max.)	SPDT	1/4 in / 6 mm flare	060-117366 [1]
	High	–	–	8 – 32	3	–	Man. (Max.)	SPDT	1/4 in ODF solder	060-118066
KP 15	Dual	-0.2 – 7.5	0.7 – 4.0	8 – 32	4	Auto	Auto	SPDT+LP signal	1/4 in / 6 mm flare	060-124166 [4]
	Dual	-0.2 – 7.5	0.7 – 4.0	8 – 32	4	Auto	Auto	SPDT+LP signal	1/4 in ODF solder	060-125466 [4]
	Dual	-0.2 – 7.5	0.7 – 4.0	8 – 32	4	Auto	Man. (Max.)	SPDT+LP signal	1/4 in / 6 mm flare	060-124366 [1]
	Dual	-0.2 – 7.5	0.7 – 4.0	8 – 32	4	Auto	Man. (Max.)	SPDT+LP signal	1/4 in / 6 mm flare	060-114866 [2]
	Dual	-0.9 – 7.0	0.7	8 – 32	4	Man. (Min.)	Man. (Max.)	SPDT+LP signal	1/4 in / 6 mm flare	060-124566 [1]
	Dual	-0.9 – 7.0	0.7	8 – 32	4	Conv. [3]	Conv. [3]	SPDT+LP signal	1/4 in / 6 mm flare	060-126166
	Dual	-0.2 – 7.5	0.7 – 4.0	8 – 32	4	Auto	Auto	SPDT+LP and HP signal	1/4 in / 6 mm flare	060-126566 [1] [4]
	Dual	-0.2 – 7.5	0.7 – 4.0	8 – 32	4	Auto	Auto	SPDT+LP and HP signal	1/4 in ODF solder	060-129966 [4]
	Dual	-0.2 – 7.5	0.7 – 4.0	8 – 32	4	Auto	Man. (Max.)	SPDT+LP and HP signal	1/4 in / 6 mm flare	060-126466 [1]
	Dual	-0.2 – 7.5	0.7 – 4.0	8 – 32	4	Auto	Man. (Max.)	SPDT+LP and HP signal	1/4 in ODF solder	060-128466 [1]
	Dual	-0.2 – 7.5	0.7 – 4.0	8 – 32	4	Conv. [3]	Conv. [3]	SPDT+LP and HP signal	1/4 in / 6 mm flare	060-115466 [4]
	Dual	-0.2 – 7.5	0.7 – 4.0	8 – 32	4	Conv. [3]	Conv. [3]	SPDT+LP and HP signal	1/4 in ODF solder	060-001066 [4]
	Dual	-0.9 – 7.0	0.7	8 – 32	4	Conv. [3]	Conv. [3]	SPDT+LP and HP signal	1/4 in / 6 mm flare	060-122066

[1] Available in Asia market with code 060-xxxx91
[2] Pressure switches with gold-plated contacts
[3] Conv.: optional automatic or manual reset
[4] Enclosure IP44

Technical data and ordering

KP pressure switches PED 2014/68/EU approved; EN 12263
For R22, R134a, R404A, R407A, R407C, R407F, R410A*), R422B, R422D, R438A, R448A, R449A, R450A, R452A, R507A, R513A



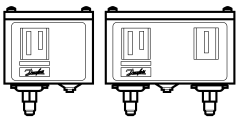
Ordering

Type	Pressure	Low pressure (LP)		High pressure (HP)		Reset		Contact System	Connection type	Code no.
		Regulating range [bar]	Differential Δp [bar]	Regulating range [bar]	Differential Δp [bar]	Low pressure LP	High pressure HP			
KP 1	Low	-0.2 – 7.5	0.7 – 4.0	–	–	Auto	–	SPDT	1/4 in / 6 mm flare	060-110166 [2] [3]
	Low	-0.2 – 7.5	0.7 – 4.0	–	–	Auto	–	SPDT	6 mm ODF solder	060-111066 [3]
	Low	-0.9 – 7	0.7	–	–	Man. (Min.)	–	SPDT	1/4 in / 6 mm flare	060-110366 [2]
	Low	-0.9 – 7	0.7	–	–	Man. (Min.)	–	SPDT	6 mm ODF solder	060-110966
KP 2	Low	-0.2 – 5	0.4 – 1.5	–	–	Auto	–	SPDT	1/4 in / 6 mm flare	060-112066 [2] [3]
	Low	-0.2 – 5	0.4 – 1.5	–	–	Auto	–	SPDT	6 mm ODF solder	060-112366 [3]
KP 6W [1]	High	–	–	8 – 42	4 – 10	–	Auto	SPDT	1/4 in / 6 mm flare	060-519066 [3]
KP 6B [1]	High	–	–	8 – 42	4	–	Man. (Max.)	SPDT	1/4 in / 6 mm flare	060-519166
KP 7W [1]	High	–	–	8 – 32	4 – 10	–	Auto	SPDT	1/4 in / 6 mm flare	060-119066 [3]
	High	–	–	8 – 32	4 – 10	–	Auto	SPDT	6 mm ODF solder	060-120366 [3]
KP 7B [1]	High	–	–	8 – 32	4	–	Man. (Max.)	SPDT	1/4 in / 6 mm flare	060-119166
KP 7S [1]	High	–	–	8 – 32	4	–	Man. (Max.)	SPDT	1/4 in / 6 mm flare	060-119266 [3]
KP 7BS [1]	Dual	–	–	8 – 32	4	–	Man. (Max.)	SPST	1/4 in / 6 mm flare	060-120066
KP 17W [1]	Dual	0.2 – 7.5	0.7 – 4	8 – 32	4	Auto	Auto	SPDT+LP and HP signal	1/4 in / 6 mm flare	060-127566 [3]
	Dual	0.2 – 7.5	0.7 – 4	8 – 32	4	Auto	Auto	SPDT+LP and HP signal	6 mm ODF solder	060-127666 [3]
KP 17W [1]	Dual	0.2 – 7.5	0.7 – 4	8 – 32	4	Auto	Auto	SPDT+LP signal	1/4 in / 6 mm flare	060-126766 [3]
KP 17B [1]	Dual	0.2 – 7.5	0.7 – 4	8 – 32	4	Auto	Man. (Max.)	SPDT	1/4 in / 6 mm flare	060-126866
	Dual	0.2 – 7.5	0.7 – 4	8 – 32	4	Auto	Man. (Max.)	SPDT	6 mm ODF solder	060-127466
KP 17WB [1]	Dual	0.2 – 7.5	0.7 – 4	8 – 32	4	Auto	Conv. [5]	SPDT+LP and HP signal	1/4 in / 6 mm flare	060-539766 [3] [4]

[1] W = PSH (pressure switch), B = PZH (pressure switch with ext. reset), S = PZHH (pressure switch with int. reset)
[2] Available in Asia market with code 060-xxxx91
[3] Enclosure IP44
[4] Factory setting: LP side: range = 1 bar P_e, diff. = 1 bar; HP side: range = 18 bar P_e, diff. = 4 bar fixed
[5] Conv.: optional automatic or manual reset
**) only for KP6W, KP6B*

Technical data and ordering

KP pressure switches for R717, R22, R134a, R404A, R407A, R407C, R407F, R422B, R422D, R438A, R448A, R449A, R450A, R452A, R507A, R513A

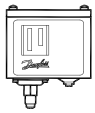


Ordering

Type	Pressure	Low pressure (LP)		High pressure (HP)		Reset		Contact System	Connection type	Code no.
		Regulating range [bar]	Differential Δp [bar]	Regulating range [bar]	Differential Δp [bar]	Low pressure LP	High pressure HP			
KP 1A	Low	-0.2 – 7.5	0.7 – 4.0	–	–	Auto	–	SPDT	M10 × 0.75	060-116266 [3]
	Low	-0.2 – 7.5	0.7 – 4.0	–	–	Auto	–	SPDT	1 m cap. tube with M10 × 0.75	060-116066 [2]
	Low	-0.9 – 7.0	0.7	–	–	Man. (Min.)	–	SPDT	1 m cap. tube with M10 × 0.75	060-116166
KP 5A	High	–	–	8 – 32	1.8 – 6.0	–	Auto	SPDT	1 m cap. tube with M10 × 0.75	060-123066 [2]
	High	–	–	8 – 32	3	–	Man. (Max.)	SPDT	M10 × 0.75	060-115366 [3]
	High	–	–	8 – 32	3	–	Man. (Max.)	SPDT	1 m cap. tube with M10 × 0.75	060-123166
KP 15A	Dual	-0.2 – 7.5	0.7 – 4.0	8 – 32	4	Auto	Auto	SPDT+LP and HP signal	M10 × 0.75	060-129566
	Dual	-0.2 – 7.5	0.7 – 4.0	8 – 32	4	Auto	Auto	SPDT+LP and HP signal	1 m cap. tube with M10 × 0.75	060-129366 [2]
	Dual	-0.2 – 7.5	0.7 – 4.0	8 – 32	4	Auto	Man. (Max.)	SPDT+LP and HP signal	M10 × 0.75	060-129666
	Dual	-0.2 – 7.5	0.7 – 4.0	8 – 32	4	Auto	Man. (Max.)	SPDT+LP and HP signal	1 m cap. tube with M10 × 0.75	060-129466
	Dual	-0.9 – 7.0	0.7	8 – 32	4	Conv. [1]	Conv. [1]	SPDT+LP signal	1 m cap. tube with M10 × 0.75	060-128366
KP 7ABS	Dual	–	–	8 – 32	4	–	Man. (Max.)	SPST	1 m cap. tube with M10 × 0.75	060-120566

[1]) Conv.: optional automatic or manual reset
[2]) Enclosure IP44
[3]) Available in Asia market with code 060-xxxx91

KP pressure switches for R290, R444B, R600, R600a, R1234ze, R1290



Ordering

Type	Pressure	Low pressure (LP)		High pressure (HP)		Reset		Contact System	Function *)	Code no.
		Regulating range [bar]	Differential Δp [bar]	Regulating range [bar]	Differential Δp [bar]	Low pressure LP	High pressure HP			Connection ¼ in ODF solder
KP 1E	Low	- 0.2 – 7.5	0.7 – 4.0	–	–	Auto	–	SPDT	PSL	060-530066
KP 1E	Low	- 0.9 – 7.0	0.7	–	–	Man. (Min.)	–	SPDT	PZL	060-530266
KP 7EW	High	–	–	8 – 32	1.8 – 6.0	–	Auto	SPDT	PSH	060-530466
KP 7EB	High	–	–	8 – 32	4	–	Man. (Max.)	SPDT	PZH	060-530666

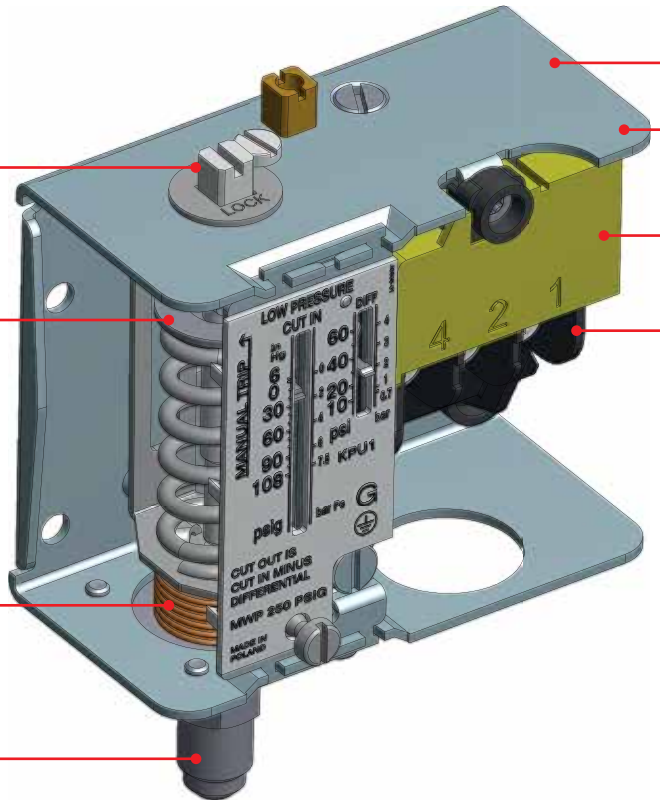
**) PSL, PZL, PSH, PZH according to EN12263: 1998*

KPU, Pressure switch

The KPU pressure switches are designed for use in refrigeration and air-conditioning systems to protect the systems from excessively low suction pressure or too high discharge pressure. They can also be applied to start and stop compressors and the fans of air-cooled condensers.

The KPU pressure switches , in single and dual versions cover a comprehensive range of applications.





Range and differential easily adjustable with screw driver

Manual trip function

Bellows without any welding points.

Various pressure connections

Available with manual and automatic reset

Compact design

High contact rating:
FLA = 24 A @ 120 V AC / 240 V AC
LRA = 144 A @ 120 V AC / 240 V AC
LRA is rated for make only

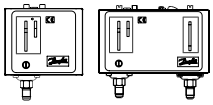
Reliable and fully visible SPDT contact system

Facts

- Snap action electrical contacts minimize chatter, bounce, and wear, and ensure longterm electrical and mechanical reliability
- The fail-safe dual bellows used in KPU 6 and KPU 16 prevent refrigerant loss and enable premature cut-out when a fault occurs
- SPDT or SPST switch a in single control models. SPST or SPDT with high-low pressure signal in dual control models
- Manual trip function (electrical contact function can be tested without the use of tools)
- Easily replaces Johnson Controls and Ranco products
- Wide pressure range: from low pressure KPU 2 with narrow differential to KPU 6 and KPU 16 for high pressure refrigerants (R410A, R744)
- Automatic, manual or convertible reset versions available
- Vibration and shock resistant

Technical data and ordering

KPU pressure switches for R22, R134a, R404A, R407A, R407C, R407F, R422B, R422D, R438A, R448A, R449A, R450A, R452A, R507A, R513A

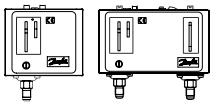


Ordering

Type	Pressure	Low pressure (LP)		High pressure (HP)		Reset		Contact type	Connection	Code no.
		Range [inHg] [psig]	Differential [psi]	Range [psig]	Differential [psi]	Low pressure (LP)	High pressure (HP)			
KPU 1	Low	6 – 108	10 – 60	–	–	Auto	–	A	¼ inch male flare	060-5231
	Low	6 – 108	10 – 60	–	–	Auto	–	A	36 inch cap. tube w. ¼ inch flare nut	060-5233
	Low	6 – 108	10 – 60	–	–	Auto	–	B	¼ inch male flare	060-5236
KPU 1B	Low	28 – 100	10	–	–	Man. (Min.)	–	A	¼ inch male flare	060-5232
	Low	28 – 100	10	–	–	Man. (Min.)	–	A	36 inch cap. tube w. ¼ inch flare nut	060-5234
KPU 2	Low	6 – 73	6 – 30	–	–	Auto	–	B	¼ inch male flare	060-5237
	Low	6 – 73	6 – 30	–	–	Auto	–	B	36 inch cap. tube w. ¼ inch flare nut	060-5235
	Low	6 – 73	6 – 30	–	–	Auto	–	A	¼ inch male flare	060-5239
	Low	6 – 73	6 – 30	–	–	Auto	–	A	36 inch cap. tube w. ¼ inch flare nut	060-5240
KPU 5	Fan cycling	–	–	100 – 465	25 – 85	–	Auto	B	¼ inch male flare	060-5241
	Fan cycling	–	–	100 – 465	25 – 85	–	Auto	B	36 inch cap. tube w. ¼ inch flare nut	060-5242
KPU 15	Dual	6 – 108	10 – 60	100 – 465	60	Auto	Auto	C	¼ inch male flare	060-5247
	Dual	6 – 108	10 – 60	100 – 465	60	Auto	Auto	C	36 inch cap. tube w. ¼ inch flare nut	060-5248
KPU 15B	Dual	6 – 108	10 – 60	100 – 465	60	Auto	Man. (Max.)	C	¼ inch male flare	060-5249
	Dual	6 – 108	10 – 60	100 – 465	60	Auto	Man. (Max.)	C	36 inch cap. tube w. ¼ inch flare nut	060-5250

Technical data and ordering

Fail-safe switches for high pressure refrigerants (R410A, R744)
PED 2014/68/EU approved according to EN 12263

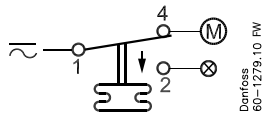
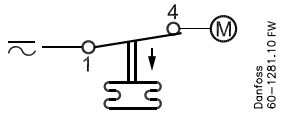
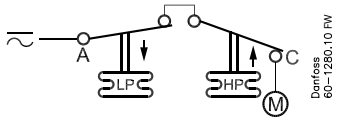
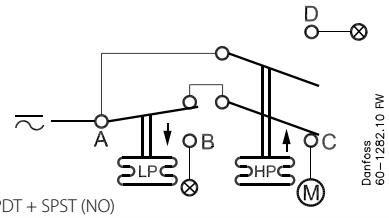


Ordering

Type	Pressure	Low pressure (LP)		High pressure (HP)		Reset		Contact type	Connection type	Code no.
		Regulating range [bar]	Differential Δp [bar]	Regulating range [bar]	Differential Δp [bar]	Low pressure LP	High pressure HP			
KPU 6W	High	–	–	100 – 600	58 – 145	–	Auto	A	1/4 inch male flare	060-5243
	High	–	–	100 – 600	58 – 145	–	Auto	A	36 inch cap. tube w. 1/4 inch flare nut	060-5245
KPU 6B	High	–	–	100 – 600	60	–	Man. (Max.)	A	1/4 in male flare	060-5244
	High	–	–	100 – 600	60	–	Man. (Max.)	A	36 inch cap. tube w. 1/4 inch flare nut	060-5246
KPU 16W	Dual	6 – 108	10 – 60	100 – 600	60	Auto	Auto	D	1/4 inch male flare	060-5251
	Dual	6 – 108	10 – 60	100 – 600	60	Auto	Auto	D	36 inch cap. tube w. 1/4 inch flare nut	060-5252
KPU 16B	Dual	6 – 108	10 – 60	100 – 600	60	Min. Conv.	Max. Conv.	D	1/4 inch male flare	060-5253
	Dual	6 – 108	10 – 60	100 – 600	60	Min. Conv.	Max. Conv.	D	36 inch cap. tube w. 1/4 inch flare nut	060-5254

Contact system and application

Technical data

Switch type	Switch action	Application
A  SPDT	1. Terminals 1-4 close high and open low Terminals 1-2 can be used as low pressure alarm.	1. Low pressure cut-out.
	2. Terminals 1-2 open high and close low Terminals 1-4 can be used as high pressure alarm.	2. High pressure cut-out.
B  SPST (NO)	Terminals 1-4 close high and open low .	1. Low pressure cut-out. 2. Condenser fan cycling control.
C  SPST (NO + NC)	Dual Pressure switch employs an SPST switch that is open when either high or low pressure beyond the control setting is sensed on the two bellows sensing elements of the switch.	Dual Pressure switch Protects the system against too low suction pressure and against too high discharge pressure.
D  SPDT + SPST (NO)	Contact opens on pressure drop below LP set point (turns on the LP signal light) and on pressure rise above HP set point (turns on HP signal light). Contact action is controlled by two bellows sensing elements. Note: max. contact D rating is 50 VA	Dual Pressure switch. Protects the system against too low suction pressure (LP cut-out signal on terminal B) and against too high discharge pressure (HP signal on terminal D).

M Load

Signal option

HP Bellows movement on pressure rise

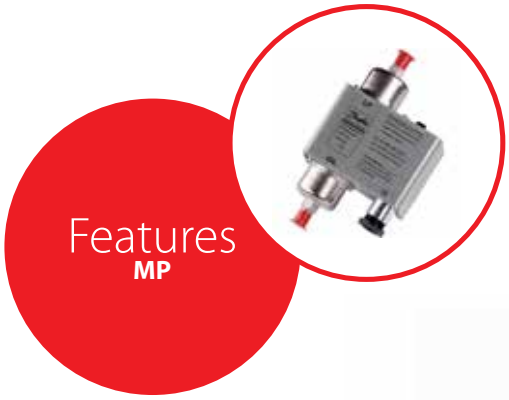
LP Bellows movement on pressure drop

Quick Selection Notes:

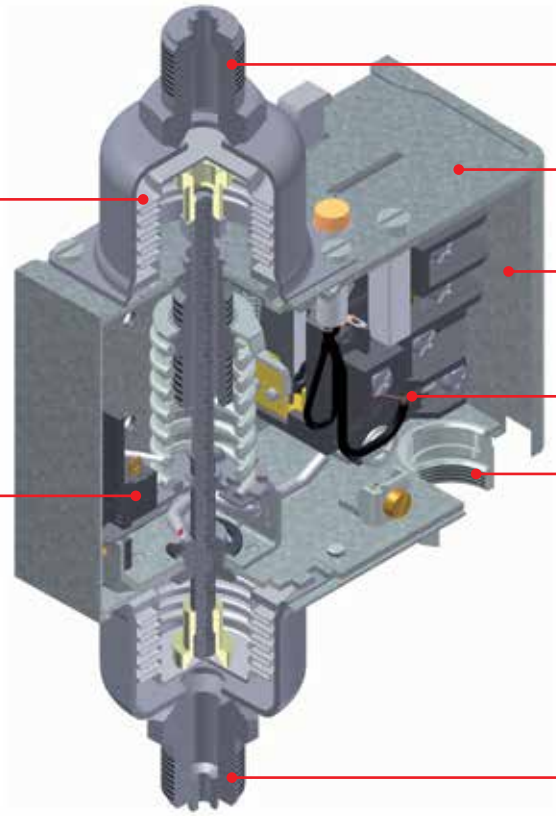
MP, Differential pressure switch

MP 54 and MP 55 oil differential pressure switches are used as safety switches to protect refrigeration compressors against low lubricating oil pressure. If the oil pressure fails, the oil differential pressure switch stops the compressor after a certain time period.

MP 54 has a fixed differential pressure setting. It also incorporates a thermal time relay with a fixed release time setting.
MP 55 and MP 55A have adjustable differential pressure and are available both with and without thermal time relay.



Features
MP



Facts

Application:
- Food Retail
- Heavy Commercial Refrigeration
- Light Commercial Refrigeration
- Commercial Air Conditioning
- Food Processing and Storage

- Suitable for both alternating and direct current (AC and DC)
- Small contact differential
- Bellows without any welding points, which makes them stress free and completely tight
- Wide regulating range

- Screwed cable entry for cables: 6 – 14 mm diameter
- Electrical connection at the front of the unit
- Wide range of approvals - Danfoss offers a wide range of approvals suited for specific applications and geographical markets

Technical data and ordering

MP differential pressure switches for R22, R134a, R404A, R407A, R407C, R407F, R422B, R422D, R448A, R449A, R450A, R452A, R507A, R513A

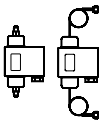


Ordering

Type	Differential Δp [bar]	Operation range, LP side [bar]	Relay release time [s]	Connection type	Code no.
MP 54	0.65	-1 – 12	0 [2]	1/4 in Flare	060B029766
	0.65	-1 – 12	45	1/4 in Flare	060B016666
	0.9	-1 – 12	60	1/4 in Flare	060B016766
	0.65	-1 – 12	90	1/4 in Flare	060B016866
	0.65	-1 – 12	120	1/4 in Flare	060B016966
MP 55	0.3 – 4.5	-1 – 12	45	1/4 in Flare	060B017066
	0.3 – 4.5	-1 – 12	45	1 m cap.tube 1/4 in ODF solder	060B013366
	0.3 – 4.5	-1 – 12	60	1/4 in Flare	060B017166
	0.3 – 4.5	-1 – 12	60	1/4 in Flare	060B017866 [1]
	0.3 – 4.5	-1 – 12	90	1/4 in Flare	060B017266
	0.3 – 4.5	-1 – 12	120	1/4 in Flare	060B017366
	0.3 – 4.5	-1 – 12	0 [2]	1/4 in Flare	060B029966

[1] *With glow lamp that remains on during normal operation.*
Note: If the operational light goes out, the compressor should not run longer than the release time.
[2] *MP without time relay.*
Versions without time relay are for applications where an external time relay is required - perhaps with a different release time than the one specified.

MP differential pressure switches for R22, R134a, R404A, R407A, R407C, R407F, R422B, R422D, R448A, R449A, R450A, R452A, R507A, R513A



Ordering

Type	Control differential Δp [psi]	Regulation range LP side [inHg] – [psi]	Time relay delay time [s]	Connection type	Code no.
MP 54	6.0	29 – 175	45	1/4 in Flare	060B200866
	6.0	29 – 175	45	1/4 in Flare nut with 36 in capillary tube	060B205066
	9.0	29 – 175	90	1/4 in Flare	060B200266
	9.0	29 – 175	120	1/4 in Flare	060B200366 [2]
	9.0	29 – 175	120	1/4 in Flare nut with 36 in capillary tube	060B205366 [2]
MP 55	4.3 – 65	29 – 175	45	1/4 in Flare nut with 36 in capillary tube	060B205466
	4.3 – 65	29 – 175	60	1/4 in Flare	060B201266 [1]
	4.3 – 65	29 – 175	90	1/4 in Flare	060B200666
	4.3 – 65	29 – 175	120	1/4 in Flare	060B200766
	4.3 – 65	29 – 175	120	1/4 in Flare nut with 36 in capillary tube	060B205766

[1] *With glow lamp that remains on during normal operation of compressor.*
[2] *Three-wire hook-up.*
Note: When time delay is energized which also means that min. permisible oil pressure (differential Δp) is reached, light goes out.

MP differential pressure switches for R717, R22, R134a, R404A, R407A, R407C, R407F, R422B, R422D, R448A, R449A, R450A, R452A, R507A, R513A



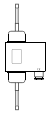
Ordering

Type	Differential Δp [bar]	Operation range, LP side [bar]	Relay release time [s]	Connection type	Code no.
MP 55A	0.3 – 4.5	-1 – 12	45	G 3/8 A supplied with ø6.5 / 10 mm weld nipple	060B017466
	0.3 – 4.5	-1 – 12	45	M12×1.5 with 6 mm cutting ring	060B018266
	0.3 – 4.5	-1 – 12	60	G 3/8 A supplied with ø6.5 / 10 mm weld nipple	060B017566
	0.3 – 4.5	-1 – 12	60	M12×1.5 with 6 mm cutting ring	060B018366
	0.3 – 4.5	-1 – 12	60	G 3/8 A supplied with ø6.5 / 10 mm weld nipple	060B017966 [1]
	0.3 – 4.5	-1 – 12	90	G 3/8 A supplied with ø6.5 / 10 mm weld nipple	060B017666
	0.3 – 4.5	-1 – 12	90	M12×1.5 with 6 mm cutting ring	060B018466
	0.3 – 4.5	-1 – 12	120	G 3/8 A supplied with ø6.5 / 10 mm weld nipple	060B017766
	0.3 – 4.5	-1 – 12	120	M12×1.5 with 6 mm cutting ring	060B018566
	0.3 – 4.5	-1 – 12	0 [2]	G 3/8 A supplied with ø6.5 / 10 mm weld nipple	060B029866 [2]
	0.3 – 4.5	-1 – 12	0 [2]	M12×1.5 with 6 mm cutting ring	060B029666

[1] *With glow lamp that remains on during normal operation.*
Note: If the operational light goes out, the compressor should not run longer than the release time.
[2] *MP without time relay.*
Versions without time relay are for applications where an external time relay is required - perhaps with a different release time than the one specified.

Technical data and ordering

MP differential pressure switches for R32, R290, R600, R600a, R1270



Ordering

Type	Differential range Δp [bar]	Switch differential max. Δp [bar]	Operation range, LP side [bar]	Connection type	Code no.
MP 55E	0.3 – 4.5	0.2	-1 – 12	1/4 inch ODF solder	060B530066

Quick Selection Notes:

ACB / CCB, Cartridge pressure switches

Cartridge pressure switches are small diaphragm type pressure switches for use in refrigeration and air conditioning systems. They as standard are equipped with a 6A contact system with automatic or manual reset. ACB / CCB are robust and reliable in use, and the small size, lightness and high degree of protection means that they can be mounted directly on the refrigeration system where pressure monitoring is required.
Cartridge pressure switches are available in many different versions with different pressure settings and pressure connections.



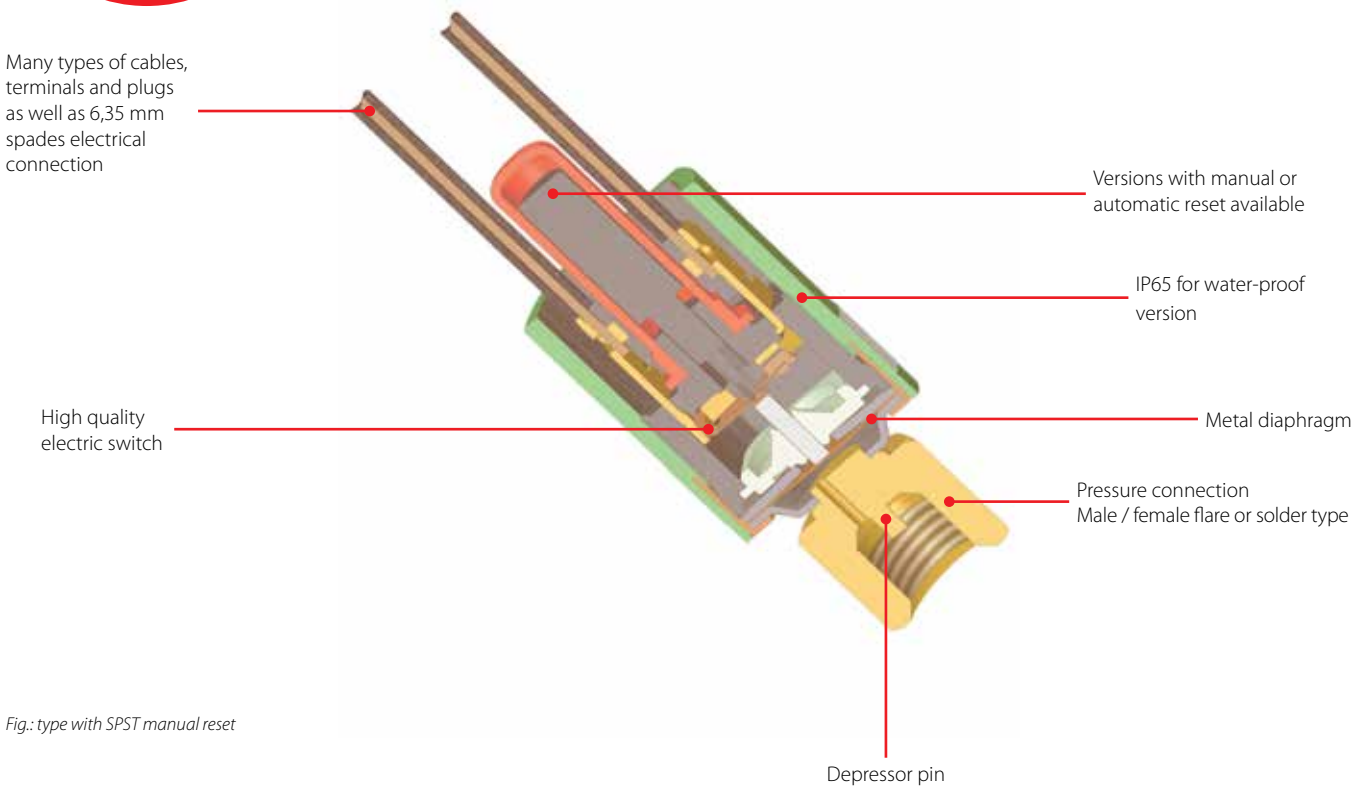


Fig.: type with SPST manual reset

Facts

Application:
- Traditional refrigeration
- Heat pump systems
- Air conditioning units
- Liquid coolers
- Transport refrigeration

- Compact and easy to install
- Metal diaphragm:
  - excellent reliability and repeatability
  - lifetime of 100 000 cycles minimum
  - no contact chattering during changeover
- Flexible order quantity due to European production with short lead times
- Wide choice of specifications:
  - set-point
  - pressure connection
  - electrical connection
- Global coverage and widespread use by major OEMs
- Over 100 million pcs installed in the field

- CE, TÜV, UL and C-UL approvals (SPDT man. only CE appovals)
- Additional information about special versions: 1 A (250 V AC); 4 A (250 V AC) SPDT, 6 A (250 V AC) SPST and gold plated contact system 0.05 A (12 / 24 V DC)
- Normally Closed (NC), Normally Open (NO) or SPDT contact system
- Convenient electrical connection - spades or cables (1.5 m cable for standard version)
- Pressure range: -0.6 – 150 bar
- Automatic or manual reset
- IP65 (water proof version with cables)

Technical data and ordering

ACB cartridge pressure switches for R22, R134a, R404A, R407C, R407A, R40C, R407F, R410A, R438A, R448A, R449A, R450A, R452A, R513A

Ordering

Application	Reset	Cut out		Cut in		Contact system	Enclosure type W-waterproof [1] O-open type [2]	Connection type	Code no.
		[bar]	[psi]	[bar]	[psi]				
High pressure cut-out	Auto	18 ± 0.7	260 ± 10	13 ± 1.2	190 ± 17	SPST-NC	W	6 mm / solder	061F7504
	Auto	18 ± 0.7	260 ± 10	13 ± 1.2	190 ± 17	SPST-NC	W	1/4 in / solder	061F7505
	Auto	18 ± 0.7	260 ± 10	13 ± 1.2	190 ± 17	SPST-NC	W	1/4 in / female flare	061F7506
	Auto	18 ± 0.7	260 ± 10	13 ± 1.2	190 ± 17	SPDT	W	1/4 in / female flare	061F9057
	Auto	20 ± 1.0	290 ± 14	16 ± 1.5	230 ± 21	SPST-NC	O	1/4 in / solder	061F8710
	Auto	20 ± 1.0	290 ± 14	16 ± 1.5	230 ± 21	SPST-NC	O	1/4 in / female flare	061F8708
	Auto	23 ± 0.7	335 ± 10	19 ± 1.5	275 ± 17	SPST-NC	O	1/4 in / solder	061F8707
	Auto	23 ± 0.7	335 ± 10	19 ± 1.2	275 ± 17	SPST-NC	W	1/4 in / female flare	061F8494
	Auto	23 ± 0.7	335 ± 10	19 ± 1.2	275 ± 17	SPDT	W	1/4 in / female flare	061F9056
	Manual	23 ± 0.7	335 ± 10	19 ± 1.2	275 ± 17	SPDT	W	1/4 in / female flare	061F9243
	Auto	26 ± 1.0	380 ± 15	20 ± 1.5	290 ± 22	SPST-NC	W	6 mm / solder	061F7507
	Auto	26 ± 1.0	380 ± 15	20 ± 1.5	290 ± 22	SPST-NC	W	1/4 in / solder	061F7508
	Auto	26 ± 1.0	380 ± 15	20 ± 1.5	290 ± 22	SPST-NC	W	1/4 in / female flare	061F7509
	Auto	26 ± 1.0	380 ± 15	20 ± 1.5	290 ± 22	SPST-NC	O	1/4 in / solder	061F8705
	Auto	26 ± 1.0	380 ± 15	20 ± 1.5	290 ± 22	SPST-NC	O	1/4 in / female flare	061F8701
	Auto	26 ± 1.0	380 ± 15	20 ± 1.5	290 ± 22	SPDT	W	1/4 in / female flare	061F9055
	Manual	26 ± 1.0	380 ± 15	20 ± 1.5	290 ± 22	SPST-NC	W	6 mm / solder	061F9703
	Manual	26 ± 1.0	380 ± 15	20 ± 1.5	290 ± 22	SPST-NC	W	1/4 in / solder	061F9714
	Manual	26 ± 1.0	380 ± 15	20 ± 1.5	290 ± 22	SPST-NC	W	1/4 in / female flare	061F9713
	Auto	28 ± 1.0	405 ± 14	21 ± 1.5	305 ± 22	SPST-NC	W	6 mm / solder	061F7510
	Auto	28 ± 1.0	405 ± 14	21 ± 1.5	305 ± 22	SPST-NC	W	1/4 in / solder	061F7513
	Auto	28 ± 1.0	405 ± 14	21 ± 1.5	305 ± 22	SPST-NC	W	1/4 in / female flare	061F7514
	Auto	28 ± 1.0	405 ± 14	21 ± 1.5	305 ± 22	SPST-NC	O	1/4 in / solder	061F8704
	Auto	28 ± 1.0	405 ± 14	21 ± 1.5	305 ± 22	SPST-NC	O	1/4 in / female flare	061F8700
	Auto	28 ± 1.0	405 ± 14	21 ± 1.5	305 ± 22	SPDT	W	1/4 in / female flare	061F9054
	Manual	28 ± 1.0	405 ± 14	21 ± 1.5	305 ± 22	SPDT	W	1/4 in / female flare	061F9242
	Manual	28 ± 1.0	405 ± 14	21 ± 1.5	305 ± 22	SPST-NC	W	1/4 in / female flare	061F9522
	Auto	31 ± 1.0	405 ± 14	24 ± 1.5	350 ± 22	SPST-NC	W	6 mm / solder	061F8493
	Auto	31 ± 1.0	405 ± 14	24 ± 1.5	350 ± 22	SPST-NC	W	1/4 in / female flare	061F8492
	Auto	31 ± 1.0	405 ± 14	24 ± 1.5	350 ± 22	SPST-NC	O	1/4 in / solder	061F8706
	Auto	31 ± 1.0	405 ± 14	24 ± 1.5	350 ± 22	SPDT	W	1/4 in / female flare	061F9053
	Auto	42 ± 1.2	610 ± 17	33 ± 2.0	480 ± 29	SPST-NC	W	6 mm / solder	061F7515
	Auto	42 ± 1.2	610 ± 17	33 ± 2.0	480 ± 29	SPST-NC	W	1/4 in / solder	061F7516
	Auto	42 ± 1.2	610 ± 17	33 ± 2.0	480 ± 29	SPST-NC	W	1/4 in / female flare	061F7517
	Manual	42 ± 1.2	610 ± 17	33 ± 2.0	480 ± 29	SPST-NC	W	1/4 in / female flare	061F9575
	Auto	42 ± 1.2	610 ± 17	33 ± 2.0	480 ± 29	SPDT	W	1/4 in / female flare	061F9052
Low pressure cut-out	Auto	0.5 ± 0.4	7 ± 6	1.5 ± 0.5	22 ± 4	SPST-NO	W	6 mm / solder	061F7518
	Auto	0.5 ± 0.4	7 ± 6	1.5 ± 0.5	22 ± 4	SPST-NO	W	1/4 in / solder	061F7519
	Auto	0.5 ± 0.4	7 ± 6	1.5 ± 0.5	22 ± 4	SPST-NO	W	1/4 in / female flare	061F7520
	Auto	0.5 ± 0.4	7 ± 6	1.5 ± 0.5	22 ± 4	SPST-NO	O	1/4 in / solder	061F7402
	Auto	0.5 ± 0.4	7 ± 6	1.5 ± 0.5	22 ± 4	SPST-NO	O	1/4 in / female flare	061F7400
	Auto	0.5 ± 0.4	7 ± 6	1.5 ± 0.5	22 ± 4	SPDT	O	1/4 in / solder	061F9106
	Auto	0.5 ± 0.4	7 ± 6	1.5 ± 0.5	22 ± 4	SPDT	O	1/4 in / female flare	061F9102
	Auto	0.7 ± 0.5	10 ± 7	1.7 ± 0.4	25 ± 6	SPST-NO	W	6 mm / solder	061F7521
	Auto	0.7 ± 0.5	10 ± 7	1.7 ± 0.4	25 ± 6	SPST-NO	W	1/4 in / solder	061F7522
	Auto	0.7 ± 0.5	10 ± 7	1.7 ± 0.4	25 ± 6	SPST-NO	W	1/4 in / female flare	061F7523
	Auto	0.7 ± 0.5	10 ± 7	1.7 ± 0.4	25 ± 6	SPDT	W	1/4 in / female flare	061F9058
	Auto	1.7 ± 0.5	25 ± 7	2.7 ± 0.4	39 ± 6	SPST-NO	W	6 mm / solder	061F7524
	Auto	1.7 ± 0.5	25 ± 7	2.7 ± 0.4	39 ± 6	SPST-NO	W	1/4 in / solder	061F7525
	Auto	1.7 ± 0.5	25 ± 7	2.7 ± 0.4	39 ± 6	SPST-NO	W	1/4 in / female flare	061F7526
	Auto	2.2 ± 0.3	32 ± 4.5	3.4 ± 0.3	50 ± 4.5	SPST-NO	W	6 mm / solder	061F7418
Fan Control	Auto	8.5 ± 1.2	125 ± 17	11 ± 0.8	11 ± 0.8	SPST-NO	W	6 mm / solder	061F8491
	Auto	8.5 ± 1.2	125 ± 17	11 ± 0.8	11 ± 0.8	SPST-NO	W	1/4 in / female flare	061F8490
	Auto	13 ± 1.5	190 ± 22	16 ± 1.0	16 ± 1.0	SPST-NO	W	6 mm / solder	061F8334
	Auto	13 ± 1.5	190 ± 22	16 ± 1.0	16 ± 1.0	SPST-NO	W	1/4 in / female flare	061F8333

[1]) Waterproof models (IP65) with 1.5 m wires AWG18, packed per 20 pcs.
[2]) Models with spade connectors (IP40), Packed per 50 pcs..

Technical data and ordering

CCB cartridge pressure switches for CO_2 only

Ordering

Application	Reset	Cut out		Cut in		Contact system	Enclosure type W-waterproof	Connection type	Code no.
		[bar]	[psi]	[bar]	[psi]				
High pressure control	Auto	100±10	1450±145	70±20	1015±290	SPST-NC	W	6.35 mm / solder	061F9808 [1]
	Auto	100±10	1450±145	70±20	1015±290	SPST-NC	W	6.35 mm / solder	061F9908 [2]
	Auto	110±10	1595±145	80±20	1160±290	SPST-NC	W	6.35 mm / solder	061F9809 [1]
	Auto	110±10	1595±145	80±20	1160±290	SPST-NC	W	6.35 mm / solder	061F9909 [2]
	Auto	120±10	1740±145	90±20	1305±290	SPST-NC	W	6.35 mm / solder	061F9810 [1]
	Auto	120±10	1740±145	90±20	1305±290	SPST-NC	W	6.35 mm / solder	061F9910 [2]
	Auto	130±10	1885±145	100±20	1450±290	SPST-NC	W	6.35 mm / solder	061F9811 [1]
	Auto	140±10	2030±145	100±20	1450±290	SPST-NC	W	6.35 mm / solder	061F9812 [1]
	Auto	150±10	2175±145	100±20	1450±290	SPST-NC	W	6.35 mm / solder	061F9813 [1]

[1] Models packed per 100 pcs.
[2] Models packed per 20 pcs.

Quick Selection Notes:

FQS, Flow switch

Made by Saginomiya, the FQS flow switches are of the paddle type for general fluid line applications. The SPDT contact mechanism makes or breaks an electric circuit when flow starts or stops.
The FQS flow switch can be used for any fluid compatible with copper alloy materials, which are the parts of the switch which come into contact with the fluid.

The electrical contact block is completely sealed from the fluid.
The paddle consists of three segments that can be removed or trimmed and fixed to the switch for use in pipes from 1 to 6 inches in diameter. The standard paddles are made of copper alloy.
Stainless steel paddles are also available.



Features
FQS



SPDT contact system

Connection 1inch MPT (R1)

1 inch, 2 inch and 3 inch paddles.
For use in pipes 1 to 6 inch in diameter

Facts

Application:
- Chilled water applications for air-conditioning systems
- Water flow control for heat pumps
- Hot-water supply systems
- Fire-sprinkler systems
- Water, Glycol

- Simple mounting and wiring
- Fast and easy to adjust to different pipe sizes
- Water-proof version available if required
- Installation in vertical or horizontal position possible
- CE and UL approval
- SPDT contact system

Technical data and ordering

FQS - Flow switch

Ordering

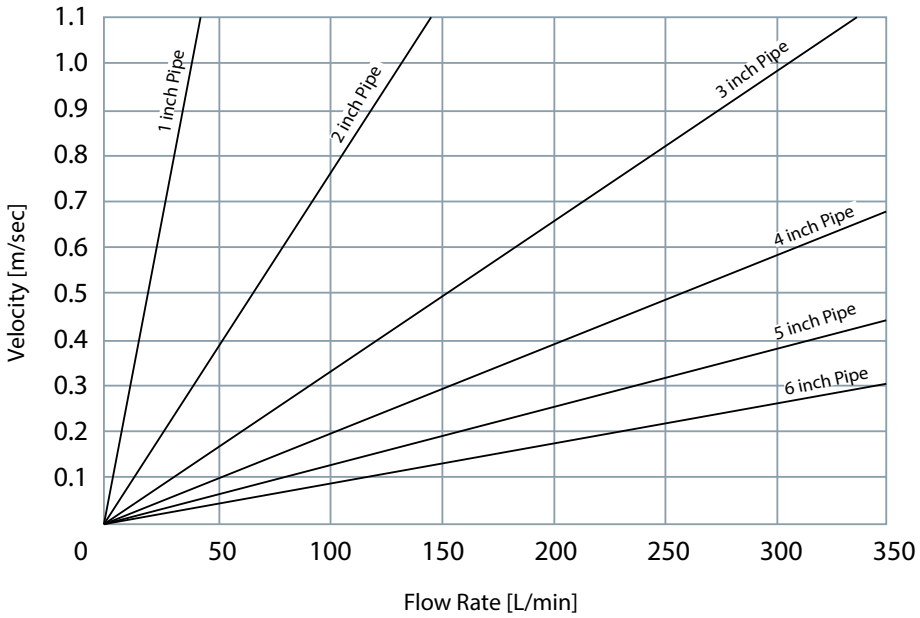
Type	Approvals	Paddle size [in]	Usable line size [in]	Max. fluid pressure MPa [bar]	Connection [in]	IP value	Ambient temperature [°C]	Fluid temperature [°C]	Ambient humidity RH [%]	Code no.
FQS-U30G	CE, UL	1,2 and 3 [1])	1 – 6	0.98 (10)	1 MPT (R1)	20	25 – 80	5 – 80	80	061H4000
FQS-W30G	CE	1,2 and 3 [1])	1 – 6	0.98 (10)	1 MPT (R1)	42	25 – 80	5 – 80	95	061H4005

[1]) 6 inch paddle (material: strainless steel) is available upon request.

Electrical data

Model	Standard	
Current [A]	Voltage [V]	
	125 V [AC]	250 V [AC]
Full Load Amp.	3.5	2.5
Locked Rotor Amp.	21	15
Non-Inductive Amp.	15	15

Flow amount - flow velocity characteristics



Q : Flow Amount (liter/min.)
V : Velocity (m/sec.)
d : Pipe I.D. (mm)
$Q = \Pi d^2/4 \times V \times 6 \times 10^{-2}$ (liter/min.)

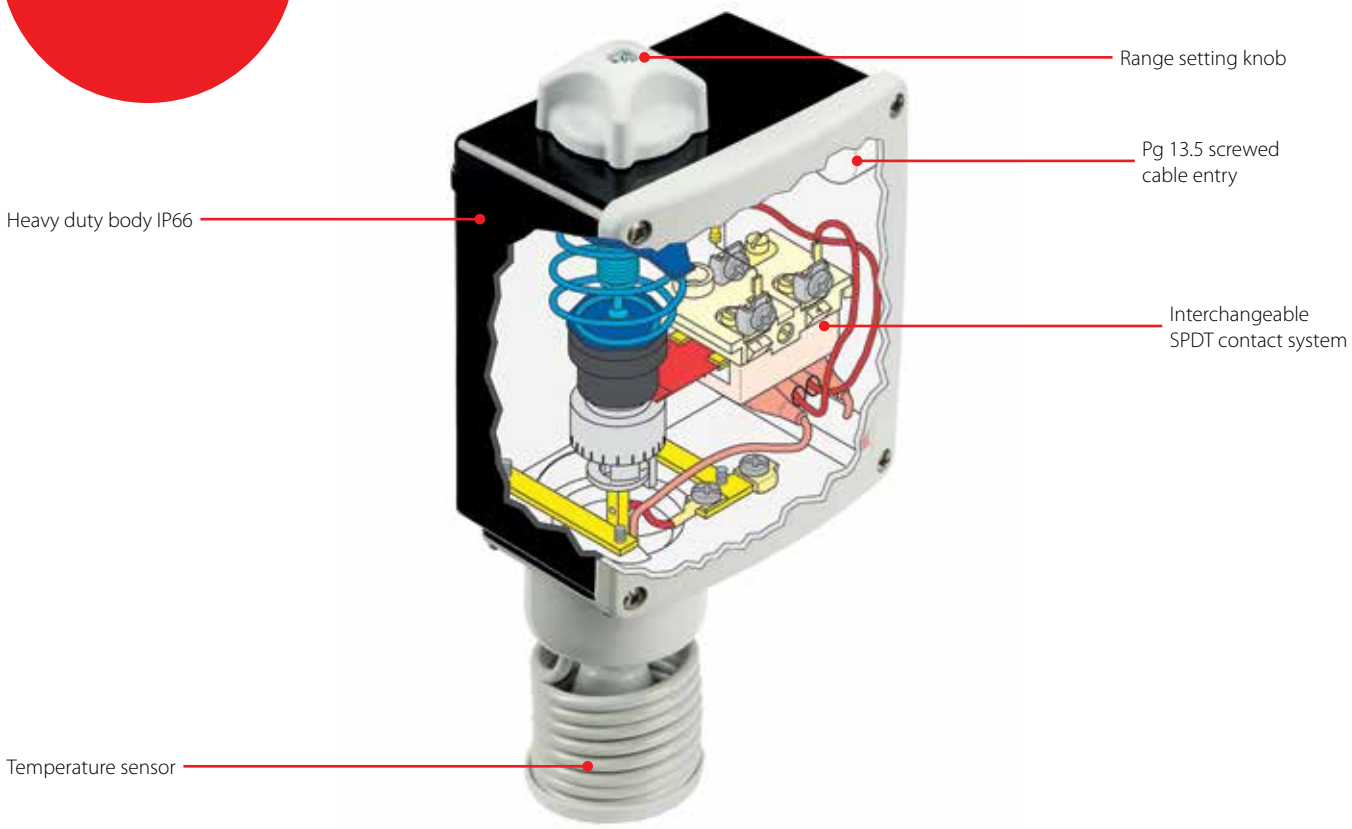
RT, Thermostat

RT thermostats are fitted with a single-pole changeover switch. The position of the contacts depends on the bulb temperature and the set scale value. The RT series includes thermostats for general applications within industrial and marine refrigeration.

The RT series also includes differential thermostats, thermostats for neutral zone regulation, and special thermostats with gold-plated contact surface for PLC applications.



Features
RT



Facts

Application:
- General applications within industrial and marine refrigeration

- Wide regulating range
- Suitable for both alternating and direct current (AC and DC)
- Interchangeable contact system
- High stability and accuracy
- Long operating life time
- Enclosure: IP66 to EN 60529 / IEC 60529, except for versions with ext. reset which are IP54

- Insulation 400 V
- Ambient temperature: -50 – 70 °C for housing
- Special versions for PLC applications
- Cable connection: Pg 13.5
- Cable diameter: 6 – 14 mm

Technical data and ordering

RT thermostats

Ordering

Type	Charge type	Sensor type	Regulation range [°C]	Differential Δt		Reset	Max. sensor temp. [°C]	Capillary tube length [m]	Code no.
				Lowest temp. setting [°C]	Highest temp. setting [°C]				
RT 9	State Vapour [1]	A	-45 – -15	2.2 – 10	1 – 4.5	Auto	150	2	017-506666
RT 3	State Vapour [1]	A	-25 – 15	2.8 – 10	1 – 4	Auto	150	2	017-501466
RT 17	State Vapour [1]	B	-50 – -15	2.2 – 7	1.5 – 5	Auto	100	–	017-511766
RT 11	State Vapour [1]	B	-30 – 0	1.5 – 6	1 – 3	Auto	66	–	017-508366
RT 4	State Vapour [1]	B	-5 – 30	1.5 – 7	1.2 – 4	Auto	75	–	017-503666 017-503766 [4]
RT 13	State Vapour [1]	A	-30 – 0	1.5 – 6	1 – 3	Auto	150	2	017-509766
RT 2	Adsorption [2]	A	-25 – 15	5 – 18	6 – 20	Auto	150	2	017-500866
RT 8	Adsorption [2]	A	-20 – 12	1.5 – 7	1.5 – 7	Auto	145	2	017-506366
RT 12	Adsorption [2]	A	-5 – 10	1 – 3.5	1 – 3	Auto	65	2	017-508966
RT 23	Adsorption [2]	A	5 – 22	1.1 – 3	1 – 3	Auto	85	2	017-527866
RT 15	Adsorption [2]	A	8 – 32	1.6 – 8	1.6 – 8	Auto	150	2	017-511566
RT 24	Adsorption [2]	A	15 – 34	1.4 – 4	1.4 – 3.5	Auto	105	2	017-528566
RT 140	Adsorption [2]	C	15 – 45	1.8 – 8	2.5 – 11	Auto	240	2	017-523666
RT 102	Adsorption [2]	D	25 – 90	2.4 – 10	3.5 – 20	Auto	300	2	017-514766
RT 34	Adsorption [2]	B	-25 – 15	2 – 10	2 – 12	Auto	100	–	017-511866
RT 7	Adsorption [2]	A	-25 – 15	2 – 10	2.5 – 14	Auto	150	2	017-505366
RT 14	Adsorption [2]	A	-5 – 30	2 – 8	2 – 10	Auto	150	2	017-509966
RT 101	Adsorption [2]	A	25 – 90	2.4 – 10	3.5 – 20	Auto	300	2	017-500366
RT 107	Partial [3]	A	70 – 150	6 – 25	1.8 – 8	Auto	215	2	017-513566

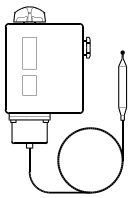
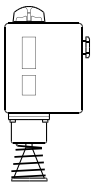
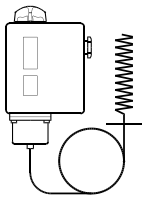
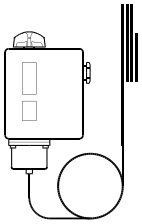
[1] The sensor must be located colder than thermostat housing and capillary tube.
[2] The sensor can be located warmer or colder than thermostat housing.
[3] The sensor must be located warmer than thermostat housing and capillary tube.
[4] With built-in heating coil, reduces the thermal differential.

RT thermostats with adjustable neutral zone

Ordering

Type	Charge	Sensor type	Regulation range [°C]	Mechanical differential [K]	Neutral zone NZ		Max. sensor temp. [°C]	Capillary tube length [m]	Code no.
					At min. range setting [K]	At max. range setting [K]			
RT 16L	Vapour	B	0 – 38	1.5 – 0.7	1.5 – 5	0.7 – 1.9	100	–	017L002466
RT 8L	Adsorption	A	-20 – 12	1.5	1.5 – 4.4	1.5 – 4.9	145	2	017L003066
RT 14L	Adsorption	A	-5 – 30	1.5	1.5 – 5	1.5 – 5	150	2	017L003466
RT 140L	Adsorption	C	15 – 45	1.8 – 2	1.8 – 4.5	2.0 – 5	240	2	017L003166
RT 101L	Adsorption	A	25 – 90	2.5 – 3.5	2.5 – 7	3.5 – 12.5	300	2	017L006266

Type of sensor

A	B	C	D
			
Cylindrical remote sensor	Room sensor	Duct sensor	Capillary tube sensor

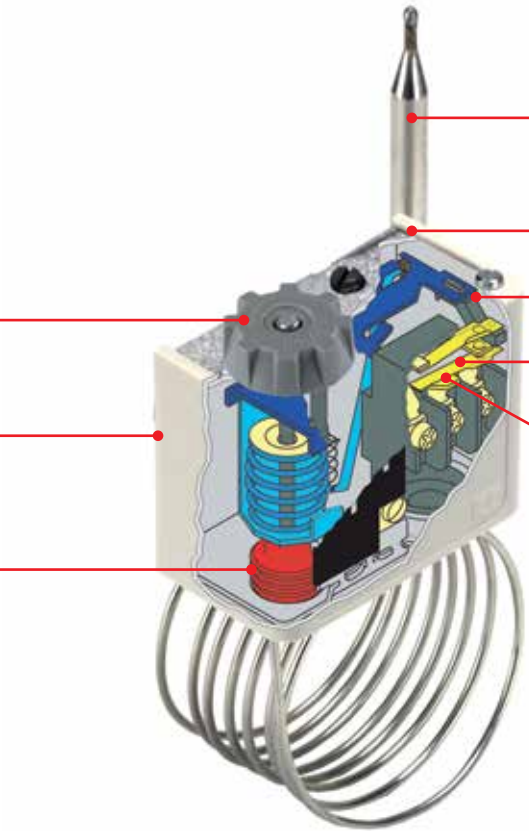
KP, Thermostat

KP thermostats are single-pole, double-throw (SPDT) temperature-operated electric switches.
KP thermostats can be connected directly to a single-phase AC motor of up to approximately 2 kW or installed in the control circuit of DC motors and large AC motors.

KP thermostats are used primarily for regulation, but also for safety monitoring systems, and are available with vapour charge or with adsorption charge. With vapour charge the differential is very small. KP thermostats with adsorption charge are widely used to give frost protection.



Features
KP



Facts

Application:
- Frost protection
- Defrost control
- Case and Room control

- Easy to handle compact design with large and visible scale plates
- Vibration and shock resistant
- High reliability both electrically and mechanically – a KP control can be connected directly to a single-phase AC motor of up to approximately 2 kW or installed in the control circuit of DC motors and large AC motors
- Wide range of approvals - Danfoss offers a wide range of approvals suited for specific applications and geographical markets
- Available with capillary sensor, air sensor or cylindrical pocket sensor
- Different sensing elements - As experts in charging technologies Danfoss offers temperature switches that operate in a wide temperature range
- Available with vapour charge or with adsorption charge
- IP30 can be increased to IP44 or IP55 using top plate or IP55 enclosure available as accessories

Technical data and ordering

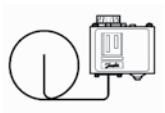
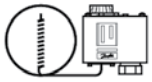
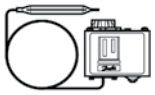
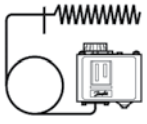
KP thermostats

Ordering

Sensor type	Charge	Bulb type	Regulation range [°C]	Differential Δt		Reset	Max. bulb temp. [°C]	Capillary tube length [m]	Code no.
				Lowest temperature [°C]	Lowest temperature [°C]				
KP 61	Vapour [1]	A	-30 – 15	5.5 – 23	1.5 – 7	Auto	120	2	060L110066
	Vapour [1]	A	-30 – 15	5.5 – 23	1.5 – 7	Auto	120	5	060L110166
	Vapour [1]	B	-30 – 13	4.5 – 23	1.2 – 7	Auto	120	2	060L110266
	Vapour [1]	B	-30 – 15	5.5 – 23	1.5 – 7	Auto	120	2	060L110366 [3]
	Vapour [1]	B	-30 – 15	5.5 – 23	1.5 – 7	Auto	120	2	060L112866 [3] [4]
	Vapour [1]	A	-30 – 15	Fixed 6	Fixed 2	Min.	120	5	060L110466
	Vapour [1]	B	-30 – 15	Fixed 6	Fixed 2	Min.	120	2	060L110566
KP 62	Vapour [1]	C 1	-30 – 15	6.0 – 23	1.5 – 7	Auto	120	–	060L110666
KP 63	Vapour [1]	A	-50 – 10	10.0 – 70	2.7 – 8	Auto	120	2	060L110766
	Vapour [1]	B	-50 – 10	10.0 – 70	2.7 – 8	Auto	120	2	060L110866
KP 68	Vapour [1]	C 1	-5 – 35	4.5 – 25	1.8 – 7	Auto	120	–	060L111166
KP 69	Vapour [1]	B	-5 – 35	4.5 – 25	1.8 – 7	Auto	120	2	060L111266
KP 62	Adsorbtion [2]	C 2	-30 – 15	5.0 – 20	2.0 – 8	Auto	80	–	060L111066 [3] [4]
KP 71	Adsorbtion [2]	E 2	-5 – 20	3.0 – 10	2.2 – 9	Auto	80	2	060L111366
	Adsorbtion [2]	E 2	-5 – 20	Fixed 3	Fixed 3	Min.	80	2	060L111566
KP 73	Adsorbtion [2]	E 1	-25 – 15	12.0 – 70	8.0 – 25	Auto	80	2	060L111766
	Adsorbtion [2]	D 1	-25 – 15	4.0 – 10	3.5 – 9	Auto	80	2	060L111866 [3]
	Adsorbtion [2]	D 1	-25 – 15	Fixed 3.5	Fixed 3.5	Min.	80	2	060L113866
	Adsorbtion [2]	D 2	-20 – 15	4.0 – 15	2.0 – 13	Auto	55	3	060L114066
	Adsorbtion [2]	D 1	-25 – 15	3.5 – 20	3.25 – 18	Auto	80	2	060L114366
KP 75	Adsorbtion [2]	F	0 – 35	3.5 – 16	2.5 – 12	Auto	110	2	060L112066
	Adsorbtion [2]	E 2	0 – 35	3.5 – 16	2.5 – 12	Auto	110	2	060L113766
KP 77	Adsorbtion [2]	E 3	20 – 60	3.5 – 10	3.5 – 10	Auto	130	2	060L112166
	Adsorbtion [2]	E 3	20 – 60	3.5 – 10	3.5 – 10	Auto	130	3	060L112266
	Adsorbtion [2]	E 2	20 – 60	3.5 – 10	3.5 – 10	Auto	130	5	060L116866
KP 79	Adsorbtion [2]	E 3	50 – 100	5.0 – 15	5.0 – 15	Auto	150	2	060L112666
KP 81	Adsorbtion [2]	E 3	80 – 150	7.0 – 20	7.0 – 20	Auto	200	2	060L112566
	Adsorbtion [2]	E 3	80 – 150	Fixed 8	Fixed 8	Max.	200	2	060L115566
KP 98	Adsorbtion [2]	E 2	OIL: 60 – 120	OIL: Fixed 14	OIL: Fixed 14	Max.	150	1	060L113166
	Adsorbtion [2]	E 2	HT: 100 – 180	HT: Fixed 25	HT: Fixed 25	Max.	250	2	

[1] Sensor must always be placed colder than the thermostat housing and capillary tube. The thermostat will then regulate independent of ambient temperature.
[2] Sensor can be placed warmer or colder than thermostat housing and capillary tube, but variations from 20 °C ambient temperature will influence the scale accuracy.
[3] With manual switch, not isolating switch.
[4] Panel mounting model with top plate.

Thermostat sensor types

A	B	C	D	E	F
					
Straight capillary tube	ø9.5 × 70 mm remote air coil	C1: ø40 × 30 mm air coil C2: ø25 × 67 mm air coil (integral with thermostat)	D1: ø10 × 85 mm double contact remote sensor D2: ø16 × 170 mm double contact remote sensor Note! Cannot be used in sensor pocket	E1: ø6.4 × 95 mm remote sensor E2: ø9.5 × 115 mm remote sensor E3: ø9.5 × 85 mm remote sensor	ø25×125 mm remote duct coil

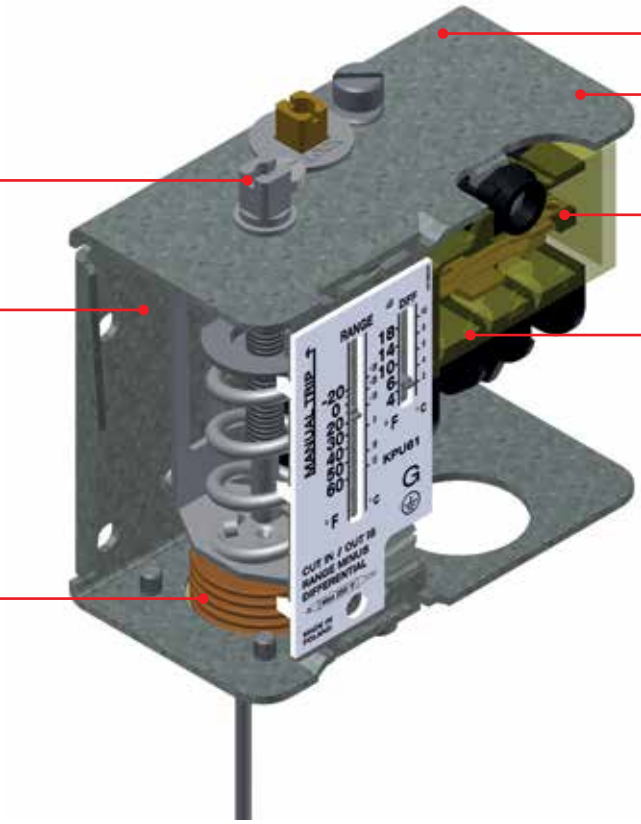
KPU, Thermostat

The KPU Thermostats are temperature controlled electrical switches, which are applied for regulation and safety monitoring of refrigeration and air conditioning systems.
KPU sensors are available with vapor charge or with adsorption charge.

The Thermostats with adsorption charge are widely used to give frost protection, while vapor charged sensors are used where small differential is required.
All KPU Thermostats have a single pole double throw (SPDT) contact system. The position of the switch depends on the thermostat setting and the bulb temperature.



Features
KPU



Available with manual and automatic reset

Vibration proof

Range and differential easily adjustable with screw driver

Reliable and fully visible SPDT contact system

Compact design

High contact rating:
FLA = 24 A @ 120 V AC / 240 V AC
LRA = 144 A @ 120 V AC / 240 V AC
LRA is rated for make only

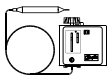
Bellows without any welding points

Facts

- Wide temperature regulating range allows use in low, medium, and high temperature refrigeration application and air-conditioning systems
- Snap-action electrical contacts minimize chatter, bounce and wear, and ensure long-term electrical and mechanical reliability
- Fingertip manual trip feature allows contact function testing without tools
- Easily replaces other manufacturers' thermostats
- Ultra-short bounce time
- Long operating lifetime
- Vibration and shock resistant
- SPDT switch allows NC or NO function option as well as alarm capability
- Automatic and manual reset versions available

Technical data and ordering

KPU thermostats

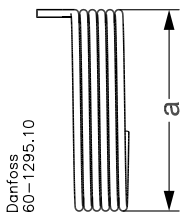
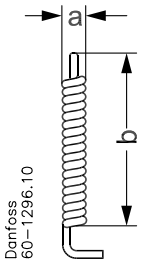
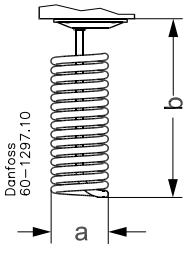
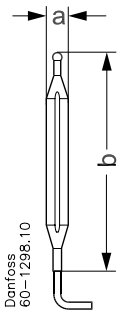
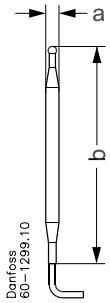
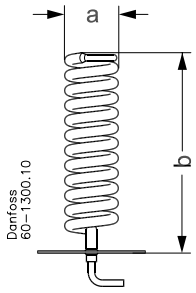


Ordering

Type	Charge	Bulb type	Range [°F]	Differential		Max. bulb temp. [°F]	Reset function	Capillary tube length [in.]	Code no.
				at lowest temperature setting [°F]	at highest temperature setting [°F]				
KPU 61	Vapour [1])	A	-20 – 60	10 – 40	2.5 – 13	250	auto.	80	060L5201
KPU 61	Vapour [1])	B	-20 – 60	10 – 40	2.5 – 13	250	auto.	80	060L5203
KPU 61B	Vapour [1])	B	-20 – 60	fixed 11	fixed 3.5	250	man. [3])	80	060L5204
KPU 61B	Vapour [1])	B	-20 – 60	fixed 11	fixed 3.5	250	man. [3])	200	060L5205
KPU 62	Vapour [1])	C1	-20 – 60	10 – 40	2.5 – 13	250	auto.	room sensor	060L5206
KPU 61	Vapour [1])	B	-20 – 60	10 – 40	2.5 – 13	250	auto. [4])	80	060L5210
KPU 63	Vapour [1])	A	-60 – 15	18 – 125	5 – 15	250	auto.	80	060L5213
KPU 63	Vapour [1])	B	-60 – 15	18 – 125	5 – 15	250	auto.	80	060L5214
KPU 68	Vapour [1])	C1	25 – 95	8 – 45	3 – 13	250	auto.	room sensor	060L5215
KPU 69	Vapour [1])	B	25 – 95	8 – 45	3 – 13	250	auto.	80	060L5217
KPU 62	Adsorption [2])	C2	-20 – 60	9 – 36	3 – 14	175	auto. [4])	room sensor	060L5207
KPU 73	Adsorption [2])	E3	-15 – 60	6.5 – 32	5 – 50	175	auto.	80	060L5208
KPU 73	Adsorption [2])	E1	-15 – 60	22 – 125	15 – 45	175	auto.	80	060L5209
KPU 73B	Adsorption [2])	E3	-15 – 60	fixed 6	fixed 6	175	man. [3])	80	060L5211
KPU 73	Adsorption [2])	D	-15 – 60	6 – 35	5 – 32	175	auto.	80	060L5212
KPU 71	Adsorption [2])	E2	25 – 70	5.5 – 18	4 – 16	175	auto.	80	060L5218
KPU 71B	Adsorption [2])	E2	25 – 70	fixed 5	fixed 5	175	man. [3])	80	060L5216
KPU 74	Adsorption [2])	E1	0 – 80	9 – 35	9 – 35	175	auto.	80	060L5219
KPU 74B	Adsorption [2])	E1	0 – 80	fixed 10	fixed 10	175	man. [3])	80	060L5220
KPU 75	Adsorption [2])	F	30 – 95	6 – 29	4.5 – 21.5	230	auto.	80	060L5221
KPU 77	Adsorption [2])	E3	60 – 140	6 – 18	6.3 – 18	265	auto.	80	060L5223

[1]) Bulb must be installed in colder position than thermostat housing and capillary tube.
[2]) Bulb can be placed warmer or colder than thermostat housing and capillary tube, but variations from 70 °F ambient temperature will influence the scale accuracy.
[3]) Manual minimum reset. Marked with letter B. Fixed differential. These controls have no hand knob..
[4]) With manual switch and top plate.

Thermostat sensor types

A	B	C	D	E	F
KPU 61 KPU 63 Vapor charge	**KPU 61 KPU 69 Vapor charge**	**KPU 62 KPU 68 Vapor charge KPU 62 Adsorption charge**	**KPU 73 Adsorption charge**	**KPU 73, KPU 74 Adsorption charge KPU 71, KPU 75 Adsorption charge KPU 73, KPU 77 Adsorption charge**	**KPU 75 Adsorption charge**
					
Straight capillary tube Sensing length: 15 in a = 3 1/8 in	Remote air coil a = 3/8 in. b = 2 3/4 in.	Room sensor C1 a = 1 1/2 in b = 1 1/4 in Room sensor C2 a = 1 in b = 3 in	Double contact remote bulb a = 3/8 in b = 3 3/8 in NOTE! Can not be used in sensor pocket!	Remote bulb E1 a = 1/4 in b = 3 3/4 in E2 a = 3/8 in b = 4 1/2 in E3 a = 3/8 in b = 3 3/8 in	Remote duct coil a = 1 in b = 3 5/8 in

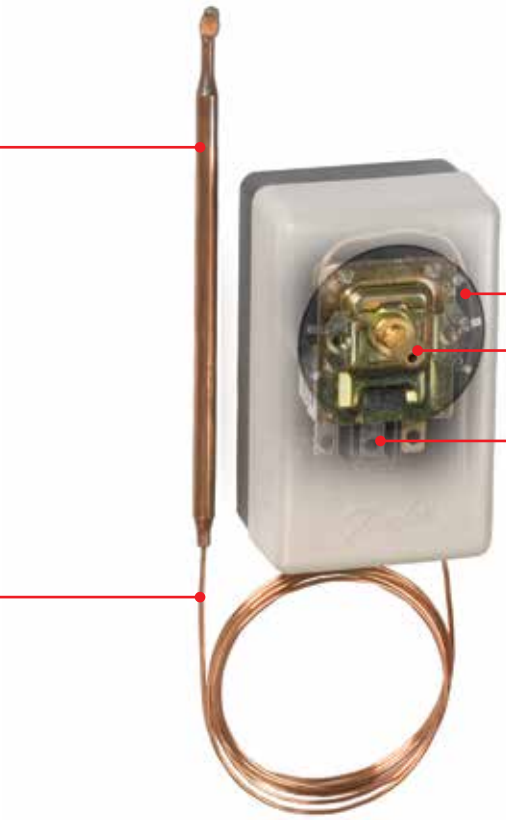
UT, Thermostat

UT thermostats are temperature controlled electric switches with stainless steel $^{18}/_{8}$ or copper capillary tube and sensor.
The temperature can be set easily and accurately using the large knob on the front of the thermostat.

The temperature must be set to correspond to the required mean temperature.
The thermostat has a fixed differential.



Features
UT

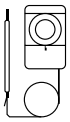


Facts

Application:
- Cold rooms
- Beverage coolers
- Ice cream makers
- Milk coolers
- Air conditioning plant
- Heat recovery systems

- UT is available for wall or panel mounting
- UT for wall mounting:
  IP20 to EN 60529 / IEC 52
- UT for panel mounting:
  IP00 to EN 60529 / IEC 529
- UT 72 for universal purposes:
  -30 – 30 °C
- UT 73 for frost protection:
  0 – 40 °C
- Differential is fixed 2.3 °C
- Automatic reset
- Contact load:
  - AC 1: 10 A, 250 / 380 V

Technical data and ordering



UT thermostats

Ordering

Type	Version	Regulation range [°C]	Differential [°C]	Reset	Max. sensor temperature [°C]	Capillary tube length [m]	Quantity	Connection type	Code no.
UT 72	Wall mounting	-30 – 30	2.3	Auto	60	2.0	1	Copper	060H1501
	Wall mounting	-30 – 30	2.3	Auto	60	2.0	1	18/8 steel	060H1506
	Wall mounting	-30 – 30	2.3	Auto	60	2.0	1	Copper	060H1503 [1])
	Wall mounting	-30 – 30	2.3	Auto	60	3.0	1	Copper	060H1505
	Wall mounting	-30 – 30	2.3	Auto	60	3.0	24	Copper	060H1508
	Panel mounting	-30 – 30	2.3	Auto	60	3.0	48	Copper	060H1605
UT 73	Wall mounting	0 – 40	2.3	Auto	90	2.0	1	Copper	060H1502
	Panel mounting	0 – 40	2.3	Auto	90	2.0	48	Copper	060H1502

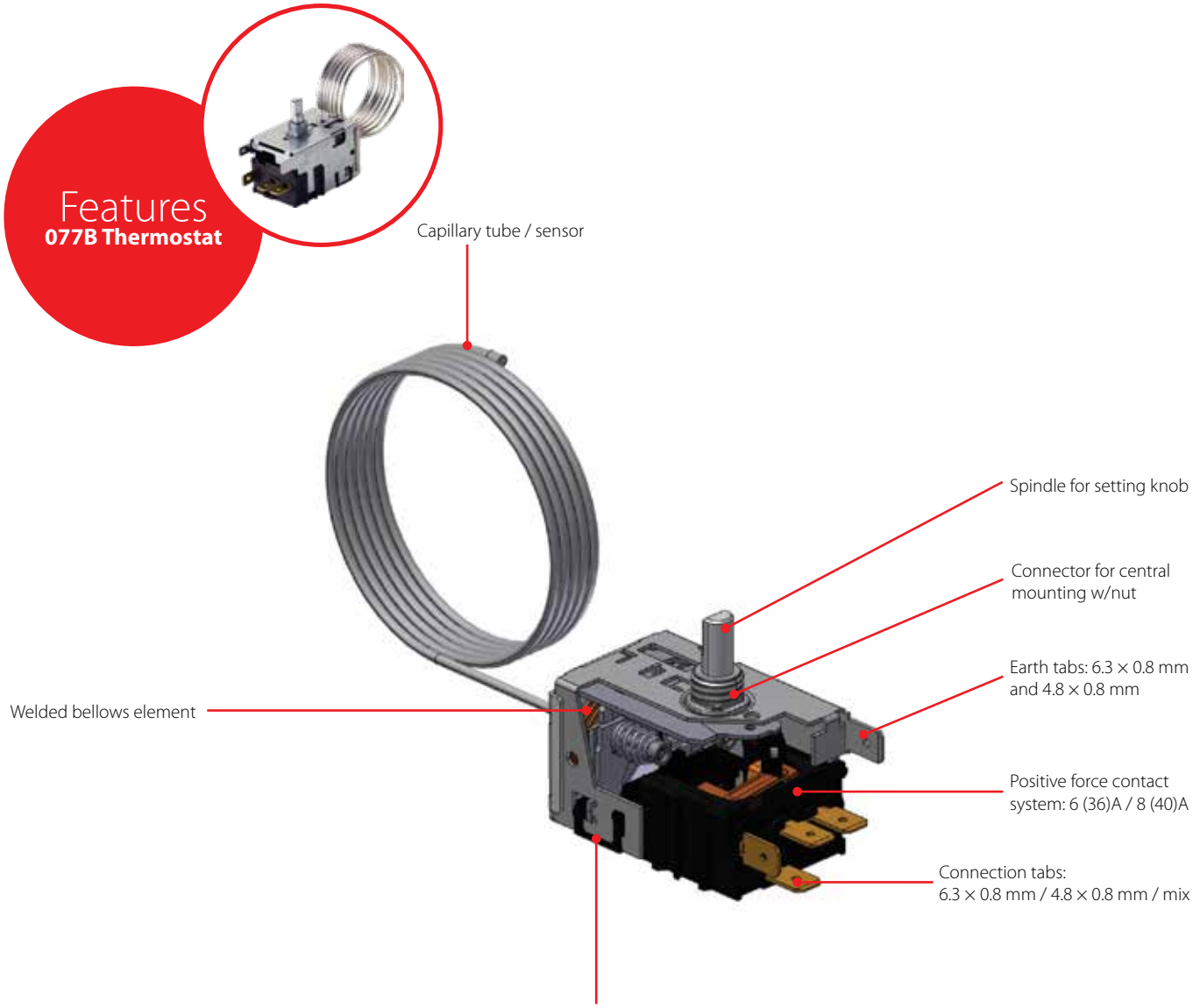
[1]) Included bulb clamps.

Accessories

Version	UT 72	UT 73
Setting knob	060-1067	060-1096
Bulb clamp	060-1090	060-1090

077B, Thermostat

077B thermostats have NC (Normally Closed) main contacts; i.e. they cut out the compressor current circuit on decreasing temperature. 077B thermostats are designed to operate at least 300,000 cycles at full load (6/36A and 8/40A respectively); internal quality audits reinforced product performance by metering over 1,000,000 cycles. 077B thermostats are designed for temperature control in refrigerators and freezers and can be used as an evaporator or a room thermostat.



Facts

Application:
- Refrigerators
- Upright and chest freezers
- Liquid and bottle coolers
- Small commercial refrigeration

- World class quality with high CpK values that ensures a long and trouble-free lifetime
- Available with Enclosed Brake Device (EBD) for use in household appliances charged with hydrocarbon gases such as R600a or R290
- Available with a wide range of standard functions, various extra functions and accessories
- Available with 6.3 × 0.8 mm, 4.8 × 0.8 mm terminals or a combination
- Approved by recognized authorities for specific applications and geographical markets
- Danfoss Appliance Controls are certified by Bureau Veritas in ISO14001, ISO9001 and OHSAS18001

Technical data and ordering

077B thermostats

Ordering

077B thermostat type	Application	Function	Temperature °C at 760 mm Hg					Capillary tube length	Code no.
			Thermostat position			Signal	Defrost		
			Warm Cut-in / cut-out	Middle Cut-in / cut-out	Cold Cut-in / cut-out				
077B0	Refrigerators	Without extra functionality	3.5 / -3 *)	0 / -7	-5.4 / -12	–	–	1.0	077B0020
	Refrigerators	Without extra functionality	-2 / -11 *)	-5.5 / -15	-10 / -20.5	–	–	1.0	077B0021
	Refrigerators	Without extra functionality	2.5 / -5 *)	–	-13.5 / -24.5	–	–	1.2	077B0033
	Refrigerators	Without extra functionality	2 / -5.5	–	-13.5 / -25 *)	–	–	1.3	077B7001 [1]
	Ice-cream cabinets and freezers without signal	Without extra functionality	-7.5 / -15 *)	–	-22 / -33.1	–	–	2.0	077B0102
	Ice-cream cabinets and freezers without signal	Without extra functionality	-7.5 / -15	–	-21 / -32.5 *)	–	–	2.3	077B7005 [1]
	Liquid and bottle coolers	Without extra functionality (liquid)	15.5 / 9	12 / 5	8 / 0.5 *)	–	–	1.2	077B0027
	Liquid and bottle coolers	Without extra functionality (bottle)	10.5 / 5	0 / -7	3 / -4.5 *)	–	–	1.2	077B0028
	Liquid and bottle coolers	Without extra functionality (bottle)	10.9 / 5.2	–	-1 / -8.5 *)	–	–	2.0	077B0155
	Liquid and bottle coolers	Without extra functionality (bottle & liquid)	11.5 / 6 *)	–	-1 / -8.5	–	–	2.0	077B7008 [1]
	Chest and Upright freezers	Without extra functionality	-15 / -23 *)	-18 / -27	-22 / -32	–	–	0.8	077B0025
077B02	Absorption coolers	With auxiliary contact	3.5 / -1 *)	-2 / -7	-7 / -12.5	–	–	1.2	077B0220
	Absorption coolers	With auxiliary contact	3.5 / -1 *)	–	-5 / -11	–	–	1.5	077B7004 [1]
077B20	Chest and Upright freezers	With signal contact, cutting in on rising temperature	-15 / -23 *)	-18 / -27	-22 / -32	-12 *)	–	0.8	077B2020
	Chest and Upright freezers	With signal contact, cutting in on rising temperature	-10 / -17 *)	–	-24 / -34.7	-6 *)	–	2.0	077B2077
	Chest and Upright freezers	With signal contact, cutting in on rising temperature (active signal)	-10 / -17 *)	–	-24 / -34.5	-6 *)	–	2.3	077B7006 [1]
077B30	Chest and Upright freezers	With signal contact, cutting out on rising temperature (passive signal)	-10 / -17 *)	–	-24 / -34.5	-6 *)	–	2.3	077B7007 [1] [2]
077B40	Refrigerators with pushbutton defrost	With push button defrost	0 / -7.5 *)	–	-11 / -21	–	6	1.3	077B7002 [1]
077B6/62	Two-temperature cabinets with automatic defrost	With constant cut-in temperature, automatic defrost and auxiliary contact	3.5 / -12.5	3.5 / -17.5	3.5 / -23 *)	–	–	1.0	077B6021
	Two-temperature cabinets with automatic defrost	With constant cut-in temperature, automatic defrost and auxiliary contact	3.5 / -11	–	3.5 / -27 *)	–	–	1.2	077B6208
	Two-temperature cabinets with automatic defrost	With constant cut-in temperature, automatic defrost and auxiliary contact	3.5 / -10	3.5 / -15	3.5 / -20 *)	–	–	1.0	077B6220
	Two-temperature cabinets with automatic defrost	With constant cut-in temperature, automatic defrost and auxiliary contact	3.5 / -11	–	3.5 / -27 *)	–	–	2.0	077B6476
	Two-temperature cabinets with automatic defrost	With constant cut-in temperature, automatic defrost and auxiliary contact	3.5 / -11	–	3.5 / -27.5 *)	–	–	1.6	077B7003 [1]
	Two-temperature cabinets with automatic defrost	With constant cut-in temperature, automatic defrost and changeover contact	5 / -10 *)	–	5 / -30	–	–	1.5	077B6321

**) Adjustment position*
[1]) Forming part of the 8 Service Thermostats, sold with accessories in practical boxes
[2]) Available for After Market Sales

Technical data and ordering

Service thermostats

Ordering

Application	No.	Temperatures [°C]				Accessories						Capillary tube length [m]	Remarks	Code no.
		Warm pos. cut-in / cut out	Cold pos. cut-in / cut out	Signal	Defrosting	Washer	Small knob	Push-button	Mounting bracket	Seal cap	Small parts			
Refrigerators	1	2 / -5.5	-13.5 / -25 *)	–	–	x	x	–	x	–	x	1.3	–	077B7001 [1])
Refrigerators with pushbutton defrost	2	0 / -7.5 *)	-11 / -21	–	6	x	x	x	x	–	x	1.3	–	077B7002
Refrigerators with automatic defrost	3	3.5 / -11	3.5 / -27.5 *)	–	–	x	x	–	x	–	x	1.6	With auxillary switch	077B7003 [1])
Absorption refrigerators	4	3.5 / -1 *)	-5 / -11	–	–	x	x	–	x	–	x	1.5	With auxillary switch	077B7004 [1])
Ice-cream cabinets and freezers without signal	5	-7.5 / -15	-21 / -32.5 *)	–	–	–	x	–	x	x	x	2.3	–	077B7005 [1])
Freezers with active signal	6	-10 / -17 *)	-24 / -34.5	-6 *)	–	–	x	–	x	x	x	2.3	With active signal	077B7006 [1])
Freezers with passive signal	7	-10 / -17 *)	-24 / -34.5	-6 *)	–	–	x	–	x	x	x	2.3	With passive signal	077B7007
Bottle and liquid coolers	8	11.5 / 6 *)	-1 / -8.5	–	–	x	x	–	x	x	x	2.0	–	077B7008 [1])

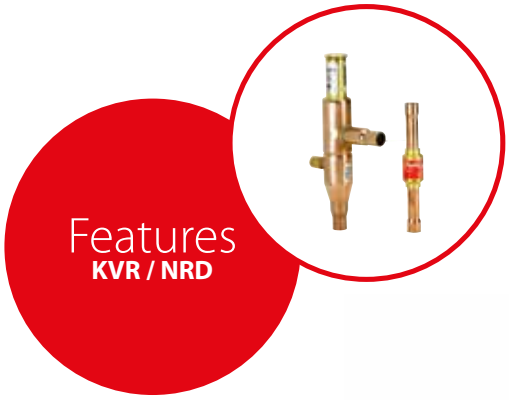
**) Adjustment position*
[1]) With EBD (from January 2017)

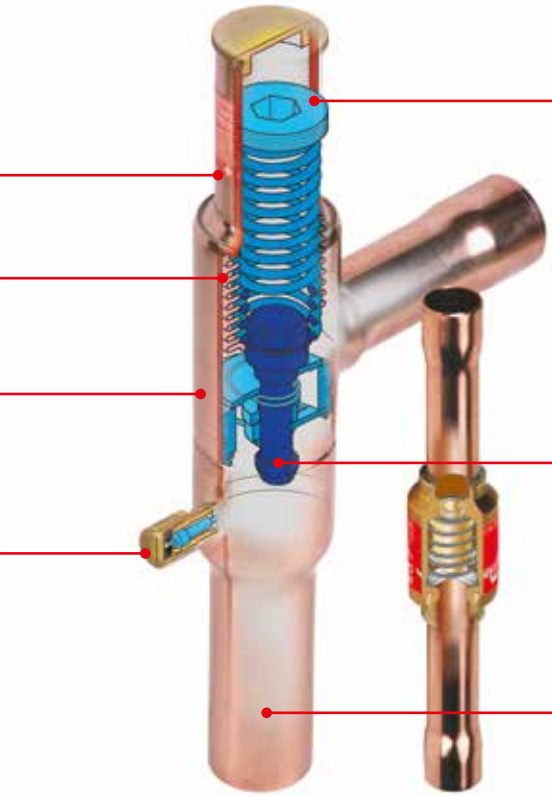
Quick Selection Notes:

KVR / NRD, Condensing pressure regulator / Differential pressure valve

KVR condensing pressure regulator valves can be mounted on either the gas or liquid side of the condenser in refrigeration and air conditioning systems.

They are used to maintain a constant and sufficiently high condensing pressure with systems using air-cooled condensers. KVR condensing pressure regulators can also be used with valve types NRD or KVD to assure that adequate pressure is maintained on the receiver.



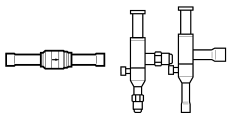


Facts

Application:
- Traditional refrigeration
- Air conditioning units
- Transport refrigeration

- The regulators are the most compact on the market
- Excellent performance because of balanced port design (equalization of force on port)
- The refrigeration system can operate with very large load variations
- Very easy to adjust the KVR
- The NRD is non-adjustable
  - it is activated when pressure differential between discharge line and receiver exceeds 1.4 bar
- Reliable design
- KVR can be installed either in discharge line or liquid line
- Wide capacity and operating range
- Regulation range:
  5 – 17.5 bar / 73 – 254 psig
- KVR 12 – 22, NRD: applicable to R22, R1270, R134a, R290, R404A, R407A, R407C, R407F, R448A, R449A, R450A, R452A, R507A *), R513A, R600, R600a
  *) Not applicable for NRD
- KVR 12 – 22 and NRD: May be used in the following EX range: Category 3 (Zone 2)
- KVR 28 – 35: applicable to R22, R134a, R404A, R407A, R407C, R407F, R448A, R449A, R450A, R452A, R507A, R513A
- Maximum working pressure
  KVR: PS / MWP = 28 bar / 406 psig
  NRD: PS / MWP = 46 bar / 667 psig

Technical data and ordering



KVR / NRD - Condensing pressure regulator / Differential pressure valve

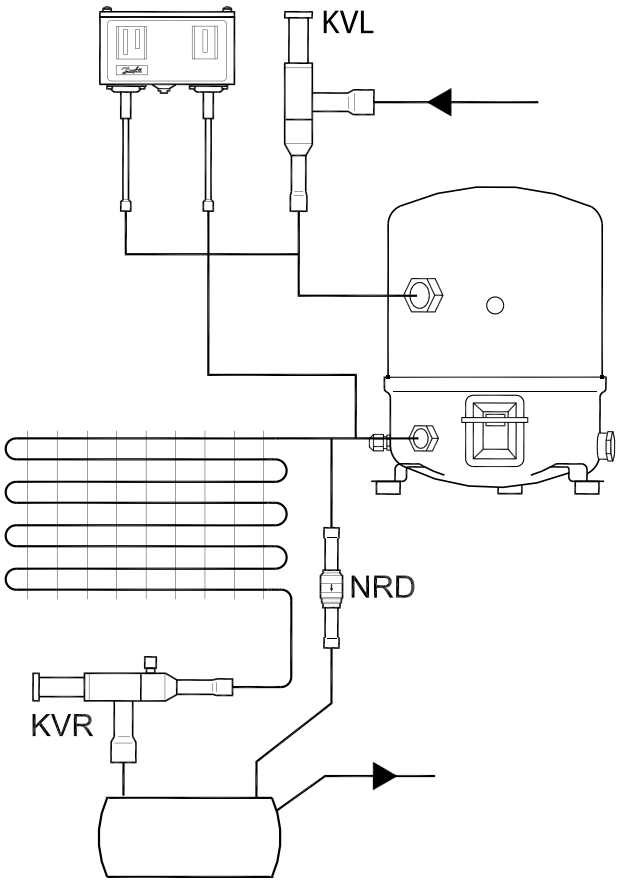
Ordering

Type	Rated liquid capacity in [kW] / [TR] [1]								Rated hot gas capacity in [kW] / [TR] [1]								Connection type	Connection size		Code no.
	R22		R134a		R404A / R507		R407C		R22		R134a		R404A / R507		R407C					
	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]		[in]	[mm]	
KVR 12	50.4	12.7	47.3	11.8	36.6	8.2	54.4	13.8	13.2	4.13	11.6	3.03	12.0	3.27	14.3	4.50	Flare [2] [3]	1/2	12	034L0091
	50.4	12.7	47.3	11.8	36.6	8.2	54.4	13.8	13.2	4.13	11.6	3.03	12.0	3.27	14.3	4.50	Solder, ODF [3]	1/2	–	034L0093
	50.4	12.7	47.3	11.8	36.6	8.2	54.4	13.8	13.2	4.13	11.6	3.03	12.0	3.27	14.3	4.50	Solder, ODF [3]	–	12	034L0096
KVR 15	50.4	12.7	47.3	11.8	36.6	8.2	54.4	13.8	13.2	4.13	11.6	3.03	12.0	3.27	14.3	4.50	Flare [2] [3]	5/8	16	034L0092
	50.4	12.7	47.3	11.8	36.6	8.2	54.4	13.8	13.2	4.13	11.6	3.03	12.0	3.27	14.3	4.50	Solder, ODF [3]	5/8	16	034L0097
KVR 22	50.4	12.7	47.3	11.8	36.6	8.2	54.4	13.8	13.2	4.13	11.6	3.03	12.0	3.27	14.3	4.50	Solder, ODF [3]	7/8	22	034L0094
KVR 28	129	32.6	121	30.2	93.7	20.9	139.3	35.5	34.9	10.93	30.6	8.04	34.9	8.66	37.7	11.91	Solder, ODF [3]	1 1/8	–	034L0095
	129	32.6	121	30.2	93.7	20.9	139.3	35.5	34.9	10.93	30.6	8.04	34.9	8.66	37.7	11.91	Solder, ODF [3]	–	28	034L0099
KVR 35	129	32.6	121	30.2	93.7	20.9	139.3	35.5	34.9	10.93	30.6	8.04	34.9	8.66	37.7	11.91	Solder, ODF [3]	1 3/8	35	034L0100
NRD	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	Solder, ODF [3]	1/2	–	020-1132
	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	Solder, ODF [3]	–	12	020-1136

[1]) Rated capacity is based on:
– evaporating temperature t_e = -10 °C / 14 °F
– condensing temperature t_c = 30 °C / 110 °F
– pressure drop across the valve Δp = 0.2 bar / 3 psi for liquid capacity, Δp = 0.4 bar / 6 psi for hot gas capacity, offset = 3 bar / 45 psi
[2]) KVR are delivered without flare nuts. Separate flare nuts can be supplied: 1/2 in / 12 mm - code no. 011L1103, 5/8 in / 16 mm – code no. 011L1167.
[3]) The connection dimensions chosen must not be too small, as gas velocities in excess of 130 ft/s at the inlet of the regulator can give flow noise.

To select the product for other conditions or refrigerants, use Danfoss Coolselector®2.

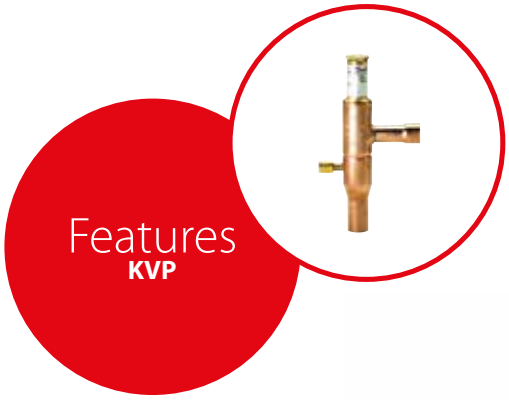
Application example

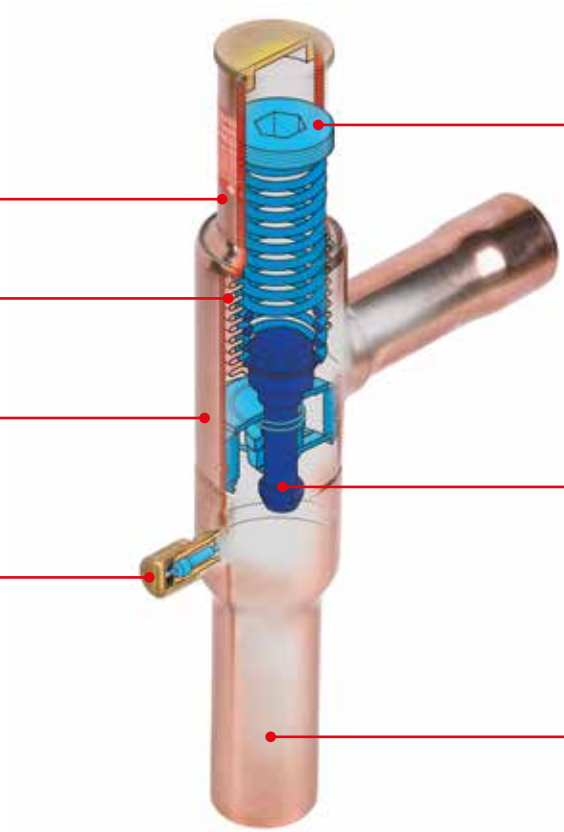


KVP, Evaporator pressure regulator

KVP evaporating pressure regulators are mounted in the suction line of refrigeration and air conditioning systems.
They are used to maintain a constant pressure corresponding to a constant temperature on the evaporator.

They also protect against too low an evaporating pressure by throttling down when the pressure falls below the set value.





Facts

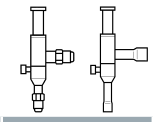
Application:
- Traditional refrigeration
- Air conditioning units
- Cold rooms
- Display cabinets

- The KVP can be used to differentiate the evaporating pressures in two or more evaporators in systems with one compressor
- Protection against a too low evaporating pressure: the regulator closes when the pressure in the evaporator falls below the set value
- Wide capacity and operating range

- Regulation range: 0 – 5.5 bar / 0 – 80 psig
- KVP 12 – 22: applicable to R22, R1270, R134a, R290, R404A, R407A, R407C, R407F, R448A, R449A, R450A, R452A, R507A, R513A, R600, R600a
- KVP 12 – 22: May be used in the following EX range: Category 3 (Zone 2)
- KVP 28 – 35: applicable to R22, R134a, R404A, R407A, R407C, R407F, R448A, R449A, R450A, R452A, R507A, R513A
- Maximum working pressure: PS / MWP = 18 bar / 260 psig

Technical data and ordering

KVP - Evaporator pressure regulator



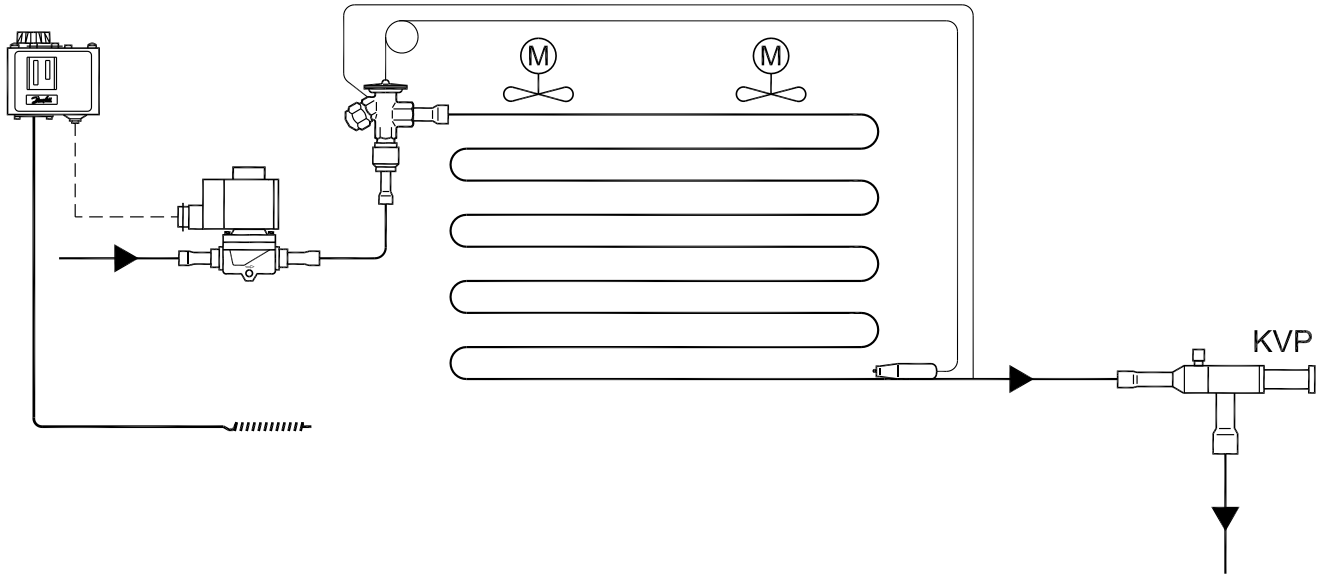
Ordering

Type	Rated capacity in [kW] / [TR] [1]								Connection type	Connection size		Code no.
	R22		R134a		R404A / R507		R407C					
	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]		[in]	[mm]	
KVP 12	4.0	1.3	2.8	0.9	3.6	1.2	3.7	1.2	Flare [2] [3]	1/2	12	034L0021
	4.0	1.3	2.8	0.9	3.6	1.2	3.7	1.2	Solder, ODF [3]	1/2	–	034L0023
	4.0	1.3	2.8	0.9	3.6	1.2	3.7	1.2	Solder, ODF [3]	–	12	034L0028
KVP 15	4.0	1.3	2.8	0.9	3.6	1.2	3.7	1.2	Flare [2] [3]	5/8	16	034L0022
	4.0	1.3	2.8	0.9	3.6	1.2	3.7	1.2	Solder, ODF [3]	5/8	16	034L0029
KVP 22	4.0	1.3	2.8	0.9	3.6	1.2	3.7	1.2	Solder, ODF [3]	7/8	22	034L0025
KVP 28	8.6	2.8	6.1	1.9	7.7	2.6	7.9	2.6	Solder, ODF [3]	1 1/8	–	034L0026
	8.6	2.8	6.1	1.9	7.7	2.6	7.9	2.6	Solder, ODF [3]	–	28	034L0031
KVP 35	8.6	2.8	6.1	1.9	7.7	2.6	7.9	2.6	Solder, ODF [3]	1 3/8	35	034L0032

[1]) Rated capacity is the capacity of the regulator at
– Evaporating temperature t_e = -10 °C / 14 °F
– Condensing temperature t_c = 25 °C / 100 °F
– Pressure drop in regulator Δp = 0.2 bar / 2 psi, offset = 0.6 bar / 9 psi
[2]) Supplied without flare nuts. Separate flare nuts can be supplied: 1/2 in / 12 mm - code no. 011L1103, 5/8 in / 16 mm - code no. 011L1167.
[3]) The connection dimensions chosen must not be too small, since gas velocities in excess of 40 m/s at the inlet of the regulator can give flow noise.

To select the product for other conditions or refrigerants, use Danfoss Coolselector®2.

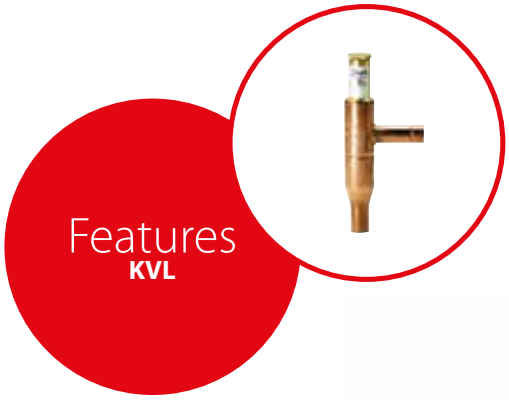
Application example

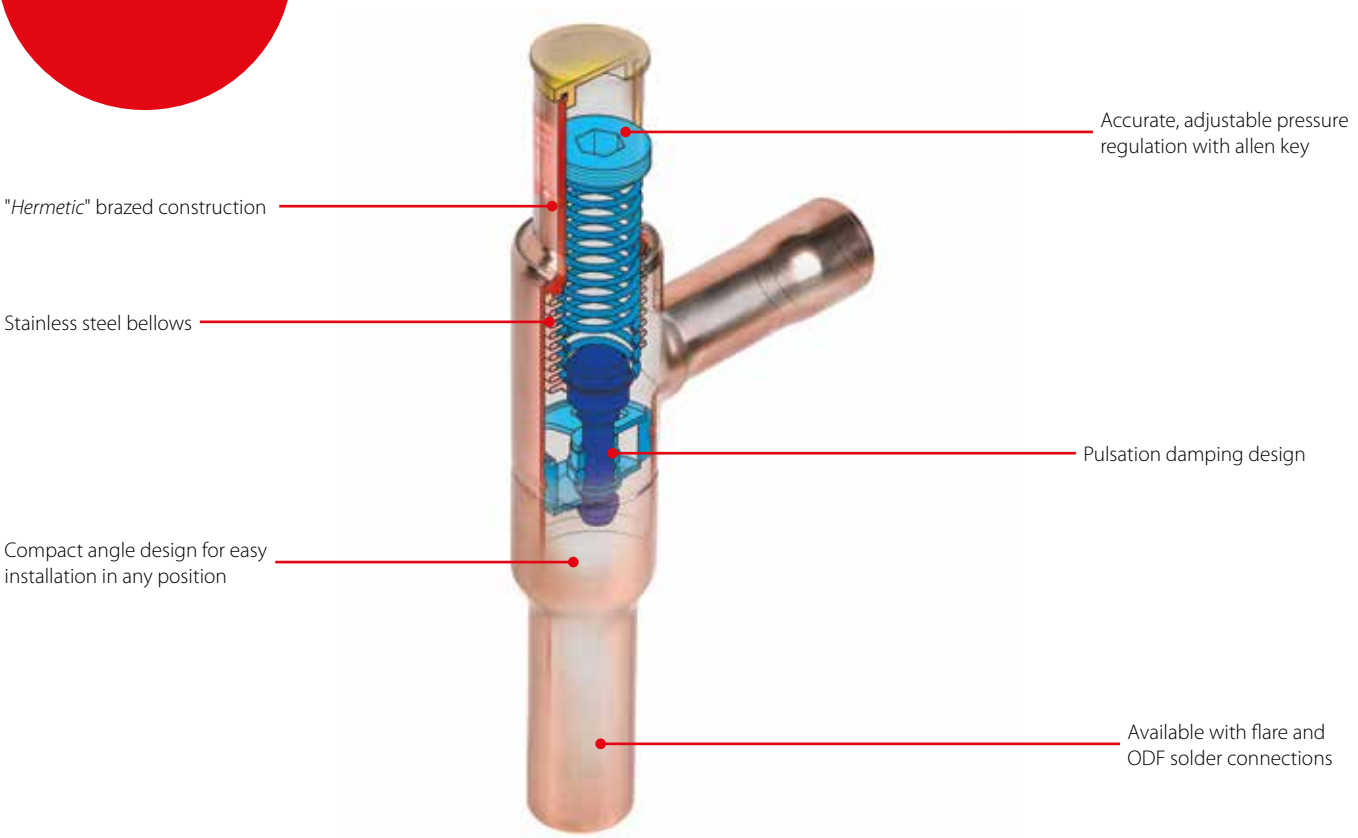


KVL, Crankcase pressure regulator

KVL crankcase pressure regulators valves are installed in the suction line ahead of the compressor.

KVL protects the compressor motor against overload during start-up after long standstill periods or after defrost periods (high pressure in evaporator).





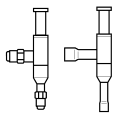
Facts

Application:
- Traditional refrigeration
- Air conditioning units
- Transport refrigeration

- Unaffected by ambient pressure variations
- Bellows welded to the body for long lifetime
- Accurate, adjustable pressure regulation
- Easy adjustment before start up
- Protects the compressor against electrical motor overloading
- Wide capacity and operating range
- Regulation range: 0.2 – 6 bar / 3 – 87 psig

- KVL 12 – 22: applicable to R22, R1270, R134a, R290, R404A, R407A, R407C, R407F, R448A, R449A, R450A, R452A, R507A, R513A, R600, R600a
- KVL 12 – 22: may be used in the following EX range: Category 3 (Zone 2)
- KVL 28 – 35: applicable to R22, R134a, R404A, R407A, R407C, R407F, R448A, R449A, R450A, R452A, R507A, R513A
- Maximum working pressure: PS / MWP = 18 bar / 261 psig

Technical data and ordering



KVL - Crankcase pressure regulator

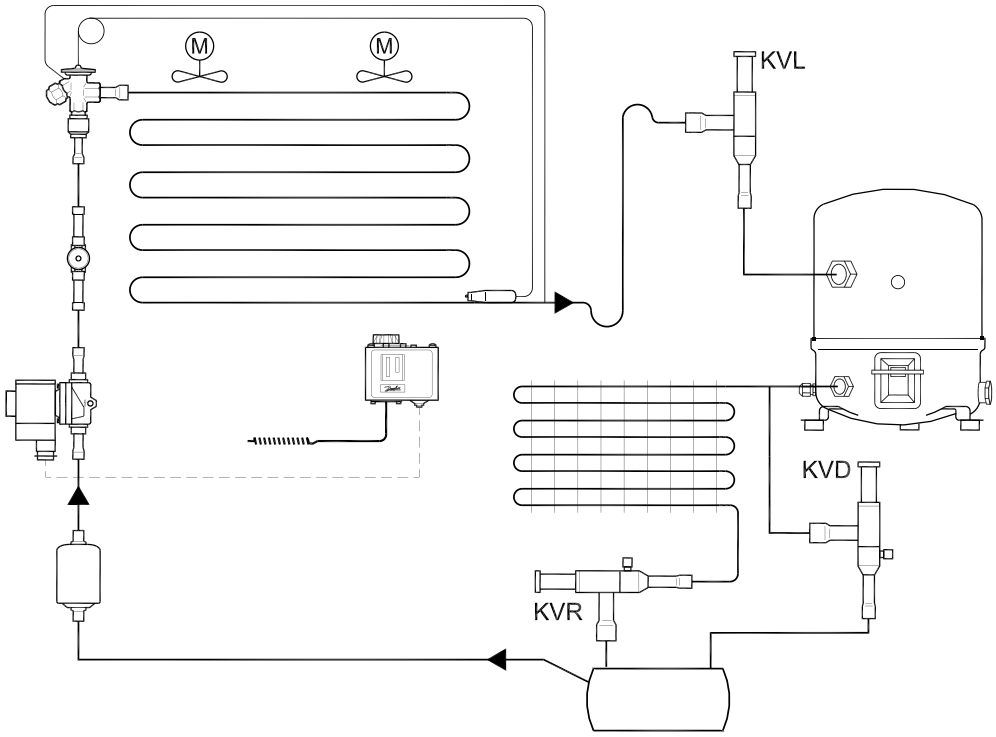
Ordering

Type	Rated capacity in [kW] / [TR] [1]								Connection type	Connection size		Code no.
	R22		R134a		R404A / R507		R407C					
	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]		[in]	[mm]	
KVL 12	7.1	1.2	5.3	0.8	6.3	1.0	6.4	1.1	Flare [2][3]	1/2	12	034L0041
	7.1	1.2	5.3	0.8	6.3	1.0	6.4	1.1	Solder, ODF [3]	1/2	–	034L0043
	7.1	1.2	5.3	0.8	6.3	1.0	6.4	1.1	Solder, ODF [3]	–	12	034L0048
KVL 15	7.1	1.2	5.3	0.8	6.3	1.0	6.5	1.1	Flare [2][3]	5/8	16	034L0042
	7.1	1.2	5.3	0.8	6.3	1.0	6.5	1.1	Solder, ODF [3]	5/8	16	034L0049
KVL 22	7.1	1.2	5.3	0.8	6.3	1.0	6.5	1.1	Solder, ODF [3]	7/8	22	034L0045
KVL 28	17.8	4.1	13.2	2.6	15.9	3.4	16.4	3.8	Solder, ODF [3]	1 1/8	–	034L0046
	17.8	4.1	13.2	2.6	15.9	3.4	16.4	3.8	Solder, ODF [3]	–	28	034L0051
KVL 35	17.8	4.1	13.2	2.6	15.9	3.4	16.4	3.8	Solder, ODF [3]	1 3/8	35	034L0052

[1]) Rated capacity is the capacity of the regulator at
– Evaporating temperature t_e = -10 °C / 14 °F
– Condensing temperature t_c = 25 °C / 100 °F
– Pressure drop in regulator Δp = 0.2 bar / 2 psi
[2]) Supplied without flare nuts. Separate flare nuts can be supplied: 1/2 in / 12 mm - code no. 011L1103, 5/8 in / 16 mm - code no. 011L1167.
[3]) The connection dimensions chosen must not be too small, since gas velocities in excess of 40 m / s at the inlet of the regulator can give flow noise.

To select the product for other conditions or refrigerants, use Danfoss Coolselector®2.

Application example



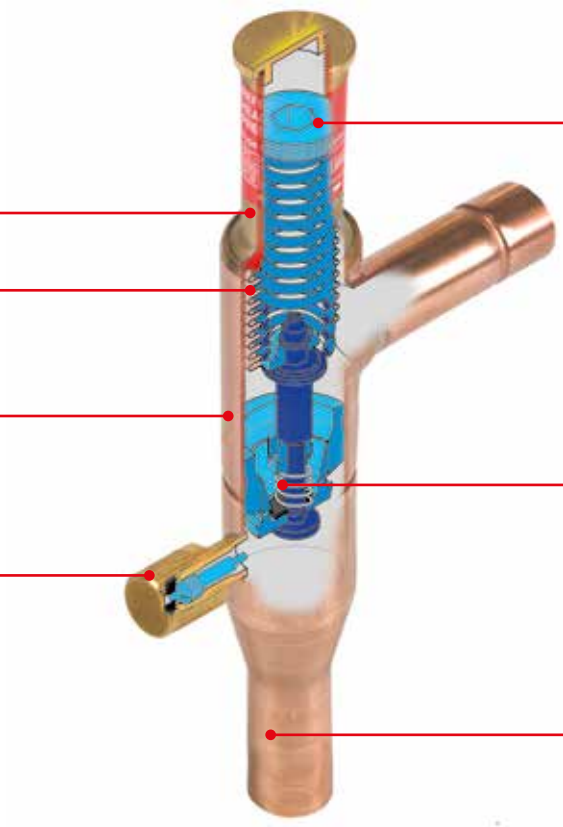
KVD, Receiver pressure regulator

KVD receiver pressure regulators open on falling receiver pressure and bypasses hot gas to maintain the receiver pressure at the regulator setting (adjustable).

KVD and KVR form a regulating system, used to maintain constant and adequately high condensing and receiver pressure in plant with heat-recovery, and in refrigeration and air conditioning plant with air-cooled condensers.

Features
KVD





Facts

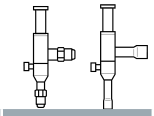
Application:
- Traditional refrigeration
- Air conditioning units
- Commercial refrigeration

- The regulator is equipped with an effective damping device against pulsations which can normally arise in a refrigeration plant
- KVD regulations is only dependent upon the outlet pressure. Pressure variations on the inlet side of the regulator do not affect the degree of opening since KVD is equipped with an equalization bellows

- Wide capacity and operating range
- Regulation range:
  3 – 20 bar / 44 – 290 psig
- Max. working pressure
  PS MWP = 28 bar / 406 psig
- Can be used as a relief valve from high pressure to suction side
- Applicable to R22, R1270, R134a, R290, R404A, R407A, R407C, R407F, R448A, R449A, R450A, R452A, R507A, R513A, R600, R600a
- May be used in the following EX range:
  Category 3 (Zone 2)

Technical data and ordering

KVD - Receiver pressure regulator

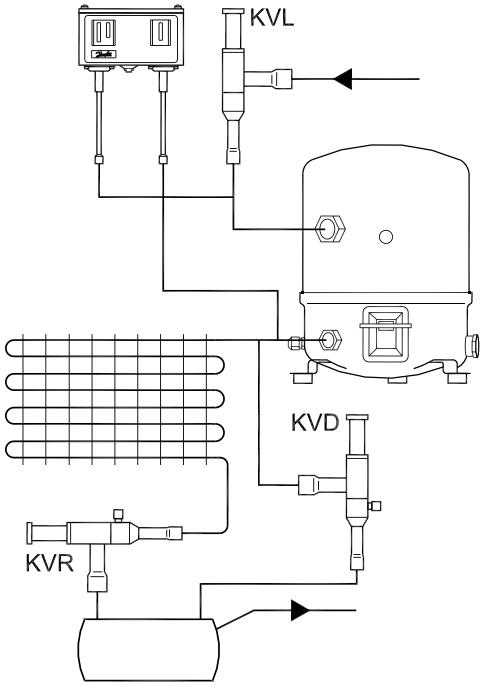


Ordering

Type	K_v value [m^3/h] [1]	Connection type	Connection size		Code no.
			[in]	[mm]	
KVD 12	1.75	Flare [2] [3]	1/2	12	034L0171
	1.75	Solder, ODF [3]	1/2	–	034L0173
	1.75	Solder, ODF [3]	–	12	034L0176
KVD 15	1.75	Flare [2] [3]	5/8	16	034L0172
	1.75	Solder, ODF [3]	5/8	16	034L0177

[1] The K_v value is the flow of water in [m^3/h] at a pressure drop across valve of 1 bar, ρ = 1000 kg / m^3.
[2] Supplied without flare nuts. Separate flare nuts can be supplied: 1/2 in / 12 mm - code no. 011L1103, 5/8 in / 16 mm - code no. 011L1167.
[3] The connection dimensions chosen must not be too small, since gas velocities in excess of 40 m/s at the inlet of the regulator can give flow noise.

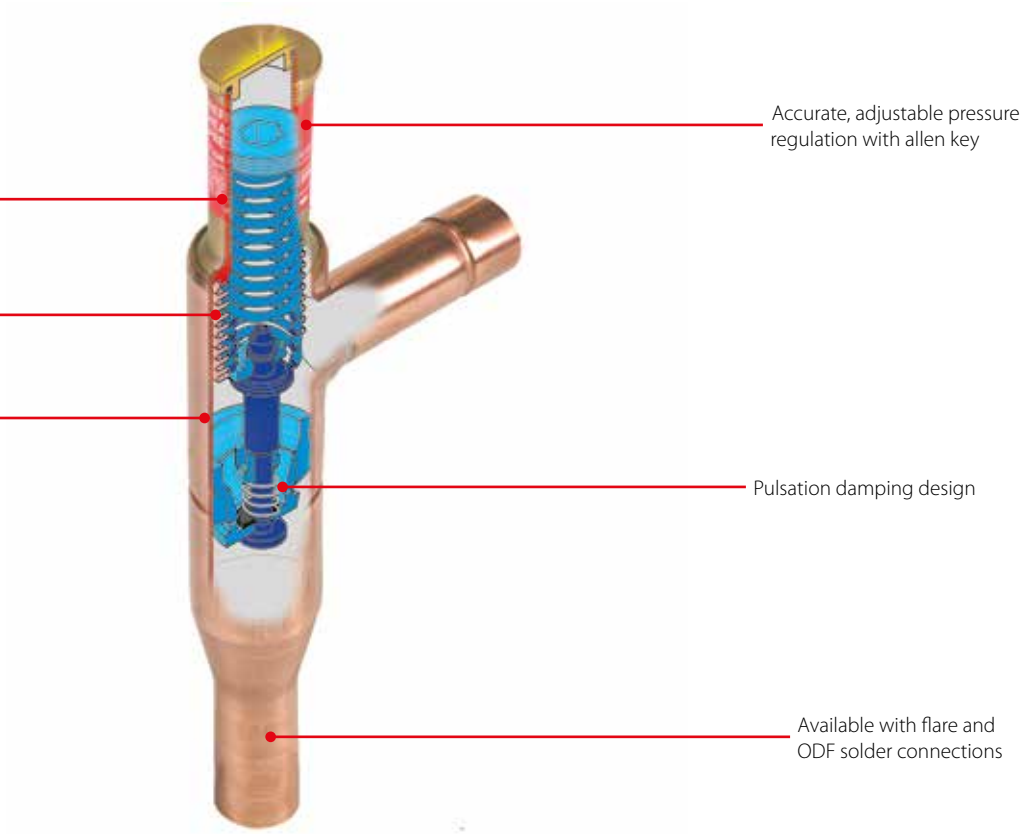
Application example



KVC, Hot gas bypass regulator

KVC are hot gas bypass regulators used for the adaption of the compressor capacity to the actual evaporator load.
Placed in a bypass between high and low pressure sides of the refrigeration system, KVC imposes a lower limit on the compressor suction pressure by supplying the low pressure side with replacement capacity in the form of hot gas/cool gas from the high pressure side.





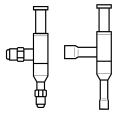
Facts

Application:
- Traditional refrigeration
- Air conditioning units
- Transport refrigeration
- Commercial refrigeration
- Compressed air driers

- KVC regulations is only dependent upon the outlet pressure. Pressure variations on the inlet side of the regulator do not affect the degree of opening since KVC is equipped with an equalization bellows
- The regulator is also equipped with an effective damping device against pulsations which can normally arise in a refrigeration plant

- Compact angle design for easy installation
- Wide capacity and operating range
- Regulation range: 0.2 – 6 bar / 3 – 87 psig
- Maximum working pressure PS / MWP = 28 bar / 406 psig
- Applicable to R22, R1270, R134a, R290, R404A, R407A, R407C, R407F, R448A, R449A, R450A, R452A, R507A, R513A, R600, R600a
- May be used in the following EX range: Category 3 (Zone 2)
- Medium temperature: -45 – 130 °C / -49 – 266 °F

Technical data and ordering



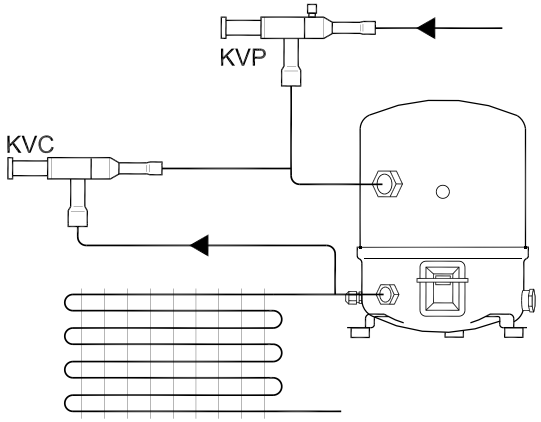
KVC - Hot gas bypass regulator

Ordering

Type	Rated capacity in [kW] / [TR] [4]								Connection type	Connection size		Code no.
	R22		R134a		R404A / R507		R407C					
	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]		[in]	[mm]	
KVC 12 [3]	7.6	2.14	4.8	1.36	6.9	2.02	8.4	2.31	Flare [2] [3]	1/2	12	034L0141
	7.6	2.14	4.8	1.36	6.9	2.02	8.4	2.31	Solder, ODF [3]	1/2	–	034L0143
	7.6	2.14	4.8	1.36	6.9	2.02	8.4	2.31	Solder, ODF [3]	–	12	034L0146
KVC 15 [3]	14.9	4.17	9.4	2.65	13.6	3.93	16.4	4.50	Flare [2] [3]	5/8	16	034L0142
	14.9	4.17	9.4	2.65	13.6	3.93	16.4	4.50	Solder, ODF [3]	5/8	16	034L0147
KVC 22 [3]	19.1	5.35	12.0	3.41	17.4	5.04	21.0	5.78	Solder, ODF [3]	7/8	22	034L0144

[1] Supplied without flare nuts. Separate flare nuts can be supplied: 1/2 in / 12 mm - code no. 011L1103, 5/8 in / 16 mm - code no. 011L1167.
[2] The connection dimensions chosen must not be too small, since gas velocities in excess of 40 m/s at the inlet of the regulator can give flow noise.
[3] If the discharge temperature becomes too high in relation to the compressor specification, the installation of an injection valve in a bypass between liquid line and compressor suction line is recommended.
[4] Rated capacity is the capacity of the regulator at:
– Evaporating temperature t_e = -10 °C / 14 °F
– Condensing temperature t_c = 25 °C / 77 °F

Application example

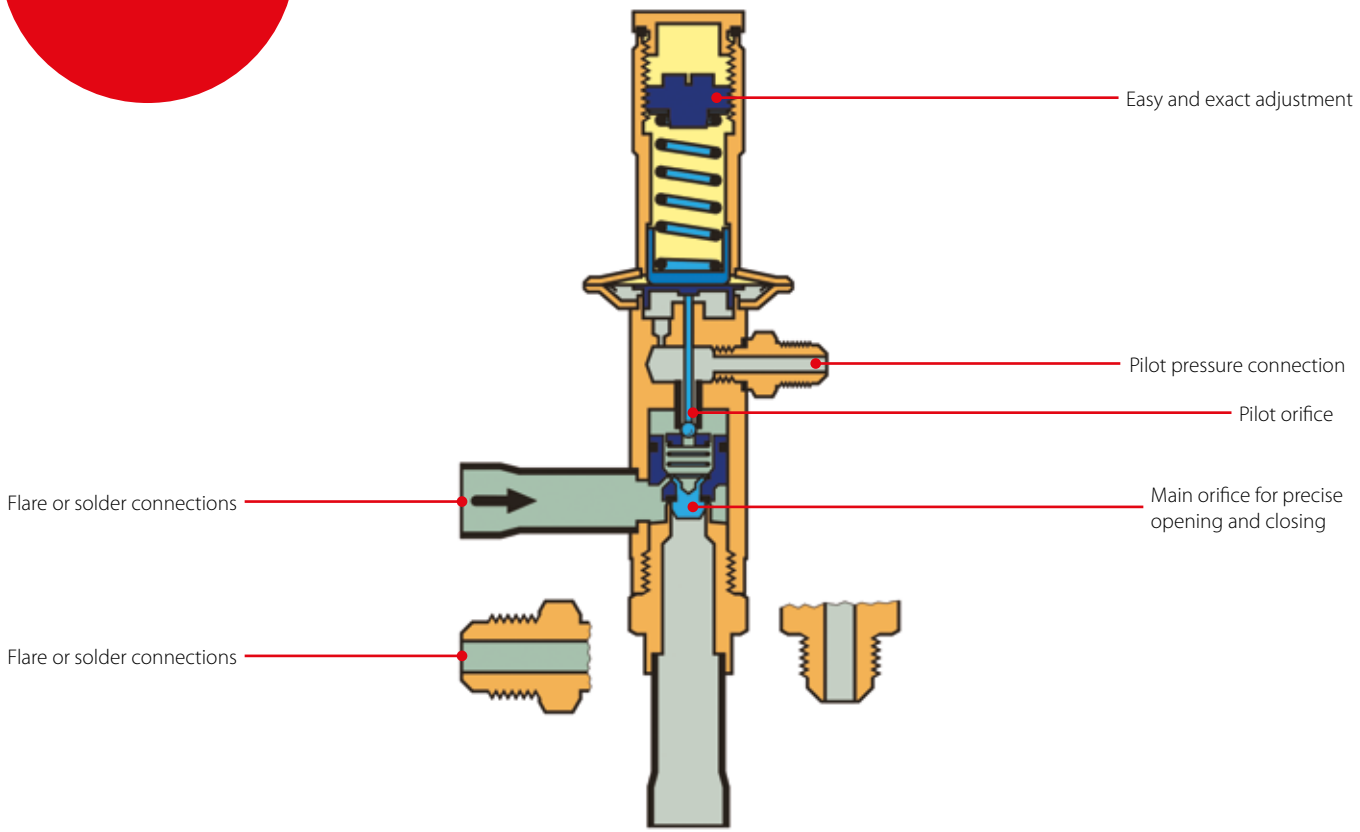


CPCE, Hot gas bypass regulator / LG, Liquid gas mixer (accessory)

CPCE hot gas bypass regulators adapt compressor capacity to actual evaporator load, and are designed for installation in a bypass line between the low and high pressure sides of the refrigeration system, for hot gas injection between evaporator and thermo-static expansion valve.

Injection is through an LG liquid-gas mixer.





Facts

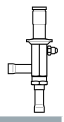
Application:
- Traditional refrigeration
- Air conditioning units
- Commercial refrigeration
- Compressed air dryers
- Transport refrigeration

- Prevents high suction superheats by combining hot gas injection with expansion valve characteristics
- Can also protect against too low an evaporating temperature, i.e. to prevent evaporator icing
- LG Liquid-gax mixer can be used for hot gas defrosting or reverse cycle systems
- Superior control accuracy
- The regulator increases evaporator gas velocity thus ensuring better oil return to compressor
- Direct connection to system suction line regulates hot gas injection independent of evaporator pressure drop
- LG Liquid-gax mixer provides homogenous mixing of the liquid and hot gas refrigerant injected into the evaporator
- Applicable to R22, R1234ze *), R1270 *), R134a, R290 *), R404A, R407A, R407C, R407F, R448A, R449A, R450A, R452A, R507A, R513A, R600 *), R600a *)

) only LG 12 – 16 and LG 16 – 22
- May be used in the following EX range: Category 3 (Zone 2)
- Max. working pressure: PS / MWP = 28 bar / 406 psig

Technical data and ordering

CPCE - Hot gas bypass regulator



Ordering

Type	Rated capacity in [kW] / [TR] [1]								Connection type	Connection size		Code no.
	R22		R134a		R404A / R507		R407C					
	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]		[in]	[mm]	
CPCE 12	17.4	6.2	7.9	4.3	16.4	6.3	19.0	6.7	Flare [2] [3]	1/2	12	034N0081
	17.4	6.2	7.9	4.3	16.4	6.3	19.0	6.7	Solder, ODF [3]	1/2	12	034N0082
CPCE 15	25.6	9.2	11.6	6.3	24.2	9.1	27.9	9.9	Solder, ODF [3]	5/8	16	034N0083
CPCE 22	34.0	12.2	15.2	8.4	32.0	12.1	37.1	13.2	Solder, ODF [3]	7/8	22	034N0084

[1]) *Rated capacity is the capacity of the regulator at:*
- *Evaporating temperature t_e = -10 °C / 14 °F*
- *Condensing temperature t_c = 30 °C / 100 °F*
- *Reduction of suction temperature / pressure Δt_s = CPCE: 4 K*

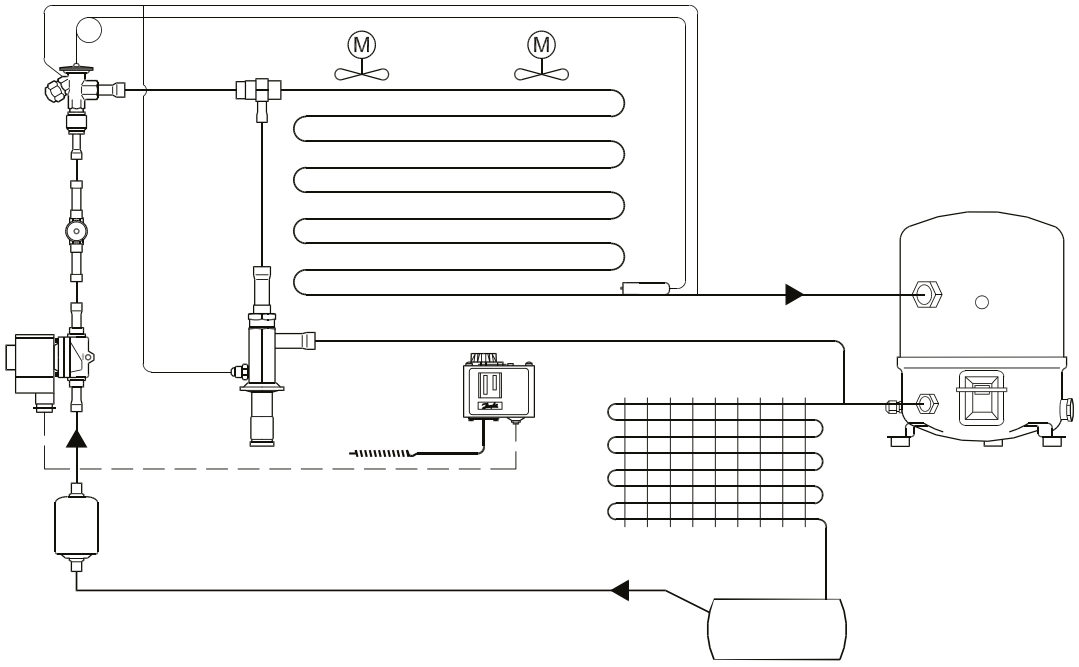
LG - Liquid-gas mixer (accessory)



Ordering

Type	Connection						Code no.
	Expansion valve Solder, ODM		Hot gas Solder, ODF		Liquid distributor Solder, ODF		
	[in]	[mm]	[in]	[mm]	[in]	[mm]	
LG 12 – LG 16	5/8	16	1/2	12	5/8	16	069G4001
LG 12 – LG 22	7/8	22	1/2	12	7/8	22	069G4002
LG 16 – LG 28	1 1/8	28	5/8	16	1 1/8	28	069G4003
LG 22 – LG 35	1 3/8	35	7/8	22	1 3/8	35	069G4004

Application example

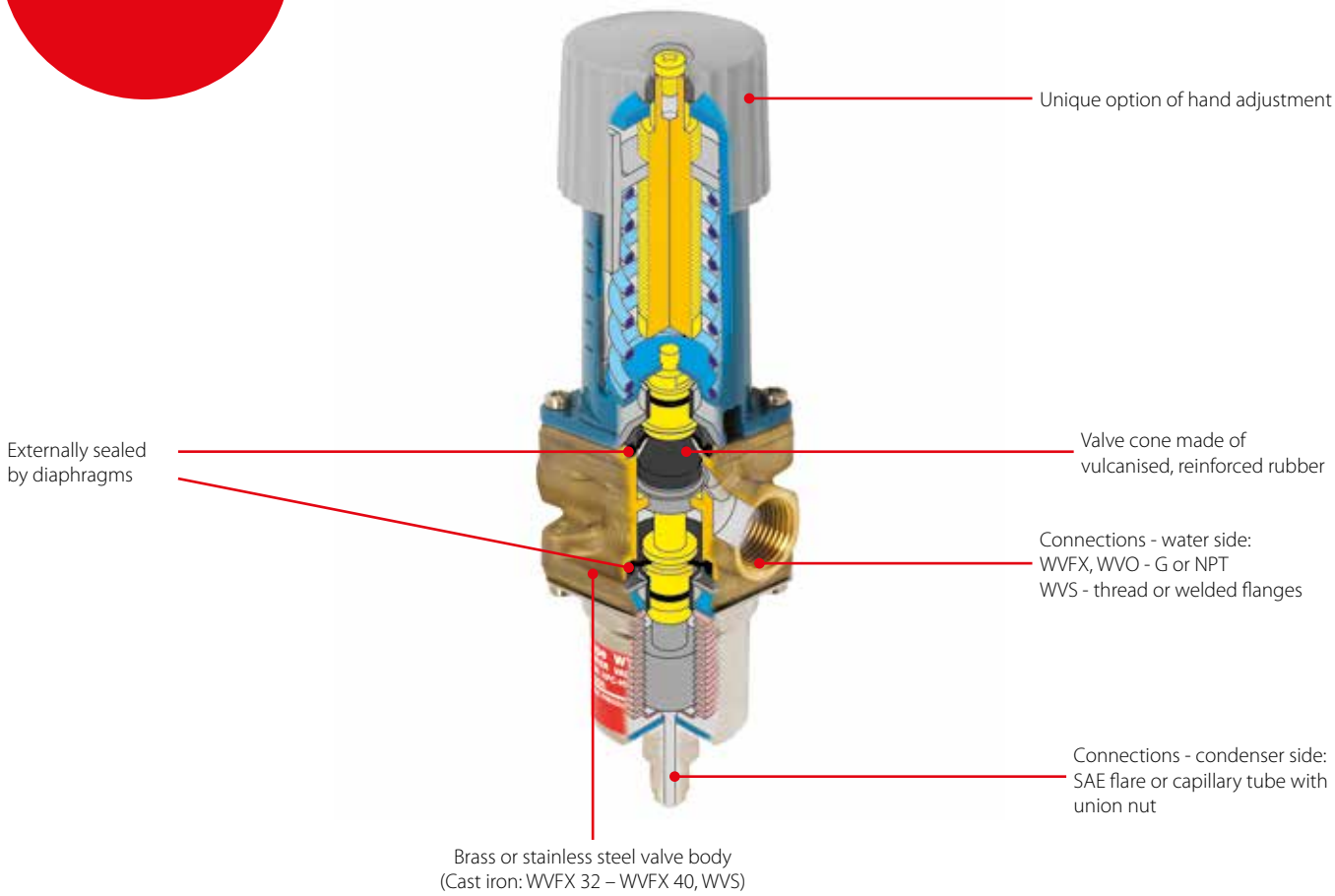


WVFX / WVO / WVS, Pressure operated water valves

WVFX, WVO and WVS pressure operated water valves are used to regulate the flow of water in refrigeration plant with water-cooled condensers in order to ensure constant proportional regulation of condensing pressure. The water valve modulates the water flow to maintain the condensing pressure at a constant level during operation.

When the refrigeration plant is stopped, the cooling water flow is shut off automatically. Media: fresh water and neutral brine.
For use with aggressive media such as sea water, WVFX 15, WVFX 20 and WVFX 25 are available in stainless steel versions.





Facts

Applications:
- Traditional refrigeration
- Air conditioning units
- Other applications with water-cooled condenser
- Ice making machines
- Ice cream machines
- IT cooling
- Water chillers

- WVFX 10 – WVFX 25 can be supplied in stainless steel housing for sea water applications

- Exact pressure control - high accuracy of WVO valves up to 0.2 bar
- Reliable design - factory setting is maintained during whole life cycle
- Insensitive to dirt - fit and forget solution
- High permissible water pressure (PS) = 16 bar - can be used with water towers
- Low flow version - 0.63 m³/h (available on request)
- WVFX 10 – WVFX 40 are direct actuated valves
- WVS 32 – WVS 100 are servo-operated valves

- Very wide media temperature range: -25 – 130 °C
- Versions with capillary tube available on request
- Applicable to R22, R1270, R134a, R290, R404A, R407A, R407C, R407F, R410A [1], R448A, R449A, R450A, R452A, R507A, R513A, R600, R600a, R717 [2]

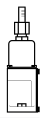
[1] High pressure refrigerants version (45.2 MWP) only
[2] WVS, WVFX 10 – 25 and WVO with flare connection only; versions with capillary tube or with solder connections are not compatible with R717. WVFX 32 and WVFX 40 are not compatible with R717

- May be used in the following EX range: Category 3 (Zone 2)

Technical data

WVFX / WVO / WVS, Pressure operated water valve

Technical data



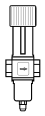
Type				Liquid side			K_v value [1] [m³/h]
	Control press. adjustable closing press. [bar]	Max. working pressure PS [bar]	Max. test pressure PB [bar]	Media	Max. working pressure PS [bar]	Max. test pressure PS [bar]	
WVO 10	8.0 – 22 [2]	26.4	29	Fresh water, neutral brine, sea water [3]	16	24	1.4
WVFX 10	3.5 – 16	26.4	29		16	24	1.4
	4.0 – 23	26.4	29		16	24	1.4
	15.0 – 29.0	45.2	60		16	24	1.4
WVO 15	14.0 – 18.0	26.4	29		16	24	1.9
WVFX 15	3.5 – 16.0	26.4	29		16	24	1.9
	4.0 – 23.0	26.4	29		16	24	1.9
	15.0 – 29.0	45.2	60		16	24	1.9
WVFX 20	3.5 – 16.0	26.4	29		16	24	3.4
	4.0 – 23.0	26.4	29		16	24	3.4
	15.0 – 29.0	45.2	60		16	24	3.4
WVFX 25	3.5 – 16.0	26.4	29		16	24	5.5
	4.0 – 23.0	26.4	29		16	24	5.5
	15.0 – 29.0	45.2	60		16	24	5.5
WVFX 32	4.0 – 17.0	24.1	26.5		10	10	11.0
WVFX 40	4.0 – 17.0	24.1	26.5		10	10	11.0
WVS 32	2.2 – 19.0	26.4	29	Fresh water, neutral brine	10	16	12.5
	15.0 – 29.0	45.2	60		10	16	12.5
WVS 40	2.2 – 19.0	26.4	29		10	16	21.0
	15.0 – 29.0	45.2	60		10	16	21.0
WVS 50	2.2 – 19.0	26.4	29		10	16	32.0
	15.0 – 29.0	45.2	60		10	16	32.0
WVS 65	2.2 – 19.0	26.4	29		10	16	45.0
	15.0 – 29.0	45.2	60		10	16	45.0
WVS 80	2.2 – 19.0	26.4	29		10	16	80.0
	15.0 – 29.0	45.2	60		10	16	80.0
WVS 100	2.2 – 19.0	26.4	29		10	16	125.0
	15.0 – 29.0	45.2	60		10	16	125.0

[1]) The K_v value is the flow of water in [m³/h] with a pressure drop across the valve of 1 bar, ρ = 1000 kg/m³.
[2]) Pressure control range width max. 6 bar.
[3]) WVFX 15 – WVFX 25 with stainless steel housing only.

Media temperature range
WVFX 10 – WVFX 25: -25 – 130 °C
WVFX 32 – WVFX 40: -25 – 90 °C
WVS 50 – WVS 100: -25 – 90 °C

Opening differential pressure
WVO 10 – 25: 0 – 10 bar
WVFX 10 – WVFX 40: 0 – 10 bar
WVS 32 – WVFX 40: 0.5 – 4 bar
WVS 50 – WVS 100: 0.3 – 4 bar

Technical data and ordering



WVFX - Pressure operated water valves, commercial applications

Ordering

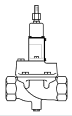
Type	Connection			Range (refrigerant) [bar]	Code no.
	Water side ISO 228-1	Condenser side			
		[in]	[mm]		
WVFX 10	G 3/8	1/4	6 flare	3.5 – 16	003N1100
	G 3/8	1/4	6 flare	4.0 – 23	003N1105
	G 3/8	1/4	6 flare	15.0 – 29.0	003N1410
WVFX 15	G 1/2	1/4	6 flare	3.5 – 16	003N2100
	G 1/2	1/4	6 flare nut	4.0 – 23	003N2205
	G 1/2	1/4	6 flare	4.0 – 23	003N2105
	G 1/2	1/4	6 flare	15.0 – 29.0	003N2410
WVFX 20	G 3/4	1/4	6 flare	3.5 – 16	003N3100
	G 3/4	1/4	6 flare	4.0 – 23	003N3105
	G 3/4	1/4	6 flare nut	4.0 – 23	003N3205
	G 3/4	1/4	6 flare	15.0 – 29.0	003N3410
WVFX 25	G 1	1/4	6 flare	3.5 – 16	003N4100
	G 1	1/4	6 flare	4.0 – 23	003N4105
	G 1	1/4	6 flare	15.0 – 29.0	003N4410
WVFX 32	G 1 1/4	1/4	6 flare	4.0 – 17	003F1232
WVFX 40	G 1 1/2	1/4	6 flare	4.0 – 17	003F1240

WVFX - Pressure operated water valves, with stainless steel housing

WVFX 15	G 1/2	1/4	6 flare	3.5 – 16	003N2101
	G 1/2	1/4	6 flare	4.0 – 23	003N2104
WVFX 20	G 3/4	1/4	6 flare	4.0 – 23	003N3104
WVFX 25	G 1	1/4	6 flare	3.5 – 16	003N4101
	G 1	1/4	6 flare	4.0 – 23	003N4104

WVO - Pressure operated water valves, commercial applications

WVO 10	G 3/8	1/4	6 flare	8 – 12	003N5203
	G 3/8	1/4	6 flare	14 – 18	003N5206
	G 3/8	1/4	6 flare	16 – 20	003N5207
WVO 15	G 1/2	1/4	6 flare	14 – 18	003N5216



WVS - Pressure operated water valve parts programme

Type	Connection ISO 228-1	Code no.				
		Valve body	Pilot unit [2]	Pilot unit for R410A and R744 (CO_2) [2]	Flange set [3]	Servo spring for differential pressure range: 1 – 10 bar
WVS 32	G 1 1/4	016D5032	016D1017	016D1018	–	016D1327
WVS 40	G 1 1/2	016D5040	016D1017	016D1018	–	016D0575
WVS 50	2 in. weld flange	016D5050 [1]	016D1017	016D1018	027N3050	016D0576
WVS 65	2 1/2 in. weld flange	016D5065 [1]	016D1017	016D1018	027N3065	016D0577
WVS 80	3 in. weld flange	016D5080 [1]	016D1017	016D1018	027N3080	016D0578
WVS 100	4 in. weld flange	016D5100 [1]	016D1017	016D1018	027N3100	016D0579

[1] Code numbers cover valve body, flange gaskets, flange bolts and screws for pilot valve.
[2] Code numbers cover control element and spring housing.
[3] Code numbers cover an inlet and an outlet flange.

Accessories

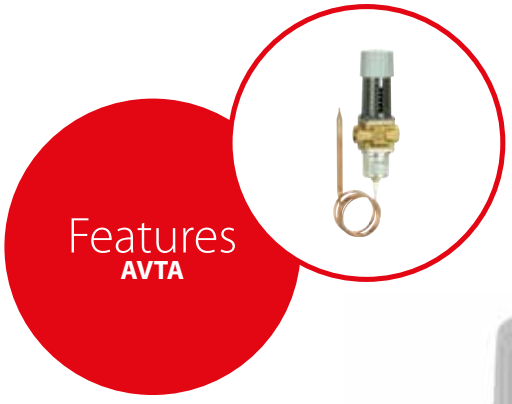
Description	Code no.
1 m capillary tube 1/4 in., 6 mm flare coupling nuts at each end	060-017166
Bracket for do WVFX 10 – WVFX 25	003N0388

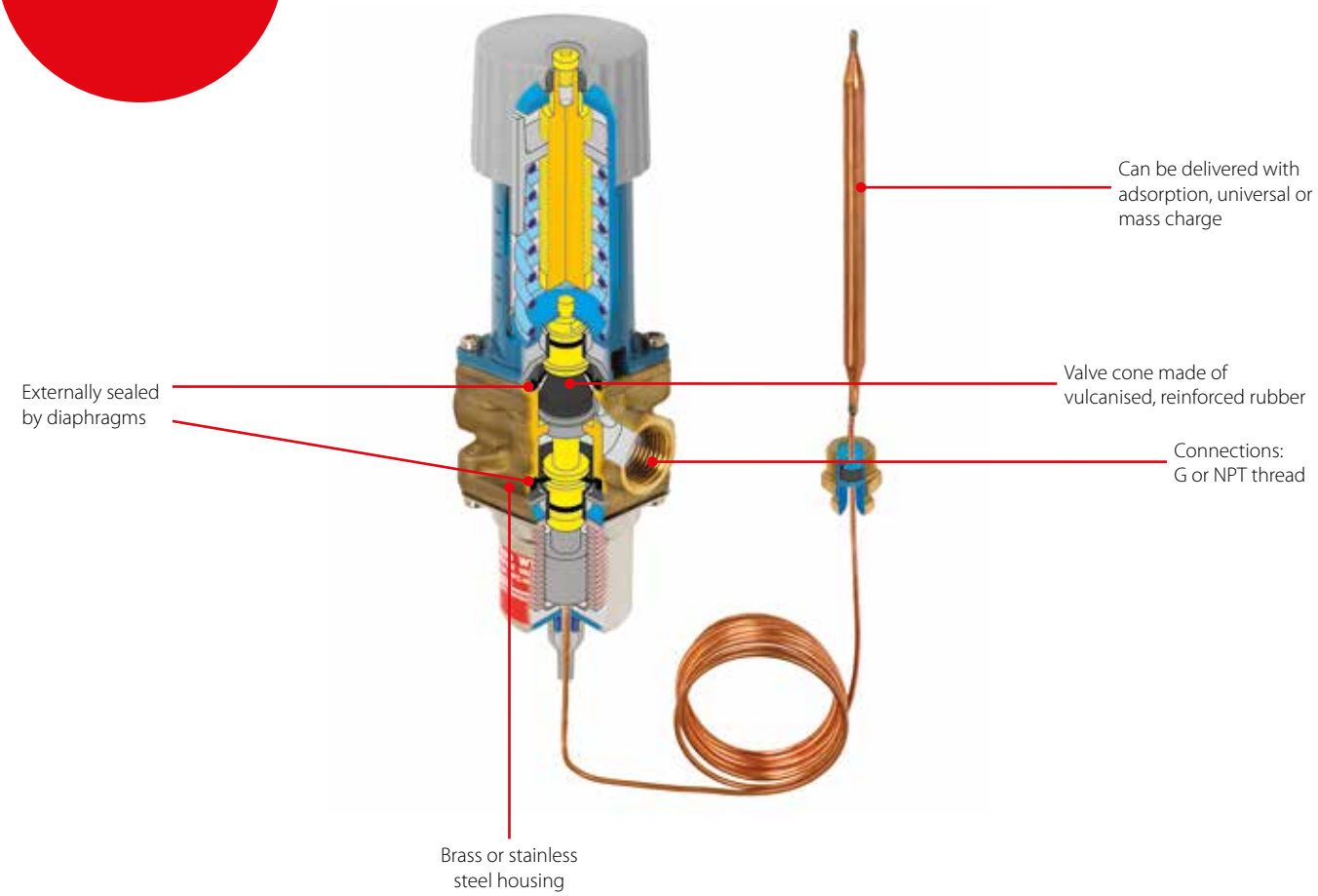
Quick Selection Notes:

AVTA, Thermostatic operated water valve

AVTA thermostatic operated water valves are used for proportional regulation of water flow quantity in refrigeration plant with water-cooled condensers for condensing pressure regulation purposes. AVTA valves give modulating regulation of the condensing temperature and so maintain it constant during operation.

When the refrigeration plant is stopped, the cooling water flow is shut off automatically. Media: Fresh water or neutral brine.
For use with aggressive media such as sea water, special versions in stainless steel are available.
AVTA opens on rising bulb temperatures.





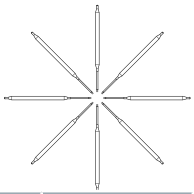
Facts

Applications:
- Traditional refrigeration with water cooled condenser
- Cooling of industrial processes

- Insensitive to dirt – fit and forget solution
- Insensitive to pressure variations
- Needs no power supply - self acting
- The valve can be placed in any position
- Operates from zero differential pressure
- Unique option of hand regulation
- Differential pressure: 0 – 10 bar

- Max. working pressure PS = 16 bar
- Max. pressure on sensor: 25 bar
- Opens on rising sensor temperature
- The regulation range is defined for the point at which the valve begins to open
- AVTA are direct actuated valves

Technical data and ordering

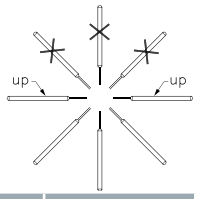


AVTA with adsorption charge (sensor ø9.5 × 150 mm)

Ordering

Type	Connection ISO 228-1	Regulating range [°C]	Max. temperature sensor [°C]	K_v value at Δp = 1 bar [m³/h]	Capillary tube length [m]	Code no. [1]
AVTA 10	G 3/8	10 – 80	130	1.4	2.3	003N1144
AVTA 15	G 1/2	10 – 80	130	1.9	2.3	003N0107
AVTA 20	G 3/4	10 – 80	130	3.4	2.3	003N0108
AVTA 25	G 1	10 – 80	130	5.5	2.3	003N0109

[1]) Code no. covers complete valve including capillary tube gland.

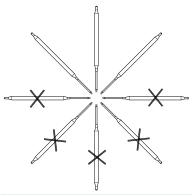


AVTA with universal charge (sensor ø18 × 210 mm)

Ordering

Type	Connection ISO 228-1	Regulating range [°C]	Max. temperature sensor [°C]	K_v value at Δp = 1 bar [m³/h]	Capillary tube length [m]	Code no. [1]
AVTA 10	G 3/8	0 – 30	57	1.4	2.0	003N1132
AVTA 15	G 1/2	0 – 30	57	1.9	2.0	003N2132
AVTA 20	G 3/4	0 – 30	57	3.4	2.0	003N3132
AVTA 25	G 1	0 – 30	57	5.5	2.0	003N4132
AVTA 10	G 3/8	25 – 65	90	1.4	2.0	003N1162
AVTA 15	G 1/2	25 – 65	90	1.9	2.0	003N2162
	G 1/2	25 – 65	90	1.9	2.0 (armoured)	003N0041
AVTA 20	G 3/4	25 – 65	90	3.4	2.0	003N3162
	G 3/4	25 – 65	90	3.4	5.0	003N3165
	G 3/4	25 – 65	90	3.4	2.0 (armoured)	003N0031
AVTA 25	G 1	25 – 65	90	5.5	2.0	003N4162
	G 1	25 – 65	90	5.5	2.0 (armoured)	003N0032
	G 1	25 – 65	90	5.5	5.0	003N4165
AVTA 10	G 3/8	50 – 90	125	1.4	2.0	003N1182
AVTA 15	G 1/2	50 – 90	125	1.9	2.0	003N2182
AVTA 20	G 3/4	50 – 90	125	3.4	2.0	003N3182
AVTA 25	G 1	50 – 90	125	5.5	2.0	003N4182

[1]) Code no. covers complete valve including capillary tube gland.

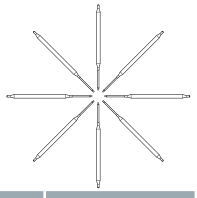


AVTA with mass charge (sensor ø9.5 × 180 mm)

Ordering

Type	Connection ISO 228-1	Regulating range [°C]	Max. temperature sensor [°C]	K_v value at Δp = 1 bar [m³/h]	Capillary tube length [m]	Code no. [1]
AVTA 15	G 1/2	0 – 30	57	1.9	2.0	003N0042
AVTA 20	G 3/4	0 – 30	57	3.4	2.0	003N0043
AVTA 15	G 1/2	25 – 65	90	1.9	2.0	003N0045
	G 1/2	25 – 65	90	1.9	2.0 (armoured)	003N0299
	G 1/2	25 – 65	90	1.9	5.0	003N0034
AVTA 20	G 3/4	25 – 65	90	3.4	2.0	003N0046
AVTA 25	G 1	25 – 65	90	5.5	2.0	003N0047

[1]) Code no. covers complete valve including capillary tube gland.



AVTA in stainless steel with adsorption charge (sensor ø9.5 × 150 mm)

Ordering

Type	Connection ISO 228-1	Regulating range [°C]	Max. temperature sensor [°C]	K_v value at Δp = 1 bar [m³/h]	Capillary tube length [m]	Code no. [1]
AVTA 15	G 1/2	10 – 80	130	1.9	2.3	003N2150
AVTA 20	G 3/4	10 – 80	130	3.4	2.3	003N3150
AVTA 25	G 1	10 – 80	130	5.5	2.3	003N4150

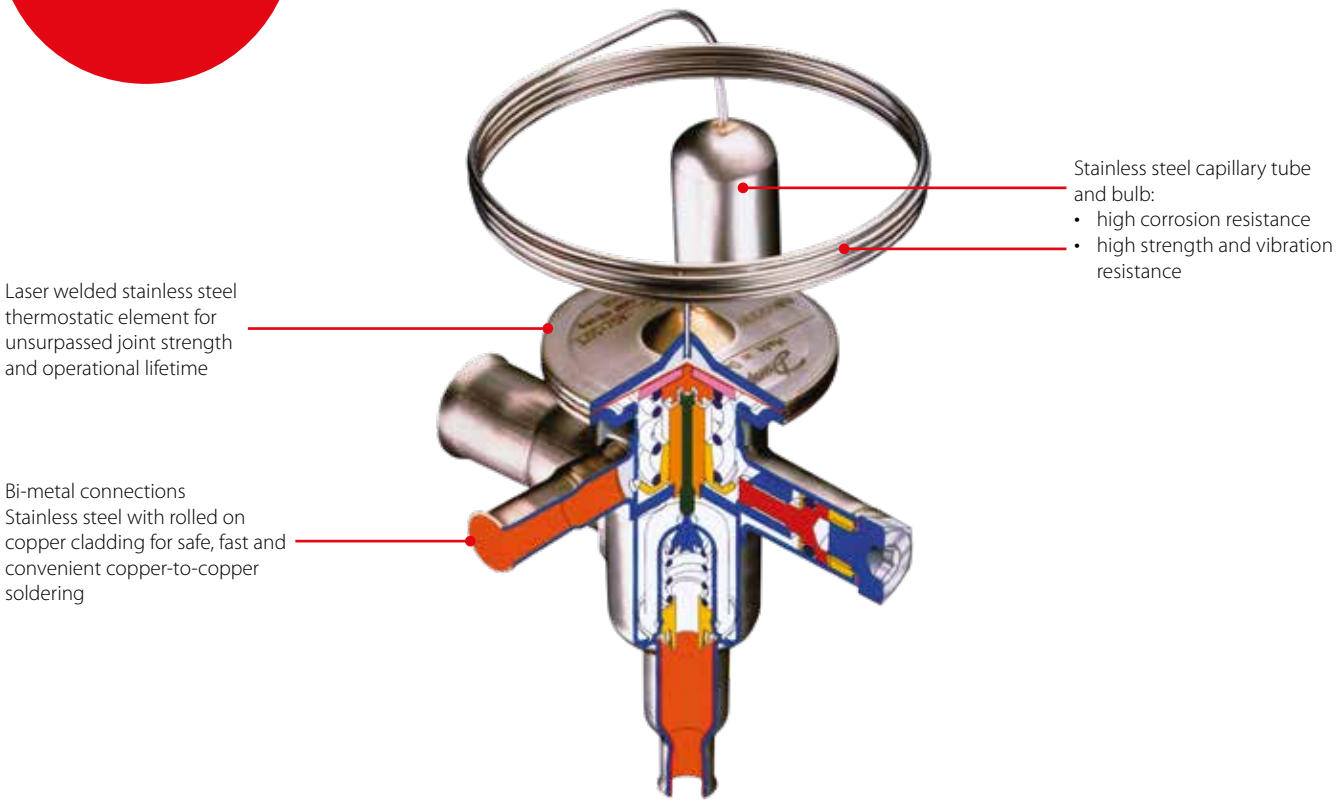
[1]) Code no. covers complete valve including capillary tube gland.

TUH / TCHE, Capacity regulator (hot gas bypass)

TUH / TCHE capacity regulators adapt compressor capacity to actual evaporator load in applications operating at an evaporating temperature of around 0 °C. Fitted in a bypass between the high and low-pressure sides of air-drier systems, TUH / TCHE maintain compressor suction pressure by injecting hot gas / cool gas from the high-pressure side.

TUH has internal pressure equalization and opens when pressure drops at the valve outlet.
TCHE have external pressure equalization and open directly when compressor suction pressure drops.





Facts

Application:
- Air driers and water chillers

- Bimetal connections for TUH and TCHE straightforward and fast soldering (no wet cloth or refrigeration pliers required)

- Refrigerants
  - R410A, R134a, R404A / R507, R407C, R22 and other refrigerants on request.
- Replacement capacities up to 12.9 kW (3.7 TR) for R410A
- Compact design
  - Small dimensions and low weight
- Hermetically tight design
  - Capillary tube joints of high strength and vibration resistance

- Laser-welded, stainless steel diaphragm element
  - Optimum function
  - Long diaphragm life
  - High pressure resistance
- Adjustable setting
  - accurate setting
  - fine tuning possible
- Low p-band
- Low hysteresis

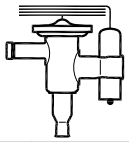
Technical data and ordering

TUH / TCHE - Capacity regulator (hot gas bypass)

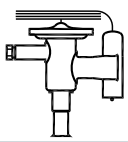
Technical data

Type	Refrigerant	Capillary tube length		Pressure equalization	Max. permissible working pressure		Max. P-band	
		[m]	[ft]		[bar]	[psig]	[bar]	[psig]
TUH	R134a	0.8	2.6	int.	34	500	0.5	7.3
	R22 / R407C	0.8	2.6	int.	34	500	0.5	7.3
	R404A	0.8	2.6	int.	34	500	0.5	7.3
	R410A	0.8	2.6	int.	45.5	660	0.5	7.3
TCHE	R134a	0.9	2.9	ext.	34	500	0.5	7.3
	R22 / R407C	0.9	2.9	ext.	34	500	0.5	7.3
	R404A	0.9	2.9	ext.	34	500	0.5	7.3
	R410A	0.9	2.9	ext.	45.5	660	0.5	7.3

TUH



TCHE



TUH / TCHE - Capacity regulator (hot gas bypass)

Ordering (Supplied with bulb strap)

Type	Refrigerant	Orifice no.	Rated replacement capacity [1]		Adjustment range for start opening		Connection Inlet × Outlet				
								Code no.	[mm] [3]	Code no.	
			[kW]	[TR]	[°C]	[°F]	[in] [2]	Industrial pack	Multi pack	Industrial pack	Multi pack
TUH	R134a	9	1.8	0.5	-1 – 10	30 – 50	3/8 × 1/2	068U2953	068U3748	10 × 12	068U2950	068U3746
	R134a	9	1.8	0.5	-1 – 10	30 – 50	–	–	–	6 × 10	068U2961	068U3751
	R134a	9	1.8	0.5	-6 – 5	-21 – 41	3/8 × 1/2	–	–	10 × 12	068U2966	–
	R404A / R507	9	4.5	1.3	-1 – 12	30 – 54	3/8 × 1/2	068U2954	–	10 × 12	068U2951	068U3747
	R22 / R407C	9	2.8	0.8	-4 – 8	25 – 46	3/8 × 1/2	068U2959	068U3749	10 × 12	–	–
	R410A	9	7.3	2.1	-1 – 10	30 – 50	3/8 × 1/2	068U2960	068U3750	10 × 12	068U2958	–
TCHE	R134a	3	2.6	0.8	-1 – 12	30 – 54	3/8 × 1/2	068U4540	–	10 × 12	068U4530	068U4578
	R134a	4	3.4	1	-1 – 12	30 – 54	3/8 × 1/2	068U4537	068U4583	10 × 12	068U4534	068U4580
	R134a	4	3.4	1	-5 – 5	30 – 54	3/8 × 1/2	–	–	10 × 12	068U4560	068U4589
	R404A / R507	3	5.9	1.7	0 – 6	32 – 43	3/8 × 1/2	–	–	10 × 12	068U4531	068U4579
	R404A / R507	4	7.6	2.2	0 – 6	32 – 43	3/8 × 1/2	–	–	10 × 12	068U4535	068U4581
	R22 / R407C	3	4.1	1.2	0 – 8	32 – 46	3/8 × 1/2	068U4546	068U4584	10 × 12	–	–
	R22 / R407C	4	5.3	1.5	-1 – 8	30 – 46	3/8 × 1/2	068U4547	–	10 × 12	–	–
	R410A	3	10.0	2.9	-1 – 9	30 – 48	3/8 × 1/2	068U4548	068U4585	10 × 12	068U4528	068U4576
	R410A	4	12.9	3.7	-1 – 9	30 – 48	3/8 × 1/2	068U4549	068U4586	10 × 12	068U4529	068U4577
	R410A	3	10.0	2.9	-5 – 5	23 – 41	3/8 × 1/2	068U4558	068U4587	10 × 12	–	–
	R410A	4	12.9	3.7	-5 – 5	23 – 41	3/8 × 1/2	068U4559	068U4588	10 × 12	–	–

[1] The rated replacement capacity is the regulator capacity at
evaporating temperature t_e = -2 °C / 28 °F
condensing temperature t_c = 40 °C / 104 °F
reduction of suction temperature / suction pressure Δt_s = 4 K / 7 °F

[2] Valves with inch connections have 1/4 in. pressure-equalization.

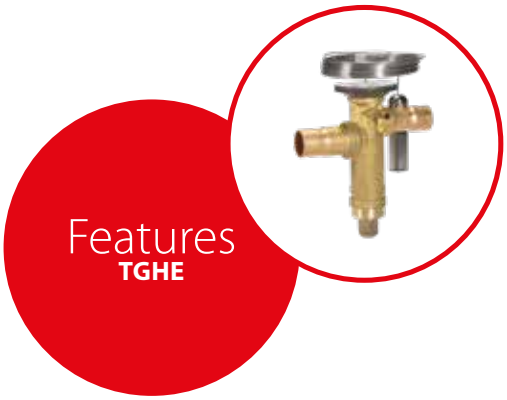
[3] Valves with mm connections have 6 mm pressure-equalization.

TGHE, Capacity regulator (hot gas bypass)

TGHE capacity regulators adapt compressor capacity to actual evaporator load in applications operating at an evaporating temperature of around 0 °C. TGHE valves are typically used in applications such as:

- Air driers
- Water chillers

Fitted in a bypass between the high and low-pressure sides of the air-drier system, TGHE maintain compressor suction pressure by injecting hot gas / cool gas from the high-pressure side.
TGHE has external pressure equalization and open directly when compressor suction pressure drops.





Facts

- Replacement capacities up to 28.9 kW (8.3 TR) for R410A
- Laser-welded, stainless steel diaphragm element
  - optimum function
  - long diaphragm life
  - high pressure resistance
- Adjustable setting
  - accurate setting
  - fine tuning possible
- Refrigerants
  R410A, R134a, and other refrigerants on request.
- Stable regulation
- Tight across the seat
- Hermetically tight design
- Low p-band
- Low hysteresis
- All valves react only on to suction pressure variations.
- Max. permissible working pressure
  PS = 46 bar / MWP = 667 psig

Technical data and ordering

TGHE - Capacity regulator (hot gas bypass)

Ordering (Supplied with bulb strap)

Type	Refrigerant	Orifice no.	Rated replacement capacity [1]		Pressure equalization [¼ in]	Connection Inlet × Outlet	Code no.
			[kW]	[TR]		[in]	Multi pack
TGHE 10	R134a	11	3.2	0.9	ext.	⅝ × ⅝	067N8312
TGHE 20	R134a	20	5.6	1.6	ext.	⅝ × ⅝	067N8301
TGHE 10	R410A	11	8.4	2.4	ext.	⅝ × ⅝	067N8315
TGHE 20	R410A	20	14.5	4.1	ext.	⅝ × ⅝	067N8305
TGHE 40	R410A	40	28.9	8.3	ext.	⅞ × ⅞	067N8311

[1] *The rated replacement capacity is the regulator capacity at evaporating temperature t_e = -2 °C / 28 °F, condensing temperature t_c = 40 °C / 104 °F, reduction of suction temperature / suction pressure Δt_s = 4 K / 7 °F.*

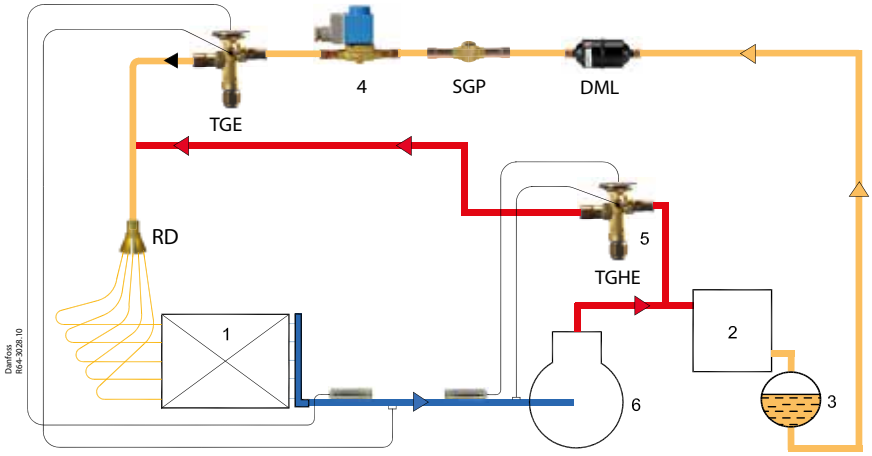
Adjustment range for start opening

Type	Refrigerant	Adjustment range for start opening		Capillary tube length [m / ft]
		[°C]	[°F]	
TGHE 10	R134a	-1 – 12	30 – 54	1.5 / 5.0
	R410A	-1 – 12	30 – 54	1.5 / 5.0
TGHE 20	R134a	-1 – 13	30 – 55	1.5 / 5.0
	R410A	-1 – 7	30 – 45	1.5 / 5.0
TGHE 40	R410A	-1 – 8	30 – 46	3.0 / 10

Application

Note:
The bulb serves only as a reservoir for the charge, however, it is recommended to mount it in a position where the temperature variation during running conditions is limited.

1. Evaporator
2. Condenser
3. Receiver
4. Solenoid valve
5. Discharge bypass valve with adjustable setting
6. Compressor

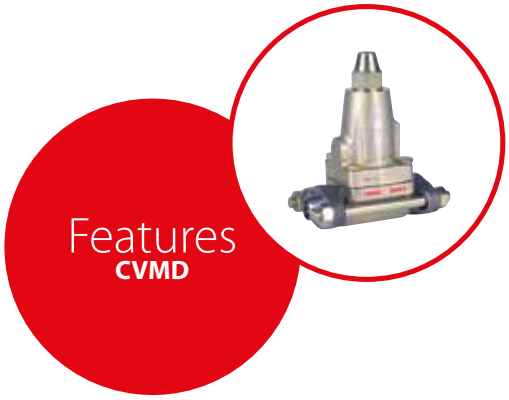


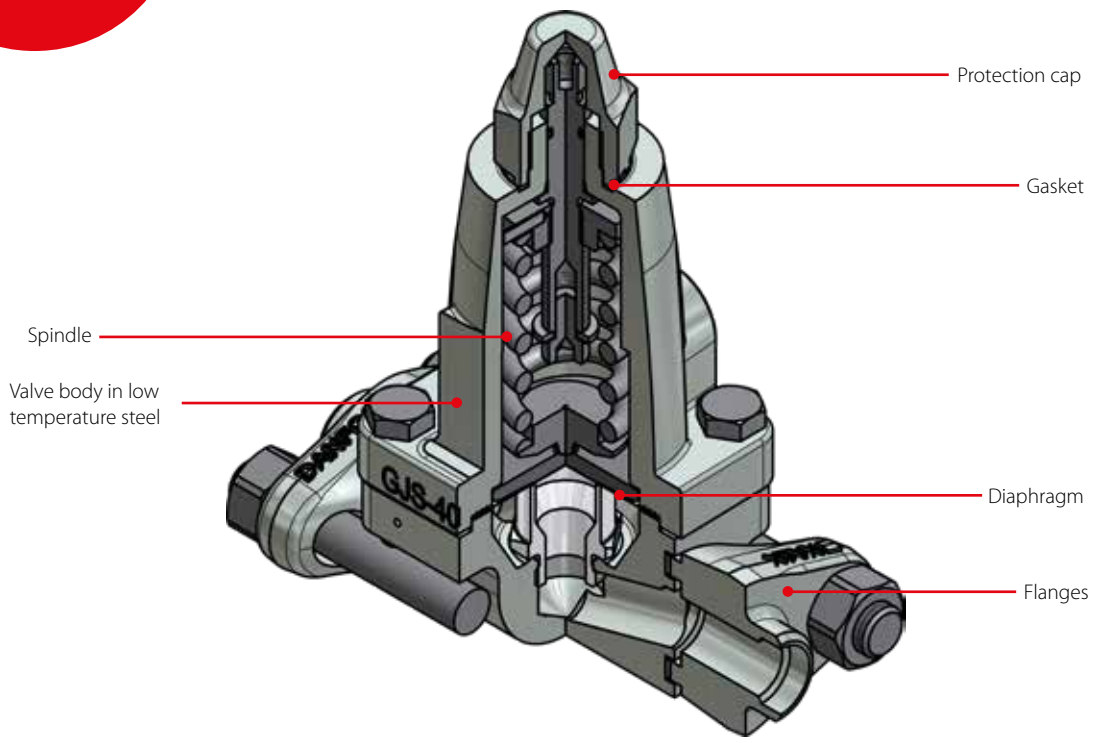
System with thermostatic expansion valve and external pressure-equalized hot gas bypass valve TGHE

CVMD, Constant pressure valve

CVMD is a constant pressure regulator for refrigeration and freezing plant in applications such as:

- hot gas defrosting (drain lines)
- refrigerant pump bypass (to ensure min. flow in refrigerant pumps).





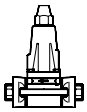
Facts

- Applicable to R717, R744, R401A, R402A, R404A, R407A, R407B, R407C, R407F, R409A, R410A, R421A, R502, R507, R134a and R22. *For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.*
- Pressure range: 0 – 7 bar / 0 – 102 psi
- Max. working pressure: 28 bar / 406 psi
- Temperature range: -50 – 120 °C / -58 – 248 °F
- K_V value: 1.5 m^3/h
- C_V value: 1.7 gal/min

Ordering

CVMD - Constant pressure valve

Ordering CVMD incl. ½ in weld flange



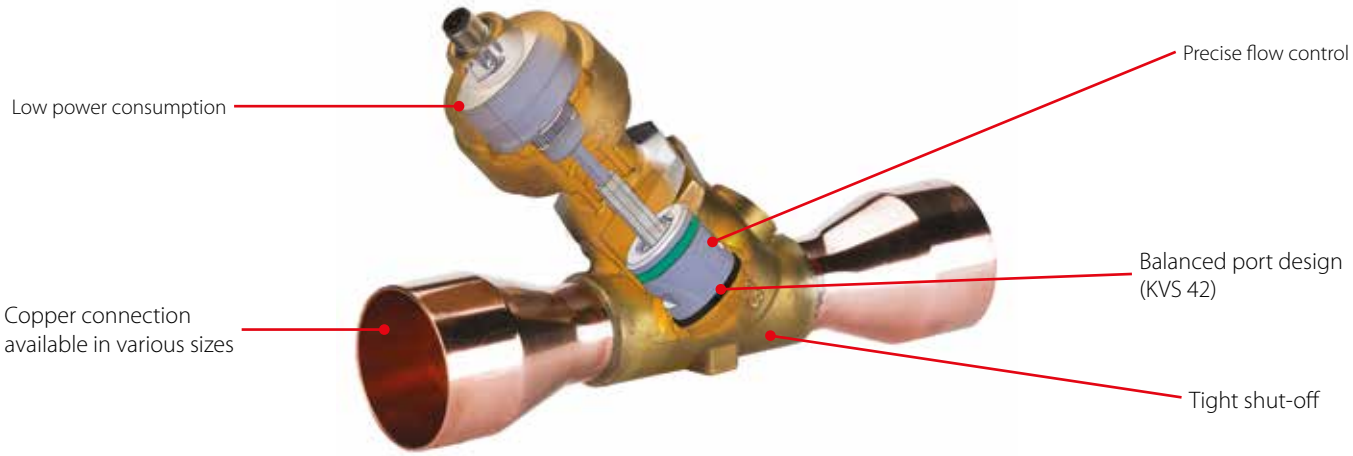
Type	MWP [bar g]	K_V - value [m³/h]	Temperature range [°C]	Pressure range [bar g]	Code no.
CVMD	28	1.5	-50 – 120	0 – 7	027B1038

KVS, Electric suction modulating control valve

KVS are electrically operated suction modulating control valves for transport and refrigeration applications. Accurate temperature or pressure control is obtained by modulating the refrigerant flow in the evaporator with a current or voltage driver.

With an EKC 368 controller (current driver) and an AKS sensor placed in the media to be controlled, an accuracy better than ± 0.5 K / ± 0.9 °F can be obtained. The balanced design provides bi-flow operation as well as solenoid shut-off function in both flow directions at MOPD 33 bar / 479 psi.





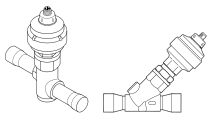
Facts

Application:
- Traditional refrigeration
- Air conditioning units
- Transport refrigeration
- Supermarkets
- Applicable to R410A, R407C, R404A, R134a, R507, R22
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specification.

- Biflow
- High resolution for precise control
- Low power consumption
- Corrosion resistant design external as well as internal
- Solenoid tight shut-off

- Balanced port design (KVS 42)
- Cable and connector assemblies as accessories
- Controller: Electronic controller EKC 368, temperature sensors and pressure transmitters

Technical data and ordering



KVS - Electric suction modulating control valve

Technical data

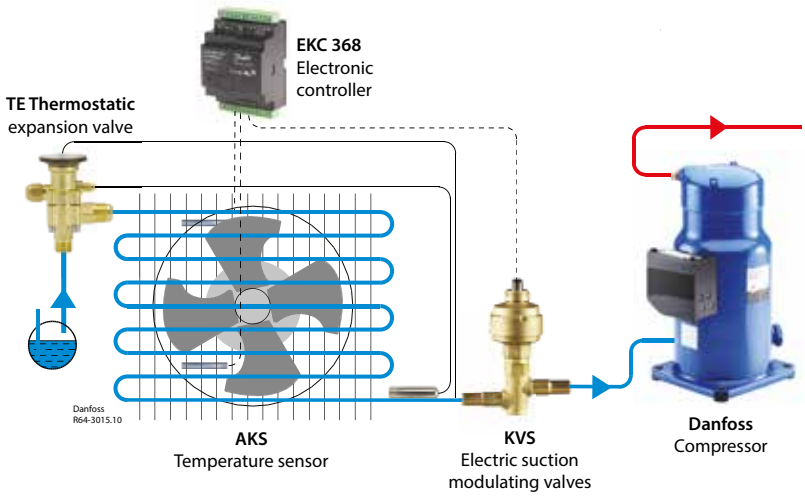
Parameter	KVS 15	KVS 42
Refrigerant oil	All mineral and ester oils	All mineral and ester oils
CE marking	No	Yes
MOPD	33 bar / 479 psi	33 bar / 479 psi
Max. working pressure	45.5 bar / 660 psi	34 bar / 493 psi
Refrigerant temperature range	-40 – 65 °C / -40 – 149 °F	-40 – 65 °C / -40 – 149 °F
Ambient temperature	-40 – 60 °C / -40 – 140 °F	-40 – 60 °C / -40 – 140 °F
Total stroke	13 mm / 1/2 in	17.2 mm / 11/16 in
Motor enclosure	IP67	IP67
Material of Construction	Body and AST enclosure: Brass; Connector: Copper	Body and AST enclosure: Brass; Connector: Copper

KVS - Electric suction modulating control valve

Electrical data

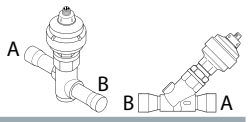
Parameter	KVS 15 and KVS 42
Stepper motor type	Bi-polar - permanent magnet
Step mode	2 phase full step
Phase resistance	52 Ω ± 10%
Phase inductance	85 mH
Holding current	Depends on application. Full current allowed (100% duty cycle).
Step angle	7.5° (motor), 0.9° (lead screw), Gearing ration 8.5:1. (38 / 13)2:1
Nominal voltage	(Constant voltage drive) 12 V DC -4% – 15%
Phase current	(Using chopper drive) 100 mA RMS -4% – 15%
Max. total power	Voltage/current drive: 5.5 / 1.3 W (UL: NEC class 2)
Step rate	150 steps / second (constant voltage drive) 0 – 300 steps / second 300 recommended (chopper current drive)
Total steps	KVS 15: 2625 (160 – 0) steps KVS 42: 3810 (160 – 0) steps
Full travel time	KVS 15: 17 / 8.5 second (voltage / current) KVS 42: 25.4 / 12.7 second (voltage / current)
Lifting height	KVS 15: 13 mm / 1/2 in KVS 42: 17.2 mm / 5/16 in
Reference position	Overdriving against the full close position
Electrical connection	M12 connector

Related products
Electronic controller
Type EKC 368
Temperature sensors
Type AKS
Service driver
Type AST-G



Technical data and ordering

KVS - Electric suction modulating control valve



Ordering, valves in single pack

Type	Rated capacity [1]						KVS valve		
	R22		R134a		R404A/R507		Connection A × B		Code no. single pack
	[kW]	[TR]	[kW]	[TR]	[kW]	[TR]	[mm]	[in]	
KVS 15	5.15	1.31	3.78	0.94	4.58	1.07	16	5/8	034G4252
	5.15	1.31	3.78	0.94	4.58	1.07	22	7/8	034G4253
KVS 42	40.4	11.4	29.3	8.3	35.3	10.0	22	7/8	034G2858
	40.4	11.4	29.3	8.3	35.3	10.0	28	1 1/8	034G2850
	40.4	11.4	29.3	8.3	35.3	10.0	35	1 3/8	034G2851
	40.4	11.4	29.3	8.3	35.3	10.0	–	1 5/8	034G2852

[1]) *Rated capacity is the valve capacity at:*
- evaporating temperature t_e = -10 °C / 14 °F
- condensing temperature t_c = 25 °C / 77 °F
- pressure drop across valve Δp = 0.2 bar / 2.9 psi

M12 Female - Connector Cable

Ordering

Cable quality	Temperature range	Cable length (L)		Design	Code no. single pack
Jacket: PVC	-50 – 80 °C / -58 – 176 °F	2 m	6.6 ft	M12, 4 pins to actuator and flying wires for driver connection	034G2201
	-50 – 80 °C / -58 – 176 °F	8 m	26.2 ft		034G2200
Jacket: CPE	-40 – 80 °C / -40 – 176 °F	2 m	6.6 ft		034G2202

KVS - Electric suction modulating control valve

Accessory

Type	Description	Type designation	Code no. Multipack
Cable filter	Cable filter for KVS valve	AKA 211	084B2238

M12 angle cable

Specification

Jacket	PVC - black
Cable outer sheath	Oil - resistant
Water proof rating	IP 67
Operating temperature range	-40 – 80 °C
Wire type	Twisted pair, cross section 20 AWG / 0.5 mm²
Cable outer diameter	7.0 mm
Minimum bending radius	10 x cable diameter
Cable combustibility / test	Flame retardant / VW-1 / CSA FT - 1
M12 standard	EN 61076-2-101
Reference standard	UL style 2464 and DIN VDE 0812
LVD directive	2014/35/EU
Approval	CE, RoHS, UL, EAC, LLC CDC EURO TYSK

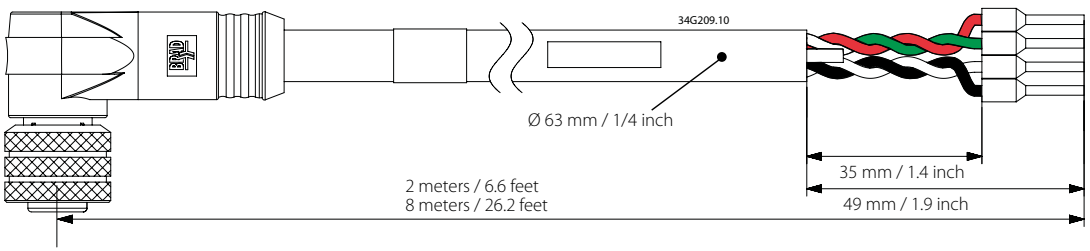


Ordering

Cable	Cable length (L)	Insulation	Packing format	Code no.
PVC - Black	2 m / 6.6 ft	SR-PVC	Single pack	034G7073
	8 m / 26.2 ft	SR-PVC	Single pack	034G7074

Caution: M12 angle cable is not approved for flammable applications.

Dimensions

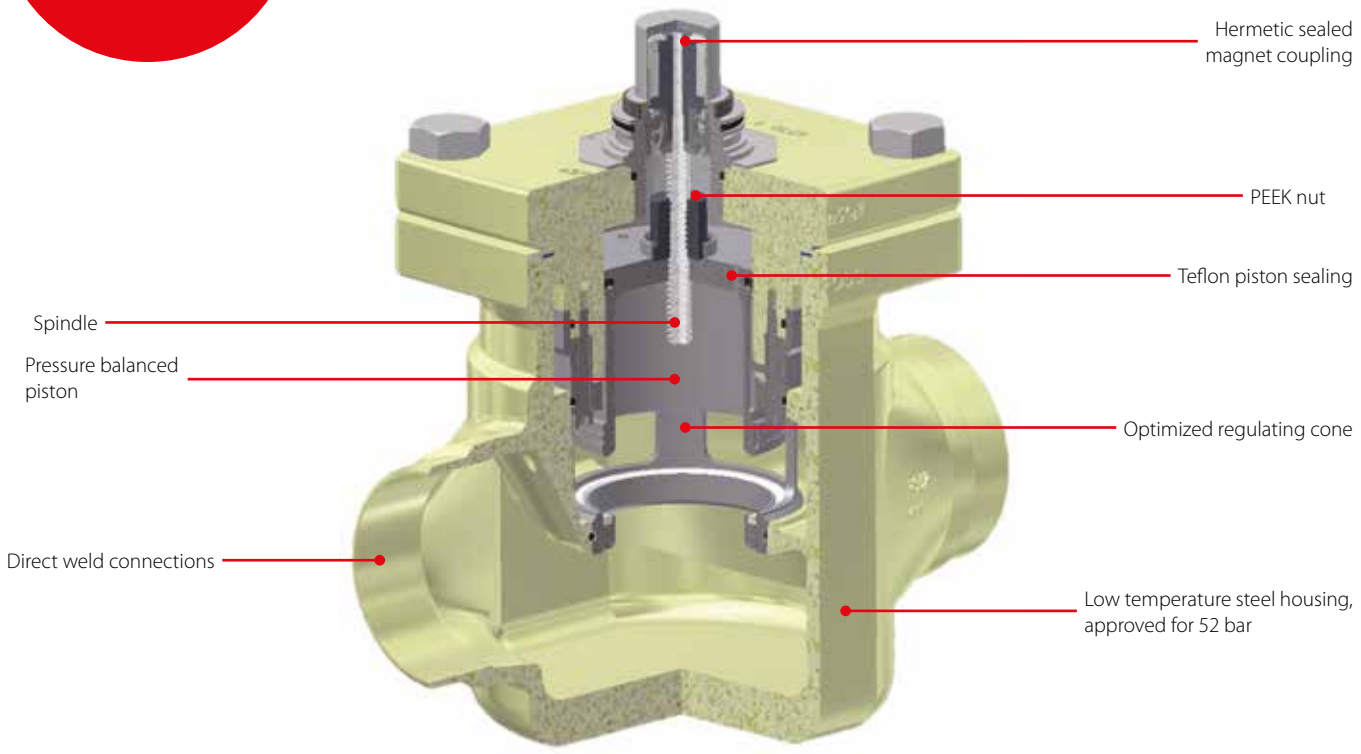


Quick Selection Notes:

ICM 20-150, Motor operated valve

ICM are direct operated motorized valves driven by actuator type ICAD (Industrial Control Actuator with Display).
The motor valve is based on four main components - valve body, top cover, function module and actuator - and is available both as complete valves and as parts programme.
ICM valves are designed to regulate an expansion process in liquid lines with or without phase change or control pressure or temperature in dry and wet suction lines and hot gas lines.
ICM valves are designed so that the opening and closing forces are balanced. Therefore only three sizes of ICAD actuators are needed for the complete range of ICM from DN 20 to DN 150.
The ICM motorized valve and ICAD actuator assembly offers a very compact unit with small dimensions.





Facts

Application:
- Industrial refrigeration for a maximum working pressure of 52 bar / 754 psig

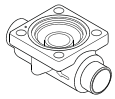
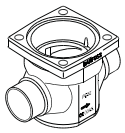
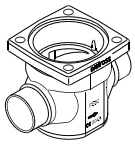
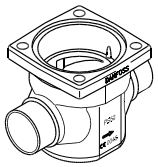
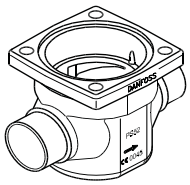
- Modular Concept
  - Each valve body is available with several different connection types and sizes
  - Valve overhaul is performed by replacing the function module
  - Possible to convert ICM motor operated valve to ICS pilot operated servo valve
- Low weight and compact design
- Low temperature steel body
- Direct coupled connections, connection types include butt weld, socket weld, solder and threaded connections
- V-port regulating cone ensures optimum regulating accuracy particularly at part load
- Manual opening possible via ICAD or service tool
- Cavitation resistant valve seat
- Magnet coupling - real hermetic sealing
- Applicable to R717, R744, R401A, R402A, R404A, R407A, R407B, R407C, R407F, R409A, R410A, R421A, R502, R507, R1234ze, R134a and R22
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- Temperature range:
  -60 – 120 °C / -76 – 248 °F
- Surface protection:
  The external surface is zinc-chromated to provide good corrosion protection
- Max. working pressure: 52 bar g / 754 psig
- Max. opening pressure differential (MOPD):
  - ICM 20 – 32: 52 bar / 750 psi
  - ICM 40: 40 bar / 580 psi
  - ICM 50: 30 bar / 435 psi
  - ICM 65: 20 bar / 290 psi
  - ICM 100: 20 bar / 290 psi
  - ICM 125: 20 bar / 290 psi
  - ICM 150: 20 bar / 290 psi

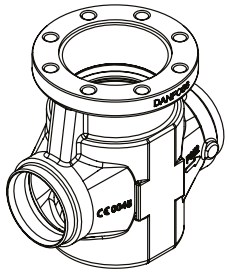
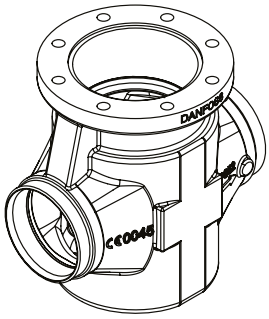
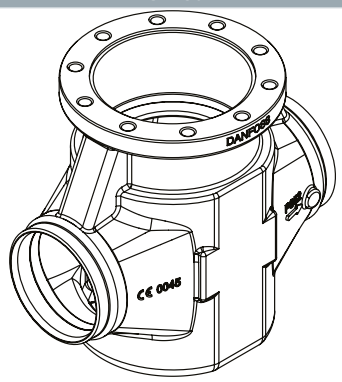
The ICM concept

The ICM concept is developed around a modular principle. This gives the possibility of combining function modules and top covers with special valve body size that is available in a variety of connection possibilities.

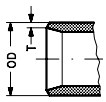
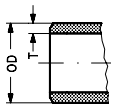
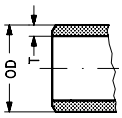
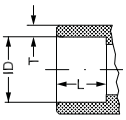
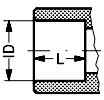
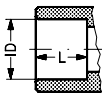
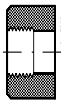
The valve body

There are nine valve bodies available.

ICV 20	ICV 25	ICV 32	ICV 40	ICV 50	ICV 65
					

ICV 100	ICV 125	ICV 150
		

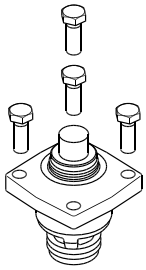
Valve bodies in the sizes ICV 20 – ICV 65 are available with a range of undersizes through oversized connection sizes and types.
ICV 100 – ICV 150 are available in butt-weld DIN and butt-weld ANSI nominal sizes.

D	A	J	SOC	SD	SA	FPT
						
Butt-weld DIN	Butt-weld ANSI	Butt-weld JIS	Socket weld ANSI	Solder DIN	Solder ANSI	Female Pipe Thread

Type	Valve body size	K_V [m³/h]	C_V [US gal/min]
ICM 20A-33	20	0.2	0.23
ICM 20-A	20	0.6	0.7
ICM 20-B66	20	1.6	1.9
ICM 20-B	20	2.4	2.8
ICM 20-C	20	4.6	5.3
ICM 25-A	25	6	7
ICM 25-A33	25	2	2.3
ICM 25-B	25	12	13.9
ICM 32-A	32	9	10.4
ICM 32-B	32	17	20
ICM 40-A	40	15	17
ICM 40-B	40	26	30
ICM 50-A	50	23	27
ICM 50-B	50	40	46
ICM 65-A	65	35	41
ICM 65-B	65	70	81
ICM 100-B	100	142	167
ICM 125-B	125	223	260
ICM 150-B	150	370	430

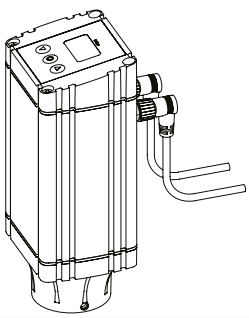
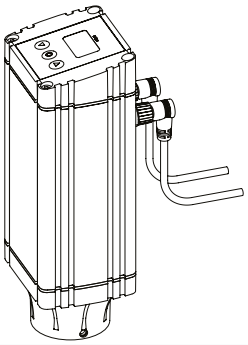
Top / function module

The multiple top / function modules have different capacities.



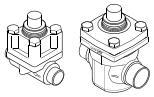
The actuator

A magnetic coupled actuator is easily installed. Two actuators cover the entire ICM program.

ICAD 600A	ICAD 1200A
	

Technical data and ordering

ICM - Motor operated valve



Ordering factory assembled valve (valve body and top / function module)

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
ICM 20 – A	3/4	20	Butt weld, EN 10220	D	027H1030
	3/4	20	Butt weld, ANSI (B 36.10)	A	027H1035
	3/4	20	Socket weld, ANSI (B 16.11	SOC	027H1040
	7/8	22	Solder connection, ANSI (B 16.22)	SA	027H1050
	7/8	22	Solder connection, DIN (2856)	SD	027H1045
	1	25	Butt weld, EN 10220	D	027H1020
ICM 20 – B	3/4	20	Butt weld, EN 10220	D	027H1031
	3/4	20	Butt weld, ANSI (B 36.10)	A	027H1036
	3/4	20	Socket weld, ANSI (B 16.11	SOC	027H1041
	7/8	22	Solder connection, ANSI (B 16.22)	SA	027H1051
	7/8	22	Solder connection, DIN (2856)	SD	027H1046
	1	25	Butt weld, EN 10220	D	027H1021
ICM 20 – C	3/4	20	Butt weld, EN 10220	D	027H1032
	7/8	22	Solder connection, ANSI (B 16.22)	SA	027H1052
	7/8	22	Solder connection, DIN (2856)	SD	027H1047
	1	25	Butt weld, EN 10220	D	027H1022
	1	25	Butt weld, ANSI (B 36.10)	A	027H1025
ICM 25 – A	7/8	22	Solder connection, ANSI (B 16.22)	SA	027H2010
	7/8	22	Solder connection, DIN (2856)	SD	027H2006
	1	25	Butt weld, EN 10220	D	027H2000
	1	25	Butt weld, ANSI (B 36.10)	A	027H2002
	1	25	Socket weld, ANSI (B 16.11	SOC	027H2004
	1 1/8	28	Solder connection, ANSI (B 16.22)	SA	027H2012
	1 1/8	28	Solder connection, DIN (2856)	SD	027H2008
	1 1/8	35	Solder connection, DIN (2856)	SD	027H2014
	1 1/2	40	Butt weld, EN 10220	D	027H2016
ICM 25 – B	7/8	22	Solder connection, ANSI (B 16.22)	SA	027H2011
	7/8	22	Solder connection, DIN (2856)	SD	027H2007
	1	25	Butt weld, EN 10220	D	027H2001
	1	25	Butt weld, ANSI (B 36.10)	A	027H2003
	1	25	Socket weld, ANSI (B 16.11	SOC	027H2005
	1 1/8	28	Solder connection, ANSI (B 16.22)	SA	027H2013
	1 1/8	28	Solder connection, DIN (2856)	SD	027H2009
	1 1/8	35	Solder connection, DIN (2856)	SD	027H2015
ICM 32 – A	1 1/4	32	Butt weld, EN 10220	D	027H3000
	1 1/4	32	Butt weld, ANSI (B 36.10)	A	027H3002
	1 1/4	32	Socket weld, ANSI (B 16.11	SOC	027H3004
	1 1/8	35	Solder connection, DIN (2856)	SD	027H3006
	1 1/2	40	Butt weld, EN 10220	D	027H3012
	1 5/8	42	Solder connection, ANSI (B 16.22)	SA	027H3008
ICM 32 – B	1 1/4	32	Butt weld, EN 10220	D	027H3001
	1 1/4	32	Butt weld, ANSI (B 36.10)	A	027H3003
	1 1/4	32	Socket weld, ANSI (B 16.11	SOC	027H3005
	1 3/8	35	Solder connection, DIN (2856)	SD	027H3007
ICM 40 – A	1 1/2	40	Butt weld, EN 10220	D	027H4000
	1 5/8	40	Butt weld, ANSI (B 36.10)	A	027H4002
	1 5/8	40	Socket weld, ANSI (B 16.11	SOC	027H4004
	1 5/8	42	Solder connection, ANSI (B 16.22)	SA	027H4006
	1 5/8	42	Solder connection, DIN (2856)	SD	027H4008
	2	50	Butt weld, EN 10220	D	027H4010
ICM 40 – B	1 1/2	40	Butt weld, EN 10220	D	027H4001
	1 1/2	40	Butt weld, ANSI (B 36.10)	A	027H4003
	1 1/2	40	Socket weld, ANSI (B 16.11	SOC	027H4005
	1 5/8	42	Solder connection, ANSI (B 16.22)	SA	027H4007
	1 5/8	42	Solder connection, DIN (2856)	SD	027H4009
ICM 50 – A	2	50	Butt weld, EN 10220	D	027H5000
	2	50	Butt weld, ANSI (B 36.10)	A	027H5002
	2	50	Socket weld, ANSI (B 16.11	SOC	027H5004
	2 1/8	54	Solder connection, DIN (2856)	SD	027H5006
	2 1/2	65	Butt weld, EN 10220	D	027H5008
ICM 50 – B	2	50	Butt weld, EN 10220	D	027H5001
	2	50	Butt weld, ANSI (B 36.10)	A	027H5003
	2	50	Socket weld, ANSI (B 16.11	SOC	027H5005
	2 1/8	54	Solder connection, DIN (2856)	SD	027H5007
ICM 65 – A	2 1/2	65	Butt weld, EN 10220	D	027H6010
	2 1/2	65	Butt weld, ANSI (B 36.10)	A	027H6012
ICM 65 – B	2 1/2	65	Butt weld, EN 10220	D	027H6001
	2 1/2	65	Butt weld, ANSI (B 36.10)	A	027H6003
	2 1/2	65	Socket weld, ANSI (B 16.11	SOC	027H6005
	2 5/8	67	Solder connection, ANSI (B 16.22)	SA	027H6007
	3	76	Solder connection, DIN (2856)	SD	027H6009

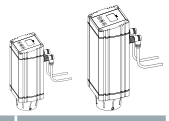
Technical data and ordering

ICM - Motor operated valve

Ordering factory assembled valve (valve body and top / function module)

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
ICM 100	4	100	Butt weld, EN 10220	D	027H7130
	4	100	Butt weld, ANSI (B 36.10)	A	027H7131
ICM 125	5	125	Butt weld, EN 10220	D	027H7150
	5	125	Butt weld, ANSI (B 36.10)	A	027H7151
ICM 150	6	150	Butt weld, EN 10220	D	027H7170
	6	150	Butt weld, ANSI (B 36.10)	A	027H7171

ICAD actuator



Ordering

Type	Cable	Supply voltage	Load	Analog Input	Digital Input	Output	Code no.
ICAD 600A	1.5 m (60 in)	24 V DC	1.2 A	0 / 4 – 20 mA 0 / 2 – 10 V	ON / OFF Volt free contact	0 / 4 – 20 mA	027H9075
	None	24 V DC	1.2 A	0 / 4 – 20 mA 0 / 2 – 10 V	ON / OFF Volt free contact	0 / 4 – 20 mA	027H9120
ICAD 1200A	1.5 m (60 in)	24 V DC	3.0 A	0 / 4 – 20 mA 0 / 2 – 10 V	ON / OFF Volt free contact	0 / 4 – 20 mA	027H9077
	None	24 V DC	3.0 A	0 / 4 – 20 mA 0 / 2 – 10 V	ON / OFF Volt free contact	0 / 4 – 20 mA	027H9122

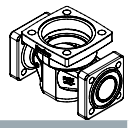
ICAD - Service tool



Ordering

Type	Function	Code no.
ICM 20–32	Featuring a magnetic coupling for manual operation of the ICM and a threaded end for dismounting of the ICS function module and other useful functions.	027H0180
ICM 40–150		027H0181

ICV-PM valve housings



Ordering

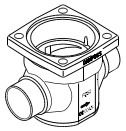
Type		Code no.
ICV 25 (H)A4A Valve housing		027H2304 *)
ICV 32 A4A Valve housing		027H3130 *)
ICV 32 HA4A Valve housing		027H3131 *)
ICV 40 (H)A4A Valve housing		027H4129 *)
ICV 50 (H)A4A Valve housing		027H5128 **)
ICV 65 (H)A4A Valve housing		027H6129 **)

*) Includes ICV PM valve housing, flange gaskets and flange bolts.
**) Includes ICV PM valve housing, flange gaskets, flange bolts and flange nuts.

Technical data and ordering

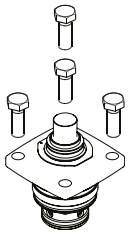
Ordering from the parts programme (valve body + top / function module + actuator)

Example:



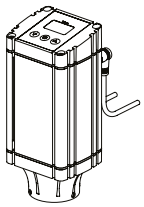
Valve body 32 D (1 ¼ in)
027H2129

+



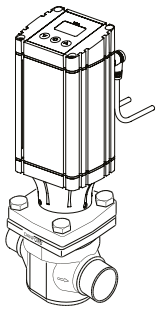
Top / function module
ICM 25-B
027H2181

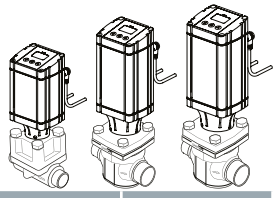
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Actuator
027H9075
(For ICAD code numbers; please see the section "Ordering ICAD actuators)

=





ICM 20 / ICV 20 Valve body

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
ICV 20	5/8	16	Solder connection, ANSI (B 16.22)	SA	027H1129
	5/8	16	Solder connection, DIN (2856)	SD	027H1132
	3/4	20	Butt weld, EN 10220	D	027H1145
	3/4	20	Butt weld, ANSI (B 36.10)	A	027H1148
	3/4	20	Socket weld, ANSI (B 16.11)	SOC	027H1151
	3/4	20	Female pipe thread (ANSI/ASME B 1.20.1)	FTP	027H1157
	7/8	22	Solder connection, ANSI (B 16.22)	SA	027H1160
	7/8	22	Solder connection, DIN (2856)	SD	027H1154
	1	25	Butt weld, EN 10220	D	027H1163
	1	25	Butt weld, ANSI (B 36.10)	A	027H1166

ICM 20 top / function module [1])

Type	C_v value [gal/min]	K_v value [m^3/h]		Code no.
ICM 20 – A33	0.23	0.2		027H1186
ICM 20 – A	0.7	0.6		027H1180
ICM 20 – B66	1.9	1.6		027H1194
ICM 20 – B	2.8	2.4		027H1181
ICM 20 – C	5.3	4.6		027H1182

ICM 25 / ICV 25 Valve body

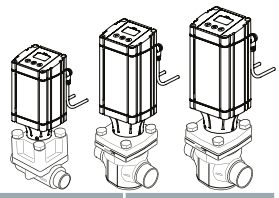
Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
ICV 25	3/4	20	Butt weld, EN 10220	D	027H2128
	3/4	20	Butt weld, ANSI (B 36.10)	A	027H2131
	3/4	20	Socket weld, ANSI (B 16.11	SOC	027H2132
	3/4	20	Female pipe thread (ANSI/ASME B 1.20.1)	FTP	027H2133
	7/8	22	Solder connection, ANSI (B 16.22)	SA	027H2125
	7/8	22	Solder connection, DIN (2856)	SD	027H2123
	1	25	Butt weld, EN 10220	D	027H2120
	1	25	Butt weld, ANSI (B 36.10)	A	027H2121
	1	25	Socket weld, ANSI (B 16.11	SOC	027H2122
	1	25	Female pipe thread (ANSI/ASME B 1.20.1)	FTP	027H2127
	1 1/8	28	Solder connection, ANSI (B 16.22)	SA	027H2126
	1 1/8	28	Solder connection, DIN (2856)	SD	027H2124
	1 1/4	32	Butt weld, EN 10220	D	027H2129
	1 1/4	32	Butt weld, ANSI (B 36.10)	A	027H2130
	1 3/8	35	Solder connection, DIN (2856)	SD	027H2134
	1 1/2	40	Butt weld, EN 10220	D	027H2135

ICM 25 top / function module [2])

Type	C_v value [gal/min]	K_v value [m^3/h]		Code no.
ICM 25 – A	7	6		027H2180
ICM 25-A33	2.3	2.3		027H2190
ICM 25 – B	13.9	12		027H2181

[1]) Including bolts and O-ring (for assembly with ICV valve body). Seat and O-ring (for seat to be mounted in ICV valve body).
[2]) Including gasket and O-rings.

Technical data and ordering



ICM 32 / ICV 32 Valve body

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
ICV 32	1 1/4	32	Butt weld, EN 10220	D	027H3120
	1 1/4	32	Butt weld, ANSI (B 36.10)	A	027H3121
	1 1/4	32	Socket weld, ANSI (B 16.11	SOC	027H3122
	1 3/8	35	Solder connection, DIN (2856)	SD	027H3123
	1 1/2	40	Butt weld, EN 10220	D	027H3125
	1 1/2	40	Butt weld, ANSI (B 36.10)	A	027H3126
	1 5/8	42	Solder connection, ANSI (B 16.22)	SA	027H3127
	1 5/8	42	Solder connection, DIN (2856)	SD	027H3128

ICM 32 top / function module [2])

Type	C_v value [gal/min]	K_v value [m^3/h]		Code no.
ICM 32 – A	10.4	9		027H3180
ICM 32 – B	20	17		027H3181

ICM 40 / ICV 40 Valve body

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
ICV 40	1 1/2	40	Butt weld, EN 10220	D	027H4120
	1 1/2	40	Butt weld, ANSI (B 36.10)	A	027H4121
	1 1/2	40	Socket weld, ANSI (B 16.11	SOC	027H4122
	1 5/8	42	Solder connection, ANSI (B 16.22)	SA	027H4124
	1 5/8	42	Solder connection, DIN (2856)	SD	027H4123
	2	50	Butt weld, EN 10220	D	027H4126
	2	50	Butt weld, ANSI (B 36.10)	A	027H4127

ICM 40 top / function module [2])

Type	C_v value [gal/min]	K_v value [m^3/h]		Code no.
ICM 40 – A	17	15		027H4180
ICM 40 – B	30	26		027H4181

ICM 50 / ICV 50 Valve body

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
ICV 50	2	50	Butt weld, EN 10220	D	027H5120
	2	50	Butt weld, ANSI (B 36.10)	A	027H5121
	2	50	Socket weld, ANSI (B 16.11	SOC	027H5122
	2 1/8	54	Solder connection, DIN (2856)	SD	027H5123
	2 1/2	65	Butt weld, EN 10220	D	027H5124
	2 1/2	65	Butt weld, ANSI (B 36.10)	A	027H5125

ICM 50 top / function module [2])

Type	C_v value [gal/min]	K_v value [m^3/h]		Code no.
ICM 50 – A	27	23		027H5180
ICM 50 – B	46	40		027H5181

ICM 65 / ICV 65 Valve body

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
ICV 65 – 80	2 1/2	65	Butt weld, EN 10220	D	027H6120
	2 1/2	65	Butt weld, ANSI (B 36.10)	A	027H6121
	2 1/2	65	Socket weld, ANSI (B 16.11	SOC	027H6123
	2 1/2	65	Butt weld, JIS (B S 602)	J	027H6122
	2 5/8	67	Solder connection, ANSI (B 16.22)	SA	027H6125
	3	76	Solder connection, DIN (2856)	SD	027H6124
	3	80	Butt weld, EN 10220	D	027H6126
	3	80	Butt weld, ANSI (B 36.10)	A	027H6127

ICM 65 top / function module [2])

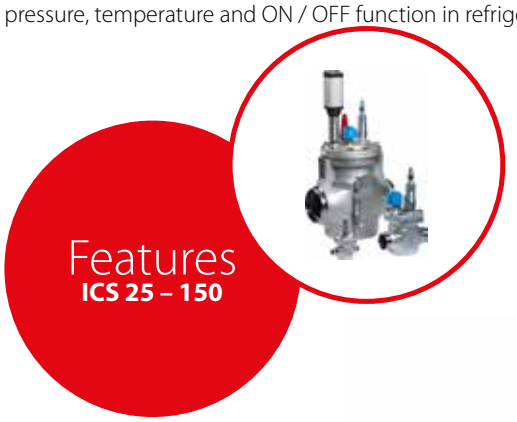
Type	C_v value [gal/min]	K_v value [m^3/h]		Code no.
ICM 65 – A	41	35		027H6180
ICM 65 – B	80	70		027H6181

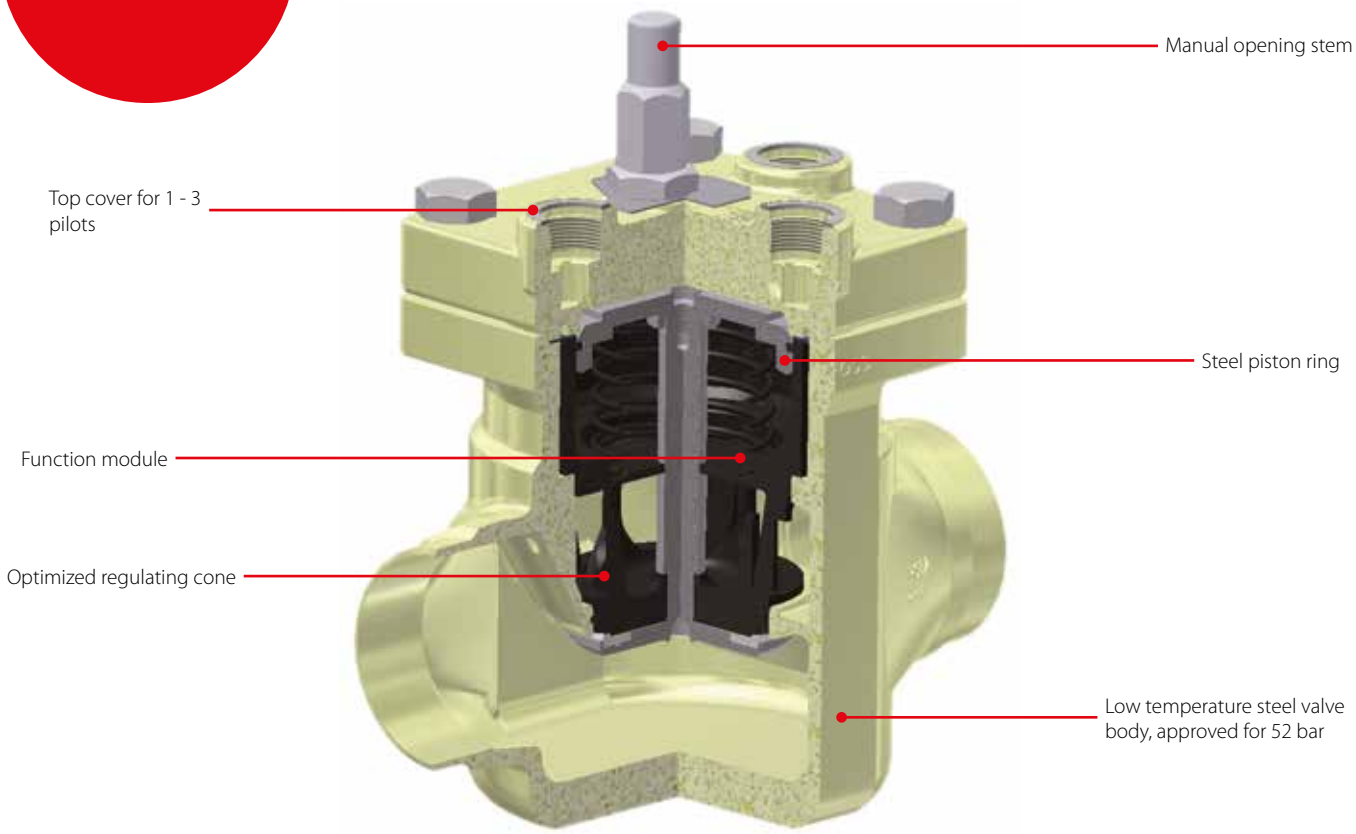
[1]) Including bolts and O-ring (for assembly with ICV valve body). Seat and O-ring (for seat to be mounted in ICV valve body).
[2]) Including gasket and O-rings.
Note: Converting old PM valve to new ICV solution (ICS, ICM or ICLX) can be done with the ICV PM flanged valve housing.
The ICV PM flanged valve housing is designed for a max. working pressure of 28 bar g / 406 psig and therefore a suitable replacement for PM valves in the service market.
For ordering; please see the spare part documentation on PM valves.

ICS 25-150, Pilot-operated servo valve

ICS are compact, servo operated multi-function control valves based on three main components – valve body, function module and top cover - and are available both as complete valves and as parts programme.
ICS valve functions are defined by the pilot valves connected.
ICS 1 pilot has one pilot pressure connection and ICS 3 pilot has three pilot pressure connections. With pilots, ICS can be used for regulating pressure, temperature and ON / OFF function in refrigeration systems.

ICS valves are designed for low and high-pressure.
ICS valves can be used on the high and low-pressure sides, in wet and dry suction lines and in liquid lines without phase change (i.e. where no expansion takes place in the valve). The associated Danfoss pilot valves can be either screwed directly into the ICS valve or connected via an external pilot line.





Facts

Application:
- Industrial refrigeration for a maximum working pressure of 52 bar / 754 psig

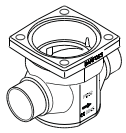
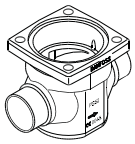
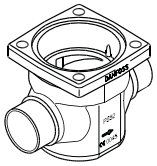
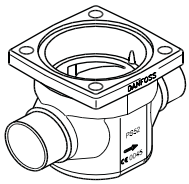
- Modular Concept:
  - Each valve body is available with several different connection types and sizes
  - Valve overhaul is performed by replacing the function module
  - Possible to convert ICS pilot-operated servo valve to ICM motor operated valve
- Low weight and compact design
- Low temperature steel body
- Direct coupled connections: connection types include butt weld, socket weld, solder and threaded connections
- V-port regulating cone ensures optimum regulating accuracy particularly at part load
- Manual operating spindle
- The ICS valve is a multifunction valve where 1 or up to 3 pilot valves can be mounted into the pilot ports
- Applicable to R717, R744, R401A, R402A, R404A, R407A, R407B, R407C, R407F, R409A, R410A, R421A, R502, R507, R1234ze, R134a and R22.
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- Temperature range:
  -60 – 120 °C / -76 – 248 °F
- Surface protection:
  The external surface is zinc-chromated to provide good corrosion protection
- Max. working pressure: 52 bar g / 754 psig

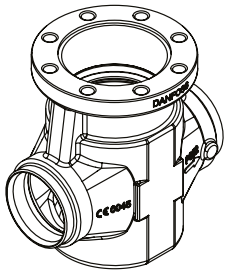
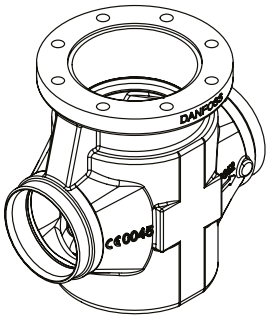
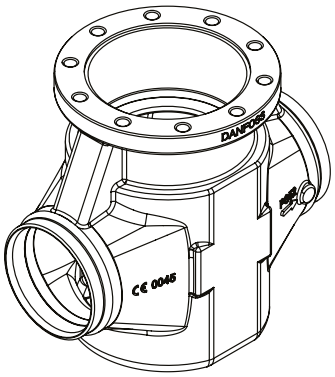
The ICS concept

The ICS concept is developed around a modular principle. This gives the possibility of combining function modules and top covers with valve bodies, which are available in many different sizes and with a variety of connection possibilities.

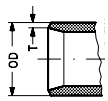
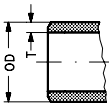
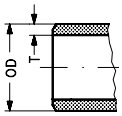
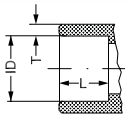
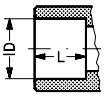
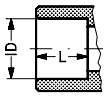
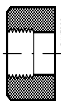
The valve body

There are eight valve bodies available.

ICV 25	ICV 32	ICV 40	ICV 50	ICV 65
				

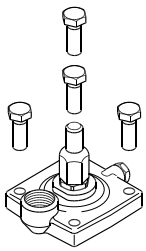
ICV 100	ICV 125	ICV 150
		

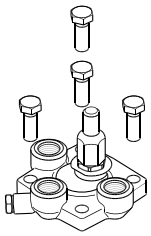
Valve bodies in the sizes ICV 25 – ICV 65 are available with a range of undersizes through oversized connection sizes and types.
ICV 100 – ICV 150 are available in butt-weld DIN and butt-weld ANSI nominal sizes.

D	A	J	SOC	SD	SA	FPT
						
Butt-weld DIN	Butt-weld ANSI	Butt-weld JIS	Socket weld ANSI	Solder DIN	Solder ANSI	Female Pipe Thread

The top cover

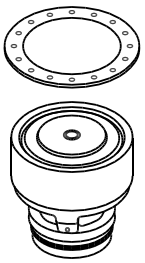
Each valve body may be fitted with a 1 pilot or 3 pilot top cover (except ICS 100 – ICS 150 - only available as 3 pilots version).





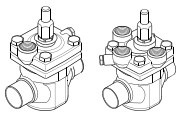
The function module

Multiple function modules are available to give different capacities.



Type	Valve body size	K_v value [m^3/h]
ICS 25 – 5	25	1.7
ICS 25 – 10	25	3.5
ICS 25 – 15	25	6.0
ICS 25 – 20	25	8
ICS 25 – 25	25	11.5
ICS 32	32	17
ICS 40	40	27
ICS 50	50	44
ICS 65	65	70
ICS 80	80	85
ICS 100	100	142
ICS 125	125	207
ICS 150	150	354

Ordering



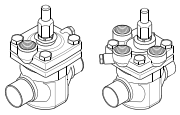
ICS - Pilot-operated servo valve

Ordering factory assembled valve (valve body and top / function module)

Type		Connection size [in]	Connection size [mm]	Connection type	Connection designation	Code no.
ICS 25 – 5	1 pilot	3/4	20	Butt weld, EN 10220	D	027H2028
		3/4	20	Butt weld, ANSI (B 36.10)	A	027H2029
		3/4	20	Socket weld, ANSI (B 16.11)	SOC	027H2140
		7/8	22	Solder connection, ANSI (B 16.22)	SA	027H2025
		7/8	22	Solder connection, DIN (2856)	SD	027H2023
		1	25	Butt weld, EN 10220	D	027H2020
		1	25	Butt weld, ANSI (B 36.10)	A	027H2021
		1 1/8	28	Solder connection, ANSI (B 16.22)	SA	027H2026
		1 1/8	28	Solder connection, DIN (2856)	SD	027H2024
	3 pilots [1]	3/4	20	Butt weld, EN 10220	D	027H2078
		3/4	20	Butt weld, ANSI (B 36.10)	A	027H2079
		3/4	20	Socket weld, ANSI (B 16.11)	SOC	027H2145
		7/8	22	Solder connection, ANSI (B 16.22)	SA	027H2075
		7/8	22	Solder connection, DIN (2856)	SD	027H2073
		1	25	Butt weld, EN 10220	D	027H2070
		1	25	Butt weld, ANSI (B 36.10)	A	027H2071
		1 1/8	28	Solder connection, ANSI (B 16.22)	SA	027H2076
		1 1/8	28	Solder connection, DIN (2856)	SD	027H2074
ICS 25 – 10	1 pilot	3/4	20	Butt weld, EN 10220	D	027H2038
		3/4	20	Butt weld, ANSI (B 36.10)	A	027H2039
		7/8	22	Solder connection, ANSI (B 16.22)	SA	027H2035
		7/8	22	Solder connection, DIN (2856)	SD	027H2033
		1	25	Butt weld, EN 10220	D	027H2030
		1	25	Butt weld, ANSI (B 36.10)	A	027H2031
		1 1/8	28	Solder connection, ANSI (B 16.22)	SA	027H2036
		1 1/8	28	Solder connection, DIN (2856)	SD	027H2034
	3 pilots [1]	3/4	20	Butt weld, EN 10220	D	027H2088
		3/4	20	Butt weld, ANSI (B 36.10)	A	027H2089
		3/4	20	Socket weld, ANSI (B 16.11)	SOC	027H2146
		7/8	22	Solder connection, ANSI (B 16.22)	SA	027H2085
		7/8	22	Solder connection, DIN (2856)	SD	027H2083
		1	25	Butt weld, EN 10220	D	027H2080
		1	25	Butt weld, ANSI (B 36.10)	A	027H2081
		1 1/8	28	Solder connection, ANSI (B 16.22)	SA	027H2086
		1 1/8	28	Solder connection, DIN (2856)	SD	027H2084
ICS 25 – 15	1 pilot	3/4	20	Butt weld, EN 10220	D	027H2048
		3/4	20	Butt weld, ANSI (B 36.10)	A	027H2049
		3/4	20	Socket weld, ANSI (B 16.11)	SOC	027H2142
		7/8	22	Solder connection, ANSI (B 16.22)	SA	027H2045
		7/8	22	Solder connection, DIN (2856)	SD	027H2043
		1	25	Butt weld, EN 10220	D	027H2040
		1	25	Butt weld, ANSI (B 36.10)	A	027H2041
		1 1/8	28	Solder connection, ANSI (B 16.22)	SA	027H2046
		1 1/8	28	Solder connection, DIN (2856)	SD	027H2044
	3 pilots [1]	3/4	20	Butt weld, EN 10220	D	027H2098
		3/4	20	Butt weld, ANSI (B 36.10)	A	027H2099
		7/8	22	Solder connection, ANSI (B 16.22)	SA	027H2095
		7/8	22	Solder connection, DIN (2856)	SD	027H2093
		1	25	Butt weld, EN 10220	D	027H2090
		1	25	Butt weld, ANSI (B 36.10)	A	027H2091
		1 1/8	28	Solder connection, ANSI (B 16.22)	SA	027H2096
		1 1/8	28	Solder connection, DIN (2856)	SD	027H2094
ICS 25 – 20	1 pilot	3/4	20	Butt weld, EN 10220	D	027H2058
		3/4	20	Butt weld, ANSI (B 36.10)	A	027H2059
		3/4	20	Socket weld, ANSI (B 16.11)	SOC	027H2143
		7/8	22	Solder connection, ANSI (B 16.22)	SA	027H2055
		7/8	22	Solder connection, DIN (2856)	SD	027H2053
		1	25	Butt weld, EN 10220	D	027H2050
		1	25	Butt weld, ANSI (B 36.10)	A	027H2051
		1 1/8	28	Solder connection, ANSI (B 16.22)	SA	027H2056
		1 1/8	28	Solder connection, DIN (2856)	SD	027H2054
	3 pilots [1]	3/4	20	Butt weld, EN 10220	D	027H2108
		3/4	20	Butt weld, ANSI (B 36.10)	A	027H2109
		3/4	20	Socket weld, ANSI (B 16.11)	SOC	027H2148
		7/8	22	Solder connection, ANSI (B 16.22)	SA	027H2105
		7/8	22	Solder connection, DIN (2856)	SD	027H2103
		1	25	Butt weld, EN 10220	D	027H2100
		1	25	Butt weld, ANSI (B 36.10)	A	027H2101
		1 1/8	28	Solder connection, ANSI (B 16.22)	SA	027H2106
		1 1/8	28	Solder connection, DIN (2856)	SD	027H2104

[1]) Including one blanking plug (A+B)
[2]) Including two blanking plugs (A) and one sealing plug (B)

Ordering



ICS - Pilot-operated servo valve

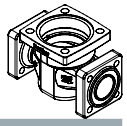
Ordering factory assembled valve (valve body and top / function module) (continued)

Type		Connection size [in]	Connection size [mm]	Connection type	Connection designation	Code no.
ICS 25 – 25	1 pilot	3/4	20	Butt weld, EN 10220	D	027H2068
		7/8	22	Solder connection, ANSI (B 16.22)	SA	027H2065
		7/8	22	Solder connection, DIN (2856)	SD	027H2063
		1	25	Butt weld, EN 10220	D	027H2060
		1	25	Butt weld, ANSI (B 36.10)	A	027H2061
		1	25	Socket weld, ANSI (B 16.11)	SOC	027H2062
		1 1/8	28	Solder connection, ANSI (B 16.22)	SA	027H2066
		1 1/8	28	Solder connection, DIN (2856)	SD	027H2064
	3 pilots [1]	3/4	20	Butt weld, EN 10220	D	027H2118
		7/8	22	Solder connection, ANSI (B 16.22)	SA	027H2115
		7/8	22	Solder connection, DIN (2856)	SD	027H2113
		1	25	Butt weld, EN 10220	D	027H2110
		1	25	Butt weld, ANSI (B 36.10)	A	027H2111
		1	25	Socket weld, ANSI (B 16.11)	SOC	027H2112
		1 1/8	28	Solder connection, ANSI (B 16.22)	SA	027H2116
		1 1/8	28	Solder connection, DIN (2856)	SD	027H2114
ICS 32	1 pilot	1 1/4	32	Butt weld, EN 10220	D	027H3020
		1 1/4	32	Butt weld, ANSI (B 36.10)	A	027H3021
		1 1/4	32	Socket weld, ANSI (B 16.11)	SOC	027H3022
		1 3/8	35	Solder connection, DIN (2856)	SD	027H3023
	3 pilots [1]	1 1/4	32	Butt weld, EN 10220	D	027H3030
		1 1/4	32	Butt weld, ANSI (B 36.10)	A	027H3031
		1 1/4	32	Socket weld, ANSI (B 16.11)	SOC	027H3032
		1 3/8	35	Solder connection, DIN (2856)	SD	027H3033
ICS 40	1 pilot	1 1/2	40	Butt weld, EN 10220	D	027H4020
		1 1/2	40	Butt weld, ANSI (B 36.10)	A	027H4021
		1 1/2	40	Socket weld, ANSI (B 16.11)	SOC	027H4022
		1 5/8	42	Solder connection, ANSI (B 16.22)	SA	027H4024
		1 5/8	42	Solder connection, DIN (2856)	SD	027H4023
	3 pilots [1]	1 1/2	40	Butt weld, EN 10220	D	027H4030
		1 1/2	40	Butt weld, ANSI (B 36.10)	A	027H4031
		1 1/2	40	Socket weld, ANSI (B 16.11)	SOC	027H4032
		1 5/8	42	Solder connection, ANSI (B 16.22)	SA	027H4034
		1 5/8	42	Solder connection, DIN (2856)	SD	027H4033
ICS 50	1 pilot	2	50	Butt weld, EN 10220	D	027H5020
		2	50	Butt weld, ANSI (B 36.10)	A	027H5021
		2	50	Socket weld, ANSI (B 16.11)	SOC	027H5022
		2 1/8	54	Solder connection, DIN (2856)	SD	027H5023
	3 pilots [1]	2	50	Butt weld, EN 10220	D	027H5030
		2	50	Butt weld, ANSI (B 36.10)	A	027H5031
		2	50	Socket weld, ANSI (B 16.11)	SOC	027H5032
		2 1/8	54	Solder connection, DIN (2856)	SD	027H5033
ICS 65	1 pilot	2 1/2	65	Butt weld, EN 10220	D	027H6020
		2 1/2	65	Butt weld, ANSI (B 36.10)	A	027H6021
		2 1/2	65	Socket weld, ANSI (B 16.11)	SOC	027H6023
		2 5/8	67	Solder connection, ANSI (B 16.22)	SA	027H6025
		3	76	Solder connection, DIN (2856)	SD	027H6024
	3 pilots [1]	2 1/2	65	Butt weld, EN 10220	D	027H6030
		2 1/2	65	Butt weld, ANSI (B 36.10)	A	027H6031
		2 1/2	65	Socket weld, ANSI (B 16.11)	SOC	027H6033
		2 5/8	67	Solder connection, ANSI (B 16.22)	SA	027H6035
		3	76	Solder connection, DIN (2856)	SD	027H6034
ICS 80	1 pilot	3	80	Butt weld, EN 10220	D	027H8020
		3	80	Butt weld, ANSI (B 36.10)	A	027H8021
	3 pilots [1]	3	80	Butt weld, EN 10220	D	027H8030
		3	80	Butt weld, ANSI (B 36.10)	A	027H8031
ICS 100	3 pilots [2]	4	100	Butt weld, EN 10220	D	027H7120
		4	100	Butt weld, ANSI (B 36.10)	A	027H7121
		4	100	Butt weld, ANSI (B 36.10)	A [2]	027H7122
ICS 125	3 pilots [2]	5	125	Butt weld, EN 10220	D	027H7140
		5	125	Butt weld, ANSI (B 36.10)	A	027H7141
		5	125	Butt weld, ANSI (B 36.10)	A [2]	027H7142
ICS 150	3 pilots [2]	6	150	Butt weld, EN 10220	D	027H7160
		6	150	Butt weld, ANSI (B 36.10)	A	027H7161
		6	150	Butt weld, ANSI (B 36.10)	A [2]	027H7162

[1] *Including one blanking plug (A+B).*
[2] *Including two blanking plugs (A) and one sealing plug (B).*

Ordering

ICV-PM valve housings



Ordering

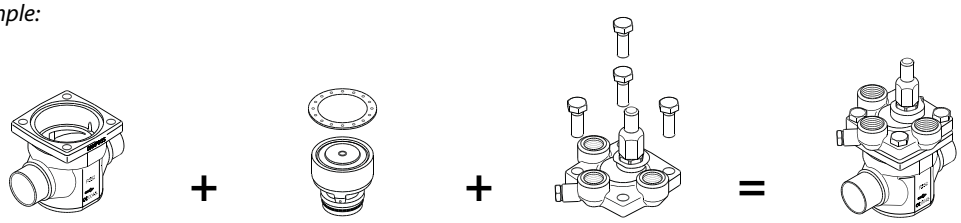
Type		Code no.
ICV 25 PM Valve housing		027H2119 *)
ICV 32 PM Valve housing		027H3129 *)
ICV 40 PM Valve housing		027H4128 *)
ICV 50 PM Valve housing		027H5127 **)
ICV 65 PM Valve housing		027H6128 **)

**) Includes ICV PM valve housing, flange gaskets and flange bolts.*
***) Includes ICV PM valve housing, flange gaskets, flange bolts and flange nuts.*

Ordering

Ordering from the parts programme (valve body + function module + top cover)

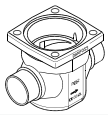
Example:



Valve body 25 D (1 in)
027H2120

Function module
ICS 25 – 15
027H2203

Top cover 3 pilots
027H2173



ICS 25 / ICV 25 Valve body

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
ICV 25	3/4	20	Butt weld, EN 10220	D	027H2128
	3/4	20	Butt weld, ANSI (B 36.10)	A	027H2131
	3/4	20	Socket weld, ANSI (B 16.11)	SOC	027H2132
	3/4	20	Female pipe thread (ANSI/ASME B 1.20.1)	FTP	027H2133
	7/8	22	Solder connection, ANSI (B 16.22)	SA	027H2125
	7/8	22	Solder connection, DIN (2856)	SD	027H2123
	1	25	Butt weld, EN 10220	D	027H2120
	1	25	Butt weld, ANSI (B 36.10)	A	027H2121
	1	25	Socket weld, ANSI (B 16.11)	SOC	027H2122
	1	25	Female pipe thread (ANSI/ASME B 1.20.1)	FTP	027H2127
	1 1/8	28	Solder connection, ANSI (B 16.22)	SA	027H2126
	1 1/8	28	Solder connection, DIN (2856)	SD	027H2124
	1 1/4	32	Butt weld, EN 10220	D	027H2129
	1 1/4	32	Butt weld, ANSI (B 36.10)	A	027H2130
	1 3/8	35	Solder connection, DIN (2856)	SD	027H2134
	1 1/2	40	Butt weld, EN 10220	D	027H2135

ICS 25 function module

Type	C_v value [gal/min]	K_v value [m^3/h]		Code no.
ICS 25 – 5	13.30	11.500		027H2201 [1]
ICS 25 – 10	2.00	1.700		027H2202 [1]
ICS 25 – 15	4.10	3.500		027H2203 [1]
ICS 25 – 20	7.00	6.000		027H2204 [1]
ICS 25 – 25	13.90	12.000		027H2200 [1]

ICS 25 top cover

Type		Code no.
ICS 25	1 Pilot	027H2172 [2]
	3 Pilots	027H2173 [3]

ICS 32 / ICV 32 Valve body

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
ICV 32	1 1/4	32	Butt weld, EN 10220	D	027H3120
	1 1/4	32	Butt weld, ANSI (B 36.10)	A	027H3121
	1 1/4	32	Socket weld, ANSI (B 16.11)	SOC	027H3122
	1 3/8	35	Solder connection, DIN (2856)	SD	027H3123
	1 1/2	40	Butt weld, EN 10220	D	027H3125
	1 1/2	40	Butt weld, ANSI (B 36.10)	A	027H3126
	1 5/8	42	Solder connection, ANSI (B 16.22)	SA	027H3127
	1 5/8	42	Solder connection, DIN (2856)	SD	027H3128

ICS 32 function module

Type		Code no.
ICS 32		027H3200 [1]

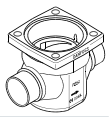
ICS 32 top cover

Type		Code no.
ICS 32	1 Pilot	027H3172 [2]
	3 Pilots	027H3173 [3]

[1] *Including gasket and O-rings*
[2] *Including bolts*
[3] *Including bolts and one blanking plug*

Ordering

Ordering from the parts programme (valve body + function module + top cover) (continued)



ICS 40 / ICV 40 Valve body

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
ICV 40	1 1/2	40	Butt weld, EN 10220	D	027H4120
	1 1/2	40	Butt weld, ANSI (B 36.10)	A	027H4121
	1 1/2	40	Socket weld, ANSI (B 16.11)	SOC	027H4122
	1 5/8	42	Solder connection, ANSI (B 16.22)	SA	027H4124
	1 5/8	42	Solder connection, DIN (2856)	SD	027H4123
	2	50	Butt weld, EN 10220	D	027H4126
	2	50	Butt weld, ANSI (B 36.10)	A	027H4127

ICS 40 function module

Type		Code no.
ICS 40		027H4200 [1]

ICS 40 top cover

Type		Code no.
ICS 40	1 Pilot	027H4172 [2]
	3 Pilots	027H4173 [3]

ICS 50 / ICV 50 Valve body

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
ICV 50	2	50	Butt weld, EN 10220	D	027H5120
	2	50	Butt weld, ANSI (B 36.10)	A	027H5121
	2	50	Socket weld, ANSI (B 16.11)	SOC	027H5122
	2 1/8	54	Solder connection, DIN (2856)	SD	027H5123
	2 1/2	65	Butt weld, EN 10220	D	027H5124
	2 1/2	65	Butt weld, ANSI (B 36.10)	A	027H5125

ICS 50 function module

Type		Code no.
ICS 50		027H5200 [1]

ICS 50 top cover

Type		Code no.
ICS 50	1 Pilot	027H5172 [2]
	3 Pilots	027H5173 [3]

ICS 65 – 80 / ICV 65-80 Valve body

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
ICV 65 – 80	2 1/2	65	Butt weld, EN 10220	D	027H6120
	2 1/2	65	Butt weld, ANSI (B 36.10)	A	027H6121
	2 1/2	65	Socket weld, ANSI (B 16.11)	SOC	027H6123
	2 1/2	65	Butt weld, JIS (B S 602)	J	027H6122
	2 5/8	67	Solder connection, ANSI (B 16.22)	SA	027H6125
	3	76	Solder connection, DIN (2856)	SD	027H6124
	3	80	Butt weld, EN 10220	D	027H6126
	3	80	Butt weld, ANSI (B 36.10)	A	027H6127

ICS 65 – 80 function module

Type		Code no.
ICS 65		027H6200 [1]
ICS 80		027H8200 [1]

ICS 65 – 80 top cover

Type		Code no.
ICS 65 – 80	1 Pilot	027H6172 [2]
	3 Pilots	027H6173 [3]

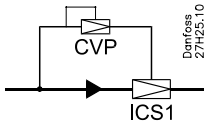
[1]) Including gasket and O-rings.
[2]) Including bolts.
[3]) Including bolts and one blanking plug.
Note: Converting old PM valve to new ICV solution (ICS, ICM or ICLX) can be done with the ICV PM flanged valve housing.
The ICV PM flanged valve housing is designed for a max. working pressure of 28 bar g / 406 psig and therefore a suitable replacement for PM valves in the service market.
For ordering; please see the spare part documentation on PM valves

ICS application examples

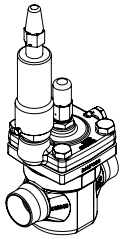
Example no. 1-1

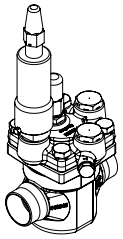
Constant pressure regulation

- CVP-L (-0.66 – 7 bar g) (19.5 in. Hg to 102 psig)
- CVP-M 4 – 28 bar g / 58 – 406 psig
- CVP-H 25 – 52 bar g / 363 – 754 psig



Products	Products
1 × ICS 1 Pilot 1 × CVP-L/M/H	1 × ICS 3 Pilots 1 × CVP-L/M/H 2 × Blanking plugs SI: A + B SII: A

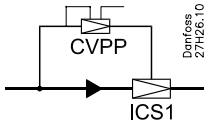




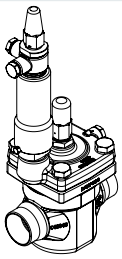
Example no. 1-2

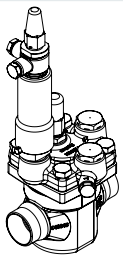
Differential pressure regulation

- CVPP-L (0.66 – 7 bar g) (19.5 in. Hg to 102 psig)
- CVPP-M 4 – 28 bar g / 58 – 406 psig



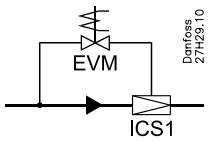
Products	Products
1 × ICS 1 Pilot 1 × CVPP-L/M	1 × ICS 3 Pilots 1 × CVPP-L/M 2 × Blanking plugs SI: A + B SII: A



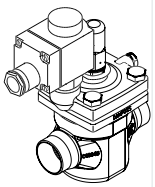


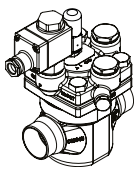
Example no. 1-3

On / off regulation (solenoid valve)



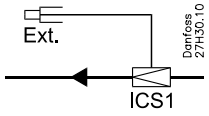
Products	Products
1 × ICS 1 Pilot 1 × EVM 1 × coil	1 × ICS 3 Pilots 1 × EVM 1 × coil 2 × Blanking plugs SI: A + B SII: A



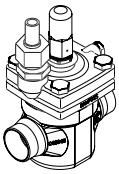


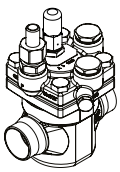
Example no. 1-4

Regulation with external control pressure



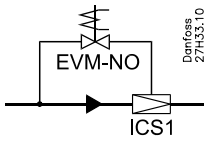
Products	Products
1 × ICS 1 Pilot 1 × nipple for external control pressure	1 × ICS 3 Pilots 1 × nipple for external control pressure 2 × Blanking plugs SI: A + B SII: A



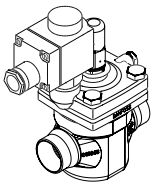


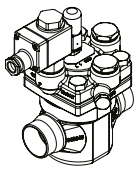
Example no. 1-5

On / off regulation (solenoid valve)



Products	Products
1 × ICS 1 Pilot 1 × EVM-NO (12 W coil)	1 × ICS 3 Pilots 1 × EVM-NO (12 W coil) 2 × Blanking plugs SI: A + B SII: A



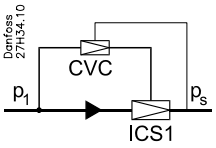


ICS application examples (continued)

Example no. 1-6

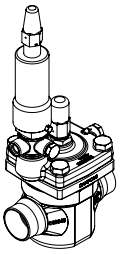
Crankcase pressure regulation. (Max. suction pressure regulation)

- -0.45 – 7 bar g (13.3 in. Hg to 102 psig)



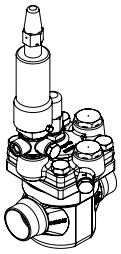
Products

1 × ICS 1 Pilot
1 × CVC-L



Products

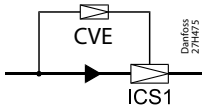
1 × ICS 3 Pilots
1 × CVC-L
2 × Blanking plugs
SI: A + B
SII: A



Example no. 1-7

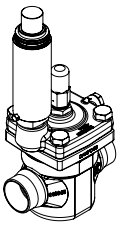
Electronically controlled media temperature regulation

- -0.66 – 8 bar g (19.5 in. Hg to 116 psig)



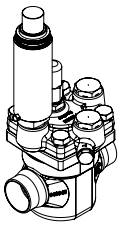
Products

1 × ICS 1 Pilot
1 × CVE



Products

1 × ICS 3 Pilots
1 × CVE
2 × Blanking plugs
SI: A + B
SII: A

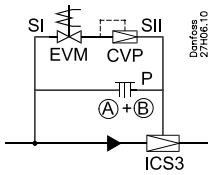


ICS application examples (continued)

Example no. 2-1

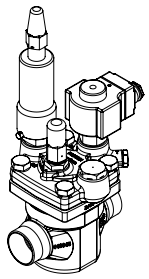
Constant pressure regulation combined with electrical shut off

- -0.66 – 7 bar g (19.5 in. Hg to 102 psig)



Products

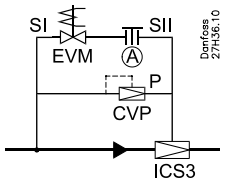
1 × ICS 3 Pilots
1 × blanking plug (A + B)
1 × CVP-L
1 × EVM
1 × coil



Example no. 2-2

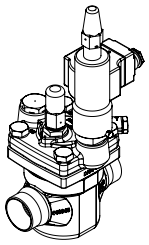
Constant pressure regulation combined with electrical wide open

- -0.66 – 7 bar g (19.5 in. Hg to 102 psig)



Products

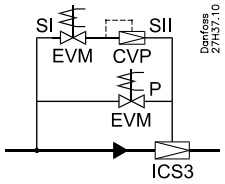
1 × ICS 3 Pilots
1 × blanking plug (A)
1 × CVP-L
1 × EVM



Example no. 2-3

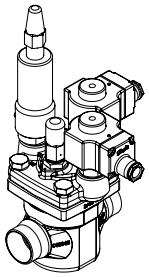
Constant pressure regulation combined with electrical shut off and wide open

- -0.66 – 7 bar g (19.5 in. Hg to 102 psig)



Products

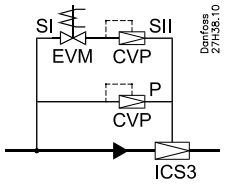
1 × ICS 3 Pilots
1 × CVP-L
2 × EVM
2 × coils



Example no. 2-4

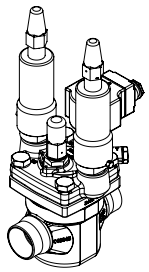
Constant pressure regulation with change-over between two preset evaporating pressures

- -0.66 – 7 bar g (19.5 in. Hg to 102 psig)



Products

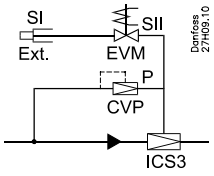
1 × ICS 3 Pilots
2 × CVP-L
1 × EVM
1 × coil



Example no. 2-5

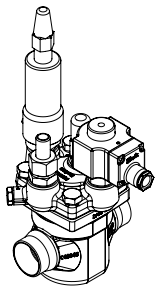
External control pressure with electrical shut off combined with constant pressure regulation

- -0.66 – 7 bar g (19.5 in. Hg to 102 psig)



Products

1 × ICS 3 Pilots
1 × nipple for external control pressure
1 × CVP-L
1 × EVM
1 × coil

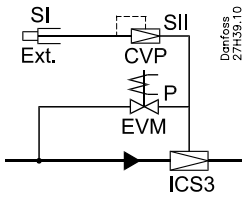


ICS application examples (continued)

Example no. 2-6

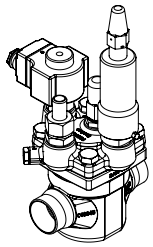
Constant pressure regulation with external control pressure combined with electrical wide open

- -0.66 – 7 bar g (19.5 in. Hg to 102 psig)



Products

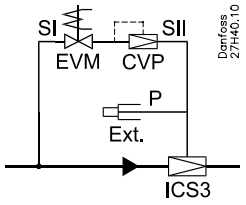
1 × ICS 3 Pilots
1 × nipple for external control pressure
1 × CVP-L
1 × EVM
1 × coil



Example no. 2-7

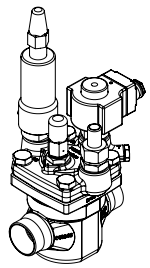
Constant pressure regulation with electrical shut off combined with external control pressure

- -0.66 – 7 bar g (19.5 in. Hg to 102 psig)



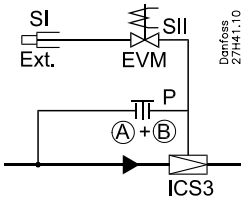
Products

1 × ICS 3 Pilots
1 × nipple for external control pressure
1 × CVP-L
1 × EVM
1 × coil



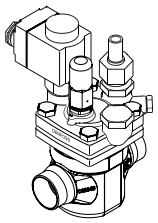
Example no. 2-8

Solenoid valve with external control pressure for small pressure drops



Products

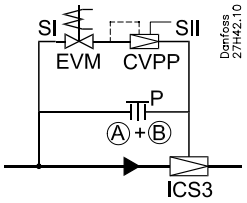
1 × ICS 3
1 × blanking plug (A + B)
1 × nipple for external control pressure
1 × EVM
1 × coil



Example no. 2-9

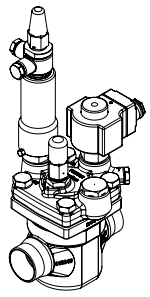
Differential pressure regulation combined with electrical shut off

- CVPP-L (0.66 – 7 bar g) (19.5 in. Hg to 102 psig)



Products

1 × ICS 3
1 × blanking plug (A + B)
1 × CVPP-L
1 × EVM
1 × coil

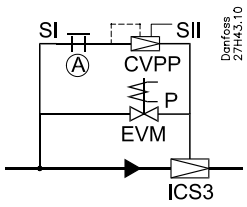


ICS application examples (continued)

Example no. 2-10

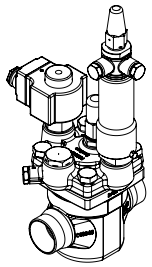
Differential pressure regulation combined with electrical wide open

- CVPP-L (0.66 – 7 bar g) (19.5 in. Hg to 102 psig)



Products

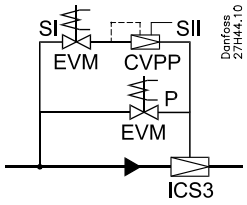
1 × ICS 3 Pilots
1 × blanking plug (A)
1 × CVPP-L
1 × EVM
1 × coil



Example no. 2-11

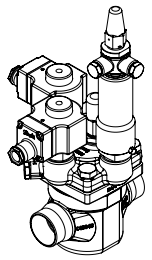
Differential pressure regulation combined with electrical wide open and shut off

- CVPP-L (0.66 – 7 bar g) (19.5 in. Hg to 102 psig)



Products

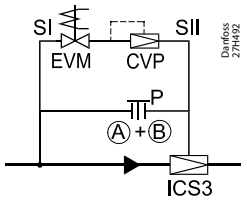
1 × ICS 3 Pilots
1 × CVPP-L
2 × EVM
2 × coils



Example no. 2-12

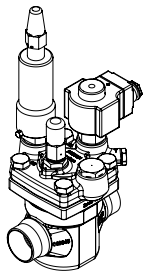
Constant pressure regulation combined with electrical shut off

- CVP-L (-0.66 – 7 bar g) (19.5 in. Hg to 102 psig)
- CVP-M 4 – 28 bar g / 58 – 406 psig
- CVP-H 25 – 52 bar g / 363 – 754 psig



Products

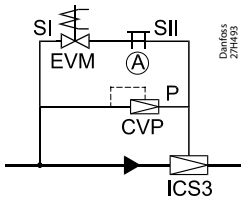
1 × ICS 3 Pilots
1 × blanking plug (A + B)
1 × CVP-L/M/H
1 × EVM
1 × coil



Example no. 2-13

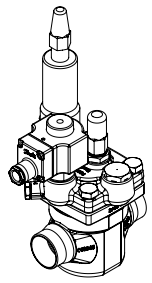
Constant pressure regulation combined with electrical wide open

- CVP-L (-0.66 – 7 bar g) (19.5 in. Hg to 102 psig)
- CVP-M 4 – 28 bar g / 58 – 406 psig
- CVP-H 25 – 52 bar g / 363 – 754 psig



Products

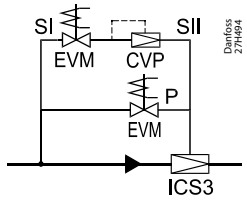
1 × ICS 3 Pilots
1 × blanking plug (A)
1 × CVP-L/M/H
1 × EVM
1 × coil



Example no. 2-14

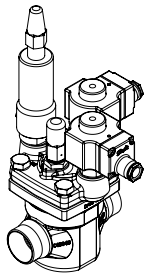
Constant pressure regulation combined with electrical shut off and wide open

- CVP-L (-0.66 – 7 bar g) (19.5 in. Hg to 102 psig)
- CVP-M 4 – 28 bar g / 58 – 406 psig
- CVP-H 25 – 52 bar g / 363 – 754 psig



Products

1 × ICS 3 Pilots
1 × CVP-L/M/H
2 × EVM
2 × coils

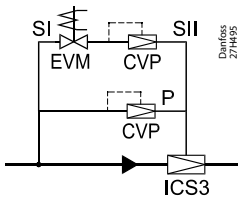


ICS application examples (continued)

Example no. 2-15

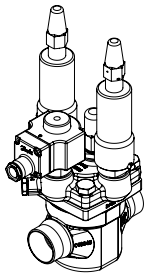
Constant pressure regulation with change-over between two preset evaporating pressures

- CVP-L (-0.66 – 7 bar g) (19.5 in. Hg to 102 psig)
- CVP-M 4 – 28 bar g / 58 to 406 psig
- CVP-H 25 – 52 bar g / 363 – 754 psig



Products

1 × ICS 3 Pilots
2 × CVP-L/M/H
1 × EVM
1 × coil

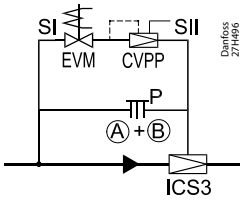


Example no. 2-16

Differential pressure regulation combined with electrical shut off

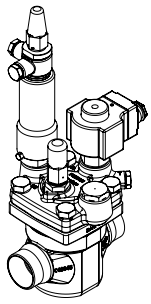
CVPP-L (-0.66 – 7 bar g) (19.5 in. Hg to 102 psig)

- CVPP-M 4 – 28 bar g / 58 – 406 psig



Products

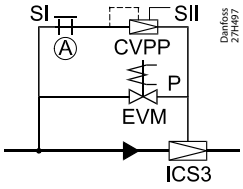
1 × ICS 3 Pilots
1 × blanking plug (A + B)
1 × CVPP-L/M
1 × EVM
1 × coil



Example no. 2-17

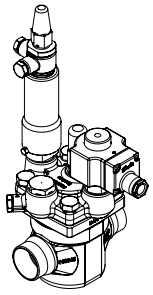
Differential pressure regulation combined with electrical wide open

- CVPP-L (-0.66 – 7 bar g) (19.5 in. Hg to 102 psig)
- CVPP-M 4 – 28 bar g / 58 – 406 psig



Products

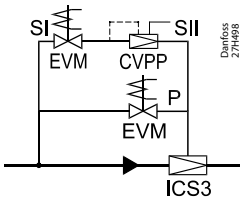
1 × ICS 3 Pilots
1 × blanking plug (A)
1 × CVPP-L/M
1 × EVM
1 × coil



Example no. 2-18

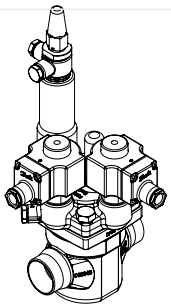
Differential pressure regulation combined with electrical wide open and shut off

- CVPP-L (-0.66 – 7 bar g) (19.5 in. Hg to 102 psig)
- CVPP-M 4 – 28 bar g / 58 – 406 psig



Products

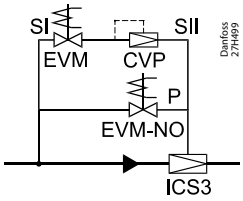
1 × ICS 3 Pilots
1 × CVPP-L/M
2 × EVM
2 × coils



Example no. 2-19

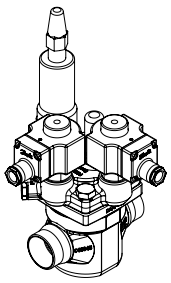
Constant pressure regulation combined with electrical wide open and shut off

- CVP-L (-0.66 – 7 bar g) (19.5 in. Hg to 102 psig)
- CVP-M 4 – 28 bar g / 58 – 406 psig
- CVP-H 25 – 52 bar g / 363 – 754 psig



Products

1 × ICS 3 Pilots
1 × CVP-L/M/H
1 × EVM
1 × EVM-NO (12 W coil)
2 × coils

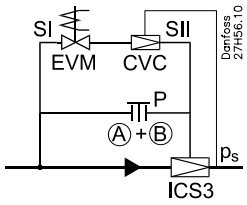


ICS application examples (continued)

Example no. 2-20

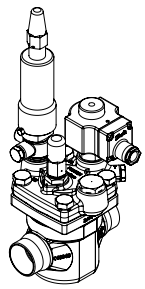
Crankcase pressure regulation (max. suction pressure regulation) combined with shut off

- -0.45 – 7 bar g (13.3 in. Hg to 102 psig)



Products

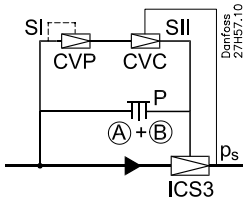
1 × ICS 3 Pilots
1 × blanking plug (A + B)
1 × CVC-L
1 × EVM
1 × coil



Example no. 2-21

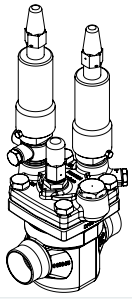
Crankcase pressure regulation (max. suction pressure regulation) combined with evaporating pressure regulation

- -0.66 – 28 bar g (19.5 in. Hg to 406 psig).



Products

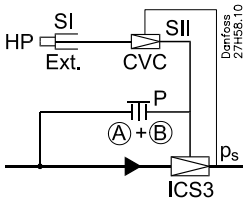
1 × ICS 3 Pilots
1 × blanking plug (A + B)
1 × CVC-L/M
1 × CVP-L/M



Example no. 2-22

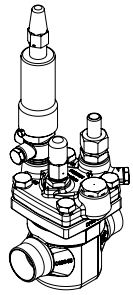
Crankcase pressure regulation (max. suction pressure regulation) at low pressure drops across the valve

- -0.45 – 7 bar g (13.3 in. Hg to 102 psig)



Products

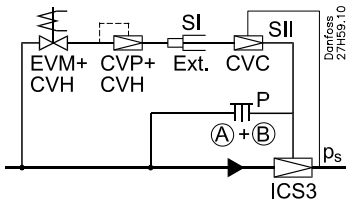
1 × ICS 3 Pilots
1 × blanking plug (A + B)
1 × nipple for external control pressure
1 × CVC-L



Example no. 2-23

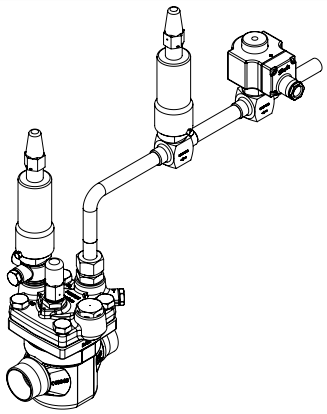
Crankcase pressure regulation (max. suction pressure regulation) combined with constant pressure regulation and electrical shut off.

- -0.66 – 7 bar g (19.5 in. Hg to 102 psig).



Products

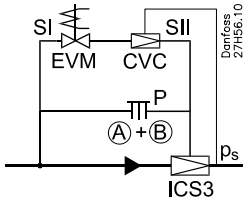
1 × ICS 3 Pilots
1 × blanking plug (A + B)
1 × nipple for external control pressure
1 × CVP-L
1 × EVM
1 × coil
2 × CVH
1 × CVC-L



Example no. 2-24

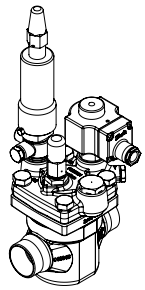
Hot gas bypass regulation combined with electrical shut off

- -0.45 – 7 bar g (13.3 in. Hg to 102 psig)



Products

1 × ICS 3 Pilots
1 × blanking plug (A + B)
1 × CVC-L
1 × EVM
1 × coil

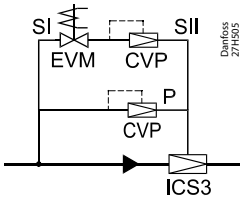


ICS application examples (continued)

Example no. 2-25

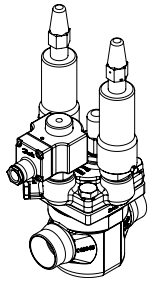
Constant pressure regulation with electrical shut off and protection against high pressure when suction line is closed

- -0.66 – 28 bar g (19.5 in. Hg to 406 psig).



Products

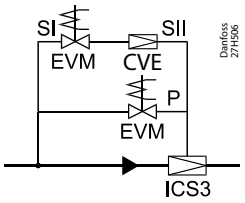
1 × ICS 3 Pilots
1 × CVP-L
1 × EVM
1 × coil
1 × CVP-M



Example no. 2-26

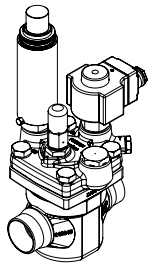
Electronically controlled media temperature regulation combined with electrical shut off

- -1 – 8 bar g (0 in. Hg to 116 psig).



Products

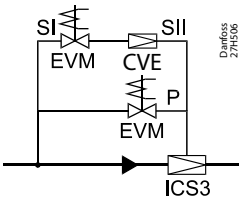
1 × ICS 3 Pilots
1 × blanking plug (A + B)
1 × CVE
1 × EVM
1 × coil



Example no. 2-27

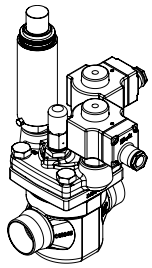
Electronically controlled media temperature regulation combined with electrical shut off and wide open

- -1 – 8 bar g (0 in. Hg to 116 psig).



Products

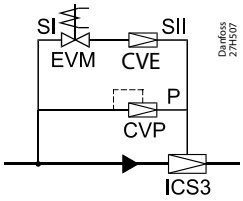
1 × ICS 3 Pilots
1 × CVE
2 × EVM
2 × coils



Example no. 2-28

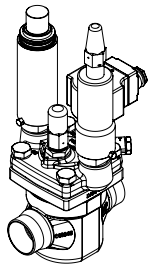
Electronically controlled media temperature regulation combined with electrical shut off and changeover to constant pressure regulation

- -1 – 8 bar g (0 in. Hg to 116 psig).



Products

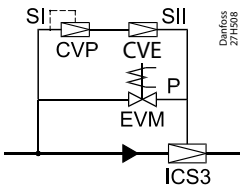
1 × ICS 3 Pilots
1 × CVQ
1 × CVP-L
1 × EVM
1 × coil



Example no. 2-29

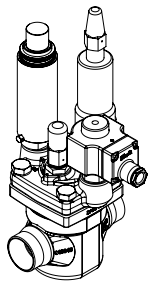
Electronically controlled media temperature regulation with low evaporating pressure protection combined with wide open

- -1 – 8 bar g (0 in. Hg to 116 psig).



Products

1 × ICS 3 Pilots
1 × CVE
1 × CVP-L
1 × EVM
1 × coil

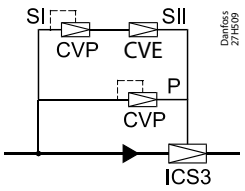


ICS application examples (continued)

Example no. 2-30

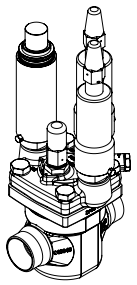
Electronically controlled media temperature regulation with low evaporating pressure protection combined with changeover to constant pressure regulation

•-1 – 8 bar g
(0 in. Hg to 116 psig).

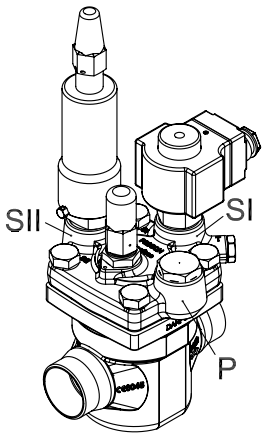


Products

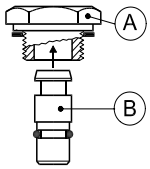
1 × ICS 3 Pilots
1 × CVE
2 × CVP-L



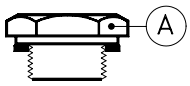
The ICS valve will be fully open if the pilot valve in P is fully open, irrespective of the degree of opening of pilot valves SI and SII.
The ICS valve will be fully closed if the pilot valve in P is fully closed and at least one of the valves in SI or SII is fully closed at the same time.
The relation between the pilot valves in ports SI, SII and P is shown in the table below.



Pilot valve port			ICS valve
SI	SII	P	
Open	Open	Closed	Open
Open	Open	Open	Open
Open	Closed	Closed	Closed
Open	Closed	Open	Open
Closed	Open	Closed	Closed
Closed	Open	Open	Open
Closed	Closed	Closed	Closed
Closed	Closed	Open	Open



Blanking plug A + B



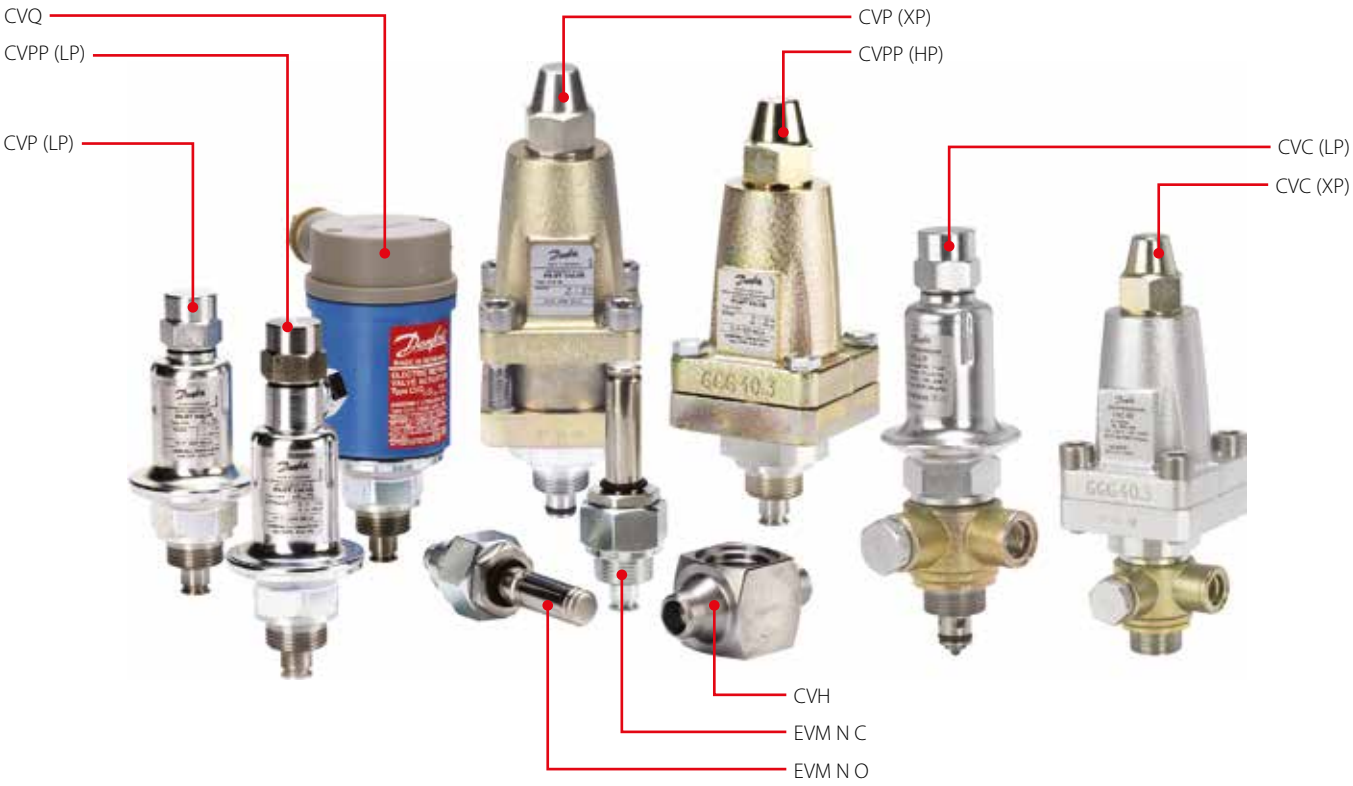
Blanking plug A

CVH / CVP / CVQ / EVM, Pilot valves

Applicable to all common non flammable refrigerants including R717 and non corrosive gases / liquids dependent on sealing material compatability.
The pilot valves can be screwed direct into the main valve, thus avoiding the necessity of welding, soldering and separate pilot lines.

The pilot valves can be mounted direct in a ICS or PM main valve or be connected via an external pilot line and a CVH housing.
Several pilot valves can be connected in series or in parallel to provide many functions in the same ICS or PM main valve.

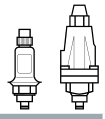
Features
CVH / CVP / CVQ / EVM



Facts

The range of pilot valves consist of:
- Constant-pressure pilot valve, type CVP (LP) and CVP (HP)
- Differential-pressure pilot valve, type CVPP (LP) and CVPP (HP)
- High pressure pilot valve, type CVP (XP) and CVC (XP) ideal for CO_2 hot gas defrosting
- Pressure-operated pilot valve with reference pressure connection, type CVC
- Electronically operated constant-pressure pilot valve, type CVQ (pressure-dependent)
- Solenoid pilot valve, type EVM (NC)
- Solenoid pilot valve, type EVM (NO)
- Housing, type CVH for pilot valves, for mounting in external pilot lines
- Applicable to all common non flammable refrigerants including R 717 and non corrosive gases / liquids dependent on sealing material compatability
- The pilot valves can be screwed direct into the main valve, thus avoiding the necessity of welding, soldering and separate pilot lines
- The pilot valves can be mounted direct in an ICS or PM main valve or be connected via an external pilot line and a CVH housing
- All pilot valves can be used on all sizes of main valves
- Extremely accurate pressure and temperature control
- Several pilot valves can be connected in series or in parallel to provide many functions in the same ICS or PM main valve

Technical data and ordering



CVP / CVPP / CVC - Pilot valve

Low pressure pilot valves

Type	MWP [bar g]	K_v value [m³/h]	Temperature range [°C]	Pressure range [bar g]	Code no.
CVP (LP)	17	0.40	-50 – 120	0 – 7	027B1100
	17	0.40	-50 – 120	-0.66 – 2	027B1101
CVPP (LP)	17	0.40	-50 – 120	0 – 7	027B1102
CVC (LP)	28	0.20	-50 – 120	-0.5 – 9	027B1080

CVP / CVPP / CVC - Pilot valve

High pressure pilot valves

Valve type	MWP [bar g]	K_v value [m³/h]	Temperature range [°C]	Pressure range [bar g]	Code no.
CVP (HP)	28	0.40	-50 – 120	4 – 22	027B1160
	28	0.40	-50 – 120	4 – 28	027B1161
	28	0.40	-50 – 120	-0.66 – 7	027B1164
CVPP (HP)	28	0.40	-50 – 120	0 – 7	027B1162
	40	0.40	-50 – 120	4 – 22	027B1268
CVP (XP)	52	0.45	-50 – 120	25 – 52	027B0080
CVC (XP)	52	0.20	-50 – 120	4 – 28	027B0087

EVM - Pilot valve

Solenoid valves

Valve type	MWP [bar g]	K_v value [m³/h]	MOPD [bar g]	Code no.
EVM (NC)	65	0.37	21	027B1120
EVM (NO)	52	0.12	19	027B1130

CVQ - Pilot valve

Pilot valves

Valve type	MWP [bar g]	K_v value [m³/h]	MOPD [bar g]	Code no.
CVQ	17	0.45	-1 – 5	027B1139
	17	0.45	0 – 6	027B1140
	17	0.45	1.7 – 8	027B1141

CVQ - Pilot valve

Pilot valves - Electrical data

Supply voltage		24 V AC ±10%
Frequency		50 – 60 Hz
Power consumption	operation	50 VA
	start	75 VA
Enclosure		NEMA 3 / IP55
Cable entry		Pg 13.5
Ambient temperature	operation	-30 – 50 °C / -22 – 122 °F
	transport	-50 – 70 °C / -58 – 158 °F
CE-marking		EMC-Directive 89 / 336 / EEC, EMC-Directive 89 / 336 / EN 50081-1 and EN 50082-1

CVH - Pilot valve

Housings

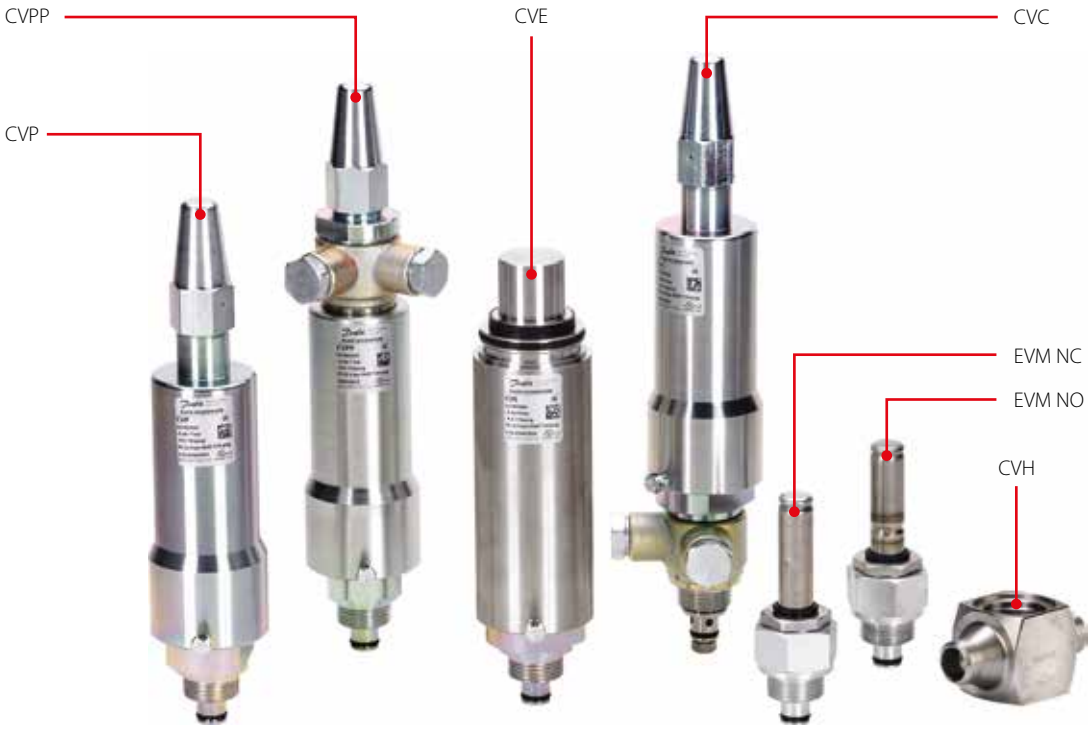
Type	Connection size [in]	Connection size [mm]	Connection type	Connection standard	Material	Code no.
CVH	1/4	6	1/4 in NPT (internal)	ANSI/ASME B1.20.1	DIN 9SMnPb 28, W - no. 1.0718	027F1159
	1/4	6	G1/4 A (external)	ISO 228-1	DIN 9SMnPb 28, W - no. 1.0718	027F1160
	3/8	10	Butt weld	ASME B 36.10M - SCHEDULE 80	DIn CK 15. W - no. 1.1141	027F1047
	1/2	15	Butt weld	ASME B 36.10M - SCHEDULE 80	DIn CK 15. W - no. 1.1141	027F1090
	1/2	15	Socket weld	ASME B 16.11	DIn CK 15. W - no. 1.1141	027F1091

CVP / CVPP / CVC / CVE / EVM, Pilot valves and CVH housing

Pilot valves are intended for mechanical control of a main valve and are ready for direct installation in the top cover of the main valve.

Small capacities can be controlled by the pilot valve directly without a main valve when installed in the matching CVH housing.

Features
CVP / CVPP / CVC / CVE / EVM / CVH



Facts

The range of pilot valves consist of:
- Constant-pressure pilot valve, type CVP
- Differential-pressure pilot valve, type CVPP
- Pressure-operated pilot valve with reference pressure connection, type CVC
- Electronically operated constant-pressure pilot valve, type CVE (to be fitted with the ICAD actuator)
- Solenoid pilot valve, type EVM (NC)
- Solenoid pilot valve, type EVM (NO)
- Housing, type CVH for pilot valves, for mounting in external pilot lines
- Applicable to R717, R744, R401A, R402A, R404A, R407A, R407B, R407C, R407F, R409A, R410A, R421A, R502, R507, R134a and R22. The use of pilots with flammable hydrocarbons is not recommended. *For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.*
- The pilot valves can be screwed direct into the main valve, thus avoiding the necessity of welding, soldering and separate pilot lines
- The pilot valves can be mounted directly in the ICS, PM or ICF valve or it can be connected via an external pilot line and a CVH housing
- All pilot valves can be used on all sizes of main valves
- Extremely accurate pressure and temperature control
- Several pilot valves can be connected in series or in parallel to provide many functions in the same ICS or ICF valve

Technical data and ordering

CVP

Constant-pressure pilot valve

Valve type	Max. working pressure		k_v / C_v value [1]		Temperature range		Pressure range		Code no.
	[bar]	[psi]	[m³/h]	[US gal/min]	[° C]	[° F]	[bar]	[psi]	
CVP-L	52	754	0.40	0.46	-60 / 120	-76 / 248	-0.66 – 7	19.5 in Hg to 102	027B0920
CVP-M	52	754	0.40	0.46	-60 / 120	-76 / 248	4 – 28	58 – 406	027B0921
CVP-H	52	754	0.40	0.46	-60 / 120	-76 / 248	25 – 52	363 – 754	027B0922

P-band for a valve system regulated by CVP and ICS / PM main valve: < 0.2 bar g / 2.9 psi g
[1]) The k_v / C_v value is measured with the pilot valve mounted in a CVH housing for external pilot lines. The value can vary slightly, depending on the setting value.

CVPP

Differential-pressure pilot valve

Valve type	Max. working pressure		k_v / C_v value [1]		Temperature range		Pressure range		Code no.
	[bar]	[psi]	[m³/h]	[US gal/min]	[° C]	[° F]	[bar]	[psi]	
CVPP-L	52	754	0.40	0.46	-60 / 120	-76 / 248	-0.66 – 7	19.5 in Hg to 102	027B0930
CVPP-M	52	754	0.40	0.46	-60 / 120	-76 / 248	4 – 28	58 – 406	027B0931

P-band for a valve system regulated by CVPP and ICS / ICF / PM main valve: <0.2 bar g / 2.9 psi g.
[1]) The k_v / C_v value is measured with the pilot valve mounted in a CVH housing for external pilot lines. The value can vary slightly, depending on the setting value.

CVC

Pressure-operated pilot valve with reference pressure connection

Valve type	Max. working pressure		k_v / C_v value [1]		Temperature range		Pressure range		Code no.
	[bar]	[psi]	[m³/h]	[US gal/min]	[° C]	[° F]	[bar]	[psi]	
CVC-L	52	754	0.20	0.23	-60 / 120	-76 / 248	-0.66 – 7	19.5 in Hg to 102	027B0940
CVC-M	52	754	0.20	0.23	-60 / 120	-76 / 248	4 – 28	58 – 406	027B0941

The reference pressure must be connected to the low-pressure side of the system.
P-band for a valve system regulated by CVC and ICS / PM / PMC main valve: < 0.3 bar g / 4.4 psi g
[1]) The k_v / C_v value is measured with the pilot valve mounted in a CVH housing for external pilot lines. The value can vary slightly, depending on the setting value.

CVE

Electronically operated constant-pressure (constant pressure difference) pilot valve. To be fitted with the ICAD 600A actuator*

Valve type	Max. working pressure		k_v / C_v value [1]		Temperature range		Pressure range		Code no.
	[bar]	[psi]	[m³/h]	[US gal/min]	[° C]	[° F]	[bar]	[psi]	
CVE	52	754	0.40	0.46	-60 / 120	-76 / 248	-0.66 – 8	19.5 in. Hg to 116	027B0980

[1]) The k_v / C_v value is measured with the pilot valve mounted in a CVH housing for external pilot lines. The value can vary slightly, depending on the setting value.

CVE pressure setting

barg	-0.66	0	1	2	3	4	5	6	7	8
psig	19.5 in. Hg	0	14.5	29.0	43.5	58.0	72.5	87.0	101.5	116.0
mA	18.3	17.1	15.9	14.7	13.5	12.3	11.1	9.9	8.7	7.5
ICAD reading %	90%	83%	75%	67%	60%	53%	45%	37%	30%	23%

See the ICAD installation guide for ICAD setup.
** ICAD 600A: 027H9075 and 027H9120*

EVM

Solenoid pilot valve

Valve type	Max. working pressure		k_v / C_v value [1]		Temperature range		Pressure range MOPD/MCPD		Code no.
	[bar]	[psi]	[m³/h]	[US gal/min]	[° C]	[° F]	[bar]	[psi]	
EVM NC	65	940	0.28	0.32	-60 / 120	-76 / 248	21	305	027B1120
EVM NO	52	754	0.12	0.14	-60 / 120	-76 / 248	19	276	027B1130
EVM NO	52	754	0.12	0.14	-60 / 120	-76 / 248	40	580	027B1132 **

MOPD: Maximum opening differential pressure with a 10 W AC coil. With: 20 W AC coil: 40 bar / 580 psi / 20 W DC coil: 14 bar / 203 psi
MCPD: Maximum closing differential pressure with a 10/12 W AC coil or a 20 W DCcoil.
*** For ICLX valve service*
[1]) The k_v / C_v value is measured with the pilot valve mounted in a CVH housing for external pilot lines. The value can vary slightly, depending on the setting value.

CVH

Housing for pilot valve (for mounting in external pilot lines)

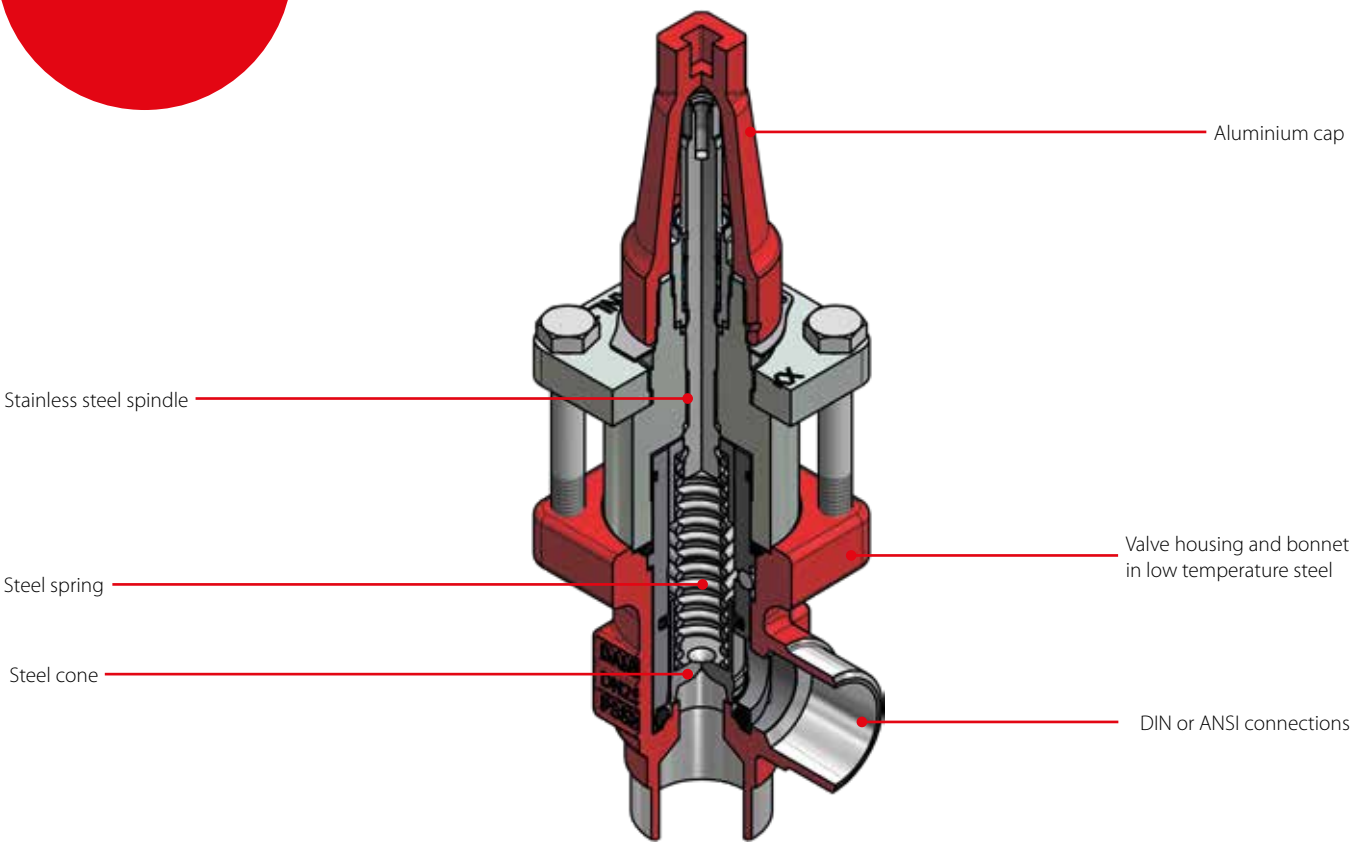
Type	Connection size		Connection type	Connection standard	Code no.
	[in]	[mm]			
CVH	1/4	6	Internal pipe thread - 1/4 in NPT	ANSI/ASME B1.20.1	027F1159
	1/4	6	Internal pipe thread - G1/4 in A	ISO 228-1	027F1160
	3/8	10	Butt weld	ASME B 36.10M - SCHEDULE 80	027F1047
	1/2	15	Butt weld	ASME B 36.10M - SCHEDULE 80	027F1090
	1/2	15	Socket weld	ASME B 16.11	027F1091

OFV / OFV-SS, Pressure regulating valves

OFV are angle-way over flow valves, which have ajustable opening pressure and cover the differential pressure range (ΔP): 2 – 8 bar / 29 – 116 psi. The valve can be closed manually, e.g. during plant service and have backseating, enabling the spindle seal to be replaced with the valve still under pressure.

The valves are especially designed to prevent fluttering due to low velocity and/or low density. In consequence it is possible to apply the valves with wide fluctuations in capacity demands, i.e. from maximum performance to part load. A flexible O-ring provides perfect sealing over the seat.



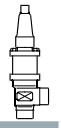


Facts

- Applicable to R717, R744, R401A, R402A, R404A, R407A, R407B, R407C, R407F, R409A, R410A, R421A, R502, R507, R134a and R22. *For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.*
- Full temperature range packing gland: -50 – 150 °C / -58 – 302 °F
- Maximum operating pressure: 40 bar g / 580 psig
- Three functions in one valve. The OFV valve combines the functions of an overflow valve, a check valve and a stop valve
- Special features for OFV-SS:
  - Low temperature stainless steel housing and bonnet
  - Low temperature packing gland -60 – 150 °C / -76 – 302 °F
  - Maximum operating pressure 52 bar / 754 psi g

Technical data and ordering

OFV / OFV-SS - Pressure regulating valve



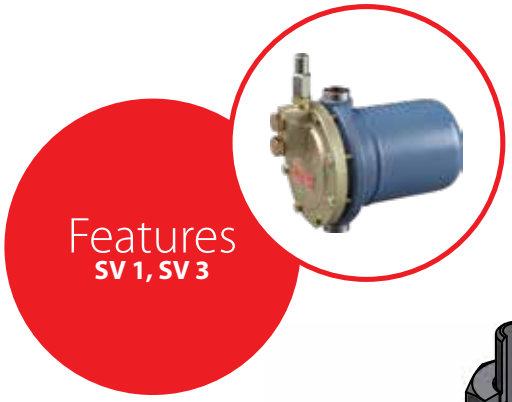
Ordering

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
OFV 20	3/4	20	Angleway	Butt weld, ANSI (B 36.10)	A	2412+185
	3/4	20	Angleway	Butt weld, EN 10220	D	2412+183
OFV – SS 20	3/4	20	Angleway	Butt weld, EN 10220	D	148G3194
OFV 25	1	25	Angleway	Butt weld, ANSI (B 36.10)	A	2412+186
	1	25	Angleway	Butt weld, EN 10220	D	2412+184
OFV – SS 25	1	25	Angleway	Butt weld, ANSI (B 36.19M)	A	148G3843
	1	25	Angleway	Butt weld, EN 10220	D	148G3195

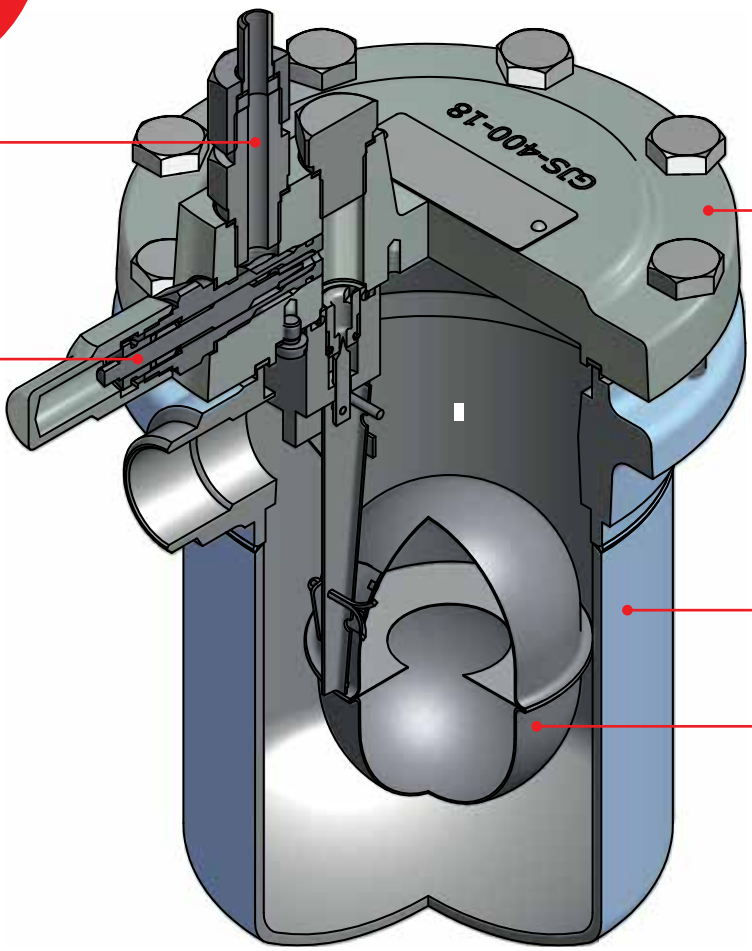
SV 1, SV 3, Float valves

The SV 1 and SV 3 can be used separately as a modulating liquid level regulator in refrigerating, freezing and air conditioning systems for ammonia or fluorinated refrigerants.

However, in most cases, the SV is used as a float pilot valve for the main expansion valve type PMFH.



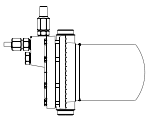
Features
SV 1, SV 3



Facts

- Applicable to R717, R134a, R22, R401A, R402A, R404A, R407A, R407B, R407C, R407F, R409A, R410A, R421A, R502 and R507
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- P_{band} 35 mm
- Temperature of medium:
  -50 – 65 °C
- Max. working pressure PS / MWP:
  28 bar
- Max. test pressure
  p' = 36 bar
- k_v value for float orifice
  SV 1 = 0.06 m³/h
  SV 3 = 0.14 m³/h
- The highest k_v value for the built-in throttle valve is 0.18 m³/h. The throttle valve can be used both in parallel and in series with the float orifice

Technical data and ordering



SV 1, SV 3 valves

Ordering

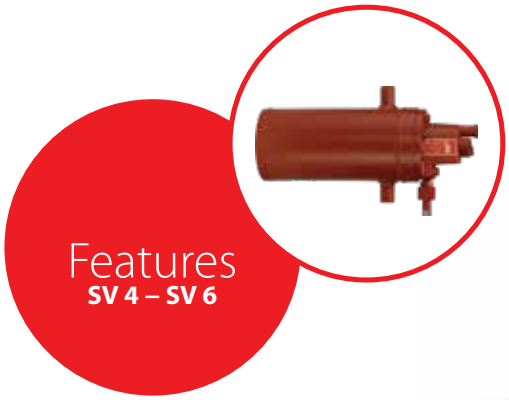
Type	Rated capacity				Code no. [1)]
	R717 [kW]	R22 [kW]	R134a [kW]	R404a [kW]	
SV 1	25	4.7	3.9	3.7	027B2021
SV 3	64	13	10.0	9.7	027B2023

[1]) Both code numbers include ø6.5 / ø10 mm weld connection for the pilot line. Balance tube connection (liquid / vapour): 1 inch weld / 1 ⅛ inches solder.
The rated capacity refers to the valve capacity at evaporating temperature t_e = 5 °C, condensing temp. t_c = 32 °C and liquid temperature t_l = 28 °C.

SV 4 – SV 6, Float valves

SV 4 – SV 6 are for use on the low pressure side as modulating liquid level regulators in refrigeration, freezing and air conditioning systems with ammonia and other common types of refrigerants.

SV 4 – SV 6 float valves are used for flooded evaporators, where only slight variations in the liquid level can be accepted.
SV 4 – SV 6 can be used as pilot float for PMFL.

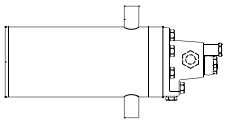


Features
SV 4 – SV 6

Facts

- Applicable to R717, R134a, R22, R401A, R402A, R404A, R407A, R407B, R407C, R407F, R409A, R410A, R421A, R502 and R507
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- P_{band} 35 mm
- Temperature of medium
  -50 – 120 °C
- Max. working pressure PS / MWP:
  28 bar
  Max. Δp:
  SV 4 = 23 bar
  SV 5 = 21 bar
  SV 6 = 19 bar
- Max. test pressure
  p' = 42 bar
- k_v value and diameter for orifice
  SV 4: k_v = 0.23 m^3/h, D = 3.0 mm
  SV 5: k_v = 0.31 m^3/h, D = 3.5 mm
  SV 6: k_v = 0.43 m^3/h, D = 4.0 mm

Technical data and ordering



SV 4 – SV 6 valves

Ordering

Type	Orifice diameter	Housing [with / without]	Rated capacity				Code no. [1]
			R717 [kW]	R22 [kW]	R134a [kW]	R404a [kW]	
SV 4	ø3.0 mm	with	102	21	16	15	027B2024
	ø3.0 mm	without [1]	102	21	16	15	027B2014
SV 5	ø3.5 mm	with	138	29	22	21	027B2025
	ø3.5 mm	without [1]	138	29	22	21	027B2015
SV 6	ø4.0 mm	with	186	38	30	28	027B2026
	ø4.0 mm	without [1]	186	38	30	28	027B2016

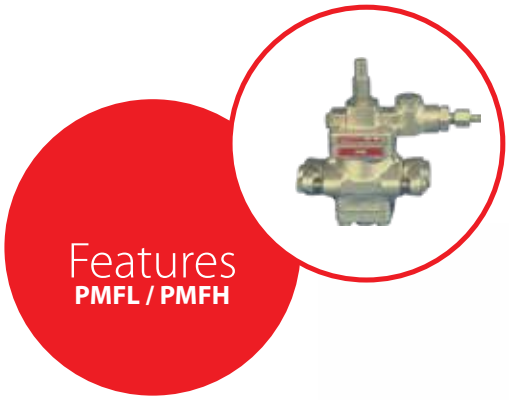
Both code numbers include two 1 inch weld connections for balance tubes and two ½ inches weld joints for liquid and evaporator connections respectively.
The rated capacity refers to the valve capacity at evaporating temperature t_e = 5 °C, condensing temp. t_c = 32 °C and liquid temperature t_l = 28 °C.

[1]) Flange for mounting without housing: Code no. 027B2027.

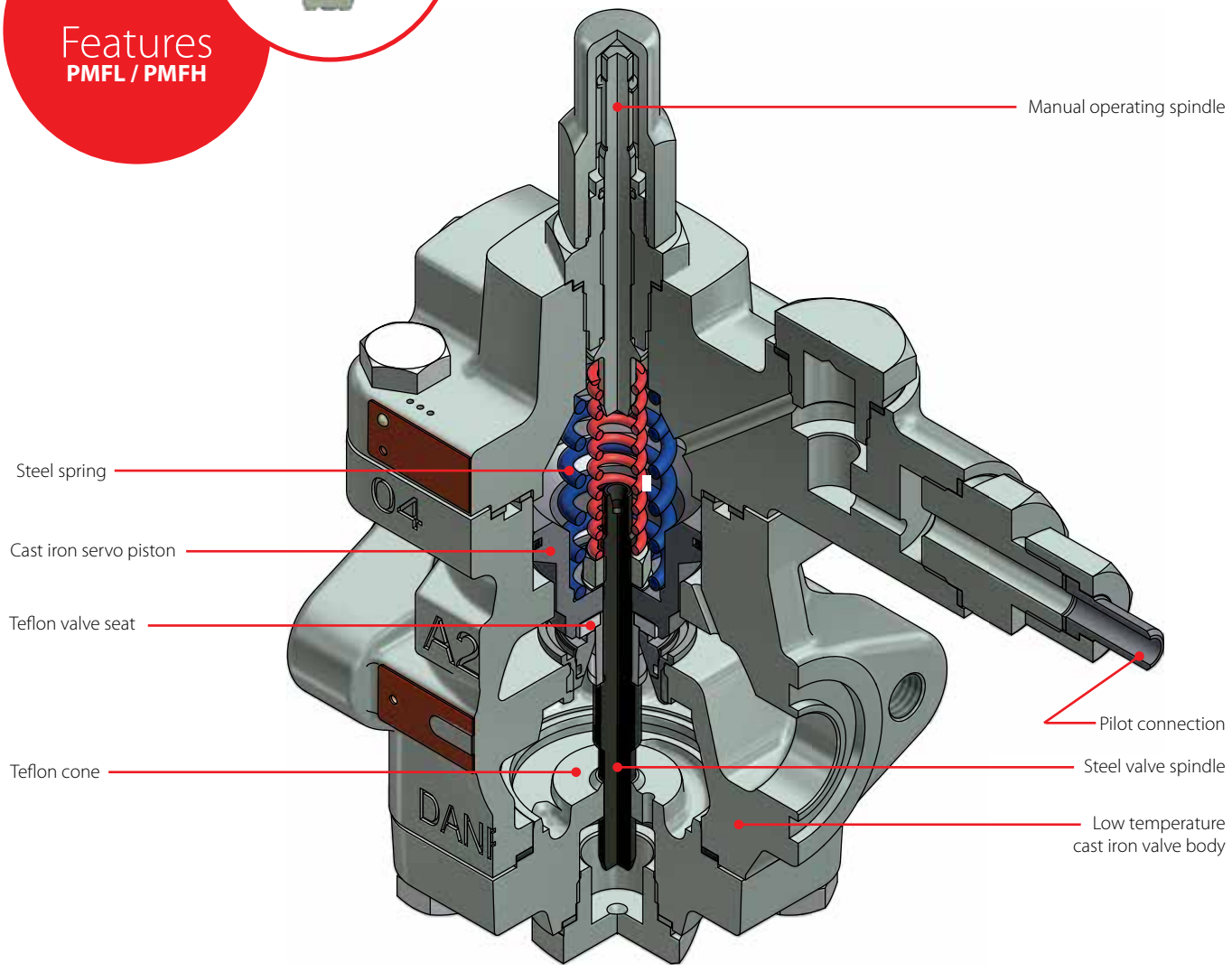
PMFL / PMFH, Liquid level regulating valves

For modulating liquid level control in refrigeration, freezing and air conditioning plant, a system comprising a liquid level regulating valve type PMFL or PMFH, controlled by a float valve type SV, is used. Modulating liquid level regulation provides liquid injection that is proportional to the actual capacity.

This gives a constant amount of flashgas, thus ensuring stable regulation and economic operation because variations in pressure and temperature are held to a minimum.



Features
PMFL / PMFH

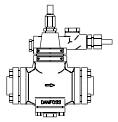


Facts

- Applicable to R717, R134a, R22, R404A, R407A, R407B, R407C, R407F, R410A and R502
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications
- Max. working pressure PS / MWP: 28 bar g (limited to 21 bar when media temperatures are below -20 °C)
- Temperature range: -60 – 120 °C
- PMFL / PMFH are based on PM valve family housings
- Same flange programme as for PM valve series
- Valve housing in low temperature cast iron (spherical) - EN GJS 400-18-LT
- Manual operation possible
- Position indicator available
- Pressure gauge connection to monitor inlet pressure
- Simple installation
- Main valve top cover can be located in any position without affecting the function

Technical data and ordering

PMFL / PMFH valves



Ordering

Type	Rated capacity				Code no. [1]
	R717 [kW]	R22 [kW]	R134a [kW]	R404a [kW]	
PMFL 80-1	139	27.8	22.1	33	027F3054
PMFL 80-2	209	41.8	35.3	49.7	027F3055
PMFL 80-3	348	70	53.1	82.7	027F3056
PMFL 80-4	558	105	88.9	124	027F3057
PMFL 80-5	835	174	133	207	027F3058
PMFL 80-6	1395	278	221	330	027F3059
PMFL 80-7	2080	435	353	569	027F3060
PMFL 80-125	3480	700	552	831	027F3061
PMFL 80-200	5580	1050	889	1243	027F3062
PMFL 80-300	8350	1740	1333	2068	027F3063
PMFH 80-2	209	41.8	35.3	49.7	027F3065
PMFH 80-3	348	70	53.1	82.7	027F3066
PMFH 80-4	558	105	88.9	124	027F3067
PMFH 80-5	835	174	133	207	027F3068
PMFH 80-6	1395	278	221	330	027F3069
PMFH 80-7	2080	435	353	569	027F3070
PMFH 80-125	3480	700	552	831	027F3071
PMFH 80-200	5580	1050	889	1243	027F3072
PMFH 80-300	8350	1740	1333	2068	027F3073
PMFH 80-500	13900	2780	2210	3300	027F3074

All code numbers include flange gaskets, flange bolts, blanking plug and pilot connection with ø6.5 / ø10 mm weld nipple.
The rated capacity is given at evaporating temperature t_e = 5°C, condensing temperature t_c = 32°C and liquid temperature t_l = 28°C.

Special spring



Subcooling Δt_u K	Pressure drop Δp in PMFL		Pilot connection on SV 1 – 3 only	Pos.	Type PMFL	"WEAK"	"STRONG"
	4 – 15 bar	1.2 – 4 bar					
	Spring set					Code no.	
0 – 8	"STANDARD"	"WEAK"	P	23 + 43	8 0 – 1 – 80 – 7	027F0123	027F0118
8 – 40	"STRONG"		S		125 200 300	027F0124 027F0125 027F0126	027F0119 027F0121

Pressure drop in PMFH Δp bar	Type	"WEAK"
		Code no.
1 – 4	PMFH 80.1 – 7	027F2190
	PMFH 125	027F2191
	PMFH 200	027F2192
	PMFH 300	027F2193

Flanges



Type	Flange type [Weld / Solder]	Flange size [in]	Flange size [mm]	Code no.
PMFL / PMFH 80-1 – PMFL / PMFH 80-7	Weld	¾	–	027N1220
	Weld	1	–	027N1225
	Weld	1 ¼	–	027N1230
	Solder	⅞	–	027L1223
	Solder	1 ⅛	–	027L1229
	Solder	–	22	027L1222
	Solder	–	28	027L1228
PMFL / PMFH 80-125	Weld	1 ¼	–	027N2332
	Weld	1 ½	–	027N2340
	Solder	1 ⅜	–	027L2335
	Solder	–	35	027L2335
PMFL / PMFH 80-200	Weld	1 ½	–	027N2440
	Weld	2	–	027N2450
	Solder	1 ⅝	–	027L2441
	Solder	–	42	027L2442
PMFL / PMFH 80-300	Weld	2	–	027N2550
	Weld	2 ½	–	027N2565
	Solder	2 ⅛	–	027L2554
	Solder	–	54	027L2554
PMFL / PMFH 80-500	Weld	2 ½	–	027N2665
	Weld	3	–	027N2680
	Solder	2 ⅝	–	027L2666
	Solder	–	76	027L2676

Code no. applies to one flange set consisting of one inlet and one outlet flange.
Stainless steel flanges, bolts and covers; see the spare parts documentation.

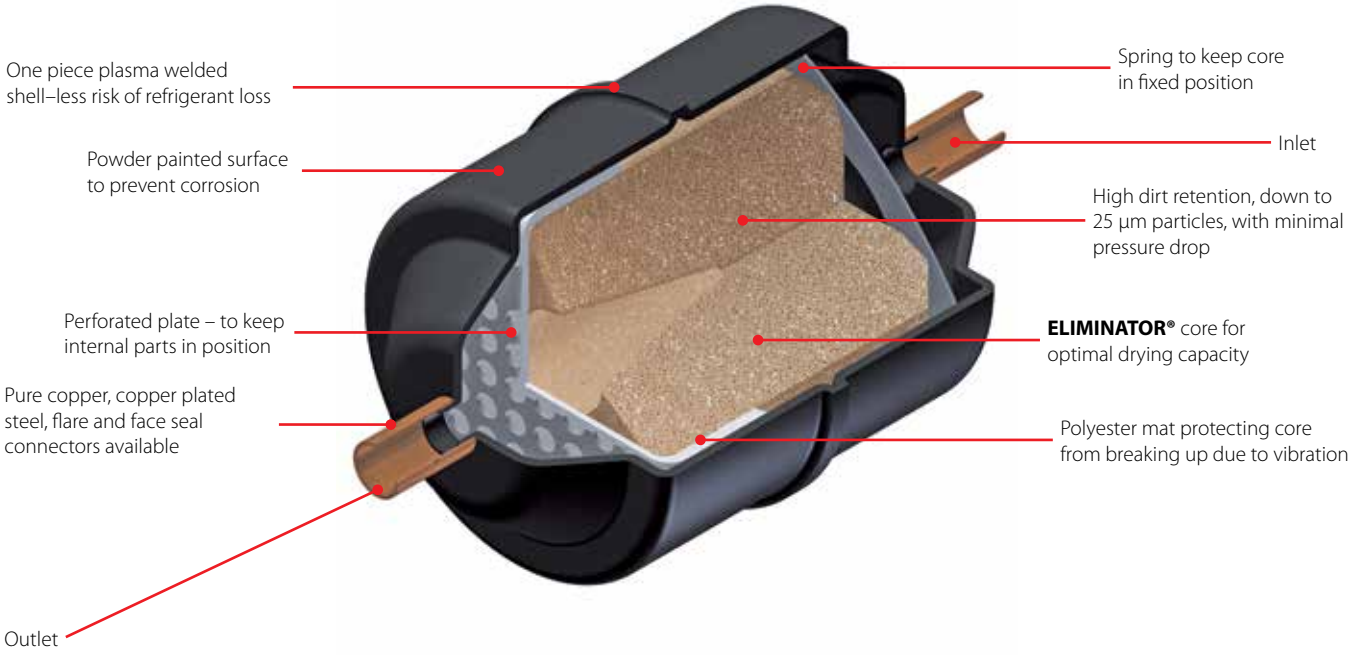
DCL, Hermetic filter drier

DCL **ELIMINATOR®** hermetic filter driers protect refrigeration and air conditioning systems from moisture, acids and solid particles, eliminating harmful chemical reaction and abrasive impurities.

DCL hermetic filter driers, with a solid core of 80% Molecular Sieve and 20% activated alumina. They are hermetic and available in many sizes and connection types.



Features
DCL



Facts

Application:
- Traditional refrigeration
- Air conditioning units
- Transport refrigeration
- Applicable to R1234ze, R125, R134a, R22/ R407C, R23, R404A, R407A, R407F, R410A, R422B, R422D, R438A, R448A, R449A, R449B, R452A, R455A, R507A,R513A, R290*), R600*), R32*), R454B*), R452B*), R444B*), R454A*), R450A*), R1234yf*)
) Approved for Filter drier models with connection sizes less than 25 mm refrigerants.
- 4 times better moisture adsorption capacity than traditional filter driers with activated alumina, at both high and low humidity levels
- High drying capacity avoiding the risk of acid formation in the refrigeration system
- Solder connections are in copper plated and steel material (flare and face seal)
- Wide range with sizes: 1.5 – 75 cubic inches
- Corrosion resistant powder-painted finish. Special coating for marine applications available upon request
- 80% 3Å molecular sieve with 20% activated alumina core
- Face seal connectors for HFO refrigerants available upon request, please contact your sales representative
- Thermally stable up to 120 °C / 250 °F
- Minimal amount of binder, resistant to systems chemicals, assuring a stable core and long life
- PS / MWP up to 46 bar / 667 psig
- Available with flare, face seal, flare o-ring solder (purecopper, cu-plated) connections

Technical data

DCL - Hermetic filter drier

Drying and liquid capacity (SI units)

Type	Drying capacity [kg] of refrigerant [1]														Liquid capacity [kW] [2]							Max. working pressure PS [bar]
	R134a		R404A		R507		R22		R407C		R410A		R32		R134a	R404A	R507	R22	R407C	R410A	R32	
	[°C]																					
	24	52	24	52	24	52	24	52	24	52	24	52	24	52								
DCL1.52XL / 2.8 mms	2.3	2.1	2.4	2.3	2.5	2.3	2.3	2.1	2.3	2.1	2.1	1.9	2.1	1.9	2.81	1.90	1.85	2.98	2.78	2.73	4.08	46
DCL 032 / 032s	3.65	3.44	3.94	3.72	4.01	3.69	3.70	3.40	3.66	3.36	3.31	3.03	3.42	3.10	6.13	4.15	4.05	6.51	6.08	5.96	8.91	46
DCL 032.5s	3.65	3.44	3.94	3.72	4.01	3.69	3.70	3.40	3.66	3.36	3.31	3.03	3.42	3.10	9.63	6.53	6.36	10.23	9.56	9.36	14.01	46
DCL 033 / 033s	3.65	3.44	3.94	3.72	4.01	3.69	3.70	3.40	3.66	3.36	3.31	3.03	3.42	3.10	11.25	6.68	7.43	10.46	11.17	9.58	16.37	46
DCL 052 / 052s	5.9	5.5	6.3	6.0	6.4	5.9	5.9	5.5	5.9	5.4	5.3	4.9	5.5	5.0	6.51	4.41	4.30	6.91	6.46	6.33	9.47	46
DCL 052.5s	5.86	5.52	6.31	5.96	6.43	5.91	5.93	5.46	5.86	5.38	5.31	4.86	5.48	4.96	12.13	8.21	8.01	12.87	12.03	11.78	17.64	46
DCL 053 / 053s	5.86	5.52	6.31	5.96	6.43	5.91	5.93	5.46	5.86	5.38	5.31	4.86	5.48	4.96	16.52	11.19	10.91	17.54	16.39	16.05	24.02	46
DCL 082 / 082s	9.45	8.90	10.18	9.62	10.37	9.54	9.57	8.80	9.45	8.68	8.56	7.84	8.84	8.00	6.46	4.38	4.27	6.86	6.41	6.28	9.40	46
DCL 082.5s	9.45	8.90	10.18	9.62	10.37	9.54	9.57	8.80	9.45	8.68	8.56	7.84	8.84	8.00	12.42	8.41	8.20	13.19	12.32	12.07	18.06	46
DCL 083 / 083s	9.45	8.90	10.18	9.62	10.37	9.54	9.57	8.80	9.45	8.68	8.56	7.84	8.84	8.00	16.28	11.03	10.75	17.28	16.15	15.82	23.68	46
DCL 084 / 084s	9.45	8.90	10.18	9.62	10.37	9.54	9.57	8.80	9.45	8.68	8.56	7.84	8.84	8.00	21.42	14.51	14.14	22.74	21.25	20.82	31.15	46
DCL 162 / 162s	21.32	20.08	22.98	21.71	23.42	21.52	21.60	19.87	21.33	19.60	19.33	17.70	19.95	18.07	6.75	4.57	4.46	7.17	6.70	6.56	9.82	46
DCL 163 / 163s	21.32	20.08	22.98	21.71	23.42	21.52	21.60	19.87	21.33	19.60	19.33	17.70	19.95	18.07	19.42	13.15	12.82	20.61	19.26	18.87	28.24	46
DCL 164 / 164s	21.32	20.08	22.98	21.71	23.42	21.52	21.60	19.87	21.33	19.60	19.33	17.70	19.95	18.07	27.04	18.32	17.86	28.71	26.83	26.28	39.33	46
DCL 165 / 165s	21.32	20.08	22.98	21.71	23.42	21.52	21.60	19.87	21.33	19.60	19.33	17.70	19.95	18.07	37.81	25.61	24.97	40.14	37.52	36.75	54.99	46
DCL 166 / 166s	21.32	20.08	22.98	21.71	23.42	21.52	21.60	19.87	21.33	19.60	19.33	17.70	19.95	18.07	44.16	29.91	29.16	46.89	43.82	42.92	64.22	46
DCL 167s	21.32	20.08	22.98	21.71	23.42	21.52	21.60	19.87	21.33	19.60	19.33	17.70	19.95	18.07	49.71	33.67	32.83	52.78	49.32	48.31	72.29	46
DCL 303 / 303s	43.83	41.27	47.24	44.62	48.13	44.24	44.40	40.84	43.84	40.29	39.73	36.39	41.00	37.13	20.48	13.87	13.52	21.74	20.32	19.90	29.79	46
DCL 304 / 304s	43.83	41.27	47.24	44.62	48.13	44.24	44.40	40.84	43.84	40.29	39.73	36.39	41.00	37.13	30.67	20.77	20.25	32.56	30.42	29.80	44.60	46
DCL 305 / 305s	43.83	41.27	47.24	44.62	48.13	44.24	44.40	40.84	43.84	40.29	39.73	36.39	41.00	37.13	48.61	32.93	32.10	51.61	48.23	47.24	70.70	46
DCL 306 / 306s	43.83	41.27	47.24	44.62	48.13	44.24	44.40	40.84	43.84	40.29	39.73	36.39	41.00	37.13	60.17	40.75	39.73	63.88	59.69	58.47	87.50	46
DCL 307s	43.83	41.27	47.24	44.62	48.13	44.24	44.40	40.84	43.84	40.29	39.73	36.39	41.00	37.13	69.46	47.05	45.86	73.74	68.91	67.50	101.01	46
DCL 309s	43.83	41.27	47.24	44.62	48.13	44.24	44.40	40.84	43.84	40.29	39.73	36.39	41.00	37.13	79.18	53.63	52.28	84.06	78.55	76.94	115.14	46
DCL 413	59.71	56.23	64.36	60.80	65.58	60.28	60.49	55.64	59.73	54.89	54.13	49.58	55.86	50.60	19.47	13.19	12.86	20.67	19.32	18.92	28.32	46
DCL 414 / 414s	59.71	56.23	64.36	60.80	65.58	60.28	60.49	55.64	59.73	54.89	54.13	49.58	55.86	50.60	31.84	21.56	21.02	33.80	31.59	30.94	46.30	46
DCL 415 / 415s	59.71	56.23	64.36	60.80	65.58	60.28	60.49	55.64	59.73	54.89	54.13	49.58	55.86	50.60	51.58	34.94	34.06	54.76	51.17	50.12	75.01	46
DCL 417s	59.71	56.23	64.36	60.80	65.58	60.28	60.49	55.64	59.73	54.89	54.13	49.58	55.86	50.60	84.69	57.37	55.92	89.91	84.03	82.30	123.17	35
DCL 419s	59.71	56.23	64.36	60.80	65.58	60.28	60.49	55.64	59.73	54.89	54.13	49.58	55.86	50.60	91.01	61.64	60.09	96.62	90.29	88.44	132.35	35
DCL 604s	87.65	82.54	94.48	89.25	96.26	88.49	88.80	81.67	87.67	80.58	79.46	72.78	82.00	74.27	34.80	24.48	23.74	37.93	35.67	36.22	53.05	46
DCL 607s	87.65	82.54	94.48	89.25	96.26	88.49	88.80	81.67	87.67	80.58	79.46	72.78	82.00	74.27	79.42	53.79	52.44	84.31	78.79	77.17	115.49	46
DCL 609s	87.65	82.54	94.48	89.25	96.26	88.49	88.80	81.67	87.67	80.58	79.46	72.78	82.00	74.27	95.42	64.63	63.01	101.30	94.67	92.73	138.77	46
DCL 757s	119.43	112.46	128.72	121.60	131.15	120.56	120.99	111.28	119.46	109.79	108.26	99.16	111.72	101.19	81.75	55.37	53.98	86.79	81.11	79.44	118.88	35
DCL 759s	119.43	112.46	128.72	121.60	131.15	120.56	120.99	111.28	119.46	109.79	108.26	99.16	111.72	101.19	101.79	68.94	67.21	108.06	100.98	98.91	148.02	35

[1]) Drying capacity is based on following moisture content test standards before and after drying:
- *– R32: 990 ppm W – 50 ppm W*
- *– R134a: 1050 – 50 ppm W*
- *– R404A, R507: 1020 – 50 ppm W*
- *– R407C: 1020 – 50 ppm W*
- *– R410A: 1050 – 50 ppm W*
- *– R22: 1050 – 60 ppm W*

In accordance with ARI 710-2004

[2]) Given in accordance with ARI 710-2004 for:
- t_e = -15 °C
- t_c = 30 °C
- Δp = 0.07 bar

Approvals
UL US, file no. SA 6398
PED 2014/68/EU -a4p3

Technical data

DCL - Hermetic filter drier

Drying and liquid capacity (US units)

Type	Drying capacity [lb] of refrigerant [1]														Liquid capacity [TR] [2]							Max. working pressure MWP [psig]
	R134a		R404A		R507		R22		R407C		R410A		R32		R134a	R404A	R507	R22	R407C	R410A	R32	
	[°F]																					
	75	125	75	125	75	125	75	125	75	125	75	125	75	125								
DCL1.52XL 2.8 mm s	5.00	4.71	5.39	5.09	5.49	5.05	5.07	4.66	5.00	4.60	4.53	4.15	4.68	4.24	0.8	0.5	0.5	0.9	0.8	0.8	1.2	667
DCL 032.5s	8.06	7.59	8.68	8.20	8.85	8.13	8.16	7.51	8.06	7.41	7.30	6.69	7.54	6.83	1.75	1.19	1.16	1.86	1.74	1.70	2.55	667
DCL 033 / 033s	8.06	7.59	8.68	8.20	8.85	8.13	8.16	7.51	8.06	7.41	7.30	6.69	7.54	6.83	2.75	1.86	1.82	2.92	2.73	2.67	4.00	667
DCL 052 / 052s	8.06	7.59	8.68	8.20	8.85	8.13	8.16	7.51	8.06	7.41	7.30	6.69	7.54	6.83	3.22	1.91	2.12	2.99	3.19	2.74	4.68	667
DCL 052.5s	12.91	12.16	13.92	13.15	14.18	13.03	13.08	12.03	12.92	11.87	11.70	10.72	12.08	10.94	1.86	1.26	1.23	1.97	1.85	1.81	2.71	667
DCL 053 / 053s	12.91	12.16	13.92	13.15	14.18	13.03	13.08	12.03	12.92	11.87	11.70	10.72	12.08	10.94	3.46	2.35	2.29	3.68	3.44	3.37	5.04	667
DCL 082 / 082s	12.91	12.16	13.92	13.15	14.18	13.03	13.08	12.03	12.92	11.87	11.70	10.72	12.08	10.94	4.72	3.20	3.12	5.01	4.68	4.59	6.86	667
DCL 082.5s	20.82	19.61	22.45	21.20	22.87	21.02	21.10	19.40	20.83	19.14	18.88	17.29	19.48	17.65	1.85	1.25	1.22	1.96	1.83	1.79	2.69	667
DCL 083 / 083s	20.82	19.61	22.45	21.20	22.87	21.02	21.10	19.40	20.83	19.14	18.88	17.29	19.48	17.65	3.55	2.40	2.34	3.77	3.52	3.45	5.16	667
DCL 084 / 084s	20.82	19.61	22.45	21.20	22.87	21.02	21.10	19.40	20.83	19.14	18.88	17.29	19.48	17.65	4.65	3.15	3.07	4.94	4.61	4.52	6.76	667
DCL 162 / 162s	20.82	19.61	22.45	21.20	22.87	21.02	21.10	19.40	20.83	19.14	18.88	17.29	19.48	17.65	6.12	4.15	4.04	6.50	6.07	5.95	8.90	667
DCL 162.5s	47.01	44.26	50.66	47.86	51.62	47.45	47.62	43.80	47.02	43.21	42.61	39.03	43.97	39.83	1.93	1.31	1.27	2.05	1.91	1.88	2.81	667
DCL 163 / 163s	47.01	44.26	50.66	47.86	51.62	47.45	47.62	43.80	47.02	43.21	42.61	39.03	43.97	39.83	5.55	3.76	3.66	5.89	5.50	5.39	8.07	667
DCL 164 / 164s	47.01	44.26	50.66	47.86	51.62	47.45	47.62	43.80	47.02	43.21	42.61	39.03	43.97	39.83	7.73	5.23	5.10	8.20	7.67	7.51	11.24	667
DCL 165 / 165s	47.01	44.26	50.66	47.86	51.62	47.45	47.62	43.80	47.02	43.21	42.61	39.03	43.97	39.83	10.80	7.32	7.13	11.47	10.72	10.50	15.71	667
DCL 166 / 166s	47.01	44.26	50.66	47.86	51.62	47.45	47.62	43.80	47.02	43.21	42.61	39.03	43.97	39.83	12.62	8.55	8.33	13.40	12.52	12.26	18.35	667
DCL 167s	47.01	44.26	50.66	47.86	51.62	47.45	47.62	43.80	47.02	43.21	42.61	39.03	43.97	39.83	14.20	9.62	9.38	15.08	14.09	13.80	20.66	667
DCL 303 / 303s	96.62	90.99	104.14	98.38	106.11	97.54	97.88	90.03	96.64	88.82	87.59	80.22	90.39	81.87	5.85	3.96	3.86	6.21	5.81	5.69	8.51	667
DCL 304 / 304s	96.62	90.99	104.14	98.38	106.11	97.54	97.88	90.03	96.64	88.82	87.59	80.22	90.39	81.87	8.76	5.93	5.79	9.30	8.69	8.51	12.74	667
DCL 305 / 305s	96.62	90.99	104.14	98.38	106.11	97.54	97.88	90.03	96.64	88.82	87.59	80.22	90.39	81.87	13.89	9.41	9.17	14.75	13.78	13.50	20.20	667
DCL 306 / 306s	96.62	90.99	104.14	98.38	106.11	97.54	97.88	90.03	96.64	88.82	87.59	80.22	90.39	81.87	17.19	11.64	11.35	18.25	17.06	16.71	25.00	667
DCL 307s	96.62	90.99	104.14	98.38	106.11	97.54	97.88	90.03	96.64	88.82	87.59	80.22	90.39	81.87	19.84	13.44	13.10	21.07	19.69	19.29	28.86	667
DCL 309s	96.62	90.99	104.14	98.38	106.11	97.54	97.88	90.03	96.64	88.82	87.59	80.22	90.39	81.87	22.62	15.32	14.94	24.02	22.44	21.98	32.90	667
DCL 413	131.65	123.97	141.89	134.04	144.57	132.90	133.36	122.66	131.68	121.02	119.34	109.30	123.15	111.54	5.56	3.77	3.67	5.91	5.52	5.41	8.09	667
DCL 414 / 414s	131.65	123.97	141.89	134.04	144.57	132.90	133.36	122.66	131.68	121.02	119.34	109.30	123.15	111.54	9.10	6.16	6.01	9.66	9.02	8.84	13.23	667
DCL 415 / 415s	131.65	123.97	141.89	134.04	144.57	132.90	133.36	122.66	131.68	121.02	119.34	109.30	123.15	111.54	14.74	9.98	9.73	15.65	14.62	14.32	21.43	667
DCL 417s	131.65	123.97	141.89	134.04	144.57	132.90	133.36	122.66	131.68	121.02	119.34	109.30	123.15	111.54	24.20	16.39	15.98	25.69	24.01	23.52	35.19	507
DCL 419s	131.65	123.97	141.89	134.04	144.57	132.90	133.36	122.66	131.68	121.02	119.34	109.30	123.15	111.54	26.00	17.61	17.17	27.61	25.80	25.27	37.81	507
DCL 604s	193.24	181.97	208.29	196.76	212.22	195.08	195.76	180.05	193.29	177.64	175.17	160.44	180.77	163.73	9.94	6.99	6.78	10.84	10.19	10.35	15.16	667
DCL 607s	193.24	181.97	208.29	196.76	212.22	195.08	195.76	180.05	193.29	177.64	175.17	160.44	180.77	163.73	22.69	15.37	14.98	24.09	22.51	22.05	33.00	667
DCL 609s	193.24	181.97	208.29	196.76	212.22	195.08	195.76	180.05	193.29	177.64	175.17	160.44	180.77	163.73	27.26	18.47	18.00	28.94	27.05	26.49	39.65	667
DCL 757s	263.29	247.94	283.79	268.08	289.15	265.80	266.73	245.32	263.36	242.04	238.67	218.60	246.30	223.09	23.36	15.82	15.42	24.80	23.17	22.70	33.97	507
DCL 759s	263.29	247.94	283.79	268.08	289.15	265.80	266.73	245.32	263.36	242.04	238.67	218.60	246.30	223.09	29.08	19.70	19.20	30.87	28.85	28.26	42.29	507

[1]) Drying capacity is based on following moisture content test standards before and after drying:
– R32: 990 ppm W – 50 ppm W
– R134a: 1050 – 50 ppm W
– R404A, R507: 1020 – 50 ppm W
– R407C: 1020 – 50 ppm W
– R410A: 1050 – 50 ppm W
– R22: 1050 – 60 ppm W
In accordance with ARI 710-2004

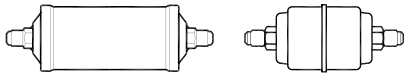
[2]) Given in accordance with ARI 710-2004 for:
t_e = 5 °F
t_c = 85 °F
Δp = 1 psig

Approvals
UL US, file no. SA 6398
PED 2014/68/EU -a4p3

Ordering

DCL - Flare

Ordering

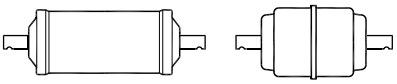


Type	Connection		Multipack Code no.
	[in]	[mm]	
DCL 032	1/4	6	023Z5000 [1])
	1/4	6	023Z5075
DCL 033	3/8	10	023Z5001 [1])
	3/8	10	023Z5089
DCL 052	1/4	6	023Z5002
DCL 053	3/8	10	023Z5003
DCL 082	1/4	6	023Z5004
DCL 083	3/8	10	023Z5005
DCL 084	1/2	12	023Z5006
DCL 162	1/4	6	023Z5007
DCL 163	3/8	10	023Z5008
DCL 164	1/2	12	023Z5009
DCL 165	5/8	16	023Z5010
DCL 166	3/4	19	023Z5011
DCL 303	3/8	10	023Z0012
DCL 304	1/2	12	023Z0013
DCL 305	5/8	16	023Z0014
DCL 306	3/4	19	023Z0156
DCL 414	1/2	12	023Z0102
DCL 415	5/8	16	023Z0103

[1]) Wire mesh in filter drier outlet

Ordering

DCL - Solder (pure copper)



Ordering

Type	Connection [in]	Multipack Code no.	Connection [mm]	Multipack Code no.
DCL 1.52XL / 2.8mm s	1/4	023Z8255	–	–
DCL 032s	1/4	023Z5013 [1])	3	–
DCL 032.5s	5/16	023Z5014	8	–
DCL 033s	3/8	023Z5015	10	023Z5016
DCL 052s	1/4	023Z5018	6	–
DCL 053s	3/8	023Z5019	10	023Z5020
DCL 082s	1/4	023Z5022	6	–
DCL 083s	3/8	023Z5023	10	023Z5024
DCL 084s	1/2	023Z5026	12	023Z5025
DCL 085s	5/8	023Z5145	–	–
DCL 162s	1/4	023Z5028	6	023Z5027
DCL 163s	3/8	023Z5029	10	023Z5030
DCL 164s	1/2	023Z5032	12	023Z5031
DCL 165s	5/8	023Z5033	12	–
DCL 166s	3/4	023Z5070	–	–
DCL 167s	7/8	023Z5034	–	–
DCL 303s	3/8	023Z0030	10	–
DCL 304s	1/2	023Z0031	12	–
DCL 305s	5/8	023Z0032	16	–
DCL 306s	3/4	023Z0033	18	–
DCL 307s	7/8	023Z0034	22	–
DCL 309s	1 1/8	023Z0035	28	–
DCL 414s	1/2	023Z0104	12	–
DCL 415s	5/8	023Z0105	16	–
DCL 417s	7/8	023Z0106	22	–
DCL 419s	1 1/8	023Z0107	28	–
DCL 607s	7/8	023Z0036	22	–
DCL 609s	1 1/8	023Z0037	28	–
DCL 757s	7/8	023Z0115	22	–
DCL 759s	1 1/8	023Z0116	28	–

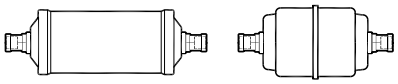
[1]) Wire mesh in filter drier outlet

This product is approved for R290, R600 and R600a by ignition source assessment in accordance to standard EN13463-1. Only solder versions (cu-plated / pure copper) and connection sizes below 25 mm are approved for flammable refrigerants.

Ordering

DCL - Solder (cu-plated)

Ordering

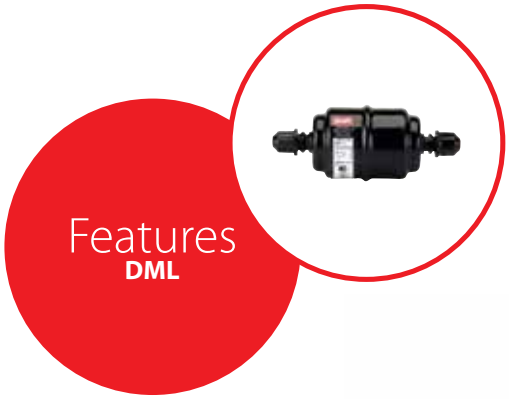


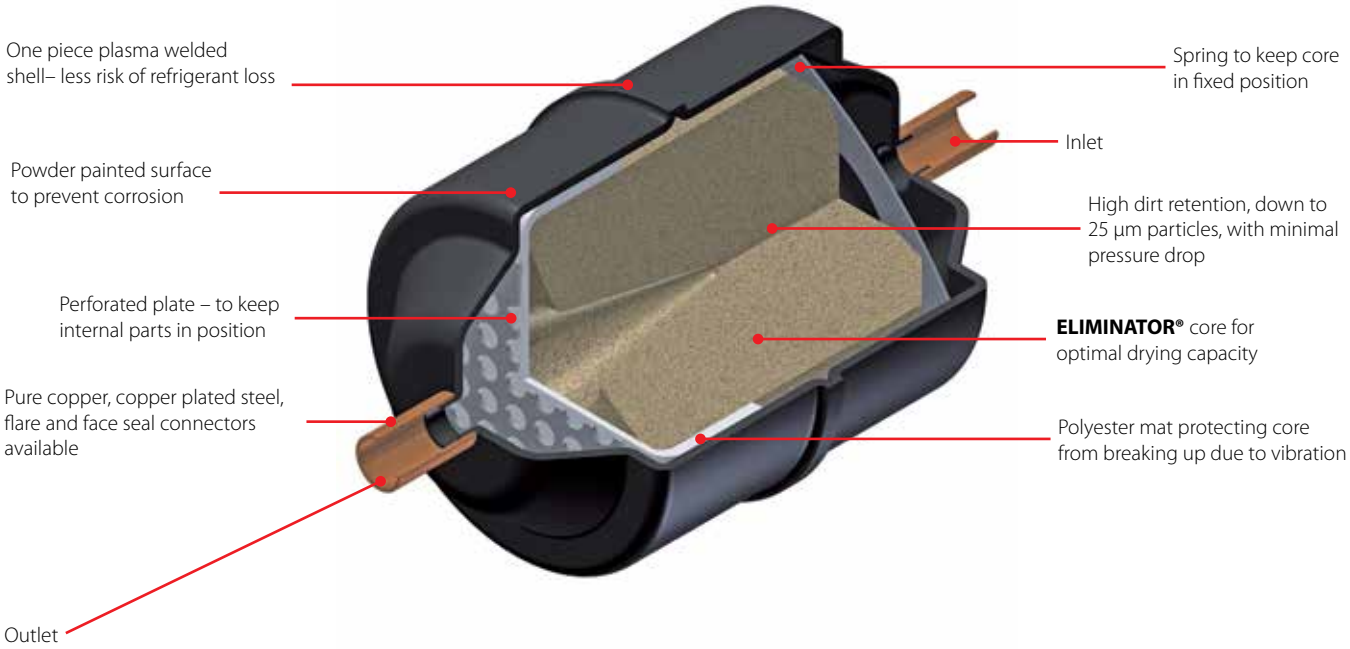
Type	Connection [in]	Multipack Code no.	Connection [mm]	Multipack Code no.
DCL 032s	1/4	023Z4501	6	023Z4500
DCL 032.5s	5/16	023Z4502	8	–
DCL 033s	3/8	023Z4504	10	023Z4503
DCL 052s	1/4	023Z4506	6	023Z4505
	5/16	023Z4507	10	–
DCL 053s	3/8	023Z4509	10	023Z4508
DCL 082s	1/4	023Z4511	6	023Z4510
	5/16	023Z4512	6	–
DCL 083s	3/8	023Z4514	10	023Z4513
DCL 084s	1/2	023Z4516	12	023Z4515
DCL 162s	1/4	023Z4518	6	023Z4517
DCL 163s	3/8	023Z4521	10	023Z4519
DCL 164s	1/2	023Z4523	12	023Z4522
DCL 165s	5/8	023Z4524	12	–
DCL 166s	3/4	023Z4525	–	–
DCL 167s	7/8	023Z4526	–	–
DCL 303s	3/8	023Z4528	10	023Z4527
DCL 304s	1/2	023Z4530	12	023Z4529
DCL 305s	5/8	023Z4531	16	–
DCL 306s	3/4	023Z4533	18	023Z4532
DCL 307s	7/8	023Z4534	22	–
DCL 309s	1 1/8	023Z4536	28	023Z4535
DCL 414s	1/2	023Z4538	12	–
DCL 415s	5/8	023Z4539	16	–
DCL 417s	7/8	023Z4540	22	–
DCL 419s	1 1/8	023Z4542	28	023Z4541
DCL 604s	1/2	023Z4544	22	–
DCL 607s	7/8	023Z4545	22	–
DCL 609s	1 1/8	–	28	023Z4546
DCL 757s	7/8	023Z4548	22	–
DCL 759s	1 1/8	023Z4550	28	023Z4549

This product is approved for R290, R600 and R600a by ignition source assessment in accordance to standard EN13463-1. Only solder versions (cu-plated / pure copper) and connection sizes below 25 mm are approved for flammable refrigerants.

DML, Hermetic filter drier

DML hermetic filter driers are optimised for refrigerants with mineral or benzene oils.
The filter driers are hermetic and approved for up to 46 bar, depending on type.
The filter driers are delivered with flare or copper / copper plated steel connections.





Facts

Application:
- Traditional refrigeration
- Air conditioning units
- Transport refrigeration
- Applicable to R22, R32, R134a, R404A, R410A, R407C, R23, R600, R600a, R744, R1234yf, R1234ze, R407f, R290, R452A, R444B, R449A, R448A and R450A
- This product is approved for R290, R600 and R600a by ignition source assessment in accordance to standard EN13463-1. Only solder versions (cu-plated / pure copper) and connection sizes below 25 mm are approved for flammable refrigerants. *For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.*
- High drying capacity avoiding the risk of acid formation in the refrigeration system
- All Danfoss filter driers have end caps designed for greater protection and easy removal
- Wide range with sizes: 1.5 – 75 cubic inches
- Corrosion resistant powder-painted finish, tested for 500 hrs in salt spray
- 100% 3Å molecular sieve core
- Face seal connectors for HFO refrigerants available upon request, please contact your sales representative
- PS / MWP up to 46 bar / 667 psig
- Available with flare, solder (purecopper, cu-plated) connections

Technical data

DML - Hermetic filter drier

Drying and liquid capacity (SI units)

Type	Drying capacity [kg] of refrigerant [1]														Liquid capacity [kW] [2]							Max. working pressure PS [bar]
	R134a		R404A		R507		R407C		R410A		R290		R32		R134a	R404A	R507	R407C	R410A	R290	R32	
	[°C]																					
	24	52	24	52	24	52	24	52	24	52	24	52	24	52								
DML 1.52 s	2.9	2.7	3.1	3.0	3.2	2.9	2.9	2.7	2.6	2.4	4.34	3.47	2.7	2.5	2.81	1.90	1.85	2.78	2.73	4.20	4.08	46
DML 032 / 032s	4.58	4.32	4.94	4.67	5.03	4.63	4.58	4.21	4.15	3.80	6.85	5.47	4.29	3.88	6.13	4.15	4.05	6.08	5.96	7.00	8.91	46
DML 032.5s	4.58	4.32	4.94	4.67	5.03	4.63	4.58	4.21	4.15	3.80	6.85	5.47	4.29	3.88	9.63	6.53	6.36	9.56	9.36	11.50	14.01	46
DML 033 / 033s	4.58	4.32	4.94	4.67	5.03	4.63	4.58	4.21	4.15	3.80	6.85	5.47	4.29	3.88	11.25	6.68	7.43	11.17	9.58	13.50	16.37	46
DML 034s	4.58	4.32	4.94	4.67	5.03	4.63	4.58	4.21	4.15	3.80	6.85	5.47	4.29	3.88	16.44	11.56	11.21	16.84	17.10	19.80	25.05	46
DML 052 / 052s	7.49	7.05	8.07	7.63	8.23	7.56	7.49	6.89	6.79	6.22	11.19	8.95	7.01	6.35	6.51	4.41	4.30	6.46	6.33	7.80	9.47	46
DML 052.5s	7.49	7.05	8.07	7.63	8.23	7.56	7.49	6.89	6.79	6.22	11.19	8.95	7.01	6.35	12.13	8.21	8.01	12.03	11.78	14.50	17.64	46
DML 053 / 053s	7.49	7.05	8.07	7.63	8.23	7.56	7.49	6.89	6.79	6.22	11.19	8.95	7.01	6.35	16.52	11.19	10.91	16.39	16.05	19.80	24.02	46
DML 054s	7.49	7.05	8.07	7.63	8.23	7.56	7.49	6.89	6.79	6.22	11.19	8.95	7.01	6.35	21.89	14.83	14.45	21.72	21.27	26.20	31.84	46
DML 055s	7.49	7.05	8.07	7.63	8.23	7.56	7.49	6.89	6.79	6.22	11.19	8.95	7.01	6.35	26.84	18.18	17.72	26.63	26.08	32.10	39.04	46
DML 082 / 082s	12.13	11.42	13.07	12.35	13.32	12.24	12.13	11.15	10.99	10.07	18.12	14.48	11.35	10.28	6.46	4.38	4.27	6.41	6.28	7.70	9.40	46
DML 082.5s	12.13	11.42	13.07	12.35	13.32	12.24	12.13	11.15	10.99	10.07	18.12	14.48	11.35	10.28	12.42	8.41	8.20	12.32	12.07	14.90	18.06	46
DML 083 / 083s	12.13	11.42	13.07	12.35	13.32	12.24	12.13	11.15	10.99	10.07	18.12	14.48	11.35	10.28	16.28	11.03	10.75	16.15	15.82	19.50	23.68	46
DML 084 / 084s	12.13	11.42	13.07	12.35	13.32	12.24	12.13	11.15	10.99	10.07	18.12	14.48	11.35	10.28	21.42	14.51	14.14	21.25	20.82	25.60	31.15	46
DML 085 / 085s	12.13	11.42	13.07	12.35	13.32	12.24	12.13	11.15	10.99	10.07	18.12	14.48	11.35	10.28	25.06	16.98	16.55	24.87	24.36	30.00	36.45	46
DML 162 / 162s	27.09	25.51	29.20	27.58	29.75	27.35	27.10	24.90	24.56	22.49	40.47	32.35	25.34	22.95	6.75	4.57	4.46	6.70	6.56	8.10	9.82	46
DML 163 / 163s	27.09	25.51	29.20	27.58	29.75	27.35	27.10	24.90	24.56	22.49	40.47	32.35	25.34	22.95	19.42	13.15	12.82	19.26	18.87	23.20	28.24	46
DML 164 / 164s	27.09	25.51	29.20	27.58	29.75	27.35	27.10	24.90	24.56	22.49	40.47	32.35	25.34	22.95	27.04	18.32	17.86	26.83	26.28	32.40	39.33	46
DML 165 / 165s	27.09	25.51	29.20	27.58	29.75	27.35	27.10	24.90	24.56	22.49	40.47	32.35	25.34	22.95	37.81	25.61	24.97	37.52	36.75	45.20	54.99	46
DML 166 / 166s	27.09	25.51	29.20	27.58	29.75	27.35	27.10	24.90	24.56	22.49	40.47	32.35	25.34	22.95	44.16	29.91	29.16	43.82	42.92	52.80	64.22	46
DML 167s	27.09	25.51	29.20	27.58	29.75	27.35	27.10	24.90	24.56	22.49	40.47	32.35	25.34	22.95	49.71	33.67	32.83	49.32	48.31	59.50	72.29	46
DML 303 / 303s	55.95	52.69	60.31	56.97	61.45	56.49	55.97	51.44	50.72	46.46	81.59	65.23	52.34	47.41	20.48	13.87	13.52	20.32	19.90	24.50	29.79	46
DML 304 / 304s	55.95	52.69	60.31	56.97	61.45	56.49	55.97	51.44	50.72	46.46	81.59	65.23	52.34	47.41	30.67	20.77	20.25	30.42	29.80	36.70	44.60	46
DML 305 / 305s	55.95	52.69	60.31	56.97	61.45	56.49	55.97	51.44	50.72	46.46	81.59	65.23	52.34	47.41	48.61	32.93	32.10	48.23	47.24	58.20	70.70	46
DML 306 / 306s	55.95	52.69	60.31	56.97	61.45	56.49	55.97	51.44	50.72	46.46	81.59	65.23	52.34	47.41	60.17	40.75	39.73	59.69	58.47	72.00	87.50	46
DML 307s	55.95	52.69	60.31	56.97	61.45	56.49	55.97	51.44	50.72	46.46	81.59	65.23	52.34	47.41	69.46	47.05	45.86	68.91	67.50	83.10	101.01	46
DML 309s	55.95	52.69	60.31	56.97	61.45	56.49	55.97	51.44	50.72	46.46	81.59	65.23	52.34	47.41	79.18	53.63	52.28	78.55	76.94	94.70	115.14	35
DML 413	75.56	71.15	81.44	76.93	82.98	76.28	75.57	69.46	68.49	62.73	110.18	88.08	70.68	64.02	19.47	13.19	12.86	19.32	18.92	23.30	28.32	35
DML 414 / 414s	75.56	71.15	81.44	76.93	82.98	76.28	75.57	69.46	68.49	62.73	110.18	88.08	70.68	64.02	31.84	21.56	21.02	31.59	30.94	38.10	46.30	46
DML 415 / 415S	75.56	71.15	81.44	76.93	82.98	76.28	75.57	69.46	68.49	62.73	110.18	88.08	70.68	64.02	51.58	34.94	34.06	51.17	50.12	61.70	75.01	46
DML 417s	75.56	71.15	81.44	76.93	82.98	76.28	75.57	69.46	68.49	62.73	110.18	88.08	70.68	64.02	84.69	57.37	55.92	84.03	82.30	101.30	123.17	46
DML 419s	75.56	71.15	81.44	76.93	82.98	76.28	75.57	69.46	68.49	62.73	110.18	88.08	70.68	64.02	91.01	61.64	60.09	90.29	88.44	121.80	132.35	35
DML 607s	111.91	105.38	120.62	113.94	122.90	112.97	111.93	102.87	101.44	92.91	163.19	130.46	104.69	94.82	79.42	53.79	52.44	78.79	77.17	95.00	115.49	35
DML 609s	111.91	105.38	120.62	113.94	122.90	112.97	111.93	102.87	101.44	92.91	163.19	130.46	104.69	94.82	95.42	64.63	63.01	94.67	92.73	114.17	138.77	667
DML 757s	151.11	142.30	162.88	153.86	165.95	152.55	151.15	138.91	136.98	125.46	220.36	176.17	141.36	128.04	81.75	55.37	53.98	81.11	79.44	97.81	118.88	507
DML 759s	151.11	142.30	162.88	153.86	165.95	152.55	151.15	138.91	136.98	125.46	220.36	176.17	141.36	128.04	101.79	68.94	67.21	100.98	98.91	121.79	148.02	507

[1]) Drying capacity is based on following moisture content test standards before and after drying:
– R134a: 1050 – 50 ppm W
– R404A, R507: 1020 – 50 ppm W
– R407C: 1020 – 50 ppm W
– R410A: 1050 – 50 ppm W
– R290: 565 – 15 ppm W
– R32: 1040 ppm W – 50 ppm W
In accordance with ARI 710-2004

[2]) Given in accordance with ARI 710-2004 for:
t_e = -15 °C
t_c = 30 °C
Δp = 0.07 bar

Approvals
UL US, file no. SA 6398
PED 2014/68/EU -a4p3

Technical data

DML - Hermetic filter drier

Drying and liquid capacity (US units)

Type	Drying capacity [lb] of refrigerant [1]														Liquid capacity [TR] [2]							Max. working pressure MWP [psig]
	R134a		R404A		R507		R407C		R410A		R290		R32		R134a	R404A	R507	R407C	R410A	R290	R32	
	[°F]																					
	75	125	75	125	75	125	75	125	75	125	75	125	75	125								
DML 1.52 s	6.4	6.0	6.9	6.5	7.0	6.5	6.4	5.9	5.8	5.3	9.58	7.66	6.0	5.4	0.80	0.54	0.53	0.80	0.78	1.20	1.17	667
DML 032 / 032s	10.10	9.51	10.89	10.29	11.10	10.20	10.11	9.29	9.16	8.39	15.09	12.07	9.45	8.56	1.75	1.19	1.16	1.74	1.70	2.00	2.55	667
DML 032.5s	10.10	9.51	10.89	10.29	11.10	10.20	10.11	9.29	9.16	8.39	15.09	12.07	9.45	8.56	2.75	1.86	1.82	2.73	2.67	3.29	4.00	667
DML 033 / 033s	10.10	9.51	10.89	10.29	11.10	10.20	10.11	9.29	9.16	8.39	15.09	12.07	9.45	8.56	3.22	1.91	2.12	3.19	2.74	3.86	4.68	667
DML 034s	10.10	9.51	10.89	10.29	11.10	10.20	10.11	9.29	9.16	8.39	15.09	12.07	9.45	8.56	4.70	3.30	3.20	4.81	4.89	5.66	7.16	667
DML 052 / 052s	16.52	15.55	17.80	16.82	18.14	16.67	16.52	15.18	14.97	13.71	24.67	19.72	15.45	13.99	1.86	1.26	1.23	1.85	1.81	2.23	2.71	667
DML 052.5s	16.52	15.55	17.80	16.82	18.14	16.67	16.52	15.18	14.97	13.71	24.67	19.72	15.45	13.99	3.46	2.35	2.29	3.44	3.37	4.14	5.04	667
DML 053 / 053s	16.52	15.55	17.80	16.82	18.14	16.67	16.52	15.18	14.97	13.71	24.67	19.72	15.45	13.99	4.72	3.20	3.12	4.68	4.59	5.66	6.86	667
DML 054s	16.52	15.55	17.80	16.82	18.14	16.67	16.52	15.18	14.97	13.71	24.67	19.72	15.45	13.99	6.25	4.24	4.13	6.21	6.08	7.49	9.10	667
DML 055s	16.52	15.55	17.80	16.82	18.14	16.67	16.52	15.18	14.97	13.71	24.67	19.72	15.45	13.99	7.67	5.19	5.06	7.61	7.45	9.17	11.15	667
DML 082 / 082s	26.74	25.18	28.82	27.23	29.37	26.99	26.75	24.58	24.24	22.20	39.94	31.93	25.01	22.66	1.85	1.25	1.22	1.83	1.79	2.20	2.69	667
DML 082.5s	26.74	25.18	28.82	27.23	29.37	26.99	26.75	24.58	24.24	22.20	39.94	31.93	25.01	22.66	3.55	2.40	2.34	3.52	3.45	4.26	5.16	667
DML 083 / 083s	26.74	25.18	28.82	27.23	29.37	26.99	26.75	24.58	24.24	22.20	39.94	31.93	25.01	22.66	4.65	3.15	3.07	4.61	4.52	5.57	6.76	667
DML 084 / 084s	26.74	25.18	28.82	27.23	29.37	26.99	26.75	24.58	24.24	22.20	39.94	31.93	25.01	22.66	6.12	4.15	4.04	6.07	5.95	7.31	8.90	667
DML 085 / 085s	26.74	25.18	28.82	27.23	29.37	26.99	26.75	24.58	24.24	22.20	39.94	31.93	25.01	22.66	7.16	4.85	4.73	7.10	6.96	8.57	10.41	667
DML 162 / 162s	59.72	56.24	64.37	60.81	65.59	60.29	59.74	54.90	54.14	49.59	89.22	71.32	55.87	50.60	1.93	1.31	1.27	1.91	1.88	2.31	2.81	667
DML 163 / 163s	59.72	56.24	64.37	60.81	65.59	60.29	59.74	54.90	54.14	49.59	89.22	71.32	55.87	50.60	5.55	3.76	3.66	5.50	5.39	6.63	8.07	667
DML 164 / 164s	59.72	56.24	64.37	60.81	65.59	60.29	59.74	54.90	54.14	49.59	89.22	71.32	55.87	50.60	7.73	5.23	5.10	7.67	7.51	9.26	11.24	667
DML 165 / 165s	59.72	56.24	64.37	60.81	65.59	60.29	59.74	54.90	54.14	49.59	89.22	71.32	55.87	50.60	10.80	7.32	7.13	10.72	10.50	12.91	15.71	667
DML 166 / 166s	59.72	56.24	64.37	60.81	65.59	60.29	59.74	54.90	54.14	49.59	89.22	71.32	55.87	50.60	12.62	8.55	8.33	12.52	12.26	15.09	18.35	667
DML 167s	59.72	56.24	64.37	60.81	65.59	60.29	59.74	54.90	54.14	49.59	89.22	71.32	55.87	50.60	14.20	9.62	9.38	14.09	13.80	17.00	20.66	667
DML 303 / 303s	123.36	116.16	132.96	125.60	135.47	124.53	123.39	113.40	111.82	102.42	179.88	143.81	115.40	104.52	5.85	3.96	3.86	5.81	5.69	7.00	8.51	667
DML 304 / 304s	123.36	116.16	132.96	125.60	135.47	124.53	123.39	113.40	111.82	102.42	179.88	143.81	115.40	104.52	8.76	5.93	5.79	8.69	8.51	10.49	12.74	667
DML 305 / 305s	123.36	116.16	132.96	125.60	135.47	124.53	123.39	113.40	111.82	102.42	179.88	143.81	115.40	104.52	13.89	9.41	9.17	13.78	13.50	16.63	20.20	667
DML 306 / 306s	123.36	116.16	132.96	125.60	135.47	124.53	123.39	113.40	111.82	102.42	179.88	143.81	115.40	104.52	17.19	11.64	11.35	17.06	16.71	20.57	25.00	667
DML 307s	123.36	116.16	132.96	125.60	135.47	124.53	123.39	113.40	111.82	102.42	179.88	143.81	115.40	104.52	19.84	13.44	13.10	19.69	19.29	23.74	28.86	667
DML 309s	123.36	116.16	132.96	125.60	135.47	124.53	123.39	113.40	111.82	102.42	179.88	143.81	115.40	104.52	22.62	15.32	14.94	22.44	21.98	27.06	32.90	667
DML 413	166.57	156.86	179.54	169.60	182.93	168.16	166.61	153.13	151.00	138.30	242.90	194.19	155.82	141.14	5.56	3.77	3.67	5.52	5.41	6.66	8.09	667
DML 414 / 414s	166.57	156.86	179.54	169.60	182.93	168.16	166.61	153.13	151.00	138.30	242.90	194.19	155.82	141.14	9.10	6.16	6.01	9.02	8.84	10.89	13.23	667
DML 415 / 415S	166.57	156.86	179.54	169.60	182.93	168.16	166.61	153.13	151.00	138.30	242.90	194.19	155.82	141.14	14.74	9.98	9.73	14.62	14.32	17.63	21.43	667
DML 417s	166.57	156.86	179.54	169.60	182.93	168.16	166.61	153.13	151.00	138.30	242.90	194.19	155.82	141.14	24.20	16.39	15.98	24.01	23.52	28.94	35.19	667
DML 419s	166.57	156.86	179.54	169.60	182.93	168.16	166.61	153.13	151.00	138.30	242.90	194.19	155.82	141.14	26.00	17.61	17.17	25.80	25.27	34.80	37.81	507
DML 607s	246.71	232.33	265.92	251.20	270.94	249.06	246.77	226.80	223.64	204.84	359.77	287.62	230.79	209.04	22.69	15.37	14.98	22.51	22.05	27.14	33.00	507
DML 609s	246.71	232.33	265.92	251.20	270.94	249.06	246.77	226.80	223.64	204.84	359.77	287.62	230.79	209.04	27.26	18.47	18.00	27.05	26.49	32.62	39.65	667
DML 757s	333.15	313.72	359.08	339.21	365.86	336.32	333.23	306.25	301.99	276.60	485.81	388.38	311.65	282.28	23.36	15.82	15.42	23.17	22.70	27.95	33.97	507
DML 759s	333.15	313.72	359.08	339.21	365.86	336.32	333.23	306.25	301.99	276.60	485.81	388.38	311.65	282.28	29.08	19.70	19.20	28.85	28.26	34.80	42.29	507

[1]) Drying capacity is based on following moisture content test standards before and after drying:
- *– R134a: 1050 – 50 ppm W*
- *– R404A, R507: 1020 – 50 ppm W*
- *– R407C: 1020 – 50 ppm W*
- *– R410A: 1050 – 50 ppm W*
- *– R290: 565 – 15 ppm W*
- *– R32: 1040 ppm W – 50 ppm W*

In accordance with ARI 710-2004

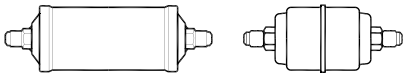
[2]) Given in accordance with ARI 710-2004 for:
- $t_e = 5$ °F
- $t_c = 85$ °F
- $\Delta p = 1$ psig

Approvals
UL US, file no. SA 6398
PED 2014/68/EU -a4p3

Ordering

DML - Flare

Ordering

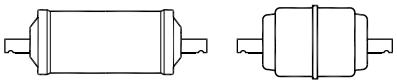


Type	Connection		Multipack no.
	[in]	[mm]	
DML 032	1/4	6	023Z5035 [1])
DML 033	3/8	10	023Z5036 [1])
	3/8	10	023Z5090
DML 052	1/4	6	023Z5037
DML 053	3/8	10	023Z5038
DML 082	1/4	6	023Z5039
DML 083	3/8	10	023Z5040
DML 084	1/2	12	023Z5041
DML 085	5/8	16	023Z5073
DML 162	1/4	6	023Z5042
DML 163	3/8	10	023Z5043
DML 164	1/2	12	023Z5044
DML 165	5/8	16	023Z5045
DML 166	3/4	19	023Z5046
DML 303	3/8	10	023Z0049
DML 304	1/2	12	023Z0050
DML 305	5/8	16	023Z0051
DML 306	3/4	19	023Z0193
DML 385	5/8	16	023Z0189
DML 413	3/8	10	023Z0108
DML 414	1/2	12	023Z0109
DML 415	5/8	16	023Z0110
DML 416	3/4	19	023Z0195

[1]) Wire mesh in filter drier outlet

Ordering

DML - Solder (pure copper)



Ordering

Type	Connection [in]	Multipack Code no.	Connection [mm]	Multipack Code no.
DML 1.52s	1/4	023Z8253	–	–
DML 1.52x2 / 2s	1/4	023Z8250	–	–
DML 032s	1/4	023Z5048 [1])	6	–
DML 032.5s	5/16	023Z5049	8	–
DML 033s	3/8	023Z5050	10	023Z5051
DML 034s	1/2	023Z5121	12	–
DML 052s	1/4	023Z5053	6	023Z5052
DML 053s	3/8	023Z5054	10	023Z5055
DML 054s	1/2	023Z5101	3.8	–
DML 082s	1/4	023Z5057	6	–
DML 082.5s	5/16	023Z5117	8	–
DML 083s	3/8	023Z5058	10	023Z5059
DML 084s	1/2	023Z5061	12	023Z5060
DML 085s	5/8	023Z5072	16	–
DML 162s	1/4	023Z5063	6	–
DML 163s	3/8	023Z5064	10	023Z5065
DML 164s	1/2	023Z5067	12	023Z5066
DML 165s	5/8	023Z5068	16	–
DML 166s	3/4	023Z5071	19	–
DML 167s	7/8	023Z5069	22	–
DML 303s	3/8	023Z0067	10	–
DML 304s	1/2	023Z0068	12	–
DML 305s	5/8	023Z0069	16	–
DML 306s	3/4	023Z0070	19	–
DML 307s	7/8	023Z0071	22	–
DML 309s	1 1/8	023Z0072	28	–
DML 414s	1/2	023Z0111	12	–
DML 415s	5/8	023Z0112	16	–
DML 417s	7/8	023Z0113	22	–
DML 419s	1 1/8	023Z0114	28	–
DML 604s	1/2	–	12	–
DML 607s	7/8	023Z0073	22	–
DML 609s	1 1/8	023Z0074	28	–
DML 757s	7/8	023Z0117	22	–
DML 759s	1 1/8	023Z0118	28	–

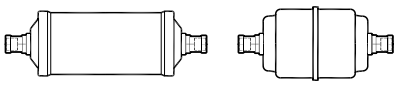
[1]) Wire mesh in filter drier outlet

This product is approved for R290, R600 and R600a by ignition source assessment in accordance to standard EN13463-1. Only solder versions (cu-plated / pure copper) and connection sizes below 25 mm are approved for flammable refrigerants.

Ordering

DML - Solder (cu-plated)

Ordering



Type	Connection [in]	Multipack Code no.	Connection [mm]	Multipack Code no.
DML 032s	1/4	023Z4552	6	023Z4551
DML 032.5s	5/16	023Z4553	8	–
DML 033s	3/8	023Z4555	10	023Z4554
DML 034s	1/2	023Z4556	12	023Z4557
DML 052s	1/4	023Z4559	6	023Z4558
DML 052.5s	5/16	023Z4560	6	–
DML 053s	3/8	023Z4562	10	023Z4561
DML 054s	1/2	023Z4564	12	023Z4563
DML 055s	5/8	023Z4565	16	–
DML 082s	1/4	023Z4567	6	023Z4566
DML 083s	3/8	023Z4570	10	023Z4569
DML 084s	1/2	023Z4572	12	023Z4571
DML 085s	5/8	023Z4573	16	–
DML 162s	1/4	023Z4575	6	023Z4574
DML 163s	3/8	023Z4578	10	023Z4577
DML 164s	1/2	023Z4580	12	023Z4579
DML 165s	5/8	023Z4581	16	–
DML 166s	3/4	023Z4582	19	–
DML 167s	7/8	023Z4583	22	–
DML 303s	3/8	023Z4585	10	023Z4584
DML 304s	1/2	023Z4587	12	023Z4586
DML 305s	5/8	023Z4588	16	–
DML 306s	3/4	023Z4589	19	–
DML 307s	7/8	023Z4590	22	–
DML 309s	1 1/8	023Z4592	28	023Z4591
DML 414s	1/2	023Z4594	12	023Z4593
DML 415s	5/8	023Z4595	16	–
DML 417s	7/8	023Z4596	22	–
DML 419s	1 1/8	023Z4598	28	023Z4597
DML 604s	1/2	023Z4600	12	023Z4599
DML 605s	1/2	–	18	023Z4601
DML 607s	7/8	023Z4602	22	–
DML 609s	1 1/8	023Z4604	28	023Z4603
DML 757s	7/8	023Z4605	22	–
DML 759s	1 1/8	023Z4607	28	023Z4606

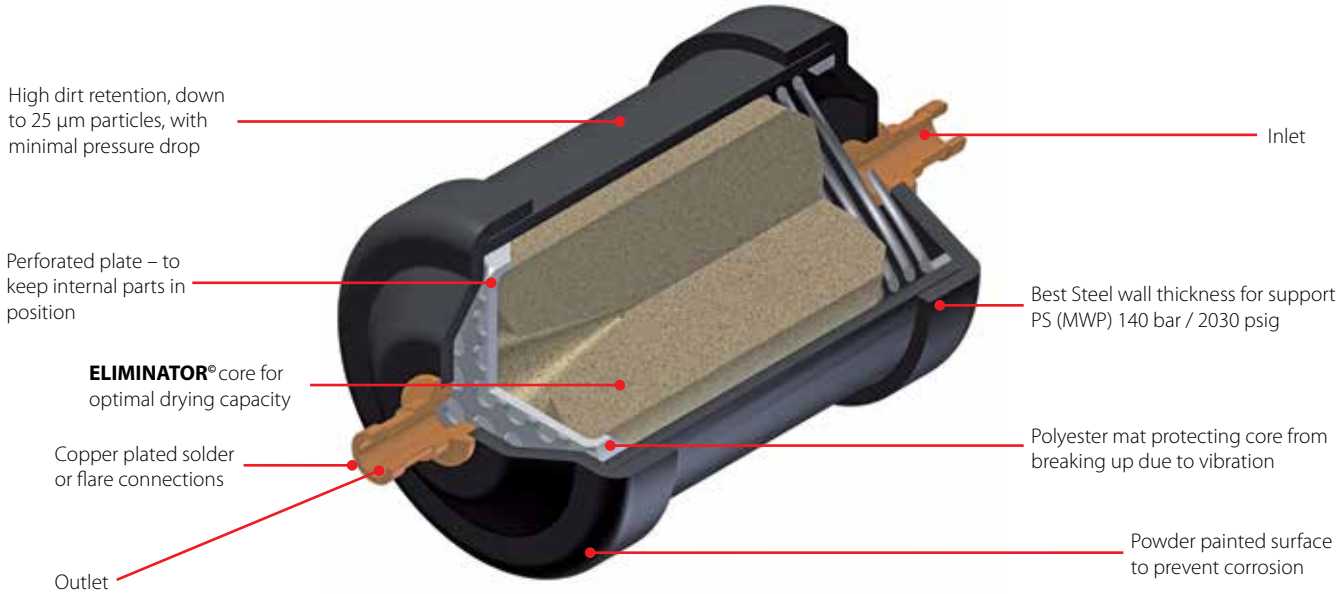
This product is approved for R290, R600 and R600a by ignition source assessment in accordance to standard EN13463-1. Only solder versions (cu-plated / pure copper) and connection sizes below 25 mm are approved for flammable refrigerants.

DMT, Hermetic filter drier for CO_2

DMT **ELIMINATOR®** hermetic filter driers are designed for use in CO_2 systems, and protect the system from moisture, acids and solid particles, eliminating harmful chemical reactions and abrasive impurities. DMT driers have a core composition of 100% Molecular Sieve.

DMT hermetic filter driers are designed for applications requiring the highest moisture capacity, and the lowest possible leak rate. They are available with flare and solder (cu-plated steel) connections and are designed to support max. working pressure as high as 140 bar / 2030 psig.





Facts

Application:
- liquid line in CO_2 systems
- Applicable to R744 (CO_2) refrigerants
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.

- Support PS / MWP up to 140 bar / 2030 psig
- 100% 3 Å Molecular Sieve core
- High drying capacity minimizing the risk of acid formation (hydrolysis)
- Will not deplete oil additives
- Available with solder (copper plated) and flare connections (i.e. standard, flare o-ring and NPT)
- Lowest possible leak rate

- Corrosion resistant powder-painted finish. Special coating for marine applications available upon request
- Allows installation with any orientation provided the arrow is in the flow direction,
- Available in sizes from 8 to 13 cubic inches
- 25 µm (0.001 in) filter provides high retention with minimal pressure drop
- No residual moisture when delivered
- Thermally stable up to 120 °C / 250 °F

Technical data and ordering

DMT - Hermetic filter drier for CO_2

Drying and liquid capacity

Type	Drying capacity [1]						Liquid capacity [2]		Max. working pressure PS / MWP [bar / psig]	Additional Data		
	R 744 CO_2 -6.6 °C / 20 °F			R 744 CO_2 24 °C / 75 °F			R 744 CO_2 Flare / Cu-plated			Volume [l]		
	H_2O [g]	Ref [Kg]	Drop Water	H_2O [g]	Ref [Kg]	Drop Water	[kW]	[TR]		Shell	Core	Net
DMT 082 / 082s	10.66	11.35	213.29	9.80	10.43	196.01	4.20	1.20	140 / 2030	0.18	0.06	0.12
DMT 083 / 083s	10.66	11.35	213.29	9.80	10.43	196.01	11.90	3.40	140 / 2030	0.18	0.06	0.12
DMT 084s	10.66	11.35	213.29	9.80	10.43	196.01	16.10	4.60	140 / 2030	0.18	0.06	0.12
DMT 133 / 133s	17.25	18.35	345.03	15.85	16.87	317.08	11.20	3.20	140 / 2030	0.32	0.17	0.15
DMT 134s	17.25	18.35	345.03	15.85	16.87	317.08	14.00	4.00	140 / 2030	0.32	0.17	0.15

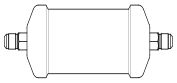
The moisture test was performed according with ASHRAE standard on liquid phase

[1] ***Drying capacity***
Drying capacity is based on following moisture content test standards before and after drying:
EPD: From 1110 ppm W to 50 ppm W at 24 °C / 75 °F
EPD: From 445 ppm W to 50 ppm W at -6.6 °C / 20 °F

[2] ***Liquid capacity***
Given in accordance with ARI 710-2004 for:
t_e *= -15 °C / 5 °F*
t_c *= 30 °C / 85 °F*
Δp *= 0.07 bar / 1 psig*

Termperature range:
-40 – 100 °C / -40 – 212 °F

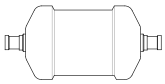
DMT - Flare



Ordering

Type	Connection [in]	Code no.
DMT 082	1/4	023Z8407
DMT 083	3/8	023Z8406
DMT 133	3/8	023Z8405
DMT 133 NPT	1/4	023Z8410

DMT - Solder (cu-plated)



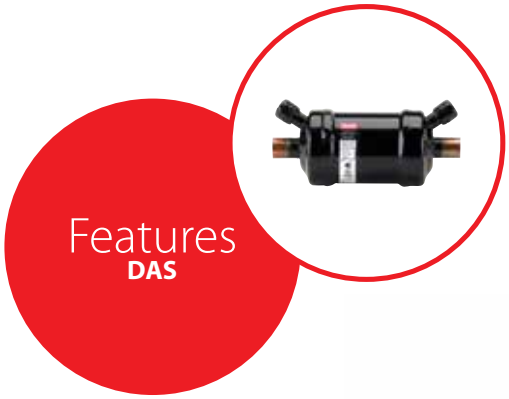
Ordering

Type	Connection [in]	Code no.	Multi-pack Code no.
DMT 082s	1/4	023Z8408	023Z8415
DMT 083s	3/8	023Z8409	023Z8416
DMT 084s	1/2	023Z8412	023Z8417
DMT 133s	3/8	023Z8402	023Z8418
DMT 134s	1/2	023Z8411	023Z8419

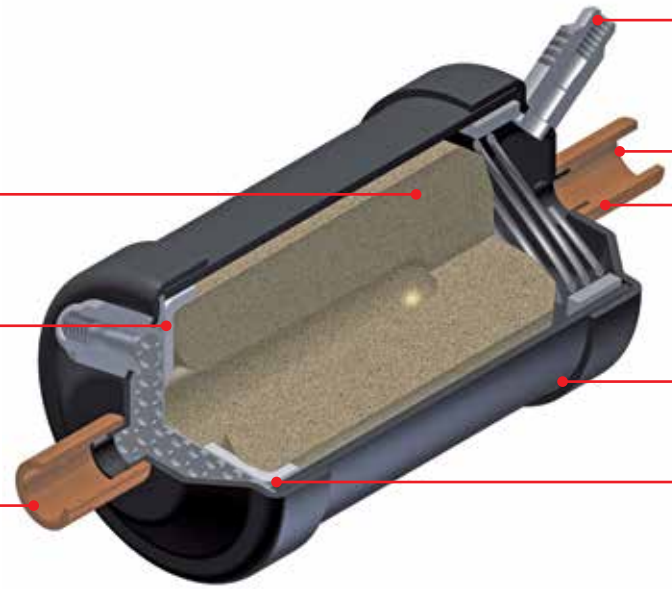
DAS, Hermetic burn-out filter drier

DAS **ELIMINATOR®** hermetic burn-out filter driers are used in the suction line to clean up refrigeration and air conditioning systems with flourinated refrigerants after a compressor motor burn-out.

The solid core, which is composed of 70% activated alumina and 30% Molecular Sieve, adsorbs harmful acids as well as moisture, in order to protect the new compressor against failure.



Features
DAS



Facts

Application:
- Traditional refrigeration
- Air conditioning units
- Transport refrigeration
- Applicable to R22, R143a, R407C, R410A and R507
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- The large diameter of the hermetic burn-out filter drier means that flow velocity is suitably low and the pressure drop minimal
- Bonded solid core grains eliminate powder formation
- Corrosion resistant powder-painted finish, tested for 500 hrs in salt spray
- Installation with any orientation provided the flow is in the arrow direction
- Available in sizes from 8 to 60 cubic inches

Technical data and ordering

DAS - Hermetic burn-out filter drier

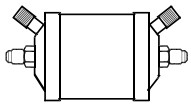
Rated acid capacities

Type	Rated capacity, Q_n [1]						Acid capacity [2]	Max. working pressure PS / MWP [bar / psig]
	R407C / R410A		R134a		R404A / R507			
	[TR]	[kW]	[TR]	[kW]	[TR]	[kW]	[g]	
DAS 083	1.5	5.3	1.0	3.5	1.3	4.5	3.8	35 / 507
DAS 084	2.6	9.1	1.6	5.5	2.3	8.0	3.8	35 / 507
DAS 085	4.1	14.5	2.6	9.0	3.6	12.5	3.8	35 / 507
DAS 086	5.4	19.0	3.3	11.5	4.7	16.5	3.8	35 / 507
DAS 164	2.7	9.5	1.7	6.0	2.4	8.5	8.7	35 / 507
DAS 165	4.2	14.7	2.7	9.5	3.7	13.0	8.7	35 / 507
DAS 166	5.6	19.6	3.5	12.2	4.9	17.0	8.7	35 / 507
DAS 167	6.2	21.7	3.9	13.5	5.4	19.0	8.7	35 / 507
DAS 305	5.0	17.5	3.1	11.0	4.3	15.0	17.3	35 / 507
DAS 306	6.3	22.0	4.0	14.0	5.4	19.0	17.3	35 / 507
DAS 307	7.3	25.6	4.6	16.0	6.3	22.0	17.3	35 / 507
DAS 309	8.8	30.7	5.5	19.3	7.6	26.6	17.3	35 / 507
DAS 417	8.1	28.4	5.0	17.5	7.0	24.5	22.6	35 / 507
DAS 419	9.8	34.3	6.1	21.5	8.5	29.8	22.6	35 / 507
DAS 607	5.5	19.2	3.9	13.7	5.5	19.2	34.6	35 / 507

[1]) Rated capacity is stated at:
evaporating temperature t_e = 4 °C / 39.2 °F
pressure drop Δp = 0.07 bar/ 1 psig
[2]) Adsorption capacity of oleic acid at 0.05 TAN (Total Acid Number)

Capacities for other temperatures than 4 °C / 39.2 °F are calculated by use of correction factors. Divide your actual evaporator capacity with the correction factor given for your actual evaporating temperature. Look up the capacity table for the necessary rated capacity
$Q_e / F_e = Q_n$
Q_e = Actual evaporator capacity
Q_n = Nominal capacity
F_e = Correction factor

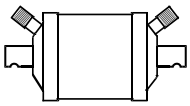
DAS - Flare



Ordering

Type	Connection [in]	Code no.
DAS 084VV	1/2	023Z1002
DAS 164VV	1/2	023Z1007
DAS 165VV	5/8	023Z1008

DAS - Solder (pure copper)



Ordering

Type	Connection [in]	Code no.
DAS 084sVV	1/2	023Z1004
DAS 085sVV	5/8	023Z1005
DAS 086sVV	3/4	023Z1006
DAS 164sVV	1/2	023Z1009
DAS 165sVV	5/8	023Z1010
DAS 166sVV	3/4	023Z1011
DAS 167sVV	7/8	023Z1012
DAS 305sVV	5/8	023Z1013
DAS 306sVV	3/4	023Z1014
DAS 307sVV	7/8	023Z1015
DAS 309sVV	1 1/8	023Z1016
DAS 417sVV	7/8	023Z1017
DAS 419sVV	1 1/8	023Z1018
DAS 607sVV	7/8	023Z1019
DAS 609sVV	1 1/8	023Z1020

Correction factors F_e for evaporating temperatures [°C] / [°F]

[°C] / [°F]	4 / 39.2	0 / 32	-5 / 23	-10 / 14	-15 / 5	-20 / -4	-25 / -13	-30 / -22	-35 / -31	-40 / -40
F_e	1	0.9	0.75	0.6	0.5	0.4	0.35	0.25	0.2	0.15

Example
To select a hermetic burn-out filter drier for a R22 plant with an evaporator capacity at 8.5 kW / 2.41 TR at -20 / -4 °F you may use a hermetic burn-out filter drier with a rated capacity of 8.5 / 0.4 = 21.25 kW / 6.02 TR
For example DAS 306

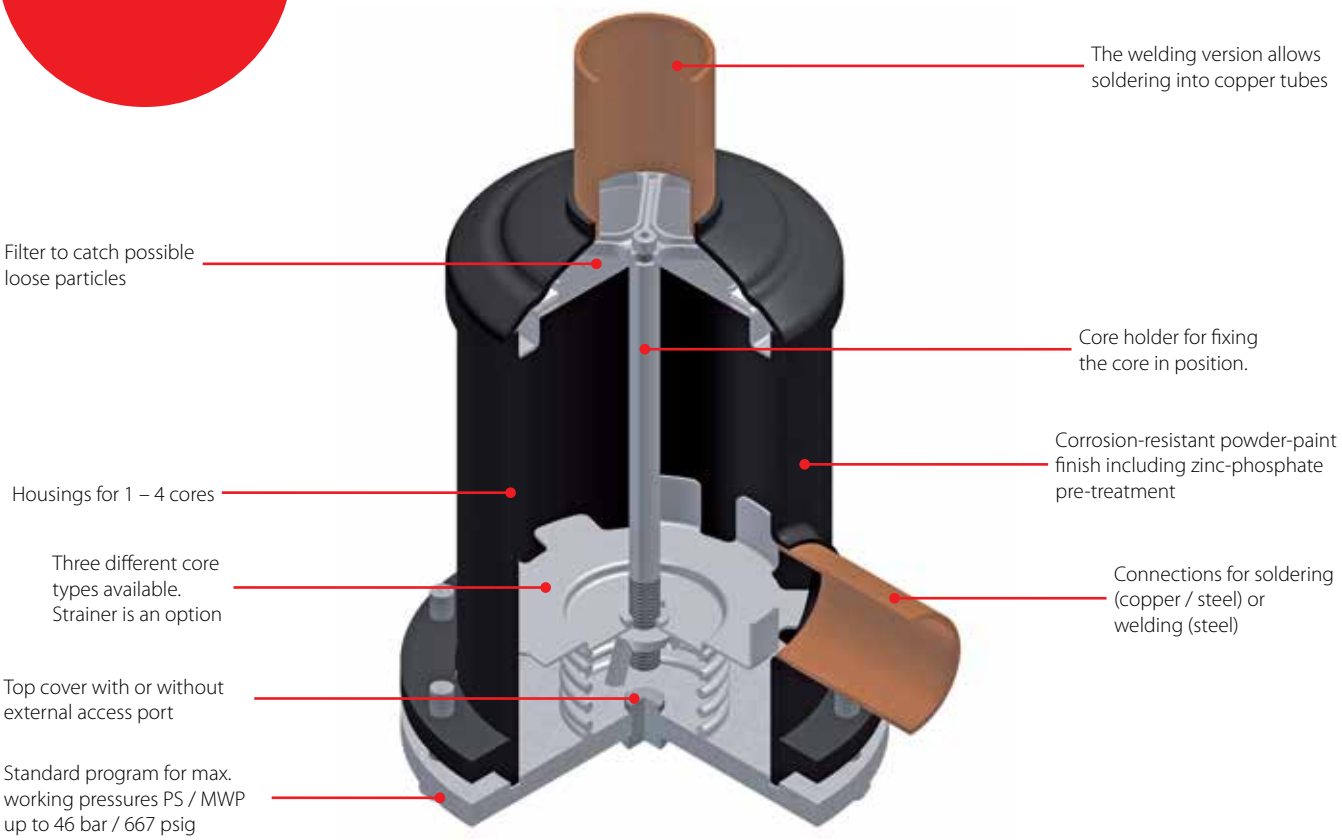
DCR, Filter drier with replaceable solid core

DCR **ELIMINATOR®** filter driers with replaceable solid core protect refrigeration, freezing and air conditioning systems from moisture, acids and solid particles.
Besides being able to meet the demanding requirements of high working pressure levels when operating with R410A thanks to replaceable solid cores the DCR programme offers flexibility with respect to different applications.

Core types:
- 48-DC for HFC, HCFC systems and mineral or AB oils
- 48-DM for HFC, HCFC systems and POE or PAG oils
- 48 DA for acid adsorption after burnout
- 48-F strainer for retaining dirt

Cores / inserts are ordered separately.





Facts

Application:
- Highly efficient dirt retaining capabilities on both the suction and the liquid line
- Can be used in all environments. Shell is zinc-phosphated, and with corrosion resistant powder-painted finish, tested for 500 hrs in salt spray (acc. to ASTM B117, ISO 12944-6 (blistering))
- The core holder requires minimum free space to remove the core for replacement
- Applicable to R22, R134a, R404A, R410A, R407C, R23, R1234ze, R407f, R452A, R449A, R448A and R450A
- For convenient filter drier commissioning, Shell is designed to remain in place while cores, cover and housing are assembled
- Can be installed in any position
- 48-DM core for liquid line application (100% molecular sieve). Provides high moisture adsorption at low and high condensing temperatures. Effective protection against impurities
- 48-DC core with 80% molecular sieve and 20% activated alumina,adsorbs moisture and acid in the system throughout the entire temperature range
- 48-DA 30% molecular sieve and 70% activated alumina solid core suitable after compressor burn-out: high acid adsorption and standard water adsorption
- 48-F strainer:
  - Retains dirt particles larger than 15 µm
  - For use direct in DCR housings
  - Utilized in the suction or liquid line

Technical data and ordering

DCR - Filter drier with replaceable solid core

Drying and liquid capacity, type 48-DM (SI units)

Type	Number of cores	Drying capacity [kg] of refrigerant [1]										Liquid capacity [kW] [2]					Max. working pressure PS [bar]
		R134a		R404A		R507		R407C		R410A		R134a	R404A	R507	R407C	R410A	
		[°C]															
		24	52	24	52	24	52	24	52	24	52						
DCR 0485	1	80.1	75.4	86.3	81.6	88.0	80.9	81.1	74.6	80.1	73.6	63.59	43.91	42.88	69.82	65.48	46
DCR 0487	1	80.1	75.4	86.3	81.6	88.0	80.9	81.1	74.6	80.1	73.6	89.95	62.11	60.65	98.76	92.62	46
DCR 0489	1	80.1	75.4	86.3	81.6	88.0	80.9	81.1	74.6	80.1	73.6	148.28	102.39	99.98	162.81	152.67	46
DCR 04811	1	80.1	75.4	86.3	81.6	88.0	80.9	81.1	74.6	80.1	73.6	176.70	122.01	119.15	194.01	181.94	46
DCR 04813	1	80.1	75.4	86.3	81.6	88.0	80.9	81.1	74.6	80.1	73.6	172.98	119.44	116.64	189.93	178.11	46
DCR 04817	1	80.1	75.4	86.3	81.6	88.0	80.9	81.1	74.6	80.1	73.6	229.70	158.61	154.88	252.21	236.51	46
DCR 04821	1	80.1	75.4	86.3	81.6	88.0	80.9	81.1	74.6	80.1	73.6	287.09	198.23	193.58	315.22	295.60	46
DCR 0967	2	160.2	150.9	172.7	163.1	175.9	161.7	162.3	149.3	160.2	147.3	121.81	84.11	82.14	133.75	125.42	46
DCR 0969	2	160.2	150.9	172.7	163.1	175.9	161.7	162.3	149.3	160.2	147.3	173.20	119.59	116.78	190.17	178.33	46
DCR 09611	2	160.2	150.9	172.7	163.1	175.9	161.7	162.3	149.3	160.2	147.3	196.80	135.89	132.70	216.08	202.63	46
DCR 09613	2	160.2	150.9	172.7	163.1	175.9	161.7	162.3	149.3	160.2	147.3	234.26	161.75	157.96	257.21	241.20	46
DCR 09617	2	160.2	150.9	172.7	163.1	175.9	161.7	162.3	149.3	160.2	147.3	311.07	214.79	209.75	341.55	320.29	35[3]) / 46[4])
DCR 1449	3	240.3	226.3	259.0	244.7	263.9	242.6	243.4	223.9	240.3	220.9	193.08	133.32	130.19	211.99	198.80	35[3]) / 46[4])
DCR 14411	3	240.3	226.3	259.0	244.7	263.9	242.6	243.4	223.9	240.3	220.9	239.14	165.12	161.24	262.56	246.22	35[3]) / 46[4])
DCR 14413	3	240.3	226.3	259.0	244.7	263.9	242.6	243.4	223.9	240.3	220.9	284.65	196.55	191.93	312.54	293.09	35[3]) / 46[4])
DCR 14417	3	240.3	226.3	259.0	244.7	263.9	242.6	243.4	223.9	240.3	220.9	377.99	261.00	254.87	415.02	389.19	28[3]) / 40[4])
DCR 19211	4	320.4	301.7	345.3	326.2	351.8	323.4	324.6	298.5	320.5	294.5	275.14	189.98	185.52	302.09	283.29	28[3]) / 40[4])
DCR 19213	4	320.4	301.7	345.3	326.2	351.8	323.4	324.6	298.5	320.5	294.5	327.51	226.14	220.83	359.59	337.21	28[3]) / 40[4])
DCR 19217	4	320.4	301.7	345.3	326.2	351.8	323.4	324.6	298.5	320.5	294.5	465.33	321.30	313.76	510.91	479.12	28[3]) / 40[4])

[1]) Drying capacity is based on following moisture content test standards before and after drying:
– R134a: 1050 – 50 ppm W
– R404A, R507: 1020 – 50 ppm W
– R407C: 1020 – 50 ppm W
– R410A: 1050 – 50 ppm W
In accordance with ARI 710-2004

[2]) Given in accordance with ARI 710-2004 for:
t_e = -15 °C
t_c = 30 °C
Δp = 0.07 bar

[3]) For usage with strainer or as a receiver application
[4]) For "drier" application using all the permissible cores

Technical data and ordering

DCR - Filter drier with replaceable solid core

Drying and liquid capacity, type 48-DM (US units)

Type	Number of cores	Drying capacity [lb] of refrigerant [1]										Liquid capacity [TR] [2]					Max. working pressure MWP [psig]
		R134a		R404A		R507		R407C		R410A							
		[°F]															
		75	125	75	125	75	125	75	125	75	125	R134a	R404A	R507	R407C	R410A	
DCR 0485	1	176.6	166.3	190.3	179.8	193.9	178.3	178.9	164.5	176.6	162.3	18.17	12.55	12.25	19.95	18.71	667
DCR 0487	1	176.6	166.3	190.3	179.8	193.9	178.3	178.9	164.5	176.6	162.3	25.70	17.75	17.33	28.22	26.46	667
DCR 0489	1	176.6	166.3	190.3	179.8	193.9	178.3	178.9	164.5	176.6	162.3	42.37	29.25	28.57	46.52	43.62	667
DCR 04811	1	176.6	166.3	190.3	179.8	193.9	178.3	178.9	164.5	176.6	162.3	50.49	34.86	34.04	55.43	51.98	667
DCR 04813	1	176.6	166.3	190.3	179.8	193.9	178.3	178.9	164.5	176.6	162.3	49.42	34.13	33.33	54.27	50.89	667
DCR 04817	1	176.6	166.3	190.3	179.8	193.9	178.3	178.9	164.5	176.6	162.3	65.63	45.32	44.25	72.06	67.57	667
DCR 04821	1	176.6	166.3	190.3	179.8	193.9	178.3	178.9	164.5	176.6	162.3	82.03	56.64	55.31	90.06	84.46	667
DCR 0967	2	353.2	332.6	380.7	359.6	387.8	356.5	357.8	329.1	353.2	324.7	34.80	24.03	23.47	38.21	35.84	667
DCR 0969	2	353.2	332.6	380.7	359.6	387.8	356.5	357.8	329.1	353.2	324.7	49.49	34.17	33.37	54.33	50.95	667
DCR 09611	2	353.2	332.6	380.7	359.6	387.8	356.5	357.8	329.1	353.2	324.7	56.23	38.83	37.91	61.74	57.90	667
DCR 09613	2	353.2	332.6	380.7	359.6	387.8	356.5	357.8	329.1	353.2	324.7	66.93	46.22	45.13	73.49	68.92	667
DCR 09617	2	353.2	332.6	380.7	359.6	387.8	356.5	357.8	329.1	353.2	324.7	88.88	61.37	59.93	97.58	91.51	667
DCR 1449	3	529.7	498.9	571.0	539.4	581.8	534.8	536.7	493.6	529.9	487.0	55.16	38.09	37.20	60.57	56.80	507[3]) / 667[4])
DCR 14411	3	529.7	498.9	571.0	539.4	581.8	534.8	536.7	493.6	529.9	487.0	68.32	47.18	46.07	75.02	70.35	507[3]) / 667[4])
DCR 14413	3	529.7	498.9	571.0	539.4	581.8	534.8	536.7	493.6	529.9	487.0	81.33	56.16	54.84	89.30	83.74	507[3]) / 667[4])
DCR 14417	3	529.7	498.9	571.0	539.4	581.8	534.8	536.7	493.6	529.9	487.0	108.00	74.57	72.82	118.58	111.20	507[3]) / 667[4])
DCR 19211	4	706.3	665.1	761.3	719.2	775.7	713.1	715.5	658.1	706.5	649.3	78.61	54.28	53.01	86.31	80.94	406[3]) / 580[4])
DCR 19213	4	706.3	665.1	761.3	719.2	775.7	713.1	715.5	658.1	706.5	649.3	93.57	64.61	63.09	102.74	96.35	406[3]) / 580[4])
DCR 19217	4	706.3	665.1	761.3	719.2	775.7	713.1	715.5	658.1	706.5	649.3	132.95	91.80	89.65	145.98	136.89	406[3]) / 580[4])

[1]) Drying capacity is based on the following moisture contents before and after drying:
– R134a: 1050 – 50 ppm W
– R404A, R507: 1020 – 50 ppm W
– R407C: 1020 – 50 ppm W
– R410A: 1050 – 50 ppm W
In accordance with ARI 710-2004

[2]) Liquid capacity given in accordance with ARI 710-2002 evaporating temperature:
t_e = 5 °F
t_c = 86 °F
Δp = 1 psig

[3]) For usage with strainer or as a receiver application
[4]) For "drier" application using all the permissible cores

Technical data and ordering

DCR - Filter drier with replaceable solid core

Drying and liquid capacity, type 48-DC (SI units)

Type	Number of cores	Drying capacity [kg] of refrigerant [1]										Liquid capacity [kW] [2]					Max. working pressure PS [bar]
		R134a		R404A		R507		R407C		R410A		R134a	R404A	R507	R22 / R407C	R410A	
		[°C]															
		24	52	24	52	24	52	24	52	24	52						
DCR 0485	1	62.4	58.8	67.3	63.6	68.6	63.0	63.2	58.2	62.4	57.4	63.59	43.91	42.88	69.82	65.48	46
DCR 0487	1	62.4	58.8	67.3	63.6	68.6	63.0	63.2	58.2	62.4	57.4	89.95	62.11	60.65	98.76	92.62	46
DCR 0489	1	62.4	58.8	67.3	63.6	68.6	63.0	63.2	58.2	62.4	57.4	148.28	102.39	99.98	162.81	152.67	46
DCR 04811	1	62.4	58.8	67.3	63.6	68.6	63.0	63.2	58.2	62.4	57.4	176.70	122.01	119.15	194.01	181.94	46
DCR 04813	1	62.4	58.8	67.3	63.6	68.6	63.0	63.2	58.2	62.4	57.4	172.98	119.44	116.64	189.93	178.11	46
DCR 04817	1	62.4	58.8	67.3	63.6	68.6	63.0	63.2	58.2	62.4	57.4	229.70	158.61	154.88	252.21	236.51	46
DCR 04821	1	62.4	58.8	67.3	63.6	68.6	63.0	63.2	58.2	62.4	57.4	287.09	198.23	193.58	315.22	295.60	46
DCR 0967	2	124.9	117.6	134.6	127.1	137.1	126.1	126.5	116.3	124.9	114.8	121.81	84.11	82.14	133.75	125.42	46
DCR 0969	2	124.9	117.6	134.6	127.1	137.1	126.1	126.5	116.3	124.9	114.8	173.20	119.59	116.78	190.17	178.33	46
DCR 09611	2	124.9	117.6	134.6	127.1	137.1	126.1	126.5	116.3	124.9	114.8	196.80	135.89	132.70	216.08	202.63	46
DCR 09613	2	124.9	117.6	134.6	127.1	137.1	126.1	126.5	116.3	124.9	114.8	234.26	161.75	157.96	257.21	241.20	46
DCR 09617	2	124.9	117.6	134.6	127.1	137.1	126.1	126.5	116.3	124.9	114.8	311.07	214.79	209.75	341.55	320.29	35[3]) / 46[4])
DCR 1449	3	187.3	176.4	201.9	190.7	205.7	189.1	189.7	174.5	187.3	172.2	193.08	133.32	130.19	211.99	198.80	35[3]) / 46[4])
DCR 14411	3	187.3	176.4	201.9	190.7	205.7	189.1	189.7	174.5	187.3	172.2	239.14	165.12	161.24	262.56	246.22	35[3]) / 46[4])
DCR 14413	3	187.3	176.4	201.9	190.7	205.7	189.1	189.7	174.5	187.3	172.2	284.65	196.55	191.93	312.54	293.09	35[3]) / 46[4])
DCR 14417	3	187.3	176.4	201.9	190.7	205.7	189.1	189.7	174.5	187.3	172.2	377.99	261.00	254.87	415.02	389.19	28[3]) / 40[4])
DCR 19211	4	249.7	235.2	269.2	254.3	274.3	252.1	253.0	232.7	249.8	229.6	275.14	189.98	185.52	302.09	283.29	28[3]) / 40[4])
DCR 19213	4	249.7	235.2	269.2	254.3	274.3	252.1	253.0	232.7	249.8	229.6	327.51	226.14	220.83	359.59	337.21	28[3]) / 40[4])
DCR 19217	4	249.7	235.2	269.2	254.3	274.3	252.1	253.0	232.7	249.8	229.6	465.33	321.30	313.76	510.91	479.12	28[3]) / 40[4])
DCR 19221	4	258.9	244.7	278.3	263.8	283.2	261.7	259.4	239.7	236.1	217.6	442.5	321.7	311.7	460.2	475.8	28[3]) / 40[4])

[1]) Drying capacity is based on following moisture content test standards before and after drying:
– R134a: 1050 – 50 ppm W
– R404A, R507: 1020 – 50 ppm W
– R407C: 1020 – 50 ppm W
– R410A: 1050 – 50 ppm W
In accordance with ARI 710-2004

[2]) Given in accordance with ARI 710-2004 for:
t_e = -15 °C
t_c = 30 °C
Δp = 0.07 bar

[3]) For usage with strainer or as a receiver application
[4]) For "drier" application using all the permissible cores

Technical data and ordering

DCR - Filter drier with replaceable solid core

Drying and liquid capacity, type 48-DC (US units)

Type	Number of cores	Drying capacity [lb] of refrigerant [1]										Liquid capacity [TR] [2]					Max. working pressure MWP [psig]
		R134a		R404A		R507		R407C		R410A		R134a	R404A	R507	R407C	R410A	
		[°F]															
		75	125	75	125	75	125	75	125	75	125						
DCR 0485	1	137.6	129.6	148.4	140.1	151.2	139.0	139.4	128.2	137.7	126.5	18.17	12.55	12.25	19.95	18.71	667
DCR 0487	1	137.6	129.6	148.4	140.1	151.2	139.0	139.4	128.2	137.7	126.5	25.70	17.75	17.33	28.22	26.46	667
DCR 0489	1	137.6	129.6	148.4	140.1	151.2	139.0	139.4	128.2	137.7	126.5	42.37	29.25	28.57	46.52	43.62	667
DCR 04811	1	137.6	129.6	148.4	140.1	151.2	139.0	139.4	128.2	137.7	126.5	50.49	34.86	34.04	55.43	51.98	667
DCR 04813	1	137.6	129.6	148.4	140.1	151.2	139.0	139.4	128.2	137.7	126.5	49.42	34.13	33.33	54.27	50.89	667
DCR 04817	1	137.6	129.6	148.4	140.1	151.2	139.0	139.4	128.2	137.7	126.5	65.63	45.32	44.25	72.06	67.57	667
DCR 04821	1	137.6	129.6	148.4	140.1	151.2	139.0	139.4	128.2	137.7	126.5	82.03	56.64	55.31	90.06	84.46	667
DCR 0967	2	275.3	259.2	296.7	280.3	302.3	277.9	278.9	256.5	275.4	253.1	34.80	24.03	23.47	38.21	35.84	667
DCR 0969	2	275.3	259.2	296.7	280.3	302.3	277.9	278.9	256.5	275.4	253.1	49.49	34.17	33.37	54.33	50.95	667
DCR 09611	2	275.3	259.2	296.7	280.3	302.3	277.9	278.9	256.5	275.4	253.1	56.23	38.83	37.91	61.74	57.90	667
DCR 09613	2	275.3	259.2	296.7	280.3	302.3	277.9	278.9	256.5	275.4	253.1	66.93	46.22	45.13	73.49	68.92	667
DCR 09617	2	275.3	259.2	296.7	280.3	302.3	277.9	278.9	256.5	275.4	253.1	88.88	61.37	59.93	97.58	91.51	667
DCR 1449	3	412.9	388.9	445.1	420.4	453.5	416.9	418.3	384.7	413.0	379.6	55.16	38.09	37.20	60.57	56.80	507[3]) / 667[4])
DCR 14411	3	412.9	388.9	445.1	420.4	453.5	416.9	418.3	384.7	413.0	379.6	68.32	47.18	46.07	75.02	70.35	507[3]) / 667[4])
DCR 14413	3	412.9	388.9	445.1	420.4	453.5	416.9	418.3	384.7	413.0	379.6	81.33	56.16	54.84	89.30	83.74	507[3]) / 667[4])
DCR 14417	3	412.9	388.9	445.1	420.4	453.5	416.9	418.3	384.7	413.0	379.6	108.00	74.57	72.82	118.58	111.20	507[3]) / 667[4])
DCR 19211	4	550.6	518.5	593.4	560.6	604.6	555.8	557.8	513.0	550.7	506.1	78.61	54.28	53.01	86.31	80.94	406[3]) / 580[4])
DCR 19213	4	550.6	518.5	593.4	560.6	604.6	555.8	557.8	513.0	550.7	506.1	93.57	64.61	63.09	102.74	96.35	406[3]) / 580[4])
DCR 19217	4	550.6	518.5	593.4	560.6	604.6	555.8	557.8	513.0	550.7	506.1	132.95	91.80	89.65	145.98	136.89	406[3]) / 580[4])

[1]) Drying capacity is based on the following moisture contents before and after drying:
– R134a: 1050 – 50 ppm W
– R404A, R507: 1020 – 50 ppm W
– R407C: 1020 – 50 ppm W
– R410A: 1050 – 50 ppm W
In accordance with ARI 710-2004

[2]) Liquid capacity given in accordance with ARI 710-2004
t_e = 5 °F
t_c = 86 °F
Δp = 1 psig

[3]) For usage with strainer or as a receiver application
[4]) For "drier" application using all the permissible cores

Technical data and ordering

DCR - Filter drier with replaceable solid core

Drying capacity [g] of water [3]), type 48-DA (SI units)

Type	Number of cores	Evaporating temperature t_e [°C]												Acid capacity [4]) [g]
		-40	-20	4.4	-30	-20	4.4	-40	-20	4.4	-40	-20	4.4	
		R407C			R134a			R404A / R507			R410A			
DCR 048	1	28	19	12	45	38	27	47	30	19	42	35	25	26.6
DCR 096	2	56	37	24	90	77	54	94	60	37	84	70	50	53.3
DCR 144	3	84	56	36	135	115	81	142	90	56	126	105	75	79.9
DCR 192	4	112	74	48	180	153	108	189	120	75	168	140	100	106.5

[3]) Drying capacity is expressed during drying in:
R134a: EPD = 50 ppm W, corresponding to a dew point temperature = -37 °C
R404A: EPD = 10 ppm W, corresponding to a dew point temperature = -40 °C
R407C: EPD = 10 ppm W, corresponding to a dew point temperature = -40 °C
[4]) Adsorption capacity of oleic acid at 0.05 TAN (Total Acid Number)

DCR - Filter drier with replaceable solid core

Drying capacity [lb] of refrigerant [3]), type 48-DA (US units)

Type	Number of cores	Evaporating temperature t_e [°F]												Acid capacity [4]) [g]
		-40	-4	40	-22	-4	40	-40	-4	40	-40	-4	40	
		R407C			R134a			R404A / R507			R410A			
DCR 048	1	28	19	12	45	38	27	47	30	19	42	35	25	0.94
DCR 096	2	56	37	24	90	77	54	94	60	37	84	70	50	1.88
DCR 144	3	84	56	36	135	115	81	142	90	56	126	105	75	2.82
DCR 192	4	112	74	48	180	153	108	189	120	75	168	140	100	3.76

[3]) Drying capacity is expressed during drying in:
R134a: EPD = 50 ppm W, corresponding to a dew point temperature = -34.6 °F
R404A: EPD = 10 ppm W, corresponding to a dew point temperature = -40 °F
R407C: EPD = 10 ppm W, corresponding to a dew point temperature = -40 °F
[4]) Adsorption capacity of oleic acid at 0.05 TAN (Total Acid Number)

DCR - Filter drier with replaceable solid core

Recommended plant capacity [kW] in suction line - burn-out, type 48-DA (SI units)

Type	Evaporating temperature t_e [°C]											
	-40	-20	4.4	-30	-20	4.4	-40	-20	4.4	-40	-20	4.4
	Pressure drop Δp [bar]											
	0.04	0.10	0.21	0.04	0.07	0.14	0.04	0.10	0.21	0.04	0.10	0.21
	R407C			R134a			R404A / R507			R410A		
DCR 0485	3.1	8.9	21.0	3.0	5.4	13.0	2.4	7.1	17.5	3.1	8.9	21.0
DCR 0487	5.8	16.1	37.8	5.6	9.9	23.4	4.5	12.9	31.2	5.8	16.1	37.8
DCR 0489	7.8	21.6	50.7	7.5	13.3	31.5	6.0	17.2	41.8	7.8	21.6	50.7
DCR 04811	10.0	27.3	63.3	9.6	16.8	39.5	7.7	21.8	51.9	10.0	27.3	63.3
DCR 04813	10.0	27.3	63.3	9.6	16.8	39.5	7.7	21.8	51.9	10.0	27.3	63.3
DCR 04817	10.0	27.3	63.3	9.6	16.8	39.5	7.7	21.8	51.9	10.0	27.3	63.3
DCR 04821	10.0	27.3	63.3	9.6	16.8	39.5	7.7	21.8	51.9	10.0	27.3	63.3
DCR 0965	3.3	9.1	21.4	3.2	5.7	13.4	2.5	7.4	18.0	3.3	9.2	21.6
DCR 0967	5.8	16.2	38.1	5.6	9.9	23.6	4.5	12.9	31.4	5.8	16.2	38.1
DCR 0969	8.7	24.6	58.3	8.4	15.0	35.9	6.8	19.7	48.1	8.7	24.6	58.3
DCR 09611	11.9	33.4	79.3	11.4	20.4	48.9	9.3	26.8	65.4	11.9	33.4	79.3
DCR 09613	14.1	39.9	95.2	13.6	24.3	58.5	11.0	32.0	78.7	14.1	39.9	95.2
DCR 09617	14.1	39.9	95.2	13.6	24.3	58.5	11.0	32.0	78.7	14.1	39.9	95.2
DCR 09621	14.1	39.9	95.2	13.6	24.3	58.5	11.0	32.0	78.7	14.1	39.9	95.2
DCR 1445	3.5	10.0	22.8	3.4	6.0	14.0	2.7	7.7	18.9	3.5	10.0	22.8
DCR 1447	6.6	18.9	42.9	6.3	11.2	26.4	5.1	14.5	35.6	6.6	18.9	42.9
DCR 1449	8.8	25.1	57.2	8.4	15.0	35.2	6.8	19.4	47.5	8.8	25.1	57.2
DCR 14411	13.2	38.1	92.2	12.7	23.0	56.2	10.3	30.7	76.6	13.2	38.1	92.2
DCR 14413	13.2	38.1	92.2	12.7	23.0	56.2	10.3	30.7	76.6	13.2	38.1	92.2
DCR 14417	13.2	38.1	92.2	12.7	23.0	56.2	10.3	30.7	76.6	13.2	38.1	92.2
DCR 14421	13.2	38.1	92.2	12.7	23.0	56.2	10.3	30.7	76.6	13.2	38.1	92.2
DCR 1925	4.2	11.5	27.3	4.0	7.1	16.8	3.2	9.2	22.7	4.2	11.5	27.3
DCR 1927	7.9	21.6	51.4	7.6	13.4	31.6	6.1	17.4	42.7	7.9	21.6	51.4
DCR 1929	10.6	28.9	68.9	10.2	18.0	42.1	8.2	23.3	57.2	10.6	28.9	68.9
DCR 19211	14.8	41.8	99.4	14.3	25.5	61.2	11.6	33.6	82.2	14.8	41.8	99.4
DCR 19213	18.0	51.1	122.1	17.4	31.1	75.0	14.1	41.1	101.0	18.0	51.1	122.1
DCR 19217	18.0	51.1	122.1	17.4	31.1	75.0	14.1	41.1	101.0	18.0	51.1	122.1
DCR 19221	18.0	51.1	122.1	17.4	31.1	75.0	14.1	41.1	101.0	18.0	51.1	122.1

Data given in a accordance with ARI-Standard 710-2004 for:
t_e = 4.4 °C
t_c = 32.2 °C

Technical data and ordering

DCR - Filter drier with replaceable solid core

Recommended plant capacity [TR], type 48-DA (US units)

Type	Evaporating temperature t_e [°F]											
	-40	-4	40	-22	-4	40	-40	-4	40	-40	-4	40
	Pressure drop [psig]											
	0.58	1.45	3.05	0.58	1	2.03	0.58	1.45	3.05	0.58	1.45	3.05
	R407C			R134a			R404A / R507			R410A		
DCR 0485	0.9	2.5	6.0	0.9	1.5	3.7	0.7	2.0	5.0	0.9	2.5	6.0
DCR 0487	1.6	4.6	10.7	1.6	2.8	6.7	1.3	3.7	8.9	1.6	4.6	10.7
DCR 0489	2.2	6.1	14.4	2.1	3.8	9.0	1.7	4.9	11.9	2.2	6.1	14.4
DCR 04811	2.8	7.8	18.0	2.7	4.8	11.2	2.2	6.2	14.8	2.8	7.8	18.0
DCR 04813	2.8	7.8	18.0	2.7	4.8	11.2	2.2	6.2	14.8	2.8	7.8	18.0
DCR 04817	2.8	7.8	18.0	2.7	4.8	11.2	2.2	6.2	14.8	2.8	7.8	18.0
DCR 04821	2.8	7.8	18.0	2.7	4.8	11.2	2.2	6.2	14.8	2.8	7.8	18.0
DCR 0965	0.9	2.6	6.1	0.9	1.6	3.8	0.7	2.1	5.1	0.9	2.6	6.1
DCR 0967	1.6	4.6	10.8	1.6	2.8	6.7	1.3	3.7	8.9	1.6	4.6	10.8
DCR 0969	2.5	7.0	16.6	2.4	4.3	10.2	1.9	5.6	13.7	2.5	7.0	16.6
DCR 09611	3.4	9.5	22.5	3.2	5.8	13.9	2.6	7.6	18.6	3.4	9.5	22.5
DCR 09613	4.0	11.3	27.1	3.9	6.9	16.6	3.1	9.1	22.4	4.0	11.3	27.1
DCR 09617	4.0	11.3	27.1	3.9	6.9	16.6	3.1	9.1	22.4	4.0	11.3	27.1
DCR 09621	4.0	11.3	27.1	3.9	6.9	16.6	3.1	9.1	22.4	4.0	11.3	27.1
DCR 1445	1.0	2.8	6.5	1.0	1.7	4.0	0.8	2.2	5.4	1.0	2.8	6.5
DCR 1447	1.9	5.4	12.2	1.8	3.2	7.5	1.5	4.1	10.1	1.9	5.4	12.2
DCR 1449	2.5	7.1	16.3	2.4	4.3	10.0	1.9	5.5	13.5	2.5	7.1	16.3
DCR 14411	3.8	10.8	26.2	3.6	6.5	16.0	2.9	8.7	21.8	3.8	10.8	26.2
DCR 14413	3.8	10.8	26.2	3.6	6.5	16.0	2.9	8.7	21.8	3.8	10.8	26.2
DCR 14417	3.8	10.8	26.2	3.6	6.5	16.0	2.9	8.7	21.8	3.8	10.8	26.2
DCR 14421	3.8	10.8	26.2	3.6	6.5	16.0	2.9	8.7	21.8	3.8	10.8	26.2
DCR 1925	1.2	3.3	7.8	1.1	2.0	4.8	0.9	2.6	6.5	1.2	3.3	7.8
DCR 1927	2.2	6.1	14.6	2.2	3.8	9.0	1.7	4.9	12.1	2.2	6.1	14.6
DCR 1929	3.0	8.2	19.6	2.9	5.1	12.0	2.3	6.6	16.3	3.0	8.2	19.6
DCR 19211	4.2	11.9	28.3	4.1	7.3	17.4	3.3	9.6	23.4	4.2	11.9	28.3
DCR 19213	5.1	14.5	34.7	4.9	8.8	21.3	4.0	11.7	28.7	5.1	14.5	34.7
DCR 19217	5.1	14.5	34.7	4.9	8.8	21.3	4.0	11.7	28.7	5.1	14.5	34.7
DCR 19221	5.1	14.5	34.7	4.9	8.8	21.3	4.0	11.7	28.7	5.1	14.5	34.7

Data given in accordance with ARI-Standard 710-2002 for:
t_e = 40 °F
t_c = 90 °F

Strainer mounted in suction line, type 48-F (SI units)

Refrigerant	R407C			R134a			R404A / R507			R410A		
Evaporating temperature [°C]	-40	-20	4.4	-30	-20	4.4	-40	-20	4.4	-40	-20	4.4
Pressure drop Δp [bar]	0.04	0.10	0.21	0.04	0.07	0.14	0.04	0.10	0.21	0.04	0.10	0.21
Recommended system capacity [kW]	15	47	113	15	28	69	12	38	93	15	47	113

Strainer mounted in liquid line

Refrigerant	R22 / R407C	R134a	R404A / R507	R410A
Recommended system capacity [kW]	390	350	260	390

The data given apply to DCR 04811 with 48-F-core
Liquid capacity is given in accordance with 710-2004 for:
t_e = -15 °C
t_c = 30 °C
Δp = 0.07 bar

Strainer mounted in suction line, type 48-F (US units)

Refrigerant	R407C			R134a			R404A / R507			R410A		
Evaporating temperature [°F]	-40	-4	40	-22	-4	40	-40	-4	40	-40	-4	40
Pressure drop Δp [psig]	0.59	1.47	3.09	0.59	1.03	2.06	0.59	1.47	3.09	0.59	1.47	3.09
Recommended system capacity [TR]	4	13	32	4	8	20	3	11	26	4	13	32

Strainer mounted in liquid line

Refrigerant	R407C	R134a	R404A / R507	R410A
Recommended system capacity [TR]	111	100	74	111

The data given apply to DCR 04811 with 48-F core
Liquid capacity is given in accordance with ARI 710-2002 for:
t_e = 5 °F
t_c = 86 °F
Δp = 1 psi

Technical data and ordering

DCR - Filter drier with replaceable solid core

Housing + top cover

Type	Number of cores	Steel connectors			Cover type	Max. working pressure PS [bar]	Max. working pressure MWP [psig]	Code no.
		Solder		Butt weld				
		ODF [in]	ODF [mm]	[in]				
DCR 0485	1	5/8	16	1/2	Plug	46	667	023U7050
DCR 0487	1	7/8	22	3/4	Plug	46	667	023U7051
DCR 0487	1	7/8	22	3/4	–	46	667	023U7151
DCR 0489	1	–	28	1	Plug	46	667	023U7052
DCR 0489	1	1 1/8	–	1	Plug	46	667	023U7053
DCR 04811	1	1 3/8	35	1 1/4	Plug	46	667	023U7054
DCR 04813	1	1 5/8	–	1 1/2	Plug	46	667	023U7055
DCR 04813	1	–	42	1 1/2	Plug	46	667	023U7056
DCR 04817	1	2 1/8	54	2	Plug	46	667	023U7057
DCR 04821	1	2 5/8	–	2 1/2	Plug	46	667	023U7076
DCR 0967	2	7/8	22	3/4	Plug	46	667	023U7058
DCR 0969	2	–	28	1	Plug	46	667	023U7059
DCR 0969	2	1 1/8	–	1	Plug	46	667	023U7060
DCR 09611	2	1 3/8	35	1 1/4	Plug	46	667	023U7061
DCR 09611	2	1 3/8	35	1 1/4	–	46	667	023U7161
DCR 09613	2	1 5/8	–	1 1/2	Plug	46	667	023U7062
DCR 09613	2	–	42	1 1/2	Plug	46	667	023U7063
DCR 09617	2	2 1/8	54	2	Plug	46	667	023U7064
DCR 1449	3	–	28	1	Plug	35[1]) / 46[2])	507[1]) / 667[2])	023U7065
DCR 1449	3	1 1/8	–	1	Plug	35[1]) / 46[2])	507[1]) / 667[2])	023U7066
DCR 14411	3	1 3/8	35	1 1/4	Plug	35[1]) / 46[2])	507[1]) / 667[2])	023U7067
DCR 14413	3	1 5/8	–	1 1/2	Plug	35[1]) / 46[2])	507[1]) / 667[2])	023U7068
DCR 14413	3	–	42	1 1/2	Plug	35[1]) / 46[2])	507[1]) / 667[2])	023U7069
DCR 14417	3	2 1/8	54	2	Plug	35[1]) / 46[2])	507[1]) / 667[2])	023U7070
DCR 19211	4	1 3/8	35	1 1/4	Plug	28[1]) / 40[2])	406[1]) / 580[2])	023U7071
DCR 19213	4	1 5/8	–	1 1/2	Plug	28[1]) / 40[2])	406[1]) / 580[2])	023U7072
DCR 19213	4	–	42	1 1/2	Plug	28[1]) / 40[2])	406[1]) / 580[2])	023U7073
DCR 19217	4	2 1/8	54	2	Plug	28[1]) / 40[2])	406[1]) / 580[2])	023U7074
DCR 19221	4	2 5/8	–	2 1/2	Plug	28[1]) / 40[2])	406[1]) / 580[2])	023U7086

[1]) For usage with strainer or as a receiver application
[2]) For "drier" application all the permissible cores

Technical data and ordering

DCR - Filter drier with replaceable solid core

Housing + top cover

Type	Number of cores	Copper connectors		Cover type	Max. working pressure PS [bar]	Max. working pressure MWP [psig]	Code no.
		Solder					
		ODF [in]	ODF [mm]				
DCR 0485s	1	5/8	16	Plug	46	667	023U7250
DCR 0487s	1	7/8	22	Plug	46	667	023U7251
DCR 0487s	1	7/8	22	–	46	667	023U7571
DCR 0489s	1	–	28	Plug	46	667	023U7252
DCR 0489s	1	1 1/8	–	Plug	46	667	023U7253
DCR 0489s	1	–	28	–	46	667	023U7268
DCR 04811s	1	1 3/8	35	Plug	46	667	023U7254
DCR 04813s	1	1 5/8	–	Plug	46	667	023U7255
DCR 04813s	1	–	42	Plug	46	667	023U7256
DCR 04813s	1	–	42	–	46	667	023U7303
DCR 04817s	1	2 1/8	54	Plug	46	667	023U7257
DCR 04821s	1	2 5/8	–	Plug	46	667	023U7276
DCR 0967s	2	7/8	22	Plug	46	667	023U7258
DCR 0969s	2	–	28	Plug	46	667	023U7259
DCR 0969s	2	1 1/8	–	Plug	46	667	023U7260
DCR 0969s	2	1 1/8	–	–	46	667	023U7278
DCR 09611s	2	1 3/8	35	Plug	46	667	023U7261
DCR 09613s	2	1 5/8	–	Plug	46	667	023U7262
DCR 09613s	2	–	42	Plug	46	667	023U7263
DCR 09613s	2	–	42	–	46	667	023U7463
DCR 09617s	2	2 1/8	54	Plug	46	667	023U7264
DCR 09617s	2	2 1/8	54	–	46	667	023U7290
DCR 09621s	2	2 5/8	–	Plug	46	667	023U7281
DCR 1449s	3	–	28	Plug	35[1]) / 46[2])	507[1]) / 667[2])	023U7265
DCR 14411s	3	1 3/8	35	Plug	35[1]) / 46[2])	507[1]) / 667[2])	023U7267
DCR 14411s	3	1 3/8	–	–	35[1]) / 46[2])	507[1]) / 667[2])	023U7275
DCR 14413s	3	1 5/8	–	Plug	35[1]) / 46[2])	507[1]) / 667[2])	023U7282
DCR 14413s	3	–	42	Plug	35[1]) / 46[2])	507[1]) / 667[2])	023U7269
DCR 14413s	3	1 5/8	42	–	35[1]) / 46[2])	507[1]) / 667[2])	023U7297
DCR 14417s	3	2 1/8	54	Plug	35[1]) / 46[2])	507[1]) / 667[2])	023U7270
DCR 19211s	4	1 3/8	–	–	28[1]) / 40[2])	406[1]) / 580[2])	023U7083
DCR 19213s	4	1 5/8	–	Plug	28[1]) / 40[2])	406[1]) / 580[2])	023U7272
DCR 19213s	4	–	42	Plug	28[1]) / 40[2])	406[1]) / 580[2])	023U7273
DCR 19213s	4	1 5/8	–	–	28[1]) / 40[2])	406[1]) / 580[2])	023U7082
DCR 19217s	4	2 1/8	54	Plug	28[1]) / 40[2])	406[1]) / 580[2])	023U7274

[1]) For usage with strainer or as a receiver application
[2]) For "drier" application all the permissible cores

Technical data and ordering


Solid core


Strainer

DCR - Inserts with gasket

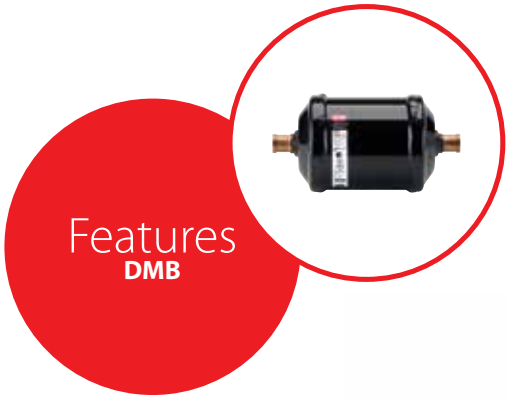
Ordering

Type	Material	Code no.		
		Industrial pack		Multi pack
		With gasket	Without gasket	With gasket
48-DM solid core	100% molecular sieve	023U1392	023U1393	023U1391
48-DC solid core	80% molecular sieve and 20% Al_3O_2	023U4381	023U4382	023U4380
48-DA solid core	30% molecular sieve and 70% Al_3O_2	023U5381	023U5382	023U5380
48-F strainer	Felt-gasket, 15 µm	023U1921	–	–

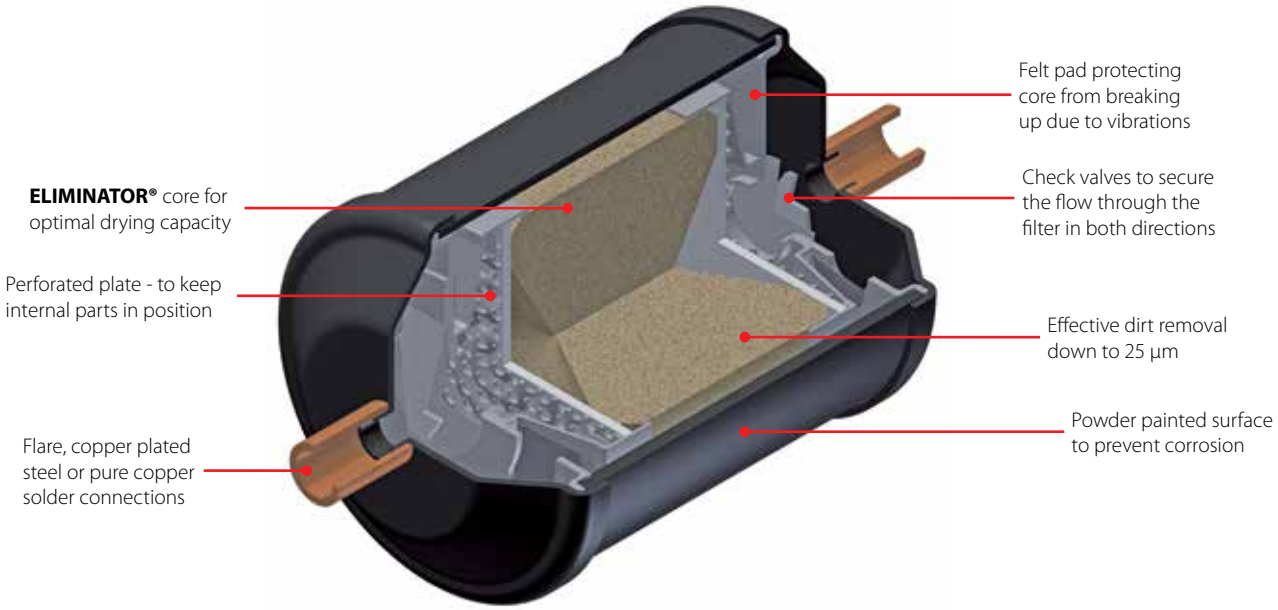
DMB, Hermetic bi-flow filter drier

DMB **ELIMINATOR®** hermetic bi-flow filter drier series are for use in liquid lines on heat pumps, and have built-in check valves to ensure that refrigerant liquid flows through the filter drier from the outer side of the filter core towards the center.
They ensure fast and effective adsorption of moisture as well as organic and inorganic acids, and all dirt particles are retained irrespective of flow direction.

DMB hermetic bi-flow filter driers contain a solid core consisting of 100% 3 Å Molecular Sieve, and are especially suitable for heat pumps with HFC refrigerants and polyolester oil with additives.



Features
DMB



Facts

Application:
- Traditional refrigeration
- Heat pumps
- Air conditioning units
- Applicable to R134A, R22, R404A, R407C, R410A, R407F, R1233zd, R1234ze, R290*), R600*), R32*), R454B*), R452B*), R444B*), R454A*), R450A*), R1234yf*)

**) Approved for Filter drier models with connection sizes less than 25 mm*

- No dirt released by reversing the flow direction
- The check valves are not sensitive to dirt and give minimum restriction, irrespective of flow direction
- When building heat pump systems, the use of hermetic bi-flow filter driers can save up to ten solder connections. This reduces production costs and the number of potential leakage points
- DMB filter driers are especially suitable for heat pumps with HFC refrigerant and polyolester oil with additives
- Optimum flow characteristics and dirt retention
- Available in sizes from 05 to 30 cubic inches
- Available with flare, solder (pure copper, cu-plated) connections

Technical data

DMB - Hermetic bi-flow filter drier

Drying and liquid capacity (SI units)

Type	Drying capacity [kg] of refrigerant [1]														Liquid capacity [kW] [2]							Max working pressure PS [bar]
	R134a		R404A		R507		R407C		R410A		R290		R32		R134a	R404A	R507	R407C	R410A	R290	R32	
	[°C]																					
	24	52	24	52	24	52	24	52	24	52	24	52	24	52								
DMB 053s	4.7	4.4	5.1	4.8	5.2	4.8	4.7	4.3	4.3	3.9	5.71	4.61	4.41	3.99	9.3	6.30	6.14	9.22	9.04	11.12	13.52	46.00
DMB 082 / 082s	8.7	8.1	9.3	8.8	9.5	8.7	8.7	8.0	7.8	7.2	10.49	8.47	8.09	7.33	5.6	3.78	3.68	5.54	5.42	6.68	8.11	46.00
DMB 083 / 083s	8.7	8.1	9.3	8.8	9.5	8.7	8.7	8.0	7.8	7.2	10.49	8.47	8.09	7.33	8.9	6.04	5.88	8.84	8.66	10.10	12.27	46.00
DMB 084 / 084s	8.7	8.1	9.3	8.8	9.5	8.7	8.7	8.0	7.8	7.2	10.49	8.47	8.09	7.33	11.3	7.62	7.43	11.17	10.94	13.30	16.45	46.00
DMB 162	16.3	15.4	17.6	16.6	17.9	16.5	16.3	15.0	14.8	13.6	19.79	15.98	15.27	13.83	6.3	4.27	4.16	6.26	6.13	7.54	9.17	46.00
DMB 163 / 163s	16.3	15.4	17.6	16.6	17.9	16.5	16.3	15.0	14.8	13.6	19.79	15.98	15.27	13.83	15.2	10.30	10.04	15.09	14.78	18.20	22.05	46.00
DMB 164 / 164s	16.3	15.4	17.6	16.6	17.9	16.5	16.3	15.0	14.8	13.6	19.79	15.98	15.27	13.83	21.5	14.54	14.17	21.29	20.86	25.55	31.15	46.00
DMB 165 / 165s	16.3	15.4	17.6	16.6	17.9	16.5	16.3	15.0	14.8	13.6	19.79	15.98	15.27	13.83	27.6	18.69	18.22	27.37	26.81	32.90	40.25	46.00
DMB 303	39.8	37.5	42.9	40.5	43.7	40.2	39.8	36.6	36.1	33.1	48.27	38.97	37.24	33.73	17.7	11.99	11.68	17.56	17.20	21.17	25.73	46.00
DMB 304 / 304s	39.8	37.5	42.9	40.5	43.7	40.2	39.8	36.6	36.1	33.1	48.27	38.97	37.24	33.73	21.4	14.53	14.16	21.28	20.84	25.55	31.15	46.00
DMB 305 / 305s	39.8	37.5	42.9	40.5	43.7	40.2	39.8	36.6	36.1	33.1	48.27	38.97	37.24	33.73	29.2	19.75	19.25	28.93	28.34	34.65	42.00	46.00
DMB 307s	39.8	37.5	42.9	40.5	43.7	40.2	39.8	36.6	36.1	33.1	48.27	38.97	37.24	33.73	41.2	27.91	27.21	40.88	40.04	49.30	59.92	46.00

[1]) Drying capacity is based on following moisture content test standards before and after drying:
- *– R134a: 1050 – 50 ppm W*
- *– R404A, R507: 1020 – 50 ppm W*
- *– R407C: 1020 – 50 ppm W*
- *– R410A: 1050 – 50 ppm W*
- *– R290: 565 – 15 ppm W*
- *– R32: 1040 – 50 ppm W*

In accordance with ARI 710-2004

[2]) Given in accordance with ARI 710-2004 for:
- $t_e = -15$ °C
- $t_c = 30$ °C
- $\Delta p = 0.07$ bar

DMB - Hermetic bi-flow filter drier

Drying and liquid capacity (US units)

Type	Drying capacity [lb] of refrigerant [1]														Liquid capacity [TR] [2]							Max. working pressure MWP [psig]
	R134a		R404A		R507		R407C		R410A		R290		R32		R134a	R404A	R507	R407C	R410A	R290	R32	
	[°F]																					
	75	125	75	125	75	125	75	125	75	125	75	125	75	125								
DMB 053s	10.4	9.8	11.2	10.6	11.4	10.5	10.4	9.5	9.4	8.6	9.7	8.8	9.4	8.6	2.7	1.80	1.75	2.64	2.58	3.18	3.86	667.00
DMB 082 / 082s	19.1	18.0	20.6	19.4	21.0	19.3	19.1	17.5	17.3	15.8	17.8	16.2	17.3	15.8	1.6	1.08	1.05	1.58	1.55	1.91	2.32	667.00
DMB 083 / 083s	19.1	18.0	20.6	19.4	21.0	19.3	19.1	17.5	17.3	15.8	17.8	16.2	17.3	15.8	2.5	1.72	1.68	2.53	2.47	2.89	3.51	667.00
DMB 084 / 084s	19.1	18.0	20.6	19.4	21.0	19.3	19.1	17.5	17.3	15.8	17.8	16.2	17.3	15.8	3.2	2.18	2.12	3.19	3.12	3.80	4.70	667.00
DMB 162	36.0	33.9	38.8	36.6	39.5	36.3	36.0	33.1	32.6	29.9	33.7	30.5	32.6	29.9	1.8	1.22	1.19	1.79	1.75	2.16	2.62	667.00
DMB 163 / 163s	36.0	33.9	38.8	36.6	39.5	36.3	36.0	33.1	32.6	29.9	33.7	30.5	32.6	29.9	4.3	2.94	2.87	4.31	4.22	5.20	6.30	667.00
DMB 164 / 164s	36.0	33.9	38.8	36.6	39.5	36.3	36.0	33.1	32.6	29.9	33.7	30.5	32.6	29.9	6.1	4.15	4.05	6.08	5.96	7.30	8.90	667.00
DMB 165 / 165s	36.0	33.9	38.8	36.6	39.5	36.3	36.0	33.1	32.6	29.9	33.7	30.5	32.6	29.9	7.9	5.34	5.20	7.82	7.66	9.40	11.50	667.00
DMB 303	87.8	82.7	94.6	89.4	96.4	88.6	87.8	80.7	79.6	72.9	82.1	74.4	79.6	72.9	5.1	3.42	3.34	5.02	4.91	6.05	7.35	667.00
DMB 304 / 304s	87.8	82.7	94.6	89.4	96.4	88.6	87.8	80.7	79.6	72.9	82.1	74.4	79.6	72.9	6.1	4.15	4.05	6.08	5.96	7.30	8.90	667.00
DMB 305 / 305s	87.8	82.7	94.6	89.4	96.4	88.6	87.8	80.7	79.6	72.9	82.1	74.4	79.6	72.9	8.3	5.64	5.50	8.27	8.10	9.90	12.00	667.00
DMB 307s	87.8	82.7	94.6	89.4	96.4	88.6	87.8	80.7	79.6	72.9	82.1	74.4	79.6	72.9	11.8	7.97	7.77	11.68	11.44	14.09	17.12	667.00

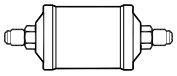
[1]) Drying capacity is based on following moisture content test standards before and after drying:
- *– R134a: 1050 – 50 ppm W*
- *– R404A, R507: 1020 – 50 ppm W*
- *– R407C: 1020 – 50 ppm W*
- *– R410A: 1050 – 50 ppm W*
- *– R290: 565 – 15 ppm W*
- *– R32: 1040 – 50 ppm W*

In accordance with ARI 710-2004

[2]) Given in accordance with ARI 710-2004 for:
- $t_e = 5$ °F
- $t_c = 85$ °F
- $\Delta p = 1$ psig

Ordering

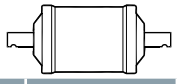
DMB - Flare



Ordering

Type	Connection		Code no.
	[in]	[mm]	
DMB 082	1/4	6	023Z1412
DMB 083	3/8	10	023Z1411
DMB 084	1/2	12	023Z1410
DMB 163	3/8	10	023Z1415
DMB 164	1/2	12	023Z1414
DMB 165	5/8	16	023Z1413
DMB 303	3/8	10	023Z1419
DMB 304	1/2	12	023Z1418
DMB 305	5/8	16	023Z1417

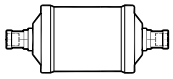
DMB - Solder (pure copper)



Ordering

Type	Connection	Code no.	Connection	Code no.
	[in]		[mm]	
DMB 082s	1/4	023Z1443	–	–
DMB 083s	3/8	023Z1442	10	023Z1424
DMB 084s	1/2	023Z1441	–	–
DMB 163s	3/8	023Z1446	10	023Z1422
DMB 164s	1/2	023Z1445	–	–
DMB 165s	5/8	023Z1444	–	–
DMB 304s	1/2	023Z1449	–	–
DMB 305s	5/8	023Z1448	–	–
DMB 307s	7/8	023Z1447	–	–

DMB - Solder (cu-plated)



Ordering

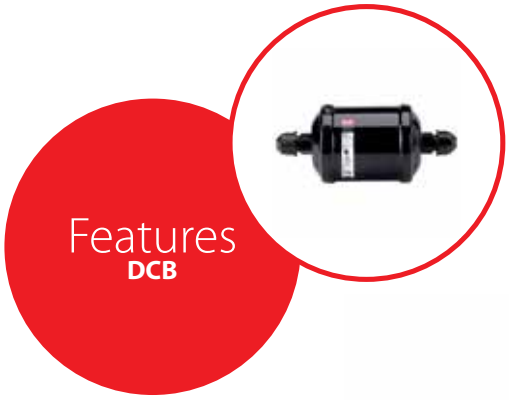
Type	Connection	Code no.	Connection	Code no.
	[in]		[mm]	
DMB 082s	1/4	023Z1473	6	023Z1461
DMB 083s	3/8	023Z1472	10	023Z1459
DMB 084s	1/2	023Z1471	12	023Z1457
DMB 163s	3/8	023Z1476	10	023Z1455
DMB 164s	1/2	023Z1475	12	023Z1453
DMB 165s	5/8	023Z1474	–	–
DMB 303s	3/8	023Z1481	–	–
DMB 304s	1/2	023Z1479	12	023Z1451
DMB 305s	5/8	023Z1478	–	–
DMB 307s	7/8	023Z1477	–	–

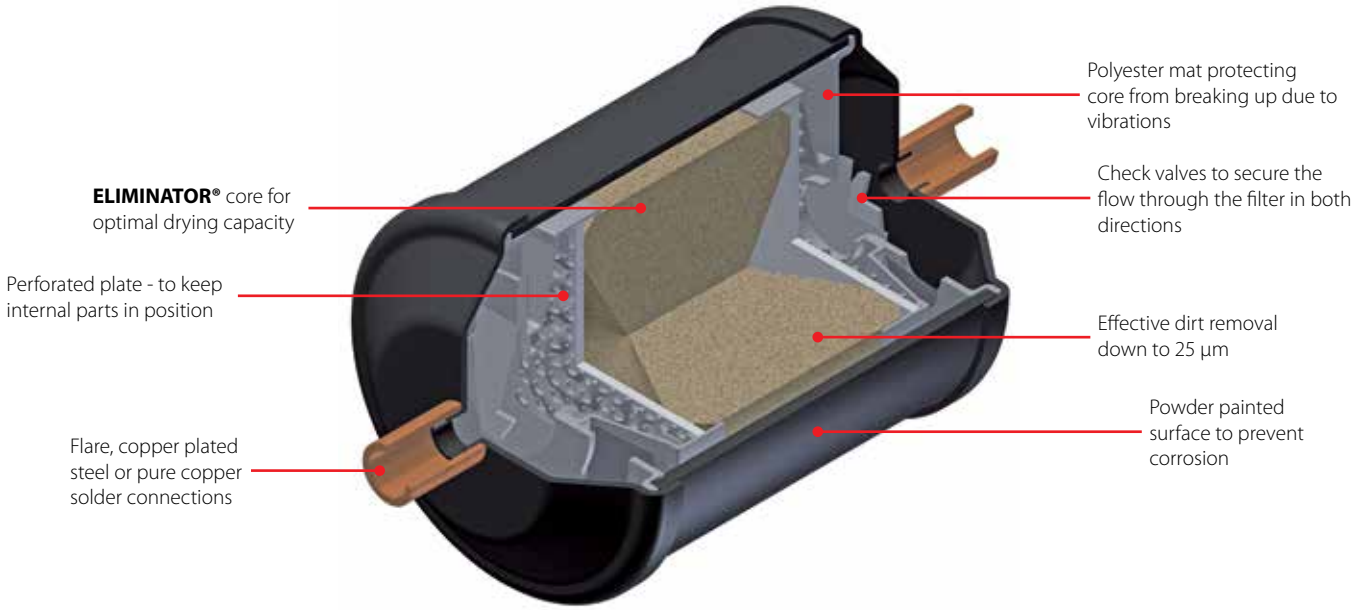
Quick Selection Notes:

DCB, Hermetic bi-flow filter drier

DCB **ELIMINATOR®** hermetic bi-flow filter driers protect refrigeration and air conditioning systems from moisture, acids and solid particles, eliminating harmful chemical reaction and abrasive impurities.

DCB hermetic bi-flow filter driers, with a solid core of 80 % Molecular Sieve and 20 % activated alumina. They are hermetic and available in many sizes and connection types.





Facts

Application:
- Traditional refrigeration
- Heat pumps
- Air conditioning units
- Applicable to R134A, R22, R404A, R407C, R410A, R407F, R1233zd, R1234ze, R290*), R600*), R32*), R454B*), R452B*), R444B*), R454A*), R450A*), R1234yf*)

**) Approved for Filter drier models with connection sizes less than 25 mm*

- No dirt released by reversing the flow direction
- The check valves are not sensitive to dirt and give minimum restriction, irrespective of flow direction
- When building heat pump systems, the use of hermetic bi-flow filter driers can save up to ten solder connections. This reduces production costs and the number of potential leakage points
- DCB filter driers can be used in heat pumps with HCFC refrigerants and mineral oil, and also with HFC refrigerants and polyolester oil
- Optimum flow characteristics and dirt retention
- Available in sizes from 05 to 30 cubic inches
- Available with flare, solder (pure copper, cu-plated) connections

Technical data

DCB - Hermetic bi-flow filter drier

Drying and liquid capacity (SI units)

Type	Drying capacity [kg] of refrigerant [1]												Liquid capacity [kW] [2]						Max working pressure PS [bar]
	R134a		R404A		R507		R22		R407C		R410A		R134a	R404A	R507	R22	R407C	R410A	
	[°C]																		
	24	52	24	52	24	52	24	52	24	52	24	52							
DCB 053s	3.5	3.3	3.8	3.6	3.9	3.6	3.6	3.3	3.5	3.3	3.2	2.9	9.3	6.30	6.14	9.87	9.22	9.04	46.00
DCB 082 / 082s	6.8	6.4	7.3	6.9	7.5	6.9	6.9	6.3	6.8	6.3	6.2	5.7	5.6	3.78	3.68	5.92	5.54	5.42	46.00
DCB 083 / 083s	6.8	6.4	7.3	6.9	7.5	6.9	6.9	6.3	6.8	6.3	6.2	5.7	8.9	6.04	5.88	9.46	8.84	8.66	46.00
DCB 084 / 084s	6.8	6.4	7.3	6.9	7.5	6.9	6.9	6.3	6.8	6.3	6.2	5.7	11.3	7.62	7.43	11.95	11.17	10.94	46.00
DCB 162	12.8	12.0	13.8	13.0	14.0	12.9	12.9	11.9	12.8	11.7	11.6	10.6	6.3	4.27	4.16	6.69	6.26	6.13	46.00
DCB 163 / 163s	12.8	12.0	13.8	13.0	14.0	12.9	12.9	11.9	12.8	11.7	11.6	10.6	15.2	10.30	10.04	16.14	15.09	14.78	46.00
DCB 164 / 164s	12.8	12.0	13.8	13.0	14.0	12.9	12.9	11.9	12.8	11.7	11.6	10.6	21.5	14.54	14.17	22.78	21.29	20.86	46.00
DCB 165 / 165s	12.8	12.0	13.8	13.0	14.0	12.9	12.9	11.9	12.8	11.7	11.6	10.6	27.6	18.69	18.22	29.29	27.37	26.81	46.00
DCB 303	31.0	29.1	33.4	31.5	34.0	31.2	31.4	28.8	31.0	28.5	28.1	25.7	17.7	11.99	11.68	18.79	17.56	17.20	46.00
DCB 304 / 304s	31.0	29.1	33.4	31.5	34.0	31.2	31.4	28.8	31.0	28.5	28.1	25.7	21.4	14.53	14.16	22.77	21.28	20.84	46.00
DCB 305 / 305s	31.0	29.1	33.4	31.5	34.0	31.2	31.4	28.8	31.0	28.5	28.1	25.7	29.2	19.75	19.25	30.96	28.93	28.34	46.00
DCB 307s	31.0	29.1	33.4	31.5	34.0	31.2	31.4	28.8	31.0	28.5	28.1	25.7	41.2	27.91	27.21	43.74	40.88	40.04	46.00

[1]) Drying capacity is based on following moisture content test standards before and after drying:
– R134a: 1050 – 50 ppm W
– R404A, R507: 1020 – 50 ppm W
– R407C: 1020 – 50 ppm W
– R410A: 1050 – 50 ppm W
– R22: 1050 – 60 ppm W
In accordance with ARI 710-2004

[2]) Given in accordance with ARI 710-2004 for:
t_e = -15 °C
t_c = 30 °C
Δp = 0.07 bar

DCB - Hermetic bi-flow filter drier

Drying and liquid capacity (US units)

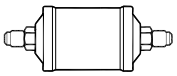
Type	Drying capacity [lb] of refrigerant [1]												Liquid capacity [TR] [2]						Max. working pressure MWP [psig]
	R134a		R404A		R507		R22		R407C		R410A		R134a	R404A	R507	R22	R407C	R410A	
	[°F]																		
	75	125	75	125	75	125	75	125	75	125	75	125							
DCB 053s	7.8	7.4	8.4	8.0	8.6	7.9	7.9	7.3	7.8	7.2	7.1	6.5	2.7	1.80	1.75	2.82	2.64	2.58	667.00
DCB 082 / 082s	15.0	14.1	16.2	15.3	16.5	15.2	15.2	14.0	15.0	13.8	13.6	12.5	1.6	1.08	1.05	1.69	1.58	1.55	667.00
DCB 083 / 083s	15.0	14.1	16.2	15.3	16.5	15.2	15.2	14.0	15.0	13.8	13.6	12.5	2.5	1.72	1.68	2.70	2.53	2.47	667.00
DCB 084 / 084s	15.0	14.1	16.2	15.3	16.5	15.2	15.2	14.0	15.0	13.8	13.6	12.5	3.2	2.18	2.12	3.41	3.19	3.12	667.00
DCB 162	28.1	26.5	30.3	28.6	30.9	28.4	28.5	26.2	28.1	25.9	25.5	23.4	1.8	1.22	1.19	1.91	1.79	1.75	667.00
DCB 163 / 163s	28.1	26.5	30.3	28.6	30.9	28.4	28.5	26.2	28.1	25.9	25.5	23.4	4.3	2.94	2.87	4.61	4.31	4.22	667.00
DCB 164 / 164s	28.1	26.5	30.3	28.6	30.9	28.4	28.5	26.2	28.1	25.9	25.5	23.4	6.1	4.15	4.05	6.51	6.08	5.96	667.00
DCB 165 / 165s	28.1	26.5	30.3	28.6	30.9	28.4	28.5	26.2	28.1	25.9	25.5	23.4	7.9	5.34	5.20	8.37	7.82	7.66	667.00
DCB 303	68.2	64.3	73.6	69.5	74.9	68.9	69.1	63.6	68.3	62.7	61.9	56.7	5.1	3.42	3.34	5.37	5.02	4.91	667.00
DCB 304 / 304s	68.2	64.3	73.6	69.5	74.9	68.9	69.1	63.6	68.3	62.7	61.9	56.7	6.1	4.15	4.05	6.51	6.08	5.96	667.00
DCB 305 / 305s	68.2	64.3	73.6	69.5	74.9	68.9	69.1	63.6	68.3	62.7	61.9	56.7	8.3	5.64	5.50	8.85	8.27	8.10	667.00
DCB 307s	68.2	64.3	73.6	69.5	74.9	68.9	69.1	63.6	68.3	62.7	61.9	56.7	11.8	7.97	7.77	12.50	11.68	11.44	667.00

[1]) Drying capacity is based on following moisture content test standards before and after drying:
– R134a: 1050 – 50 ppm W
– R404A, R507: 1020 – 50 ppm W
– R407C: 1020 – 50 ppm W
– R410A: 1050 – 50 ppm W
– R22: 1050 – 60 ppm W
In accordance with ARI 710-2004

[2]) Given in accordance with ARI 710-2004 for:
t_e = 5 °F
t_c = 85 °F
Δp = 1 psig

Ordering

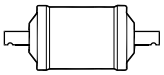
DCB - Flare



Ordering

Type	Connection		Code no.
	[in]	[mm]	
DCB 082	1/4	6	023Z1402
DCB 083	3/8	10	023Z1401
DCB 084	1/2	12	023Z1400
DCB 162	1/4	6	023Z1406
DCB 163	3/8	10	023Z1405
DCB 164	1/2	12	023Z1404
DCB 165	5/8	16	023Z1403
DCB 303	3/8	10	023Z1409
DCB 304	1/2	12	023Z1408
DCB 305	5/8	16	023Z1407

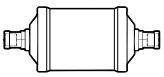
DCB - Solder (pure copper)



Ordering

Type	Connection	Code no.	Connection	Code no.
	[in]		[mm]	
DCB 082s	1/4	023Z1434	–	–
DCB 083s	3/8	023Z1433	–	–
DCB 084s	1/2	023Z1432	–	–
DCB 163s	3/8	023Z1437	–	–
DCB 164s	1/2	023Z1436	–	–
DCB 165s	5/8	023Z1435	–	–
DCB 304s	1/2	023Z1440	–	–
DCB 305s	5/8	023Z1439	–	–
DCB 307s	7/8	023Z1438	–	–

DCB - Solder (cu-plated)



Ordering

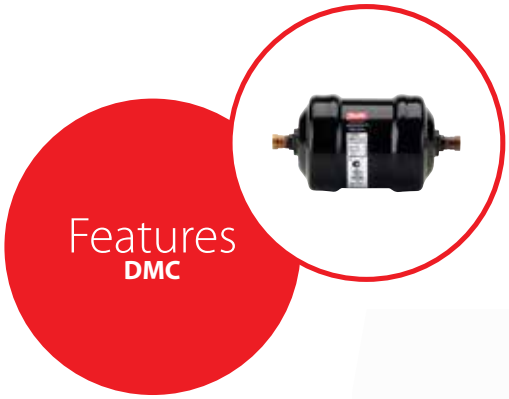
Type	Connection	Code no.	Connection	Code no.
	[in]		[mm]	
DMB 082s	1/4	023Z1464	–	–
DMB 083s	3/8	023Z1463	10	023Z1458
DMB 084s	1/2	023Z1462	–	–
DMB 163s	3/8	023Z1467	–	–
DMB 164s	1/2	023Z1466	12	023Z1452
DMB 165s	5/8	023Z1465	–	–
DMB 304s	1/2	023Z1470	–	–
DMB 305s	5/8	023Z1469	–	–
DMB 307s	7/8	023Z1468	–	–

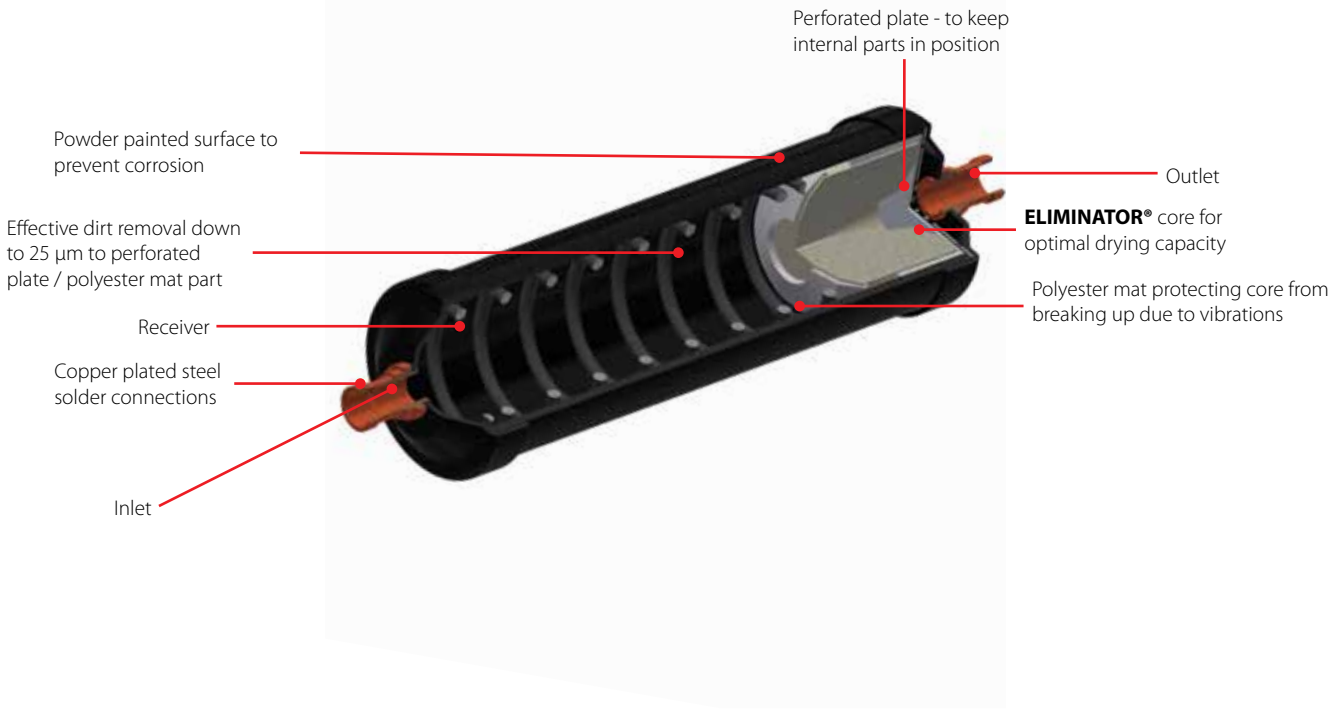
Quick Selection Notes:

DMC, Hermetic receiver filter drier

DMC **ELIMINATOR®** are combined hermetic receiver and filter driers optimized to systems where the condenser is incapable of containing the total quantity of refrigerants.
DMC filters contain a solid core consisting of 100% Molecular Sieve, and are especially suitable for air conditioning systems with HFC, HCFC refrigerants and polyolester oil with additives.

DMC filters contain a solid core consisting of 3 Å Molecular Sieve and activated aluminium oxide, and are especially suitable for air conditioning systems with HCFC refrigerants and mineral oil, and also with HFC refrigerants and polyolester oil.





Facts

Application:
- Air conditioning systems
- Heat pumps
- Transport refrigeration
- Applicable to R22, R32, R134a, R404A,R410A, R407C, R23, R600,R1234yf, R1234ze, R407f, R290, R452A,R444B, R449A, R448A and R450A

- Combined filter drier and receiver to keep down number of components
- Space-saving
- Fast installation
- High drying capacity at high and low liquid temperatures
- DMC filters contain a solid core consisting of 100% 3 Å Molecular Sieve
- Available with solder connections (cu-plated steel connectors)

- Optimum flow characteristics and dirt retention
- Approved as HP container according to PED 2014/68/EU -a4p3
- 25 µm (0.001 in) filter provides high retention with minimal pressure drop
- Thermally stable up to 120 °C / 250 °F

Technical data and ordering

DMC - Solder (cu-plated)

Drying and liquid capacity

Type	Drying capacity [kg] of refrigerant [1]										Liquid capacity [kW] [2]					Max working pressure PS [bar]
	R134a		R404A		R507		R407C		R410A							
	[°C]															
	24	52	24	52	24	52	24	52	24	52	R134a	R404A	R507	R407C	R410A	
DMC 0432s	6.1	5.8	6.6	6.2	6.7	6.2	6.1	5.6	5.6	5.1	6.3	4.24	4.14	6.22	6.09	42
DMC 0732s	6.1	5.8	6.6	6.2	6.7	6.2	6.1	5.6	5.6	5.1	6.3	4.24	4.14	6.22	6.09	42
DMC 2032s	6.1	5.8	6.6	6.2	6.7	6.2	6.1	5.6	5.6	5.1	6.3	4.28	4.17	6.26	6.13	42
DMC 2033s	6.1	5.8	6.6	6.2	6.7	6.2	6.1	5.6	5.6	5.1	12.4	8.37	8.16	12.26	12.01	42
DMC 2034s	6.1	5.8	6.6	6.2	6.7	6.2	6.1	5.6	5.6	5.1	19.1	12.97	12.64	18.99	18.60	42
DMC 40163s	27.1	25.5	29.2	27.6	29.8	27.3	27.1	24.9	24.6	22.5	22.0	14.92	14.55	21.86	21.41	42
DMC 40164s	27.1	25.5	29.2	27.6	29.8	27.3	27.1	24.9	24.6	22.5	29.3	19.82	19.32	29.03	28.43	42

[1]) Drying capacity is based on following moisture content test standards before and after drying:
– R134a: 1050 – 50 ppm W
– R404A, R507: 1020 – 50 ppm W
– R407C: 1020 – 50 ppm W
– R410A: 1050 – 50 ppm W
In accordance with ARI 710-2004

[2]) Given in accordance with ARI 710-2004 for:
t_e = -15 °C / 5 °F
t_c = 30 °C / 85 °F
Δp = 0.07 bar / 1 psig

DMC - Solder (cu-plated)



Ordering

Type	Connection [mm]	Connection [in]	Code no.
DMC 0432s	6	–	023Z7019
DMC 0732s	6	–	023Z7020
DMC 2023s	6	–	023Z7021
	–	1/4	023Z7022
DMC 2033s	10	–	023Z7023
	–	3/16	023Z7024
DMC 2034s	–	1/2	023Z7026
DMC 40163s	10	–	023Z7027
	–	3/8	023Z7028
DMC 40164s	12	–	023Z7029
	–	1/2	023Z7030

DCC, Hermetic receiver filter drier

DCC **ELIMINATOR®** are combined hermetic receiver and filter driers optimized to systems where the condenser is incapable of containing the total quantity of refrigerants.

DCC filters contain a solid core consisting of 3 Å Molecular Sieve and activated aluminium oxide, and are especially suitable for air conditioning systems with HCFC refrigerants and mineral oil, and also with HFC refrigerants and polyolester oil.





Facts

Application:
- Air conditioning systems
- Heat pumps
- Transport refrigeration
- Applicable to R22, R32, R134a, R404A,R410A, R407C, R23, R600,R1234yf, R1234ze, R407f, R290, R452A,R444B, R449A, R448A and R450A

- Combined filter drier and receiver to keep down number of components
- Space-saving
- Fast installation
- High drying capacity at high and low liquid temperatures
- DCC filters contain a solid core consisting of 80% 3Å molecular sieve with 20% activated alumina core
- Available with solder connections (cu-plated steel connectors)

- Optimum flow characteristics and dirt retention
- Approved as HP container according to PED 2014/68/EU -a4p3
- 25 µm (0.001 in) filter provides high retention with minimal pressure drop
- Thermally stable up to 120 °C / 250 °F

Technical data and ordering

DCC - Solder (cu-plated)

Drying and liquid capacity

Type	Drying capacity [kg] of refrigerant [1]												Liquid capacity [kW] [2]						Max working pressure PS [bar]
	R134a		R404A		R507		R22		R407C		R410A		R134a	R404A	R507	R22	R407C	R410A	
	[°C]																		
	24	52	24	52	24	52	24	52	24	52	24	52							
DCC 0432s	4.7	4.4	5.1	4.8	5.2	4.7	4.8	4.4	4.7	4.3	4.3	3.9	6.3	4.24	4.14	6.65	6.22	6.09	42
DCC 0732s	4.7	4.4	5.1	4.8	5.2	4.7	4.8	4.4	4.7	4.3	4.3	3.9	6.3	4.24	4.14	6.65	6.22	6.09	42
DCC 2032s	4.7	4.4	5.1	4.8	5.2	4.7	4.8	4.4	4.7	4.3	4.3	3.9	6.3	4.24	4.14	6.65	6.22	6.09	42
DCC 2033s	4.7	4.4	5.1	4.8	5.2	4.7	4.8	4.4	4.7	4.3	4.3	3.9	12.4	8.37	8.16	13.12	12.26	12.01	42
DCC 40163s	21.3	20.1	23.0	21.7	23.4	21.5	21.6	19.9	21.3	19.6	19.3	17.7	22.0	14.92	14.55	23.39	21.86	21.41	42

[1]) Drying capacity is based on following moisture content test standards before and after drying:
– R134a: 1050 – 50 ppm W
– R404A, R507: 1020 – 50 ppm W
– R407C: 1020 – 50 ppm W
– R410A: 1050 – 50 ppm W
– R22: 1050 – 60 ppm W
In accordance with ARI 710-2004

[2]) Given in accordance with ARI 710-2004 for:
t_e = -15 °C / 5 °F
t_c = 30 °C / 85 °F
Δp = 0.07 bar / 1 psig

DCC - Solder (cu-plated)

Ordering



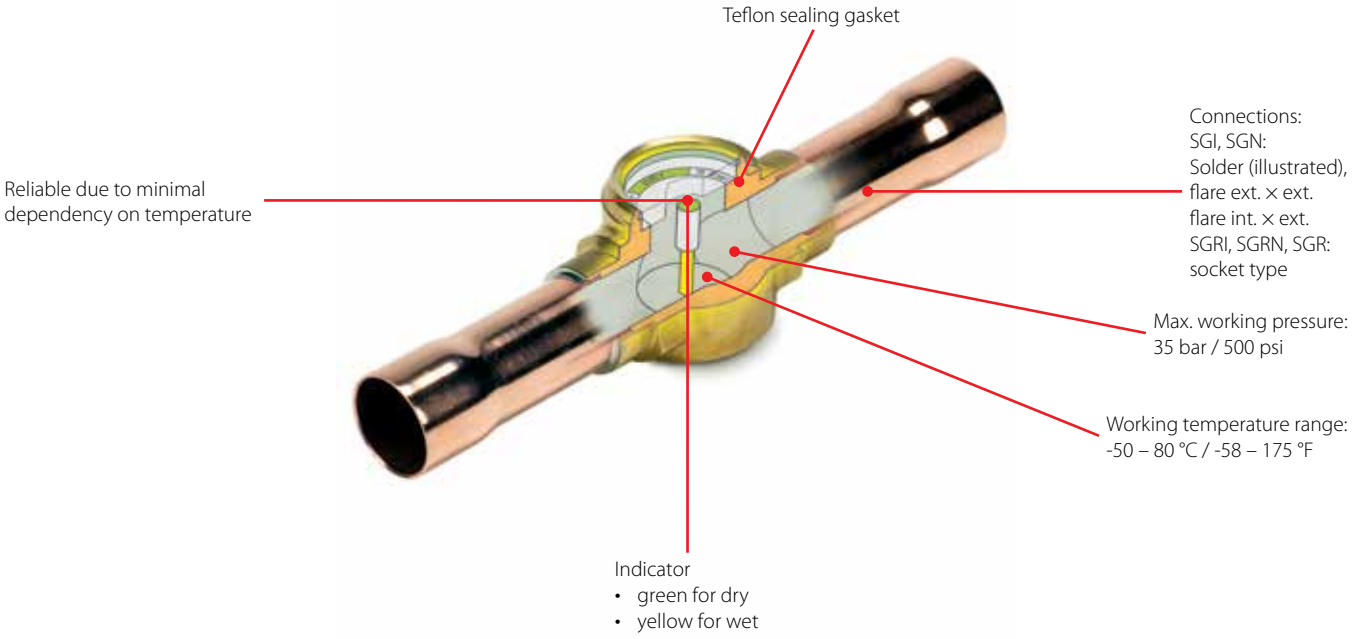
Type	Connection [mm]	Connection [in]	Code no.
DCC 0432s	6	–	023Z7000
DCC 0732s	6	–	023Z7001
DCC 2032s	6	–	023Z7002
	–	1/4	023Z7003
DCC 2033s	10	–	023Z7004

SG, Standard sight glass

SG are sight glasses for commercial refrigeration applications. They are made in brass and are available in versions with flare, solder or socket connections. The SGR are mainly used to indicate the condition of the refrigerant as well as the liquid level in the receiver or the oil level in the compressor.

The SGI / SGN and SGRI / SGRN are equipped with sensitive indicators that change colour depending on the moisture content in the refrigerant.





Facts

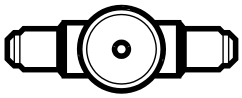
Application:
- Traditional refrigeration
- Heat pump systems
- Air conditioning units
- Liquid coolers
- Transport refrigeration
- Applicable to R22, R134a, R404A, R407C, R507, R407A, R407F, R448A, R449A, R450A, R452A, R513A
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- Visual indication of moisture (minimal dependence on temperature)
- The flare ext. × int. version can be screwed together with filter drier (reduction of assembly costs)
- Flare connections are 4-sided for quick installation
- SG can be used to :
  - Indicates too high water content in the refrigeration system
  - Indicates lack of subcooling
  - Indicates refrigerant deficiency
  - Indicates liquid level in receiver
  - Indicates oil level in compressor
- Connections:
  - Solder ODF x ODF
  - Solder ODF x ODM
  - Flare ext. × ext
  - Flare int. × ext
  - Socket
- Wide range with connection sizes from 6 to 22 mm or 1/4 to 7/8 in.

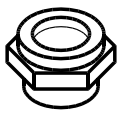
Technical data and ordering

Max. working pressure: PS / MWP = 35 bar / 500 psi
Media temperature: -50 – 80 °C / -58 – 175 °F

Available types

	
Flare Internal x External	**Solder version ODF x ODF**
SGI and SGN with indicator	SG without indicator

		
Solder version ODF x ODM	**Solder version ODF x ODF**	**Flare External x External**
SGI and SGN with indicator	SGI and SGN with indicator	SGI and SGN with indicator

		
Socket	**Socket**	**Saddle**
SGR without indicator	SGRI and SGRN with indicator	SGS

SGI / SGRI for refrigerants with mineral oil

Technical data

Refrigerant	Moisture content ppm = parts per million					
	SGI / SGRI					
	Media temperature 25 °C / 77 °F			Media temperature 43 °C / 109 °F		
	Green / dry	Intermed. color	Yellow / wet	Green / dry	Intermed. color	Yellow / wet
Refrigerants with mineral oil, e.g. R22	< 150	150 – 300	> 300	< 250	250 – 500	> 500

SGN / SGRN for R22, R134a, R404A, R407C, R507, R407A, R407F, R448A, R449A, R450A, R452A, R513A

Technical data

Refrigerant	Moisture content ppm = parts per million					
	SGN / SGRN					
	Media temperature 25 °C / 77 °F			Media temperature 43 °C / 109 °F		
	Green / dry	Intermed. color	Yellow / wet	Green / dry	Intermed. color	Yellow / wet
R22	< 30	30 – 120	> 120	< 50	50 – 200	> 200
R134a	< 30	30 – 100	> 100	< 45	45 – 170	> 170
R404A	< 20	20 – 70	> 70	< 25	25 – 100	> 100
R407C	< 30	30 – 140	> 140	< 60	60 – 225	> 225
R507	< 15	15 – 60	> 60	< 30	30 – 110	> 110
R407A	< 29	29 – 115	> 115	< 48	48 – 192	< 192
R407F	< 30	30 – 168	> 168	< 60	60 – 240	< 240
R448A	< 28	28 – 110	> 110	< 70	70 – 227	< 227
R449A	< 29	29 – 105	> 105	< 53	53 – 200	< 200
R450A	< 23	23 – 148	> 148	< 46	46 – 245	< 245
R452A	< 20	20 – 79	> 79	< 30	30 – 143	< 143
R513A	< 22	22 – 75	> 75	< 22	22 – 123	< 123

Note
For colours reflecting moisture values of other refrigerants, please contact Danfoss.

Technical data and ordering

SG without indicator

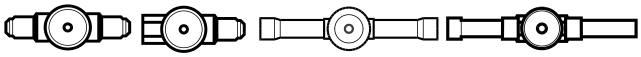
Ordering - Solder type



Type	Connection type	Connection [in]	Connection [mm]	Code no.
SG 10s	Solder ODF × ODF	3/8	–	014-0037
SG 22s	Solder ODF × ODF	7/8	22	014-1207

SGI with I type indicator

Ordering - Solder / Flare type



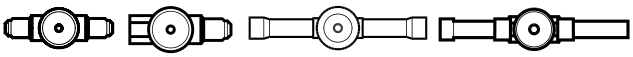
Type	Connection type	Connection [in]	Connection [mm]	Code no.
SGI 6	Flare ext. × ext.	1/4 × 1/4	6 × 6	014-0007
SGI 10	Flare ext. × ext.	3/8 × 3/8	10 × 10	014-0008
SGI 12	Flare ext. × ext.	1/2 × 1/2	12 × 12	014-0009
SGI 16	Flare ext. × ext.	5/8 × 5/8	16 × 16	014-0024
SGI 19	Flare ext. × ext.	3/4 × 3/4	19 × 19	014-0028
SGI 6	Flare int. × ext. [1]	1/4 × 1/4	6 × 6	014-0021
SGI 10	Flare int. × ext. [1]	3/8 × 3/8	10 × 10	014-0022
SGI 12	Flare int. × ext. [1]	1/2 × 1/2	12 × 12	014-0025
SGI 16	Flare int. × ext. [1]	5/8 × 5/8	16 × 16	014-0026
SGI 19	Flare int. × ext. [1]	3/4 × 3/4	19 × 19	014-0043
SGI 6s	Solder ODF × ODF	1/4 × 1/4	–	014-0034
SGI 10s	Solder ODF × ODF	3/8 × 3/8	–	014-0035
SGI 12s	Solder ODF × ODF	1/2 × 1/2	–	014-0036
SGI 16s	Solder ODF × ODF	5/8 × 5/8	16 × 16	014-0044
SGI 19s	Solder ODF × ODF	3/4 × 3/4	19 × 19	014-0047
SGI 22s	Solder ODF × ODF	7/8 × 7/8	22 × 22	014-0039
SGI 6s	Solder ODF × ODF	–	6 × 6	014-0040
SGI 10s	Solder ODF × ODF	–	10 × 10	014-0041
SGI 12s	Solder ODF × ODF	–	12 × 12	014-0042
SGI 18s	Solder OD × ODF	–	18 × 18	014-0045
SGI 6s	Solder ODF × ODM	1/4 × 5/8	–	014-0125
SGI 10s	Solder ODF × ODM	3/8 × 3/8	–	014-0126
SGI 12s	Solder ODF × ODM	1/2 × 1/2	–	014-0127
SGI 16s	Solder ODF × ODM	5/8 × 5/8	16 × 16	014-0128
SGI 22s	Solder ODF × ODM	7/8 × 7/8	22 × 22	014-0130

[1]) Can be screwed directly into the filter drier.

Technical data and ordering

SGN with N type indicator

Ordering - Ordering - Solder / Flare type



Type	Connection type	Connection [in]	Connection [mm]	Code no.
SGN 6	Flare ext. × ext.	1/4 × 1/4	6 × 6	014-0161
SGN 10	Flare ext. × ext.	3/8 × 3/8	10 × 10	014-0162
SGN 12	Flare ext. × ext.	1/2 × 1/2	12 × 12	014-0163
SGN 16	Flare ext. × ext.	5/8 × 5/8	16 × 16	014-0165
SGN 19	Flare ext. × ext.	3/4 × 3/4	19 × 19	014-0166
SGN 6	Flare int. × ext. [1]	1/4 × 1/4	6 × 6	014-0171
SGN 10	Flare int. × ext. [1]	3/8 × 3/8	10 × 10	014-0172
SGN 12	Flare int. × ext. [1]	1/2 × 1/2	12 × 12	014-0173
SGN 16	Flare int. × ext. [1]	5/8 × 5/8	16 × 16	014-0174
SGN 19	Flare int. × ext. [1]	3/4 × 3/4	19 × 19	014-0175
SGN 6s	Solder ODF × ODF	1/4 × 1/4	–	014-0181
SGN 10s	Solder ODF × ODF	3/8 × 3/8	–	014-0182
SGN 12s	Solder ODF × ODF	1/2 × 1/2	–	014-0183
SGN 16s	Solder ODF × ODF	5/8 × 5/8	16 × 16	014-0184
SGN 19s	Solder ODF × ODF	3/4 × 3/4	19 × 19	014-0185
SGN 22s	Solder ODF × ODF	7/8 × 7/8	22 × 22	014-0186
SGN 22s [2]	Solder ODF × ODF	1 1/8 × 1 1/8	–	014-0187
SGN 6s	Solder ODF × ODF	–	6 × 6	014-0191
SGN 10s	Solder ODF × ODF	–	10 × 10	014-0192
SGN 12s	Solder ODF × ODF	–	12 × 12	014-0193
SGN 18s	Solder ODF × ODF	–	18 × 18	014-0195
SGN 6s	Solder ODF × ODM	1/4 × 1/4	–	014-0201
SGN 10s	Solder ODF × ODM	3/8 × 3/8	–	014-0202
SGN 12s	Solder ODF × ODM	1/2 × 1/2	–	014-0203
SGN 16s	Solder ODF × ODM	5/8 × 5/8	16 × 16	014-0204
SGN 22s	Solder ODF × ODM	7/8 × 7/8	22 × 22	014-0206

[1] Can be screwed directly into the filter drier.
[2] Oversize connections.

SGR socket type and SGS saddle

Ordering



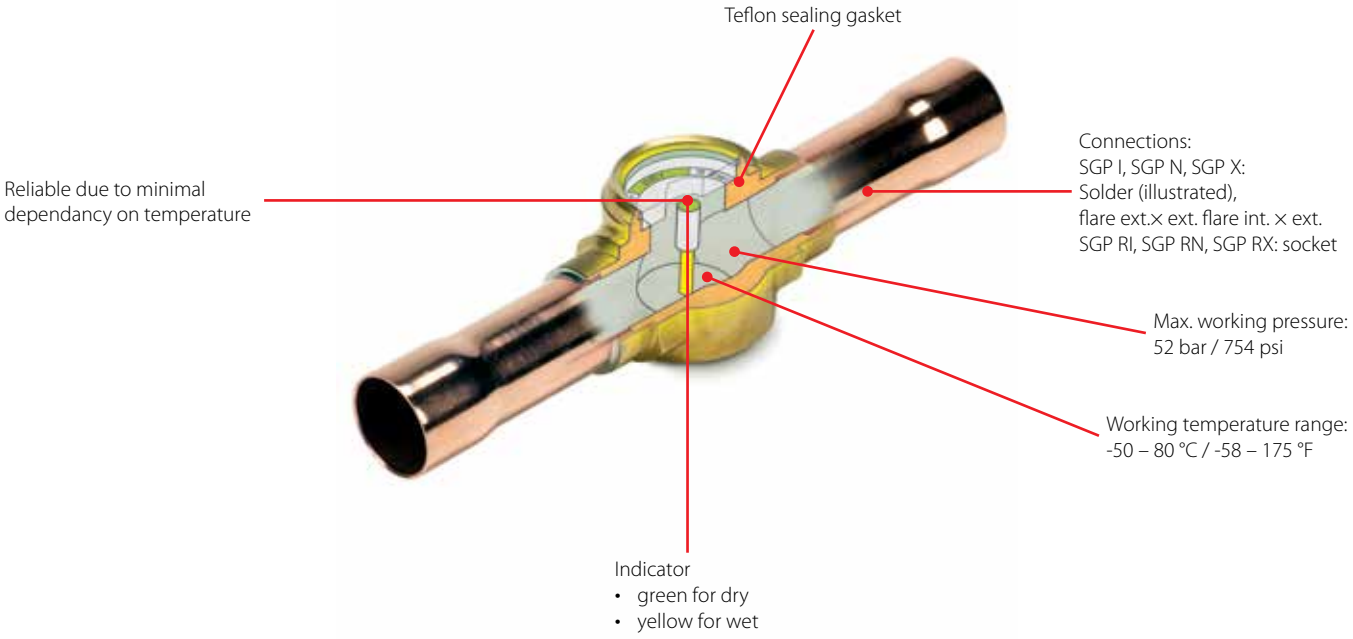
Type	Version	Connection		Floating ball [pc]	O-ring	Code no.
		1	2			
SGR (no indicator)	G thread	G 3/4 A [1]	–	1	No	014-0004
	NPT	3/4 – 14 NPT [2]	–	1	No	014-0005
	NPT	1/2 – 14 NPT [2]	–	3	No	014-0002
SGRI (I type indicator)	NPT	1/2 – 14 NPT [2]	–	3	No	014-0131
	M thread	M24 × 1	–	–	Yes	014-1154
SGRN (N type indicator)	NPT	1/2 – 14 NPT [2]	–	3	No	014-0006
	M thread	M24 × 1	–	–	Yes	014-1155
SGS (saddle)	Tube fitting	M20 × 1.5	1 1/8	–	–	014-1071
	Tube fitting	M20 × 1.5	1 3/8	–	–	014-1074
	Tube fitting	M24 × 1	7/8	–	–	014-1059
	Tube fitting	M24 × 1	1 1/8	–	–	014-1056
	Tube fitting	M24 × 1	1 3/8	–	–	014-1057
	Tube fitting	M24 × 1	1 5/8	–	–	014-1058
	Tube fitting	M24 × 1	2 1/8	–	–	014-1067

[2] ANSI / ASME B1.20.1.

SGP, Sight glass (high pressure)

SGP are sight glasses for high pressure applications (Max Working Pressure PS / MWP: 52 bar / 754 psi).
SGP is available with flare, solder and socket connections, and with and without moisture indicators.
SGP I / SGP N and SGP RI / SGP RN are equipped with sensitive indicators that reflects a changes colour, depending on the moisture content in the refrigerant.
SGP X and SGP RX, without moisture indicator, are mainly used to indicate the condition of the refrigerant in the liquid line or the flow in the oil return line from the oil separator.





Facts

Application:
- Traditional refrigeration
- Heat pump systems
- Air conditioning units
- Liquid coolers
- Transport refrigeration
- Solder versions are compliant with ATEX hazard zone 2

For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.

Type SGP X / SGP RX (without indicator)
- Indicates lack of subcooling
- Indicates refrigerant deficiency
- Indicates liquid level in receiver
- Indicates oil level in compressor

Type SGP I / SGP RI (with I type indicator)
- For R22, R290, R600, R600a, R1234yf refrigerants
- Indicates too high moisture content in the refrigeration system
- Indicates lack of subcooling
- Indicates refrigerant deficiency

Type SGP N / SGP RN (with N type indicator)
- For R22, R32, R134a, R404A, R407C, R507, R410A, R1270, R407A, R407F, R448A, R449A, R450A, R452A, R452B, R454B, R513A, R1234ze, R744(CO_2) refrigerants
- Indicates too high moisture content in the refrigeration system
- Indicates lack of subcooling
- Indicates refrigerant deficiency
- Connections:
  - Solder ODF x ODF
  - Solder ODF x ODM
  - Flare ext. x ext.
  - Flare int. x ext.
  - Socket
- Wide range with connection sizes from 6 to 22 mm or $^{1}/_{4}$ to $^{7}/_{8}$ in.

Technical data

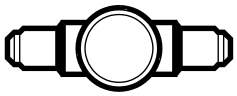
Max. working pressure: PS / MWP = 52 bar / 754 psi
Media temperature: -50 – 80 °C / -58 – 175 °F
Approvals: UL, EAC

Available types



Solder version ODF x ODF

SGP X
without indicator



Flare External x External

SGP X
without indicator



Flare Internal x External

SGP I and SGP N
with indicator



Solder version ODF x ODM

SGP I and SGP N
with indicator



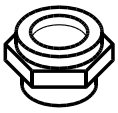
Solder version ODF x ODF

SGP I and SGP N
with indicator



Flare External x External

SGP I and SGP N
with indicator



Socket

SGP RX
without indicator



Socket

SGP RI and SGP RN
with indicator



Saddle

SGS

SGP I for R22, R290, R600, R600a, R1234yf refrigerants

Technical data

Refrigerant	Moisture content ppm = parts per million					
	SGP I / SGP RI					
	Media temperature 25 °C / 77 °F			Media temperature 43 °C / 109 °F		
	Green / dry	Intermed. color	Yellow / wet	Green / dry	Intermed. color	Yellow / wet
R22	< 150	150 – 300	> 300	< 250	250 – 500	> 500
R290	< 25	25 – 50	> 50	< 50	50 – 100	> 100
R600	< 10	10 – 20	> 20	< 28	28 – 55	> 55
R600a	< 11	11 – 22	> 22	< 30	30 – 60	> 60
R1234yf	< 93	93 – 130	> 130	< 130	130 – 247	> 247

Technical data and ordering

SGP N for R22, R32, R134a, R404A, R407C, R507, R410A, R1270, R407A, R407F, R448A, R449A, R450A, R452A, R452B, R454B, R513A, R1234ze, R744(CO_2) refrigerants

Technical data

Refrigerant	Moisture content ppm = parts per million					
	SGP N / SGP RN					
	Media temperature 25 °C / 77 °F			Media temperature 43 °C / 109 °F		
	Green / dry	Intermed. color	Yellow / wet	Green / dry	Intermed. color	Yellow / wet
R22	< 30	30 – 120	> 120	< 50	50 – 200	> 200
R32	< 64	64 – 289	> 289	< 116	116 – 459	> 459
R134a	< 30	30 – 100	> 100	< 45	45 – 170	> 170
R404A	< 20	20 – 70	> 70	< 25	25 – 100	> 100
R407C	< 30	30 – 140	> 140	< 60	60 – 225	> 225
R507	< 15	15 – 60	> 60	< 30	30 – 110	> 110
R410A	< 66	66 – 266	> 266	< 135	135 – 540	> 540
R1270	< 16	16 – 62	> 62	< 29	29 – 115	> 115
R407A	< 29	29 – 115	> 115	< 48	48 – 192	> 192
R407F	< 30	30 – 168	> 168	< 60	60 – 240	> 240
R448A	< 28	28 – 110	> 110	< 70	70 – 227	> 227
R449A	< 29	29 – 105	> 105	< 53	53 – 200	> 200
R450A	< 23	23 – 148	> 148	< 46	46 – 245	> 245
R452A	< 20	20 – 79	> 79	< 30	30 – 143	> 143
R452B	< 70	70 – 260	< 260	< 144	144 – 260	>260
R454B	< 29	29 – 161	> 161	< 58	58 – 250	> 250
R513A	< 22	22 – 75	> 75	< 22	22 – 123	> 123
R1234ze	< 26	26 – 132	> 132	< 28	28 – 165	> 165

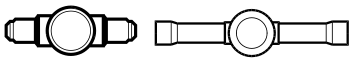
Note

-This product is approved for R290, R600, R600a and R1270 by ignition source assessment in accordance to standard EN13463-1.
-For colours reflecting moisture values of other refrigerants, please contact Danfoss.

Technical data and ordering

SGP X without indicator

Ordering - Solder / Flare type



Type	Connection type	Connection [in]	Connection [mm]	Code no.
SGP 10 X	Flare ext. × ext.	3/8 × 3/8	10 × 10	014L0080
SGP 12s X	Solder ODF x ODF	1/2 × 1/2	–	014L0086
SGP 16s X	Solder ODF x ODF	5/8 × 5/8	16 × 16	014L0087
SGP 22s X	Solder ODF x ODF	7/8 × 7/8	22 × 22	014L1207

Note
Only solder versions are allowed for flammable refrigerants.

SGP I with I type indicator

Ordering



Type	Connection type	Connection [in]	Connection [mm]	Code no.
SGP 6 I	Flare ext. × ext.	1/4 × 1/4	6 × 6	014L0007
SGP 10 I	Flare ext. × ext.	3/8 × 3/8	10 × 10	014L0008
SGP 12 I	Flare ext. × ext.	1/2 × 1/2	12 × 12	014L0009
SGP 16 I	Flare ext. × ext.	5/8 × 5/8	16 × 16	014L0024
SGP 19 I	Flare ext. × ext.	3/4 × 3/4	19 × 19	014L0028
SGP 6 I	Flare int. × ext. [1])	1/4 × 1/4	6 × 6	014L0021
SGP 10 I	Flare int. × ext. [1])	3/8 × 3/8	10 × 10	014L0022
SGP 12 I	Flare int. × ext. [1])	1/2 × 1/2	12 × 12	014L0025
SGP 16 I	Flare int. × ext. [1])	5/8 × 5/8	16 × 16	014L0026
SGP 19 I	Flare int. × ext. [1])	3/4 × 3/4	19 × 19	014L0043
SGP 6s I	ODF × ODF solder	1/4 × 1/4	–	014L0034
SGP 10s I	ODF × ODF solder	3/8 × 3/8	–	014L0035
SGP 12s I	ODF × ODF solder	1/2 × 1/2	–	014L0036
SGP 16s I	ODF × ODF solder	5/8 × 5/8	16 × 16	014L0044
SGP 19s I	ODF × ODF solder	3/4 × 3/4	19 × 19	014L0047
SGP 22s I	ODF × ODF solder	7/8 × 7/8	22 × 22	014L0039
SGP 6s I	ODF × ODF solder	–	6 × 6	014L0040
SGP 10s I	ODF × ODF solder	–	10 × 10	014L0041
SGP 12s I	ODF × ODF solder	–	12 × 12	014L0042
SGP 18s I	ODF × ODF solder	–	18 × 18	014L0045
SGP 6s I	ODF × ODM solder	1/4 × 1/4	–	014L0125
SGP 10s I	ODF × ODM solder	3/8 × 3/8	–	014L0126
SGP 12s I	ODF × ODM solder	1/2 × 1/2	–	014L0127
SGP 16s I	ODF × ODM solder	5/8 × 5/8	16 × 16	014L0128
SGP 22s I	ODF × ODM solder	7/8 × 7/8	22 × 22	014L0130

[1]) Can be screwed directly into the filter drier.

Note
Only solder versions are allowed for flammable refrigerants.

Technical data and ordering

SGP N with N type indicator

Ordering



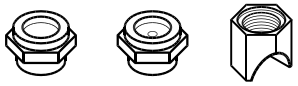
Type	Version	Connection [in]	Connection [mm]	Code no.
SGP 6 N	Flare ext. × ext.	1/4 × 1/4	6 × 6	014L0161
SGP 10 N	Flare ext. × ext.	3/8 × 3/8	10 × 10	014L0162
SGP 12 N	Flare ext. × ext.	1/2 × 1/2	12 × 12	014L0163
SGP 16 N	Flare ext. × ext.	5/8 × 5/8	16 × 16	014L0165
SGP 19 N	Flare ext. × ext.	3/4 × 3/4	19 × 19	014L0166
SGP 6 N	Flare int. × ext. [1]	1/4 × 1/4	6 × 6	014L0171
SGP 10 N	Flare int. × ext. [1]	3/8 × 3/8	10 × 10	014L0172
SGP 12 N	Flare int. × ext. [1]	1/2 × 1/2	12 × 12	014L0173
SGP 16 N	Flare int. × ext. [1]	5/8 × 5/8	16 × 16	014L0174
SGP 19 N	Flare int. × ext. [1]	3/4 × 3/4	19 × 19	014L0175
SGP 6s N	ODF × ODF solder	1/4 × 1/4	–	014L0181
SGP 10s N	ODF × ODF solder	3/8 × 3/8	–	014L0182
SGP 12s N	ODF × ODF solder	1/2 × 1/2	–	014L0183
SGP 16s N	ODF × ODF solder	5/8 × 5/8	16 × 16	014L0184
SGP 19s N	ODF × ODF solder	3/4 × 3/4	19 × 19	014L0185
SGP 22s N	ODF × ODF solder	7/8 × 7/8	22 × 22	014L0186
SGP 22s N [2]	ODF × ODF solder	1 1/8 × 1 1/8	–	014L0187
SGP 6s N	ODF × ODF solder	–	6 × 6	014L0191
SGP 10s N	ODF × ODF solder	–	10 × 10	014L0192
SGP 12s N	ODF × ODF solder	–	12 × 12	014L0193
SGP 18s N	ODF × ODF solder	–	18 × 18	014L0195
SGP 6s N	ODF × ODM solder	1/4 × 1/4	–	014L0201
SGP 10s N	ODF × ODM solder	3/8 × 3/8	–	014L0202
SGP 12s N	ODF × ODM solder	1/2 × 1/2	–	014L0203
SGP 16s N	ODF × ODM solder	5/8 × 5/8	16 × 16	014L0204
SGP 22s N	ODF × ODM solder	7/8 × 7/8	22 × 22	014L0206

[1]) Can be screwed directly into the filter drier.
[2]) Oversize connections.

Note
Only solder versions are allowed for flammable refrigerants.

SGP - socket type and SGS saddle

Ordering



Type	Version	Connection		Floating ball [pc]	O-ring	Code no.
		1	2			
SGP ¾ RX (no indicator)	G thread	G 3/4 A [1]	–	1	No	014L0004
	NPT	3/4 – 14 NPT [2]	–	1	No	014L0005
SGP ½ RX (no indicator)	NPT	1/2 – 14 NPT [2]	–	3	No	014L0002
SGP ½ RI (I type indicator)	NPT	1/2 – 14 NPT [2]	–	3	No	014L0131
SGP 24 RI (I type indicator)	M thread	M24 × 1	–	–	Yes	014L1154
SGP ½ RN (N type indicator)	NPT	1/2 – 14 NPT [2]	–	3	No	014L0006
SGP 24 RN (N type indicator)	M thread	M24 × 1	–	–	Yes	014L1155
SGP 20 RN (N type indicator)	M thread	M20 × 1.5	–	–	No	014L1601
SGS (saddle)	Tube fitting	M20 × 1.5	1 1/8	–	–	014-1071
	Tube fitting	M20 × 1.5	1 3/8	–	–	014-1074
	Tube fitting	M24 × 1	7/8	–	–	014-1059
	Tube fitting	M24 × 1	1 1/8	–	–	014-1056
	Tube fitting	M24 × 1	1 3/8	–	–	014-1057
	Tube fitting	M24 × 1	1 5/8	–	–	014-1058
	Tube fitting	M24 × 1	2 1/8	–	–	014-1067

[1]) ISO 228-1.
[2]) ANSI / ASME B1.20.1

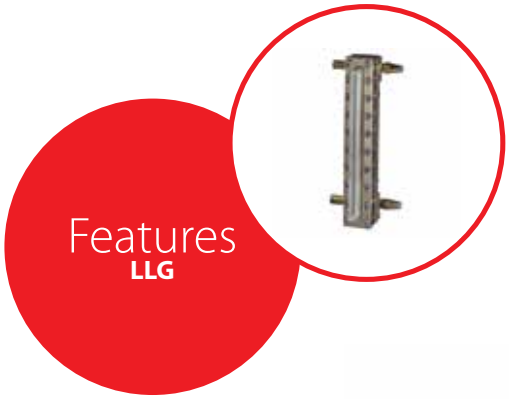
Note
Only solder versions are allowed for flammable refrigerants.

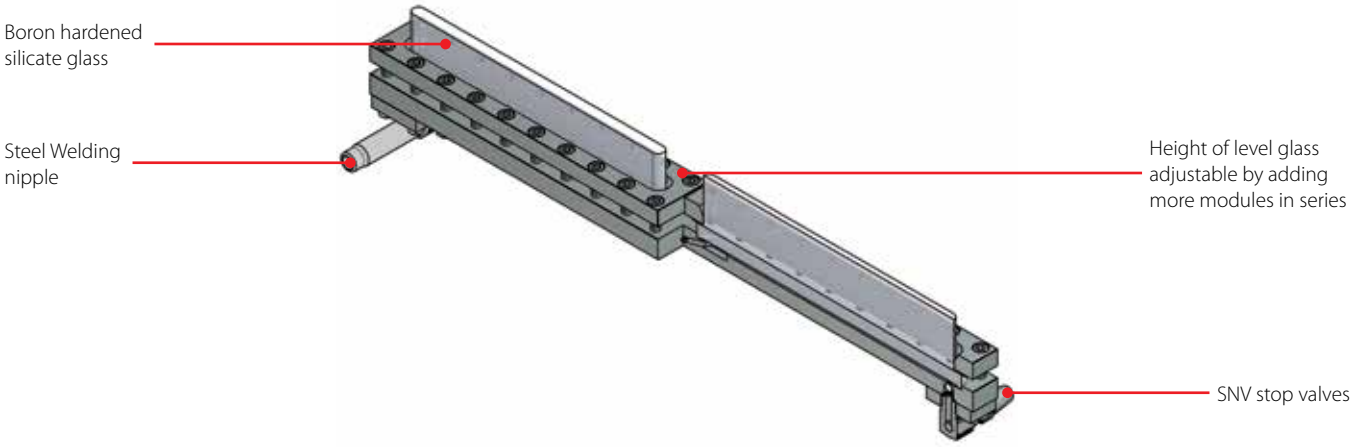
Quick Selection Notes:

LLG, Sight glass

LLG columnar sight glasses are made of ductile steel which meets the strictest requirements on industrial and marine refrigeration installations.

LLG has sufficient flow areas to secure the highest possible degree of synchronous operation, and have a specially hardened reflection glass for quick reading. The recessed bolts makes insulation easy while front access to the bolts facilitates inspection and service.





Facts

- All LLG sight glasses are equipped as standard with a built-in safety system (non return device). If a glass is damaged, the pressure of the refrigerant will activate the safety system and refrigerant loss will be limited to an absolute minimum
- Applicable to R717. Flammable hydrocarbons are not recommended. *For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.*
- Temperature range -10 – 100 °C / -50 – 30 °F
- Maximum operating pressure: 25 bar/psi g. Equipped with boron-silicate glass, hardened by an accurately controlled heat treatment process
- The range of sight glasses is based on 3 basic liquid level glasses: LLG 185, LLG 335 and LLG 740. The other standard lengths are combined by using variations of basic glass lengths. High reliability and durability due to maximum internal and external tightness
- The sight glasses are offered in 4 different versions:
  - with welding nipples (LLG)
  - with stop valves equipped with caps (LLG S)
  - with sight adapter in acrylic glass ready for insulation on site (LLG F)
  - with stop valves and sight adapter in acrylic glass ready for insulation on site (LLG SF)

Place LLG sight glass in CE approved applications with the stop valves in front i.e. LLG S or LLG SF

Technical data and ordering



LLG - Sight glass

Technical data

Temperatur range [°C / °F]	LLG S: -10 – 100 / 14 – 212 LLG SF: -50 – 30 / -58 – 86
Max. operating pressure [bar / psi g]	25 / 363
Strength test pressure [bar / psi g]	50 / 725
Leakage test pressure [bar / psi g]	25 / 363

Ordering

LLG with safety system and welding nipples

Type	Size		Code no.
	[in]	[mm]	
LLG 185	7 1/4	185	2512+049
LLG 335	13 1/4	335	2512+050
LLG 590	23 1/4	590	2512+051
LLG 740	29 1/4	740	2512+052
LLG 995	39 1/4	995	2512+053
LLG 1145	45	1145	2512+054
LLG 1550	61	1550	2512+055

LLG S with safety system and stop valves (SNV-ST)

Type	Size		Code no.
	[in]	[mm]	
LLG 185 S	7 1/4	185	2512+056
LLG 335 S	13 1/4	335	2512+057
LLG 590 S	23 1/4	590	2512+058
LLG 740 S	29 1/4	740	2512+059
LLG 995 S	39 1/4	995	2512+060
LLG 1145 S	45	1145	2512+061
LLG 1550 S	61	1550	2512+062

LLG F with safety system and sight adapter

Type	Size		Code no.
	[in]	[mm]	
LLG 185 F	7 1/4	185	2512+078
LLG 335 F	13 1/4	335	2512+079
LLG 590 F	23 1/4	590	2512+080
LLG 740 F	29 1/4	740	2512+081
LLG 995 F	39 1/4	995	2512+082
LLG 1145 F	45	1145	2512+083
LLG 1550 F	61	1550	2512+084

LLG SF with safety system, stop valves (SNV-ST) and sight adapter

Type	Size		Code no.
	[in]	[mm]	
LLG 185 SF	7 1/4	185	2512+066
LLG 335 SF	13 1/4	335	2512+067
LLG 590 SF	23 1/4	590	2512+068
LLG 740 SF	29 1/4	740	2512+069
LLG 995 SF	39 1/4	995	2512+070
LLG 1145 SF	45	1145	2512+071
LLG 1550 SF	61	1550	2512+072

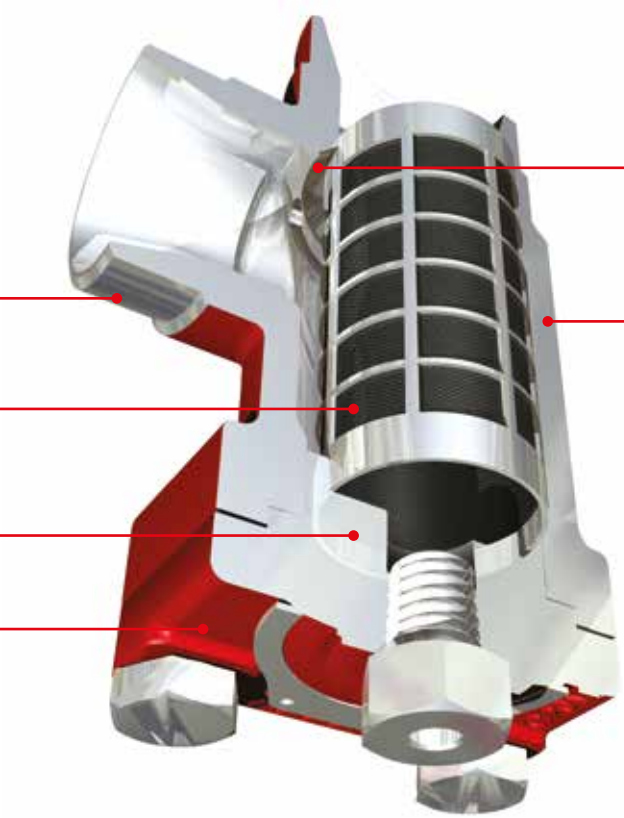
Important!
Where products need to be certified according to specific certification societies or where higher pressures are required, the relevant information should be included at the time of order.

FIA, Strainer - 52 bar / 754 psi

FIA strainers are a range of angleway and straightway strainers, carefully designed to give favourable flow conditions. The design makes the strainer easy to install, and ensures quick filter inspection and cleaning. The strainer is based on three main components – valve body, top cover, and strainer insert – and is available both as complete strainers and as parts programme.

FIA strainers are members of the SVL modular concept product family, so each valve body is available with several different connection types and sizes, and it is possible to convert FIA to any other product in the SVL family by replacing the complete top part. FIA strainers are used ahead of automatic controls, pumps, compressors etc., for initial plant start-up and where permanent filtration of the refrigerant is required. The strainer reduces the risk of system breakdowns and reduces wear and tear on plant components.





Facts

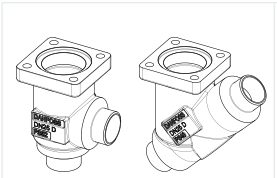
- Valve body is standard SVL angleway or straightway valve body allowing other inserts from the SVL platform to be installed
- Applicable to R717, R744, R113, R114, R1233zd(E), R1234yf, R1234ze(E), R125, R1270, R1336mzz(Z), R134a, R152a, R170, R22, R227ea, R23, R236fa, R290, R32, R401A, R402A, R402B, R404A, R407A, R407B, R407C, R407F, R407H, R408A, R409A, R410A, R417A, R421A, R422A, R422B, R422D, R427A, R438A, R444B, R447A, R448A, R449A, R449B, R450A, R452A, R454B, R455A, R502, R503, R507, R513A, R600, R600a and RE170
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- Strainer insert of stainless steel mounted directly without extra gaskets for easy servicing
- Two types of strainer inserts are available:
  - A plain insert of stainless steel
  - A pleated insert (DN 15 – 200) with extra large surface, which ensures low pressure drop and long intervals between cleaning
- **FIA 15 – 40 (½ – 1 ½ in)**:
  A special insert (50µ) can be used in combination with a standard version when cleaning a plant during commissioning
- **FIA 50 – FIA 200 (2 – 8 in)**:
  A large capacity filter bag (50µ) can be inserted for cleaning plant during commissioning
- **FIA 80 – FIA 300 (3 – 12 in)**:
  can be equipped with a magnetic insert for detention of iron particles and other magnetic particles
- Valve body and bonnet of low temperature steel in accordance with the requirements of the Pressure Equipment Directive and those of other international classification authorities
- Temperature range:
  -60 – 150 °C / -76 – 302 °F
- Max. working pressure:
  FIA 15-200: 52 bar g / 754 psi g
  FIA 250-300: 40 bar g / 580 psi g

Technical data

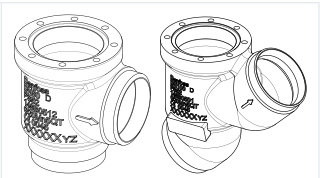
The Concept

Each valve housing is available with several different connection types and sizes.
It is possible to convert FIA strainers to any other product in the SVL family (shut-off valve, hand regulating valve, check & stop valve or check valve) just by replacing the complete top part.

The valve body

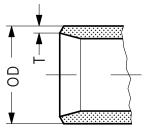
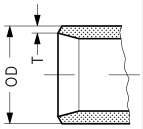
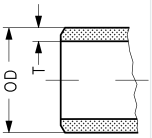
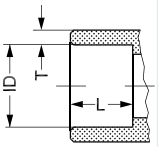
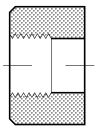


DN 15–65 mm (½ – 2 ½ in)



DN 80–125 mm (3 – 5 in)

Connection type

D / F	GOST	A	SOC	FPT
				
Butt-weld DIN Butt-weld F	Butt-weld GOST	Butt-weld ANSI	Socket weld ANSI	Female Pipe Thread

Selection of strainer size

The mesh aperture size of the strainer must satisfy the requirements stated by the suppliers of the equipment to be protected.
The following recommendations of aperture size apply in general to refrigeration installations:

All lines

First start up: 50 µ
(Use strainer insert with removable insert for FIA DN15 – 40 or separate filter bag for FIA DN 50 – 200. 50µ insert should normally be removed after the first 24 hours of operation).

Liquid Lines

Ahead of pumps: 500 µ [38 mesh]
After pumps: 150 µ [100 mesh] / 250 µ [72 mesh]
In front of AKVA valves: 100 µ [150 mesh]

Protection of automatic regulation equipment

Generally: 150 µ [100 mesh] / 250 µ [72 mesh]
Sensitive equipment, e.g. suction regulators with low temperature: 250 µ [72 mesh]

Suction Lines

Ahead of screw compressor: 250 µ [72 mesh]
Ahead of piston compressor: 150 µ [100 mesh]

Flow coefficient

(DIN / ANSI)

Connection size (DN) FIA	[µ]	[mesh]	wire [mm]	wire [in]	free space [%]	screen area			
						Plain inserts		Pleated inserts	
						[cm²]	[in²]	[cm²]	[in²]
15 – 20 (½ – ¾ in)	100	–	0.068	0.003	35	25	3.9	45	7.0
	150	100	0.10	0.004	36	25	3.9	45	7.0
	250	72	0.10	0.004	51	25	3.9	45	7.0
	500	38	0.16	0.006	57.6	25	3.9	45	7.0
25 – 40 (1 – 1 ½ in)	100	–	0.068	0.003	35	71	11	160	25.0
	150	100	0.10	0.004	36	71	11	160	25.0
	250	72	0.10	0.004	51	71	11	160	25.0
	500	38	0.16	0.006	57.6	71	11	160	25.0
50 (2 in)	100	–	0.068	0.003	35	71	11	200	31.2
	150	100	0.10	0.004	36	87	13.5	200	31.2
	250	72	0.10	0.004	51	87	13.5	200	31.2
	500	38	0.16	0.006	57.6	87	13.5	200	31.2
65 (2 ½ in)	150	100	0.10	0.004	36	127	19.7	305	47.6
	250	72	0.10	0.004	51	127	19.7	305	47.6
	500	38	0.16	0.006	57.6	127	19.7	305	47.6
80 (3 in)	150	100	0.10	0.004	36	205	31.8	450	70.2
	250	72	0.10	0.004	51	205	31.8	450	70.2
	500	38	0.16	0.006	57.6	205	31.8	450	70.2
100 (4 in)	150	100	0.10	0.004	36	370	57.4	790	123.2
	250	72	0.10	0.004	51	370	57.4	790	123.2
	500	38	0.16	0.006	57.6	370	57.4	790	123.2
125 (5 in)	150	100	0.10	0.004	36	510	79.1	1105	172.4
	250	72	0.10	0.004	51	510	79.1	1105	172.4
	500	38	0.16	0.006	57.6	510	79.1	1105	172.4
150 (6 in)	150	100	0.10	0.004	36	726	112.5	1600	249.6
	250	72	0.10	0.004	51	726	112.5	1600	249.6
	500	38	0.16	0.006	57.6	726	112.5	1600	249.6
200 (8 in)	150	100	0.10	0.004	36	1315	203.8	2900	453.1
	250	72	0.10	0.004	51	1315	203.8	2900	453.1
	500	38	0.16	0.006	57.6	1315	203.8	2900	453.1
250 (10 in)	150	100	0.10	0.004	36	1800	70.9	–	–
300 (12 in)	150	100	0.10	0.004	36	2590	102.0	–	–

Mesh is the number of threads per inch. µ (microns) is the distance between two threads (1 µ = 1/1000 mm).

Technical data

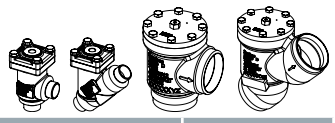
Selection of strainer size

K_v values

DN	FIA angle – plain strainer insert				FIA angle – pleated strainer insert		
	µ 100	µ 150	µ 250	µ 500	µ 150	µ 250	µ 500
15	3.3	3.4	3.5	3.7	4.2	–	–
20	6.9	7.1	7.3	7.7	8.8	–	–
25	13.8	14.0	14.5	15.2	17.2	17.9	–
32	23.0	23.8	24.7	25.5	29.2	30.5	–
40	25.1	25.5	26.4	28.1	31.4	32.6	–
50	45.1	45.9	47.6	50.2	56.7	58.8	62.0
65	–	56.1	57.8	60.4	69.3	71.4	74.6
80	–	104.6	108.0	113.1	129.2	133.4	139.7
100	–	162.4	167.5	176.0	200.6	206.9	217.4
125	–	275.4	283.9	298.4	340.2	350.7	368.6
150	–	362.1	373.2	391.9	447.3	462.9	–
200	–	572.9	590.8	620.5	–	–	–
250	–	784.5	808.9	–	–	–	–
300	–	1062.3	1095.4	–	–	–	–

DN	FIA straight – plain strainer insert				FIA straight – pleated strainer insert		
	µ 100	µ 150	µ 250	µ 500	µ 150	µ 250	µ 500
15	2.5	2.6	2.7	2.8	3.3	–	–
20	5.3	5.4	5.6	5.9	6.9	–	–
25	10.5	10.7	11.1	11.6	13.8	14.5	–
32	17.6	18.2	18.9	19.5	23.9	24.7	–
40	19.2	19.5	20.2	21.5	25.5	26.4	–
50	34.5	35.1	36.4	38.4	45.9	47.6	50.2
65	–	42.9	44.2	46.2	56.1	57.8	60.4
80	–	80.0	82.6	86.5	104.6	108.0	113.1
100	–	124.2	128.1	134.6	162.4	167.5	176.0
125	–	210.6	217.1	228.2	275.4	283.9	298.4
150	–	276.9	285.4	299.7	362.1	374.0	–
200	–	438.1	451.8	474.5	–	–	–

FIA - Strainer - 52 bar / 754 psi

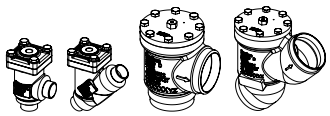


Ordering FIA strainer without strainer insert

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
FIA 15 angleway	1/2	15	Butt weld, EN 10220	D	148B5242
	1/2	15	Butt weld, ANSI (B 36.10)	A	148B5244
	1/2	15	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5246
	1/2	15	Socket weld, ANSI (B 16.11)	SOC	148B5245
FIA 15 straightway	1/2	15	Butt weld, EN 10220	D	148B5243
	1/2	15	Butt weld, ANSI (B 36.10)	A	148B5247
	1/2	15	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5249
	1/2	15	Socket weld, ANSI (B 16.11)	SOC	148B5248
FIA 20 angleway	3/4	20	Butt weld, EN 10220	D	148B5342
	3/4	20	Butt weld, ANSI (B 36.10)	A	148B5344
	3/4	20	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5346
	3/4	20	Socket weld, ANSI (B 16.11)	SOC	148B5345
FIA 20 straightway	3/4	20	Butt weld, EN 10220	D	148B5343
	3/4	20	Butt weld, ANSI (B 36.10)	A	148B5347
	3/4	20	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5349
	3/4	20	Socket weld, ANSI (B 16.11)	SOC	148B5348
FIA 25 angleway	1	25	Butt weld, EN 10220	D	148B5442
	1	25	Butt weld, ANSI (B 36.10)	A	148B5444
	1	25	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5446
	1	25	Socket weld, ANSI (B 16.11)	SOC	148B5445
FIA 25 straightway	1	25	Butt weld, EN 10220	D	148B5443
	1	25	Butt weld, ANSI (B 36.10)	A	148B5447
	1	25	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5449
	1	25	Socket weld, ANSI (B 16.11)	SOC	148B5448
FIA 32 angleway	1 1/4	32	Butt weld, EN 10220	D	148B5543
	1 1/4	32	Butt weld, ANSI (B 36.10)	A	148B5545
	1 1/4	32	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5547
	1 1/4	32	Socket weld, ANSI (B 16.11)	SOC	148B5546

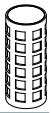
FIA - Strainer - 52 bar / 754 psi (count.)

Ordering FIA strainer without strainer insert



Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
FIA 32 straightway	1 1/4	32	Butt weld, EN 10220	D	148B5544
	1 1/4	32	Butt weld, ANSI (B 36.10)	A	148B5552
	1 1/4	32	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5549
	1 1/4	32	Socket weld, ANSI (B 16.11)	SOC	148B5548
FIA 40 angleway	1 1/2	40	Butt weld, EN 10220	D	148B5624
	1 1/2	40	Butt weld, ANSI (B 36.10)	A	148B5642
	1 1/2	40	Socket weld, ANSI (B 16.11)	SOC	148B5643
FIA 40 straightway	1 1/2	40	Butt weld, EN 10220	D	148B5625
	1 1/2	40	Butt weld, ANSI (B 36.10)	A	148B5644
	1 1/2	40	Socket weld, ANSI (B 16.11)	SOC	148B5645
FIA 50 angleway	2	50	Butt weld, EN 10220	D	148B5712
	2	50	Butt weld, ANSI (B 36.10)	A	148B5714
	2	50	Socket weld, ANSI (B 16.11)	SOC	148B5715
FIA 50 straightway	2	50	Butt weld, EN 10220	D	148B5713
	2	50	Butt weld, ANSI (B 36.10)	A	148B5716
	2	50	Socket weld, ANSI (B 16.11)	SOC	148B5717
FIA 65 angleway	2 1/2	65	Butt weld, EN 10220	D	148B5812
	2 1/2	65	Butt weld, ANSI (B 36.10)	A	148B5814
FIA 65 straightway	2 1/2	65	Butt weld, EN 10220	D	148B5813
	2 1/2	65	Butt weld, ANSI (B 36.10)	A	148B5815
FIA 80 angleway	3	80	Butt weld, EN 10220	D	148B5905
	3	80	Butt weld, ANSI (B 36.10)	A	148B5907
FIA 80 straightway	3	80	Butt weld, EN 10220	D	148B5906
	3	80	Butt weld, ANSI (B 36.10)	A	148B5908
FIA 100 angleway	4	100	Butt weld, EN 10220	D	148B6006
	4	100	Butt weld, ANSI (B 36.10)	A	148B6008
FIA 100 straightway	4	100	Butt weld, EN 10220	D	148B6007
	4	100	Butt weld, ANSI (B 36.10)	A	148B6009
FIA 125 angleway	5	125	Butt weld, EN 10220	D	148B6105
	5	125	Butt weld, ANSI (B 36.10)	A	148B6107
FIA 125 straightway	5	125	Butt weld, EN 10220	D	148B6106
	5	125	Butt weld, ANSI (B 36.10)	A	148B6108
FIA 150 angleway	6	150	Butt weld, EN 10220	D	148B6202
	6	150	Butt weld, ANSI (B 36.10)	A	148B6204
	6	150	Butt weld, F	F	148B6442
	6	150	Butt weld, GOST	G	148B6206
FIA 150 straightway	6	150	Butt weld, EN 10220	D	148B6203
	6	150	Butt weld, ANSI (B 36.10)	A	148B6205
	6	150	Butt weld, F	F	148B6444
	6	150	Butt weld, GOST	G	148B6207
FIA 200 angleway	8	200	Butt weld, EN 10220	D	148B6302
	8	200	Butt weld, ANSI (B 36.10)	A	148B6304
	8	200	Butt weld, F	F	148B6443
FIA 200 straightway	8	200	Butt weld, EN 10220	D	148B6303
	8	200	Butt weld, ANSI (B 36.10)	A	148B6305
	8	200	Butt weld, F	F	148B6445
FIA 250 angleway	10	250	Butt weld, EN 10220	D	148H3171
	10	250	Butt weld, ANSI (B 36.10)	A	148H3173
FIA 300 angleway	12	300	Butt weld, EN 10220	D	148H3172
	12	300	Butt weld, ANSI (B 36.10)	A	148H3174

Technical data and ordering



FIA - Strainer - 52 bar / 754 psi

Ordering - plain strainer insert

For strainer	[µ]	[mesh]	Code no.
FIA 15 – 20	100	150	148H3122
	150	100	148H3124
	250	72	148H3126
	500	38	148H3128
FIA 25 – 40	100	150	148H3123
	150	100	148H3125
	250	72	148H3127
	500	38	148H3129
FIA 50	100	150	148H3157
	150	100	148H3130
	250	72	148H3138
	500	38	148H3144
FIA 65	150	100	148H3131
	250	72	148H3139
	500	38	148H3145
FIA 80	150	100	148H3119
	250	72	148H3120
	500	38	148H3121
FIA 100	150	100	148H3132
	250	72	148H3140
	500	38	148H3146
FIA 125	150	100	148H3133
	250	72	148H3141
	500	38	148H3147
FIA 150	150	100	148H3134
	250	72	148H3142
	500	38	148H3148
FIA 200	150	100	148H3135
	250	72	148H3143
	500	38	148H3149
FIA 250	150	100	148H3136
	250	72	148H3175
FIA 300	150	100	148H3137
	250	72	148H3176

Ordering - pleated strainer insert

For strainer	[µ]	[mesh]	Code no.
FIA 15 – 20	150	100	148H3303
	250	72	148H3363
FIA 25 – 40	150	100	148H3304
	250	72	148H3269
FIA 50	150	100	148H3179
	250	72	148H3184
	500	38	148H3189
FIA 65	150	100	148H3180
	250	72	148H3185
	500	38	148H3190
FIA 80	150	100	148H3181
	250	72	148H3186
	500	38	148H3191
FIA 100	150	100	148H3182
	250	72	148H3187
	500	38	148H3192
FIA 125	150	100	148H3183
	250	72	148H3188
	500	38	148H3193
FIA 150	150	100	148H3226
	250	72	148H3293 *)
FIA 200	150	100	148H3297
	250	72	148H3294 *)

*) mesh 60

Technical data and ordering

Acessories

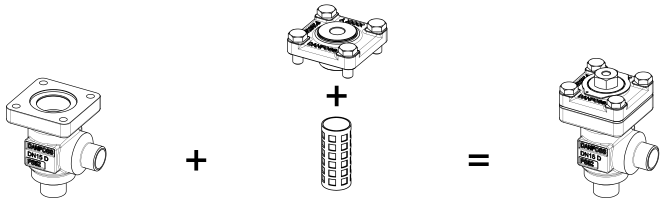
Part	Accessory for	Code no.
Magnet insert	FIA 80 – 100	148H3447
	FIA 125 – 300	148H3448
Strainer insert µ150 with removable insert µ50 for the first start up	FIA 15 – 20	148H3301
	FIA 25 – 40	148H3302
Filter bag	FIA 50	148H3150
	FIA 65	148H3151
	FIA 80	148H3152
	FIA 100	148H3153
	FIA 125	148H3154
	FIA 150	148H3155
	FIA 200	148H3156
Purge valve complete	FIA 50 – 300	148B3745
Blind nut with gasket	FIA 50 – 300	148H3450

Technical data and ordering

Ordering from the parts programme (valve body + top part + strainer insert)

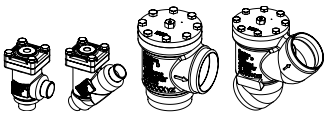
(For strainer insert code numbers; please see the section "*ordering plain strainer inserts*" or "*ordering pleated strainer inserts*")

Example



Valve body, size 15 (1/2 in), DIN butt weld, angleway, **148B5452**

Top part, FIA, size 25 (1 in) **148B5476** + Strainer insert 250 µ, 72 mesh **148H3127**



FIA 15 - Valve body - 52 bar / 754 psi

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
FIA 15 angleway	1/2	15	Butt weld, EN 10220	D	148B5252
	1/2	15	Butt weld, ANSI (B 36.10)	A	148B5254
	1/2	15	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5258
	1/2	15	Socket weld, ANSI (B 16.11)	SOC	148B5256
	1/2	15	Butt weld, F	F	148B6414
	1/2	15	Butt weld, GOST	G	148B5391
FIA 15 straightway	1/2	15	Butt weld, EN 10220	D	148B5253
	1/2	15	Butt weld, ANSI (B 36.10)	A	148B5255
	1/2	15	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5259
	1/2	15	Socket weld, ANSI (B 16.11)	SOC	148B5257
	1/2	15	Butt weld, F	F	148B6424
	1/2	15	Butt weld, GOST	G	148B5392

FIA 15 - Top part - 52 bar / 754 psi [1])

Type		Code no.
FIA 15		148B5284

FIA 20 - Valve body - 52 bar / 754 psi

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
FIA 20 angleway	3/4	20	Butt weld, EN 10220	D	148B5352
	3/4	20	Butt weld, ANSI (B 36.10)	A	148B5354
	3/4	20	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5358
	3/4	20	Socket weld, ANSI (B 16.11)	SOC	148B5356
	3/4	20	Butt weld, F	F	148B6415
	3/4	20	Butt weld, GOST	G	148B5393
FIA 20 straightway	3/4	20	Butt weld, EN 10220	D	148B5353
	3/4	20	Butt weld, ANSI (B 36.10)	A	148B5355
	3/4	20	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5359
	3/4	20	Socket weld, ANSI (B 16.11)	SOC	148B5357
	3/4	20	Butt weld, F	F	148B6425
	3/4	20	Butt weld, GOST	G	148B5394

FIA 20 - Top part - 52 bar / 754 psi [1])

Type		Code no.
FIA 20		148B5284

FIA 25 - Valve body - 52 bar / 754 psi

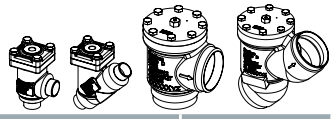
Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
FIA 25 angleway	1	25	Butt weld, EN 10220	D	148B5452
	1	25	Butt weld, ANSI (B 36.10)	A	148B5454
	1	25	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5458
	1	25	Socket weld, ANSI (B 16.11)	SOC	148B5456
	1	25	Butt weld, F	F	148B6416
	1	25	Butt weld, GOST	G	148B6498
FIA 25 straightway	1	25	Butt weld, EN 10220	D	148B5453
	1	25	Butt weld, ANSI (B 36.10)	A	148B5455
	1	25	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5459
	1	25	Socket weld, ANSI (B 16.11)	SOC	148B5457
	1	25	Butt weld, F	F	148B6426
	1	25	Butt weld, GOST	G	148B6499

FIA 25 - Top part - 52 bar / 754 psi [1])

Type		Code no.
FIA 25		148B5484

[1]) *Including gaskets and bolts.*

Technical data and ordering



FIA 32 - Valve body - 52 bar / 754 psi

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
FIA 32 angleway	1 1/4	32	Butt weld, EN 10220	D	148B5576
	1 1/4	32	Butt weld, ANSI (B 36.10)	A	148B5578
	1 1/4	32	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5582
	1 1/4	32	Socket weld, ANSI (B 16.11)	SOC	148B5580
	1 1/4	32	Butt weld, F	F	148B6417
	1 1/4	32	Butt weld, GOST	G	148B5593
FIA 32 straightway	1 1/4	32	Butt weld, EN 10220	D	148B5577
	1 1/4	32	Butt weld, ANSI (B 36.10)	A	148B5579
	1 1/4	32	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5583
	1 1/4	32	Socket weld, ANSI (B 16.11)	SOC	148B5581
	1 1/4	32	Butt weld, F	F	148B6427
	1 1/4	32	Butt weld, GOST	G	148B5594

FIA 32 - Top part - 52 bar / 754 psi [1])

Type		Code no.
FIA 32		148B5484

FIA 40 - Valve body - 52 bar / 754 psi

Type	Connection size		Connection type	Connection designation	Code number
	[in]	[mm]			
FIA 40 angleway	1 1/2	40	Butt weld, EN 10220	D	148B5652
	1 1/2	40	Butt weld, ANSI (B 36.10)	A	148B5654
	1 1/2	40	Socket weld, ANSI (B 16.11)	SOC	148B5656
	1 1/2	40	Butt weld, F	F	148B6418
	1 1/2	40	Butt weld, GOST	G	148B5681
FIA 40 straightway	1 1/2	40	Butt weld, EN 10220	D	148B5653
	1 1/2	40	Butt weld, ANSI (B 36.10)	A	148B5655
	1 1/2	40	Socket weld, ANSI (B 16.11)	SOC	148B5657
	1 1/2	40	Butt weld, F	F	148B6428
	1 1/2	40	Butt weld, GOST	G	148B5682

FIA 40 - Top part - 52 bar / 754 psi [1])

Type		Code no.
FIA 40		148B5484

FIA 50 - Valve body - 52 bar / 754 psi

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
FIA 50 angleway	2	50	Butt weld, EN 10220	D	148B5741
	2	50	Butt weld, ANSI (B 36.10)	A	148B5743
	2	50	Socket weld, ANSI (B 16.11)	SOC	148B5745
	2	50	Butt weld, F	F	148B6419
	2	50	Butt weld, GOST	G	148B5759
FIA 50 straightway	2	50	Butt weld, EN 10220	D	148B5742
	2	50	Butt weld, ANSI (B 36.10)	A	148B5744
	2	50	Socket weld, ANSI (B 16.11)	SOC	148B5746
	2	50	Butt weld, F	F	148B6429
	2	50	Butt weld, GOST	G	148B5760

FIA 50 - top part - 52 bar / 754 psi [1])

Type		Code no.
FIA 50		148B5748

FIA 65 - Valve body - 52 bar / 754 psi

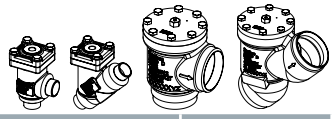
Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
FIA 65 angleway	2 1/2	65	Butt weld, EN 10220	D	148B5816
	2 1/2	65	Butt weld, ANSI (B 36.10)	A	148B5818
	2 1/2	65	Butt weld, F	F	148B6420
	2 1/2	65	Butt weld, GOST	G	148B5816
FIA 65 straightway	2 1/2	65	Butt weld, EN 10220	D	148B5817
	2 1/2	65	Butt weld, ANSI (B 36.10)	A	148B5819
	2 1/2	65	Butt weld, F	F	148B6430
	2 1/2	65	Butt weld, GOST	G	148B5817

FIA 65 - Top part - 52 bar / 754 psi [1])

Type		Code no.
FIA 65		148B5832

[1]) *Including gaskets and bolts.*

Technical data and ordering



FIA 80 - Valve body - 52 bar / 754 psi

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
FIA 80 angleway	3	80	Butt weld, EN 10220	D	148B5912
	3	80	Butt weld, ANSI (B 36.10)	A	148B5914
	3	80	Butt weld, F	F	148B6421
	3	80	Butt weld, GOST	G	148B5912
FIA 80 straightway	3	80	Butt weld, EN 10220	D	148B5913
	3	80	Butt weld, ANSI (B 36.10)	A	148B5915
	3	80	Butt weld, F	F	148B6431
	3	80	Butt weld, GOST	G	148B5913

FIA 80 - Top part - 52 bar / 754 psi [1])

Type		Code no.
FIA 80		148B5922

FIA 100 - Valve body - 52 bar / 754 psi

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
FIA 100 angleway	4	100	Butt weld, EN 10220	D	148B6014
	4	100	Butt weld, ANSI (B 36.10)	A	148B6016
	4	100	Butt weld, F	F	148B6422
	4	100	Butt weld, GOST	G	148B6033
FIA 100 straightway	4	100	Butt weld, EN 10220	D	148B6015
	4	100	Butt weld, ANSI (B 36.10)	A	148B6017
	4	100	Butt weld, F	F	148B6432
	4	100	Butt weld, GOST	G	148B6034

FIA 100 - Top part - 52 bar / 754 psi [1])

Type		Code no.
FIA 100		148B6024

FIA 125 - Valve body - 52 bar / 754 psi

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
FIA 125 angleway	5	125	Butt weld, EN 10220	D	148B6112
	5	125	Butt weld, ANSI (B 36.10)	A	148B6114
	5	125	Butt weld, F	F	148B6423
	5	125	Butt weld, GOST	G	148B6133
FIA 125 straightway	5	125	Butt weld, EN 10220	D	148B6113
	5	125	Butt weld, ANSI (B 36.10)	A	148B6115
	5	125	Butt weld, F	F	148B6433
	5	125	Butt weld, GOST	G	148B6134

FIA 125 - Top part - 52 bar / 754 psi [1])

Type		Code no.
FIA 125		148B6122

[1]) *Including gaskets and bolts.*

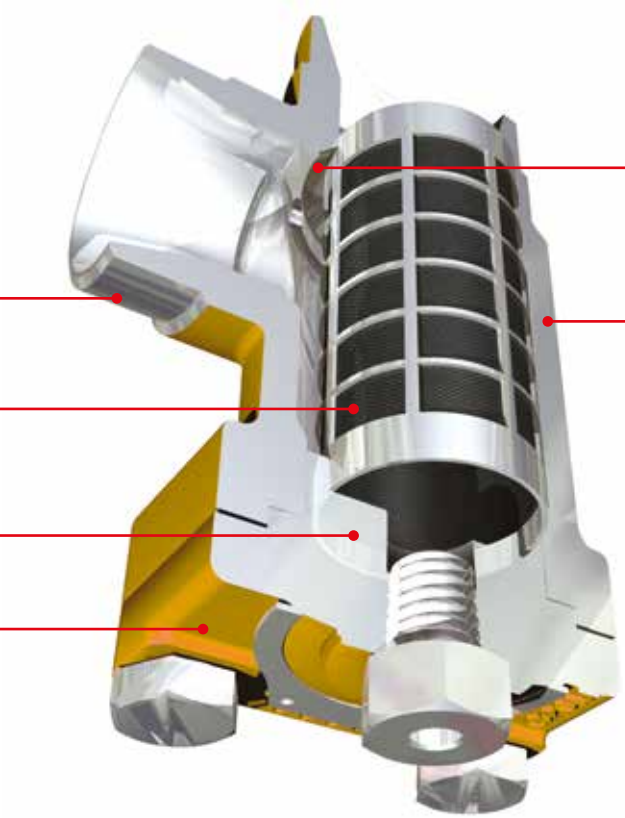
Quick Selection Notes:

FIA, Strainer - 65 bar / 943 psi

FIA strainers are a range of angleway and straightway strainers, carefully designed to give favourable flow conditions. The design makes the strainer easy to install, and ensures quick filter inspection and cleaning. The strainer is based on three main components – valve body, top cover, and strainer insert – and is available both as complete strainers and as parts programme.

FIA strainers are members of the SVL modular concept product family, so each valve body is available with several different connection types and sizes, and it is possible to convert FIA to any other product in the SVL family by replacing the complete top part. FIA strainers are used ahead of automatic controls, pumps, compressors etc., for initial plant start-up and where permanent filtration of the refrigerant is required. The strainer reduces the risk of system breakdowns and reduces wear and tear on plant components.





Facts

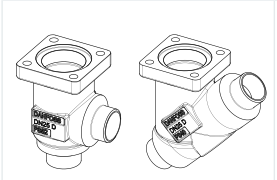
- Valve body is standard SVL angleway or straightway valve body allowing other inserts from the SVL platform to be installed
- Applicable to R717, R744, R113, R114, R1233zd(E), R1234yf, R1234ze(E), R125, R1270, R1336mzz(Z), R134a, R152a, R170, R22, R227ea, R23, R236fa, R290, R32, R401A, R402A, R402B, R404A, R407A, R407B, R407C, R407F, R407H, R408A, R409A, R410A, R417A, R421A, R422A, R422B, R422D, R427A, R438A, R444B, R447A, R448A, R449A, R449B, R450A, R452A, R454B, R455A, R502, R503, R507, R513A, R600, R600a and RE170
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- Strainer insert of stainless steel mounted directly without extra gaskets for easy servicing
- Two types of strainer inserts are available:
  - A plain insert of stainless steel
  - A pleated insert (DN 15 – 200) with extra large surface, which ensures low pressure drop and long intervals between cleaning
- **FIA 15 – 40 (½ – 1 ½ in)**:
  A special insert (50µ) can be used in combination with a standard version when cleaning a plant during commissioning
- **FIA 50 – FIA 200 (2 – 8 in)**:
  A large capacity filter bag (50µ) can be inserted for cleaning plant during commissioning
- **FIA 80 – FIA 200 (3 – 8 in)**:
  can be equipped with a magnetic insert for detention of iron particles and other magnetic particles
- Valve body and bonnet of low temperature steel in accordance with the requirements of the Pressure Equipment Directive and those of other international classification authorities
- Temperature range:
  -60 – 150 °C / -76 – 302 °F
- Max. working pressure:
  65 bar g / 943 psi g
- Equipped with 42CrMo5 bolts to withstand high pressure

Technical data

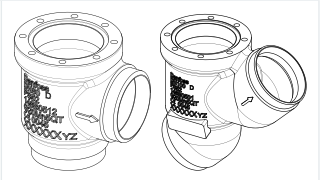
The Concept

Each valve housing is available with several different connection types and sizes.
It is possible to convert FIA strainers to any other product in the SVL family (shut-off valve, hand regulating valve, check & stop valve or check valve) just by replacing the complete top part.

The valve body

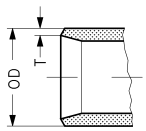
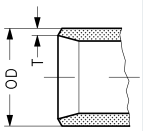
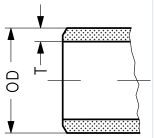
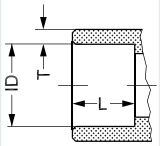
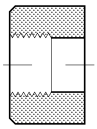


DN 15–65 mm (½ – 2 ½ in)



DN 80–125 mm (3 – 5 in)

Connection type

D / F	GOST	A	SOC	FPT
				
Butt-weld DIN Butt-weld F	Butt-weld GOST	Butt-weld ANSI	Socket weld ANSI	Female Pipe Thread

Selection of strainer size

The mesh aperture size of the strainer must satisfy the requirements stated by the suppliers of the equipment to be protected.
The following recommendations of aperture size apply in general to refrigeration installations:

All lines

First start up: 50 µ
(Use strainer insert with removable insert for FIA DN15 – 40 or separate filter bag for FIA DN 50 – 200. 50µ insert should normally be removed after the first 24 hours of operation).

Liquid Lines

Ahead of pumps: 500 µ [38 mesh]
After pumps: 150 µ [100 mesh] / 250 µ [72 mesh]
In front of AKVA valves: 100 µ [150 mesh]

Protection of automatic regulation equipment

Generally: 150 µ [100 mesh] / 250 µ [72 mesh]
Sensitive equipment, e.g. suction regulators with low temperature: 250 µ [72 mesh]

Suction Lines

Ahead of screw compressor: 250 µ [72 mesh]
Ahead of piston compressor: 150 µ [100 mesh]

Flow coefficient

(DIN / ANSI)

Connection size (DN) FIA	[µ]	[mesh]	wire [mm]	wire [in]	free space [%]	screen area			
						Plain inserts		Pleated inserts	
						[cm²]	[in²]	[cm²]	[in²]
15 – 20 (½ – ¾ in)	100	–	0.068	0.003	35	25	3.9	45	7.0
	150	100	0.10	0.004	36	25	3.9	45	7.0
	250	72	0.10	0.004	51	25	3.9	45	7.0
	500	38	0.16	0.006	57.6	25	3.9	45	7.0
25 – 40 (1 – 1 ½ in)	100	–	0.068	0.003	35	71	11	160	25.0
	150	100	0.10	0.004	36	71	11	160	25.0
	250	72	0.10	0.004	51	71	11	160	25.0
	500	38	0.16	0.006	57.6	71	11	160	25.0
50 (2 in)	100	–	0.068	0.003	35	71	11	200	31.2
	150	100	0.10	0.004	36	87	13.5	200	31.2
	250	72	0.10	0.004	51	87	13.5	200	31.2
	500	38	0.16	0.006	57.6	87	13.5	200	31.2
65 (2 ½ in)	150	100	0.10	0.004	36	127	19.7	305	47.6
	250	72	0.10	0.004	51	127	19.7	305	47.6
	500	38	0.16	0.006	57.6	127	19.7	305	47.6
80 (3 in)	150	100	0.10	0.004	36	205	31.8	450	70.2
	250	72	0.10	0.004	51	205	31.8	450	70.2
	500	38	0.16	0.006	57.6	205	31.8	450	70.2
100 (4 in)	150	100	0.10	0.004	36	370	57.4	790	123.2
	250	72	0.10	0.004	51	370	57.4	790	123.2
	500	38	0.16	0.006	57.6	370	57.4	790	123.2
125 (5 in)	150	100	0.10	0.004	36	510	79.1	1105	172.4
	250	72	0.10	0.004	51	510	79.1	1105	172.4
	500	38	0.16	0.006	57.6	510	79.1	1105	172.4

Mesh is the number of threads per inch. µ (microns) is the distance between two threads (1 µ = 1/1000 mm).

Technical data

Selection of strainer size

K_v values

DN	FIA angle – plain strainer insert				FIA angle – pleated strainer insert		
	µ 100	µ 150	µ 250	µ 500	µ 150	µ 250	µ 500
15	3.3	3.4	3.5	3.7	4.2	–	–
20	6.9	7.1	7.3	7.7	8.8	–	–
25	13.8	14.0	14.5	15.2	17.2	17.9	–
32	23.0	23.8	24.7	25.5	29.2	30.5	–
40	25.1	25.5	26.4	28.1	31.4	32.6	–
50	45.1	45.9	47.6	50.2	56.7	58.8	62.0
65	–	56.1	57.8	60.4	69.3	71.4	74.6
80	–	104.6	108.0	113.1	129.2	133.4	139.7
100	–	162.4	167.5	176.0	200.6	206.9	217.4
125	–	275.4	283.9	298.4	340.2	350.7	368.6

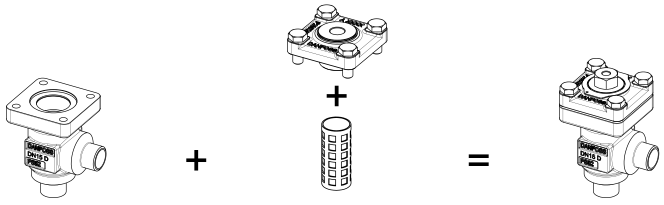
DN	FIA straight – plain strainer insert				FIA straight – pleated strainer insert		
	µ 100	µ 150	µ 250	µ 500	µ 150	µ 250	µ 500
15	2.5	2.6	2.7	2.8	3.3	–	–
20	5.3	5.4	5.6	5.9	6.9	–	–
25	10.5	10.7	11.1	11.6	13.8	14.5	–
32	17.6	18.2	18.9	19.5	23.9	24.7	–
40	19.2	19.5	20.2	21.5	25.5	26.4	–
50	34.5	35.1	36.4	38.4	45.9	47.6	50.2
65	–	42.9	44.2	46.2	56.1	57.8	60.4
80	–	80.0	82.6	86.5	104.6	108.0	113.1
100	–	124.2	128.1	134.6	162.4	167.5	176.0
125	–	210.6	217.1	228.2	275.4	283.9	298.4

Technical data and ordering

Ordering from the parts programme (valve body + top part + strainer insert)

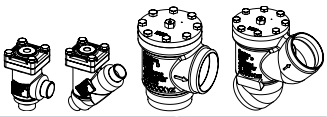
(For strainer insert code numbers; please see the section "*ordering plain strainer inserts*" or "*ordering pleated strainer inserts*")

Example



Valve body, size 15 (1/2 in), DIN butt weld, angleway, **148B6622**

Top part, FIA, size 15 (1/2 in) **148B5783** + Strainer insert 250 µ, 72 mesh **148H3126**



FIA 15 - Valve body - 65 bar / 943 psi

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
FIA 15 angleway	1/2	15	Butt weld, EN 10220	D	148B6622
	1/2	15	Butt weld, ANSI (B 36.10)	A	148B6612
FIA 15 straightway	1/2	15	Butt weld, EN 10220	D	148B6642
	1/2	15	Butt weld, ANSI (B 36.10)	A	148B6632

FIA 15 - Top part - 65 bar / 943 psi [1])

Type		Code no.
FIA 15		148B5783

FIA 20 - Valve body - 65 bar / 943 psi

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
FIA 20 angleway	3/4	20	Butt weld, EN 10220	D	148B6623
	3/4	20	Butt weld, ANSI (B 36.10)	A	148B6613
FIA 20 straightway	3/4	20	Butt weld, EN 10220	D	148B6643
	3/4	20	Butt weld, ANSI (B 36.10)	A	148B6633

FIA 20 - Top part - 65 bar / 943 psi [1])

Type		Code no.
FIA 20		148B5783

FIA 25 - Valve body - 65 bar / 943 psi

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
FIA 25 angleway	1	25	Butt weld, EN 10220	D	148B6624
	1	25	Butt weld, ANSI (B 36.10)	A	148B6614
FIA 25 straightway	1	25	Butt weld, EN 10220	D	148B6644
	1	25	Butt weld, ANSI (B 36.10)	A	148B6634

FIA 25 - Top part - 65 bar / 943 psi [1])

Type		Code no.
FIA 25		148B5784

FIA 32 - Valve body - 65 bar / 943 psi

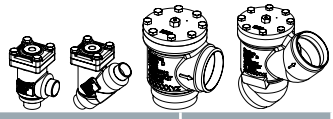
Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
FIA 32 angleway	1 1/4	32	Butt weld, EN 10220	D	148B6625
	1 1/4	32	Butt weld, ANSI (B 36.10)	A	148B6615
FIA 32 straightway	1 1/4	32	Butt weld, EN 10220	D	148B6645
	1 1/4	32	Butt weld, ANSI (B 36.10)	A	148B6635

FIA 32 - Top part - 65 bar / 943 psi [1])

Type		Code no.
FIA 32		148B5784

[1]) *Including gaskets and bolts.*

Technical data and ordering



FIA 40 - Valve body - 65 bar / 943 psi

Type	Connection size		Connection type	Connection designation	Code number
	[in]	[mm]			
FIA 40 angleway	1 ½	40	Butt weld, EN 10220	D	148B6626
	1 ½	40	Butt weld, ANSI (B 36.10)	A	148B6616
FIA 40 straightway	1 ½	40	Butt weld, EN 10220	D	148B6646
	1 ½	40	Butt weld, ANSI (B 36.10)	A	148B6636

FIA 40 - Top part - 65 bar / 943 psi [1])

Type		Code no.
FIA 40		148B5784

FIA 50 - Valve body - 65 bar / 943 psi

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
FIA 50 angleway	2	50	Butt weld, EN 10220	D	148B6627
	2	50	Butt weld, ANSI (B 36.10)	A	148B6617
FIA 50 straightway	2	50	Butt weld, EN 10220	D	148B6647
	2	50	Butt weld, ANSI (B 36.10)	A	148B6637

FIA 50 - top part - 65 bar / 943 psi [1])

Type		Code no.
FIA 50		148B5785

FIA 65 - Valve body - 65 bar / 943 psi

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
FIA 65 angleway	2 ½	65	Butt weld, EN 10220	D	148B6628
	2 ½	65	Butt weld, ANSI (B 36.10)	A	148B6618
FIA 65 straightway	2 ½	65	Butt weld, EN 10220	D	148B6648
	2 ½	65	Butt weld, ANSI (B 36.10)	A	148B6638

FIA 65 - Top part - 65 bar / 943 psi [1])

Type		Code no.
FIA 65		148B5786

FIA 80 - Valve body - 65 bar / 943 psi

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
FIA 80 angleway	3	80	Butt weld, EN 10220	D	148B6629
	3	80	Butt weld, ANSI (B 36.10)	A	148B6619
FIA 80 straightway	3	80	Butt weld, EN 10220	D	148B6649
	3	80	Butt weld, ANSI (B 36.10)	A	148B6639

FIA 80 - Top part - 65 bar / 943 psi [1])

Type		Code no.
FIA 80		148B5787

FIA 100 - Valve body - 65 bar / 943 psi

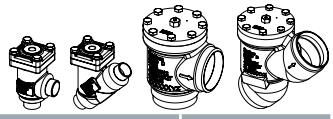
Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
FIA 100 angleway	4	100	Butt weld, EN 10220	D	148B6630
	4	100	Butt weld, ANSI (B 36.10)	A	148B6620
FIA 100 straightway	4	100	Butt weld, EN 10220	D	148B6650
	4	100	Butt weld, ANSI (B 36.10)	A	148B6640

FIA 100 - Top part - 65 bar / 943 psi [1])

Type		Code no.
FIA 100		148B5788

[1]) Including gaskets and bolts.

Technical data and ordering



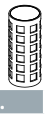
FIA 125 - Valve body - 65 bar / 943 psi

Type	Connection size		Connection type	Connection designation	Code no.
	[in]	[mm]			
FIA 125 angleway	5	125	Butt weld, EN 10220	D	148B6631
	5	125	Butt weld, ANSI (B 36.10)	A	148B6621
FIA 125 straightway	5	125	Butt weld, EN 10220	D	148B6651
	5	125	Butt weld, ANSI (B 36.10)	A	148B6641

FIA 125 - Top part - 65 bar / 943 psi [1])

Type		Code no.
FIA 125		148B5789

[1]) *Including gaskets and bolts.*



FIA - Strainer

Ordering - plain strainer insert

For strainer	[µ]	[mesh]	Code no.
FIA 15 – 20	100	150	148H3122
	150	100	148H3124
	250	72	148H3126
	500	38	148H3128
FIA 25 – 40	100	150	148H3123
	150	100	148H3125
	250	72	148H3127
	500	38	148H3129
FIA 50	100	150	148H3157
	150	100	148H3130
	250	72	148H3138
	500	38	148H3144
FIA 65	150	100	148H3131
	250	72	148H3139
	500	38	148H3145
FIA 80	150	100	148H3119
	250	72	148H3120
	500	38	148H3121
FIA 100	150	100	148H3132
	250	72	148H3140
	500	38	148H3146
FIA 125	150	100	148H3133
	250	72	148H3141
	500	38	148H3147

Ordering - pleated strainer insert

For strainer	[µ]	[mesh]	Code no.
FIA 15 – 20	150	100	148H3303
	250	72	148H3363
FIA 25 – 40	150	100	148H3304
	250	72	148H3269
FIA 50	150	100	148H3179
	250	72	148H3184
	500	38	148H3189
FIA 65	150	100	148H3180
	250	72	148H3185
	500	38	148H3190
FIA 80	150	100	148H3181
	250	72	148H3186
	500	38	148H3191
FIA 100	150	100	148H3182
	250	72	148H3187
	500	38	148H3192
FIA 125	150	100	148H3183
	250	72	148H3188
	500	38	148H3193

Technical data and ordering

Acessories

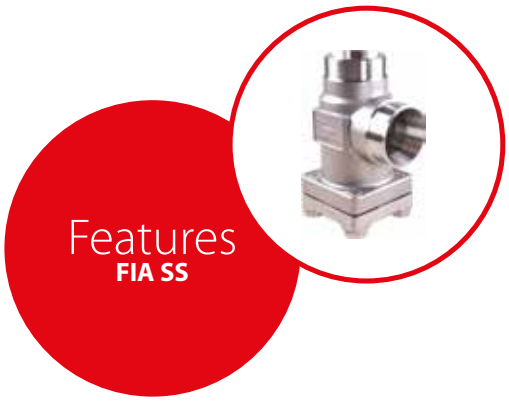
Part	Accessory for	Code no.
Magnet insert	FIA 80 – 100	148H3447
	FIA 125	148H3448
Strainer insert µ150 with removable insert µ50 for the first start up	FIA 15 – 20	148H3301
	FIA 25 – 40	148H3302
Filter bag	FIA 50	148H3150
	FIA 65	148H3151
	FIA 80	148H3152
	FIA 100	148H3153
	FIA 125	148H3154
Purge valve complete	FIA 50 – 125	148B3745
Blind nut with gasket	FIA 50 – 125	148H3450

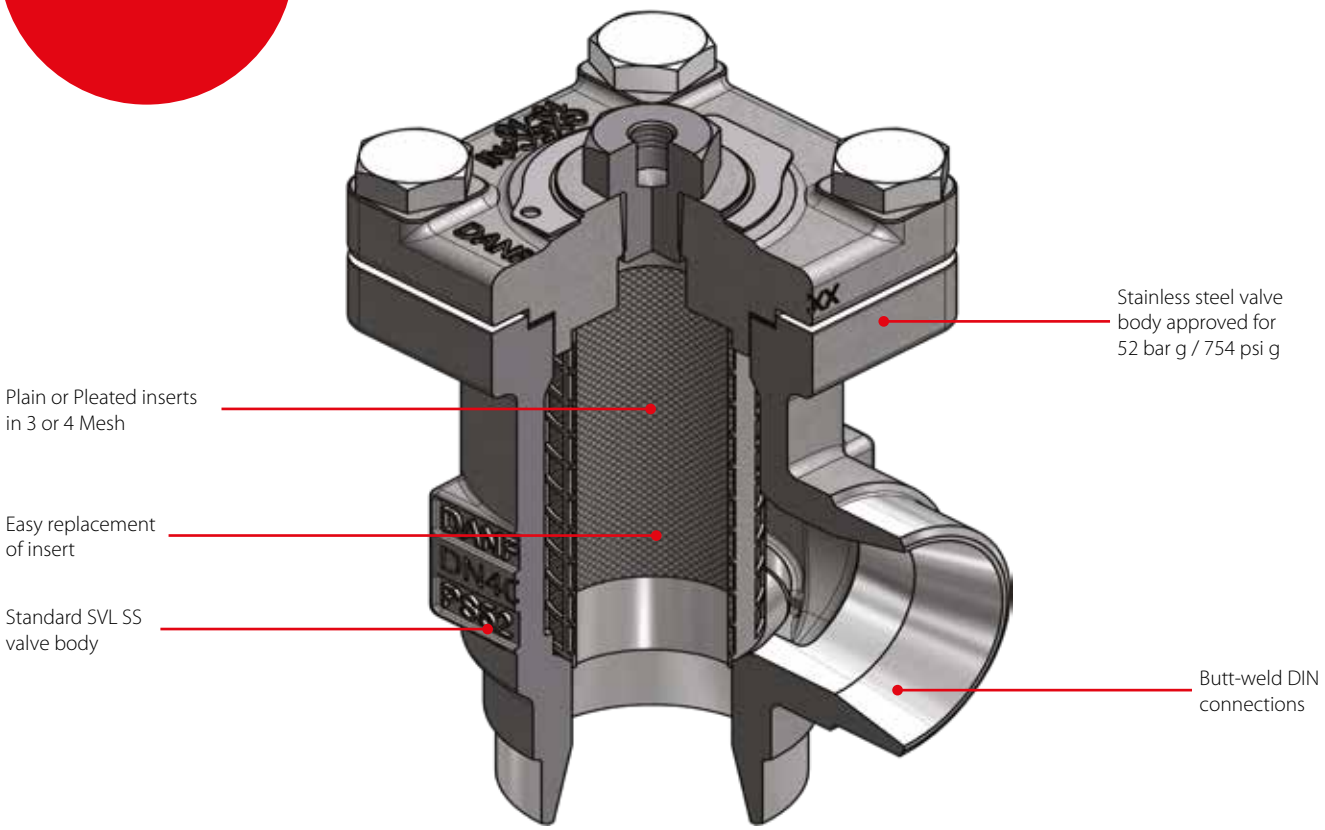
Quick Selection Notes:

FIA SS, Strainer

FIA SS strainers are a range of angle-way and straight-way stainless steel strainers, carefully designed to give favourable flow conditions. The design makes the strainer easy to install, and ensures quick strainer inspection and cleaning.

FIA SS strainers are used ahead of automatic controls, pumps, compressors etc., for initial plant start-up and where permanent filtration of the refrigerant is required.
The strainer reduces the risk of undesirable system breakdowns and reduces wear and tear on plant components.





Facts

- Applicable to R717, R744, R113, R114, R1233zd(E), R1234yf, R1234ze(E), R125, R1270, R1336mzz(Z), R134a, R152a, R170, R22, R227ea, R23, R236fa, R290, R32, R401A, R402A, R402B, R404A, R407A, R407B, R407C, R407F, R407H, R408A, R409A, R410A, R417A, R421A, R422A, R422B, R422D, R427A, R438A, R444B, R447A, R448A, R449A, R449B, R450A, R452A, R454B, R455A, R502, R503, R507, R513A, R600, R600a and RE170
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- Strainer insert of stainless steel mounted directly without extra gaskets for easy servicing
- Two types of strainer inserts are available:
  - A plain insert of stainless steel
  - A pleated insert (DN 15 – 65) with extra large surface, which ensures low pressure drop and long intervals between cleaning
- **FIA SS 15 – 40 (1/2 – 1 1/2 in)**:
  A special insert (50 µ) can be used in combination with a standard version when cleaning a plant during commissioning
- **FIA SS 50 – 65 (2 – 2 1/2 in)**:
  A large capacity filter bag (50 µ) can be inserted for cleaning plant during commissioning.
- Valve body and bonnet in stainless steel
- Temperature range:
  -60 – 150 °C / -76 – 302 °F
- Max. working pressure:
  52 bar g / 754 psi g

Technical data

Selection of strainer size

The mesh aperture size of the strainer must satisfy the requirements stated by the suppliers of the equipment to be protected.
The following recommendations of aperture size apply in general to refrigeration installations:

All lines

First start up: 50 µ
(Use strainer insert with removable insert for FIA SS DN15 – 40 or separate filter bag for FIA SS DN 50–65. 50µ insert should normally be removed after the first 24 hours of operation)

Liquid Lines

Ahead of pumps: 500 µ [38 mesh]
After pumps: 150 µ [100 mesh] / 250 µ [72 mesh]
In front of AKVA valves: 100 µ [150 mesh]

Protection of automatic regulation equipment

Generally: 150 µ [100 mesh] / 250 µ [72 mesh]
Sensitive equipment, e.g. suction regulators with low temperature: 250 µ [72 mesh]

Suction Lines

Ahead of screw compressor: 250 µ [72 mesh]
Ahead of piston compressor: 150 µ [100 mesh]

Flow coefficient

(DIN / ANSI)

Connection size (DN) FIA SS	[µ]	[mesh]	wire [mm]	wire [in]	free space [%]	screen area			
						Plain inserts		Pleated inserts	
						[cm²]	[in²]	[cm²]	[in²]
15–20 (½ – ¾ in)	100	–	0.068	0.003	35	25	3.9	45	7.0
	150	100	0.10	0.004	36	25	3.9	45	7.0
	250	72	0.10	0.004	51	25	3.9	45	7.0
	500	38	0.16	0.006	57.6	25	3.9	45	7.0
25–40 (1 – 1 ½ in)	100	–	0.068	0.003	35	71	11	160	25.0
	150	100	0.10	0.004	36	71	11	160	25.0
	250	72	0.10	0.004	51	71	11	160	25.0
	500	38	0.16	0.006	57.6	71	11	160	25.0
50 (2 in)	100	–	0.068	0.003	35	71	11	200	31.2
	150	100	0.10	0.004	36	87	13.5	200	31.2
	250	72	0.10	0.004	51	87	13.5	200	31.2
	500	38	0.16	0.006	57.6	87	13.5	200	31.2
65 (2 ½ in)	150	100	0.10	0.004	36	127	19.7	305	47.6
	250	72	0.10	0.004	51	127	19.7	305	47.6
	500	38	0.16	0.006	57.6	127	19.7	305	47.6

Mesh is the number of threads per inch. µ (microns) is the distance between two threads (1 µ = 1/1000 mm).

Selection of strainer size

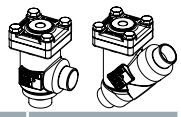
K_V values

DN	FIA SS angle – plain strainer insert				FIA SS angle – pleated strainer insert		
	µ 100	µ 150	µ 250	µ 500	µ 150	µ 250	µ 500
15	3.3	3.4	3.5	3.7	4.2	–	–
20	6.9	7.1	7.3	7.7	8.8	–	–
25	13.8	14.0	14.5	15.2	17.2	17.9	–
32	23.0	23.8	24.7	25.5	29.2	30.5	–
40	25.1	25.5	26.4	28.1	31.4	32.6	–
50	45.1	45.9	47.6	50.2	56.7	58.8	62.0
65	–	56.1	57.8	60.4	69.3	71.4	74.6

DN	FIA SS straight – plain strainer insert				FIA SS straight – pleated strainer insert		
	µ 100	µ 150	µ 250	µ 500	µ 150	µ 250	µ 500
15	2.5	2.6	2.7	2.8	3.3	–	–
20	5.3	5.4	5.6	5.9	6.9	–	–
25	10.5	10.7	11.1	11.6	13.8	14.5	–
32	17.6	18.2	18.9	19.5	23.9	24.7	–
40	19.2	19.5	20.2	21.5	25.5	26.4	–
50	34.5	35.1	36.4	38.4	45.9	47.6	50.2
65	–	42.9	44.2	46.2	56.1	57.8	60.4

Technical data and ordering

FIA SS - Strainer without strainer insert



Ordering

Type	Connection size		Connection type	Connection designation	Code number
	[in]	[mm]			
FIA SS 15 angleway	1/2	15	Butt weld DIN, EN 10220	D	148B5295
FIA SS 15 straightway	1/2	15	Butt weld DIN, EN 10220	D	148B5296
FIA SS 15 straightway	1/2	15	Butt weld ANSI, B 36.19M	A	148B6493
FIA SS 20 angleway	3/4	20	Butt weld DIN, EN 10220	D	148B5383
FIA SS 20 straightway	3/4	20	Butt weld DIN, EN 10220	D	148B5384
FIA SS 20 straightway	3/4	20	Butt weld ANSI, B 36.19M	A	148B6494
FIA SS 25 angleway	1	25	Butt weld DIN, EN 10220	D	148B5492
FIA SS 25 straightway	1	25	Butt weld DIN, EN 10220	D	148B5493
FIA SS 25 straightway	1	25	Butt weld ANSI, B 36.19M	A	148B6495
FIA SS 32 angleway	1 1/4	32	Butt weld DIN, EN 10220	D	148B5587
FIA SS 32 straightway	1 1/4	32	Butt weld DIN, EN 10220	D	148B5588
FIA SS 32 straightway	1 1/4	32	Butt weld ANSI, B 36.19M	A	148B6496
FIA SS 40 angleway	1 1/2	40	Butt weld DIN, EN 10220	D	148B5666
FIA SS 40 straightway	1 1/2	40	Butt weld DIN, EN 10220	D	148B5667
FIA SS 40 straightway	1 1/2	40	Butt weld ANSI, B 36.19M	A	148B6497
FIA SS 50 angleway	2	50	Butt weld DIN, EN 10220	D	148B5757
FIA SS 50 straightway	2	50	Butt weld DIN, EN 10220	D	148B5758
FIA SS 65 angleway	2 1/2	65	Butt weld DIN, EN 10220	D	148B5851
FIA SS 65 angleway	2 1/2	65	Butt weld ANSI, B 36.19M	A	148B6498
FIA SS 65 straightway	2 1/2	65	Butt weld DIN, EN 10220	D	148B5852
FIA SS 65 straightway	2 1/2	65	Butt weld ANSI, B 36.19M	A	148B6499

FIA SS - Plain strainer insert



Ordering

For strainer	[µ]	[mesh]	Code number
FIA SS 15–20	100	150	148H3122
	150	100	148H3124
	250	72	148H3126
	500	38	148H3128
FIA SS 25–40	100	150	148H3123
	150	100	148H3125
	250	72	148H3127
	500	38	148H3129
FIA SS 50	100	150	148H3157
	150	100	148H3130
	250	72	148H3138
	500	38	148H3144
FIA SS 65	150	100	148H3131
	250	72	148H3139
	500	38	148H3145

Technical data and ordering

FIA SS - Pleated strainer insert

Ordering

For strainer	[µ]	[mesh]	Code number
FIA SS 15–20	150	100	148H3303
	250	72	148H3363
FIA SS 25–40	150	100	148H3304
	250	72	148H3269
FIA SS 50	150	100	148H3179
	250	72	148H3184
	500	38	148H3189
FIA SS 65	150	100	148H3180
	250	72	148H3185
	500	38	148H3190

Ordering accessories

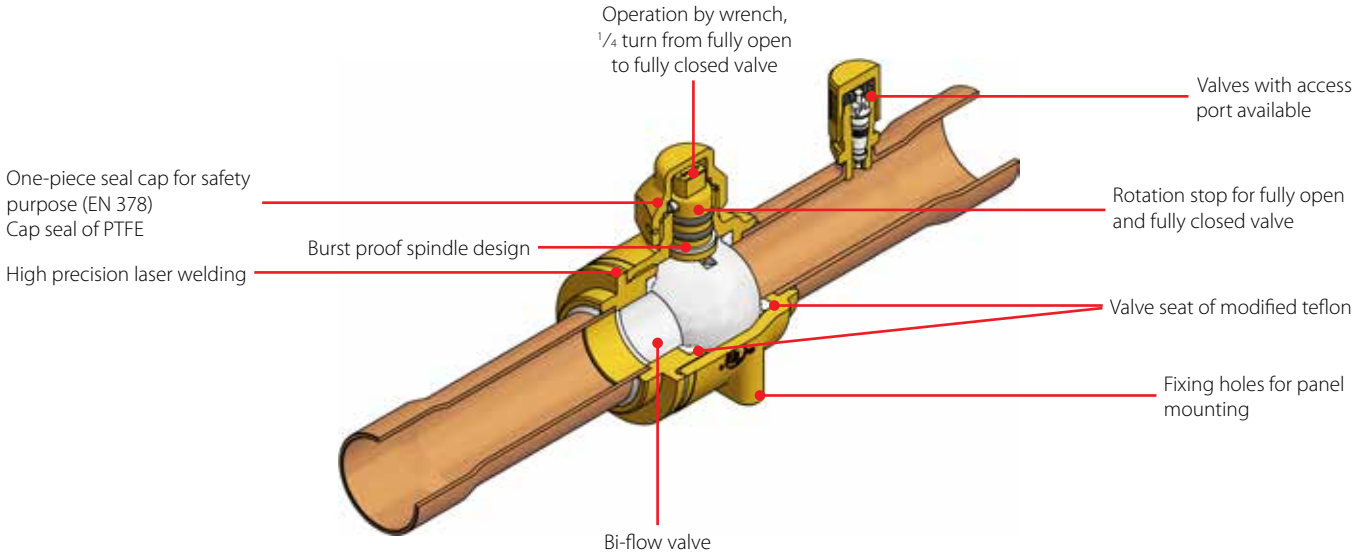
Part	Accessory for	Code number
Strainer insert µ150 with removable insert µ50 for the first start up	FIA SS 15 – 20	148H3301
	FIA SS 25 – 40	148H3302
Filter bag	FIA SS 50	148H3150
	FIA SS 65	148H3151
Purge valve complete	FIA SS 50 – 65	148B3745
Blind nut with gasket	FIA SS 50 – 65	148H3450

GBC version 2, Shut-off ball valve

GBC v2 shut-off ball valves are manually operated valves suitable for bi-directional flow.
Shut-off ball valves are used in liquid, suction and hot gas lines in refrigeration, freezing and air conditioning systems.

The GBC v2 bi-directional shut-off ball valves can be delivered with or without external access port.
The valves have one-piece wire seal cap to prevent unintentional cap removal or tampering between services.





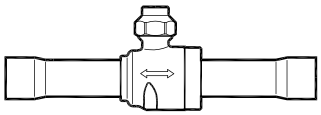
Facts

Application:
- GBC v2 valves are used in liquid, suction and hot gas lines in all refrigeration and air-conditioning systems with fluorinated refrigerants
- Applicable to R134a, R22 / R407C, R404A / R507, R407A, R407F, R410A, R448A, R449A, R450A, R452A, R513A, R1234ze. GBC 6s – GBC 28s can be used with R32, R454B, R452B, R290.
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- Full flow with minimum pressure drop
- Bi-directional flow, i.e. valve orientation is unimportant
- ¼ turn from fully open to fully closed
- Burst proof spindle design
- Selected Teflon and O-ring material to secure the best tightness and long lifetime
- Versions with access port helps in reducing cost if service of the system is necessary
- One-piece seal cap for safety purpose
- Complies with European Safety Directive EN 378 *(Safety and environmental requirements)*
- Ball status indicator on spindle top indicating open or closed position
- Laser welded construction
- Drilled and tapped for panel mounting
- Double O-ring stem seal design
- Customized brass material ensures consistent performance under aggressive environment
- Approvals: C UL US LISTED, EAC, CE

Technical data and ordering

Type	Media temperature range	Max. working pressure (PS/MWP)
GBC 6s – GBC 42s	-40 – 150 °C / -40 – 300 °F (short term for 150 °C / 300 °F) For long term use in high temperature application, please consult Danfoss.	45 bar / 650 psig
GBC 54s – GBC 79s	-40 – 121 °C / -40 – 250 °F	45 bar / 650 psig

GBC v2 without access port, Solder ODF / ODF

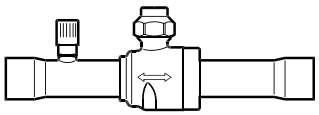


Ordering

Type	Solder ODF / ODF connection		Max. working pressure PS / MWP		K_V value [1] [m³/h]	C_V value [1] [gal/min]	Code no.
	[in]	[mm]	[bar]	[psig]			
GBC 6s	–	6	45	650	1.83	2.12	009L7030
GBC 6s	1/4	–	45	650	1.83	2.12	009L7020
GBC 10s	–	10	45	650	8.04	9.29	009L7031
GBC 10s	3/8	–	45	650	8.04	9.29	009L7021
GBC 12s	–	12	45	650	13.17	15.22	009L7032
GBC 12s	1/2	–	45	650	13.17	15.22	009L7022
GBC 16s	5/8	16	45	650	15.6	18.1	009L7023
GBC 18s	–	18	45	650	21.9	25.3	009L7035
GBC 18s	3/4	–	45	650	21.9	25.3	009L7024
GBC 22s	7/8	22	45	650	33.3	38.5	009L7025
GBC 28s	–	28	45	650	62	71	009L7033
GBC 28s	1 1/8	–	45	650	62	71	009L7026
GBC 35s	1 3/8	35	45	650	92	107	009L7027
GBC 42s	–	42	45	650	134	155	009L7034
GBC 42s	1 5/8	–	45	650	134	155	009L7028
GBC 54s	2 1/8	54	45	650	240	277	009L7029
GBC 67s	2 5/8	–	45	650	367	424	009L7959
GBC 67s RP	2 5/8	–	45	650	203	234	009L7036
GBC 79s	3 1/8	–	45	650	528	611	009L7980
GBC 79s RP	3 1/8	–	45	650	171	198	009L7037

[1]) Calculated based on fluid dynamic equations. RP: Reduced Port

GBC v2 with access port, Solder ODF / ODF



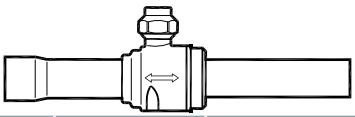
Ordering

Type	Solder ODF / ODF connection		Max. working pressure PS / MWP		K_V value [1] [m³/h]	C_V value [1] [gal/min]	Code no.
	[in]	[mm]	[bar]	[psig]			
GBC 6s	–	6	45	650	1.83	2.12	009L7060
GBC 6s	1/4	–	45	650	1.83	2.12	009L7050
GBC 10s	–	10	45	650	8.04	9.29	009L7061
GBC 10s	3/8	–	45	650	8.04	9.29	009L7051
GBC 12s	–	12	45	650	13.17	15.22	009L7062
GBC 12s	1/2	–	45	650	13.17	15.22	009L7052
GBC 16s	5/8	16	45	650	15.6	18.1	009L7053
GBC 18s	–	18	45	650	21.9	25.3	009L7065
GBC 18s	3/4	–	45	650	21.9	25.3	009L7054
GBC 22s	7/8	22	45	650	33.3	38.5	009L7055
GBC 28s	–	28	45	650	62	71	009L7063
GBC 28s	1 1/8	–	45	650	62	71	009L7056
GBC 35s	1 3/8	35	45	650	92	107	009L7057
GBC 42s	–	42	45	650	134	155	009L7064
GBC 42s	1 5/8	–	45	650	134	155	009L7058
GBC 54s	2 1/8	54	45	650	240	277	009L7059
GBC 67s	2 5/8	–	45	650	367	424	009L7960
GBC 67s RP	2 5/8	–	45	650	203	234	009L7066
GBC 79s	3 1/8	–	45	650	528	611	009L7981
GBC 79s RP	3 1/8	–	45	650	171	198	009L7067

[1]) Calculated based on fluid dynamic equations. RP: Reduced Port

Technical data and ordering

GBC v2 without access port, Solder ODF / ODM

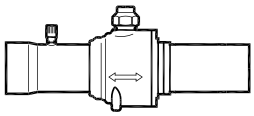


Ordering

Type	Solder ODF / ODM connection		Max. working pressure PS / MWP		K_V value [1] [m³/h]	C_V value [1] [gal/min]	Code no.
	[in]	[mm]	[bar]	[psig]			
GBC 22s	7/8	22	45	650	33.3	38.5	009L7000
GBC 28s	1 1/8	–	45	650	62	71	009L7001
GBC 35s	1 3/8	35	45	650	92	107	009L7002
GBC 42s	1 5/8	–	45	650	134	155	009L7003
GBC 79s	3 1/8	–	45	650	528	611	009L7969

[1]) Calculated based on fluid dynamic equations.

GBC v2 with access port, Solder ODF / ODM



Ordering

Type	Solder ODF / ODM connection		Max. working pressure PS / MWP		K_V value [1] [m³/h]	C_V value [1] [gal/min]	Code no.
	[in]	[mm]	[bar]	[psig]			
GBC 28s	7/8	–	45	650	62	71	009L7097
GBC 35s	1 1/8	35	45	650	92	107	009L7098
GBC 42s	1 3/8	–	45	650	134	155	009L7099
GBC 54s	1 5/8	54	45	650	240	277	009L7069
GBC 67s	3 1/8	–	45	650	367	424	009L7958
GBC 79s	3 1/8	–	45	650	528	611	009L7970

[1]) Calculated based on fluid dynamic equations.

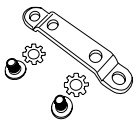
Spare parts - Seal cap kit



Ordering

Type	Valve connection size		Industrial pack	Code no.
	[in]	[mm]		
GBC 6s - GBC 12s	1/4 – 1/2	6 – 12	6	009L7209
GBC 16s – GBC 22s	5/8 – 7/8	16 – 22	6	009L7210
GBC 28s – GBC 35s	1 1/8 – 1 3/8	28 – 35	4	009L7211
GBC 42s - GBC 79s	1 5/8 – 3 1/8	42 -79	4	009L7212

Spare parts - Bracket kit



Ordering

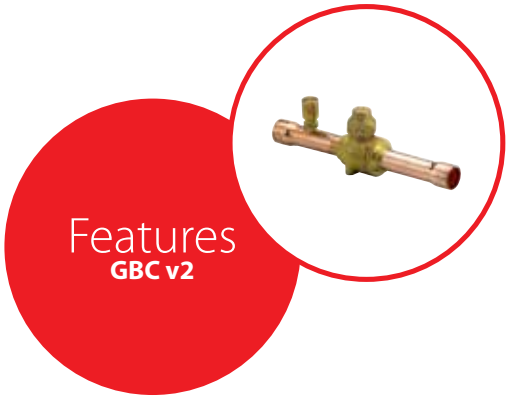
Type	Valve connection size		Industrial pack	Code no.
	[in]	[mm]		
GBC 6s - GBC 12s	1/4 – 1/2	6 – 12	12	009G7089
GBC 16s	5/8	16	12	009G7084
GBC 18s - GBC 22s	3/4 – 7/8	18 – 22	12	009G7085
GBC 28s	1 1/8	28	10	009G7086
GBC 35s	1 3/8	35	5	009G7087
GBC 42s	1 5/8	42	4	009G7088

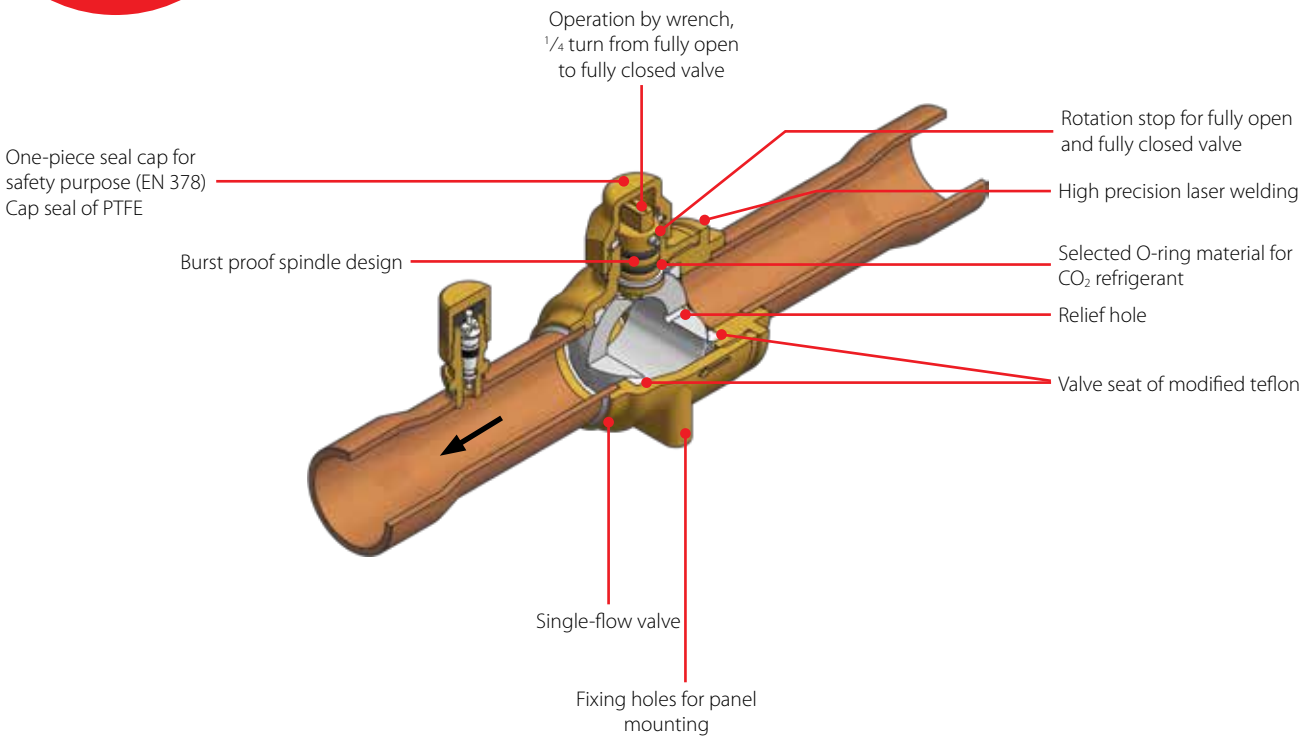
Quick Selection Notes:

GBC version 2, Shut-off ball valve for R744 (CO_2) low pressure

Danfoss shut-off ball valves, type GBC v2 for CO_2 are manually operated shut-off valves only for single-flow direction.
The valves are approved for applications in liquid, suction and hot-gas lines in refrigeration and air conditioning systems.
The valves offer maximum tightness across the seat/seal with minimum pressure drop.

These ball valves give maximum flow in the fully open position. They are designed for operation within a broad temperature range.
The valves are equipped with a one-piece seal cap to prevent tampering.





Facts

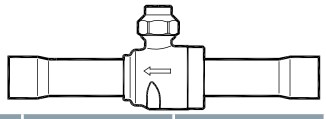
Application:
- The valves can be used for applications in liquid, suction and hot-gas lines in refrigeration and air-conditioning systems
- Applicable to R744 (CO_2)

- Slimline body - easier to install and service
- ¼ turn from fully open to fully closed
- Rotation stops at fully open and fully closed positions
- Indicator on spindle top shows degree of opening
- Precision laser welded construction
- Burst-proof spindle design
- Valve seal of low friction, tight-sealing modified PTFE Teflon®
- Double O-ring stem seal design
- Selected O-ring material for CO_2 refrigerant

- Customized brass material ensures consistent performance under aggressive environment
- Drilled and tapped for panel mounting
- Relief hole design to release entrapped liquid
- Media temperature range: -40 – 100 °C / -40 – 212 °F
- Max. working pressure (PS / MWP): 45 bar / 650 psig
- Flow direction: Single-flow
- Approval: C UL US LISTED, EAC, CE

Technical data and ordering

GBC v2 without access port, solder ODF / ODF

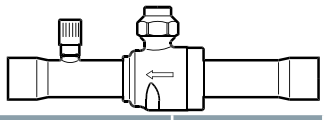


Ordering

Type	Solder ODF / ODF connection		Max. working pressure PS / MWP		K_V value [1] [m^3/h]	C_V value [1] [gal/min]	Code no.
	[in]	[mm]	[bar]	[psig]			
GBC 6s	–	6	45	650	1.74	2.01	009L7570
GBC 6s	1/4	–	45	650	1.74	2.01	009L7520
GBC 10s	–	10	45	650	7.52	8.69	009L7571
GBC 10s	3/8	–	45	650	7.52	8.69	009L7521
GBC 12s	–	12	45	650	12.9	14.9	009L7572
GBC 12s	1/2	–	45	650	12.9	14.9	009L7522
GBC 16s	5/8	16	45	650	15.7	18.1	009L7523
GBC 18s	–	18	45	650	21.9	25.4	009L7574
GBC 18s	3/4	–	45	650	21.9	25.4	009L7524
GBC 22s	7/8	22	45	650	33.3	38.5	009L7525
GBC 28s	–	28	45	650	62	71	009L7576
GBC 28s	1 1/8	–	45	650	62	71	009L7526
GBC 35s	1 3/8	35	45	650	92	107	009L7528
GBC 42s	–	42	45	650	134	155	009L7579
GBC 42s	1 5/8	–	45	650	134	155	009L7529

[1]) *calculated based on fluid dynamic equations*

GBC v2 with access port, solder ODF / ODF

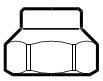


Ordering

Type	Solder ODF / ODF connection		K_V value [1] [m^3/h]	C_V value [1] [gal/min]	Code no.
	[in]	[mm]			
GBC 6s	1/4	–	1.74	2.01	009L7553
GBC 6s	–	6	1.74	2.01	009L7554
GBC 10s	3/8	–	7.52	8.69	009L7555
GBC 10s	–	10	7.52	8.69	009L7556
GBC 12s	1/2	–	12.92	14.94	009L7557
GBC 12s	–	12	12.92	14.94	009L7558
GBC 16s	5/8	16	15.66	18.1	009L7534
GBC 18s	3/4	–	21.93	25.35	009L7563
GBC 18s	–	18	21.93	25.35	009L7564
GBC 22s	7/8	22	33.34	38.54	009L7536
GBC 28s	1 1/8	–	62.25	71.96	009L7565
GBC 28s	–	28	62.25	71.96	009L7566
GBC 35s	1 3/8	35	92.76	107.23	009L7567
GBC 42s	1 5/8	–	134.76	155.78	009L7568
GBC 42s	–	42	134.76	155.78	009L7569

[1]) *calculated based on fluid dynamic equations*

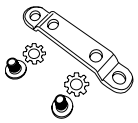
Spare parts - Seal cap kit



Ordering

Type	Valve connection size		Industrial pack	Code no.
	[in]	[mm]		
GBC 6s - GBC 22s	1/4 – 7/8	6 – 22	6	009L7210
GBC 28s - GBC 35s	1 1/8 – 1 3/8	28 – 35	4	009L7211
GBC 42s	1 5/8	42	4	009L7212

Spare parts - Bracket kit



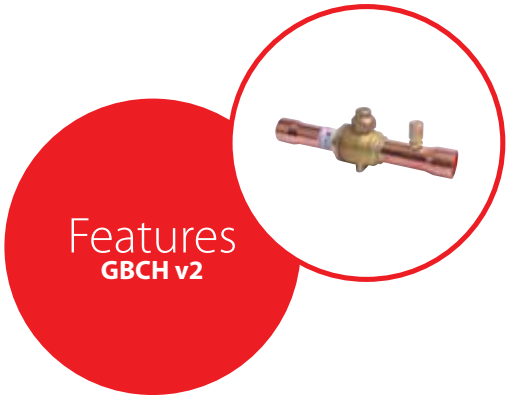
Ordering

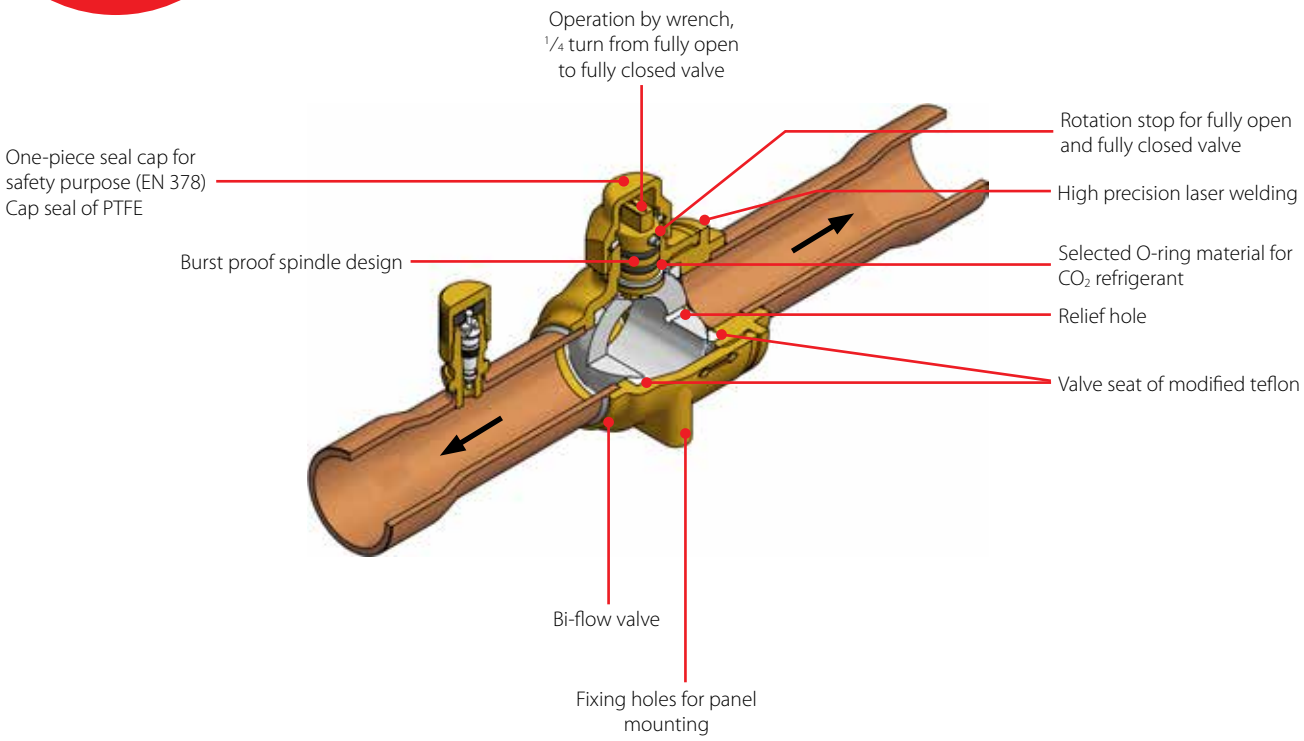
Type	Valve connection size		Industrial pack	Code no.
	[in]	[mm]		
GBC 6s - GBC 16s	1/4 – 5/8	6 – 16	12	009G7084
GBC 18s - GBC 22s	3/4 – 7/8	18 – 22	12	009G7085
GBC 28s	1 1/8	28	10	009G7086
GBC 35s	1 3/8	35	5	009G7087
GBC 42s	1 5/8	42	4	009G7088

GBCH version 2, Shut-off ball valve for R744 (CO_2) high pressure

Danfoss shut-off ball valves, type GBCH v2 for CO_2 high pressure are manually operated shut-off valves.
The valves are specifically designed for intrinsic standstill security, meaning that the valves can withstand pressures normally arising when the refrigeration system is shut off, i.e. during servicing or during unexpected power failure.

The valves are approved for use in all parts of the system with pressure ratings lower than the below stated Maximum Working Pressure, typically the liquid, suction, gas-bypass, lines.





Facts

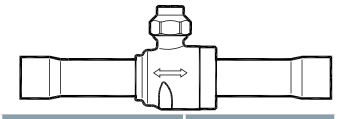
Application:
- The valves can be used for applications in liquid, suction lines in refrigeration and air-conditioning systems
- Applicable to R744 (CO_2)

- 1/4 turn from fully open to fully closed
- Rotation stops at fully open and fully closed positions
- Indicator on spindle top shows degree of opening
- Precision laser welded construction
- Burst-proof spindle design
- Valve seal of low friction, tight-sealing modified PTFE Teflon®
- Selected O-ring material for CO_2 refrigerant
- Double O-ring stem seal design
- Customized brass material ensures consistent performance under aggressive environment

- Advanced design ensures trusted bi-flow function
- Drilled and tapped for panel mounting
- Relief hole design to release entrapped liquid
- Temperature range
  -40 – 100 °C / -40 – 212 °F
- Max. working pressure (PS / MWP)
  GBCH 6s - 28s : 90 bar / 1305 psig
- GBCH 35s - 42s: 75 bar / 1085 psig
- Flow direction: Bi-flow
- Approval: CE, UL, EAC

Technical data and ordering

GBCH v2 without access port, solder ODF/ODF, copper connections

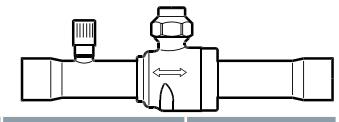


Ordering

Type	Solder ODF / ODF connection		Max. working pressure PS / MWP		K_V value [1] [m^3/h]	C_V value [1] [gal/min]	Code no.
	[in]	[mm]	[bar]	[psig]			
GBCH 6s	1/4	–	90	1305	1.78	2.06	009L7415
	–	6	90	1305	1.78	2.06	009L7395
GBCH 10s	3/8	–	90	1305	6.31	7.29	009L7416
	–	10	90	1305	6.31	7.29	009L7396
GBCH 12s	1/2	–	90	1305	12.8	14.8	009L7417
	–	12	90	1305	12.8	14.8	009L7397
GBCH 16s	5/8	16	90	1305	11.7	13.6	009L7418
GBCH 18s	3/4	–	90	1305	31.0	35.9	009L7419
	–	18	90	1305	31.0	35.9	009L7399
GBCH 22s	7/8	22	90	1305	24.4	28.2	009L7420

[1]) Calculation based on fluid dynamic equations

GBCH v2 with access port, solder ODF/ODF, copper connections



Ordering

Type	Solder ODF / ODF connection		Max. working pressure PS / MWP		K_V value [1] [m^3/h]	C_V value [1] [gal/min]	Code no.
	[in]	[mm]	[bar]	[psig]			
GBCH 6s	1/4	–	90	1305	1.78	2.06	009L7581
	–	6	90	1305	1.78	2.06	009L7580
GBCH 10s	3/8	–	90	1305	6.31	7.29	009L7582
	–	10	90	1305	6.31	7.29	009L7583
GBCH 12s	1/2	–	90	1305	12.8	14.8	009L7585
	–	12	90	1305	12.8	14.8	009L7584
GBCH 16s	5/8	16	90	1305	11.7	13.6	009L7586
GBCH 18s	3/4	–	90	1305	31.0	35.9	009L7588
	–	18	90	1305	31.0	35.9	009L7587
GBCH 22s	7/8	22	90	1305	24.4	28.2	009L7589

[1]) Calculation based on fluid dynamic equations

GBCH v2 without access port, butt weld, stainless steel connections

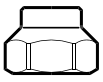


Ordering

Type	Solder ODF / ODF connection	Max. working pressure PS / MWP		K_V value [1] [m^3/h]	C_V value [1] [gal/min]	Code no.
	[mm]	[bar]	[psig]			
GBC 28s	28	90	1305	96	111	009L7406
GBC 35s	35	75	1085	106	123	009L7410
GBC 42s	42	75	1085	150	174	009L7411

[1]) Calculation based on fluid dynamic equations

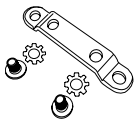
Spare parts - Seal cap kit



Ordering

Type	Valve connection size		Industrial pack	Code no.
	[in]	[mm]		
GBC 6s - 22s	1/4 – 7/8	6 – 22	6	009L7210
GBC 28s - 35s	1 1/8 – 1 3/8	28 – 35	4	009L7211
GBC 42s	1 5/8	42	4	009L7212

Spare parts - Bracket kit



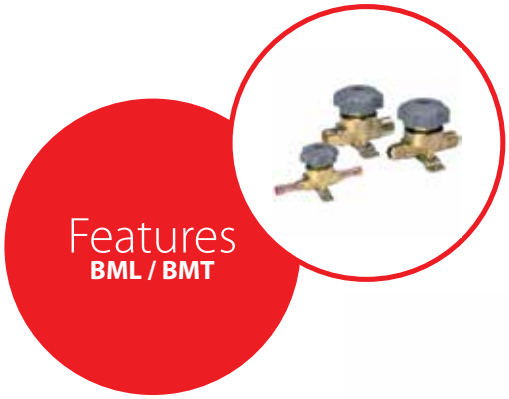
Ordering

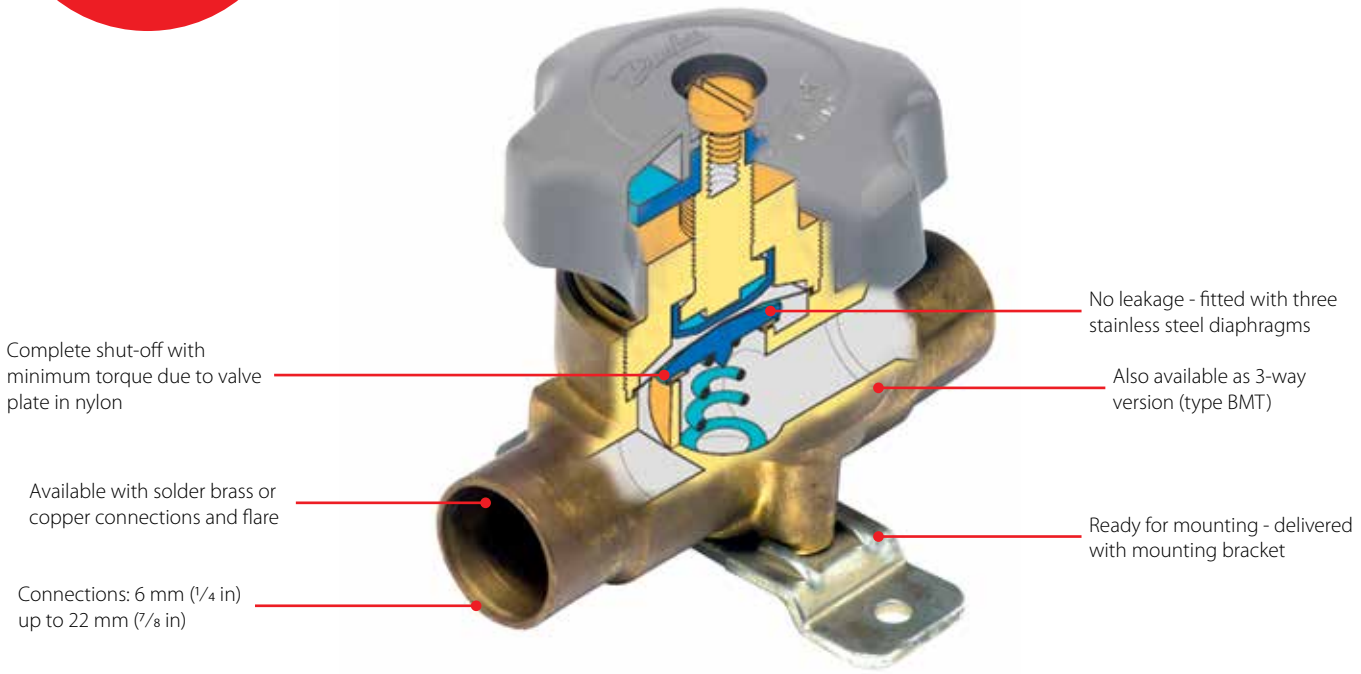
Type	Valve connection size		Industrial pack	Code no.
	[in]	[mm]		
GBC 6s - 16s	1/4 – 5/8	6 – 16	12	009G7084
GBC 18s - 22s	3/4 – 7/8	18 – 22	12	009G7085
GBC 28s	1 1/8	28	10	009G7086
GBC 35s	1 3/8	35	5	009G7087
GBC 42s	1 5/8	42	4	009G7088

BML / BMT, Shut-off diaphragm valves

BML are manual shut-off diaphragm valves designed for installation in the liquid, suction and hot gas lines of refrigeration plants.
BML valves can be delivered with flare, ODF solder or ODF solder with extended ends.

In the same product category, BMT 6 is a three-way manual shut-off valve with similar characteristics.



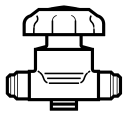


Facts

Application:
- Traditional refrigeration
- Applicable to R134a, R22 / R407C, R404A / R507, R290, R600, R600a, R1270, R513A, R450A, R1234ze, R1234yf
  Only solder versions are allowed for flammable refrigerant.
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- Fitted with three stainless steel diaphragms which ensure long operating life
- Valve plate of polyamide nylon to give complete shut-off with minimum torque
- Valve cover with counter-seat to prevent the ingress of moisture in fully open position
- Temperature range:
  -55 – 100 °C / -67 – 212 °F
- Max. working pressure PS / MWP:
  28 bar / 406 psig
- Working range:
  Δp = -1 - 21 bar / -14 - 304 psig
- Approvals: C UL US LISTED, EAC
- Solder versions are compliant with ATEX hazard zone 2

Technical data and ordering

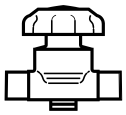
BML flare, with hand wheel



Ordering

Type	Version	Flare connection		Max. working pressure PS / MWP		K_V value [m^3/h]	C_V value [gal/min]	Code no.
		[in]	[mm]	[bar]	[psi]			Flare
BML 6	Straight way	1/4	–	28	406	0.30	0.35	009G0101
BML 10	Straight way	3/8	–	28	406	0.84	0.98	009G0127
BML 12	Straight way	1/2	–	28	406	1.50	1.75	009G0141
BML 15	Straight way	5/8	–	28	406	2.20	2.57	009G0168
BML 18	Straight way	3/4	–	28	406	2.90	3.38	009G0183

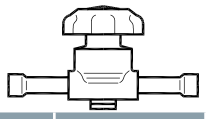
BML ODF solder, with hand wheel



Ordering

Type	Version	[in]	[mm]	Max. working pressure PS / MWP		K_V value [m^3/h]	C_V value [gal/min]	Code no.
				[bar]	[psi]			
BML 6s	Straight way	1/4	–	28	406	0.30	0.35	009G0102
	Straight way	–	6	28	406	0.30	0.35	009G0108
BML 10s	Straight way	3/8	–	28	406	0.84	0.98	009G0122
	Straight way	–	10	28	406	0.84	0.98	009G0128
BML 12s	Straight way	1/2	–	28	406	1.50	1.75	009G0142
	Straight way	–	12	28	406	1.50	1.75	009G0148
BML 15s	Straight way	5/8	16	28	406	2.20	2.57	009G0170
BML 18s	Straight way	3/4	–	28	406	2.90	3.38	009G0181
	Straight way	–	18	28	406	2.90	3.38	009G0184
BML 22s	Straight way	7/8	22	28	406	2.90	3.38	009G0191

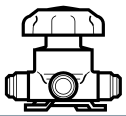
BML ODF solder extended connections, with hand wheel



Ordering

Type	Version	[in]	[mm]	Max. working pressure PS / MWP		K_V value [m^3/h]	C_V value [gal/min]	Code no.
				[bar]	[psi]			
BML 6s	Straight way	1/4	–	28	406	0.30	0.35	009G0202
	Straight way	–	6	28	406	0.30	0.35	009G0208
BML 10s	Straight way	3/8	–	28	406	0.84	0.98	009G0222
	Straight way	–	10	28	406	0.84	0.98	009G0228
BML 12s	Straight way	1/2	–	28	406	1.50	1.75	009G0242
	Straight way	–	12	28	406	1.50	1.75	009G0248
BML 15s	Straight way	5/8	16	28	406	2.20	2.57	009G0262
BML 22s	Straight way	7/8	22	28	406	2.90	3.38	009G0291

BMT 3-way flare, with hand wheel



Ordering

Type	Version	Flare connection		Max. working pressure PS / MWP		K_V value [m^3/h]	C_V value [gal/min]	Code no.
		[in]	[mm]	[bar]	[psi]			Flare
BMT 6	Three-way	1/4	–	28	406	0.3	0.35	009G0105

Note

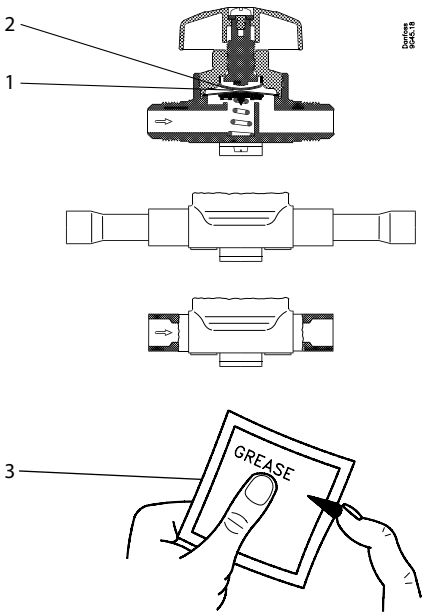
Only solder versions are approved for flammable refrigerants now

Technical data and ordering

Spare parts

Ordering

Type	Pos.	Description	Qty.	Code no.
BML 6	1	Diaphragm assy without Teflon	1	009G0025
	2	Diaphragm	2	
	3	Fag with grease	1	
BMT 6	1	Diaphragm assy without Teflon	1	
	2	Diaphragm	2	
	3	Fag with grease	1	
BML 10	1	Diaphragm assy without Teflon	1	009G0026
	2	Diaphragm	2	
	3	Fag with grease	1	
BML 12	1	Diaphram assy without Teflon	1	009G0027
	2	Diaphragm	2	
	3	Fag with grease	1	
BML 15	1	Diaphram assy without Teflon	2	009G0028
	2	Diaphragm	1	
	3	Fag with grease	2	
BML 18	1	Diaphram assy without Teflon	1	009G0029
	2	Diaphragm	2	
	3	Fag with grease	1	
BML 22	1	Diaphram assy without Teflon	1	
	2	Diaphragm	2	
	3	Fag with grease	1	



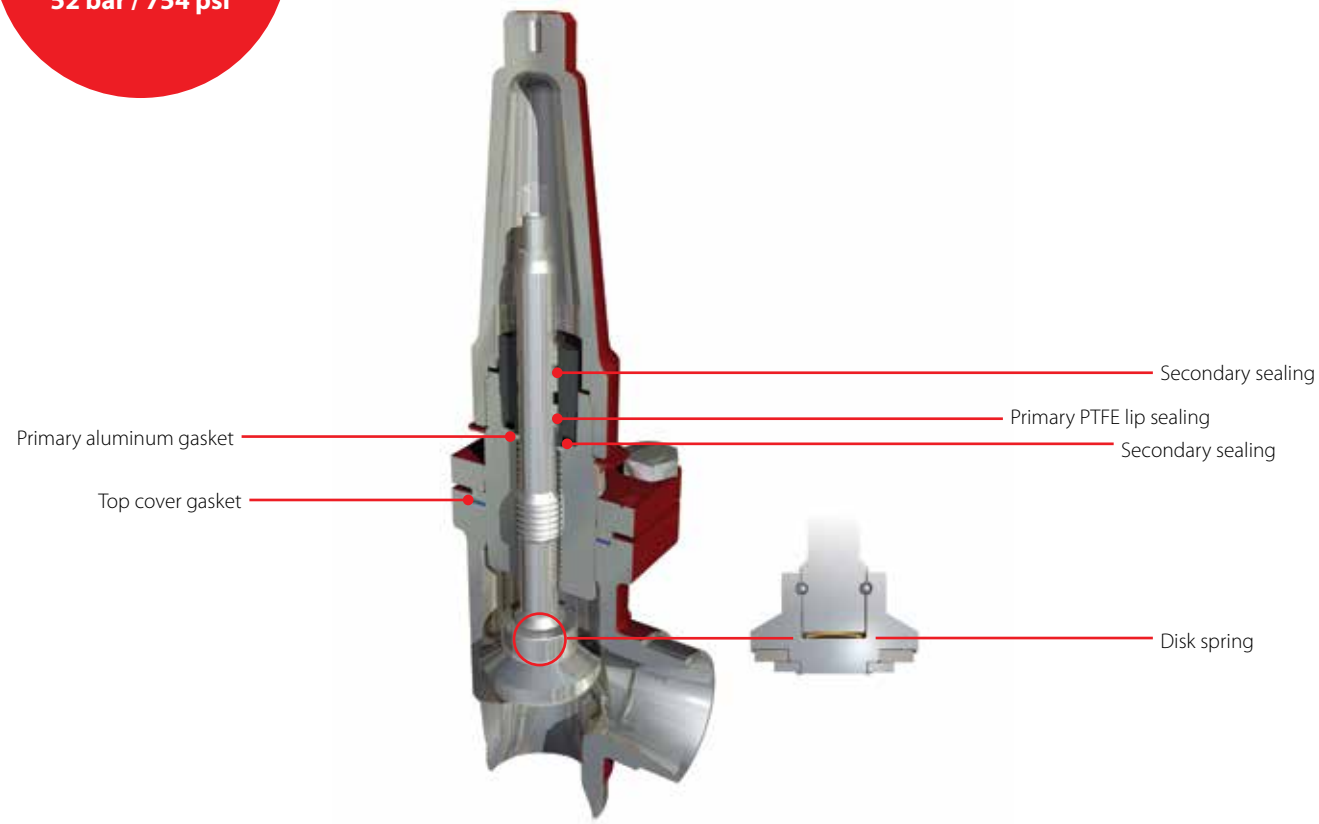
Quick Selection Notes:

SVA-S / SVA-L, Shut-off valves - 52 bar /754 psi

SVA-S / L shut-off valves are available in angleway and straightway versions and with Standard neck (SVA-S) and Long neck (SVA-L). Each valve housing is available with several different connection types and sizes, and it is possible to convert SVA-S or SVA-L to any other product in the SVL family by replacing the complete top part.

The shut-off valves are designed to meet all industrial refrigeration application requirements, to provide favourable flow characteristics, and are easy to dismantle and repair when necessary.
The valve cone is designed to ensure perfect closing and withstand a high system pulsation and vibration, which can be present specifically in the discharge line.





Facts

- Applicable to R717, R744, R113, R114, R1233zd(E), R1234yf, R1234ze(E), R125, R1270, R1336mzz(Z), R134a, R152a, R170, R22, R227ea, R23, R236fa, R290, R32, R401A, R402A, R402B, R404A, R407A, R407B, R407C, R407F, R407H, R408A, R409A, R410A, R417A, R421A, R422A, R422B, R422D, R427A, R438A, R444B, R447A, R448A, R449A, R449B, R450A, R452A, R454B, R455A, R502, R503, R507, R513A, R600, R600a and RE170
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- Available in angleway and straightway versions with Standard neck, or Long neck (DN 15 to DN 40) for insulated systems
- Each valve type is clearly marked with type, size and performance range
- The valves and caps are prepared for sealing, to prevent operation by un-authorized persons, using a seal wire
- Internal metal backseating:
  - DN 6 – 65 (1/4 – 2 1/2 in)
- Internal PTFE backseating:
  - DN 80 – 200 (3 – 8 in)
- Can accept flow in both directions
- Housing and bonnet material is low temperature steel according to requirements of the Pressure Equipment Directive and other international classification authorities
- Equipped with stainless steel bolts
- Optional accessories:
  - Heavy duty industrial hand wheel for frequent operation
  - Cap for infrequent operation
- Max. working pressure:
  52 bar g / 754 psig
- Temperature range:
  -60 – 150 °C / -76 – 302 °F
- Classification: DNV, CRN, BV etc

Technical data and ordering

SVA-S / SVA-L, Shut-off valve

Technical data

Type	Description
Pressure range	The valves are designed for max. working pressure 52 bar g / 754 psig
Temperature range	-60 – 150 °C / -76 – 302 °F

Available connection sizes

SVA-S:
The S means Standard bonnet length (sizes from DN50 to DN200 are insulation friendly).

SVA-L:
The L means Long bonnet length (insulation friendly).



Size	SVA-S	SVA-L
DN 6 (¼)	x	–
DN 10 (⅜)	x	–
DN 15 (½)	x	x
DN 20 (¾)	x	x
DN 25 (1)	x	x
DN 32 (1 ¼)	x	x
DN 40 (1 ½)	x	x
DN 50 (2)	x	–
DN 65 (2 ½)	x	–
DN 80 (3)	x	–
DN 100 (4)	x	–
DN 125 (5)	x	–
DN 150 (6)	x	–
DN 200 (8)	x	–

Please note that the type codes only serve to identify the valves, some of which may not form part of the standard product range.
For further information please contact your local Danfoss Sales Company.

Valve type	Connection size		Available connections				
Nominal size [mm]	[mm]	[in]	A / D	SOC	FPT	T	F
	6	DN 6 (¼)	x			x	
	10	DN 10 (⅜)	x				
	15	DN 15 (½)	x	x	x		x
	20	DN 20 (¾)	x	x	x		x
	25	DN 25 (1)	x	x	x		x
	32	DN 32 (1 ¼)	x	x	x		x
	40	DN 40 (1 ½)	x	x			x
	50	DN 50 (2)	x	x			x
	65	DN 65 (2 ½)	x				x
	80	DN 80 (3)	x				x
	100	DN 100 (4)	x				x
	125	DN 125 (5)	x				x
	150	DN 150 (6)	x				x
	200	DN 200 (8)	x				x
Connections	A	Butt-weld connection: ANSI B 36.10 schedule 80, DN 15 - 40 (½ – 1 ½ in)					
		Butt-weld connection: ANSI B 36.10 schedule 40, DN 50 - 200 (2 – 8 in)					
	D	Butt-weld connection: DIN EN 10220					
	G	Butt-weld connection: GOST (8734-75 and 8732-78)					
	SOC	Socket weld: ANSI B 16.11					
	FPT	Female Pipe Thread NPT: ANSI / ASME B 1.20.1					
	T	Outside threaded connections ISO 228/1 Pipe thread					
	F	Butt-weld connection F: Thickness DN 15 – 65 = 2 mm Thickness DN 80 – 200 = 3 mm					
Valve housing	ANG	Angle flow					
	STR	Straight flow					
Equipment	H-WHEEL	Hand wheel					
	CAP	Cap					

Important!
Where products need to be certified according to specific certification societies or where higher pressures are required, the relevant information should be included at the time of order.

Ordering factory assembled SVA-S angleway valve

SVA-S, Shut-off valve - 52 bar / 754 psi



Ordering

Type	Connection size		Execution	Connection type	Connection designation	Equipment	Code no.
	[mm]	[in]					
SVA-S 6	6	1/4	Angleway	Butt weld, EN 10220	D	Hand wheel	148B5000
	6	1/4	Angleway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B5020
	6	1/4	Angleway	Butt weld, EN 10220	D	Cap	148B5001
	6	1/4	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B5021
	6	1/4	Angleway	Outside pipe thread, (ISO 228/1)	T	Cap	148B5032
SVA-S 10	10	3/8	Angleway	Butt weld, EN 10220	D	Hand wheel	148B5100
	10	3/8	Angleway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B5120
	10	3/8	Angleway	Butt weld, EN 10220	D	Cap	148B5101
	10	3/8	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B5121
SVA-S 15	15	1/2	Angleway	Butt weld, EN 10220	D	Hand wheel	148B5200
	15	1/2	Angleway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B5220
	15	1/2	Angleway	Socket weld, ANSI (B 16.11)	SOC	Hand wheel	148B5222
	15	1/2	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Hand wheel	148B5224
	15	1/2	Angleway	Butt weld, EN 10220	D	Cap	148B5201
	15	1/2	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B5221
	15	1/2	Angleway	Socket weld, ANSI (B 16.11)	SOC	Cap	148B5223
	15	1/2	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Cap	148B5225
SVA-S 20	20	3/4	Angleway	Butt weld, EN 10220	D	Hand wheel	148B5300
	20	3/4	Angleway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B5320
	20	3/4	Angleway	Socket weld, ANSI (B 16.11)	SOC	Hand wheel	148B5322
	20	3/4	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Hand wheel	148B5324
	20	3/4	Angleway	Butt weld, EN 10220	D	Cap	148B5301
	20	3/4	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B5321
	20	3/4	Angleway	Socket weld, ANSI (B 16.11)	SOC	Cap	148B5323
	20	3/4	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Cap	148B5325
SVA-S 25	25	1	Angleway	Butt weld, EN 10220	D	Hand wheel	148B5400
	25	1	Angleway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B5420
	25	1	Angleway	Socket weld, ANSI (B 16.11)	SOC	Hand wheel	148B5422
	25	1	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Hand wheel	148B5424
	25	1	Angleway	Butt weld, EN 10220	D	Cap	148B5401
	25	1	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B5421
	25	1	Angleway	Socket weld, ANSI (B 16.11)	SOC	Cap	148B5423
	25	1	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Cap	148B5425
SVA-S 32	32	1 1/4	Angleway	Butt weld, EN 10220	D	Hand wheel	148B5500
	32	1 1/4	Angleway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B5520
	32	1 1/4	Angleway	Socket weld, ANSI (B 16.11)	SOC	Hand wheel	148B5522
	32	1 1/4	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Hand wheel	148B5524
	32	1 1/4	Angleway	Butt weld, EN 10220	D	Cap	148B5501
	32	1 1/4	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B5521
	32	1 1/4	Angleway	Socket weld, ANSI (B 16.11)	SOC	Cap	148B5523
	32	1 1/4	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Cap	148B5525
SVA-S 40	40	1 1/2	Angleway	Butt weld, EN 10220	D	Hand wheel	148B5600
	40	1 1/2	Angleway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B5620
	40	1 1/2	Angleway	Socket weld, ANSI (B 16.11)	SOC	Hand wheel	148B5622
	40	1 1/2	Angleway	Butt weld, EN 10220	D	Cap	148B5601
	40	1 1/2	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B5621
	40	1 1/2	Angleway	Socket weld, ANSI (B 16.11)	SOC	Cap	148B5623
SVA-S 50	50	2	Angleway	Butt weld, EN 10220	D	Hand wheel	148B5700
	50	2	Angleway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B5720
	50	2	Angleway	Socket weld, ANSI (B 16.11)	SOC	Hand wheel	148B5722
	50	2	Angleway	Butt weld, EN 10220	D	Cap	148B5701
	50	2	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B5721
	50	2	Angleway	Socket weld, ANSI (B 16.11)	SOC	Cap	148B5723
SVA-S 65	65	2 1/2	Angleway	Butt weld, EN 10220	D	Hand wheel	148B5800
	65	2 1/2	Angleway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B5820
	65	2 1/2	Angleway	Butt weld, EN 10220	D	Cap	148B5801
	65	2 1/2	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B5821
SVA-S 80	80	3	Angleway	Butt weld, EN 10220	D	Hand wheel	148B5900
	80	3	Angleway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B5920
	80	3	Angleway	Butt weld, EN 10220	D	Cap	148B5901
	80	3	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B5921
SVA-S 100	100	4	Angleway	Butt weld, EN 10220	D	Hand wheel	148B6000
	100	4	Angleway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B6020
	100	4	Angleway	Butt weld, EN 10220	D	Cap	148B6001
	100	4	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B6021
SVA-S 125	125	5	Angleway	Butt weld, EN 10220	D	Hand wheel	148B6100
	125	5	Angleway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B6120
	125	5	Angleway	Butt weld, EN 10220	D	Cap	148B6101
	125	5	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B6121
SVA-S 150	150	6	Angleway	Butt weld, EN 10220	D	Hand wheel	148B6200
	150	6	Angleway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B6220
	150	6	Angleway	Butt weld, F	F	Hand wheel	148B6434
	150	6	Angleway	Butt weld, GOST	G	Hand wheel	148B6240
	150	6	Angleway	Butt weld, EN 10220	D	Cap	148B6201
	150	6	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B6221
	150	6	Angleway	Butt weld, F	F	Cap	148B6436
	150	6	Angleway	Butt weld, GOST	G	Cap	148B6241
SVA-S 200	200	8	Angleway	Butt weld, EN 10220	D	Hand wheel	148B6300
	200	8	Angleway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B6320
	200	8	Angleway	Butt weld, F	F	Hand wheel	148B6435
	200	8	Angleway	Butt weld, EN 10220	D	Cap	148B6301
	200	8	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B6321
	200	8	Angleway	Butt weld, F	F	Cap	148B6437

Ordering factory assembled SVA-S straightway valve

SVA-S, Shut-off valve - 52 bar / 754 psi

Ordering



Type	Connection size [mm]	Connection size [in]	Execution	Connection type	Connection designation	Equipment	Code no.
SVA-S 6	6	1/4	Straightway	Butt weld, EN 10220	D	Hand wheel	148B5010
	6	1/4	Straightway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B5030
	6	1/4	Straightway	Butt weld, EN 10220	D	Cap	148B5011
	6	1/4	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B5031
SVA-S 10	10	3/8	Straightway	Butt weld, EN 10220	D	Hand wheel	148B5110
	10	3/8	Straightway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B5130
	10	3/8	Straightway	Butt weld, EN 10220	D	Cap	148B5111
	10	3/8	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B5131
SVA-S 15	15	1/2	Straightway	Butt weld, EN 10220	D	Hand wheel	148B5210
	15	1/2	Straightway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B5230
	15	1/2	Straightway	Socket weld, ANSI (B 16.11)	SOC	Hand wheel	148B5232
	15	1/2	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Hand wheel	148B5234
	15	1/2	Straightway	Butt weld, EN 10220	D	Cap	148B5211
	15	1/2	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B5231
	15	1/2	Straightway	Socket weld, ANSI (B 16.11)	SOC	Cap	148B5233
	15	1/2	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Cap	148B5235
SVA-S 20	20	3/4	Straightway	Butt weld, EN 10220	D	Hand wheel	148B5310
	20	3/4	Straightway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B5330
	20	3/4	Straightway	Socket weld, ANSI (B 16.11)	SOC	Hand wheel	148B5332
	20	3/4	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Hand wheel	148B5334
	20	3/4	Straightway	Butt weld, EN 10220	D	Cap	148B5311
	20	3/4	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B5331
	20	3/4	Straightway	Socket weld, ANSI (B 16.11)	SOC	Cap	148B5333
	20	3/4	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Cap	148B5335
SVA-S 25	25	1	Straightway	Butt weld, EN 10220	D	Hand wheel	148B5410
	25	1	Straightway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B5430
	25	1	Straightway	Socket weld, ANSI (B 16.11)	SOC	Hand wheel	148B5432
	25	1	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Hand wheel	148B5434
	25	1	Straightway	Butt weld, EN 10220	D	Cap	148B5411
	25	1	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B5431
	25	1	Straightway	Socket weld, ANSI (B 16.11)	SOC	Cap	148B5433
	25	1	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Cap	148B5435
SVA-S 32	32	1 1/4	Straightway	Butt weld, EN 10220	D	Hand wheel	148B5510
	32	1 1/4	Straightway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B5530
	32	1 1/4	Straightway	Socket weld, ANSI (B 16.11)	SOC	Hand wheel	148B5532
	32	1 1/4	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Hand wheel	148B5534
	32	1 1/4	Straightway	Butt weld, EN 10220	D	Cap	148B5511
	32	1 1/4	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B5531
	32	1 1/4	Straightway	Socket weld, ANSI (B 16.11)	SOC	Cap	148B5533
	32	1 1/4	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Cap	148B5535
SVA-S 40	40	1 1/2	Straightway	Butt weld, EN 10220	D	Hand wheel	148B5610
	40	1 1/2	Straightway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B5630
	40	1 1/2	Straightway	Socket weld, ANSI (B 16.11)	SOC	Hand wheel	148B5632
	40	1 1/2	Straightway	Butt weld, EN 10220	D	Cap	148B5611
	40	1 1/2	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B5631
	40	1 1/2	Straightway	Socket weld, ANSI (B 16.11)	SOC	Cap	148B5633
SVA-S 50	50	2	Straightway	Butt weld, EN 10220	D	Hand wheel	148B5710
	50	2	Straightway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B5730
	50	2	Straightway	Socket weld, ANSI (B 16.11)	SOC	Hand wheel	148B5732
	50	2	Straightway	Butt weld, EN 10220	D	Cap	148B5711
	50	2	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B5731
	50	2	Straightway	Socket weld, ANSI (B 16.11)	SOC	Cap	148B5733
SVA-S 65	65	2 1/2	Straightway	Butt weld, EN 10220	D	Hand wheel	148B5810
	65	2 1/2	Straightway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B5830
	65	2 1/2	Straightway	Butt weld, EN 10220	D	Cap	148B5811
	65	2 1/2	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B5831
SVA-S 80	80	3	Straightway	Butt weld, EN 10220	D	Hand wheel	148B5910
	80	3	Straightway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B5930
	80	3	Straightway	Butt weld, EN 10220	D	Cap	148B5911
	80	3	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B5931
SVA-S 100	100	4	Straightway	Butt weld, EN 10220	D	Hand wheel	148B6010
	100	4	Straightway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B6030
	100	4	Straightway	Butt weld, EN 10220	D	Cap	148B6011
	100	4	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B6031
SVA-S 125	125	5	Straightway	Butt weld, EN 10220	D	Hand wheel	148B6110
	125	5	Straightway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B6130
	125	5	Straightway	Butt weld, EN 10220	D	Cap	148B6111
	125	5	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B6131
SVA-S 150	150	6	Straightway	Butt weld, EN 10220	D	Hand wheel	148B6210
	150	6	Straightway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B6230
	150	6	Straightway	Butt weld, F	F	Hand wheel	148B6438
	150	6	Straightway	Butt weld, GOST	G	Hand wheel	148B6250
	150	6	Straightway	Butt weld, EN 10220	D	Cap	148B6211
	150	6	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B6231
	150	6	Straightway	Butt weld, F	F	Cap	148B6440
	150	6	Straightway	Butt weld, GOST	G	Cap	148B6251
SVA-S 200	200	8	Straightway	Butt weld, EN 10220	D	Hand wheel	148B6310
	200	8	Straightway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B6330
	200	8	Straightway	Butt weld, F	F	Hand wheel	148B6439
	200	8	Straightway	Butt weld, EN 10220	D	Cap	148B6311
	200	8	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B6331
	200	8	Straightway	Butt weld, F	F	Cap	148B6441

Ordering factory assembled SVA-L angleway valve

SVA-L, Shut-off valve - 52 bar / 754 psi

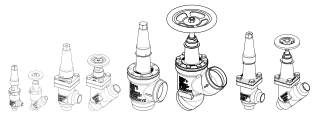


Ordering

Type	Connection size		Execution	Connection type	Connection designation	Equipment	Code no.
	[mm]	[in]					
SVA-L 15	15	1/2	Angleway	Butt weld, EN 10220	D	Hand wheel	148B5240
	15	1/2	Angleway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B5260
	15	1/2	Angleway	Socket weld, ANSI (B 16.11)	SOC	Hand wheel	148B5262
	15	1/2	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Hand wheel	148B5264
	15	1/2	Angleway	Butt weld, EN 10220	D	Cap	148B5241
	15	1/2	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B5261
	15	1/2	Angleway	Socket weld, ANSI (B 16.11)	SOC	Cap	148B5263
	15	1/2	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Cap	148B5265
SVA-L 20	20	3/4	Angleway	Butt weld, EN 10220	D	Hand wheel	148B5340
	20	3/4	Angleway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B5360
	20	3/4	Angleway	Socket weld, ANSI (B 16.11)	SOC	Hand wheel	148B5362
	20	3/4	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Hand wheel	148B5364
	20	3/4	Angleway	Butt weld, EN 10220	D	Cap	148B5341
	20	3/4	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B5361
	20	3/4	Angleway	Socket weld, ANSI (B 16.11)	SOC	Cap	148B5363
	20	3/4	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Cap	148B5365
SVA-L 25	25	1	Angleway	Butt weld, EN 10220	D	Hand wheel	148B5440
	25	1	Angleway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B5460
	25	1	Angleway	Socket weld, ANSI (B 16.11)	SOC	Hand wheel	148B5462
	25	1	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Hand wheel	148B5464
	25	1	Angleway	Butt weld, EN 10220	D	Cap	148B5441
	25	1	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B5461
	25	1	Angleway	Socket weld, ANSI (B 16.11)	SOC	Cap	148B5463
	25	1	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Cap	148B5465
SVA-L 32	32	1 1/4	Angleway	Butt weld, EN 10220	D	Hand wheel	148B5540
	32	1 1/4	Angleway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B5560
	32	1 1/4	Angleway	Socket weld, ANSI (B 16.11)	SOC	Hand wheel	148B5562
	32	1 1/4	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Hand wheel	148B5564
	32	1 1/4	Angleway	Butt weld, EN 10220	D	Cap	148B5541
	32	1 1/4	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B5561
	32	1 1/4	Angleway	Socket weld, ANSI (B 16.11)	SOC	Cap	148B5563
	32	1 1/4	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Cap	148B5565
SVA-L 40	40	1 1/2	Angleway	Butt weld, EN 10220	D	Hand wheel	148B5640
	40	1 1/2	Angleway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B5660
	40	1 1/2	Angleway	Socket weld, ANSI (B 16.11)	SOC	Hand wheel	148B5662
	40	1 1/2	Angleway	Butt weld, EN 10220	D	Cap	148B5641
	40	1 1/2	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B5661
	40	1 1/2	Angleway	Socket weld, ANSI (B 16.11)	SOC	Cap	148B5663

Ordering factory assembled SVA-L straightway valve

SVA-L, Shut-off valve - 52 bar / 754 psi



Ordering

Type	Connection size		Execution	Connection type	Connection designation	Equipment	Code no.
	[mm]	[in]					
SVA-L 15	15	1/2	Straightway	Butt weld, EN 10220	D	Hand wheel	148B5250
	15	1/2	Straightway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B5270
	15	1/2	Straightway	Socket weld, ANSI (B 16.11)	SOC	Hand wheel	148B5272
	15	1/2	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Hand wheel	148B5274
	15	1/2	Straightway	Butt weld, EN 10220	D	Cap	148B5251
	15	1/2	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B5271
	15	1/2	Straightway	Socket weld, ANSI (B 16.11)	SOC	Cap	148B5273
	15	1/2	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Cap	148B5275
SVA-L 20	20	3/4	Straightway	Butt weld, EN 10220	D	Hand wheel	148B5350
	20	3/4	Straightway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B5370
	20	3/4	Straightway	Socket weld, ANSI (B 16.11)	SOC	Hand wheel	148B5372
	20	3/4	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Hand wheel	148B5374
	20	3/4	Straightway	Butt weld, EN 10220	D	Cap	148B5351
	20	3/4	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B5371
	20	3/4	Straightway	Socket weld, ANSI (B 16.11)	SOC	Cap	148B5373
	20	3/4	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Cap	148B5375
SVA-L 25	25	1	Straightway	Butt weld, EN 10220	D	Hand wheel	148B5450
	25	1	Straightway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B5470
	25	1	Straightway	Socket weld, ANSI (B 16.11)	SOC	Hand wheel	148B5472
	25	1	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Hand wheel	148B5474
	25	1	Straightway	Butt weld, EN 10220	D	Cap	148B5451
	25	1	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B5471
	25	1	Straightway	Socket weld, ANSI (B 16.11)	SOC	Cap	148B5473
	25	1	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Cap	148B5475
SVA-L 32	32	1 1/4	Straightway	Butt weld, EN 10220	D	Hand wheel	148B5550
	32	1 1/4	Straightway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B5570
	32	1 1/4	Straightway	Socket weld, ANSI (B 16.11)	SOC	Hand wheel	148B5572
	32	1 1/4	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Hand wheel	148B5574
	32	1 1/4	Straightway	Butt weld, EN 10220	D	Cap	148B5551
	32	1 1/4	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B5571
	32	1 1/4	Straightway	Socket weld, ANSI (B 16.11)	SOC	Cap	148B5573
	32	1 1/4	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	Cap	148B5575
SVA-L 40	40	1 1/2	Straightway	Butt weld, EN 10220	D	Hand wheel	148B5650
	40	1 1/2	Straightway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B5670
	40	1 1/2	Straightway	Socket weld, ANSI (B 16.11)	SOC	Hand wheel	148B5672
	40	1 1/2	Straightway	Butt weld, EN 10220	D	Cap	148B5651
	40	1 1/2	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B5671
	40	1 1/2	Straightway	Socket weld, ANSI (B 16.11)	SOC	Cap	148B5673

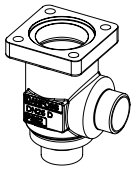
Accessories

6T Nipple Kit solution	Code no.
ACCESSORY WELD.NIPPLE DN6 A + UNION NUT	148B4245
ACCESSORY WELD.NIPPLE DN6 D + UNION NUT	148B4184

Technical data and ordering

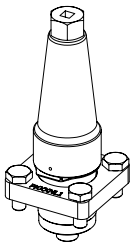
Ordering from the parts programme (valve body + top part)

Example:



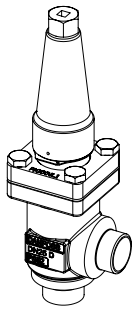
Valve housing, size 25 (1 in),
DIN butt weld, angleway,
148B5452
Table 1

+



Top part, SVA-S
size 25 (1 in) with cap
148B5476
Table 2

=





SVA-S 6 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SVA-S 6	1/4	6	Angleway	Butt weld, EN 10220	D	148B5002
	1/4	6	Angleway	Butt weld, ANSI (B 36.10)	A	148B5004
	1/4	6	Angleway	Outside pipe thread, (ISO 228 / 1)	T	148B5012
SVA-S 6	1/4	6	Straightway	Butt weld, EN 10220	D	148B5003
	1/4	6	Straightway	Butt weld, ANSI (B 36.10)	A	148B5005

Top part [1])

Type	Equipment	Code no.
SVA-S 6	Cap	148B5013
SVA-S 6	Hand wheel	148B5014

SVA-S 10 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SVA-S 10	3/8	10	Angleway	Butt weld, EN 10220	D	148B5122
	3/8	10	Angleway	Butt weld, ANSI (B 36.10)	A	148B5124
	3/8	10	Angleway	Butt weld, GOST	G	148B5134
SVA-S 10	3/8	10	Straightway	Butt weld, EN 10220	D	148B5123
	3/8	10	Straightway	Butt weld, ANSI (B 36.10)	A	148B5125
	3/8	10	Straightway	Butt weld, GOST	G	148B5135

Top part [1])

Type	Equipment	Code no.
SVA-S 10	Cap	148B5013
SVA-S 10	Hand wheel	148B5014

SVA-S / L 15 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SVA-S / L 15	1/2	15	Angleway	Butt weld, EN 10220	D	148B5252
	1/2	15	Angleway	Butt weld, ANSI (B 36.10)	A	148B5254
	1/2	15	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5258
	1/2	15	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5256
	1/2	15	Angleway	Butt weld, F	F	148B6414
	1/2	15	Angleway	Butt weld, GOST	G	148B5391
SVA-S / L 15	1/2	15	Straightway	Butt weld, EN 10220	D	148B5253
	1/2	15	Straightway	Butt weld, ANSI (B 36.10)	A	148B5255
	1/2	15	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5259
	1/2	15	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5257
	1/2	15	Straightway	Butt weld, F	F	148B6424
	1/2	15	Straightway	Butt weld, GOST	G	148B5392

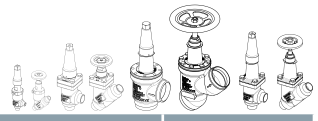
Top part [1])

Type	Equipment	Code no.
SVA-S 15	Cap	148B5276
SVA-S 15	Hand wheel	148B5277
SVA-L 15	Cap	148B5278
SVA-L 15	Hand wheel	148B5279

[1]) Including gaskets and bolts

Technical data and ordering

Ordering from the parts programme (valve body + top part)



SVA-S / L 20 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SVA-S / L 20	3/4	20	Angleway	Butt weld, EN 10220	D	148B5352
	3/4	20	Angleway	Butt weld, ANSI (B 36.10)	A	148B5354
	3/4	20	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5358
	3/4	20	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5356
	3/4	20	Angleway	Butt weld, F	F	148B6415
	3/4	20	Angleway	Butt weld, GOST	G	148B5393
SVA-S / L 20	3/4	20	Straightway	Butt weld, EN 10220	D	148B5353
	3/4	20	Straightway	Butt weld, ANSI (B 36.10)	A	148B5355
	3/4	20	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5359
	3/4	20	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5357
	3/4	20	Straightway	Butt weld, F	F	148B6425
	3/4	20	Straightway	Butt weld, GOST	G	148B5394

Top part [1])

Type	Equipment	Code no.
SVA-S 20	Cap	148B5276
SVA-S 20	Hand wheel	148B5277
SVA-L 20	Cap	148B5278
SVA-L 20	Hand wheel	148B5279

SVA-S / L 25 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SVA-S / L 25	1	25	Angleway	Butt weld, EN 10220	D	148B5452
	1	25	Angleway	Butt weld, ANSI (B 36.10)	A	148B5454
	1	25	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5458
	1	25	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5456
	1	25	Angleway	Butt weld, F	F	148B6416
	1	25	Angleway	Butt weld, GOST	G	148B5498
SVA-S / L 25	1	25	Angleway	Butt weld, EN 10220	D	148B5453
	1	25	Straightway	Butt weld, ANSI (B 36.10)	A	148B5455
	1	25	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5459
	1	25	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5457
	1	25	Straightway	Butt weld, F	F	148B6426
	1	25	Straightway	Butt weld, GOST	G	148B5499

Top part [1])

Type	Equipment	Code no.
SVA-S 25	Cap	148B5476
SVA-S 25	Hand wheel	148B5477
SVA-L 25	Cap	148B5478
SVA-L 25	Hand wheel	148B5479

SVA-S / L 32 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SVA-S / L 32	1 1/4	32	Angleway	Butt weld, EN 10220	D	148B5576
	1 1/4	32	Angleway	Butt weld, ANSI (B 36.10)	A	148B5578
	1 1/4	32	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5582
	1 1/4	32	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5580
	1 1/4	32	Angleway	Butt weld, F	F	148B6417
	1 1/4	32	Angleway	Butt weld, GOST	G	148B5593
SVA-S / L 32	1 1/4	32	Straightway	Butt weld, EN 10220	D	148B5577
	1 1/4	32	Straightway	Butt weld, ANSI (B 36.10)	A	148B5579
	1 1/4	32	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5583
	1 1/4	32	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5581
	1 1/4	32	Straightway	Butt weld, F	F	148B6427
	1 1/4	32	Straightway	Butt weld, GOST	G	148B5594

Top part [1])

Type	Equipment	Code no.
SVA-S 32	Cap	148B5476
SVA-S 32	Hand wheel	148B5477
SVA-L 32	Cap	148B5478
SVA-L 32	Hand wheel	148B5479

[1]) *Including gaskets and bolts*

Technical data and ordering

Ordering from the parts programme (valve body + top part)



SVA-S / L 40 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SVA-S / L 40	1 ½	40	Angleway	Butt weld, EN 10220	D	148B5652
	1 ½	40	Angleway	Butt weld, ANSI (B 36.10)	A	148B5654
	1 ½	40	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5656
	1 ½	40	Angleway	Butt weld, F	F	148B6418
	1 ½	40	Angleway	Butt weld, GOST	G	148B5681
SVA-S / L 40	1 ½	40	Straightway	Butt weld, EN 10220	D	148B5653
	1 ½	40	Straightway	Butt weld, ANSI (B 36.10)	A	148B5655
	1 ½	40	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5657
	1 ½	40	Straightway	Butt weld, F	F	148B6428
	1 ½	40	Straightway	Butt weld, GOST	G	148B5682

Top part [1])

Type	Equipment	Code no.
SVA-S 40	Cap	148B5476
SVA-S 40	Hand wheel	148B5477
SVA-L 40	Cap	148B5478
SVA-L 40	Hand wheel	148B5479

SVA-S 50 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SVA-S 50	2	50	Angleway	Butt weld, EN 10220	D	148B5741
	2	50	Angleway	Butt weld, ANSI (B 36.10)	A	148B5743
	2	50	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5745
	2	50	Angleway	Butt weld, F	F	148B6419
	2	50	Angleway	Butt weld, GOST	G	148B5759
SVA-S 50	2	50	Straightway	Butt weld, EN 10220	D	148B5742
	2	50	Straightway	Butt weld, ANSI (B 36.10)	A	148B5744
	2	50	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5746
	2	50	Straightway	Butt weld, F	F	148B6429
	2	50	Straightway	Butt weld, GOST	G	148B5760

Top part [1])

Type	Equipment	Code no.
SVA-S 50	Cap	148B5728
SVA-S 50	Hand wheel	148B5729

SVA-S 65 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SVA-S 65	2 ½	65	Angleway	Butt weld, EN 10220	D	148B5816
	2 ½	65	Angleway	Butt weld, ANSI (B 36.10)	A	148B5818
	2 ½	65	Angleway	Butt weld, F	F	148B6420
	2 ½	65	Angleway	Butt weld, GOST	G	148B5816
SVA-S 65	2 ½	65	Straightway	Butt weld, EN 10220	D	148B5817
	2 ½	65	Straightway	Butt weld, ANSI (B 36.10)	A	148B5819
	2 ½	65	Straightway	Butt weld, F	F	148B6430
	2 ½	65	Straightway	Butt weld, GOST	G	148B5817

Top part [1])

Type	Equipment	Code no.
SVA-S 65	Cap	148B5822
SVA-S 65	Hand wheel	148B5823

[1]) Including gaskets and bolts

Technical data and ordering

Ordering from the parts programme (valve body + top part)



SVA-S 80 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SVA-S 80	3	80	Angleway	Butt weld, EN 10220	D	148B5912
	3	80	Angleway	Butt weld, ANSI (B 36.10)	A	148B5914
	3	80	Angleway	Butt weld, F	F	148B6421
	3	80	Angleway	Butt weld, GOST	G	148B5912
SVA-S 80	3	80	Straightway	Butt weld, EN 10220	D	148B5913
	3	80	Straightway	Butt weld, ANSI (B 36.10)	A	148B5915
	3	80	Straightway	Butt weld, F	F	148B6431
	3	80	Straightway	Butt weld, GOST	G	148B5913

Top part [1])

Type	Equipment	Code no.
SVA-S 80	Cap	148B5916
SVA-S 80	Hand wheel	148B5917

SVA-S 100 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SVA-S 100	4	100	Angleway	Butt weld, EN 10220	D	148B6014
	4	100	Angleway	Butt weld, ANSI (B 36.10)	A	148B6016
	4	100	Angleway	Butt weld, F	F	148B6422
	4	100	Angleway	Butt weld, GOST	G	148B6033
SVA-S 100	4	100	Straightway	Butt weld, EN 10220	D	148B6015
	4	100	Straightway	Butt weld, ANSI (B 36.10)	A	148B6017
	4	100	Straightway	Butt weld, F	F	148B6432
	4	100	Straightway	Butt weld, GOST	G	148B6034

Top part [1])

Type	Equipment	Code no.
SVA-S 100	Cap	148B6012
SVA-S 100	Hand wheel	148B6018

SVA-S 125 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SVA-S 125	5	125	Angleway	Butt weld, EN 10220	D	148B6112
	5	125	Angleway	Butt weld, ANSI (B 36.10)	A	148B6114
	5	125	Angleway	Butt weld, F	F	148B6423
	5	125	Angleway	Butt weld, GOST	G	148B6133
SVA-S 125	5	125	Straightway	Butt weld, EN 10220	D	148B6113
	5	125	Straightway	Butt weld, ANSI (B 36.10)	A	148B6115
	5	125	Straightway	Butt weld, F	F	148B6433
	5	125	Straightway	Butt weld, GOST	G	148B6134

Top part [1])

Type	Equipment	Code no.
SVA-S 125	Cap	148B6116
SVA-S 125	Hand wheel	148B6117

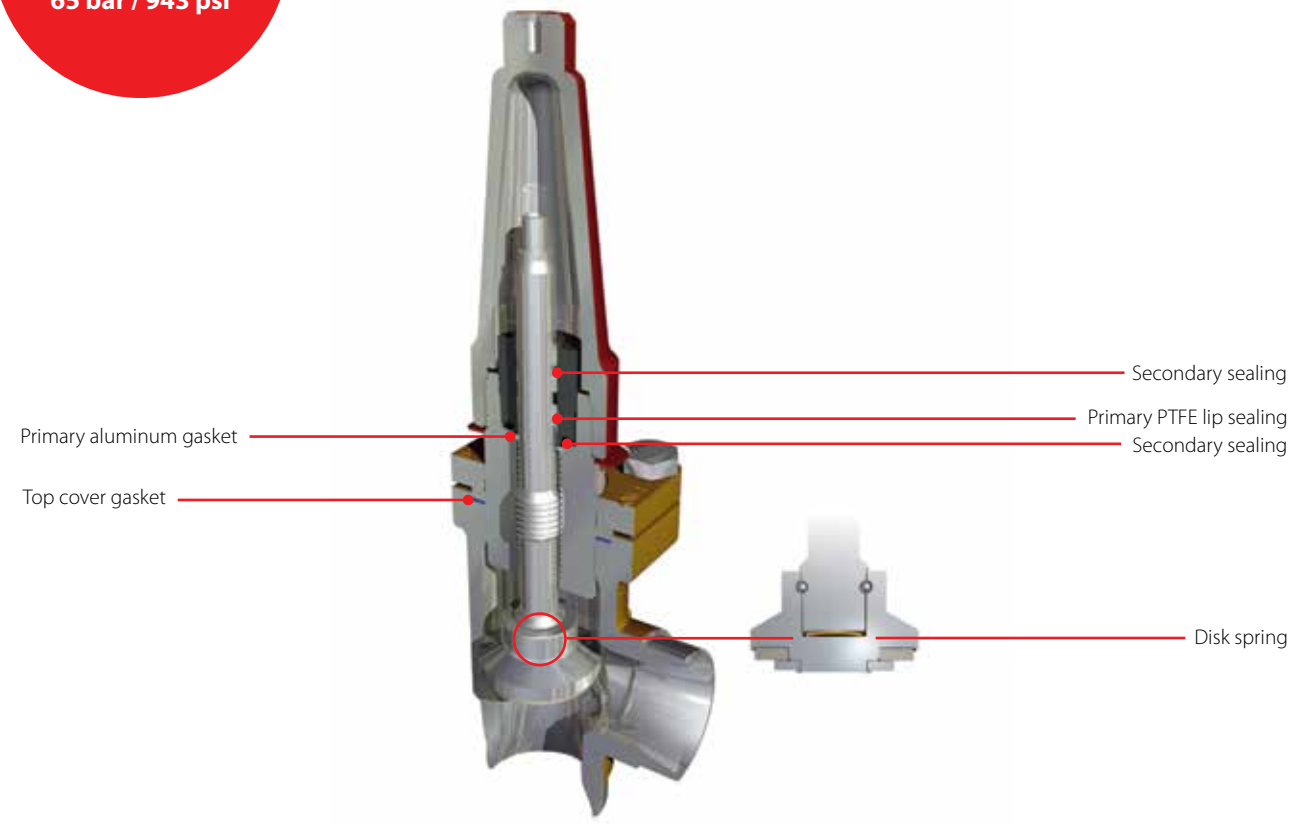
[1]) *Including gaskets and bolts*

SVA-S / SVA-L, Shut-off valves - 65 bar / 943 psi

SVA-S / L shut-off valves are available in angleway and straightway versions and with Standard neck (SVA-S) and Long neck (SVA-L). Each valve housing is available with several different connection types and sizes, and it is possible to convert SVA-S or SVA-L to any other product in the SVL family by replacing the complete top part.

The shut-off valves are designed to meet all industrial refrigeration application requirements, to provide favourable flow characteristics, and are easy to dismantle and repair when necessary.
The valve cone is designed to ensure perfect closing and withstand a high system pulsation and vibration, which can be present specifically in the discharge line.





Facts

- Applicable to R717, R744, R113, R114, R1233zd(E), R1234yf, R1234ze(E), R125, R1270, R1336mzz(Z), R134a, R152a, R170, R22, R227ea, R23, R236fa, R290, R32, R401A, R402A, R402B, R404A, R407A, R407B, R407C, R407F, R407H, R408A, R409A, R410A, R417A, R421A, R422A, R422B, R422D, R427A, R438A, R444B, R447A, R448A, R449A, R449B, R450A, R452A, R454B, R455A, R502, R503, R507, R513A, R600, R600a and RE170
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- Available in angleway and straightway versions with Standard neck, or Long neck (DN 15 to DN 40) for insulated systems
- Each valve type is clearly marked with type, size and performance range
- The valves and caps are prepared for sealing, to prevent operation by un-authorized persons, using a seal wire
- Internal metal backseating:
  - DN 6 – 65 (1/4 – 2 1/2 in)
- Internal PTFE backseating:
  - DN 80 – 200 (3 – 8 in)
- Can accept flow in both directions
- Housing and bonnet material is low temperature steel according to requirements of the Pressure Equipment Directive and other international classification authorities
- Equipped with 42CrMo5 bolts to withstand hig pressure
- Optional accessories:
  - Heavy duty industrial hand wheel for frequent operation
  - Cap for infrequent operation
- Max. working pressure:
  65 bar g / 943 psig
- Temperature range:
  -60 – 150 °C / -76 – 302 °F
- Classification: DNV, CRN, BV etc

Technical data and ordering

SVA-S / SVA-L, Shut-off valve

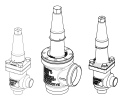
Technical data

Type	Description
Pressure range	The valves are designed for max. working pressure 65 bar g / 943 psig
Temperature range	-60 – 150 °C / -76 – 302 °F

Available connection sizes

SVA-S:
The S means Standard bonnet length (sizes from DN50 to DN200 are insulation friendly).

SVA-L:
The L means Long bonnet length (insulation friendly).



Size	SVA-S	SVA-L
DN 6 (¼)	x	–
DN 10 (⅜)	x	–
DN 15 (½)	x	x
DN 20 (¾)	x	x
DN 25 (1)	x	x
DN 32 (1 ¼)	x	x
DN 40 (1 ½)	x	x
DN 50 (2)	x	–
DN 65 (2 ½)	x	–
DN 80 (3)	x	–
DN 100 (4)	x	–
DN 125 (5)	x	–
DN 150 (6)	x	–
DN 200 (8)	x	–

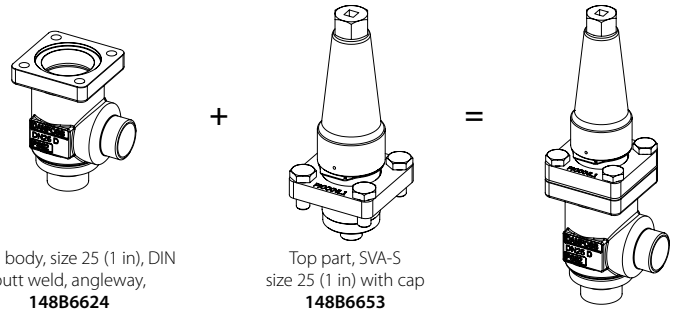
Valve type	Connection size		Available connections
Nominal size [mm]	[mm]	[in]	A / D
	6	DN 6 (¼)	x
	10	DN 10 (⅜)	x
	15	DN 15 (½)	x
	20	DN 20 (¾)	x
	25	DN 25 (1)	x
	32	DN 32 (1 ¼)	x
	40	DN 40 (1 ½)	x
	50	DN 50 (2)	x
	65	DN 65 (2 ½)	x
	80	DN 80 (3)	x
	100	DN 100 (4)	x
	125	DN 125 (5)	x
	150	DN 150 (6)	x
	200	DN 200 (8)	x
Connections	A	Butt-weld connection: ANSI B 36.10 schedule 80, DN 15 - 40 (½ – 1 ½ in)	
	D	Butt-weld connection: ANSI B 36.10 schedule 40, DN 50 - 200 (2 – 8 in) Butt-weld connection: DIN EN 10220	
Valve housing	ANG	Angle flow	
	STR	Straight flow	
Equipment	CAP	Cap	

Important!
Where products need to be certified according to specific certification societies or where higher pressures are required, the relevant information should be included at the time of order.

Technical data and ordering

Ordering from the parts programme (valve body + top part)

Example:



Valve body, size 25 (1 in), DIN butt weld, angleway, **148B6624**

Top part, SVA-S size 25 (1 in) with cap **148B6653**



SVA-S 6 - 65 bar / 943 psi

Valve body

Type	Connection size [in]	Connection size [mm]	Execution	Connection type	Connection designation	Code no.
SVA-S 6	1/4	6	Angleway	Butt weld, EN 10220	D	148B6689
	1/4	6	Angleway	Butt weld, ANSI (B 36.10)	A	148B6687
SVA-S 6	1/4	6	Straightway	Butt weld, EN 10220	D	148B6693
	1/4	6	Straightway	Butt weld, ANSI (B 36.10)	A	148B6691

Top part [1])

Type	Equipment	Code no.
SVA-S 6	Cap	148B6695

SVA-S 10 - 65 bar / 943 psi

Valve body

Type	Connection size [in]	Connection size [mm]	Execution	Connection type	Connection designation	Code no.
SVA-S 10	3/8	10	Angleway	Butt weld, EN 10220	D	148B6690
	3/8	10	Angleway	Butt weld, ANSI (B 36.10)	A	148B6688
SVA-S 10	3/8	10	Straightway	Butt weld, EN 10220	D	148B6694
	3/8	10	Straightway	Butt weld, ANSI (B 36.10)	A	148B6692

Top part [1])

Type	Equipment	Code no.
SVA-S 10	Cap	148B6695

SVA-S / L 15 - 65 bar / 943 psi

Valve body

Type	Connection size [in]	Connection size [mm]	Execution	Connection type	Connection designation	Code no.
SVA-S / L 15	1/2	15	Angleway	Butt weld, EN 10220	D	148B6622
	1/2	15	Angleway	Butt weld, ANSI (B 36.10)	A	148B6612
SVA-S / L 15	1/2	15	Straightway	Butt weld, EN 10220	D	148B6642
	1/2	15	Straightway	Butt weld, ANSI (B 36.10)	A	148B6632

Top part [1])

Type	Equipment	Code no.
SVA-S 15	Cap	148B6652
SVA-L 15	Cap	148B6659

SVA-S / L 20 - 65 bar / 943 psi

Valve body

Type	Connection size [in]	Connection size [mm]	Execution	Connection type	Connection designation	Code no.
SVA-S / L 20	3/4	20	Angleway	Butt weld, EN 10220	D	148B6623
	3/4	20	Angleway	Butt weld, ANSI (B 36.10)	A	148B6613
SVA-S / L 20	3/4	20	Straightway	Butt weld, EN 10220	D	148B6643
	3/4	20	Straightway	Butt weld, ANSI (B 36.10)	A	148B6633

Top part [1])

Type	Equipment	Code no.
SVA-S 20	Cap	148B6652
SVA-L 20	Cap	148B6659

Technical data and ordering

Ordering from the parts programme (valve body + top part)



SVA-S / L 25 - 65 bar / 943 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SVA-S / L 25	1	25	Angleway	Butt weld, EN 10220	D	148B6624
	1	25	Angleway	Butt weld, ANSI (B 36.10)	A	148B6614
SVA-S / L 25	1	25	Angleway	Butt weld, EN 10220	D	148B6644
	1	25	Straightway	Butt weld, ANSI (B 36.10)	A	148B6634

Top part [1])

Type	Equipment	Code no.
SVA-S 25	Cap	148B6653
SVA-L 25	Cap	148B6660

[1]) *Including gaskets and bolts*

SVA-S / L 32 - 65 bar / 943 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SVA-S / L 32	1 1/4	32	Angleway	Butt weld, EN 10220	D	148B6625
	1 1/4	32	Angleway	Butt weld, ANSI (B 36.10)	A	148B6615
SVA-S / L 32	1 1/4	32	Straightway	Butt weld, EN 10220	D	148B6645
	1 1/4	32	Straightway	Butt weld, ANSI (B 36.10)	A	148B6635

Top part [1])

Type	Equipment	Code no.
SVA-S 32	Cap	148B6653
SVA-L 32	Cap	148B6660

SVA-S / L 40 - 65 bar / 943 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SVA-S / L 40	1 1/2	40	Angleway	Butt weld, EN 10220	D	148B6626
	1 1/2	40	Angleway	Butt weld, ANSI (B 36.10)	A	148B6616
SVA-S / L 40	1 1/2	40	Straightway	Butt weld, EN 10220	D	148B6646
	1 1/2	40	Straightway	Butt weld, ANSI (B 36.10)	A	148B6636

Top part [1])

Type	Equipment	Code no.
SVA-S 40	Cap	148B6653
SVA-L 40	Cap	148B6660

SVA-S 50 - 65 bar / 943 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SVA-S 50	2	50	Angleway	Butt weld, EN 10220	D	148B6627
	2	50	Angleway	Butt weld, ANSI (B 36.10)	A	148B6617
SVA-S 50	2	50	Straightway	Butt weld, EN 10220	D	148B6647
	2	50	Straightway	Butt weld, ANSI (B 36.10)	A	148B6637

Top part [1])

Type	Equipment	Code no.
SVA-S 50	Cap	148B6654

Technical data and ordering

Ordering from the parts programme (valve body + top part)

SVA-S 65 - 65 bar / 943 psi



Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SVA-S 65	2 ½	65	Angleway	Butt weld, EN 10220	D	148B6628
	2 ½	65	Angleway	Butt weld, ANSI (B 36.10)	A	148B6618
SVA-S 65	2 ½	65	Straightway	Butt weld, EN 10220	D	148B6648
	2 ½	65	Straightway	Butt weld, ANSI (B 36.10)	A	148B6638

Top part [1])

Type	Equipment	Code no.
SVA-S 65	Cap	148B6655

[1]) *Including gaskets and bolts*

SVA-S 80 - 65 bar / 943 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SVA-S 80	3	80	Angleway	Butt weld, EN 10220	D	148B6629
	3	80	Angleway	Butt weld, ANSI (B 36.10)	A	148B6619
SVA-S 80	3	80	Straightway	Butt weld, EN 10220	D	148B6649
	3	80	Straightway	Butt weld, ANSI (B 36.10)	A	148B6639

Top part [1])

Type	Equipment	Code no.
SVA-S 80	Cap	148B6656

SVA-S 100 - 65 bar / 943 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SVA-S 100	4	100	Angleway	Butt weld, EN 10220	D	148B6630
	4	100	Angleway	Butt weld, ANSI (B 36.10)	A	148B6620
SVA-S 100	4	100	Straightway	Butt weld, EN 10220	D	148B6650
	4	100	Straightway	Butt weld, ANSI (B 36.10)	A	148B6640

Top part [1])

Type	Equipment	Code no.
SVA-S 100	Cap	148B6657

SVA-S 125 - 65 bar / 943 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SVA-S 125	5	125	Angleway	Butt weld, EN 10220	D	148B6631
	5	125	Angleway	Butt weld, ANSI (B 36.10)	A	148B6621
SVA-S 125	5	125	Straightway	Butt weld, EN 10220	D	148B6651
	5	125	Straightway	Butt weld, ANSI (B 36.10)	A	148B6641

Top part [1])

Type	Equipment	Code no.
SVA-S 125	Cap	148B6658

[1]) *Including gaskets and bolts*

Technical data and ordering

Ordering from the parts programme (valve body + top part)

SVA-S 150 and 200 - 65 bar / 943 psi

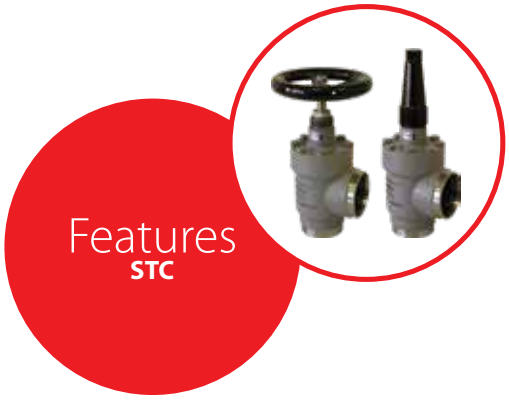
Ordering complete factory assembled valves

Type	Connection size		Execution	Connection type	Connection designation	Equipment	Code no.
	[in]	[mm]					
SVA-S 150	6	150	Angleway	Butt weld, EN 10220	D	Cap	148B6665
	6	150	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B6667
SVA-S 150	6	150	Straightway	Butt weld, EN 10220	D	Cap	148B6666
	6	150	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B6668
SVA-S 200	8	200	Angleway	Butt weld, EN 10220	D	Cap	148B6673
	8	200	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B6675
SVA-S 200	8	200	Straightway	Butt weld, EN 10220	D	Cap	148B6674
	8	200	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B6676

STC, Shut-off valve

STC are angleway and straightway shut-off valves which are designed to meet industrial refrigeration application requirements.

The valves are designed to give favourable flow characteristics and are easy to dismantle and repair when necessary.

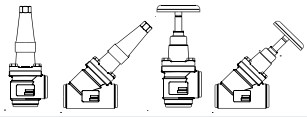




Facts

- Applicable to R717, R134a, R22, R404A and R507
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- Available with:
  - Heavy duty industrial handwheel for frequent operation
  - Vented cap for infrequent operation
- Available in angle and straight versions with standard bonnet for installation in normal insulated systems
- The valves and caps are prepared for sealing, to prevent operation by unauthorized persons
- Internal metal backseating
- DN 15 – 150 (1/2 - 6 in)
- Can accept flow in both directions
- Max. working pressure: 25 bar g / 365 psig
- Temperature range:
  -50 – 150 °C / -58 – 302 °F
- Design specification according to DIN 3158

Technical data and ordering



STC - Shut-off valves

Technical data

Type	Description
Pressure range	The valves are designed for max. working pressure 25 bar g / 365 psig
Temperature range	-50 – 150 °C / -58 – 302 °F

STC - Shut-off valves

Ordering

Type	Connection size		Execution	Connection type	Connection designation	Equipment	Code no.
	[in.]	[mm]					
STC 15	15	1/2	Angleway	Metric	M	Hand wheel	148B4645
	15	1/2	Angleway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B4601
	15	1/2	Straightway	Metric	M	Hand wheel	148B4667
	15	1/2	Straightway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B4623
	15	1/2	Angleway	Metric	M	Cap	148B4644
	15	1/2	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B4600
	15	1/2	Straightway	Metric	M	Cap	148B4666
	15	1/2	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B4622
STC 20	20	3/4	Angleway	Metric	M	Hand wheel	148B4647
	20	3/4	Angleway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B4603
	20	3/4	Straightway	Metric	M	Hand wheel	148B4669
	20	3/4	Straightway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B4625
	20	3/4	Angleway	Metric	M	Cap	148B4646
	20	3/4	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B4602
	20	3/4	Straightway	Metric	M	Cap	148B4668
	20	3/4	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B4624
STC 25	25	1	Angleway	Metric	M	Hand wheel	148B4649
	25	1	Angleway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B4605
	25	1	Straightway	Metric	M	Hand wheel	148B4671
	25	1	Straightway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B4627
	25	1	Angleway	Metric	M	Cap	148B4648
	25	1	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B4604
	25	1	Straightway	Metric	M	Cap	148B4670
	25	1	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B4626
STC 32	32	1 1/4	Angleway	Metric	M	Hand wheel	148B4651
	32	1 1/4	Angleway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B4607
	32	1 1/4	Straightway	Metric	M	Hand wheel	148B4673
	32	1 1/4	Straightway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B4629
	32	1 1/4	Angleway	Metric	M	Cap	148B4650
	32	1 1/4	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B4606
	32	1 1/4	Straightway	Metric	M	Cap	148B4672
	32	1 1/4	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B4628
STC 40	40	1 1/2	Angleway	Metric	M	Hand wheel	148B4653
	40	1 1/2	Angleway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B4609
	40	1 1/2	Straightway	Metric	M	Hand wheel	148B4675
	40	1 1/2	Straightway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B4631
	40	1 1/2	Angleway	Metric	M	Cap	148B4652
	40	1 1/2	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B4608
	40	1 1/2	Straightway	Metric	M	Cap	148B4674
	40	1 1/2	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B4630
STC 50	50	2	Angleway	Metric	M	Hand wheel	148B4655
	50	2	Angleway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B4611
	50	2	Straightway	Metric	M	Hand wheel	148B4677
	50	2	Straightway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B4633
	50	2	Angleway	Metric	M	Cap	148B4654
	50	2	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B4610
	50	2	Straightway	Metric	M	Cap	148B4676
	50	2	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B4632

Technical data and ordering

STC - Shut-off valves

Ordering

Type	Connection size		Execution	Connection type	Connection designation	Equipment	Code no.
	[in.]	[mm]					
STC 65	65	2 ½	Angleway	Metric	M	Hand wheel	148B4657
	65	2 ½	Angleway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B4613
	65	2 ½	Straightway	Metric	M	Hand wheel	148B4679
	65	2 ½	Straightway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B4635
	65	2 ½	Angleway	Metric	M	Cap	148B4656
	65	2 ½	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B4612
	65	2 ½	Straightway	Metric	M	Cap	148B4678
	65	2 ½	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B4634
STC 80	80	3	Angleway	Metric	M	Hand wheel	148B4659
	80	3	Angleway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B4615
	80	3	Straightway	Metric	M	Hand wheel	148B4681
	80	3	Straightway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B4637
	80	3	Angleway	Metric	M	Cap	148B4658
	80	3	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B4614
	80	3	Straightway	Metric	M	Cap	148B4680
	80	3	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B4636
STC 100	100	4	Angleway	Metric	M	Hand wheel	148B4661
	100	4	Angleway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B4617
	100	4	Straightway	Metric	M	Hand wheel	148B4683
	100	4	Straightway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B4639
	100	4	Angleway	Metric	M	Cap	148B4660
	100	4	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B4616
	100	4	Straightway	Metric	M	Cap	148B4682
	100	4	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B4638
STC 125	125	5	Angleway	Metric	M	Hand wheel	148B4663
	125	5	Angleway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B4619
	125	5	Straightway	Metric	M	Hand wheel	148B4685
	125	5	Straightway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B4641
	125	5	Angleway	Metric	M	Cap	148B4662
	125	5	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B4618
	125	5	Straightway	Metric	M	Cap	148B4684
	125	5	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B4640
STC 150	150	6	Angleway	Metric	M	Hand wheel	148B4665
	150	6	Angleway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B4621
	150	6	Straightway	Metric	M	Hand wheel	148B4687
	150	6	Straightway	Butt weld, ANSI (B 36.10)	A	Hand wheel	148B4643
	150	6	Angleway	Metric	M	Cap	148B4664
	150	6	Angleway	Butt weld, ANSI (B 36.10)	A	Cap	148B4620
	150	6	Straightway	Metric	M	Cap	148B4686
	150	6	Straightway	Butt weld, ANSI (B 36.10)	A	Cap	148B4642

Quick Selection Notes:

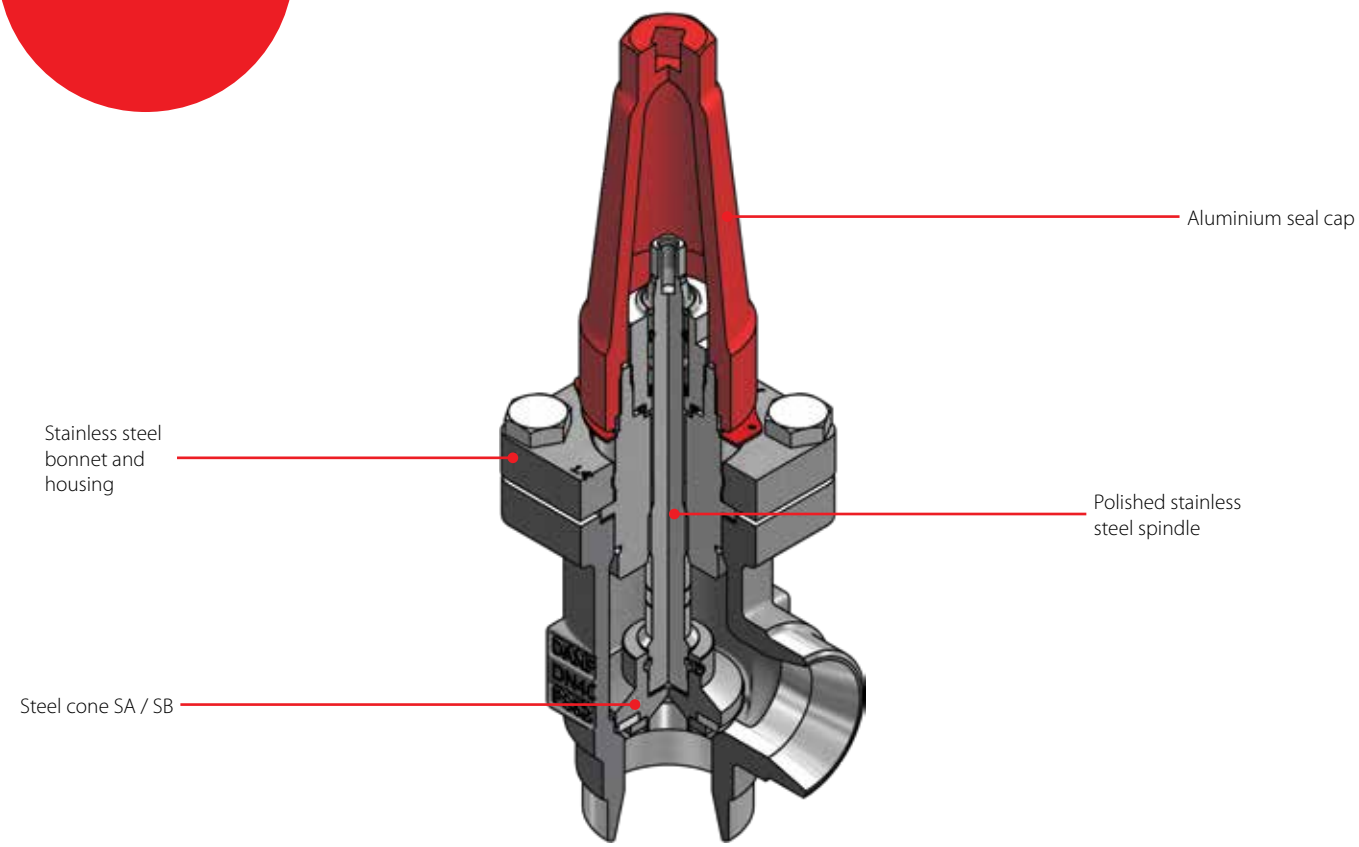
SVA-S SS / SVA-L SS, Shut-off valves

SVA-S SS and SVA-L SS are angleway and straightway stainless steel shut-off valves, which are designed to meet all industrial refrigeration application requirements.

The valves are designed to give favourable flow characteristics and are easy to dismantle and repair when necessary. The valve cone is designed to ensure perfect closing.



Features
SVA-S SS / SVA-L SS



Facts

- Applicable to R717, R744, R113, R114, R1233zd(E), R1234yf, R1234ze(E), R125, R1270, R1336mzz(Z), R134a, R152a, R170, R22, R227ea, R23, R236fa, R290, R32, R401A, R402A, R402B, R404A, R407A, R407B, R407C, R407F, R407H, R408A, R409A, R410A, R417A, R421A, R422A, R422B, R422D, R427A, R438A, R444B, R447A, R448A, R449A, R449B, R450A, R452A, R454B, R455A, R502, R503, R507, R513A, R600, R600a and RE170
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- Available in angleway and straightway versions
- Each valve type is clearly marked with type, size and performance range
- Internal backseating enables replacement of the spindle seal whilst the valve is active, i.e. under pressure
- Can accept flow in both directions
- Housing and bonnet material is stainless steel
- Equipped with stainless steel bolts
- Optional accessories:
  - Heavy duty industrial hand wheel for frequent operation
  - Cap for infrequent operation
- Max. working pressure
  DN 15 – 65: 52 bar g / 754 psig
  DN 80 – 125: 50 bar / 725 psig
- Temperature range:
  -60 – 150 °C / -76 – 302 °F

Technical data and ordering

SVA-S SS and SVA-L SS, Shut-off valves

Technical data

Type	Description
Pressure range	DN 15 – 65: Max. working pressure PS / MWP 52 bar g / 754 psig DN 80 – 125: Max. working pressure PS / MWP 50 bar / 725 psig
Temperature range	-60 – 150 °C / –76 – 302 °F

SVA-S SS, Shut-off valves



Ordering angleway valves

Type	Connection size		Execution	Connection type	Connection designation	Equipment	Code no.
	[mm]	[in]					
SVA-S SS 15	15	1/2	Angleway	Butt weld, EN 10220	D	Hand wheel	148B5289
	15	1/2	Angleway	Butt weld, EN 10220	D	Cap	148B5290
	15	1/2	Angleway	Butt weld ANSI, B 36.19M	A	Cap	148B5396
SVA-S SS 20	20	3/4	Angleway	Butt weld, EN 10220	D	Hand wheel	148B5377
	20	3/4	Angleway	Butt weld, EN 10220	D	Cap	148B5378
	20	3/4	Angleway	Butt weld ANSI, B 36.19M	A	Cap	148B5395
SVA-S SS 25	25	1	Angleway	Butt weld, EN 10220	D	Hand wheel	148B5486
	25	1	Angleway	Butt weld, EN 10220	D	Cap	148B5487
	25	1	Angleway	Butt weld ANSI, B 36.19M	A	Cap	148B6477
SVA-S SS 32	32	1 1/4	Angleway	Butt weld, EN 10220	D	Hand wheel	148B5566
	32	1 1/4	Angleway	Butt weld, EN 10220	D	Cap	148B5567
	32	1 1/4	Angleway	Butt weld ANSI, B 36.19M	A	Cap	148B5595
SVA-S SS 40	40	1 1/2	Angleway	Butt weld, EN 10220	D	Hand wheel	148B5646
	40	1 1/2	Angleway	Butt weld, EN 10220	D	Cap	148B5647
	40	1 1/2	Angleway	Butt weld ANSI, B 36.19M	A	Cap	148B5683
SVA-S SS 50	50	2	Angleway	Butt weld, EN 10220	D	Hand wheel	148B5753
	50	2	Angleway	Butt weld, EN 10220	D	Cap	148B5754
	50	2	Angleway	Butt weld ANSI, B 36.19M	A	Cap	148B5754
SVA-S SS 65	65	2 1/2	Angleway	Butt weld, EN 10220	D	Hand wheel	148B5847
	65	2 1/2	Angleway	Butt weld, EN 10220	D	Cap	148B5848
	65	2 1/2	Angleway	Butt weld ANSI, B 36.19M	A	Cap	148B6448
SVA-S SS 80	80	3	Angleway	Butt weld, EN 10220	D	Cap	148B5928
	80	3	Angleway	Butt weld ANSI, B 36.19M	A	Cap	148B5928
SVA-S SS 100	100	4	Angleway	Butt weld, EN 10220	D	Cap	148B6032
	100	4	Angleway	Butt weld ANSI, B 36.19M	A	Cap	148B6035
SVA-S SS 125	125	5	Angleway	Butt weld, EN 10220	D	Cap	148B6126

SVA-S SS, Shut-off valves



Ordering straightway valves

Type	Connection size		Execution	Connection type	Connection designation	Equipment	Code no.
	[mm]	[in]					
SVA-S SS 15	15	1/2	Straightway	Butt weld, EN 10220	D	Hand wheel	148B5291
	15	1/2	Straightway	Butt weld, EN 10220	D	Cap	148B5292
	15	1/2	Straightway	Butt weld ANSI, B 36.19M	A	Cap	148B5397
SVA-S SS 20	20	3/4	Straightway	Butt weld, EN 10220	D	Hand wheel	148B5379
	20	3/4	Straightway	Butt weld, EN 10220	D	Cap	148B5380
	20	3/4	Straightway	Butt weld ANSI, B 36.19M	A	Cap	148B5398
SVA-S SS 25	25	1	Straightway	Butt weld, EN 10220	D	Hand wheel	148B5488
	25	1	Straightway	Butt weld, EN 10220	D	Cap	148B5489
	25	1	Straightway	Butt weld ANSI, B 36.19M	A	Cap	148B5399
SVA-S SS 32	32	1 1/4	Straightway	Butt weld, EN 10220	D	Hand wheel	148B5568
	32	1 1/4	Straightway	Butt weld, EN 10220	D	Cap	148B5569
	32	1 1/4	Straightway	Butt weld ANSI, B 36.19M	A	Cap	148B5596
SVA-S SS 40	40	1 1/2	Straightway	Butt weld, EN 10220	D	Hand wheel	148B5648
	40	1 1/2	Straightway	Butt weld, EN 10220	D	Cap	148B5649
	40	1 1/2	Straightway	Butt weld ANSI, B 36.19M	A	Cap	148B5684
SVA-S SS 50	50	2	Straightway	Butt weld, EN 10220	D	Hand wheel	148B5755
	50	2	Straightway	Butt weld, EN 10220	D	Cap	148B5756
	50	2	Straightway	Butt weld ANSI, B 36.19M	A	Cap	148B5756
SVA-S SS 65	65	2 1/2	Straightway	Butt weld, EN 10220	D	Hand wheel	148B5849
	65	2 1/2	Straightway	Butt weld, EN 10220	D	Cap	148B5850
	65	2 1/2	Straightway	Butt weld ANSI, B 36.19M	A	Cap	148B6449

Technical data and ordering

SVA-L SS, Shut-off valves

Ordering angleway valves



Type	Connection size		Execution	Connection type	Connection designation	Equipment	Code no.
	[mm]	[in]					
SVA-L SS 15	15	1/2	Angleway	Butt weld, EN 10220	D	Hand wheel	148B6546
	15	1/2	Angleway	Butt weld, EN 10220	D	Cap	148B6547
SVA-L SS 20	20	3/4	Angleway	Butt weld, EN 10220	D	Hand wheel	148B6550
	20	3/4	Angleway	Butt weld, EN 10220	D	Cap	148B6551
SVA-L SS 25	25	1	Angleway	Butt weld, EN 10220	D	Hand wheel	148B6554
	25	1	Angleway	Butt weld, EN 10220	D	Cap	148B6555
SVA-L SS 32	32	1 1/4	Angleway	Butt weld, EN 10220	D	Hand wheel	148B6558
	32	1 1/4	Angleway	Butt weld, EN 10220	D	Cap	148B6559
SVA-L SS 40	40	1 1/2	Angleway	Butt weld, EN 10220	D	Hand wheel	148B6562
	40	1 1/2	Angleway	Butt weld, EN 10220	D	Cap	148B6563

SVA-L SS, Shut-off valves

Ordering straightway valves



Type	Connection size		Execution	Connection type	Connection designation	Equipment	Code no.
	[mm]	[in]					
SVA-L SS 15	15	1/2	Straightway	Butt weld, EN 10220	D	Hand wheel	148B6548
	15	1/2	Straightway	Butt weld, EN 10220	D	Cap	148B6549
SVA-L SS 20	20	3/4	Straightway	Butt weld, EN 10220	D	Hand wheel	148B6552
	20	3/4	Straightway	Butt weld, EN 10220	D	Cap	148B6553
SVA-L SS 25	25	1	Straightway	Butt weld, EN 10220	D	Hand wheel	148B6556
	25	1	Straightway	Butt weld, EN 10220	D	Cap	148B6557
SVA-L SS 32	32	1 1/4	Straightway	Butt weld, EN 10220	D	Hand wheel	148B6560
	32	1 1/4	Straightway	Butt weld, EN 10220	D	Cap	148B6561
SVA-L SS 40	40	1 1/2	Straightway	Butt weld, EN 10220	D	Hand wheel	148B6564
	40	1 1/2	Straightway	Butt weld, EN 10220	D	Cap	148B6565

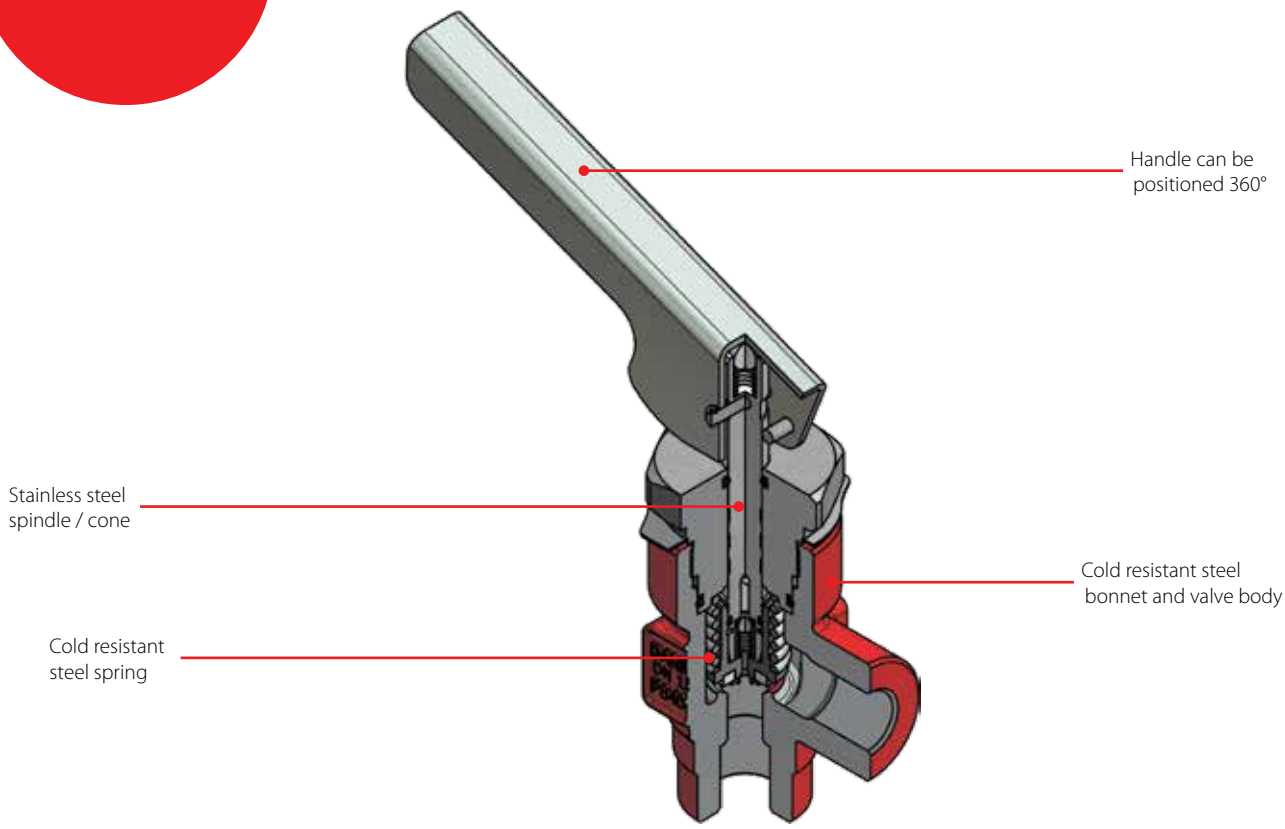
Quick Selection Notes:

QDV, Shut-off valve

QDV are quick closing shut-off valves for oil drain, designed particularly for draining oil from systems containing refrigerant (ammonia) under pressure.
The valve closes immediately on release of the handle, thus protecting user and environment against unnecessary refrigerant leaks.

QDV is applicable to R717 (Ammonia), and is designed to meet the safety demands specified by national and international authorities within industrial refrigeration.





Facts

- QDV is designed for use with R717 (ammonia), but the valve is also applicable to all other common non flammable refrigerants and non corrosive gases / liquids dependent on sealing material compatibility
- QDV is a backpressure dependent valve. If any tube or hose is mounted on the outlet of the QDV it has to be calculated to prevent black pressure building up when relieving.
  For further information please see installation instruction for QDV Flammable hydrocarbons are not recommended.
- Meets the safety demands within industrial refrigeration
- Handle can be positioned 360°
- Built-in integral relief device (opening over 25 bar g to prevent hydraulic pressure building up between stop valve and QDV)
- Can be supplied together with a stop valve for quick on site mounting
- Max. operating pressure: 40 bar g / 580 psig
- Temperature range: -50 – 150 °C / -58 – 302 °F

Technical data and ordering

QDV, Shut-off valve

Technical data

Type	Description
Pressure range	The valve is designed for: Maximum operating pressure of 40 bar g / 580 psig
Temperature range	-50 – 150 °C / -58 – 302 °F

QDV, Shut-off valve

Ordering

Type	Inlet	Outlet	Code no.
QDV 15 DN 15	DN 15	G ¾ in	148H3272
QDV 15 ½ in FPT	½ in FPT	½ in FPT	148H3273
QDV 15 ¾ in FPT	¾ in FPT	¾ in FPT	148H3274
QDV 15 DN 15 + SVA-ST DN 15 H-WHEEL *)	DN 15	G ¾ in	148H3310
QDV 15 ½ in FPT + SVA-ST SOC ½ in H-WHEEL *)	½ in SOC	½ in FPT	148H3311
Fittings for hose connection - G ¾ in	–	–	148H3451
Fittings for welding connection - G ¾ in	–	–	148H3452

**) Two valves are supplied in one box and should be mounted on site. The indicated inlet is for the stop valve - The indicated outlet is for the oil drain valve.*

Important

Where products need to be certified according to specific certification societies or where higher pressures are required, the relevant information should be included at the time of order.

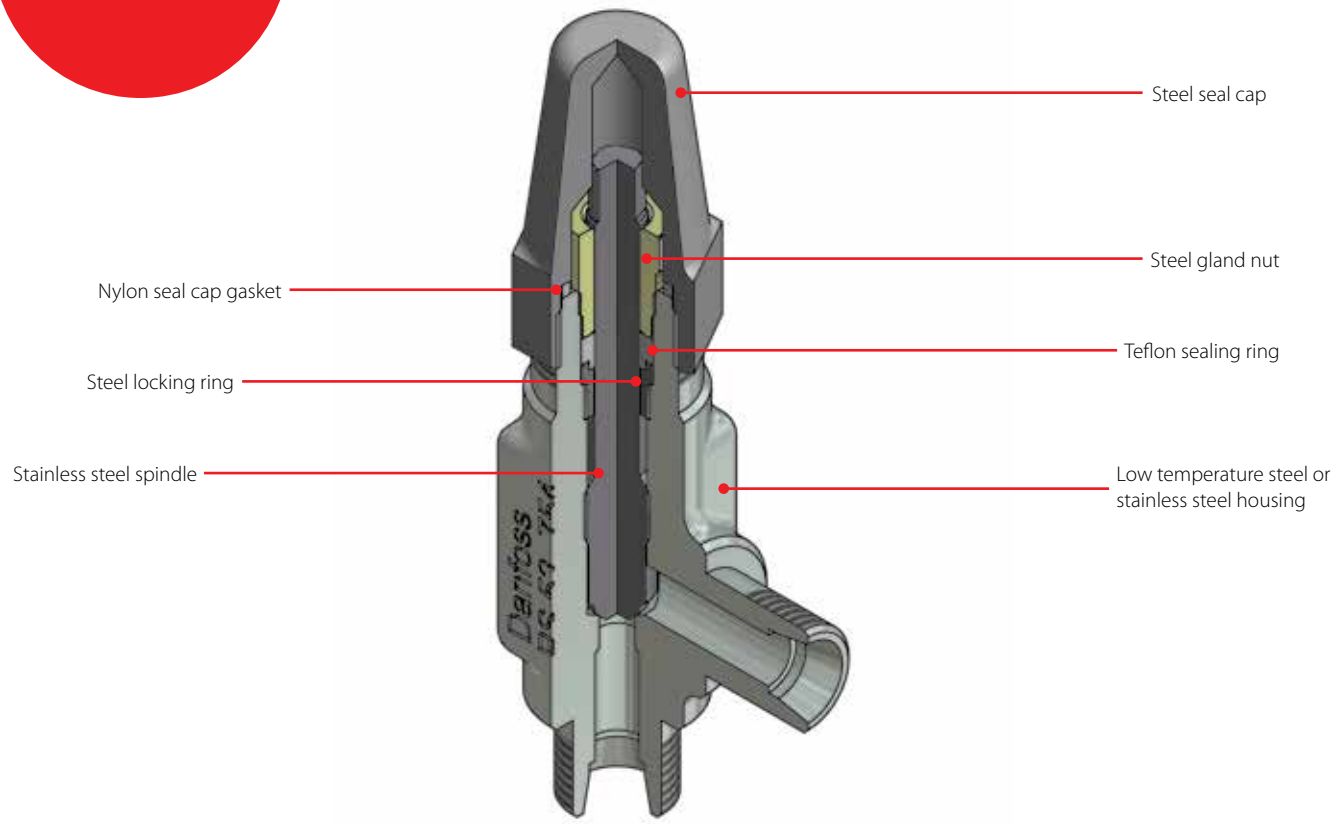
SNV-ST / SNV-SS, Gauge valves

SNV stop gauge are designed as service valves with a very sturdy construction. SNV-ST are made in steel approved for low temperature operations, SVA-SS are stainless steel versions.

SNV valves have internal backseating (metal to metal), enabling the spindle seal to be replaced while the valve is still under pressure.



Features
SNV-ST / SNV-SS



Facts

- Applicable to R717, R744, R113, R114, R1233zd(E), R1234yf, R1234ze(E), R125, R1270, R1336mzz(Z), R134a, R152a, R170, R22, R227ea, R23, R236fa, R290, R32, R401A, R402A, R402B, R404A, R407A, R407B, R407C, R407F, R407H, R408A, R409A, R410A, R417A, R421A, R422A, R422B, R422D, R427A, R438A, R444B, R447A, R448A, R449A, R449B, R450A, R452A, R454B, R455A, R502, R503, R507, R513A, R600, R600a and RE170
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- Suitable for "heavy duty" industrial applications having a very sturdy and safe design including high pressures and wide temperature range
- The SNV-ST and SNV-SS valves have backseating (metal to metal)
- Compact and light valve for easy handling and installation
- No special flow direction required
- Provide high flow characteristics
- Each valve type is clearly marked with type and size
- Housing and bonnet material is low temperature steel (stainless steel for SNV-SS) according to requirements of the Pressure Equipment Directive and other international classification authorities
- Valve safety is enhanced with the spindle being secured such that it cannot be unscrewed
- Max. operating pressure:
  52 bar g / 754 psig
  Valves for higher operating pressure available on request
- Temperature range:
  -60 – 150 °C / -76 – 302 °F

Technical data and ordering

SNV-ST / SNV-SS, Gauge valve

Technical data

Type	Description
Pressure range	Maximum operating pressure of 52 bar g / 754 psig. Valves for higher operating pressure available on request.
Temperature range	-60 – 150 °C / -76 – 302 °F

How to order

Please note that the type codes only serve to identify the valves, some of which may not form part of the standard product range. For further information please contact your local Danfoss Sales Company.

Important!

Where products need to be certified according to specific certification societies or where higher pressures are required, the relevant information should be included at the time of order.

SNV-ST, See figure 1

Ordering

Type	Side branch connection Ⓐ	Bottom branch connection Ⓑ	Quantity [pcs.]	Code no.
SNV-ST CD10-CD10	CD 10	CD 10	1	148B3740
SNV-ST CD10-CD10	CD 10	CD 10	30	148B4177
SNV-ST CD10-1/4MPT	CD 10	1/4 MPT	1	148B3741
SNV-ST CD6-1/4MPT	CD 6	1/4 MPT	1	148B3742
SNV-ST CD10-3/8MPT	CD 10	3/8 MPT	1	148B3743
SNV-ST CD6-3/8MPT	CD 6	3/8 MPT	1	148B3744
SNV-ST G1/2-G1/2	G ½ (external)	G ½ (external)	1	148B3745
SNV-ST G1/2-G1/2	G ½ (external)	G ½ (external)	30	148B4179
SNV-ST 1/4FPT-1/4MPT	1/4 FPT	1/4 MPT	1	148B3746
SNV-ST 1/4FPT-1/4MPT	1/4 FPT	1/4 MPT	30	148B4180
SNV-SS 1/4FPT-1/4MPT	1/4 FPT	1/4 MPT	1	148B4771
SNV-ST 1/4FPT-1/4MPT **)	1/4 FPT	1/4 MPT	1	148B4772
SNV-ST 1/4FPT-1/4FPT	1/4 FPT	1/4 FPT	1	148B4568
SNV-ST 1/4FPT-1/4FPT	1/4 FPT	1/4 FPT	30	148B4223
SNV-ST 3/8FPT-3/8MPT	3/8 FPT	3/8 MPT	1	148B3747
SNV-ST 3/8FPT-3/8MPT	3/8 FPT	3/8 MPT	30	148B4181
SNV-SS 3/8FPT-3/8MPT	3/8 FPT	3/8 MPT	1	148B3750
SNV-ST 3/8FPT-1/2MPT	3/8 FPT	½ MPT	1	148B4565
SNV-ST 3/8FPT-1/2MPT	3/8 FPT	½ MPT	30	148B4233
SNV-ST 3/8FPT-3/8FPT	3/8 FPT	3/8 FPT	1	148B4572
SNV-ST 3/8FPT-3/8FPT	3/8 FPT	3/8 FPT	30	148B4225
SNV-ST 1/2MPT-1/2MPT	½ MPT	½ MPT	1	148B4564
SNV-ST 1/2MPT-1/2MPT	½ MPT	½ MPT	30	148B4224
SNV-ST 1/2MPT-3/8FPT	½ MPT	3/8 FPT	30	148B4226
SNV-ST CD6-1/4MPT *)	CD 6	1/4 MPT	30	148B4216
SNV-ST 7/16UNF-1/4MPT	7/16 UNF	1/4 MPT	1	148B4566
SNV-ST 7/16UNF-1/4MPT	7/16 UNF	1/4 MPT	30	148B4230
SNV-ST 3/8RC-3/8R	3/8 RC	3/8 R	30	148B4227
SNV-ST 1/4RC-3/8R	1/4 RC	3/8 R	30	148B4228
SNV-ST 1/4RC-1/4R	1/4 RC	1/4 R	30	148B4229

**) With handwheel.*

***) Including adaptor for connection to ICS/PM/ICFD valve (1/4 in. NPT – G1/4)*

SNV-ST

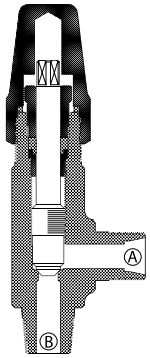


Fig. 1

Technical data and ordering

SNV-ST / SNV-SS (extended Branch) - see figure 2

Ordering

Type	Side branch connection Ⓐ	Bottom branch connection Ⓑ	Quantity [pcs.]	Code no.
SNV-ST CD10-W½ L100	CD10	W½ L100	1	148B3768
SNV-ST CD10-W½ L100	CD10	W½ L100	30	148B4210
SNV-ST G½-W½ L50	G ½ (external)	W½ L50	1	148B4570
SNV-ST G½-W½ L50	G ½ (external)	W½ L50	30	148B4218
SNV-ST G½-W½ L100	G ½ (external)	W½ L100	1	148B3769
SNV-ST G½-W½ L100	G ½ (external)	W½ L100	30	148B4211
SNV-ST G½-W1/2 L125	G ½ (external)	W½ L125	30	148B4219
SNV-ST ¼FPT-¼MPT L100	¼ FPT	¼ MPT L100	1	148B4567
SNV-ST ¼FPT-¼MPT L100	¼ FPT	¼ MPT L100	30	148B4232
SNV-ST ¼FTP-W½ L100	¼ FPT	W½ L100	20	148B4495
SNV-SS G½-W½ L50	G ½ (external)	W½ L50	1	148B4265
SNV-SS G½-W½ L50	G ½ (external)	W½ L50	30	148B4263
SNV-SS G½-W½ L150	G ½ (external)	W½ L150	1	148B4266
SNV-SS G½-W½ L150	G ½ (external)	W½ L150	30	148B4264

L50 = 50 mm / 2 in, L100 = 100 mm / 4 in, L125 = 125 mm / 5 in, L150 = 150 mm / 6 in.

SNV-ST (Manometer connection) - see figure 3

Ordering

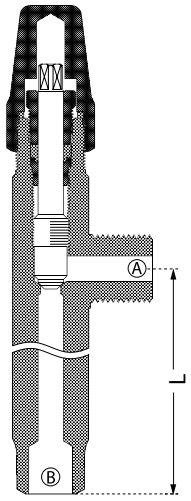
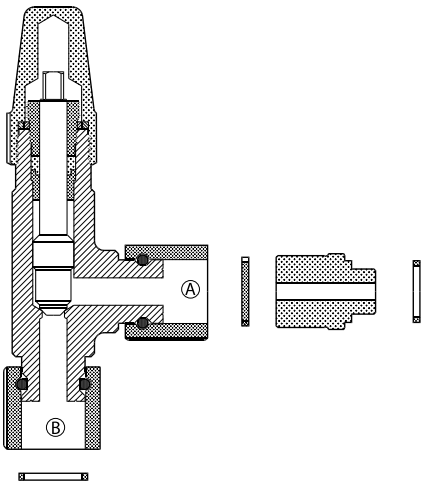
Type	Side branch connection Ⓐ	Bottom branch connection Ⓑ	Quantity [pcs.]	Code no.
SNV-ST G½ Man	G ½	G ½	1	148B3778**)
SNV-SS G½ Man	G ½	G ½	1	148B6545***)

***) Including adaptor for connection to ICS / PM valve (G½ – G¼)*
****) Including adaptor for connection to ICF valve (G½ – G⅜).*

Ordering valves for 65 bar

Type	Side branch connection Ⓐ	Bottom branch connection Ⓑ	Quantity [pcs.]	Code no.
SNV-ST CD10-CD10	CD10	CD 10	1	148B6400
SNV-ST CD10-W ½ L100	CD10	W½ L100	30	148B4223
SNV-SS G ½-W ½ L50	G ½ (external)	W½ L50	1	148B4581
SNV-SS G ½-W ½ L150	G ½ (external)	W½ L150	1	148B4582

For additional equipment; please concult the spare parts and accessories documentation.

SNV-ST / SNV-SS (extended branch)	SNV-ST (manometer connection)
	
Fig. 2	*Fig. 3*

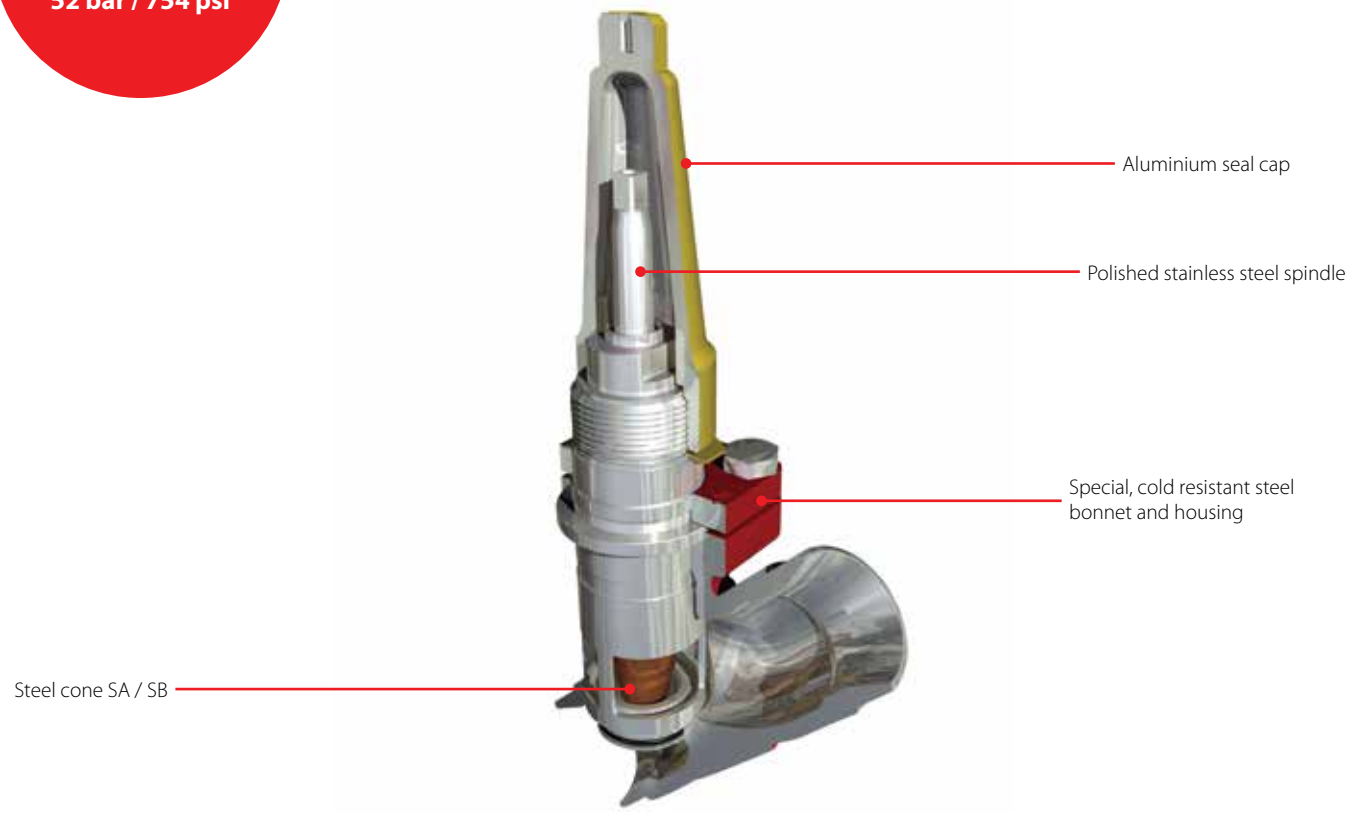
Quick Selection Notes:

REG-SA / REG-SB, Hand-operated regulating valves - 52 bar / 754 psi

REG-SA and REG-SB are angleway and straightway hand-operated regulating valves, which act as normal shut-off valves in closed position.
REG-SA and REG-SB are members of the SVL modular concept product family, so each valve housing is available with several different connection types and sizes, and it is possible to convert REG-SA or REG-SB to any other product in the SVL family by replacing the complete top part.
The valves are available in four different versions – REG-SA (S = short neck) and REG-LA (L = long neck) is for use in expansion lines (cone type A), while REG-SB and REG-LB is designed for regulation purposes in liquid lines (cone type B).



Features
REG-SA / REG-SB
52 bar / 754 psi



Facts

- Standard SVL angleway or straightway valve body allowing other top parts from the SVL platform to be installed
- Applicable to R717, R744, R134a, R170, R22, R290, R401A, R402A, R404A, R407A, R407B, R407C, R407F, R409A, R410A, R421A, R502, R507, R600 and R600a
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- Designed to ensure perfect regulation
- Internal backseating enables replacement of the spindle seal whilst the valve is active, i.e. under pressure
- Easy to disassemble for inspection and possible repair
- Max. operating pressure:
  52 bar g / 754 psig
- Temperature range:
  -60 – 150 °C / -76 – 302 °F
- Acts as a normal shut-off valve in closed position
- Valve body and bonnet material is low temperature steel according to requirements of the Pressure Equipment Directive and other international classification authorities

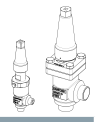
Technical data and ordering

REG-SA / REG-SB, Hand-operated regulating valve

Technical data

Type	Description
Pressure range	52 bar g / 754 psig
Temperature range	-60 – 150 °C / -76 – 302 °F
Flow coefficients	Flow coefficients for fully opened valves from K_V = 0.15 – 80 m³/h (C_V = 0.17 – 92.5 USgal/min)

REG-SA / REG-SB, Hand-operated regulating valve



Available combination between valve size, cone type and valve connection

Size	DN 10 (⅜ in)		DN 15 (½ in)		DN 20 (¾ in)		DN 25 (1 in)		DN 32 (1 ¼ in)		DN 40 (1 ½ in)		DN 50 (2 in)		DN 65 (2 ½ in)	
Cone type	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
DIN	×	×	×	×	×	×	×	×	×	×	×	×		×		×
ANSI	×	×	×	×	×	×	×	×	×	×	×	×		×		×
GOST	×	×	×	×	×	×	×	×	×	×	×	×		×		×
SOC			×	×	×	×	×	×	×	×	×	×		×		
FPT			×	×	×	×	×	×	×	×						
F			×	×	×	×	×	×	×	×	×	×		×		×

× = *available*

How to order

Please note that the type codes only serve to identify the valves, some of which may not form part of the standard product range. For further information please contact your local Danfoss Sales Company.

Important!

Where products need to be certified according to specific certification societies or where higher pressures are required, the relevant information should be included at the time of order.

REG-SA / REG-SB - Hand-operated regulating valve

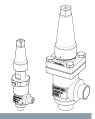
Type codes

Valve type	REG	Regulating Valves					
			Available connection types				
			A	D	SOC	FPT	F
Nominal size in [mm] (Valve size measured on the connection diameter)	10	DN 10	x	x			
	15	DN 15	x	x	x	x	x
	20	DN 20	x	x	x	x	x
	22	DN 22					
	25	DN 25	x	x	x	x	x
	32	DN 32	x	x	x	x	x
	40	DN 40	x	x	x		x
	50	DN 50	x	x	x		x
	65	DN 65	x	x			x
Connections	A	Welding branches: ANSI B 36.10 schedule 80, 15 – 40 (1/2 – 1 1/2 in) Welding branches: ANSI B 36.10 schedule 40, 50 – 65 (2 – 2 1/2 in)					
	D	Welding branches: EN 10220					
	G	Butt-weld connection: GOST (8734-75 and 8732-78)					
	SOC	Socket weld: ANSI B 16.11					
	FPT	NPT inside pipe thread: ANSI / ASME B1.20.1					
	F	Butt-weld connection F: Thickness DN 15 – 65 = 2 mm					
Valve housing	ANG	Angle flow					
	STR	Straight flow					
Cone A	Size: DN 10 DN 15 DN 20 DN 25 DN 32 DN 40	Flow area [mm²] 3.02 36.5 36.5 178 178 178					
Cone B	Size: DN 10 DN 15 DN 20 DN 25 DN 32 DN 40 DN 50 DN 65	Flow area [mm²] 16 115 115 531 531 531 822 1978					

Technical data and ordering

REG-SA - 52 bar / 754 psi (Cone type A - for expansion lines)

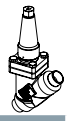
Ordering factory assembled angleway valves



Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[mm]	[in]				
REG-SA 10	10	3/8	Angleway	Butt weld, EN 10220	D	148B5102
	10	3/8	Angleway	Butt weld, ANSI (B 36.10)	A	148B5106
REG-SA 15	15	1/2	Angleway	Butt weld, EN 10220	D	148B5226
	15	1/2	Angleway	Butt weld, ANSI (B 36.10)	A	148B5202
	15	1/2	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5204
	15	1/2	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5206
REG-SA 20	20	3/4	Angleway	Butt weld, EN 10220	D	148B5326
	20	3/4	Angleway	Butt weld, ANSI (B 36.10)	A	148B5302
	20	3/4	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5304
	20	3/4	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5306
REG-SA 25	25	1	Angleway	Butt weld, EN 10220	D	148B5426
	25	1	Angleway	Butt weld, ANSI (B 36.10)	A	148B5402
	25	1	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5404
	25	1	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5406
REG-SA 32	32	1 1/4	Angleway	Butt weld, EN 10220	D	148B5527
	32	1 1/4	Angleway	Butt weld, ANSI (B 36.10)	A	148B5502
	32	1 1/4	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5504
	32	1 1/4	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5506
REG-SA 40	40	1 1/2	Angleway	Butt weld, EN 10220	D	148B5627
	40	1 1/2	Angleway	Butt weld, ANSI (B 36.10)	A	148B5602
	40	1 1/2	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5604

REG-SA - 52 bar / 754 psi (Cone type A - for expansion lines)

Ordering factory assembled straightway valves

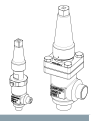


Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[mm]	[in]				
REG-SA 10	10	3/8	Straightway	Butt weld, EN 10220	D	148B5104
	10	3/8	Straightway	Butt weld, ANSI (B 36.10)	A	148B5116
REG-SA 15	15	1/2	Straightway	Butt weld, EN 10220	D	148B5228
	15	1/2	Straightway	Butt weld, ANSI (B 36.10)	A	148B5212
	15	1/2	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5214
	15	1/2	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5216
REG-SA 20	20	3/4	Straightway	Butt weld, EN 10220	D	148B5328
	20	3/4	Straightway	Butt weld, ANSI (B 36.10)	A	148B5312
	20	3/4	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5314
	20	3/4	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5316
REG-SA 25	25	1	Straightway	Butt weld, EN 10220	D	148B5428
	25	1	Straightway	Butt weld, ANSI (B 36.10)	A	148B5412
	25	1	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5414
	25	1	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5416
REG-SA 32	32	1 1/4	Straightway	Butt weld, EN 10220	D	148B5528
	32	1 1/4	Straightway	Butt weld, ANSI (B 36.10)	A	148B5512
	32	1 1/4	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5514
	32	1 1/4	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5516
REG-SA 40	40	1 1/2	Straightway	Butt weld, EN 10220	D	148B5629
	40	1 1/2	Straightway	Butt weld, ANSI (B 36.10)	A	148B5612
	40	1 1/2	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5614

Technical data and ordering

REG-SB - 52 bar / 754 psi (Cone type B - for liquid lines)

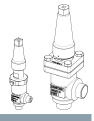
Ordering factory assembled angleway



Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[mm]	[in]				
REG-SB 10	10	3/8	Angleway	Butt weld, EN 10220	D	148B5103
	10	3/8	Angleway	Butt weld, ANSI (B 36.10)	A	148B5107
REG-SB 15	15	1/2	Angleway	Butt weld, EN 10220	D	148B5227
	15	1/2	Angleway	Butt weld, ANSI (B 36.10)	A	148B5203
	15	1/2	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5205
	15	1/2	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5207
REG-SB 20	20	3/4	Angleway	Butt weld, EN 10220	D	148B5327
	20	3/4	Angleway	Butt weld, ANSI (B 36.10)	A	148B5303
	20	3/4	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5305
	20	3/4	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5307
REG-SB 25	25	1	Angleway	Butt weld, EN 10220	D	148B5427
	25	1	Angleway	Butt weld, ANSI (B 36.10)	A	148B5403
	25	1	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5405
	25	1	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5407
REG-SB 32	32	1 1/4	Angleway	Butt weld, EN 10220	D	148B5526
	32	1 1/4	Angleway	Butt weld, ANSI (B 36.10)	A	148B5503
	32	1 1/4	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5505
	32	1 1/4	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5507
REG-SB 40	40	1 1/2	Angleway	Butt weld, EN 10220	D	148B5626
	40	1 1/2	Angleway	Butt weld, ANSI (B 36.10)	A	148B5603
	40	1 1/2	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5605
REG-SB 50	50	2	Angleway	Butt weld, EN 10220	D	148B5726
	50	2	Angleway	Butt weld, ANSI (B 36.10)	A	148B5706
	50	2	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5727
REG-SB 65	65	2 1/2	Angleway	Butt weld, EN 10220	D	148B5826
	65	2 1/2	Angleway	Butt weld, ANSI (B 36.10)	A	148B5806

REG-SB - 52 bar / 754 psi (Cone type B - for liquid lines)

Ordering factory assembled straightway valves

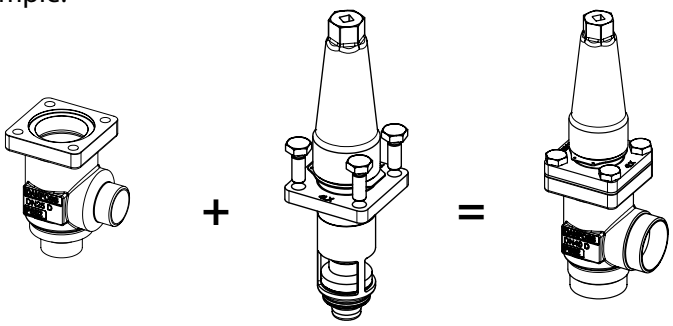


Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[mm]	[in]				
REG-SB 10	10	3/8	Straightway	Butt weld, EN 10220	D	148B5105
	10	3/8	Straightway	Butt weld, ANSI (B 36.10)	A	148B5117
REG-SB 15	15	1/2	Straightway	Butt weld, EN 10220	D	148B5229
	15	1/2	Straightway	Butt weld, ANSI (B 36.10)	A	148B5213
	15	1/2	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5215
	15	1/2	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5217
REG-SB 20	20	3/4	Straightway	Butt weld, EN 10220	D	148B5329
	20	3/4	Straightway	Butt weld, ANSI (B 36.10)	A	148B5313
	20	3/4	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5315
	20	3/4	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5317
REG-SB 25	25	1	Straightway	Butt weld, EN 10220	D	148B5429
	25	1	Straightway	Butt weld, ANSI (B 36.10)	A	148B5413
	25	1	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5415
	25	1	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5417
REG-SB 32	32	1 1/4	Straightway	Butt weld, EN 10220	D	148B5529
	32	1 1/4	Straightway	Butt weld, ANSI (B 36.10)	A	148B5513
	32	1 1/4	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5515
	32	1 1/4	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5517
REG-SB 40	40	1 1/2	Straightway	Butt weld, EN 10220	D	148B5628
	40	1 1/2	Straightway	Butt weld, ANSI (B 36.10)	A	148B5613
	40	1 1/2	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5615
REG-SB 50	50	2	Straightway	Butt weld, ANSI (B 36.10)	A	148B5724
REG-SB 65	65	2 1/2	Straightway	Butt weld, ANSI (B 36.10)	A	148B5809
REG-SB 50	50	2	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5725

Technical data and ordering

Ordering from the parts programme (valve body + top part)

Example:



Valve housing, size 25 (1 in), DIN butt weld, angleway, **148B5452**

Top part, REG-SA size 25 (1 in) **148B5480**



REG-SA / SB 10 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
REG-SA / SB 10	3/8	10	Angleway	Butt weld, EN 10220	D	148B5122
	3/8	10	Angleway	Butt weld, ANSI (B 36.10)	A	148B5124
	3/8	10	Angleway	Butt weld, GOST	G	148B5134
REG-SA / SB 10	3/8	10	Straightway	Butt weld, EN 10220	D	148B5123
	3/8	10	Straightway	Butt weld, ANSI (B 36.10)	A	148B5125
	3/8	10	Straightway	Butt weld, GOST	G	148B5135

Top part [1])

Type	Code no.
REG-SA 10	148B5112
REG-SB 10	148B5113

REG-SA / SB / LA / LB 15 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
REG-SA / SB / LA / LB 15	1/2	15	Angleway	Butt weld, EN 10220	D	148B5252
	1/2	15	Angleway	Butt weld, ANSI (B 36.10)	A	148B5254
	1/2	15	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5258
	1/2	15	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5256
	3/8	10	Angleway	Butt weld, F	F	148B6414
	1/2	15	Angleway	Butt weld, GOST	G	148B5391
REG-SA / SB / LA / LB 15	1/2	15	Straightway	Butt weld, EN 10220	D	148B5253
	1/2	15	Straightway	Butt weld, ANSI (B 36.10)	A	148B5255
	1/2	15	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5259
	1/2	15	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5257
	3/8	10	Straightway	Butt weld, F	F	148B6424
	1/2	15	Straightway	Butt weld, GOST	G	148B5392

Top part [1])

Type	Code no.
REG-SA 15	148B5280
REG-SB 15	148B5281
REG-LA 15	148B6401
REG-LB 15	148B6402

[1]) *Including gaskets and bolts*

Technical data and ordering

Ordering from the parts programme (valve body + top part)



REG-SA / SB / LA / LB 20 - 52 bar / 754 psi

Valve body

Type	Connection size [in]	Connection size [mm]	Execution	Connection type	Connection designation	Code no.
REG-SA / SB / LA / LB 20	3/4	20	Angleway	Butt weld, EN 10220	D	148B5352
	3/4	20	Angleway	Butt weld, ANSI (B 36.10)	A	148B5354
	3/4	20	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5358
	3/4	20	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5356
	3/4	20	Angleway	Butt weld, F	F	148B6415
	3/4	20	Angleway	Butt weld, GOST	G	148B5393
REG-SA / SB / LA / LB 20	3/4	20	Straightway	Butt weld, EN 10220	D	148B5353
	3/4	20	Straightway	Butt weld, ANSI (B 36.10)	A	148B5355
	3/4	20	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5359
	3/4	20	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5357
	3/4	20	Straightway	Butt weld, F	F	148B6425
	3/4	20	Straightway	Butt weld, GOST	G	148B5394

Top part [1])

Type	Code no.
REG-SA 20	148B5280
REG-SB 20	148B5281
REG-LA 20	148B6401
REG-LB 20	148B6402

REG-SA / SB / LA / LB 25 - 52 bar / 754 psi

Valve body

Type	Connection size [in]	Connection size [mm]	Execution	Connection type	Connection designation	Code no.
REG-SA / SB / LA / LB 25	1	25	Angleway	Butt weld, EN 10220	D	148B5452
	1	25	Angleway	Butt weld, ANSI (B 36.10)	A	148B5454
	1	25	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5458
	1	25	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5456
	1	25	Angleway	Butt weld, F	F	148B6416
	1	25	Angleway	Butt weld, GOST	G	148B5498
REG-SA / SB / LA / LB 25	1	25	Straightway	Butt weld, EN 10220	D	148B5453
	1	25	Straightway	Butt weld, ANSI (B 36.10)	A	148B5455
	1	25	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5459
	1	25	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5457
	1	25	Straightway	Butt weld, F	F	148B6426
	1	25	Straightway	Butt weld, GOST	G	148B5499

Top part [1])

Type	Code no.
REG-SA 25	148B5480
REG-SB 25	148B5481
REG-LA 25	148B6403
REG-LB 25	148B6404

REG-SA / SB / LA / LB 32 - 52 bar / 754 psi

Valve body

Type	Connection size [in]	Connection size [mm]	Execution	Connection type	Connection designation	Code no.
REG-SA / SB / LA / LB 32	1 1/4	32	Angleway	Butt weld, EN 10220	D	148B5576
	1 1/4	32	Angleway	Butt weld, ANSI (B 36.10)	A	148B5578
	1 1/4	32	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5582
	1 1/4	32	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5580
	1 1/4	32	Angleway	Butt weld, F	F	148B6417
	1 1/4	32	Angleway	Butt weld, GOST	G	148B5593
REG-SA / SB / LA / LB 32	1 1/4	32	Straightway	Butt weld, EN 10220	D	148B5577
	1 1/4	32	Straightway	Butt weld, ANSI (B 36.10)	A	148B5579
	1 1/4	32	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5583
	1 1/4	32	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5581
	1 1/4	32	Straightway	Butt weld, F	F	148B6427
	1 1/4	32	Straightway	Butt weld, GOST	G	148B5594

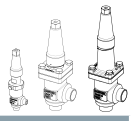
Top part [1])

Type	Code no.
REG-SA 32	148B5480
REG-SB 32	148B5481
REG-LA 32	148B6403
REG-LB 32	148B6404

[1]) *Including gaskets and bolts*

Technical data and ordering

REG-SA / SB / LA / LB 40 - 52 bar / 754 psi



Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
REG-SA / SB / LA / LB 40	1 ½	40	Angleway	Butt weld, EN 10220	D	148B5652
	1 ½	40	Angleway	Butt weld, ANSI (B 36.10)	A	148B5654
	1 ½	40	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5656
	1 ½	40	Angleway	Butt weld, F	F	148B6418
	1 ½	40	Angleway	Butt weld, GOST	G	148B5681
REG-SA / SB / LA / LB 40	1 ½	40	Straightway	Butt weld, EN 10220	D	148B5653
	1 ½	40	Straightway	Butt weld, ANSI (B 36.10)	A	148B5655
	1 ½	40	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5657
	1 ½	40	Straightway	Butt weld, F	F	148B6428
	1 ½	40	Straightway	Butt weld, GOST	G	148B5682

Top part [1])

Type	Code no.
REG-SA 40	148B5480
REG-SB 40	148B5481
REG-LA 40	148B6403
REG-LB 40	148B6404

REG-SA / SB 50 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
REG-SA / SB 50	2	50	Angleway	Butt weld, EN 10220	D	148B5741
	2	50	Angleway	Butt weld, ANSI (B 36.10)	A	148B5743
	2	50	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5745
	2	50	Angleway	Butt weld, F	F	148B6419
	2	50	Angleway	Butt weld, GOST	G	148B5759
REG-SA / SB 50	2	50	Straightway	Butt weld, EN 10220	D	148B5742
	2	50	Straightway	Butt weld, ANSI (B 36.10)	A	148B5744
	2	50	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5746
	2	50	Straightway	Butt weld, F	F	148B6429
	2	50	Straightway	Butt weld, GOST	G	148B5760

Top part [1])

Type	Code no.
REG-SB 50	148B5734

REG-SA / SB 65 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
REG-SA / SB 65	2 ½	65	Angleway	Butt weld, EN 10220	D	148B5816
	2 ½	65	Angleway	Butt weld, ANSI (B 36.10)	A	148B5818
	2 ½	65	Angleway	Butt weld, F	F	148B6420
	2 ½	65	Angleway	Butt weld, GOST	G	148B5816
REG-SA / SB 65	2 ½	65	Straightway	Butt weld, EN 10220	D	148B5817
	2 ½	65	Straightway	Butt weld, ANSI (B 36.10)	A	148B5819
	2 ½	65	Straightway	Butt weld, F	F	148B6430
	2 ½	65	Straightway	Butt weld, GOST	G	148B5817

Top part [1])

Type	Code no.
REG-SB 65	148B5824

[1]) *Including gaskets and bolts*

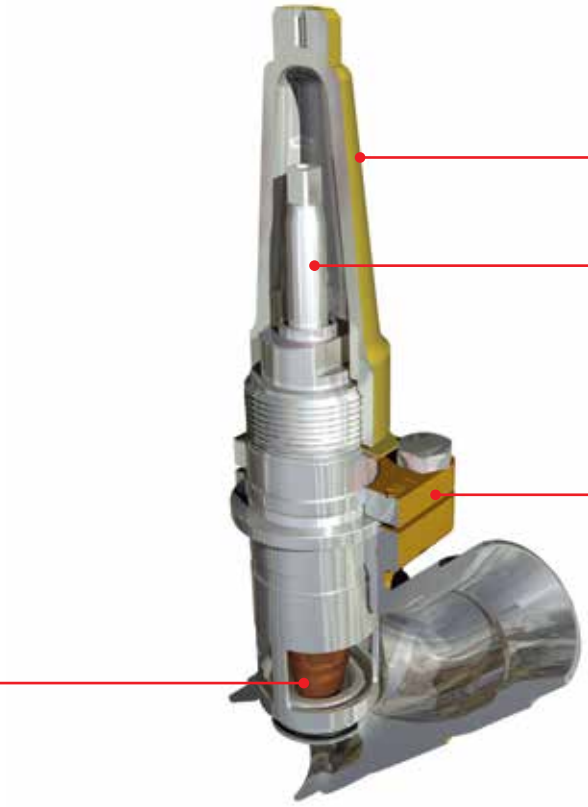
Quick Selection Notes:

REG-SA / REG-SB, Hand-operated regulating valves, 65 bar / 943 psi

REG-SA and REG-SB are angleway and straightway hand-operated regulating valves, which act as normal shut-off valves in closed position.
REG-SA and REG-SB are members of the SVL modular concept product family, so each valve housing is available with several different connection types and sizes, and it is possible to convert REG-SA or REG-SB to any other product in the SVL family by replacing the complete top part.
The valves are available in two different versions – REG-SA and REG-SB designed for regulation purposes in liquid and expansion lines.



Features
REG-SA / REG-SB
65 bar / 943 psi



Facts

- Standard SVL angleway or straightway valve body allowing other top parts from the SVL platform to be installed
- Applicable to R717, R744, R134a, R170, R22, R290, R401A, R402A, R404A, R407A, R407B, R407C, R407F, R409A, R410A, R421A, R502, R507, R600 and R600a
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- Designed to ensure perfect regulation
- Internal backseating enables replacement of the spindle seal whilst the valve is active, i.e. under pressure
- Easy to disassemble for inspection and possible repair
- Max. operating pressure:
  65 bar g / 943 psig
- Temperature range:
  -60 – 150 °C / -76 – 302 °F
- Equipped with 42CrMo5 bolts to withstand high pressure.
- Acts as a normal shut-off valve in closed position
- Valve body and bonnet material is low temperature steel according to requirements of the Pressure Equipment Directive and other international classification authorities

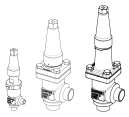
Technical data and ordering

REG-SA / REG-SB, Hand-operated regulating valve

Technical data

Type	Description
Pressure range	65 bar g / 943 psig
Temperature range	-60 – 150 °C / -76 – 302 °F
Flow coefficients	Flow coefficients for fully opened valves from K_V = 0.15 – 80 m³/h (C_V = 0.17 – 92.5 USgal/min)

REG-SA / REG-SB, Hand-operated regulating valve



Available combination between valve size, cone type and valve connection

Size	DN 10 (⅜ in)		DN 15 (½ in)		DN 20 (¾ in)		DN 25 (1 in)		DN 32 (1 ¼ in)		DN 40 (1 ½ in)		DN 50 (2 in)		DN 65 (2 ½ in)	
Cone type	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
DIN	×	×	×	×	×	×	×	×	×	×	×	×	–	×	–	×
ANSI	×	×	×	×	×	×	×	×	×	×	×	×	–	×	–	×

× = *available*

How to order

Please note that the type codes only serve to identify the valves, some of which may not form part of the standard product range. For further information please contact your local Danfoss Sales Company.

Important!

Where products need to be certified according to specific certification societies or where higher pressures are required, the relevant information should be included at the time of order.

REG-SA / REG-SB - Hand-operated regulating valve

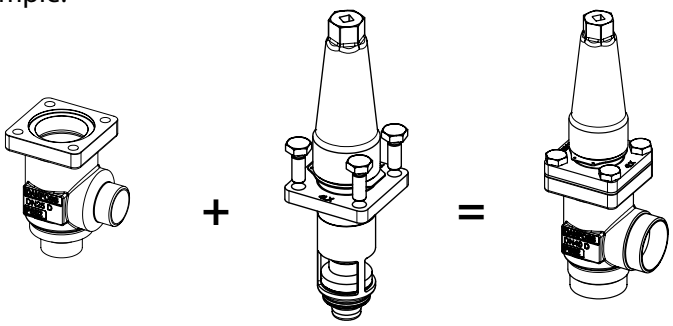
Type codes

Valve type	REG	Regulating Valves		
			Available connection types	
			A	D
Nominal size in [mm] (Valve size measured on the connection diameter)	10	DN 10	x	x
	15	DN 15	x	x
	20	DN 20	x	x
	22	DN 22		
	25	DN 25	x	x
	32	DN 32	x	x
	40	DN 40	x	x
	50	DN 50	x	x
	65	DN 65	x	x
Connections	A	Welding branches: ANSI B 36.10 schedule 80, 15 – 40 (½ – 1 ½ in) Welding branches: ANSI B 36.10 schedule 40, 50 – 65 (2 – 2 ½ in)		
	D	Welding branches: EN 10220		
Valve housing	ANG	Angle flow		
	STR	Straight flow		
Cone A	Size: DN 10 DN 15 DN 20 DN 25 DN 32 DN 40	Flow area [mm²] 3.02 36.5 36.5 178 178 178		
Cone B	Size: DN 10 DN 15 DN 20 DN 25 DN 32 DN 40 DN 50 DN 65	Flow area [mm²] 16 115 115 531 531 531 822 1978		

Technical data and ordering

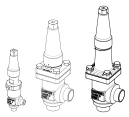
Ordering from the parts programme (valve body + top part)

Example:



Valve housing, size 25 (1 in), DIN butt weld, angleway, **148B6624**

Top part, REG-SA size 25 (1 in) **148B5763**



REG-SA / SB 10, 65 bar (943 psi)

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
REG-SA / SB 10	3/8	10	Angleway	Butt weld, EN 10220	D	148B6690
	3/8	10	Angleway	Butt weld, ANSI (B 36.10)	A	148B6688
REG-SA / SB 10	3/8	10	Straightway	Butt weld, EN 10220	D	148B6694
	3/8	10	Straightway	Butt weld, ANSI (B 36.10)	A	148B6692

Top part [1])

Type	Code no.
REG-SA 10	148B5761
REG-SB 10	148B5764

REG-SA / SB 15, 65 bar (943 psi)

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
REG-SA / SB 15	1/2	15	Angleway	Butt weld, EN 10220	D	148B6622
	1/2	15	Angleway	Butt weld, ANSI (B 36.10)	A	148B6612
REG-SA / SB 15	1/2	15	Straightway	Butt weld, EN 10220	D	148B6642
	1/2	15	Straightway	Butt weld, ANSI (B 36.10)	A	148B6632

Top part [1])

Type	Code no.
REG-SA 15	148B5762
REG-SB 15	148B5765

REG-SA / SB 20, 65 bar (943 psi)

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
REG-SA / SB 20	3/4	20	Angleway	Butt weld, EN 10220	D	148B6623
	3/4	20	Angleway	Butt weld, ANSI (B 36.10)	A	148B6613
REG-SA / SB 20	3/4	20	Straightway	Butt weld, EN 10220	D	148B6643
	3/4	20	Straightway	Butt weld, ANSI (B 36.10)	A	148B6633

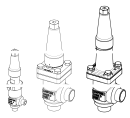
Top part [1])

Type	Code no.
REG-SA 20	148B5762
REG-SB 20	148B5765

[1]) *Including gaskets and bolts*

Technical data and ordering

Ordering from the parts programme (valve body + top part)



REG-SA / SB 25

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
REG-SA / SB 25	1	25	Angleway	Butt weld, EN 10220	D	148B6624
	1	25	Angleway	Butt weld, ANSI (B 36.10)	A	148B6614
REG-SA / SB 25	1	25	Straightway	Butt weld, EN 10220	D	148B6644
	1	25	Straightway	Butt weld, ANSI (B 36.10)	A	148B6634

Top part [1])

Type	Code no.
REG-SA 25	148B5763
REG-SB 25	148B5766

REG-SA / SB 32

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
REG-SA / SB 32	1 1/4	32	Angleway	Butt weld, EN 10220	D	148B6625
	1 1/4	32	Angleway	Butt weld, ANSI (B 36.10)	A	148B6615
REG-SA / SB 32	1 1/4	32	Straightway	Butt weld, EN 10220	D	148B6645
	1 1/4	32	Straightway	Butt weld, ANSI (B 36.10)	A	148B6635

Top part [1])

Type	Code no.
REG-SA 32	148B5763
REG-SB 32	148B5766

REG-SA / SB 40.65 bar / 943 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
REG-SA / SB 40	1 1/2	40	Angleway	Butt weld, EN 10220	D	148B6626
	1 1/2	40	Angleway	Butt weld, ANSI (B 36.10)	A	148B6616
REG-SA / SB 40	1 1/2	40	Straightway	Butt weld, EN 10220	D	148B6646
	1 1/2	40	Straightway	Butt weld, ANSI (B 36.10)	A	148B6636

Top part [1])

Type	Code no.
REG-SA 40	148B5763
REG-SB 40	148B5766

REG-SB 50.65 bar / 943 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
REG-SA / SB 50	2	50	Angleway	Butt weld, EN 10220	D	148B6627
	2	50	Angleway	Butt weld, ANSI (B 36.10)	A	148B6617
REG-SA / SB 50	2	50	Straightway	Butt weld, EN 10220	D	148B6647
	2	50	Straightway	Butt weld, ANSI (B 36.10)	A	148B6637

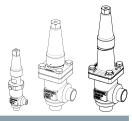
Top part [1])

Type	Code no.
REG-SB 50	148B5767

[1]) *Including gaskets and bolts*

Technical data and ordering

REG-SB 65.65 bar / 943 psi



Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
REG-SA / SB 65	2 ½	65	Angleway	Butt weld, EN 10220	D	148B6628
	2 ½	65	Angleway	Butt weld, ANSI (B 36.10)	A	148B6618
REG-SA / SB 65	2 ½	65	Straightway	Butt weld, EN 10220	D	148B6648
	2 ½	65	Straightway	Butt weld, ANSI (B 36.10)	A	148B6638

Top part [1])

Type		Code no.
REG-SB 65		148B5768

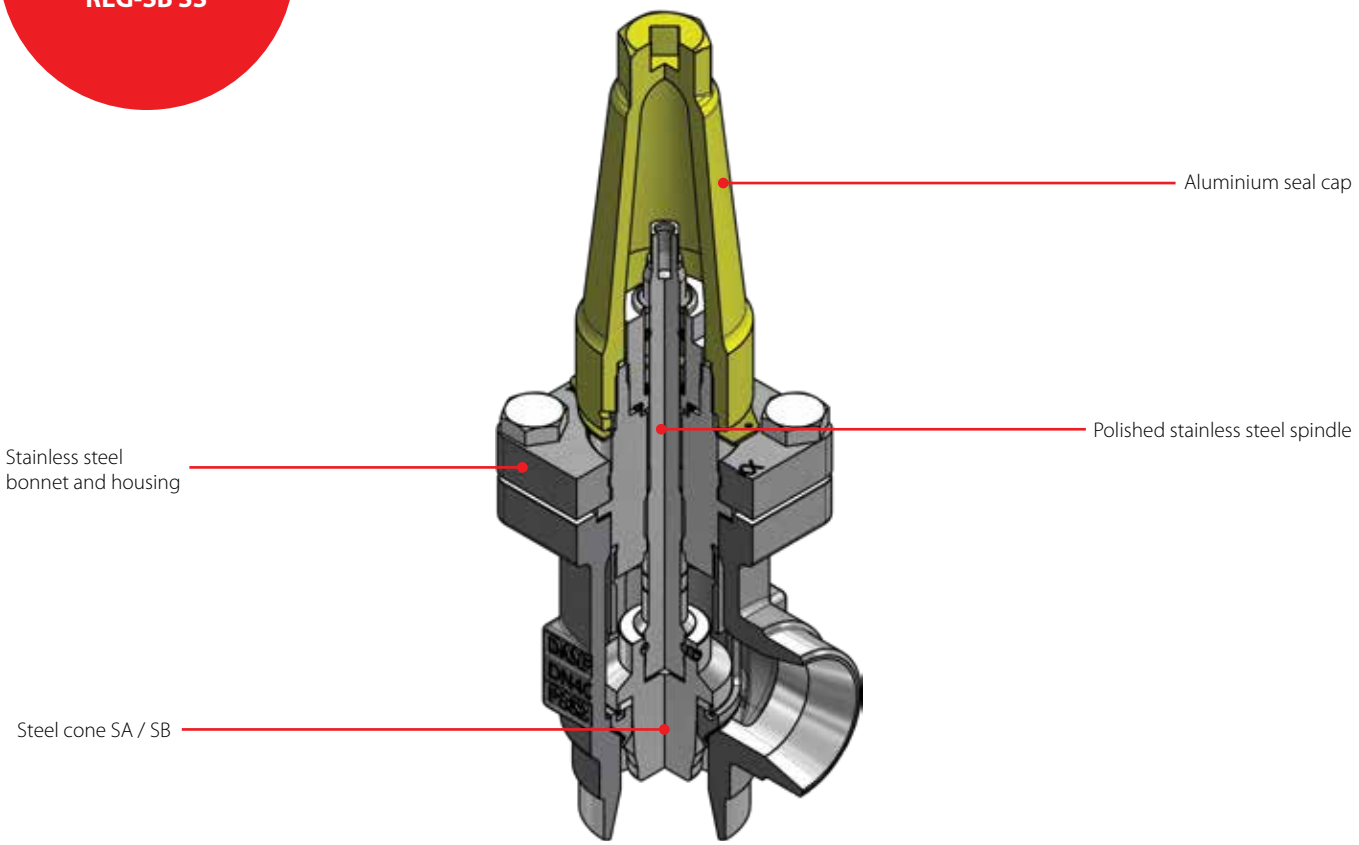
[1]) *Including gaskets and bolts*

Quick Selection Notes:

REG-SA SS / REG-SB SS, Hand-operated regulating valves

REG-SA SS and REG-SB SS are angle-way and straight-way stainless steel hand-operated regulating valves, acting as normal shut-off valves in closed position.
The valves are designed to meet the strict quality requirements on refrigerating installations specified by the international classification societies and are carefully designed to present favourable flowconditions and accurate linear characteristics.
The valves are equipped with vented cap and have internal backseating enabling the spindle seal to be replaced with the valve still under pressure.





Facts

- Applicable to R717, R744, R134a, R170, R22, R290, R401A, R402A, R404A, R407A, R407B, R407C, R407F, R409A, R410A, R421A, R502, R507, R600 and R600a
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- Internal backseating enables replacement of the spindle seal whilst the valve is active, i.e. under pressure
- Compact and light valves for easy handling and installation
- Max. operating pressure:
  52 bar g / 754 psig
- Temperature range:
  -60 – 150 °C / -76 – 302 °F
- Acts as a normal shut-off valve in closed position
- Valve body and bonnet material is stainless steel

Technical data and ordering

REG-SA SS / REG-SB SS, Hand-operated regulating valves

Technical data

Type	Description
Pressure range	52 bar g / 754 psig
Temperature range	-60 – 150 °C / -76 – 302 °F
Flow coefficients	Flow coefficients for fully opened valves from K_V = 0.15 to 80 m^3/h (C_V = 0.17 – 92.5 USgal/min)



REG-SA SS (Cone type A - for expansion lines)

Ordering angleway valves

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[mm]	[in]				
REG-SA SS 15	15	1/2	Angleway	Butt weld, EN 10220	D	148B5297
	15	1/2	Angleway	Butt weld ANSI, B 36.19M	A	148B6482
REG-SA SS 20	20	3/4	Angleway	Butt weld, EN 10220	D	148B5385
REG-SA SS 25	25	1	Angleway	Butt weld, EN 10220	D	148B5494
	25	1	Angleway	Butt weld ANSI, B 36.19M	A	148B6483
REG-SA SS 32	32	1 1/4	Angleway	Butt weld, EN 10220	D	148B5589
	32	1 1/4	Angleway	Butt weld ANSI, B 36.19M	A	148B6484
REG-SA SS 40	40	1 1/2	Angleway	Butt weld, EN 10220	D	148B5674

REG-SB SS (Cone type B - for liquid lines)

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[mm]	[in]				
REG-SB SS 15	15	1/2	Angleway	Butt weld, EN 10220	D	148B5387
REG-SB SS 20	20	3/4	Angleway	Butt weld, EN 10220	D	148B5389
	20	3/4	Angleway	Butt weld ANSI, B 36.19M	A	148B6487
REG-SB SS 25	25	1	Angleway	Butt weld, EN 10220	D	148B5496
REG-SB SS 32	32	1 1/4	Angleway	Butt weld, EN 10220	D	148B5591
REG-SB SS 40	40	1 1/2	Angleway	Butt weld, EN 10220	D	148B5676
	40	1 1/2	Angleway	Butt weld ANSI, B 36.19M	A	148B5686



REG-SA SS (Cone type A - for expansion lines)

Ordering straightway valves

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[mm]	[in]				
REG-SA SS 15	15	1/2	Straightway	Butt weld, EN 10220	D	148B5298
	15	1/2	Straightway	Butt weld ANSI, B 36.19M	A	148B5299
REG-SA SS 20	20	3/4	Straightway	Butt weld, EN 10220	D	148B5386
REG-SA SS 25	25	1	Straightway	Butt weld, EN 10220	D	148B5495
	25		Straightway	Butt weld ANSI, B 36.19M	A	148B6485
REG-SA SS 32	32	1 1/4	Straightway	Butt weld, EN 10220	D	148B5590
	32		Straightway	Butt weld ANSI, B 36.19M	A	148B6486
REG-SA SS 40	40	1 1/2	Straightway	Butt weld, EN 10220	D	148B5675

REG-SB (Cone type B - for liquid lines)

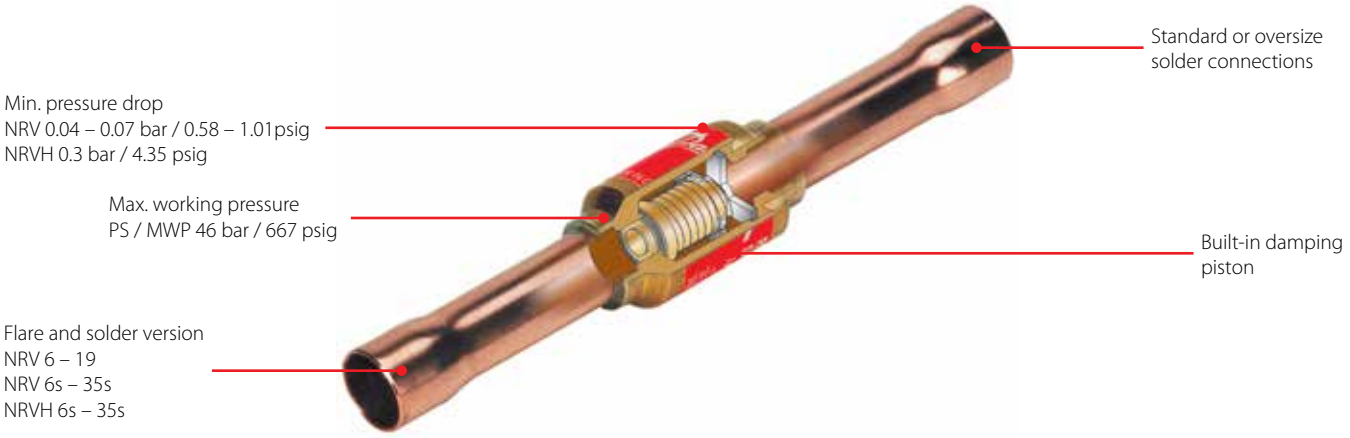
Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[mm]	[in]				
REG-SB 15	15	1/2	Straightway	Butt weld, EN 10220	D	148B5388
REG-SB 20	20	3/4	Straightway	Butt weld, EN 10220	D	148B5390
	20	3/4	Straightway	Butt weld ANSI, B 36.19M	A	148B6488
REG-SB 25	25	1	Straightway	Butt weld, EN 10220	D	148B5497
	25	1	Straightway	Butt weld ANSI, B 36.19M	A	148B6479
REG-SB 32	32	1 1/4	Straightway	Butt weld, EN 10220	D	148B5592
REG-SB 40	40	1 1/2	Straightway	Butt weld, EN 10220	D	148B5677
	40	1 1/2	Straightway	Butt weld ANSI, B 36.19M	A	148B5685

NRV / NRVH, Check valves

NRV and NRVH check valves can be used in liquid, suction and hot gas lines in refrigeration and air conditioning plants. Special versions, with a max. working pressure of 90 bar / 1305 psig are available for CO_2 applications. The valves ensure the correct flow direction and prevent back-condensation from a warm part of the system to the cold evaporator.

The hermetic tight design of solder versions meet the environmental demands for today and future. A built-in damping piston makes the valves suitable for installation in lines where pulsation can occur, e. g. in the discharge line from the compressor.





Facts

Application:

- Traditional refrigeration
- Heat pump systems
- Air conditioning units
- Liquid coolers
- Transport refrigeration
- Applicable to R134a, R22/R407C, R404A/R507, R407A, R407F,R410A, R32, R290, R600, R600a, R1270, R448A, R449A, R450A, R452A, R452B, R454B, R513A, R1234ze, R1234yf
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- Resonance problems can be avoided at partial load in the refrigeration plant
- Oversize connections provide flexibility in use
- Prevents back-condensation from warm to cold system part
- Ensures correct flow direction
- Hermetic tight design for solder versions.
- Built-in damping piston that makes the valves suitable for installation in lines where pulsation can occur, e.g. in the discharge line from the compressor.
- Available in both straightway and angleway versions
- Solder versions are compliant with ATEX hazard zone 2
- NRVH type check valve is with stronger spring and it's recommended to use for compressors in parallel (i.e. power packs) where higher level of pulsation and vibration are expected.

Technical data and ordering

NRV / NRVH - Check valves

Technical data

Type	Description
Temperature range	-50 – 140 °C / -58 – 285 °F
Max. working pressure (PS / MWP)	46 bar / 667 psig
Approvals	C UL US LISTED, EAC

Note
-Only solder version, connection sizes from 6 s to 22 s are allowed for flammable refrigerant.
-R1234ze can be used for NRV size up to 35s according to the PED category I, Fluid II.

NRV - Check valve, straight-way, flare



Ordering

Type	Connection type	Connection		Pressure drop across valve		K_V - value [2]	C_V - value [2]	Code no.
		[in]	[mm]	Δp [bar] [1]	Δp [psig] [1]	[m³/h]	[gal/min]	
NRV6	Straight-way - flare	1/4	6	0.07	1.01	0.56	0.65	020-1040
NRV 10	Straight-way - flare	3/8	10	0.07	1.01	1.20	1.39	020-1041
NRV 12	Straight-way - flare	1/2	12	0.05	0.72	2.05	2.37	020-1042
NRV 16	Straight-way - flare	5/8	16	0.05	0.72	3.60	4.16	020-1043
NRV 19	Straight-way - flare	3/4	19	0.05	0.72	5.50	6.36	020-1044

[1]) Δp = the minimum pressure at which the valve is completely open.
[2]) The K_V / C_V value is the flow of water in [m³/h] / [gal/min] at a pressure drop across valve of 1 bar / 14.5 psig, ρ = 1000 kg/m³ / 2205 lbs/G.

NRV - Check valve, straight-way, solder ODF

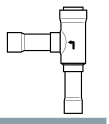


Ordering

Type	Connection type	Connection		Pressure drop across valve		K_V - value [2]	C_V - value [2]	Code no.
		[in]	[mm]	Δp [bar] [1]	Δp [psig] [1]	[m³/h]	[gal/min]	
NRV 6s	Straight-way - Solder	1/4	–	0.07	1.01	0.56	0.65	020-1010
	Straight-way - Solder	–	6	0.07	1.01	0.56	0.65	020-1014
NRV 6s [3])	Straight-way - Solder	3/8	–	0.07	1.01	0.56	0.65	020-1057
	Straight-way - Solder	–	10	0.07	1.01	0.56	0.65	020-1050
NRV 10s	Straight-way - Solder	3/8	–	0.07	1.01	1.20	1.39	020-1011
	Straight-way - Solder	–	10	0.07	1.01	1.20	1.39	020-1015
NRV 10s [3])	Straight-way - Solder	1/2	–	0.07	1.01	1.20	1.39	020-1058
	Straight-way - Solder	–	12	0.07	1.01	1.20	1.39	020-1051
NRV 12s	Straight-way - Solder	1/2	–	0.05	0.72	2.05	2.37	020-1012
	Straight-way - Solder	–	12	0.05	0.72	2.05	2.37	020-1016
NRV 12s [3])	Straight-way - Solder	5/8	16	0.05	0.72	2.05	2.37	020-1052
NRV 16s	Straight-way - Solder	5/8	16	0.05	0.72	3.60	4.16	020-1018
NRV 16s [3])	Straight-way - Solder	–	18	0.05	0.72	3.60	4.16	020-1053
	Straight-way - Solder	3/4	19	0.05	0.72	3.60	4.16	020-1059
NRV 19s	Straight-way - Solder	–	18	0.05	0.72	5.50	6.36	020-1017
	Straight-way - Solder	3/4	19	0.05	0.72	5.50	6.36	020-1019
NRV 19s [3])	Straight-way - Solder	7/8	22	0.05	0.72	5.50	6.36	020-1054

[1]) Δp = the minimum pressure at which the valve is completely open.
[2]) The K_V / C_V value is the flow of water in [m³/h] / [gal/min] at a pressure drop across valve of 1 bar / 14.5 psig, ρ = 1000 kg/m³ / 2205 lbs/G.
[3]) Oversize connections.
This product is approved for R290, R600, R600a and R1270 by ignition source assessment in accordance to standard EN13463-1.

NRV - Check valve, angle-way, solder ODF



Ordering

Type	Connection type	Connection		Pressure drop across valve		K_V - value [2]	C_V - value [2]	Code no.
		[in]	[mm]	Δp [bar] [1]	Δp [psig] [1]	[m³/h]	[gal/min]	
NRV 22s	Angle-way - solder	7/8	22	0.04	0.58	8.5	9.83	020-1020
NRV 22s [3])	Angle-way - solder	1 1/8	–	0.04	0.58	8.5	9.83	020-1060
	Angle-way - solder	–	28	0.04	0.58	8.5	9.83	020-1055
NRV 28s	Angle-way - solder	1 1/8	–	0.04	0.58	16.5	19.07	020-1021
	Angle-way - solder	–	28	0.04	0.58	16.5	19.07	020-1025
NRV 28s [3])	Angle-way - solder	1 3/8	35	0.04	0.58	16.5	19.07	020-1056
NRV 35s	Angle-way - solder	1 3/8	35	0.04	0.58	29.0	33.52	020-1026
NRV 35s [3])	Angle-way - solder	1 5/8	–	0.04	0.58	29.0	33.52	020-1061
	Angle-way - solder	–	42	0.04	0.58	29.0	33.52	020-1027

[1]) Δp = the minimum pressure at which the valve is completely open.
[2]) The K_V / C_V value is the flow of water in [m³/h] / [gal/min] at a pressure drop across valve of 1 bar / 14.5 psig, ρ = 1000 kg/m³ / 2205 lbs/G.
[3]) Oversize connections.

Technical data and ordering

NRVH - Check valve, straight-way, solder ODF

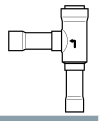


Ordering

Type	Version	Connection		Pressure drop across valve		K_V - value [2]	C_V - value [2]	Code no.
		[in]	[mm]	Δp [bar] [1]	Δp [psig] [1]	[m³/h]	[gal/min]	
NRVH 6s [3]	Straight-way - solder	3/8	–	0.30	4.35	0.56	0.65	020-1069
	Straight-way - solder	–	10	0.30	4.35	0.56	0.65	020-1062
NRVH 10s	Straight-way - solder	3/8	–	0.30	4.35	1.20	1.39	020-1046
	Straight-way - solder	–	10	0.30	4.35	1.20	1.39	020-1036
NRVH 10s [3]	Straight-way - solder	1/2	–	0.30	4.35	1.20	1.39	020-1070
	Straight-way - solder	–	12	0.30	4.35	1.20	1.39	020-1063
NRVH 12s	Straight-way - solder	1/2	–	0.30	4.35	2.05	2.37	020-1039
	Straight-way - solder	–	12	0.30	4.35	2.05	2.37	020-1037
NRVH 12s [3]	Straight-way - solder	5/8	16	0.30	4.35	2.05	2.37	020-1064
NRVH 16s	Straight-way - solder	5/8	16	0.30	4.35	3.60	4.16	020-1038
NRVH 16s [3]	Straight-way - solder	–	18	0.30	4.35	3.60	4.16	020-1065
	Straight-way - solder	3/4	19	0.30	4.35	3.60	4.16	020-1071
NRVH 19s	Straight-way - solder	–	18	0.30	4.35	5.50	6.36	020-1008
	Straight-way - solder	3/4	19	0.30	4.35	5.50	6.36	020-1023
NRVH 19s [3]	Straight-way - solder	7/8	22	0.30	4.35	5.50	6.36	020-1066

[1] Δp = the minimum pressure at which the valve is completely open. The NRVH with a stronger spring is used in the discharge line from compressors connected in parallel.
[2] The K_V / C_V value is the flow of water in [m³/h] / [gal/min] at a pressure drop across valve of 1 bar / 14.5 psig, ρ = 1000 kg/m³ / 2205 lbs/G.
[3] Oversize connections.
This product is approved for R290, R600, R600a and R1270 by ignition source assessment in accordance to standard EN13463-1.

NRVH - Check valve, angle-way, solder ODF

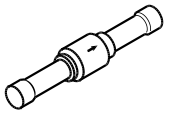


Ordering

Type	Connection type	Connection		Pressure drop across valve		K_V - value [2]	C_V - value [2]	Code no.
		[in]	[mm]	Δp [bar] [1]	Δp [psig] [1]	[m³/h]	[gal/min]	
NRVH 22s	Angle-way - solder	7/8	22	0.30	4.35	8.5	9.83	020-1032
NRVH 22s [3]	Angle-way - solder	1 1/8	–	0.30	4.35	8.5	9.83	020-1072
	Angle-way - solder	–	28	0.30	4.35	8.5	9.83	020-1067
NRVH 28s	Angle-way - solder	1 1/8	–	0.30	4.35	16.5	19.07	020-1029
	Angle-way - solder	–	28	0.30	4.35	16.5	19.07	020-1033
NRVH 28s [3]	Angle-way - solder	1 3/8	35	0.30	4.35	16.5	19.07	020-1068
NRVH 35s	Angle-way - solder	1 3/8	35	0.30	4.35	29.0	33.52	020-1034
NRVH 35s [3]	Angle-way - solder	1 5/8	–	0.30	4.35	29.0	33.52	020-1073
	Angle-way - solder	–	42	0.30	4.35	29.0	33.52	020-1035

[1] Δp = the minimum pressure at which the valve is completely open. The NRVH with a stronger spring is used in the discharge line from compressors connected in parallel.
[2] The K_V / C_V value is the flow of water in [m³/h] / [gal/min] at a pressure drop across valve of 1 bar / 14.5 psig, ρ = 1000 kg/m³ / 2205 lbs/G.
[3] Oversize connections.

NRV 10s H - Check valve for R744 (CO_2)



Technical data

Type	Description
Refrigerants	R744 (CO_2)
Oil	POE, PAG
Temperature range	-50 – 140 °C / -58 – 285 °F
Max. working pressure (PS / MWP)	90 bar / 1305 psig
Approvals	C UL US LISTED, EAC

NRV 10s H - Check valve, straight-way - solder ODF

Ordering

Type	Connection type	Connection size		Differential pressure to start opening the valve		Pressure drop across valve ΔP_2		K_V - value [2]	C_V - value [2]	Code no.
		[in]	[mm]	[bar] [1]	[psi] [1]	[bar] [1]	[psi] [1]	[m³/h]	[gal/min]	
NRV 10s H	Straightway Solder ODF	3/8	–	0.4	5.8	1.0	14.5	0.9	1.04	020-4000
	Straightway Solder ODF	–	10	0.4	5.8	1.0	14.5	0.9	1.04	020-4300

[1] ΔP_1 = the minimum pressure at which the valve start opening.
ΔP_2 = the minimum pressure at which the valve is completely open.
[2] The K_V / C_V value is the flow of water in [m³/h] / [gal/min] at a pressure drop across valve of 1 bar / 14.5 psig, ρ = 1000 kg/m³ / 2205 lbs/G.

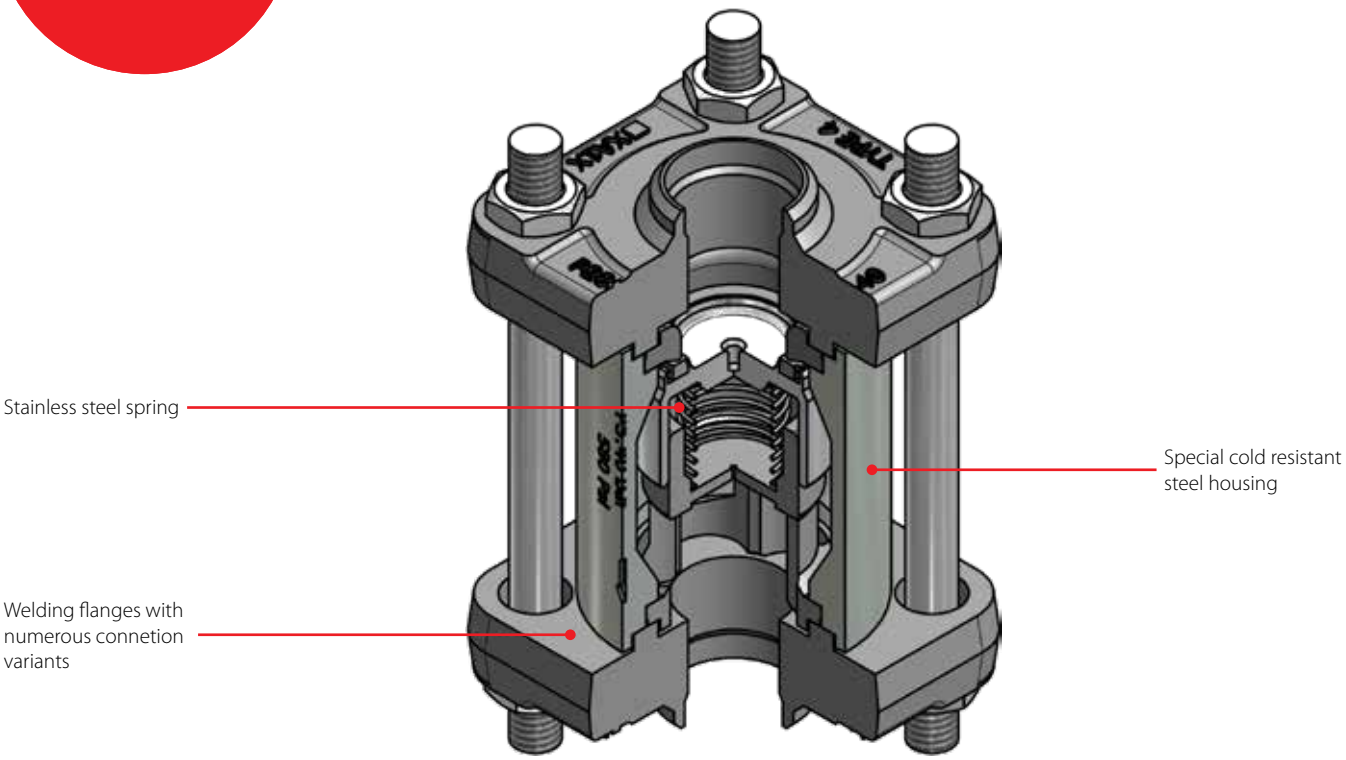
Quick Selection Notes:

NRVA, Check valve

NRVA check valves can be used in liquid, suction and hot gas lines in refrigeration and air conditioning plants.

The valves ensure the correct flow direction and prevent back-condensation from a warm part of the system to the cold evaporator.





Facts

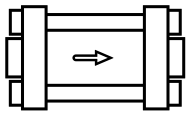
- Applicable to R717, R134a, R22, R401A, R402A, R404A, R407A, R407B, R407C, R407F, R409A, R410A, R421A, R502 and R507
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- Ensures correct direction of flow
- Valve housing made of steel
- Available for 40 bar g / 580 psig working pressure
- Large range of flanges with connection dimensions in accordance with standards: DIN, ANSI, SOC, SA and FPT
- Fitted with damping piston that makes the valves suitable for installation in lines where pulsation can occur, e.g. in the discharge line from the compressor

Technical data and ordering

NRVA - Check valve

Technical data

Type	Description
Pressure range	Max. working pressure PS / MWP: 40 bar g / 580 psig
Temperature range	-50 – 140 °C / -58 – 284 °F



NRVA - Complete valves incl. DIN 2448 flange

Ordering

Type	Weld flange connection	Δp [1]				K_V value [2]	C_V value [3]	Code no.
		With standard spring		With special spring				
	[in]	[bar]	[psig]	[bar]	[psig]	[m³/h]	[gal/min]	
NRVA 15	1/2	0.12	1.7	0.3	4.4	5	6	020-2000
NRVA 20	3/4	0.12	1.7	0.3	4.4	6	7	020-2001
NRVA 25	1	0.12	1.7	0.3	4.4	19	22	020-2002
NRVA 32	1 1/4	0.12	1.7	0.3	4.4	20	23	020-2003
NRVA 40	1 1/2	0.07	1.0	0.4	5.8	44	51	020-2004
NRVA 50	2	0.07	1.0	0.4	5.8	44	51	020-2005
NRVA 65	2 1/2	0.07	1.0	0.4	5.8	75	87	020-2006

[1] Δp = the minimum pressure differential at which the valve is completely open.
[2] The K_V value is the flow of water in [m³/h] at a pressure drop across valve of 1 [bar, ρ] = 1000 [kg/m³].
[3] The C_V value is the flow of water in [gal/min] at a pressure drop across valve of 1 [psig, ρ] = 10 [lbs/gal].

Special spring for NRVA used in liquid lines where cold, thick oil or impurities may be present

Ordering

For type		Code no.
NRVA 15		020-2307
NRVA 20		020-2307
NRVA 25		020-2317
NRVA 32		020-2317
NRVA 40		020-2327
NRVA 50		020-2327
NRVA 65		020-2337

Valve body without flanges

Ordering

Type		Code no.
NRVA 15		020-2020
NRVA 20		020-2020
NRVA 25		020-2022
NRVA 32		020-2022
NRVA 40		020-2024
NRVA 50		020-2024
NRVA 65		020-2026

For ordering flanges; please consult the spare parts and accessories documentation.

Staybolts and gaskets

Ordering

Type	Dimensions	Code no.
NRVA 15 / 20	M 12 × 115 mm	006-1107
NRVA 25 / 32	M 12 × 148 mm	006-1135
NRVA 40 / 50	M 12 × 167 mm	006-1137
NRVA 65	M 16 × 200 mm	006-1138

SCA-X, Check and stop valve / CHV-X, Check valve - 52 bar / 754 psi

SCA-X are check valves with a built-in shut-off valve function. SCA-X valves are available in angleway versions.
CHV-X are check valves only. CHV-X are available in both angleway and straightway versions.
The SCA-X is equipped with vented cap and has internal backseating enabling the spindle seal to be replaced whilst the valve still under pressure.

SCA-X and CHV-X are members of the SVL modular concept product family, so each valve housing is available with several different connection types and sizes, and it is possible to convert SCA-X or CHV-X to any other product in the SVL family by replacing the complete top part.
The valves are designed to open at very low differential pressures, allow favourable flow conditions and are easy to disassemble for inspection and service.





CHV-X SCA-X

Facts

- Applicable to R717, R744, R134a, R170, R22, R290, R401A, R402A, R404A, R407A, R407B, R407C, R407F, R409A, R410A, R421A, R502, R507, R600 and R600a
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- Housing is Standard SVL angleway housing allowing other inserts from the SVL platform to be installed
- Designed to open at a very low differential pressure of 0.04 bar / 0.58 psig
- Designed with a built-in damping chamber preventing valve flutter in case of low refrigerant velocity and / or low density
- Each valve is clearly marked with type, size and performance range
- Easy to disassemble for inspection and service
- Internal backseating enables replacement of the spindle seal whilst the valve is active, i.e. under pressure
- Optimal flow characteristics ensuring quick opening to the fully open position
- Protection against pulsation by built-in damping facility
- Housing and bonnet material is low temperature steel according to requirements of the Pressure Equipment Directive and other international classification authorities
- Equipped with Stainless steel bolts
- Max. working pressure PS / MWP: 52 bar g / 754 psi g
- Temperature range: -60 – 150 °C / -76 – 302 °F

Technical data and ordering

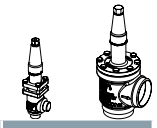
SCA-X / CHV-X, Check valves

Technical data

Type	Description
Pressure range	52 bar g / 754 psig
Temperature range	-60 – 150 °C / -76 – 302 °F

For installation in heat pump applications, please contact Danfoss.

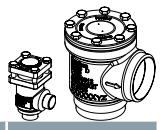
SCA-X, Check and stop valve, factory assembled - 52 bar / 754 psi



Ordering

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SCA-X 15	1/2	15	Angleway	Butt weld, EN 10220	D	148B5208
	1/2	15	Angleway	Butt weld, ANSI (B 36.10)	A	148B5209
SCA-X 20	3/4	20	Angleway	Butt weld, EN 10220	D	148B5308
	3/4	20	Angleway	Butt weld, ANSI (B 36.10)	A	148B5309
SCA-X 25	1	25	Angleway	Butt weld, EN 10220	D	148B5408
	1	25	Angleway	Butt weld, ANSI (B 36.10)	A	148B5409
SCA-X 32	1 1/4	32	Angleway	Butt weld, EN 10220	D	148B5508
	1 1/4	32	Angleway	Butt weld, ANSI (B 36.10)	A	148B5509
SCA-X 40	1 1/2	40	Angleway	Butt weld, EN 10220	D	148B5608
	1 1/2	40	Angleway	Butt weld, ANSI (B 36.10)	A	148B5609
SCA-X 50	2	50	Angleway	Butt weld, EN 10220	D	148B5702
	2	50	Angleway	Butt weld, ANSI (B 36.10)	A	148B5703
	2	50	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5704
SCA-X 65	2 1/2	65	Angleway	Butt weld, EN 10220	D	148B5803
	2 1/2	65	Angleway	Butt weld, ANSI (B 36.10)	A	148B5802
SCA-X 80	3	80	Angleway	Butt weld, EN 10220	D	148B5902
	3	80	Angleway	Butt weld, ANSI (B 36.10)	A	148B5903
SCA-X 100	4	100	Angleway	Butt weld, EN 10220	D	148B6002
	4	100	Angleway	Butt weld, ANSI (B 36.10)	A	148B6004
SCA-X 125	5	125	Angleway	Butt weld, EN 10220	D	148B6102
	5	125	Angleway	Butt weld, ANSI (B 36.10)	A	148B6103

CHV-X, Check valve, factory assembled - 52 bar / 754 psi



Ordering angleway valves

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
CHV-X 15	1/2	15	Angleway	Butt weld, EN 10220	D	148B5236
	1/2	15	Angleway	Butt weld, ANSI (B 36.10)	A	148B5237
CHV-X 20	3/4	20	Angleway	Butt weld, EN 10220	D	148B5336
	3/4	20	Angleway	Butt weld, ANSI (B 36.10)	A	148B5337
CHV-X 25	1	25	Angleway	Butt weld, EN 10220	D	148B5436
	1	25	Angleway	Butt weld, ANSI (B 36.10)	A	148B5437
CHV-X 32	1 1/4	32	Angleway	Butt weld, EN 10220	D	148B5536
	1 1/4	32	Angleway	Butt weld, ANSI (B 36.10)	A	148B5537
	1 1/4	32	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5539
CHV-X 40	1 1/2	40	Angleway	Butt weld, EN 10220	D	148B5636
	1 1/2	40	Angleway	Butt weld, ANSI (B 36.10)	A	148B5637
CHV-X 50	2	50	Angleway	Butt weld, EN 10220	D	148B5736
	2	50	Angleway	Butt weld, ANSI (B 36.10)	A	148B5737
	2	50	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5740
CHV-X 65	2 1/2	65	Angleway	Butt weld, EN 10220	D	148B5838
	2 1/2	65	Angleway	Butt weld, ANSI (B 36.10)	A	148B5837
CHV-X 80	3	80	Angleway	Butt weld, EN 10220	D	148B5936
	3	80	Angleway	Butt weld, ANSI (B 36.10)	A	148B5937
CHV-X 100	4	100	Angleway	Butt weld, EN 10220	D	148B6036
	4	100	Angleway	Butt weld, ANSI (B 36.10)	A	148B6037
CHV-X 125	5	125	Angleway	Butt weld, EN 10220	D	148B6136
	5	125	Angleway	Butt weld, ANSI (B 36.10)	A	148B6137

Ordering



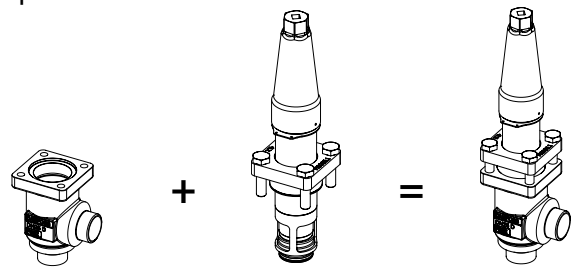
CHV-X, Check valve, factory assembled - 52 bar / 754 psi

Ordering straightway valves

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
CHV-X 15	1/2	15	Straightway	Butt weld, EN 10220	D	148B6581
	1/2	15	Straightway	Butt weld, ANSI (B 36.10)	A	148B6582
	1/2	15	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B6601
CHV-X 20	3/4	20	Straightway	Butt weld, EN 10220	D	148B6583
	3/4	20	Straightway	Butt weld, ANSI (B 36.10)	A	148B6584
	3/4	20	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B6602
CHV-X 25	1	25	Straightway	Butt weld, EN 10220	D	148B6585
	1	25	Straightway	Butt weld, ANSI (B 36.10)	A	148B6586
	1	25	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B6603
CHV-X 32	1 1/4	32	Straightway	Butt weld, EN 10220	D	148B6587
	1 1/4	32	Straightway	Butt weld, ANSI (B 36.10)	A	148B6588
	1 1/4	32	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B6604
CHV-X 40	1 1/2	40	Straightway	Butt weld, EN 10220	D	148B6589
	1 1/2	40	Straightway	Butt weld, ANSI (B 36.10)	A	148B6590
	1 1/2	40	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B6605
CHV-X 50	2	50	Straightway	Butt weld, EN 10220	D	148B6591
	2	50	Straightway	Butt weld, ANSI (B 36.10)	A	148B6592
	2	50	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B6606
CHV-X 65	2 1/2	65	Straightway	Butt weld, EN 10220	D	148B6593
	2 1/2	65	Straightway	Butt weld, ANSI (B 36.10)	A	148B6594
CHV-X 80	3	80	Straightway	Butt weld, EN 10220	D	148B6595
	3	80	Straightway	Butt weld, ANSI (B 36.10)	A	148B6596
CHV-X 100	4	100	Straightway	Butt weld, EN 10220	D	148B6597
	4	100	Straightway	Butt weld, ANSI (B 36.10)	A	148B6598
CHV-X 125	5	125	Straightway	Butt weld, EN 10220	D	148B6599
	5	125	Straightway	Butt weld, ANSI (B 36.10)	A	148B6600

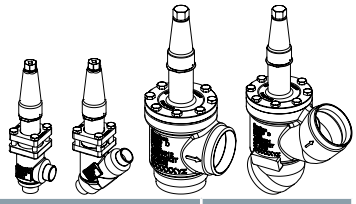
Ordering

Ordering SCA-X from the parts programme (valve body + top part)
Example:



Valve body, size 25 (1 in), DIN butt weld, angleway, **148B5452**

Top part, SCA-X size 25 (1 in) **148B5482**



SCA-X 15 - 52 bar / 754 psi

Valve body

Type	Connection size [in]	Connection size [mm]	Execution	Connection type	Connection designation	Code no.
SCA-X 15	1/2	15	Angleway	Butt weld, EN 10220	D	148B5252
	1/2	15	Angleway	Butt weld, ANSI (B 36.10)	A	148B5254
	1/2	15	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5258
	1/2	15	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5256
	1/2	15	Angleway	Butt weld, F	F	148B6414
	1/2	15	Angleway	Butt weld, GOST	G	148B5391
SCA-X 15	1/2	15	Straightway	Butt weld, EN 10220	D	148B5253
	1/2	15	Straightway	Butt weld, ANSI (B 36.10)	A	148B5255
	1/2	15	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5259
	1/2	15	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5257
	1/2	15	Straightway	Butt weld, F	F	148B6424
	1/2	15	Straightway	Butt weld, GOST	G	148B5392

Top part [1])

Type	Code no.
SCA-X 15	148B5282

SCA-X 20 - 52 bar / 754 psi

Valve body

Type	Connection size [in]	Connection size [mm]	Execution	Connection type	Connection designation	Code no.
SCA-X 20	3/4	20	Angleway	Butt weld, EN 10220	D	148B5352
	3/4	20	Angleway	Butt weld, ANSI (B 36.10)	A	148B5354
	3/4	20	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5358
	3/4	20	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5356
	3/4	20	Angleway	Butt weld, F	F	148B6415
	3/4	20	Angleway	Butt weld, GOST	G	148B5393
SCA-X 20	3/4	20	Straightway	Butt weld, EN 10220	D	148B5353
	3/4	20	Straightway	Butt weld, ANSI (B 36.10)	A	148B5355
	3/4	20	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5359
	3/4	20	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5357
	3/4	20	Straightway	Butt weld, F	F	148B6425
	3/4	20	Straightway	Butt weld, GOST	G	148B5394

Top part [1])

Type	Code no.
SCA-X 20	148B5282

SCA-X 25 - 52 bar / 754 psi

Valve body

Type	Connection size [in]	Connection size [mm]	Execution	Connection type	Connection designation	Code no.
SCA-X 25	1	25	Angleway	Butt weld, EN 10220	D	148B5452
	1	25	Angleway	Butt weld, ANSI (B 36.10)	A	148B5454
	1	25	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5458
	1	25	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5456
	1	25	Angleway	Butt weld, F	F	148B6416
	1	25	Angleway	Butt weld, GOST	G	148B5498
SCA-X 25	1	25	Angleway	Butt weld, EN 10220	D	148B5453
	1	25	Straightway	Butt weld, ANSI (B 36.10)	A	148B5455
	1	25	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5459
	1	25	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5457
	1	25	Straightway	Butt weld, F	F	148B6426
	1	25	Straightway	Butt weld, GOST	G	148B5499

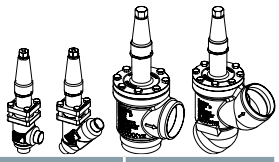
Top part [1])

Type	Code no.
SCA-X 25	148B5482

[1]) Including gaskets and bolts.

Ordering

Ordering SCA-X from the parts programme (valve body + top part)



SCA-X 32 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SCA-X 32	1 1/4	32	Angleway	Butt weld, EN 10220	D	148B5576
	1 1/4	32	Angleway	Butt weld, ANSI (B 36.10)	A	148B5578
	1 1/4	32	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5582
	1 1/4	32	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5580
	1 1/4	32	Angleway	Butt weld, F	F	148B6417
	1 1/4	32	Angleway	Butt weld, GOST	G	148B5593
SCA-X 32	1 1/4	32	Straightway	Butt weld, EN 10220	D	148B5577
	1 1/4	32	Straightway	Butt weld, ANSI (B 36.10)	A	148B5579
	1 1/4	32	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5583
	1 1/4	32	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5581
	1 1/4	32	Straightway	Butt weld, F	F	148B6427
	1 1/4	32	Straightway	Butt weld, GOST	G	148B5594

Top part [1])

Type	Code no.
SCA-X 32	148B5482

SCA-X 40 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SCA-X 40	1 1/2	40	Angleway	Butt weld, EN 10220	D	148B5652
	1 1/2	40	Angleway	Butt weld, ANSI (B 36.10)	A	148B5654
	1 1/2	40	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5656
	1 1/2	40	Angleway	Butt weld, F	F	148B6418
	1 1/2	40	Angleway	Butt weld, GOST	G	148B5681
SCA-X 40	1 1/2	40	Straightway	Butt weld, EN 10220	D	148B5653
	1 1/2	40	Straightway	Butt weld, ANSI (B 36.10)	A	148B5655
	1 1/2	40	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5657
	1 1/2	40	Straightway	Butt weld, F	F	148B6428
	1 1/2	40	Straightway	Butt weld, GOST	G	148B5682

Top part [1])

Type	Code no.
SCA-X 40	148B5482

SCA-X 50 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SCA-X 50	2	50	Angleway	Butt weld, EN 10220	D	148B5741
	2	50	Angleway	Butt weld, ANSI (B 36.10)	A	148B5743
	2	50	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5745
	2	50	Angleway	Butt weld, F	F	148B6419
	2	50	Angleway	Butt weld, GOST	G	148B5759
SCA-X 50	2	50	Straightway	Butt weld, EN 10220	D	148B5742
	2	50	Straightway	Butt weld, ANSI (B 36.10)	A	148B5744
	2	50	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5746
	2	50	Straightway	Butt weld, F	F	148B6429
	2	50	Straightway	Butt weld, GOST	G	148B5760

Top part [1])

Type	Code no.
SCA-X 50	148B5735

SCA-X 65 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SCA-X 65	2 1/2	65	Angleway	Butt weld, EN 10220	D	148B5816
	2 1/2	65	Angleway	Butt weld, ANSI (B 36.10)	A	148B5818
	2 1/2	65	Angleway	Butt weld, F	F	148B6420
	2 1/2	65	Angleway	Butt weld, GOST	G	148B5816
SCA-X 65	2 1/2	65	Straightway	Butt weld, EN 10220	D	148B5817
	2 1/2	65	Straightway	Butt weld, ANSI (B 36.10)	A	148B5819
	2 1/2	65	Straightway	Butt weld, F	F	148B6430
	2 1/2	65	Straightway	Butt weld, GOST	G	148B5817

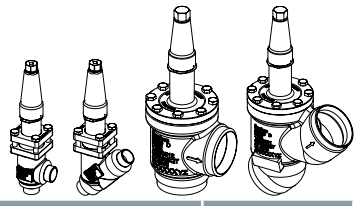
Top part [1])

Type	Code no.
SCA-X 65	148B5825

[1]) *Including gaskets and bolts.*

Ordering

Ordering SCA-X from the parts programme (valve body + top part)



SCA-X 80 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SCA-X 80	3	80	Angleway	Butt weld, EN 10220	D	148B5912
	3	80	Angleway	Butt weld, ANSI (B 36.10)	A	148B5914
	3	80	Angleway	Butt weld, F	F	148B6421
	3	80	Angleway	Butt weld, GOST	G	148B5912
SCA-X 80	3	80	Straightway	Butt weld, EN 10220	D	148B5913
	3	80	Straightway	Butt weld, ANSI (B 36.10)	A	148B5915
	3	80	Straightway	Butt weld, F	F	148B6431
	3	80	Straightway	Butt weld, GOST	G	148B5913

Top part [1])

Type						Code no.
SCA-X 80						148B5918

SCA-X 100 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SCA-X 100	4	100	Angleway	Butt weld, EN 10220	D	148B6014
	4	100	Angleway	Butt weld, ANSI (B 36.10)	A	148B6016
	4	100	Angleway	Butt weld, F	F	148B6422
	4	100	Angleway	Butt weld, GOST	G	148B6033
SCA-X 100	4	100	Straightway	Butt weld, EN 10220	D	148B6015
	4	100	Straightway	Butt weld, ANSI (B 36.10)	A	148B6017
	4	100	Straightway	Butt weld, F	F	148B6432
	4	100	Straightway	Butt weld, GOST	G	148B6034

Top part [1])

Type						Code no.
SCA-X 100						148B6019

SCA-X 125 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SCA-X 125	5	125	Angleway	Butt weld, EN 10220	D	148B6112
	5	125	Angleway	Butt weld, ANSI (B 36.10)	A	148B6114
	5	125	Angleway	Butt weld, F	F	148B6423
	5	125	Angleway	Butt weld, GOST	G	148B6133
SCA-X 125	5	125	Straightway	Butt weld, EN 10220	D	148B6113
	5	125	Straightway	Butt weld, ANSI (B 36.10)	A	148B6115
	5	125	Straightway	Butt weld, F	F	148B6433
	5	125	Straightway	Butt weld, GOST	G	148B6134

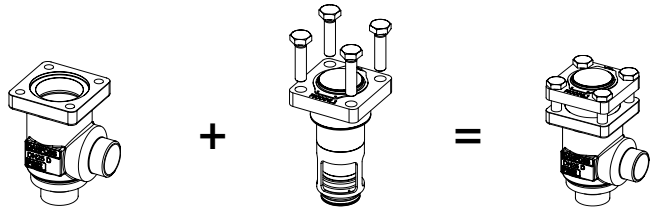
Top part [1])

Type						Code no.
SCA-X 125						148B6118

[1]) Including gaskets and bolts.

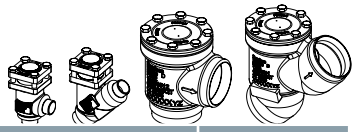
Ordering

Ordering CHV-X from the parts programme (valve body + top part)
Example:



Valve body, size 25 (1 in), DIN butt weld, angleway, **148B5452**

Top part, CHV-X size 25 (1 in) **148B5483**



CHV-X 15 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
CHV-X 15	1/2	15	Angleway	Butt weld, EN 10220	D	148B5252
	1/2	15	Angleway	Butt weld, ANSI (B 36.10)	A	148B5254
	1/2	15	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5258
	1/2	15	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5256
	1/2	15	Angleway	Butt weld, F	F	148B6414
	1/2	15	Angleway	Butt weld, GOST	G	148B5391
CHV-X 15	1/2	15	Straightway	Butt weld, EN 10220	D	148B5253
	1/2	15	Straightway	Butt weld, ANSI (B 36.10)	A	148B5255
	1/2	15	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5259
	1/2	15	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5257
	1/2	15	Straightway	Butt weld, F	F	148B6424
	1/2	15	Straightway	Butt weld, GOST	G	148B5392

Top part [1])

Type	Code no.
CHV-X 15	148B5283

CHV-X 20 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
CHV-X 20	3/4	20	Angleway	Butt weld, EN 10220	D	148B5352
	3/4	20	Angleway	Butt weld, ANSI (B 36.10)	A	148B5354
	3/4	20	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5358
	3/4	20	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5356
	3/4	20	Angleway	Butt weld, F	F	148B6415
	3/4	20	Angleway	Butt weld, GOST	G	148B5393
CHV-X 20	3/4	20	Straightway	Butt weld, EN 10220	D	148B5353
	3/4	20	Straightway	Butt weld, ANSI (B 36.10)	A	148B5355
	3/4	20	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5359
	3/4	20	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5357
	3/4	20	Straightway	Butt weld, F	F	148B6425
	3/4	20	Straightway	Butt weld, GOST	G	148B5394

Top part [1])

Type	Code no.
CHV-X 20	148B5283

CHV-X 25 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
CHV-X 25	1	25	Angleway	Butt weld, EN 10220	D	148B5452
	1	25	Angleway	Butt weld, ANSI (B 36.10)	A	148B5454
	1	25	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5458
	1	25	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5456
	1	25	Angleway	Butt weld, F	F	148B6416
	1	25	Angleway	Butt weld, GOST	G	148B5498
CHV-X 25	1	25	Angleway	Butt weld, EN 10220	D	148B5453
	1	25	Straightway	Butt weld, ANSI (B 36.10)	A	148B5455
	1	25	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5459
	1	25	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5457
	1	25	Straightway	Butt weld, F	F	148B6426
	1	25	Straightway	Butt weld, GOST	G	148B5499

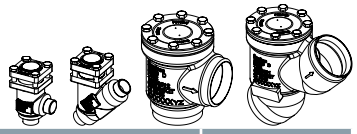
Top part [1])

Type	Code no.
CHV-X 25	148B5483

[1]) Including gaskets and bolts.

Ordering

Ordering CHV-X from the parts programme (valve body + top part)



CHV-X 32 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
CHV-X 32	1 ¼	32	Angleway	Butt weld, EN 10220	D	148B5576
	1 ¼	32	Angleway	Butt weld, ANSI (B 36.10)	A	148B5578
	1 ¼	32	Angleway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5582
	1 ¼	32	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5580
	1 ¼	32	Angleway	Butt weld, F	F	148B6417
	1 ¼	32	Angleway	Butt weld, GOST	G	148B5593
CHV-X 32	1 ¼	32	Straightway	Butt weld, EN 10220	D	148B5577
	1 ¼	32	Straightway	Butt weld, ANSI (B 36.10)	A	148B5579
	1 ¼	32	Straightway	Female pipe thread (ANSI / ASME B 1.20.1)	FPT	148B5583
	1 ¼	32	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5581
	1 ¼	32	Straightway	Butt weld, F	F	148B6427
	1 ¼	32	Straightway	Butt weld, GOST	G	148B5594

Top part [1])

Type	Code no.
CHV-X 32	148B5483

CHV-X 40 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
CHV-X 40	1 ½	40	Angleway	Butt weld, EN 10220	D	148B5652
	1 ½	40	Angleway	Butt weld, ANSI (B 36.10)	A	148B5654
	1 ½	40	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5656
	1 ½	40	Angleway	Butt weld, F	F	148B6418
	1 ½	40	Angleway	Butt weld, GOST	G	148B5681
CHV-X 40	1 ½	40	Straightway	Butt weld, EN 10220	D	148B5653
	1 ½	40	Straightway	Butt weld, ANSI (B 36.10)	A	148B5655
	1 ½	40	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5657
	1 ½	40	Straightway	Butt weld, F	F	148B6428
	1 ½	40	Straightway	Butt weld, GOST	G	148B5682

Top part [1])

Type	Code no.
CHV-X 40	148B5483

CHV-X 50 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
CHV-X 50	2	50	Angleway	Butt weld, EN 10220	D	148B5741
	2	50	Angleway	Butt weld, ANSI (B 36.10)	A	148B5743
	2	50	Angleway	Socket weld, ANSI (B 16.11)	SOC	148B5745
	2	50	Angleway	Butt weld, F	F	148B6419
	2	50	Angleway	Butt weld, GOST	G	148B5759
CHV-X 50	2	50	Straightway	Butt weld, EN 10220	D	148B5742
	2	50	Straightway	Butt weld, ANSI (B 36.10)	A	148B5744
	2	50	Straightway	Socket weld, ANSI (B 16.11)	SOC	148B5746
	2	50	Straightway	Butt weld, F	F	148B6429
	2	50	Straightway	Butt weld, GOST	G	148B5760

Top part [1])

Type	Code no.
CHV-X 50	148B5747

CHV-X 65 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
CHV-X 65	2 ½	65	Angleway	Butt weld, EN 10220	D	148B5816
	2 ½	65	Angleway	Butt weld, ANSI (B 36.10)	A	148B5818
	2 ½	65	Angleway	Butt weld, F	F	148B6420
	2 ½	65	Angleway	Butt weld, GOST	G	148B5816
CHV-X 65	2 ½	65	Straightway	Butt weld, EN 10220	D	148B5817
	2 ½	65	Straightway	Butt weld, ANSI (B 36.10)	A	148B5819
	2 ½	65	Straightway	Butt weld, F	F	148B6430
	2 ½	65	Straightway	Butt weld, GOST	G	148B5817

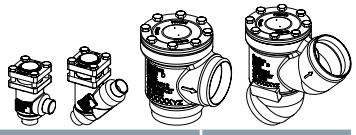
Top part [1])

Type	Code no.
CHV-X 65	148B5827

[1]) *Including gaskets and bolts.*

Ordering

Ordering CHV-X from the parts programme (valve body + top part)



CHV-X 80 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
CHV-X 80	3	80	Angleway	Butt weld, EN 10220	D	148B5912
	3	80	Angleway	Butt weld, ANSI (B 36.10)	A	148B5914
	3	80	Angleway	Butt weld, F	F	148B6421
	3	80	Angleway	Butt weld, GOST	G	148B5912
CHV-X 80	3	80	Straightway	Butt weld, EN 10220	D	148B5913
	3	80	Straightway	Butt weld, ANSI (B 36.10)	A	148B5915
	3	80	Straightway	Butt weld, F	F	148B6431
	3	80	Straightway	Butt weld, GOST	G	148B5913

Top part [1])

Type	Code no.
CHV-X 80	148B5919

CHV-X 100 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
CHV-X 100	4	100	Angleway	Butt weld, EN 10220	D	148B6014
	4	100	Angleway	Butt weld, ANSI (B 36.10)	A	148B6016
	4	100	Angleway	Butt weld, F	F	148B6422
	4	100	Angleway	Butt weld, GOST	G	148B6033
CHV-X 100	4	100	Straightway	Butt weld, EN 10220	D	148B6015
	4	100	Straightway	Butt weld, ANSI (B 36.10)	A	148B6017
	4	100	Straightway	Butt weld, F	F	148B6432
	4	100	Straightway	Butt weld, GOST	G	148B6034

Top part [1])

Type	Code no.
CHV-X 100	148B6022

CHV-X 125 - 52 bar / 754 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
CHV-X 125	5	125	Angleway	Butt weld, EN 10220	D	148B6112
	5	125	Angleway	Butt weld, ANSI (B 36.10)	A	148B6114
	5	125	Angleway	Butt weld, F	F	148B6423
	5	125	Angleway	Butt weld, GOST	G	148B6133
CHV-X 125	5	125	Straightway	Butt weld, EN 10220	D	148B6113
	5	125	Straightway	Butt weld, ANSI (B 36.10)	A	148B6115
	5	125	Straightway	Butt weld, F	F	148B6433
	5	125	Straightway	Butt weld, GOST	G	148B6134

Top part [1])

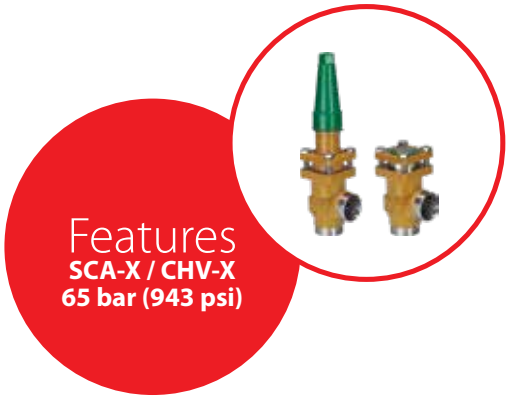
Type	Code no.
CHV-X 125	148B6119

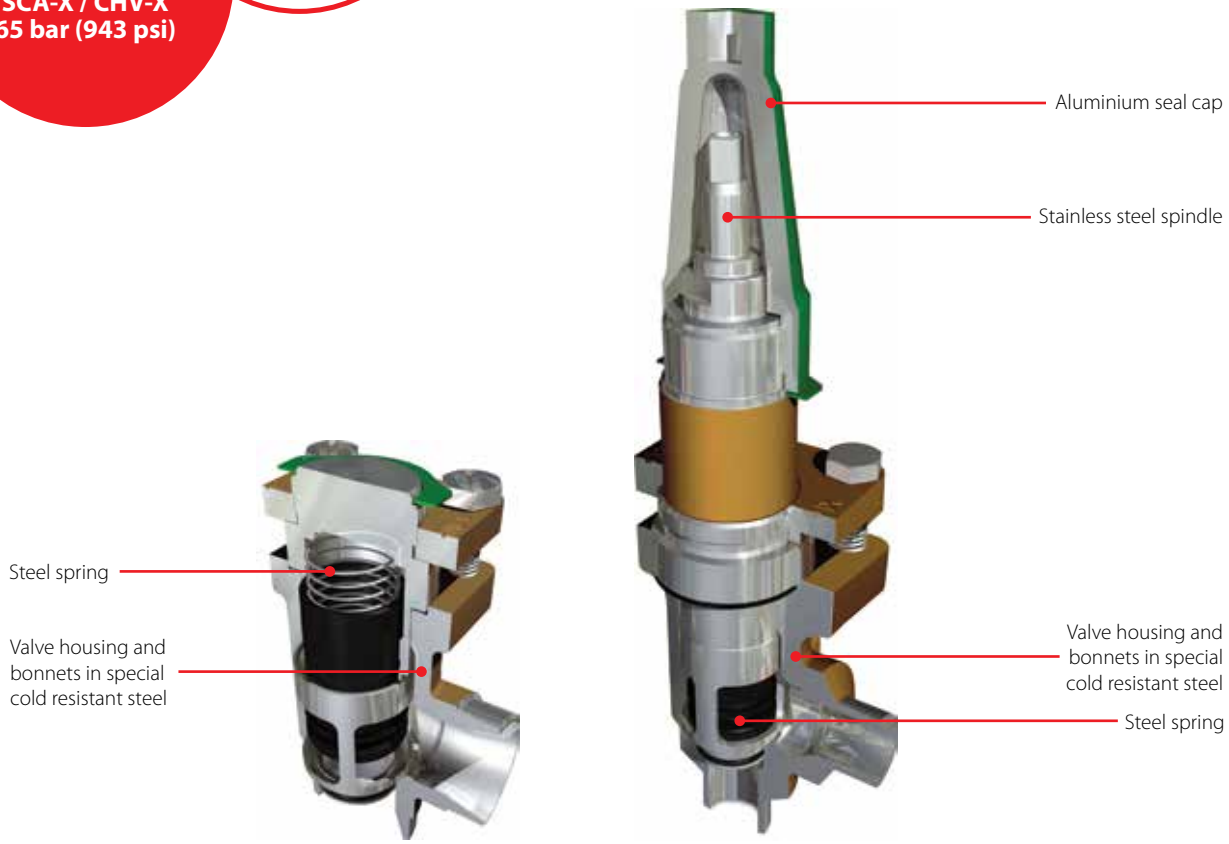
[1]) *Including gaskets and bolts.*

Quick Selection Notes:

SCA-X, Check and stop valve / CHV-X, Check valve - 65 bar / 943 psi

SCA-X are check valves with a built-in shut-off valve function. SCA-X valves are available in angleway versions.
CHV-X are check valves only. The SCA-X is equipped with vented cap and has internal backseating enabling the spindle seal to be replaced whilst the valve still under pressure.
SCA-X and CHV-X are members of the SVL modular concept product family, so each valve housing is available with several different connection types and sizes, and it is possible to convert SCA-X or CHV-X to any other product in the SVL family by replacing the complete top part.
The valves are designed to open at very low differential pressures, allow favourable flow conditions and are easy to disassemble for inspection and service.





Facts

- Applicable to R717, R744, R134a, R170, R22, R290, R401A, R402A, R404A, R407A, R407B, R407C, R407F, R409A, R410A, R421A, R502, R507, R600 and R600a
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- Housing is Standard SVL angleway housing allowing other inserts from the SVL platform to be installed
- Designed to open at a very low differential pressure of 0.04 bar / 0.58 psig
- Designed with a built-in damping chamber preventing valve flutter in case of low refrigerant velocity and / or low density
- Each valve is clearly marked with type, size and performance range
- Easy to disassemble for inspection and service
- Internal backseating enables replacement of the spindle seal whilst the valve is active, i.e. under pressure
- Optimal flow characteristics ensuring quick opening to the fully open position
- Protection against pulsation by built-in damping facility
- Housing and bonnet material is low temperature steel according to requirements of the Pressure Equipment Directive and other international classification authorities
- Equipped with Stainless steel bolts
- Max. working pressure PS / MWP: 65 bar g / 943 psi g
- Temperature range: -60 – 150 °C / -76 – 302 °F

Technical data and ordering

SCA-X Check and Stop valves / CHV-X, Check valves

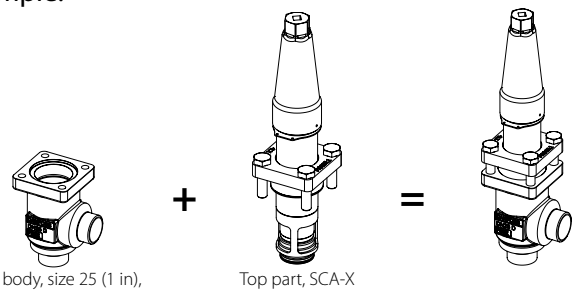
Technical data

Type	Description
Pressure range	65 bar g / 943 psig
Temperature range	-60 – 150 °C / -76 – 302 °F

For installation in heat pump applications, please contact Danfoss.

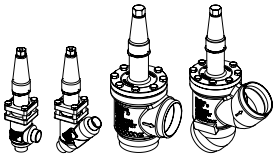
Ordering

Ordering SCA-X from the parts programme (valve body + top part)
Example:



Valve body, size 25 (1 in), DIN butt weld, angleway, **148B6624**

Top part, SCA-X size 25 (1 in) **148B5770**



SCA-X 15 - 65 bar / 943 psi

Valve body

Type	Connection size [in]	Connection size [mm]	Execution	Connection type	Connection designation	Code no.
SCA-X 15	1/2	15	Angleway	Butt weld, EN 10220	D	148B6622
	1/2	15	Angleway	Butt weld, ANSI (B 36.10)	A	148B6612
SCA-X 15	1/2	15	Straightway	Butt weld, EN 10220	D	148B6642
	1/2	15	Straightway	Butt weld, ANSI (B 36.10)	A	148B6632

Top part [1])

Type	Code no.
SCA-X 15	148B5769

SCA-X 20 - 65 bar / 943 psi

Valve body

Type	Connection size [in]	Connection size [mm]	Execution	Connection type	Connection designation	Code no.
SCA-X 20	3/4	20	Angleway	Butt weld, EN 10220	D	148B6623
	3/4	20	Angleway	Butt weld, ANSI (B 36.10)	A	148B6613
SCA-X 20	3/4	20	Straightway	Butt weld, EN 10220	D	148B6643
	3/4	20	Straightway	Butt weld, ANSI (B 36.10)	A	148B6633

Top part [1])

Type	Code no.
SCA-X 20	148B5769

SCA-X 25 - 65 bar / 943 psi

Valve body

Type	Connection size [in]	Connection size [mm]	Execution	Connection type	Connection designation	Code no.
SCA-X 25	1	25	Angleway	Butt weld, EN 10220	D	148B6624
	1	25	Angleway	Butt weld, ANSI (B 36.10)	A	148B6614
SCA-X 25	1	25	Angleway	Butt weld, EN 10220	D	148B6644
	1	25	Straightway	Butt weld, ANSI (B 36.10)	A	148B6634

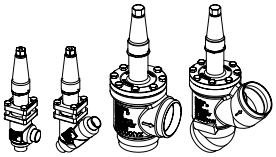
Top part [1])

Type	Code no.
SCA-X 25	148B5770

[1]) *Including gaskets and bolts.*

Ordering

Ordering SCA-X from the parts programme (valve body + top part)



SCA-X 32 - 65 bar / 943 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SCA-X 32	1 1/4	32	Angleway	Butt weld, EN 10220	D	148B6625
	1 1/4	32	Angleway	Butt weld, ANSI (B 36.10)	A	148B6615
SCA-X 32	1 1/4	32	Straightway	Butt weld, EN 10220	D	148B6645
	1 1/4	32	Straightway	Butt weld, ANSI (B 36.10)	A	148B6635

Top part [1])

Type	Code no.
SCA-X 32	148B5770

SCA-X 40 - 65 bar / 943 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SCA-X 40	1 1/2	40	Angleway	Butt weld, EN 10220	D	148B6626
	1 1/2	40	Angleway	Butt weld, ANSI (B 36.10)	A	148B6616
SCA-X 40	1 1/2	40	Straightway	Butt weld, EN 10220	D	148B6646
	1 1/2	40	Straightway	Butt weld, ANSI (B 36.10)	A	148B6636

Top part [1])

Type	Code no.
SCA-X 40	148B5770

SCA-X 50 - 65 bar / 943 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SCA-X 50	2	50	Angleway	Butt weld, EN 10220	D	148B6627
	2	50	Angleway	Butt weld, ANSI (B 36.10)	A	148B6617
SCA-X 50	2	50	Straightway	Butt weld, EN 10220	D	148B6647
	2	50	Straightway	Butt weld, ANSI (B 36.10)	A	148B6637

Top part [1])

Type	Code no.
SCA-X 50	148B5771

SCA-X 65 - 65 bar / 943 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SCA-X 65	2 1/2	65	Angleway	Butt weld, EN 10220	D	148B6628
	2 1/2	65	Angleway	Butt weld, ANSI (B 36.10)	A	148B6618
SCA-X 65	2 1/2	65	Straightway	Butt weld, EN 10220	D	148B6648
	2 1/2	65	Straightway	Butt weld, ANSI (B 36.10)	A	148B6638

Top part [1])

Type	Code no.
SCA-X 65	148B5772

SCA-X 80 - 65 bar / 943 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SCA-X 80	3	80	Angleway	Butt weld, EN 10220	D	148B6629
	3	80	Angleway	Butt weld, ANSI (B 36.10)	A	148B6619
SCA-X 80	3	80	Straightway	Butt weld, EN 10220	D	148B6649
	3	80	Straightway	Butt weld, ANSI (B 36.10)	A	148B6639

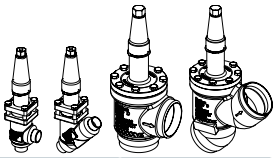
Top part [1])

Type	Code no.
SCA-X 80	148B5773

[1]) *Including gaskets and bolts.*

Ordering

Ordering SCA-X from the parts programme (valve body + top part)



SCA-X 100 - 65 bar / 943 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SCA-X 32	1 1/4	32	Angleway	Butt weld, EN 10220	D	148B6630
	1 1/4	32	Angleway	Butt weld, ANSI (B 36.10)	A	148B6620
SCA-X 32	1 1/4	32	Straightway	Butt weld, EN 10220	D	148B6650
	1 1/4	32	Straightway	Butt weld, ANSI (B 36.10)	A	148B6640

Top part [1])

Type	Code no.
SCA-X 32	148B5774

SCA-X 125 - 65 bar / 943 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SCA-X 40	1 1/2	40	Angleway	Butt weld, EN 10220	D	148B6631
	1 1/2	40	Angleway	Butt weld, ANSI (B 36.10)	A	148B6621
SCA-X 40	1 1/2	40	Straightway	Butt weld, EN 10220	D	148B6651
	1 1/2	40	Straightway	Butt weld, ANSI (B 36.10)	A	148B6641

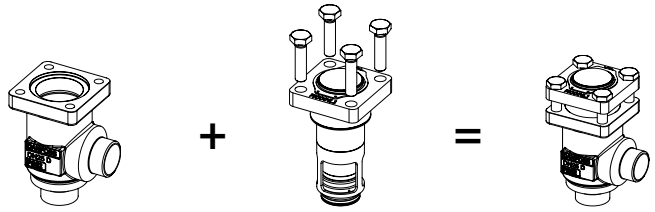
Top part [1])

Type	Code no.
SCA-X 40	148B5775

[1]) *Including gaskets and bolts.*

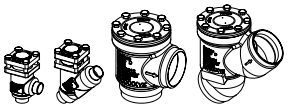
Ordering

Ordering CHV-X from the parts programme (valve body + top part)
Example:



Valve body, size 25 (1 in), DIN butt weld, angleway,
148B6624

Top part, CHV-X size 25 (1 in)
148B5777



CHV-X 15 - 65 bar / 943 psi

Valve body

Type	Connection size [in]	Connection size [mm]	Execution	Connection type	Connection designation	Code no.
CHV-X 15	1/2	15	Angleway	Butt weld, EN 10220	D	148B6622
	1/2	15	Angleway	Butt weld, ANSI (B 36.10)	A	148B6612
CHV-X 15	1/2	15	Straightway	Butt weld, EN 10220	D	148B6642
	1/2	15	Straightway	Butt weld, ANSI (B 36.10)	A	148B6632

Top part [1])

Type	Code no.
CHV-X 15	148B5776

CHV-X 20 - 65 bar / 943 psi

Valve body

Type	Connection size [in]	Connection size [mm]	Execution	Connection type	Connection designation	Code no.
CHV-X 20	3/4	20	Angleway	Butt weld, EN 10220	D	148B6623
	3/4	20	Angleway	Butt weld, ANSI (B 36.10)	A	148B6613
CHV-X 20	3/4	20	Straightway	Butt weld, EN 10220	D	148B6643
	3/4	20	Straightway	Butt weld, ANSI (B 36.10)	A	148B6633

Top part [1])

Type	Code no.
CHV-X 20	148B5776

CHV-X 25 - 65 bar / 943 psi

Valve body

Type	Connection size [in]	Connection size [mm]	Execution	Connection type	Connection designation	Code no.
CHV-X 25	1	25	Angleway	Butt weld, EN 10220	D	148B6624
	1	25	Angleway	Butt weld, ANSI (B 36.10)	A	148B6614
CHV-X 25	1	25	Angleway	Butt weld, EN 10220	D	148B6644
	1	25	Straightway	Butt weld, ANSI (B 36.10)	A	148B6634

Top part [1])

Type	Code no.
CHV-X 25	148B5777

CHV-X 32 - 65 bar / 943 psi

Valve body

Type	Connection size [in]	Connection size [mm]	Execution	Connection type	Connection designation	Code no.
CHV-X 32	1 1/4	32	Angleway	Butt weld, EN 10220	D	148B6625
	1 1/4	32	Angleway	Butt weld, ANSI (B 36.10)	A	148B6615
CHV-X 32	1 1/4	32	Straightway	Butt weld, EN 10220	D	148B6645
	1 1/4	32	Straightway	Butt weld, ANSI (B 36.10)	A	148B6635

Top part [1])

Type	Code no.
CHV-X 32	148B5777

[1]) *Including gaskets and bolts.*

Ordering

Ordering CHV-X from the parts programme (valve body + top part)



CHV-X 40 - 65 bar / 943 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
CHV-X 40	1 1/2	40	Angleway	Butt weld, EN 10220	D	148B6626
	1 1/2	40	Angleway	Butt weld, ANSI (B 36.10)	A	148B6616
CHV-X 40	1 1/2	40	Straightway	Butt weld, EN 10220	D	148B6646
	1 1/2	40	Straightway	Butt weld, ANSI (B 36.10)	A	148B6636

Top part [1])

Type	Code no.
CHV-X 40	148B5777

CHV-X 50 - 65 bar / 943 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
CHV-X 50	2	50	Angleway	Butt weld, EN 10220	D	148B6627
	2	50	Angleway	Butt weld, ANSI (B 36.10)	A	148B6617
CHV-X 50	2	50	Straightway	Butt weld, EN 10220	D	148B6647
	2	50	Straightway	Butt weld, ANSI (B 36.10)	A	148B6637

Top part [1])

Type	Code no.
CHV-X 50	148B5778

CHV-X 65 - 65 bar / 943 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
CHV-X 65	2 1/2	65	Angleway	Butt weld, EN 10220	D	148B6628
	2 1/2	65	Angleway	Butt weld, ANSI (B 36.10)	A	148B6618
CHV-X 65	2 1/2	65	Straightway	Butt weld, EN 10220	D	148B6648
	2 1/2	65	Straightway	Butt weld, ANSI (B 36.10)	A	148B6638

Top part [1])

Type	Code no.
CHV-X 65	148B5779

CHV-X 80 - 65 bar / 943 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
CHV-X 80	3	80	Angleway	Butt weld, EN 10220	D	148B6629
	3	80	Angleway	Butt weld, ANSI (B 36.10)	A	148B6619
CHV-X 80	3	80	Straightway	Butt weld, EN 10220	D	148B6649
	3	80	Straightway	Butt weld, ANSI (B 36.10)	A	148B6639

Top part [1])

Type	Code no.
CHV-X 80	148B5780

CHV-X 100 - 65 bar / 943 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
CHV-X 100	4	100	Angleway	Butt weld, EN 10220	D	148B6630
	4	100	Angleway	Butt weld, ANSI (B 36.10)	A	148B6620
CHV-X 100	4	100	Straightway	Butt weld, EN 10220	D	148B6650
	4	100	Straightway	Butt weld, ANSI (B 36.10)	A	148B6640

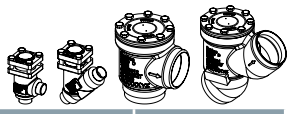
Top part [1])

Type	Code no.
CHV-X 100	148B5781

[1]) *Including gaskets and bolts.*

Ordering

Ordering CHV-X from the parts programme (valve body + top part)



CHV-X 125 - 65 bar / 943 psi

Valve body

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
CHV-X 125	5	125	Angleway	Butt weld, EN 10220	D	148B6631
	5	125	Angleway	Butt weld, ANSI (B 36.10)	A	148B6621
CHV-X 125	5	125	Straightway	Butt weld, EN 10220	D	148B6651
	5	125	Straightway	Butt weld, ANSI (B 36.10)	A	148B6641

Top part [1])

Type						Code no.
CHV-X 125						148B5782

[1]) *Including gaskets and bolts.*

Quick Selection Notes:

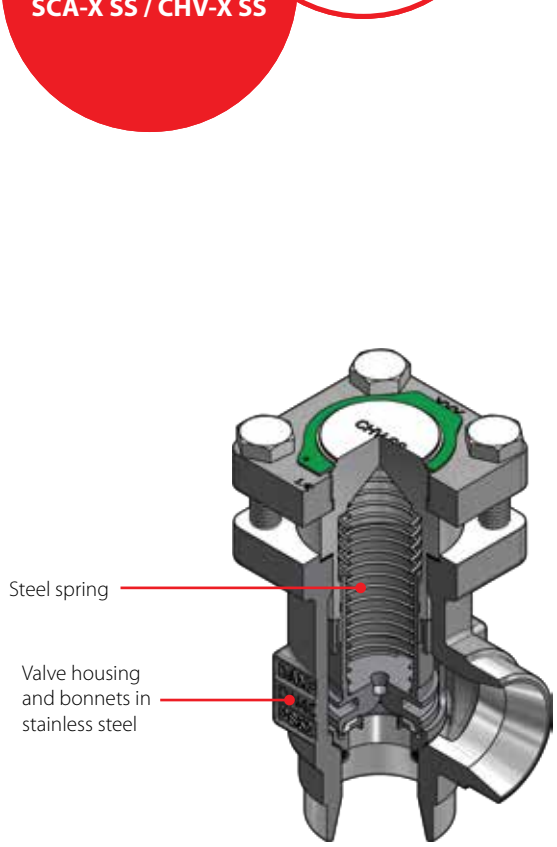
SCA-X SS, Check and stop valve / CHV-X SS, Check valve

SCA-X SS are check valves in stainless steel with a built-in stop valve function. CHV-X SS are stainless steel check valves only.
The valves are designed to open at very low differential pressures, allow favourable flow conditions and are easy to disassemble for inspection and service.

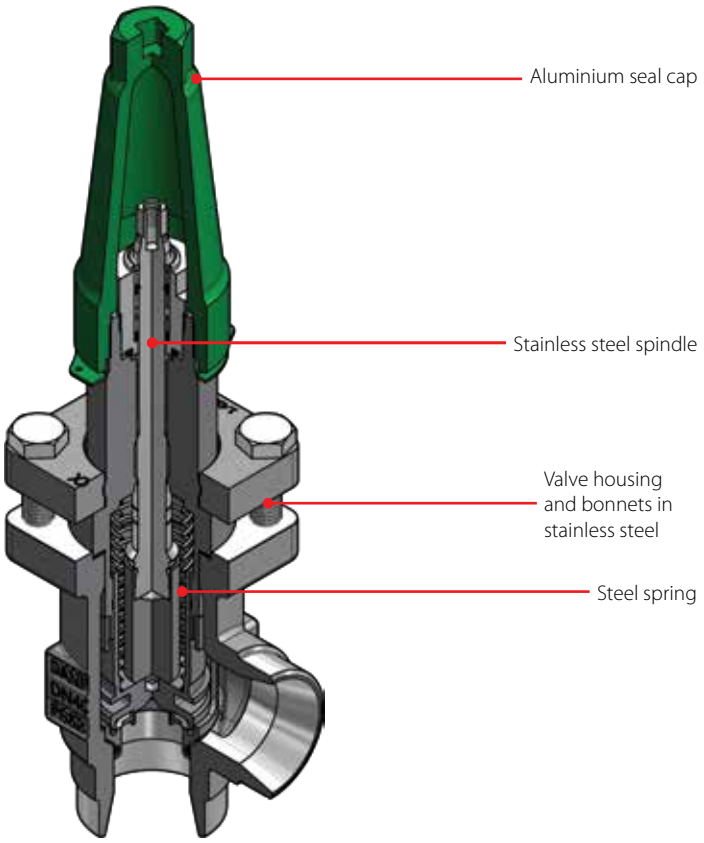
The valve cone has a built-in flexibility to ensure a precise and tight closing towards the valve seat.
A well balanced dampening effect between the piston and the cylinder gives an optimal protection during low loads and against pulsations.

Features
SCA-X SS / CHV-X SS





CHV-X SS



SCA-X SS

Facts

- Applicable to R717, R744, R134a, R170, R22, R290, R401A, R402A, R404A, R407A, R407B, R407C, R407F, R409A, R410A, R421A, R502, R507, R600 and R600a
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- Designed to open at a very low differential pressure of 0.04 bar / 0.58 psig
- Designed with a built-in damping chamber preventing valve flutter in case of low refrigerant velocity and / or low density
- Each valve is clearly marked with type, size and performance range
- Easy to disassemble for inspection and service
- Internal backseating enables replacement of the spindle seal whilst the valve is active, i.e. under pressure
- Optimal flow characteristics ensuring quick opening to the fully open position
- Protection against pulsation by built-in damping facility
- Housing and bonnet material is stainless steel
- Equipped with Stainless steel bolts.
- Max. working pressure PS / MWP:
  52 bar g / 754 psi g
- Temperature range:
  -60 – 150 °C / -76 – 302 °F

Technical data and ordering

SCA-X SS / CHV-X SS, Check valves

Technical data

Type	Description
Pressure range	52 bar g / 754 psig
Temperature range	-60 – 150 °C / -76 – 302 °F

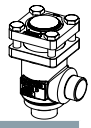
SCA-X SS, Check and Stop valve



Ordering angleway valves

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
SCA-X SS 15	1/2	15	Angleway	Butt weld, EN 10220	D	148B5293
SCA-X SS 20	3/4	20	Angleway	Butt weld, EN 10220	D	148B5381
	3/4	20	Angleway	Butt weld ANSI, B 36.19M	A	148B6489
SCA-X SS 25	1	25	Angleway	Butt weld, EN 10220	D	148B5490
	1	25	Angleway	Butt weld ANSI, B 36.19M	A	148B6480
SCA-X SS 32	1 1/4	32	Angleway	Butt weld, EN 10220	D	148B5585
	1 1/4	32	Angleway	Butt weld ANSI, B 36.19M	A	148B6490
SCA-X SS 40	1 1/2	40	Angleway	Butt weld, EN 10220	D	148B5664
	1 1/2	40	Angleway	Butt weld ANSI, B 36.19M	A	148B5687

CHV-X SS, Check valve



Ordering angleway valves

Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
CHV-X SS 15	1/2	15	Angleway	Butt weld, EN 10220	D	148B5294
CHV-X SS 20	3/4	20	Angleway	Butt weld, EN 10220	D	148B5382
	3/4	20	Angleway	Butt weld ANSI, B 36.19M	A	148B6491
CHV-X SS 25	1	25	Angleway	Butt weld, EN 10220	D	148B5491
	1	25	Angleway	Butt weld ANSI, B 36.19M	A	148B6481
CHV-X SS 32	1 1/4	32	Angleway	Butt weld, EN 10220	D	148B5586
	1 1/4	32	Angleway	Butt weld ANSI, B 36.19M	A	148B6492
CHV-X SS 40	1 1/2	40	Angleway	Butt weld, EN 10220	D	148B5665
	1 1/2	40	Angleway	Butt weld ANSI, B 36.19M	A	148B5688

CHV-X SS, Check valve



Ordering straightway valves

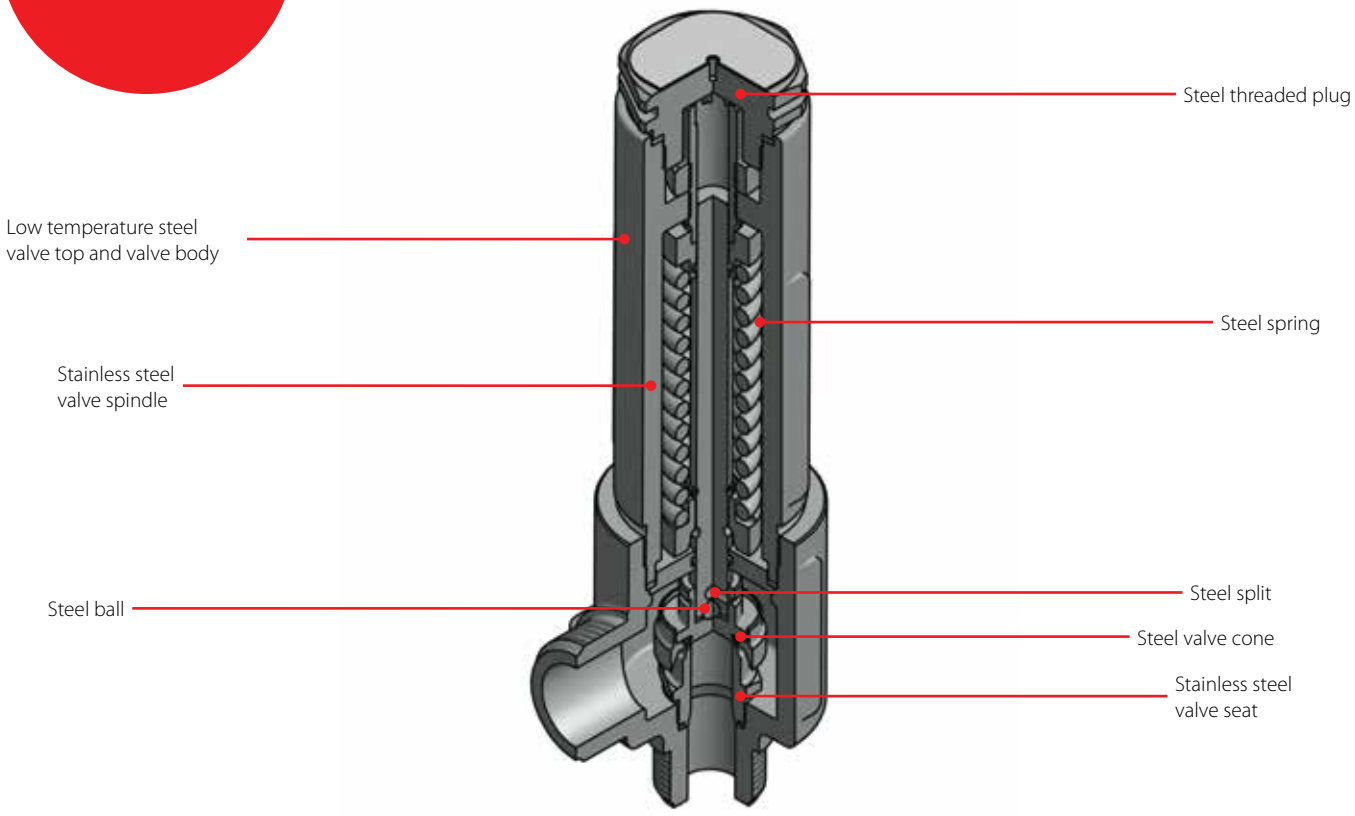
Type	Connection size		Execution	Connection type	Connection designation	Code no.
	[in]	[mm]				
CHV-X SS 15	1/2	15	Straightway	Butt weld, EN 10220	D	148B5678
CHV-X SS 20	3/4	20	Straightway	Butt weld, EN 10220	D	148B5679
	3/4	20	Straightway	Butt weld ANSI, B 36.19M	A	148B6608
CHV-X SS 25	1	25	Straightway	Butt weld, EN 10220	D	148B5680
	1	25	Straightway	Butt weld ANSI, B 36.19M	A	148B6609
CHV-X SS 32	1 1/4	32	Straightway	Butt weld, EN 10220	D	148B6544
	1 1/4	32	Straightway	Butt weld ANSI, B 36.19M	A	148B6610
CHV-X SS 40	1 1/2	40	Straightway	Butt weld, EN 10220	D	148B6566
	1 1/2	40	Straightway	Butt weld ANSI, B 36.19M	A	148B6611

SFA 15 / SFA 15-50, Safety relief valves

SFA 15 and SFA 15-50 are standard, back pressure dependent safety relief valves in angleway execution, specially designed for protection of vessels and other components against excessive pressure.
SFA 15-50 has a 50% reduced capacity compared to SFA 15.

The valve is designed to meet the strict quality demands and safety requirements for refrigeration installations, specified by the international classification societies.
The valve is recommended as an external and internal safety relief valve in refrigeration plants.





Facts

- Applicable to R717, R744, R134a, R170, R22, R290, R401A, R402A, R404A, R407A, R407B, R407C, R407F, R409A, R410A, R421A, R502, R507, R600 and R600a within a temperature range of -50 °C* / 100 °C (-58 °F* / 212 °F)
- The spring housing is closed tightly to avoid refrigerant leakage
- The valves can be delivered with set pressures between:
  10 – 40 bar g / 145 – 580 psi g

**) Below 30 °C / -22 °F full tightness can only be guaranteed when refrigerant pressure is equal to or lower than 0.5 × P_{set}.*

Technical data and ordering

SFA 15 and SFA 15-50, Safety relief valve

Technical data

Type	Description
Pressure setting range	10 – 40 bar g / 145 – 580 psi g
Pressure setting	The operating pressure of the plant should be at least 15% below the set pressure. This allows a perfect re-seating of the safety relief valve after having been activated.
Temperature range	-50 °C* / 100 °C (-58 °F* / 212 °F)

**) Below 30 °C / -22 °F full tightness can only be guaranteed when refrigerant pressure is equal to or lower than 0.5 × P_{set}.*

Important:
The SFA safety relief valve is dependent on the back pressure (if the back pressure is higher than the atmospheric pressure, the opening pressure will be higher than stated set pressure).
Special circumstances such as vibrations (which should be avoided) and oscillating pressure may require an increased difference between the operational pressure and the closing pressure.

Certified SFA valves with standard set pressure

Ordering

Type	Size		Set pressure		Code no.
	[mm]	[in]	[bar g]	[psi g]	
SFA 15 T 210	15	1/2	10	145	148F3210
SFA 15 T 211	15	1/2	11	160	148F3211
SFA 15 T 212	15	1/2	12	174	148F3212
SFA 15 T 213	15	1/2	13	189	148F3213
SFA 15 T 214	15	1/2	14)	203	148F3214
SFA 15 T 215	15	1/2	15	218	148F3215
SFA 15 T 216	15	1/2	16	232	148F3216
SFA 15 T 217	15	1/2	17	247	148F3217
SFA 15 T 218	15	1/2	18	261	148F3218
SFA 15 T 219	15	1/2	19	276	148F3219
SFA 15 T 220	15	1/2	20	290	148F3220
SFA 15 T 221	15	1/2	21	305	148F3221
SFA 15 T 222	15	1/2	22	319	148F3222
SFA 15 T 223	15	1/2	23	334	148F3223
SFA 15 T 224	15	1/2	24	348	148F3224
SFA 15 T 225	15	1/2	25	363	148F3225
SFA 15 T 226	15	1/2	26	377	148F3226
SFA 15 T 227	15	1/2	27	392	148F3227
SFA 15 T 228	15	1/2	28	406	148F3228
SFA 15 T 229	15	1/2	29	421	148F3229
SFA 15 T 230	15	1/2	30	435	148F3230
SFA 15 T 231	15	1/2	31	450	148F3231
SFA 15 T 232	15	1/2	32	464	148F3232
SFA 15 T 233	15	1/2	33	479	148F3233
SFA 15 T 234	15	1/2	34	493	148F3234
SFA 15 T 235	15	1/2	35	508	148F3235
SFA 15 T 236	15	1/2	36	522	148F3236
SFA 15 T 237	15	1/2	37	537	148F3237
SFA 15 T 238	15	1/2	38	551	148F3238
SFA 15 T 239	15	1/2	39	566	148F3239
SFA 15 T 240	15	1/2	40	580	148F3240

Technical data and ordering

Certified SFA valves with standard set pressure

Ordering

Type	Size		Set pressure		Code no.
	[mm]	[in]	[bar g]	[psi g]	
SFA 15-50 T 210	15	½	10	145	148F4000
SFA 15-50 T 211	15	½	11	160	148F4001
SFA 15-50 T 212	15	½	12	174	148F4002
SFA 15-50 T 213	15	½	13	189	148F4003
SFA 15-50 T 214	15	½	14	203	148F4004
SFA 15-50 T 215	15	½	15	218	148F4005
SFA 15-50 T 216	15	½	16	232	148F4006
SFA 15-50 T 217	15	½	17	247	148F4007
SFA 15-50 T 218	15	½	18	261	148F4008
SFA 15-50 T 219	15	½	19	276	148F4009
SFA 15-50 T 220	15	½	20	290	148F4010
SFA 15-50 T 221	15	½	21	305	148F4011
SFA 15-50 T 222	15	½	22	319	148F4012
SFA 15-50 T 223	15	½	23	334	148F4013
SFA 15-50 T 224	15	½	24	348	148F4014
SFA 15-50 T 225	15	½	25	363	148F4015
SFA 15-50 T 226	15	½	26	377	148F4016
SFA 15-50 T 227	15	½	27	392	148F4017
SFA 15-50 T 228	15	½	28	406	148F4018
SFA 15-50 T 229	15	½	29	421	148F4019
SFA 15-50 T 230	15	½	30	435	148F4020
SFA 15-50 T 231	15	½	31	450	148F4021
SFA 15-50 T 232	15	½	32	464	148F4022
SFA 15-50 T 233	15	½	33	479	148F4023
SFA 15-50 T 234	15	½	34	493	148F4024
SFA 15-50 T 235	15	½	35	508	148F4025
SFA 15-50 T 236	15	½	36	522	148F4026
SFA 15-50 T 237	15	½	37	537	148F4027
SFA 15-50 T 238	15	½	38	551	148F4028
SFA 15-50 T 239	15	½	39	566	148F4029
SFA 15-50 T 240	15	½	40	580	148F4030

Technical data and ordering

Certified SFA valves with standard set pressure and TÜV pressure setting certificate with each valve

Ordering

Type	Size		Set pressure		Code no.
	[mm]	[in]	[bar g]	[psi g]	
SFA 15 T 310	15	½	10	145	148F3310
SFA 15 T 311	15	½	11	160	148F3311
SFA 15 T 312	15	½	12	174	148F3312
SFA 15 T 313	15	½	13	189	148F3313
SFA 15 T 314	15	½	14	203	148F3314
SFA 15 T 315	15	½	15	218	148F3315
SFA 15 T 316	15	½	16	232	148F3316
SFA 15 T 317	15	½	17	247	148F3317
SFA 15 T 318	15	½	18	261	148F3318
SFA 15 T 319	15	½	19	276	148F3319
SFA 15 T 320	15	½	20	290	148F3320
SFA 15 T 321	15	½	21	305	148F3321
SFA 15 T 322	15	½	22	319	148F3322
SFA 15 T 323	15	½	23	334	148F3323
SFA 15 T 324	15	½	24	348	148F3324
SFA 15 T 325	15	½	25	363	148F3325
SFA 15 T 326	15	½	26	377	148F3326
SFA 15 T 327	15	½	27	392	148F3327
SFA 15 T 328	15	½	28	406	148F3328
SFA 15 T 329	15	½	29	421	148F3329
SFA 15 T 330	15	½	30	435	148F3330
SFA 15 T 331	15	½	31	450	148F3331
SFA 15 T 332	15	½	32	464	148F3332
SFA 15 T 333	15	½	33	479	148F3333
SFA 15 T 334	15	½	34	493	148F3334
SFA 15 T 335	15	½	35	508	148F3335
SFA 15 T 336	15	½	36	522	148F3336
SFA 15 T 337	15	½	37	537	148F3337
SFA 15 T 338	15	½	38	551	148F3338
SFA 15 T 339	15	½	39	566	148F3339
SFA 15 T 340	15	½	40	580	148F3340
SFA 15-50 T 210	15	½	10	145	148F4100
SFA 15-50 T 211	15	½	11	160	148F4101
SFA 15-50 T 212	15	½	12	174	148F4102
SFA 15-50 T 213	15	½	13	189	148F4103
SFA 15-50 T 214	15	½	14	203	148F4104
SFA 15-50 T 215	15	½	15	218	148F4105
SFA 15-50 T 216	15	½	16	232	148F4106
SFA 15-50 T 217	15	½	17	247	148F4107
SFA 15-50 T 218	15	½	18	261	148F4108
SFA 15-50 T 219	15	½	19	276	148F4109
SFA 15-50 T 220	15	½	20	290	148F4110
SFA 15-50 T 221	15	½	21	305	148F4111
SFA 15-50 T 222	15	½	22	319	148F4112
SFA 15-50 T 223	15	½	23	334	148F4113
SFA 15-50 T 224	15	½	24	348	148F4114
SFA 15-50 T 225	15	½	25	363	148F4115
SFA 15-50 T 226	15	½	26	377	148F4116
SFA 15-50 T 227	15	½	27	392	148F4117
SFA 15-50 T 228	15	½	28	406	148F4118
SFA 15-50 T 229	15	½	29	421	148F4119
SFA 15-50 T 230	15	½	30	435	148F4120
SFA 15-50 T 231	15	½	31	450	148F4121
SFA 15-50 T 232	15	½	32	464	148F4122
SFA 15-50 T 233	15	½	33	479	148F4123
SFA 15-50 T 234	15	½	34	493	148F4124
SFA 15-50 T 235	15	½	35	508	148F4125
SFA 15-50 T 236	15	½	36	522	148F4126
SFA 15-50 T 237	15	½	37	537	148F4127
SFA 15-50 T 238	15	½	38	551	148F4128
SFA 15-50 T 239	15	½	39	566	148F4129
SFA 15-50 T 240	15	½	40	580	148F4130

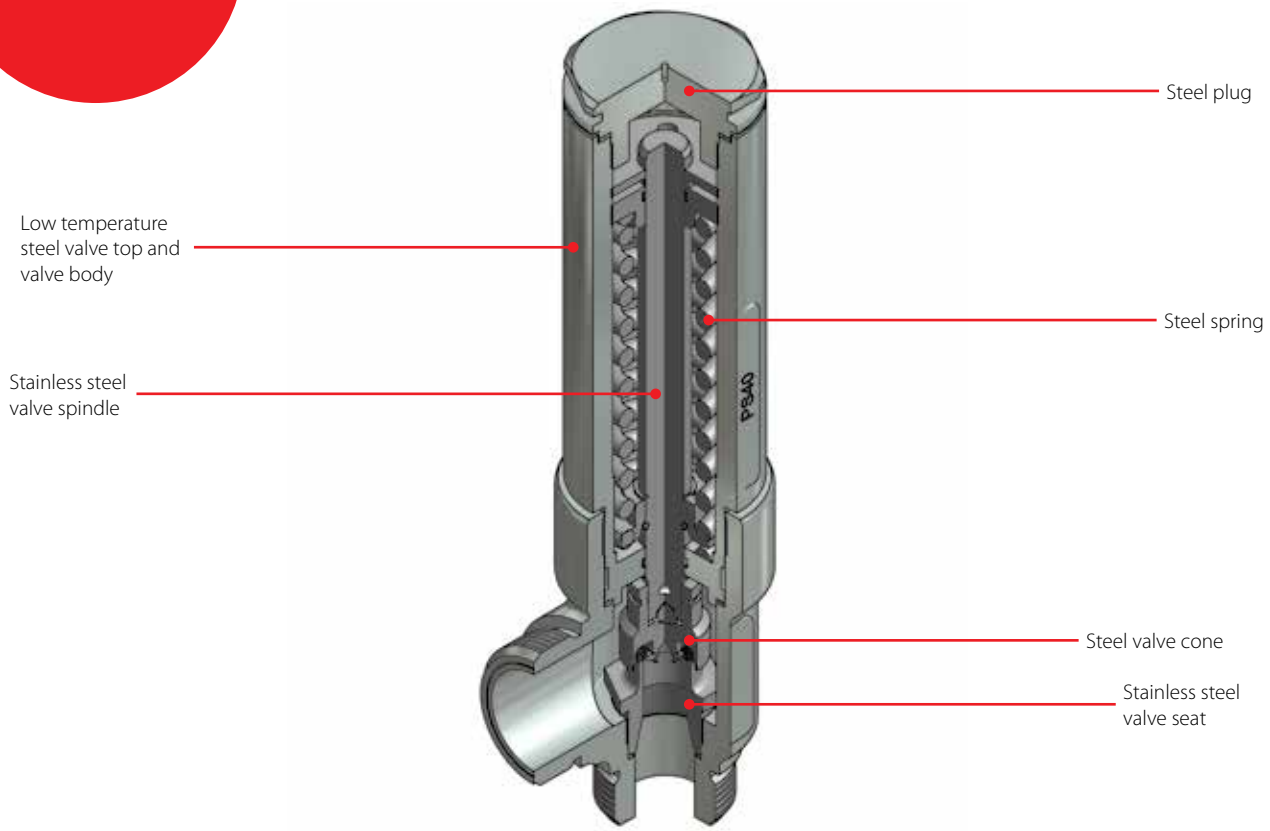
SFV, Safety relief valve

SFV 20 – SFV 25 are standard, back pressure dependent safety relief valves in angleway execution, specially designed for protection of vessels and other components against excessive pressure.

The valve is designed to meet the strict quality demands and safety requirements for refrigeration installations, specified by the international classification societies.

Features SFV





Facts

- Applicable to R717, R744, R134a, R170, R22, R290, R401A, R402A, R404A, R407A, R407B, R407C, R407F, R409A, R410A, R421A, R502, R507, R600 and R600a within a temperature range:
  -30 – 100 °C / -22 – 212 °F
- The inlet flow diameters of the valves are:
  - 18 mm (¾ in) for SFV 20
  - 23 mm (1 in) for SFV 25
- The valves can be delivered with set pressures between:
  10 – 25 bar g / 145 – 363 psi g

Technical data and ordering

SFV - Safety relief valve

Technical data

Type	Description
Pressure	Pressure setting range: 10 – 40 bar g / 145 – 580 psi g
Pressure setting	The operating pressure of the plant should be at least 15% below the set pressure. This allows a perfect re-seating of the safety relief valve after having been activated.
Temperature range	-30 – 100 °C / -22 – 212 °F

Important:
the SFA safety relief valve is dependent on the back pressure (if the back pressure is higher than the atmospheric pressure, the opening pressure will be higher than stated set pressure).
Special circumstances such as vibrations (which should be avoided) and oscillating pressure may require an increased difference between the operational pressure and the closing pressure.

Certified SFV valves with standard set pressure

Ordering

Type	Size		Set pressure		Code no.
	[mm]	[in]	[bar g]	[psi g]	
SFV 20 T 210	20	3/4	10	145	2416+254
SFV 20 T 211	20	3/4	11	160	2416+255
SFV 20 T 212	20	3/4	12	174	2416+256
SFV 20 T 213	20	3/4	13	189	2416+150
SFV 20 T 214	20	3/4	14	203	2416+257
SFV 20 T 215	20	3/4	15	218	2416+258
SFV 20 T 216	20	3/4	16	232	2416+259
SFV 20 T 217	20	3/4	17	247	2416+260
SFV 20 T 218	20	3/4	18	261	2416+151
SFV 20 T 219	20	3/4	19	276	2416+261
SFV 20 T 220	20	3/4	20	290	2416+262
SFV 20 T 221	20	3/4	21	305	2416+152
SFV 20 T 222	20	3/4	22	319	2416+241
SFV 20 T 223	20	3/4	23	334	2416+263
SFV 20 T 224	20	3/4	24	348	2416+264
SFV 20 T 225	20	3/4	25	363	2416+183

Certified SFV valves with standard set pressure

Ordering

Type	Size		Set pressure		Code no.
	[mm]	[in]	[bar g]	[psi g]	
SFV 25 T 210	25	1	10	145	2416+265
SFV 25 T 211	25	1	11	160	2416+266
SFV 25 T 212	25	1	12	174	2416+267
SFV 25 T 213	25	1	13	189	2416+153
SFV 25 T 214	25	1	14	203	2416+268
SFV 25 T 215	25	1	15	218	2416+269
SFV 25 T 216	25	1	16	232	2416+270
SFV 25 T 217	25	1	17	247	2416+271
SFV 25 T 218	25	1	18	261	2416+154
SFV 25 T 219	25	1	19	276	2416+272
SFV 25 T 220	25	1	20	290	2416+273
SFV 25 T 221	25	1	21	305	2416+155
SFV 25 T 222	25	1	22	319	2416+242
SFV 25 T 223	25	1	23	334	2416+274
SFV 25 T 224	25	1	24	348	2416+275
SFV 25 T 225	25	1	25	363	2416+184

Technical data and ordering

Certified SFV valves with standard set pressure and TÜV pressure setting certificate with each valve

Ordering

Type	Size		Set pressure		Code no.
	[mm]	[in]	[bar g]	[psi g]	
SFV 20 T 310	20	3/4	10	145	2416+285
SFV 20 T 311	20	3/4	11	160	2416+286
SFV 20 T 312	20	3/4	12	174	2416+287
SFV 20 T 313	20	3/4	13	189	2416+160
SFV 20 T 314	20	3/4	14	203	2416+288
SFV 20 T 315	20	3/4	15	218	2416+289
SFV 20 T 316	20	3/4	16	232	2416+290
SFV 20 T 317	20	3/4	17	247	2416+291
SFV 20 T 318	20	3/4	18	261	2416+161
SFV 20 T 319	20	3/4	19	276	2416+292
SFV 20 T 320	20	3/4	20	290	2416+293
SFV 20 T 321	20	3/4	21	305	2416+162
SFV 20 T 322	20	3/4	22	319	2416+294
SFV 20 T 323	20	3/4	23	334	2416+295
SFV 20 T 324	20	3/4	24	348	2416+296
SFV 20 T 325	20	3/4	25	363	2416+186

Certified SFV valves with standard set pressure and TÜV pressure setting certificate with each valve

Ordering

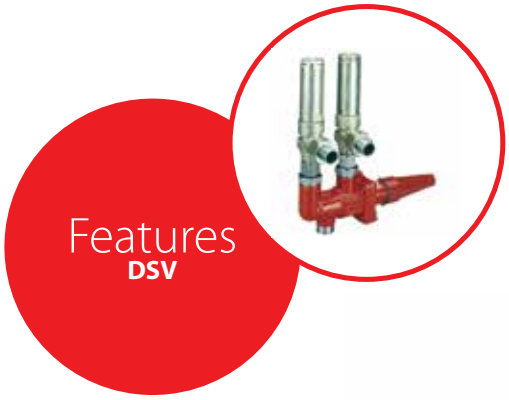
Type	Size		Set pressure		Code no.
	[mm]	[in]	[bar g]	[psi g]	
SFV 25 T 310	25	1	10	145	2416+297
SFV 25 T 311	25	1	11	160	2416+298
SFV 25 T 312	25	1	12	174	2416+299
SFV 25 T 313	25	1	13	189	2416+163
SFV 25 T 314	25	1	14	203	2416+300
SFV 25 T 315	25	1	15	218	2416+301
SFV 25 T 316	25	1	16	232	2416+302
SFV 25 T 317	25	1	17	247	2416+303
SFV 25 T 318	25	1	18	261	2416+164
SFV 25 T 319	25	1	19	276	2416+304
SFV 25 T 320	25	1	20	290	2416+305
SFV 25 T 321	25	1	21	305	2416+165
SFV 25 T 322	25	1	22	319	2416+306
SFV 25 T 323	25	1	23	334	2416+307
SFV 25 T 324	25	1	24	348	2416+308
SFV 25 T 325	25	1	25	363	2416+187

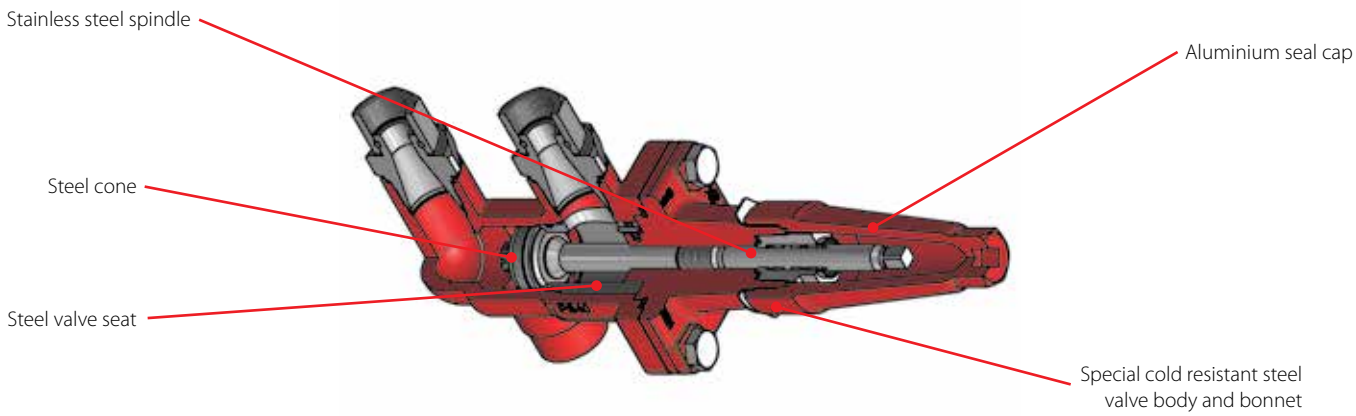
Quick Selection Notes:

DSV, Change-over valve

DSV are 3-way valves designed specifically for use with double safety valve systems, but also suitable for other purposes. The valves are equipped with threads for nipple / flange connection for easy inspection or replacement of safety valves.
DSV are designed to meet the strict quality demands on industrial refrigeration installations specified by the international classification societies.

DSV valves are carefully designed to establish favourable flow conditions. The valve cone is designed to ensure perfect closing. Even a light tightening of the valve will close the valve effectively. All valves are equipped with vented cap.





Facts

- Applicable to R717, R744, R134a, R170, R22, R290, R401A, R402A, R404A, R407A, R407B, R407C, R407F, R409A, R410A, R421A, R502, R507, R600 and R600a
- Each valve type is clearly marked with type, size and performance range
- The valves and caps are prepared for sealing, to prevent operation by unauthorised persons, using a seal wire
- Accepts flow in both directions
- Housing and bonnet are made from low temperature steel according to requirements of the Pressure Equipment Directive and other international classification authorities
- Max. operating pressure:
  0 bar g / 580 psi g
- Temperature range:
  -50 – 100 °C / -58 – 212 °F
- DSV 1 when fitted with 2 × SFA 15 or DSV 2 when fitted with a combination of either 2 × SFA 15, or 2 × SFV 20, or 2 × SFV 25, meet the requirements according to EN13136 "*Safety Valves Calculations*" regarding max. 3% pressure drop in upstream line

Technical data

DSV, Change-over valve

Technical data

Type	Description	
Temperature range	-50 – 100 °C / -58 – 212 °F	
Pressure	Pressure setting range: 10 – 40 bar g / 145 – 580 psi g	
Capacity	K_v - value [m^3/h]	C_v - value [gal/min]
DSV 1	17.5	20.3
DSV 2	30.0	34.8

DSV, Change-over valve

Ordering

Please note that the type codes only serve to identify the valves, some of which may not form part of the standard product range.

Valve type	DSV inlet connection [in]	DSV outlet connection [in]	SFV outlet connection [in]	Safety valve combination	Code no.
DSV 1	D25 (1)	G ¾ Union	ND20 (¾)	SFA15	148F3005
DSV 2	FD20 (¾)	G ¾ thread flange	ND20 (¾)	SFA15	148F3006
DSV 2	FD25 (1)	G ¾ thread flange	ND20 (¾)	SFA15	148F3007
DSV 2	FD32 (1 ¼)	G ¾ thread flange	ND20 (¾)	SFA15	148F3008
DSV 2	FD25 (1)	G 1 ¼ thread flange	FD25 (1)	SFV20	148F3009
DSV 2	FD32 (1 ¼)	G 1 ¼ thread flange	FD25 (1)	SFV20	148F3010
DSV 2	FD32 (1 ¼)	G 1 ¼ thread flange	FD32 (1 ¼)	SFV25	148F3011
Connection fittings:	Weld branches DIN 2448	DSV valves are supplied with DSV inlet connection fittings, DSV outlet connection fittings, and SFA / SFV outlet connection fittings.			
	Weld nipples DIN 2448				
	Weld flanges DIN 2448				

Important:

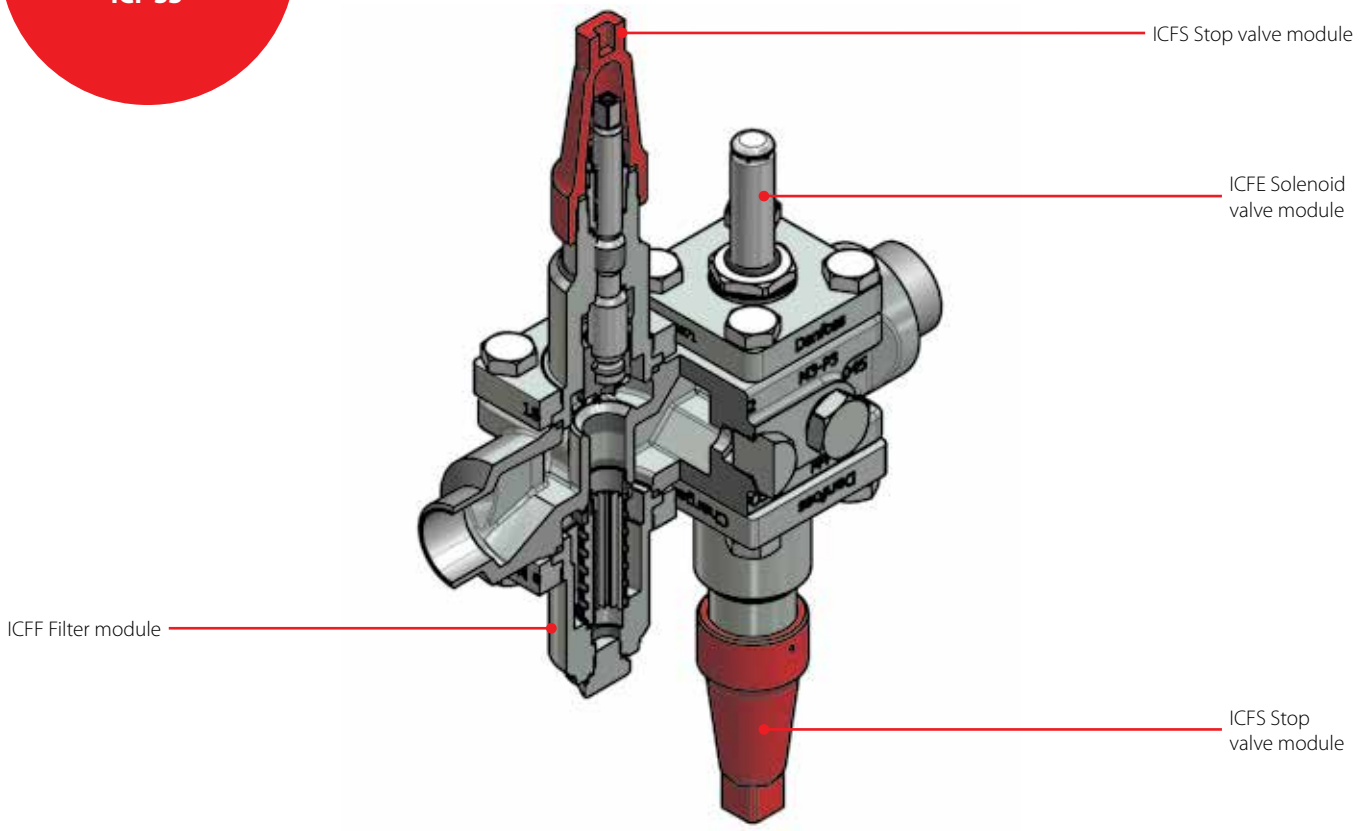
Where products need to be certified according to specific certification societies or where higher pressures are required, the relevant information should be included at the time of order.

ICF / ICF SS, Valve stations

ICF and ICF SS (Stainless Steel) valve stations can substitute a series of conventional mechanical, electro-mechanical and electronically operated valves, thereby providing a number of advantages in the design phase of a refrigeration plant as well as in the installation, service and maintenance. ICF valve stations consist of valve housing plus a maximum of four or six function modules.

The ICF valve stations are designed for low and high pressure refrigerants and can be used in liquid lines, compressor injection lines and hot gas lines ICF is Supplied as a complete assembly, it is fully tested at high pressure and its functions are tested under factory controlled conditions.





Configuration example
ICF 20-4-9

Facts

- Applicable to R717, R744, R134a, R22, R401A, R402A, R404A, R407A, R407B, R407C, R407F, R409A, R410A, R421A, R502 and R507
  Exception: ICFD is released for ammonia and land-based applications only. For CO_2, please contact the local Danfoss Sales company.
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- The main components of the ICF valve station are:
  - A valve housing
  - A maximum of four or six function modules
- Designed for low and high pressure refrigerants and can be used in liquid lines, compressor injection and hotgas lines
- The ICF concept is designed to fulfil global refrigeration requirements. For specific approval information, please contact Danfoss
- One code number equals one application solution
- Modular concept:
  Each housing is available with several different connection types and sizes
- The ICF is leak tested at high pressure and its functions are tested under factory controlled conditions
- The ICF valve is a compact valve train ready for the jobsite. No need to disassembly prior to installation under normal welding procedures
- Down time during service is reduced to a fraction compared to conventional valve trains. The unique design of the ICF ensures a quick pump down and faster access to valve modules
- Valve service is performed by replacing the function module
- Standard side ports to fit service valves, pressure transmitters and sight glasses
- Direct weld connections (no leaks through flanges)
- Available with DIN and ANSI connections
- Low temperature steel housing
- High capacities, low pressure drop
- Compact design
- Low weight design

Technical data and application examples

ICF and ICF SS - Valve stations

Technical data

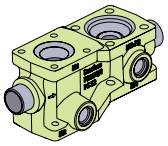
Temperature range	-60 – 120 °C / -76 – 248 °F *Exceptions:* *ICM: If the ICM module is going to be used in liquid refrigerant with a temperature above 75 °C / 167 °F, please contact Danfoss.* *ICFD: -50 – 50 °C / -58 – 122 °F at 28 bar / 406 psig in ammonia*
Presssure range	The ICF is designed for max. working pressure: 52 bar g / 754 psig For ICF with ICFD module the max. working pressure is 28 bar g / 406 psi g. If the refrigeration system include ICFD module, a test pressure of the system must not exceed 28 bar / 406 psig, unless the ICFD float is temporarily taken out before test. *ICFD is released for ammonia and land-based applications only. For CO_2, please contact the local Danfoss Sales company.* *Max. working pressure for ICFD without float: 52 bar / 754 psig.*
Modules	3, 4 or 6, depending on housing version
Connection types (ICF SS available with DIN connections only)	Butt weld, DIN (EN 10220): 15D (1/2 in) to 80D (3 in) Butt weld, ANSI (B 36.10) : 15A (1/2 in) to 80A (3 in) Socket welding ANSI (B 16.11): 15S (1/2 in) to 50S (2 in) Soldering (DIN 2856): 22Y (7/8 in) Soldering (ANSI B 16.22): 7/8 in (22 mm) Pipe thread (ANSI B 1.20.1): 15F (1/2 in)

The ICF and ICF SS concept

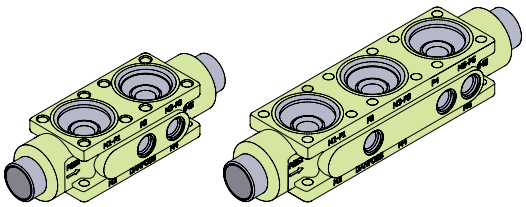
The main components of the ICF valve station are:

- A housing
- A maximum of four or six function modules (ICF 65 – max. 3)
  - In all ICF 15 the modules M1 and M2 are predefined as shut-off valve and strainer module
  - In all ICF 50 the modules M1 and M2 are predefined as shut-off valve and blind cover (prepared for strainer)
  - In all ICF 65 the module M1 is predefined as shut-off valve

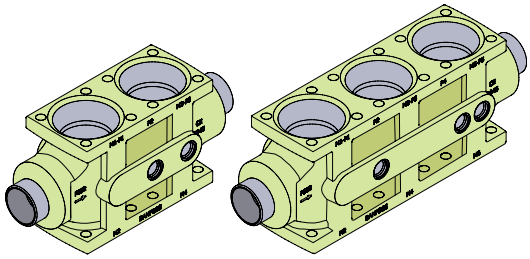
The valve body



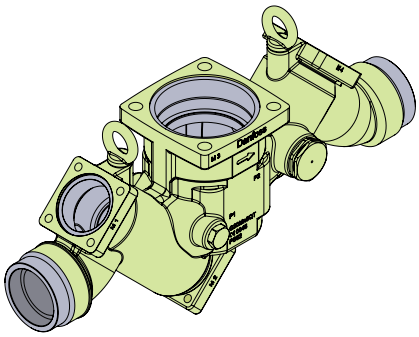
ICF 15-4



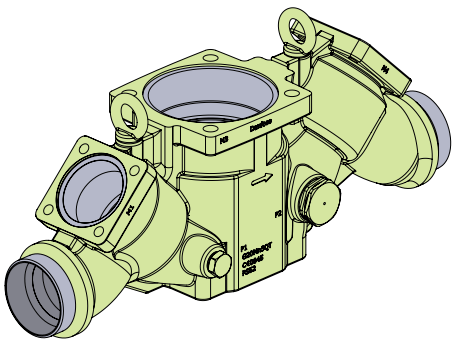
ICF 20-4 | ICF 20-6



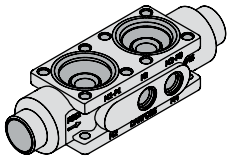
ICF 25-4 | ICF 25-6



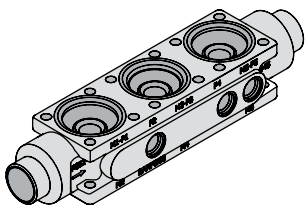
ICF 50-4



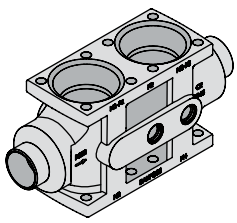
ICF 65-3



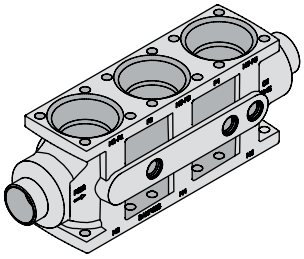
ICF SS 20-4



ICF SS 20-6



ICF SS 25-4



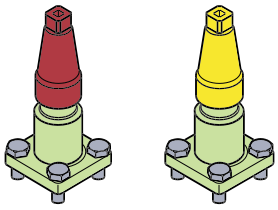
ICF SS 25-6

The function modules for ICF 15 and ICF 20

ICF 15 and ICF 20 have the same function modules except for the two fixed modules M1 (stop valve ICFS 15) and M2 (filter ICFF 15) in ICF 15.

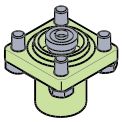
ICFS 15 / ICFS 20
Shut-off valve module
This module has the function of a stop valve, and has a red cap.

ICFR 20A
Manual regulating valve module
This module has the function of a hand regulating valve, and has a yellow cap.



ICFS 15/ICFS 20 ICFR 20A

ICFC 20
Check valve module
This module has the function of a check valve.

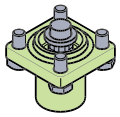


ICFC 20

ICFF 15/20 / ICFF 20E
Strainer module
This module functions as a strainer.

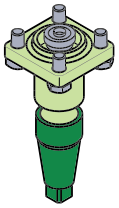
ICF 15, all connections:
Strainer element 150µ (100 mesh) 60 cm² (9.3 in²)
ICF 20, with DIN/ANSI connections:
Pleated 150µ (100 mesh) 45 cm² (7.0 in²)

ICF 20 with SOC connections (ICFF 20E):
Pleated 150µ (100 mesh) / 160 cm² (24.8 in²)



ICFF 15/20 / ICFF 20E

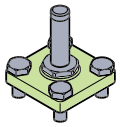
ICFN 20
Stop & check valve module
This module has the function of a combined stop and check valve, and has a green cap.



ICFN 20

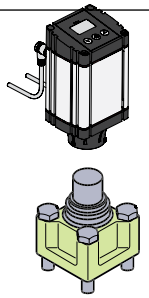
ICFE 20
Solenoid valve module
This module has the function of a normally closed solenoid valve for controlling the refrigerant flow.

ICFA 20
Electronic expansion valve module
This module has the function of an electronic pulse width modulating (PWM) expansion valve.



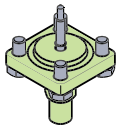
ICFE 20 / ICFA 20

ICM 20-A, B or C
Motor operated valve module
This module is a stepper motor actuator valve for on/off and modulating control of the refrigerant flow.



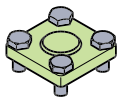
ICM 20-A, B or C

ICFO 20
Manual opening module
This module facilitates the manual opening of the solenoid valve (type ICFE).



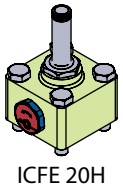
ICFO 20

ICFB 20
Blind top cover
This provides a blanking cover for unused module ports.



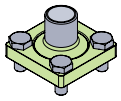
ICFB 20

ICFE 20H
Solenoid valve module with integrated manual opener
This module has the function of a normally closed solenoid valve for controlling the refrigerant flow.



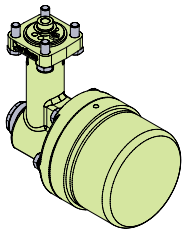
ICFE 20H

ICFW 20
Welding module 20 DIN or ¾" SOC
This module is used for drain connection during hot-gas defrosting - in case of high capacity.



ICFW 20

ICFD 20
Float operated valve module. This module opens for liquid flow when the float is lifted by the internal liquid level.

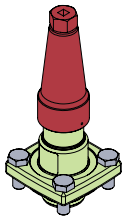


ICFD 20

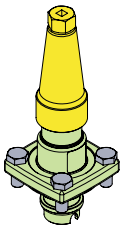
Note:
At about 10% of maximum mass flow of ICFE 20H, the pressure differential correspond to about 0.07 Bar / 1 psi.
ICFE 20H will start to open at these conditions. At a pressure differential of minimum 0.2 Bar / 2.9 psi ICFE 20H will be 100% open.

The function modules for ICF 25

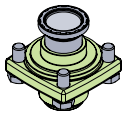
ICFS 25
Shut-off valve module
This module has the function of a stop valve, and has a red cap.


ICFS 25

ICFR 25, A or B
Manual regulating valve module
This module has the function of a hand regulating valve, and has a yellow cap.


ICFR 25

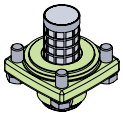
ICFC 25
Check valve module
This module has the function of a check valve.


ICFC 25

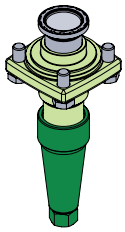
ICFF 25 / ICFF 25E
Strainer module
This module functions as a strainer.

Strainer size:
ICF with DIN and ANSI (ICFF 25) connections: Pleated 150µ (100 mesh) / 160 cm^2 (24.8 in^2)

ICF with SOC connections (ICF 25E):
Pleated 150µ (100 mesh) / 330 cm^2 (51.2 in^2)

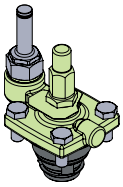

ICFF 25 / ICFF 25E

ICFN 25
Stop & check valve module
This module has the function of a combined stop and check valve, and has a green cap.


ICFN 25

ICFE 25
Solenoid valve module
This module has the function of a normally closed solenoid valve for controlling the refrigerant flow.

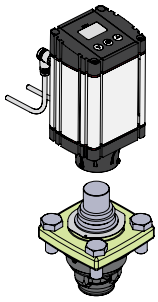
It has a built-in manual opening function.


ICFE 25

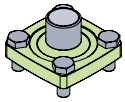
Please note:
At about 10% of maximum mass flow of ICFE 25, the pressure differential correspond to about 0.07 Bar (1 psi). ICFE 25 will start to open at these conditions.

At a pressure differential of minimum 0.2 Bar (2.9 psi) ICFE 25 will be 100% open.

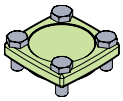
ICM 25-A or B
Motor operated valve module
This module is a stepper motor actuator valve for on/off and modulating control of the refrigerant flow.


ICM 25-A or B

ICFW 25
Welding module, 25 DIN or 25 (1 in) SOC
This module is used for drain connection during hot-gas defrosting - in case of high capacity.


ICFW 25

ICFB 25
Blind top cover
This provides a blanking cover for unused module ports.

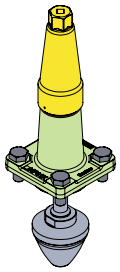

ICFB 25

The function modules for ICF 50 and ICF 65

SVA-S 50 / SVA 65
Shut-off valve module
This module has the function of a stop valve, and has a red cap.

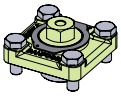
SVA-S 50 / SVA-S 65

REG-SB 50 / REG-SB 65
Manual regulating valve module
This module has the function of a hand regulating valve, and has a yellow cap.



REG-SB 50 / REG-SB 65

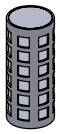
ICFB 50
Blind cover
Prepared for insert of strainer (see below)



ICFB 50

FIA 50 (option)
Strainer insert
Please order FIA 50 strainer insert and element from the FIA part programme. For further information please consult the data sheet for FIA strainers.

Available elements:
See below.

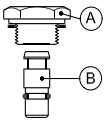


FIA 50

Strainer insert 100µ 150 mesh	Strainer insert 150µ 100 mesh	Strainer insert 250µ 72 mesh	Strainer insert 500µ 38 mesh	Pleated Strainer insert 150µ 100 mesh	Pleated Strainer insert 250µ 72 mesh	Pleated Strainer insert 500µ 38 mesh
148H3157	**148H3130**	**148H3138**	**148H3144**	**148H3179**	**148H3184**	**148H3189**

ICS 50 / ICS 65
Pilot-oprated valve module
This module has the function of a pilot-operated valve for on/off and modulating control of the refrigerant flow.

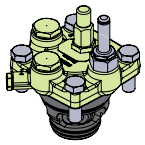
All ICS modules are 3-pilot versions. They are supplied with two blanking plugs (A) and one sealing plug (B).



ICS 50 and 65 inserts are available in different capacities:

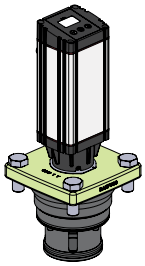
ICS 50:	**ICS 65:**
ICS 50	ICS 65
ICS 50-32	ICS 65-40
ICS 50-40	ICS 80

For K_v values please see the ordering section.



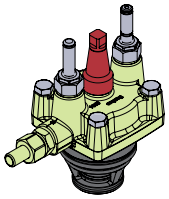
ICS 50 / ICS 65

ICM 50 / ICM 65 - A or B
Motor operated valve module
This module is a stepper motor actuator valve for on/off and modulating control of the refrigerant flow.



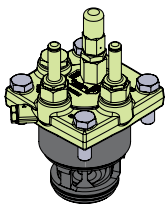
ICM 50 / ICM 65 - A or B

ICLX 50 / ICLX 65
2-step solenoid valve module
This module has the function of a normally closed gas powered solenoid valve for controlling the refrigerant flow.
It has a built-in manual opening function.
ICLX is used in suction lines for opening after hot gas defrost in 2 steps.



ICLX 50 / ICLX 65

ICSH 50/ICSH 65
2-step solenoid valve module
This module has the function of a normally closed solenoid valve for controlling the refrigerant flow.
It has a built-in manual opening function.
ICSH is used in hot gas lines for the opening of hot gas defrost flow to the evaporator in 2 steps.

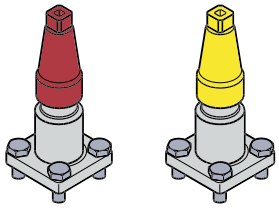


ICSH 50 / ICSH 65

The function modules for ICF SS 20 (Stainless Steel)

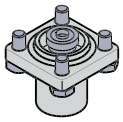
ICFS SS 20
Shut-off valve module
This module has the function of a stop valve, and has a red cap.

ICFR SS 20, A or B
Manual regulating valve module
This module has the function of a hand regulating valve, and has a yellow cap.



ICFS SS 20 ICFR SS 20

ICFC SS 20
Check valve module
This module has the function of a check valve.

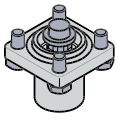


ICFC SS 20

ICFF SS 20 / ICFF SS 20E
Strainer module
This module functions as a strainer.

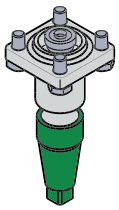
ICF SS 20:
Pleated 150µ (100 mesh) / 45 cm^2 (7.0 in^2)

ICF SS 20E:
Pleated 150µ (100 mesh) / 160 cm^2 (24.8 in^2)



ICFF SS 20 / ICFF SS 20E

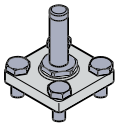
ICFN SS 20
Stop & check valve module
This module has the function of a combined stop and check valve, and has a green cap.



ICFN SS 20

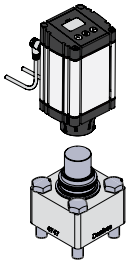
ICFE SS 20
Solenoid valve module
This module has the function of a normally closed solenoid valve for controlling the refrigerant flow.

ICFA SS 20
Electronic expansion valve module
This module has the function of an electronic pulse width modulating (PWM) expansion valve.



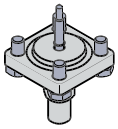
ICFE SS 20 / ICFA SS 20

ICM SS 20-A, 20-B, 20-C, 20-A33 or 20-B66
Motor operated valve module
This module is a stepper motor actuator valve for on/off and modulating control of the refrigerant flow.



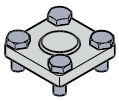
ICM SS 20-A, 20-B, 20-C, 20-A33 or 20-B66

ICFO SS 20
Manual opening module
This module facilitates the manual opening of the solenoid valve (type ICFE SS).



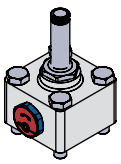
ICFO SS 20

ICFB SS 20
Blind top cover
This provides a blanking cover for unused module ports.



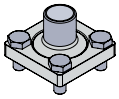
ICFB SS 20

ICFE SS 20H
Solenoid valve module with integrated manual opener
This module has the function of a normally closed solenoid valve for controlling the refrigerant flow.



ICFE SS 20H

ICFW SS 20
Welding module 20 DIN
This module is used for drain connection during hot-gas defrosting - in case of high capacity.

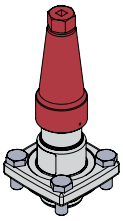


ICFW SS 20

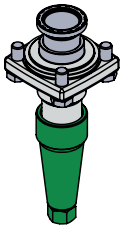
Note:
At about 10% of maximum mass flow of ICFE SS 20H, the pressure differential correspond to about 0.07 Bar / 1 psi.
ICFE SS 20H will start to open at these conditions. At a pressure differential of minimum 0.2 Bar / 2.9 psi ICFE SS 20H will be 100% open.

The function modules for ICF SS 25 (Stainless Steel)

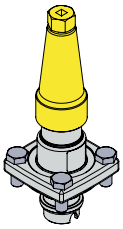
ICFS SS 25
Shut-off valve module
This module has the function of a stop valve, and has a red cap.


ICFS SS 25

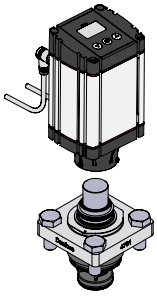
ICFN SS 25
Stop & check valve module
This module has the function of a combined stop and check valve, and has a green cap.


ICFN SS 25

ICFR SS 25, A or B
Manual regulating valve module
This module has the function of a hand regulating valve, and has a yellow cap.


ICFR SS 25

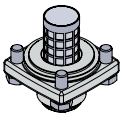
ICM SS 25-A or B
Motor operated valve module
This module is a stepper motor actuator valve for on/off and modulating control of the refrigerant flow.


ICM SS 25-A or B

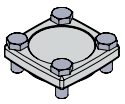
ICFF SS 25
Strainer module
This module functions as a strainer.

ICFF SS 25:
Pleated 150µ (100 mesh) / 160 cm^2 (24.8 in^2)

ICFF SS 25E:
Pleated 150µ (100 mesh) / 330 cm^2 (51.2 in^2)


ICFF SS 25 / ICFF SS 25E

ICFB SS 25
Blind top cover
This provides a blanking cover for unused module ports.

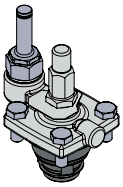

ICFB SS 25

Please note:
At about 10% of maximum mass flow of ICFE SS 25, the pressure differential correspond to about 0.07 Bar (1 psi). ICFE SS 25 will start to open at these conditions.

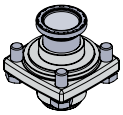
At a pressure differential of minimum 0.2 Bar (2.9 psi) ICFE SS 25 will be 100% open.

ICFE SS 25
Solenoid valve module
This module has the function of a normally closed solenoid valve for controlling the refrigerant flow.

It has a built-in manual opening function.


ICFE SS 25

ICFC SS 25
Check valve module
This module has the function of a check valve.


ICFC SS 25

ICFW SS 25
Welding module, 25 DIN
This module is used for drain connection during hot-gas defrosting - in case of high capacity.


ICFW SS 25

Selection

To determine the correct ICF valve station follow steps 1 through 4.

Step 1

Determine application and function requirements:

- Line: Pumped liquid, Liquid Injection, Hot gas defrost, Liquid DX, Return line etc.
- Control: On/off solenoid valve, motorised valve
- Defrost: Electric or hot gas

From the above determine the application reference number (see below)

Step 2

Selection criteria
(Please use Danfoss calculation software)
Download the software from: http://refrigerationandairconditioning.danfoss.com/support-center/apps-and-software/coolselector/

- Refrigerant
- Capacity
- Temperature
- Circulation rate

From the above determine the valve station required, e.g.: ICF 20 complete with ICM 20-C

Step 3

Establish connection sizes and type

- DIN butt-weld, ANSI butt-weld or SOC weld
- 15 (1/2 in), 20 (3/4 in.), 25 (1 in.), 32 (1 1/4 in.) or , 40 (1 1/2 in.), 50 (2 in.), 65 (2 1/2 in.) or 80 (3 in.)

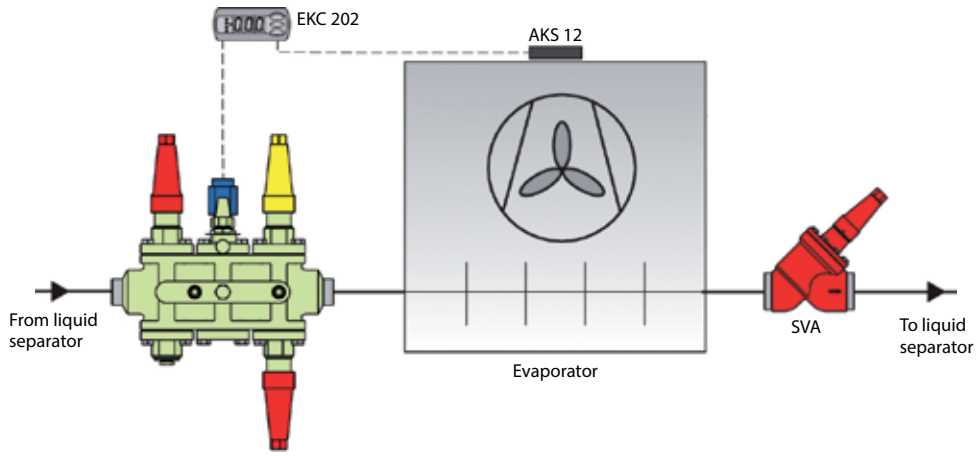
Step 4

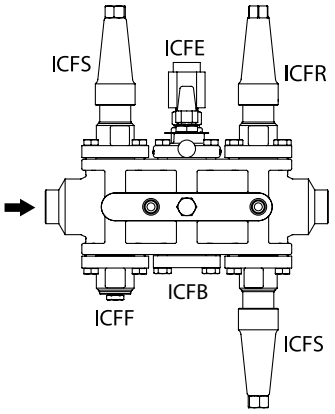
Establish code number
(see the ordering section)

Application example

Example of application: Liquid feed line

A valve combination for a flooded evaporator operating on / off from a thermostat and with electric defrost is required.
Manual override of the solenoid valve is requested. Common ICF configurations for this kind of application is shown here:

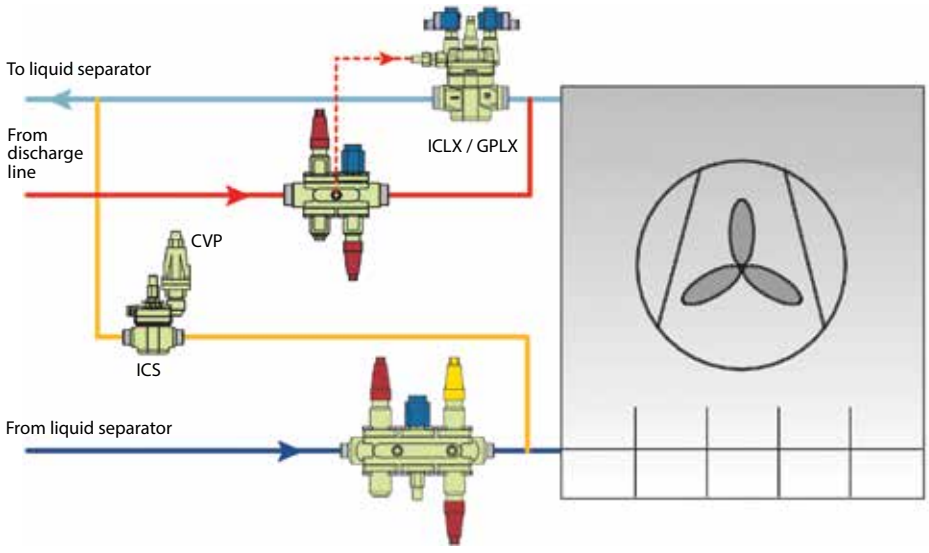


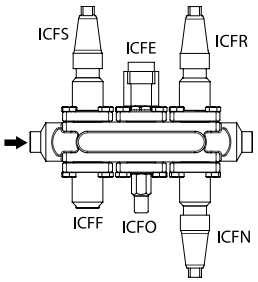


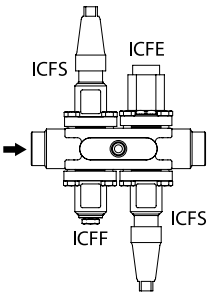
Not all valves are shown. Not to be used for construction purposes.

Example of application: Liquid feed line / Hot gas defrost line

Evaporator with soft opening gas powered valve ICLX in the suction line and hot gas defrost featuring:
ICF liquid feed station and ICF Hot gas station with side port to power ICLX.
ICS+CVP as a defrost regulator
(OFV optional depending on capacity).





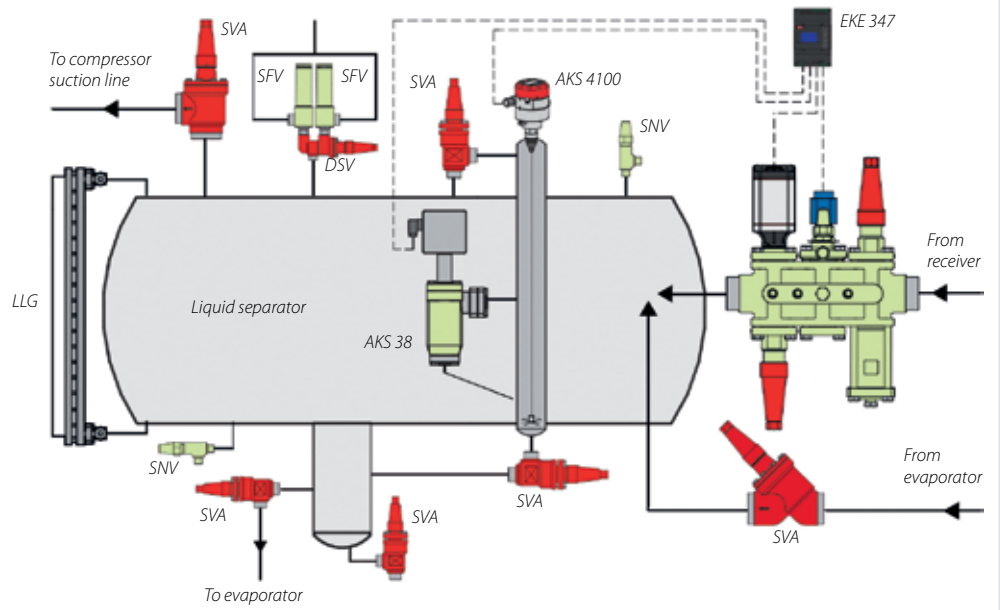


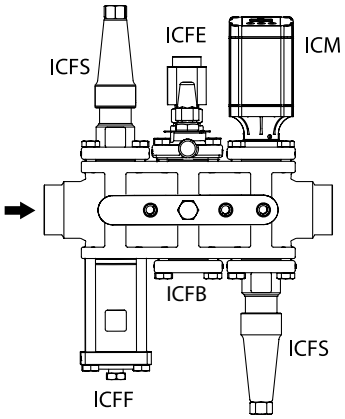
Not all valves are shown. Not to be used for construction purposes.

Application example

Example of application: Liquid injection line

A valve combination for liquid injection to separator with electronic injection valve is required. It is requested to have a solenoid valve in front of the control valve.

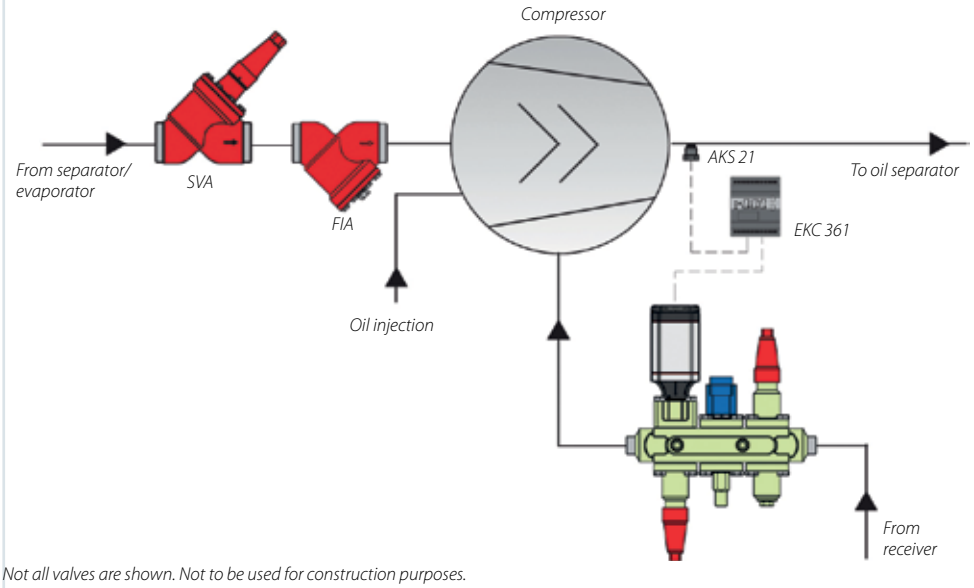


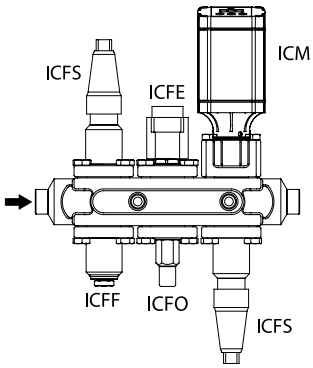


Not all valves are shown. Not to be used for construction purposes.

Example of application: Liquid injection line

A valve combination for compressor liquid injection with electronic injection valve is required. It is a required to have a solenoid valve in front of the control valve.



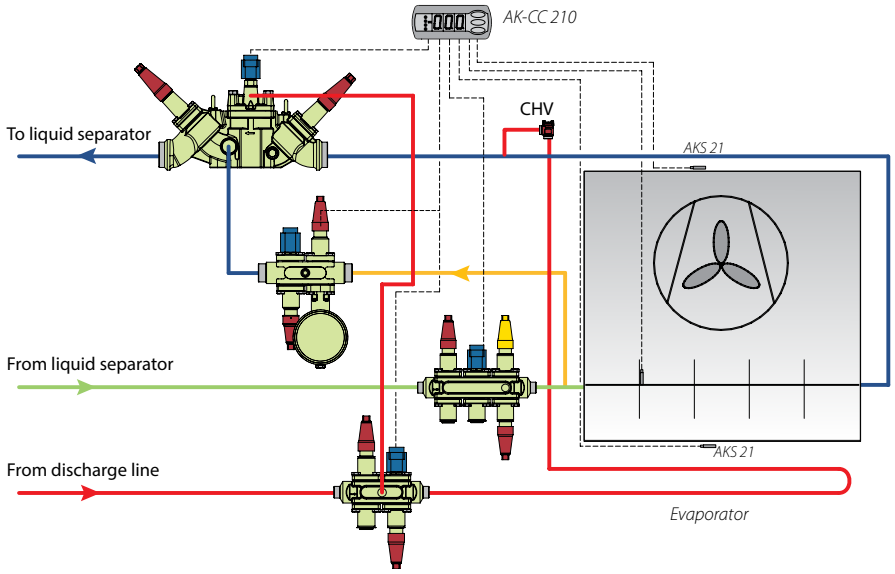


Not all valves are shown. Not to be used for construction purposes.

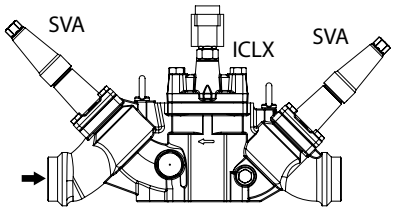
Application example

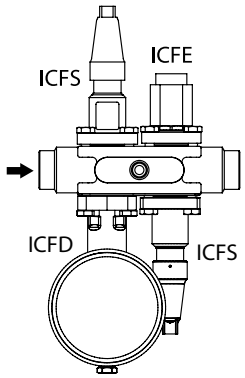
Example of application: Liquid feed line/Hotgas defrost line/ Return line

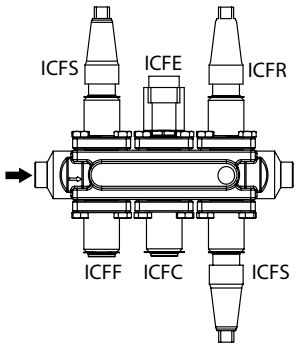
Evaporator with 2 stage gas powered ICLX module in suction line ICF and hot gas defrost featuring: ICF liquid feed valve station and ICF Hot gas valve station with side port to power ICLX module.
Defrost drain through liquid feed ICF weld connection to suction line ICF side port.
ICS+CVP as a defrost pressure regulator.

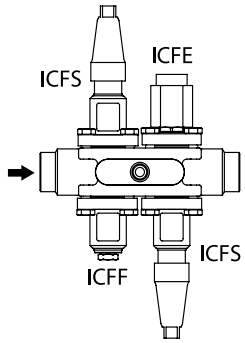


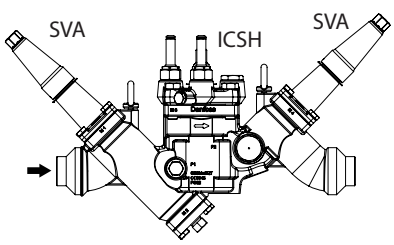
Not all valves are shown. Not to be used for construction purposes.
Note: *Restrictions to ICF drain station piping - please see DKRCI.PA.FT1.A*







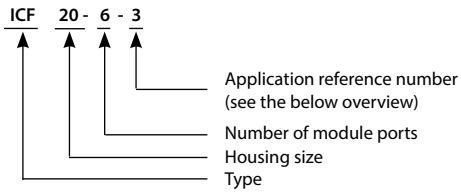




Ordering

Below Nomenclature show the generic configuration and application by identification of housing size, type and application group.

This designation is often used for discussion on possible solutions and will be the final identification on the valve label (see label example).



For ordering, connection size and type must be chosen to get the final identification.
The final identification is done by code number only (see next pages).

Label example:



Application overview (generic configuration - connection type and size excluded)

Application #		Sequence of functions					
Liquid feed							
1	Liquid feed (No hotgas defrost)	Shut-off	Strainer	Solenoid	Man Open	Regul.	Shut-off
2	Liquid feed	Shut-off	Strainer	Solenoid	Man Open	Regul.	Stop & check
3	Liquid feed	Shut-off	Strainer	Solenoid	Check	Regul.	Shut-off
10	Liquid feed (No hotgas defrost)	Shut-off	Strainer	Solenoid	Regul.		
15	Liquid feed w. external Conn.	Shut-off	Strainer	Solenoid	Check	Welding	Regul.
Solenoid common							
4	Solenoid - Liquid & Hot gas lines	Shut-off	Strainer	Solenoid	Man Open	Shut-off	
8	Solenoid - Liquid & Hot gas lines	Shut-off	Strainer	Solenoid	Man Open		
Liquid injection							
5	Liquid injection (expansion)	Shut-off	Strainer	Solenoid	Man Open	Motor	Shut-off
12	Liquid injection (expansion) PWM	Shut-off	Strainer	El. Exp.	Shut-off		
14	Liquid injection (expansion)	Shut-off	Strainer	Motor	Shut-off		
Hot gas defrost							
9	Hot gas defrost	Shut-off	Strainer	Solenoid	Shut-off		
Hot gas defrost (ICF 50 only)							
47	Hot gas defrost - On/Off 2-step solenoid	Shut-off	Strainer option*	Solenoid	Shut-off		
48	Hot gas defrost - On/Off 2-step solenoid + manual Regulating	Shut-off	Strainer option*	Solenoid	Regul.		
*** ICF 50 only**							
Solenoid multiple evaporators							
11	Solenoid - Multiple evaporators	Shut-off	Strainer	Solenoid	Check		
18	Solenoid - Multiple evaporators	Shut-off	Strainer	Solenoid	Stop & check		
Liquid PWM							
13	Liquid injection & liquid feed PWM	Shut-off	Strainer	El. Exp.	Stop & check		
Return line (ICF 50 and ICF 65 only)							
41	ON/OFF 2-step solenoid	Shut-off	Strainer option*	Solenoid	Shut-off		
42	Pressure (temperature) Mechanical control	Shut-off	Strainer option*	ICS options**	Shut-off		
43	Pressure (temperature) Electronic control	Shut-off	Strainer option*	Motor	Shut-off		
44	ON/OFF 2-step solenoid + Manuel Regulating	Shut-off	Strainer option*	Solenoid	Regul.		
45	Pressure (temperature) Mechanical control + Manuel Regulating	Shut-off	Strainer option*	ICS options**	Regul.		
46	Pressure (temperature) Electronic control + Manuel Regulating	Shut-off	Strainer option*	Motor	Regul.		
Miscellaneous							
90	Multipurpose configurations						
Defrost drain line							
102	Liquid drain M2 with solenoid - 2 shut-off	Shut-off	Liquid drain	Solenoid	Shut-off		
103	Liquid drain M4 with solenoid - 1 shut-off	Shut-off	Solenoid	Liquid drain			
104	Liquid drain M4 with strainer and solenoid - 1 shut-off	Shut-off	Strainer	Solenoid	Liquid drain		
105	Liquid drain M2 with solenoid - 1 shut-off	Shut-off	Liquid drain	Solenoid			

* ICF 50 only
** ICS typical options: On/Off solenoid, Pressure or Temperature control (see ICS data sheet)

Ordering ICF

Liquid feed

Application 1: Liquid feed (no hot gas defrost)

Type	No. of modules	Appl. no.	Connection size		Connection type	Module location						Weight		Code number
			[in.]	[mm]		M1	M2	M3	M4	M5	M6	kg	lbs	
ICF 20	6	1RA	¾	20	Butt-weld ANSI (B 36.10)	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFR 20A	ICFS 20	9.5	20.9	027L3004
ICF 20	6	1RA	1	25	Butt-weld ANSI (B 36.10)	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFR 20A	ICFS 20	10.1	22.2	027L3373
ICF 25	6	1RB	1 ¼	32	Butt-weld ANSI (B 36.10)	ICFS 25	ICFF 25	ICFE 25	ICFB 25	ICFR 25B	ICFS 25	23.8	52.4	027L4012
ICF 20	6	1RA	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFR 20A	ICFS 20	9.5	20.9	027L3000
ICF 20	6	1RA	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFR 20A	ICFS 20	9.7	21.3	027L3002
ICF 20	6	1HRB	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFB 20	ICFR 20B	ICFS 20	10.3	22.7	027L3406
ICF 25	6	1RA	1	25	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFB 25	ICFR 25A	ICFS 25	23.6	51.9	027L4002
ICF 20	6	1RA	1 ¼	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFR 20A	ICFS 20	9.7	21.3	027L3003
ICF 20	6	1HRB	1 ¼	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFB 20	ICFR 20B	ICFS 20	10.3	22.7	027L3407
ICF 25	6	1RA	1 ¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFB 25	ICFR 25A	ICFS 25	23.6	51.9	027L4006
ICF 25	6	1RB	1 ¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFB 25	ICFR 25B	ICFS 25	23.6	51.9	027L4011
ICF 25	6	1RB	1 ½	40	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFB 25	ICFR 25B	ICFS 25	22.7	49.9	027L4016
ICF 20	6	1RA	¾	20	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFR 20A	ICFS 20	10.4	22.9	027L3005
ICF 20	6	1RA	1	25	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICFR 20A	ICFS 20	9.9	21.8	027L3007
ICF 20	6	1HRB	1	25	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20H	ICFB 20	ICFR 20B	ICFS 20	10.9	24.0	027L3408
ICF 25	6	1RA	1	25	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICFE 25	ICFB 25	ICFR 25A	ICFS 25	24.1	53.0	027L4003
ICF 20	6	1RA	1 ¼	32	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICFR 20A	ICFS 20	10.1	22.2	027L3008
ICF 20	6	1HRB	1 ¼	32	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20H	ICFB 20	ICFR 20B	ICFS 20	10.9	24.0	027L3409
ICF 25	6	1RA	1 ¼	32	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICFE 25	ICFB 25	ICFR 25A	ICFS 25	23.8	52.4	027L4008
ICF 25	6	1RB	1 ¼	32	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICFE 25	ICFB 25	ICFR 25B	ICFS 25	24.2	53.2	027L4013
ICF 25	6	1RB	1 ½	40	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICFE 25	ICFB 25	ICFR 25B	ICFS 25	23.8	52.4	027L4017

Application 2: Liquid feed

Type	No. of modules	Appl. no.	Connection size		Connection type	Module location						Weight		Code number
			[in.]	[mm]		M1	M2	M3	M4	M5	M6	kg	lbs	
ICF 20	6	2RA	¾	20	Butt-weld ANSI (B 36.10)	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFR 20A	ICFN 20	9.8	21.6	027L3013
ICF 20	6	2RA	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFR 20A	ICFN 20	9.7	21.3	027L3009
ICF 20	6	2RB	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFR 20B	ICFN 20	10.2	22.9	027L3398
ICF 20	6	2RB	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFR 20B	ICFN 20	10.2	22.9	027L3422
ICF 20	6	2RA	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFR 20A	ICFN 20	9.7	21.3	027L3011
ICF 20	6	2HRB	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFB 20	ICFR 20B	ICFN 20	9.2	20.2	027L3410
ICF 20	6	2RA	1¼	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFR 20A	ICFN 20	9.7	21.3	027L3012
ICF 20	6	2HRB	1¼	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFB 20	ICFR 20B	ICFN 20	9.2	20.2	027L3411
ICF 25	6	2RA	1¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFB 25	ICFR 25A	ICFN 25	23.3	51.3	027L4135
ICF 20	6	2RA	¾	20	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICFR 20A	ICFN 20	10.1	22.2	027L3014
ICF 20	6	2RA	1	25	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICFR 20A	ICFN 20	9.9	21.8	027L3016
ICF 20	6	2HRB	1	25	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20H	ICFB 20	ICFR 20B	ICFN 20	8.8	19.4	027L3412
ICF 20	6	2RA	1¼	32	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICFR 20A	ICFN 20	9.9	21.8	027L3017
ICF 20	6	2HRB	1¼	32	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20H	ICFB 20	ICFR 20B	ICFN 20	10.9	24.0	027L3413

ICAD and coils are not included and must be ordered separately.
***Please Note**: When used in systems with CO_2, the o-rings on the ICM module can swell (grow). At service, it is therefore recommended to install new o-rings, before the ICM function module is re-installed in the ICF valve body.*

Ordering ICF

Liquid feed

Application 3: Liquid feed

Type	No. of modules	Appl. no.	Connection size		Connection type	Module location						Weight		Code number
			[in.]	[mm]		M1	M2	M3	M4	M5	M6	kg	lbs	
ICF 20	6	3RA	¾	20	Butt-weld ANSI (B 36.10)	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFR 20A	ICFS 20	9.9	21.8	027L3022
ICF 20	6	3RA	1	25	Butt-weld ANSI (B 36.10)	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFR 20A	ICFS 20	9.9	21.8	027L3419
ICF 20	6	3RA	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFR 20A	ICFS 20	9.6	21.1	027L3018
ICF 20	6	3RB	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFR 20B	ICFS 20	10.4	22.9	027L3433
ICF 20	6	3RA	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20E	ICFE 20	ICFC 20	ICFR 20A	ICFS 20	10.0	22.0	027L3437
ICF 20	6	3HRB	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFC 20	ICFR 20B	ICFS 20	10.6	23.3	027L3414
ICF 25	6	3RA	1	25	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFR 25A	ICFS 25	23.4	51.5	027L4020
ICF 20	6	3RA	1 ¼	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFR 20A	ICFS 20	10.4	22.9	027L3021
ICF 20	6	3HRB	1 ¼	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFC 20	ICFR 20B	ICFS 20	10.6	23.3	027L3415
ICF 25	6	3RA	1 ¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFR 25A	ICFS 25	23.2	51.0	027L4024
ICF 20	6	3RB	1 ¼	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFR 20B	ICFS 20	10.4	22.9	027L3430
ICF 25	6	3RB	1 ¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFR 25B	ICFS 25	23.8	52.4	027L4029
ICF 25	6	3RB	1 ½	40	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFR 25B	ICFS 25	24.0	52.8	027L4034
ICF 20	6	3RA	¾	20	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFC 20	ICFR 20A	ICFS 20	10.0	22.0	027L3023
ICF 20	6	3HRB	¾	20	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20H	ICFC 20	ICFR 20B	ICFS 20	10.7	23.5	027L3418
ICF 20	6	3RA	1	25	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFC 20	ICFR 20A	ICFS 20	10.0	22.0	027L3025
ICF 20	6	3HRB	1	25	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20H	ICFC 20	ICFR 20B	ICFS 20	11.2	24.6	027L3416
ICF 25	6	3RA	1	25	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	ICFR 25A	ICFS 25	24.2	53.2	027L4021
ICF 20	6	3RA	1 ¼	32	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFC 20	ICFR 20A	ICFS 20	10.1	22.2	027L3026
ICF 20	6	3HRB	1 ¼	32	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20H	ICFC 20	ICFR 20B	ICFS 20	11.3	24.9	027L3417
ICF 25	6	3RA	1 ¼	32	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	ICFR 25A	ICFS 25	24.1	53.0	027L4026
ICF 25	6	3RB	1 ¼	32	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	ICFR 25B	ICFS 25	24.1	53.0	027L4031
ICF 25	6	3RB	1 ½	40	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	ICFR 25B	ICFS 25	24.2	53.2	027L4035

ICAD and coils are not included and must be ordered separately.

***Please Note**: When used in systems with CO_2, the o-rings on the ICM module can swell (grow). At service, it is therefore recommended to install new o-rings, before the ICM function module is re-installed in the ICF valve body.*

Ordering ICF

Liquid feed

Application 10: Liquid feed (no hot gas defrost)

Type	No. of modules	Appl. no.	Connection size		Connection type	Module location						Weight		Code number
			[in.]	[mm]		M1	M2	M3	M4	M5	M6	kg	lbs	
ICF 20	4	10RA	¾	20	Butt-weld ANSI (B 36.10)	ICFS 20	ICFF 20	ICFE 20	ICFR 20A	–	–	6.6	14.5	027L3077
ICF 25	4	10RA	1 ¼	32	Butt-weld ANSI (B 36.10)	ICFS 25	ICFF 25	ICFE 25	ICFR 25A	–	–	16.1	35.4	027L4081
ICF 15	4	10RA	½	15	Butt-weld DIN-EN 10220	ICFS 15*)	ICFF 15*)	ICFE 20	ICFR 20A	–	–	6.3	13.8	027L4548
ICF 15	4	10RB	½	15	Butt-weld DIN-EN 10220	ICFS 15*)	ICFF 15*)	ICFE 20	ICFR 20B	–	–	6.3	13.8	027L4544
ICF 15	4	10HRA	½	15	Butt-weld DIN-EN 10220	ICFS 15*)	ICFF 15*)	ICFE 20H	ICFR 20A	–	–	7.0	15.4	027L4552
ICF 15	4	10HRB	½	15	Butt-weld DIN-EN 10220	ICFS 15*)	ICFF 15*)	ICFE 20H	ICFR 20B	–	–	7.0	15.4	027L4549
ICF 15	4	10RA	¾	20	Butt-weld DIN-EN 10220	ICFS 15*)	ICFF 15*)	ICFE 20	ICFR 20A	–	–	6.3	13.8	027L4545
ICF 15	4	10RB	¾	20	Butt-weld DIN-EN 10220	ICFS 15*)	ICFF 15*)	ICFE 20	ICFR 20B	–	–	6.3	13.8	027L4540
ICF 15	4	10HRB	¾	20	Butt-weld DIN-EN 10220	ICFS 15*)	ICFF 15*)	ICFE 20H	ICFR 20B	–	–	7.0	15.4	027L4524
ICF 20	4	10RA	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFR 20A	–	–	6.7	14.7	027L3073
ICF 20	4	10HRB	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFR 20B	–	–	7.9	17.4	027L3383
ICF 20	4	10RA	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFR 20A	–	–	7.2	15.8	027L3075
ICF 20	4	10RB	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFR 20B	–	–	7.2	15.8	027L3431
ICF 20	4	10HRB	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFR 20B	–	–	7.9	17.4	027L3400
ICF 25	4	10RA	1	25	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFR 25A	–	–	15.9	35.0	027L4076
ICF 25	4	10RB	1	25	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFR 25B	–	–	15.9	35.0	027L4169
ICF 25	4	10RB	1	25	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25E	ICFE 25	ICFR 25B	–	–	16.2	35.6	027L4187
ICF 20	4	10RA	1 ¼	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFR 20A	–	–	6.7	14.7	027L3076
ICF 20	4	10HRB	1 ¼	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFR 20B	–	–	7.9	17.4	027L3401
ICF 25	4	10RA	1 ¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFR 25A	–	–	15.8	34.8	027L4080
ICF 25	4	10RB	1 ¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFR 25B	–	–	15.4	33.9	027L4085
ICF 25	4	10RB	1 ½	40	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFR 25B	–	–	15.8	34.8	027L4090
ICF 15	4	10HRB	½	15	Socket weld, ANSI (B 16.11)	ICFS 15*)	ICFF 15*)	ICFE 20H	ICFR 20B	–	–	7.0	15.4	027L4530
ICF 20	4	10RA	¾	20	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFR 20A	–	–	7.0	15.4	027L3078
ICF 20	4	10HRB	¾	20	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20H	ICFR 20B	–	–	8.4	18.5	027L3404
ICF 20	4	10RA	1	25	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFR 20A	–	–	6.9	15.2	027L3080
ICF 20	4	10HRB	1	25	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20H	ICFR 20B	–	–	7.8	17.2	027L3402
ICF 25	4	10RA	1	25	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICFE 25	ICFR 25A	–	–	15.8	34.8	027L4077
ICF 20	4	10RA	1 ¼	32	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFR 20A	–	–	7.0	15.4	027L3081
ICF 20	4	10HRB	1 ¼	32	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20H	ICFR 20B	–	–	8.1	17.8	027L3403
ICF 25	4	10RA	1 ¼	32	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICFE 25	ICFR 25A	–	–	12.7	27.9	027L4082
ICF 25	4	10RB	1 ¼	32	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICFE 25	ICFR 25B	–	–	16.2	35.6	027L4087
ICF 25	4	10RB	1 ½	40	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICFE 25	ICFR 25B	–	–	16.2	35.6	027L4091

**) Fixed module*
ICAD and coils are not included and must be ordered separately.
***Please Note**: When used in systems with CO_2, the o-rings on the ICM module can swell (grow). At service, it is therefore recommended to install new o-rings, before the ICM function module is re-installed in the ICF valve body.*

Ordering ICF

Liquid feed

Application 15: Liquid feed with external connection

Type	No. of modules	Appl. no.	Connection size		Connection type	Module location						Weight		Code number
			[in.]	[mm]		M1	M2	M3	M4	M5	M6	kg	lbs	
ICF 20	6	15RA	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFW 20D	ICFR 20A	9.1	20.0	027L3157
ICF 20	6	15RB	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFW 20D	ICFR 20B	9.1	20.0	027L3434
ICF 25	6	15RA	1	25	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFW 25D	ICFR 25A	21.8	48.0	027L4121
ICF 25	6	15RB	1¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFW 25D	ICFR 25B	22.7	49.9	027L4126
ICF 25	6	15RB	1½	40	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFW 25D	ICFR 25B	21.9	48.2	027L4130
ICF 25	6	15RA	1	25	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	ICFW 25S	ICFR 25A	23.5	51.7	027L4122
ICF 25	6	15RB	1¼	32	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	ICFW 25S	ICFR 25B	23.6	51.9	027L4127
ICF 25	6	15RB	1½	40	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	ICFW 25S	ICFR 25B	23.7	52.1	027L4131

Solenoid common

Application 4: Solenoid - Liquid & hot gas lines

Type	No. of modules	Appl. no.	Connection size		Connection type	Module location						Weight		Code number
			[in.]	[mm]		M1	M2	M3	M4	M5	M6	kg	lbs	
ICF 20	6	4	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFB 20	ICFS 20	9.2	20.2	027L3028
ICF 20	6	4	1¼	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFB 20	ICFS 20	9.2	20.2	027L3029
ICF 20	6	4	¾	20	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICFB 20	ICFS 20	9.4	20.7	027L3124
ICF 20	6	4	1	25	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICFB 20	ICFS 20	9.3	20.5	027L3032
ICF 20	6	4	1¼	32	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICFB 20	ICFS 20	9.5	20.9	027L3033

Application 8: Solenoid - Liquid & hot gas lines

Type	No. of modules	Appl. no.	Connection size		Connection type	Module location						Weight		Code number
			[in.]	[mm]		M1	M2	M3	M4	M5	M6	kg	lbs	
ICF 15	4	8	½	15	Butt-weld ANSI (B 36.10)	ICFS 15*)	ICFF 15*)	ICFE 20	ICFO 20	–	–	5.7	12.6	027L4533
ICF 15	4	8	¾	20	Butt-weld ANSI (B 36.10)	ICFS 15*)	ICFF 15*)	ICFE 20	ICFO 20	–	–	5.7	12.6	027L4535
ICF 20	4	8	¾	20	Butt-weld ANSI (B 36.10)	ICFS 20	ICFF 20	ICFE 20	ICFO 20	–	–	6.3	13.9	027L3062
ICF 15	4	8	½	15	Butt-weld DIN-EN 10220	ICFS 15*)	ICFF 15*)	ICFE 20	ICFO 20	–	–	5.7	12.6	027L4532
ICF 15	4	8	½	15	Butt-weld DIN-EN 10220	ICFS 15*)	ICFF 15*)	ICFE 20	ICFN 20	–	–	6.8	15.0	027L4579
ICF 15	4	8	¾	20	Butt-weld DIN-EN 10220	ICFS 15*)	ICFF 15*)	ICFE 20	ICFO 20	–	–	5.7	12.6	027L4520
ICF 15	4	8	¾	20	Butt-weld DIN-EN 10220	ICFS 15*)	ICFF 15*)	ICFE 20	ICFN 20	–	–	6.8	15.0	027L4574
ICF 20	4	8	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	–	–	7.2	15.8	027L3060
ICF 25	4	8	1	25	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFB 25	–	–	12.4	27.3	027L4054
ICF 20	4	8	1¼	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	–	–	6.3	13.9	027L3061
ICF 25	4	8	1¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFB 25	–	–	14.5	31.9	027L4133
ICF 25	4	8	1½	40	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFB 25	–	–	14.5	31.9	027L4059
ICF 15	4	8	½	15	Pipe thread (ANSI B 1.20.1)	ICFS 15*)	ICFF 15*)	ICFE 20	ICFO 20	–	–	5.7	12.6	027L4534
ICF 15	4	8	½	15	Socket weld, ANSI (B 16.11)	ICFS 15*)	ICFF 15*)	ICFE 20	ICFO 20	–	–	5.7	12.6	027L4526
ICF 20	4	8	¾	20	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	–	–	6.6	14.5	027L3366
ICF 20	4	8	1	25	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	–	–	6.7	14.7	027L3064
ICF 20	4	8	1¼	32	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	–	–	6.7	14.7	027L3065
ICF 15	4	8	7/8	22	Solder ANSI B 16.22	ICFS 15*)	ICFF 15*)	ICFE 20	ICFO 20	–	–	5.7	12.6	027L4536
ICF 15	4	8	7/8	22	Solder DIN-EN1254-1	ICFS 15*)	ICFF 15*)	ICFE 20	ICFO 20	–	–	5.7	12.6	027L4537

**) Fixed module*
ICAD and coils are not included and must be ordered separately.
***Please Note**: When used in systems with CO_2, the o-rings on the ICM module can swell (grow). At service, it is therefore recommended to install new o-rings, before the ICM function module is re-installed in the ICF valve body.*

Ordering ICF

Liquid injection

Application 5: Liquid injection (expansion)

Type	No. of modules	Appl. no.	Connection size		Connection type	Module location						Weight		Code number
			[in.]	[mm]		M1	M2	M3	M4	M5	M6	kg	lbs	
ICF 20	6	5MA	¾	20	Butt-weld ANSI (B 36.10)	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-A	ICFS 20	9.6	21.1	027L3037
ICF 20	6	5MB	¾	20	Butt-weld ANSI (B 36.10)	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-B	ICFS 20	9.9	21.8	027L3043
ICF 25	6	5MA	1¼	32	Butt-weld ANSI (B 36.10)	ICFS 25	ICFF 25	ICFE 25	ICFB 25	ICM 25-A	ICFS 25	23.0	50.6	027L4043
ICF 20	6	5MA33	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-A33	ICFS 20	10.1	22.2	027L3367
ICF 20	6	5MA33	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20-74	ICFE 20	ICFO 20	ICM 20-A33	ICFS 20	9.8	21.6	027L3151
ICF 20	6	5MA	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-A	ICFS 20	9.8	21.6	027L3034
ICF 20	6	5MA	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20-74	ICFE 20	ICFO 20	ICM 20-A	ICFS 20	9.8	21.6	027L3147
ICF 20	6	5MB	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-B	ICFS 20	9.8	21.6	027L3145
ICF 20	6	5MB66	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-B66	ICFS 20	9.6	21.1	027L3161
ICF 20	6	5MC	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-C	ICFS 20	9.9	21.8	027L3432
ICF 20	6	5MA33	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-A33	ICFS 20	10.1	22.2	027L3388
ICF 20	6	5MA33	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20-74	ICFE 20	ICFO 20	ICM 20-A33	ICFS 20	9.6	21.1	027L3153
ICF 20	6	5MA	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-A	ICFS 20	9.8	21.6	027L3036
ICF 20	6	5HMA	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFB 20	ICM 20-A	ICFS 20	10.4	22.9	027L3322
ICF 20	6	5MA	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20-74	ICFE 20	ICFO 20	ICM 20-A	ICFS 20	9.8	21.6	027L3148
ICF 20	6	5MB	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-B	ICFS 20	9.6	21.1	027L3042
ICF 20	6	5MB	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20-74	ICFE 20	ICFO 20	ICM 20-B	ICFS 20	9.8	21.6	027L3149
ICF 20	6	5HMB	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFB 20	ICM 20-B	ICFS 20	11.4	25.1	027L3325
ICF 20	6	5MB66	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-B66	ICFS 20	10.5	23.1	027L3389
ICF 20	6	5MC	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-C	ICFS 20	9.9	21.8	027L3047
ICF 20	6	5HMC	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFB 20	ICM 20-C	ICFS 20	11.4	25.1	027L3328
ICF 25	6	5MA	1	25	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFB 25	ICM 25-A	ICFS 25	22.8	50.2	027L4038
ICF 25	6	5MA33	1¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFB 25	ICM 25-A33	ICFS 25	23.0	50.6	027L4171
ICF 20	6	5MB66	1¼	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-B66	ICFS 20	9.6	21.1	027L3374
ICF 20	6	5MC	1¼	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-C	ICFS 20	9.8	21.6	027L3048
ICF 20	6	5HMB	1¼	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20-H	ICFB 20	ICM 20-B	ICFS 20	10.3	22.7	027L3390
ICF 20	6	5HMC	1¼	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFB 20	ICM 20-C	ICFS 20	10.3	22.7	027L3329
ICF 25	6	5MA	1¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFB 25	ICM 25-A	ICFS 25	23.0	50.6	027L4042
ICF 25	6	5MB	1¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFB 25	ICM 25-B	ICFS 25	22.0	48.5	027L4047
ICF 25	6	5MA	1½	40	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25E	ICFE 25	ICFB 25	ICM 25-A	ICFS 25	21.9	48.2	027L4148
ICF 25	6	5MA	1½	40	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFB 25	ICM 25-A	ICFS 25	22.2	48.9	027L4174
ICF 25	6	5MA33	1½	40	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFB 25	ICM 25-A33	ICFS 25	22.2	48.9	027L4170
ICF 25	6	5MB	1½	40	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFB 25	ICM 25-B	ICFS 25	22.2	48.9	027L4052
ICF 20	6	5MA33	¾	20	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICM 20-A33	ICFS 20	10.1	22.2	027L3154
ICF 20	6	5MA	¾	20	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICM 20-A	ICFS 20	10.0	22.0	027L3038
ICF 20	6	5MB66	¾	20	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICM 20-B66	ICFS 20	10.5	23.1	027L3159
ICF 20	6	5MB	¾	20	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICM 20-B	ICFS 20	9.8	21.6	027L3127
ICF 20	6	5MA33	1	25	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20-E	ICFE 20	ICFO 20	ICM 20-A33	ICFS 20	10.1	22.2	027L3391
ICF 20	6	5MA	1	25	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICM 20-A	ICFS 20	10.1	22.2	027L3040
ICF 20	6	5HMA	1	25	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20H	ICFB 20	ICM 20-A	ICFS 20	11.4	25.1	027L3323
ICF 20	6	5MB66	1	25	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICM 20-B66	ICFS 20	10.5	23.1	027L3160
ICF 20	6	5MB	1	25	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICM 20-B	ICFS 20	10.0	22.0	027L3045
ICF 20	6	5HMB	1	25	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20H	ICFB 20	ICM 20-B	ICFS 20	11.0	24.2	027L3326
ICF 20	6	5MC	1	25	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICM 20-C	ICFS 20	10.0	22.0	027L3051
ICF 20	6	5HMC	1	25	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20H	ICFB 20	ICM 20-C	ICFS 20	10.0	22.0	027L3330
ICF 25	6	5MA	1	25	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICFE 25	ICFB 25	ICM 25-A	ICFS 25	23.1	50.8	027L4039
ICF 25	6	5MA33	1¼	32	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25-E	ICFE 25	ICFB 25	ICM 25-A33	ICFS 25	22.0	48.5	027L4173
ICF 25	6	5MA	1¼	32	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICFE 25	ICFB 25	ICM 25-A	ICFS 25	23.2	51.0	027L4044
ICF 20	6	5MB66	1¼	32	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20-E	ICFE 20	ICFO 20	ICM 20-B66	ICFS 20	10.5	23.1	027L3392
ICF 25	6	5MB	1¼	32	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25-E	ICFE 25	ICFB 25	ICM 25-B	ICFS 25	23.2	51.1	027L4049
ICF 20	6	5MC	1¼	32	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICM 20-C	ICFS 20	10.1	22.2	027L3052
ICF 20	6	5HMB	1¼	32	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20-E	ICFE 20-H	ICFB 20	ICM 20-B	ICFS 20	11.0	24.2	027L3393
ICF 25	6	5MA	1½	40	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20H	ICFB 20	ICM 20-C	ICFS 20	11.0	24.2	027L3331
ICF 25	6	5MA33	1½	40	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25-E	ICFE 25	ICFB 25	ICM 25-A33	ICFS 25	22.0	48.5	027L4172
ICF 25	6	5MA	1½	40	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25-E	ICFE 25	ICFB 25	ICM 25-A33	ICFS 25	23.1	50.8	027L4132
ICF 25	6	5MB	1½	40	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25-E	ICFE 25	ICFB 25	ICM 25-B	ICFS 25	23.2	51.1	027L4053

ICAD and coils are not included and must be ordered separately.

***Please Note**: When used in systems with CO_2, the o-rings on the ICM module can swell (grow). At service, it is therefore recommended to install new o-rings, before the ICM function module is re-installed in the ICF valve body.*

Ordering ICF

Liquid injection

Application 12: Liquid injection (expansion) PWM

Type	No. of modules	Appl. no.	Connection size		Connection type	Module location						Weight		Code number
			[in.]	[mm]		M1	M2	M3	M4	M5	M6	kg	lbs	
ICF 15	4	12	¾	20	Butt-weld ANSI (B 36.10)	ICFS 15*)	ICFF 15*)	ICFA 20	ICFS 20	–	–	6.2	13.7	027L4556
ICF 15	4	12	½	15	Butt-weld DIN-EN 10220	ICFS 15*)	ICFF 15*)	ICFA 20	ICFS 20	–	–	6.2	13.7	027L4573
ICF 15	4	12	¾	20	Butt-weld DIN-EN 10220	ICFS 15*)	ICFF 15*)	ICFA 20	ICFS 20	–	–	6.2	13.7	027L4522
ICF 20	4	12	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFA 20	ICFS 20	–	–	6.8	15.0	027L3089
ICF 15	4	12	½	15	Socket weld, ANSI (B 16.11)	ICFS 15*)	ICFF 15*)	ICFA 20	ICFS 20	–	–	6.2	13.7	027L4528
ICF 20	4	12	¾	20	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFA 20	ICFS 20	–	–	6.8	15.0	027L3091

Application 14: Liquid injection (expansion)

Type	No. of modules	Appl. no.	Connection size		Connection type	Module location						Weight		Code number
			[in.]	[mm]		M1	M2	M3	M4	M5	M6	kg	lbs	
ICF 15	4	14MA	½	15	Butt-weld DIN-EN 10220	ICFS 15*)	ICFF 15*)	ICM 20-A	ICFS 20	–	–	6.8	15.0	027L4551
ICF 15	4	14MB	½	15	Butt-weld DIN-EN 10220	ICFS 15*)	ICFF 15*)	ICM 20-B	ICFS 20	–	–	6.8	15.0	027L4559
ICF 20	4	14MA33	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICM 20-A33	ICFS 20	–	–	7.3	16.1	027L3394
ICF 15	4	14MA	¾	20	Butt-weld DIN-EN 10220	ICFS 15*)	ICFF 15*)	ICM 20-A	ICFS 20	–	–	6.8	15.0	027L4525
ICF 20	4	14MA	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICM 20-A	ICFS 20	–	–	7.3	16.1	027L3095
ICF 15	4	14MB66	¾	20	Butt-weld DIN-EN 10220	ICFS 15*)	ICFF 15*)	ICM 20-B66	ICFS 20	–	–	6.8	15.0	027L4553
ICF 20	4	14MB66	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICM 20-B66	ICFS 20	–	–	7.2	15.8	027L4155
ICF 15	4	14MB	¾	20	Butt-weld DIN-EN 10220	ICFS 15*)	ICFF 15*)	ICM 20-B	ICFS 20	–	–	6.8	15.0	027L4560
ICF 20	4	14 MA33	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICM 20-A33	ICFS 20	–	–	6.6	14.5	027L3365
ICF 20	4	14MA	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICM 20-A	ICFS 20	–	–	7.3	16.1	027L3097
ICF 20	4	14MB66	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICM 20-B66	ICFS 20	–	–	7.2	15.8	027L3356
ICF 20	4	14MB	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICM 20-B	ICFS 20	–	–	7.2	15.8	027L3103
ICF 20	4	14MC	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICM 20-C	ICFS 20	–	–	7.2	15.8	027L3108
ICF 25	4	14MA	1	25	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICM 25-A	ICFS 25	–	–	15.5	34.1	027L4103
ICF 20	4	14MC	1¼	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICM 20-C	ICFS 20	–	–	7.3	16.1	027L3109
ICF 25	4	14MB	1¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICM 25-B	ICFS 25	–	–	14.4	31.7	027L4112
ICF 25	4	14MA	1¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICM 25-A	ICFS 25	–	–	15.4	33.9	027L4107
ICF 25	4	14MA	1½	40	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICM 25-A	ICFS 25	–	–	15.3	33.7	027L4182
ICF 25	4	14MB	1½	40	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICM 25-B	ICFS 25	–	–	15.3	33.7	027L4117
ICF 15	4	14MA	½	15	Socket weld, ANSI (B 16.11)	ICFS 15*)	ICFF 15*)	ICM 20-A	ICFS 20	–	–	6.8	15.0	027L4531
ICF 15	4	14MB	½	15	Socket weld, ANSI (B 16.11)	ICFS 15*)	ICFF 15*)	ICM 20-B	ICFS 20	–	–	6.8	15.0	027L4583
ICF 20	4	14MA	¾	20	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICM 20-A	ICFS 20	–	–	7.5	16.5	027L3099
ICF 20	4	14MA	1	25	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICM 20-A	ICFS 20	–	–	6.7	14.7	027L3101
ICF 20	4	14MB	1	25	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICM 20-B	ICFS 20	–	–	6.7	14.7	027L3106
ICF 25	4	14MB	1	25	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25	ICM 25-B	ICFS 25	–	–	14.4	31.7	027L4188
ICF 25	4	14MB	1¼	32	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICM 25-B	ICFS 25	–	–	17.3	38.1	027L4114
ICF 25	4	14MB	1½	40	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICM 25-B	ICFS 25	–	–	16.6	36.6	027L4118
ICF 20	4	14MC	1	25	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICM 20-C	ICFS 20	–	–	6.7	14.7	027L3112
ICF 25	4	14MA	1	25	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICM 25-A	ICFS 25	–	–	15.8	34.8	027L4104
ICF 20	4	14MC	1¼	32	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICM 20-C	ICFS 20	–	–	7.4	16.3	027L3113
ICF 25	4	14MA	1¼	32	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICM 25-A	ICFS 25	–	–	15.6	34.3	027L4109
ICF 25	4	14MA	1½	40	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICM 25-A	ICFS 25	–	–	15.8	34.8	027L4140

**) Fixed module*
ICAD and coils are not included and must be ordered separately.
***Please Note**: When used in systems with CO_2, the o-rings on the ICM module can swell (grow). At service, it is therefore recommended to install new o-rings, before the ICM function module is re-installed in the ICF valve body.*

Ordering ICF

Hot gas defrost

Application 9: Hot gas defrost

Type	# of Modules	Appl. #	Connection size		Connection type	Module location						Weight		Code number
			[in.]	[mm]		M1	M2	M3	M4	M5	M6	kg	lbs	
ICF 20	4	9	¾	20	Butt-weld ANSI (B 36.10)	ICFS 20	ICFF 20	ICFE 20	ICFS 20	–	–	7.2	15.8	027L3069
ICF 15	4	9H	¾	20	Butt-weld ANSI (B 36.10)	ICFS 15*	ICFF 15*	ICFE 20H	ICFS 20	–	–	7.2	15.4	027L4554
ICF 15	4	9	½	15	Butt-weld DIN-EN 10220	ICFS 15*	ICFF 15*	ICFE 20	ICFS 20	–	–	6.3	13.9	027L4543
ICF 15	4	9H	½	15	Butt-weld DIN-EN 10220	ICFS 15*	ICFF 15*	ICFE 20H	ICFS 20	–	–	7.2	15.4	027L4541
ICF 15	4	9	¾	20	Butt-weld DIN-EN 10220	ICFS 15*	ICFF 15*	ICFE 20	ICFS 20	–	–	6.3	13.9	027L4571
ICF 20	4	9	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFS 20	–	–	6.7	14.7	027L3120
ICF 15	4	9H	¾	20	Butt-weld DIN-EN 10220	ICFS 15*	ICFF 15*	ICFE 20H	ICFS 20	–	–	7.2	15.4	027L4521
ICF 20	4	9	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFS 20	–	–	7.2	15.8	027L3067
ICF 20	4	9H	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFS 20	–	–	8.2	18.0	027L3333
ICF 25	4	9	1	25	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFS 25	–	–	15.8	34.8	027L4063
ICF 20	4	9	1¼	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFS 20	–	–	6.8	15.0	027L3068
ICF 20	4	9H	1¼	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFS 20	–	–	7.6	16.7	027L3334
ICF 25	4	9	1¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFS 25	–	–	15.7	34.5	027L4067
ICF 25	4	9	1½	40	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFS 25	–	–	15.7	34.5	027L4072
ICF 15	4	9	½	15	Socket weld, ANSI (B 16.11)	ICFS 15*	ICFF 15*	ICFE 20	ICFS 20	–	–	6.3	13.9	027L4538
ICF 15	4	9H	½	15	Socket weld, ANSI (B 16.11)	ICFS 15*	ICFF 15*	ICFE 20H	ICFS 20	–	–	7.2	15.4	027L4527
ICF 20	4	9H	¾	20	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20H	ICFS 20	–	–	8.0	17.6	027L3351
ICF 20	4	9	1	25	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFS 20	–	–	7.0	15.4	027L3071
ICF 20	4	9H	1	25	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20H	ICFS 20	–	–	8.1	17.8	027L3336
ICF 25	4	9	1	25	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICFE 25	ICFS 25	–	–	16.0	35.2	027L4064
ICF 20	4	9	1¼	32	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFS 20	–	–	7.4	16.3	027L3072
ICF 20	4	9H	1¼	32	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20H	ICFS 20	–	–	7.9	17.4	027L3337
ICF 25	4	9	1¼	32	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICFE 25	ICFS 25	–	–	16.0	35.2	027L4069
ICF 25	4	9	1½	40	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICFE 25	ICFS 25	–	–	16.1	35.4	027L4073

** Fixed module*
ICAD and coils are not included and must be ordered separately.
Please Note: *When used in systems with CO2, the o-rings on the ICM module can swell (grow). At service, it is therefore recommended to install new o-rings, before the ICM function module is re-installed in the ICF valve body.*

Hot gas defrost (ICF 50 only)

Application 47: Hot gas defrost - On/Off 2-step solenoid (ICF 50 only)

Type	# of Modules	Appl. #	Connection size		Connection type	Module location						Weight		Code number
			[in.]	[mm]		M1	M2	M3	M4	M5	M6	kg	lbs	
ICF 50	4	47	1½	40	Socket weld, ANSI (B 16.11)	SVA-S 50*	FIA 50	ICSH 50-32	SVA-S 50	–	–	25.8	56.8	027L5070
ICF 50	4	47	1½	40	Socket weld, ANSI (B 16.11)	SVA-S 50*	FIA 50	ICSH 50-40	SVA-S 50	–	–	25.8	56.8	027L5071
ICF 50	4	47	2	50	Socket weld, ANSI (B 16.11)	SVA-S 50*	FIA 50	ICSH 50-40	SVA-S 50	–	–	25.8	56.8	027L5072
ICF 50	4	47	2	50	Socket weld, ANSI (B 16.11)	SVA-S 50*	FIA 50	ICSH 50	SVA-S 50	–	–	25.8	56.8	027L5073

Application 48: Hot gas defrost - On/Off 2-step solenoid + manual Regulating (ICF 50 only)

Type	# of Modules	Appl. #	Connection size		Connection type	Module location						Weight		Code number
			[in.]	[mm]		M1	M2	M3	M4	M5	M5	kg	lbs	
ICF 50	4	48	1½	40	Socket weld, ANSI (B 16.11)	SVA-S 50*	FIA 50	ICSH 50-32	REG-SB 50	–	–	25.8	56.8	027L5074

Ordering ICF

Solenoid multiple evaporators

Application 11: Solenoid - Multiple evaporators

Type	No. of modules	Appl. no.	Connection size		Connection type	Module location						Weight		Code number
			[in.]	[mm]		M1	M2	M3	M4	M5	M6	kg	lbs	
ICF 20	4	11	¾	20	Butt-weld ANSI (B 36.10)	ICFS 20	ICFF 20	ICFE 20	ICFC 20	–	–	6.5	14.3	027L3085
ICF 15	4	11	½	15	Butt-weld DIN-EN 10220	ICFS 15*)	ICFF 15*)	ICFE 20	ICFC 20	–	–	6.5	14.3	027L4539
ICF 15	4	11	¾	20	Butt-weld DIN-EN 10220	ICFS 15*)	ICFF 15*)	ICFE 20	ICFC 20	–	–	6.5	14.3	027L4547
ICF 15	4	11H	¾	20	Butt-weld DIN-EN 10220	ICFS 15*)	ICFF 15*)	ICFE 20-H	ICFC 20	–	–	7.2	15.8	027L4546
ICF 20	4	11	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFC 20	–	–	6.4	14.1	027L4580
ICF 20	4	11	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFC 20	–	–	6.4	14.1	027L3083
ICF 20	4	11H	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFC 20	–	–	8.0	17.6	027L3345
ICF 20	4	11	1 ¼	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFC 20	–	–	6.5	14.3	027L3084
ICF 20	4	11H	1 ¼	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFC 20	–	–	7.4	16.3	027L3346
ICF 25	4	11	1 ¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFC 25	–	–	14.9	32.8	027L4094
ICF 25	4	11	1 ½	40	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFC 25	–	–	13.7	30.1	027L4099
ICF 20	4	11	1	25	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFC 20	–	–	6.9	15.2	027L3087
ICF 20	4	11H	1	25	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20H	ICFC 20	–	–	8.0	17.6	027L3348
ICF 20	4	11	1 ¼	32	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFC 20	–	–	6.7	14.7	027L3088
ICF 20	4	11H	1 ¼	32	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20H	ICFC 20	–	–	7.4	16.3	027L3349
ICF 25	4	11	1 ¼	32	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	–	–	13.0	28.6	027L4096
ICF 25	4	11	1 ½	40	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	–	–	14.3	31.5	027L4100

Application 18: Solenoid - Multiple evaporators

Type	No. of modules	Appl. no.	Connection size		Connection type	Module location						Weight		Code number
			[in.]	[mm]		M1	M2	M3	M4	M5	M6	kg	lbs	
ICF 15	4	18H	¾	20	Butt-weld ANSI (B 36.10)	ICFS 15*)	ICFF 15*)	ICFE 20-H	ICFN 20	–	–	7.2	15.8	027L4572
ICF 15	4	18H	½	15	Butt-weld DIN-EN 10220	ICFS 15*)	ICFF 15*)	ICFE 20-H	ICFN 20	–	–	7.2	15.8	027L4542
ICF 15	4	18H	¾	20	Butt-weld DIN-EN 10220	ICFS 15*)	ICFF 15*)	ICFE 20-H	ICFN 20	–	–	7.2	15.8	027L4550
ICF 20	4	18	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20E	ICFE 20	ICFN 20	–	–	7.3	16.0	027L3438
ICF 25	4	18	1	25	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFN 25	–	–	15.8	34.8	027L4175
ICF 25	4	18	1 ¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFN 25	–	–	16.6	36.5	027L4164
ICF 25	4	18	1 ¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25E	ICFE 25	ICFN 25	–	–	16.6	36.5	027L4575
ICF 25	4	18	1 ½	40	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFN 25	–	–	16.6	36.5	027L4165
ICF 25	4	18	1 ½	40	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25E	ICFE 25	ICFN 25	–	–	16.6	36.6	027L4177
ICF 15	4	18	½	15	Socket weld, ANSI (B 16.11)	ICFS 15*)	ICFF 15*)	ICFE 20	ICFN 20	–	–	6.5	14.3	027L4558
ICF 15	4	18H	½	15	Socket weld, ANSI (B 16.11)	ICFS 15*)	ICFF 15*)	ICFE 20-H	ICFN 20	–	–	7.2	15.8	027L4557
ICF 15	4	18	¾	20	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20H	ICFN 20	–	–	8.0	17.6	027L3353
ICF 25	4	18	1	25	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICFE 25	ICFN 25	–	–	16.9	37.2	027L4136
ICF 20	4	18H	1	25	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20H	ICFN 20	–	–	8.0	17.6	027L3354
ICF 20	4	18H	1 ¼	32	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20H	ICFN 20	–	–	8.0	17.6	027L3355
ICF 25	4	18	1 ¼	32	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICFE 25	ICFN 25	–	–	16.0	35.2	027L4137
ICF 25	4	18	1 ½	40	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICFE 25	ICFN 25	–	–	16.2	35.6	027L4138

Liquid PWM

Application 13: Liquid injection & liquid feed PWM

Type	No. of modules	Appl. no.	Connection size		Connection type	Module location						Weight		Code number
			[in.]	[mm]		M1	M2	M3	M4	M5	M6	kg	lbs	
ICF 15	4	13	¾	20	Butt-weld ANSI (B 36.10)	ICFS 15*)	ICFF 15*)	ICFA 20	ICFN 20	–	–	6.2	13.7	027L4555
ICF 15	4	13	¾	20	Butt-weld DIN-EN 10220	ICFS 15*)	ICFF 15*)	ICFA 20	ICFN 20	–	–	6.2	13.7	027L4523
ICF 20	4	13	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFA 20	ICFN 20	–	–	6.8	15.0	027L3092
ICF 15	4	13	½	15	Socket weld, ANSI (B 16.11)	ICFS 15*)	ICFF 15*)	ICFA 20	ICFN 20	–	–	6.2	13.7	027L4529
ICF 20	4	13	¾	20	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFA 20	ICFN 20	–	–	6.8	15.0	027L3094
ICF 15	4	13	7/8	22	Solder DIN-EN1254-1	ICFS 15*)	ICFF 15*)	ICFA20	ICFN20	–	–	6.2	13.7	027L4582

**) Fixed module*
ICAD and coils are not included and must be ordered separately.
***Please Note**: When used in systems with CO_2, the o-rings on the ICM module can swell (grow). At service, it is therefore recommended to install new o-rings, before the ICM function module is re-installed in the ICF valve body.*

Ordering ICF

Return lines

Application 41: Return lines - ON/OFF

Type	No. of modules	Appl. no.	Connection size		Connection type	Module location						Weight		Code number
			[in.]	[mm]		M1	M2	M3	M4	M5	M6	kg	lbs	
ICF 50	4	41	1 ½	40	Butt-weld DIN-EN 10220	SVA-S 50*)	ICFB 50	ICLX 50	SVA-S 50	–	–	25.5	56.1	027L5021
ICF 50	4	41	2	50	Butt-weld DIN-EN 10220	SVA-S 50*)	ICFB 50	ICLX 50	SVA-S 50	–	–	25.5	56.1	027L5023
ICF 50	4	41	1 ½	40	Socket weld, ANSI (B 16.11)	SVA-S 50*)	ICFB 50	ICLX 50	SVA-S 50	–	–	25.5	56.1	027L5022
ICF 50	4	41	2	50	Socket weld, ANSI (B 16.11)	SVA-S 50*)	ICFB 50	ICLX 50	SVA-S 50	–	–	25.5	56.1	027L5024
ICF 65	3	41	2 ½	65	Butt-weld ANSI (B 36.10)	SVA-S 65*)	–	ICLX 65	SVA-S 65	–	–	32.7	71.9	027L6522
ICF 65	3	41	3	80	Butt-weld ANSI (B 36.10)	SVA-S 65*)	–	ICLX 65	SVA-S 65	–	–	32.7	71.9	027L6524
ICF 65	3	41	2 ½	65	Butt-weld DIN-EN 10220	SVA-S 65*)	–	ICLX 65	SVA-S 65	–	–	32.7	71.9	027L6521
ICF 65	3	41	3	80	Butt-weld DIN-EN 10220	SVA-S 65*)	–	ICLX 65	SVA-S 65	–	–	32.7	71.9	027L6523

Application 42: Return lines - Pressure (temperature) - Mechanical control

Type	No. of modules	Appl. no.	Connection size		Connection type	Module location						Weight		Code number
			[in.]	[mm]		M1	M2	M3	M4	M5	M6	kg	lbs	
ICF 50	4	42S50	1 ½	40	Butt-weld DIN-EN 10220	SVA-S 50*)	ICFB 50	ICS 50	SVA-S 50	–	–	25.8	56.8	027L5001
ICF 50	4	42S32	1 ½	40	Butt-weld DIN-EN 10220	SVA-S 50*)	ICFB 50	ICS 50-32	SVA-S 50	–	–	25.8	56.8	027L5005
ICF 50	4	42S40	1 ½	40	Butt-weld DIN-EN 10220	SVA-S 50*)	ICFB 50	ICS 50-40	SVA-S 50	–	–	25.8	56.8	027L5009
ICF 50	4	42S50	2	50	Butt-weld DIN-EN 10220	SVA-S 50*)	ICFB 50	ICS 50	SVA-S 50	–	–	25.8	56.8	027L5003
ICF 50	4	42S32	2	50	Butt-weld DIN-EN 10220	SVA-S 50*)	ICFB 50	ICS 50-32	SVA-S 50	–	–	25.8	56.8	027L5007
ICF 50	4	42S40	2	50	Butt-weld DIN-EN 10220	SVA-S 50*)	ICFB 50	ICS 50-40	SVA-S 50	–	–	25.8	56.8	027L5011
ICF 50	4	42S50	1 ½	40	Socket weld. ANSI (B 16.11)	SVA-S 50*)	ICFB 50	ICS 50	SVA-S 50	–	–	25.8	56.8	027L5002
ICF 50	4	42S32	1 ½	40	Socket weld. ANSI (B 16.11)	SVA-S 50*)	ICFB 50	ICS 50-32	SVA-S 50	–	–	25.8	56.8	027L5006
ICF 50	4	42S50	2	50	Socket weld. ANSI (B 16.11)	SVA-S 50*)	ICFB 50	ICS 50	SVA-S 50	–	–	25.8	56.8	027L5004
ICF 50	4	42S32	2	50	Socket weld. ANSI (B 16.11)	SVA-S 50*)	ICFB 50	ICS 50-32	SVA-S 50	–	–	25.8	56.8	027L5008
ICF 50	4	42S40	2	50	Socket weld. ANSI (B 16.11)	SVA-S 50*)	ICFB 50	ICS 50-40	SVA-S 50	–	–	25.8	56.8	027L5012
ICF 65	3	42S65	2 ½	65	Butt-weld ANSI (B 36.10)	SVA-S 65*)	–	ICS 65	SVA-S 65	–	–	33.3	73.3	027L6502
ICF 65	3	42S40	2 ½	65	Butt-weld ANSI (B 36.10)	SVA-S 65*)	–	ICS 65-40	SVA-S 65	–	–	33.3	73.3	027L6506
ICF 65	3	42S80	2 ½	65	Butt-weld ANSI (B 36.10)	SVA-S 65*)	–	ICS 80	SVA-S 65	–	–	33.3	73.3	027L6510
ICF 65	3	42S65	3	80	Butt-weld ANSI (B 36.10)	SVA-S 65*)	–	ICS 65	SVA-S 65	–	–	33.3	73.3	027L6504
ICF 65	3	42S40	3	80	Butt-weld ANSI (B 36.10)	SVA-S 65*)	–	ICS 65-40	SVA-S 65	–	–	33.3	73.3	027L6508
ICF 65	3	42S80	3	80	Butt-weld ANSI (B 36.10)	SVA-S 65*)	–	ICS 80	SVA-S 65	–	–	33.3	73.3	027L6512
ICF 65	3	42S65	2 ½	65	Butt-weld DIN-EN 10220	SVA-S 65*)	–	ICS 65	SVA-S 65	–	–	33.3	73.3	027L6501
ICF 65	3	42S40	2 ½	65	Butt-weld DIN-EN 10220	SVA-S 65*)	–	ICS 65-40	SVA-S 65	–	–	33.3	73.3	027L6505
ICF 65	3	42S80	2 ½	65	Butt-weld DIN-EN 10220	SVA-S 65*)	–	ICS 80	SVA-S 65	–	–	33.3	73.3	027L6509
ICF 65	3	42S65	3	80	Butt-weld DIN-EN 10220	SVA-S 65*)	–	ICS 65	SVA-S 65	–	–	33.3	73.3	027L6503
ICF 65	3	42S40	3	80	Butt-weld DIN-EN 10220	SVA-S 65*)	–	ICS 65-40	SVA-S 65	–	–	33.3	73.3	027L6507
ICF 65	3	42S80	3	80	Butt-weld DIN-EN 10220	SVA-S 65*)	–	ICS 80	SVA-S 65	–	–	33.3	73.3	027L6511

All ICS modules are 3-pilot versions. They are supplied with two blanking plugs and one sealing plug.
**) Fixed module*
ICAD and coils are not included and must be ordered separately.
***Please Note**: When used in systems with CO_2, the o-rings on the ICM module can swell (grow). At service, it is therefore recommended to install new o-rings, before the ICM function module is re-installed in the ICF valve body.*

Ordering ICF

Return lines

Application 43: Return lines - Pressure (temperature) - Electronic control

Type	No. of modules	Appl. no.	Connection size		Connection type	Module location						Weight		Code number
			[in.]	[mm]		M1	M2	M3	M4	M5	M6	kg	lbs	
ICF 50	4	43MA	1½	40	Butt-weld DIN-EN 10220	SVA-S 50*)	ICFB 50	ICM 50 - A	SVA-S 50	–	–	24.8	54.6	027L5013
ICF 50	4	43MB	1½	40	Butt-weld DIN-EN 10220	SVA-S 50*)	ICFB 50	ICM 50 - B	SVA-S 50	–	–	24.8	54.6	027L5017
ICF 50	4	43MA	2	50	Butt-weld DIN-EN 10220	SVA-S 50*)	ICFB 50	ICM 50 - A	SVA-S 50	–	–	24.8	54.6	027L5015
ICF 50	4	43MB	2	50	Butt-weld DIN-EN 10220	SVA-S 50*)	ICFB 50	ICM 50 - B	SVA-S 50	–	–	24.8	54.6	027L5019
ICF 50	4	43MA	1½	40	Socket weld, ANSI (B 16.11)	SVA-S 50*)	ICFB 50	ICM 50 - A	SVA-S 50	–	–	24.8	54.6	027L5014
ICF 50	4	43MB	1½	40	Socket weld, ANSI (B 16.11)	SVA-S 50*)	ICFB 50	ICM 50 - B	SVA-S 50	–	–	24.8	54.6	027L5018
ICF 50	4	43MA	2	50	Socket weld, ANSI (B 16.11)	SVA-S 50*)	ICFB 50	ICM 50 - A	SVA-S 50	–	–	24.8	54.6	027L5016
ICF 50	4	43MB	2	50	Socket weld, ANSI (B 16.11)	SVA-S 50*)	ICFB 50	ICM 50 - B	SVA-S 50	–	–	24.8	54.6	027L5020
ICF 65	3	43MA	2½	65	Butt-weld ANSI (B 36.10)	SVA-S 65*)	–	ICM 65 - A	SVA-S 65	–	–	32.9	72.4	027L6514
ICF 65	3	43MB	2½	65	Butt-weld ANSI (B 36.10)	SVA-S 65*)	–	ICM 65 - B	SVA-S 65	–	–	32.9	72.4	027L6518
ICF 65	3	43MA	3	80	Butt-weld ANSI (B 36.10)	SVA-S 65*)	–	ICM 65 - A	SVA-S 65	–	–	32.9	72.4	027L6516
ICF 65	3	43MB	3	80	Butt-weld ANSI (B 36.10)	SVA-S 65*)	–	ICM 65 - B	SVA-S 65	–	–	32.9	72.4	027L6520
ICF 65	3	43MA	2½	65	Butt-weld DIN-EN 10220	SVA-S 65*)	–	ICM 65 - A	SVA-S 65	–	–	32.9	72.4	027L6513
ICF 65	3	43MB	2½	65	Butt-weld DIN-EN 10220	SVA-S 65*)	–	ICM 65 - B	SVA-S 65	–	–	32.9	72.4	027L6517
ICF 65	3	43MA	3	80	Butt-weld DIN-EN 10220	SVA-S 65*)	–	ICM 65 - A	SVA-S 65	–	–	32.9	72.4	027L6515
ICF 65	3	43MB	3	80	Butt-weld DIN-EN 10220	SVA-S 65*)	–	ICM 65 - B	SVA-S 65	–	–	32.9	72.4	027L6519

Application 44: ON/OFF 2-step solenoid + Manuel Regulating

Type	No. of modules	Appl. no.	Connection size		Connection type	Module location						Weight		Code number
			[in.]	[mm]		M1	M2	M3	M4	M5	M6	kg	lbs	
ICF 50	4	44	1½	40	Butt-weld DIN-EN 10220	SVA-S 50*)	ICFB 50	ICLX 50	REG 50-B	–	–	25.5	56.1	027L5045
ICF 50	4	44	2	50	Butt-weld DIN-EN 10220	SVA-S 50*)	ICFB 50	ICLX 50	REG 50-B	–	–	25.5	56.1	027L5046
ICF 50	4	44	1½	40	Socket weld, ANSI (B 16.11)	SVA-S 50*)	ICFB 50	ICLX 50	REG 50-B	–	–	25.5	56.1	027L5047
ICF 50	4	44	2	50	Socket weld, ANSI (B 16.11)	SVA-S 50*)	ICFB 50	ICLX 50	REG 50-B	–	–	25.5	56.1	027L5048

Application 45: Pressure (temperature) Mechanical control + Manuel Regulating

Type	No. of modules	Appl. no.	Connection size		Connection type	Module location						Weight		Code number
			[in.]	[mm]		M1	M2	M3	M4	M5	M6	kg	lbs	
ICF 50	4	45S50	1½	40	Butt-weld DIN-EN 10220	SVA-S 50*)	ICFB 50	ICS 50	REG 50-B	–	–	25.8	56.8	027L5025
ICF 50	4	45S32	1½	40	Butt-weld DIN-EN 10220	SVA-S 50*)	ICFB 50	ICS 50-32	REG 50-B	–	–	25.8	56.8	027L5029
ICF 50	4	45S40	1½	40	Butt-weld DIN-EN 10220	SVA-S 50*)	ICFB 50	ICS 50-40	REG 50-B	–	–	25.8	56.8	027L5033
ICF 50	4	45S50	2	50	Butt-weld DIN-EN 10220	SVA-S 50*)	ICFB 50	ICS 50	REG 50-B	–	–	25.8	56.8	027L5027
ICF 50	4	45S32	2	50	Butt-weld DIN-EN 10220	SVA-S 50*)	ICFB 50	ICS 50-32	REG 50-B	–	–	25.8	56.8	027L5031
ICF 50	4	45S40	2	50	Butt-weld DIN-EN 10220	SVA-S 50*)	ICFB 50	ICS 50-40	REG 50-B	–	–	25.8	56.8	027L5035
ICF 50	4	45S50	1½	40	Socket weld, ANSI (B 16.11)	SVA-S 50*)	ICFB 50	ICS 50	REG 50-B	–	–	25.8	56.8	027L5026
ICF 50	4	45S32	1½	40	Socket weld, ANSI (B 16.11)	SVA-S 50*)	ICFB 50	ICS 50-32	REG 50-B	–	–	25.8	56.8	027L5030
ICF 50	4	45S40	1½	40	Socket weld, ANSI (B 16.11)	SVA-S 50*)	ICFB 50	ICS 50-40	REG 50-B	–	–	25.8	56.8	027L5034
ICF 50	4	45S50	2	50	Socket weld, ANSI (B 16.11)	SVA-S 50*)	ICFB 50	ICS 50	REG 50-B	–	–	25.8	56.8	027L5028
ICF 50	4	45S32	2	50	Socket weld, ANSI (B 16.11)	SVA-S 50*)	ICFB 50	ICS 50-32	REG 50-B	–	–	25.8	56.8	027L5032
ICF 50	4	45S40	2	50	Socket weld, ANSI (B 16.11)	SVA-S 50*)	ICFB 50	ICS 50-40	REG 50-B	–	–	25.8	56.8	027L5036
ICF 65	3	45S65	3	65	Butt-weld DIN-EN 10220	SVA-S 65*)		ICS 65	REG 65-B	–	–	33.3	73.3	027L6525
ICF 65	3	45S65	3	65	Butt-weld DIN-EN 10220	SVA-S 65*)		ICS 80	REG 65-B	–	–	33.3	73.3	027L6526

Application 46: Pressure (temperature) Electronic control + Manual Regulating

Type	No. of modules	Appl. no.	Connection size		Connection type	Module location						Weight		Code number
			[in.]	[mm]		M1	M2	M3	M4	M5	M6	kg	lbs	
ICF 50	4	46MA	1½	40	Butt-weld DIN-EN 10220	SVA-S 50*)	ICFB 50	ICM 50-A	REG 50-B	–	–	24.8	54.6	027L5037
ICF 50	4	46MB	1½	40	Butt-weld DIN-EN 10220	SVA-S 50*)	ICFB 50	ICM 50-B	REG 50-B	–	–	24.8	54.6	027L5041
ICF 50	4	46MA	2	50	Butt-weld DIN-EN 10220	SVA-S 50*)	ICFB 50	ICM 50-A	REG 50-B	–	–	24.8	54.6	027L5039
ICF 50	4	46MB	2	50	Butt-weld DIN-EN 10220	SVA-S 50*)	ICFB 50	ICM 50-B	REG 50-B	–	–	24.8	54.6	027L5043
ICF 50	4	46MA	1½	40	Socket weld, ANSI (B 16.11)	SVA-S 50*)	ICFB 50	ICM 50-A	REG 50-B	–	–	24.8	54.6	027L5038
ICF 50	4	46MB	1½	40	Socket weld, ANSI (B 16.11)	SVA-S 50*)	ICFB 50	ICM 50-B	REG 50-B	–	–	24.8	54.6	027L5042
ICF 50	4	46MA	2	50	Socket weld, ANSI (B 16.11)	SVA-S 50*)	ICFB 50	ICM 50-A	REG 50-B	–	–	24.8	54.6	027L5040
ICF 50	4	46MB	2	50	Socket weld, ANSI (B 16.11)	SVA-S 50*)	ICFB 50	ICM 50-B	REG 50-B	–	–	24.8	54.6	027L5044

All ICS modules are 3-pilot versions. They are supplied with two blanking plugs and one sealing plug.
**) Fixed module*
ICAD and coils are not included and must be ordered separately.
***Please Note**: When used in systems with CO_2, the o-rings on the ICM module can swell (grow). At service, it is therefore recommended to install new o-rings, before the ICM function module is re-installed in the ICF valve body.*

Ordering ICF

Miscellaneous

Application 90: Miscellaneous

Type	No. of Modules	Appl. no.	Connection size		Connection type	Module location						Weight		Code number
			[in]	[mm]		M1	M2	M3	M4	M5	M6	[kg]	[lbs]	
ICF 20	4	90	¾	20	Butt-weld ANSI (B 36.10)	ICFS 20	ICFF 20E	ICFE 20	ICFN 20	–	–	7.2	15.8	027L3371
ICF 20	6	90	1	25	Butt-weld ANSI (B 36.10)	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFB 20	ICFB 20	10.2	22.5	027L3420
ICF 20	6	90	1	25	Butt-weld ANSI (B 36.10)	ICFS 20	ICFF 20	ICFE 20	ICFS 20	ICFB 20	ICFB 20	9.7	21.4	027L3421
ICF 20	4	90	¾	20	Butt-weld DIN-EN 10220	ICFR 20A	ICFF 20	ICFA 20	ICFN 20	–	–	6.4	14.1	027L3156
ICF 20	4	90	¾	20	Butt-weld DIN-EN 10220	ICFR 20A	ICFF 20	ICFE 20	ICFN 20	–	–	6.4	14.1	027L3155
ICF 20	4	90	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFN 20	–	–	7.2	15.8	027L3379
ICF 20	4	90	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFW 20-D	ICFE 20	ICFS 20	–	–	5.9	13.0	027L3385
ICF 20	4	90	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFB 20	ICFC 20	–	–	5.9	13.0	027L3141
ICF 20	4	99	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFB 20	–	–	6.2	13.7	027L3122
ICF 20	4	99	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	–	–	6.1	13.4	027L3359
ICF 20	4	99	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFR 20A	–	–	6.7	14.8	027L3700
ICF 20	4	90	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFB 20	ICFN 20	–	–	6.7	14.8	027L3405
ICF 15	4	90	½	15	Butt-weld DIN-EN 10220	ICFS 15*)	ICFF 15*)	ICFB 20	ICFN 20	–	–	6.7	14.8	027L4581
ICF 15	4	90	¾	20	Butt-weld DIN-EN 10220	ICFS 15*)	ICFF 15*)	ICFR 20A	ICFN 20	–	–	7.2	15.8	027L4576
ICF 20	6	90	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFA 20	ICFS 20	9.4	20.7	027L3053
ICF 20	6	90	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFA 20	ICFC 20	ICFB 20	ICFS 20	9.9	21.8	027L3056
ICF 20	6	90	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-A	ICFN 20	9.7	21.3	027L3372
ICF 20	6	90	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFB 20	ICFR 20-A	ICFN 20	9.7	21.3	027L3133
ICF 20	6	90	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFB 20	ICFR 20A	9.4	20.7	027L3144
ICF 20	6	90	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICM 20-C	ICFS 20	9.7	21.3	027L3152
ICF 20	6	90	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFS 20	ICFC 20	9.8	21.6	027L3360
ICF 20	6	90	¾	20	Butt-weld DIN-EN 10220	ICFB 20	ICFC 20	ICFE 20	ICFO 20	ICFS 20	ICFB 20	6.2	13.6	027L3121
ICF 20	6	90	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFC 20	ICFB 20	ICFS 20	9.6	21.1	027L3387
ICF 20	6	90	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFR 20A	ICFW 20D	9.1	20.1	027L3368
ICF 20	6	90	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFC 20	ICFR 20A	ICFS 20	10.2	22.5	027L3386
ICF 20	6	90	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICM 20B	ICFS 20	9.7	21.4	027L3397
ICF 20	6	90	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFB 20	ICFS 20	9.4	20.7	027L3424
ICF 20	6	90	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20B	ICFN 20	9.6	21.1	027L3425
ICF 20	6	99	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFB 20	ICFR 20A	9.4	20.7	027L3701
ICF 20	6	90	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20E	ICFE 20	ICFN 20	ICFR 20B	ICFW 20D	9.1	20.1	027L3439
ICF 20	6	90	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFW 20D	ICFS 20	9.1	20.1	027L3441
ICF 20	6	90	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFB 20	ICFN 20	9.4	20.7	027L3446
ICF 20	6	90	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFR 20B	ICFW 20D	9.1	20.1	027L3447
ICF 20	4	90	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFN 20	–	–	6.7	14.7	027L3134
ICF 20	4	90	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFB 20	–	–	5.9	13.0	027L3364
ICF 20	4	90	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFN 20	–	–	7.2	15.8	027L3380
ICF 20	6	90	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFA 20	ICFS 20	9.8	21.6	027L3361
ICF 20	6	90	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFR 20A	ICFB 20	9.1	20.0	027L3363
ICF 20	6	90	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFC 20	ICFR 20B	ICFW 20D	12.0	26.4	027L3376
ICF 20	6	90	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20E	ICFE 20H	ICFC 20	ICFR 20B	ICFW 20D	11.5	25.3	027L3375

**) Fixed module*

ICAD and coils are not included and must be ordered separately.

***Please Note**: When used in systems with CO_2, the o-rings on the ICM module can swell (grow). At service, it is therefore recommended to install new o-rings, before the ICM function module is re-installed in the ICF valve body.*

Ordering ICF

Miscellaneous (Continued)

Application 90: Miscellaneous

Type	No. of Modules	Appl. no.	Connection size		Connection type	Module location						Weight		Code number
			[in]	[mm]		M1	M2	M3	M4	M5	M6	[kg]	[lbs]	
ICF 20	6	90	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFB 20	ICFS 20	9.4	20.7	027L3123
ICF 25	6	90	1	25	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFR 25B	ICFW 25D	23.6	51.9	027L4168
ICF 25	6	90	1	25	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFS 25	ICFB 25	22.0	48.4	027L4151
ICF 20	6	90	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFR 20A	ICFW 20D	9.0	19.8	027L3369
ICF 20	6	90	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFA 20	ICFC 20	9.6	21.1	027L3396
ICF 20	6	90	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20E	ICFE 20H	ICFC 20	ICFR 20A	ICFB 20	9.7	21.4	027L3423
ICF 20	6	90	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20B	ICFN 20	9.6	21.1	027L3426
ICF 25	6	90	1	25	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	ICFR 25B	ICFB 25	23.6	52.0	027L4176
ICF 25	6	90	1	25	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	ICFR 25B	ICFF 25	23.8	52.4	027L4577
ICF 25	6	90	1	25	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25E	ICFE 25	ICFN 25	ICFR 25B	ICFW 25D	22.7	49.9	027L4186
ICF 25	6	90	1¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFR 25B	ICFB 25	21.7	47.7	027L4143
ICF 25	6	90	1¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	ICFR 25B	ICFW 25D	22.7	49.9	027L4160
ICF 25	6	90	1¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFR 25B	ICFW 25D	21.9	48.2	027L4161
ICF 25	6	90	1¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	ICFB 25	ICFS 25	21.9	48.2	027L4162
ICF 25	6	90	1¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25-E	ICFE 25	ICFC 25	ICFR 25B	ICFB 25	22.7	49.9	027L4178
ICF 25	6	90	1½	40	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFR 25A	ICFW 25D	23.6	51.9	027L4157
ICF 25	6	90	1½	40	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	ICFR 25B	ICFW 25D	23.6	51.9	027L4166
ICF 25	6	90	1½	40	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFR 25B	ICFW 25D	21.7	47.7	027L4167
ICF 25	4	90	1½	40	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICM 25A	ICFB 25	–	–	14.9	32.8	027L4185
ICF 25	4	90	1½	40	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFR 25A	–	–	16.1	35.4	027L4192
ICF 20	4	90	¾	20	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICM 20-A33	ICFB 20	–	–	7.2	15.8	027L3362
ICF 20	4	90	1	25	Socket weld, ANSI (B 16.11)	ICFR 20A	ICFF 20E	ICFE 20	ICFN 20	–	–	7.2	15.8	027L4179
ICF 20	4	90	1	25	Socket weld, ANSI (B 16.11)	ICFR 20B	ICFF 20E	ICFE 20H	ICFN 20	–	–	7.9	17.4	027L4578
ICF 20	4	90	1	25	Socket weld, ANSI (B 16.11)	ICFB 20	ICFF 20	ICFE 20	ICFN 20	–	–	7.0	15.4	027L3357
ICF 25	4	90	1	25	Socket weld, ANSI (B 16.11)	ICFB 25	ICFF 25E	ICFE 25	ICFN 25	–	–	14.1	31.0	027L4149
ICF 25	4	90	1	25	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICFB 25	ICFR 25A	–	–	16.1	35.5	027L4180
ICF 25	6	90	1½	40	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICFB 25	ICFR 25A	–	–	16.1	35.5	027L4181
ICF 20	6	90	¾	20	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICFA 20	ICFS 20	9.3	20.5	027L3055
ICF 20	6	90	¾	20	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFA 20	ICFC 20	ICFB 20	ICFS 20	9.9	21.8	027L3058
ICF 20	6	90	¾	20	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICFB 20	ICFN 20	9.4	20.7	027L3150
ICF 20	6	90	¾	20	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20H	ICFC 20	ICFW 20S	ICFS 20	10.4	22.9	027L4153
ICF 20	6	90	1	25	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20H	ICFC 20	ICFW 20S	ICFS 20	11.5	25.3	027L3377
ICF 25	6	90	1	25	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	ICFB 25	ICFS 25	23.1	50.8	027L4156
ICF 25	6	90	1	25	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	ICFW 25S	ICFS 25	25.1	55.2	027L4158
ICF 20	6	90	1¼	32	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20H	ICFC 20	ICFB 20	ICFS 20	10.5	23.1	027L3378
ICF 20	6	90	1¼	32	Socket weld, ANSI (B 16.11)	ICFS 20	ICFF 20E	ICFE 20H	ICFC 20	ICFW 20S	ICFS 20	10.5	23.1	027L4152
ICF 25	6	90	1¼	32	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	ICFW 25S	ICFS 25	25.1	55.2	027L4154
ICF 25	6	90	1½	40	Socket weld, ANSI (B 16.11)	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	ICFW 25S	ICFS 25	25.1	55.2	027L4159
ICF 20	4	90	¾	20	Butt-weld DIN-EN 10220	ICFB 20	ICFD 20	ICFE 20	ICFB 20	–	–	12.4	27.3	027L3483
ICF 20	4	90	1	25	Butt-weld DIN-EN 10220	ICFB 20	ICFD 20	ICFE 20	ICFB 20	–	–	12.4	27.3	027L3484
ICF 20	4	90	1¼	32	Butt-weld DIN-EN 10220	ICFB 20	ICFD 20	ICFE 20	ICFB 20	–	–	12.4	27.3	027L3485
ICF 20	6	90	¾	20	Socket weld, ANSI (B 16.11)	ICFS 20	ICFB 20	ICFE 20	ICFD 20	ICFB 20	ICFS 20	15.0	33.1	027L3463
ICF 20	6	90	1	25	Socket weld, ANSI (B 16.11)	ICFS 20	ICFB 20	ICFE 20	ICFD 20	ICFB 20	ICFS 20	15.0	33.1	027L3464
ICF 20	6	90	1¼	32	Socket weld, ANSI (B 16.11)	ICFS 20	ICFB 20	ICFE 20	ICFD 20	ICFB 20	ICFS 20	15.0	33.1	027L3465

Note:
For special applications that cannot be covered by our predefined ICF code numbers please consult Coolselector®2 or your local Danfoss Sales company.
http://refrigerationandairconditioning.danfoss.com/support-center/apps-and-software/coolselector/
Prior to designing „non standard" configurations there are some basic restrictions to the location of the function modules that must be followed.

When used in systems with CO_2, the o-rings on the ICM module can swell (grow). At service, it is therefore recommended to install new o-rings, before the ICM function module is re-installed in the ICF valve body.

Ordering ICF SS (Stainless Steel)

Liquid feed

Application 1: Liquid feed (no hot gas defrost)

Type	No. of Modules	Appl. no.	Connection size		Connection type	Module location						K_v total	Weight		Code number
			[in]	[mm]		M1	M2	M3	M4	M5	M6		[kg]	[lbs]	
ICF SS 20	6	1RA	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFR 20A	ICFS 20	2.1	9.5	20.9	027L4700
ICF SS 20	6	1RA	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFR 20A	ICFS 20	2.1	9.7	21.3	027L4701

Application 2: Liquid feed

Type	No. of Modules	Appl. no.	Connection size		Connection type	Module location						K_v total	Weight		Code number
			[in]	[mm]		M1	M2	M3	M4	M5	M6		[kg]	[lbs]	
ICF SS 20	6	2RA	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFR 20A	ICFN 20	2.4	10.0	22.1	027L3428
ICF SS 20	6	2RA	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20E	ICFE 20	ICFO 20	ICFR 20A	ICFN 20	2.4	10.0	22.1	027L3445
ICF SS 20	6	2RA	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICFR 20A	ICFN 20	2.1	9.7	21.3	027L4758
ICF SS 20	6	2HRB	1¼	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFB 20	ICFR 20B	ICFN 20	2.6	9.2	20.2	027L4759
ICF SS 25	6	2RB	1¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFB 25	ICFR 25B	ICFN 25	8.5	23.9	52.6	027L4766

Application 3: Liquid feed

Type	No. of Modules	Appl. no.	Connection size		Connection type	Module location						K_v total	Weight		Code number
			[in]	[mm]		M1	M2	M3	M4	M5	M6		[kg]	[lbs]	
ICF SS 20	6	3RA	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFR 20A	ICFS 20	2.1	9.6	21.1	027L4702
ICF SS 20	6	3RA	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFR 20A	ICFS 20	2.1	9.7	21.3	027L4703
ICF SS 20	6	3HRA	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFC 20	ICFR 20A	ICFS 20	2.3	10.6	23.3	027L4717
ICF SS 25	6	3RA	1	25	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFR 25A	ICFS 25	5.3	23.4	51.5	027L4724
ICF SS 25	6	3RA	1¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFR 25A	ICFS 25	5.3	23.2	51.0	027L4760
ICF SS 25	6	3RB	1¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFR 25B	ICFS 25	7.2	23.8	52.4	027L4725
ICF SS 25	6	3RB	1½	40	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFR 25B	ICFS 25	7.2	24.0	52.8	027L4761
ICF SS 25	6	3RB	1½	40	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25E	ICFE 25	ICFC 25	ICFR 25B	ICFS 25	8.5	24.7	54.3	027L4191

Application 10: Liquid feed (no hot gas defrost)

Type	No. of Modules	Appl. no.	Connection size		Connection type	Module location						K_v total	Weight		Code number
			[in]	[mm]		M1	M2	M3	M4	M5	M6		[kg]	[lbs]	
ICF SS 20	4	10RA	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFR 20B	–	–	2.6	7.4	16.2	027L3440
ICF SS 20	4	10RA	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFR 20A	–	–	2.3	7.2	15.8	027L4709
ICF SS 25	4	10RA	1	25	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFR 25A	–	–	5.5	15.9	35.0	027L4731
ICF SS 25	4	10RB	1¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFR 25B	–	–	7.9	15.4	33.9	027L4732
ICF SS 25	4	10RA	1	25	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25E	ICFE 25	ICFR 25A	–	–	5.5	16.2	35.7	027L4590

Application 15: Liquid feed with external connection

Type	No. of Modules	Appl. no.	Connection size		Connection type	Module location						K_v total	Weight		Code number
			[in]	[mm]		M1	M2	M3	M4	M5	M6		[kg]	[lbs]	
ICF SS 25	6	15RA	1	25	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFW 25D	ICFR 25A	5.3	21.8	48.0	027L4733
ICF SS 25	6	15RB	1¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFC 25	ICFW 25D	ICFR 25B	7.3	22.7	49.9	027L4734

***Please Note**: When used in systems with CO_2, the o-rings on the ICM module can swell (grow). At service, it is therefore recommended to install new o-rings, before the ICM function module is re-installed in the ICF valve body. ICAD and coils are not included and must be ordered separately.*

Ordering ICF SS (Stainless Steel)

Liquid injection

Application 5: Liquid injection (expansion)

Type	No. of Modules	Appl. no.	Connection size		Connection type	Module location						K_v total	Weight		Code number
			[in]	[mm]		M1	M2	M3	M4	M5	M6		[kg]	[lbs]	
ICF SS 20	6	5MA33	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20-74	ICFE 20	ICFO 20	ICM 20-A33	ICFS 20	0.2	9.8	21.6	027L4714
ICF SS 20	6	5MB66	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-B	ICFS 20	1.9	10.1	22.3	027L3443
ICF SS 20	6	5MA	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-A	ICFS 20	0.6	9.8	21.6	027L4704
ICF SS 20	6	5MB	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-B	ICFS 20	1.9	9.6	21.1	027L4705
ICF SS 20	6	5HMB	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFB 20	ICM 20-B	ICFS 20	2.0	11.4	25.1	027L4718
ICF SS 20	6	5MA33	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-A33	ICFS 20	0.2	9.6	21.1	027L4755
ICF SS 25	6	5MA	1	25	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFB 25	ICM 25-A	ICFS 25	5.0	22.8	50.2	027L4726
ICF SS 20	6	5MB66	1¼	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-B66	ICFS 20	1.4	9.6	21.1	027L4754
ICF SS 20	6	5HMB	1¼	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFB 20	ICM 20-B	ICFS 20	2.0	10.2	22.4	027L4756
ICF SS 20	6	5MC	1½	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFO 20	ICM 20-C	ICFS 20	2.5	9.8	21.6	027L4706
ICF SS 20	6	5HMC	1¼	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFB 20	ICM 20-C	ICFS 20	3.0	10.3	22.7	027L4719
ICF SS 25	6	5MB	1¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFB 25	ICM 25-B	ICFS 25	7.3	22.3	49.0	027L4727
ICF SS 25	6	5MB	1½	40	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFB 25	ICM 25-B	ICFS 25	7.3	22.3	49.0	027L4728
ICF SS 25	6	5MA	1½	40	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFB 25	ICM 25-A	ICFS 25	5.0	22.3	49.0	027L4735

Application 14: Liquid injection (expansion)

Type	No. of Modules	Appl. no.	Connection size		Connection type	Module location						K_v total	Weight		Code number
			[in]	[mm]		M1	M2	M3	M4	M5	M6		[kg]	[lbs]	
ICF SS 20	4	14MA	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICM 20-A	ICFS 20	–	–	0.6	7.3	16.1	027L4710
ICF SS 20	4	14MA	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20E	ICM 20-A	ICFS 20	–	–	0.6	6.9	15.1	027L3444
ICF SS 20	4	14MB	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICM 20-B	ICFS 20	–	–	2.1	7.2	15.8	027L4711
ICF SS 20	4	14MB66	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICM 20-B66	ICFS 20	–	–	1.5	7.0	15.4	027L4722
ICF SS 20	4	14MC	1¼	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICM 20-C	ICFS 20	–	–	3.3	7.3	16.1	027L4712
ICF SS 25	4	14MB	1	25	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICM 25-B	ICFS 25	–	–	8.5	14.8	32.5	027L4765
ICF SS 25	4	14MB	1¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICM 25-B	ICFS 25	–	–	8.5	14.8	32.5	027L4764

Hot gas defrost

Application 9: Hot gas defrost

Type	No. of Modules	Appl. no.	Connection size		Connection type	Module location						K_v total	Weight		Code number
			[in]	[mm]		M1	M2	M3	M4	M5	M6		[kg]	[lbs]	
ICF SS 20	4	9	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFS 20	–	–	3.3	7.2	15.8	027L4707
ICF SS 20	4	9H	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFS 20	–	–	4.1	8.2	18.0	027L4720
ICF SS 20	4	9	1¼	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFS 20	–	–	3.3	6.8	15.0	027L4708
ICF SS 20	4	9H	1¼	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFS 20	–	–	4.1	7.6	16.7	027L4721
ICF SS 25	4	9	1	25	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFS 25	–	–	9.7	16.2	35.7	027L3429
ICF SS 25	4	9	1¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFS 25	–	–	9.7	15.7	34.5	027L4729
ICF SS 25	4	9	1½	40	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFS 25	–	–	9.7	15.7	34.5	027L4730
ICF SS 25	4	9	1½	40	Butt-weld DIN-EN 10220	ICFS 25	ICFW 25D	ICM 25-B	ICFS 25	–	–	8.5	16.6	36.6	027L4190

ICAD and coils are not included and must be ordered separately.

***Please Note**: When used in systems with CO_2, the o-rings on the ICM module can swell (grow). At service, it is therefore recommended to install new o-rings, before the ICM function module is re-installed in the ICF valve body.*

Ordering ICF SS (Stainless Steel)

Miscellaneous

Application 90: Miscellaneous

Type	No. of Modules	Appl. no.	Connection size		Connection type	Module location						K_v total	Weight		Code number
			[in]	[mm]		M1	M2	M3	M4	M5	M6		[kg]	[lbs]	
ICF SS 20	4	90	¾	20	Butt-weld DIN-EN 10220	ICFR 20A	ICFF 20	ICFA 20	ICFN 20	–	–	0.3	6.4	14.1	027L4716
ICF SS 20	6	90	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFB 20	ICFR 20-A	ICFN 20	2.1	9.7	21.3	027L4713
ICF SS 20	6	90	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICM 20-C	ICFS 20	2.5	9.7	21.3	027L4715
ICF SS 20	6	90	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFR 20A	ICFW 20D	2.5	8.9	17.8	027L4740
ICF SS 20	6	90	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFR 20B	ICFW 20D	2.5	8.9	17.8	027L4741
ICF SS 20	6	90	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFC 20	ICFR 20A	ICFW 20D	2.5	9.8	21.5	027L4748
ICF SS 20	6	90	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFC 20	ICFR 20B	ICFW 20D	2.5	9.8	21.5	027L4749
ICF SS 20	6	90	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFW 20D	ICFS 20	2.8	9.3	20.6	027L4768
ICF SS 20	6	90	¾	20	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFB 20	ICFR 20A	ICFS 20	2.1	9.9	21.8	027L3427
ICF SS 20	6	90	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20E	ICFE 20H	ICFC 20	ICFR 20B	ICFW 20D	2.6	11.5	25.3	027L4723
ICF SS 20	6	90	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFR 20A	ICFW 20D	2.6	8.9	17.8	027L4742
ICF SS 20	6	90	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFR 20B	ICFW 20D	2.6	8.9	17.8	027L4743
ICF SS 20	6	90	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFC 20	ICFR 20A	ICFW 20D	2.6	9.8	21.5	027L4750
ICF SS 20	6	90	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFC 20	ICFR 20B	ICFW 20D	2.6	9.8	21.5	027L4751
ICF SS 20	6	90	1	25	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFW 20D	ICFS 20	2.8	9.3	20.6	027L4767
ICF SS 20	6	90	1¼	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFR 20A	ICFW 20D	2.6	8.9	17.8	027L4746
ICF SS 20	6	90	1¼	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20	ICFC 20	ICFR 20B	ICFW 20D	2.6	8.9	17.8	027L4747
ICF SS 20	6	90	1¼	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFC 20	ICFR 20A	ICFW 20D	2.6	9.8	21.5	027L4752
ICF SS 20	6	90	1¼	32	Butt-weld DIN-EN 10220	ICFS 20	ICFF 20	ICFE 20H	ICFC 20	ICFR 20B	ICFW 20D	2.6	9.8	21.5	027L4753
ICF SS 25	6	90	1	25	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICFE 25	ICFN 25	ICFR 25B	ICFW 25D	7.3	24.2	53.2	027L4189
ICF SS 25	6	90	1	25	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICM 25-A	ICFC 25	ICFB 25	ICFS 25	5.2	23.6	51.9	027L4763
ICF SS 25	6	90	1¼	32	Butt-weld DIN-EN 10220	ICFS 25	ICFF 25	ICM 25-B	ICFC 25	ICFB 25	ICFS 25	7.7	23.6	51.9	027L4762

ICAD and coils are not included and must be ordered separately.
***Please Note**: When used in systems with CO_2, the o-rings on the ICM module can swell (grow). At service, it is therefore recommended to install new o-rings, before the ICM function module is re-installed in the ICF valve body.*

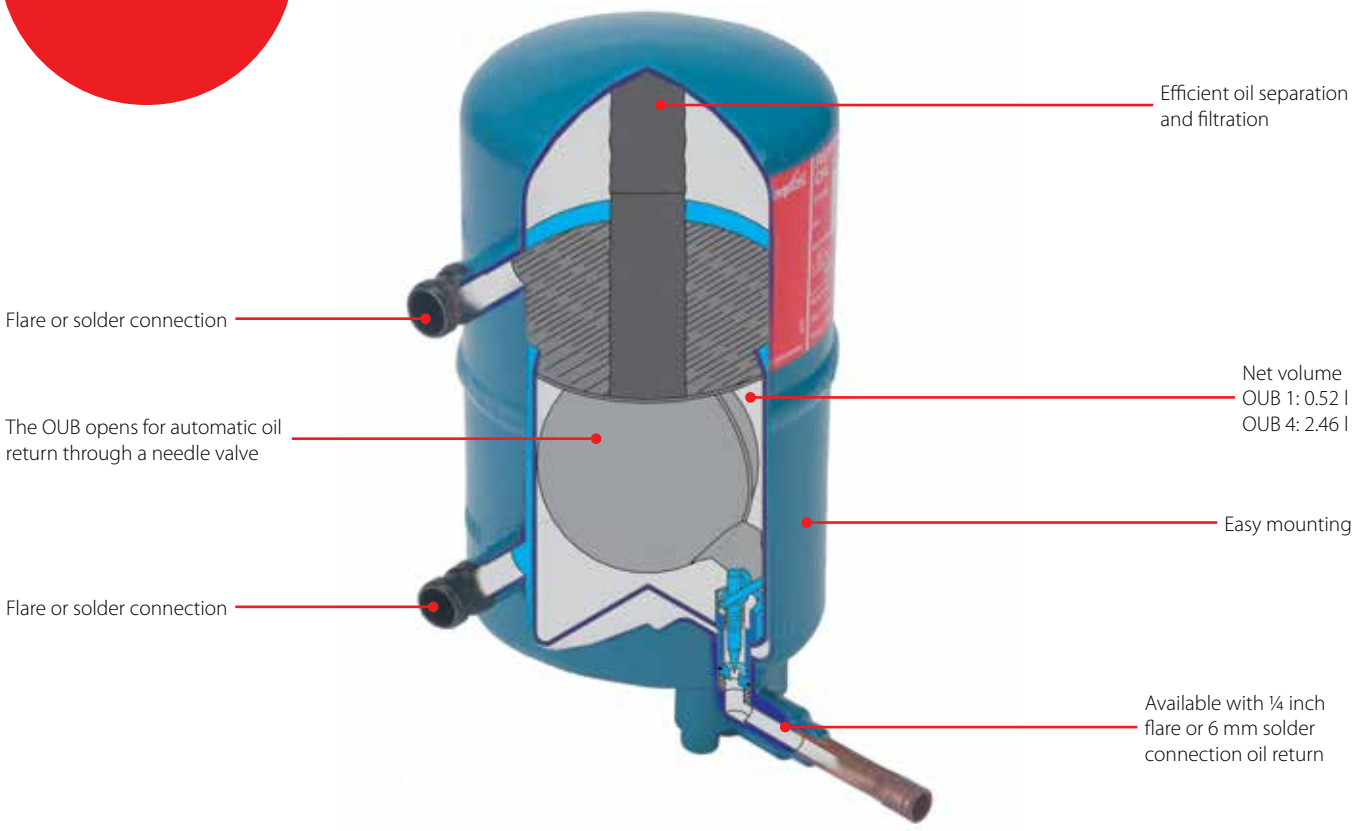
Quick Selection Notes:

OUB, Oil separator

OUB oil separators are for use in all refrigeration plants where the compressor lubricating oil must be returned direct to the compressor oil sump under all operation conditions.

In this way lubricating oil from the compressor is prevented from circulating with the refrigerant in the refrigeration system itself.



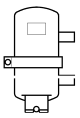


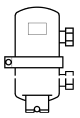
Facts

Application:
- Traditional refrigeration
- Air conditioning units

- High efficiency due to the interaction of reduced flow and a change of flow direction for oil concentration, and due to the collection of the separated oil at high temperature and the automatic return of the oil to the crankcase
- High efficiency protects against liquid hammer in compressor
- Better utilisation of condenser and evaporator capacity (no oil-gas collection)
- Prevents compressor breakdown caused by lack of lubrication
- Increases compressor operating life
- Ensures oil return to compressor oil sump
- Pulsation and noise damping on high- pressure side of system
- Max. working pressure: PS 28 bar
- OUB 1: applicable to R22, R1270, R134a, R290, R404A, R407A, R407C, R407F, R438A, R448A, R449A, R450A, R452A, R507A, R513A, R600, R600a
- OUB 1 may be used in the following EX range: Category 3 (Zone 2)
- OUB 4: applicable to R22, R134a, R404A, R407A, R407C, R407F, R438A, R448A, R449A, R450A, R452A, R507A, R513A
- Temperature of medium: -40 – 120 °C
- Net volume:
  - OUB 1: 0.52 l
  - OUB 4: 2.46 l

Technical data and ordering


OUB 1s


OUB 1/OUB 4

OUB - Oil separator

Ordering

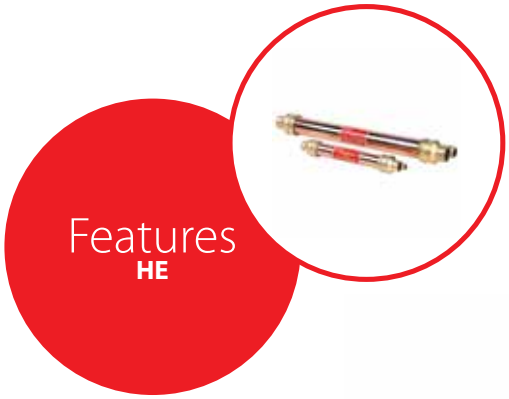
Type	Connection			Rated plant capacity [kW]					Code no. for OUB + unions (straightway)
	[in]	[mm]	Version	R22	R134a	R404A	R507	R407C	
OUB 1	3/8	10	Flare	3.1	2.5	3.5	3.5	4.4	040B0010 + 2 × 040B0132
	3/8	–	Solder	3.1	2.5	3.5	3.5	4.4	040B0010 + 2 × 040B0140
	1/2	12	Flare	3.1	2.5	3.5	3.5	4.4	040B0010 + 2 × 040B0134
	1/2	–	Solder	3.1	2.5	3.5	3.5	4.4	040B0010 + 2 × 040B0142
	5/8	16	Flare	3.1	2.5	3.5	3.5	4.4	040B0010 + 2 × 040B0136
	5/8	16	Solder	3.1	2.5	3.5	3.5	4.4	040B0010 + 2 × 040B0144
	Without connection unions								040B0010
OUB 1s 1)	–	10	Solder	3.1	2.5	3.5	3.5	4.4	040B0023
OUB 1s 2)	–	10	Solder	3.1	2.5	3.5	3.5	4.4	040B0029
OUB 4	5/8	16	Flare	11.6	9.6	12.8	12.8	16.0	040B0040 + 2 × 040B0256
	5/8	16	Solder	11.6	9.6	12.8	12.8	16.0	040B0040 + 2 × 040B0266
	3/4	–	Solder	11.6	9.6	12.8	12.8	16.0	040B0040 + 2 × 040B0268
	7/8	–	Solder	11.6	9.6	12.8	12.8	16.0	040B0040 + 2 × 040B0270
	–	22	Solder	11.6	9.6	12.8	12.8	16.0	040B0040 + 2 × 040B0264
	1 1/8	–	Solder	11.6	9.6	12.8	12.8	16.0	040B0040 + 2 × 040B0274
	Without connection unions								040B0040

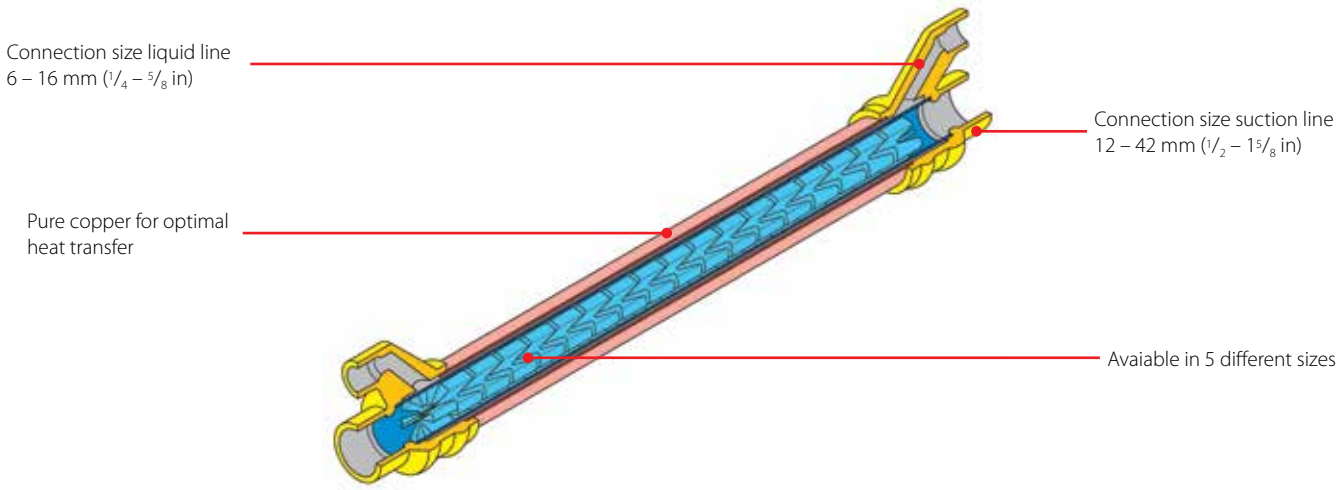
1) ¼ inch flare connection to oil return line.
2) 6 mm ODF solder connection to oil return line.

HE, Tube-in-tube heat exchanger

HE tube-in-tube heat exchangers are used primarily for heat transfer between the liquid and suction lines of the refrigeration plant.

The purpose is to utilize the cooling effect which without a heat exchanger is otherwise lost to the ambient air via uninsulated suction lines. In the heat exchanger, this effect is used to subcool the refrigerant liquid.





Facts

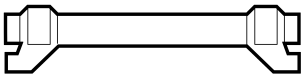
Application:
- Traditional refrigeration
- Air conditioning units

- The design is such that normal suction gas velocities are achieved, with a sub-sequent small pressure drop. Thus the heat exchanger capacity will match plant capacity
- At the same time, oil return to the compressor is ensured
- Helps ensure vapour-free liquid ahead of expansion valve
- Helps prevent sweating and iced-up suction lines
- Maximum utilisation of evaporator on setting the thermostatic expansion valve for minimum superheat

- HE 0.5 – 1.5: applicable to R22, R1270, R134a, R290, R404A, R407A, R407C, R407F, R448A, R449A, R450A, R452A, R507A, R513A, R600, R600a
- HE 0.5 – 1.5: May be used in the following EX range: Category 3 (Zone 2)
- HE 4.0 – 8.0: applicable to R22, R1270, R134a, R290, R404A, R407A, R407C, R407F, R448A, R449A, R450A, R452A, R507A, R513A
- Max. working pressure:
  HE 0.5, 1.0, 1.5, 4.0: PS 28 bar
  HE 8.0: PS 21.5 bar
- Operating temperature:
  -60 – 120 °C

Technical data and ordering

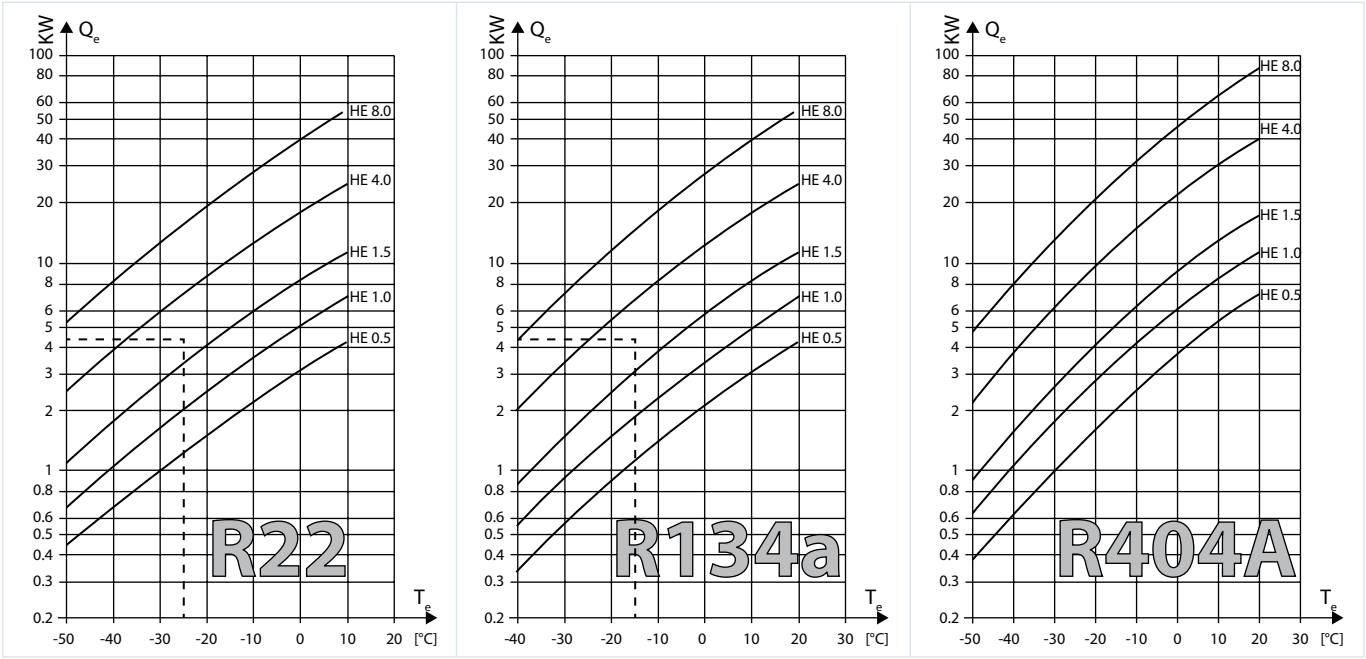
HE, Tube-in-tube heat exchanger



Ordering

Type	Solder connection ODF				Code no.
	Liquid line		Suction line		
	[in]	[mm]	[in]	[mm]	
HE 0.5	–	6	–	12	015D0001
	1/4	–	1/2	–	015D0002
HE 1.0	–	10	–	16	015D0003
	3/8	–	5/8	–	015D0004
HE 1.5	–	12	–	18	015D0005
	1/2	–	3/4	–	015D0006
HE 4.0	–	12	–	28	015D0007
	1/2	–	1 1/8	–	015D0008
HE 8.0	–	16	–	42	015D0009
	5/8	–	1 5/8	–	015D0010

Selection



The curve for R134a shows that an HE 4.0 is suitable.
The curve for HE 4.0 lies immediately above the intersection of the lines through Q_e = 4.5 kW and t_e = -15 °C

The heat flow Q during heat exchange is calculated from the formula:
$Q = k \times A \times \Delta t_m$

Q) heat flow in [W]
k) heat transfer coefficient in [W] / [m²] [°C]
A) transfer area of the heat exchanger in [m²]
Δt_m) the average temperature difference in [°C], calculated from the formula

$$\Delta t_m = \frac{\Delta t_{max.} - t_{min.}}{\ln \frac{\Delta t_{max.}}{\Delta t_{min.}}}$$

k × A values determined by experiment (see table)

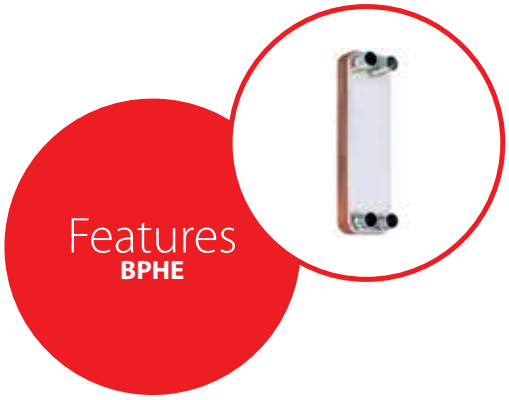
Type	k × A
	[1]) Dry suction gas / refrigerant liquid (normal use in refrigeration plant with fluorinated refrigerants) [W] / [°C]
HE 0.5	2.3
HE 1.0	3.1
HE 1.5	4.9
HE 4.0	11.0
HE 8.0	23.0

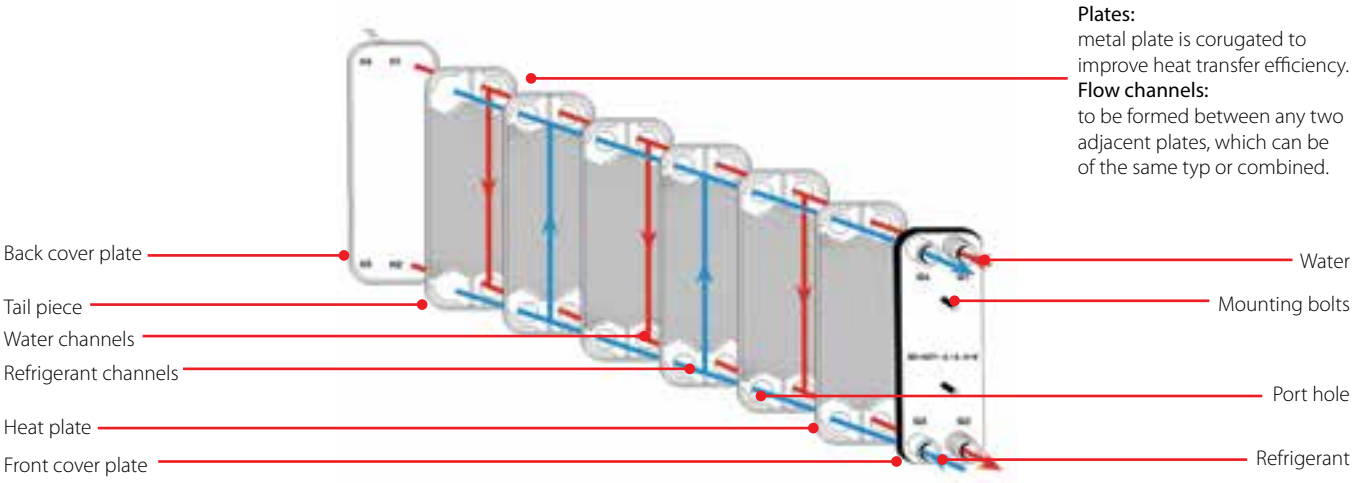
[1]) These figures apply to dry gas only. Even if a thermostatic expansion valve is used, the suction gas will carry very small liquid drops into the suction line. The fins of the HE catch these drops which then evaporate. This may result in a smaller superheat than the theoretically calculated value.

Precise heat exchanger sizing can be obtained from the curves which show plant capacity Q_e for R22, R134a and R404A depending on evaporating temperature t_e.

BPHE, Brazed plate heat exchanger

A brazed plate heat exchanger, consists of a series of thin, corrugated metal plates that are brazed together to improve heat transfer efficiency. The plates are compressed together in a rigid frame to create an arrangement of parallel flow channels. BPHE provides the ability to remove and transfer heat from one medium to another, brazed plate heat exchangers are a cost-saving alternative to conventional condensers and evaporators.
BPHE work with water, brine and oil etc.





Facts

Application:
- The brazed plate heat exchanger is the ideal choice for chillers, heat pumps, economizers, desuperheaters and can be used for numerous other applications
- Applicable to R410A, R134a, R407C, R407A, R407F, R448A, R452A, R513A, R290, etc.

Features
- Compact design
- Low fouling
- High corrosion resistance
- Easy to service
- NPT or BSP connection of water / brine side

- Design temperature: -196 / 200 °C
- Standard design pressure: 30 bar
- High design pressure: 45 bar
- Standard plate material: AISI 316L
- Brazing material: copper
- Approval: PED, UL

Technical data and ordering

BPHE - Brazed plate heat exchanger

Rated capacity

Type	Model	Rated capacity / Water side pressure drop, Evaporator						Rated capacity / Water side pressure drop, Condenser					
		R22		R134a		R407C		R22		R134a		R407C	
		[kW]	[kPa]	[kW]	[kPa]	[kW]	[kPa]	[kW]	[kPa]	[kW]	[kPa]	[kW]	[kPa]
PHE B3-030	B3-030-10-3.0-HQ	3.5	47	2.5	25	3.5	47	5	82	4.4	65	2.6	25
PHE B-3030	B3-030-20-3.0-HQ	7	47	5.5	31	7	47	11	98	9	68	5.4	27
PHE B3-030	B3-030-30-3.0-HQ	10.5	47	8.5	33	10.5	47	16.5	99	13.2	66	8	26
PHE B3-030	B3-030-50-3.0-HQ	17.5	49	15	37	17.5	49	27	98	18.5	49	13	26
PHE B3-030	B3-030-70-3.0-HQ	26.3	57	21.5	40	25	52	37	98	30	66	18.2	27
PHE B3-052	B3-052-54-3.0-HQ	35	46	31	36	33.5	42	38	55	29	32	18.5	14
PHE B3-052	B3-052-70-3.0-HQ	43.8	44	38	34	42	41	48	54	37	32	24	14
PHE B3-052	B3-052-88-3.0-HQ	52.5	42	45.5	32	50	39	61	58	47	35	30	15
PHE B3-095	B3-095-44-3.0-HQ	52.5	31	44	22	52.5	31	56	33	44	21	29	10
PHE B3-095	B3-095-60-3.0-HQ	70	30	60	23	70	30	75	33	59	21	39	10
PHE B3-095	B3-095-74-3.0-HQ	87.5	31	73	24	87.5	31	92	33	72	21	48	10
PHE B3-095	B3-095-92-3.0-HQ	105	31	94	25	105	31	114	34	89	22	59	10
PHE B3-095	B3-095-122-3.0-HQ	140	33	125	27	140	33	148	36	116	23	78	11
PHE B3-210	B3-210-74-3.0-HQ	175	35	165	32	168	33	190	42	152	27	100	12
PHE B3-210	B3-210-90-3.0-HQ	210	36	200	32	205	34	235	44	188	28	122	12

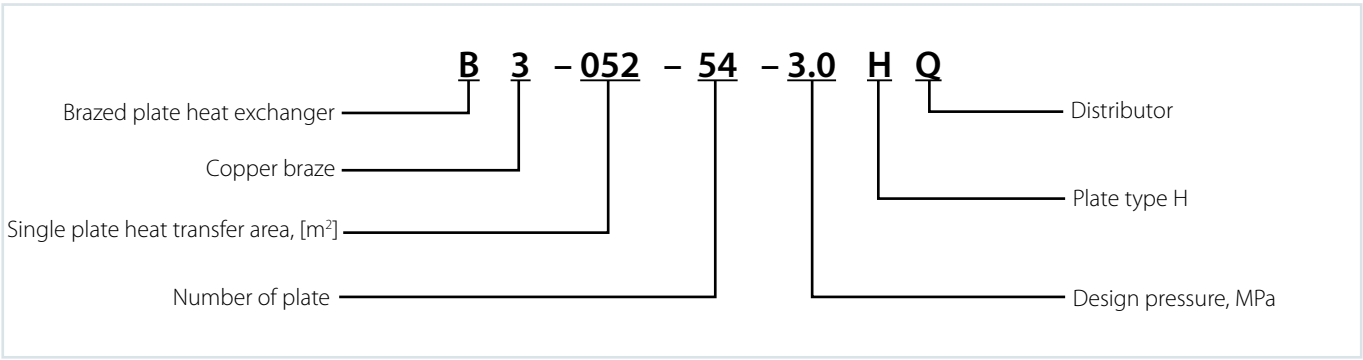
BPHE - Brazed plate heat exchanger

Rated conditions

Refrigerant	Evaporator						Condenser			
	Evaporating temperature [°C]	Super heat [K]	Condensing temperature [°C]	Sub cool [K]	Water-in temperature [°C]	Water-out temperature [°C]	Hot gas temperature [°C]	Condensing temperature [°C]	Water-in temperature [°C]	Water-out temperature [°C]
R22	2	5	40	5	12	7	85	50	40	45
R134a	2	5	40	5	12	7	85	50	40	45
R407C	4.5	5	40	5	12	7	85	50	40	45

Nomenclature and Dimensions

Nomenclature



BPHE - Brazed plate heat exchanger

Ordering

Model	Connection type 1			Code no.	Connection type 2			Code no.
	Ref. in [in]	Ref. out [in]	Water / brine [in]		Ref. in [in]	Ref. out [in]	Water / brine [in]	
B3-030-10-3.0-HQ	H 1/2	H 7/8	G 3/4	021B2060	H 1/2	H 7/8	NPT 3/4	021B2055
B3-030-20-3.0-HQ	H 1/2	H 7/8	G 3/4	021B2061	H 1/2	H 7/8	NPT 3/4	021B2056
B3-030-30-3.0-HQ	H 1/2	H 7/8	G 3/4	021B2062	H 1/2	H 7/8	NPT 3/4	021B2057
B3-030-50-3.0-HQ	H 5/8	H1 1/8	G 3/4	021B2063	H 5/8	H1 1/8	NPT 3/4	021B2058
B3-030-70-3.0-HQ	H 5/8	H1 1/8	G 3/4	021B2064	H 5/8	H1 1/8	NPT 3/4	021B2059
B3-052-54-3.0-HQ	H 5/8	H1 1/8	G1 1/4	021B3706	H 5/8	H1 1/8	NPT1	021B3709
B3-052-70-3.0-HQ	H 5/8	H1 1/8	G1 1/4	021B3707	H 5/8	H1 1/8	NPT1	021B3710
B3-052-88-3.0-HQ	H 5/8	H1 1/8	G1 1/4	021B3708	–	–	–	–
B3-095-44-3.0-HQ	–	–	–	–	H 7/8	H1 3/8	NPT2	021B6352
B3-095-60-3.0-HQ	H 7/8	H1 3/8	G2	021B6321	H 7/8	H1 3/8	NPT2	021B6324
B3-095-74-3.0-HQ	H 7/8	H1 3/8	G2	021B6322	H 7/8	H1 3/8	NPT2	021B6325
B3-095-92-3.0-HQ	H 7/8	H1 3/8	G2	021B6323	H 7/8	H1 3/8	NPT2	021B6326
B3-095-122-3.0-HQ	–	–	–	–	H1 1/8	H2 1/8	NPT2	021B6358
B3-210-74-3.0-HQ	–	–	–	–	H1 1/8	H2" 1/8	NPT2	021B7595
B3-210-90-3.0-HQ	–	–	–	–	H1 1/8	H2" 1/8	NPT2	021B7596

Danfoss offers customized products to meet your requirements. Please contact Danfoss for more information.

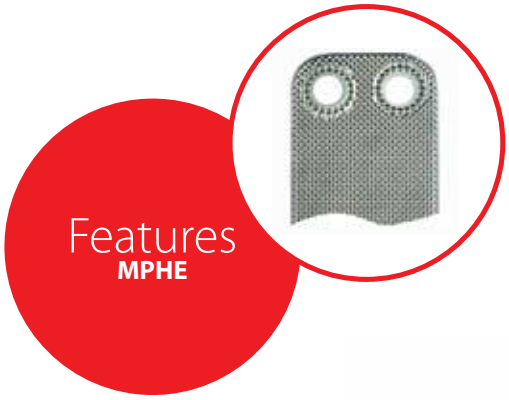
***Media**: R407C, R22, R134a, R404A, R407F, R513A, R1234ze, R452A. For applications with flammable refrigerants, please contact your Danfoss sales representative.*
Use only for system in compliance with ATEX. Ignition risk is evaluated in accordance to ATEX. BPHE can be applied on systems with R290 and R600a as the working fluid. For countries where safety standards are not an indispensable part of the safety system Danfoss recommend the installer to get a third party approval of the system containing flammable refrigerant.
***Note**: Please follow specific selection criteria stated in the data sheet for these particular refrigerants.*

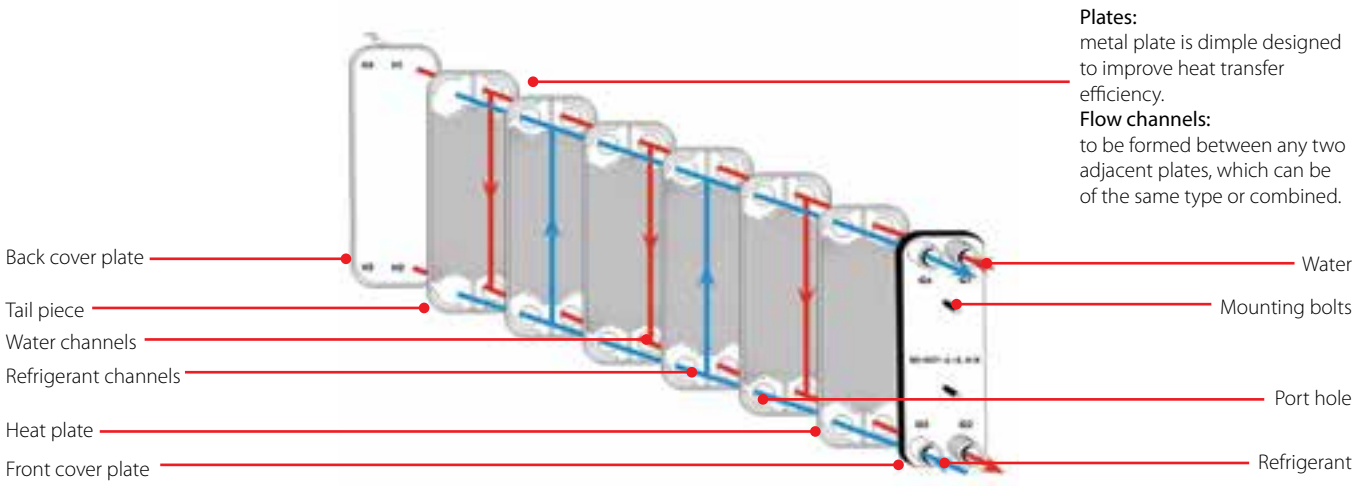
Quick Selection Notes:

MPHE, Micro plate heat exchanger

Featuring patented dimple-based design heat exchangers ensure more uniform and reliable liquid distribution, therefore maximize the heat transfer surface and higher system performances. The unique designs – from first dimple design to asymmetric X design for condensers and Z design for evaporators - offer long lasting performance through well-defined brazing areas even with high working pressures.

MPHE are applicable to main refrigerants including those with lower GWP: R410A, R32, R452/4B, R454C, R134a, R513A, R404A, R407C, R407A/F, R448/9A, R290 etc.





Facts

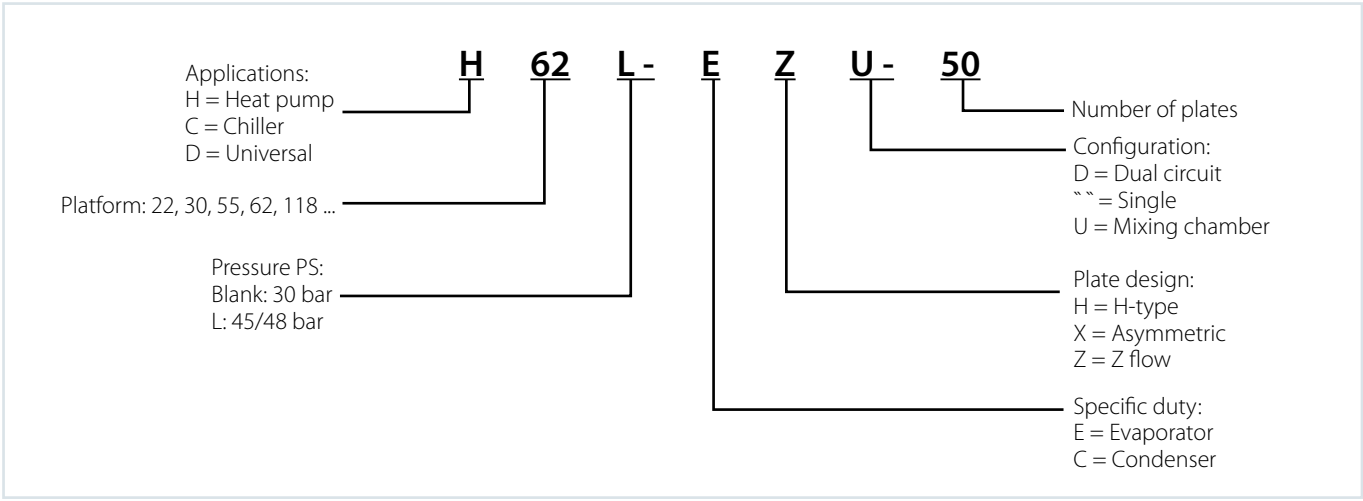
Application:
- The Micro Plate Heat Exchanger with M and Z design are dedicated to chillers and heat pumps, economizers or close controls.
- High efficiency and compatibility with many refrigerants help meet European Ecodesign and F-Gas targets.
- MPHE are applicable to main refrigerants including those with lower GWP: R410A, R32, R452/4B, R454C, R134a, R513A, R404A, R407C, R407A/F, R448/9A, R290 etc.

Features
- Dimple-based design ensure high system efficiency with optimized heat transfer
- Standard and high-pressure designs are compatible even with high density refrigerants

- Design temperatures -196 / 200 °C
- Standard design pressure: 30 bar
- High design pressure 45 bar
- Approval: PED, UL

Nomenclature and Dimensions

Nomenclature



MPHE - Micro plate heat exchanger

Ordering

Application	Platform	Pressure PS		Specific duty	Plate design	Configuration		Number of plates
H	30	L	–	C	–	–	–	50
D	55	L	–	E	–	U	–	70
H	62	L	–	E	Z	U	–	50
H	62	L	–	C	X	–	–	60
C	118	L	–	E	Z	–	–	100

Technical data and ordering

MPHE - Micro plate heat exchanger

With distributor 45 bar

Model	Capacity [kW]	Height [mm]	Width [mm]	Weight [kg]	Q3 (ref. in) Combo conn.	Q4 (ref. out) Combo conn.	Q1 Combo conn.	Q2 Combo conn.	Studbolt	Code no.
					SOLDER [in]	SOLDER [in]	THREAD [in] / SOLDER [in]	THREAD [in] / SOLDER [in]	Front	
D55L-EU-10	4	525	109	4.27	1/2	7/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H7470
D55L-EU-16	7	525	109	5.08	1/2	7/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H7471
D55L-EU-20	9	525	109	5.62	1/2	7/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H7472
D55L-EU-26	12	525	109	6.43	1/2	7/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H7473
D55L-EU-30	14	525	109	6.97	1/2	7/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H7474
D55L-EU-36	17	525	109	7.78	1/2	7/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H7475
D55L-EU-40	19	525	109	8.32	1/2	7/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H7476
D55L-EU-46	22	525	109	9.13	1/2	7/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H7477
D55L-EU-50	24	525	109	9.67	5/8	7/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H7478
D55L-EU-60	30	525	109	11.02	5/8	7/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H7479
D55L-EU-70	35	525	109	12.37	5/8	1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H7480
D55L-EU-80	40	525	109	13.72	5/8	1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H7481
D55L-EU-90	45	525	109	15.07	5/8	1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H7482
D55L-EU-100	50	525	109	16.42	5/8	1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H7483
D62L-E -16	6	525	119	5.67	3/8	5/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0840
D62L-E -20	8	525	119	6.25	3/8	5/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0841
D62L-E - 26	10	525	119	7.12	3/8	3/4	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0842
D62L-E - 30	12	525	119	7.7	3/8	3/4	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0843
D62L-E - 36	15	525	119	8.57	1/2	3/4	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0844
D62L-E - 40	17	525	119	9.15	1/2	3/4	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0845
D62L-E - 46	20	525	119	10.02	1/2	7/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0846
D62L-E - 50	22	525	119	10.6	1/2	7/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0847
D62L-E - 60	25	525	119	12.05	5/8	1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0848
D62L-E - 70	30	525	119	13.5	5/8	1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0849
D62L-E - 80	35	525	119	14.95	5/8	1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0850
D62L-E - 90	40	525	119	16.4	3/4	1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0851
D62L-E - 100	45	525	119	17.85	3/4	1 3/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0852
D62L-E - 110	50	525	119	19.3	3/4	1 3/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0853
D62L-E - 120	55	525	119	20.75	3/4	1 3/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0854
D118L-E - 20	20	613	186	13.14	5/8	1 1/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2718
D118L-E - 26	26	613	186	14.7	5/8	1 1/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2719
D118L-E - 30	30	613	186	15.74	5/8	1 1/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2720
D118L-E - 36	36	613	186	17.3	5/8	1 1/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2721
D118L-E - 40	40	613	186	18.34	5/8	1 1/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2722
D118L-E - 46	46	613	186	19.9	3/4	1 1/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2723
D118L-E - 50	50	613	186	20.94	3/4	1 1/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2724
D118L-E - 56	56	613	186	22.5	3/4	1 1/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2725
D118L-E - 60	60	613	186	23.54	3/4	1 1/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2726
D118L-E - 70	70	613	186	26.14	7/8	1 3/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2727
D118L-E - 80	80	613	186	28.74	7/8	1 3/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2728
D118L-E - 90	90	613	186	31.34	7/8	1 5/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2729
D118L-E - 100	100	613	186	33.94	7/8	1 5/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2730
D118L-E - 110	110	613	186	36.54	1 1/8	1 5/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2731
D118L-E - 120	120	613	186	39.14	1 1/8	2 1/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2732
D118L-E - 130	130	613	186	41.74	1 1/8	2 1/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2733
D118L-E - 140	140	613	186	44.34	1 1/8	2 1/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2734
D118L-E - 150	150	613	186	46.94	1 1/8	2 1/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2735
D118L-E - 160	160	613	186	49.54	1 1/8	2 1/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2736

Technical data and ordering

MPHE - Micro plate heat exchanger

With distributor 30 bar

Model	Capacity [kW]	Height [mm]	Width [mm]	Weight [kg]	Q3 (ref. in) Combo conn.	Q4 (ref. out) Combo conn.	Q1 Combo conn.	Q2 Combo conn.	Studbolt	Code no.
					SOLDER [in]	SOLDER [in]	THREAD [in] / SOLDER [in]	THREAD [in] / SOLDER [in]	Front	
D62-E-16	6	525	118	5.24	1/2	7/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0870
D62-E-20	8	525	118	5.82	1/2	7/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0871
D62-E-26	10	525	118	6.69	1/2	7/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0872
D62-E-30	12	525	118	7.27	5/8	1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0873
D62-E-36	15	525	118	8.14	5/8	1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0874
D62-E-40	17	525	118	8.72	5/8	1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0875
D62-E-46	20	525	118	9.59	3/4	1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0876
D62-E-50	22	525	118	10.17	3/4	1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0877
D62-E-60	25	525	118	11.62	3/4	1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0878
D62-E-70	30	525	118	13.07	7/8	1 3/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0879
D62-E-80	35	525	118	14.52	7/8	1 3/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0880
D62-E-90	40	525	118	15.97	7/8	1 3/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0881
D62-E-100	45	525	118	17.42	1 1/8	1 5/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0882
D62-E-110	50	525	118	18.87	1 1/8	1 5/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0883
D62-E-120	55	525	118	20.32	1 1/8	1 5/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0884
D118-E-20	20	613	186	11.15	5/8	1 1/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2756
D118-E-26	26	613	186	12.71	5/8	1 1/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2757
D118-E-30	30	613	186	13.75	3/4	1 3/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2758
D118-E-36	36	613	186	15.31	3/4	1 3/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2759
D118-E-40	40	613	186	16.35	3/4	1 3/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2760
D118-E-46	46	613	186	17.91	7/8	1 5/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2761
D118-E-50	50	613	186	18.95	7/8	1 5/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2762
D118-E-56	56	613	186	20.51	7/8	1 5/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2763
D118-E-60	60	613	186	21.55	1 1/8	2 1/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2764
D118-E-70	70	613	186	24.15	1 1/8	2 1/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2765
D118-E-80	80	613	186	26.75	1 1/8	2 1/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2766
D118-E-90	90	613	186	29.35	1 1/8	2 1/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2767
D118-E-100	100	613	186	31.95	1 1/8	2 1/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2768
D118-E-110	110	613	186	34.55	1 1/8	2 1/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2769
D118-E-120	120	613	186	37.15	1 1/8	2 1/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2770
D118-E-130	130	613	186	39.75	1 1/8	2 1/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2771
D118-E-140	140	613	186	42.35	1 1/8	2 1/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2772
D118-E-150	150	613	186	44.95	1 1/8	2 1/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2773
D118-E-160	160	613	186	47.55	1 1/8	2 1/8	G 2 / 1 5/8	G 2 / 1 5/8	YES	021H2774

Technical data and ordering

MPHE - Micro plate heat exchanger

45 bar

Model	Capacity [kW]	Height [mm]	Width [mm]	Weight [kg]	Q3 (ref. in) Combo conn.	Q4 (ref. out) Combo conn.	Q1 Combo conn.	Q2 Combo conn.	Studbolt	Code no.
					SOLDER [in]	SOLDER [in]	THREAD [in] / SOLDER [in]	THREAD [in] / SOLDER [in]	Front	
D22L-10	3	312	76	1.22	G ¾ / ⅝	G ¾ / ⅝	G ¾ / ⅝	G ¾ / ⅝	NO	021H1287
D22L-16	4	312	76	1.49	G ¾ / ⅝	G ¾ / ⅝	G ¾ / ⅝	G ¾ / ⅝	NO	021H1288
D22L-20	5	312	76	1.67	G ¾ / ⅝	G ¾ / ⅝	G ¾ / ⅝	G ¾ / ⅝	NO	021H1289
D22L-26	6	312	76	1.94	G ¾ / ⅝	G ¾ / ⅝	G ¾ / ⅝	G ¾ / ⅝	NO	021H1290
D22L-30	7	312	76	2.12	G ¾ / ⅝	G ¾ / ⅝	G ¾ / ⅝	G ¾ / ⅝	NO	021H1291
D22L-36	8	312	76	2.39	G ¾ / ⅝	G ¾ / ⅝	G ¾ / ⅝	G ¾ / ⅝	NO	021H1292
D22L-40	9	312	76	2.57	G ¾ / ⅝	G ¾ / ⅝	G ¾ / ⅝	G ¾ / ⅝	NO	021H1293
D22L-50	10	312	76	3.02	G ¾ / ⅝	G ¾ / ⅝	G ¾ / ⅝	G ¾ / ⅝	NO	021H1294
D22L-60	12	312	76	3.47	G ¾ / ⅝	G ¾ / ⅝	G ¾ / ⅝	G ¾ / ⅝	NO	021H1295
D55L-H-10	3	525	109	4.02	G1 / ⅞	G1 / ⅞	G1 / ⅞	G1 / ⅞	YES	021H3593
D55L-H-16	6	525	109	4.83	G1 / ⅞	G1 / ⅞	G1 / ⅞	G1 / ⅞	YES	021H3594
D55L-H-20	8	525	109	5.37	G1 / ⅞	G1 / ⅞	G1 / ⅞	G1 / ⅞	YES	021H3595
D55L-H-26	10	525	109	6.18	G1 / ⅞	G1 / ⅞	G1 / ⅞	G1 / ⅞	YES	021H3596
D55L-H-30	12	525	109	6.72	G1 / ⅞	G1 / ⅞	G1 / ⅞	G1 / ⅞	YES	021H3597
D55L-H-36	15	525	109	7.53	G1 / ⅞	G1 / ⅞	G1 / ⅞	G1 / ⅞	YES	021H3598
D55L-H-40	17	525	109	8.07	G1 / ⅞	G1 / ⅞	G1 / ⅞	G1 / ⅞	YES	021H3599
D55L-H-46	20	525	109	8.88	G1 / ⅞	G1 / ⅞	G1 / ⅞	G1 / ⅞	YES	021H3600
D55L-H-50	22	525	109	9.42	G1 / ⅞	G1 / ⅞	G1 / ⅞	G1 / ⅞	YES	021H3601
D55L-H-60	25	525	109	10.77	G1 / ⅞	G1 / ⅞	G1 / ⅞	G1 / ⅞	YES	021H3602
D55L-H-70	30	525	109	12.12	G1 / ⅞	G1 / ⅞	G1 / ⅞	G1 / ⅞	YES	021H3603
D55L-H-80	35	525	109	13.47	G1 / ⅞	G1 / ⅞	G1 / ⅞	G1 / ⅞	YES	021H3604
D62L-H-16	6	525	118	5.67	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	021H0855
D62L-H-20	8	525	118	6.25	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	021H0856
D62L-H-26	10	525	118	7.12	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	021H0857
D62L-H-30	12	525	118	7.7	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	021H0858
D62L-H-36	15	525	118	8.57	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	021H0859
D62L-H-40	17	525	118	9.15	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	021H0860
D62L-H-46	20	525	118	10.02	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	021H0861
D62L-H-50	22	525	118	10.6	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	021H0862
D62L-H-60	25	525	118	12.05	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	021H0863
D62L-H-70	30	525	118	13.5	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	021H0864
D62L-H-80	35	525	118	14.95	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	021H0865
D62L-H-90	40	525	118	16.4	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	021H0866
D62L-H-100	45	525	118	17.85	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	021H0867
D62L-H-110	50	525	118	19.3	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	021H0868
D62L-H-120	55	525	118	20.75	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	021H0869
D118L-20	20	613	186	13.14	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	YES	021H2737
D118L-26	26	613	186	14.7	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	YES	021H2738
D118L-30	30	613	186	15.74	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	YES	021H2739
D118L-36	36	613	186	17.3	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	YES	021H2740
D118L-40	40	613	186	18.34	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	YES	021H2741
D118L-46	46	613	186	19.9	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	YES	021H2742
D118L-50	50	613	186	20.94	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	YES	021H2743
D118L-56	56	613	186	22.5	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	YES	021H2744
D118L-60	60	613	186	23.54	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	YES	021H2745
D118L-70	70	613	186	26.14	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	YES	021H2746
D118L-80	80	613	186	28.74	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	YES	021H2747
D118L-90	90	613	186	31.34	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	YES	021H2748
D118L-100	100	613	186	33.94	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	YES	021H2749
D118L-110	110	613	186	36.54	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	YES	021H2750
D118L-120	120	613	186	39.14	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	YES	021H2751
D118L-130	130	613	186	41.74	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	YES	021H2752
D118L-140	140	613	186	44.34	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	YES	021H2753
D118L-150	150	613	186	46.94	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	YES	021H2754
D118L-160	160	613	186	49.54	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	G2 / 1 ⅝	YES	021H2755

Technical data and ordering

MPHE - Micro plate Heat Exchanger

30 bar

Model	Capacity [kW]	Height [mm]	Width [mm]	Weight [kg]	Q3 (ref. in) Combo conn.	Q4 (ref. out) Combo conn.	Q1 Combo conn.	Q2 Combo conn.	Studbolt	Code no.
					SOLDER [in]	SOLDER [in]	THREAD [in] / SOLDER [in]	THREAD [in] / SOLDER [in]	Front	
D22-10	3	312	76	1.03	G 3/4 / 5/8	G 3/4 / 5/8	G 3/4 / 5/8	G 3/4 / 5/8	NO	021H1296
D22-16	4	312	76	1.3	G 3/4 / 5/8	G 3/4 / 5/8	G 3/4 / 5/8	G 3/4 / 5/8	NO	021H1297
D22-20	5	312	76	1.48	G 3/4 / 5/8	G 3/4 / 5/8	G 3/4 / 5/8	G 3/4 / 5/8	NO	021H1298
D22-26	6	312	76	1.75	G 3/4 / 5/8	G 3/4 / 5/8	G 3/4 / 5/8	G 3/4 / 5/8	NO	021H1299
D22-30	7	312	76	1.93	G 3/4 / 5/8	G 3/4 / 5/8	G 3/4 / 5/8	G 3/4 / 5/8	NO	021H1300
D22-36	8	312	76	2.2	G 3/4 / 5/8	G 3/4 / 5/8	G 3/4 / 5/8	G 3/4 / 5/8	NO	021H4801
D22-40	9	312	76	2.38	G 3/4 / 5/8	G 3/4 / 5/8	G 3/4 / 5/8	G 3/4 / 5/8	NO	021H4802
D22-50	10	312	76	2.83	G 3/4 / 5/8	G 3/4 / 5/8	G 3/4 / 5/8	G 3/4 / 5/8	NO	021H4803
D22-60	12	312	76	3.28	G 3/4 / 5/8	G 3/4 / 5/8	G 3/4 / 5/8	G 3/4 / 5/8	NO	021H4804
D55-H-10	3	525	109	3.67	G1 / 7/8	G1 / 7/8	G1 / 7/8	G1 / 7/8	YES	021H3617
D55-H-16	6	525	109	4.48	G1 / 7/8	G1 / 7/8	G1 / 7/8	G1 / 7/8	YES	021H3618
D55-H-20	8	525	109	5.02	G1 / 7/8	G1 / 7/8	G1 / 7/8	G1 / 7/8	YES	021H3619
D55-H-26	10	525	109	5.83	G1 / 7/8	G1 / 7/8	G1 / 7/8	G1 / 7/8	YES	021H3620
D55-H-30	12	525	109	6.37	G1 / 7/8	G1 / 7/8	G1 / 7/8	G1 / 7/8	YES	021H3621
D55-H-36	15	525	109	7.18	G1 / 7/8	G1 / 7/8	G1 / 7/8	G1 / 7/8	YES	021H3622
D55-H-40	17	525	109	7.72	G1 / 7/8	G1 / 7/8	G1 / 7/8	G1 / 7/8	YES	021H3623
D55-H-46	20	525	109	8.53	G1 / 7/8	G1 / 7/8	G1 / 7/8	G1 / 7/8	YES	021H3624
D55-H-50	22	525	109	9.07	G1 / 7/8	G1 / 7/8	G1 / 7/8	G1 / 7/8	YES	021H3625
D55-H-60	25	525	109	10.42	G1 / 7/8	G1 / 7/8	G1 / 7/8	G1 / 7/8	YES	021H3626
D55-H-70	30	525	109	11.77	G1 / 7/8	G1 / 7/8	G1 / 7/8	G1 / 7/8	YES	021H3627
D55-H-80	35	525	109	13.12	G1 / 7/8	G1 / 7/8	G1 / 7/8	G1 / 7/8	YES	021H3628
D62-16	6	525	118	5.24	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0885
D62-20	8	525	118	5.82	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0886
D62-26	10	525	118	6.69	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0887
D62-30	12	525	118	7.27	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0888
D62-36	15	525	118	8.14	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0889
D62-40	17	525	118	8.72	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0890
D62-46	20	525	118	9.59	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0891
D62-50	22	525	118	10.17	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0892
D62-60	25	525	118	11.62	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0893
D62-70	30	525	118	13.07	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0894
D62-80	35	525	118	14.52	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0895
D62-90	40	525	118	15.97	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0896
D62-100	45	525	118	17.42	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0897
D62-110	50	525	118	18.87	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0898
D62-120	55	525	118	20.32	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	G1 1/4 / 1 1/8	YES	021H0899
D118-20	20	613	186	11.15	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	YES	021H2775
D118-26	26	613	186	12.71	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	YES	021H2776
D118-30	30	613	186	13.75	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	YES	021H2777
D118-36	36	613	186	15.31	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	YES	021H2778
D118-40	40	613	186	16.35	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	YES	021H2779
D118-46	46	613	186	17.91	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	YES	021H2780
D118-50	50	613	186	18.95	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	YES	021H2781
D118-56	56	613	186	20.51	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	YES	021H2782
D118-60	60	613	186	21.55	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	YES	021H2783
D118-70	70	613	186	24.15	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	YES	021H2784
D118-80	80	613	186	26.75	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	YES	021H2785
D118-90	90	613	186	29.35	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	YES	021H2786
D118-100	100	613	186	31.95	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	YES	021H2787
D118-110	110	613	186	34.55	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	YES	021H2788
D118-120	120	613	186	37.15	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	YES	021H2789
D118-130	130	613	186	39.75	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	YES	021H2790
D118-140	140	613	186	42.35	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	YES	021H2791
D118-150	150	613	186	44.95	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	YES	021H2792
D118-160	160	613	186	47.55	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	G2 / 1 5/8	YES	021H2793

Danfoss offers customized products to meet your requirements. Please contact Danfoss for more information.

***Media**: R410A, R407C, R22, R134a, R404A, R407F, R513A, R1234ze, R452A. For applications with flammable refrigerants, please contact Danfoss sales representative.*
Use only for system in compliance with ATEX. Ignition risk is evaluated in accordance to ATEX. BPHE can be applied on systems with R290 and R600a as the working fluid. For countries where safety standards are not an indispensable part of the safety system Danfoss recommend the installer to get a third party approval of the system containing flammable refrigerant.
***Note**: Please follow specific selection criteria stated in the data sheet for these particular refrigerants.*

Technical data and ordering

MPHE - Micro plate heat exchanger

45 bar (30 bar secondary side)

Model	Capacity *) [kW]	Height [mm]	Width [mm]	Weight [kg]	Q3 (ref. in) Combo conn.	Q4 (ref. out) Combo conn.	Q1 Combo conn.	Q2 Combo conn.	Studbolt	Code no.
					Solder [in]	Solder [in]	Thread [in] / Solder [in]	Thread [in] / Solder [in]	Front	
H62L-EZU-20	4.4	525	118	6.1	3/8	7/8	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	111B2112
H62L-EZU-26	6	525	118	6.97	3/8	7/8	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	111B2113
H62L-EZU-30	7	525	118	7.55	3/8	7/8	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	111B2114
H62L-EZU-36	8.5	525	118	8.42	3/8	7/8	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	111B2115
H62L-EZU-40	9.5	525	118	9	3/8	7/8	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	111B2116
H62L-EZU-46	11	525	118	9.87	1/2	7/8	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	111B2117
H62L-EZU-50	12.5	525	118	10.45	1/2	1 1/8	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	111B2118
H62L-EZU-60	14.5	525	118	11.9	1/2	1 1/8	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	111B2119
H62L-EZU-70	17	525	118	13.35	1/2	1 1/8	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	111B2120
H62L-EZU-80	19.5	525	118	14.8	1/2	1 1/8	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	111B2121
H62L-EZU-90	22	525	118	16.25	5/8	1 3/8	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	111B2122
H62L-EZU-100	24	525	118	17.7	5/8	1 3/8	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	111B2123
H62L-EZU-110	27	525	118	19.15	5/8	1 3/8	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	111B2124
H62L-EZU-120	29	525	118	20.6	5/8	1 3/8	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	111B2125

*) Design conditions:
Side 1: R410A, Tevap=-5°C, Tsh=3K, Tliq=30 °C
Side 2: 30% Ethylene Glycol, Tin=0 °C, Tout=-3 °C, dPw=30 kPa

MPHE - Micro plate heat exchanger

48 bar

Model	Capacity *) [kW]	Height [mm]	Width [mm]	Weight [kg]	Q3 (ref. out) Combo conn.	Q4 (ref. in) gas Combo conn.	Q1(Brine out) Combo conn.	Q2 (Brine in) Combo conn.	Studbolt	Code no.
					Solder [in]	Solder [in]	Thread [in] / Solder [in]	Thread [in] / Solder [in]	Front	
H62L-CX-20	7,5	525	118	5.68	3/8	5/8	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	021H0373
H62L-CX-26	10	525	118	6.51	3/8	5/8	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	021H0374
H62L-CX-30	11,5	525	118	7.06	3/8	5/8	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	021H0375
H62L-CX-36	14	525	118	7.89	3/8	5/8	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	021H0376
H62L-CX-40	15,5	525	118	8.44	3/8	5/8	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	021H0377
H62L-CX-46	18	525	118	9.27	1/2	7/8	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	021H0378
H62L-CX-50	19,5	525	118	9.82	1/2	7/8	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	021H0379
H62L-CX-60	23,5	525	118	11.2	1/2	7/8	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	021H0380
H62L-CX-70	28	525	118	12.6	5/8	1 1/8	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	021H0381
H62L-CX-80	32	525	118	14	5/8	1 1/8	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	021H0382
H62L-CX-90	36	525	118	15.3	5/8	1 1/8	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	021H0383
H62L-CX-100	40	525	118	16.7	5/8	1 1/8	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	021H0384
H62L-CX-110	44	525	118	18.1	5/8	1 1/8	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	021H0385
H62L-CX-120	48	525	118	19.5	5/8	1 1/8	G1 ¼ / 1 ⅛	G1 ¼ / 1 ⅛	YES	021H0386

*) Design conditions:
Side 1: R410A, Tc=36 °C, Tsub=3K, Tinlet=70 °C
Side 2: Water, Tin=30 °C, Tout=35 °C, dPw=30 kPa

MPHE - Micro plate heat exchanger

45 bar

Model	Capacity *) [kW]	Height [mm]	Width [mm]	Weight [kg]	Q3 (ref. out) Combo conn.	Q4 (ref. in) gas Combo conn.	Q1 (Brine out) Combo conn.	Q2 (Brine in) Combo conn.	Studbolt	Code no.
					Solder [in]	Solder [in]	Thread [in] / Solder [in]	Thread [in] / Solder [in]	Front	
H30L-C-20	3,1	320	95	2.35	3/8"	5/8"	G1	G1	YES	021H4171
H30L-C-30	4,8	320	95	3.08	3/8"	5/8"	G1	G1	YES	021H4172
H30L-C-40	6,5	320	95	3.81	3/8"	5/8"	G1	G1	YES	021H4173
H30L-C-50	8,3	320	95	4.54	3/8"	5/8"	G1	G1	YES	021H4174
H30L-C-60	10	320	95	5.27	1/2"	7/8"	G1	G1	YES	021H4175
H30L-C-70	12	320	95	6	1/2"	7/8"	G1	G1	YES	021H4176
H30L-C-80	13,5	320	95	6.73	1/2"	7/8"	G1	G1	YES	021H4177

*) Design conditions:
Side 1: R410A, Tc=36 °C, Tsub=3K, Tinlet=70 °C
Side 2: Water, Tin=30 °C, Tout=35 °C, dPw=30 kPa

Technical data and ordering

MPHE - Micro plate heat exchanger

With distributor 45 bar (30 bar secondary side)

Model	Capacity *) [kW]	Height [mm]	Width [mm]	Weight [kg]	Q3 (ref. in) Combo conn.	Q4 (ref. out) Combo conn.	Q1 Combo conn.	Q2 Combo conn.	Studbolt	Code no.
					Solder [in]	Thread [in] / Solder [in]	Thread [in] / Solder [in]	Thread [in] / Solder [in]	Front	
C62L-EZ-20	14	525	119	7.5	1/2	7/8	G1 1/4	G1 1/4	YES	111B2126
C62L-EZ-30	22	525	119	9.1	5/8	1 1/8	G1 1/4	G1 1/4	YES	111B2127
C62L-EZ-40	30	525	119	10.6	5/8	1 1/8	G1 1/4	G1 1/4	YES	111B2128
C62L-EZ-50	38	525	119	12.2	3/4	1 1/8	G1 1/4	G1 1/4	YES	111B2129
C62L-EZ-60	45	525	119	13.7	3/4	1 1/8	G1 1/4	G1 1/4	YES	111B2130
C62L-EZ-70	52	525	119	15.3	7/8	1 3/8	G1 1/4	G1 1/4	YES	111B2131
C62L-EZ-80	58.7	525	119	16.8	7/8	1 3/8	G1 1/4	G1 1/4	YES	111B2132
C62L-EZ-90	65	525	119	18.4	7/8	1 3/8	G1 1/4	G1 1/4	YES	111B2133
C62L-EZ-100	70.5	525	119	19.9	1 1/8	1 5/8	G1 1/4	G1 1/4	YES	111B2134
C62L-EZ-110	75.5	525	119	21.5	1 1/8	1 5/8	G1 1/4	G1 1/4	YES	111B2135
C62L-EZ-120	80	525	119	23.0	1 1/8	1 5/8	G1 1/4	G1 1/4	YES	111B2136
C62L-EZ-140	89	525	119	26.1	1 1/8	1 5/8	G1 1/4	G1 1/4	YES	111B2137

**) Design conditions:*
Side 1: R410A, Tevap=4 °C, Tliq=43 °C, Tsh=5 K
Side 2: Water, Tin=12 °C, Tout=7 °C, dPw=35 kPa

MPHE - Micro plate heat exchanger

With distributor 45 bar (25 bar secondary side)

Model	Capacity *) [kW]	Height [mm]	Width [mm]	Weight [kg]	Q3 (ref. in) Combo conn.	Q4 (ref. out) Combo conn.	Q1 Combo conn.	Q2 Combo conn.	Studbolt	Code no.
					Solder [in]	Thread [in] / Solder [in]	Thread [in] / Solder [in]	Thread [in] / Solder [in]	Front	
C118L-EZ-40	42	613	186	22.6	3/4	1 3/8	ISO-G 2	ISO-G 2	YES	111B1817
C118L-EZ-50	53	613	186	25.4	7/8	1 5/8	ISO-G 2	ISO-G 2	YES	111B1818
C118L-EZ-60	64	613	186	28.3	1 1/8	2 1/8	ISO-G 2	ISO-G 2	YES	111B1819
C118L-EZ-70	75	613	186	31.1	1 1/8	2 1/8	ISO-G 2	ISO-G 2	YES	111B1820
C118L-EZ-80	87	613	186	33.9	1 1/8	2 1/8	ISO-G 2	ISO-G 2	YES	111B1821
C118L-EZ-90	97	613	186	36.8	1 1/8	2 1/8	ISO-G 2	ISO-G 2	YES	111B1822
C118L-EZ-100	108	613	186	39.6	1 1/8	2 1/8	ISO-G 2	ISO-G 2	YES	111B1823
C118L-EZ-110	118	613	186	42.4	1 1/8	2 1/8	ISO-G 2	ISO-G 2	YES	111B1824
C118L-EZ-120	129	613	186	45.3	1 1/8	2 1/8	ISO-G 2	ISO-G 2	YES	111B1825
C118L-EZ-130	139	613	186	48.1	1 1/8	2 1/8	ISO-G 2	ISO-G 2	YES	111B1826
C118L-EZ-140	149	613	186	50.9	1 1/8	2 1/8	ISO-G 2	ISO-G 2	YES	111B1827
C118L-EZ-150	159	613	186	53.8	1 1/8	2 1/8	ISO-G 2	ISO-G 2	YES	111B1828
C118L-EZ-160	168	613	186	56.6	1 1/8	2 1/8	ISO-G 2	ISO-G 2	YES	111B1829
C118L-EZ-180	186	613	186	62.3	1 1/8	2 1/8	ISO-G 2	ISO-G 2	YES	111B1830
C118L-EZ-200	203	613	186	67.9	1 1/8	2 1/2	ISO-G 2	ISO-G 2	YES	111B1831
C118L-EZ-220	220	613	186	73.6	1 1/8	2 1/2	ISO-G 2	ISO-G 2	YES	111B1832
C118L-EZ-250	241	613	186	82.1	1 1/8	2 1/2	ISO-G 2	ISO-G 2	YES	111B1833

**) Design conditions:*
Side 1: R410A, Tevap=4 °C, Tliq=43 °C, Tsh=5 K
Side 2: Water, Tin=12 °C, Tout=7 °C, dPw=35 kPa

Technical data and ordering

MPHE - Micro plate heat exchanger

With distributor 45 bar (25 bar secondary side)

Model	Capacity *) [kW]	Height [mm]	Width [mm]	Weight [kg]	Q3 (ref. in) Combo conn.	Q4 (ref. out) Combo conn.	Q1/H1 Combo conn.	Q2/H2 Combo conn.	Studbolt	Code no.
					Solder [in]	Thread [in] / Solder [in]	Thread [in] / Solder [in]	Thread [in] / Solder [in]	Front	
C118L-EZ-40	42	613	186	19.6	3/4	1 3/8	ISO-G 2	ISO-G 2	YES	111B1837
C118L-EZ-50	53	613	186	22.4	7/8	1 5/8	ISO-G 2	ISO-G 2	YES	111B1838
C118L-EZ-60	64	613	186	25.3	1 1/8	2 1/8	ISO-G 2	ISO-G 2	YES	111B1839
C118L-EZ-70	75	613	186	28.2	1 1/8	2 1/8	ISO-G 2	ISO-G 2	YES	111B1840
C118L-EZ-80	87	613	186	31.1	1 1/8	2 1/8	ISO-G 2	ISO-G 2	YES	111B1841
C118L-EZ-90	97	613	186	34.0	1 1/8	2 1/8	ISO-G 2	ISO-G 2	YES	111B1842
C118L-EZ-100	108	613	186	36.9	1 1/8	2 1/8	ISO-G 2	ISO-G 2	YES	111B1843
C118L-EZ-110	118	613	186	39.8	1 1/8	2 1/8	ISO-G 2	ISO-G 2	YES	111B1844
C118L-EZ-120	129	613	186	42.7	1 1/8	2 1/8	ISO-G 2	ISO-G 2	YES	111B1845
C118L-EZ-130	139	613	186	45.6	1 1/8	2 1/8	ISO-G 2	ISO-G 2	YES	111B1846
C118L-EZ-140	149	613	186	48.5	1 1/8	2 1/8	ISO-G 2	ISO-G 2	YES	111B1847
C118L-EZ-150	159	613	186	51.4	1 1/8	2 1/8	ISO-G 2	ISO-G 2	YES	111B1848
C118L-EZ-160	168	613	186	54.3	1 1/8	2 1/8	ISO-G 2	ISO-G 2	YES	111B1849
C118L-EZ-180	186	613	186	60.1	1 1/8	2 1/8	ISO-G 2	ISO-G 2	YES	111B1850
C118L-EZ-200	203	613	186	66.0	1 1/8	2 1/2	ISO-G 2	ISO-G 2	YES	111B1851
C118L-EZ-220	220	613	186	71.8	1 1/8	2 1/2	ISO-G 2	ISO-G 2	YES	111B1852
C118L-EZ-250	241	613	186	80.5	1 1/8	2 1/2	ISO-G 2	ISO-G 2	YES	111B1853

**) Design conditions:*
Side 1: R410A, Tevap=4 °C, Tliq=43 °C, Tsh=5 K
Side 2: Water, Tin=12 °C, Tout=7 °C, dPw=35 kPa

Quick Selection Notes:

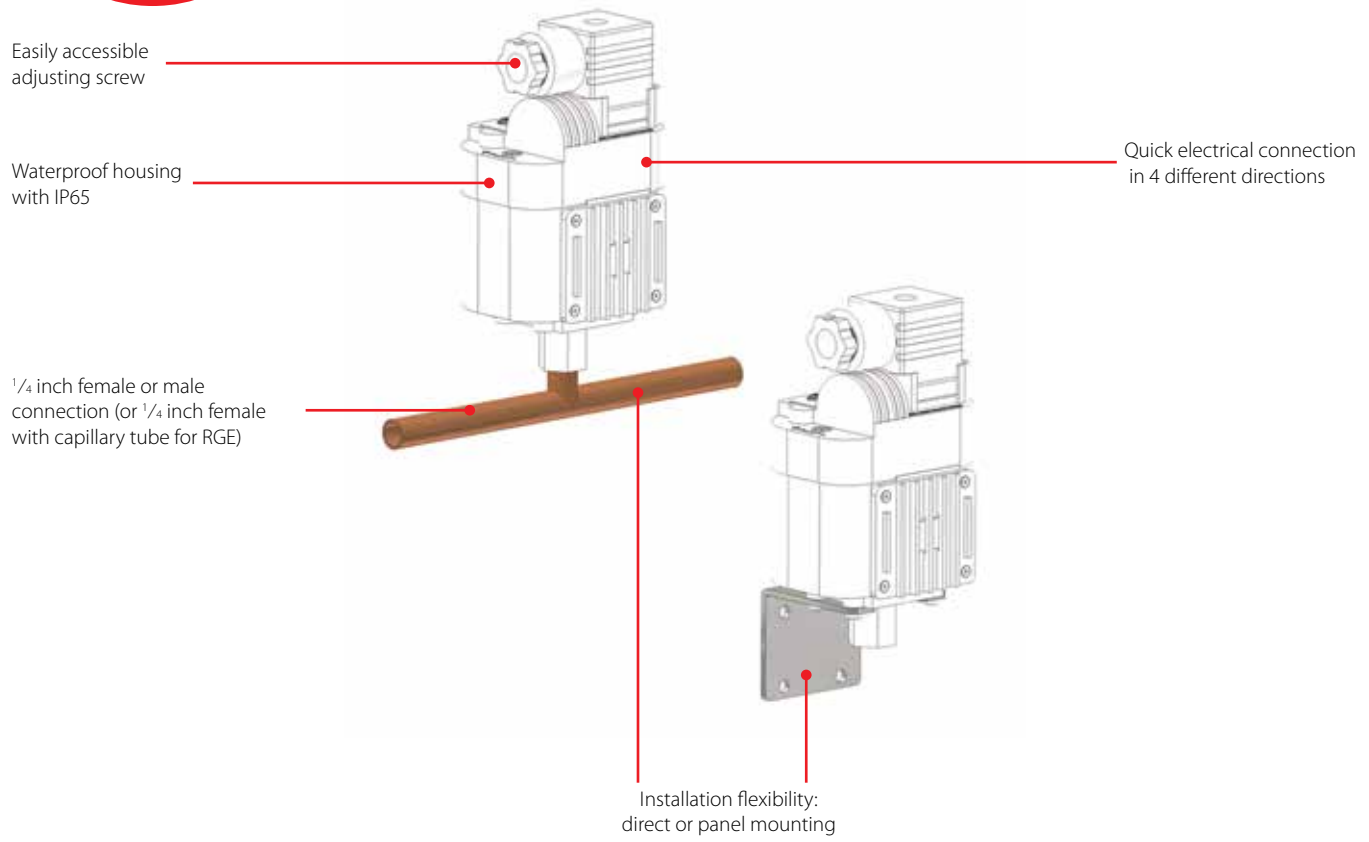
XGE / RGE, Fan speed controllers

RGE and XGE are fan speed controllers made by Danfoss Saginomiya. RGE is available in single and three phase versions.
RGE is a simple and efficient all-in-one pressure sensor and fan speed control, featuring a reliable sensing mechanism using bellows.
For compact units, the XGE provides the ideal solution for reliable fan control.

It can be mounted directly onto the refrigeration line, adjustment is made by the turn of a setting screw, and electrical connection is very versatile. It can also be panel mounted where space is insufficient on the refrigeration line.
RGE and XGE can be used for all commonly used refrigerants, including R410A.
XGE-EC version for EC fan motors.



Features
XGE / RGE



Facts

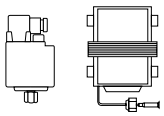
Application:
- Freezing and refrigeration condensing units
- Packaged air conditioners
- Chillers

- Simple to install and easy setting *"All in one"*: senses pressure and controls fan speed
- Reliable sensing mechanism

- XGE:
  - Compact and light weight (length: 112 mm, diameter: 66 mm weight: 180 g)
  - Can be directly mounted onto the refrigeration line or fixed onto a simple bracket (accessory) and screwed to a panel
  - Easily accessible adjusting screw on the top surface
  - Easy wiring and electrical connection
  - Specially designed heat dissipation radiator to prevent overheating
- Electrical rating from 3 – 8 A (single phase) and 5 – 7 A (3 phase)

- Applicable to R22, R134a, R404A, R407A, R407C, R407F, R410A*), R448A, R449A, R450A, R452A, R513A
  **) only high pressure models with adjusting range*
- 22 – 39 bar for XGE and 16 – 39 bar for RGE
- Enclosure: IP65 (XGE) and IP54 (RGE)
- Full CE / EMC approved
- UL recognized
- Dual frequency: 50/60 Hz
- Max. working pressure: 47 bar
- With low speed operation it is possible to select either minimum speed operation or cut-off operation -60 – 120 °C

Technical data and ordering



XGE / RGE - Fan speed controllers

Ordering

Type	Mode [1])	Pressure connection [in]	Adjusting range [bar]	P-band [bar]	Pre-setting [bar]	Rated motor rating [A]	No. of phase / voltage [V AC]	Box qty	Code no.
XGE-2C	C	1/4 female flare	8 – 18	4.5	8	0.2 – 3	1 / 200 – 240	50	061H3144
XGE-4C	C	1/4 female flare	10 – 25	6	19	0.2 – 3	1 / 200 – 240	50	061H3140
XGE-4CB	C	1/4 male flare	10 – 25	6	19	0.2 – 3	1 / 200 – 240	50	061H3142
XGE-6C	C	1/4 female flare	22 – 39	7	28	0.2 – 3	1 / 200 – 240	50	061H3160
XGE-6CB	C	1/4 male flare	22 – 39	7	28	0.2 – 3	1 / 200 – 240	50	061H3162
XGE-4M	M	1/4 female flare	10 – 25	6	19	0.2 – 3	1 / 200 – 240	50	061H3240
XGE-4MB	M	1/4 male flare	10 – 25	6	19	0.2 – 3	1 / 200 – 240	50	061H3242
XGE-6M	M	1/4 female flare	22 – 39	7	28	0.2 – 3	1 / 200 – 240	50	061H3260
RGE-Z1N4-7DS	C or M	1/4 female flare	8 – 28	4	19	0.2 – 4	1 / 200 – 240	20	061H3005
RGE-Z1N6-7DS	C or M	1/4 female flare	16 – 39	8	32	0.2 – 4	1 / 200 – 240	20	061H3021
RGE-Z1P4-7DS	C or M	1/4 female flare	8 – 28	4	19	0.2 – 6	1 / 200 – 240	16	061H3008
RGE-Z1P6-7DS	C or M	1/4 female flare	16 – 39	8	32	0.2 – 6	1 / 200 – 240	16	061H3022
RGE-Z1Q4-7DS	C or M	1/4 female flare	8 – 28	4	19	0.2 – 8	1 / 200 – 240	16	061H3009
RGE-Z1Q6-7DS	C or M	1/4 female flare	16 – 39	8	32	0.2 – 8	1 / 200 – 240	16	061H3023
RGE-Z3R4-7DS	C or M	1/4 female flare	8 – 28	4	16	0.2 – 5	3 / 200 – 240	6	061H3003
RGE-X3R4-7DS	C or M	1/4 female flare	8 – 28	4	16	0.2 – 5	3 / 380 – 415	6	061H3006
RGE-X3R6-7DS	C or M	1/4 female flare	16 – 39	8	32	0.2 – 5	3 / 380 – 415	6	061H3028
RGE-Z3T4-7DS	C or M	1/4 female flare	8 – 28	4	16	0.2 – 7	3 / 200 – 240	6	061H3050

[1]) *C = Cut-off*
M = Min. speed

XGE-EC - Fan speed controllers for EC fan motors

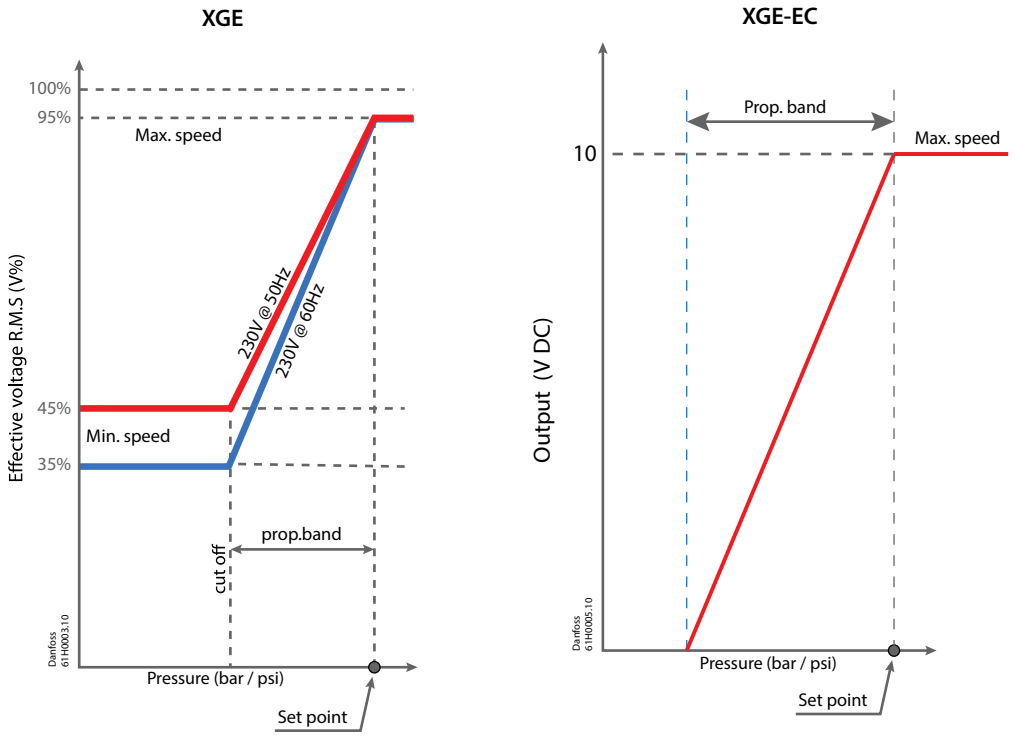
Ordering

Type	Pressure connection [in]	Adjusting range [bar]	P-band [bar]	Pre-setting [bar]	Rated motor rating [A]	No. of phase / voltage [V DC]	Box qty	Code no.
XGE-2S-E	1/4 female flare	8 – 18	4.5	8	.001	0 – 10	50	061H3245
XGE-4S-E	1/4 female flare	10 – 25	6	19	.001	0 – 10	50	061H3246
XGE-6S-E	1/4 female flare	22 – 39	7	28	.001	0 – 10	50	061H3247

Accessory

Type	Description	Dimensions	Box qty	Code no.
XGE-AE01	Fixing bracket accessory for panel mount	H: 38 mm, W: 42 mm, D: 45 mm	50	061H3102

Function



Electronic controls – Overview

Type	Relay / temperature sensor	Defrost heating	Cooling or heating function	Rail heat	Fan	Alarm / light / misc.	2nd compressor	DI / DO / AI / AO	Batterie for clock (optional)	HACCP via system / HACCP integrated	Application module	Definition and waiting of thermostat sensors	Defrost / defrost on demand / defrost on demand via bus	Voltage 230 V	Voltage 115 V	Voltage 24 V	With screw terminals	With plug connection	Valve control	Room thermostat	UPS connection	Pressure controls	0-10 V / 4-20 mA input	0-10 V / 4-20 mA output	Superheat regulation	Reference displacement	External display	Data communication optional / on board	Note – language	Code number
Case controller																														
EKC 202A	3/2	x				x/-/-		x/x/-/-	x	x/-			x/-/x	x					TEV	x						x		x/-		084B8521
EKC 202B	4/2	x			x	x/-/-		x/x/-/-	x	x/-			x/-/x	x					TEV	x						x		x/-		084B8522
EKC 202C	4/2	x			x	x/x/-		x/x/-/-	x	x/-			x/-/x	x					TEV	x						x		x/-		084B8523
EKC 202C-MS	4/2	x			x	x/x/-		x/x/-/-	x	-/-			x/-/x	x					TEV	x						x		x/-	NTC	084B8543
EKC 202D1	4/3	x		x	x	x/x/x		x/x/-/-	x	x/-	x	x	x/x/x	x					TEV	x						x		x/-		084B8554
EKC 302A	2/2					x/-/-		x/x/-/-		x/-			x/-/x	x				x	TEV	x								x/+		084B4162
EKC 302B	3/2	x			x			x/x/-/-		x/-			x/-/x	x				x	TEV	x								x/+		084B4163
EKC 302D	4/3	x		x	x	x/x/x		x/x/-/-		x/-	x		x/-/x	x				x	TEV	x								x/+		084B4164
AK-CC 210	4/3	x		x	x	x/x/x	x	x/x/-/-	x	x/x	x	x	x/x/x	x					TEV	x						x		x/-		084B8520
AK-CC 250A	4/3	x		x	x	x/x/x	x	x/x/-/-	x	x/x	x	x	x/x/x	x					TEV	x						x		-/x		084B8528
AK-CC 350	4/3	x		x	x	x/x/x	x	x/x/-/-		x/x	x	x	x/x/x	x				x	TEV	x						x		+/+		084B4165
AK-CC 450	6/5	x		x	x	x/x/x		x/x/-/-		x/x	x	x	x/x/x	x			x		TEV	x							x	+/+		084B8022
AK-CC 550A	6/5	x		x	x	x/x/x		x/x/-/-		x/-	x	x	x/x/x	x			x		AKV	x					x		x	+/+		084B8030
AK-CC 750A	9/5	x		x	x	x/x/x		x/x/ x/x		x/-	x	x	x/x/x	x		x		x	4xAKV 4xStrep 4xTEV	x					x		x	-/x	EN, DE, FR, IT, NL, EN, ES, PT, PL, RU, CZ, CH, DK, FI	080Z0140
Superheat Controller																														
EKE 1A	1/1					x/x/-		x/-/x/-					-/-/x			x	x		stepper		x	x	x/-	-/-	x	x		-/x	EN, CN, PT, RU, SP, FR, IT, GER	080G5300
EKE 1B	1/2					x/x/-		x/-/x/-					-/-/x			x	x		stepper	x	x	x	x/-	-/-	x	x		-/x	EN, CN, PT, RU, SP, FR, IT, GER	080G5350
EKE 1C	1/3					x/x/-		x/-/x/-					-/-/x			x	x		stepper	x	x	x	x/x	-/-	x	x		-/x	EN, CN, PT, RU, SP, FR, IT, GER	080G5400
EKC 315A	2/2					x/-/-										x	x		AKV/ ICM	x	x	x	-/x	-/x	x	x		x/-		084B7086
EKC 312	1/2					x/-/-										x	x		ETS			x	-/-	-/-	x			x/-		084B7250
EKC 316A	2/2					x/-/-										x	x		ETS	x	x	x	-/x	-/x	x	x		x/-		084B7088
EKD 316	1/2					x/-/-										x	x		ETS		x	x	x/x	-/-	x			x/-		084B8040
Temperature Controller																														
EKC 368	4/2	x			x	x/-/-											x		KVS		x		-/x			x		-/x		084B7079
ERC 211	1/1		x					x/x/x/-					x/-/-		x		x			x						x		x/-		080G3290
ERC 211	1/1		x					x/x/x/-					x/-/-	x			x			x						x		x/-		080G3293
ERC 213	3/2	x			x	x/-/-		x/x/x/-					x/x/-		x		x			x						x		x/-		080G3291
ERC 213	3/2	x			x	x/-/-		x/x/x/-					x/x/-	x			x			x						x		x/-		080G3294
ERC 214	4/2	x			x	x/x/-		x/x/x/-					x/x/-		x		x			x						x		x/-		080G3292
ERC 214	4/2	x			x	x/x/-		x/x/x/-					x/x/-	x			x			x						x		x/-		080G3295

Electronic controls – Overview

Type	Relay / temperature sensor	Defrost heating	Cooling or heating function	Rail heat	Fan	Alarm / light / misc.	2nd compressor	DI / DO / AI / AO	Batterie for clock (optional)	HACCP via system / HACCP integrated	Application module	Definition and waiting of thermostat sensors	Defrost / defrost on demand / defrost on demand via bus	Voltage 230 V	Voltage 115 V	Voltage 24 V	With screw terminals	With plug connection	Valve control	Room thermostat	UPS connection	Pressure controls	0-10 V / 4-20 mA input	0-10 V / 4-20 mA output	Superheat regulation	Reference displacement	External display	Data communication optional / on board	Note – language	Code number
Liquid level Controller																														
EKE 347																	x		ICM, AKV/A									-/x	EN, CN, PT, RU, SP, FR, IT, GER, ARAB	080G5000
Capacity Controller																														
AK-PC 351	6/4				x	x		x/x/ x/x								x		x						x				-/x	EN, PT, IT, CH, RU	080G0289
AK-PC 551	8/8				x	x		x/x/ x/x						x				x						x				-/x	EN, DE, FR, DK, ES, IT, PT, NL, RU, PL, CZ, TR, UY, HR, SR, RO	080G0281
AK-PC 551	8/8				x	x		x/x/ x/x								x		x						x				-/x	EN, DE, FR, DK, ES, IT, PT, NL, RU, PL, CZ, TR, UY, HR, SR, RO	080G0283
AK-PC 651	15/10				x	x		x/x/ x/x						x				x						x				-/x	EN, DE, FR, DK, ES, IT, PT, NL, RU, PL, CZ, TR, UY, HR, SR, RO	080G0312
AK-PC 772A	8/11				4x			x/x/ x/x								x		x										-/x	EN, DE, FR, IT, NL	080Z0201
AK-PC 781A	8/11				8x			x/x/ x/x								x		x										-/x	EN, DE, FR, IT, NL, ES, PT, RU, CZ, DK, FI, PL, CN	080Z0191
AK-PC 782A	8/11				8x			x/x/ x/x								x		x										-/x	EN, DE, FR, IT, NL, ES, PT, RU, CZ, DK, FI, PL, CN	080Z0192
AK-PC 783A	8/11				8x			x/x/ x/x								x		x										-/x	EN, DE, FR, IT, NL, ES, PT	080Z0193
Condensing unit Controller																														
AK-RC 101	Single-phase																											-/x		080Z3200
AK-RC 103	Three-phase (3 kW), 4.5-6.3 A																											-/x		080Z3201
AK-RC 103	Three-phase (3 kW), 7-10 A																											-/x		080Z3202
AK-RC 103	Three-phase (5 kW), 11-16 A																											-/x		080Z3206
AK-RC 103	Three-phase (5 kW), 14-20 A																											-/x		080Z3207
Front end full store solution																														
AK-SM 810	System Manager for Small Stores																													080Z4006
AK-SM 820	System Manager for Small Stores w / Display / Keypad																													080Z4004
AK-SM 850	System Manager for Refrigeration Only w / Display / Keypad																													080Z4001
AK-SM 880	System Manager for Total Store Control w / Display / Keypad																													080Z4008
AK-SM 800AL	Alarm logger w/Display																													080Z4014

Electronic controls – Overview

Accessory for SM800

Extension modules

AK-XM 101A	8 AI	080Z0007
AK-XM 102A	8 DI Low voltage	080Z0008
AK-XM 102B	8 DI High voltage	080Z0013
AK-XM 103A	4 AI + 4 AO	080Z0032
AK-XM 204A	8 Relay SPDT	080Z0011
AK-XM 204B	8 Relay SPDT, Override	080Z0018
AK-XM 205A	8 AI, 8 Relay SPDT	080Z0010
AK-XM 205B	8 AI, 8 Relay SPDT, Override	080Z0017
AK-XM 208C	8 AI, 4 stepper	080Z0023

Communication module

AK-CM101C	LON RS485	080Z0063

Quick Selection Notes:

EKC 202, Refrigeration controller

The series of EKC 202 controllers can be used for a wide range of different refrigeration applications - from control of air temperatures and defrost to more advanced applications, including control of light and fans.

Features
EKC 202

Thermostat
- ON / OFF heating or cooling thermostat
- Sensors: Danfoss Pt1000, PTC1000 or NTC
- Day / night control
- Thermostat band
- Alarm thermostat with delay

DI input
- Multi purpose DI input for defrost start, door function, night setback, main switch, appliance cleaning, general alarm, defrost coordination and thermostat band



Fan
- Fan delay during defrost
- Fan stop when compressor cuts out
- Fan stop at high S5 temperature

Light control
- Light control of day / night, door, or via network

Defrost
- Electrical, natural or hot gas defrost
- Start via DI input, time interval or schedule (RTC)
- Defrost on demand
- Stop on time or temperature
- Coordinated defrost

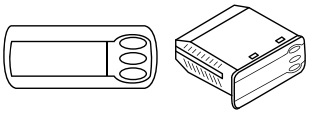
Compressor
- Anti cycle timers for optimum compressor protection
- High-effect 16 A relays for connection of compressors without use of intermediate relay

Facts

- Integrated refrigeration-technical functions
- Defrost on demand in 1:1 systems
- Buttons and seal imbedded in the front
- IP65 density from the front panel
- Digital input for either:
  - door contact function with alarm
  - defrost start
  - start/stop of regulation
  - night operation
  - change-over between two temperature reference
  - case cleaning function
- Instant programming via programming key
- HACCP
  Factory calibration that will guarantee a better measuring accuracy than stated in the standard EN 441-13 without subsequent calibration
  (Pt 1000 ohm sensor)

Technical data and ordering

EKC 202 - Refrigeration controller



Technical data

Features	Description		
Supply voltage	230 V AC 10 – 15%. 1.5 V A		
Sensors for EKC 202A, 202B, 202C	Pt 1000 ohm (0 °C)		
	PTC 1000 ohm (25 °C)		
	NTC 5000 ohm (25 °C) M 2020		
Sensors for EKC 202C-MS	NTC 2000 ohm (25 °C)		
	NTC 2500 ohm (0 °C)		
	NTC 3000 ohm (25 °C)		
	NTC 5000 ohm (25 °C) M 2020		
	NTC 10000 ohm (25 °C)		
	NTC 10000 ohm (25 °C) Beta 3435		
Accuracy	Measuring range: -60 – 99 °C		
	Controller: ± 1 K below -35 °C, ± 0,5 K between -35 – 25 °C, ± 1 K above 25 °C		
	Pt 1000 sensor: ± 0.3 K at 0 °C, ± 0.005 K per grad		
Display	LED, 3 digits		
Digital inputs	Signal from contact functions		
	Requirements to contacts: gold plating		
	Cable length must be max. 15 m		
	Use auxiliary relays when the cable is longer		
Electrical connection cable	Max. 1.5 mm² multi-core cable on supply and relays		
	Power current terminals are mounted on the circuit board		
	Max. 1 mm² on sensors - and DI inputs		
Relays *)	DO1 DO2 DO3 DO4	CE (250 V AC)	UL ***) (240 V AC)
	DO1. Refrigeration	8 (6) A	10 A Resistive 5 FLA, 30 LRA
	DO2. Defrost	8 (6) A	10 A Resistive 5 FLA, 30 LRA
	DO3. Fan	6 (3) A	6 A Resistive 3 FLA, 18 LRA - 131 V A Pilot duty
	DO4. Alarm or light	4 (1) A Min. 100 mA **)	4 A Resistive 131 V A Pilot duty
Environments	0 – 55 °C, During operations, -40 – 70 °C, During transport		
	20 – 80% Rh, not condensed		
	No shock influence / vibrations		
Enclosure	IP65 from front Buttons and packing are imbedded in the front		
Escapement reserve for the clock	4 hours		
Approvals	EU Low Voltage Directive and EMC demands re CE-marking complied with LVD tested acc. EN 60730-1 og EN 60730-2-9, A1, A2 EMC tested acc. EN50082-1 og EN 60730-2-9, A2		

**) DO1 and DO2 are 16 A relays. DO3 and DO4 are 8 A relays. Max. load must be keept*
***) Gold plating ensures make function with small contact loads*
****) UL-approval based on 30000 couplings*

Ordering

Type	Description	Code no.
EKC 202A	Refrigeration controller	084B8521
EKC 202B	Refrigeration controller with fan function	084B8522
EKC 202C	Refrigeration controller for electric defrost	084B8523
EKC 202C-MS	Refrigeration controller multi sensor (only NTC)	084B8543

Accessory

Type	Description	Code no.
EKA 178A	Data communication module MODBUS	084B8564
EKA 179A	RS485 LON	084B8565
EKA 181C	Battery module that will protect the clock in case of lengthy power failure	084B8577
EKA 182A	Copy key EKC - EKC	084B8567
EKA 183A	Programming key EKC	084B8582
AKS 12	Pt 1000 Sensor, 1.5 m	084N0036
EKS 111	PTC 1000 Sensor, 1.5 m	084N1178
EKS 211	NTC 5000 Sensor, 1.5 m	084N1220
EKS 221	NTC 10000 Beta 3435 Sensor, 3.5 m	084N3206

EKC 202D1, Refrigeration controller

The controller is used for evaporator control refrigeration appliances in supermarkets. With many predefined applications one unit will offer you many options. Flexibility has been planned both for new installations and for service in the refrigeration trade.

Features
EKC 202D1

Thermostat
- ON / OFF heating or cooling thermostat
- Sensors: Danfoss Pt1000, PTC1000 or NTC5000
- Day / night control
- Thermostat band
- Alarm thermostat with delay

DI input
- Multi purpose DI input for defrost start, door function, night setback, main switch, appliance cleaning, general alarm, defrost coordination and thermostat band

Fan
- Fan delay during defrost
- Fan stop when compressor cuts out
- Fan stop at high "S5" temperature



Light control
- Light control of day / night, door, or via network
  Other functions:
- Door function with alarm monitoring
- Manual control of outputs
- Case cleaning function

Supplementary options
- RS 485 network card for connection to network
- Battery back-up card for real time clock
- "Copy key" programming key

Defrost
- Electrical, natural or hot gas defrost
- Start via DI input, time interval or schedule (RTC)
- Defrost on demand
- Stop on time or temperature
- Coordinated defrost

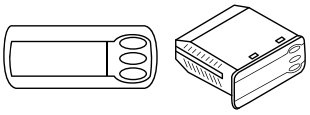
Compressor
- Anti cycle timers for optimum protection
- High-effect 16 A relays for connection of compressors without use of intermediate relays

Facts

- 3 applications in the same unit
- The controller has integrated refrigeration-technical functions, so that it can replace a whole collection of thermostats and timers
- Buttons and seal imbedded in the front
- Easy to remount data communication
- Quick setup
- Two temperature references
- Digital inputs for various functions
- Clock function with backup

Technical data and ordering

EKC 202D1, Refrigeration controller



Technical data

Features	Description	
Supply voltage	230 V AC 10 – 15%. 2.5 V A	
Sensors 3 pcs off either	Pt 1000 ohm (0 °C) PTC (1000 ohm / 25 °C)	
	NTC-M2020 (5000 ohm / 25 °C)	
Accuracy	Measuring range: -60 – 99 °C	
	Controller: ± 1 K below -35 °C, ± 0.5 K between -35 – 25 °C, ± 1 K above +25 °C	
	Pt 1000 sensor: ± 0.3 K at 0 °C, ± 0.005 K per grad	
Display	LED, 3 digits	
Digital inputs	Signal from contact functions	
	Requirements to contacts: gold plating	
	Cable length must be max. 15 m	
	Use auxiliary relays when the cable is longer	
Electrical connection cable	Max. 1.5 mm² multi-core cable	
Relays *)		CE (250 V AC)
	DO1. Refrigeration	8 (6) A
	DO2. Defrost	8 (6) A
	DO3. Fan	6 (3) A
	DO4. Alarm	4 (1) A Min. 100 mA **)
Environments	0 – 55 °C, During operations	
	-40 – 70 °C, During transport	
	20 – 80% Rh, not condensed	
	No shock influence / vibrations	
Enclosure	IP65 from front Buttons and packing are embedded in the front	
Escapement reserve for the clock	4 hours	
Approvals	EU Low Voltage Directive and EMC demands re CE-marking complied with LVD tested acc. EN 60730-1 og EN 60730-2-9, A1, A2 EMC tested acc. EN50082-1 og EN 60730-2-9, A2	

***) DO1 and DO2 are 16 A relays. DO3 and DO4 are 8 A relays. Max. load must be keept*
***) Gold plating ensures make function wiht small contact loads*

Ordering

Type	Description	Code no.
EKC 202D1	Refrigeration controller without data communication but prepared for a module	084B8554

Accessory

Type	Description	Code no.
EKA 163A	External display for EKC 202D1	084B8562
EKA 178A	Data communication module MODBUS	084B8564
EKA 179A	Data communication module Lon RS 485	084B8565
EKA 181C	Battery module that will protect the clock in case of lengthy power failure	084B8577
EKA 182A	Copy key EKC - EKC	084B8567
AKS 12	Pt 1000 Sensor 1.5 m	084N0036
EKS 111	PTC 1000 Sensor 1.5 m	084N1178
EKS 211	NTC 5000 Sensor 1.5 m	084N1220

EKC 302, Refrigeration controller

The series of EKC 302 controllers can be used for a wide range of different refrigeration applications - from control of air temperatures and defrost to more advanced applications, including control of light and fans. For DIN rail mounting.

Features
EKC 302

DI input
- Multi purpose DI input for defrost start, door function, night setback, main switch, appliance cleaning, general alarm, defrost coordination and thermostat band

Thermostat
- ON / OFF heating or cooling thermostat
- Sensors: Danfoss Pt1000, PTC1000 or NTC
- Day / night control
- Thermostat band
- Alarm thermostat with delay



Light control
- Light control of day / night, door, or via network

Defrost
- Electrical, natural or hot gas defrost
- Start via DI input, time interval or schedule (RTC)
- Defrost on demand
- Stop on time or temperature
- Coordinated defrost

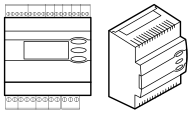
Compressor
- Anti cycle timers for optimum compressor protection
- High-effect 16 A relays for connection of compressors without use of intermediate relay

Fan
- Fan delay during defrost
- Fan stop when compressor cuts out
- Fan stop at high "*S5*" temperature

Facts

- Integrated refrigeration-technical functions
- Defrost on demand in 1:1 systems
- Buttons and seal imbedded in the front
- Digital input for either:
  - door contact function with alarm
  - defrost start
  - start / stop of regulation
  - night operation
  - change-over between two temperature reference
  - case cleaning function
- Fixed MODBUS data communication
- Instant programming via programming key
- HACCP
  Factory calibration that will guarantee a better measuring accuracy than stated in the standard EN 441-13 without subsequent calibration
  (Pt 1000 ohm sensor)
- EKC 302D: Several applications in the same unit

Technical data and ordering



EKC 302 - Refrigeration controller

Technical data

Features	Description		
Supply voltage	230 V AC 10 – 15%. 1.5 V A		
Sensors for EKC 302	Pt 1000 ohm (0 °C)		
	PTC 1000 ohm (25 °C)		
	NTC 5000 ohm (25 °C) M 2020		
Accuracy	Measuring range: -60 – 99 °C		
	Controller: ± 1 K below -35 °C, ± 0.5 K between -35 – 25 °C, ± 1 K above 25 °C		
	Pt 1000 sensor: ± 0.3 K at 0 °C, ± 0.005 K per grad		
Display	LED, 3 digits		
Digital inputs	Signal from contact functions		
	Requirements to contacts: gold plating		
	Cable length must be max. 15 m		
	Use auxiliary relays when the cable is longer		
Electrical connection cable	Max. 1.5 mm² multi-core cable on supply and relays		
	Power current terminals are mounted on the circuit board		
	Max. 1 mm² on sensors - and DI inputs		
Relays *)	DO1 DO2 DO3 DO4	IEC 60 730	
	DO1. Refrigeration	10 (6) A and (5 FLA, 30 LRA)	1)
		16 (8) A and (10 FLA, 60 LRA)	2)
	DO2. Defrost	6 (3) A and (3 FLA, 18 LRA)	1)
		10 (6) A and (3 FLA, 30 LRA)	2)
	DO3. Fan	6 (3) A and (3 FLA, 18 LRA)	1)
		10 (6) A and (5 FLA, 30 LRA)	2)
	DO4. Alarm	4 (1) A Min. 100 mA **)	
Environments	0 – 55 °C, During operations, -40 – 70 °C, During transport		
	20 – 80% Rh, not condensed		
	No shock influence / vibrations		
Enclosure	IP20		
Escapement reserve for the clock	4 hours		
Approvals	EU Low Voltage Directive and EMC demands re CE-marking complied with LVD tested acc. EN 60730-1 og EN 60730-2-9, A1, A2 EMC tested acc. EN50082-1 og EN 60730-2-9, A2		

**) DO1 and DO2 are 16 A relays. DO3 and DO4 are 8 A relays. Max. load must be keept*
***) Gold plating ensures make function with small contact loads*

Ordering

Type	Description	Code no.
EKC 302A	Refrigeration controller	084B4162
EKC 302B	Refrigeration controller with fan and defrost function	084B4163
EKC 302D	Refrigeration controller with fan and defrost function	084B4164

Accessory

Type	Description	Code no.
EKA 178B	Data communication module MODBUS	084B8571
EKA 175	RS485 LON	084B8579
EKA 183A	Programming key EKC	084B8582
AKS 12	Pt 1000 Sensor 1.5 m	084N0036
EKS 111	PTC 1000 Sensor 1.5 m	084N1178
EKS 211	NTC 5000 Sensor 1.5 m	084N1220

AK-CC 210, Universal refrigeration controller

The controller is used for evaporator control refrigeration appliances in supermarkets. With many predefined applications one unit will offer you many options. Flexibility has been planned both for new installations and for service in the refrigeration trade.

Features
AK-CC 210

Thermostat
- ON / OFF heating or cooling thermostat
- Sensors: Danfoss Pt1000, PTC1000 or NTC5000
- Day / night control
- Thermostat band
- Alarm thermostat with delay

DI input
- Multi purpose DI input for defrost start, door function, night setback, main switch, appliance cleaning, general alarm, defrost coordination and thermostat band

Fan
- Fan delay during defrost
- Fan stop when compressor cuts out
- Fan stop at high "S5" temperature



Light control
- Light control of day / night, door, or via network
  Other functions:
- "S5" sensor can be used for monitoring of condenser temperature or as product sensor
- Door function with alarm monitoring
- Manual control of outputs
- Case cleaning function

Supplementary options
- RS 485 network card for connection to network
- Battery back-up card for real time clock
- "Copy key" programming key

Defrost
- Electrical, natural or hot gas defrost
- Start via DI input, time interval or schedule (RTC)
- Defrost on demand
- Stop on time or temperature
- Coordinated defrost

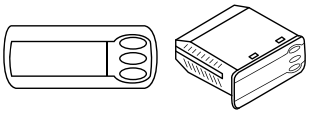
Compressor
- Anti cycle timers for optimum protection
- High-effect 16 A relays for connection of compressors without use of intermediate relays

Facts

- Many applications in the same unit
- The controller has integrated refrigeration-technical functions, so that it can replace a whole collection of thermostats and timers
- Buttons and seal imbedded in the front
- Can control two compressors
- Easy to remount data communication
- Quick setup
- Two temperature references
- IBExU approved relays
- HACCP
  (Hazard Analysis and Critical Control Points):
  - temperature monitoring and registration of period with too high temperature
  - factory calibration that will guarantee a better measuring accuracy than stated in the standard EN 441-13 without subsequent calibration
    (Pt 1000 ohm sensor)
- Digital inputs for various functions
- Clock function with backup

Technical data and ordering

AK-CC 210, Universal refrigeration controller



Technical data

Features	Description		
Supply voltage	230 V AC 10 – 15%. 2.5 V A		
Sensors 3 pcs off either	Pt 1000 ohm (0 °C) PTC (1000 ohm / 25 °C)		
	NTC-M2020 (5000 ohm / 25 °C)		
Accuracy	Measuring range: -60 – 99 °C		
	Controller: ± 1 K below -35 °C, ± 0.5 K between -35 – 25 °C, ± 1 K above +25 °C		
	Pt 1000 sensor: ± 0.3 K at 0 °C, ± 0.005 K per grad		
Display	LED, 3 digits		
Digital inputs	Signal from contact functions		
	Requirements to contacts: gold plating		
	Cable length must be max. 15 m		
	Use auxiliary relays when the cable is longer		
Electrical connection cable	Max. 1.5 mm² multi-core cable		
Relays *)		CE (250 V AC)	UL ***) (240 V AC)
	DO1. Refrigeration	8 (6) A	10 A Resistive 5 FLA, 30 LRA
	DO2. Defrost	8 (6) A	10 A Resistive 5 FLA, 30 LRA
	DO3. Fan	6 (3) A	6 A Resistive 3 FLA, 18 LRA - 131 VA Pilot duty
	DO4. Alarm	4 (1) A Min. 100 mA **)	4 A Resistive 131 VA Pilot duty
Environments	0 – 55 °C, During operations		
	-40 – 70 °C, During transport		
	20 – 80% Rh, not condensed		
	No shock influence / vibrations		
Enclosure	IP65 from front Buttons and packing are embedded in the front		
Escapement reserve for the clock	4 hours		
Approvals	EU Low Voltage Directive and EMC demands re CE-marking complied with LVD tested acc. EN 60730-1 og EN 60730-2-9, A1, A2 EMC tested acc. EN50082-1 og EN 60730-2-9, A2 Relays are tested acc. to IEC 60079-15		

***) DO1 and DO2 are 16 A relays. DO3 and DO4 are 8 A relays. Max. load must be keept*
***) Gold plating ensures make function wiht small contact loads*
****) UL-approval based on 30000 couplings*

Ordering

Type	Description	Code no.
AK-CC 210	Refrigeration controller without data communication but prepared for a module	084B8520

Accessory

Type	Description	Code no.
EKA 163A	External display for AK-CC 210	084B8562
EKA 178A	Data communication module MODBUS	084B8564
EKA 179A	Data communication module Lon RS 485	084B8565
EKA 181C	Battery module that will protect the clock in case of lengthy power failure	084B8577
EKA 182A	Copy key EKC - EKC	084B8567
AKS 12	Pt 1000 Sensor 1.5 m	084N0036
EKS 111	PTC 1000 Sensor 1.5 m	084N1178
EKS 211	NTC 5000 Sensor 1.5 m	084N1220

AK-CC 250A, Universal refrigeration controller

The controller is used for evaporator control refrigeration appliances in supermarkets. With many predefined applications one unit will offer you many options. Flexibility has been planned both for new installations and for service in the refrigeration trade.

Features AK-CC 250A

Thermostat
- ON / OFF heating or cooling thermostat
- Sensors: Danfoss Pt1000, PTC1000 or NTC5000
- Day / night control
- Thermostat band
- Alarm thermostat with delay

DI input
- Multi purpose DI input for defrost start, door function, night setback, main switch, appliance cleaning, general alarm, defrost coordination and thermostat band

Fan
- Fan delay during defrost
- Fan stop when compressor cuts out
- Fan stop at high "S5" temperature



Light control
- Light control of day / night, door, or via network

Other functions:
- "S5" sensor can be used for monitoring of condenser temperature or as product sensor
- Door function with alarm monitoring
- Manual control of outputs
- Case cleaning function

Supplementary options
- Battery back-up card for real time clock
- "Copy key" programming key

Defrost
- Electrical, natural or hot gas defrost
- Start via DI input, time interval or schedule (RTC)
- Defrost on demand
- Stop on time or temperature
- Coordinated defrost

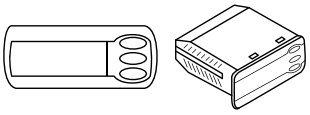
Compressor
- Anti cycle timers for optimum protection
- High-effect 16 A relays for connection of compressors without use of intermediate relays

Facts

- Many applications in the same unit
- The controller has integrated refrigeration-technical functions, so that it can replace a whole collection of thermostats and timers
- Buttons and seal imbedded in the front
- Can control two compressors
- Fixed MODBUS data communication
- Easy to remount data communication
- Quick setup
- Two temperature references
- HACCP (Hazard Analysis and Critical Control Points):
  - temperature monitoring and registration of period with too high temperature
  - factory calibration that will guarantee a better measuring accuracy than stated in the standard EN 441-13 without subsequent calibration (Pt 1000 ohm sensor)
- Digital inputs for various functions
- Clock function with backup

Technical data and ordering

AK-CC 250A, Universal refrigeration controller



Technical data

Features	Description		
Supply voltage	230 V AC 10 – 15%. 2.5 V A		
Sensors for AK-CC 250A, 3 pcs off either	Pt 1000 ohm (0 °C) PTC (1000 ohm / 25 °C)		
	NTC-M2020 (5000 ohm / 25 °C)		
Accuracy	Measuring range: -60 – 99 °C		
	Controller: ± 1 K below -35 °C, ± 0.5 K between -35 – 25 °C, ± 1 K above +25 °C		
	Pt 1000 sensor: ± 0.3 K at 0 °C, ± 0.005 K per grad		
External display	EKA 163 A (only in stand alone)		
Digital inputs	Signal from contact functions		
	Requirements to contacts: Gold plating		
	Cable length must be max. 15 m		
	Use auxiliary relays when the cable is longer		
Electrical connection cable	Max. 1.5 mm² multi-core cable		
Relays *)		CE (250 V AC)	UL *** (240 V AC)
	DO1. Refrigeration	8 (6) A	10 A Resistive 5 FLA, 30 LRA
	DO2. Defrost	8 (6) A	10 A Resistive 5 FLA, 30 LRA
	DO3. Fan	6 (3) A	6 A Resistive 3 FLA, 18 LRA - 131 VA Pilot duty
	DO4. Alarm	4 (1) A Min. 100 mA **)	4 A Resistive 131 VA Pilot duty
Environments	0 – 55 °C, During operations		
	-40 – 70 °C, During transport		
	20 – 80% Rh, not condensed		
	No shock influence / vibrations		
Enclosure	IP65 from front Buttons and packing are embedded in the front		
Escapement reserve for the clock	4 hours		
Approvals	EU Low Voltage Directive and EMC demands re CE-marking complied with LVD tested acc. EN 60730-1 og EN 60730-2-9, A1, A2 EMC tested acc. EN50082-1 og EN 60730-2-9, A2		

**) DO1 and DO2 are 16 A relays. DO3 and DO4 are 8 A relays. Max. load must be keept*
***) Gold plating ensures make function wiht small contact loads*
****) UL-approval based on 30000 couplings*

Ordering

Type	Description	Code no.
AK-CC 250A	Refrigeration controller with MODBUS data communication for Pt or PTC sensors	084B8528

Accessory

Type	Description	Code no.
EKA 163A	External display for AK-CC 250	084B8562
EKA 181C	Battery module that will protect the clock in case of lengthy power failure	084B8577
EKA 182A	Copy key EKC - EKC	084B8567
AKS 12	Pt 1000 Sensor 1.5 m	084N0036
EKS 111	PTC 1000 Sensor 1.5 m	084N1178

AK-CC 350, Universal refrigeration controller

The controller is used for evaporator control refrigeration appliances in supermarkets. With many predefined applications one unit will offer you many options.

Flexibility has been planned both for new installations and for service in the refrigeration trade. For DIN rail mounting.

Features
AK-CC 350

Thermostat
- ON / OFF heating or cooling thermostat
- Sensors: Danfoss Pt1000, PTC1000 or NTC5000
- Day / night control
- Thermostat band
- Alarm thermostat with delay

DI input
- Multi purpose DI input for defrost start, door function, night setback, main switch, appliance cleaning, general alarm, defrost coordination and thermostat band



Fan
- Fan delay during defrost
- Fan stop when compressor cuts out
- Fan stop at high "S5" temperature

Light control
- Light control of day / night, door, or via network
  Other functions:
- "S5" sensor can be used for monitoring of condenser temperature or as product sensor
- Door function with alarm monitoring
- Manual control of outputs
- Case cleaning function

Supplementary options
- Programming key

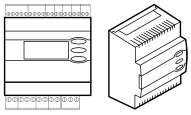
Compressor
- Anti cycle timers for optimum protection
- High-effect 20 A relay for connection of compressor without use of intermediate relays

Defrost
- Electrical, natural or hot gas defrost
- Start via DI input, time interval or schedule (RTC)
- Defrost on demand
- Stop on time or temperature
- Coordinated defrost

Facts

- Many applications in the same unit
- The controller has integrated refrigeration-technical functions, so that it can replace a whole collection of thermostats and timers
- Buttons and seal imbedded in the front
- Can control two compressors
- Fixed MODBUS data communication
- Quick setup
- Two temperature references
- HACCP(Hazard Analysis and Critical Control Points):
  - temperature monitoring and registration of period with too high temperature
  - factory calibration that will guarantee a better measuring accuracy than stated in the standard EN 441-13 without subsequent calibration (Pt 1000 ohm sensor)
- Digital inputs for various functions
- Clock function with backup

Technical data and ordering



AK-CC 350, Universal refrigeration controller

Technical data

Features	Description		
Supply voltage	230 V AC 10 – 15%. 2.5 V A		
Sensors for AK-CC 350A, 3 pcs off either	Pt 1000		
	PTC (1000 ohm / 25 °C)		
Accuracy	Measuring range: -60 – 99 °C		
	Controller: ±1 K below -35 °C, ± 0.5 K between -35 – 25 °C, ± 1 K above 25 °C		
	Pt 1000 sensor: ± 0.3 K at 0 °C, ± 0.005 K per grad		
Display	LED, 3-digits		
External display	EKA 163 A (only in stand alone)		
Digital inputs	Signal from contact functions		
	Requirements to contacts: Gold plating		
	Cable length must be max. 15 m		
	Use auxiliary relays when the cable is longer		
Electrical connection cable	Max. 1.5 mm² multi-core cable		
Relays *)		IEC 60 730	
	DO1. Refrigeration	10 (6) A and (5 FLA, 30 LRA)	1)
		16 (8) A and (10 FLA, 60 LRA)	2)
	DO2. Defrost	6 (3) A and (3 FLA, 18 LRA)	1)
		10 (6) A and (3 FLA, 30 LRA)	2)
	DO3. Fan	6 (3) A and (3 FLA, 18 LRA)	1)
		10 (6) A and (5 FLA, 30 LRA)	2)
	O4. Alarm	4 (1) A Min. 100 mA **)	
Environments	0 – 55 °C, During operations -40 – 70 °C, During transport		
	20 – 80% Rh, not condensed		
	No shock influence / vibrations		
Enclosure	IP20		
Escapement reserve for the clock	4 hours		
Approvals	EU Low Voltage Directive and EMC demands re CE-marking complied with LVD tested acc. EN 60730-1 og EN 60730-2-9, A1, A2 EMC tested acc. EN50082-1 og EN 60730-2-9, A2		

**) DO1 is a 20 A relay. DO2 and DO3 are 16 A relays. DO4 is a 10 A relay. The max. load listed above must be observed when connecting without zero-crossing control. When connecting with zero-crossing, the load must be increased to the value indicated by 2)*

***) Gold plating ensures make function with small contact loads*

Ordering

Type	Description	Code no.
AK-CC 350	Refrigeration controller with MODBUS data communication	084B4165

Accessory

Type	Description	Code no.
EKA 163A	External display for AK-CC 350	084B8562
EKA 183A	Programming key	084B8582
AKS 12	Pt 1000 Sensor 1.5 m	084N0036
EKS 111	PTC 1000 Sensor 1.5 m	084N1178

AK-CC 450, Controller for appliance control

Complete refrigeration appliance control with great flexibility to adapt to all types of refrigeration appliances and cold storage rooms.

- For cooling with brine
- For use with a thermostatic expansion valve

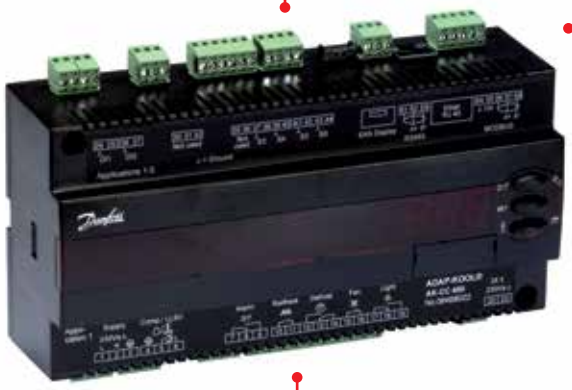
Features
AK-CC 450

Thermostat
- ON / OFF or modulating control
- Product sensor "S6" with separate alarm limits
- Day / night control
- Switch between thermostat settings via digital input
- Pulsing of fans when thermostat is satisfied
- Heat thermostat

Calibration
- Factory calibration that will guarantee a better measuring accuracy than stated in the standard EN 441-13 without subsequent calibration (Pt 1000 ohm sensor)

Light control

Supplementary options
- Rail heat control via day / night load or dew point
- Door function
- Control of night blinds
- Integrated MODBUS communication with the option of mounting a LonWorks communication card



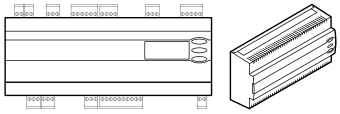
Compressor
- Control of two compressors

Defrost
- Electrical, natural or hot gas defrost
- Start of defrost via schedule, digital input or network
- Coordination of defrost across several controls
- Case cleaning function for documentation of HACCP procedure
- Stop of defrost on time and / or temperature

Facts

- Energy optimisation of the whole refrigeration appliance
- One controller for several different refrigeration appliances
- Integrated display at the front of the controller
- Quick set-up with predefined settings
- Built-in data communication
- Built-in clock function with power reserve
- IBExU approved relays

Technical data and ordering



AK-CC 450, Controller for appliance control

Technical data

Features	Description	
Supply voltage	230 V AC 10 – 15%. 5 V A, 50 / 60 Hz	
Sensors	Pt 1000	
	PTC 1000 ohm / 25 °C (All 4 must be of the same type)	
Accuracy	Measuring range: -60 – 120 °C	
	Controller: ± 1 K below -35 °C, ± 0.5 K between -35 – 25 °C, ± 1 K above + 25 °C	
	Pt 1000 sensor: ± 0.3 K at 0 °C, ± 0.005 K per grad	
Display	LED, 3-digits	
External display	EKA 163B or 164B. (any EKA 163A or 164A)	
Digital inputs DI1, DI2	Signal from contact functions	
	Requirements to contacts: gold plating	
	Cable length must be max. 15 m	
	Use auxiliary relays when the cable is longer	
Digital input DI3	230 V AC	
Electrical connection cable	Max.1.5 mm² multi-core cable	
Solid state output	DO1 (for solenoid coil)	Max. 240 V AC, Min. 28 V AC Max. 0.5 A Leak < 1 mA Max. 1 pcs. coil
Relays *)		CE (250 V AC)
	DO3, DO4	4 (3) A
	DO2, DO5, DO6	4 (3) A
Environments	0 – 55 °C, During operations	
	-40 – 70 °C, During transport	
	20 – 80% Rh, not condensed	
	No shock influence / vibrations	
Enclosure	IP20	
Mounting	DIN-rail or wall	
Weight	0.4 Kg	
Data communication	Fixed / Build-in: MODBUS	
	Extension options: LON RS485 / DANBUSS / TCP / IP(OEM) / MODBUS	
	The controller cannot be hooked up with a monitoring unit type m2	
Power reserve for the clock	4 hours	
Approvals	EU Low Voltage Directive and EMC demands re CE-marking complied with LVD tested acc. EN 60730-1 and EN 60730-2-9, A1, A2 - EMC tested acc. EN50082-1 and EN 60730-2-9, A2 Relays are tested acc. to IEC 60079-15	

**) DO3 and DO4 are 16 A relays. DO2, DO5 and DO6 are 8 A relays. Max. load must be observed*

Ordering

Type	Description	Code no.
AK-CC 450	Case controller with MODBUS data communication	084B8022

Accessory

Type	Description	Code no.
EKA 175	Data communication module LON RS 485	084B8579
EKA 176	Data communication module DANBUSS	084B8583
EKA 178B	Data communication module MODBUS	084B8571
EKA 163B	External display with plug for direct connection	084B8574
EKA 164B	External display with operation buttons and plug for direct connections	084B8575
EKA 163A	External display with screw terminals	084B8562
EKA 164A	External display with operation buttons and screw terminals	084B8563

AK-CC 550A, Controller for appliance control

AK-CC 550A is a complete refrigeration appliance control with great flexibility to adapt to all types of refrigeration appliances and cold storage rooms.

Features
AK-CC 550A

Thermostat
- ON / OFF or modulating control
- Product sensor "S6" with separate alarm limits
- Day / night control
- Switch between thermostat settings via digital input
- Pulsing of fans when thermostat is satisfied
- Heat thermostat

Calibration
- Factory calibration that will guarantee a better measuring accuracy than stated in the standard EN 441-13 without subsequent calibration (Pt 1000 ohm sensor)

Light control



Supplementary options
- Rail heat control via day / night load or dew point
- Door function
- Control of night blinds
- Integrated MODBUS communication with the option of mounting a LonWorks communication card
- Adaptive control of superheat

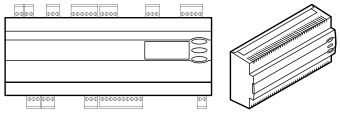
Compressor
- Control of two compressors

Defrost
- Electrical, natural or hot gas defrost
- Start of defrost via schedule, digital input or network
- Coordination of defrost across several controls
- Case cleaning function for documentation of HACCP procedure
- Stop of defrost on time and / or temperature
- Adaptive defrosting based on evaporator performance

Facts

- Energy optimisation of the whole refrigeration appliance
- One controller for several different refrigeration appliances
- Integrated display at the front of the controller
- Quick set-up with predefined settings
- Built-in data communication
- Built-in clock function with power reserve
- Can be used on CO_2 systems

Technical data and ordering



AK-CC 550A, Controller for appliance control

Technical data

Features	Description	
Supply voltage	230 V AC 10 – 15%. 5 V A, 50 / 60 Hz	
Sensor S2	Pt 1000	
Sensor S3, S4, S5, S6	Pt 1000	
	PTC 1000 ohm / 25 °C (All 4 must be of the same type)	
Accuracy	Measuring range: -60 – 120 °C	
	Controller: ± 1 K below -35 °C, ± 0.5 K between -35 – 25 °C, ± 1 K above 25 °C	
	Pt 1000 sensor: ± 0.3 K at 0 °C, ± 0.005 K per grad	
Measuring of Pe	Pressure transmitter: AKS 32R	
Display	LED, 3-digits	
External display	EKA 163B or 164B. (any EKA 163A or 164A)	
Digital inputs DI1, D2	Signal from contact functions	
	Requirements to contacts: Gold plating	
	Cable length must be max. 15 m	
	Use auxiliary relays when the cable is longer	
Digital input DI3	230 V AC	
Electrical connection cable	Max.1.5 mm² multi-core cable	
Solid state output	DO1 (for AKV coil)	Max. 240 V AC, Min. 28 V AC
		Max. 0.5 A
		Leak < 1 mA
		Max. 1 pcs. AKV
Relays *)		CE (250 V AC)
	DO3, DO4	4 (3) A
	DO2, DO5, DO6	4 (3) A
Environments	0 – 55 °C, During operations	
	-40 – 70 °C, During transport	
	20 – 80% Rh, not condensed	
	No shock influence / vibrations	
Enclosure	IP20	
Mounting	DIN-rail or wall	
Weight	0.4 Kg	
Data communication	Fixed: MODBUS	
	Extension options: LON RS485 / DANBUSS / TCP / IP(OEM) / MODBUS	
	The controller cannot be hooked up with a monitoring unit type m2	
Power reserve for the clock	4 hours	
Approvals	EU Low Voltage Directive and EMC demands re CE-marking complied with LVD tested acc. EN 60730-1 and EN 60730-2-9, A1, A2 - EMC tested acc. EN50082-1 and EN 60730-2-9, A2	

**) DO3 and DO4 are 16 A relays. DO2, DO5 and DO6 are 8 A relays. Max. load must be observed*

Ordering

Type	Description	Code no.
AK-CC 550A	Case controller with MODBUS data communication	084B8030

Accessory

Type	Description	Code no.
EKA 175	Data communication module LON RS 485	084B8579
EKA 176	Data communication module DANBUSS	084B8583
EKA 178B	Data communication module MODBUS	084B8571
EKA 163B	External display with plug for direct connection	084B8574
EKA 164B	External display with operation buttons and plug for direct connections	084B8575
EKA 163A	External display with screw terminals 084B8562 EKA	084B8562
EKA 164A	External display with operation buttons and screw terminals	084B8563

AK-CC 750A, Controller for evaporator control

AK-CC 750A controllers are complete regulating units which together with valves and sensors constitute complete evaporator controls for refrigeration appliances and freezing rooms within commercial refrigeration.

Generally speaking they replace all other automatic controls containing, inter alia, day and night thermostats, defrost, fan control, rail heat control, alarm functions, light control, thermo valve control, solenoid valve, etc.

Features
AK-CC 750A

Energy optimisation
- Adaptive superheat via the AKV electronic expansion valve
  Optimum utilisation of evaporator at all load conditions, precondition for major energy savings via optimised suction pressure and floating condensing pressure control
- Adaptive defrost
  Intelligent defrost skip based on performance monitoring of evaporator
- Dew point pulsing of rail heat
  Pulsing of rail heat according to the actual load condition
- Pulsing of fans
  Pulsing of fans at thermostat cut out

Service and commissioning
- Easy performance check
  Provides vital info for performance check
- Versatile controller
- A single controller covering several applications
- Flexible IO configuration
- Built-in LON communication
- Fast and easy commissioning
- Preset setup for fast start-up
- Only 5 settings required

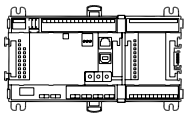


Food quality / HACCP compliance
- Modulating temperature control
  Accurate temperature control
- **Measuring accuracy**
  Factory calibration guarantees a better measuring accuracy than required in the EN 12830 and EN 13485 standards without subsequent calibration on site (Pt 1000 ohms sensor)
- **Product temperature**
  Separate product temperature for compliance with EN 12830 and EN 13485
- **Case cleaning**
  Case cleaning function for documentation of case cleanings carried out according to HACCP procedures

Facts

- Control of 1 to 4 evaporator sections
- Adaptive superheat control ensures optimum evaporator usage in all operational circumstances
- Electronic injection with AKV valve
- Traditional temperature regulation using ON / OFF or modulating control of solenoid valve for both DX and indirect brine system
- Weighted thermostat and alarm thermostat
- Defrost on demand based on evaporator capacity
- Appliance cleaning function
- Light control using door switch or network signal depending on day / night operation
- Rail heat pulsing depending on day / night operation or dew point
- Monitoring of door alarm and control of light / refrigeration depending on location of door switch
- Log function for registration of historical parameter values and alarm modes
- Full energy optimisation functions (dew point, fans, defrost, blinds etc.)
- Remote display connections (up to 4 displays)
- Built in RS 485 LON communication
- Flexible I/O configuration

Technical data and ordering



AK-CC 750A, Controller for evaporator control

Technical data

Features	Description	
Supply voltage	24 V DC / AC ± 20%	
Power consumption	8 V A	
Analogue inputs	Pt 1000 ohm / 0 °C	Dissolution: 0.1 °C, Accuracy: ± 0.5 °C
	Pressure transmitter type AKS 32R/AKS 32 (1 – 5 V) Voltage signal 0 – 10 V	Dissolution 1 mV
		Accuracy ± 10 mV
		Max. connection of 5 pressure transmitters on one module
	Contact function (ON / OFF)	ON at R < 20 ohm, OFF at R > 2 K ohm (Gold plated contacts not necessary)
ON/OFF supply voltage inputs	Low voltage 0 / 80 V DC / AC	OFF : U < 2 V ON: U > 10 V
	High voltage 0 / 260 V AC	OFF : U < 24 V ON: U > 80 V
Relay outputs SPDT	AC-1 (ohmic)	5 A
	AC-15 (inductive)	3 A
	U	Min. 24 V - Max. 230 V Low and high voltage must not be connected to the same output group
	Fuse	5 A (F)
Solid state outputs	Can be used for loads that are frequently cut in and out e.g. decompression, rail heating, fans and AKV valve	Max. 240 V AC, Min. 48 V AC - Max. 0.5 A,
		Leak < 1 mA
		Max. 1 AKV
Ambient temperature	During transport	-40 – 70 °C
	During operation	-20 – 55 °C, 0 – 95% RH (non condensing) - No shock infl uences / vibrations
Enclosure	Material	PC / ABS
	Enclosure	IP10, VBG 4
	Mounting	For mounting on wall or DIN rail
Weight with screw terminals	Modules in100- / 200- / controller series	Approx. 200 g / 500 g / 600 g
Approvals	Complies with EU low voltage directive and EMC requirements	LVD tested according to EN 60730 EMC tested - Immunity according to EN 61000-6-2, Emission according to EN 50081-1
	UL file number	E166834

Ordering

Type	Language	Code no.
AK-CC 750A	English, Danish, Swedish, Finnish, Russian, Chech, Polish, Chinese , German, French, Italian, Dutch, Spanish, Portuguese	080Z0140

Ordering Accessory - Extension modules and survey for inputs and outputs

Type	Analog inputs	ON / OFF outputs		ON / OFF supply voltage (DI signal)		Analog outputs	Stepper outputs	Module with switches	Code no.
	For sensors, pressure transmitters	Relay (SPDT)	Solid state	Low voltage (max. 80 V)	High voltage (max. 260 V)	0 -10 V d. c.	For valves with step control	For override of relay outputs	
Controller	11	4	4	–	–	–	–	–	–
AK-XM 101A	8	–	–	–	–	–	–	–	080Z0007
AK-XM 102A	–	–	–	8	–	–	–	–	080Z0008
AK-XM 102B	–	–	–	–	8	–	–	–	080Z0013
AK-XM 103A	4	–	–	–	–	4	–	–	080Z0032
AK-XM 204A	–	8	–	–	–	–	–	–	080Z0011
AK-XM 204B	–	8	–	–	–	–	–	x	080Z0018
AK-XM 205A	8	8	–	–	–	–	–	–	080Z0010
AK-XM 205B	8	8	–	–	–	–	–	x	080Z0017
AK-XM 208C	8	–	–	–	–	–	4	–	080Z0023

Software

AK-ST 500	Software for operation of AK controllers	080Z0161

Remote displays

EKA 163B	Display unit	084B8574
EKA 164B	Display unit with operation buttons	084B8575
MMIGRS2	Graphic display with operation	080G0294
	Remote display, Wall, S	080G0295
	Remote display, Panel, I	080G0297

Miscellaneous

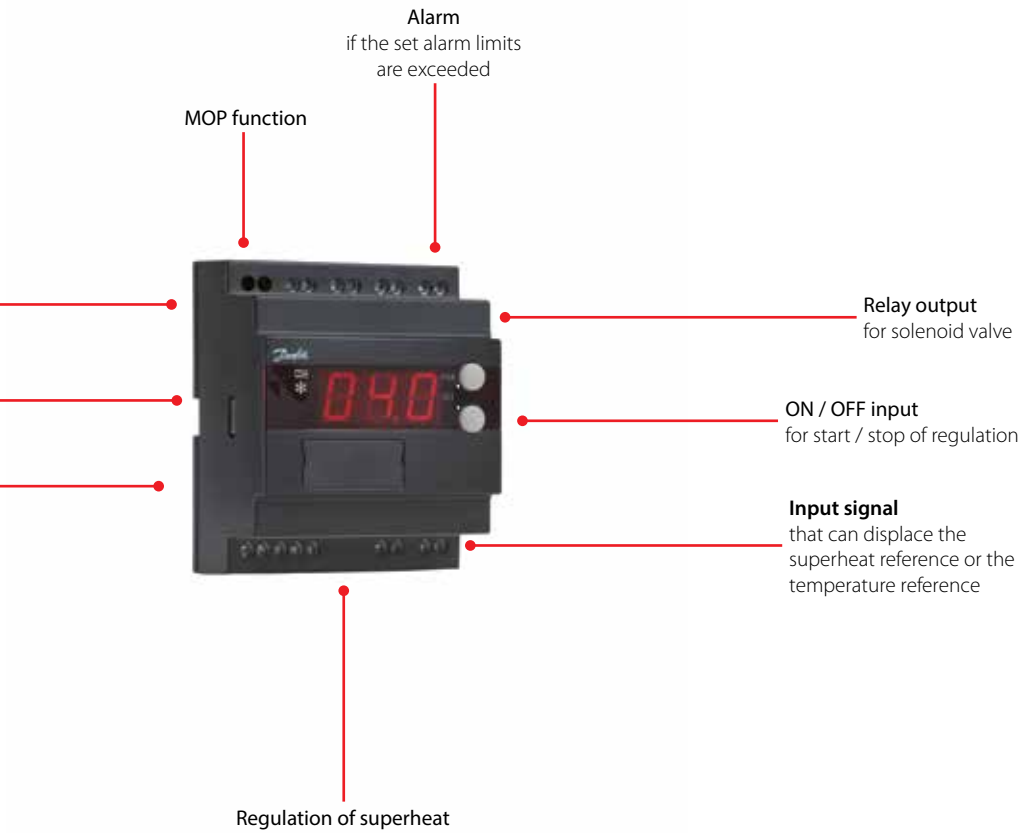
AK-CM 102	Communication modules for controllers where modules cannot be connected continuously	080Z0064

EKC 315A, Refrigeration control

The controller and valve can be used where there are requirements to accurate control of superheat and temperature in connection with refrigeration:

- Cold store (air coolers)
- Processing plant (water chillers)
- A/C plant

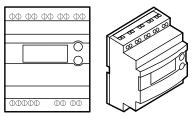
Features
EKC 315A



Facts

- The evaporator is charged optimally - even when there are great variations of load and suction pressure
- Energy savings - the adaptive regulation of the refrigerant injection ensures optimum utilisation of the evaporator and hence a high suction pressure
- Exact temperature control - the combination of adaptive evaporator and temperature control ensures great temperature accuracy for the media
- The superheating is regulated to the lowest possible value at the same time as the media temperature is controlled by the thermostat function

Technical data and ordering



EKC 315A - Refrigeration control

Technical data

Features	Description
Supply voltage	24 V AC ± 15%, 50 / 60 Hz, 80 V A (the supply voltage is galvanically separated from the input and output signals)
Power consumption	Controller: 5 V A
	AKV coil: 55 V A
Input signal	Current signal: 4 – 20 mA or 0 – 20 mA
	Pressure transmitter: 4-20 mA from AKS 33
	Digital input from external contact function
Sensor input	2 pcs. Pt 1000 ohm
Output signal	Current signal: 4 – 20 mA or 0 – 20 mA
	Load: Max. 200 ohm
Relay output	1 pcs. SPST: AC-1: 4 A (ohmic)
Alarm relay	1 pcs. SPST: AC-15: 3 A (inductive)
ICAD	ICAD mounted on ICM Current signal: 4 – 20 mA or 0 – 20 mA
Data communication	Possible to connect a data communication module
Environments	-10 – 55 °C, during operations
	-40 – 70 °C, during transport
	20 – 80% Rh, not condensed
	No shock influence / vibrations
Enclosure	IP20
Weight	300 g
Mounting	DIN rail
Display	LED, 3 digits
Terminals	max. 2.5 mm^2 multicore
Approvals	EU Low Voltage Directive and EMC demands re CE-marking complied with LVD-tested acc. to EN 60730-1 and EN 60730-2-9 EMC-tested acc. to EN50081-1 and EN 50082-2

The installation of data communications must comply with the requirements described in literature sheet no. RC8AC

Ordering

Type	Description	Code no.
EKC 315A	Superheat controller	084B7086
EKC 315A	Superheat controller, pressure transmitter signal from AKS 32R	084B7085
EKC 315A	I-pack of 084B7085	084B7128

Accessory

Type	Description	Code no.
EKA 174	Data communication module (accessories), (RS 485 module) with galvanic separation	084B7124
EKA 175	RS485 LON	084B8579
AKS 11	Pt 1000 Sensor	084N0003
AKS 32R	Pressure transmitter -1/12 bar	060G1036
AKS 33	Pressure transmitter -1/12 bar, 0.3%	060G2049
AKS 3000	Pressure transmitter -1/12 bar, 1%	060G1323

EKE 1A / EKE 1B / EKE 1C, Superheat controllers

The flexible pre-programmed EKE 1 series of superheat controllers from Danfoss provides ultimate software control, allowing you to tailor the performance of your system to your exact requirements. EKE is ideal for controlling a wide range of commercial air conditioning and refrigeration applications, such control helps you to achieve the highest efficiency in the system reducing the operational cost by up to 20% with minimal effort. EKE is generally used where there is a requirement for accurate control of superheat or temperature control in connection with air conditioning and refrigeration.
The superheat is regulated to the lowest possible value in the shortest period. It regulates the superheat of the evaporator by charging optimally even when there are great variations of load resulting in a reduction of energy consumption and operational cost.

Features
EKE 1 Series

Efficiency

- Adaptive Superheat Control
  Several control algorithms available to match your application that guarantee low and stable superheat.
- Compressor Feed Forward
  Provides proper superheat by synchronizing valve reactivity to compressor speed.
- Heating & Cooling Selection Mode
- Optimizes evaporator performance by allowing 2 different sets of superheat settings
- **Fast Start-Up**
  Ensures optimal superheat in the shortest period of time by quickly opening the valve and avoiding low pressure cut-out during start-up.



System Protection

- **Fail Safe Operation**
  In case of sensor error, system can continue cooling in emergency.
- **Low Operating Pressure (LOP)**
  Allows applications to start-up at lower ambient conditions to prevent compressor from stopping.
  High Condensing Temperature Protection (HCTP)
  Ensures that the load on the condenser is reduced, in cases where the condensing temperature gets too high
- **Superheat Close**
  When the superheat is below a set minimum value, the valve will close faster in order to protect the compressor
- **Max Operating Pressure (MOP)**
  Keeps evaporating pressure below the MOP set point.

Ease of Use/Installation/Applied Costs

- **Share Power Supply**
  Galvanic isolation eliminates the need of one transformer for every EKE.
- **Share Pressure Signal**
  1 sensor can be used with multiple controllers.
- **Valves & Sensors**
  Compatible with a wide range of valves and sensors.
- **Commutation Filter**
  The filter is inside the EKE and eliminates the need of external filter for greater cable lengths.
- **KoolProg**
  The Koolprog wizard tool will guide the user to set up the controller in a fast and easy way.

Facts

Applications:
- Chillers
- Processing plant / Cabinet cooling
- Cold store (air coolers)
- A/C plant / Air conditioning
- Heat pumps. Residential Heat Pump
- Transport cooling

- Power Supply
  - 24 V AC or 24 V power supply, Easy wiring layout
- Drives bipolar and unipolar valves with selectable driving method
- Plug and Play installation. Easy and fast configuration via Wizard
- Analog and Digital Inputs
  - Various programmable Analog and digital inputs available
- External and flexible large graphical display
- Connectivity available with
  - CAN / CAN RJ / MODbus RS485 RTU

- Key Software
  - Energy saving Superheat Control logic: Minimum stable superheat, LoadAp, Fixed SH, Delta Temperature
  - Safety protection: MOP, LOP, min. S4, HCTP, SH close
  - Improved and fast starts up with rapid temperature pull down time
  - Feature focus on specific application e.g Heat pump, chiller
  - Ensure longevity of the stepper valve

Technical data and ordering

EKE 1A / EKE 1B / EKE 1C

Hardware comparison

		EKE 1A	EKE 1B	EKE 1C
Power supply				
Power supply type	24 V AC / DC ± 20%	•	•	•
Share power supply		•	•	•
Battery backup input	18 – 24 V DC	•	•	•
Data Communication				
MODbus	RS 485 RTU	–	•	•
Wired CANbus	To link Danfoss products	–	–	•
CANbus RJ	Danfoss MMI service port	•	•	•
Inputs				
Temperature Sensor Type	PT1000	–	–	•
	NTC 10 K, type EKS	•	•	•
	NTC 10 K, type ACCPBT	•	•	•
	NTC 10 K, type Sensata	•	•	•
No of temperature sensors		1	2	3
Pressure Transmitter types	Ratiometric 0.5 – 4.5 V DC	•	•	•
	0 – 20 mA signal	–	–	•
	1 – 5 V / 0 – 10 V	•	•	•
No of pressure sensors		1	1	2 or (1 P and 1 ext. ref.)
Share Pressure Signal	Up to 5 devices	•	•	–
	Via wired CANbus	–	–	•
Read external sensor value	Via MODbus	–	•	•
External reference	4 – 20 mA	–	–	•
	0 – 20 mA	–	–	•
	User defined current	–	–	•
	0 – 10 V	•	•	•
	1 – 5 V	•	•	•
	User defined voltage	•	•	•
No. of external reference		1	1	1
Digital Input Dry contact	(4 possible functions)	3	2	2
Outputs				
Digital output		1	1	1
Class of insulation	Class II	•	•	•
Relay	SPDT	1	1	1
Relay functions	Alarm or NC function	•	•	•

Ordering

Type	Description	Code no. single pack
EKE 1A	Superheat controller 1 temperature sensor	080G5300
EKE 1B	Superheat controller 2 temperature sensor	080G5350
EKE 1C	Superheat controller 3 temperature sensor	080G5400

Accessories

Type	Description	Code no. single pack
MMIGRS2 Remote Display	Graphic display with operation	080G0294
MMIMYK gateway	Interface to KoolProg PC software	080G0073

EKE 347, Liquid level controller

The EKE347 controller is used for regulation of the liquid level in pump reservoirs, separators, intermediate coolers, economisers, condensers and receivers.
The controller is communicating with a transmitter that continuously measures the liquid level in the actual reservoir.

By comparing the measured value with the level setpoint entered by the customer, the controller dictates the valve to increase or decrease the liquid flow to or from the reservoir.

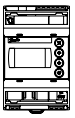
Features
EKE 347



Facts

- User friendly and easy setup Wizard for first time configuration
- Programming menu with 3 access levels and separate passwords
- With the AKS 4100 / 4100U liquid level transmitter it is possible to set the refrigerant level within a wide range
- EKE 347 can be used with ICM or AKV / A expansion valves
- ICM are direct operated motor valves driven by digital stepper motor type ICAD
- AKVA or AKV are pulse-width modulating expansion valves
- EKE 347 include as standard RS 485 based MODBUS-RTU bus communication interface to third party equipment like PLC
- Connection to other EKE347 controllers possible
- Wired remote display possible

Technical data and ordering



EKE 347 - Liquid level controller

Technical data

Features	Description	
Supply voltage	24 V AC ± 20%, 50 / 60 Hz or 24 V DC ± 20% (the supply voltage is galvanically separated from the input and output signals. Input / output are not individual galvanic isolated)	
Power consumption	Controller 20 W coil for AKV	15 VA / 10 W 55 VA
Input signal ***) Ri =0(4)-20 mA: 33 ohm** **0(2)-10 V: 100 kohm**	Level signal *)	4 – 20 mA or 0 – 10 V
	ICM valve feedback signal *)	From ICAD 0 / 4 – 20 mA
	Contact function start / stop of regulation	
Relay output	3 pcs. SPDT (Lower level alarm, Upper level alarm, Common alarm / NC Solenoid)	3 A (ohmic) 1 A (inductive) Max 240 V AC or 24 V AC / DC. can be used, but same voltage type must be used on DO3 and DO2
Current output	0 – 20 mA or 4 – 20 mA Max. load: 500 ohm	
Valve connection	ICM - via current output AKV / A- via 24 V AC. Pulse-Width Modulating output	
Data communication	MODBUS RTU: Communication to system controller, MODBUS on RS485: galvanic isolation (500 V DC) CAN: Communication to other EKE controllers	
Environments	-20 – 55 °C, during operation -30 – 80 °C, during storage	
	90% Rh, not condensed	
	No shock influence / vibrations	
Enclosure	IP20 / IP40 for the front mounted into a panel	
Weight	193 g	
Mounting	DIN rail	
Display	Graphical LCD display	
Terminals	plugs 1.5 or 2.5 mm^2 multicore	
Approvals	EU Low Voltage Directive and EMC demands re CE-marking complied with LVD-tested acc. to EN 60730-1 and EN 60730-2-9 EMC-tested acc. to EN61000-6-3 and EN 61000-6-2	

Ordering

Type	Description	Code no.
EKE 347	Liquid level controller	080G5000
MMIGRS2	Remote display, Panel, S	080G0294

EKC 368, Controller for temperature control of unpacked food products

Controller and valve are used where there are high requirements to refrigeration of unpacked food products:

- Delicatessen appliances
- Cold rooms for meat products
- Cold rooms for fruits and vegetables
- Containers
- Air conditioning plants.

Features
EKC 368



Modulating temperature control

Alarm
if the set alarm limits are exceeded

Input signal
that can displace the temperature reference

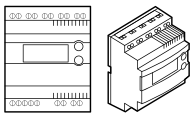
Defrost function
electric, hotgas or natural

Relay outputs
for defrost function, solenoid valve, fan and alarm

Facts

- Wastage is reduced because the air humidity around the products is kept as high as possible
- The temperature is kept within an accuracy of ± 0.25 °C or better after a transient phenomenon
- A transient phenomenon can be controlled with the adaptive function so that temperature variations is kept on a minimum
- Defrost sensor, so that the defrost time will be as short as possible
- PID regulation

Technical data and ordering



EKC 368 - Controller for temperature control of unpacked food products

Technical data

Features	Description
Supply voltage	24 V AC ± 15%, 50 / 60 Hz, 10 V A (the supply voltage is galvanically separated from the input and output signals)
Power consumption	Controller: 5 V A
	KVS 15 - KVS 42 step motor: 1.3 V A
Input signal	Voltage signal: 0 – 10 V or 2 – 10 V
	Digital input from external contact function
	Short-circuit (pulse signal) of 18 – 20 will start a defrost
Sensor input	2 pcs. Pt 1000 ohm
Relay output	3 pcs. SPST: AC-1: 4 A (ohmic)
Alarm relay	1 pcs. SPST: AC-15: 3 A (inductive)
Step motor output	Pulsating 100 mA
Data communication	Possible to connect a data communication module
Ambient temperature	During operation: -10 – 55 °C / 14 –131 °F
	During transport: -40 – 70 °C / -40 – 158 °F
Enclosure	IP20
Weight	320 g / 28 oz
Mounting	DIN rail
Display	LED, 3 digits
Terminals	max. 2.5 mm² / 12 AWG multicore
Approvals	EU Low Voltage Directive and EMC demands re CE-marking complied with LVD-tested acc. to EN 60730-1 and EN 60730-2-9 EMC-tested acc. to EN50081-1 and EN 50082-2

If battery backup is used: battery requirements: 18 V DC min. 100 mAh

Ordering

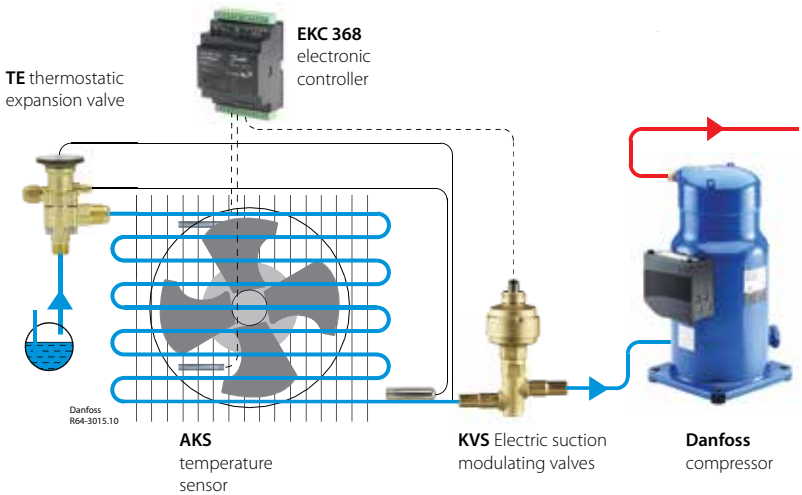
Type	Description	Code no.
EKC 368	Media temperature controller	084B7079

Accessory

Type	Description	Code no.
EKA 172	Realtime clock	084B7069
EKA 175	Data communication module (accessories), (RS485 module)	084B8579
EKA 174	Data communicationsmodule (accessories), (RS485 module) with galvanic separation	084B7124

Related products

Electric suction modulating valves
Type KVS 15 - KVS 42
Temperature sensors and pressure transmitters
Type AKS



ERC 211 / ERC 213 / ERC 214, Temperature controllers

ERC 21X is a smart multipurpose refrigeration controller with temperature and defrost management.

The controller has been designed to fulfill today's requirements of advanced commercial Refrigeration applications.

Features
ERC 211 / 213 / 214

Ease of Use
four push buttons, easy menu structure, pre-installed application solutions ensure superior usability

Simple Installation
high effect 16 A relay enable direct connection of heavy loads, without use of intermediate relays. A wide range of compatible types of sensors, screw connection terminals ensure high flexibility in installation



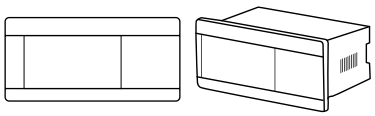
Unit Protection
special software features like compressor protection from fluctuation in power supply or from high condensing temperature ensure the safety & reliability operation of the unit

Energy efficiency
defrost on demand
Day / Night mode, and smart evaporator fan management ensure energy efficiency

Facts

- Thermostat
  - ON / OFF thermostat
  - day / night, continuous cycle, emergency mode
  - pre-installed applications
  - compatible with wide range of sensors (NTC 5 K and 10 K, Pt1000, PTC)
- Defrost
  - natural, electrical and hot gas defrost
  - defrost on demand
  - start via push button, DI input or time interval
  - stop on time, temperature or push button
- Compressor
  - voltage protection
  - anti-cycle timers for optimum compressor protection
  - high-effect 16 A relays for connection of compressors
- Evaporator Fan
  - fan delay function
  - smart evaporator fan management for energy saving
  - fan stop at high evaporator temperature
- Alarms
  - high and low temperature alarm
  - sensor failure alarm
  - high and low voltage alarm
  - condenser cleaning alarm
  - door open alarm
  - external alarm input
- Multi-purpose DI input
  - two multipurpose DI input for defrost start, Day / night control, main switch, reference displacement and continuous cycle control
- Display & programming
  - bigger and High efficient LED Display
  - display temperatures in °C / °F
  - parameter settings/readouts and alarm conditions can be read on the display
- Other functions
  - zero cross switching in all relays
  - three levels password protection
  - door function with alarm monitoring
  - delay of outputs at power up
  - keypad lock and unlock feature
  - galvanic Isolation

Technical data and ordering



ERC 211 / ERC 213 / ERC 214 - Temperature controllers

Technical data

Features	Description
Power supply	115 V AC / 230 V AC 50 – 60 Hz, galvanic isolated low voltage regulated power supply
Rated power	Less than 0.7 W
Input	4 inputs: 2 analogue, 1 analogue / digital and 1 digital
Sensors	NTC 5000 Ohm at 25 °C NTC 10000 Ohm at 25 °C PTC 1000 Ohm at 25 °C PT1000
Accuracy	Measuring range: -40 – 105 °C / -40 – 221 °F
	Controller: ± 1 K below -35 °C, ± 0,5 K between -35 – 25 °C, ± 1 K above 25 °C
Output	1 Compressor relay: 16 (16 A) EN60730 16 (16 A) CQC; 16 A (60 FLA / 10 LRA) UL60730
	Aux relay 1: 8 A, 2 FLA / 12 LRA, UL60730 8 A, 2 (2 A), EN60730
	Aux relay 2: 3 A, 2 FLA / 12 LRA, UL60730 3 A, 2 (2 A), EN60730
	Aux relay 3: 2 A
Display	LED display, 3 digits, decimal point and multi functionality icons, °C + °F scale
Operating conditions	-10 – 55 °C / 14 – 131 °F, 90% Rh
Storage conditions	-40 – 70 °C / -40 – 158 °F, 90% Rh
Protection	Front: IP65 Rear: water and dust protection corresponds to IP31, accessibility of connectors limit rear part rating to IP00
Environmental	Pollution degree III (can be mounted inside a refrigerated cabinet), non-condensing
Resistance to heat and fire	Category D (UL94-V0)
EMC category	Category I
Approvals	UL (recognition) CB certification (ENEC, CE, CQC)

Ordering

Type	Description	Code no.
ERC 211	Red LED, 120 V, 1 relay	080G3290
	Red LED, 240 V, 1 relay	080G3293
ERC 213	Red LED, 120 V, 3 relay	080G3291
	Red LED, 240 V, 3 relay	080G3294
ERC 214	Red LED, 120 V, 4 relay	080G3292
	Red LED, 240 V, 4 relay	080G3295

AK-PC 351, Capacity controller

AK-PC 351 is used for capacity regulation of compressors and condensers in small refrigeration applications.
A maximum of 4 compressors and one condenser can be regulated:

- One suction group + one condenser group, max. 6 steps
- One compressor group, max. 4 steps
- One condenser group, max. 4 steps

Features
AK-PC 351

Solid state
output 1 pcs
control of bypass on a digital scroll or for controlling unloader on a stream compressor.
If the output is not used for the function, it can be used as ordinary relay output

Analogue inputs
max. 4 pcs signal from pressure transmitters, temperature sensors

Analogue outputs
max. 2 pcs
speed control of compressors and condenser fans



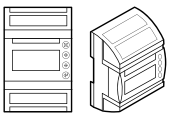
Digital inputs
max. 8 pcs signal from automatic safety control, day / night signal

Relay outputs
max. 5 pcs connection of compressors, condenser fans

Facts

- Energy savings via:
  - optimisation of suction pressure
  - night time increase
  - floating condensing pressure

Technical data and ordering



AK-PC 351, Capacity controller

Technical data

Features	Description	
Supply voltage	24 V AC ± 15%, 50 / 60 Hz, 17 V A	
	24 V DC (20 – 60 V), 17 V A	
4 analog Input	Pressure measuring: Ratiometric pressure transmitter type AKS 32R 1 – 5 volt pressure transmitter type AKS 32 0 – 20 (4 – 20) mA pressure transmitter type AKS 33	
	Temperature measurement Pt 1000 ohm / 0 °C NTC - 86 K from digital scroll / stream	
8 digital input	From contact function E.g. to: Start / stop of regulation Monitoring of safety circuits General alarm function	
Relay output to capacity control	5 pcs. SPST (5 A): AC-1: 5 A (ohmic)	
	5 pcs. SPST (5 A): AC-15: 2 (inductive)	
	1 pc. Solid State PWM for scroll -unload	Imax. = 0.5 A
		Imin. = 50 mA
		Leak<1.5 mA
2 Voltage output	0-10 V DC Ri = 1 kohm	
Display output	For type MMIGRS2	
Data communication	Modbus for AK-SM 850	
Environments	-20 – 60 °C, During operations	
	-40 – 70 °C, During transport	
	20 – 80% Rh, not condensed	
	No shock influence / vibrations	
Enclosure	IP40	
Weight	0.2 kg	
Mounting	DIN-rail	
Connection terminals	max. 2.5 mm^2 multi core	
Approvals	EU Low Voltage Directive and EMC demands re CE-marking complied with LVD tested acc. EN 60730-1 and EN 60730-2-9 EMC-tested acc. EN61000-6-2 and 3	

Ordering

Type	Description	Code no.
AK-PC 351	24 V AC / 20 – 60 V DC, LCD, RS485, 1SSR S	080G0289

AK-PC 551, Capacity controller

AK-PC 551 is used for capacity regulation of compressors and condensers in small refrigeration applications.
A maximum of 8 compressors and one condenser can be regulated:

- One suction group + one condenser group
- Two suction groups + one shared condenser, max. 4 + 4 steps
- One compressor group, max. 8 steps
- One condenser group, max. 8 steps

Features
AK-PC 551

Solid state outputs
max. 2 pcs.
- Control of capacity valve on a Copeland digital scroll
- Control of unloaders on a
- Copeland stream compressor.
- Control of unloaders on a Bitzer CRII Ecoline compressor.

If the outputs are not used for these functions, they can be used as ordinary relay outputs

Analogue inputs
max. 8 pcs signal from pressure transmitters, temperature sensors, voltage signal

Analogue outputs
max. 2 pcs speed control of compressors and condenser fans



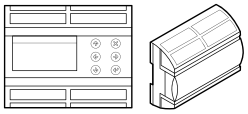
Digital inputs
max. 8 pcs signal from automatic safety control, day / night signal

Relay outputs
max. 6 pcs connection of compressors, condenser fans

Facts

- Energy savings via:
  - optimisation of suction pressure
  - night time increase
  - floating condensing pressure
  - load limitation

Technical data and ordering



AK-PC 551, Capacity controller

Technical data

Features	Description	
Supply voltage	24 V AC ± 15%, 50 / 60 Hz, 17 V A	
	24 V DC (20 – 60 V), 17 V A	
	230 V AC (85 – 265 V) 50 / 60 Hz, 20 V A	
8 analog Input	Pressure measuring: Ratiometric pressure transmitter type AKS 32R 1 – 5 volt pressure transmitter type AKS 32 0 – 20 (4 – 20) mA pressure transmitter type AKS 33	
	Temperature measurement Pt 1000 ohm / 0 °C NTC - 86 K from digital scroll / stream	
8 digital input	From contact function E.g. to: Start / stop of regulation Monitoring of safety circuits General alarm function	
Relay output to capacity control	4 pcs. SPDT (8 A): AC-1: 6 A (ohmic)	
	4 pcs. SPDT (8 A): AC-15: 4 A (inductive)	
	2 pcs. SPST (16 A): AC-1: 10 A (ohmic)	
	2 pcs. SPST (16 A): AC-15: 3.5 A (inductive)	
	2 pcs. Solid State. PWM for scroll -unload	Imax. = 0.5 A
		Imin. = 50 mA
		Leak<1.5 mA
2 Voltage output	0-10 V DC Ri = 1kohm, Separate 24 V supply required	
Display output	For type MMIGRS2	
Data communication	Modbus for AK-SM 850	
Environments	-20 – 60 °C, During operations	
	-40 – 70 °C, During transport	
	20 – 80% Rh, not condensed	
	No shock influence / vibrations	
Enclosure	IP20	
Weight	0.4 kg	
Mounting	DIN-rail	
Connection terminals	max. 2.5 mm^2 multi core	
Approvals	EU Low Voltage Directive and EMC demands re CE-marking complied with LVD tested acc. EN 60730-1 and EN 60730-2-9 EMC-tested acc. EN61000-6-2 and 3	

Ordering - AK-PC 551

Type	Description	Code no.
AK-PC 551	230 V, LCD, 2SSR, RS485, S	080G0281
AK-PC 551	24 V, LCD, 2SSR, RS485, S	080G0283

Ordering - AK-PC 551 kit

Type	Description	Code no.
AK-PC 551 kit	230 V, for remote display, 2SSR, RS485, S + MMIGRS2 + 1.5m CABLE	080G0282
AK-PC 551 kit	24 V, for remote display, 2SSR, RS485, S + MMIGRS2 + 1.5m CABLE	080G0288

Accessories

Type	Description	Code no.
MMIGRS2	MMIGRS2, REMOTE DISPLAY, PANEL, S	080G0294
ACCCBI	TELEPHONE CABLE USER INTERFACE CONNECTOR, 1.5 M CABLE	080G0075
ACCCBI	TELEPHONE CABLE USER INTERFACE CONNECTOR, 3 M CABLE	080G0076

AK-PC 651, Capacity controller

AK-PC 651 is used for capacity regulation of compressors and condensers in small refrigeration applications.
A maximum of 10 compressors and one condenser can be regulated:

- One suction group + one condenser group
- One compressor group, max. 10 steps
- One condenser group, max. 8 steps

Features
AK-PC 651

Solid state outputs
max. 2 pcs.
- Control of capacity valve on a Copeland digital scroll
- Control of unloaders on a
- Copeland stream compressor.
- Control of unloaders on a Bitzer CRII Ecoline compressor.

If the outputs are not used for these functions, they can be used as ordinary relay outputs

Analogue inputs
max. 10 pcs signal from pressure transmitters, temperature sensors, voltage signal

Analogue outputs
max. 4 pcs speed control of compressors and condenser fans



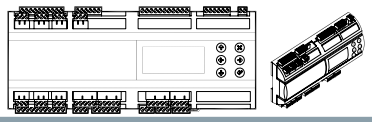
Digital inputs
max. 18 pcs signal from automatic safety control, day / night signal

Relay outputs
max. 13 pcs connection of compressors, condenser fans

Facts

- Energy savings via:
  - optimisation of suction pressure
  - night time increase
  - floating condensing pressure
  - load limitation

Technical data and ordering



AK-PC 651, Capacity controller

Technical data

Features	Description	
Supply voltage	230 V AC (85 – 265 V) 50 / 60 Hz, 26 V A	
10 analog Input	Pressure measuring: Ratiometric pressure transmitter type AKS 32R 1 – 5 volt pressure transmitter type AKS 32 0 – 20 (4 – 20) mA pressure transmitter type AKS 33	
	Temperature measurement Pt 1000 ohm / 0 °C NTC - 86 K from digital scroll / stream	
18 digital input (14 for low voltage + 4 for high voltage or low voltage)	From contact function E.g. to: Start / stop of regulation Monitoring of safety circuits General alarm function	
Relay output to capacity control	7 pcs. SPST (8 A): AC-1: 6 A (ohmic), AC-15: 4 A (inductive)	
	4 pcs. SPDT (8 A): AC-1: 6 A (ohmic), AC-15: 4 A (inductive)	
	2 pcs. SPDT (16 A): AC-1: 7 A (ohmic), AC-15: 3.5 A (inductive)	
	2 pcs. Solid State. PWM for scroll -unload	Imax. = 0.5 A
		Imin. = 50 mA
		Leak<1.5 mA
4 Voltage output	0-10 V DC Ri = 1 kohm, Separate 24 V supply required	
Display output	For type MMIGRS2	
Data communication	Modbus for AK-SM 850	
Environments	-20 – 60 °C, During operations	
	-40 – 70 °C, During transport	
	20 – 80% Rh, not condensed	
	No shock influence/vibrations	
Enclosure	IP20	
Weight	0.8 kg	
Mounting	DIN-rail	
Connection terminals	max. 2.5 mm^2 multi core	
Approvals	EU Low Voltage Directive and EMC demands re CE-marking complied with LVD tested acc. EN 60730-1 and EN 60730-2-9 EMC-tested acc. EN61000-6-2 and 3	

Ordering - AK-PC 651

Type	Description	Code no.
AK-PC 651	230 V, LCD,2SSR, RS485, S	080G0312

Accessories

Type	Description	Code no.
MMIGRS2	MMIGRS2, REMOTE DISPLAY, PANEL, S	080G0294
ACCCBI	TELEPHONE CABLE USER INTERFACE CONNECTOR, 1.5M CABLE	080G0075
ACCCBI	TELEPHONE CABLE USER INTERFACE CONNECTOR, 3M CABLE	080G0076

AK-PC 772A, Capacity controller for small CO_2 booster

The controller is a complete regulating unit for capacity control of compressors and gas cooler in a small CO_2 booster system.

The controller is with oil management, heat recovery function and CO_2 gas pressure control.

Features
AK-PC 772A



Condenser optimisation
with regard to ambient temperature

Speed control
of 2 compressors

Can handle various compressor sizes

Controls
up to 4 fans

Fan speed control

Control:
up to 3 compressors on high pressure
up to 2 compressors on low pressure
up to 3 unloaders for each compressor

Separate functions
independent of control

Start-up coordination
ensures optimum interaction between the high pressure and low pressure circuits

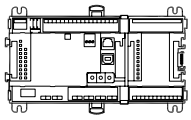
Optimisation
of suction pressure for the most heavily loaded refrigeration area

Start / stop signal
for injection in cascade heat exchanger

Facts

- Integrated oil equalization
- Up to 8 compressor step
- 1 or 2 speed controlled compressors
- Heat recovery functions
- CO_2 gas cooler control and receiver control
- Built in RS485 Lon communication

Technical data and ordering



AK-PC 772A, Capacity controller for small CO_2 booster

Technical data

Features	Description	
Supply voltage	24 V DC / AC ± 20%	
Power consumption	8 V A	
Analogue inputs	Pt 1000 ohm / 0 °C	Dissolution: 0.1 °C, Accuracy: ± 0.5 °C
	Pressure transmitter type AKS 32R / AKS 2050 / AKS 32 (1-5 V)	Dissolution 1 mV, Accuracy ± 10 mV Max. connection of 5 pressure transmitters on one module
	Contact function (ON / OFF)	On at R < 20 ohm, Off at R > 2K ohm (Gold plated contacts not necessary)
ON / OFF supply voltage inputs	Low voltage 0 / 80 V DC / AC	OFF : U < 2 V ON: U > 10 V
	High voltage 0 / 260 V AC	OFF : U < 24 V ON: U > 80 V
Relay outputs SPDT	AC-1 (ohmic)	5 A
	AC-15 (inductive)	3 A
	U	Min. 24 V - Max. 230 V Low and high voltage must not be connected to the same output group
Solid state outputs	Can be used for loads that are frequently cut in and out e.g. unloaders, solenoid valve	Max. 240 V AC, Min. 48 V AC - Max. 0.5 A Leak < 1 mA Max. 1 AKV
Ambient temperature	During transport	-40 – 70 °C
	During operation	-20 – 55 °C, 0 – 95% RH (non condensing) - No shock influences / vibrations
Enclosure	Material	PC / ABS
	Enclosure	IP10, VBG 4
	Mounting	For mounting on wall or DIN rail
Weight with screw terminals	Modules in100- / 200- / controller series	Approx. 200 g / 500 g / 600 g
Approvals	Complies with EU low voltage directive and EMC requirements	LVD tested according to EN 60730 EMC tested - Immunity according to EN 61000-6-2, Emission according to EN 50081-1
	UL file number	E166834

Ordering

Type	Language	Code no.
AK-PC 772A	English, German, French, Italian, Dutch	080Z0201

Ordering Accessory - Extension modules and survey for inputs and outputs

Type	Analog inputs	ON / OFF outputs		ON / OFF supply voltage (DI signal)		Analog outputs	Stepper outputs	Module with switches	Code no.
	For sensors, pressure transmitters	Relay (SPDT)	Solid state	Low voltage (max. 80 V)	High voltage (max. 260 V)	0 -10 V d. c.	For valves with step control	For override of relay outputs	
Controller	11	4	4	–	–	–	–	–	–
AK-XM 101A	8	–	–	–	–	–	–	–	080Z0007
AK-XM 102A	–	–	–	8	–	–	–	–	080Z0008
AK-XM 102B	–	–	–	–	8	–	–	–	080Z0013
AK-XM 103A	4	–	–	–	–	4	–	–	080Z0032
AK-XM 204A	–	8	–	–	–	–	–	–	080Z0011
AK-XM 204B	–	8	–	–	–	–	–	x	080Z0018
AK-XM 205A	8	8	–	–	–	–	–	–	080Z0010
AK-XM 205B	8	8	–	–	–	–	–	x	080Z0017
AK-XM 208C	8	–	–	–	–	–	4	–	080Z0023

Software

AK-ST 500	Software for operation of AK controllers	080Z0161

Remote displays

EKA 163B	Display unit	084B8574
EKA 164B	Display unit with operation buttons	084B8575
MMIGRS2	Graphic display with operation	080G0294

Miscellaneous

AK-CM 102	Communication modules for controllers where modules cannot be connected continuously	080Z0064

AK-PC 781A, Capacity controller

The controller is a complete regulating unit for capacity control of compressors and condensers in commercial refrigeration systems. These controllers are particularly well suited to capacity control of cascade or booster systems.

Full capacity control of both circuits can be obtained by using two controllers.

Features
AK-PC 781A



Condenser optimisation
with regard to ambient temperature

Speed control
of 2 compressors

Can handle various compressor sizes

Dirty condenser fault detection

Controls
up to 8 fans

Separate functions
independent of control

Fan speed control

Start-up coordination
ensures optimum interaction between the high pressure and low pressure circuits in cascade / booster systems

Control
of up to 10 compressors with up to three unloaders each

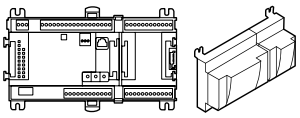
Optimisation
of suction pressure for the most heavily loaded refrigeration area

Start / stop signal
for injection in cascade heat exchanger

Facts

- Integrated oil management
- Also suitable for use in CO_2 systems
- Heat recovery functions
- CO_2 gas pressure control
- Parallel compression for a transcritical CO_2 systems
- Built in RS485 Lon communication

Technical data and ordering



AK-PC 781A, Capacity controller

Technical data

Features	Description	
Supply voltage	24 V DC / AC ± 20%	
Power consumption	8 V A	
Analogue inputs	Pt 1000 ohm / 0 °C	Dissolution: 0.1 °C, Accuracy: ± 0.5 °C
	Pressure transmitter type AKS 32R / AKS 2050 / AKS 32 (1 – 5 V)	Dissolution 1 mV, Accuracy ± 10 mV Max. connection of 5 pressure transmitters on one module
	Contact function (ON / OFF)	On at R < 20 ohm
		Off at R > 2K ohm
		(Gold plated contacts not necessary)
ON / OFF supply voltage inputs	Low voltage 0 / 80 V AC / DC	OFF : U < 2 V ON: U > 10 V
	High voltage 0 / 260 V AC	OFF : U < 24 V
		ON: U > 80 V
Relay outputs SPDT	AC-1 (ohmic)	5 A
	AC-15 (inductive)	3 A
	U	Min. 24 V - Max. 230 V Low and high voltage must not be connected to the same output group
Solid state outputs	Can be used for loads that are frequently cut in and out e.g. unloaders, solenoid valve	Max. 240 V AC, Min. 48 V AC - Max. 0.5 A
		Leak < 1 mA
		Max. 1 AKV
Ambient temperature	During transport	-40 – 70 °C
	During operation	-20 – 55 °C, 0 – 95% RH (non condensing) - No shock influences / vibrations
Enclosure	Material	PC / ABS
	Enclosure	IP10, VBG 4
	Mounting	For mounting on wall or DIN rail
Weight with screw terminals	Modules in100- / 200- / controller series	Approx. 200 g / 500 g / 600 g
Approvals	Complies with EU low voltage directive and EMC requirements	LVD tested according to EN 60730 EMC tested - Immunity according to EN 61000-6-2, Emission according to EN 50081-1
	UL file number	E166834

Ordering

Type	Language	Code no.
AK-PC 781A	English, German, French, Italian, Dutch, Spanish, Portuguese, Danish, Finnish, Russian, Chech, Polish, Chinese	080Z0191

Ordering Accessory - Extension modules and survey for inputs and outputs

Type	Analog inputs	ON / OFF outputs		ON / OFF supply voltage (DI signal)		Analog outputs	Stepper outputs	Module with switches	Code no.
	For sensors, pressure transmitters	Relay (SPDT)	Solid state	Low voltage (max. 80 V)	High voltage (max. 260 V)	0 -10 V d. c.	For valves with step control	For override of relay outputs	
Controller	11	4	4	–	–	–	–	–	–
AK-XM 101A	8	–	–	–	–	–	–	–	080Z0007
AK-XM 102A	–	–	–	8	–	–	–	–	080Z0008
AK-XM 102B	–	–	–	–	8	–	–	–	080Z0013
AK-XM 103A	4	–	–	–	–	4	–	–	080Z0032
AK-XM 204A	–	8	–	–	–	–	–	–	080Z0011
AK-XM 204B	–	8	–	–	–	–	–	x	080Z0018
AK-XM 205A	8	8	–	–	–	–	–	–	080Z0010
AK-XM 205B	8	8	–	–	–	–	–	x	080Z0017
AK-XM 208C	8	–	–	–	–	–	4	–	080Z0023

Software

AK-ST 500	Software for operation of AK controllers	080Z0161

Remote displays

EKA 163B	Display unit	084B8574
EKA 164B	Display unit with operation buttons	084B8575
MMIGRS2	Graphic display with operation	080G0294

Miscellaneous

AK-CM 102	Communication modules for controllers where modules cannot be connected continuously	080Z0064

AK-PC 782A, Capacity controller

AK-PC 782A is a powerful and flexible controller that provides precise regulation, improved efficiency, and enhanced user friendliness for pack control in transcritical CO_2 booster packs.

The controller flexibility and efficiency makes it the obvious choice for all sizes of packs in all climates.

Features
AK-PC 782A



Condenser optimisation
with regard to ambient temperature

Speed control
of 2 compressors

Can handle various compressor sizes

Receiver pressure optimisation with regards to reaching the optimal efficiency

High Pressure optimisation with Danfoss Multi Ejector™

General purpose functions
with Quick Application Selection for independent control functions

Easy first-time use with wizard-like set-up

Robust algorithms warrant safe initial start up and powerful operation

Scalable
to control large booster packs with up to 12 compressorseach

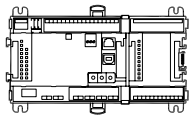
Optimisation
of suction pressure for the most heavily loaded refrigeration area

Start / stop signal
Best in class robustness ensures highest up-time by managing extreme operational conditions and fault situations

Facts

- One controller for the entire CO_2 booster pack
- High pressure control
- Danfoss Multi Ejectortm control
- Parallel compressor control
- Heat recovery functions
- Floating receiver pressure control
- Built in RS485 Lon communication
- Oil system pressurisation and flow management

Technical data and ordering



AK-PC 782A, Capacity controller

Technical data

Features	Description	
Supply voltage	24 V DC / AC ± 20%	
Power consumption	8 V A	
Analogue inputs	Pt 1000 ohm / 0 °C	Dissolution: 0.1 °C
		Accuracy: ± 0.5 °C
	Pressure transmitter type AKS 32R / AKS 2050 / AKS 32 (1 – 5 V)	Dissolution 1 mV Accuracy ± 10 mV Max. connection of 5 pressure transmitters on one module
	Contact function (ON / OFF)	On at R < 20 ohm
		Off at R > 2K ohm
		(Gold plated contacts not necessary)
ON / OFF supply voltage inputs	Low voltage 0 / 80 V AC / DC	OFF : U < 2 V ON: U > 10 V
	High voltage 0 / 260 V AC	OFF : U < 24 V
		ON: U > 80 V
Relay outputs SPDT	AC-1 (ohmic)	5 A
	AC-15 (inductive)	3 A
	U	Min. 24 V - Max. 230 V Low and high voltage must not be connected to the same output group
Solid state outputs	Can be used for loads that are frequently cut in and out e.g. unloaders, solenoid valve	Max. 240 V AC, Min. 48 V AC - Max. 0.5 A
		Leak < 1 mA
		Max. 1 AKV
Ambient temperature	During transport	-40 – 70 °C
	During operation	-20 – 55 °C, 0 – 95% RH (non condensing) - No shock influences / vibrations
Enclosure	Material	PC / ABS
	Enclosure	IP10, VBG 4
	Mounting	For mounting on wall or DIN rail
Weight with screw terminals	Modules in100- / 200- / controller series	Approx. 200 g / 500 g / 600 g
Approvals	Complies with EU low voltage directive and EMC requirements	LVD tested according to EN 60730 EMC tested - Immunity according to EN 61000-6-2, Emission according to EN 50081-1
	UL file number	E166834

Ordering

Type	Language	Code no.
AK-PC 782A	English, German, French, Italian, Dutch, Spanish, Portuguese, Danish, Finnish, Russian, Chech, Polish, Chinese	080Z0192

Ordering Accessory - Extension modules and survey for inputs and outputs

Type	Analog inputs	ON / OFF outputs		ON / OFF supply voltage (DI signal)		Analog outputs	Stepper outputs	Module with switches	Code no.
	For sensors, pressure transmitters	Relay (SPDT)	Solid state	Low voltage (max. 80 V)	High voltage (max. 260 V)	0 -10 V d. c.	For valves with step control	For override of relay outputs	
Controller	11	4	4	–	–	–	–	–	–
AK-XM 101A	8	–	–	–	–	–	–	–	080Z0007
AK-XM 102A	–	–	–	8	–	–	–	–	080Z0008
AK-XM 102B	–	–	–	–	8	–	–	–	080Z0013
AK-XM 103A	4	–	–	–	–	4	–	–	080Z0032
AK-XM 204A	–	8	–	–	–	–	–	–	080Z0011
AK-XM 204B	–	8	–	–	–	–	–	x	080Z0018
AK-XM 205A	8	8	–	–	–	–	–	–	080Z0010
AK-XM 205B	8	8	–	–	–	–	–	x	080Z0017
AK-XM 208C	8	–	–	–	–	–	4	–	080Z0023

Software

AK-ST 500	Software for operation of AK controllers	080Z0161

Remote displays

EKA 163B	Display unit	084B8574
EKA 164B	Display unit with operation buttons	084B8575
MMIGRS2	Graphic display with operation	080G0294

Miscellaneous

AK-CM 102	Communication modules for controllers where modules cannot be connected continuously	080Z0064

AK-PC 783A, Capacity controller with cascade control

The controller is a complete regulating unit for capacity control of compressors and condensers in refrigeration plants with cascade function.

The controller controls the high-pressure circuit, low-pressure circuit and cascade circuit.

Features
AK-PC 783A



Condenser optimisation
with regard to ambient temperature

Speed control
of 2 compressors

Can handle various
compressor sizes

Dirty condenser
fault detection

Separate functions
independent of control

Start-up coordination
ensures optimum interaction between the high pressure and low pressure circuits

Controls
up to 8 fans

Fan speed control

Control
of up to 12 compressors with up to 3 unloaders each.
Max 6 MT + 6 LT or 8 MT + 4 LT

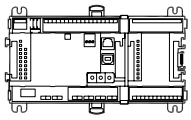
Optimisation
of suction pressure for the most heavily loaded refrigeration area

Start / stop signal
for injection in cascade heat exchanger

Facts

- Integrated oil equalization on MT
- Heat recovery functions
- Up to 3 screw compressors
- Built in RS485 Lon communication
- Digital scroll compressors

Technical data and ordering



AK-PC 783A, Capacity controller with cascade control

Technical data

Features	Description	
Supply voltage	24 V DC / AC ± 20%	
Power consumption	8 V A	
Analogue inputs	Pt 1000 ohm / 0 °C	Dissolution: 0.1 °C, Accuracy: ± 0.5 °C
	Pressure transmitter type AKS 32R / AKS 2050 / AKS 32 (1 – 5 V)	Dissolution 1 mV, Accuracy ± 10 mV Max. connection of 5 pressure transmitters on one module
	Contact function (ON / OFF)	On at R < 20 ohm, Off at R > 2K ohm (Gold plated contacts not necessary)
ON / OFF supply voltage inputs	Low voltage 0 / 80 V AC / DC	OFF : U < 2 V ON: U > 10 V
	High voltage 0 / 260 V AC	OFF : U < 24 V ON: U > 80 V
Relay outputs SPDT	AC-1 (ohmic)	5 A
	AC-15 (inductive)	3 A
	U	Min. 24 V - Max. 230 V Low and high voltage must not be connected to the same output group
Solid state outputs	Can be used for loads that are frequently cut in and out e.g. unloaders, solenoid valve	Max. 240 V AC, Min. 48 V AC - Max. 0.5 A Leak < 1 mA Max. 1 AKV
Ambient temperature	During transport	-40 – 70 °C
	During operation	-20 – 55 °C, 0 – 95% RH (non condensing) - No shock influences / vibrations
Enclosure	Material	PC / ABS
	Enclosure	IP10, VBG 4
	Mounting	For mounting on wall or DIN rail
Weight with screw terminals	Modules in100- / 200- / controller series	Approx. 200 g / 500 g / 600 g
Approvals	Complies with EU low voltage directive and EMC requirements	LVD tested according to EN 60730 EMC tested - Immunity according to EN 61000-6-2, Emission according to EN 50081-1
	UL file number	E166834

Ordering

Type	Language	Code no.
AK-PC 783A	English, German, French, Italian, Dutch, Spanish, Portuguese	080Z0193

Ordering Accessory - Extension modules and survey for inputs and outputs

Type	Analog inputs	ON / OFF outputs		ON / OFF supply voltage (DI signal)		Analog outputs	Stepper outputs	Module with switches	Code no.
	For sensors, pressure transmitters	Relay (SPDT)	Solid state	Low voltage (max. 80 V)	High voltage (max. 260 V)	0 -10 V d. c.	For valves with step control	For override of relay outputs	
Controller	11	4	4	–	–	–	–	–	–
AK-XM 101A	8	–	–	–	–	–	–	–	080Z0007
AK-XM 102A	–	–	–	8	–	–	–	–	080Z0008
AK-XM 102B	–	–	–	–	8	–	–	–	080Z0013
AK-XM 103A	4	–	–	–	–	4	–	–	080Z0032
AK-XM 204A	–	8	–	–	–	–	–	–	080Z0011
AK-XM 204B	–	8	–	–	–	–	–	x	080Z0018
AK-XM 205A	8	8	–	–	–	–	–	–	080Z0010
AK-XM 205B	8	8	–	–	–	–	–	x	080Z0017
AK-XM 208C	8	–	–	–	–	–	4	–	080Z0023

Software

AK-ST 500	Software for operation of AK controllers	080Z0161

Remote displays

EKA 163B	Display unit	084B8574
EKA 164B	Display unit with operation buttons	084B8575
MMIGRS2	Graphic display with operation	080G0294
	Remote display, Wall, S	080G0295
	Remote display, Panel, I	080G0297

Miscellaneous

AK-CM 102	Communication modules for controllers where modules cannot be connected continuously	080Z0064

Optyma™ Control, Single-phase

The Optyma™ Control is particularly suitable for the Optyma™ and Optyma™ **Plus** condensing units from Danfoss but is also compatible with other condensing units on the market.
The control features an attractive new design and simple flexible programming.

It offers both control and protection in a single unit, thanks to the unique built-in differential magnetothermic circuit breaker, which guarantees safety by cutting the general power supply.

Features Optyma™



Stylish new design

Simple wiring
and live outputs

Transparent cover
for access to magnetothermic breaker, all with IP65 protection rating

New hinged cover
ease of installation and opening

Integration of control
and protection in a single room dedicated unit reduces installation time and costs

Simple, flexible programming
for optimum versatility

Compressor
can be run in pump-down stop mode

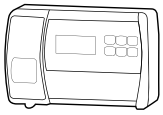
RS485 Modbus
for data communication and integration into a complete ADAP-KOOL® system

Guaranteed certified safety and protection
thanks to incorporated differential magnetothermic circuit breaker, which cuts the general power supply

Facts

- Direct control of defrosting elements, evaporator fans, room light with outputs directly connectable to the various units
- Automatic fuse protect the refrigeration unit
- Stylish ABS housing with transparent cover for access to the automatic fuse, all with an IP65 protection rating so that panel can be used outside the room
- LED indicators and large display show system status
- User-friendly keypad
- Display resolution to 0.1 °C
- Standard and ADAP-KOOL® compatible Modbus data communication

Technical data and ordering



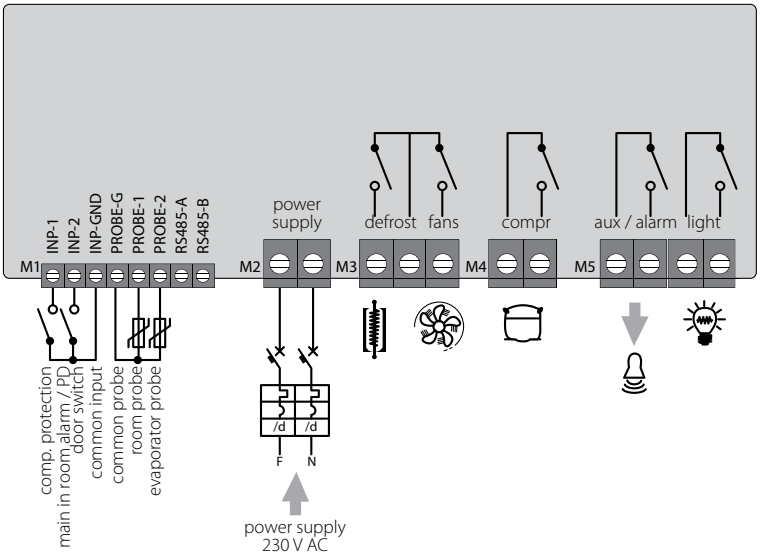
Optyma™ Control, Single phase

Technical data

Features	Description	
Power supply	Voltage	230 V AC ± 10%, 50 / 60 Hz
	Max absorbed power (electronic control)	~ 7 V A
Ambient conditions	Operating temperature	-5 – 50 °C
	Storage temperature	-30 – 70 °C
	Relative humidity	< 90% RH
General characteristics	Connectable sensor types	NTC 10 K 1%
	Resolution	0.1 °K
	Probe read precision	± 0.5 °K
	Read range	-45 – 45 °C
Output characteristics max. applicable load (230 V AC)	Compressor	1500 W (AC3)
	Defrost	3000 W (AC1)
	Fans	500 W (AC3)
	Room light	800 W (AC1)
	Configurable alarm contact / aux (voltage-free contact)	100 W
General electric protection	Bipolar differential magnetothermic circuit breaker	16 A Id = 300 mA switching power 4.5 kA Id = 30 mA (on request)
Insulation and mechanical characteristics	Cover protection rating	IP65
	Cover material	self-extinguishing ABS
	Type of insulation	Class II
	Box dimensions	262 x 168 x 97

Connection diagram

AK-RC 101



Ordering

Type	Description	Code no.
AK-RC 101	Optyma™ Control, single-phase	080Z3200

Optyma™ Control, Three-phase

The Optyma™ Control is particularly suitable for the Optyma™ and Optyma™ **Plus** condensing units from Danfoss but is also compatible with other condensing units on the market. The control features an attractive new design and simple flexible programming.

It offers both control and protection in a single unit, thanks to the unique built-in differential magnetothermic circuit breaker, which guarantees safety by cutting the general power supply.

Features Optyma™

Direct control
of the compressor, condenser fans, compressor oil heater, defrosting heaters, evaporator fans, solenoid valve, room light and all standard-compliant electrical safeguards

Transparent cover
for access to magnetothermic circuit breaker, all with IP65 protection rating

Electronic control
with wide LED display and easy-to-use buttons

Auxiliary relay
with activation configurable by parameter

RS485 Modbus
for data communication and integration into a complete ADAP-KOOL® system



Differential
magnetothermic circuit breaker (for cutting the general power supply) accessible from the front panel

Adjustable motor circuit
breaker for compressor protection accessible from the front panel

Status signaling
with LED icons

Easy wiring
on the internal terminal block

Facts

- LED icons to signal plant status
- Electronic control with wide LED display and easy to use buttons
- Display and adjustment of cold room temperature accurate to 0.1 °C
- Display of evaporator temperature from parameter
- System control activation / deactivation
- Alarm signalling: sensor errors, minimum and maximum temperature alarm, compressor protection (man-in-cold-room alarm in preset models)
- Evaporator fan control
- Automatic and manual defrost control (static, heating element)
- Direct or pump-down control of motor compressor unit (selectable by terminal block connection in preset models)
- Room light activation, via panel key or door switch
- Auxiliary relay with activation configurable by parameter
- Parameter access with password (4 different selectable restriction levels)
- General automatic fuse accessible from the front panel, which cuts the general power supply
- Adjustable motor protector for compressor protection accessible from the front panel (in preset models)
- Standard and ADAP-KOOL® compatible Modbus data communication

Technical data and ordering



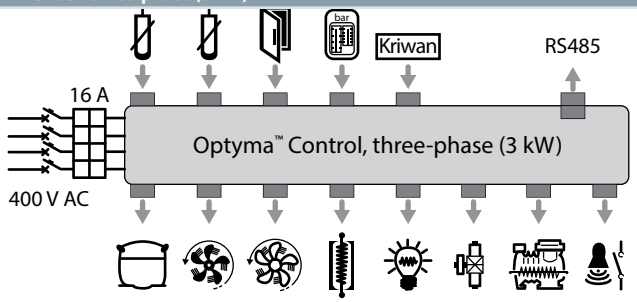
Optyma™ Control, three phase

Technical data

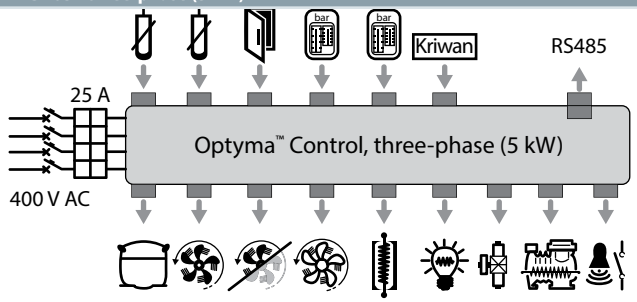
Features	Optyma™ Control AK-RC 103, three-phase (3 kW)	Optyma™ Control AK-RC 103, three-phase (5 kW)
Case dimensions	400 × 300 × 135 mm	400 × 300 × 135 mm
Protection rating	IP65	IP65
Power supply (3F + N + T)	400 V AC ± 10% 50 / 60 Hz	400 V AC ± 10% 50 / 60 Hz
Load type	three-phase	three-phase
Operating temperature	-5 – 40 °C	-5 – 40 °C
Storage temperature	-25 – 55 °C	-25 – 55 °C
Relative ambient humidity	< 90% RH	< 90% RH
Main switch / general protection	4 poles magnetothermic 16 A	4 poles magnetothermic 25 A
Compressor protection	motor circuit breaker	motor circuit breaker
Defrosting	electrical	electrical
Status indicators	LED + display	LED + display
Alarm signals	LED + buzzer	LED + buzzer
Ambient probe	NTC 10 K 1%	NTC 10 K 1%
Evaporator probe	NTC 10 K 1%	NTC 10 K 1%
Door switch	present	present
High/low pressure switch	present	present
Kriwan® connection	present	present
Compressor functioning mode selection	pump-down / thermostat	pump-down / thermostat
Compressor	370 W – 3000 W	3000 W – 5500 W
Condenser fans output 1	800 W (1 ph)	800 W (1 ph)
Condenser fans output 2 (separated)		total (1 ph)
Evaporator fans	500 W (1 ph)	2000 W (1 ph/3 ph)
Defrosting heaters	6000 W	9000 W
Room light	800 W (AC1) resistive load	800 W (AC1) resistive load
Solenoid valve	present	present
Compressor oil heater	present	present
Alarm relay	100 W	100 W

Connection diagram

AK-RC 103 - three-phase (3 kW)



AK-RC 103 - three-phase (5 kW)



Ordering

Type	Description	Code no.
AK-RC 103	Optyma™ Control, three-phase (3 kW) 4.5-6.3 A	080Z3201
AK-RC 103	Optyma™ Control, three-phase (3 kW) 7-10 A	080Z3202
AK-RC 103	Optyma™ Control, three-phase (5 kW) 11-16 A	080Z3206
AK-RC 103	Optyma™ Control, three-phase (5 kW) 14-20 A	080Z3207

AK-SM 800 series, System manager

The System Manager controller from Danfoss is the global control and supervisory solution for the food retail industry.
The System Manager uses the latest technology to provide the maximum benefit to the end user, both in terms of energy saving optimization, control options and full web useraccess.

Designed specifically for the food retail and food processing / handling market, the System Manager provides comprehensive functionality and support tools to cover small to large stores.

Features AK-SM 800



3 main versions
AK-SM 820 (C-Store), AK-SM 850 (Refrigeration) and AK-SM 880 (Full store)

Configuration
web based wizards to assist in initial setup

Available support tool
Remote Management Tool (RMT) that facilitates full offline programming, remote software updating and graphical screen creation

Full
web browser navigation

Custom graphic screen
(seen in web and local screen)

SVGA 800x600
local color screen

Support of Service Tool
via tunnelling over IP (AK2 only)

Site Service App
for Remote access from tablet or smart phone for service technitians

Seamless view
of multiple System Manager units that are interconnected (host network)

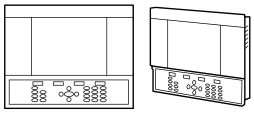
Automatically created plant
view screens showing main refrigeration systems in one screen

All new hardware casing
providing easy access to power and field bus connections, designed for wall or panel door mounting

Facts

- Product highlights:
  - direct support to EM-800 (AKM not supported / needed)
  - supports centralized and decentralized control strategy; compatible with Danfoss case and pack controllers and Danfoss I/O
  - open XML data transfer allowing remote access to key system parameters
- Design features:
  - active TFT SVGA color screen 800x600
  - front alarm status LED
  - removable keyboard panel (revealing connections)
  - easy access to USB flash drive
  - wall and panel mounting options
  - built in alarm relay output
- Hardware capability features:
  - built in web server
  - no back up battery required
  - RS485 LonWorks®
  - ethernet
  - EKC Modbus
  - USB

Technical data and ordering



AK-SM 800 series, System manager

Technical data

SM800 version comparison	AK-SM 810, SM820 - C-Store Version	SM850 - Refrig version	SM880 - Full version
Refrigeration Control			
All SM800 variants come with Centralized I/O and Pack / Case control options. EKC AK2 SLV FC102	Max 32 generic device support	Max 120 generic support	Max 120 generic support
Lighting Control			
All SM800 variants come with built in lighting control via I/O modules. The number of zones differ	10	30	30
HVAC			
Only the SM820 and SM880 support built in HVAC control via I/O	10	n/a	45
Alarms			
Capacity	250	250	250
Miscellaneous points (via IO modules)			
Relay (R), Sensor (S), ON / OFF (O / F), Variable (V)	R=20, S=20, O / F=20, V=20	R=70, S=80, O / F=70, V=70	R=70, S=80, O / F=70, V=70
Master control			
Po Optimization, Master Schedules, AKC ON *Note: Adaptive Defrost not currently supported*	X	X	X
Misc Calculations			
Boolean Logic statements	96	96	96
History			
The SM800 has the ability to record datapoints for history and view	600 points	600 points	600 points
Leak Detectors			
Refrigerant gas detectors (connected via AK I/O)	10	50	50
Energy Meters			
Pulse Input (via I/O module), Carlo Garvazi, Wattnode, Wattnode Plus Modbus, Veris Modbus	32	80	80
Service Tool Support			
Tunneling via front end (IP connection only)	X	X	X

Ordering

Type	Description	Options	Code no.
AK-SM 810	C-Store Refrigeration/HVAC/Lightning,No display, No buttons	Convienience Store with 32 device capacity	080Z4006
AK-SM 820	C-Store (Refrigertion / HVAC / Lighting)	Convienience Store version with 32 device capacity	080Z4004
AK-SM 850	Refrigeration (including lighting)	Refrigeration version with 120 device capacity	080Z4001
AK-SM 880	Full (Refrigertion / HVAC / Lighting)	Full store version with 120 device capacity	080Z4008
AK-SM 800AL	Alarm logger	AK-SM 8xx accessory	080Z4014

MCX 06C, Programmable controller

MCX06C is an electronic controller that holds all the typical functionalities of MCX controllers in the 32x74 mm standard size: programmability, connection to the CANbus local network, Modbus RS485 serial interface.



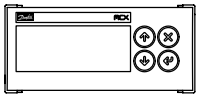


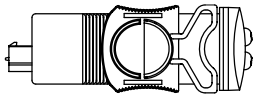
Facts

- 4 analog and 6 digital inputs
- 2 analog and 6 digital outputs
- Insulated power supply 20 – 60 V DC and 24 V AC
- Easy upload of application software through CANbus connection for programming key
- Remote access to data through CANbus connection for additional display (LCD available) and keyboard
- RTC clock for managing weekly time programs and data logging information
- Modbus RS485 serial interface
- Display LED with 2 groups of digits for showing the desired information in one screen
- Dimensions 33x75 mm
- Panel mounting

Technical data and ordering

MCX06C – Programmable controller





Technical data

Features	Description
Power supply	20 – 60 V DC and 24 V AC ±15% 50 / 60 Hz. Maximum power consumption: 6 W, 9 V A
	Insulation between power supply and the extra-low voltage: functional
Plastic housing	Self extinguishing V0 according to IEC 60695-11-10 and glowing/hot wire test at 960 °C according to IEC 60695-2-12
Ball test	125 °C according to IEC 60730-1. Leakage current: ≥ 250 V according to IEC 60112
Operating conditions	CE: -20T60 / UL: 0T55, 90% RH non-condensing
Storage conditions	-30T80, 90% RH non-condensing
Integration	In class I and/or II appliances
Index of protection	IP64 ~ NEMA3R only on the front cover
Period of electric stress across insul.parts	Long
Resistance to heat and fire	Category D
Immunity against voltage surges	Category I
Software class and structure	Class A
Approvals	CE compliance: This product is designed to comply with the following EU standards: • Low voltage guideline: 73 / 23 / EEC • Electromagnetic compatibility EMC: 89 / 336 / EEC and with the following norms: - EN61000-6-1, EN61000-6-3 (immunity for residential, commercial and light-industrial environments) - EN61000-6-2, EN61000-6-4 (immunity and emission standard for industrial environments) - EN60730 (Automatic electrical controls for household and similar use)
	UL approval: UL file E31024

I/O	TYPE	NUM	SPECIFICATIONS
Analog inputs	NTC, 0 – 1 V, 0 – 5 V,	2	**AI1, AI2** Analog inputs selectable via software between: • NTC temperature probes, default: 10 kΩ at 25 °C • pressure transducers with 0 – 5 V output
	Universal	2	**AI3, AI4** Universal analog inputs selectable via software between: • ON/OFF (current: 20 mA) • 0 – 1 V, 0 – 5 V, 0 – 10 V • 0 – 20 mA, 4 – 20 mA • NTC (10 kΩ at 25 °C) • Pt1000 12 V+ power supply 12 V DC, 50 mA max for 4 – 20 mA transmitter (total on all outputs) 5 V+ power supply 5 V DC, 80 mA max for 0 – 5 V transmitter (total on all outputs)
Digital input	Voltage free contact	6	**DI1, DI2, DI3, DI4, DI5, DI6** Current consumption: 5 mA
Analog outputs	0 – 10 V, PWM, PPM,	1	**AO1** Analog output selectable via software between: • pulsing output, synchronous with the line, at modulation of impulse position (PPM) or modulation of impulse width (PWM): - open circuit voltage: 6.8 V - minimum load: 1 kΩ • pulsing output, at modulation of impulse width (PWM) with range 100 / 500 Hz: - open circuit voltage: 6.8 V - minimum load: 1 kΩ • 0 – 10 V DC non optoinsulated output, referred to the ground 10 mA maximum loads
	PWM, PPM,	1	**AO2** Analog output selectable via software between: • pulsing output, synchronous with the line, at modulation of impulse position (PPM) or modulation of impulse width (PWM): - open circuit voltage: 6.8 V - minimum load: 1 kΩ • pulsing output, at modulation of impulse width (PWM) with range 100 / 500 Hz: - open circuit voltage: 6.8 V - minimum load: 1 kΩ
Digital output	Relay	6	Insulation between relays: functional (common lines internally connected) Insulation between relays and the extra-low voltage parts: reinforced Total current load limit: 6 A **C1-NO1, C2-NO2, C3-NO3, C4-NO4, C5-NO5, C6-NO6** Normally open contact relays • characteristics of each relay: - 4 A – 30 V DC – 250 V AC for resistive load - 100 000 cycles - 0.7 A – 250 V AC for inductive load - 100 000 cycles with cos(phi) = 0.5 - UL: 240 V AC - 1 A resistive - 1.0 FLA - 6.0 LRA - 96 V A pilot duty 30 000 cycles

Ordering

Type	Description	Code no.
MCX06C	MCX06C, 24 V, LED, RS485, RTC, S	080G0066
MCX06C	MCX06C, 24 V, LED, RS485, RTC, I	080G0107

Accessory

Type	Description	Code no.
ACCCNX	MCX06C CONNECTORS KIT	080G0175
ACCCNX	ACCCNX, WIRED CONNECTORS KIT FOR MCX06C, 1 m CABLE	080G0081
ACCCNX	ACCCNX, WIRED CONNECTORS KIT FOR MCX06C, 2 m CABLE	080G0082

Note: industrial pack (I), 36 pieces, don't include standard kit connectors (Code no. 080G0175)

MCX 06D, Programmable controller

MCX06D is fitted with LED display, graphic LCD display, or without display. It is an electronic controller that holds all the typical functionalities of MCX controllers in the compact size of 4 DIN modules: programmability, connection to the CANbus local network, Modbus RS485 opto-insulated serial interface.



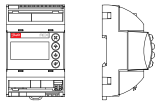


Facts

- 4 analog and 8 digital inputs
- 3 analog and 6 digital outputs
- Power supply 20 – 60 V DC and 24 V AC
- Remote access to data through CANbus connection for additional display (LCD available) and keyboard
- RTC clock for managing weekly time programs and data logging information
- Modbus RS485 opto-insulated serial interface
- Available with LED display, graphic LCD display and without display for showing the desired information
- Dimensions 4 DIN modules

Technical data and ordering

MCX06D – Programmable controller



Technical data

FEATURES	DESCRIPTION
Power supply	20 – 60 V DC and 24 V AC ± 15%, 50 / 60 Hz. Maximum power consumption: 6 W, 9 V A
	Insulation between power supply and the extra-low voltage: functional
Plastic housing	DIN rail mounting complying with EN 60715
	Self extinguishing V0 according to IEC 60695-11-10 and glowing/hot wire test at 960 °C according to IEC 60695-2-12
Ball test	125 °C according to IEC 60730-1. Leakage current: ≥ 250 V according to IEC 60112
Operating conditions	CE: -20T60 / UL: 0T55, 90% RH non-condensing
Storage conditions	-30T80, 90% RH non-condensing
Integration	In Class I and / or II appliances
Index of protection	IP40 only on the front cover
Period of electric stress across insul.parts	Long
Resistance to heat and fire	Category D
Immunity against voltage surges	Category I
Software class and structure	Class A
Approvals	CE compliance: This product is designed to comply with the following EU standards: • Low voltage guideline: 73 / 23 / EEC • Electromagnetic compatibility EMC: 89 / 336 / EEC and with the following norms: - EN61000-6-1, EN61000-6-3 (immunity for residential, commercial and light-industrial environments) - EN61000-6-2, EN61000-6-4 (immunity and emission standard for industrial environments) - EN60730 (Automatic electrical controls for household and similar use)
	UL approval: UL file E31024

I/O	TYPE	NUM	SPECIFICATIONS
Analog inputs	NTC, 0 – 1 V, 0 – 5 V,	2	**AI1, AI2** Analog inputs selectable via software between: • NTC temperature probes, default: 10 kΩ at 25 °C • pressure transducers with 0 – 5 V output
	Universal	2	**AI3, AI4** Universal analog inputs selectable via software between: • ON/OFF (current: 20 mA) • 0 – 1 V, 0 – 5 V, 0 – 10 V • 0 – 20 mA, 4 – 20 mA • NTC (10 kΩ at 25 °C) • Pt1000 12 V+ power supply 12 V DC, 50 mA max for 4 – 20 mA transmitter (total on all outputs) 5 V+ power supply 5 V DC, 80 mA max for 0 – 5 V transmitter (total on all outputs)
Digital input	Voltage free contact	8	**DI1, DI2, DI3, DI4, DI5, DI6, DI7, DI8** Current consumption: 5 mA
Analog outputs	0 – 10 V, PWM, PPM,	2	**AO1, AO2** Analog outputs selectable via software between: • pulsing output, synchronous with the line, at modulation of impulse position (PPM) or modulation of impulse width (PWM): - open circuit voltage: 6.8 V - minimum load: 1 kΩ • pulsing output, at modulation of impulse width (PWM) with range 100 / 500 Hz: - open circuit voltage: 6.8 V - minimum load: 1 kΩ 0 – 10 Vdc non optoinsulated output, referred to the ground 10 mA maximum loads
	PWM, PPM	1	**AO3** Analog output selectable via software between: • pulsing output, synchronous with the line, at modulation of impulse position (PPM) or modulation of impulse width (PWM): - open circuit voltage: 6.8 V - minimum load: 1 kΩ • pulsing output, at modulation of impulse width (PWM) with range 100 / 500 Hz: - open circuit voltage: 6.8 V - minimum load: 1 kΩ
Digital output	Relay	6	Insulation between relays 1 – 5: functional Insulation between relay 6 and the other relays: reinforced Insulation between relays and the extra-low voltage parts: reinforced Total current load limit: 33 A **C1-NO1, C2-NO2, C3-NO3, C4-NO4, C5-NO5** Normally open contact relays 5 A • characteristics of each relay: - 5 A – 30 V DC / 250 V AC for resistive loads - 100 000 cycles - 0.7 A – 250 V AC for inductive load - 100 000 cycles with cos(phi) = 0.5 - UL: 250 V AC - 3 A resistive - 1.5 FLA - 9.0 LRA - 144 V A pilot duty 30 000 cycles **NC6-C6-NO6** Changeover contacts relay 8 A • characteristics of each relay: - 8 A – 250 V AC for resistive loads - 100 000 cycles - 4 A – 250 V AC for inductive loads - 100 000 cycles with cos(phi) = 0.6 - UL: 240 V AC - 6 A resistive - 4.9 FLA - 29.4 LRA - 470 V A pilot duty 30 000 cycles

Technical data and ordering

Ordering

Type	Description	Code no.
MCX06D	MCX06D, 24 V, LCD, S	080G0111
MCX06D	MCX06D, 24 V, LCD, RS485, RTC, S	080G0112
MCX06D	MCX06D, 24 V, RS485, RTC, S	080G0115
MCX06D	MCX06D, 24 V, LCD, Industrial Pack (32 pieces)	080G0166
MCX06D	MCX06D, 24 V, LCD, RS485, RTC, Industrial Pack (32 pieces)	080G0167
MCX06D	MCX06D, 24 V, RS485, RTC, Industrial Pack (32 pieces)	080G0169

Accessory

Type	Description	Code no.
ACCCNX	MCX06D CONNECTORS KIT	080G0179

Note: industrial pack (I), 32 pieces, don't include standard kit connectors (Code no. 080G0179)

Quick Selection Notes:

MCX 061V, Programmable controller

MCX061V is a standard MCX electronic controller with one integrated electronic expansion valve driver. It is available in the version with or without graphic LCD display, and 110 – 230 V AC or 24 V AC power supply. It holds all the typical functionalities of MCX controllers in the compact size of 8 DIN modules: programmability, connection to the CANbus local network, Modbus RS485 serial communication interface.

It is moreover fitted with a slot for memory card SD / MMC and Ethernet connection.
The memory card assures SW download and datalogging function; the Ethernet port allows the SW download, monitoring with web pages, datalogging and the alarms warning.



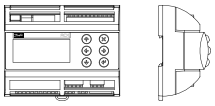
Features
MCX061V



Facts

- 7 analog and 8 digital inputs
- 3 analog and 6 digital outputs
- Power supply 24 V AC and 110 – 230 V AC
- Drives bipolar and unipolar electronic expansion valves
- SD / MMC card slot for easy software upload and datalogging
- Remote access to data through CANbus connection for additional display and keyboard
- RTC clock for managing weekly time programs and data logging information
- Ethernet / WebServer option
- Modbus RS485 opto-insulated serial interface
- Available with graphic LCD display and without display for showing the desired information
- Dimensions 8 DIN modules

Technical data and ordering



MCX061V – Programmable controller

Technical data

FEATURES	DESCRIPTION
Power supply	85 – 265 V AC, 50 / 60 Hz. Maximum power consumption: 18 W, 27 V A
	Insulation between power supply and the extra-low voltage: reinforced
	24 V AC ± 15%, 50 / 60 Hz. Maximum power consumption: 18 W, 22 V A
	Insulation between power supply and the extra-low voltage: functional
Plastic housing	DIN rail mounting complying with EN 60715
	Self extinguishing V0 according to IEC 60695-11-10 and glowing / hot wire test at 960 °C according to IEC 60695-2-12
Ball test	125 °C according to IEC 60730-1. Leakage current: ≥ 250 V according to IEC 60112
Operating conditions	CE: -20T55, 90% RH non-condensing
Storage conditions	-30T80, 90% RH non-condensing
Integration	In Class I and / or II appliances
Index of protection	IP40 only on the front cover
Period of electric stress across insulating parts	Long
Resistance to heat and fire	Category D
Immunity against voltage surges	Category II
Software class and structure	Class A
Approvals	CE compliance: This product is designed to comply with the following EU standards: • Low voltage guideline: 73 /23 / EEC • Electromagnetic compatibility EMC: 89 / 336 / EEC and with the following norms: - EN61000-6-1, EN61000-6-3 (immunity for residential, commercial and light-industrial environments) - EN61000-6-2, EN61000-6-4 (immunity and emission standard for industrial environments) - EN60730 (Automatic electrical controls for household and similar use)

I/O	TYPE	NUM	SPECIFICATIONS
Analog inputs			Max 15 V input voltage Do not connect voltage sources without current limitation (overall 80 mA) to analog inputs while unit is not powered. Open circuit HW diagnostics available for voltage input on: AI1, 2,3,4,6
	0 – 1 V, 0 – 5 V, 0 – 10 V	7	**AI1, AI2, AI3, AI4, AI5, AI6, AI7** 0 – 1 V, 0 – 5 V, 0 – 10 V
	NTC	5	**AI1, AI2, AI3, AI4, AI6** NTC temperature probes, default: 10 kΩ at 25 °C
	0 – 20 mA, 4 – 20 mA	6	**AI1, AI2, AI3, AI4, AI5, AI6,** 0 – 20 mA; 4 – 20 mA
	Pt1000	4	**AI1, AI2, AI3, AI7** Pt1000
	Differential input	1	**AI5(-), AI6(+)** Differential input, DM Voltage 0..300 mV; CM voltage max 14 V
	Auxiliary Supplies	2	15 V+ and 5 V+ 5 V+ max: 70 mA 15 V+ max: 100 mA
Digital input	Voltage free contacts	8	**DI1** (Frequency input) min. pulse time 2.5 ms **DI2, DI3, DI4, DI5, DI6, DI7, DI8** Min pulse time 64 ms
Analog outputs	0 – 10 V DC	2	**AO1, AO2** Current max: 10 mA
	0 – 10 V, PWM, PPM	1	**AO3** Current max: 10 mA • pulse output, synchronous with mains, at modulation of impulse position (PPM) or modulation of impulse width (PWM): 6.8 V open circuit • pulse output, PWM with range 1 – 1000 Hz: 6.8 V open circuit

Technical data and ordering

I/O	TYPE	NUM	SPECIFICATIONS
Digital output	Relay	6	C1-NO1, C2-NO2, C3-NO3, C4-NO4, C5-NO5 Functional Isolation Normally open contact relays 5 A • characteristics of each relay: - 5 A – 30 V DC / 250 V AC for resistive loads - 100 000 cycles - 0.7 A 250 – V AC for inductive load - 100 000 cycles with cos(phi) = 0.5 - 1 – 10 hp, 240 V AC, motor, 30 000 cycles - 1.5 FLA, 9.0 LRA, 240 V AC, 30 000 cycles - 144 V A, pilot duty, 240 V AC, 30 000 cycles C1-NO1 Optionally it can be solid state relays • characteristics of each relay: - 15 – 280 Vrms, 1 A C6-NO6 Functional Isolation Normally open contact relays 5 A • characteristics of each relay: - 5 A – 30 V DC – 250 V AC for resistive loads - 100 000 cycles - 0.7 A – 250 V AC for inductive load - 100 000 cycles with cos(phi) = 0.5 - 1 – 10 hp, 240 V AC, motor, 30 000 cycles - 1.5 FLA, 9.0 LRA, 240 V AC, 30 000 cycles - 144 VA, pilot duty, 240 V AC, 30.000 cycles - Reinforced isolation (with respect to DO1..DO5)
Stepper motor		1	ST1, ST2, ST3, ST4 • Bipolar and unipolar stepper motor output: - Danfoss ETS / KVS valves (green, red, black, white) - Saginomyia UKV / SKV / VKV / PKV / ETS6 (black, red, yellow, orange) • Other Valves: - drive mode 1/8 microstep - peak phase current: 500 mA - max drive voltage 30 V - max. output power 4.6 W
Battery backup		1	BATT 18 – 24 V DC: leakage current max. 12 µA max. battery current: 0.5 A at 18 V
Memory card		1	SD / MMC Max 2 GB: for data logging make sure that the memory card is firm in place avoid installations with vibrations

Ordering

Type	Description	Code no.
MCX061V	MCX061V, 230 V, LCD, RS485, RTC, S	080G0250
MCX061V	MCX061V, 24 V, LCD, RS485, RTC, S	080G0251
MCX061V	MCX061V, 24 V, LCD, RS485, RTC,ETH, S	080G0255

Quick Selection Notes:

MCX 08M, Programmable controller

MCX08M is fitted with or without graphic LCD display. It is an electronic controller that holds all the typical functionalities of MCX controllers in the compact size of 8 DIN modules: programmability, connection to the CANbus local network, Modbus RS485 opto-insulated serial interface. It is moreover available in the version with power supply 110 – 230 V AC or 24 V AC.

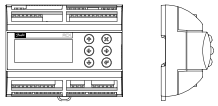




Facts

- 8 analog and 8 digital inputs
- 4 analog and 8 digital outputs
- Power supply 24 V AC / 20 – 60 V DC and 110 V / 230 V AC
- Remote access to data through CANbus connection for additional display (LCD available) and keyboard
- RTC clock for managing weekly time programs and data logging information
- Modbus RS485 opto-insulated serial interface
- Available with graphic LCD display and without display for showing the desired information
- Dimensions 8 DIN modules

Technical data and ordering



MCX08M – Programmable controller

Technical data

FEATURES	DESCRIPTION
Power supply	85 – 265 V AC, 50 / 60 Hz. Maximum power consumption: 20 V A
	Insulation between power supply and the extra-low voltage: reinforced
	20 – 60 V DC and 24 V AC ±15%, 50 / 60 Hz. Maximum power consumption: 10 W, 17 V A
	Insulation between power supply and the extra-low voltage: functional
Plastic housing	DIN rail mounting complying with EN 60715
	Self extinguishing V0 according to IEC 60695-11-10 and glowing / hot wire test at 960 °C according to IEC 60695-2-12
Ball test	125 °C according to IEC 60730-1. Leakage current: ≥ 250 V according to IEC 60112
Operating conditions	CE: -20T60/UL: 0T55, 90% RH non-condensing
Storage conditions	-30T80, 90% RH non-condensing
Integration	In Class I and / or II appliances
Index of protection	IP40 only on the front cover
Period of electric stress across insulating parts	Long
Resistance to heat and fire	Category D
Immunity against voltage surges	Category II
Software class and structure	Class A
Approvals	CE compliance: This product is designed to comply with the following EU standards: • Low voltage guideline: 73 / 23 / EEC • Electromagnetic compatibility EMC: 89 / 336 / EEC and with the following norms: - EN61000-6-1, EN61000-6-3 (immunity for residential, commercial and light-industrial environments) - EN61000-6-2, EN61000-6-4 (immunity and emission standard for industrial environments) - EN60730 (Automatic electrical controls for household and similar use)
	UL approval: UL file E31024

I/O	TYPE	NUM	SPECIFICATIONS
Analog inputs	NTC, 0 – 1 V, 0 – 5 V	4	**AI5, AI6, AI7, AI8** Analog inputs selectable via software between: NTC temperature probes, default: 10 kΩ at 25 °C pressure transducers with 0 – 5 V output
	Universal	4	**AI1, AI2, AI3, AI4** Universal analog inputs selectable via software between: ON/OFF (current: 20 mA) 0 – 1 V, 0 – 5 V, 0 – 10 V 0 – 20 mA, 4 – 20 mA NTC (10 kΩ at 25 °C) Pt1000 12 V+ power supply 12 V DC, 50 mA max for 4 – 20 mA transmitter (total on all outputs) 5 V+ power supply 5 V DC, 80 mA max for 0 – 5 V transmitter (total on all outputs)
Digital input	Voltage free contact	8	**DI1, DI2, DI3, DI4, DI5, DI6, DI7, DI8** Current consumption: 5 mA
Analog outputs	0 / 10 V DC optoins.	2	**AO3, AO4** Analog outputs optoinsulated 0 – 10 V DC 10 mA max for each output External power supply 24 V AC / V DC
	PWM, PPM	2	**AO1, AO2** Analog outputs selectable via software between: • pulsing output, synchronous with the line, at modulation of impulse position (PPM) or modulation of impulse width (PWM) • pulsing output, at modulation of impulse width (PWM) with range 20 Hz – 1 KHz: - open circuit voltage: 6.8 V - minimum load: 1 kΩ
Digital output	Relay	8	Insulation between relay: functional Insulation between relays and the extra-low voltage parts: reinforced Total current load limit: 32 A **C1-NO1, C2-NO2** High inrush current (80 A - 20 ms) normally open contact relays 16 A • characteristics of each relay: - 10 A – 250 V AC for resistive loads - 100 000 cycles - 3.5 A – 230 V AC for inductive loads - 230 000 cycles with cos(phi) = 0.5 - UL: 240 V AC - 10 A resistive - 8 FLA - 40 LRA - 640 V A pilot duty 30 000 cycles **C5-NO5, C6-NO6** Normally open contact relays 8 A • characteristics of each relay: - 6 A – 250 V AC for resistive loads - 100 000 cycles - 4 A – 250 V AC for inductive loads - 100 000 cycles with cos(phi) = 0.6 - UL: 240 V AC - 6 A resistive - 4.9 FLA - 29.4 LRA - 470 V A pilot duty 30 000 cycles **C3-NO3-NC3, C4-NO4-NC4, C7-NO7-NC7, C8-NO8-NC8** Changeover contacts relay 8 A • characteristics of each relay: - 6 A – 250 V AC for resistive loads - 100 000 cycles - 4 A – 250 V AC for inductive loads - 100 000 cycles with cos(phi) = 0.6 - UL: 240 V AC - 6 A resistive - 4.9 FLA - 29.4 LRA - 470 V A pilot duty 30 000 cycles

Technical data and ordering

Ordering

Type	Description	Code no.
MCX08M	MCX08M, 24 V, LCD, RS485, RTC, S	080G0028
MCX08M	MCX08M, 230 V, LCD, RS485, RTC, S	080G0029
MCX08M	MCX08M, 24 V, RS485, RTC, S	080G0034
MCX08M	MCX08M, 24 V, LCD, RS485, RTC, Industrial Pack (24 pieces)	080G0118
MCX08M	MCX08M, 24 V, RS485, RTC, Industrial Pack (24 pieces)	080G0122
MCX08M	MCX08M, 230 V, RS485, RTC, Industrial Pack (24 pieces)	080G0123
MCX08M	MCX08M, 230 V, RS485, RTC, 2SSR, Industrial Pack (24 pieces)	080G0292

Accessory

Type	Description	Code no.
ACCCNX	MCX08M CONNECTORS KIT	080G0180

Note: industrial pack (I), 24 pieces, don't include standard kit connectors (Code no. 080G0180)

Quick Selection Notes:

MCX 15B, Programmable controller

MCX15B is fitted with or without graphic LCD display. It is an electronic controller that stands on the top of the MCX range, thanks to the large number of its inputs and outputs.

It holds all the typical functionalities of MCX controllers: programmability, connection to the CANbus local network and Up to two Modbus RS485 opto-insulated serial interface. Furthermore it is available in two models, powered at 110 – 230 V AC or 24 V AC.



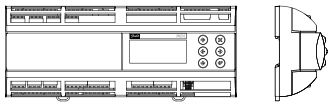


Facts

- 7 analog and 8 digital inputs
- 3 analog and 6 digital outputs
- Power supply 24 V AC and 110 – 230 V AC
- Drives bipolar and unipolar electronic expansion valves
- SD/MMC card slot for easy software upload and datalogging
- Remote access to data through CANbus connection for additional display and keyboard
- RTC clock for managing weekly time programs and data logging information
- Ethernet / WebServer option
- Modbus RS485 opto-insulated serial interface
- Available with graphic LCD display and without display for showing the desired information
- Dimensions 8 DIN modules

Technical data and ordering

MCX15B – Programmable controller



Technical data

FEATURES	DESCRIPTION
Power supply	85 – 265 V AC, 50 – 60 Hz. Maximum power consumption: 26 V A
	Insulation between power supply and the extra-low voltage: reinforced
	20 – 60 V DC and 24 V AC ±15% 50 / 60 Hz. Maximum power consumption:12 W, 20 V A
	Insulation between power supply and the extra-low voltage: functional
Plastic housing	DIN rail mounting complying with EN 60715
	Self extinguishing V0 according to IEC 60695-11-10 and glowing / hot wire test at 960 °C according to IEC 60695-2-12
Ball test	125 °C according to IEC 60730-1. Leakage current: ≥ 250 V according to IEC 60112
Operating conditions	CE: -20T60 / UL: 0T55, 90% RH non-condensing
Storage conditions	-30T80, 90% RH non-condensing
Integration	In Class I and / or II appliances
Index of protection	IP40 only on the front cover
Period of electric stress across insulating parts	Long
Resistance to heat and fire	Category D
Immunity against voltage surges	Category II
Software class and structure	Class A
Approvals	CE compliance: This product is designed to comply with the following EU standards: • Low voltage guideline: 73 / 23 / EEC • Electromagnetic compatibility EMC: 89 / 336 / EEC and with the following norms: - EN61000-6-1, EN61000-6-3 (immunity for residential, commercial and light-industrial environments) - EN61000-6-2, EN61000-6-4 (immunity and emission standard for industrial environments) - EN60730 (Automatic electrical controls for household and similar use)
	UL approval: UL file E31024

I/O	TYPE	NUM	SPECIFICATIONS
Analog inputs	NTC, 0 – 1 V, 0 – 5 V	4	**AI7, AI8, AI9, AI10** Analog inputs selectable via software between: • NTC temperature probes, default: 10 kΩ at 25 °C • pressure transducers with 0 – 5 V output
	Universal	6	**AI1, AI2, AI3, AI4, AI5, AI6** Universal analog inputs selectable via software between: • ON / OFF (current: 20 mA) • 0 – 1 V, 0 – 5 V, 0 – 10 V • 0 – 20 mA, 4 – 20 mA • NTC (10 kΩ at 25 °C) • Pt1000 12 V+ power supply 12 V DC, 200 mA max for 4 – 20 mA transmitter (total on all outputs) 5 V+ power supply 5 V DC, 210 mA max for 0 – 5 V transmitter (total on all outputs)
Digital inputs	24 V optoins.	18	**DI1, DI2, DI3, DI4, DI5, DI6, DI7, DI8, DI9, DI10, DI11, DI12, DI13, DI14, DI15, DI16, DI17, DI18** Digital Inputs optoinsulated 24 V AC 50 / 60 Hz o 24 V DC
	230 V AC optoins.	4	**DIH1, DIH2, DIH3, DIH4** • Inputs optoinsulated, 230 V AC 50 / 60 Hz. Basic insulation • Rated current: 2 mA at 230 V AC; 1 mA at 110 V AC *NOTE: when the 230 V AC DH1 input is used, the corresponding 24 V DI1 input is not available anymore; the same for the couple of inputs DIH2 and DI2, DIH3 and DI3, DIH4 and DI4*
Analog outputs	0 – 10 V	4	**AO1, AO2, AO3, AO4** • Analog outputs optoinsulated 0 – 10 V DC 10 mA max for each output • External power supply 24 V AC / V DC
	PWM, PPM	2	**AO5, AO6** Analog outputs selectable via software between: • pulsing output, synchronous with the line, at modulation of impulse position (PPM) or modulation of impulse width (PWM) • pulsing output, at modulation of impulse width (PWM) with range 20 Hz – 1 KHz: - open circuit voltage: 6.8 V - minimum load: 1 kΩ

Technical data and ordering

I/O	TYPE	NUM	SPECIFICATIONS
Digital output	Relay	15	Concerning the insulation distance there are three groups of relays: group 1: relays 1 – 8 group 2: relays 9 – 13 group 3: relays14 – 15 • Insulation between relays of the same group: functional • Insulation between relays of different groups: reinforced • Insulation between relays and the extra-low voltage parts: reinforced • Total current load limit: 92 A **C1-NO1, C2-NO2, C3-NO3, C4-NO4, C5-NO5, C6-NO6, C7-NO7, C8-NO8 C9-NO9** Normally open contact relays 8 A • characteristics of each relay: - 6 A – 250 V AC for resistive loads - 100 000 cycles - 4 A – 250 V AC for inductive loads - 100 000 cycles with cos(phi) = 0.6 - UL: 240 V AC - 4 A resistive - 3.6 FLA - 21.6 LRA - 346 VA pilot duty 30 000 cycles **C10-NO10-NC10, C11-NO11-NC11, C12-NO12-NC12, C13-NO13-NC13** Changeover contacts relay 8 A • characteristics of each relay: - 6 A – 250 V AC for resistive loads - 100 000 cycles - 4 A – 250 V AC for inductive loads - 100 000 cycles with cos(phi) = 0.6 - UL: 240 V AC - 4 A resistive - 3.6 FLA - 21.6 LRA - 346 V A pilot duty 30 000 cycles **C14-NO14-NC14, C15-NO15-NC15** High inrush current (80 A - 20 ms) changeover contacts relay 16 A • characteristics of each relay: - 7 A – 250 V AC for resistive loads - 100 000 cycles - 3.5 A – 230 V AC for inductive loads - 230 000 cycles with cos(phi) = 0.4 - UL: 240 V AC - 6 A resistive - 4.9 FLA - 29.4 LRA - 470 V A pilot duty 30 000 cycles Using of device in case of Tamb = 70 °C has to be according to following requirements: • maximum load admitted for 8 A relay: 4 A – 250 V AC • maximum load admitted for 16 A relay: 5 A – 250 V AC

Ordering

Type	Description	Code no.
MCX15B	MCX15B, 24 V, LCD, RS485, RTC, S	080G0036
MCX15B	MCX15B, 230 V, LCD, RS485, RTC, Industrial Pack (12 pieces)	080G0127
MCX15B	MCX15B, 24 V, RTC, Industrial Pack (12 pieces)	080G0130
MCX15B	MCX15B, 24 V, RS485, RTC, Industrial Pack (12 pieces)	080G0132

Accessory

Type	Description	Code no.
ACCCNX	MCX15B CONNECTORS KIT	080G0181

Note: industrial pack (I), 12 pieces, don't include standard kit connectors (Code no. 080G0181)

Quick Selection Notes:

MCX 152 V, Programmable controller

MCX152V is a standard MCX electronic controller that stands on the top of MCX range thanks to its large number of input and output and two integrated electronic expansion valves drivers. It is available in the version with or without graphic LCD display, and 110 – 230 V AC or 24 V AC power supply.
It holds all the typical functionalities of MCX controllers: programmability, connection to the CANbus local network and up to two Modbus RS485 serial communication interfaces.
It is moreover fitted with the slot for SD / MMC memory card and Ethernet connector. The memory card assures SW download and the datalogging function; the Ethernet port allows the SW download, monitoring with web pages, datalogging and the alarms warning.



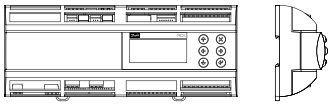


Facts

- 14 analog and 18 digital inputs
- 6 analog and 15 digital outputs
- Power supply 24 V AC and 110 – 230 V AC
- Up to two drives bipolar and unipolar electronic expansion valves
- SD / MMC card slot for easy software upload and datalogging
- Remote access to data through CANbus connection for additional display and keyboard
- RTC clock for managing weekly time programs and data logging information
- Ethernet/WebServer option
- Up to two Modbus RS485 opto-insulated serial interface
- Available with graphic LCD display and without display for showing the desired information
- Dimensions 16 DIN modules

Technical data and ordering

MCX152V – Programmable controller



Technical data

FEATURES	DESCRIPTION
Power supply	85 – 265 V AC, 50 – 60 Hz. Maximum power consumption: 27 W, 48 V A.
	Insulation between power supply and the extra-low voltage: reinforced
	24 V AC ±15%, 50 / 60 Hz. Maximum power consumption: 27 W, 43 V A
	Insulation between power supply and the extra-low voltage: functional
Plastic housing	DIN rail mounting complying with EN 60715
	Self extinguishing V0 according to IEC 60695-11-10 and glowing / hot wire test at 960 °C according to IEC 60695-2-12
Ball test	125 °C according to IEC 60730-1. Leakage current: ≥ 250 V according to IEC 60112
Operating conditions	CE: -20T55, 90% RH non-condensing
Storage conditions	-30T80, 90% RH non-condensing
Integration	In Class I and / or II appliances
Index of protection	IP40 only on the front cover
Period of electric stress across insulating parts	Long
Resistance to heat and fire	Category D
Immunity against voltage surges	Category II
Software class and structure	Class A
Approvals	CE compliance: This product is designed to comply with the following EU standards: • Low voltage guideline: 73 / 23 / EEC • Electromagnetic compatibility EMC: 89 / 336 / EEC and with the following norms: - EN61000-6-1, EN61000-6-3 (immunity for residential, commercial and light-industrial environments) - EN61000-6-2, EN61000-6-4 (immunity and emission standard for industrial environments) - EN60730 (Automatic electrical controls for household and similar use)
	UL approval: UL file E31024

I/O	TYPE	NUM	SPECIFICATIONS
Analog inputs			Max 15 V input voltage • Do not connect voltage sources without current limitation (overall 80 mA) to analog inputs while unit is not powered • Open circuit HW diagnostics available for all analog inputs
	0 – 1 V, 0 – 5 V, 0 – 10 V	14	**AI1, AI2, AI3, AI4, AI5, AI6, AI7, AI8, AI9, AI10, AI11, AI12, AI13, AI14**
	NTC	14	**AI1, AI2, AI3, AI4, AI5, AI6, AI7, AI8, AI9, AI10, AI11, AI12, AI13, AI14** NTC temperature probes, default: 10 kΩ at 25 °C
	0 – 20 mA; 4 – 20 mA	8	**AI1, AI2, AI3, AI5, AI8, AI9, AI10, AI12**
	Pt1000	8	**AI1, AI2, AI3, AI7, AI8, AI9, AI10, AI14**
	Differential input	2	AI5(-), AI6(+); AI12(-), AI13(+) Differential input, DM Voltage 0..300 mV; CM voltage max 14 V
	Auxiliary Supplies	2	15 V+ and 5 V+ 5 V+ max: 140 mA (total on all outputs) 15 V+ max: 200 mA (total on all outputs)
Digital input	Voltage free contacts	16	**DI1, DI2** (Frequency input) min. pulse time 2.5 ms **DI3, DI4, DI5, DI6, DI7, DI8, DI9, DI10, DI11, DI12, DI13, DI14, DI15, DI16** Min pulse time 64 ms
	24 V optoinulated	2	**DI17, DI18** Digital Inputs optoinsulated 24 V AC 50 / 60 Hz or 24 V DC Rated current: 5 mA
	230 V AC optoins	2	**DI17, DI18** Inputs optoinsulated, 230 V AC 50 / 60 Hz. Basic insulation. Rated current: 2 mA at 230 V AC; 1 mA at 110 V AC *NOTE: when the 230 V AC, DI17H input is used, the corresponding 24 V DI17 input is not available anymore; the same for the couple of inputs DI18H and DI18*
Analog outputs	0 – 10 V DC	6	**AO1, AO2, AO3, AO4, AO5, AO6** Current max: 10 mA
	PWM, PPM	2	**AO3, AO6** • pulse output, synchronous with mains, at modulation of impulse position (PPM) or modulation of impulse width (PWM): 6.8 V open circuit • pulse output, PWM with range from 20 Hz – 1 kHz: 6.8 V open circuit

Technical data and ordering

I/O	TYPE	NUM	SPECIFICATIONS
Digital output	Relay	15	Concerning the insulation distance there are three groups of relays: group 1: relays 1 – 8 group 2: relays 9 – 12 group 3: relays 13 – 15 • Insulation between relays: functional • Insulation between relays of group 1 and 2 and 3: reinforced • Insulation between relays and the extra-low voltage parts: reinforced C1-NO1 to C12-NO12 Normally open contact relays 5 A • characteristics of each relay: - 5 A – 250 V AC for resistive loads - 100 000 cycles - 3 A – 250 V AC for inductive load - 100 000 cycles with cos(phi) = 0.4 - UL: 1/8 hp, C300 pilot duty, 125 / 250 V AC, 30 000 cycles C13-NO13 to C15-NO15 Normally open contact relays 16 A • characteristics of each relay: - 7 A – 250 V AC for resistive loads - 100 000 cycles - 3.5 A – 250 V AC for inductive load - 230 000 cycles with cos(phi) = 0.4 - UL: 6 A resistive, 240 VA, 30.000 cycles, 1/2 hp, 470 V A pilot duty, 240 V AC, 30 000 cycles C1-NO1 to C3-NO3, C13-NO13 to C15-NO15 Optionally they can be solid state relays • characteristics of each relay: - 15-280 Vrms, 1 A - UL: 1 A resistive, 240 V AC, 30 000 cycles
Stepper motor		2	ST1, ST2, ST3, ST4 • Bipolar and unipolar stepper motor output: - Danfoss ETS Valves (green, red, black, white) - Saginomyia UKV / SKV / VKV / PKV (black, red, yellow, orange) • Other Valves: - drive mode 1/8 microstep - peak phase current: 500 mA - max drive voltage 30 V - max output power 5 W
Battery backup		1	BATT 18 – 24 V DC: leakage current max 12 µA max battery current: 0.85 A at18 V
Memory card		1	SD / MMC Max 2 GB: • for data logging make sure that the memory card is firm in place avoid installations with vibrations

Ordering

Type	Description	Code no.
MCX152V	MCX152 V, 24 V, LCD, 2 RS485, ETH, S	080G0284
MCX152V	MCX152 V, 230 V, LCD, 2 RS485, ETH, S	080G0285
MCX152V	MCX152 V, 24 V, 2 RS485, S	080G0313

Quick Selection Notes:

MCX 20B, Programmable controller

MCX20B is fitted with or without graphic LCD display.
It is an electronic controller that stands on the top of the MCX range, thanks to the large number of its inputs and outputs. It holds all the typical functionalities of MCX controllers: programmability, connection to the CANbus local network and up to two Modbus RS485 opto-insulated serial interface.
Furthermore it is available in two models, powered at 110 – 230 V AC or 24 V AC



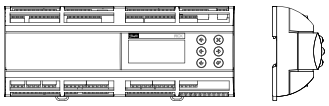


Facts

- 16 analog and 22 digital inputs
- 6 analog and 20 digital outputs
- Power supply 24 V AC / 20 – 60 V DC and 110 – 230 V AC
- Remote access to data through CANbus connection for additional display (LCD available) and keyboard
- RTC clock for managing weekly time programs and data logging information
- Up to two Modbus RS485 opto-insulated serial interface
- Available with graphic LCD display and without display for showing the desired information
- Dimensions 16 DIN modules

Technical data and ordering

MCX 20B – Programmable controller



Technical data

FEATURES	DESCRIPTION
Power supply	85 – 265 V AC, 50 – 60 Hz. Maximum power consumption: 31 V A
	Insulation between power supply and the extra-low voltage: reinforced
	20 – 60 V DC or 24 V AC ±15%, 50 / 60 Hz. Maximum power consumption: 17 W, 25 V A
	Insulation between power supply and the extra-low voltage: functional
Plastic housing	DIN rail mounting complying with EN 60715
	Self extinguishing V0 according to IEC 60695-11-10 and glowing / hot wire test at 960 °C according to IEC 60695-2-12
Ball test	125 °C according to IEC 60730-1. Leakage current: ≥ 250 V according to IEC 60112
Operating conditions	CE: -20T60 / UL: 0T55, 90% RH non-condensing
Storage conditions	-30T80, 90% RH non-condensing
Integration	In Class I and / or II appliances
Index of protection	IP40 only on the front cover
Period of electric stress across insulating parts	Long
Resistance to heat and fire	Category D
Immunity against voltage surges	Category II
Software class and structure	Class A
Approvals	CE compliance: This product is designed to comply with the following EU standards: • Low voltage guideline: 73 / 23 / EEC • Electromagnetic compatibility EMC: 89 / 336 / EEC and with the following norms: - EN61000-6-1, EN61000-6-3 (immunity for residential, commercial and light-industrial environments) - EN61000-6-2, EN61000-6-4 (immunity and emission standard for industrial environments) - EN60730 (Automatic electrical controls for household and similar use)
	UL approval: UL file E31024

I/O	TYPE	NUM	SPECIFICATIONS
Analog inputs	NTC, 0 – 1 V 0 – 5 V	6	**AI7, AI8, AI9, AI10, AI15, AI16** Inputs selectable via software between: • NTC temperature probes, default: 10 kΩ at 25 °C • pressure transducers with 0 – 5 V output
	Universal	10	**AI1, AI2, AI3, AI4, AI5, AI6, AI11, AI12, AI13, AI14** Universal analog inputs selectable via software between: • ON / OFF (current: 20 mA) • 0 – 1 V, 0 – 5 V, 0 – 10 V • 0 – 20 mA, 4 – 20 mA • NTC (10 kΩ at 25 °C) • Pt1000 12 V+ power supply 12 V DC, 400 mA max for 4 – 20 mA transmitter (total on all outputs) 5 V+ power supply 5 V DC, 410 mA max for 0 – 5 V transmitter (total on all outputs)
Digital inputs	24 V optoinsulated	22	**DI1, DI2, DI3, DI4, DI5, DI6, DI7, DI8, DI9, DI10, DI11, DI12, DI13, DI14, DI15, DI16, DI17, DI18, DI19, DI20, DI21, DI22** • Inputs optoinsulated, 24 V AC 50/60 Hz or 24 V DC • Rated current: 5 mA
	230 V AC optoinsulated	4	**DIH1, DIH2, DIH3, DIH4** • Inputs optoinsulated, 230 V AC 50 / 60 Hz. Basic insulation • Rated current: 2 mA at 230 V AC; 1 mA at 110 V AC *NOTE: when the 230 V AC DH1 input is used, the corresponding 24 V DI1 input is not available anymore; the same for the couple of inputs DIH2 and DI2, DIH3 and DI3, DIH4 and DI4*
Analog outputs	0 – 10 V	6	**AO1, AO2, AO3, AO4, AO5, AO6** Analog outputs optoinsulated 0 – 10 V DC 10 mA max for each output: • 40 mA max totally on 6 outputs • External power supply 24 V AC / DC

Technical data and ordering

I/O	TYPE	NUM	SPECIFICATIONS
Digital output	Relay	20	Concerning the insulation distance there are three groups of relays: group 1: relays 1 – 8 group 2: relays 9 – 13 group 3: relays 14 – 20 • Insulation between relays of the same group: functional • Insulation between relays of different groups: reinforced • Insulation between relays and the extra-low voltage parts: reinforced • Total current load limit: 123 A **C1-NO1, C2-NO2, C3-NO3, C4-NO4, C5-NO5, C6-NO6, C7-NO7, C8-NO8, C9-NO9, C17-NO17, C18-NO18, C19-NO19, C20-NO20** Normally open contact relays 8 A • characteristics of each relay: - 6 A – 250 V AC for resistive loads - 100 000 cycles - 4 A – 250 V AC for inductive loads - 100 000 cycles with cos(phi) = 0.6 - UL: 240 V AC - 4 A resistive - 3.6 FLA - 21.6 LRA - 346 V A pilot duty 30 000 cycles **C10-NO10-NC10, C11-NO11-NC11, C12-NO12-NC12, C13-NO13-NC13** Changeover contacts relay 8 A • characteristics of each relay: - 6 A – 250 V AC for resistive loads - 100 000 cycles - 4 A – 250 V AC for inductive loads - 100 000 cycles with cos(phi) = 0.6 - UL: 240 V AC - 4 A resistive - 3.6 FLA - 21.6 LRA - 346 V A pilot duty 30 000 cycles **C15-NO15, C16-NO16** High inrush current (80 A - 20 ms) normally open contact relays 16 A • characteristics of each relay: - 7 A – 250 V AC for resistive loads - 100 000 cycles - 3.5 A – 230 V AC for inductive loads - 230 000 cycles with cos(phi) = 0.5 - UL: 240 V AC - 6 A resistive - 4.9 FLA - 29.4 LRA - 470 V A pilot duty 30 000 cycles **C14-NO14-NC14** High inrush current (80 A - 20 ms) changeover contacts relay 16 A • characteristics of each relay: - 7 A – 250 V AC for resistive loads - 100 000 cycles - 3.5 A – 230 V AC for inductive loads - 230 000 cycles with cos(phi) = 0.5 - UL: 240 V AC - 6 A resistive - 4.9 FLA - 29.4 LRA - 470 V A pilot duty 30 000 cycles Using of device in case of Tamb = 70 °C has to be according to following requirements: • maximum load admitted for 8 A relay: 4 A – 250 V AC • maximum load admitted for 16 A relay: 5 A – 250 V AC

Ordering

Type	Description	Code no.
MCX20B	MCX20B, 24 V, LCD, 2XRS485, RTC, S	080G0057
MCX20B	MCX20B, 230 V, LCD, RS485, RTC, Industrial Pack (12 pieces)	080G0139
MCX20B	MCX20B, 24 V, RTC, Industrial Pack (12 pieces)	080G0142
MCX20B	MCX20B, 24 V, 2XRS485, RTC, Industrial Pack (12 pieces)	080G0146

Accessory

Type	Description	Code no.
ACCCNX	MCX20B CONNECTORS KIT	080G0182

Note: industrial pack (I), 12 pieces, don't include standard kit connectors (Code no. 080G0182)

Quick Selection Notes:

MMIGRS2, User interface

MMIGRS2 is MCX's family remote interface. It's fitted with a graphic display that allows a complete customization of the user interface. The connection with every unit of the MCX range is made through the CANbus network.

All the information about the user interface is loaded inside the MCX controller; that's why there is no need of programming the MMIGRS2 interface.
MMIGRS2 is powered externally or from the controller which it is connected to and automatically shows its user interface

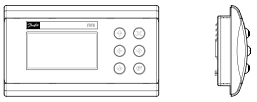




Facts

- Full graphic LCD display, 128x64 dots resolution
- Easy connection to MCX CANbus network through telephone plug and CAN connector
- No need to be programmed: information about user interface is loaded from the MCX controller
- Powered by the MCX which it is connected to or the other way round
- Dimensions 88x150 mm
- Panel and wall mounting
- IP64 protection rating on panel version
- MMIGRS2CC:
  - 2 dedicated keys for easy access to alarm and on / off functions
  - 3 coloured back lighted keys

Technical data and ordering



MMIGRS2 – User interface

Technical data

FEATURES	DESCRIPTION
Power supply	From the MCX through the RJ11 telephone connector
	12 – 30 V DC (separate power supply is recommended)
	24 V AC 10% – -15% (separate power supply is recommended)
	Maximum power consumption: 1.5 W
Plastic housing	Self extinguishing V0 according to IEC 60695-11-10 and glowing/hot wire test at 960 °C according to IEC 60695-2-12
Ball test	125 °C according to IEC 60730-1. Leakage current: ≥ 250 V according to IEC 60112
Operating conditions	CE: -20T60 / UL: -20T60, 90% RH non-condensing
Storage conditions	-30T80, 90% RH non-condensing
Integration	In Class I and / or II appliances
Index of protection	IP64 ~ NEMA3R (panel version)
	IP40 (wall version)
Period of electric stress across insulating parts	Long
Resistance to heat and fire	Category D
Immunity against voltage surges	Category II
Software class and structure	Class A
Approvals	CE compliance: This product is designed to comply with the following EU standards: • Low voltage guideline: 73 / 23 / EEC • Electromagnetic compatibility EMC: 89 / 336 / EEC and with the following norms: - EN61000-6-1, EN61000-6-3 (immunity for residential, commercial and light-industrial environments) - EN61000-6-2, EN61000-6-4 (immunity and emission standard for industrial environments) - EN60730 (Automatic electrical controls for household and similar use)
	UL approval: UL file E31024

Ordering

Type	Description	Code no.
MMIGRS2	MMIGRS2, REMOTE DISPLAY, PANEL, S	080G0294
MMIGRS2	MMIGRS2, REMOTE DISPLAY, WALL, S	080G0295
MMIGRS2	MMIGRS2, REMOTE DISPLAY, PANEL, Industrial Pack (27 pieces)	080G0297
MMIGRS2CC	MMIGRS2CC, Close Control, PANEL, Industrial Pack (27 pieces)	080G0298
MMIGRS2CC	MMIGRS2CC, Close Control, WALL, S	080G0299

Accessory

Type	Description	Code no.
ACCCBI	ACCCBI, TELEPHONE CABLE USER INTERFACE CONNECTOR, 1.5 m CABLE	080G0075
ACCCBI	ACCCBI, TELEPHONE CABLE USER INTERFACE CONNECTOR, 3 m CABLE	080G0076

Note: industrial pack (I), 27 pieces

MMILDS, Remote display

MMILDS is MCX's family remote interface. It's fitted with a LED display for displaying data from a MCX or from 2 probes that can be locally connected. The connection with any MCX controller is through the CAN bus network.

The power supply can come from controller which it is connected. All the information about the user interface is loaded inside the MCX controller; that's why there is no need of programming the MMILDS interface.



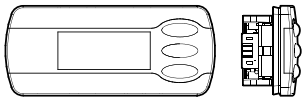


Facts

- LED display 3 ½ digit
- Easy connection to MCX CANbus network through wired connector kit
- Connections for 2 external probes
- Powered by the MCX which it is connected to or the other way round
- Dimensions 84x36 mm
- Panel mounting

Technical data and ordering

MMILDS – Remote display



Technical data

FEATURES	DESCRIPTION
Power supply	From the MCX through the RJ12 telephone connector
	12 V DC ± 20% external power supply
	12 V AC ± 15% external transformers
	Maximum power consumption: 1.5 W
Analog input	AI1: 0 – 20 mA, 4 – 20 mA, 0 – 5 V, 0 – 1 V
	AI2: NTC, default 10 KΩ at 25 °C
Operating conditions	CE: -20T60, 90% RH non-condensing
Storage conditions	-30T80, 90% RH non-condensing
Integration	In Class I and / or II appliances
Index of protection	IP65
Period of electric stress across insulating parts	Long
Resistance to heat and fire	Category A
Immunity against voltage surges	Category I
Software class and structure	Class A
Approvals	CE compliance: This product is designed to comply with the following EU standards: • Low voltage guideline: 73 / 23 / EEC • Electromagnetic compatibility EMC: 89 / 336 / EEC and with the following norms: - EN61000-6-1, EN61000-6-3 (immunity for residential, commercial and light-industrial environments) - EN61000-6-2, EN61000-6-4 (immunity and emission standard for industrial environments) - EN60730 (Automatic electrical controls for household and similar use)

Ordering

Type	Description	Code no.
MMILDS	MMILDS, 12 V, LED, CAN, REMOTE DISPLAY, PANEL, S	080G0232
MMILDS	MMILDS, 12 V, LED, CAN, REMOTE DISPLAY, PANEL, Industrial Pack (25 pieces)	080G0233

Accessory

Type	Description	Code no.
ACCCBI	ACCCBI, MMILDS CABLE RJ12/JST PH, 2 m CABLE	080G0239

Note: industrial pack (I), 25 pieces

MMIMYK, Programmable controller

MMIMYK is the advanced "*all in one*" device that performs up to three different functions:
- Programming module; - Gateway; - Data logger.

It has a bright graphic display and a keyboard that enable to configure the module to run several functions. It has also a slot for SD / MMC card (Multi Media Card) to extend the memory capacity.





Facts

- Full graphic OLED display, 128x64 dots resolution
- Easy connection to MCX CANbus network through telephone plug
- SD / MMC card slot for easy software upload and datalogging
- Modbus RS485 serial interface
- Powered by the MCX which it is connected to or the other way round
- Can execute an application like any MCX device
- Dimensions 105x72 mm
- Mounting DIN rail or portable

Technical data and ordering

MMIMYK – User interface





Technical data

FEATURES	DESCRIPTION
Power supply	From the MCX through the RJ11 telephone connector
	12 V DC (from DC connector)
	24 V AC (from screw plug-in connector type pitch 3.5 mm): on this supply it is advisable to use a dedicated transformer 24 V AC - 10 V A
	From USB 2.0 (maximum 500 mA)
Plastic housing	DIN rail mounting complying with EN 60715
Ball test	125 °C according to IEC 60730-1. Leakage current: ≥250 V according to IEC 60112
Operating conditions	CE: -20T60, 90% RH non-condensing
Storage conditions	-30T80, 90% RH non-condensing
Integration	In Class I and/or II appliances
Index of protection	IP20 only on the front cover
Period of electric stress across insulating parts	Long
Resistance to heat and fire	Category D
Immunity against voltage surges	Category I
Software class and structure	Class A
Approvals	CE compliance: This product is designed to comply with the following EU standards: • Low voltage guideline: 73 / 23 / EEC • Electromagnetic compatibility EMC: 89 / 336 / EEC and with the following norms: - EN61000-6-1, EN61000-6-3 (immunity for residential, commercial and light-industrial environments) - EN61000-6-2, EN61000-6-4 (immunity and emission standard for industrial environments) - EN60730 (Automatic electrical controls for household and similar use)

Ordering

Type	Description	Code no.
MMIMYK	MMIMYK, PC/MCX INTERFACE AND MCX PROGRAMMING, DATA LOGGING, S	080G0073

GD, Gas detector for Industrial Refrigeration

The Danfoss gas detectors are based on a digital platform that delivers multiple communication and integration options for improved operational reliability, easy calibration and maintenance efficiency, cost effectiveness, and regulatory compliance.

To meet the relevant safety requirements for refrigeration systems and to protect people, produce and property from the adverse effects of a potential leak of toxic and/or flammable refrigerants, having a gas detection system that you trust, is essential. With the new Gas Detection solution Danfoss offers a series of fixed gas detector units that are not only reliable and accurate – but also much easier and intuitive to work with – from initial specification to long term operation.





For further information; please visit
GDIR.danfoss.com

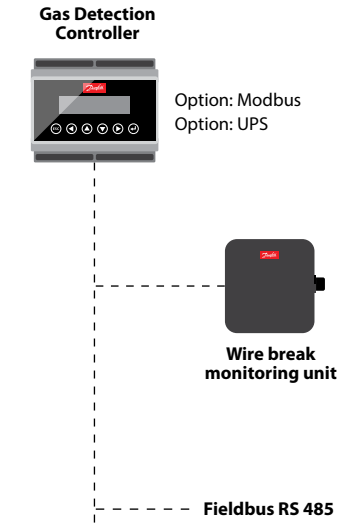
Facts

- All gas detection units come factory pre-configured to match refrigerant and typical PPM settings required.
- Integrated calibration routine:
  - calibration with gas no longer involves the use of potentiometers and multimeters.
- Easy replaceable and pre-calibrated sensors for plug & play replacement.
- Service due information and service alerts support optimized maintenance planning.
- Digital interface provides improved accuracy and simplified operator handling, which help minimize risk of settings, calibration and service errors.
- Automatic self-diagnostics ensure correct communication and operation between units and system.
- To guarantee the proper functioning of the units and to prevent human error, the sensor head can only be replaced by the same type and ppm range.
- Password protected setting allows authorized access only.
- Reduced risk of false alarms due to temperature compensated sensors (EC, P, IR).
- For improved operational safety, degenerated sensors with too little life-time expectancy (<30% sensitivity) are rejected during calibration process.

Technical data

The Gas Detection System

Controller solution



The Danfoss Gas Detection Solution provides a high degree of flexibility when designing and building your gas detection system.

The portfolio ranges from basic to heavy duty models complemented by a range of accessories. The gas detection units (GDU) can detect a wide range of refrigerant gases including Ammonia (R717), CO_2 (R744), fluorinated refrigerants (HCFC and HFCs), and Propane (R290). They come with various sensor technologies to match the specific refrigerant, application, and safety requirements of the refrigeration system including electrochemical (EC), semiconductor (SC), Pellistor (P), and Infrared (IR) sensors.

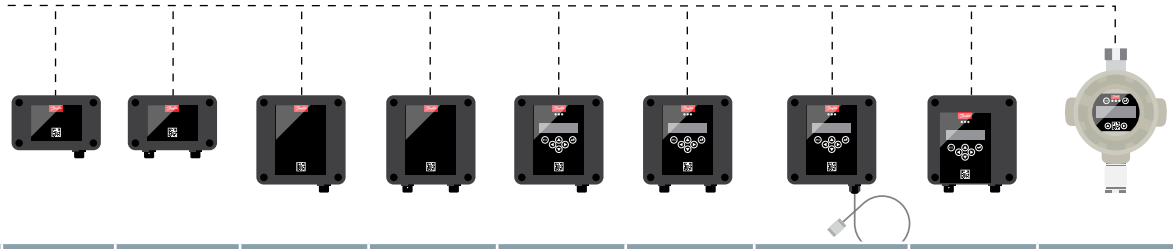
The analog or RS485 Modbus connection enables easy communication to a central system. Stand-alone gas detection units with integrated relays are available and can be connected to external systems directly to activate alarm devices.

To provide a strong plug and play solution, all gas detection units come factory pre-configured to match refrigerant and typical PPM setting requirements. Depending on national regulations PPM settings may be subject to change.

Basic GDU
2 units

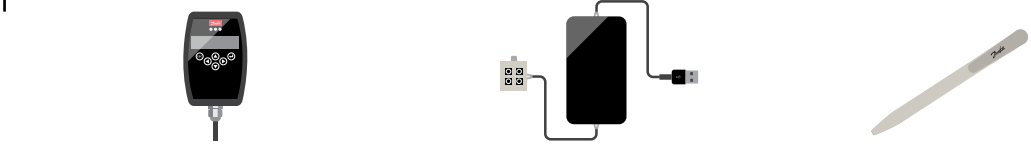
Premium GDU
6 units

Heavy Duty GDU
1 unit



Name	Basic	Basic+	Premium	Premium+	Premium Flex	Premium Duplex	Premium Remote	Premium Uptime	Heavy Duty
Features			3 relays						2 relays
		Buzzer & light		Buzzer & light				Buzzer & light	
					LCD display	LCD display	LCD display	LCD display	LCD display
						2 different sensors	Remote sensor 5 m (16.4 ft.) cable	UPS	Explosion proof (ATEX/IEC)
Protection	IP 65								
Communication	Analog (4-20 mA) and RS 485 Modbus communication								
Power supply	24 V AC/DC		24 V DC					90-240 V AC	24 V DC
Ammonia	✓	✓	✓	✓	✓	✓	✓	✓	✓
CO_2					✓				
Fluorinated	✓	✓	✓	✓	✓				
Hydrocarbons			✓	✓	✓				

Service tools



Service Tool
(handheld)

PC tool

Magnetic Pen
(for Heavy Duty display communication)

Technical data

Basic and Basic+

The Basic and Basic+ gas detection units are used for monitoring and warning of hazardous gas concentrations.

They are intended to be connected to a central system like the Danfoss gas detection controller, or a PLC, by either Analog or RS485 open Modbus communications. The central system converts the alarm signal from the gas detection unit to activation of alarm devices.

The basic units have a factory default set-up with two (2) alarm set-points ready for use. The integrated software enables the user to configure two individual alarm ranges. Alarm 1, a pre-alarm indicating the gas level has passed a predefined threshold 1, and – if the gas level passes predefined threshold 2 – the final alarm 2. Adjustment, calibration, and maintenance are done via the dedicated Service tool or the PC tool

The basic units come with sensors for Ammonia and selected HFC's. Depending on the application, they are available with an electrochemical or a semiconductor sensor.

Basic: Gas detection unit with one sensor
Basic+: In addition to the Basic model, this unit Includes a buzzer & light function for local alarm (visual and audio)

Basic



Basic+



Gas types and thresholds - Basic and Basic+

Sensor	Sensor Type	ppm range	Alarm 1	Alarm 2	Hysteresis
Ammonia EC 100	Electrochemical	0-100	25 ppm	35 ppm	2 ppm
Ammonia EC 300	Electrochemical	0-300	25 ppm	150 ppm	2 ppm
Ammonia EC 1000	Electrochemical	0-1000	500 ppm	900 ppm	25 ppm
Ammonia SC 1000	Semiconductor	0-1000	500 ppm	900 ppm	25 ppm
HFC R404A, R507 SC2000	Semiconductor	0-2000	500 ppm	900 ppm	25 ppm

Hysteresis = 5% of Alarm1 (rounded up to the next higher integer)

Technical data

Basic and Basic+

Electrical	
Power supply	19 – 29 V AC / DC, DC reverse-polarity protected
Power consumption (24 V DC)	Max. 250 mA (6 VA)

Outgoing line local bus	
Power supply	5 V DC, 250 mA max., overload, short-circuit and reverse-polarity protected

Serial interface	
Local bus	1-wire / 19200 baud
Fieldbus	RS 485 / 19200 baud
Tool bus	2-wire / 19200 baud

General	
Temperature range	-30 – 50 °C / -22 – 122 °F
Humidity range	15 – 90% RH not-condensing
Storage temperature	5 – 30 °C / 41 – 86 °F
Storage time	12 months

Physical	
Housing	Type A
Material	Polycarbonate
Burning behaviour	UL 94 V2
Housing colour	Black
Dimensions (W x H x D in mm)	94 x 130 x 57
Weight (kg)	Approx. 0.3kg / 0.8 lbs.
Protection class	IP 65
Installation	Wall mounting
Cable entry	2 x M12 / 3 x M20
Wire connection: Power supply, fieldbus Analog output Local bus for sensor	 Screw-type terminals 0.25 – 2.5 mm^2 (25 AWG to 14 AWG) Screw-type terminals 0.25 – 1.3 mm^2 (25 AWG to 17 AWG) 3-pin plug connector
Cable lengths local bus for remote sensor board	Max. 5 m / 16.4 ft.

Directives
EMC directives 2014/30/EU
CE
Conformity to EN 50271, EN 61010-1 ETL listed to UL 61010-1 and CSA C22.2 No.61010-1 Enables regulatory compliance with EN 378:2016, ISO 5149:2014, IIAR 2-2017, and ASHRAE 15:2016

Analog output signal
Proportional, overload and short-circuit proof, load ≤ 500 Ohm 4 - 20 mA = measuring range 3.0 < 4 mA = underrange > 20 - 21.2 mA = overrange 2.0 mA = fault

Status LED / Buzzer & light (only Basic+)	
Colour	3 color light: Green, yellow, red
Acoustic pressure	> 85 dB (A) (0.1 m distance)
Frequency	2300 Hz
Protection class	IP 65

Technical data and ordering

Ordering Basic and Basic+

Basic = Standard
Basic+ = Standard + Buzzer & light warning device

Type	Model	Refrigerant	Sensor	ppm range	Alarm ppm	Temp. Range [°C]	Temp. Range [°F]	Code number
GDA	Basic	Ammonia	Electrochemical	0 – 100	25 / 35	-30 – 50	-22 – 122	148H6000
GDA	Basic+*	Ammonia	Electrochemical	0 – 100	25 / 35	-30 – 50	-22 – 122	148H6001
GDA	Basic	Ammonia	Electrochemical	0 – 300	25 / 150	-30 – 50	-22 – 122	148H6008
GDA	Basic+*	Ammonia	Electrochemical	0 – 300	25 / 150	-30 – 50	-22 – 122	148H6009
GDA	Basic	Ammonia	Electrochemical	0 – 1000	500 / 900	-30 – 50	-22 – 122	148H6014
GDA	Basic+*	Ammonia	Electrochemical	0 – 1000	500 / 900	-30 – 50	-22 – 122	148H6015
GDA	Basic	Ammonia	Semiconductor	0 – 1000	500 / 900	-10 – 50	14 – 122	148H6023
GDA	Basic+*	Ammonia	Semiconductor	0 – 1000	500 / 900	-10 – 50	14 – 122	148H6024
GDHF	Basic	R404a, R507a, R32, R125, R407c, R434a, R488a, R125	Semiconductor	0 – 2000	500 / 900	-10 – 50	14 – 122	148H6045
GDHF	Basic+*	R404a, R507a, R32, R125, R407c, R434a, R488a, R125	Semiconductor	0 – 2000	500 / 900	-10 – 50	14 – 122	148H6046

** incl buzzer & Light*

Ordering spare parts and accessories for Basic and Basic+

Description	Code number
Replacement sensor - Ammonia EC 100	148H6200
Replacement sensor - Ammonia EC 300	148H6201
Replacement sensor - Ammonia EC 1000	148H6202
Replacement sensor - Ammonia SC 1000	148H6203
Replacement sensor - HFC R404A, R507 SC 2000	148H6210
Controller unit	148H6231
Controller solution (controller + enclosure)	148H6221
Warning module (wire break monitoring module)	148H6223
Controller expansion module	148H6222
Service tool	148H6224
PC tool	148H6235
Calibration adapter	148H6232
Buzzer & light - acoustic buzzer and optic led	148H6225
Air duct set	148H6236
Gateway for controller	148H6228
Seal cap	148H6227
Splash guard	148H6226

Controller unit:
Used for a centralized monitoring and warning.
The input signals for the controller are collected via RS485 Modbus or analog communication. The controller can handle up to 96 digital sensors via Fieldbus and four (4) analog input. An additional 28 analog input is possible using seven (7) expansion modules (4-20 mA signal interface). The total number of connected sensors should not exceed 128 sensors. The controller unit can be employed as pure analog controller, as analog/digital, or as digital controller. Configuration is menu-driven via the keypad. For fast and easy configuration, the PC Tool is recommended.

Controller solution:
Controller unit placed in an enclosure ready to be connected to a power source. A separate UPS for the controller is available.

Warning module (wire break monitoring module):
The warning module is used for monitoring the circuiting to the warning/alarm devices on a centrally controlled gas detection system. Wire breaks or wire interruptions in the alarm device loop will be reported to the central control.

Controller expansion module:
The gas detection Controller Expansion module is used for expansion of the cable coverage in terms of number of loops and the total wire length. Each Controller Unit can handle up to 7 Expansion modules allowing additional 7 segments with a total of 7200 meters (23622 ft.) wiring and a total of 32 relays for alarm device circuits.

Service tool:
For interface with units with no display (Basic, Basic+, Premium, Premium+). Acts as a portable display and can be connected to all Danfoss gas detection units. (Heavy Duty w. adapter).

PC tool:
The PC tool is a menu-driven and standalone software used for easy addressing, parameter setting, calibration, and data logging of the Basic, Premium and Heavy Duty gas detection units, and the controller unit.

Calibration adapter
The calibration adapter is required for connecting the calibration gas container, via the flow regulator, to the sensor head on the gas detection units. (Two variants, One for Basic and Premium plastic head sensors; one for heavy duty and Premium remote metal head sensors.).

Buzzer & light - acoustic buzzer and optic led:
Can be installed in Basic or Premium units providing a local alarm.

Air duct set:
The air duct set is specially designed to capture the airflow in air ducts. It can be connected to the standard sensor heads, except from Heavy Duty gas detection units.

Gateway for controller
The gateway is an addition to the controller and used for communicating via Modbus TCP/IP.

Seal cap:
Airtight seal cap to protect the sensor head against premature exposure during installation. The seal cap is mounted on new sensors (complete units and replacement sensors) but is also available as an accessory.

Splash guard:
To protect the sensor head against water exposure during wash-down cleaning and rinsing operations.

Technical data

Premium range

The Premium range of gas detection units are used for monitoring and warning of hazardous gas concentrations. They can be used for detecting most commonly used refrigerants.

They are intended as stand-alone or connected to a central system like the Danfoss gas detection controller or a PLC. As stand-alone, the on-board relays can be used for activation of alarm devices, while the analog or RS485 Modbus connection to a central system allows centralized monitoring and alarm activation. Four out of the six Premium variants have integrated display/keypad for direct access to the user-interface. This means that alarm level adjustments, calibration and parameter adjustments can be made directly on the menu in the display. For models without display (Premium & Premium+) the interface is via the dedicated Service or PC tool.

The Premium gas detection units have a factory default setup with two (2) alarm set-points ready for use. The user-interface enables the user to configure two individual alarm settings. Alarm 1, a pre-alarm indicating the gas level has passed a predefined threshold 1 and – if the gas level passes predefined threshold 2 – the final alarm 2. A total of four (4) alarm set-points on each gas detection unit is possible.

The Premium variants come with sensors for Ammonia, CO_2 and selected HC's and HFC's. Depending on the application and model, each unit is available with one or two different sensors (Premium Duplex). Sensor technologies include semiconductor, electrochemical, Pellistor or infrared.

Premium Duplex can have two different sensors. A Pellistor in combination with either an electrochemical or a semiconductor sensor can be mounted on the unit to detect Ammonia concentrations at very low and very high levels. This may be relevant in compressor rooms with requirements for low alarm set points (e.g. 25 PPM) and very high alarm set-points (e.g. 30000 PPM).

Premium Remote is applicable for vent line applications for the continuous monitoring of refrigeration system relief valves.

Premium Uptime has an integrated UPS to stay operational during power failure. Operating time > 60 minutes; wide range input (90 – 240 V AC – 50/60 Hz), and rechargeable battery.

Premium



Premium+



Premium Flex



Premium Remote



Premium Duplex



Premium Uptime



Gas types and thresholds - Premium range

Sensor	Sensor Type	ppm range	Alarm1	Alarm2	Hysteresis
Ammonia EC 100	Electrochemical	0 – 100	25 ppm	35 ppm	2 ppm
Ammonia EC 300	Electrochemical	0 – 300	25 ppm	150 ppm	2 ppm
Ammonia EC 1000	Electrochemical	0 – 1000	500 ppm	900 ppm	25 ppm
Ammonia EC 5000	Electrochemical	0 – 5000	1000 ppm	4500 ppm	50 ppm
Ammonia SC 1000	Semiconductor	0 – 1000	500 ppm	900 ppm	25 ppm
Ammonia SC 10000	Semiconductor	0 – 10000	5000 ppm	9000 ppm	250 ppm
Ammonia P LEL	Pellistor	0 – 140000	21% LEL (30000 ppm)	21% LEL (30000 ppm)	1%
CO_2 IR 20000 (2% Vol)	Infrared	0 – 20000	5000 ppm	9000 ppm	250 ppm
CO_2 IR 50000 (5% Vol)	Infrared	0 – 50000	10000 ppm	18000 ppm	500 ppm
HCFC R123 SC 2000	Semiconductor	0 – 2000	500 ppm	900 ppm	25 ppm
HFC R404A, R507 SC 2000	Semiconductor	0 – 2000	500 ppm	900 ppm	25 ppm
HFC R134A SC 2000	Semiconductor	0 – 2000	500 ppm	900 ppm	25 ppm
HC R290/Propane P 5000	Pellistor	0 – 5000	800 ppm	2500 ppm	40 ppm

Hysteresis = 5% of Alarm1 (rounded up to the next higher integer)
Alarm thresholds can have the same value, therefore the relays and/or the buzzer and LED can be triggered together.

Technical data

Premium range

Electrical		
Power supply	24 V DC ± 20 %, reverse-polarity protected	
Power consumption (24 V DC)	Max. 210 mA (5.1 VA)	
Alarm relays (3)	250 V AC, 5 A, potential-free, contacts (SPDT)	
Transistor output (2) (connector X13)	24 V DC / 0.1 A (switching to plus) (only at 24 V DC power supply)	
Analog output signal (1)	Proportional, overload and short-circuit proof, load ≤ 500 Ohm 4 – 20 mA = measuring range 3.0 < 4 mA = underrange > 20 – 21.2 mA = overrange 2.0 mA = fault	
Output for local bus	5 V DC, 250 mA max. Overload, short-circuit and reverse-polarity protected	

Ambient conditions		
Temperature range	Sensor dependant. See ordering section.	
Humidity range	15 – 95 % RH not-condensing	
Storage temperature	5 – 30 °C (41 – 86 °F	
Storage time	12 months	

Serial interface		
Local bus	1-wire / 19200 Baud	
Fieldbus	RS 485 / 19200 Baud	
Tool bus	2-wire / 19200 Baud	

Physical		
Housing	Type C	Type E (Premium Uptime)
Material	Polycarbonate	
Combustion	UL 94 V2	
Housing colour	Black	
Dimensions (W x H x D in mm)	130 x 130 x 75	130 x 130 x 99
Weight (kg)	Approx. 0.6 kg	Approx. 0.7 kg
Protection class	IP 65	
Installation	Wall mounting	
Cable entry	Standard 6 x M20/25	
Wire connection: Local bus (SC2) Digital input, analog output Power supply, relays	 3-pin connector Screw-type terminal min. 0.25 mm^2, max. 1.3 mm^2 (min. 25 AWG, max. 17 AWG) Screw-type terminal min. 0.25 mm^2, max. 2.5 mm^2 (min. 25 AWG, max. 14 AWG)	
Cable lengths local bus for Remote Sensor Board	Max. 5 m / 16.4 ft.	

Directives
EMC directives 2014/30/EU
Low voltage directive 2014/35/EU
CE
Conformity to EN 50271, EN 61010-1 ETL listed to UL 61010-1 and CSA C22.2 No.61010-1 Enables regulatory compliance with EN 378:2016, ISO 5149:2014, IIAR 2-2017, and ASHRAE 15:2016

Display (not Premium and Premium+)	
Temperature range	-20 – 50 °C / -4 – 122 °F
LCD	Two lines, 16 characters each, background highlighted in two colours
Operation	Menu driven via six push-buttons
Power consumption	5 V, 60 mA, 0.3 VA

Status LED	
Colour / Mode	Red / yellow / green (alarm – fault – operation - service)
Protection class	IP 65

Warning buzzer	
Acoustic pressure	> 85 dB (A) (0.1 m distance)
Frequency	2300 Hz
Protection class	IP 65

UPS (only Premium Uptime)	
Power unit with wide range input	90 – 240 V AC - 50/60 Hz
Output rating	15 VA
Rechargeable battery	12 V, 0.8 Ah
Operating time	> 60 min

Technical data and ordering

Ordering Premium range

Premium = Standard
Premium+ = Standard + Buzzer & light warning device
Premium Duplex = Standard + 2nd sensor + Display and keyboard
Premium Remote = Remote sensor (stainless steel) with 5m cable (2nd cable gland needed) not mounted but enclosed + Display and keyboard
Premium Flex = Standard + Display and keyboard
Premium Uptime = Standard + Buzzer & light warning device + Display and keyboard + UPS

Type	Model	Refrigerant	Sensor	ppm range	Alarm ppm	2nd Sensor ppm (Alarm ppm)	Remote sensor ppm (Alarm ppm)	Buzzer & Light	Display	UPS	Temp. Range [°C]	Temp. Range [°F]	Code number
GDA	Premium	Ammonia	Electrochemical	0 – 100	25 / 35						-30 – 50	-22 – 122	148H6002
GDA	Premium+	Ammonia	Electrochemical	0 – 100	25 / 35			x			-30 – 50	-22 – 122	148H6003
GDA	Premium Duplex	Ammonia	Electrochemical Pellistor	0 – 100	25 / 35	0 – 140000 (30000)			x		-20 – 50	-4 – 122	148H6004
GDA	Premium Remote	Ammonia	Electrochemical				0 – 100 (25 / 35)		x		-20 – 50	-4 – 122	148H6005
GDA	Premium Flex	Ammonia	Electrochemical	0 – 100	25 / 35				x		-20 – 50	-4 – 122	148H6006
GDA	Premium Uptime	Ammonia	Electrochemical	0 – 100	25 / 35			x	x	x	0 – 40	32 – 104	148H6007
GDA	Premium	Ammonia	Electrochemical	0 – 300	25 / 150						-30 – 50	-22 – 122	148H6010
GDA	Premium+	Ammonia	Electrochemical	0 – 300	25 / 150			x			-30 – 50	-22 – 122	148H6011
GDA	Premium Duplex	Ammonia	Electrochemical Pellistor	0 – 300	25 / 150	0 – 140000 (30000)			x		-20 – 50	-4 – 122	148H6012
GDA	Premium Flex	Ammonia	Electrochemical	0 – 300	25 / 150				x		-20 – 50	-4 – 122	148H6013
GDA	Premium	Ammonia	Electrochemical	0 – 1000	500 / 900						-30 – 50	-22 – 122	148H6016
GDA	Premium+	Ammonia	Electrochemical	0 – 1000	500 / 900			x			-30 – 50	-22 – 122	148H6017
GDA	Premium Duplex	Ammonia	Electrochemical Pellistor	0 – 1000	500 / 900	0 – 140000 (30000)			x		-20 – 50	-4 – 122	148H6018
GDA	Premium Remote	Ammonia	Electrochemical				0 – 1000 (500 / 900)		x		-20 – 50	-4 – 122	148H6019
GDA	Premium Flex	Ammonia	Electrochemical	0 – 1000	500 / 900				x		-20 – 50	-4 – 122	148H6020
GDA	Premium Uptime	Ammonia	Electrochemical	0 – 1000	500 / 900			x	x	x	0 – 40	32 – 104	148H6021
GDA	Premium	Ammonia	Semiconductor	0 – 1000	500 / 900						-10 – 50	14 – 122	148H6025
GDA	Premium+	Ammonia	Semiconductor	0 – 1000	500 / 900			x			-10 – 50	14 – 122	148H6026
GDA	Premium Flex	Ammonia	Semiconductor	0 – 1000	500 / 900				x		-10 – 50	14 – 122	148H6027
GDA	Premium+	Ammonia	Electrochemical	0 – 5000	1000 / 4500			x			-30 – 50	-22 – 122	148H6028
GDA	Premium Remote	Ammonia	Electrochemical				0 – 5000 (1000 / 4500)		x		-20 – 50	-4 – 122	148H6029
GDA	Premium Uptime	Ammonia	Electrochemical	0 – 5000	1000 / 4500			x	x	x	0 – 40	32 – 104	148H6030
GDA	Premium	Ammonia	Semiconductor	0 – 10000	5000 / 9000						-10 – 50	14 – 122	148H6032
GDA	Premium+	Ammonia	Semiconductor	0 – 10000	5000 / 9000			x			-10 – 50	14 – 122	148H6033
GDA	Premium Remote	Ammonia	Semiconductor				0 – 10000 (5000 / 9000)		x		-10 – 50	14 – 122	148H6034
GDA	Premium+	Ammonia	Pellistor	0 – 140000	30000			x			-25 – 50	-13 – 122	148H6036
GDA	Premium Duplex	Ammonia	Semiconductor Pellistor	0 – 1000	500 / 900	0 – 140000 (30000)			x		-10 – 50	14 – 122	148H6037
GDA	Premium Flex	Ammonia	Pellistor	0 – 140000	30000				x		-20 – 50	-4 – 122	148H6038
GDC	Premium Flex	CO_2	Infrared	0 – 20000	5000 / 9000				x		-20 – 50	-4 – 122	148H6040
GDC	Premium Flex	CO_2	Infrared	0 – 50000	10000 / 18000				x		-20 – 50	-4 – 122	148H6041
GDHC	Premium	R123	Semiconductor	0 – 2000	500 / 900						-10 – 50	14 – 122	148H6042
GDHC	Premium+	R123	Semiconductor	0 – 2000	500 / 900			x	x		-10 – 50	14 – 122	148H6043
GDHC	Premium Flex	R123	Semiconductor	0 – 2000	500 / 900				x		-10 – 50	14 – 122	148H6044
GDHF	Premium	R404a, R507a, R32, R125, R407c, R434a, R488a, R125	Semiconductor	0 – 2000	500 / 900						-10 – 50	14 – 122	148H6047
GDHF	Premium+	R404a, R507a, R32, R125, R407c, R434a, R488a, R125	Semiconductor	0 – 2000	500 / 900			x			-10 – 50	14 – 122	148H6048
GDHF	Premium Flex	R404a, R507a, R32, R125, R407c, R434a, R488a, R125	Semiconductor	0 – 2000	500 / 900				x		-10 – 50	14 – 122	148H6049
GDHF	Premium	R134a, R407a, R416a, R417a, R422a, R422d, R427a, R437a, R438a, R449a, R407f, R450a	Semiconductor	0 – 2000	500 / 900						-10 – 50	14 – 122	148H6050
GDHF	Premium+	R134a, R407a, R416a, R417a, R422a, R422d, R427a, R437a, R438a, R449a, R407f, R450a	Semiconductor	0 – 2000	500 / 900			x			-10 – 50	14 – 122	148H6051
GDHF	Premium Flex	R134a, R407a, R416a, R417a, R422a, R422d, R427a, R437a, R438a, R449a, R407f, R450a	Semiconductor	0 – 2000	500 / 900				x		-10 – 50	14 – 122	148H6052
GDH	Premium	R290 / Propane	Pellistor	0 – 5000	800 / 2500						-30 – 50	-22 – 122	148H6053
GDH	Premium+	R290 / Propane	Pellistor	0 – 5000	800 / 2500			x			-30 – 50	-22 – 122	148H6054
GDH	Premium Flex	R290 / Propane	Pellistor	0 – 5000	800 / 2500				x		-20 – 50	-4 – 122	148H6055

Technical data and ordering

Ordering spare parts and accessories for Premium range

Description	Code number
Replacement sensor - Ammonia EC 100	148H6200
Replacement sensor - Ammonia EC 300	148H6201
Replacement sensor - Ammonia EC 1000	148H6202
Replacement sensor - Ammonia SC 1000	148H6203
Replacement sensor - Ammonia EC 5000	148H6204
Replacement sensor - Ammonia SC 10000	148H6205
Replacement sensor - Ammonia P LEL	148H6206
Replacement sensor - CO_2 IR 20000	148H6207
Replacement sensor - CO_2 IR 50000	148H6208
Replacement sensor - HCFC R123 SC 2000	148H6209
Replacement sensor - HFC R404A, R507 SC 2000	148H6210
Replacement sensor - HFC R134a SC 2000	148H6211
Replacement sensor - HC R290/Propane P 5000	148H6212
Remote sensor - Ammonia EC 100	148H6213
Remote sensor - Ammonia EC 1000	148H6214
Remote sensor - Ammonia EC 5000	148H6215
Remote sensor - Ammonia SC 10000	148H6216

Description	Code number
Controller unit	148H6231
Controller solution (controller + enclosure)	148H6221
Controller solution Uptime	148H6237
Warning module (wire break monitoring module)	148H6223
Controller expansion module	148H6222
Service tool	148H6224
PC Tool	148H6235
Calibration adapter	148H6232
Calibration adapter for Remote sensors	148H6233
Buzzer & light - acoustic buzzer and optic led	148H6225
Air duct set	148H6236
Gateway for controller	148H6228
Seal cap	148H6227
Remote kit	148H6238
Splash guard	148H6226
NPT adapter	148H6234

Controller unit:
Used for a centralized monitoring and warning.
The input signals for the controller are collected via RS485 Modbus or analog communication. The controller can handle up to 96 digital sensors via Fieldbus and four (4) analog input. An additional 28 analog input is possible using seven (7) expansion modules (4 – 20 mA signal interface). The total number of connected sensors should not exceed 128 sensors. The controller unit can be employed as pure analog controller, as analog/digital, or as digital controller. Configuration is menu-driven via the keypad. For fast and easy configuration, the PC Tool is recommended.

Controller solution:
Controller unit placed in an enclosure ready to be connected to a power source. A separate UPS for the controller is available.

Warning module (wire break monitoring module):
The warning module is used for monitoring the circuiting to the warning/alarm devices on a centrally controlled gas detection system. Wire breaks or wire interruptions in the alarm device loop will be reported to the central control.

Controller expansion module:
The gas detection Controller Expansion module is used for expansion of the cable coverage in terms of number of loops and the total wire length. Each Controller Unit can handle up to 7 Expansion modules allowing additional 7 segments with a total of 7200 meters (23622 ft.) wiring and a total of 32 relays for alarm device circuits.

Service tool:
For interface with units with no display (Basic, Basic+, Premium, Premium+). Acts as a portable display and can be connected to all Danfoss gas detection units. (Heavy Duty w. adapter).

PC tool:
The PC tool is a menu-driven and standalone software used for easy addressing, parameter setting, calibration, and data logging of the Basic, Premium and Heavy Duty gas detection units, and the controller unit.

Calibration adapter:
The calibration adapter is required for connecting the calibration gas container, via the flow regulator, to the sensor head on the gas detection units. (Two variants, One for Basic and Premium plastic head sensors; one for heavy duty and Premium remote metal head sensors.).

Buzzer & light - acoustic buzzer and optic led:
Can be installed in Basic or Premium units providing a local alarm.

Air duct set:
The air duct set is specially designed to capture the airflow in air ducts. It can be connected to the standard sensor heads, except from Heavy Duty gas detection units.

Gateway for controller
The gateway is an addition to the controller and used for communicating via Modbus TCP/IP.

Seal cap:
Airtight seal cap to protect the sensor head against premature exposure during installation. The seal cap is mounted on new sensors (complete units and replacement sensors) but is also available as an accessory.

Remote kit:
Enabling installation of a sensor head in plastic housing 5m / 16.4 ft. from the unit. This means that the gas detection unit can be placed outside the room where the sensor is placed to detect hazardous gases, allowing reading of and interfacing with the unit without entering the dedicated space. Basic and Premium gas detection units.

Splash guard:
To protect the sensor head against water exposure during wash-down cleaning and rinsing operations.

NPT adapter:
The NPT adapter is a steel fitting for installation of remote sensors into NPT threads; it converts the standards M30 X 1.5 thread of the Stainless Steel remote sensor head into an External NPT ¾" thread for more convenient installation.

Technical data

Heavy Duty

The Heavy Duty gas detection model is used for monitoring and warning of hazardous Ammonia gas concentrations. It is intended for ATEX/ IECEx applications and consists of a robust flameproof metal enclosure that can be kept closed after wiring, as configuration is performed by magnetic field to the display via a magnetic pen.

The Heavy Duty is intended as stand-alone or connected to a central system like the Danfoss gas detection controller or a PLC. As stand-alone, the on-board relays can be used for activation of alarm devices, while the Analog or RS485 Modbus connection to a central system allows centralized monitoring and alarm activation.

The gas detection unit come with a factory default setup including two (2) alarm set-points ready for use. The integrated software enables the user to configure two individual alarm ranges. Alarm 1, a pre-alarm indicating the gas level has passed a predefined threshold 1, and – if the gas level passes predefined threshold 2 – the final alarm 2.

The unit comes with sensors for Ammonia. Depending on the application, it's available with an electrochemical, a semiconductor or a Pellistor sensor.

Heavy Duty



Gas types and thresholds - Heavy Duty

Sensor	Sensor Type	ppm range	Alarm 1	Alarm 2	Hysteresis
Ammonia EC 1000	Electrochemical	0-1000	500 ppm	900 ppm	25 ppm
Ammonia EC 5000	Electrochemical	0-5000	1000 ppm	4500 ppm	50 ppm
Ammonia SC 10000	Semiconductor	0-10000	5000 ppm	9000 ppm	250 ppm
Ammonia P LEL	Pellistor	0-140000 (0-100% LEL)	21% LEL (30000 ppm)	21% LEL (30000 ppm)	1% LEL

Hysteresis = 5% of Alarm1 (rounded up to the next higher integer)
Alarm thresholds can have the same value, therefore the relays and LED can be triggered together.

Technical data

Heavy Duty

Electrical	
Power supply	16 – 28 V DC
Power consumption (24 V DC)	90 mA, max. 130 mA
Control unit	Microprocessor with 12 bit converter resolution
Digital filter	Averaging in order to increase the EMC immunity
Visual indications	2 LEDs for operation, alarm and communication
Analog output signal (active)	Proportional, overload and short-circuit proof, load ≤ 500 Ω 4 – 20 mA = measuring range 3.0 < 4 mA = underrange > 20 – 21.2 mA = overrange 2 mA = fault > 21.8 mA = fault High
Serial interface	Serial data bus
Fault relay	Max. 30 V AC/DC, 1 A
Alarm relay	Max. 30 V AC/DC, 1 A
LCD	2 x 16 characters, 3 status LEDs, 4 menu operating elements

Sensor data			
Gas type	**Flammable gases**	**Toxic gases**	**HCFC, HFC, HFO**
Sensor element	Pellistor	Electro Chemical	Semiconductor
Measuring range	0 – 100 % LEL	0 – 1000 ppm / 0 – 5000 ppm	0 – 10000 ppm
Response time	t_{90} < 20 sec. NH_3	t_{90} < 40 sec. for NH_3	t_{90} > 120 sec. for NH_3

Sensor head housing	
Material	CrNi Stahl: 1.4404
Dimensions (d x H)	30 x 56 mm (1.18 x 2.20 in.)
Protection class	Gas inlet IP64, with option splash-proof IP65
Thread	External thread NPT ¾" ANSI/ B1.20.1

Environmental conditions	
Humidity	15 to 90% r.H.
Operating temperature	P: -25 °C to +60 °C / EC: -25 °C to +50 °C / SC: -10 °C to +50 °C

Physical characteristics	
Case / colour	Aluminium pressure die-casting / light grey RAL 7032, epoxy coating
Dimensions (d x H)	95 x 82 mm
Weight	Ca. 1.3 kg
Protection class	Housing protection IP66 to IP68 (depending on the cable glands used)
Mounting	Wall mounting (sensor head downwards)
Cable entry	1 x ¾ in. (Ansi B1.20.1)
Wire connection	Spring-type terminal, 0.08 to 2.5 mm^2 AWG 28 - 12
Wire length	Max. load 500 Ω (= wire resistance + controller input resistance)

ATEX marking
II2G Ex d IIC T4 Gb, CE 0158

Options: LCD display	
LCD	Two lines, 16 characters each, background highlighted in two colours
Operation	Menu driven via four magnetic buttons
Power consumption	5 V, 60 mA, 0.3 VA

Status LED	
Colour / Mode	Red / yellow / green (alarm – fault – operation - service)
Protection class	IP 65

Technical data and ordering

Heavy Duty

Type	Model	Refrigerant	Sensor	ppm range	Alarm ppm	Temp. Range		Code number
						[°C]	[°F]	
GDA	Heavy Duty	Ammonia	Electrochemical	0 – 1000	500 / 900	-25 – 50	-13 – 122	148H6022
GDA	Heavy Duty	Ammonia	Electrochemical	0 – 5000	1000 / 4500	-25 – 50	-13 – 122	148H6031
GDA	Heavy Duty	Ammonia	Semiconductor	0 – 10000	5000 / 9000	-10 – 50	14 – 122	148H6035
GDA	Heavy Duty	Ammonia	Pellistor	0 – 140000	30000	-25 – 60	-13 – 140	148H6039

Ordering spare parts and accessories for Heavy Duty

Description	Code number
Replacement sensor - Heavy Duty Ammonia EC 1000	148H6217
Replacement sensor - Heavy Duty Ammonia EC 5000	148H6218
Replacement sensor - Heavy Duty Ammonia SC 10000	148H6219
Replacement sensor - Heavy Duty Ammonia P LEL	148H6220
Controller unit	148H6231
Controller solution (controller + enclosure)	148H6221
Warning module (wire break monitoring module)	148H6223
Controller expansion module	148H6222
Service tool	148H6224
PC Tool	148H6235
Calibration adapter Heavy duty	148H6233
Magnetic pen	148H6229
Gateway for controller	148H6228

Controller unit:
Used for a centralized monitoring and warning.
The input signals for the controller are collected via RS485 Modbus or analog communication. The controller can handle up to 96 digital sensors via Fieldbus and four (4) analog input. An additional 28 analog input is possible using seven (7) expansion modules (4-20 mA signal interface). The total number of connected sensors should not exceed 128 sensors. The controller unit can be employed as pure analog controller, as analog/digital, or as digital controller. Configuration is menu-driven via the keypad. For fast and easy configuration, the PC Tool is recommended.

Controller solution:
Controller unit placed in an enclosure ready to be connected to a power source. A separate UPS for the controller is available.

Warning module (wire break monitoring module):
The warning module is used for monitoring the circuiting to the warning/alarm devices on a centrally controlled gas detection system. Wire breaks or wire interruptions in the alarm device loop will be reported to the central control.

Controller expansion module:
The gas detection Controller Expansion module is used for expansion of the cable coverage in terms of number of loops and the total wire length. Each Controller Unit can handle up to 7 Expansion modules allowing additional 7 segments with a total of 7200 meters (23622 ft.) wiring and a total of 32 relays for alarm device circuits.

Service tool:
For interface with units with no display (Basic, Basic+, Premium, Premium+). Acts as a portable display and can be connected to all Danfoss gas detection units. (Heavy Duty w. adapter).

PC tool:
The PC tool is a menu-driven and standalone software used for easy addressing, parameter setting, calibration, and data logging of the Basic, Premium and Heavy Duty gas detection units, and the controller unit.

Calibration adapter:
The calibration adapter is required for connecting the calibration gas container, via the flow regulator, to the sensor head on the gas detection units. (Two variants, One for Basic and Premium plastic head sensors; one for heavy duty and Premium remote metal head sensors.).

Magnetic pen:
The pen is used to operate the Heavy Duty unit display. The Heavy Duty enclosure does not permit direct touch.

Gateway for controller
The gateway is an addition to the controller and used for communicating via Modbus TCP/IP.

DGS, Gas sensor

DGS helps to comply to environmental F-Gas Regulations and / or Health and Safety requirements, on new or existing systems in:

- Supermarkets
- Process refrigeration plants
- Refrigerated storage and warehousing
- Special applications areas / zones



RS485 Modbus
for data communication and integration into a complete ADAP-KOOL® system

Utilizing
either Semi-Conductor (SC) or Infrared (IR) technologies

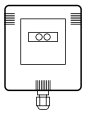
Gives
quick and immediate response in detecting a wide range of different gases typically applied in Refrigeration and Air Conditioning systems

Can be used
in stand-alone or integrated systems, where continuous real-time, automatic monitoring with Danfoss ADAP-KOOL® Refrigeration Control and Monitoring System and / or Building Management Systems is applied

Facts

- Typical Refrigerant gas applications include:
  - Halocarbons: HFC's, HCFC's, CFCs
  - Carbon Dioxide (R744 / CO_2)
  - R404A, R507, R134a, R407A, R407F, R410A
  - Other special application gases to customer request

Technical data and ordering



DGS - Gas Sensors

Technical data

Features	Description
Power Supply	12 / 24 V AC / DC ± 20%
Power Consumption	SC:153 mA / IR: 136 mA
Power Monitoring	Green LED indication
Visual Alarm	RED LED indication
Audible Alarm	Sounder, enabled / disabled
Fault Monitoring	Red LED ON ~ Green LED OFF
Fault State	0 – 0.5 V (1 – 5 V), 0 – 1 V (2 – 10 V), 0 – 2 mA (4 – 20 mA)
Analogue Outputs	0 – 5 V, 1 – 5 V, 0 – 10 V, 2 – 10 V, 4 – 20 mA
Digital Outputs	1-Relay 1 A / 24 V DC / 120 V AC Selectable Delay: 0.1 min., 5 min., 10 min.
IP Enclosure rating	IP41 or IP66
Standard Compliance	WEEE RoHS EuP

Sensor Information	Value	Semi-Conductor with filter (multigas) SC Halocarbons	Semi-Conductor (multigas) SC Hydrocarbons	Infrared IR CO_2
Typical Measurement Range	–	0 – 1.000 ppm	0 – 1.000 ppm	0 – 10.000 ppm 0 – 20.000 ppm 0 – 50.000 ppm
Temperature Range	IP41	-20 – 50 °C / -4 – 122 °F	20 – 50 °C / -4 – 122 °F	20 – 50 °C / -4 – 122 °F
	IP66	-40 – 50 °C / -40 – 122 °F	-40 – 50 °C / -40 – 122 °F	-40 – 50 °C / -40 – 122 °F
Relay Factory Default Setting	–	50% of Range	50% of Range	50% of Range
Humidity Range non-condensing	–	0 – 95%	0 – 95%	0 – 95%
Typical sensor life	–	5-years	5-years	5-years
Alarm threshold	T50	76 sec (filtered)	50 sec (filtered)	50 sec
Recovery time	T90	215 sec (filtered) 600 sec	90 sec (filtered) 200 sec	120 sec 235 sec
Linearity	–	Linear over calibrated range		
Calibration requirements	–	Standards generally require annual test and calibration See Danfoss Manual for Instructions *Note: Semi-Conductor sensors are non-selective, but calibrated to a specfic gas*		

Danfoss DGS - IP41 Enclosure Versions

Ordering

Type	Refrigerant	Description	Code no.
DGS-SC	R404A, R507	Gas Detector (IP41) Std. default R404A / R507 (min. -20 °C)	080Z2998
DGS-SC	R134a	Gas Detector (IP41) std. default R134a (min. -20 °C)	080Z2942
DGS-SC	R407A	Gas Detector (IP41) std. default R407A (min. -20 °C)	080Z2943
DGS-SC	R407F	Gas Detector (IP41) std. default R407F (min. -20 °C)	080Z2956
DGS-SC	R410A	Detector (IP41) std. default R410 (min. -20 °C)	080Z2988
DGS-IR-CO_2	CO_2 (R744)	Gas Detector (IP41) for CO_2 std. (min.-20 °C)	080Z2995
DGS-IR-CO_2-FS		Fail safe. Gas Detector (IP41) for CO_2 std. (min. -20 °C)	080Z2994

Note: For R448A / R449A, Please Contact Danfoss

Danfoss DGS - IP66 Enclosure Versions

Ordering

Type	Refrigerant	Description	Code no.
DGS-SC	R404A, R507	Gas Detector (IP66) Std. default R404A / R507 (min. -40 °C)	080Z2999
DGS-SC	R134a	Gas Detector (IP66) std. default R134a (min. -40 °C)	080Z2989
DGS-SC	R407A	Gas Detector (IP66) std. default R407A (min. -40 °C)	080Z2944
DGS-SC	R407F	Gas Detector (IP66) std. default R407F (min. -40 °C)	080Z2957
DGS-SC	R410A	Detector (IP66) std. default R410 (min. -40 °C)	080Z2987
DGS-IR-CO_2	CO_2 (R744)	Gas Detector (IP66) for CO_2 std. (min.-40 °C)	080Z2996
DGS-IR-CO_2		Remote, 3 m. Gas Detector (IP66) for CO_2 std. (min. -40 °C)	080Z2997
DGS-IR-CO_2-FS		Fail safe. Gas Detector (IP66) for CO_2 std. (min. -40 °C)	080Z2993
DGS-IR-CO_2-FS		Remote, 3 m. Fail safe. Gas Detector (IP66) for CO_2 std. (min. -40 °C)	080Z2992
DGS-IR-CO_2-FS		Duct mounted sensor	080Z2958

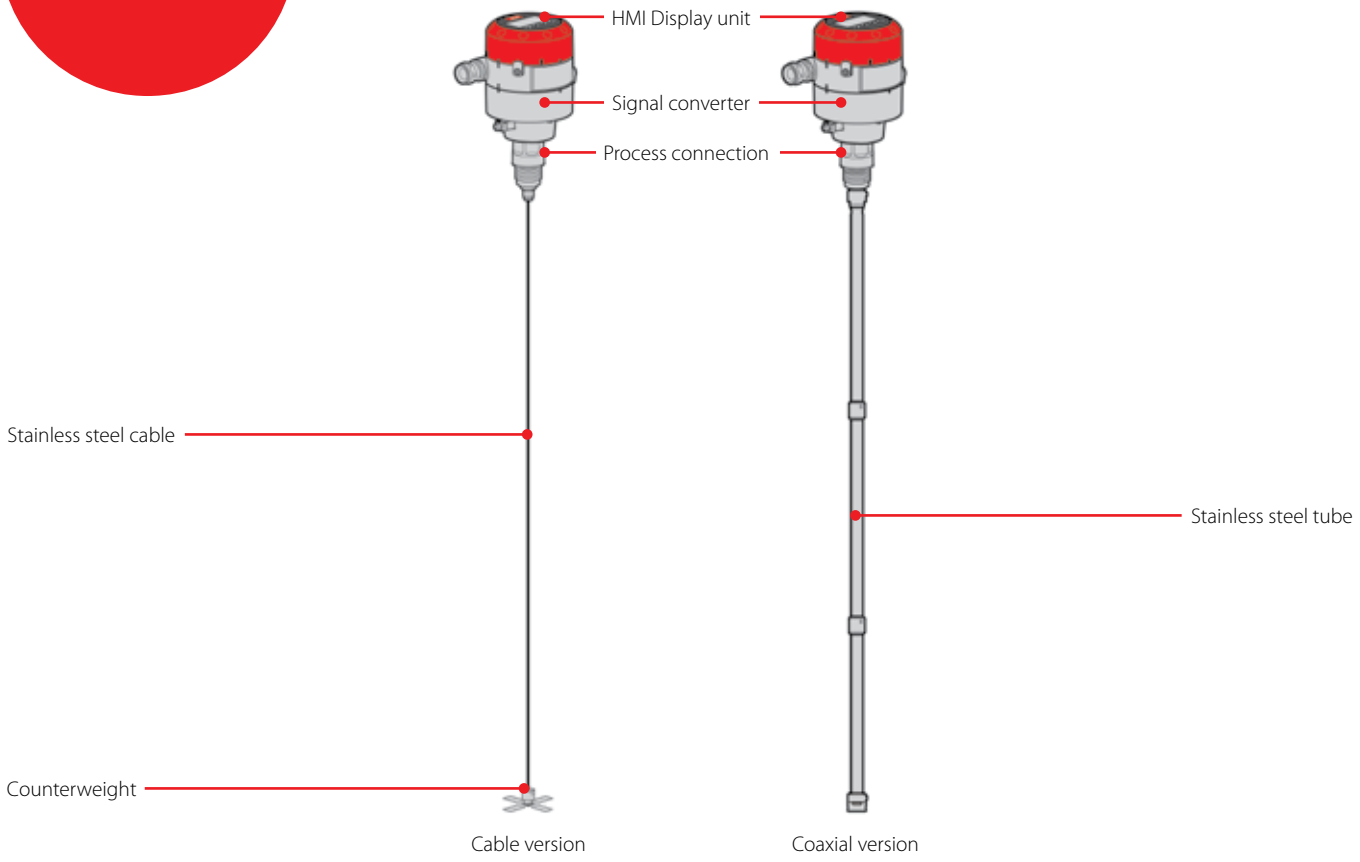
Note: For R448A / R449A, Please Contact Danfoss

AKS 4100 / AKS 4100U - Liquid level sensors

The AKS 4100 / AKS 4100U liquid level sensor is designed specifically to measure liquid levels in a wide range of refrigeration applications. The liquid level sensor is based on a proven techhology called Time Domain Reflectometry (TDR) or Guided Micro Wave.

AKS 4100 / AKS 4100U liquid level sensor can be used to measure the liquid level of many different refrigerants in vessels, accumulators, receivers, standpipes, etc.

Features
AKS 4100 / 4100U



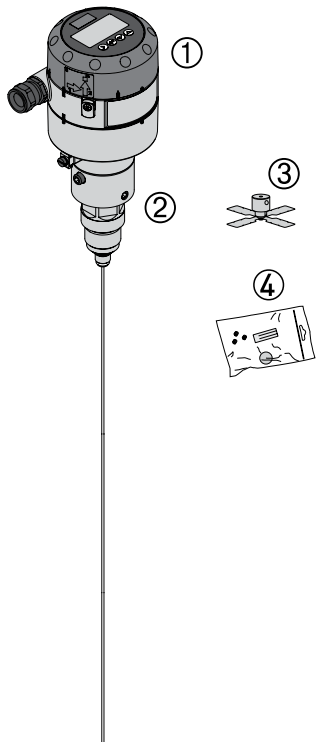
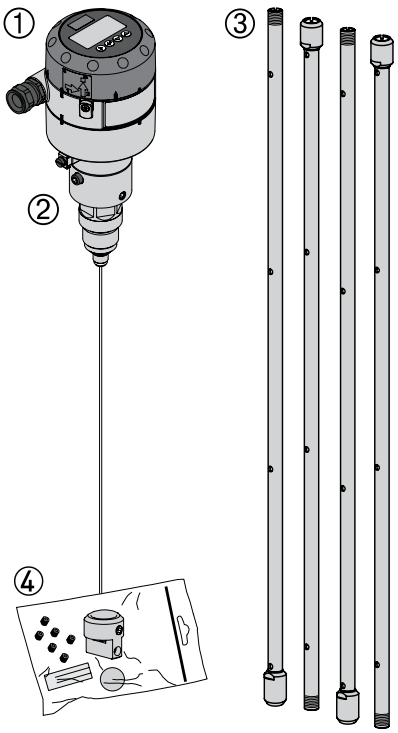
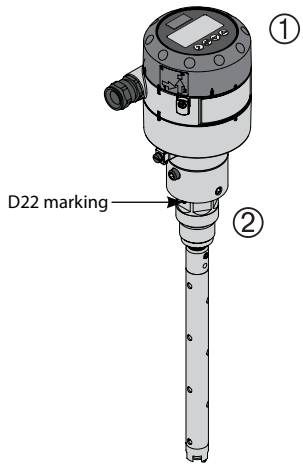
Facts

- Applicable to R717, R744, R134a, R22, R401A, R402A, R404A, R407A, R407B, R407C, R407F, R409A, R410A, R421A, R502 and R507
  For a fully updated list of approved refrigerants, visit www.products.danfoss.com and search for individual code numbers, where refrigerants are listed as part of product specifications.
- Approved and qualified by Danfoss for refrigeration applications
- One product covering several probe lengths (cable version)
- A single product for all commonly used refrigerants (cable version)
- Cable version requires less top-end clearance for installation and service
- Proven operation with all refrigerants in combination with oil
- No need to clean cable version when fully covered by oil
- The cable version is very compact and easy to handle, ship, install and use with different lengths and refrigerants
- Changes of the liquid dielectric constant (εr) does not affect operation
- Up to 5000 mm / 197 inch probe length with cable version
- 2-wire loop powered; no separate transformer needed
  Please Note: if used together with Danfoss EKC 347 Level Controller, a 14 – 30 V DC supply is required
- Multi language HMI
- Level and setting readout in [mm], [cm], [m] / [ft], [in]

The AKS 4100 / AKS 4100U concept

AKS 4100 / AKS 4100U is available in two different versions:
- Cable version
- Coaxial version

Both cable and coaxial versions are available with two different mechanical process connections:
- AKS 4100: G1 inch pipe thread. Aluminium gasket included
- AKS 4100U: ¾ inch NPT

CABLE version:	COAXIAL D14 version:	COAXIAL D22 version:
		

Cable version
The cable version consists of:
1. Signal converter, which can be supplied with or without HMI
2. Process connection with 5 m / 197 in., ø2 mm / 0.08 in. stainless cable
3. Counterweight
4. Accessory bag comprising:
   - 3 mm set screws
   - Red cover to protect process connection (2) prior to mounting signal converter
   - Setting label

With the cable version it is possible to adapt the AKS 4100 / AKS 4100U to any length:
800 mm / 31.5 in. – 5000 mm / 196.9 in.

Coaxial D14 version
The Coaxial D14 version consists of:
1. Signal Converter (with or without HMI)
2. Process connection with 5 m / 197 in., ø2 mm / 0.08 in. stainless wire
3. Tube(s) depending on required length
4. Accessory bag comprising:
   - End Connector (incl. 3 mm / 0.12 in. set screws)
   - 3 mm / 0.12 in. set crews (1 set screw pr. tube)
   - Red cover to protect mechanical process connection (2), before Signal Converter is mounted
   - Setting label

The coaxial D14 version is available in the following probe lengths:
500 mm, 800 mm, 1000 mm, 1200 mm, 1500 mm, 1700 mm, 2200 mm

Coaxial D22 version
The Coaxial D22 version consists of:
1. Signal Converter (with or without HMI)
2. Process connection 280 mm / 11 in., 8 mm / 0.3 in. inner rod

Technical data

Measuring system

Measuring principle	2-wire loop-powered level transmitter; Time Domain Reflectometry (TDR)
Application range	Level measurement of liquid refrigerants Approved refrigerants: R717, R744, R134a, R22, R401A, R402A, R404A, R407A, R407B, R407C, R407F, R409A, R410A, R421A, R502 and R507
Primary measured value	Time between the emitted and received signal
Secondary measured value	Distance or level

Display and User interface	
Display	Integrated LCD display
	128 × 64 pixels in 8-step greyscale with 4-button keypad
Interface languages	English (default), German, French, Spanish, Japanese, Chinese, Russian

Operating conditions

Ambient temperature	-40 – 80 °C / -40 – 175 °F For HMI: -20 – 60 °C / -4 – 140 °F
Storage temperature	-40…85 °C / -40…185 °F
Process connection temperature	Standard -60 – 100 °C / -76 – 212 °F

Operating pressure	Standard: -1 – 100 barg / -14.5 – 1450 psig

Liquid dielectric constant (εr)	Cable version to be used in R717 / NH_3, HCFC and HFC εr, liquid > 5.6 Coaxial version is mandatory in R744 / CO_2 εr, liquid > 1.3
Vibration resistance	EN 60721-3-4 (1...9 Hz: 3 mm / 10...200 Hz:1g; 10g shock half-wave sinusoidal: 11 ms)
Enclosure rating	IP66 / IP67 equivalent to NEMA type 4X (housing) and type 6P (probe)

Process connections

Thread	
Cable Ø2 mm / 0.08 in	AKS 4100: G1 inch pipe thread. Aluminium gasket included AKS 4100U: ¾ inch NPT
Coaxial	AKS 4100: G1 inch pipe thread. Aluminium gasket included AKS 4100U: ¾ inch NPT

Electrical connections

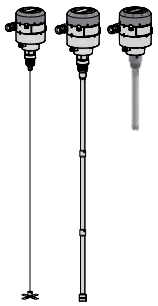
Power supply	Terminals output: 14 – 30 V DC. Min. / Max. Value for an output of 22 mA at the terminal Ambient temperature limitations: -40 – 80 °C / -40 – 176 °F: 16 – 30 V DC -20 – 80 °C / -4 – 176 °F: 14 – 30 V DC
Current output load	RL [Ω] ≤ ((Uext -14 V) / 20 mA) – Default (Error output set to 3.6 mA) RL [Ω] ≤ ((Uext -14 V) / 22 mA) – (Error output set to 22 mA)
Cable gland	AKS 4100: PG 13, M20×1.5; (cable diameter: 6 – 8 mm / 0.24 – 0.31 in AKS 4100U: ½ inch NPT
Cable entry capacity (terminal)	0.5 – 1.5 mm^2 (~20 – 15 AWG)

Input and output

Current output	
Output signal	4…20 mA or 3.8…20.5 mA acc. to NAMUR NE 43
Resolution	±3 µA
Temperature drift	Typically 75 ppm / K
Error signal	High: 22 mA; Low: 3.6 mA acc. to NAMUR NE 43; Hold (frozen value - not available with NAMUR NE 43 compliant output)

Technical data Ordering

When ordering without HMI please note:
Each AKS 4100 / AKS 4100 must always be programmed via the HMI display unit.



The HMI display unit can be ordered separately:

- **084H4540 / 084H4590**
  AKS 4100 / AKS 4100U HMI display unit with rear cover and mounting bracket for easy programming.
  The same AKS 4100 / AKS 4100U HMI display unit can be used to programme more AKS 4100 / AKS 4100U.
- **084H4548 / 084H4598**
  AKS 4100 / AKS 4100U HMI display unit (usually spare part).

AKS 4100 / AKS 4100U - Cable version

Technical data

Type	Description	Languages	HMI with / without	Code no.
AKS 4100	with 5 m (197 in) ø2 mm (ø0.08 in) stainless cable and counterweight	English (default), German, French, Spanish	with	084H4501
AKS 4100	with 5 m (197 in) ø2 mm (ø0.08 in) stainless cable and counterweight	English (default), Japanese, Chinese, Russian	with	084H4550
AKS 4100	with 5 m (197 in) ø2 mm (ø0.08 in) stainless cable and counterweight	–	without	084H4500
AKS 4100U	with 5 m (197 in) ø2 mm (ø0.08 in) stainless cable and counterweight	English (default), German, French, Spanish	with	084H4521
AKS 4100U	with 5 m (197 in) ø2 mm (ø0.08 in) stainless cable and counterweight	English (default), Japanese, Chinese, Russian	with	084H4571
AKS 4100U	with 5 m (197 in) ø2 mm (ø0.08 in) stainless cable and counterweight	–	without	084H4520

AKS 4100 / AKS 4100U - Coaxial version

Technical data

Type	Description	Languages	Probe length		HMI	Code no.
			[mm]	[in]	with / without	
AKS 4100	Coaxial D22 [1])	English (default), German, French, Spanish	280	–	with	084H4517
AKS 4100	Coaxial D22 [1])	English (default), Japanese, Chinese, Russian	280	–	with	084H4567
AKS 4100	Coaxial D22 [1])	–	280	–	without	084H4518
AKS 4100	Coaxial D14	English (default), German, French, Spanish	500	–	with	084H4510
AKS 4100	Coaxial D14	English (default), Japanese, Chinese, Russian	500	–	with	084H4560
AKS 4100	Coaxial D14	–	500	–	without	084H4503
AKS 4100	Coaxial D14	English (default), German, French, Spanish	800	–	with	084H4511
AKS 4100	Coaxial D14	English (default), Japanese, Chinese, Russian	800	–	with	084H4561
AKS 4100	Coaxial D14	–	800	–	without	084H4504
AKS 4100	Coaxial D14	English (default), German, French, Spanish	1000	–	with	084H4512
AKS 4100	Coaxial D14	English (default), Japanese, Chinese, Russian	1000	–	with	084H4562
AKS 4100	Coaxial D14	–	1000	–	without	084H4505
AKS 4100	Coaxial D14	English (default), German, French, Spanish	1200	–	with	084H4513
AKS 4100	Coaxial D14	English (default), Japanese, Chinese, Russian	1200	–	with	084H4563
AKS 4100	Coaxial D14	–	1200	–	without	084H4506
AKS 4100	Coaxial D14	English (default), German, French, Spanish	1500	–	with	084H4514
AKS 4100	Coaxial D14	English (default), Japanese, Chinese, Russian	1500	–	with	084H4564
AKS 4100	Coaxial D14	–	1500	–	without	084H4507
AKS 4100	Coaxial D14	English (default), German, French, Spanish	1700	–	with	084H4515
AKS 4100	Coaxial D14	English (default), Japanese, Chinese, Russian	1700	–	with	084H4565
AKS 4100	Coaxial D14	–	1700	–	without	084H4508
AKS 4100	Coaxial D14	English (default), German, French, Spanish	2200	–	with	084H4516
AKS 4100	Coaxial D14	English (default), Japanese, Chinese, Russian	2200	–	with	084H4566
AKS 4100	Coaxial D14	–	2200	–	without	084H4509
AKS 4100U	Coaxial D22 [1])	English (default), German, French, Spanish	-	11	with	084H4536
AKS 4100U	Coaxial D22 [1])	English (default), Japanese, Chinese, Russian	-	11	with	084H4586
AKS 4100U	Coaxial D22 [1])	–	-	11	without	084H4537
AKS 4100U	Coaxial D14	English (default), German, French, Spanish	–	19.2	with	084H4530
AKS 4100U	Coaxial D14	English (default), Japanese, Chinese, Russian	–	19.2	with	084H4580
AKS 4100U	Coaxial D14	–	–	19.2	without	084H4524
AKS 4100U	Coaxial D14	English (default), German, French, Spanish	–	30	with	084H4531
AKS 4100U	Coaxial D14	English (default), Japanese, Chinese, Russian	–	30	with	084H4581
AKS 4100U	Coaxial D14	–	–	30	without	084H4525
AKS 4100U	Coaxial D14	English (default), German, French, Spanish	–	45	with	084H4532
AKS 4100U	Coaxial D14	English (default), Japanese, Chinese, Russian	–	45	with	084H4582
AKS 4100U	Coaxial D14	–	–	45	without	084H4526
AKS 4100U	Coaxial D14	English (default), German, French, Spanish	–	55	with	084H4533
AKS 4100U	Coaxial D14	English (default), Japanese, Chinese, Russian	–	55	with	084H4583
AKS 4100U	Coaxial D14	–	–	55	without	084H4527
AKS 4100U	Coaxial D14	English (default), German, French, Spanish	–	65	with	084H4534
AKS 4100U	Coaxial D14	English (default), Japanese, Chinese, Russian	–	65	with	084H4584
AKS 4100U	Coaxial D14	–	–	65	without	084H4528
AKS 4100U	Coaxial D14	English (default), German, French, Spanish	–	85	with	084H4535
AKS 4100U	Coaxial D14	English (default), Japanese, Chinese, Russian	–	85	with	084H4585
AKS 4100U	Coaxial D14	–	–	85	without	084H4529

[1]) AKS 4100 Coaxial 280mm and AKS 4100U Coaxial 11 in. are only released for R717/NH_3

Technical data Ordering

AKS 4100 / AKS 4100U - HMI

Accessories

Type	Description	Languages	Code no.
AKS 4100 / AKS 4100U HMI	Service / Display unit with rear cover and mounting bracket	English (default), German, French, Spanish	084H4540
AKS 4100 / AKS 4100U HMI	Service / Display unit with rear cover and mounting bracket	English (default), Japanese, Chinese, Russian	084H4590
AKS 4100 / AKS 4100U HMI	Display	English (default), German, French, Spanish	084H4548
AKS 4100 / AKS 4100U HMI	Display	English (default), Japanese, Chinese, Russian	084H4598
AKS 4100 / AKS 4100U	Signal Converter without HMI, excluding cable gland	–	084H4541

For spare parts (service kits and gaskets) please see the spare parts documentation.

Quick Selection Notes:

AKS and DST P100, Pressure transmitters

AKS and DST P100 pressure transmitters are used for commercial air-conditioning and for commercial and industrial refrigeration applications.
They are made in stainless steel to be compatible with fluorinated and natural refrigerants and laser welding with no soft seals ensure hermetic tightness for decades.

AKS and DST P100 pressure transmitters utilize temperature calibrations methods and sensing technologies optimized for the refrigeration and
air-conditioning segments.

Features
AKS and DST P100

Compact AKS 32R; AKS 3000 and DST P100 with solder or female flare pressure ports

Dedicated temperature calibration to increase accuracy when used for suction or discharge pressure regulation



Parts in touch with refrigerants are all laserwelded, free of soft gaskets

Facts

- Designed for precise and energy optimized control
- Robust design optimized for
  - air-conditioning
  - refrigeration plant
  - supermarket installation
  - natural refrigerants like CO_2 and R717
- Pressure ranges up to 159 bar
- High test pressure, ≥ 33 bar
- Available with 4 – 20 mA, 1 – 5 V DC or 10 – 90% Vs ratiometric signals
- Available with a variety of pressure connection, incl. 1/4 inch female flare with valve depressor and 3/8 inch solder connection, ensuring a 100% hermetic installation

Technical data and ordering

AKS 32R and AKS 2050 - With 10 – 90% ratiometric output signal

Ordering

4.75 – 8 V DC supply voltage, accuracy 0.3% FS (typical), pressure reference gauge (relative)

Type	Pressure rang [bar]	Max. overload pressure [bar]	Electrical connection	Pressure connection	Code no.
AKS 32R	-1 – 12	33	EN 175301-803-A without plug	7/16 – 20 UNF flare 1/4 in	060G1036
	-1 – 12	33	EN 175301-803-A with Pg 9 plug	7/16 – 20 UNF flare 1/4 in	060G6339
	-1 – 34	55	EN 175301-803-A without plug	7/16 – 20 UNF flare 1/4 in	060G0090
	-1 – 34	55	EN 175301-803-A with Pg 9 plug	7/16 – 20 UNF flare 1/4 in	060G6340
	-1 – 12	33	EN 175301-803-A without plug	7/16 – 20 UNF 1/4 in female flare	060G6323 [3]
	-1 – 12	33	EN 175301-803-A with Pg 9 plug	7/16 – 20 UNF 1/4 in female flare	060G5961 [3]
	0 – 32	55	EN 175301-803-A with Pg 9 plug	7/16 – 20 UNF 1/4 in female flare	060G5962 [3]
	-1 – 34	55	EN 175301-803-A without plug	7/16 – 20 UNF 1/4 in female flare	060G6341 [3]
	-1 – 12	33	EN 175301-803-A without plug	Solder, ODF, 3/8 in	060G3551
	-1 – 34	55	EN 175301-803-A without plug	Solder, ODF, 3/8 in	060G3552
	0 – 16	33	EN 175301-803-A with Pg 9 plug	Solder, ODF, 3/8 in	060G6156 [1]
	0 – 50	55	EN 175301-803-A with Pg 9 plug	Solder, ODF, 3/8 in	060G6157 [1]
	-1 – 12	33	EN 175301-803-A without plug	Thread ISO 228/1 – G 3/8 A (BSP)	060G1038
AKS 2050	-1 – 59	100	EN 175301-803-A without plug	Thread ISO 228/1 – G 3/8 A (BSP)	060G5750 [2]
	-1 – 99	150	EN 175301-803-A without plug	Thread ISO 228/1 – G 3/8 A (BSP)	060G5751 [2]
	-1 – 159	250	EN 175301-803-A without plug	Thread ISO 228/1 – G 3/8 A (BSP)	060G5752 [2]

[1]) Pressure reference Aboslute
[2]) With pulse-snubber
[3]) With deflator

AKS 32 and AKS 2050

Accessory

Type	Electrical connection	Comments	Code no.
Cable with plug	Plug 3 + E (female)	5 m cable	060G1034
Plug	EN 175301-803-A	Pg 9	060G0008

AKS 32 with 1 – 5 V output signal

Ordering

9 – 30 V DC supply voltage, accuracy 0.3% FS (typical), pressure reference gauge (relative)

Type	Pressure range [bar]	Max. overload pressure [bar]	Electrical connection	Pressure connection	Code no.
AKS 32	-1 – 12	33	EN175301-803-A Pg9 plug	7/16 – 20 UNF flare 1/4 in	060G2069
	-1 – 34	40	EN175301-803-A Pg9 plug	7/16 – 20 UNF flare 1/4 in	060G2071

AKS 33 with 4 – 20 mA output signal

Ordering

10 – 30 V DC supply voltage, accuracy 0.3% FS (typical), pressure reference gauge (relative)

Type	Pressure range [bar]	Max. overload pressure [bar]	Electrical connection	Pressure connection	Code no.
AKS 33	-1 – 6	33	EN175301-803-A Pg9 plug	7/16 – 20 UNF flare 1/4 in	060G2048
	-1 – 12	33	EN175301-803-A Pg9 plug	7/16 – 20 UNF flare 1/4 in	060G2049
	0 – 25	33	EN175301-803-A Pg 9 plug	7/16 – 20 UNF flare 1/4 in	060G2045
	-1 – 34	55	EN175301-803-A Pg 9 plug	7/16 – 20 UNF flare 1/4 in	060G2051
	-1 – 6	33	EN175301-803-A Pg 9 plug	G 3/8 EN 837	060G2104
	-1 – 12	33	EN175301-803-A Pg 9 plug	G 3/8 EN 837	060G2105
	-1 – 34	55	EN175301-803-A Pg 9 plug	G 3/8 EN 837	060G2107

AKS 3000 with 4 – 20 mA output signal

Ordering

10 – 30 V DC supply voltage, accuracy 1% FS (typical), pressure reference gauge (relative)

Type	Pressure range [bar]	Max. overload pressure [bar]	Electrical connection	Pressure connection	Code no.
AKS 3000	-1 – 12	33	EN175301-803-A Pg9 plug	7/16 – 20 UNF flare 1/4 in	060G1323
	0 – 30	55	EN175301-803-A Pg9 plug	7/16 – 20 UNF flare 1/4 in	060G1327
	-1 – 12	33	EN175301-803-A Pg 9 plug	G 1/2 EN 837	060G1896
	0 – 25	40	EN175301-803-A Pg 9 plug	G 3/8 EN 837	060G1041
	0 – 40	100	EN175301-803-A Pg 9 plug	G 3/8 EN 837	060G1066
	-1 – 12	33	EN175301-803-A Pg 9 plug	7/16 – 20 UNF 1/4 in female flare	060G5846
	-1 – 6	33	EN175301-803-A Pg 9 plug	7/16 – 20 UNF 1/4 in female flare	060G3899
	0 – 30	55	EN175301-803-A Pg 9 plug	7/16 – 20 UNF 1/4 in female flare	060G3958

Technical data Ordering

DST P100 Pressure Transmitter for cooling applications

Ordering

DST P100 with 10 – 90% ratiometric output signal
5V±10% supply voltage, accuracy ± 1% FS (within specified temperature range)

Type	Operating range [bar sg]	Units	Colour code electrical connector	Focus temperature range (1% TEB) [°C]	Pressure port [flare]	Code no.
DST P100	0 – 150	psia	Green	-20 – 40	$^{7}/_{16}$ UNF, female [1)]	075G17014
	0 – 200	psia	Green	-20 – 40		075G17016
	0 – 400	psi sg	Black	0 – 80		075G17019
	0 – 500	psi sg	Black	0 – 80		075G17021
	-1 – 12	bar sg	Green	-20 – 40		075G17013
	-1 – 34	bar sg	Black	0 – 80		075G17018
	0 – 10	bar sg	Green	0 – 80		075G17012
	0 – 20	bar sg	Green	-20 – 40		075G17015
	0 – 30	bar sg	Black	0 – 80		075G17017
	0 – 50	bar sg	Black	0 – 80		075G17020

[1)] ¼ in. flare with a deflator pin

Electrical connector colour coding:
Black: High pressure profile
Green: Low pressure profile

Quick Selection Notes:

EKS / AKS, Temperature sensors

AKS temperature sensors are used for exacting applications within air-conditioning as well as commercial and industrial refrigeration applications.
The Pt 1000 sensor element meets the DIN/EN 60751 class B requirements and ensures an accurate and reliable temperature signal applicable for regulation, safety and data logging.

EKS temperature sensors are a family of cost efficient temperature sensors based on thermistors with NTC or PTC characteristics which are used with Danfoss EKC controllers.

Features
EKS / AKS



EN441 certified AK-HS 1000 HACCP sensors

AKS21 sensor system for controlling extreme high and low temperatures

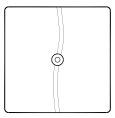
AKS 11 temperature sensor for reliable super heat control to optimize accuracy and process efficiency

Facts

- AKS 11 is designed for easy installation and optimized for demanding control functions like liquid injection control in evaporators where a reliable sensor is a must
- AKS 12 is the all-round cable temperature sensor to be used for plain temperature monitoring and control purposes
- AKS 21 is the ultimate sensor for -70 – 180 °C anywhere in the refrigeration plant and is available in various designs (cable and B-head) and with various accessories like sensor pockets
- AK-HS 1000 is the first choice for a temperature sensor for monitoring and HACCP data logging. The sensor design makes it simulate a refrigerated product what enable a realistic temperature signal is transmitted to a HACCP data logger
- EKS comes with PTC 1000 Ω (EKS 111), NTC 5000 Ω (EKS 211), or NTC 1000 Ω (EKS 221) with various cable lengths

Technical data and ordering

AK-HS - Temperature sensors for monitoring and data logging in HACCP systems



Ordering

Type	Signal	Temperature range [°C]	Measuring accuracy	Enclosure	Cable length [m]	Code no.
AK-HS 1000	Pt 1000	-30 – 50	EN 60751 Class B	IP 54	5.5	084N1007

EKS - Temperature sensors for measuring air temperatures



PTC characteristics matches controllers types EKC 101, EKC 201, EKC 301, CC and AK.
NTC characteristics matches controllers, types EKC and CC.

Type	Signal	Temperature range [°C]	Sensor tube	Electrical connection	Cable length [m]	Code no.
EKS 111	PTC 1000	-55 – 100	Round	Cable with pins	1.5	084N1178
	PTC 1000	-55 – 100	Round	Cable with pins	3.5	084N1179
	PTC 1000	-55 – 100	Round	Cable with AMP-plug	1.5	084N1181
	PTC 1000	-55 – 100	Round	Cable with AMP-plug	3.5	084N1182
EKS 211	NTC 5000	-40 – 80	Round	Cable	1.5	084N1220
	NTC 5000	-40 – 80	Round	Cable	3.5	084N1221

May not be used for food safety logs and regulation of superheat

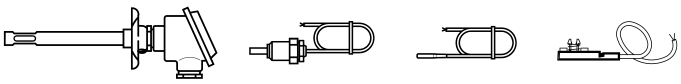
EKS - Temperature sensors for measuring temperatures

The sensor characteristics matches to OPTYMA room controllers and MCX unit controllers.

Type	Signal	Temperature range [°C]	Sensor tube	Electrical connection	Cable length [m]	Code no.
EKS 221	NTC 10000	-50 – 120	Round	Cable	3.5	084N3210
	NTC 10000	-50 – 120	Round	Cable	8.5	084N3209

Sensor house in thermo plastic rubber

AKS - Temperature sensors for measuring temperature



Recommended for accurate temperature measurement in superheating, food safety logs and other important applications

Type	Signal	Measure range [°C]	Sensor tube	Electrical connection	Cable length [m]	Code no.
AKS 12	Pt 1000	-40 – 80	Round	Cable	1.5	084N0036
	Pt 1000	-40 – 80	Round	AMP plug	5.5	084N0045
AKS 11	Pt 1000	-50 – 100	Concave	Cable	3.5	084N0003
	Pt 1000	-50 – 100	Concave	Cable	5.5	084N0005
	Pt 1000	-50 – 100	Concave	Cable	8.5	084N0008
AKS 21A	Pt 1000	-70 – 180	Round	Cable	3.5	084N2007
	Pt 1000	-70 – 180	Round	Cable with AMP-plug	3.5	084N2008
	Pt 1000	-70 – 180	Round	Cable	2.0	084N2024
AKS 21M	Pt 1000	-70 – 180	Round	Cable	2.5	084N2003
AKS 21W	Pt 1000	-70 – 180	Sensor pipe	Cable	2.5	084N2017
AKS 21D	Pt 1000	-40 – 80	Channel bulb	Terminal socket Type B	–	084N2035

NSK, Pressure sensor

Saginomiya type NSK pressure sensors are compact, light weight, high reliability double diaphragm sensors in which pressure is conducted to the silicon chip through high purity silicone oil that is in turn sealed in place by the stainless steel diaphragm.

This structure allows NSK sensors to be used in a wide variety of fluids.
The diffusion silicon chip contains a bridge circuit and a unique temperature- compensated

Features
NSK



Facts

Application:
- Sensing pressure in room and packaged air-conditioning systems
- Chillers
- Boiler water and vapour
- Air, water, and oil pumping and circulation systems

- UL and cUL recognized, UL File No. E43867
- CE approval: EMC
- Ratiometric: 0.5 – 4.5 V DC
- Pressure range: 0 – 150 bar / 0 – 725 psi (gauge pressure)

Technical data and ordering

Packard connector

Ordering

Standard models with 1/4 inch Female Flare connections with schrader depressor

Type	Pressure rang [bar]	Max. working pressure [bar]	Total accuracy [%FS]	Output voltage [VDC]	Body color	Catalog no.	Code no.
NSK	–	–	± 2.5 [1])	0.5 – 4.5	Green	NSK-BE010I-U106	061H5132
	–	–	± 2.5 [1])	0.5 – 4.5	Green	NSK-BE014I-U106	061H5133
	–	–	± 2.5 [1])	0.5 – 4.5	Green	NSK-BE021I-U106	061H5134
	–	–	± 2.0 [1])	0.5 – 4.5	Black	NSK-BE034I-U106	061H5135
	–	–	± 2.5 [1])	0.5 – 4.5	Black	NSK-BE050I-U106	061H5136

[1]) at -4 – 248 °F / -20 – 120 °C
Note: For other pressure connections, please contact Danfoss

Packard connector

Ordering

Standard models with 1/4 inch Female Flare connections with schrader depressor

Type	Pressure rang [bar]	Max. working pressure [bar]	Total accuracy [%FS]	Output voltage [VDC]	Body color	Catalog no.	Code no.
NSK	–	–	± 2.5 [1])	0.5 – 4.5	Brown	NSK-BC010I-U002	061H5115
	–	–	± 2.5 [1])	0.5 – 4.5	Brown	NSK-BC014I-U002	061H5116
	–	–	± 2.5 [1])	0.5 – 4.5	Brown	NSK-BC021I-U002	061H5117
	–	–	± 2.0 [1])	0.5 – 4.5	Black	NSK-BC034I-U002	061H5118
	–	–	± 2.5 [1])	0.5 – 4.5	Black	NSK-BC050I-U002	061H5119

[1]) at -4 – 248 °F / -20 – 120 °C
Note: For other pressure connections, please contact Danfoss

Danfoss Light commercial compressors - Direct current - BD series

BD range is the leading and widest AC / DC compressor range tailored for cooling on the move.
The excellent performance of the BD series safeguards food, medical and telecommunication.

Some models are available with variable speed technology for higher energy efficiency and accurate cooling and a longer lifetime of the batteries.





Facts

Applications:
- 12 / 24 V DC mobile refrigerators and freezers
- 12 V DC LBP / MBP van cooling boxes
- 12 / 24 V DC HBP mobile spot cooling systems
- 48 V DC HBP telecommunication applications

- Operation under extreme conditions
- Minimal energy consumption
- Portable beyond traditional limits

- Safety against destructive battery discharge, electronic thermostat and fan speed control
- Low sound emission
- Application possible at extreme voltage rate

Technical data and ordering

Compressors R134a R404A/R507 * R600a ** R290 ***	Electronic units (voltages and code numbers)													Code numbers
	Standard 12 – 24 V DC 101N0212	High Speed 12 – 24 V DC 101N0390	AEO 12 – 24 V DC 101N0340	AEO High Start 12 – 24 V DC 101N0330	Solar 10 – 45 V DC 101N0420	Solar 20 – 45 V DC 101N0410	AC/DC converter 12 – 24 V DC & 100 – 240 V AC 101N0510	Automotive 12 – 24 V DC 101N0650	101N8xxx 12 V DC 101N0820+0800 (alt.: 101N0830)	101N8xxx 24 V DC 101N0820+0810	101N07xx 24 V DC 101N0715	Telecom 48 V DC 101N0720	Telecom 48 V DC 101N0732	
BD35F	x	–	x	–	x	x	x	x	–	–	–	–	–	101Z0200
BD35F (inch con.)	x	–	x	–	x	x	x	x	–	–	–	–	–	101Z0204
BD35F-B	x	–	x	–	–	–	x	x	–	–	–	–	–	101Z0205
BD35F-HD.2	x	–	x	–	–	–	–	x	–	–	–	–	–	101Z0216
BD50F	x	–	x	x	–	–	x	x	–	–	–	–	–	101Z1220
BD50F (inch con.)	x	–	x	x	–	–	x	–	–	–	–	–	–	101Z0203
BD80F	–	x	–	–	–	–	–	–	–	–	–	–	–	101Z0280
BD250GH.2	–	x	–	–	–	–	–	–	–	–	–	–	–	101Z0406
BD250GH.2 (48V)	–	–	–	–	–	–	–	–	–	–	–	–	x	101Z0405
BD350GH (12V)	–	–	–	–	–	–	–	–	x+x	–	–	–	–	102Z3015
BD350GH (24V)	–	–	–	–	–	–	–	–	–	x+x	x	–	–	102Z3016
BD350GH (48V)	–	–	–	–	–	–	–	–	–	–	–	x	–	102Z3031
BD350GH Twin (12V)	–	–	–	–	–	–	–	–	x+x x	–	–	–	–	102Z3018
BD350GH Twin (24V)	–	–	–	–	–	–	–	–	–	x+x	x x	–	–	102Z3017
BD220CL *	–	–	–	–	–	–	–	–	x+x	–	–	–	–	102Z3020
BD35K **	x	–	–	–	x	x	–	–	–	–	–	–	–	101Z0211
BD80CN ***	–	–	–	x	–	–	–	–	–	–	–	–	–	101Z0403
BD100CN ***	–	x	–	–	–	–	–	–	–	–	–	–	–	101Z0401
TOOL4COOL® applicable	–	–	–	–	–	–	–	–	x	–	x	x	x	–

Compressors R134a	Electronic units (voltages and code numbers)					Code numbers
	Variable Speed (VSD) 12 – 24 V DC 101N2100	Fixed Speed (FSD) 12 – 24 V DC 101N2600	VSD w. AC/DC converter 12 – 24 V DC & 100 – 240 V AC 101N5100	FSD w. AC/DC converter 12 – 24 V DC & 100 – 240 V AC 101N5200	Automotive 12 V DC 101N1010	
BD1.4F-AUTO.3	–	–	–	–	x	109Z0104
BD1.4F-VSD.2	x	–	x	–	–	109Z0204
BD1.4F-VSD-HD	x	–	–	–	–	109Z0250
BD1.4F-VSD.2 (inch connectors)	x	–	x	–	–	109Z0206
BD1.4F-VSD-HD (inch connectors)	x	–	–	–	–	109Z0251
TOOL4COOL® applicable	x	x	x	x	x	–

Applications	Compressors													
	BD1.4F-AUTO.3	BD1.4F-VSD.2	BD1.4F-VSD-HD	BD35F	BD35F-B	BD35F-HD.2	BD35K	BD50F	BD80F	BD80CN	BD100CN	BD150F	BD250GH.2	BD350GH	BD220CL
Truck refrigerators	–	x	x	x	–	x	–	x	–	–	–	–	–	–	–
Boat refrigerators	–	x	–	x	–	–	–	x	x	–	–	–	–	–	–
Bus refrigerators	–	x	–	x	x	–	–	–	–	–	–	–	–	–	–
Portable boxes	–	x	–	x	–	–	–	x	x	–	–	–	–	–	–
Car minbars (high end)	x	x	–	x	–	–	–	–	–	–	–	–	–	–	–
Car minibars (SUV, MPV)	–	x	–	x	–	–	–	–	–	–	–	–	–	–	–
Spot cooling (e.g. trucks)	–	–	–	–	–	–	–	–	–	–	–	–	x	x	–
Van boxes	–	–	–	–	–	–	–	x	x	–	–	x	x	x	x
Battery cooling	–	–	–	–	–	–	–	–	–	–	–	–	x	x	–
Solar cabinets	–	–	–	x	–	–	x	x	–	x	x	–	–	–	–

Technical data and ordering

Compressors R134a R404A/R507 * R600a **, R290 ***	Capacity [W] at max. speed **** EN12900 Household/CECOMAF | ASHRAE Evaporating temperature [°C]													
	-40	-35	-30	-25	-23.3	-20	-15	-10	-5	0	5	7.2	10	15
BD35F /-B /-HD.2	–	–	27 | 34	36 | 45	40 | 51	50 | 63	70 | 87	94 | 117	122 | 153	–	–	–	–	–
BD50F	–	–	37 | 45	52 | 64	58 | 72	71 | 88	95 | 117	123 | 152	157 | 194	–	–	–	–	–
BD80F	–	–	55 | 68	78 | 96	87 | 107	105 | 130	138 | 170	176 | 218	221 | 274	–	–	–	–	–
BD250GH.2	–	–	–	61 | 76	69 | 86	87 | 108	119 | 148	156 | 194	200 | 248	251 | 311	308 | 383	336 | 418	373 | 464	446 | 556
BD250GH.2 (48V)	–	–	–	64 | 80	73 | 91	91 | 113	124 | 153	162 | 201	208 | 257	261 | 323	322 | 400	352 | 437	392 | 488	472 | 589
BD350GH (12V)	–	–	–	126 | 156	139 | 173	169 | 209	220 | 273	282 | 349	355 | 440	440 | 546	540 | 670	588 | 731	654 | 814	786 | 979
BD350GH (24V)	–	–	–	126 | 156	139 | 173	169 | 209	220 | 273	282 | 349	355 | 440	440 | 546	540 | 670	588 | 731	654 | 814	786 | 979
BD350GH (48V)	–	–	–	121 | 150	135 | 167	164 | 203	216 | 267	277 | 343	350 | 434	436 | 540	535 | 664	584 | 725	650 | 808	781 | 973
BD220CL *	83 | 96	121 | 140	166 | 193	220 | 255	240 | 279	283 | 328	355 | 413	439 | 511	535 | 624	–	–	–	–	–
BD35K **	–	–	25 | 30	36 | 44	41 | 49	49 | 60	65 | 79	84 | 102	106 | 129	–	–	–	–	–
BD80CN ***	31 | 35	45 | 51	62| 69	82 | 91	90 | 100	105 | 118	133 | 148	164 | 184	–	–	–	–	–	–
BD100CN ***	45 | 50	62 | 70	83 | 93	108 | 121	117 | 131	137 | 153	170 | 190	209 | 233	–	–	–	–	–	–
BD1.4F-VSD.2/-HD	–	–	12 | 15	23 | 29	27 | 34	36 | 45	52 | 65	71 | 88	92 | 114	116 | 144	144 | 179	158 | 197	178 | 222	218 | 272
BD1.4F-AUTO.3	–	–	–	14 | 18	18 | 22	24 | 31	36 | 45	50 | 62	66 | 83	86 | 106	108 | 134	–	–	–

Compressors R134a R404A/R507 * R600a **, R290 ***	Power consumption [W] at max. speed **** Evaporating temperature [°C]														Code numbers
	-40	-35	-30	-25	-23.3	-20	-15	-10	-5	0	5	7.2	10	15	
BD35F /-B /-HD.2	–	–	35	41	44	49	57	66	75	–	–	–	–	–	101Z0200 /0204 /0205 /0206
BD50F	–	–	47	59	63	71	83	95	108	–	–	–	–	–	101Z1220 /0203
BD80F	–	–	69	87	93.0	105	123	144	168	–	–	–	–	–	101Z0280
BD250GH.2	–	–	–	68	72	82	95	108	122	138	156	165	177	202	101Z0406
BD250GH.2 (48V)	–	–	–	72	77	85	99	113	128	143	160	167	177	196	101Z0405
BD350GH (12V)	–	–	–	140	149	168	197	228	259	292	325	340	358	391	102Z3015
BD350GH (24V)	–	–	–	122	129	144	169	194	221	248	276	288	303	330	102Z3016
BD350GH (48V)	–	–	–	131	139	155	181	208	236	265	294	307	323	352	102Z3031
BD220CL *	121	147	173	200	209	227	255	284	314	–	–	–	–	–	102Z3020
BD35K **	–	–	35	43	45	50	56	63	70	–	–	–	–	–	101Z0211
BD80CN ***	47	55	63	72	75	81	89	97	–	–	–	–	–	–	101Z0403
BD100CN ***	57	69	81	93	96	104	115	125	–	–	–	–	–	–	101Z0401
BD1.4F-VSD.2/-HD	–	–	27	34	36	41	48	55	61	68	76	79	83	90	109Z0200 /0202 /0250 /0251
BD1.4F-AUTO.3	–	–	–	26	28	30	35	40	45	50	56	–	–	–	109Z0102

Quick Selection Notes:

Danfoss Light commercial compressors - PL / TL / DL / NL / FR / SC and GS series

Specially optimised for use in household and light commercial applications, hermetic reciprocating compressors provide high cooling capacity in an energy saving design.

Compressor models are available for R134a, R290, R404A / R507A and R600a as well as R452A and R513A, for cooling needs from 20 W to 6 kW.



Features
Reciprocating compressors



- Compact construction
- Durable housing
- Optimised motor technology
- Wide voltage range
- Low GWP refrigerant possible
- Variable speed models available

Facts

Applications:
- Laboratory and medical equipment
- Compressed air dryers
- Glass door merchandisers
- Display cabinets
- Fridges and freezers
- Ice cream cabinets
- Vending machines
- Drink dispensers
- Ice making machines
- Bottle coolers
- Heat pumps
- Milk cooling tanks
- Wine cellars

- Easy installation
- Low noise and high energy efficiency
- Robust in tough operating conditions
- Immune to unstable power supply
- Environmentally friendly solutions

Danfoss Light commercial compressors - Variable speed DLV / NLV and SLV series

Cut a slice out of your energy bill with variable speed techology in supermarket and convenience store cabinets with DLV, NLV and SLV compressors.
DLV, NLV and SLV inverter compressors with intelligent controller are the natural choice when you need a versatile package for a wide range of light commercial LBP and MBP applications like freezers and cabinets.
Variable speed compressors are available for R404A / R507 and the environmentally friendly refrigerant, R290.



Features
Inverter reciprocating compressors



Tight temperature control

Built-in data logging and failure detection

High temperature stability

Compressor, speed control, cabinet control functions, display and monitoring, all in one integrated solution

Low average motor speed and wide voltage range

Facts

Applications:
- Freezers
- Display cabinets

- Advanced efficiency reduces energy consumption dramatically
- Reduces food loss and increases food quality
- Environmentally friendly
- Enables shop owners to comply with the HACCP standard on food quality

- Simpler installation, less room for errors, easier field service
- Lower noise level

For technical data, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

Reciprocating compressors - Light Commercial

R134a - 220 – 240 V | 50 Hz

S.No.	Compressor	Application	ASHRAE Tcond = 54.4 °C, Tliq = 32.2 °C, Tsuc = 32.2 °C Capacity [W] Evaporating temp. [°C]						ASHRAE LBP rating point -23.3 °C / 54.4 °C		ASHRAE MBP rating point -6.7 °C / 54.4 °C		ASHRAE HBP rating point 7.2 °C / 54.4 °C		Displacement	Voltage and frequencies	Compressor cooling	Dimensions Height [mm]	
			-35	-15	-5	0	10	15	Cooling capacity [W]	COP [W/W]	Cooling capacity [W]	COP [W/W]	Cooling capacity [W]	COP [W/W]	[cm³]			A	B
1	PL20F	MBP	–	45	81	103	–	–	24	0.55	66	1.08	–	–	1.41	198 – 254 V, 50 Hz	S	129	127
2	PL35F	MBP	–	75	125	156	–	–	45	0.86	103	1.34	–	–	2.00	198 – 254 V, 50 Hz	S	134	132
3	PL35G	L/M/HBP	–	66	111	140	214	261	39	0.79	91	1.27	170	1.83	2.00	198 – 254 V, 50 Hz *)	F1	137	135
4	PL50F	LBP	18	92	–	–	–	–	56	0.89	–	–	–	–	2.50	198 – 254 V, 50 Hz	S	137	135
5	PL50F	MBP	–	92	149	184	–	–	56	0.92	123	1.37	–	–	2.50	198 – 254 V, 50 Hz	F1	137	135
6	PLE50F	L/MBP	–	95	152	187	–	–	59	1.08	126	1.58	–	–	2.50	198 – 254 V, 50 Hz	S	140	138
7	TFS4.5FT	LBP	56	193	309		–	–	123	1.12	256	1.65	–	–	4.63	176 – 242 V, 50 Hz	S	173	169
8	TL2.5F	L/MBP	–	81	136	170	–	–	46	0.80	112	1.31	–	–	2.61	198 – 254 V, 50 Hz	S	163	159
9	TL2.5G	L/M/HBP	14	86	144	181	273	331	51	0.82	119	1.32	218	1.86	2.61	187 – 254 V, 50 Hz *)	S	163	159
10	TL3F	L/MBP	–	101	171	214			59	0.85	141	1.32	–	–	3.13	198 – 254 V, 50 Hz	S	163	159
11	TL3G	L/M/HBP	–	100	169	212	322	390	58	0.85	139	1.34	257	1.86	3.13	187 – 254 V, 50 Hz *)	S	163	159
12	TLES3F	L/MBP	–	115	192	240	–	–	70	1.07	158	1.57	–	–	3.13	198 – 254 V, 50 Hz	S	173	169
13	TLS3FT	LBP	26	115	–	–	–	–	69	1.07	–	–	–	–	3.13	187 – 254 V, 50 Hz	S	173	169
14	TL4F	LBP	38	133	–	–	–	–	84	0.98	–	–	–	–	3.86	198 – 254 V, 50 Hz	S	163	159
15	TL4G	L/M/HBP	–	133	223	280	425	515	81	0.94	184	1.46	340	2.15	3.86	187 – 254 V, 50 Hz *)	S	173	169
16	TL4GH	HBP	–	130	226	286	440	535	–	–	185	1.44	350	2.14	3.86	198 – 254 V, 50 Hz *)	F2	173	169
17	TLES4F	LBP	41	154	–	–	–	–	97	1.16	–	–	–	–	3.86	198 – 254 V, 50 Hz	S	173	169
18	TLS4FT	LBP	34	145	–	–	–	–	88	0.97	–	–	–	–	3.86	187 – 254 V, 50 Hz	S	173	169
19	TL5F	LBP	53	178	–	–	–	–	113	1.06	–	–	–	–	5.08	198 – 254 V, 50 Hz	S	173	169
20	TL5G	L/M/HBP	–	173	278	345	515	619	109	1.03	230	1.43	412	1.94	5.08	187 – 254 V, 50 Hz *)	S	173	169
21	TLES5F	LBP	62	210	–	–	–	–	134	1.22	–	–	–	–	5.08	198 – 254 V, 50 Hz	S	173	169
22	TLS5F	LBP	59	210	–	–	–	–	134	1.15	–	–	–	–	5.08	198 – 254 V, 50 Hz	S	173	169
23	TLS5FT	LBP	59	210	–	–	–	–	134	1.12	–	–	–	–	5.08	187 – 254 V, 50 Hz	S	173	169
24	TLES5.7FT.3	LBP	82	248	–	–	–	–	163	1.36	–	–	–	–	5.70	187 – 254 V, 50 Hz	S	173	169
25	TLES6F	LBP	72	227	–	–	–	–	143	1.20	–	–	–	–	5.70	198 – 254 V, 50 Hz	S	173	169
26	TLS6F	LBP	72	227	–	–	–	–	143	1.14	–	–	–	–	5.70	198 – 254 V, 50 Hz	S	173	169
27	TLES6.5FT.3	LBP	89	283	–	–	–	–	183	1.33	–	–	–	–	6.49	187 – 254 V, 50 Hz *)	S	173	169
28	TLES7FT.4	LBP	89	283	–	–	–	–	183	1.33	–	–	–	–	6.49	187 – 254 V, 50 Hz *)	S	173	169
29	TLS7F	LBP	82	257	–	–	–	–	164	1.15	–	–	–	–	6.49	198 – 254 V, 50 Hz	S	173	169
30	FR6G	L/M/HBP	–	212	360	453	687	–	120	1.04	296	1.59	548	2.20	6.23	187 – 254 V, 50 Hz *)	F1	196	191
31	FR7.5G	L/M/HBP	–	240	403	506	769	–	140	1.06	331	1.57	613	2.18	6.93	187 – 254 V, 50 Hz *)	F1	196	191
32	FR7GH	HBP	–	247	407	519	817	1007	–	–	334	1.60	645	2.44	6.93	198 – 254 V, 50 Hz *)	F2	196	191
33	FR8.5G	L/M/HBP	–	283	473	594	898	–	172	1.08	389	1.56	718	2.15	7.95	187 – 254 V, 50 Hz *)	F1	196	191
34	FR10G	L/M/HBP	–	309	511	640	969	–	189	1.01	421	1.48	773	2.07	9.05	187 – 254 V, 50 Hz *)	F1	196	191
35	FR11G	L/M/HBP	–	380	621	780	–	–	236	1.10	513	1.50	–	–	11.15	187 – 254 V, 50 Hz	F1	196	191
36	NF7FX	L/MBP	97	324	522	646	–	–	205	1.12	432	1.66	766	2.35	7.27	198 – 242 V, 50 Hz	S	203	197
37	NF9FX	L/MBP	113	356	575	715	–	–	229	1.09	475	1.59	856	2.28	8.34	198 – 242 V, 50 Hz	F1	203	197
38	NF10FX	L/MBP	127	418	671	832	–	–	267	0.94	556	1.42	991	2.06	10.09	198 – 242 V, 50 Hz *)	F1	203	197
39	NF11FX	L/MBP	141	454	725	898	–	–	294	0.97	600	1.41	1070	2.02	11.15	198 – 242 V, 50 Hz	F2	203	197
40	NL6.1FT	LBP	74	245	–	–	–	–	157	1.21	–	–	–	–	6.13	187 – 254 V, 50 Hz	S	188	182
41	NL6.1FT	LBP	74	245	–	–	–	–	157	1.21	–	–	–	–	6.13	187 – 254 V, 50 Hz	S	190	184
42	NL6.1MF	MBP	–	234	388	485	732	885	–	–	320	1.61	585	2.33	6.13	187 – 254 V, 50 Hz *)	S	190	184
43	NL6F	LBP	64	247	–	–	–	–	152	1.22	–	–	–	–	6.13	198 – 254 V, 50 Hz	S	188	181
44	NL6FT	LBP	74	245	–	–	–	–	157	1.21	–	–	–	–	6.13	187 – 254 V, 50 Hz *)	S	197	191
45	NL7.3FT	LBP	88	290	–	–	–	–	186	1.22	–	–	–	–	7.27	187 – 254 V, 50 Hz	S	188	182
46	NL7.3MF	MBP	–	293	477	596	895	1081	–	–	394	1.64	716	2.32	7.27	187 – 254 V, 50 Hz *)	F1	197	191
47	NL7F	LBP	87	294	–	–	–	–	187	1.21	–	–	–	–	7.27	198 – 254 V, 50 Hz	S	190	183

Applications
LBP = Low Back Pressure
MBP = Medium Back Pressure
HBP = High Back Pressure

Motor types
RSIR = Resistant Start Induction Run
RSCR = Resistant Start Capacitor Run
CSIR = Capacitor Start Induction Run
CSR = Capacitor Start Run

Voltage and frequencies
**) Dual frequencies*

Electrical Equipment
[1]) see data sheets for details
[2]) alt. cable lenghts available
[3]) compulsory

Compressor cooling
S *= Static cooling normally sufficient*
O *= Oil cooling*
F_1 *= Fan cooling 1.5 m/s*
(compressor compartment temp. equal to ambient temperature)
F_2 *= Fan cooling 3.0 m/s necessary*
** = O / F1 possible at 220 V nominal (187 – 242 V)*

Starting devices
LST *= Low Starting Torque*
LST is used with capillary tube control and pressure equalizing. (Pressure equalizing may exceed 10 minutes). The PTC starting device requires 5 minutes cooling before each start.
HST *= HST consisting of relay and starting capacitor is used for expansion valve control or for capillary tube control without pressure equalizing.*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

S.No.	Dimensions			Electrical equipment - codes											Compressor - code no.		
				LST (RSIR & RSCR)					Run capacitor		HST (CSIR & CSR)			LST / HST				
	Connectors location			PTC starting device without RC connector		PTC starting device with RC connector		ePTC	optional or compulsory		Starting relay	Starting capacitor	Starting device	Cord relief	Cover	Compressor w/o accessories	Single pack Compressor with LST accessories	Single pack Compressor with HST accessories
	[mm]			Spades [mm]														
	Suction C	Process D	Dis-charge E	6.3	4.8	6.3	4.8	4.8	6.3	4.8	6.3	4.8	6.3					
1	6.2	6.2	5	103N0011	103N0018	–	–	–	–	–	–	–	–	103N1010	103N0491	101G0100	195B0098	–
2	6.2	6.2	5	103N0011	103N0018	–	–	–	–	–	–	–	–	103N1010	103N0491	101G0202	195B0277	–
3	6.2	6.2	5	103N0011	103N0018	–	–	–	–	–	117U6021	117U5014	–	103N1010	103N0491	101G0250	195B0248	195B0245
4	6.2	6.2	5	103N0011	103N0018	–	–	–	–	–	–	–	–	103N1010	103N0491	101G0220	195B0117	–
5	6.2	6.2	5	–	–	–	–	–	–	–	117U6021	117U5014	–	103N1010	103N0491	101G0222	–	195B0001
6	6.2	6.2	5	–	–	103N0016	103N0021	–	117-7117 [3]	117-7119 [2]	–	–	–	103N1010	103N0491	101G0221	–	–
7	6.5	6.5	5	–	–	–	–	–	–	–	–	–	–	117U0349	117U1023	102G4433	–	195B0498
8	6.2	6.2	5	103N0011	103N0018	–	–	–	–	–	–	–	–	103N1010	103N2010	102G4200	195B0004	–
9	6.2	6.2	5	103N0011	103N0018	–	–	–	–	–	117U6007	117U5014	–	103N1010	103N2011	102G4251		195B0268
10	6.2	6.2	5	103N0011	103N0018	–	–	–	–	–	117U6007	117U5014	–	103N1010	103N2010	102G4300	195B0005	195B0254
11	6.2	6.2	5	103N0011	103N0018	–	–	–	–	–	117U6009	117U5014	–	103N1010	103N2010	102G4350	195B0214	195B0006
12	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	–	117-7117	117-7119	–	–	–	103N1010	103N2010	102G4310	195B0219	–
13	6.2	6.2	5	103N0011	103N0018	–	–	–	–	–	117U6007	117U5014	–	103N1010	103N2010	102G4325	–	–
14	6.2	6.2	5	103N0011	103N0018	–	–	–	–	–	117U6009	117U5014	–	103N1010	103N2010	102G4400	–	–
15	6.2	6.2	5	103N0011	103N0018	–	–	–	–	–	117U6004	117U5014	–	103N1010	103N2010	102G4452	–	195B0008
16	6.2	6.2	5	–	–	–	–	–	–	–	117U6000	117U5014	–	103N1010	103N2011	102G4455	–	195B0122
17	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	–	117-7117	117-7119	–	–	–	103N1010	103N2010	102G4410	195B0216	–
18	6.2	6.2	5	103N0011	103N0018	–	–	–	–	–	117U6004	117U5014	–	103N1010	103N2010	102G4424	–	–
19	6.2	6.2	5	103N0011	103N0018	–	–	–	–	–	117U6004	117U5014	–	103N1010	103N2010	102G4501	195B0009	195B0241
20	6.2	6.2	5	103N0011	103N0018	–	–	–	–	–	117U6000	117U5014	–	103N1010	103N2010	102G4550	195B0222	195B0011
21	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	–	117-7117	117-7119	–	–	–	103N1010	103N2010	102G4510	195B0218	–
22	6.2	6.2	5	103N0011	103N0018	–	–	–	–	–	117U6004	117U5014	–	103N1010	103N2010	102G4520	195B0516	195B0010
23	6.2	6.2	5	103N0011	103N0018	–	–	–	–	–	117U6000	117U5014	–	103N1010	103N2010	102G4524	–	–
24	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	103N0050	117-7117	117-7119	117U6004	117U5014	–	103N1010	103N2010	102G4573	–	–
25	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	–	117-7117	117-7119	–	–	–	103N1010	103N2010	102G4610	–	–
26	6.2	6.2	5	103N0011	103N0018	–	–	–	–	–	117U6004	117U5014	–	103N1010	103N2010	102G4620	–	–
27	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	–	117-7117	117-7119	117U6016	117U5014	–	103N1010	103N2010	102G4724	–	–
28	6.5	6.5	5	103N0011	103N0018	103N0016	103N0021	–	117-7117	117-7119	117U6016	117U5014	–	103N1010	103N2010	102G4708	–	–
29	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	–	117-7117	117-7119	117U6000	117U5014	–	103N1010	103N2010	102G4720	195B0224	195B0255
30	8.2	6.2	6.2	103N0011	103N0018	–	–	–	–	–	117U6000	117U5015	–	103N1010	103N2010	103G6660	195B0191	195B0023
31	8.2	6.2	6.2	103N0011	103N0018	–	–	–	–	–	117U6001	117U5015	–	103N1010	103N2010	103G6680	195B0192	195B0024
32	8.2	6.2	8.2	–	–	–	–	–	–	–	117U6016	117U5015	–	103N1010	103N2011	103G6683	–	195B0167
33	8.2	6.2	6.2	103N0011	103N0018	–	–	–	–	–	117U6015	117U5015	–	103N1010	103N2010	103G6780	195B0193	195B0026
34	8.2	6.2	6.2	103N0011	103N0018	–	–	–	–	–	117U6010	117U5015	–	103N1010	103N2010	103G6880	195B0194	195B0027
35	8.2	6.2	6.2	103N0011	103N0018	–	–	–	–	–	117U6010	117U5015	–	103N1010	103N2010	103G6980	195B0195	195B0028
36	8.2	6.5	6.5	–	–	–	–	–	–	–	117U4140	117U5018	–	117U0349	117U1023	105G6743	–	195B0496
37	8.2	6.5	6.5	–	–	–	–	–	–	–	117U4140	117U5018	–	117U0349	117U1021	105G6841	–	–
38	8.2	6.5	6.5	–	–	–	–	–	–	–	117U4139	117U5018	–	117U0349	117U1021	105G6846	–	195B0396
39	8.2	6.5	6.5	–	–	–	–	–	–	–	117U4139	117U5018	–	117U0349	117U1023	105G6944	–	195B0492
40	6.2	6.2	5	103N0011	103N0018	–	–	–	–	–	117U6000	117U5015	–	103N1010	103N2010	105G6620	–	–
41	6.2	6.2	5	103N0011	103N0018	–	–	–	–	–	117U6000	117U5015	–	103N1010	103N2010	105G6621	–	–
42	8.2	6.2	6.2	103N0011	103N0018	–	–	–	–	–	117U6015	117U5015	–	103N1010	103N2011	105G6660	195B0415	195B0411
43	6.2	6.2	5	103N0011	103N0018	–	–	–	–	–	117U6004	117U5015	–	103N1010	103N2010	105G6606	195B0090	195B0165
44	6.2	6.2	5	103N0011	103N0018	–	–	–	–	–	117U6000	117U5015	–	103N1010	103N2010	105G6628	–	–
45	6.2	6.2	5	103N0011	103N0018	–	–	–	–	–	117U6001	117U5015	–	103N1010	103N2010	105G6726	–	–
46	8.2	6.2	6.2	103N0011	103N0018	–	–	–	–	–	117U6016	117U5015	–	103N1010	103N2011	105G6772	–	195B0370
47	6.2	6.2	5	103N0011	103N0018	–	–	–	–	–	117U6000	117U5015	–	103N1010	103N2010	105G6706	195B0091	195B0176

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

Reciprocating compressors - Light Commercial (Count.)

R134a - 220 – 240 V | 50 Hz

S.No.	Compressor	Application	ASHRAE Tcond = 54.4 °C, Tliq = 32.2 °C, Tsuc = 32.2 °C Capacity [W] Evaporating temp. [°C]						ASHRAE LBP rating point -23.3 °C / 54.4 °C		ASHRAE MBP rating point -6.7 °C / 54.4 °C		ASHRAE HBP rating point 7.2 °C / 54.4 °C		Displacement	Voltage and frequencies	Compressor cooling	Dimensions Height [mm]	
			-35	-15	-5	0	10	15	Cooling capacity [W]	COP [W/W]	Cooling capacity [W]	COP [W/W]	Cooling capacity [W]	COP [W/W]	[cm³]			A	B
48	NL7FT	LBP	88	290	–	–	–	–	186	1.22	–	–	–	–	7.27	187 – 254 V, 50 Hz	S	197	191
49	NL8F	LBP	100	307	–	–	–	–	201	1.24	–	–	–	–	7.95	198 – 254 V, 50 Hz	S	197	191
50	NL8.4FT	LBP	107	340	–	–	–	–	220	1.23	–	–	–	–	8.35	187 – 254 V, 50 Hz	F1	190	184
51	NL8.4MF	MBP	–	343	551	686	1028	1240	–	–	456	1.64	822	2.27	8.35	187 – 254 V, 50 Hz *)	F1	197	191
52	NL9F	LBP	92	332	–	–	–	–	213	1.21	–	–	–	–	8.35	198 – 254 V, 50 Hz	S	197	191
53	NL9FT	LBP	107	340	–	–	–	–	220	1.23	–	–	–	–	8.35	187 – 254 V, 50 Hz *)	S	197	191
54	NL9FT	LBP	107	340	–	–	–	–	220	1.23	–	–	–	–	8.35	187 – 254 V, 50 Hz *)	S	197	191
55	NLE9F	LBP	101	335	–	–	–	–	211	1.33	–	–	–	–	8.35	198 – 254 V, 50 Hz	S	197	191
56	NL10FT	LBP	141	434	–	–	–	–	284	1.25	–	–	–	–	10.09	187 – 254 V, 50 Hz	S	203	197
57	NL10MF	MBP	–	428	687	853	1273	1534	–	–	569	1.64	1019	2.27	10.09	187 – 254 V, 50 Hz *)	F1	203	197
58	NLE10MF	MBP	110	425	687	854	–	–	268	1.28	568	1.71	1023	2.32	10.09	198 – 254 V, 50 Hz	F1	203	197
59	NLE10MF.2	L/MBP	116	457	734	913	1371	–	289	1.53	608	2.05	1096	2.75	10.09	198 – 254 V, 50 Hz	F2	203	197
60	NL11F	LBP	126	435	–	–	–	–	274	1.22	–	–	–	–	11.15	198 – 254 V, 50 Hz	F2	203	197
61	NL11MF	M/HBP	–	471	756	938	1400	1687	–	–	626	1.61	1121	2.19	11.15	187 – 254 V, 50 Hz	F2	203	197
62	NLE11MF.2	MBP	–	513	821	1018	1509	–	331	1.41	680	1.88	1211	2.50	11.15	198 – 242 V, 50 Hz	F2	203	197
63	NLE12.6MF.2	L/MBP	245	554	909	1137	1697	–	361	1.55	750	2.07	1362	2.78	12.55	198 – 254 V, 50 Hz *)	F2	203	197
64	NLE12.6MFT	L/MBP	245	554	909	1137	1697	–	361	1.55	750	2.07	1362	2.78	12.55	187 – 254 V, 50 Hz *)	F2	203	197
65	SC10G	L/M/HBP	30	333	603	766	1149	1368	168	0.87	493	1.59	923	2.35	10.29	187 – 254 V, 50 Hz *)	F2	199	193
66	SC10GH	HBP	–	289	592	761	1156	1392	–	–	481	1.56	925	2.28	10.29	198 – 254 V, 50 Hz *)	F2	209	203
67	SC12FT	LBP	129	506	802	–	–	–	321	1.15	666	1.64	–	–	12.87	187 – 254 V, 50 Hz *)	F1	209	203
68	SC12G	L/M/HBP	81	433	749	954	1471	1791	248	1.03	614	1.60	1170	2.29	12.87	187 – 254 V, 50 Hz *)	F2	209	203
69	SC12GH	HBP	–	377	718	936	1489	1835	–	–	583	1.51	1175	2.34	12.87	198 – 254 V, 50 Hz *)	F2	209	203
70	SC15F	LBP	126	545	901	–	–	–	324	1.11	745	1.59	–	–	15.28	198 – 254 V, 50 Hz	F1	209	203
71	SC15FT	LBP	157	606	958	–	–	–	386	1.18	796	1.65	–	–	15.28	187 – 254 V, 50 Hz *)	F2	209	203
72	SC15G	L/M/HBP	–	527	904	1127	1669	1998	260	1.01	745	1.56	1341	2.20	15.28	187 – 254 V, 50 Hz *)	F2	209	203
73	SC15GH	HBP	–	518	898	1137	1741	2117	–	–	737	1.60	1386	2.41	15.28	198 – 254 V, 50 Hz *)	F2	209	203
74	SC15MFX	MBP	–	569	951	1185	1749	–	326	1.10	785	1.66	1408	2.31	15.28	198 – 254 V, 50 Hz	F2	209	203
75	SC18F	LBP	159	640	1041	–	–	–	389	1.17	863	1.62	–	–	17.69	198 – 254 V, 50 Hz	F1	209	203
76	SC18FTX	LBP	181	703	1113	–	–	–	448	1.17	924	1.68	–	–	17.69	187 – 254 V, 50 Hz *)	F2	219	213
77	SC18G	L/M/HBP	–	658	1081	1348	2011	2417	397	1.13	893	1.58	1612	2.21	17.69	187 – 254 V, 50 Hz *)	F2	219	213
78	SC18GH	HBP	–	666	1061	1338	2048	2482	–	–	875	1.62	1632	2.27	17.69	198 – 254 V, 50 Hz	F2	219	213
79	SC18GH	HBP	–	602	1025	1302	2015	2465	–	–	841	1.74	1599	2.57	17.69	198 – 254 V, 50 Hz *)	F2	219	213
80	SC18MFX	MBP	–	697	1131	1410	2122		440	1.21	934	1.73	1696	2.51	17.69	187 – 254 V, 50 Hz *)	F2	219	213
81	SC21F	LBP	228	742	1218	–	–	–	458	1.14	1007	1.54	–	–	20.95	198 – 254 V, 50 Hz	F1	219	213
82	SC21FTX	LBP	241	884	1391	–	–	–	569	1.27	1156	1.76	–	–	20.95	187 – 254 V, 50 Hz	F2	219	213
83	SC21G	L/M/HBP	–	755	1261	1579	2352	2810	461	1.23	1039	1.68	1889	2.40	20.95	187 – 254 V, 50 Hz *)	F2	219	213
84	SC21MFX	MBP	–	845	1344	1665	2481		549	1.29	1114	1.76	1988	2.46	20.95	187 – 254 V, 50 Hz	F2	219	213
85	SC12/12G	L/M/HBP	162	865	1498	1907	2942	3582	497	1.03	1228	1.60	2340	2.29	25.74	187 – 254 V, 50 Hz	F2	249	244
86	SC15/15G	L/M/HBP	–	1054	1808	2255	3338	3996	521	1.01	1491	1.56	2682	2.20	30.56	187 – 254 V, 50 Hz	F2	249	244
87	SC18/18G	L/M/HBP	–	1298	2150	2688	4026	4843	782	1.12	1774	1.63	3225	2.24	35.38	187 – 254 V, 50 Hz	F2	259	254
88	SC21/21G	L/M/HBP	–	1508	2520	3156	4704	5621	921	1.13	2076	1.67	3777	2.29	41.90	187 – 254 V, 50 Hz	F2	259	254
89	GS26GHX	HBP	–	1087	1746	2172	3268	3960	–	–	1445	1.79	2611	2.50	26.30	198 – 254 V, 50 Hz	F2	259	247
90	GS26MFX	MBP	–	1078	1747	2170	–	–	–	–	1446	1.82	–	–	26.30	198 – 254 V, 50 Hz	F2	259	247
91	GS34MFX	MBP	–	1400	2284	2848	–	–	–	–	1888	1.80	3424	2.44	33.80	198 – 254 V, 50 Hz	F2	259	247

Applications
LBP = Low Back Pressure
MBP = Medium Back Pressure
HBP = High Back Pressure

Motor types
RSIR = Resistant Start Induction Run
RSCR = Resistant Start Capacitor Run
CSIR = Capacitor Start Induction Run
CSR = Capacitor Start Run

Voltage and frequencies
**) Dual frequencies*

Electrical Equipment
[1]) see data sheets for details
[2]) alt. cable lenghts available
[3]) compulsory

Compressor cooling
S *= Static cooling normally sufficient*
O *= Oil cooling*
F_1 *= Fan cooling 1.5 m/s*
(compressor compartment temp. equal to ambient temperature)
F_2 *= Fan cooling 3.0 m/s necessary*
** = O / F1 possible at 220 V nominal (187 – 242 V)*

Starting devices
LST *= Low Starting Torque*
LST is used with capillary tube control and pressure equalizing. (Pressure equalizing may exceed 10 minutes). The PTC starting device requires 5 minutes cooling before each start.
HST *= HST consisting of relay and starting capacitor is used for expansion valve control or for capillary tube control without pressure equalizing.*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

S.No.	Dimensions			Electrical equipment - codes											Compressor - code no.		
				LST (RSIR & RSCR)					Run capacitor		HST (CSIR & CSR)			LST / HST				
	Connectors location			PTC starting device without RC connector		PTC starting device with RC connector		ePTC	optional or compulsory		Starting relay	Starting capacitor	Starting device	Cord relief	Cover	Compressor w/o accessories	Single pack Compressor with LST accessories	Single pack Compressor with HST accessories
	[mm]			Spades [mm]														
	Suction C	Process D	Dis-charge E	6.3	4.8	6.3	4.8	4.8	6.3	4.8	6.3	4.8	6.3					
48	6.2	6.2	5	103N0011	103N0018	–	–	–	–	–	117U6001	117U5015	–	103N1010	103N2010	105G6718	195B0299	195B0487
49	6.2	6.2	5	103N0011	103N0018	–	–	–	–	–	117U6001	117U5015	–	103N1010	103N2010	105G6822	–	–
50	6.2	6.2	5	103N0011	103N0018	–	–	–	–	–	117U6001	117U5015	–	103N1010	103N2010	105G6055	–	–
51	8.2	6.2	6.2	103N0011	103N0018	–	–	–	–	–	117U6016	117U5015	–	103N1010	103N2011	105G6879	–	195B0371
52	8.2	6.2	6.2	103N0011	103N0018	–	–	–	–	–	117U6001	117U5015	–	103N1010	103N2010	105G6802	195B0092	195B0178
53	6.2	6.2	5	103N0011	103N0018	–	–	–	–	–	117U6015	117U5015	–	103N1010	103N2010	105G6059	–	–
54	6.2	6.2	5	103N0011	103N0018	–	–	–	–	–	117U6015	117U5015	–	103N1010	103N2010	105G6828	–	195B0313
55	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	–	117-7117	117-7119	–	–	–	103N1010	103N2010	105G6805	–	–
56	8.2	6.2	6.2	103N0011	103N0018	–	–	103N0050	–	117-7119	117U6002	117U5015	–	103N1010	103N2010	105G6188	195B0327	–
57	8.2	6.2	6.2	103N0011	103N0018	–	–	–	–	–	117U6022	117U5018	–	103N1010	103N2011	105G6885	195B0274	195B0275
58	8.2	6.2	6.2	103N0011	103N0018	–	–	–	–	–	117U6003	117U5015	–	103N1010	103N2010	105G6888	–	–
59	8.2	6.2	6.2	–	–	–	–	103N0050	–	117-7119	117U6002	117U5015	–	103N1010	103N2010	105G6187	–	–
60	8.2	6.2	6.2	103N0011	103N0018	–	–	–	–	–	117U6002	117U5015	–	103N1010	103N2010	105G6900	195B0093	195B0182
61	8.2	6.2	6.2	103N0011	103N0018	–	–	–	–	–	117U6022	117U5018	–	103N1010	103N2011	105G6156	–	195B0432
62	8.2	6.2	6.2	–	–	–	–	103N0050	–	117-7119	117U6003	117U5015	–	103N1010	103N2010	105G6197	–	–
63	8.2	6.2	6.2	–	–	–	–	103N0050	–	117-7119	117U6005	117U5015	–	103N1010	103N2010	105G6387	–	–
64	8.2	6.2	6.2	–	–	–	–	103N0050	–	117-7119	117U6005	117U5015	–	103N1010	103N2010	105G6388	–	–
65	8.2	6.2	6.2	103N0011	–	–	–	–	–	–	117U6002	117U5017	–	103N1004	103N2009	104G8000	–	195B0043
66	10.2	6.2	8.2	–	–	–	–	–	–	–	117U6005	117U5017	–	103N1004	103N2008	104G8041	–	195B0142
67	8.2	6.2	6.2	103N0011	–	–	–	–	–	–	117U6003	117U5017	–	103N1004	103N2009	104G8205	–	–
68	8.2	6.2	6.2	103N0011	–	–	–	–	–	–	117U6003	117U5017	–	103N1004	103N2009	104G8240	195B0201	195B0050
69	10.2	6.2	8.2	–	–	–	–	–	–	–	117U6011	117U5017	–	103N1004	103N2008	104G8261	–	195B0249
70	8.2	6.2	6.2	103N0011	–	–	–	–	–	–	117U6003	117U5017	–	103N1004	103N2009	104G8500	195B0202	195B0052
71	10.2	6.2	6.2	103N0011	–	–	–	–	–	–	117U6005	117U5017	–	103N1004	103N2009	104G8505	–	195B0407
72	10.2	6.2	6.2	–	–	–	–	–	–	–	117U6005	117U5017	–	103N1004	103N2009	104G8520	–	195B0053
73	10.2	6.2	8.2	–	–	–	–	–	–	–	117U6011	117U5017	–	103N1004	103N2008	104G8561	–	–
74	10.2	6.2	6.2	–	–	–	–	–	–	–	117U6005	117U5017	–	103N1004	103N2008	104G8501	–	–
75	10.2	6.2	6.2	–	–	–	–	–	–	–	117U6005	117U5017	–	103N1004	103N2009	104G8800	–	195B0057
76	10.2	6.2	6.2	–	–	–	–	–	–	–	117U6019	117U5017	–	103N1004	103N2009	104G8805	–	195B0408
77	10.2	6.2	6.2	–	–	–	–	–	–	–	117U6019	117U5017	–	103N1004	103N2009	104G8820	–	195B0059
78	10.2	6.2	8.2	–	–	–	–	–	–	–	117U6019	117U5017		103N1004	103N2009	104G8860	–	195B0246
79	10.2	6.2	8.2	–	–	–	–	–	[3]	[3]	–	117U5373	117-7039	103N1004	103N2008	104G8861	–	195B0648
80	10.2	6.2	6.2	–	–	–	–	–	–	–	117U6019	117U5017	117-7027	103N1004	103N2008	104G8804	–	–
81	10.2	6.2	6.2	–	–	–	–	–	–	–	117U6019	117U5017	–	103N1004	103N2009	104G8100	–	195B0047
82	10.2	6.2	6.2	–	–	–	–	–	–	–	117U6019	117U5017	–	103N1004	103N2009	104G8105	–	195B0514
83	10.2	6.2	6.2	–	–	–	–	–	[3]	[3]	–	117U5373	117-7029	103N1004	103N2009	104G8140	–	195B0752
84	10.2	6.2	6.2	–	–	–	–	–	–	–	117U6019	117U5017	117-7039	103N1004	103N2009	104G8120	–	195B0682
85	12	6.2	6.2	–	–	–	–	–	–	–	117U6003	117U5017	–	103N1004	103N2009	104G8280	–	195B0051
86	12	6.2	6.2	–	–	–	–	–	–	–	117U6005	117U5017	–	103N1004	103N2009	104G8580	–	195B0056
87	16	6.2	6.2	–	–	–	–	–	–	–	117U6019	117U5017	–	103N1004	103N2009	104G8880	–	195B0060
88	16	6.2	6.2	–	–	–	–	–	[3]	[3]	–	117U5373	117-7029	103N1004	103N2009	104G8180	–	195B0637
89	12.9	6.5	8.2	–	–	–	–	–	[3]	[3]	–		117-7070	–	107B9101	107B0702	–	195B0434
90	12.9	6.5	8.2	–	–	–	–	–	[3]	[3]	–	–	117-7055	–	107B9101	107B0700	–	195B0433
91	12.9	6.5	8.2	–	–	–	–	–	[3]	[3]	–	–	117-7056	–	107B9101	107B0701	–	195B0435

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

Reciprocating compressors - Light Commercial

R134a - 220 V | 60 Hz

S.No.	Compressor	Application	ASHRAE Tcond = 130 °F, Tliq = 90 °F, Tsuc = 90 °F Capacity [BTU/h] Evaporating temp. [°F]						ASHRAE LBP rating point -10 °F / 130 °F		ASHRAE MBP rating point 20 °F / 130 °F		ASHRAE HBP rating point 45 °F / 130 °F		Displacement	Voltage and frequencies	Compressor cooling	Dimensions Height [in]	
			-31	5	23	32	50	59	Cooling capacity [BTU/h]	EER [BTU/Wh]	Cooling capacity [BTU/h]	EER [BTU/Wh]	Cooling capacity [BTU/h]	EER [BTU/Wh]	[cu.in]			A	B
1	PL35G	L/M/HBP	–	261	438	553	849	1034	115	2.71	368	4.47	689	6.45	0.12	– V, Hz *)	0	5.4	5.3
2	TL2.5G	L/M/HBP	60	342	570	715	–	–	202	2.88	471	4.55	864	6.35	0.16	198 – 254 V, 60 Hz *)	S	6.4	6.3
3	TL3G	L/M/HBP	–	402	682	–	–	–	231	3.15	562	4.59	–	–	0.19	198 – 254 V, 60 Hz *)	S	6.4	6.3
4	TL4G	L/M/HBP	–	539	891	–	–	–	329	3.60	737	5.05	–	–	0.24	198 – 254 V, 60 Hz *)	S	6.8	6.7
5	TL4GH	HBP	–	507	886	1123	–	–	–	–	728	4.86	1368	6.80	0.24	198 – 254 V, 60 Hz *)	F2	6.8	6.7
6	TL5G	L/M/HBP	–	683	1099	–	–	–	429	3.84	911	4.93	–	–	0.31	198 – 254 V, 60 Hz *)	S	6.8	6.7
7	TLES6.5FT.3	LBP	303	964	–	–	–	–	622	4.21	–	–	–	–	0.40	187 – 254 V, 50 Hz *)	S	6.8	6.7
8	TLES7FT.4	LBP	303	964	–	–	–	–	622	4.21	–	–	–	–	0.40	187 – 254 V, 50 Hz *)	S	6.8	6.7
9	FR6G	L/M/HBP	–	842	1458	–	–	–	459	3.60	1199	5.58	–	–	0.38	198 – 254 V, 60 Hz *)	F1	7.7	7.5
10	FR7.5G	L/M/HBP	–	962	1625	–	–	–	547	3.71	1340	5.38	–	–	0.42	198 – 254 V, 60 Hz *)	F1	7.7	7.5
11	FR7GH	HBP	–	952	1606	2047	–	–	–	–	1320	5.53	2537	7.71	0.42	198 – 254 V, 60 Hz *)	F2	7.7	7.5
12	FR8.5G	L/M/HBP	–	1113	1866	–	–	–	661	3.79	1539	5.13	–	–	0.49	198 – 254 V, 60 Hz *)	F1	7.7	7.5
13	FR10G	L/M/HBP	–	1235	2053	–	–	–	731	3.57	1696	4.93	–	–	0.55	198 – 254 V, 60 Hz *)	F1	7.7	7.5
14	NF7FX	L/MBP	331	1107	1782	2206	–	–	700	3.81	1478	5.66	–	–	0.44	198 – 242 V, 50 Hz	S	8.0	7.8
15	NF10FX	L/MBP	512	1529	2405	2988	–	–	1021	3.90	1996	5.23	–	–	0.62	198 – 242 V, 60 Hz *)	F2	8.0	7.8
16	NL6.1MF	MBP	185	947	1586	1994	–	–	562	3.97	1308	5.54	–	–	0.37	187 – 254 V, 60 Hz *)	S	7.5	7.2
17	NL6FT	LBP	248	841	–	–	–	–	551	4.16			–	–	0.37	198 – 254 V, 60 Hz *)	S	7.8	7.5
18	NL7.3MF	MBP	313	1199	1943	2418	–	–	751	4.06	1609	5.42	–	–	0.44	187 – 254 V, 60 Hz *)	F1	7.8	7.5
19	NL8.4MF	MBP	329	1377	2257	2819	–	–	847	4.20	1867	5.53	–	–	0.51	187 – 254 V, 60 Hz *)	F1	7.8	7.5
20	NL9FT	LBP	384	1441	–	–	–	–	921	4.72	–	–	–	–	0.51	198 – 254 V, 60 Hz *)	F1	7.8	7.5
21	NL10MF	MBP	465	1716	2753	3417	–	–	1090	4.40	2283	5.66	–	–	0.62	187 – 254 V, 60 Hz *)	F1	8.0	7.8
22	NLE12.6MF.2	L/MBP	1009	2276	3737	4677	–	–	1481	5.34	3088	7.14	–	–	0.77	198 – 254 V, 60 Hz *)	F2	8.0	7.8
23	NLE12.6MFT	L/MBP	1009	2276	3737	4677	–	–	1481	5.34	3088	7.14	–	–	0.77	198 – 254 V, 60 Hz *)	F2	8.0	7.8
24	SC10G	L/M/HBP	119	1331	2408	–	–	–	670	2.95	1972	5.43	–	–	0.63	198 – 254 V, 60 Hz *)	F2	7.8	7.6
25	SC10GH	HBP	–	1361	2305	2909	–	–	–	–	1899	5.08	3544	6.89	0.63	198 – 254 V, 60 Hz *)	F2	8.2	8.0
26	SC12FT	LBP	531	2020	3229	–	–	–	1276	4.04	2680	5.44	–	–	0.79	198 – 254 V, 60 Hz *)	F1	8.2	8.0
27	SC12G	L/M/HBP	318	1722	2987	–	–	–	983	3.50	2451	5.47	–	–	0.79	198 – 254 V, 60 Hz *)	F2	8.2	8.0
28	SC12G	MBP	–	1573	2953	3852	–	–	–	–	2401	5.65	4860	8.38	0.79	187 – 254 V, 60 Hz	F2	8.2	8.0
29	SC12GH	HBP	–	1573	2882	3734	–	–	–	–	2350	5.52	4680	8.13	0.79	198 – 254 V, 60 Hz *)	F2	8.2	8.0
30	SC15FT	LBP	655	2417	3832	–	–	–	1542	4.09	3185	5.54	–	–	0.93	198 – 254 V, 60 Hz *)	F2	8.2	8.0
31	SC15G	L/M/HBP	–	2182	3652	–	–	–	1263	3.64	3020	5.58	–	–	0.93	198 – 254 V, 60 Hz *)	F2	8.2	8.0
32	SC15G	MBP	–	1988	3534	4449	–	–	–	–	2907	5.69	5348	8.11	0.93	187 – 254 V, 60 Hz	F2	8.2	8.0
33	SC15GH	HBP	–	1792	3286	4292	–	–	–	–	2673	5.70	5449	8.17	0.93	198 – 254 V, 60 Hz *)	F2	8.2	8.0
34	SC18FTX	LBP	796	2857	4544	–	–	–	1823	4.11	3774	5.69	–	–	1.08	198 – 254 V, 60 Hz *)	F2	8.6	8.4
35	SC18G	L/M/HBP	–	2632	4316	–	–	–	1596	3.86	3572	5.41	–	–	1.08	198 – 254 V, 60 Hz *)	F2	8.6	8.4
36	SC18G	MBP	–	2426	4049	5122	–	–	–	–	3336	6.03	6282	8.57	1.08	187 – 254 V, 60 Hz	F2	8.6	8.4
37	SC18GH	HBP	–	2426	4049	5122	–	–	–	–	3336	6.03	6282	8.57	1.08	198 – 254 V, 60 Hz *)	F2	8.6	8.4
38	SC18MFX	MBP	–	2822	4513	5598	–	–	–	–	3744	5.96	6697	8.09	1.08	187 – 254 V, 60 Hz *)	F2	8.6	8.4
39	SC21FTX	LBP	1017	3379	5337	–	–	–	2184	4.39	4437	5.77	–	–	1.28	187 – 254 V, 60 Hz	F2	8.6	8.4
40	SC21G	L/M/HBP	–	2780	4845	–	–	–	1516	3.67	3980	5.69	–	–	1.28	198 – 254 V, 60 Hz *)	F2	8.6	8.4
41	SC21G	L/M/HBP	–	2780	4845	–	–	–	1516	3.67	3980	5.69	–	–	1.28	198 – 254 V, 60 Hz	F2	8.6	8.4

Applications
LBP = Low Back Pressure
MBP = Medium Back Pressure
HBP = High Back Pressure

Motor types
RSIR = Resistant Start Induction Run
RSCR = Resistant Start Capacitor Run
CSIR = Capacitor Start Induction Run
CSR = Capacitor Start Run

Voltage and frequencies
**) Dual frequencies*

Electrical Equipment
[1]) see data sheets for details
[2]) alt. cable lenghts available
[3]) compulsory

Compressor cooling
***S** = Static cooling normally sufficient*
***O** = Oil cooling*
***F*$_1$** *= Fan cooling 1.5 m/s (compressor compartment temp. equal to ambient temperature)*
***F*$_2$** *= Fan cooling 3.0 m/s necessary*
** = O / F1 possible at 220 V nominal (187 – 242 V)*

Starting devices
***LST** = Low Starting Torque*
LST is used with capillary tube control and pressure equalizing. (Pressure equalizing may exceed 10 minutes). The PTC starting device requires 5 minutes cooling before each start.
***HST** = HST consisting of relay and starting capacitor is used for expansion valve control or for capillary tube control without pressure equalizing.*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

S.No.	Dimensions			Electrical equipment - codes												Compressor - code no.		
	Connectors location			LST (RSIR & RSCR) - refer to data sheet for ePTC code no.					Run capacitor		HST (CSIR & CSR)			LST / HST				
				PTC starting device		PTC starting device with RC connector		Protector (external)	optional or compulsory		Starting relay	Starting capacitor	Starting device [2]	Cord relief	Cover	Compressor w/o accessories	Single pack Compressor with LST accessories	Single pack Compressor with HST accessories
	[in]			Spades [in]														
	Suction C	Process D	Dis-charge E	¼	3/16	¼	3/16	¼	¼	3/16	¼	¼	¼					
1	0.24	0.24	0.20	103N0011	103N0018	–	–	–	–	–	117U6021	117U5014	–	103N1010	103N0491	101G0250	195B0248	195B0245
2	0.24	0.24	0.20	103N0011	103N0018	–	–	–	–	–	117U6007	117U5014	–	103N1010	103N2011	102G4251	–	195B0347
3	0.24	0.24	0.20	103N0011	103N0018	–	–	–	–	–	117U6009	117U5014	–	103N1010	103N2010	102G4350	195B0214	195B0006
4	0.24	0.24	0.20	103N0011	103N0018	–	–	–	–	–	117U6004	117U5014	–	103N1010	103N2010	102G4452	–	195B0008
5	0.24	0.24	0.20	–	–	–	–	–	–	–	117U6000	117U5014	–	103N1010	103N2011	102G4455	–	195B0122
6	0.24	0.24	0.20	103N0011	103N0018	–	–	–	–	–	117U6000	117U5014	–	103N1010	103N2010	102G4550	195B0222	195B0011
7	0.24	0.24	0.20	103N0011	103N0018	103N0016	103N0021	–	117-7117	117-7119	117U6016	117U5014	–	103N1010	103N2010	102G4724	–	–
8	0.26	0.26	0.20	103N0011	103N0018	103N0016	103N0021	–	117-7117	117-7119	117U6016	117U5014	–	103N1010	103N2010	102G4708	–	–
9	0.32	0.24	0.24	103N0011	103N0018	–	–	–	–	–	117U6000	117U5015	–	103N1010	103N2010	103G6660	195B0191	195B0023
10	0.32	0.24	0.24	103N0011	103N0018	–	–	–	–	–	117U6001	117U5015	–	103N1010	103N2010	103G6680	195B0192	195B0024
11	0.32	0.24	0.32	–	–	–	–	–	–	–	117U6016	117U5015	–	103N1010	103N2011	103G6683	–	195B0167
12	0.32	0.24	0.24	103N0011	103N0018	–	–	–	–	–	117U6015	117U5015	–	103N1010	103N2010	103G6780	195B0193	195B0026
13	0.32	0.24	0.24	103N0011	103N0018	–	–	–	–	–	117U6010	117U5015	–	103N1010	103N2010	103G6880	195B0194	195B0027
14	0.32	0.26	0.26	–	–	–	–	–	–	–	117U4140	117U5018	–	117U0349	117U1023	105G6743	–	195B0496
15	0.32	0.26	0.26	–	–	–	–	–	–	–	117U4139	117U5018	–	117U0349	117U1021	105G6846	–	195B0396
16	0.32	0.24	0.24	103N0011	103N0018	–	–	–	–	–	117U6015	117U5015	–	103N1010	103N2011	105G6660	195B0415	195B0411
17	0.24	0.24	0.20	103N0011	103N0018	–	–	–	–	–	117U6000	117U5015	–	103N1010	103N2010	105G6628	–	–
18	0.32	0.24	0.24	103N0011	103N0018	–	–	–	–	–	117U6016	117U5015	–	103N1010	103N2011	105G6772	–	195B0370
19	0.32	0.24	0.24	103N0011	103N0018	–	–	–	–	–	117U6016	117U5015	–	103N1010	103N2011	105G6879	–	195B0371
20	0.24	0.24	0.20	103N0011	103N0018	–	–	–	–	–	117U6015	117U5015	–	103N1010	103N2010	105G6059	–	–
21	0.32	0.24	0.24	103N0011	103N0018	–	–	–	–	–	117U6022	117U5018	–	103N1010	103N2011	105G6885	195B0274	195B0275
22	0.32	0.24	0.24	–	–	–	–	117L0585	–	117-7119	117U6005	117U5015	–	103N1010	103N2010	105G6387	–	–
23	0.32	0.24	0.24	–	–	–	–	117L0585	–	117-7119	117U6005	117U5015	–	103N1010	103N2010	105G6388	–	–
24	0.32	0.24	0.24	103N0011	–	–	–	–	–	–	117U6002	117U5017	–	103N1004	103N2009	104G8000	–	195B0043
25	0.40	0.24	0.32		–	–	–	–	–	–	117U6005	117U5017	–	103N1004	103N2008	104G8041	–	195B0142
26	0.32	0.24	0.24	103N0011	–	–	–	–	–	–	117U6003	117U5017	–	103N1004	103N2009	104G8205	–	–
27	0.32	0.24	0.24	103N0011	–	–	–	–	–	–	117U6003	117U5017	–	103N1004	103N2009	104G8240	195B0201	195B0050
28	0.40	0.26	0.26	–	–	–	–	–	–	–	117U6011	117U5017	–	103N1004	103N2008	104G8245	–	195B0457
29	0.40	0.24	0.32	–	–	–	–	–	–	–	117U6011	117U5017	–	103N1004	103N2008	104G8261	–	195B0249
30	0.40	0.24	0.24	103N0011	–	–	–	–	–	–	117U6005	117U5017	–	103N1004	103N2009	104G8505	–	195B0407
31	0.40	0.24	0.24	–	–	–	–	–	–	–	117U6005	117U5017	–	103N1004	103N2009	104G8520	–	195B0053
32	0.40	0.26	0.26	–	–	–	–	–	–	–	117U6011	117U5017	–	103N1004	103N2008	104G8526	–	195B0453
33	0.40	0.24	0.32	–	–	–	–	–	–	–	117U6011	117U5017	–	103N1004	103N2008	104G8561	–	195B0144
34	0.40	0.24	0.24	–	–	–	–	–	–	–	117U6019	117U5017	–	103N1004	103N2009	104G8805	–	195B0408
35	0.40	0.24	0.24	–	–	–	–	–	–	–	117U6019	117U5017	–	103N1004	103N2009	104G8820	–	195B0059
36	0.40	0.26	0.26	–	–	–	–	–	–	–	–	117U5373	117-7039	103N1004	103N2008	104G8823	–	195B0651
37	0.40	0.24	0.32	–	–	–	–	–	–	–	–	117U5373	117-7039	103N1004	103N2008	104G8861	–	195B0648
38	0.40	0.24	0.24	–	–	–	–	–	–	–	117U6019	117U5017	117-7027	103N1004	103N2008	104G8804	–	–
39	0.40	0.24	0.24	–	–	–	–	–	–	–	–	117U5373	117-7039	103N1004	103N2008	104G8106	–	195B0659
40	0.40	0.24	0.24	–	–	–	–	–	–	–	–	117U5373	117-7029	103N1004	103N2009	104G8140	–	195B0752
41	0.40	0.24	0.24	–	–	–	–	–	117-7121	–	117-7427	117U5373	117-7039	103N1004	103N2008	104G8143	–	–

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Technical data and ordering

Reciprocating compressors - Light Commercial

R134a - 115 V | 60 Hz

S.No.	Compressor	Application	ASHRAE Tcond = 130 °F, Tliq = 90 °F, Tsuc = 90 °F Capacity [BTU/h] Evaporating temp. [°F]						ASHRAE LBP rating point -10 °F / 130 °F		ASHRAE MBP rating point 20 °F / 130 °F		ASHRAE HBP rating point 45 °F / 130 °F		Displacement	Voltage and frequencies	Compressor cooling	Dimensions Height [in]	
			-31	5	23	32	50	59	Cooling capacity [BTU/h]	EER [BTU/Wh]	Cooling capacity [BTU/h]	EER [BTU/Wh]	Cooling capacity [BTU/h]	EER [BTU/Wh]	[cu.in]			A	B
1	PL30F	L/M/HBP	–	187	329	422	–	–	103	2.03	270	4.07	522	6.41	0.09	90 – 127 V, 60 Hz *)	S	5.3	5.2
2	PL50F	L/MBP	–	290	472	585	–	–	175	2.70	391	4.42	–	–	0.12	103 – 127 V, 60 Hz	S	5.3	5.2
3	TF3.5F	LBP	128	502	–	–	–	–	305	3.26	–	–	–	–	0.22	95 – 135 V, 60 Hz	S	6.8	6.7
4	TFS4F	LBP	149	600	–	–	–	–	356	3.66	–	–	–	–	0.24	95 – 135 V, 60 Hz	S	6.8	6.7
5	TFS4.5FT	L/MBP	238	760	1227	1514	–	–	477	3.75	1018	5.17	–	–	0.28	95 – 135 V, 60 Hz	S	6.8	6.7
6	TL2.5F	LBP	–	339	569	–	–	–	202	3.12	470	4.53	–	–	0.16	103 – 127 V, 60 Hz	S	6.4	6.3
7	TL2.5G	L/M/HBP	–	336	610	788	–	–	190	2.65	498	4.91	976	7.46	0.16	103 – 127 V, 60 Hz	S	6.4	6.3
8	TL3F	LBP	–	411	693	–	–	–	253	3.29	571	4.58	–	–	0.19	103 – 127 V, 60 Hz	S	6.4	6.3
9	TL4G	L/M/HBP	–	522	895	1135	–	–	306	3.19	736	5.00	1383	7.02	0.24	90 – 135 V, 60 Hz *)	S	6.8	6.7
10	TLS4.5F	LBP	238	760	1227	–	–	–	477	3.70	1018	5.11	–	–	0.28	103 – 127 V, 60 Hz	S	6.4	6.3
11	FF6GK	L/M/HBP	–	796	1464	1886	–	–	415	3.15	1195	5.40	2320	7.86	0.38	103 – 127 V, 60 Hz	F1	7.7	7.5
12	FF7.5GK	L/M/HBP	–	934	1654	2105	–	–	516	3.48	1356	5.41	2556	7.51	0.42	103 – 127 V, 60 Hz	F1	7.7	7.5
13	FF8.5GX	L/M/HBP	–	1133	1921	2407	–	–	662	3.17	1584	4.94	2871	6.87	0.49	103 – 127 V, 60 Hz	F2	7.7	7.5
14	FF10GX	L/M/HBP	–	1235	2109	2652	–	–	715	3.08	1737	4.84	3179	6.79	0.55	103 – 127 V, 60 Hz	F2	7.7	7.5
15	NF5.5FX	L/MBP	281	1098	1751	2165	–	–	696	4.12	1454	5.71	–	–	0.37	95 – 135 V, 60 Hz	F2	7.8	7.5
16	NF6.1FX.2	L/MBP	293	1161	1873	2315	–	–	721	4.06	1554	6.09	–	–	0.37	95 – 135 V, 60 Hz	F1	7.8	7.5
17	NF6FK	L/MBP	270	1054	1681	2079	–	–	668	3.88	1396	5.38	–	–	0.37	95 – 135 V, 60 Hz	F2	8.0	7.8
18	NF7.3FX.2	L/MBP	387	1413	2254	2776	–	–	893	3.95	1872	5.81	–	–	0.44	95 – 135 V, 60 Hz	F1	7.8	7.5
19	NF7FK	L/MBP	383	1275	2002	2468	–	–	834	4.09	1665	5.48	–	–	0.44	95 – 135 V, 60 Hz	F2	8.0	7.8
20	NF7FX	L/MBP	395	1314	2064	2545	–	–	860	4.00	1717	5.54	–	–	0.44	95 – 135 V, 60 Hz	F2	7.8	7.5
21	NF8.4FX.2	L/MBP	–	1613	2553	3138	–	–	1031	4.16	2123	5.88	–	–	0.51	95 – 135 V, 60 Hz	F1	7.8	7.5
22	NF9FX	L/MBP	–	1454	2316	2864	–	–	937	3.83	1923	5.54	–	–	0.51	95 – 135 V, 60 Hz	F2	7.8	7.5
23	NF10FX	L/MBP	–	1625	2577	3184	–	–	1048	4.01	2140	5.48	–	–	0.62	95 – 135 V, 60 Hz	F2	7.8	7.5
24	NF11FX	MBP	477	1726	2759	3419	–	–	1100	3.72	2290	5.19	–	–	0.68	95 – 135 V, 60 Hz	F2	8.0	7.8
25	NF11FX.2	MBP	–	2054	3269	4025	–	–	–	–	2717	5.62	–	–	0.69	95 – 135 V, 60 Hz	F2	8.0	7.8
26	NTY7FK	LBP	479	1365	–	–	–	–	886	5.25	–	–	–	–	0.44	103 – 127 V, 60 Hz	S	8.0	7.8
27	SC12G	L/M/HBP	203	1799	3099	3927	–	–	1007	3.38	2548	5.33	4795	7.64	0.79	103 – 127 V, 60 Hz	F1	8.2	8.0
28	SC15FTX	LBP	677	2412	3797	–	–	–	1552	3.83	3160	5.00	–	–	0.93	90 – 135 V, 60 Hz	F2	8.2	8.0
29	SC15G	L/M/HBP	–	2183	3724	4663	–	–	1237	3.76	3071	5.43	5551	7.24	0.93	103 – 127 V, 60 Hz	F1	8.2	8.0
30	SC18G	L/M/HBP	–	2522	4226	5255	–	–	1356	3.36	3496	5.06	6255	6.86	1.08	95 – 135 V, 60 Hz	F2	8.6	8.4

Applications
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MBP = Medium Back Pressure
HBP = High Back Pressure

Motor types
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RSCR = Resistant Start Capacitor Run
CSIR = Capacitor Start Induction Run
CSR = Capacitor Start Run

Voltage and frequencies
**) Dual frequencies*

Electrical Equipment
[1]) see data sheets for details
[2]) alt. cable lenghts available
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Compressor cooling
***S** = Static cooling normally sufficient*
***O** = Oil cooling*
***F_1** = Fan cooling 1.5 m/s*
(compressor compartment temp. equal to ambient temperature)
***F_2** = Fan cooling 3.0 m/s necessary*
****** = O / F1 possible at 220 V nominal (187 – 242 V)*

Starting devices
***LST** = Low Starting Torque*
LST is used with capillary tube control and pressure equalizing. (Pressure equalizing may exceed 10 minutes). The PTC starting device requires 5 minutes cooling before each start.
***HST** = HST consisting of relay and starting capacitor is used for expansion valve control or for capillary tube control without pressure equalizing.*

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S.No.	Dimensions			Electrical equipment - codes												Compressor - code no.		
	Connectors location			LST (RSIR & RSCR) - refer to data sheet for ePTC code no.					Run capacitor		HST (CSIR & CSR)			LST / HST				
				PTC starting device		PTC starting device with RC connector		Protector (external)	optional or compulsory		Starting relay	Starting capacitor	Starting device [2]	Cord relief	Cover	Compressor w/o accessories	Single pack Compressor with LST accessories	Single pack Compressor with HST accessories
	[in]			Spades [in]														
	Suction C	Process D	Discharge E	¼	3/16	¼	3/16	¼	¼	3/16	¼	¼	¼					
1	0.26	0.26	0.20	103N0026	103N0023	–	–	–	–	–	117U6000	117U5015	–	103N1010	103N0492	101G9100	195B0530	–
2	0.26	0.26	0.20	103N0026	103N0023	–	–	–	–	–	117U6000	117U5015	–	103N1010	103N0492	101G9202	–	195B0320
3	0.26	0.26	0.20	–	–	–	–	–	–	–	–	–	–	117U0349	117U1021	102G3304	–	–
4	0.26	0.26	0.20	–	–	–	–	–	–	–	–	–	–	117U0349	117U1021	102G3431	–	–
5	0.26	0.26	0.19	–	–	–	–	–	–	–	117U4126	117U5022	–	117U0349	117U1021	102G3432	–	195B0673
6	0.26	0.26	0.20	103N0026	103N0023	–	–	–	–	–	–	–	–	103N1010	103N2011	102G3206	–	195B0300
7	0.26	0.26	0.20	103N0026	103N0023	–	–	–	–	–	–	–	–	103N1010	103N2011	102G3255	195B0592	–
8	0.26	0.26	0.20	103N0026	103N0023	–	–	–	–	–	–	–	–	103N1010	103N2011	102G3300	195B0002	–
9	0.26	0.26	0.20	103N0026	103N0023	–	–	–	–	–	117U6003	117U5023	–	103N1010	103N2011	102G3460	–	195B0003
10	0.26	0.26	0.20	103N0026	103N0023	–	–	–	–	–	117U6003	117U5023	–	103N1010	103N2011	102G3425	–	–
11	0.32	0.26	0.26	–	–	–	–	–	–	–	–	–	–	117U0349	117U1021	103G5680	–	195B0121
12	0.32	0.26	0.26	–	–	–	–	–	–	–	–	–	–	117U0349	117U1021	103G5780	–	195B0022
13	0.32	0.26	0.26	–	–	–	–	–	–	–	117U4060	117U5041	–	117U0349	117U1021	103G5880	–	195B0125
14	0.32	0.26	0.26	–	–	–	–	–	–	–	117U4061	117U5040	–	117U0349	117U1021	103G5980	–	195B0186
15	0.32	0.26	0.26	–	–	–	–	–	–	–	117U4127	117U5025	–	117U0349	117U1021	105G5623	–	195B0259
16	0.32	0.26	0.26	–	–	–	–	–	–	–	117U4127	117U5025	–	117U0349	117U1021	105G5631	–	195B0560
17	0.32	0.26	0.26	–	–	–	–	–	–	–	117U4132	117U5022	–	117U0349	117U1021	105G5628	–	–
18	0.32	0.26	0.26	–	–	–	–	–	–	–	117U4061	117U5025	–	117U0349	117U1021	105G5722	–	195B0586
19	0.32	0.26	0.26	–	–	–	–	–	–	–	117U4132	117U5022	–	117U0349	117U1021	105G5728	–	–
20	0.32	0.26	0.26	–	–	–	–	–	–	–	117U4061	117U5025	–	117U0349	117U1021	105G5723	–	195B0467
21	0.32	0.26	0.26	–	–	–	–	–	–	–	117U4129	117U5025	–	117U0349	117U1021	105G5918	–	–
22	0.32	0.26	0.26	–	–	–	–	–	–	–	117U4129	117U5025	–	117U0349	117U1021	105G5920	–	195B0552
23	0.32	0.26	0.26	–	–	–	–	–	–	–	117U4129	117U5022	–	117U0349	117U1021	105G5941	–	195B0330
24	0.32	0.26	0.26	–	–	–	–	–	–	–	117U4123	117U5028	–	117U0349	117U1021	105G5945	–	195B0388
25	0.32	0.26	0.26	–	–	–	–	–	–	–	117U4151	117U5028	–	117U0349	117U1021	105G5916	–	–
26	0.32	0.26	0.26	–	–	117U6102	–	117U3306	117-7118	–	–	–	–	–	117U1026	105G5720	–	–
27	0.32	0.26	0.26	–	–	–	–	–	–	–	117U6020	117U5023	–	103N1004	103N2008	104G7250	–	195B0042
28	0.32	0.26	0.26	–	–	–	–	–	–	–	117U6020	117U5023	–	103N1004	103N2008	104G7505	–	195B0500
29	0.32	0.26	0.26	–	–	–	–	–	–	–	117U6020	117U5023		103N1004	103N2008	104G7550	–	195B0099
30	0.38	0.26	0.26	–	–	–	–	–	–	–	117-7441	117U5042	117-7053	–	117U1021	104G7800	–	195B0694

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Technical data and ordering

Reciprocating compressors - Light Commercial

R404A - 220 – 240 V | 50 Hz

S.No.	Compressor	Application	ASHRAE Tcond = 54.4 °C, Tliq = 32.2 °C, Tsuc = 32.2 °C Capacity [W] Evaporating temp. [°C]						ASHRAE LBP rating point -23.3 °C / 54.4 °C		ASHRAE MBP rating point -6.7 °C / 54.4 °C		ASHRAE HBP rating point 7.2 °C / 54.4 °C		Displacement	Voltage and frequencies	Compressor cooling	Dimensions Height [mm]	
			-35	-15	-5	0	10	15	Cooling capacity [W]	COP [W/W]	Cooling capacity [W]	COP [W/W]	Cooling capacity [W]	COP [W/W]	[cm³]			A	B
1	TL4CL	LBP	75	240	390	–	–	–	152	1.03	310	1.39	–	–	3.86	198 – 254 V, 50 Hz	F2	173	169
2	TL4DL	M/HBP	–	227	362	454	670	–	–	–	287	1.26	519	1.81	3.86	198 – 254 V, 50 Hz	F2	173	169
3	TL4.5CLX	LBP	102	301	–	–	–	–	198	1.05	–	–	–	–	4.63	198 – 254 V, 50 Hz	F2	173	169
4	FR6CL	LBP	149	393	605	–	–	–	268	1.04	484	1.19	–	–	6.23	198 – 254 V, 50 Hz	F2	196	191
5	FR6DL	M/HBP	–	403	599	730	1058	–	–	–	481	1.20	819	1.57	6.23	198 – 254 V, 50 Hz	F2	196	191
6	FR7.5CL	LBP	158	433	657	–	–	–	294	1.03	528	1.15	–	–	6.93	198 – 254 V, 50 Hz	F2	196	191
7	FR8.5CL	LBP	171	492	–	–	–	–	332	0.98	–	–	–	–	7.95	198 – 254 V, 50 Hz	F2	196	191
8	NF7MLX	MBP	–	547	851	1039	1503	–	–	–	682	1.49	1164	2.12	7.27	187 – 254 V, 50 Hz *)	F2	203	197
9	NL6.1MLX	MBP	–	455	711	869	–	–	291	1.14	569	1.61	975	2.31	6.13	187 – 254 V, 50 Hz *)	F2	203	197
10	NL7CLX	LBP	200	576	876	–	–	–	388	1.31	704	1.60	–	–	7.27	198 – 254 V, 50 Hz	F2	203	197
11	NL8.4CLX	LBP	218	627	953	–	–	–	422	1.28	765	1.54	–	–	8.35	198 – 254 V, 50 Hz	F2	203	197
12	NL9CLX	LBP	236	674	–	–	–	–	457	1.34	–	–	–	–	8.35	198 – 254 V, 50 Hz	F2	203	197
13	SC10CL	LBP	132	664	1079	–	–	–	402	1.13	859	1.45	–	–	10.29	198 – 254 V, 50 Hz	F2	209	203
14	SC10CLX	L/MBP	130	655	1064	1316	–	–	396	1.11	847	1.51	–	–	10.29	198 – 254 V, 50 Hz *)	F2	209	203
15	SC10MLX	MBP	–	722	1127	1380	–	–	–	–	902	1.54	1553	2.18	10.29	187 – 254 V, 50 Hz *)	F2	209	203
16	SC10DL	M/HBP	–	644	1051	1300	1916	2295	–	–	837	1.51	1478	2.15	10.29	198 – 254 V, 50 Hz	F2	209	203
17	SC12CL	LBP	165	857	1397	–	–	–	516	1.10	1112	1.50	–	–	12.87	198 – 254 V, 50 Hz	F2	209	203
18	SC12CLX.2	LBP	278	899	–	–	–	–	593	1.15	–	–	–	–	12.87	198 – 254 V, 50 Hz *)	F2	219	213
19	SC12MLX	MBP	–	886	1369	1670	–	–	584	1.15	1096	1.56	1873	2.18	12.87	187 – 254 V, 50 Hz *)	F2	219	213
20	SC12DL	M/HBP	–	865	1407	1728	2508	2984	–	–	1122	1.57	1942	2.26	12.87	198 – 254 V, 50 Hz	F2	219	213
21	SC15CLX.2	LBP	339	1097	–	–	–	–	724	1.18	–	–	–	–	15.28	198 – 254 V, 50 Hz	F2	219	213
22	SC15CLX.2	LBP	339	1097	–	–	–	–	724	1.18	–	–	–	–	15.28	198 – 254 V, 50 Hz	F2	219	213
23	SC15MLX	MBP	–	1117	1718	2102	–	–	762	1.20	1375	1.56	2371	2.16	15.28	198 – 254 V, 50 Hz	F2	219	213
24	SC15DL	M/HBP	–	1034	1641	2012	2928	3492	–	–	1311	1.56	2265	2.25	15.28	198 – 254 V, 50 Hz	F2	219	213
25	SC18CL	LBP	374	1220	1882	–	–	–	803	1.22	1508	1.50	–	–	17.69	198 – 254 V, 50 Hz	F2	219	213
26	SC18MLX	MBP	–	1306	2001	2446	–	–	894	1.27	1603	1.64	2757	2.27	17.69	198 – 254 V, 50 Hz	F2	219	213
27	SC18CLX.2	LBP	415	1343	–	–	–	–	886	1.20	–	–	–	–	17.69	198 – 254 V, 50 Hz	F2	219	213
28	SC18MLX.3	MBP	–	1384	2097	2552	–	–	959	1.34	1683	1.67	2862	2.28	17.68	198 – 254 V, 50 Hz	F2	219	213
29	SC21CL	LBP	442	1386	–	–	–	–	905	1.18	–	–	–	–	20.95	198 – 254 V, 50 Hz	F2	219	213
30	SC10/10CL	LBP	264	1327	2157	–	–	–	803	1.13	1717	1.45	–	–	20.58	198 – 254 V, 50 Hz	F2	249	244
31	SC10/10DL	M/HBP	–	1288	2103	2601	3832	4590	–	–	1674	1.51	2955	2.15	20.58	198 – 254 V, 50 Hz	F2	249	244
32	SC12/12CL	LBP	330	1715	2794	–	–	–	1032	1.10	2224	1.50	–	–	25.74	198 – 254 V, 50 Hz	F2	249	244
33	SC12/12DL	M/HBP	–	1730	2814	3456	5016	5967	–	–	2244	1.57	3885	2.26	25.74	198 – 254 V, 50 Hz	F2	259	254
34	SC15/15CL	LBP	360	2202	3356	–	–	–	1395	1.20	2699	1.50	–	–	30.56	198 – 254 V, 50 Hz	F2	259	254
35	SC15/15DL	M/HBP	–	2068	3282	4024	5856	6983	–	–	2622	1.56	4529	2.25	30.56	198 – 254 V, 50 Hz	F2	259	254
36	SC18/18CLX.2	LBP	823	2670	–	–	–	–	1761	1.20	–	–	–	–	35.36	198 – 254 V, 50 Hz	F2	259	254
37	SC18/18CL	LBP	748	2440	3762	–	–	–	1606	1.22	3016	1.50	–	–	35.38	198 – 254 V, 50 Hz	F2	259	254
38	SC21/21CL	LBP	884	2773	–	–	–	–	1810	1.18	–	–	–	–	41.90	198 – 254 V, 50 Hz	F2	259	254
39	GS21MLX	MBP	–	1578	2486	3070	–	–	–	–	1984	1.79	3514	2.53	21.20	198 – 254 V, 50 Hz	F2	259	247
40	GS26CLX	LBP	614	2017	–	–	–	–	1323	1.35	–	–	–	–	26.30	198 – 254 V, 50 Hz	F2	259	247
41	GS26MLX	MBP	–	2069	3229	3954	–	–	–	–	2584	1.86	4467	2.56	26.30	198 – 254 V, 50 Hz	F2	279	267
42	GS34CLX	LBP	943	2874	4412	–	–	–	1917	1.45	3537	1.74	–	–	33.80	198 – 254 V, 50 Hz	F2	279	267
43	GS34MLX	MBP	–	2766	4178	5053	–	–	–	–	3359	1.71	5626	2.25	33.80	198 – 254 V, 50 Hz	F2	279	267

Applications
LBP = Low Back Pressure
MBP = Medium Back Pressure
HBP = High Back Pressure

Motor types
RSIR = Resistant Start Induction Run
RSCR = Resistant Start Capacitor Run
CSIR = Capacitor Start Induction Run
CSR = Capacitor Start Run

Voltage and frequencies
**) Dual frequencies*

Electrical Equipment
[1]) see data sheets for details
[2]) alt. cable lenghts available
[3]) compulsory

Compressor cooling
***S** = Static cooling normally sufficient*
***O** = Oil cooling*
***F*$_1$** *= Fan cooling 1.5 m/s (compressor compartment temp. equal to ambient temperature)*
***F*$_2$** *= Fan cooling 3.0 m/s necessary*
****** = O / F1 possible at 220 V nominal (187 – 242 V)*

Starting devices
***LST** = Low Starting Torque*
LST is used with capillary tube control and pressure equalizing. (Pressure equalizing may exceed 10 minutes). The PTC starting device requires 5 minutes cooling before each start.
***HST** = HST consisting of relay and starting capacitor is used for expansion valve control or for capillary tube control without pressure equalizing.*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

S.No.	Dimensions			Electrical equipment - codes											Compressor - code no.	
				LST (RSIR & RSCR)							HST (CSIR & CSR)			LST / HST			
	Connectors location			PTC starting device without RC connector		PTC starting device with RC connector		ePTC	Run capacitor		Starting relay	Starting capacitor	Starting device	Cord relief	Cover	Compressor w/o accessories	Single pack Compressor with HST accessories
	[mm]			Spades [mm]													
	Suction C	Process D	Discharge E	6.3	4.8	6.3	4.8	4.8	6.3	4.8	6.3	4.8	6.3				
1	6.2	6.2	5	–	–	–	–	–	–	–	117U6000	117U5014	–	103N1010	103N2010	–	195B0021
2	6.2	6.2	5	–	–	–	–	–	–	–	117U6001	117U5014	–	103N1010	103N2010	–	195B0166
3	6.2	6.2	5	–	–	–	–	–	–	–	117U6001	117U5014	–	103N1010	103N2010	–	195B0465
4	8.2	6.2	6.2	–	–	–	–	–	–	–	117U6015	117U5015	–	103N1010	103N2010	–	195B0031
5	8.2	6.2	6.2	–	–	–	–	–	–	–	117U6010	117U5015	–	103N1010	103N2010	–	195B0032
6	8.2	6.2	6.2	–	–	–	–	–	–	–	117U6016	117U5015	–	103N1010	103N2010	–	195B0398
7	8.2	6.2	6.2	–	–	–	–	–	–	–	117U6010	117U5015	–	103N1010	103N2010	–	195B0038
8	9.7	6.5	6.5	–	–	–	–	–	–	–	117U4139	117U5018	–	117U0349	117U1021	–	195B0443
9	8.2	6.5	6.5	–	–	–	–	–	–	–	117U6022	117U5015	–	103N1010	103N2011	–	195B0599
10	8.2	6.2	6.2	–	–	–	–	–	–	–	117U6002	117U5015	–	103N1010	103N2010	–	195B0350
11	8.2	6.2	6.2	103N0011	103N0018	–	–	–	–	–	117U6003	117U5015	–	103N1010	103N2010	–	195B0481
12	8.2	6.2	6.2	–	–	–	–	–	–	–	117U6003	117U5015	–	103N1010	103N2010	–	–
13	8.2	6.2	6.2	–	–	–	–	–	–	–	117U6003	117U5017	–	103N1004	103N2009	–	195B0074
14	8.2	6.2	6.2	–	–	–	–	–	–	–	117U6005	117U5017	–	103N1004	103N2008	–	195B0151
15	8.2	6.5	6.5	–	–	–	–	–	–	–	117U6011	117U5017	–	103N1004	103N2008	–	195B0345
16	8.2	6.2	6.2	–	–	–	–	–	–	–	117U6005	117U5017	–	103N1004	103N2009	–	195B0075
17	8.2	6.2	6.2	–	–	–	–	–	–	–	117U6005	117U5017	–	103N1004	103N2009	–	195B0076
18	8.2	6.2	6.2	–	–	–	–	–	–	–	117U6019	117U5017	–	103N1004	103N2008	–	195B0379
19	8.2	6.5	6.5	–	–	–	–	–	–	–	117U6011	117U5017	–	103N1004	103N2008	–	195B0323
20	10.2	6.2	6.2	–	–	–	–	–	–	–	117U6019	117U5017	–	103N1004	103N2009	–	195B0077
21	9.63	6.5	6.5	–	–	–	–	–	–	–	117U6019	117U5017	–	103N1004	103N2009	–	–
22	10.2	6.2	6.2	–	–	–	–	–	–	–	117U6019	117U5017	–	103N1004	103N2009	–	195B0399
23	10.2	6.2	6.2	–	–	–	–	–	–	–	117U6013	117U5012	–	103N1004	103N2009	–	195B0391
24	10.2	6.2	6.2	–	–	–	–	–	[3]	[3]	–	117U5373	117-7029	103N1004	103N2009	–	195B0641
25	10.2	6.2	6.2	–	–	–	–	–	[3]	[3]	–	117U5373	117-7027	103N1004	103N2009	–	195B0066
26	10.2	6.2	6.2	–	–	–	–	–	[3]	[3]	–	117U5373	117-7027	103N1004	103N2009	–	195B0652
27	10.2	6.2	6.2	–	–	–	–	–			117U6013	117U5012	–	103N1004	103N2009	–	195B0332
28	10.2	6.2	6.2	–	–	–	–	–	[3]	[3]	–	–	117-7027	103N1004	103N2009	–	195B0653
29	10.2	6.2	6.2	–	–	–	–	–	[3]	[3]	–	117U5373	117-7027	103N1004	103N2009	–	195B0640
30	12	6.2	6.2	–	–	–	–	–	–	–	117U6003	117U5017	–	103N1004	103N2009	–	195B0108
31	12	6.2	6.2	–	–	–	–	–	–	–	117U6005	117U5017	–	103N1004	103N2009	–	195B0111
32	12	6.2	6.2	–	–	–	–	–	–	–	117U6005	117U5017	–	103N1004	103N2009	–	195B0119
33	12	6.2	6.2	–	–	–	–	–	–	–	117U6019	117U5017	–	103N1004	103N2009	–	195B0112
34	12	6.2	6.2	–	–	–	–	–	–	–	117U6019	117U5017	–	103N1004	103N2009	–	195B0109
35	16	6.2	6.2	–	–	–	–	–	[3]	[3]	–	117U5373	117-7029	103N1004	103N2009	–	195B0643
36	12	6.2	6.2	–	–	–	–	–	–	–	117U6013	117U5012	–	103N1004	103N2009	–	195B0527
37	16	6.2	6.2	–	–	–	–	–	[3]	[3]	–	–	117-7027	103N1004	103N2009	–	195B0642
38	16	6.2	6.2	–	–	–	–	–	[3]	[3]	–	117U5373	117-7027	103N1004	103N2009	–	195B0644
39	16.1	6.5	9.7	–	–	–	–	–	[3]	[3]	–	–	117-7070	–	107B9101	–	195B0436
40	12.9	6.5	8.2	–	–	–	–	–	[3]	[3]	–	–	117-7056	–	107B9101	–	195B0427
41	16.1	6.5	9.7	–	–	–	–	–	[3]	[3]	–	–	117-7072	–	107B9101	–	195B0437
42	12.9	6.5	8.2	–	–	–	–	–	[3]	[3]	–	–	117-7074	–	107B9101	–	195B0439
43	16.1	6.5	9.7	–	–	–	–	–	[3]	[3]	–	–	117-7056	–	107B9101	–	195B0438

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

Reciprocating compressors - Light Commercial

R404A - 220 V | 60 Hz

S.No.	Compressor	Application	ASHRAE Tcond = 130 °F, Tliq = 90 °F, Tsuc = 90 °F Capacity [BTU/h] Evaporating temp. [°F]						ASHRAE LBP rating point -10 °F / 130 °F		ASHRAE MBP rating point 20 °F / 130 °F		ASHRAE HBP rating point 45 °F / 130 °F		Displacement	Voltage and frequencies	Compressor cooling	Dimensions Height [in]	
			-31	5	23	32	50	59	Cooling capacity [BTU/h]	EER [BTU/Wh]	Cooling capacity [BTU/h]	EER [BTU/Wh]	Cooling capacity [BTU/h]	EER [BTU/Wh]	[cu.in]			A	B
1	NF7MLX	MBP	–	2260	3516	4291	–	–	–	–	2819	5.33	–	–	0.44	187 – 254 V, 60 Hz *)	F2	8.0	7.8
2	NL6.1MLX	MBP	–	1853	2883	3518	–	–	–	–	2311	5.52	–	–	0.37	187 – 254 V, 60 Hz *)	F2	8.0	7.8
3	SC10CLX	L/MBP	529	2786	–	–	–	–	1763	3.95	–	–	–	–	0.63	198 – 254 V, 60 Hz *)	F2	8.2	8.0
4	SC10MLX	MBP	–	2874	4545	5578	–	–	1805	3.91	3636	5.22	–	–	0.63	187 – 254 V, 60 Hz *)	F2	8.2	8.0
5	SC12CLX	LBP	771	3744	–	–	–	–	2378	4.20	–	–	–	–	0.79	198 – 254 V, 60 Hz	F2	8.6	8.4
6	SC12CLX.2	LBP	1081	3704	–	–	–	–	2408	4.07	–	–	–	–	0.79	198 – 254 V, 60 Hz *)	F2	8.6	8.4
7	SC12CLX.2	LBP	1081	3704	–	–	–	–	2408	4.33	–	–	–	–	0.79	187 – 254 V, 60 Hz	F2	8.6	8.4
8	SC12MLX	MBP	–	3445	5372	6563	–	–	2212	4.02	4305	5.18	–	–	0.79	187 – 254 V, 60 Hz *)	F2	8.6	8.4
9	SC15CLX.2	LBP	1409	4564	–	–	–	–	3005	4.53	–	–	–	–	0.93	187 – 254 V, 60 Hz	F2	8.6	8.4
10	SC15CLX	LBP	800	4141	–	–	–	–	2636	4.20	–	–	–	–	0.93	198 – 254 V, 60 Hz	F2	8.6	8.4
11	SC15MLX.2	MBP	–	4210	6472	7918	–	–	–	0.00	5188	5.32	–	–	0.93	187 – 254 V, 60 Hz	F2	8.6	8.4
12	SC18CLX.2	LBP	1774	5306	–	–	–	–	3797	4.76	–	–	–	–	1.08	187 – 254 V, 60 Hz	F2	8.6	8.4
13	SC18MLX	MBP	–	5191	7947	9691	–	–	–	0.00	6378	5.03	–	–	1.08	187 – 254 V, 60 Hz	F2	8.6	8.4
14	SC12/12CLX	LBP	1533	7450	–	–	–	–	4733	4.18	–	–	–	–	1.57	198 – 254 V, 60 Hz	F2	10.2	10.0
15	GS21CLX	LBP	1993	6548	–	–	–	–	4286	4.60	–	–	–	–	1.29	187 – 254 V, 60 Hz	F2	10.2	9.7
16	GS21MLX	MBP	–	6973	10697	13036	–	–	–	–	8587	6.34	–	–	1.29	187 – 254 V, 60 Hz	F2	11.0	10.5
17	GS26CLX	LBP	2453	7216	–	–	–	–	4854	4.14	–	–	–	–	1.60	187 – 254 V, 60 Hz	F2	11.0	10.5

Reciprocating compressors - Light Commercial

R404A - 220 – 240 V | 50 – 60 Hz

S.No.	Compressor	Application	ASHRAE Tcond = 54.4 °C, Tliq = 32.2 °C, Tsuc = 32.2 °C Capacity [W] Evaporating temp. [°C]						ASHRAE LBP rating point -23.3 °C / 54.4 °C		ASHRAE MBP rating point -6.7 °C / 54.4 °C		ASHRAE HBP rating point 7.2 °C / 54.4 °C		Displacement	Voltage and frequencies	Compressor cooling	Dimensions Height [mm]	
			-35	-15	-5	0	10	15	Cooling capacity [W]	COP [W/W]	Cooling capacity [W]	COP [W/W]	Cooling capacity [W]	COP [W/W]	[cm³]			A	B
1	NL6.1MLX	MBP	–	543	844	1031	–	–	350	1.24	676	1.62	1155	2.20	6.13	187 – 254 V, 60 Hz *)	F2	203	197
2	NF7MLX	MBP	–	662	1030	1257	–	–	426	1.16	825	1.56	1409	2.04	7.27	187 – 254 V, 60 Hz *)	F2	203	197
3	SC10CLX	L/MBP	155	816	–	–	–	–	518	1.16	–	–	–	–	10.29	198 – 254 V, 60 Hz *)	F2	209	203
4	SC10MLX	MBP	–	842	1332	1634	–	–	530	1.15	1064	1.53	1842	2.01	10.29	187 – 254 V, 60 Hz *)	F2	209	203
5	SC12CLX.2	LBP	317	1085	–	–	–	–	707	1.19	–	–	–	–	12.87	198 – 254 V, 60 Hz *)	F2	219	213
6	SC12MLX	MBP	–	1009	1574	1923	–	–	650	1.18	1260	1.52	2157	1.98	12.87	187 – 254 V, 60 Hz *)	F2	219	213

Applications
LBP = Low Back Pressure
MBP = Medium Back Pressure
HBP = High Back Pressure

Motor types
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RSCR = Resistant Start Capacitor Run
CSIR = Capacitor Start Induction Run
CSR = Capacitor Start Run

Voltage and frequencies
**) Dual frequencies*

Electrical Equipment
[1]) see data sheets for details
[2]) alt. cable lenghts available
[3]) compulsory

Compressor cooling
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***O** = Oil cooling*
***F$_1$** = Fan cooling 1.5 m/s*
(compressor compartment temp. equal to ambient temperature)
***F$_2$** = Fan cooling 3.0 m/s necessary*
****** = O / F1 possible at 220 V nominal (187 – 242 V)*

Starting devices
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For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

S.No.	Dimensions			Electrical equipment - codes											Compressor - code no.		
				LST (RSIR & RSCR) - refer to data sheet for ePTC code no.					Run capacitor		HST (CSIR & CSR)			LST / HST				
	Connectors location			PTC starting device		PTC starting device with RC connector		Protector (external)	optional or compulsory		Starting relay	Starting capacitor	Starting device [2]	Cord relief	Cover	Compressor w/o accessories	Single pack Compressor with LST accessories	Single pack Compressor with HST accessories
	[in]			Spades [in]														
	Suction C	Process D	Discharge E	¼	3/16	¼	3/16	¼	¼	3/16	¼	¼	¼					
1	0.38	0.26	0.26	–	–	–	–	–	–	–	117U4139	117U5018	–	117U0349	117U1021	105F3720	–	195B0443
2	0.32	0.26	0.26	–	–	–	–	–	–	–	117U6022	117U5015	–	103N1010	103N2011	105F3611	–	195B0599
3	0.32	0.24	0.24	–	–	–	–	–	–	–	117U6005	117U5017	–	103N1004	103N2008	104L2533	–	195B0151
4	0.32	0.26	0.26	–	–	–	–	–	–	–	117U6011	117U5017	–	103N1004	103N2008	104L2506	–	195B0345
5	0.32	0.24	0.24	–	–	–	–	–	–	–	117U6019	117U5017	–	103N1004	103N2008	104L2695	–	195B0247
6	0.32	0.24	0.24	–	–	–	–	–	–	–	117U6019	117U5017	–	103N1004	103N2008	104L2697	–	195B0379
7	0.38	0.26	0.26	–	–	–	–	–	–	–	–	–	117-7027	103N1004	103N2008	104L2699	–	195B0721
8	0.32	0.26	0.26	–	–	–	–	–	–	–	117U6011	117U5017	–	103N1004	103N2008	104L2606	–	195B0323
9	0.38	0.26	0.26	–	–	–	–	–	–	–	–	117U5373	117-7039	103N1004	103N2008	104L2897	–	195B0650
10	0.40	0.24	0.24	–	–	–	–	–	–	–	–	117U5373	117-7039	103N1004	103N2008	104L2854	–	195B0646
11	0.38	0.26	0.26	–	–	–	–	–	–	–	–	–	117-7058	103N1004	103N2008	104L2803	–	195B0358
12	0.38	0.26	0.26	–	–	–	–	–	–	–	–	117U5373	117-7066	103N1004	103N2008	104L2195	–	195B0428
13	0.38	0.26	0.26	–	–	–	–	–	–	–	–	–	117-7066	103N1004	103N2008	104L2138	–	195B0656
14	0.47	0.24	0.24	–	–	–	–	–	–	–	117U6019	117U5017	–	103N1004	103N2009	104L4034	–	–
15	0.51	0.26	0.32	–	–	–	–	–	–	–	–	–	117-7073	–	107B9101	107B0506	–	195B0502
16	0.51	0.26	0.38	–	–	–	–	–	–	–	–	–	117-7073	–	107B9106	107B0509	–	195B0503
17	0.51	0.26	0.32	–	–	–	–	–	–	–	–	–	117-7073	–	107B9101	107B0505	–	195B0501

S.No.	Dimensions			Electrical equipment - codes											Compressor - code no.	
				LST (RSIR & RSCR)					Run capacitor		HST (CSIR & CSR)			LST / HST			
	Connectors location			PTC starting device without RC connector		PTC starting device with RC connector		ePTC			Starting relay	Starting capacitor	Starting device	Cord relief	Cover	Compressor w/o accessories	Single pack Compressor with HST accessories
	[mm]			Spades [mm]													
	Suction C	Process D	Discharge E	6.3	4.8	6.3	4.8	4.8	6.3	4.8	6.3	4.8	6.3				
1	8.2	6.5	6.5	–	–	–	–	–	–	–	117U6022	117U5015	–	103N1010	103N2011	105F3611	195B0599
2	9.7	6.5	6.5	–	–	–	–	–	–	–	117U4139	117U5018	–	117U0349	117U1021	105F3720	195B0443
3	8.2	6.2	6.2	–	–	–	–	–	–	–	117U6005	117U5017	–	103N1004	103N2008	104L2533	195B0151
4	8.2	6.5	6.5	–	–	–	–	–	–	–	117U6011	117U5017	–	103N1004	103N2008	104L2506	195B0345
5	8.2	6.2	6.2	–	–	–	–	–	–	–	117U6019	117U5017	–	103N1004	103N2008	104L2697	195B0379
6	8.2	6.5	6.5	–	–	–	–	–	–	–	117U6011	117U5017	–	103N1004	103N2008	104L2606	195B0323

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Technical data and ordering

Reciprocating compressors - Light Commercial

R404A - 115 V | 60 Hz

S.No.	Compressor	Application	ASHRAE Tcond = 130 °F, Tliq = 90 °F, Tsuc = 90 °F Capacity [BTU/h] Evaporating temp. [°F]						ASHRAE LBP rating point -10 °F / 130 °F		ASHRAE MBP rating point 20 °F / 130 °F		ASHRAE HBP rating point 45 °F / 130 °F		Displacement	Voltage and frequencies	Compressor cooling	Dimensions Height [in]	
			-31	5	23	32	50	59	Cooling capacity [BTU/h]	EER [BTU/Wh]	Cooling capacity [BTU/h]	EER [BTU/Wh]	Cooling capacity [BTU/h]	EER [BTU/Wh]	[cu. in]			A	B
1	TF4CLX	L/MBP	340	1059	1620	1965	–	–	703	3.83	1302	4.77	–	–	0.24	103-135 V, 60 Hz	F2	6.8	–
2	TFS4.5CLX	LBP	477	1369	–	–	–	–	927	4.07	–	–	–	–	0.28	103-135 V, 60 Hz	F2	6.8	–
3	NF5.5CLX	L/MBP	653	1837	2775	3354	–	–	1247	4.20	2233	5.22	–	–	0.37	95-135 V, 60 Hz	F2	8.0	7.8
4	NF7CLX	L/MBP	776	2300	3507	4254	–	–	1541	4.19	2819	5.33	–	–	0.44	95-135 V, 60 Hz	F2	7.8	7.5
5	SC10CL	L/MBP	443	2388	3942	4914	–	–	1422	3.37	3135	4.86	–	–	0.63	103-127 V, 60 Hz	F2	8.2	8.0
6	SC12CLX.2	LBP	1036	3771	–	–	–	–	2470	3.89	–	–	–	–	0.79	103-127 V, 60 Hz	F2	8.2	8.0
7	SC12CL	LBP	771	3744	–	–	–	–	2378	3.78	–	–	–	–	0.79	103-127 V, 60 Hz	F2	8.2	8.0
8	SC12MLX	MBP	–	3551	5559	6829	–	–	–	–	4448	5.14	–	–	0.79	95-135 V, 60 Hz	F2	8.6	8.4
9	SC15CLX.2	LBP	1409	4564	–	–	–	–	3005	4.12	–	–	–	–	0.93	103-127 V, 60 Hz	F2	8.6	8.4
10	SC15MLX	MBP	–	4101	6419	7886	–	–	–	–	5136	4.80	–	–	0.93	95-135 V, 60 Hz	F2	8.6	8.4
11	SC15MLX.2	MBP	–	4212	6466	7892	–	–	–	–	5187	5.14	–	–	0.93	103-127 V, 60 Hz	F2	8.6	8.4
12	SC18CLX.2	LBP	1712	5121	–	–	–	–	3664	4.48	–	–	–	–	1.08	103-127 V, 60 Hz	F2	8.6	8.4
13	SC18MLX	MBP	–	5191	7947	9691	–	–	–	–	6378	5.03	–	–	1.08	103-127 V, 60 Hz	F2	8.6	8.4

Reciprocating compressors - Light Commercial

R407C - 220 – 240 V | 50/60 Hz

S.No.	Compressor	Application	ASHRAE Tcond = 54.4 °C, Tliq = 32.2 °C, Tsuc = 32.2 °C Capacity [W] Evaporating temp. [°C]						ASHRAE LBP rating point -23.3 °C / 54.4 °C		ASHRAE MBP rating point -6.7 °C / 54.4 °C		ASHRAE HBP rating point 7.2 °C / 54.4 °C		Displacement	Voltage and frequencies	Compressor cooling	Dimensions Height [mm]	
			-35	-15	-5	0	10	15	Cooling capacity [W]	COP [W/W]	Cooling capacity [W]	COP [W/W]	Cooling capacity [W]	COP [W/W]	[cm³]			A	B
1	SC10DL	M/HBP	–	469	842	1074	1653	2013	–	–	685	1.57	1308	2.32	10.29	198 – 254 V, 50 Hz	F2	209	203
2	SC12DL	M/HBP	–	621	1087	1385	2144	2620	–	–	886	1.58	1692	2.38	12.87	198 – 254 V, 50 Hz	F2	219	213
3	SC15DL	M/HBP	–	782	1351	1709	2612	3174	–	–	1104	1.70	2069	2.59	15.28	198 – 254 V, 50 Hz	F2	219	213
4	SC10/10DL	M/HBP	–	937	1685	2148	3307	4026	–	–	1371	1.57	2615	2.32	20.58	198 – 254 V, 50 Hz	F2	249	244
5	SC12/12DL	M/HBP	–	1241	2174	2769	4287	5239	–	–	1772	1.58	3384	2.38	25.74	198 – 254 V, 50 Hz	F2	259	254
6	SC15/15DL	M/HBP	–	1563	2703	3419	5224	6348	–	–	2208	1.70	4137	2.59	30.56	198 – 254 V, 50 Hz	F2	259	254

Applications
LBP = Low Back Pressure
MBP = Medium Back Pressure
HBP = High Back Pressure

Motor types
RSIR = Resistant Start Induction Run
RSCR = Resistant Start Capacitor Run
CSIR = Capacitor Start Induction Run
CSR = Capacitor Start Run

Voltage and frequencies
**) Dual frequencies*

Electrical Equipment
[1]) see data sheets for details
[2]) alt. cable lenghts available
[3]) compulsory

Compressor cooling
***S** = Static cooling normally sufficient*
***O** = Oil cooling*
***F*$_1$** *= Fan cooling 1.5 m/s (compressor compartment temp. equal to ambient temperature)*
***F*$_2$** *= Fan cooling 3.0 m/s necessary*
** = O / F1 possible at 220 V nominal (187 – 242 V)*

Starting devices
***LST** = Low Starting Torque*
LST is used with capillary tube control and pressure equalizing. (Pressure equalizing may exceed 10 minutes). The PTC starting device requires 5 minutes cooling before each start.
***HST** = HST consisting of relay and starting capacitor is used for expansion valve control or for capillary tube control without pressure equalizing.*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

S.No.	Dimensions			Electrical equipment - codes											Compressor - code no.		
				LST (RSIR & RSCR) - refer to data sheet for ePTC code no.					Run capacitor		HST (CSIR & CSR)			LST / HST				
	Connectors location			PTC starting device		PTC starting device with RC connector		Protector (external)	optional or compulsory		Starting relay	Starting capacitor	Starting device [2]	Cord relief	Cover	Compressor w/o accessories	Single pack Compressor with LST accessories	Single pack Compressor with HST accessories
	[in]			Spades [in]														
	Suction C	Process D	Discharge E	¼	3/16	¼	3/16	¼	¼	3/16	¼	¼	¼					
1	0.26	0.26	0.26	–	–	–	–	–	–	–	–	–	–	–	–	102U2114	–	195B0666
2	0.26	0.26	0.26	–	–	–	–	–	–	–	–	–	–	–	–	102U2115	–	195B0667
3	0.32	0.26	0.26	–	–	–	–	–	–	–	117U4061	117U5025	–	117U0349	117U1021	105F1621	–	195B0348
4	0.32	0.26	0.26	–	–	–	–	–	–	–	117U4129	117U5022	–	117U0349	117U1021	105F1721	–	195B0304
5	0.32	0.26	0.26	–	–	–	–	–	–	–	117U6020	117U5023	–	103N1004	103N2008	104L1503	–	195B0147
6	0.32	0.26	0.26	–	–	–	–	–	–	–	117U6020	117U5023	–	103N1004	103N2008	104L1696	–	195B0491
7	0.32	0.26	0.26	–	–	–	–	–	–	–	117U6020	117U5023	–	103N1004	103N2008	104L1603	–	195B0061
8	0.32	0.26	0.26	–	–	–	–	–	–	–	117-7441	117U5042	117-7053	–	117U1021	104L1606	–	195B0323
9	0.38	0.26	0.26	–	–	–	–	–	117-7114	–	117-7441	117U5043	117-7045	–	117U1021	104L1853	–	195B0701
10	0.38	0.26	0.26	–	–	–	–	–	117-7114	–	117-7441	117U5043	117-7045	–	117U1021	104L1805	–	195B0375
11	0.38	0.26	0.26	–	–	–	–	–	117-7114	–	117-7441	117U5043	117-7045	–	117U1021	104L1807	–	195B0447
12	0.38	0.26	0.26	–	–	–	–	–	117-7114	–	117-7441	117U5043	117-7045	–	117U1021	104L2198	–	195B0464
13	0.38	0.26	0.26	–	–	–	–	–	117-7114	–	117-7441	117U5043	117-7045	–	117U1021	104L2105	–	195B0702

S.No.	Dimensions			Electrical equipment - codes											Compressor - code no.	
				LST (RSIR & RSCR)					Run capacitor		HST (CSIR & CSR)			LST / HST			
	Connectors location			PTC starting device without RC connector		PTC starting device with RC connector		ePTC			Starting relay	Starting capacitor	Starting device	Cord relief	Cover	Compressor w/o accessories	Single pack Compressor with HST accessories
	[mm]			Spades [mm]													
	Suction C	Process D	Discharge E	6.3	4.8	6.3	4.8	4.8	6.3	4.8	6.3	4.8	6.3				
1	8.2	6.2	6.2	–	–	–	–	–	–	–	117U6005	117U5017	–	103N1004	103N2009	104L2525	195B0075
2	10.2	6.2	6.2	–	–	–	–	–	–	–	117U6019	117U5017	–	103N1004	103N2009	104L2625	195B0077
3	10.2	6.2	6.2	–	–	–	–	–	[3]	[3]	–	117U5373	117-7029	103N1004	103N2009	104L2856	195B0641
4	12	6.2	6.2	–	–	–	–	–	–	–	117U6005	117U5017	–	103N1004	103N2009	104L4091	195B0111
5	12	6.2	6.2	–	–	–	–	–	–	–	117U6019	117U5017	–	103N1004	103N2009	104L4092	195B0112
6	16	6.2	6.2	–	–	–	–	–	[3]	[3]	–	117U5373	117-7029	103N1004	103N2009	104L4093	195B0643

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

Reciprocating compressors - Light Commercial

R290 - 220 – 240 V | 50 Hz

S.No.	Compressor	Application	ASHRAE Tcond = 54.4 °C, Tliq = 32.2 °C, Tsuc = 32.2 °C Capacity [W] Evaporating temp. [°C]						ASHRAE LBP rating point -23.3 °C / 54.4 °C		ASHRAE MBP rating point -6.7 °C / 54.4 °C		ASHRAE HBP rating point 7.2 °C / 54.4 °C		Displacement	Voltage and frequencies	Compressor cooling	Dimensions Height [mm]	
			-35	-15	-5	0	10	15	Cooling capacity [W]	COP [W/W]	Cooling capacity [W]	COP [W/W]	Cooling capacity [W]	COP [W/W]	[cm³]			A	B
1	TL3CN	L/MBP	49	161	249	303	–	–	105	0.91	208	1.38	–	–	3.13	198 – 254 V, 50 Hz	F1	163	159
2	TL4CN	L/MBP	76	212	316	379	–	–	146	1.07	265	1.46	–	–	3.86	198 – 254 V, 50 Hz	F1	173	169
3	TL5CN	L/MBP	109	296	436	521	–	–	205	1.18	367	1.53	–	–	5.08	198 – 254 V, 50 Hz	F1	173	169
4	DLE4CN	L/MBP	104	279	404	473	–	–	193	1.58	341	2.15	516	2.92	4.00	198 – 254 V, 50 Hz	F2	175	169
5	DLE4.8CN	L/MBP	129	341	500	601	–	–	242	1.65	420	2.15	696	3.04	4.80	198 – 254 V, 50 Hz	F2	175	169
6	DLE5.7CN	L/MBP	169	419	609	730	–	–	301	1.59	512	2.05	840	2.82	5.70	198 – 254 V, 50 Hz	F2	175	169
7	DLE6.5CN	L/MBP	170	450	659	790	–	–	318	1.66	554	2.12	911	2.86	6.50	198 – 254 V, 50 Hz	F2	175	169
8	DLE7.5CN	L/MBP	209	519	765	918	–	–	366	1.47	643	1.91	1055	2.56	7.48	198 – 254 V, 50 Hz	F2	175	169
9	NL7CN	L/MBP	174	474	712	859	–	–	325	1.35	597	1.81	–	–	7.27	198 – 254 V, 50 Hz	F1	203	197
10	NL9CN	L/MBP	205	548	815	979	–	–	380	1.39	684	1.80	–	–	8.35	198 – 254 V, 50 Hz	F1	203	197
11	NLE8.8CN	L/MBP	238	617	902	1078	1512	–	435	1.65	759	2.08	1232	2.83	8.76	198 – 254 V, 50 Hz	F2	203	197
12	NLE10CN	L/MBP	270	709	1048	1252	1739	–	491	1.54	881	1.99	1423	2.68	10.09	198 – 254 V, 50 Hz	F2	203	197
13	NLE11CNL	LBP	300	778	1143			–	540	1.52	962	1.92	–	–	11.15	198 – 254 V, 50 Hz	F2	203	197
14	NLE11MN	MBP	–	798	1171	1399	1947	–	564	1.66	985	2.11	1592	2.85	11.15	198 – 254 V, 50 Hz	F2	203	197
15	NLE12.6CNL	LBP	353	867	1280			–	614	1.69	1074	2.10	–	–	12.55	198 – 254 V, 50 Hz	F2	203	197
16	NLE12.6MN	MBP	–	862	1272	1525	2135	–	605	1.64	1069	2.08	1742	2.72	12.55	198 – 254 V, 50 Hz	F2	203	197
17	SC10CNX	L/MBP	175	547	853	1042	–	–	358	1.27	711	1.79	–	–	10.29	198 – 254 V, 50 Hz	F2	209	203
18	SC10MNX	MBP	–	575	921	1132	–	–	351	1.19	766	1.70	1329	2.57	10.29	198 – 254 V, 50 Hz	F2	209	203
19	SC12CNX	L/MBP	227	711	1110	1372	–	–	475	1.31	923	1.79	–	–	12.87	198 – 254 V, 50 Hz	F2	209	203
20	SC12CNX.2	LBP	230	742	–	–	–	–	491	1.20	–	–	–	–	12.87	198 – 254 V, 50 Hz	F2	209	203
21	SC12MNX	MBP	–	757	1195	1461	–	–	474	1.13	995	1.77	1707	2.61	12.87	198 – 254 V, 50 Hz	F2	219	213
22	SC15CNX	L/MBP	251	918	1415	1717	–	–	597	1.35	1183	1.83	–	–	15.28	198 – 254 V, 50 Hz	F2	209	203
23	SC15CNX.2	LBP	345	928	–	–	–	–	624	1.32	–	–	–	–	15.28	198 – 254 V, 50 Hz	F2	209	203
24	SC15MNX	MBP	–	967	1409	1679	–	–	680	1.51	1187	1.75	1907	2.40	15.28	198 – 254 V, 50 Hz	F2	219	213
25	SC18CNX	L/MBP	315	1106	1684	2032	–	–	727	1.36	1410	1.74	–	–	17.69	198 – 254 V, 50 Hz	F2	209	203
26	SC18CNX.2	LBP	342	1194	–	–	–	–	797	1.31	–	–	–	–	17.69	198 – 254 V, 50 Hz	F2	219	213
27	SC18MNX	MBP	–	1109	1622	1943	–	–	777	1.31	1364	1.71	2237	2.33	17.69	198 – 254 V, 50 Hz	F2	219	213
28	SC21CNX.2	LBP	462	1399	–	–	–	–	962	1.45	–	–	–	–	20.95	198 – 254 V, 50 Hz	F2	219	213
29	SCE21CNLX	LBP	548	1387	2074	–	–	–	953	1.61	1741	2.04	–	–	20.95	198 – 254 V, 50 Hz	F2	219	213
30	SCE21MNX	MBP	–	1443	2091	2492	–	–	1002	1.64	1762	2.11	2852	2.91	20.95	198 – 254 V, 50 Hz	F2	219	213
31	DLE4CNT	L/MBP	104	279	404	473	–	–	193	1.58	341	2.15	516	2.92	4.00	187 – 254 V, 50 Hz	F2	175	169
32	DLE4.8CNT	L/MBP	130	334	498	601	–	–	232	1.41	417	2.01	695	2.91	4.80	187 – 254 V, 50 Hz *)	F2	175	169
33	DLE4.8CNT	L/MBP	129	341	500	601	–	–	242	1.65	420	2.15	696	3.04	4.80	187 – 254 V, 50 Hz	F2	175	169
34	DLE5.7CNT	L/MBP	166	415	607	727	–	–	296	1.49	510	2.02	836	2.86	5.70	187 – 254 V, 50 Hz *)	F2	175	169
35	NLE8.0CNT	L/MBP	183	554	827	993	–	–	378	1.55	694	2.16	1140	3.13	7.96	187 – 242 V, 50 Hz *)	F2	203	197
36	NLE10CNT	L/MBP	274	748	1094	–	–	–	519	1.54	922	1.99	–	–	10.09	187 – 242 V, 50 Hz *)	F2	203	197

Applications
LBP = Low Back Pressure
MBP = Medium Back Pressure
HBP = High Back Pressure

Motor types
RSIR = Resistant Start Induction Run
RSCR = Resistant Start Capacitor Run
CSIR = Capacitor Start Induction Run
CSR = Capacitor Start Run

Voltage and frequencies
**) Dual frequencies*

Electrical Equipment
[1]) see data sheets for details
[2]) alt. cable lenghts available
[3]) compulsory

Compressor cooling
S *= Static cooling normally sufficient*
O *= Oil cooling*
F_1 *= Fan cooling 1.5 m/s*
(compressor compartment temp. equal to ambient temperature)
F_2 *= Fan cooling 3.0 m/s necessary*
** = O / F1 possible at 220 V nominal (187 – 242 V)*

Starting devices
LST *= Low Starting Torque*
LST is used with capillary tube control and pressure equalizing. (Pressure equalizing may exceed 10 minutes). The PTC starting device requires 5 minutes cooling before each start.
HST *= HST consisting of relay and starting capacitor is used for expansion valve control or for capillary tube control without pressure equalizing.*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

S.No.	Dimensions			Electrical equipment - codes											Compressor - code no.		
				LST (RSIR & RSCR)							HST (CSIR & CSR)			LST / HST				
	Connectors location			PTC starting device without RC connector		PTC starting device with RC connector		ePTC	Run capacitor		Starting relay	Starting capaci-tor	Starting device	Cord relief	Cover	Compressor w/o accessories	Single pack Compressor with LST accessories	Single pack Compressor with HST accessories
	[mm]			Spades [mm]														
	Suction C	Process D	Dis-charge E	6.3	4.8	6.3	4.8	4.8	6.3	4.8	6.3	4.8	6.3					
1	6.2	6.2	5	103N0011	103N0018	–	–	–	–	–	117U7004	117U5014	–	103N1010	103N2010	102H4380	–	195B0435
2	6.2	6.2	5	103N0011	103N0018	–	–	–	–	–	117U7004	117U5014	–	103N1010	103N2010	102H4490	–	195B0589
3	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	–	117-7117	117-7119	117U7000	117U5014	–	103N1010	103N2010	102H4590	195B0420	195B0450
4	6.2	6.2	5	–	–	–	–	103N0050	–	117-7129	117U7000	117U5014	–	103N1010	103N0491	102H4465	–	195B0727
5	8.2	6.2	6.2	–	–	–	–	103N0050	–	117-7129	117U7001	117U5014	–	103N1010	103N0491	102H4565	–	195B0729
6	8.2	6.2	6.2	–	–	–	–	103N0050	–	117-7129	117U7015	117U5015	–	103N1010	103N0491	102H4653	–	195B0726
7	8.2	6.2	6.2	–	–	–	–	103N0050	–	117-7129	117U7016	117U5015	–	103N1010	103N0491	102H4765	–	195B0730
8	8.2	6.2	6.2	–	–	–	–	103N0050	–	–	117U7002	117U5015	–	103N1010	103N0491	102H4853	–	195B0728
9	8.2	6.2	6.2	103N0011	103N0018	103N0016	103N0021	–	117-7117	117-7119	117U7002	117U5015	–	103N1010	103N2010	105H6756	195B0346	195B0451
10	8.2	6.2	6.2	103N0011	103N0018	103N0016	103N0021	–	117-7117	117-7119	117U7002	117U5015	–	103N1010	103N2010	105H6856	195B0265	195B0499
11	8.2	6.2	6.2	–	–	–	–	103N0050	–	117-7119	117U7002	117U5015	–	103N1010	103N2010	105H6880	–	195B0716
12	8.2	6.2	6.2	–	–	–	–	103N0050	–	117-7119	117U7002	117U5015	–	103N1010	103N2010	105H6175	–	195B0717
13	8.2	6.2	6.2	–	–	–	–	103N0050	–	–	117U7003	117U5015	–	103N1010	103N2010	105H6174	–	195B0718
14	8.2	6.2	6.2	–	–	–	–	103N0050	–	117-7119	117U7005	117U5015	–	103N1010	103N2010	105H6177	–	195B0749
15	8.2	6.2	6.2	–	–	–	–	103N0050	–	117-7119	117U7003	117U5015	–	103N1010	103N2010	105H6378	–	195B0751
16	8.2	6.2	6.2	–	–	–	–	103N0050	–	117-7119	117U7011	117U5015	–	103N1010	103N2010	105H6377	–	195B0750
17	8.2	6.2	6.2	–	–	–	–	–	[3]	[3]	–	117U5372	117-7025	103N1004	103N2009	104H8065	–	195B0655
18	8.2	6.2	6.2	–	–	–	–	–	–	–	117U7005	117U5017	–	103N1004	103N2008	104H8075	–	195B0676
19	8.2	6.2	6.2	–	–	–	–	–	[3]	[3]	–	117U5372	117-7025	103N1004	103N2009	104H8265	–	195B0649
20	8.2	6.2	6.2	–	–	–	–	–	–	–	117U7003	117U5017	–	103N1004	103N2009	104H8266	–	195B0458
21	8.2	6.2	6.2	–	–	–	–	–	–	–	117U7019	117U5017	–	103N1004	103N2008	104H8275	–	195B0692
22	10.2	6.2	6.2	–	–	–	–	–	[3]	[3]	–	117U5373	117-7031	103N1004	103N2009	104H8565	–	195B0645
23	8.2	6.2	6.2	–	–	–	–	–	–	–	117U7005	117U5017	–	103N1004	103N2009	104H8566	–	195B0505
24	8.2	6.2	6.2	–	–	–	–	–	–	–	117U7019	117U5017	–	103N1004	103N2008	104H8575	–	195B0695
25	10.2	6.2	6.2	–	–	–	–	–	[3]	[3]	–	117U5373	117-7052	103N1004	103N2009	104H8865	–	195B0654
26	10.2	6.2	6.2	–	–	–	–	–	–	–	117U7011	117U5017	–	103N1004	103N2009	104H8866	–	195B0489
27	8.2	6.2	6.2	–	–	–	–	–	–	–	117U7011	117U5017	–	103N1004	103N2008	104H8875	–	195B0693
28	10.2	6.2	6.2	–	–	–	–	–	–	–	117U7013	117U5012	–	103N1004	103N2009	104H8166	–	195B0459
29	10.2	6.2	6.2	–	–	–	–	–	[3]	117-7112 [2]	117-7600	117U5373	117-7806	–	117U1028	104H8163	–	–
30	10.2	6.2	6.2	–	–	–	–	–	[3]	117-7112 [2]	117-7425	117U5373	117-7800	–	117U1028	104H8160	–	–
31	6.2	6.2	5	–	–	–	–	103N0050	–	117-7129	117U7000	117U5014	–	103N1010	103N0491	102H4460	–	–
32	8.2	6.5	6.5	–	–	–	–	103N0050	–	117-7129	117U7002	117U5015	–	103N1010	103N0491	102H4587	–	–
33	8.2	6.2	6.2	–	103N0050	–	–	103N0050	–	117-7129	117U7001	117U5014	–	103N1010	103N0491	102H4588	–	–
34	8.2	6.5	6.5	–	–	–	–	103N0050	–	117-7129	117U7002	117U5015	–	103N1010	103N0491	102H4678	–	–
35	8.2	6.5	6.5	–	–	–	–	103N0050	–	117-7119	117U7003	117U5014	–	103N1010	103N2011	105H6073	–	–
36	8.2	6.5	6.5	–	–	–	–	103N0050	–	117-7119	117U7050	117U5014	–	103N1010	103N2011	105H6179	–	–

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Technical data and ordering

Reciprocating compressors - Light Commercial

R290 - 115V | 60 Hz

S.No.	Compressor	Application	ASHRAE Tcond = 130 °F, Tliq = 90 °F, Tsuc = 90 °F Capacity [BTU/h] Evaporating temp. [°F]						ASHRAE LBP rating point -10 °F / 130 °F		ASHRAE MBP rating point 20 °F / 130 °F		ASHRAE HBP rating point 45 °F / 130 °F		Displacement	Voltage and frequencies	Compressor cooling	Dimensions Height [in]	
			-31	5	23	32	50	59	Cooling capacity [BTU/h]	EER [BTU/Wh]	Cooling capacity [BTU/h]	EER [BTU/Wh]	Cooling capacity [BTU/h]	EER [BTU/Wh]	[cu.in]			A	B
1	TL4CNX.2	L/MBP	365	1058	1594	1929	–	–	722	4.31	1336	6.12	–	–	0.24	95 – 135 V, 60 Hz	F2	6.8	6.7
2	TL4.8CNX.2	L/MBP	468	1296	1908	2276	–	–	895	4.57	1607	6.14	–	–	0.29	95 – 135 V, 60 Hz	F2	6.8	6.7
3	DLE4CN	L/MBP	445	1152	1719	2070	–	–	799	5.40	1443	7.48	–	–	0.24	95 – 135 V, 60 Hz	F2	6.9	6.7
4	DLE4.8CN	L/MBP	536	1420	2086	2495	–	–	991	5.34	1756	7.32	–	–	0.29	95 – 135 V, 60 Hz	F2	6.9	6.7
5	DLE5.7CN	L/MBP	665	1709	2496	2973	–	–	1200	5.46	2104	7.22	–	–	0.35	95 – 135 V, 60 Hz	F2	6.9	6.7
6	DLE6.5CN	L/MBP	712	1859	2753	3319	–	–	1303	5.48	2313	7.19	–	–	0.40	95 – 135 V, 60 Hz	F2	6.9	6.7
7	NL7.3CNX.2	L/MBP	831	2085	3125	3759	–	–	1436	4.89	2624	6.68	–	–	0.44	95 – 135 V, 60 Hz	F2	8.0	7.8
8	NLE8.0CN	L/MBP	845	2266	3343	4016	–	–	1583	5.81	2811	7.74	–	–	0.49	95 – 135 V, 60 Hz	F2	8.0	7.8
9	NL8.4CNX.2	L/MBP	909	2384	3541	4259	–	–	1658	5.01	2975	6.55	–	–	0.51	95 – 135 V, 60 Hz	F2	8.0	7.8
10	NLE8.8CN	L/MBP	1024	2549	3755	4478	–	–	1775	5.72	3162	7.66	–	–	0.53	95 – 135 V, 60 Hz	F2	8.0	7.8
11	NLE10CN	L/MBP	1203	3011	4401	5228	–	–	2107	5.72	3711	7.69	–	–	0.62	103 – 127 V, 60 Hz	F2	8.0	7.8
12	NLY10CN	L/MBP	1281	2948	4394	5249	–	–	2040	5.76	3696	7.84	–	–	0.62	95 – 135 V, 60 Hz	F2	8.0	7.8
13	NLE11CNL	LBP	1336	3361	–	–	–	–	2340	6.04	–	–	–	–	0.68	95 – 135 V, 60 Hz	F2	8.0	7.8
14	NLE11MN	MBP	–	3389	4944	5875	–	–	–	–	4170	7.51	6651	10.09	0.68	95 – 135 V, 60 Hz	F2	8.0	7.8
15	SC10CNX.2	L/MBP	531	2480	3964	4868	–	–	1525	3.98	3302	6.38	–	–	0.63	95 – 135 V, 60 Hz	F2	8.2	8.0
16	SC12CNX.2	L/MBP	961	3171	4853	5876	–	–	2088	4.40	4065	6.39	–	–	0.79	95 – 135 V, 60 Hz	F2	8.2	8.0
17	SCE15CNLX	LBP	966	4169	6272	–	–	–	2731	5.38	5269	7.36	–	–	0.93	95 – 135 V, 60 Hz	F2	8.6	8.4
18	SC15MNX	MBP	–	3991	5742	6826	–	–	2480	4.49	4856	6.42	–	–	0.93	100 – 127 V, 60 Hz	F2	8.6	8.4
19	SCE15MNX	MBP	–	4119	6325	7621	–	–	–	–	5301	7.38	–	–	0.93	103 – 127 V, 60 Hz	F2	8.6	8.4
20	SCE18CNLX	LBP	1257	4824	7447	–	–	–	3223	5.56	6209	7.36	–	–	1.08	95 – 135 V, 60 Hz	F2	8.6	8.4
21	SC18MNX	MBP	–	4323	6340	7656	–	–	3001	4.29	5331	5.81	–	–	1.08	103 – 127 V, 60 Hz	F2	8.6	8.4
22	SCE18MNX	MBP	–	4854	7295	8728	–	–	–	–	6134	7.26	–	–	1.08	95 – 135 V, 60 Hz	F2	8.6	8.4
23	SCE21CNLX	LBP	1615	5530	8323	–	–	–	3720	5.47	6981	7.12	–	–	1.28	103 – 127 V, 60 Hz	F2	8.6	8.4

Applications
LBP = Low Back Pressure
MBP = Medium Back Pressure
HBP = High Back Pressure

Motor types
RSIR = Resistant Start Induction Run
RSCR = Resistant Start Capacitor Run
CSIR = Capacitor Start Induction Run
CSR = Capacitor Start Run

Voltage and frequencies
**) Dual frequencies*

Electrical Equipment
[1]) see data sheets for details
[2]) alt. cable lenghts available
[3]) compulsory

Compressor cooling
***S** = Static cooling normally sufficient*
***O** = Oil cooling*
***F_1** = Fan cooling 1.5 m/s*
(compressor compartment temp. equal to ambient temperature)
***F_2** = Fan cooling 3.0 m/s necessary*
****** = O / F1 possible at 220 V nominal (187 – 242 V)*

Starting devices
***LST** = Low Starting Torque*
LST is used with capillary tube control and pressure equalizing. (Pressure equalizing may exceed 10 minutes). The PTC starting device requires 5 minutes cooling before each start.
***HST** = HST consisting of relay and starting capacitor is used for expansion valve control or for capillary tube control without pressure equalizing.*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

S.No.	Dimensions			Electrical equipment - codes												Compressor - code no.		
	Connectors location			LST (RSIR & RSCR) - refer to data sheet for ePTC code no.					Run capacitor		HST (CSIR & CSR)			LST / HST				
				PTC starting device		PTC starting device with RC connector		Protector (external)	optional or compulsory		Starting relay	Starting capacitor	Starting device [2]	Cord relief	Cover	Compressor w/o accessories	Single pack Compressor with LST accessories	Single pack Compressor with HST accessories
	[in]			Spades [in]														
	Suction C	Process D	Discharge E	¼	3/16	¼	3/16	¼	¼	3/16	¼	¼	¼					
1	0.26	0.26	0.20	–	–	–	–	–	–	–	117U7005	117U5023	–	103N1010	103N2011	102H3490	–	195B0706
2	0.26	0.26	0.20	–	–	–	–	–	–	–	117U7005	117U5023	–	103N1010	103N2011	102H3590	–	195B0707
3	0.32	0.26	0.26	–	–	–	–	–	117-7118	117-7120	117U7022	117U5023	–	103N1010	103N0492	102H3482	–	195B0737
4	0.32	0.26	0.26	–	–	–	–	–	117-7118	117-7120	117U7011	117U5023	–	103N1010	103N0492	102H3582	–	195B0738
5	0.32	0.26	0.26	–	–	–	–	–	117-7118	117-7120	117U7011	117U5023	–	103N1010	103N0492	102H3682	–	195B0739
6	0.32	0.26	0.26	–	–	–	–	–	117-7118	–	117U7013	117U5023	–	103N1010	103N0492	102H3792	–	195B0740
7	0.32	0.26	0.26	–	–	–	–	–	–	–	117U7013	117U5035	–	103N1010	103N2011	105H6790	–	195B0708
8	0.32	0.26	0.26	–	–	–	–	117L0586	117-7147	–	117U7013	117U5023	–	103N1010	103N2011	105H6093	–	195B0741
9	0.32	0.26	0.26	–	–	–	–	–	–	–	117U7013	117U5035	–	103N1010	103N2011	105H6090	–	195B0709
10	0.32	0.26	0.26	–	–	–	–	117L0533	117-7114	–	117U7014	117U5025	–	103N1010	103N2011	105H6094	–	–
11	0.32	0.26	0.26	–	–	–	–	117L0534	117-7118	117-7120	117U7018	117U5025	–	103N1010	103N2011	105H6194	–	–
12	0.32	0.26	0.26	–	–	–	–	117L0533	117-7118	117-7120	117U7020	117U5035	–	103N1010	103N2011	105H6164	–	–
13	0.32	0.26	0.26	–	–	–	–	117L0534	117-7114	–	117U7020	117U5039	–	103N1010	–	105H5981	–	–
14	0.32	0.26	0.26	–	–	–	–	117L0533	117-7114	–	117U7020	117U5023	–	103N1010	–	105H5980	–	–
15	0.38	0.26	0.26	–	–	–	–	–	–	–	117U7020	117U5023	–	103N1004	103N2008	104H7070	–	195B0710
16	0.38	0.26	0.26	–	–	–	–	–	–	–	117U7020	117U5023	–	103N1004	103N2008	104H7270	–	195B0711
17	0.38	0.26	0.26	–	–	–	–	–	–	117-7133	117-7441	117U5350	117-7801	–	117U1021	104H7578	–	–
18	0.38	0.26	0.26	–	–	–	–	–	117-7114		117-7441	117U5043	117-7053	–	117U1021	104H7570	–	–
19	0.38	0.26	0.26	–	–	–	–	–	–	117-7133	117-7441	117U5350	117-7801	–	117U1021	104H7579	–	–
20	0.38	0.26	0.26	–	–	–	–	–	–	117-7133	117-7441	117U5350	117-7801	–	117U1021	104H7878	–	–
21	0.38	0.26	0.26	–	–	–	–	–	–	–	–	–	117-7053	–	117U1021	104H7870	–	–
22	0.38	0.26	0.26	–	–	–	–	–	–	117-7133	117-7443	117U5379	117-7805	–	117U1021	104H7879	–	–
23	0.38	0.26	0.26	–	–	–	–	–	–	117-7133	117-7443	117U5379	117-7805	–	117U1021	104H7178	–	–

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

Reciprocating compressors - Light Commercial

R600 - 220 – 240 V | 50 Hz

S.No.	Compressor	Application	ASHRAE Tcond = 54.4 °C, Tliq = 32.2 °C, Tsuc = 32.2 °C Capacity [W] Evaporating temp. [°C]						ASHRAE LBP rating point -23.3 °C / 54.4 °C		ASHRAE MBP rating point -6.7 °C / 54.4 °C		ASHRAE HBP rating point 7.2 °C / 54.4 °C		Displacement	Voltage and frequencies	Compressor cooling	Dimensions Height [mm]	
			-35	-15	-5	0	10	15	Cooling capacity [W]	COP [W/W]	Cooling capacity [W]	COP [W/W]	Cooling capacity [W]	COP [W/W]	[cm³]			A	B
1	PLE35K	MBP	–	63	106	133	–	–	38	0.91	88	1.56	–	–	2.50	198 – 254 V, 50 Hz	S	137	135
2	TLES4KTK	LBP	22	91	150	188	–	–	55	1.10	125	1.82	–	–	3.86	187 – 254 V, 50 Hz	S	173	169
3	TLES4KK.3	LBP	23	91	–	–	–	–	57	1.18	–	–	–	–	4.01	198 – 254 V, 50 Hz	S	163	159
4	TLY4KK.3	LBP	23	91	–	–	–	–	57	1.29	–	–	–	–	4.01	198 – 254 V, 50 Hz	S	163	159
5	TLX4KK.3	LBP	25	92	–	–	–	–	60	1.49	–	–	–	–	4.01	198 – 254 V, 50 Hz	S	173	169
6	TLY4.8KK.3	LBP	34	115	–	–	–	–	74	1.37	–	–	–	–	4.78	198 – 254 V, 50 Hz	S	163	159
7	TLES4.8KK.3	LBP	34	115	–	–	–	–	74	1.30	–	–	–	–	4.78	198 – 254 V, 50 Hz	S	163	159
8	TLES4.8KK.3	LBP	34	115	–	–	–	–	74	1.30	–	–	–	–	4.78	198 – 254 V, 50 Hz	S	163	159
9	TLES5KTK	LBP	34	121	194	240	–	–	77	1.22	162	1.78	–	–	5.08	187 – 254 V, 50 Hz	S	173	169
10	TLES6KTK	LBP	38	136	–	–	–	–	89	1.23	–	–	–	–	5.70	187 – 254 V, 50 Hz	S	173	169
11	TLY5.7KK.3	LBP	45	139	–	–	–	–	91	1.37	–	–	–	–	5.70	198 – 254 V, 50 Hz	S	163	159
12	TLX5.7KK.3	LBP	46	140	–	–	–	–	94	1.64	–	–	–	–	5.70	198 – 254 V, 50 Hz	S	173	169
13	TLES5.7KK.3	LBP	45	139	–	–	–	–	91	1.32	–	–	–	–	5.70	198 – 254 V, 50 Hz	S	163	159
14	TLES7KTK	LBP	49	158	–	–	–	–	103	1.22	–	–	–	–	6.49	187 – 254 V, 50 Hz	S	173	169
15	TLY6.5KK.3	LBP	56	165	–	–	–	–	109	1.47	–	–	–	–	6.49	198 – 254 V, 50 Hz	S	163	159
16	TLX6.5KK.3	LBP	57	163	–	–	–	–	110	1.66	–	–	–	–	6.49	198 – 254 V, 50 Hz	S	173	169
17	TLES6.5KK.3	LBP	55	163	–	–	–	–	108	1.31	–	–	–	–	6.49	198 – 254 V, 50 Hz	S	163	159
18	TLES7.5KK.3	LBP	64	189	–	–	–	–	125	1.38	–	–	–	–	7.48	198 – 254 V, 50 Hz	S	163	159
19	TLX7.5KK.3	LBP	67	192	–	–	–	–	130	1.68	–	–	–	–	7.48	198 – 254 V, 50 Hz	S	173	169
20	TLES8KTK	LBP	59	182	–	–	–	–	119	1.22	–	–	–	–	7.76	187 – 254 V, 50 Hz	S	173	169
21	TLES8.7KTK.3	LBP	71	217	–	–	–	–	143	1.27	–	–	–	–	8.67	187 – 254 V, 50 Hz	S	173	169
22	TLES8.7KK.3	LBP	75	221	–	–	–	–	147	1.39	–	–	–	–	8.67	198 – 254 V, 50 Hz	S	163	159
23	TLX8.7KK.3	LBP	79	224	–	–	–	–	153	1.67	–	–	–	–	8.67	198 – 254 V, 50 Hz	S	173	169
24	TLY10 KK.3	LBP	90	254	–	–	–	–	170	1.55	–	–	–	–	10.13	198 – 254 V, 50 Hz	S	173	169
25	TLES10 KTK.3	LBP	89	249	–	–	–	–	168	1.36	–	–	–	–	10.13	187 – 254 V, 50 Hz	S	173	169
26	DLX4KK	LBP	28	97	–	–	–	–	62	1.86	–	–	–	–	4.01	198 – 254 V, 50 Hz	S	175	169
27	DLX4KK.1	LBP	28	97	–	–	–	–	62	1.86	–	–	–	–	4.01	198 – 254 V, 50 Hz	S	175	169
28	DLX5.7KK.1	LBP	50	151	–	–	–	–	100	1.88	–	–	–	–	5.70	198 – 254 V, 50 Hz	S	175	169
29	DLE8.7KK	LBP	76	219	–	–	–	–	148	1.56	–	–	–	–	8.67	198 – 254 V, 50 Hz	S	175	169
30	DLX9.4KK.1	LBP	85	253	–	–	–	–	168	1.89	–	–	–	–	9.38	198 – 254 V, 50 Hz	S	175	169
31	DLE9.4KK	LBP	87	238	–	–	–	–	161	1.64	–	–	–	–	9.38	198 – 254 V, 50 Hz	S	175	169
32	DLE10 KK	LBP	96	265	–	–	–	–	182	1.65	–	–	–	–	10.14	198 – 254 V, 50 Hz	S	175	169
33	NLU8.0 KK.1	LBP	62	193	–	–	–	–	127	1.94	–	–	–	–	8.05	198 – 254 V, 50 Hz	S	203	197
34	NLX8.0 KK.2	LBP	64	204	–	–	–	–	133	1.88	–	–	–	–	8.05	198 – 254 V, 50 Hz	S	203	197
35	NLE9KTK	LBP	66	202	–	–	–	–	131	1.33	–	–	–	–	8.35	187 – 254 V, 50 Hz *)	S	197	190
36	NLU8.8KK.1	LBP	71	219	–	–	–	–	145	1.96	–	–	–	–	8.76	198 – 254 V, 50 Hz	S	203	197
37	NLX8.8KK.2	LBP	76	228	–	–	–	–	151	1.89	–	–	–	–	8.76	198 – 254 V, 50 Hz	S	203	197
38	NLU8.8KK.1	LBP	71	219	–	–	–	–	145	1.96	–	–	–	–	8.76	198 – 254 V, 50 Hz	S	203	197
39	NLX10 KK.2	LBP	91	265	–	–	–	–	177	1.89	–	–	–	–	10.09	198 – 254 V, 50 Hz	S	203	197
40	NLX10 KK.1	LBP	82	262	–	–	–	–	172	1.74	–	–	–	–	10.09	198 – 254 V, 50 Hz	S	203	197
41	NLU10 KK.1	LBP	86	267	–	–	–	–	176	1.98	–	–	–	–	10.09	198 – 254 V, 50 Hz	S	203	197
42	NLE10 KK.4	LBP	90	252	–	–	–	–	170	1.57	–	–	–	–	10.09	198 – 254 V, 50 Hz	S	190	183
43	NLE11KTK.2	LBP	102	295	–	–	–	–	198	1.51	–	–	–	–	11.15	187 – 254 V, 50 Hz	S	203	197
44	NLX11KK.3	LBP	97	288	–	–	–	–	195	1.86	–	–	–	–	11.15	198 – 254 V, 50 Hz	S	203	197
45	NLU11KK.1	LBP	99	301	–	–	–	–	200	1.97	–	–	–	–	11.15	198 – 254 V, 50 Hz	S	203	197
46	NLE11KTK	LBP	88	251	–	–	–	–	168	1.31	–	–	–	–	11.15	187 – 254 V, 50 Hz *)	S	197	190
47	NLE11KK.4	LBP	100	283	–	–	–	–	190	1.56	–	–	–	–	11.15	198 – 254 V, 50 Hz	S	190	183

Applications
LBP = Low Back Pressure
MBP = Medium Back Pressure
HBP = High Back Pressure

Motor types
RSIR = Resistant Start Induction Run
RSCR = Resistant Start Capacitor Run
CSIR = Capacitor Start Induction Run
CSR = Capacitor Start Run

Voltage and frequencies
**) Dual frequencies*

Electrical Equipment
[1]) see data sheets for details
[2]) alt. cable lenghts available
[3]) compulsory

Compressor cooling
***S** = Static cooling normally sufficient*
***O** = Oil cooling*
***F*$_1$** *= Fan cooling 1.5 m/s (compressor compartment temp. equal to ambient temperature)*
***F*$_2$** *= Fan cooling 3.0 m/s necessary*
** = O / F1 possible at 220 V nominal (187 – 242 V)*

Starting devices
***LST** = Low Starting Torque*
LST is used with capillary tube control and pressure equalizing. (Pressure equalizing may exceed 10 minutes). The PTC starting device requires 5 minutes cooling before each start.
***HST** = HST consisting of relay and starting capacitor is used for expansion valve control or for capillary tube control without pressure equalizing.*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

S.No.	Dimensions			Electrical equipment - codes											Compressor - code no.	
				LST (RSIR & RSCR)					Run capacitor		HST (CSIR & CSR)			LST / HST			
	Connectors location			PTC starting device without RC connector		PTC starting device with RC connector		ePTC			Starting relay	Starting capacitor	Starting device	Cord relief	Cover	Compressor w/o accessories	Single pack Compressor with LST accessories
	[mm]			Spades [mm]													
	Suction C	Process D	Dis-charge E	6.3	4.8	6.3	4.8	4.8	6.3	4.8	6.3	4.8	6.3				
1	6.2	6.2	5	–	–	103N0016	103N0021	–	117-7117 [2]	117-7119 [2]	–	–	–	103N1010	103N0491	101H0360	–
2	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	103N0050	117-7117	117-7119	–	–	–	103N1010	103N2010	102H4436	–
3	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	103N0050	117-7117	117-7119	–	–	–	103N1010	103N2010	102H4438	195B0386
4	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	103N0050	117-7117	117-7119	–	–	–	103N1010	103N2010	102H4442	–
5	6.2	6.2	5	–	–	103N0016	103N0021	103N0050	117-7117 [2]	117-7119 [2]	–	–	–	103N1010	103N2010	102H4447	195B0341
6	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	103N0050	117-7117	117-7119	–	–	–	103N1010	103N2010	102H4542	–
7	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	103N0050	117-7117	117-7119	–	–	–	103N1010	103N2010	102H4579	–
8	6.2	4.5	5	103N0011	103N0018	103N0016	103N0021	103N0050	117-7117	117-7119	–	–	–	103N1010	103N2010	102H4596	–
9	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	103N0050	117-7117	117-7119	–	–	–	103N1010	103N2010	102H4536	–
10	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	103N0050	117-7117	117-7119	–	–	–	103N1010	103N2010	102H4636	–
11	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	103N0050	117-7117	117-7119	–	–	–	103N1010	103N2010	102H4642	–
12	6.2	6.2	5	–	–	103N0016	103N0021	103N0050	117-7117 [2]	117-7119 [2]	–	–	–	103N1010	103N2010	102H4647	–
13	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	103N0050	117-7117	117-7119	–	–	–	103N1010	103N2010	102H4694	195B0366
14	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	103N0050	117-7117	117-7119	–	–	–	103N1010	103N2010	102H4737	–
15	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	103N0050	117-7117	117-7119	–	–	–	103N1010	103N2010	102H4742	195B0526
16	6.2	6.2	5	–	–	103N0016	103N0021	103N0050	117-7117 [2]	117-7119 [2]	–	–	–	103N1010	103N2010	102H4747	–
17	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	103N0050	117-7117	117-7119	–	–	–	103N1010	103N2010	102H4783	–
18	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	103N0050	117-7131	117-7132	–	–	–	103N1010	103N2010	102H4838	195B0368
19	6.2	6.2	5	–	–	103N0016	103N0021	103N0050	117-7131 [2]	117-7132 [2]	–	–	–	103N1010	103N2010	102H4847	195B0359
20	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	103N0050	117-7117	117-7119	–	–	–	103N1010	103N2010	102H4836	195B0618
21	6.2	6.2	5	103N0011	103N0018	–	–	–	–	–	–	–	–	103N1010	103N2010	102H4834	–
22	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	103N0050	117-7117	117-7119	–	–	–	103N1010	103N2010	102H4939	–
23	6.2	6.2	5	–	–	103N0016	103N0021	103N0050	117-7117 [2]	117-7119 [2]	–	–	–	103N1010	103N2010	102H4947	195B0361
24	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	103N0050	117-7117	117-7119	–	–	–	103N1010	103N2010	102H4042	–
25	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	103N0050	117-7117	117-7119	–	–	–	103N1010	103N2010	102H4050	–
26	6.2	6	5	–	–	103N0016	103N0021	103N0055	[3]	117-7136 [2]	–	–	–	103N1010	103N0491	102H3453	–
27	6.2	6	5	–	–	103N0016	103N0021	103N0055	[3]	117-7136 [2]	–	–	–	103N1010	103N0491	102H3459	–
28	6.2	6	5	–	–	–	103N0021	103N0055	[3]	117-7136 [2]	–	–	–	103N1010	103N0491	102H3659	–
29	6.2	4.5	5	–	–	103N0016	103N0021	103N0050	117-7117	117-7119	–	–	–	103N1010	103N0491	102H4950	–
30	6.2	6	5	–	–	–	103N0021	103N0055	[3]	117-7140 [2]	–	–	–	103N1010	103N0491	102H4159	–
31	6.2	4.5	5	–	–	103N0016	103N0021	103N0050	117-7117	117-7119	–	–	–	103N1010	103N0491	102H4952	–
32	6.2	6	5	–	–	103N0016	103N0021	103N0050	117-7117	117-7119	–	–	–	103N1010	103N0491	102H4082	–
33	6.2	6.2	5	–	–	–	103N0021	103N0055	[3]	117-7139 [2]	–	–	–	103N1010	103N2010	105H6008	–
34	6.2	6.2	5	–	–	103N0016	103N0021	103N0050	117-7131 [3]	117-7132 [2]	–	–	–	103N1010	103N2010	105H6010	–
35	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021		117-7117	117-7119	–	–	–	103N1010	103N2010	105H6071	–
36	6.2	6.2	5	–	–	–	103N0021	103N0055	[3]	117-7139 [2]	–	–	–	103N1010	103N2010	105H6009	–
37	6.2	6.2	5	–	–	–	103N0021	103N0050	[3]	117-7136 [2]	–	–	–	103N1010	103N2010	105H6011	–
38	6.2	4.5	5	–	–	–		103N0055	[3]	117-7139 [2]	–	–	–	103N1010	103N2010	105H6020	–
39	6.2	6.2	5	–	–	–	103N0021	103N0050	[3]	117-7136 [2]	–	–	–	103N1010	103N2010	105H6101	195B0405
40	6.2	6.2	5	–	–	103N0016	103N0021	103N0050	117-7131 [3]	117-7132 [2]	–	–	–	103N1010	103N2010	105H6104	–
41	6.2	6.2	5	–	–	–	103N0021	103N0055	[3]	117-7139 [2]	–	–	–	103N1010	103N2010	105H6193	–
42	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	103N0050	117-7117	117-7119	–	–	–	103N1010	103N2010	105H6867	–
43	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	103N0050	117-7117	117-7119	–	–	–	103N1010	103N2010	105H6173	–
44	6.2	6.2	5	–	–	–	103N0021	103N0050	[3]	117-7119 [2]	–	–	–	103N1010	103N2010	105H6184	–
45	6.2	6.2	5	–	–	–	103N0021	103N0055	[3]	117-7139 [2]	–	–	–	103N1010	103N2010	105H6198	–
46	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	–	117-7117	117-7119	–	–	–	103N1010	103N2010	105H6948	195B0577
47	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	103N0050	117-7117	117-7119	–	–	–	103N1010	103N2010	105H6952	–

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

Reciprocating compressors - Light Commercial (Count.)

R600 - 220 – 240 V | 50 Hz

S.No.	Compressor	Application	ASHRAE Tcond = 54.4 °C, Tliq = 32.2 °C, Tsuc = 32.2 °C Capacity [W] Evaporating temp. [°C]						ASHRAE LBP rating point -23.3 °C / 54.4 °C		ASHRAE MBP rating point -6.7 °C / 54.4 °C		ASHRAE HBP rating point 7.2 °C / 54.4 °C		Displacement	Voltage and frequencies	Compressor cooling	Dimensions Height [mm]	
			-35	-15	-5	0	10	15	Cooling capacity [W]	COP [W/W]	Cooling capacity [W]	COP [W/W]	Cooling capacity [W]	COP [W/W]	[cm³]			A	B
48	NLX11KK.2	LBP	104	292	–	–	–	–	197	1.87	–	–	–	–	11,15	198 – 254 V, 50 Hz	S	203	197
49	NLX13KK.2	LBP	114	331	–	–	–	–	222	1.87	–	–	–	–	13,25	198 – 254 V, 50 Hz	S	203	197
50	NLX13KK.1	LBP	111	337	–	–	–	–	223	1.75	–	–	–	–	13,25	198 – 254 V, 50 Hz	S	203	197
51	NLX13KK.3	LBP	113	345	–	–	–	–	225	1.85	–	–	–	–	13,25	198 – 254 V, 50 Hz	S	203	197
52	NLU13KK.1	LBP	114	348	–	–	–	–	230	1.98	–	–	–	–	13,25	198 – 254 V, 50 Hz	S	203	197
53	NLU13KTK.1	LBP	116	347	–	–	–	–	231	1.87	–	–	–	–	13,25	187 – 254 V, 50 Hz	S	203	197
54	NLE13KTK.2	LBP	117	338	–	–	–	–	227	1.52	–	–	–	–	13,25	187 – 254 V, 50 Hz	S	203	197
55	NLE13KK.4	LBP	121	334	–	–	–	–	226	1.56	–	–	–	–	13,25	198 – 254 V, 50 Hz	S	190	183
56	NLX15KK.1	LBP	121	376	–	–	–	–	248	1.71	–	–	–	–	14,65	198 – 254 V, 50 Hz	S	203	197
57	NLX15KK.3	LBP	132	388	–	–	–	–	254	1.85	–	–	–	–	14,65	198 – 254 V, 50 Hz	S	203	197
58	NLE15MKK	MBP	–	375	586	718	–	–	248	1.49	491	1.99	852	2.50	14,65	198 – 254 V, 50 Hz	S	203	197
59	NLU15KK.1	LBP	129	390	–	–	–	–	259	1.96	–	–	–	–	14,65	198 – 254 V, 50 Hz	S	203	197
60	NLU15KTK.1	LBP	130	391	–	–	–	–	260	1.84	–	–	–	–	14,65	187 – 254 V, 50 Hz	S	203	197
61	NLE15KTK.2	LBP	129	383	–	–	–	–	254	1.52	–	–	–	–	14,65	187 – 254 V, 50 Hz	S	203	197
62	NLE15KK.4	LBP	134	374	–	–	–	–	253	1.59	–	–	–	–	14,65	198 – 254 V, 50 Hz	S	197	190
63	NLX15KK.2	LBP	135	377	–	–	–	–	255	1.87	–	–	–	–	14,65	198 – 254 V, 50 Hz	S	203	197

Reciprocating compressors - Light Commercial

R600a - 220 V | 60 Hz

S.No.	Compressor	Application	ASHRAE Tcond = 130 °F, Tliq = 90 °F, Tsuc = 90 °F Capacity [BTU/h] Evaporating temp. [°F]						ASHRAE LBP rating point -10 °F / 130 °F		ASHRAE MBP rating point 20 °F / 130 °F		ASHRAE HBP rating point 45 °F / 130 °F		Displacement	Voltage and frequencies	Compressor cooling	Dimensions Height [in]	
			-31	5	23	32	50	59	Cooling capacity [BTU/h]	EER [BTU/Wh]	Cooling capacity [BTU/h]	EER [BTU/Wh]	Cooling capacity [BTU/h]	EER [BTU/Wh]	[cu.in]			A	B
1	HTD30AG	LBP	73	280	447	–	–	–	176	4.94	374	7.26	–	–	0.18	187 – 264 V, 60 Hz *)	S	5.2	–
2	HXK80AT	LBP	291	851	–	–	–	–	573	6.04	–	–	–	–	0.49	198 – 253 V, 60 Hz *)	S	6.8	6.6
3	HXK87AT	LBP	365	934	–	–	–	–	627	6.04	–	–	–	–	0.54	198 – 253 V, 60 Hz *)	S	6.8	6.6
4	HXK95AT	LBP	399	1020	–	–	–	–	685	6.04	–	–	–	–	0.59	198 – 253 V, 60 Hz *)	S	6.8	6.6
5	HXK12AT	LBP	468	1196	–	–	–	–	805	6.04	–	–	–	–	0.68	198 – 253 V, 60 Hz *)	S	6.8	6.6
6	NLE11KTK	LBP	349	992	–	–	–	–	662	4.39	–	–	–	–	0.68	198 – 254 V, 60 Hz *)	S	7.8	7.5

Reciprocating compressors - Light Commercial

R600a - 115V | 60 Hz

S.No.	Compressor	Application	ASHRAE Tcond = 130 °F, Tliq = 90 °F, Tsuc = 90 °F Capacity [BTU/h] Evaporating temp. [°F]						ASHRAE LBP rating point -10 °F / 130 °F		ASHRAE MBP rating point 20 °F / 130 °F		ASHRAE HBP rating point 45 °F / 130 °F		Displacement	Voltage and frequencies	Compressor cooling	Dimensions Height [in]	
			-31	5	23	32	50	59	Cooling capacity [BTU/h]	EER [BTU/Wh]	Cooling capacity [BTU/h]	EER [BTU/Wh]	Cooling capacity [BTU/h]	EER [BTU/Wh]	[cu.in]			A	B
1	HTD30AE	LBP	96	306	485	–	–	–	198	5.49	406	7.29	–	–	0.18	80 – 135 V, 60 Hz	S	5.2	–
2	NLE11KTK	L/MBP	360	1059	1645	1959	–	–	665	4.18	1390	5.70	–	–	0.68	95 – 135 V, 60 Hz	F1	7.8	7.5
3	NLE13KTK	L/MBP	415	1182	1836	2227	–	–	773	4.13	1545	5.52	–	–	0.81	95 – 135 V, 60 Hz	F1	7.8	7.5

Applications
LBP = Low Back Pressure
MBP = Medium Back Pressure
HBP = High Back Pressure

Motor types
RSIR = Resistant Start Induction Run
RSCR = Resistant Start Capacitor Run
CSIR = Capacitor Start Induction Run
CSR = Capacitor Start Run

Voltage and frequencies
**) Dual frequencies*

Electrical Equipment
[1]) see data sheets for details
[2]) alt. cable lenghts available
[3]) compulsory

Compressor cooling
***S** = Static cooling normally sufficient*
***O** = Oil cooling*
***F*$_1$** *= Fan cooling 1.5 m/s (compressor compartment temp. equal to ambient temperature)*
***F*$_2$** *= Fan cooling 3.0 m/s necessary*
****** = O / F1 possible at 220 V nominal (187 – 242 V)*

Starting devices
***LST** = Low Starting Torque*
LST is used with capillary tube control and pressure equalizing. (Pressure equalizing may exceed 10 minutes). The PTC starting device requires 5 minutes cooling before each start.
***HST** = HST consisting of relay and starting capacitor is used for expansion valve control or for capillary tube control without pressure equalizing.*

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S.No.	Dimensions			Electrical equipment - codes											Compressor - code no.	
				LST (RSIR & RSCR)					Run capacitor		HST (CSIR & CSR)			LST / HST		
	Connectors location			PTC starting device without RC connector		PTC starting device with RC connector		ePTC			Starting relay	Starting capacitor	Starting device	Cord relief	Cover	Compressor w/o accessories	Single pack Compressor with LST accessories
	[mm]			Spades [mm]													
	Suction C	Process D	Dis-charge E	6.3	4.8	6.3	4.8	4.8	6.3	4.8	6.3	4.8	6.3				
48	6.2	6.2	5	–	–	103N0016	103N0021	103N0050	[3]	117-7136 [2]	–	–	–	103N1010	103N2010	105H6970	195B0455
49	6.2	6.2	5	–	–	103N0016	103N0021	103N0050	[3]	117-7132 [2]	–	–	–	103N1010	103N2010	105H6300	195B0456
50	6.2	6.2	5	–	–	103N0016	103N0021	103N0050	117-7117 [3]	117-7119 [2]	–	–	–	103N1010	103N2010	105H6304	–
51	6.2	6.2	5	–	–	–	103N0021	103N0050	[3]	117-7119 [2]	–	–	–	103N1010	103N2010	105H6306	–
52	6.2	6.2	5	–	–	–	103N0021	103N0055	117-7131 [3]	117-7132 [2]	–	–	–	103N1010	103N2010	105H6372	–
53	6.2	6.2	5	–	–	–	103N0021	103N0055	[3]	117-7129 [2]	–	–	–	103N1010	103N2010	105H6381	–
54	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	103N0050	117-7117	117-7119	–	–	–	103N1010	103N2010	105H6929	–
55	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	103N0050	117-7117	117-7119	–	–	–	103N1010	103N2010	105H6939	195B0444
56	6.2	6.2	5	–	–	103N0016	103N0021	103N0050	[3]	117-7136 [2]	–	–	–	103N1010	103N2010	105H6502	–
57	6.2	6.2	5	–	–	–	103N0021	103N0050	[3]	117-7140 [2]	–	–	–	103N1010	103N2010	105H6506	–
58	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	103N0050	117-7117	117-7119	–	–	–	103N1010	103N2010	105H6533	–
59	6.2	6.2	5	–	–	–	103N0021	103N0055	117-7131 [3]	117-7132 [2]	–	–	–	103N1010	103N2010	105H6553	–
60	6.2	6.2	5	–	–	–	103N0021	103N0055	[3]	117-7119 [2]	–	–	–	103N1010	103N2010	105H6554	–
61	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	–	117-7117	117-7119	–	–	–	103N1010	103N2010	105H6966	–
62	6.2	6.2	5	103N0011	103N0018	103N0016	103N0021	103N0050	117-7117	117-7119	–	–	–	103N1010	103N2010	105H6968	195B0374
63	8.2	6.2	6.2	–	–	103N0016	103N0021	103N0050	117-7117 [2]	117-7119 [2]	–	–	–	103N1010	103N2010	105H6977	195B0454

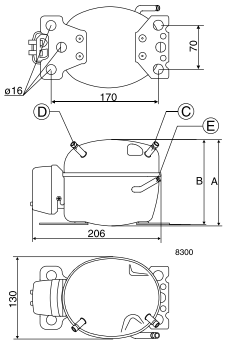
S.No.	Dimensions			Electrical equipment - codes											Compressor - code no.		
				LST (RSIR & RSCR) - refer to data sheet for ePTC code no.					Run capacitor		HST (CSIR & CSR)			LST / HST			
	Connectors location			PTC starting device		PTC starting device with RC connector		Protector (external)	optional or compulsory		Starting relay	Starting capacitor	Starting device [2]	Cord relief	Cover	Compressor w/o accessories	Single pack Compressor with LST accessories	Single pack Compressor with HST accessories
	[in]			Spades [in]														
	Suction C	Process D +: Di -: Do	Dis-charge E	¼	3⁄16	¼	3⁄16	¼	¼	3⁄16	¼	¼	¼					
1	0.24	-0.24	0.20	–	–	–	–	–	–	–	–	–	BN	–	–	CDO00118	–	–
2	0.24	-0.24	0.20	DCF5	ZCF5	DCF5	ZCF5	AE18FUX	–	–	–	–	K100	–	–	CDO00135	–	–
3	0.24	-0.24	0.20	DCFC	ZCFC	DCFC	ZCFC	AE15BUX	–	–	–	–	K100	–	–	CDO00136	–	–
4	0.24	-0.24	0.20	DCFP	ZCFP	DCFP	ZCFP	AE72FUX	–	–	–	–	K100	–	–	CDO00137	–	–
5	0.24	-0.24	0.20	DCFP	ZCFP	DCFP	ZCFP	AE72FUX	–	–	–	–	K100	–	–	CDO00138	–	–
6	0.24	0.24	0.20	103N0011	103N0018	103N0016	103N0021	–	117-7117	117-7119	–	–	–	103N1010	103N2010	105H6948	195B0577	–

S.No.	Dimensions			Electrical equipment - codes											Compressor - code no.		
				LST (RSIR & RSCR) - refer to data sheet for ePTC code no.					Run capacitor		HST (CSIR & CSR)			LST / HST			
	Connectors location			PTC starting device		PTC starting device with RC connector		Protector (external)	optional or compulsory		Starting relay	Starting capacitor	Starting device [2]	Cord relief	Cover	Compressor w/o accessories	Single pack Compressor with LST accessories	Single pack Compressor with HST accessories
	[in]			Spades [in]														
	Suction C	Process D +: Di -: Do	Dis-charge E	¼	3⁄16	¼	3⁄16	¼	¼	3⁄16	¼	¼	¼					
1	0.24	-0.24	0.20	–	BK E1	–	–	AE25FJ6	–	–	–	–	BK	–	163806_	CDO00120	–	–
2	0.32	0.26	0.26	103N0026	103N0023	103N0027	103N0024	–	117-7118	117-7120	–	–	–	103N1010	103N2011	105H5942	–	–
3	0.32	0.26	0.26	103N0026	103N0023	103N0027	103N0024	–	117-7118	117-7120	–	–	–	103N1010	103N2011	105H5949	–	–

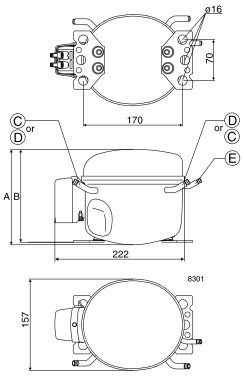
For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Diagram and dimensions

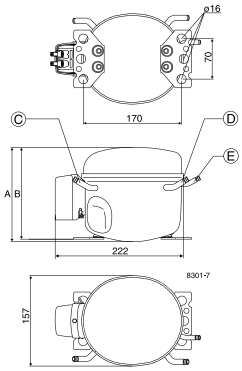
PL / PLE



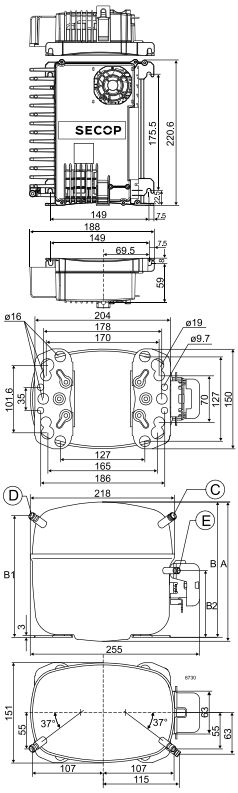
TL



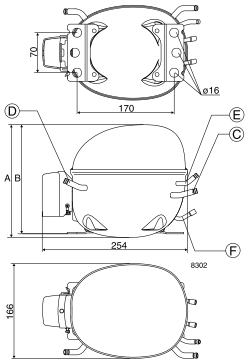
TLS / tLES / tLX



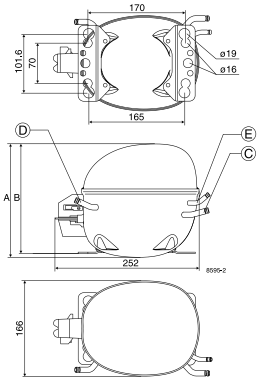
SLV



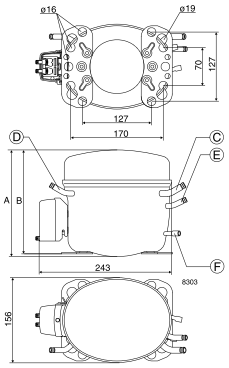
NL / NLE / NLX



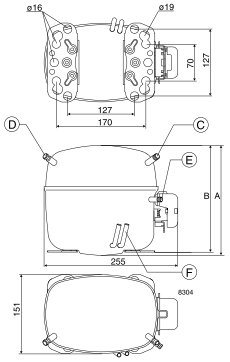
NF



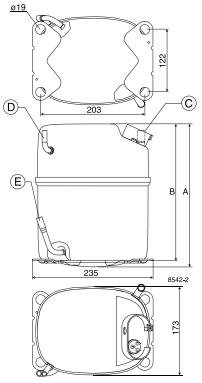
FR



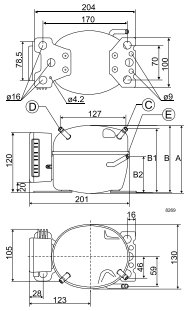
SC



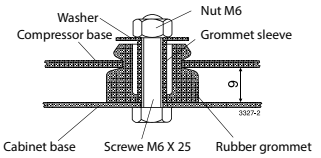
GS



BD

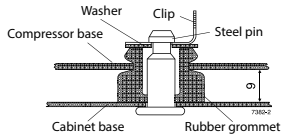


Mounting accessories



Bolt joint for
one compressor: 118-1917
in quantities: 118-1918

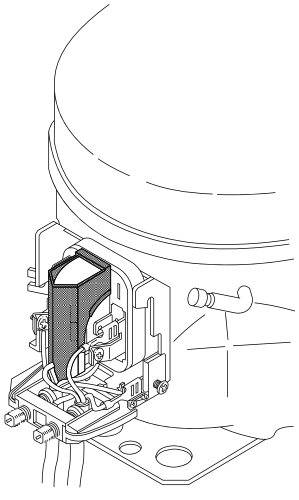
Bolt joint for
one GS compressor: 107B9150 (M8 × 40, base plate distance: 17 mm)



Snap-on
in quantities: 118-1919

Protection Screen for PTC

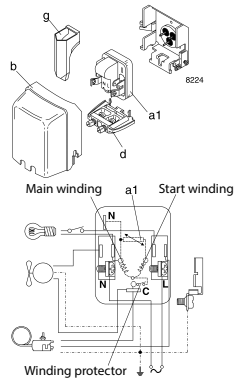
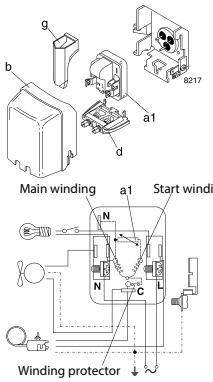
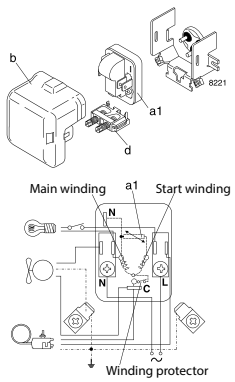
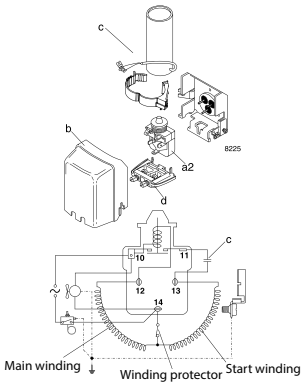
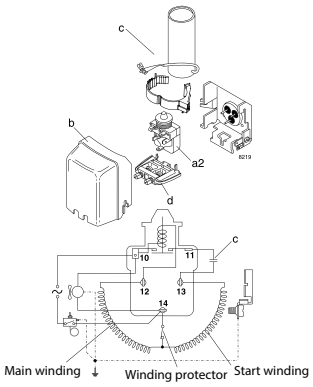
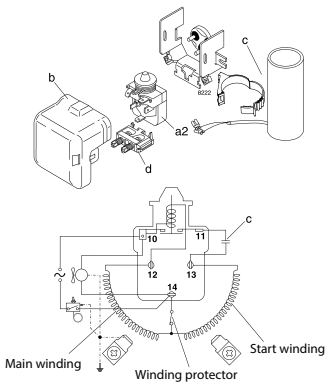
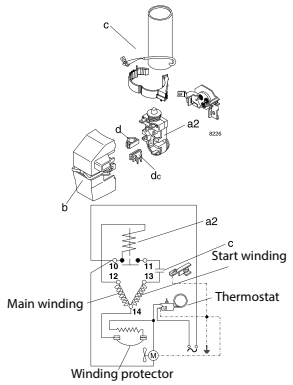
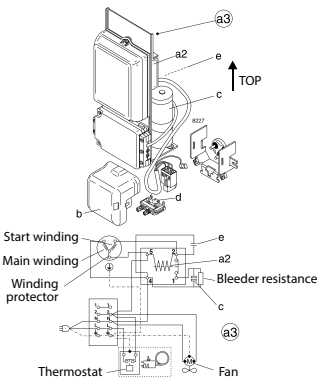
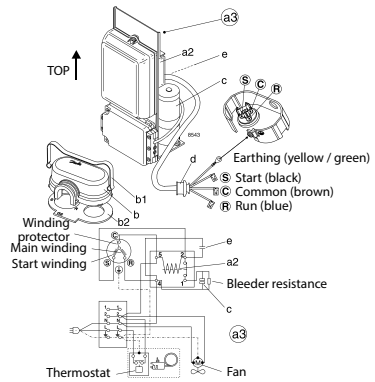
Note:
to fulfil the requirements of EN 60355-2-34 the protection screen 103N0476 must be applied to the PTC starting device



Compressor design	Optimization level	Compressor size	Application range	Start characteristics	Generation
PL TL NL FR SC GS	***Blank*** Standard energy level ***S*** Semi-direct intake ***E*** Energy-optimized	***Nominal*** displacement in cm^3 ***Exception***: For PL compressors the capacity at rating point is stated	***CL R404A / R507*** LBP ***CN R290*** LBP (MBP) ***DL R404A / R507*** HBP ***F R134a*** LBP / (MBP) ***FT R134a*** LBP tropical ***G R134a*** LBP / MBP/hBP ***GH R134a*** Heat Pumps ***GHH R134a*** Heat Pumps optimized ***K R600a*** LBP / (MBP) ***MF R134a*** MBP ***ML R404A / R507*** MBP	***Blank =>*** universal (principal rule) ***X = HST*** characteristics (expansion valve)	***Blank =>*** first generation ***.2 =>*** second generation ***.3 =>*** third generation etc.

Examples					
TL	ES	5.7	FT		.3
NL	E	10	MF		
SC		15	CN	X	.2

Diagram and dimensions

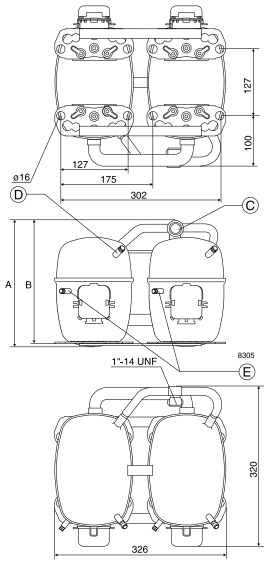
LST / RSIR - PL	LST / RSIR - TL-TLS-TLES-NL-NLE-FR	LST / RSIR - SC
		
HST / CSIR - PL	**HST / CSIR - TL-TLS-TLES-NL-NLE-FR**	**HST / CSIR - SC**
		
HST / CSIR - NF	**HST / CSR - SC**	**HST / CSR - GS**
		

Legend

a1) PTC starting device
a2) Starting relay
a3) Starting device
b) Cover
b1) Clamp (part of compressor)
b2) Gasket (part of compressor)
c) Starting capacitor
d) Cord relief
e) Run capacitor
g) Protection screen for PTC

Diagram and dimensions

SC Twin



Accessories for SC Twin

SC10 / 10, SC12 / 12 and SC15 / 15:

Service valve for 12 mm tube	*118-7350*
Solder connector for 12 mm tube	*104B0584*

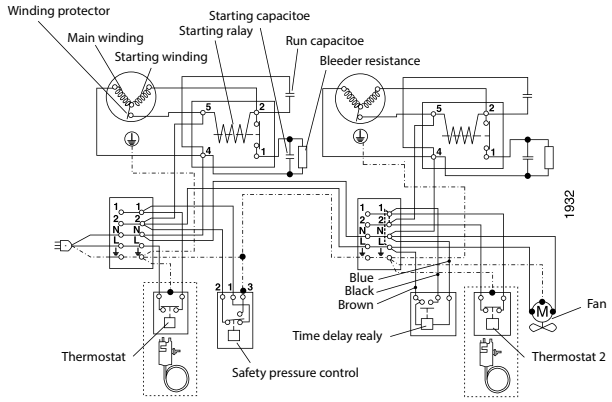
SC18 / 18 and SC21 / 21:

Service valve for 16 mm tube	*118-7351*
Solder connector for 16 mm tube	*118-7405*

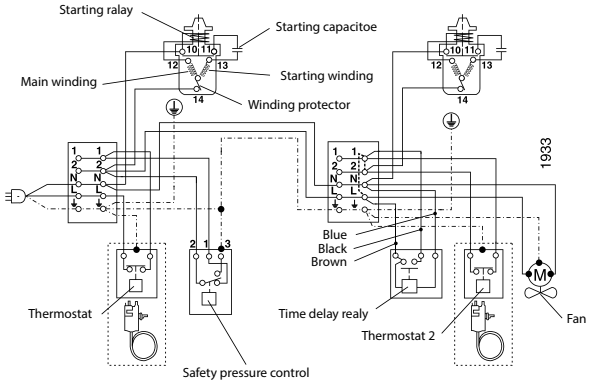
SC10 / 10, SC12 / 12, SC15 / 15, SC18 / 18 and SC21 / 21:

Seal ring for service valve and solder connector	*118-3638*
Time-delay relay	*117N0001*
Check valve (to be used with time-delay relay)	*020-1014*

HST / CSR - SC Twin



HST / CSIR - SC Twin



Applications
LBP: Low Back Pressure
MBP: Medium Back Pressure
HBP: High Back Pressure

Motor types
RSIR: Resistant Start Induction Run
RSCR: Resistant Start Capacitor Run
CSIR: Capacitor Start Induction Run
CSR: Capacitor Start Run

Starting devices
LST: Low Starting Torque
LST is used with capillary tube control and pressure equalizing. (Pressure equalizing may exceed 10 minutes)
The PTC starting device requires 5 minutes cooling before each start
HST: High Starting Torque
HST consisting of relay and starting capacitor, is used for expansion valve control or for capillary tube control without pressure equalizing

Test conditions EN 12900 (CECOMAF)
PL / tL / tLS / NL / FR / SC / BD

Application	*R134a*	*R404A / R507*
	R600a	*R290*
Condensing temperature	*55 °C*	*45 °C*
Ambient temperature	*32 °C*	*32 °C*
Suction gas temperature	*32 °C*	*32 °C*

No subcooling
PL / TL / TLS / NL / FR / SC: 220 V 50 Hz
BD: 12 V, 24 V or 56 V DC

Test conditions ASHRAE
BD

Application	*R600a*	*R404A / R507*
	R134a	*R290*
Condensing temperature	*54.4 °C*	*45 °C*
Ambient temperature	*32 °C*	*32 °C*
Suction gas temperature	*32 °C*	*32 °C*
Liquid temperature	*32 °C*	*32 °C*

12 V, 24 V or 56 V DC

Test conditions EN 12900
GS

Application	*LBP*	*MBP*	*HBP*
Condensing temperature	*40 °C*	*45 °C*	*50 °C*
Ambient temperature	*32 °C*	*32 °C*	*32 °C*
Suction gas temperature	*20 °C*	*20 °C*	*20 °C*
Liquid temperature	*no subcooling*		

220 V, 50 Hz

Electrical equipment GS compressors
**) Gasket / cover / clamp are parts of compressor*

Compressor cooling
S) Static cooling normally sufficient
O) Oil cooling
F_1) Fan cooling 1.5 m/s
(compressor compartment temperature equal to ambient temperature)
F_2) Fan cooling 3.0 m/s necessary
***) run capacitor 4 µF compulsory*

Voltages and frequencies
1) 198 – 254 V, 50 Hz
2) 187 – 254 V, 50 Hz, LBP
3) 198 – 254 V, 60 Hz, LBP
4) 198 – 254 V, 60 Hz, HBP
5) 198 – 254 V, 60 Hz, MBP
6) 207 – 254 V, 60 Hz, HBP
7) 187 – 254 V, 50 Hz, MBP
8) 187 – 254 V, 60 Hz, MBP
9) 187 – 254 V, 60 Hz, LBP

1 Watt = 0.86 kcal/h
1 Watt = 3.41 Btu/h

Quick Selection Notes:

Light commercial compressors - B / U / L / P / X / S series

Specially optimised for use in household and light commercial applications, hermetic reciprocating compressors provide high cooling capacity in an energy saving design.

Compressor models are available for R134a, R290, R404A / R507A, R449A, R450A, R513A and R600a, for cooling needs from 20 W to 6 kW.





B range U range L range



P range X range S range

Facts

Applications:
- Laboratory and medical equipment
- Compressed air dryers
- Glass door merchandisers
- Display cabinets
- Fridges and freezers
- Ice cream cabinets
- Vending machines
- Drink dispensers
- Ice making machines
- Bottle coolers
- Heat pumps
- Milk cooling tanks
- Wine cellars

- Easy installation
- Low noise and high energy efficiency
- Robust in tough operating conditions
- Immune to unstable power supply
- Environmentally friendly solutions

Technical data and ordering

Light Commercial Refrigeration Compressors

R134a*) LBP - 50 Hz

Model	Displacement	Power	Application	CPR Cooling	Voltage Frequency	Motor	Starting	Expansion	Refrigeration capacity COP in [w/w] Evaporating temperature [°C] CECOMAF [W] -35	-30	-25 [W]	-25 [COP]	-10	ASHRAE -23.3 [W]	ASHRAE -23.3 [COP]	Weight	Design	Code no. [3]
	[cm³]	[hp]														[Kg]		
L22HL [2]	2.20	1/20	LBP	S	220 – 240 V 50 Hz	RSIR	P	C	16	24	34	0.63	75	46	0.82	3.7	SLb	123B8101
L30HL [2]	3.10	1/12	LBP	S	220 – 240 V 50/60 Hz	RSIR	P	C	23	35	49	0.69	108	67	0.9	4.2	SLc	123B8102
B38H [2]	3.80	1/12	LBP	S	220 – 240 V 50 Hz	RSIR	P	C	30	45	63	0.73	139	86	0.95	4.6	Bb	123B8103
B43H [2]	4.30	1/10	LBP	S	220 – 240 V 50/60 Hz	RSIR	P	C	34	50	71	0.77	156	96	1	5.4	Bc	123B8104
B43HB [2]	4.30	1/10	LBP	S	220 – 240 V 50 Hz	RSCR	P	C	35	51	72	0.92	158	97	1.2	5	Bc	123B8105
B48H [2]	4.80	1/8	LBP	S	220 – 240 V 50 Hz	RSIR	P	C	38	56	79	0.81	174	108	1.05	5	Bc	123B8106
GL45AAa	4.56	1/8	LBP	S	220 – 240 V 50 Hz	RSIR	P	C	37	57	81	0.81	184	111	1.06	7.91	Lb	123B1111
GL45AAb	4.56	1/8	LBP	S	220 – 240 V 50 Hz	CSIR	R	C-V	37	57	81	0.81	184	111	1.06	8.06	Lb	123B1112
GL45ANa	4.56	1/8	LBP	S	200 – 240/220 – 230 V 50/60 Hz	RSIR	P	C	36	56	80	0.78	184	110	1.03	8.42	Lb	123B1113
GLY45AAa [1]	4.56	1/8	LBP	S	220 – 240 V 50 Hz	RSIR	P	C	46	65	89	1.01	192	120	1.3	9.08	Lb	123B1109
GLY45AAb [1]	4.56	1/8	LBP	S	220 – 240 V 50 Hz	RSCR	P	C	47	66	90	1.05	193	122	1.36	9.19	Lb	123B1110
GL60AAa	5.98	1/6	LBP	S	220 – 240 V 50 Hz	RSIR	P	C	50	75	107	0.85	239	146	1.1	8.45	Lb	123B1116
GL60AAb	5.98	1/6	LBP	S	220 – 240 V 50 Hz	CSIR	R	C-V	50	75	107	0.85	239	146	1.1	8.6	Lb	123B1117
GL60ANa	5.98	1/6	LBP	S	200 – 240/220 – 230 V 50/60 Hz	RSIR	P	C	57	82	114	0.83	244	154	1.09	9.11	Lc	123B1118
GL60ANb	5.98	1/6	LBP	F	200 – 240/220 – 230 V 50/60 Hz	CSIR	R	C-V	82	94	116	0.84	244	154	1.09	9.26	Lc	123B1119
GL60ANc	5.98	1/6	LBP	S	200 – 240/220 – 230 V 50/60 Hz	CSIR	R	C-V	82	94	116	0.84	244	154	1.09	9.26	Lc	123B1120
GLY60AAa [1]	5.98	1/6	LBP	S	220 – 240 V 50 Hz	RSIR	P	C	58	85	119	1.04	255	161	1.34	8.49	Lb	123B1114
GLY60AAb [1]	5.98	1/6	LBP	S	220 – 240 V 50 Hz	RSCR	P	C	59	86	120	1.1	255	162	1.42	8.6	Lb	123B1115
GLY70AAa [1]	6.65	1/5	LBP	S	220 – 240 V 50 Hz	RSIR	P	C	66	96	133	1.03	289	181	1.33	9.09	Lc	123B1170
GLY70AAb [1]	6.65	1/5	LBP	S	220 – 240 V 50 Hz	RSCR	P	C	66	96	133	1.08	289	181	1.4	9.2	Lc	123B1171
GL80AAa	8.10	1/5	LBP	S	220 – 240 V 50 Hz	RSIR	P	C	68	102	144	0.89	326	197	1.15	8.98	Lc	123B1123
GL80AAb	8.10	1/5	LBP	S	220 – 240 V 50 Hz	CSIR	R	C-V	68	102	144	0.89	326	197	1.15	9.13	Lc	123B1124
GL80ANa	8.10	1/5	LBP	S	200 – 240/220 – 230 V 50/60 Hz	RSIR	P	C	76	107	148	0.83	331	201	1.09	9.75	Lc	123B1125
GL80ANb	8.10	1/5	LBP	F	200 – 240/220 – 230 V 50/60 Hz	CSIR	R	C-V	76	107	148	0.83	331	201	1.09	9.9	Lc	123B1126
GL80ANc	8.10	1/5	LBP	S	200 – 240/220 – 230 V 50/60 Hz	CSIR	R	C-V	76	107	148	0.83	331	201	1.09	9.9	Lc	123B1127
GLY80AAa [1]	8.10	1/5	LBP	S	220 – 240 V 50 Hz	RSIR	P	C	92	123	164	1.07	349	221	1.37	9.51	Lc	123B1121
GLY80AAb [1]	8.10	1/5	LBP	S	220 – 240 V 50 Hz	RSCR	P	C	93	124	165	1.13	351	222	1.45	9.62	Lc	123B1122
GL90AAa	9.09	1/4	LBP	S	220 – 240 V 50 Hz	RSIR	P	C	82	120	165	0.9	351	223	1.15	9.39	Lc	123B1130
GL90AAb	9.09	1/4	LBP	S	220 – 240 V 50 Hz	CSIR	R	C-V	82	120	165	0.9	351	223	1.15	9.54	Lc	123B1131
GL90ANa	9.09	1/4	LBP	S	200 – 240/220 – 230 V 50/60 Hz	RSIR	P	C	85	118	163	0.84	366	221	1.1	10.33	Ld	123B1132
GL90ANb	9.09	1/4	LBP	F	200 – 240/220 – 230 V 50/60 Hz	CSIR	R	C-V	85	118	163	0.84	366	221	1.1	10.48	Ld	123B1133
GL90ANc	9.09	1/4	LBP	S	200 – 240/220 – 230 V 50/60 Hz	CSIR	R	C-V	85	118	163	0.84	366	221	1.1	10.48	Ld	123B1134
GLY90AAa [1]	9.09	1/4	LBP	S	220 – 240 V 50 Hz	RSIR	P	C	104	140	186	1.07	387	250	1.37	9.43	Lc	123B1128
GLY90AAb [1]	9.09	1/4	LBP	S	220 – 240 V 50 Hz	RSCR	P	C	104	140	187	1.13	388	251	1.45	9.54	Lc	123B1129
GL99AAa	9.95	1/4	LBP	S	220 – 240 V 50 Hz	RSIR	P	C	83	125	175	0.92	377	237	1.19	9.64	Ld	123B1165
GL99AAb	9.95	1/4	LBP	S	220 – 240 V 50 Hz	CSIR	R	C-V	83	125	175	0.92	377	237	1.19	9.79	Ld	123B1166
GLM12LAa [1] [2]	10.7	3/8	LBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	98	143	200	0.92	445	272	1.19	10.06	Ld	123B1168
GLM12LAb [1] [2]	10.7	3/8	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	98	145	204	0.99	451	278	1.29	10.16	Ld	123B1169
GPY12AAa [1]	12.10	3/8	LBP	S	220 – 240 V 50 Hz	RSIR	P	C	128	178	241	0.96	500	324	1.23	12.07	Pd	123B1135
GPY12AAb [1]	12.10	3/8	LBP	S	220 – 240 V 50 Hz	RSCR	P	C	128	178	241	1.04	500	324	1.33	12.18	Pd	123B1136
GPY12LAa [1]	12.10	3/8	LBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	113	162	225	1	509	307	1.3	12.78	Pd	123B1137
GPY12LAb [1]	12.10	3/8	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	113	162	225	1.06	509	307	1.38	12.89	Pd	123B1138
GP14CG	14.17	3/8	LBP	F	200 – 240/220 – 230 V 50/60 Hz	RSIR	R	C	99	158	228	0.83	509	313	1.08	10.62	Pc	123B1142
GP14FB	14.17	3/8	LBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	99	157	228	0.9	509	311	1.16	10.36	Pc	123B1143
GPY14NGa [1] [2]	14.32	3/8	LMBP	F	200 – 240/220 – 230 V 50/60 Hz	CSIR	R	C-V	147	205	283	0.92	636	374	1.14	12.59	Pd	123B1313
GPY14NGb [1] [2]	14.32	3/8	LMBP	F	200 – 240/220 – 230 V 50/60 Hz	CSR	R	C-V	148	206	284	0.97	636	387	1.27	12.69	Pd	123B1314
GP16FB	16.15	3/8	LBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	109	182	266	0.89	585	365	1.14	11.79	Pd	123B1148
GPY16LAa [1]	16.15	3/8	LBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	151	220	306	1.02	677	417	1.32	11.73	Pd	123B1145
GPY16LAb [1]	16.15	3/8	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	151	220	306	1.09	677	417	1.42	11.83	Pd	123B1146
GX21FB	20.72	2/3	LBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	151	243	351	0.93	778	480	1.2	15.75	Xc	123B1167

*) Or HFO1234yf
[1]) Green Cooling Models
[2]) New Models
[3]) Ordering code for single compressors. For pallet packed compressors, please use 123F instead of 123B

Conditions	CECOMAF		ASHRAE	
	LBP	HMBP/HBP	LBP	HMBP/HBP
Evaporating temperature [°C]	-25	5	-23.3	7.2
Condensing temperature [°C]	55	55	55	55
Liquid temperature [°C]	55	55	32	46
Suction temperature [°C]	32	32	32	35
Ambient temperature [°C]	32	32	32	35

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

Light Commercial Refrigeration Compressors

R134a*) HMBP | HBP - 50 Hz

Model	Displacement	Power	Application	CPR Cooling	Voltage Frequency	Motor	Starting	Expansion	Refrigeration capacity COP in [w/w] Evaporating temperature [°C] CECOMAF [W] -25	-15	5 [W]	5 [COP]	10	ASHRAE 7.2 [W]	ASHRAE 7.2 [COP]	Weight	Design	Code no. [3]
	[cm³]	[hp]														[Kg]		
B22G	2.2	1/14	HBP	S-F	220-240 V 50 Hz	RSIR	P	C	–	60	152	1.64	192	185	1.94	4.6	Bb	123B8115
B25G	2.6	1/14	HBP	S-F	220-240 V 50/60 Hz	RSIR	P	C	–	76	202	1.53	243	241	2.08	4.65	Bb	123B8117
B25GL [2]	2.6	1/14	HBP	S-F	220-240 V 50 Hz	CSIR	R	C-V	–	70	190	1.84	228	227	2.16	5.5	Be	123B8118
B30G	3.1	1/10	HBP	S-F	220-240 V 50 Hz	RSIR	P	C	–	83	229	1.77	270	271	2.06	4.8	Bc	123B8121
B30G	3.1	1/10	HBP	S-F	220-240 V 50 Hz	CSIR	R	C-V	–	83	229	1.77	270	271	2.06	4.8	Bc	123B8120
B35GL [2]	3.5	1/10	HBP	S-F	220-240 V 50 Hz	CSIR	R	C-V	–	100	269	1.87	323	322	2.34	5.5	Be	123B8123
B38G	3.8	1/8	HBP	S-F	220-240 V 50 Hz	CSIR	R	C-V	–	129	291	1.91	347	345	2.23	5	Bc	123B8125
B38G	3.8	1/8	HBP	S-F	220-240 V 50/60 Hz	CSIR	R	C-V	–	129	288	1.87	359	348	2.22	5.4	Bd	123B8125
B43GL	4.3	1/6	HBP	S-F	220-240 V 50 Hz	RSIR	P	C	–	122	348	1.75	422	417	2.06	5.3	Be	123B8127
GL45MG	4.56	1/6	HBP	S	230 V 50/60 Hz	CSIR	R	C-V	–	175	340	1.67	415	407	1.95	9.37	Lb	123B1704
GL45PB	4.56	1/6	HMBP	F	220-240 V 50 Hz	RSIR	R	C	76	134	341	1.61	412	407	1.86	7.76	Lb	123B1515
GL45TB	4.56	1/6	HMBP	F	220-240 V 50 Hz	CSIR	R	C-V	76	134	341	1.61	412	407	1.86	8.04	Lb	123B1516
GL45TG	4.56	1/6	HMBP	F	200-240/220-230 V 50/60 Hz	CSIR	R	C-V	76	134	341	1.67	412	407	1.95	9.15	Lb	123B1517
GLY45RAa [1]	4.56	1/6	HMBP	F	220-240 V 50 Hz	CSIR	R	C-V	71	139	373	1.93	452	446	2.25	8.75	Lb	123B1513
GLY45RAb [1]	4.56	1/6	HMBP	F	220-240 V 50 Hz	CSR	R	C-V	71	139	373	2.1	452	446	2.45	8.85	Lb	123B1514
GL60MG	5.98	1/5	HBP	S	230 V 50/60 Hz	CSIR	R	C-V	–	206	427	1.7	530	515	1.99	9	Lc	123B1705
GL60PB	5.68	1/5	HMBP	F	220-240 V 50 Hz	RSIR	R	C	95	170	436	1.81	527	521	2.09	8.34	Lb	123B1520
GL60TB	5.68	1/5	HMBP	F	220-240 V 50 Hz	CSIR	R	C-V	95	170	436	1.81	527	521	2.09	8.65	Lb	123B1521
GL60TG	5.68	1/5	HMBP	F	200-240/220-230 V 50/60 Hz	CSIR	R	C-V	95	170	436	1.81	527	521	2.09	9.07	Lc	123B1522
GLY60RAa [1]	5.98	1/5	HMBP	F	220-240 V 50 Hz	CSIR	R	C-V	106	190	485	2.04	585	579	2.36	10.47	Lc	123B1518
GLY60RAb [1]	5.98	1/5	HMBP	F	220-240 V 50 Hz	CSR	R	C-V	106	190	485	2.24	585	579	2.6	10.58	Lc	123B1519
GUY60RAa [1] [2]	6	1/5	HMBP	F	220-240 V 50 Hz	CSIR	R	C-V	126	221	540	2.32	646	641	2.7	9.04	Ub	123B1608
GUY60RAb [1] [2]	6	1/5	HMBP	F	220-240 V 50 Hz	CSR	R	C-V	126	222	545	2.53	653	648	2.95	9.16	Ub	123B1609
GL80MG	7.57	1/5	HBP	S	230 V 50/60 Hz	CSIR	R	C-V	–	286	576	1.78	714	694	2.1	9.53	Lc	123B1706
GL80PB	7.57	1/5	HMBP	F	220-240 V 50 Hz	RSIR	R	C	111	212	553	1.81	667	660	2.1	8.88	Lc	123B1526
GL80TB	7.57	1/5	HMBP	F	220-240 V 50 Hz	CSIR	R	C-V	111	212	553	1.81	667	660	2.1	9.19	Lc	123B1527
GL80TG	7.57	1/5	HMBP	F	200-240/220-230 V 50/60 Hz	CSIR	R	C-V	111	212	553	1.81	667	660	2.1	9.53	Lc	123B1528
GLY80RAa	8.1	1/5	HMBP	F	220-240 V 50 Hz	CSIR	R	C-V	159	275	680	2.16	818	810	2.51	10.1	Lc	123B1524
GLY80RAb [1]	8.1	1/5	HMBP	F	220-240 V 50 Hz	CSR	R	C-V	159	275	680	2.33	818	810	2.71	10.21	Lc	123B1525
GUY80RAa [1] [2]	8.1	1/4	HMBP	F	220-240 V 50 Hz	CSIR	R	C-V	174	302	720	2.22	859	854	2.56	9.7	Ub	123B1610
GUY80RAb [1] [2]	8.1	1/4	HMBP	F	220-240 V 50 Hz	CSR	R	C-V	177	304	727	2.38	868	862	2.75	9.8	Ub	123B1611
GL90MG	8.85	1/4	HBP	S	230 V 50/60 Hz	CSIR	R	C-V	–	328	661	1.79	810	793	2.1	10.61	Ld	123B1707
GL90PB	8.85	1/4	HMBP	F	220-240 V 50 Hz	RSIR	R	C	143	259	660	1.9	796	787	2.2	9.12	Ld	123B1532
GL90TB	8.85	1/4	HMBP	F	220-240 V 50 Hz	CSIR	R	C-V	143	259	660	1.9	796	787	2.2	9.66	Lc	123B1533
GL90TG	8.85	1/4	HMBP	F	200-240/220-230 V 50/60 Hz	CSIR	R	C-V	143	259	660	1.8	796	787	2.08	9.7	Ld	123B1534
GLY90RAa [1]	9.09	1/4	HMBP	F	220-240 V 50 Hz	CSIR	R	C-V	169	298	748	2.05	901	891	2.37	10.74	Lc	123B1530
GLY90RAb [1]	9.09	1/4	HMBP	F	220-240 V 50 Hz	CSR	R	C-V	169	298	748	2.25	901	891	2.61	10.84	Lc	123B1531
GUY90RAa [1] [2]	8.8	1/4	HMBP	F	220-240 V 50 Hz	CSIR	R	C-V	182	317	775	2.21	929	921	2.56	9.7	Ub	123B1612
GUY90RAb [1] [2]	8.8	1/4	HMBP	F	220-240 V 50 Hz	CSR	R	C-V	180	319	783	2.35	938	931	2.73	9.8	Ub	123B1613
GL11TB	9.95	1/3	HMBP	F	220-240 V 50 Hz	CSIR	R	C-V	190	330	817	1.92	981	972	2.23	9.97	Ld	123B1591
GLY12RAa [1] [2]	10.7	3/8	HBP	F	220-240 V 50 Hz	CSIR	R	C-V	–	349	867	1.97	1064	1042	2.3	10.23	Ld	123B1708
GLY12RAb [1] [2]	10.7	3/8	HBP	F	220-240 V 50 Hz	CSR	R	C-V	–	349	867	2.2	1064	1042	2.57	10.33	Ld	123B1709
GLY12RGa [1] [2]	10.7	3/8	HBP	F	200-240/220-230 V 50/60 Hz	CSIR	R	C-V	–	349	867	1.87	1064	1042	2.19	10.43	Ld	123B1710
GLY12RGb [1] [2]	10.7	3/8	HBP	F	200-240/220-230 V 50/60 Hz	CSR	R	C-V	–	349	867	1.98	1064	1042	2.32	10.53	Ld	123B1711
GPY12RAa [1]	12.1	3/8	HMBP	F	220-240 V 50 Hz	CSIR	R	C-V	228	401	992	2.03	1191	1181	2.35	13.31	Pd	123B1536
GPY12RAb [1]	12.1	3/8	HMBP	F	220-240 V 50 Hz	CSR	R	C-V	228	401	992	2.23	1191	1181	2.58	13.42	Pd	123B1537
GP14TB	14.17	3/8	HBP	F	220-240 V 50 Hz	CSIR	R	C-V	191	373	998	1.76	1208	1192	2.03	11.29	Pd	123B1712
GP14TG	14.17	3/8	HMBP	F	200-240/220-230 V 50/60 Hz	CSIR	R	C-V	190	373	998	1.76	1208	1192	2.03	11.98	Pd	123B1539
GPY14RAa [1]	14.32	3/8	HMBP	F	220-240 V 50 Hz	CSIR	R	C-V	296	492	1161	1.97	1386	1377	2.27	12.2	Pd	123B1540
GPY14RAb [1]	14.32	3/8	HMBP	F	220-240 V 50 Hz	CSR	R	C-V	296	492	1161	2.16	1386	1377	2.5	12.3	Pd	123B1541
GP16TB	16.15	3/8	HBP	F	220-240 V 50 Hz	CSIR	R	C-V	–	476	1204	1.8	1451	1435	2.09	11.93	Pd	123B1713
GP16TG	16.15	3/8	HBP	F	200-220/230 V 50/60 Hz	CSIR	R	C-V	–	476	1204	1.81	1451	1435	2.09	11.93	Pd	123B1714
GPM16RA [1]	16.15	1/2	HBP	F	220-240 V 50 Hz	CSIR	R	C-V	–	543	1317	1.79	1574	1564	2.09	12.29	Pd	123B1719
GPY16RAa [1]	16.15	1/2	HMBP	F	220-240 V 50 Hz	CSIR	R	C-V	307	542	1317	2.02	1574	1564	2.34	12.84	Pd	123B1542
GPY16RAb [1]	16.15	1/2	HMBP	F	220-240 V 50 Hz	CSR	R	C-V	307	542	1317	2.15	1574	1564	2.5	12.94	Pd	123B1543
GPT16RG [1]	16.15	1/2	HBP	F	200-240/220-230 V 50/60 Hz	CSR	R	C-V	–	552	1323	2.13	1600	1579	2.5	12.16	Pd	123B1715

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Technical data and ordering

Light Commercial Refrigeration Compressors (count.)

R134a*) HMBP | HBP - 50 Hz

Model	Displacement	Power	Application	CPR Cooling	Voltage Frequency	Motor	Starting	Expansion	Refrigeration capacity COP in [w/w] Evaporating temperature [°C] CECOMAF [W] -25	-15	5 [W]	5 [COP]	10	ASHRAE 7.2 [W]	ASHRAE 7.2 [COP]	Weight	Design	Code no. [3]
	[cm³]	[hp]														[Kg]		
GPT18RA [1] [2]	18	1/2	HBP	F	220-240V 50Hz	CSR	R	C-V	–	618	1482	2.06	1783	1765	2.39	12.68	Pd	123B1716
GPT18RG [1] [2]	18	1/2	HBP	F	200-220/230V 50/60Hz	CSR	R	C-V	–	596	1429	2	1719	1701	2.32	12.7	Pd	123B1720
GX18TB	18.4	1/2	HMBP	F	220-240V 50Hz	CSIR	R	C-V	286	539	1389	1.9	1673	1655	2.2	15.44	Xc	123B1544
GX18TG	18.4	1/2	HMBP	F	200-240/220-230V 50/60Hz	CSIR	R	C-V	286	539	1389	1.9	1673	1655	2.2	16.08	Xc	123B1545
GX21TB	20.72	5/8	HMBP	F	220-240V 50Hz	CSIR	R	C-V	323	603	1549	1.88	1866	1846	2.18	16.13	Xd	123B1546
GX23TB	23.2	5/8	HMBP	F	220-240V 50Hz	CSIR	R	C-V	368	677	1729	1.88	2082	2060	2.18	16.33	Xd	123B1547
GX23TG	23.2	5/8	HMBP	F	200-240/220-230V 50/60Hz	CSIR	R	C-V	368	677	1729	1.79	2082	2060	2.08	16.34	Xd	123B1548
GS26T3	25.93	3/4	HMBP	F	400/440V 50/60Hz	3PHASE	P	C-V	265	703	2070	2.19	2514	2477	2.55	22.7	Sc	123B1551
GS26TB	25.93	3/4	HMBP	F	220-240V 50Hz	CSIR	R	C-V	265	703	2070	2.08	2514	2477	2.42	22.7	Sc	123B1549
GS26TG	25.93	3/4	HMBP	F	200-240/220-230V 50/60Hz	CSIR	R	C-V	265	703	2070	2.14	2514	2477	2.49	22.7	Sc	123B1550
GS30TB	29.95	7/8	HMBP	F	220-240V 50Hz	CSR	R	C-V	317	785	2451	2.31	3019	2951	2.7	22.7	Sd	123B1552
GS30TG	29.95	7/8	HMBP	F	200-240/220-230V 50/60Hz	CSR	R	C-V	317	785	2451	2.31	3019	2951	2.7	23	Sd	123B1553
GS34TB	34.42	1	HMBP	F	220-240V 50Hz	CSR	R	C-V	476	1068	2850	2.26	3420	3391	2.62	21.35	Sd	123B1554
GS34TG	34.42	1	HMBP	F	200-240/220-230V 50/60Hz	CSR	R	C-V	467	992	2829	2.24	3453	3392	2.64	22.27	Sd	123B1614
GL60TC	5.68	1/5	HMBP	F	100V 50/60Hz	CSIR	R	C-V	95	170	436	1.72	527	521	2.01	10.38	Lc	123B1523
GUY72RCa [1] [2]	7.2	1/4	HMBP	F	100V 50/60Hz	CSIR	R	C-V	153	262	646	2.24	777	770	2.6	9.52	Uc	123B1617
GUY72RCb [1] [2]	7.2	1/4	HMBP	F	100V 50/60Hz	CSR	R	C-V	153	264	650	2.39	782	774	2.78	9.59	Uc	123B1618
GL80TC	7.57	1/5	HMBP	F	100V 50/60Hz	CSIR	R	C-V	111	212	553	1.85	667	660	2.21	10.98	Lc	123B1529
GL90TC	8.85	1/4	HMBP	F	100V 50/60Hz	CSIR	R	C-V	143	259	660	1.75	796	787	2.08	11.48	Ld	123B1535

**) Or HFO1234yf*
[1]) Green Cooling Models
[2]) New Models
[3]) Ordering code for single compressors. For pallet packed compressors, please use 123F instead of 123B

Conditions	CECOMAF		ASHRAE	
	LBP	HMBP/HBP	LBP	HMBP/HBP
Evaporating temperature [°C]	-25	5	-23.3	7.2
Condensing temperature [°C]	55	55	55	55
Liquid temperature [°C]	55	55	32	46
Suction temperature [°C]	32	32	32	35
Ambient temperature [°C]	32	32	32	35

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

Light Commercial Refrigeration Compressors

R404A - R507 LBP - 50 Hz

Model	Displacement	Power	Application	CPR Cooling	Voltage Frequency	Motor	Starting	Expansion	Refrigeration capacity COP in [w/w] Evaporating temperature [°C] CECOMAF [W] -40	-30	-25 [W]	-25 [COP]	-10	ASHRAE -23.3 [W]	ASHRAE -23.3 [COP]	Weight	Design	Code no. [3]
	[cm³]	[hp]														[Kg]		
ML45FB	4.56	1/6	LBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	52	100	133	0.66	274	197	0.94	8.57	Lb	123B2103
ML45FG	4.56	1/6	LBP	F	200 – 240/220 – 230 V 50/60 Hz	CSIR	R	C-V	52	100	133	0.68	274	197	0.96	10.87	Lc	123B2104
MLY45LAa [1]	4.56	1/6	LBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	61	118	157	0.92	317	231	1.3	9.55	Lc	123B2105
MLY45LAb [1]	4.56	1/6	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	61	118	157	0.98	317	231	1.38	9.65	Lc	123B2106
ML60FB	5.98	1/5	LBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	69	139	186	0.85	371	273	1.2	8.88	Lc	123B2107
ML60FG	5.98	1/5	LBP	F	200 – 240/220 – 230 V 50/60 Hz	CSIR	R	C-V	69	134	177	0.71	351	260	1.01	10.87	Lc	123B2108
MLY60LAa [1]	5.98	1/5	LBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	86	168	221	0.9	428	324	1.26	10.02	Lc	123B2109
MLY60LAb [1]	5.98	1/5	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	86	168	221	0.96	428	324	1.36	10.12	Lc	123B2110
ML80FB	8.1	1/4	LBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	99	189	251	0.77	505	369	1.09	9.47	Lc	123B2111
ML80FG	8.1	1/4	LBP	F	200 – 240/220 – 230 V 50/60 Hz	CSIR	R	C-V	99	190	252	0.77	505	369	1.08	12.2	Ld	123B2112
MLY80LAa [1]	8.1	1/4	LBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	104	207	275	0.91	548	405	1.28	11	Ld	123B2113
MLY80LAb [1]	8.1	1/4	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	104	207	275	0.98	548	405	1.38	11.1	Ld	123B2114
ML90FB	8.85	1/3	LBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	104	207	275	0.83	548	405	1.16	9.74	Ld	123B2115
ML90FG	8.85	1/3	LBP	F	200 – 220/230 V 50/60 Hz	CSIR	R	C-V	104	207	275	0.8	548	405	1.13	10.78	Ld	123B2116
MLY90LAa [1]	9.09	1/3	LBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	121	236	311	0.91	612	457	1.28	10.35	Ld	123B2117
MLY90LAb [1]	9.09	1/3	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	121	236	311	0.98	612	457	1.38	10.45	Ld	123B2118
MLY12LAa [1] [2]	10.7	3/8	LBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	156	294	387	0.94	762	567	1.33	10.85	Ld	123B2119
MLY12LAb [1] [2]	10.7	3/8	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	156	294	387	1	762	567	1.41	10.95	Ld	123B2120
MLY12LGa [1] [2]	10.7	3/8	LBP	F	200 – 220/230 V 50/60 Hz	CSIR	R	C-V	165	297	387	0.83	756	567	1.17	11.06	Ld	123B2121
MLY12LGb [1] [2]	10.7	3/8	LBP	F	200 – 220/230 V 50/60 Hz	CSR	R	C-V	165	302	394	0.9	768	578	1.28	11.16	Ld	123B2122
MPT12LA [1]	12.1	3/8	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	194	347	451	1.01	873	660	1.42	12.23	Pd	123B2123
MP14FB	14.17	1/2	LBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	121	304	421	0.79	877	625	1.12	12.07	Pd	123B2124
MP14FG	14.17	1/2	LBP	F	200 – 220/230 V 50/60 Hz	CSIR	R	C-V	121	303	420	0.79	877	624	1.12	12.03	Pd	123B2125
MPT14LA [1]	14.32	1/2	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	242	419	534	0.99	984	775	1.38	12.25	Pd	123B2126
MPT16LA [1]	16.15	1/2	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	245	462	605	1	1168	885	1.4	12.37	Pd	123B2127
MPT18LA [1]	18	1/2	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	269	504	657	0.96	1260	961	1.35	12.81	Pd	123B2128
MX18FBa	18.4	5/8	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	173	396	546	0.96	1147	810	1.36	16.29	Xd	123B2129
MX21FBa	20.72	3/4	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	212	463	630	0.96	1296	932	1.35	16.66	Xd	123B2130
MX21FGa [2]	20.72	3/4	LBP	F	200 – 240/220 – 230 V 50/60 Hz	CSR	R	C-V	212	463	630	0.96	1296	932	1.35	17.32	Xd	123B2186
MX23FBa	23.2	7/8	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	259	534	718	0.96	1455	1059	1.35	16.61	Xd	123B2132
MX23FGa [2]	23.2	7/8	LBP	F	200 – 240/220 – 230 V 50/60 Hz	CSR	R	C-V	259	534	718	0.95	1455	1059	1.34	17.5	Xd	123B2183
MS26FB	25.93	3/4	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	182	571	814	0.97	1737	1215	1.37	21.63	Sd	123B2134
MS26FG	25.93	3/4	LBP	F	200 – 220/230 V 50/60 Hz	CSR	R	C-V	173	548	777	0.95	1626	1157	1.35	22.6	Sd	123B2135
MS30FB	29.95	7/8	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	207	656	932	0.95	1969	1390	1.35	22.7	Sd	123B2137
MS34FB	34.42	1	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	242	759	1083	0.95	2311	1617	1.35	22.13	Sd	123B2139
MS26F3	25.93	3/4	LBP	F	400/440 V 50/60 Hz	3PHASE	P	C-V	173	548	777	0.95	1626	1157	1.35	20.8	Sd	123B2136
MS30F3	29.95	7/8	LBP	F	400/440 V 50/60 Hz	3PHASE	P	C-V	207	655	931	0.93	1968	1389	1.32	24	Sd	123B2138
MS34F3	34.42	1	LBP	F	400/440 V 50/60 Hz	3PHASE	P	C-V	242	762	1085	0.99	2311	1620	1.4	22.9	Sd	123B2140

[1]) Green Cooling Models
[2]) New Models
[3]) Ordering code for single compressors. For pallet packed compressors, please use 123F instead of 123B

Conditions	*CECOMAF*		*ASHRAE*	
	LBP	*HMBP/HBP*	*LBP*	*HMBP/HBP*
Evaporating temperature [°C]	*-25*	*5*	*-23.3*	*7.2*
Condensing temperature [°C]	*55*	*55*	*55*	*55*
Liquid temperature [°C]	*55*	*55*	*32*	*46*
Suction temperature [°C]	*32*	*32*	*32*	*35*
Ambient temperature [°C]	*32*	*32*	*32*	*35*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

Light Commercial Refrigeration Compressors

R404A - R507 HMBP | HBP - 50 Hz

Model	Displacement	Power	Application	CPR Cooling	Voltage Frequency	Motor	Starting	Expansion	Refrigeration capacity COP in [w/w] Evaporating temperature [°C] CECOMAF [W] -25	-15	5 [W]	5 [COP]	10	ASHRAE 7.2 [W]	ASHRAE 7.2 [COP]	Weight	Design	Code no. [3]
	[cm³]	[hp]														[Kg]		
ML40TB	4.05	1/6	HMBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	132	212	470	1.41	555	590	1.74	9.47	Lc	123B2501
ML40TG	4.05	1/6	HMBP	F	200 – 240/220 – 230 V 50/60 Hz	CSIR	R	C-V	132	212	470	1.41	555	590	1.74	9.12	Lc	123B2502
ML45TB	4.56	1/5	HMBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	150	237	525	1.47	621	660	1.82	9.1	Lc	123B2503
ML45TG	4.56	1/5	HMBP	F	200 – 240/220 – 230 V 50/60 Hz	CSIR	R	C-V	150	237	525	1.47	621	660	1.82	10.57	Lc	123B2504
MLT45RG [1] [2]	4.56	1/5	HMBP	F	200 – 240/220 – 230 V 50/60 Hz	CSR	R	C-V	169	268	594	1.88	702	747	2.33	10.6	Ld	123B2546
ML60TB	5.68	1/4	HMBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	165	276	643	1.5	765	810	1.85	9.29	Lc	123B2507
ML60TG	5.68	1/4	HMBP	F	200 – 220/230 V 50/60 Hz	CSIR	R	C-V	165	276	643	1.5	765	810	1.85	10.57	Lc	123B2508
MLY60RAa [1]	5.98	1/4	HMBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	210	344	761	1.74	896	955	2.15	10.49	Lc	123B2505
MLY60RAb [1]	5.98	1/4	HMBP	F	220 – 240 V 50 Hz	CSR	R	C-V	210	344	761	1.91	896	955	2.36	10.59	Lc	123B2506
MLY60RGa [1] [2]	5.98	–	HMBP	F	200 – 220/220 – 230 V 50/60 Hz	CSIR	R	C-V	215	341	765	1.85	907	963	2.29	10.24	Lc	123B2550
MLY60RGb [1] [2]	5.98	–	HMBP	F	200 – 220/220 – 230 V 50/60 Hz	CSR	R	C-V	216	352	778	2	916	976	2.48	10.34	Lc	123B2551
ML80TB	7.57	3/8	HMBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	225	383	875	1.61	1034	1100	1.99	9.68	Ld	123B2511
ML80TG	7.57	3/8	HMBP	F	200 – 240/220 – 230 V 50/60 Hz	CSIR	R	C-V	225	383	875	1.61	1034	1100	1.99	11.81	Ld	123B2512
MLY80RAa [1]	8.1	3/8	HMBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	280	461	1049	1.84	1243	1319	2.27	11.29	Ld	123B2509
MLY80RAb [1]	8.1	3/8	HMBP	F	220 – 240 V 50 Hz	CSR	R	C-V	280	461	1049	1.99	1243	1319	2.46	11.39	Ld	123B2510
ML90TB	8.85	3/8	HMBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	280	461	1049	1.61	1243	1319	1.98	12.31	Ld	123B2515
ML90TG	8.85	3/8	HMBP	F	200 – 220/230 V 50/60 Hz	CSIR	R	C-V	280	461	1049	1.61	1243	1319	1.98	11.29	Ld	123B2516
MLY90RAa [1]	9.09	3/8	HMBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	316	509	1125	1.73	1327	1412	2.13	11.34	Ld	123B2513
MLY90RAb [1]	9.09	3/8	HMBP	F	220 – 240 V 50 Hz	CSR	R	C-V	316	508	1129	1.89	1333	1418	2.34	11.44	Ld	123B2514
MLT12RA [1]	10.7	3/8	HMBP	F	220 – 240 V 50 Hz	CSR	R	C-V	396	632	1379	1.88	1622	1729	2.31	11.59	Ld	123B2540
MLT12RG [1]	10.7	3/8	HMBP	F	200 – 240/220 – 230 V 50/60 Hz	CSR	R	C-V	365	601	1337	1.83	1576	1678	2.26	12.24	Ld	123B2532
MPT12RA [1]	12.1	3/8	HMBP	F	220 – 240 V 50 Hz	CSR	R	C-V	437	723	1559	1.91	1823	1950	2.35	12.2	Pd	123B2518
MPT12RG [1]	12.1	3/8	HBP	F	200 – 240/220 – 230 V 50/60 Hz	CSR	R	C-V	–	689	1489	1.87	1769	1875	2.33	12.89	Pd	123B2703
MPT14RA [1]	14.32	1/2	HBP	F	220 – 240 V 50 Hz	CSR	R	C-V	–	789	1750	1.78	2068	2199	2.2	12.25	Pd	123B2704
MX16TBa	16.03	7/8	HMBP	F	220 – 240 V 50 Hz	CSR	R	C-V	481	814	1868	1.74	2212	2350	2.15	16.33	Xd	123B2706
MX18TBa	18.4	7/8	HMBP	F	220 – 240 V 50 Hz	CSR	R	C-V	551	932	2143	1.76	2540	2697	2.18	16.33	Xd	123B2707
MX18TGa [2]	18.4	7/8	HMBP	F	200 – 240/220 – 230 V 50/60 Hz	CSR	R	C-V	551	932	2143	1.76	2540	2697	2.18	16.24	Xd	123B2541
MX21TBa	20.72	1	HMBP	F	220 – 240 V 50 Hz	CSR	R	C-V	620	1046	2410	1.74	2856	3032	2.15	16.52	Xd	123B2708
MX21TGa	20.72	1	HMBP	F	200 – 220/230 V 50/60 Hz	CSR	R	C-V	621	1047	2409	1.74	2857	3032	2.15	17.16	Xd	123B2714
MS22TB [2]	21.75	1	HMBP	F	220 – 240 V 50 Hz	CSR	R	C-V	451	967	2550	2.02	3060	3228	2.5	20.51	Sc	123B2521
MS26TB	25.93	1 3/8	HMBP	F	220 – 240 V 50 Hz	CSR	R	C-V	671	1288	3164	2	3767	3991	2.46	22.12	Sd	123B2523
MS26TG	25.93	1 3/8	HMBP	F	200 – 220/230 V 50/60 Hz	CSR	R	C-V	671	1289	3166	2	3769	3993	2.46	23	Sd	123B2524
MS34TB	34.42	1 5/8	HBP	F	220 – 240 V 50 Hz	CSR	R	C-V	–	1850	4205	1.89	4930	5266	2.3	22.21	Sd	123B2710
MS34TG	34.42	1 5/8	HBP	F	200 – 220/230 V 50/60 Hz	CSR	R	C-V	–	1850	4205	1.89	4930	5266	2.3	22.78	Sd	123B2711
MS18T3	18.1	7/8	HMBP	F	400/440 V 50/60 Hz	3PHASE	P	C-V	421	834	2124	1.89	2543	2685	2.35	20	Sb	123B2520
MS22T3	21.75	1	HMBP	F	400/440 V 50/60 Hz	3PHASE	P	C-V	451	970	2560	1.98	3072	3241	2.45	20	Sb	123B2522
MS26T3	25.93	1 3/8	HMBP	F	400/440 V 50/60 Hz	3PHASE	P	C-V	671	1289	3166	1.98	3769	3993	2.45	18.6	Sd	123B2525
MS34T3	34.42	1 5/8	HMBP	F	400/440 V 50/60 Hz	3PHASE	P	C-V	1002	1850	4205	1.79	4930	5266	2.2	22.8	Sd	123B2526

[1]) Green Cooling Models
[2]) New Models
[3]) Ordering code for single compressors. For pallet packed compressors, please use 123F instead of 123B

Conditions	CECOMAF		ASHRAE	
	LBP	HMBP/HBP	LBP	HMBP/HBP
Evaporating temperature [°C]	-25	5	-23.3	7.2
Condensing temperature [°C]	55	55	55	55
Liquid temperature [°C]	55	55	32	46
Suction temperature [°C]	32	32	32	35
Ambient temperature [°C]	32	32	32	35

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

Light Commercial Refrigeration Compressors

Natural Refrigerant - R290 LBP - 50 Hz

Model [1]	Displacement	Power	Application	CPR Cooling	Voltage Frequency	Motor	Starting	Expansion	Refrigeration capacity COP in [w/w] Evaporating temperature [°C] CECOMAF [W] -40	-30	-25 [W]	-25 [COP]	-10	ASHRAE -23.3 [W]	ASHRAE -23.3 [COP]	Weight	Design	Code no. [3]
	[cm³]	[hp]														[Kg]		
NBC25CA [2] [4]	2.6	1/12	LBP	S	220 – 240 V/50 Hz	RSIR	R	C	32	57	74	1	143	100	1.3	5.9	Be	123B8301
NBG25CA [2] [4]	2.6	1/12	LBP	S	220 – 240 V/50 Hz	RSCR	R	C	32	57	74	1.17	143	100	1.52	6	Be	123B8302
NBC35NA [2]	3.5	1/8	LMBP	S	220 – 240 V/50 Hz	RSIR	R	C	47	83	108	1	209	145	1.3	5.9	Be	123B8303
NBG35CA [2] [4]	3.5	1/8	LBP	S	220 – 240 V/50 Hz	RSCR	R	C	47	83	108	1.2	209	145	1.55	6	Be	123B8304
NBC41NA [2] [4]	4.1	1/7	LBP	S	220 – 240 V/50 Hz	RSIR	R	C	58	103	134	1	259	179	1.3	5.9	Be	123B8305
NBG41CA [2] [4]	4.1	1/7	LMBP	S	220 – 240 V/50 Hz	RSCR	R	C	58	103	134	1.2	259	181	1.55	6	Be	123B8306
NLY45LAa	4.56	1/6	LBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	62	116	152	1.04	298	204	1.35	10.25	Lc	123B3102
NLY45LAb	4.56	1/6	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	62	116	152	1.11	298	204	1.44	10.35	Lc	123B3103
NUY45LAa [2]	4.5	1/5	LBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	65	122	159	1.21	306	213	1.57	9.3	Ub	123B3143
NUY45LAb [2]	4.5	1/5	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	66	123	161	1.26	311	215	1.64	9.45	Ub	123B3144
NUT55CAa	5.5	1/5	LBP	F	220 – 240 V 50 Hz	RSIR	P	C	88	152	196	1.27	382	263	1.64	9.1	Ub	123B3104
NUT55CAb	5.5	1/5	LBP	F	220 – 240 V 50 Hz	RSCR	P	C	88	152	196	1.39	382	263	1.8	9.21	Ub	123B3105
NUT55CAc	5.5	1/5	LBP	S	220 – 240 V 50 Hz	RSIR	P	C	88	152	196	1.27	382	263	1.64	9.1	Ub	123B3141
NUT55CAd	5.5	1/5	LBP	S	220 – 240 V 50 Hz	RSCR	P	C	88	152	196	1.39	382	263	1.8	9.21	Ub	123B3142
NLY60LAa	5.98	1/5	LBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	85	152	198	1.03	389	266	1.33	9.67	Lc	123B3106
NLY60LAb	6	1/5	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	85	152	198	1.1	389	266	1.42	9.77	Lc	123B3107
NUY60LAa [2]	6	1/5	LBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	92	165	215	1.21	420	289	1.56	9.67	Lc	123B3157
NUY60LAb [2]	6	1/5	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	97	160	220	1.27	425	295	1.64	9.77	Lc	123B3158
NUT60CAa	6	1/4	LBP	F	220 – 240 V 50 Hz	RSIR	P	C	101	175	226	1.3	431	302	1.68	9.2	Ub	123B3110
NUT60CAb	6	1/4	LBP	F	220 – 240 V 50 Hz	RSCR	P	C	101	175	226	1.41	431	302	1.82	9.31	Ub	123B3111
NUT60CAc	6	1/4	LBP	S	220 – 240 V 50 Hz	RSIR	P	C	101	175	226	1.3	431	302	1.68	9.2	Ub	123B3145
NUT60CAd	6	1/4	LBP	S	220 – 240 V 50 Hz	RSCR	P	C	101	175	226	1.41	431	302	1.82	9.31	Ub	123B3146
NUT70CAa	6.7	1/4	LBP	F	220 – 240 V 50 Hz	RSIR	P	C	109	195	250	1.3	463	333	1.68	9.2	Ub	123B3112
NUT70CAb	6.7	1/4	LBP	F	220 – 240 V 50 Hz	RSCR	P	C	109	195	250	1.39	463	333	1.8	9.41	Ub	123B3113
NLY75LAa	7.36	1/4	LBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	109	199	255	1.07	467	339	1.38	10.24	Ld	123B3153
NLY75LAb	7.36	1/4	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	110	196	254	1.17	490	340	1.52	10.34	Ld	123B3154
NLY75NGa [2]	7.36	1/4	LMBP	F	200 – 220/220 – 230 V 50/60 Hz	CSIR	R	C-V	91	149	200	1.01	443	272	1.3	10.41	Ld	123B3307
NLY75NGb [2]	7.36	1/4	LMBP	F	200 – 220/220 – 230 V 50/60 Hz	CSR	R	C-V	91	174	231	1.09	464	311	1.33	10.51	Ld	123B3308
NLY80LAa	8.1	1/4	LBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	113	201	264	1.04	525	354	1.35	10.27	Ld	123B3114
NLY80LAb	8.1	1/4	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	113	201	264	1.1	525	354	1.43	10.37	Ld	123B3115
NUY80LAa [2]	8.1	1/4	LBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	122	217	285	1.15	566	382	1.5	10.28	Uc	123B3171
NLY90LAa	9.09	1/3	LBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	130	236	307	1.06	591	411	1.37	10.32	Ld	123B3116
NLY90LAb	9.09	1/3	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	130	236	307	1.11	591	411	1.44	10.42	Ld	123B3117
NLY90CAa [2]	9.09	1/3	LBP	F	220 – 240 V 50 Hz	RSIR	P	C	130	236	307	1.06	591	411	1.37	10.32	Ld	123B3173
NLY90CAb [2]	9.09	1/3	LBP	F	220 – 240 V 50 Hz	RSCR	P	C	130	236	307	1.11	591	411	1.44	10.42	Ld	123B3174
NUY90LAa [2]	8.9	1/3	LBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	157	267	338	1.21	614	449	1.55	10.32	Uc	123B3159
NUY90LAb [2]	8.9	1/3	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	158	270	342	1.28	625	455	1.64	10.32	Uc	123B3160
NUY90CAa [2]	8.9	1/3	LBP	F	220 – 240 V 50 Hz	RSIR	P	C-V	157	267	338	1.21	614	449	1.55	10.32	Uc	123B3163
NUY90CAb [2]	8.9	1/3	LBP	F	220 – 240 V 50 Hz	RSCR	P	C-V	158	270	342	1.28	625	455	1.64	10.32	Uc	123B3164
NLY12LAa [2]	10.7	3/8	LBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	163	283	364	0.96	689	486	1.24	11.21	Ld	123B3118
NLY12LAb [2]	10.7	3/8	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	163	283	364	1.01	689	486	1.31	11.31	Ld	123B3119
NLY12NGa [2]	10.7	3/8	LMBP	F	200 – 220/220 – 230 V 50/60 Hz	CSIR	R	C-V	168	288	371	0.98	715	497	1.28	11.04	Ld	123B3305
NLY12NGb [2]	10.7	3/8	LMBP	F	200 – 220/220 – 230 V 50/60 Hz	CSR	R	C-V	171	287	371	1.06	726	497	1.31	11.14	Ld	123B3306
NPY12LAa	12.1	3/8	LBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	174	309	402	1.05	783	538	1.35	12.13	Pd	123B3120
NPY12LAb	12.1	3/8	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	174	309	402	1.15	783	538	1.49	12.23	Pd	123B3121
NPY14LAa	14.32	1/2	LBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	217	376	485	1.05	928	648	1.35	12.17	Pd	123B3122
NPY14LAb	14.32	1/2	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	217	376	485	1.14	928	648	1.48	12.27	Pd	123B3123
NPT16LA	16.15	1/2	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	254	440	564	1.16	1062	752	1.5	12.17	Pd	123B3124
NPT18LA [2]	18	1/2	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	269	473	611	1.13	1165	816	1.46	12.3	Pd	123B3125
NX18FBa	18.4	3/4	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	243	471	611	1.11	1137	816	1.44	16.41	Xd	123B3126
NX21FBa	20.72	3/4	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	267	517	675	1.11	1275	903	1.44	16.99	Xd	123B3127
NX23FBa	23.2	7/8	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	297	572	746	1.09	1411	998	1.41	16.75	Xd	123B3128
NS26FB [2]	25.93	7/8	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	199	580	765	1.04	1448	1024	1.35	22.6	Sd	123B3166
NS34FB [2]	34.42	1	LBP	F	220 – 240 V 50 Hz	CSR	R	C-V	257	750	990	1.04	1873	1325	1.35	23	Sd	123B3167

[1] Green Cooling Models
[2] New Models
[3] Ordering code for single compressors. For pallet packed compressors, please use 123F instead of 123B
[4] Model under development. Provisional performance/data.

Conditions	CECOMAF		ASHRAE	
	LBP	HMBP/HBP	LBP	HMBP/HBP
Evaporating temperature [°C]	-25	5	-23.3	7.2
Condensing temperature [°C]	55	55	55	55
Liquid temperature [°C]	55	55	32	46
Suction temperature [°C]	32	32	32	35
Ambient temperature [°C]	32	32	32	35

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

Light Commercial Refrigeration Compressors

Natural Refrigerant - R290 HMBP | HBP - 50 Hz

Model [1]	Displacement	Power	Application	CPR Cooling	Voltage Frequency	Motor	Starting	Expansion	Refrigeration capacity COP in [w/w] Evaporating temperature [°C] CECOMAF [W] -25	-15	5 [W]	5 [COP]	10	ASHRAE 7.2 [W]	ASHRAE 7.2 [COP]	Weight	Design	Code no. [3]
	[cm³]	[hp]														[Kg]		
NBC22RA [2]	2.2	1/12	HMBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	64	101	224	2.24	265	266	2.3	6	Bc	123B8309
NBC30RA [2]	3.1	1/10	HMBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	100	157	354	2.21	421	421	2.61	6	Bd	123B8310
NLY45RAa	4.56	1/5	HMBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	148	237	518	2.13	609	613	2.51	10.42	Lc	123B3504
NLY45RAb	4.56	1/5	HMBP	F	220 – 240 V 50 Hz	CSR	R	C-V	148	237	518	2.34	609	613	2.75	10.52	Lc	123B3505
NUY45RAa [2]	4.56	1/5	HMBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	142	231	516	2.36	610	612	2.77	9.3	Lc	123B3704
NUY55RAa [2]	5.5	1/5	HMBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	189	304	665	2.4	781	787	2.82	9.87	Lc	123B3705
NLY60RAa	5.98	1/4	HMBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	211	325	703	2.2	829	833	2.58	10.99	Lc	123B3506
NLY60RAb	5.98	1/4	HMBP	F	220 – 240 V 50 Hz	CSR	R	C-V	211	325	703	2.38	829	833	2.79	11.14	Lc	123B3507
NUY60RAa [2]	5.98	1/4	HMBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	217	334	723	2.33	860	856	2.75	9.75	Lc	123b3708
NUY70RAa [2]	6.7	1/4	HMBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	248	382	817	2.34	961	968	2.75	9.6	Ub	123B3527
NUY70RAb [2]	6.7	1/4	HMBP	F	220 – 240 V 50 Hz	CSR	R	C-V	248	382	817	2.47	961	968	2.9	9.7	Ub	123B3528
NLY75RAa	7.36	3/8	HMBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	243	390	862	2.25	1017	1022	2.64	10.49	Ld	123B3508
NLY75RAb	7.36	3/8	HMBP	F	220 – 240 V 50 Hz	CSR	R	C-V	243	390	862	2.42	1017	1022	2.84	10.59	Ld	123B3509
NLY80RAa	8.1	3/8	HMBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	258	411	930	2.21	1104	1105	2.6	10.54	Ld	123B3510
NLY80RAb	8.1	3/8	HMBP	F	220 – 240 V 50 Hz	CSR	R	C-V	258	411	930	2.38	1104	1105	2.8	10.64	Ld	123B3511
NLY90RAa	9.09	3/8	HMBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	306	480	1054	2.18	1245	1250	2.56	11.19	Ld	123B3512
NLY90RAb	9.09	3/8	HMBP	F	220 – 240 V 50 Hz	CSR	R	C-V	306	480	1054	2.36	1245	1250	2.78	11.29	Ld	123B3513
NLY12RAa [2]	10.7	3/8	HMBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	379	584	1224	2.06	1432	1446	2.41	11.44	Ld	123B3529
NLY12RAb [2]	10.7	3/8	HMBP	F	220 – 240 V 50 Hz	CSR	R	C-V	379	597	1249	2.28	1457	1473	2.66	11.54	Ld	123B3530
NLY12RGa [2]	10.7	3/8	HMBP	F	200 – 220/220 – 230 V 50/60 Hz	CSIR	R	C-V	341	553	1217	2.03	1432	1441	2.39	12.1	Ld	123B3531
NLY12RGb [2]	10.7	3/8	HMBP	F	200 – 220/220 – 230 V 50/60 Hz	CSR	R	C-V	355	554	1226	2.2	1450	1455	2.58	12.2	Ld	123B3532
NPY12RAa	12.1	1/2	HBP	F	220 – 240 V 50 Hz	CSIR	R	C-V	-	635	1460	2.08	1735	1736	2.45	12.16	Pd	123B3701
NPY12RAb	12.1	1/2	HBP	F	220 – 240 V 50 Hz	CSR	R	C-V	-	635	1460	2.28	1735	1736	2.7	12.26	Pd	123B3702
NPT14RA	14.32	1/2	HBP	F	220 – 240 V 50 Hz	CSR	R	C-V	-	763	1709	2.26	2085	2056	2.69	12.25	Pd	123B3703
NPT16RA [2]	16.1	2/3	HBP	F	220 – 240 V 50 Hz	CSR	R	C-V	-	853	1911	2.18	2331	2299	2.55	12.3	Pd	123B3712
NX18TBa	18.4	3/4	HMBP	F	220 – 240 V 50 Hz	CSR	R	C-V	511	852	2039	2.22	2440	2433	2.61	16.14	Xd	123B3514
NX21TBa	20.72	7/8	HMBP	F	220 – 240 V 50 Hz	CSR	R	C-V	601	973	2267	2.18	2705	2701	2.55	16.09	Xd	123B3515

[1]) Green Cooling Models
[2]) New Models
[3]) Ordering code for single compressors. For pallet packed compressors, please use 123F instead of 123B

Conditions	CECOMAF		ASHRAE	
	LBP	HMBP/HBP	LBP	HMBP/HBP
Evaporating temperature [°C]	-25	5	-23.3	7.2
Condensing temperature [°C]	55	55	55	55
Liquid temperature [°C]	55	55	32	46
Suction temperature [°C]	32	32	32	35
Ambient temperature [°C]	32	32	32	35

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

Light Commercial Refrigeration Compressors

Natural refrigerant - R600a LBP - 50 Hz

Model [1]	Displacement	Power	Application	CPR Cooling	Voltage Frequency	Motor	Starting	Expansion	Refrigeration capacity COP in [w/w] Evaporating temperature [°C] CECOMAF [W] 35	-30	-25 [W]	-25 [COP]	-10	ASHRAE -23.3 [W]	ASHRAE -23.3 [COP]	Weight	Design	Code no. [3]
	[cm³]	[hp]														[Kg]		
L22CL [2]	2.2	1/18	LBP	S	220-240V 50Hz	RSIR	P	C	12	31	23	0.69	48	30	0.86	3.6	SLb	123B8401
L30CL [2]	3.1	1/16	LBP	S	220-240V 50/60Hz	RSIR	P	C	19	49	36	0.78	75	47	0.99	3.8	SLc	123B8402
B35C [2]	3.5	1/15	LBP	S	220-240V 50/60Hz	RSIR	P	C	17	26	37	0.77	79	50	1	4.5	Bb	123B8425
B35C [2]	3.5	1/15	LBP	S	220-240V 50Hz	RSIR	P	C	16	28	41	0.95	89	56	1.23	4.5	Bb	123B8403
B35CA [2]	3.5	1/15	LBP	S	220-240V 50Hz	RSCR	P	C	21	31	43	1.13	96	58	1.45	5.1	Bc	123B8404
B43CB [2]	4.3	1/12	LBP	S	220-240V 50Hz	RSIR	P	C	29	39	51	0.91	108	68	1.16	4.6	Bc	123B8405
B43CB [2]	4.3	1/12	LBP	S	220-240V 50Hz	RSCR	P	C	29	39	51	1.02	108	68	1.29	4.6	Bc	123B8406
B43CB [2]	4.3	1/12	LBP	S	220-240V 50/60Hz	RSIR	P	C	25	33	44	0.87	92	58	1.1	4.6	Bc	123B8419
B52CL [2]	5.2	1/10	LBP	S	220-240V 50/60Hz	RSIR	P	C	35	45	60	0.91	127	80	1.16	4.6	Bc	123B8408
B52CL [2]	5.2	1/10	LBP	S	220-240V 50Hz	RSIR	P	C	34	44	58	1.11	124	78	1.42	5.2	Bd	123B8409
B60CBL [2]	6	1/8	LBP	S	220-240V 50Hz	RSIR	P	C	40	54	71	1.03	153	95	1.31	5	Bc	123B8411
B60CBL [2]	6	1/8	LBP	S	220-240V 50Hz	RSIR	P	C	38	96	71	1.1	149	95	1.4	5	Bd	123B8412
B65CL [2]	6.5	1/8	LBP	S	220-240V 50Hz	RSIR	P	C	42	105	79	0.87	163	104	1.1	5	Bc	123B8413
B65CL [2]	6.5	1/8	LBP	S	220-240V 50Hz	RSCR	P	C	42	105	79	1.1	163	104	1.4	5.2	Be	123B8414
HLY80AAa	8.1	1/7	LBP	S	220-240V 50Hz	RSIR	P	C	54	74	99	1.11	201	131	1.41	9.45	Lb	123B4108
HLY80AAb	8.1	1/7	LBP	S	220-240V 50Hz	RSCR	P	C	54	74	99	1.18	203	131	1.49	9.56	Lb	123B4109
HLY90AAa	9.09	1/6	LBP	S	220-240V 50Hz	RSIR	P	C	67	84	109	1.11	231	145	1.41	9.85	Lb	123B4110
HLY90AAb	9.09	1/6	LBP	S	220-240V 50Hz	RSCR	P	C	65	85	111	1.18	234	147	1.49	9.96	Lb	123B4111
HLY99AAa	9.95	1/6	LBP	S	220-240V 50Hz	RSIR	P	C	69	90	119	1.1	249	157	1.4	10.95	Lc	123B4112
HLY99AAb	9.95	1/6	LBP	S	220-240V 50Hz	RSCR	P	C	67	90	120	1.16	250	159	1.48	11.06	Lc	123B4113
HPY12AAa	12.1	1/5	LBP	S	220-240V 50Hz	RSIR	P	C	79	107	144	1.13	301	191	1.43	11.13	Pc	123B4114
HPY12AAb	12.1	1/5	LBP	S	220-240V 50Hz	RSCR	P	C	79	107	144	1.18	301	191	1.5	11.24	Pc	123B4115
HPY12AGa	12.1	1/4	LBP	S	200-220/220-230V 50/60Hz	RSIR	P	C	79	107	144	1.1	301	191	1.4	10.9	Pc	123B4116
HPY12AGb	12.1	1/4	LBP	S	200-220/220-230V 50/60Hz	RSCR	P	C	79	107	144	1.1	301	191	1.4	11.01	Pc	123B4117
HPY14AAa	14.32	1/5	LBP	S	220-240V 50Hz	RSIR	P	C	92	124	166	1.13	345	220	1.43	11.41	Pc	123B4118
HPY14AAb	14.32	1/5	LBP	S	220-240V 50Hz	RSCR	P	C	92	124	166	1.19	345	220	1.5	11.52	Pc	123B4119
HPY16AAa	16.15	1/4	LBP	S	220-240V 50Hz	RSIR	P	C	102	136	181	1.14	381	241	1.44	10.64	Pc	123B4122
HPY16AAb	16.15	1/4	LBP	S	220-240V 50Hz	RSCR	P	C	102	136	181	1.19	381	241	1.51	10.75	Pc	123B4123
B43C0 [2]	4.3	1/12	LBP	S	100V 50/60Hz	RSIR	P	C	27	69	51	0.93	107	68	1.18	4.6	Bb	123B8407
B52C0L [2]	5.2	1/10	LBP	S	100V 50/60Hz	RSIR	P	C	31	78	58	0.86	121	78	1.1	4.8	Bc	123B8410
HPY14AJa	14.32	1/5	LBP	S	100V 50/60Hz	RSIR	P	C	86	116	157	1.01	336	208	1.28	10.75	Pd	123B4120
HPY14AJb	14.32	1/5	LBP	S	100V 50/60Hz	RSCR	P	C	86	116	157	1.07	336	208	1.35	10.86	Pd	123B4121

[1]) Green Cooling Models
[2]) New Models
[3]) Ordering code for single compressors. For pallet packed compressors, please use 123F instead of 123B

Conditions	*CECOMAF*		*ASHRAE*	
	LBP	*HMBP/HBP*	*LBP*	*HMBP/HBP*
Evaporating temperature [°C]	*-25*	*5*	*-23.3*	*7.2*
Condensing temperature [°C]	*55*	*55*	*55*	*55*
Liquid temperature [°C]	*55*	*55*	*32*	*46*
Suction temperature [°C]	*32*	*32*	*32*	*35*
Ambient temperature [°C]	*32*	*32*	*32*	*35*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

Light Commercial Refrigeration Compressors

Natural refrigerant - R600a HMBP | HBP - 50 Hz

Model [1]	Displacement	Power	Application	CPR Cooling	Voltage Frequency	Motor	Starting	Expansion	Refrigeration capacity COP in [w/w] Evaporating temperature [°C] CECOMAF [W] -25	-15	5 [W]	5 [COP]	10	ASHRAE 7.2 [W]	ASHRAE 7.2 [COP]	Weight	Design	Code no. [3]
	[cm³]	[hp]														[Kg]		
HLY55MAa	5.46	1/10	HMBP	S	220-240 V 50 Hz	RSIR	P	C	48	96	250	2.18	300	295	2.51	9.8	Lb	123B4502
HLY55MAb	5.46	1/10	HMBP	S	220-240 V 50 Hz	RSCR	P	C	48	96	250	2.31	300	295	2.67	9.91	Lb	123B4503
HUY55MAa	5.5	1/10	HMBP	S	220-240 V 50 Hz	RSIR	P	C	64	110	272	2.47	327	322	2.86	8.95	Ub	123B4505
HUY55MAb	5.5	1/10	HMBP	S	220-240 V 50 Hz	RSCR	P	C	64	110	272	2.58	327	322	2.99	9.05	Ub	123B4506
HLY70MAa	6.65	1/8	HMBP	S	220-240 V 50 Hz	RSIR	P	C	66	121	307	2.17	370	363	2.5	8.8	Lb	123B4507
HLY70MAb	6.65	1/8	HMBP	S	220-240 V 50 Hz	RSCR	P	C	66	121	307	2.33	370	363	2.69	8.91	Lb	123B4508
HUY70MAa	6.7	1/8	HMBP	S	220-240 V 50 Hz	RSIR	P	C	80	137	338	2.47	406	399	2.87	8.9	Ub	123B4511
HUY70MAb	6.7	1/8	HMBP	S	220-240 V 50 Hz	RSCR	P	C	80	137	338	2.59	406	399	2.99	9.01	Ub	123B4512
HLY99RAa	9.95	1/6	HMBP	F	220-240 V 50 Hz	CSIR	R	C-V	103	178	458	2.03	555	544	2.35	9.31	Lc	123B4513
HLY99RAb	9.95	1/6	HMBP	F	220-240 V 50 Hz	CSR	R	C-V	103	178	458	2.21	555	544	2.57	9.41	Lc	123B4514
HPY12RAa	12.1	1/5	HMBP	F	220-240 V 50 Hz	CSIR	R	C-V	135	236	583	2.15	700	689	2.5	10.5	Pc	123B4515
HPY12RAb	12.1	1/5	HMBP	F	220-240 V 50 Hz	CSR	R	C-V	135	236	583	2.32	700	689	2.7	10.6	Pc	123B4516
HPY14RAa	14.32	1/5	HBP	F	220-240 V 50 Hz	CSIR	R	C-V	-	281	668	2.08	797	787	2.4	9.74	Pc	123B4517
HPY14RAb	14.32	1/5	HBP	F	220-240 V 50 Hz	CSR	R	C-V	-	281	668	2.26	797	787	2.61	9.84	Pc	123B4518
HPY16RAa	16.15	1/4	HMBP	F	220-240 V 50 Hz	CSIR	R	C-V	179	310	755	2.12	904	891	2.45	10.99	Pd	123B4519
HPY16RAb	16.15	1/4	HMBP	F	220-240 V 50 Hz	CSR	R	C-V	179	310	755	2.29	904	891	2.64	11.09	Pd	123B4520

[1]) Green Cooling Models
[2]) New Models
[3]) Ordering code for single compressors. For pallet packed compressors, please use 123F instead of 123B

Conditions	CECOMAF		ASHRAE	
	LBP	HMBP/HBP	LBP	HMBP/HBP
Evaporating temperature [°C]	-25	5	-23.3	7.2
Condensing temperature [°C]	55	55	55	55
Liquid temperature [°C]	55	55	32	46
Suction temperature [°C]	32	32	32	35
Ambient temperature [°C]	32	32	32	35

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

Light Commercial Refrigeration Compressors

R134a*) LBP | LMBP - 60 Hz

Model	Displacement	Power	Application	CPR Cooling	Voltage Frequency	Motor	Starting	Expansion	Refrigeration capacity COP in [w/w] Evaporating temperature [°C] CECOMAF [W] -35	-30	-25 [W]	-25 [COP]	-10	ASHRAE -23.3 [W]	ASHRAE -23.3 [COP]	Weight	Design	Code no. [3]
	[cm³]	[hp]														[Kg]		
L30HL [2]	3.1	1/12	LBP	S	220 – 240 V 50/60 Hz	RSIR	P	C	26	39	55	0.8	123	74	1.04	4.2	SLc	123B8102
B38H [2]	3.8	1/12	LBP	S	220 – 240 V 60 Hz	RSIR	P	C	34	50	71	0.96	158	96	1.1	4.6	Bb	123B8109
B43H [2]	4.3	1/10	LBP	S	220 – 240 V 50/60 Hz	RSIR	P	C	39	58	81	0.96	181	110	1.1	5.4	Bc	123B8104
B43HB [2]	4.3	1/10	LBP	S	220 – 240 V 50/60 Hz	RSCR	P	C	39	58	81	1	181	110	1.3	5.2	Bc	123B8105
GL45ANa	4.56	1/8	LBP	S	200 – 240/220 – 230 V 50/60 Hz	RSIR	P	C	43	65	93	0.83	213	127	1.09	8.42	Lb	123B1113
GL60ANa	5.98	1/6	LBP	S	200 – 240/220 – 230 V 50/60 Hz	RSIR	P	C	95	108	133	0.89	285	177	1.15	9.11	Lc	123B1118
GL60ANb	5.98	1/6	LBP	F	200 – 240/220 – 230 V 50/60 Hz	CSIR	R	C-V	95	108	133	0.89	285	177	1.15	9.26	Lc	123B1119
GL60ANc	5.98	1/6	LBP	S	200 – 240/220 – 230 V 50/60 Hz	CSIR	R	C-V	95	108	133	0.89	285	177	1.15	9.26	Lc	123B1120
GL80ANa	8.1	1/5	LBP	S	200 – 240/220 – 230 V 50/60 Hz	RSIR	P	C	87	124	172	0.92	385	234	1.19	9.75	Lc	123B1125
GL80ANb	8.1	1/5	LBP	F	200 – 240/220 – 230 V 50/60 Hz	CSIR	R	C-V	87	124	172	0.92	385	234	1.19	9.9	Lc	123B1126
GL80ANc	8.1	1/5	LBP	S	200 – 240/220 – 230 V 50/60 Hz	CSIR	R	C-V	87	124	172	0.92	385	234	1.19	9.9	Lc	123B1127
GL90ANa	9.09	1/4	LBP	S	200 – 240/220 – 230 V 50/60 Hz	RSIR	P	C	96	134	185	0.93	421	252	1.2	10.33	Ld	123B1132
GL90ANb	9.09	1/4	LBP	F	200 – 240/220 – 230 V 50/60 Hz	CSIR	R	C-V	96	134	185	0.93	421	252	1.2	10.48	Ld	123B1133
GL90ANc	9.09	1/4	LBP	S	200 – 240/220 – 230 V 50/60 Hz	CSIR	R	C-V	96	134	185	0.93	421	252	1.2	10.48	Ld	123B1134
GP14CG	14.17	3/8	LBP	F	200 – 240/220 – 230 V 50/60 Hz	RSIR	R	C	113	181	262	0.91	589	359	1.18	10.62	Pc	123B1142
GPY14NGa [1] [2]	14.32	3/8	LMBP	F	200 – 240/220 – 230 V 50/60 Hz	CSIR	R	C-V	173	241	330	0.98	728	448	1.27	12.59	Pd	123B1313
GPY14NGb [1] [2]	14.32	3/8	LMBP	F	200 – 240/220 – 230 V 50/60 Hz	CSR	R	C-V	173	242	332	1.03	729	450	1.33	12.69	Pd	123B1314
L22H5 [2]	2.2	1/20	LBP	S	110 – 120 V 60 Hz	RSIR	P	C	19	28	39	0.56	87	53	0.75	3.6	SLb	123B8107
L30H5L [2]	3.1	1/12	LBP	S	110 – 120 V 60 Hz	RSIR	P	C	27	40	57	0.73	127	78	0.95	3.85	SLc	123B8108
B38H5 [2]	3.8	1/12	LBP	S	110 – 120 V 60 Hz	RSIR	P	C	34	50	71	0.96	158	96	1.1	5	Bc	123B8110
B38H5L [2]	3.8	1/12	LBP	S	110 – 120 V 60 Hz	RSIR	P	C	34	50	71	0.81	158	96	1.05	4.6	Bc	123B8111
B43H5L [2]	4.3	1/10	LBP	S	110 – 120 V 60 Hz	RSIR	P	C	39	58	81	0.81	181	110	1.05	5	Bc	123B8114
GL45ADa	4.56	1/8	LBP	S	115 V 60 Hz	RSIR	P	C	42	65	95	0.8	215	130	1.05	8.19	Lb	123B1153
GL45ADb	4.56	1/8	LBP	S	115 V 60 Hz	CSIR	R	C-V	42	65	95	0.8	215	130	1.05	8.34	Lb	123B1154
GL60ADa	5.98	1/6	LBP	S	115 V 60 Hz	RSIR	P	C	65	95	132	0.85	290	179	1.1	9.48	Lb	123B1155
GL60ADb	5.98	1/6	LBP	S	115 V 60 Hz	CSIR	R	C-V	65	95	132	0.85	290	179	1.1	9.63	Lb	123B1156
GUY60NRc [1] [2]	6	1/5	LMBP	S	115 – 127 V 60 Hz	CSIR	R	C-V	80	113	158	1.15	362	214	1.49	9	Ub	123B1308
GUY70NRb [1] [2]	6.7	1/5	LMBP	F	115 – 127 V 60 Hz	CSIR	R	C	86	121	166	1.15	386	225	1.49	9.3	Ub	123B1307
GUY70NRc [1] [2]	6.7	1/5	LMBP	S	115 – 127 V 60 Hz	CSIR	R	C	86	121	166	1.15	386	225	1.49	9.3	Ub	123B1309
GUY80NRb [1] [2]	8.1	1/4	LMBP	F	115 – 127 V 60 Hz	CSIR	R	C-V	107	151	209	1.14	480	284	1.49	9.6	Ub	123B1303
GUY80NRc [1] [2]	8.1	1/4	LMBP	S	115 – 127 V 60 Hz	CSIR	R	C-V	107	151	209	1.14	480	284	1.49	9.6	Ub	123B1310
GL99ADa	9.95	1/4	LBP	S	115 V 60 Hz	RSIR	P	C	102	148	205	0.89	439	278	1.15	11.44	Ld	123B1161
GL99ADb	9.95	1/4	LBP	S	115 V 60 Hz	CSIR	R	C-V	102	148	205	0.89	439	278	1.15	11.59	Ld	123B1162
GLY12NRa [1] [2]	10.7	3/8	LMBP	F	115 – 127 V 60 Hz	CSIR	R	C-V	119	168	234	1.02	531	318	1.33	10.55	Ld	123B1304
GLY12NRb [1] [2]	10.7	3/8	LMBP	F	115 – 127 V 60 Hz	CSR	R	C-V	119	168	234	1.07	531	318	1.39	10.65	Ld	123B1305
GP14FE	14.17	3/8	LBP	F	115 V 60 Hz	CSIR	R	C-V	119	186	267	0.84	603	366	1.11	12.35	Pd	123B1163
GPY14NDa [1] [2]	14.32	3/8	LMBP	F	115 V 60 Hz	CSIR	R	C-V	166	234	322	0.9	715	438	1.17	12.04	Pd	123B1311
GPY14NDb [1] [2]	14.32	3/8	LMBP	F	115 V 60 Hz	CSR	R	C-V	168	235	324	1.02	722	440	1.26	12.14	Pd	123B1312

*) Or HFO1234yf
[1]) Green Cooling Models
[2]) New Models
[3]) Ordering code for single compressors. For pallet packed compressors, please use 123F instead of 123B

Conditions	CECOMAF		ASHRAE	
	LBP	HMBP/HBP	LBP	HMBP/HBP
Evaporating temperature [°C]	-25	5	-23.3	7.2
Condensing temperature [°C]	55	55	55	55
Liquid temperature [°C]	55	55	32	46
Suction temperature [°C]	32	32	32	35
Ambient temperature [°C]	32	32	32	35

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

Light Commercial Refrigeration Compressors (count.)

R134a*) HMBP | HBP - 60 Hz

Model	Displacement	Power	Application	CPR Cooling	Voltage Frequency	Motor	Starting	Expansion	Refrigeration capacity COP in [w/w] Evaporating temperature [°C] CECOMAF [W] -25	-15	5 [W]	5 [COP]	10	ASHRAE 7.2 [W]	ASHRAE 7.2 [COP]	Weight	Design	Code no. [3]
	[cm³]	[hp]														[Kg]		
B25G [2]	2.6	1/14	HBP	S-F	220 – 240 V 50/60 Hz	RSIR	P	C	–	86	224	1.8	274	269	2.1	4.65	Bb	123B8117
B38G [2]	3.8	1/8	HBP	S-F	220 – 240 V 50/60 Hz	CSIR	R	C-V	–	150	339	1.98	410	404	2.31	5.4	Bd	123B8125
GL45TG	4.56	1/6	HMBP	F	200 – 240/220 – 230 V 50/60 Hz	CSIR	R	C-V	89	157	400	1.65	483	477	1.92	9.15	Lb	123B1517
GL45MG	4.56	1/6	HBP	S	230 V 50/60 Hz	CSIR	R	C-V	–	204	398	1.65	487	477	1.92	9.37	Lb	123B1704
GL60MG	5.98	1/5	HBP	S	230 V 50/60 Hz	CSIR	R	C-V	–	243	499	1.73	619	602	2.02	9	Lc	123B1705
GL60TG	5.68	1/5	HMBP	F	200 – 240/220 – 230 V 50/60 Hz	CSIR	R	C-V	111	199	510	1.76	616	609	2.04	9.07	Lc	123B1522
GL80MG	7.57	1/5	HBP	S	230 V 50/60 Hz	CSIR	R	C-V	–	344	674	1.84	836	813	2.15	9.53	Lc	123B1706
GL80TG	7.57	1/5	HMBP	F	200 – 220/220 – 230 V 50/60 Hz	CSIR	R	C-V	130	248	647	1.78	781	772	2.04	9.53	Lc	123B1528
GL90MG	8.85	1/4	HBP	S	230 V 50/60 Hz	CSIR	R	C-V	–	391	772	1.83	947	926	2.11	10.61	Ld	123B1707
GL90TG	8.85	1/4	HMBP	F	200 – 220/220 – 230 V 50/60 Hz	CSIR	R	C-V	168	303	773	1.71	932	921	1.97	9.7	Ld	123B1534
GLY12RGa [1] [2]	10.7	3/8	HBP	F	200 – 220/220 – 230 V 50/60 Hz	CSIR	R	C-V	–	405	1007	1.9	1216	1201	2.22	10.43	Ld	123B1710
GLY12RGb [1] [2]	10.7	3/8	HBP	F	200 – 220/220 – 230 V 50/60 Hz	CSR	R	C-V	–	405	1007	2.07	1216	1201	2.4	10.53	Ld	123B1711
GP14TG	14.17	3/8	HMBP	F	200 – 220/220 – 230 V 50/60 Hz	CSIR	R	C-V	222	437	1168	1.76	1413	1395	2.03	11.98	Pd	123B1539
GP16TG	16.15	3/8	HBP	F	200 – 220/230 V 50/60 Hz	CSIR	R	C-V	–	556	1408	1.74	1697	1678	2	11.93	Pd	123B1714
GPT16RG [1]	16.15	1/2	HBP	F	200 – 220/220 – 230 V 50/60 Hz	CSR	R	C-V	–	650	1515	2.02	1827	1806	2.33	12.16	Pd	123B1715
GPT18RG [1] [2]	18	1/2	HBP	F	200 – 220/230 V 50/60 Hz	CSR	R	C-V	–	642	1586	1.91	1904	1887	2.21	12.7	Pd	123B1720
GX18TG	18.4	1/2	HMBP	F	200 – 220/220 – 230 V 50/60 Hz	CSIR	R	C-V	333	630	1625	1.87	1957	1936	2.17	16.08	Xc	123B1545
GX23TG	23.2	5/8	HMBP	F	200 – 220/220 – 230 V 50/60 Hz	CSIR	R	C-V	429	792	2021	1.71	2433	2407	1.98	16.34	Xd	123B1548
GS26T3	25.93	3/4	HMBP	F	400/440 V 50/60 Hz	3PHASE	P	C-V	307	824	2419	2.07	2935	2894	2.4	22.7	Sc	123B1551
GS26TG	25.93	3/4	HMBP	F	200 – 220/220 – 230 V 50/60 Hz	CSIR	R	C-V	307	824	2419	2.06	2935	2894	2.4	22.7	Sc	123B1550
GS30TG	29.95	7/8	HMBP	F	200 – 220/220 – 230 V 50/60 Hz	CSR	R	C-V	370	920	2865	2.23	3527	3449	2.61	23	Sd	123B1553
GS34TF	34.42	1	HMBP	F	220 – 230 V 60 Hz	CSR	R	C-V	550	1247	3327	2.17	3990	3958	2.5	22.7	Sd	123B1590
GS34TG	34.42	1	HMBP	F	200 – 220/220 – 230 V 50/60 Hz	CSR	R	C-V	440	1093	3248	2.11	3963	3895	2.44	22.27	Sd	123B1614
B22G5 [2]	2.2	1/16	HBP	S-F	110 – 115 V 60 Hz	RSIR	P	C	–	72	188	1.83	229	225	2.13	4.6	Bb	123B8116
B25G5L [2]	2.6	1/14	HBP	S-F	110 – 115 V 60 Hz	CSIR	R	C-V	–	88	231	1.93	283	278	2.27	5.7	Be	123B8119
B30G5 [2]	3.1	1/12	HBP	S-F	110 – 115 V 60 Hz	RSIR	P	C	–	100	262	1.55	317	313	1.8	5	Bb	123B8122
B35G5 [2]	3.5	1/10	HBP	S-F	110 – 115 V 60 Hz	CSIR	R	C-V	–	120	304	1.8	371	365	2.12	5	Bb	123B8124
B38G5L [2]	3.8	1/8	HBP	S-F	110 – 115 V 60 Hz	CSIR	R	C-V	–	136	353	1.83	424	420	2.13	5.7	Be	123B8126
GL45PE	4.56	1/6	HMBP	F	115 V 60 Hz	RSIR	R	C	89	157	400	1.59	483	477	1.84	8.87	Lb	123B1568
GL45TE	4.56	1/6	HMBP	F	115 V 60 Hz	CSIR	R	C-V	89	157	400	1.59	483	477	1.84	9.18	Lb	123B1569
GL60PE	5.68	1/5	HMBP	F	115 V 60 Hz	RSIR	R	C	111	199	510	1.73	616	609	2.01	9.97	Lc	123B1570
GL80PE	7.57	1/5	HMBP	F	115 V 60 Hz	RSIR	R	C	130	248	647	1.78	781	772	2.04	9.97	Lc	123B1574
GL80TE	7.57	1/5	HMBP	F	115 V 60 Hz	CSIR	R	C-V	130	248	647	1.78	781	772	2.04	10.68	Lc	123B1575
GL60TE	5.68	1/5	HMBP	F	115 V 60 Hz	CSIR	R	C-V	111	199	510	1.73	616	609	2.01	10.28	Lc	123B1571
GLY80RDa [1]	8.1	1/5	HMBP	F	115 V 60 Hz	CSIR	R	C-V	169	299	775	2.02	939	926	2.34	10.33	Lc	123B1572
GLY80RDb [1]	8.1	1/5	HMBP	F	115 V 60 Hz	CSR	R	C-V	169	299	775	2.17	939	926	2.51	10.43	Lc	123B1573
GL90PE	8.85	1/4	HMBP	F	115 V 60 Hz	RSIR	R	C	167	303	773	1.78	932	921	2.06	11.27	Ld	123B1578
GL90TE	8.85	1/4	HMBP	F	115 V 60 Hz	CSIR	R	C-V	167	303	773	1.78	932	921	2.06	9.75	Ld	123B1579
GLY90RDa [1]	9.09	1/4	HMBP	F	115 V 60 Hz	CSIR	R	C-V	198	348	874	1.95	1053	1042	2.25	10.59	Lc	123B1576
GLY90RDb [1]	9.09	1/4	HMBP	F	115 V 60 Hz	CSR	R	C-V	198	348	874	2.1	1053	1042	2.42	10.69	Lc	123B1577
GLY12RRa [1] [2]	10.7	3/8	HMBP	F	115 – 127 V 60 Hz	CSIR	R	C-V	222	402	1015	1.9	1221	1208	2.2	11.14	Ld	123B1601
GLY12RRb [1] [2]	10.7	3/8	HMBP	F	115 – 127 V 60 Hz	CSR	R	C-V	222	402	1015	2.01	1221	1208	2.32	11.24	Ld	123B1599
GPY12RDa [1]	12.1	3/8	HMBP	F	115 V 60 Hz	CSIR	R	C-V	280	480	1150	1.95	1375	1366	2.25	12.03	Pd	123B1580
GPY12RDb [1]	12.1	3/8	HMBP	F	115 V 60 Hz	CSR	R	C-V	280	480	1150	2.11	1375	1366	2.44	12.13	Pd	123B1581
GPY14RDa [1]	14.32	1/2	HBP	F	115 V 60 Hz	CSIR	R	C-V	–	317	1234	1.78	2012	1698	2.22	12.03	Pd	123B1584
GPY14RDb [1]	14.32	1/2	HBP	F	115 V 60 Hz	CSR	R	C-V	–	317	1234	1.89	2012	1698	2.36	12.13	Pd	123B1585
GP16TE	16.15	3/8	HBP	F	115 V 60 Hz	CSIR	R	C-V	–	556	1408	1.69	1697	1678	1.96	12.2	Pd	123B1718
GPY16RDa [1]	16.15	1/2	HBP	F	115 V 60 Hz	CSIR	R	C-V	–	614	1518	1.88	1822	1806	2.17	12.05	Pd	123B1588
GPY16RDb [1]	16.15	1/2	HBP	F	115 V 60 Hz	CSR	R	C-V	–	614	1518	2	1822	1806	2.31	12.15	Pd	123B1589
GL60TC	5.68	1/5	HMBP	F	100 V 50/60 Hz	CSIR	R	C-V	111	199	510	1.74	616	609	2.01	10.38	Lc	123B1523
GL80TC	7.57	1/5	HMBP	F	100 V 50/60 Hz	CSIR	R	C-V	130	248	647	1.92	781	772	2.22	10.98	Lc	123B1529
GL90TC	8.85	1/4	HMBP	F	100 V 50/60 Hz	CSIR	R	C-V	167	303	773	1.82	932	921	2.1	11.48	Ld	123B1535
GUY72RCa [1] [2]	7.2	1/4	HMBP	F	100 V 50/60 Hz	CSIR	R	C-V	184	319	765	2.18	913	907	2.51	9.52	Uc	123B1617
GUY72RCb [1] [2]	7.2	1/4	HMBP	F	100 V 50/60 Hz	CSR	R	C-V	181	318	772	2.35	923	917	2.72	9.59	Uc	123B1618

*) Or HFO1234yf
[1]) Green Cooling Models
[2]) New Models
[3]) Ordering code for single compressors. For pallet packed compressors, please use 123F instead of 123B

Conditions	CECOMAF		ASHRAE	
	LBP	HMBP/HBP	LBP	HMBP/HBP
Evaporating temperature [°C]	-25	5	-23.3	7.2
Condensing temperature [°C]	55	55	55	55
Liquid temperature [°C]	55	55	32	46
Suction temperature [°C]	32	32	32	35
Ambient temperature [°C]	32	32	32	35

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

Light Commercial Refrigeration Compressors

R404A - R507 LBP - 60 Hz

Model	Displacement	Power	Application	CPR Cooling	Voltage Frequency	Motor	Starting	Expansion	Refrigeration capacity COP in [w/w] Evaporating temperature [°C] CECOMAF [W] -40	-30	-25 [W]	-25 [COP]	-10	ASHRAE -23.3 [W]	ASHRAE -23.3 [COP]	Weight	Design	Code no. [3]
	[cm³]	[hp]														[Kg]		
ML45FG	4.56	1/6	LBP	F	200-240/220-230 V 50/60 Hz	CSIR	R	C-V	61	117	157	0.68	321	231	0.97	10.87	Lc	123B2104
ML60FG	5.98	1/5	LBP	F	200-220/220-230 V 50/60 Hz	CSIR	R	C-V	81	157	207	0.7	411	304	0.99	10.87	Lc	123B2108
ML80FG	8.1	1/4	LBP	F	200-220/220-230 V 50/60 Hz	CSIR	R	C-V	117	223	296	0.76	590	435	1.07	12.2	Ld	123B2112
ML90FG	8.85	1/3	LBP	F	200-220/230 V 50/60 Hz	CSIR	R	C-V	121	242	323	0.8	642	475	1.12	10.78	Ld	123B2116
MLY12LFa [1] [2]	10.7	3/8	LBP	F	208-230 V 60 Hz	CSIR	R	C-V	179	343	451	0.92	882	662	1.29	11.06	Ld	123B2179
MLY12LFb [1] [2]	10.7	3/8	LBP	F	208-230 V 60 Hz	CSR	R	C-V	179	343	451	0.94	882	662	1.33	11.16	Ld	123B2180
MLY12LGa [1] [2]	10.7	3/8	LBP	F	200-220/230 V 50/60 Hz	CSIR	R	C-V	190	351	458	0.86	884	670	1.22	11.06	Ld	123B2121
MLY12LGb [1] [2]	10.7	3/8	LBP	F	200-220/230 V 50/60 Hz	CSR	R	C-V	190	357	466	0.91	889	681	1.29	11.16	Ld	123B2122
MP14FG	14.17	1/2	LBP	F	200-220/230 V 50/60 Hz	CSIR	R	C-V	142	355	492	0.82	1026	730	1.15	12.03	Pd	123B2125
MPT14LF [1]	14.32	1/2	LBP	F	208-230 V 60 Hz	CSR	R	C-V	262	474	621	0.96	1223	891	1.36	12.3	Pd	123B2156
MX21FGa [2]	20.72	3/4	LBP	F	200-220/220-230 V 50/60 Hz	CSR	R	C-V	247	540	735	0.94	1515	1088	1.32	17.32	Xd	123B2186
MX23FGa [2]	23.2	7/8	LBP	F	200-220/220-230 V 50/60 Hz	CSR	R	C-V	303	627	843	0.93	1711	1244	1.32	17.5	Xd	123B2183
MS26FF	25.93	3/4	LBP	F	208-230 V 60 Hz	CSR	R	C-V	202	641	909	0.91	1902	1354	1.3	22.6	Sd	123B2157
MS26FG	25.93	3/4	LBP	F	200-220/230 V 50/60 Hz	CSR	R	C-V	202	641	909	0.92	1902	1354	1.31	22.6	Sd	123B2135
MS30FF	29.95	7/8	LBP	F	208-230 V 60 Hz	CSR	R	C-V	242	763	1086	0.92	2302	1620	1.31	22.7	Sd	123B2158
MS34FF	34.42	1	LBP	F	208V 60 Hz	CSR	R	C-V	272	838	1216	0.91	2738	1829	1.3	22.9	Sd	123B2174
MS26F3	25.93	3/4	LBP	F	400/440 V 50/60 Hz	3PHASE	P	C-V	202	641	909	0.92	1902	1354	1.31	20.8	Sd	123B2136
MS30F3	29.95	7/8	LBP	F	400/440 V 50/60 Hz	3PHASE	P	C-V	242	763	1086	0.94	2302	1620	1.32	24	Sd	123B2138
MS34F3	34.42	1	LBP	F	400/440 V 50/60 Hz	3PHASE	P	C-V	277	885	1263	0.96	2696	1887	1.35	22.9	Sd	123B2140
ML45FR	4.56	1/6	LBP	F	115-127V 60 Hz	CSIR	R	C-V	61	117	157	0.72	321	231	1.01	9.21	Lc	123B2160
MLY45LRa [1]	4.56	1/6	LBP	F	115-127V 60 Hz	CSIR	R	C-V	64	143	192	0.87	379	282	1.23	9.2	Lc	123B2141
MLY45LRb [1]	4.56	1/6	LBP	F	115-127V 60 Hz	CSR	R	C-V	64	143	192	0.9	379	282	1.27	9.3	Lc	123B2142
ML60FR	5.98	1/5	LBP	F	115-127V 60 Hz	CSIR	R	C-V	81	157	207	0.72	411	304	1.01	9.54	Lc	123B2143
MLY60LDa [1]	5.98	1/5	LBP	F	115V 60 Hz	CSIR	R	C-V	102	197	259	0.89	501	380	1.25	10.4	Lc	123B2144
MLY60LDb [1]	5.98	1/5	LBP	F	115V 60 Hz	CSR	R	C-V	102	197	259	0.95	501	380	1.34	10.5	Lc	123B2145
ML80FR	8.1	1/4	LBP	F	115-127V 60 Hz	CSIR	R	C-V	117	223	296	0.75	590	435	1.05	11.97	Ld	123B2146
ML90FR	8.85	1/3	LBP	F	115-127V 60 Hz	CSIR	R	C-V	121	242	323	0.79	642	475	1.11	11.97	Ld	123B2147
MLT90CD [1]	9.09	1/3	LBP	F	115V 60 Hz	RSCR	P	C	164	290	382	1.03	770	561	1.45	11.4	Ld	123B2149
MLT90CDc [1]	9.09	1/3	LBP	S	115V 60 Hz	CSR	R	C-V	159	284	373	0.99	750	549	1.4	11.55	Ld	123B2150
MLT90LD [1]	9.09	1/4	LBP	F	115V 60 Hz	CSR	R	C-V	159	284	373	0.99	750	549	1.4	11.8	Ld	123B2148
MLY12LRa [1] [2]	10.7	3/8	LBP	F	115-127V 60 Hz	CSIR	R	C-V	199	373	478	0.96	866	694	1.34	11.01	Ld	123B2181
MLY12LRb [1] [2]	10.7	3/8	LBP	F	115-127V 60 Hz	CSR	R	C-V	200	369	476	1	890	694	1.41	11.11	Ld	123B2182
MPT12CD [1]	12.1	3/8	LBP	F	115V 60 Hz	RSCR	P	C	225	397	515	1.01	993	752	1.41	12.35	Pd	123B2153
MPT12LD [1]	12.1	3/8	LBP	F	115V 60 Hz	CSR	R	C-V	225	397	515	1.01	993	752	1.41	13.5	Pd	123B2152
MPT14LD [1]	14.32	1/2	LBP	F	115V 60 Hz	CSR	R	C-V	258	453	590	0.96	1156	863	1.35	12.17	Pd	123B2155
MPT16LD [1] [2]	16.1	1/2	LBP	F	115V 60 Hz	CSR	R	C-V	272	492	645	0.91	1270	926	1.3	12.5	Pd	123B2184
MX21FR [2]	20.72	3/4	LBP	F	115-127V 60 Hz	CSR	R	C-V	247	627	768	0.98	1001	1088	1.32	17.56	Xd	123B2185

[1] Green Cooling Models
[2] New Models
[3] Ordering code for single compressors. For pallet packed compressors, please use 123F instead of 123B

Conditions	CECOMAF		ASHRAE	
	LBP	HMBP/HBP	LBP	HMBP/HBP
Evaporating temperature [°C]	-25	5	-23.3	7.2
Condensing temperature [°C]	55	55	55	55
Liquid temperature [°C]	55	55	32	46
Suction temperature [°C]	32	32	32	35
Ambient temperature [°C]	32	32	32	35

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

Light Commercial Refrigeration Compressors

R404A - R507 HMBP | HBP - 60 Hz

Model	Displacement	Power	Application	CPR Cooling	Voltage Frequency	Motor	Starting	Expansion	Refrigeration capacity COP in [w/w] Evaporating temperature [°C] CECOMAF [W] -25	-15	5 [W]	5 [COP]	10	ASHRAE 7.2 [W]	ASHRAE 7.2 [COP]	Weight	Design	Code no. [3]
	[cm³]	[hp]														[Kg]		
ML40TG	4.05	1/6	HMBP	F	200 – 240/220 – 230 V 50/60 Hz	CSIR	R	C-V	155	248	553	1.39	653	694	1.7	9.12	Lc	123B2502
ML45TG	4.56	1/5	HMBP	F	200 – 240/220 – 230 V 50/60 Hz	CSIR	R	C-V	176	277	614	1.42	726	772	1.74	10.57	Lc	123B2504
MLT45RG [1] [2]	4.56	1/5	HMBP	F	200 – 240/220 – 230 V 50/60 Hz	CSIR	R	C-V	197	310	687	1.8	812	865	2.21	10.6	Ld	123B2546
ML60TG	5.68	1/4	HMBP	F	200 – 220/230 V 50/60 Hz	CSIR	R	C-V	193	323	753	1.49	896	949	1.83	10.57	Lc	123B2508
MLY60RGa [1] [2]	5.98	–	HMBP	F	200 – 220/220 – 230 V 50/60 Hz	CSIR	R	C-V	257	407	889	2.05	1048	1108	2.14	10.24	Lc	123B2550
MLY60RGb [1] [2]	5.98	–	HMBP	F	200 – 220/220 – 230 V 50/60 Hz	CSR	R	C-V	258	416	897	1.89	1051	1123	2.33	10.34	Lc	123B2551
ML80TG	7.57	3/8	HMBP	F	200 – 240/220 – 230 V 50/60 Hz	CSIR	R	C-V	263	448	1022	1.59	1208	1285	1.96	11.81	Ld	123B2512
ML90TG	8.85	3/8	HMBP	F	200 – 220/230 V 50/60 Hz	CSIR	R	C-V	329	539	1227	1.54	1454	1544	1.89	11.29	Ld	123B2516
MLT12RG [1] [2]	10.7	3/8	HMBP	F	200 – 240/220 – 230 V 50/60 Hz	CSR	R	C-V	441	702	1553	1.75	1833	1950	2.16	12.24	Ld	123B2532
MPT12RG [1] [2]	12.1	3/8	HBP	F	200 – 240/220 – 230 V 50/60 Hz	CSR	R	C-V	–	795	1725	1.79	2043	2169	2.22	12.89	Pd	123B2703
MPT14RF [1] [2]	14.32	1/2	HBP	F	208 – 230 V 60 Hz	CSR	R	C-V	–	912	1979	1.58	2344	2488	1.95	12.5	Pd	123B2543
MX18TGa [2]	18.4	7/8	HMBP	F	200 – 240/220 – 230 V 50/60 Hz	CSR	R	C-V	644	1090	2507	1.74	2972	3155	2.15	16.24	Xd	123B2541
MX21TGa	20.72	1	HMBP	F	200 – 220/230 V 50/60 Hz	CSR	R	C-V	726	1211	2781	1.72	3299	3501	2.12	17.16	Xd	123B2714
MS18T3	18.1	7/8	HMBP	F	400/440 V 50/60 Hz	3PHASE	P	C-V	491	971	2471	1.82	2959	3125	2.25	20	Sb	123B2520
MS22T3	21.75	1	HMBP	F	400/440 V 50/60 Hz	3PHASE	P	C-V	527	1135	2995	1.94	3595	3792	2.4	20	Sb	123B2522
MS26T3	25.93	1 3/8	HMBP	F	400/440 V 50/60 Hz	3PHASE	P	C-V	785	1508	3705	1.84	4411	4672	2.25	18.6	Sd	123B2525
MS26TG	25.93	1 3/8	HMBP	F	200 – 220/230 V 50/60 Hz	CSR	R	C-V	785	1508	3705	1.93	4411	4672	2.37	23	Sd	123B2524
MS34T3	34.42	1 5/8	HMBP	F	400/440 V 50/60 Hz	3PHASE	P	C-V	1172	2164	4916	1.71	5764	6157	2.1	22.8	Sd	123B2526
MS34TG	34.42	1 5/8	HBP	F	200 – 220/230 V 50/60 Hz	CSR	R	C-V	–	1170	4385	1.63	6578	6157	2.1	22.78	Sd	123B2711
ML60TR	5.68	1/4	HMBP	F	115 – 127 V 60 Hz	CSIR	R	C-V	193	323	753	1.48	896	949	1.83	10.58	Lc	123B2529
MLY60RDa [1]	5.98	1/4	HMBP	F	115 V 60 Hz	CSIR	R	C-V	250	408	900	1.7	1059	1128	2.1	10.55	Lc	123B2527
MLY60RDb [1]	5.98	1/4	HMBP	F	115 V 60 Hz	CSR	R	C-V	250	408	900	1.83	1059	1128	2.27	10.65	Lc	123B2528
MLY80RDa [1]	8.1	3/8	HMBP	F	115 V 60 Hz	CSIR	R	C-V	329	541	1224	1.75	1449	1539	2.15	11.21	Ld	123B2530
MLY80RDb [1]	8.1	3/8	HMBP	F	115 V 60 Hz	CSR	R	C-V	329	541	1224	1.81	1449	1539	2.22	11.31	Ld	123B2531
MLT12RR [1] [2]	10.7	1/2	HMBP	F	115 – 127 V 60 Hz	CSR	R	C-V	463	736	1560	1.75	1825	1951	2.15	11.96	Ld	123B2547
MPT14RD [1] [2] [4]	14.32	1/2	HBP	F	115 – 127 V 60 Hz	CSR	R	C-V	–	957	2028	1.55	2372	2537	1.9	12.1	Pd	123B2544
MX16TE [1] [2]	16.03	7/8	HMBP	F	115 V 60 Hz	CSR	R	C-V	561	949	2185	1.62	2589	2749	2	17.2	Xd	123B2548
MX18TE [1] [2]	18.4	7/8	HMBP	F	115 V 60 Hz	CSR	R	C-V	644	1090	2507	1.62	2972	3155	2	17.2	Xd	123B2545

[1] Green Cooling Models
[2] New Models
[3] Ordering code for single compressors. For pallet packed compressors, please use 123F instead of 123B
[4] Model under development. Provisional performance/data.

Conditions	CECOMAF		ASHRAE	
	LBP	HMBP/HBP	LBP	HMBP/HBP
Evaporating temperature [°C]	-25	5	-23.3	7.2
Condensing temperature [°C]	55	55	55	55
Liquid temperature [°C]	55	55	32	46
Suction temperature [°C]	32	32	32	35
Ambient temperature [°C]	32	32	32	35

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

Light Commercial Refrigeration Compressors

Natural Refrigerant - R290 LBP | LMBP - 60 Hz

Model [1]	Displacement	Power	Application	CPR Cooling	Voltage Frequency	Motor	Starting	Expansion	Refrigeration capacity COP in [w/w] Evaporating temperature [°C] CECOMAF [W] -40	-30	-25 [W]	-25 [COP]	-10	ASHRAE -23.3 [W]	ASHRAE -23.3 [COP]	Weight	Design	Code no. [3]
	[cm³]	[hp]														[Kg]		
NBC30NR [2]	3.1	1/10	LMBP	F	115 – 127 V 60 Hz	CSIR	R	C-V	46	88	117	1.07	241	159	1.39	5.8	Bd	123B8311
NLY45LRa	4.56	1/6	LBP	F	115 – 127 V 60 Hz	CSIR	R	C-V	70	133	177	1	364	240	1.3	9.21	Lc	123B3129
NLY45LRb	4.56	1/6	LBP	F	115 – 127 V 60 Hz	CSR	R	C-V	68	149	184	1.07	263	240	1.38	9.31	Lc	123B3130
NUY45NRa [2]	4.5	1/6	LMBP	F	115 – 127 V 60 Hz	CSIR	R	C-V	73	159	196	1.13	280	255	1.46	8	Ub	123B3170
NUY45NRb [2]	4.5	1/6	LMBP	F	115 – 127 V 60 Hz	CSIR	R	C-V	73	137	182	1.23	369	245	1.6	9.19	Ub	123B3314
NUT55LRa [2]	5.5	1/5	LBP	F	115 – 127 V 60 Hz	CSIR	R	C-V	110	189	243	1.24	460	324	1.6	9.47	Ub	123B3147
NUT55LRb [2]	5.5	1/5	LBP	F	115 – 127 V 60 Hz	CSR	R	C-V	110	193	247	1.34	463	330	1.73	9.54	Ub	123B3148
NUT55LRc [2]	5.5	1/5	LBP	S	115 – 127 V 60 Hz	CSIR	R	C-V	110	189	243	1.24	460	324	1.6	9.47	Ub	123B3155
NUT55LRd [2]	5.5	1/5	LBP	S	115 – 127 V 60 Hz	CSR	R	C-V	110	193	247	1.34	463	330	1.73	9.54	Ub	123B3156
NLY60LRa	5.98	1/5	LBP	F	115 – 127 V 60 Hz	CSIR	R	C-V	106	200	260	1.1	492	347	1.42	10.07	Lc	123B3131
NLY60LRb	5.98	1/5	LBP	F	115 – 127 V 60 Hz	CSR	R	C-V	106	200	260	1.18	492	347	1.53	10.17	Lc	123B3132
NUT60LRa [2]	6	1/3	LBP	F	115 – 127 V 60 Hz	CSIR	R	C-V	122	207	266	1.24	508	355	1.6	9.4	Ub	123B3149
NUT60LRb [2]	6	1/3	LBP	F	115 – 127 V 60 Hz	CSR	R	C-V	122	213	273	1.34	513	365	1.73	9.5	Ub	123B3150
NUT60LRc [2]	6	1/3	LBP	S	115 – 127 V 60 Hz	CSIR	R	C-V	122	207	266	1.24	508	355	1.6	9.4	Ub	123B3151
NUT60LRd [2]	6	1/3	LBP	S	115 – 127 V 60 Hz	CSR	R	C-V	122	213	273	1.34	513	365	1.73	9.5	Ub	123B3152
NLY75NRa [2]	7.36	1/4	LMBP	F	115 – 127 V 60 Hz	CSIR	R	C-V	129	230	295	1.05	546	394	1.32	10.34	Ld	123B3301
NLY75NRb [2]	7.36	1/4	LMBP	F	115 – 127 V 60 Hz	CSR	R	C-V	137	240	308	1.13	601	411	1.46	10.27	Ld	123B3302
NLY80LRa	8.1	1/4	LBP	F	115 – 127 V 60 Hz	CSIR	R	C-V	139	246	322	1.06	636	432	1.37	9.57	Lc	123B3133
NLY80LRb	8.1	1/4	LBP	F	115 – 127 V 60 Hz	CSR	R	C-V	139	246	322	1.13	636	432	1.46	9.67	Lc	123B3134
NLY90NRa [2]	9.09	1/3	LMBP	F	115 – 127 V 60 Hz	CSIR	R	C-V	153	275	359	1.05	704	483	1.36	11.2	Ld	123B3309
NLY90NRb [2]	9.09	1/3	LMBP	F	115 – 127 V 60 Hz	CSR	R	C-V	153	275	359	1.12	704	483	1.44	11.2	Ld	123B3310
NLY12NRa [2]	12.1	3/8	LMBP	F	115 – 127 V 60 Hz	CSIR	R	C-V	185	328	430	1.12	843	579	1.45	11.65	Ld	123B3303
NLY12NRb [2]	12.1	3/8	LMBP	F	115 – 127 V 60 Hz	CSR	R	C-V	193	342	448	1.2	843	602	1.51	11.65	Ld	123B3304
NPY12LRa	12.1	3/8	LBP	F	115 – 127 V 60 Hz	CSIR	R	C-V	199	362	473	1.04	927	634	1.35	11.77	Pd	123B3137
NPY12LRb	12.1	3/8	LBP	F	115 – 127 V 60 Hz	CSR	R	C-V	199	362	473	1.11	927	634	1.44	11.87	Pd	123B3138
NPT16LR [2]	16.15	3/4	LBP	F	115 – 127 V 60 Hz	CSR	R	C-V	276	478	618	1.08	1204	828	1.41	12.7	Pd	123B3165
NLY75NGa [2]	7.36	1/4	LMBP	F	200 – 220/220 – 230 V 50/60 Hz	CSIR	R	C-V	111	204	270	1.03	544	363	1.34	10.4	Ld	123B3307
NLY75NGb [2]	7.36	1/4	LMBP	F	200 – 220/220 – 230 V 50/60 Hz	CSR	R	C-V	111	205	271	1.11	551	366	1.45	10.5	Ld	123B3308
NLY12NGa [2]	10.7	3/8	LMBP	F	200 – 220/220 – 230 V 50/60 Hz	CSIR	R	C-V	197	339	439	1.09	848	587	1.41	11	Ld	123B3305
NLY12NGb [2]	10.7	3/8	LMBP	F	200 – 220/220 – 230 V 50/60 Hz	CSR	R	C-V	207	342	439	1.15	850	587	1.49	11.1	Ld	123B3306

[1]) Green Cooling Models
[2]) New Models
[3]) Ordering code for single compressors. For pallet packed compressors, please use 123F instead of 123B

Conditions	CECOMAF		ASHRAE	
	LBP	HMBP/HBP	LBP	HMBP/HBP
Evaporating temperature [°C]	-25	5	-23.3	7.2
Condensing temperature [°C]	55	55	55	55
Liquid temperature [°C]	55	55	32	46
Suction temperature [°C]	32	32	32	35
Ambient temperature [°C]	32	32	32	35

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

Light Commercial Refrigeration Compressors

Natural Refrigerant - R290 HMBP | HBP - 60 Hz

Model [1]	Displacement	Power	Application	CPR Cooling	Voltage Frequency	Motor	Starting	Expansion	Refrigeration capacity COP in [w/w] Evaporating temperature [°C] CECOMAF [W] -25	-15	5 [W]	5 [COP]	10	ASHRAE 7.2 [W]	7.2 [COP]	Weight	Design	Code no. [3]
	[cm³]	[hp]														[Kg]		
NLY45RRa	4.56	1/5	HMBP	F	115-127V 60 Hz	CSIR	R	C-V	180	282	618	2.08	729	733	2.41	9.19	Lc	123B3516
NLY45RRb	4.56	1/5	HMBP	F	115-127V 60 Hz	CSR	R	C-V	180	282	618	2.25	729	733	2.61	9.29	Lc	123B3517
NLY60RRa	5.98	1/5	HMBP	F	115-127V 60 Hz	CSIR	R	C-V	245	385	827	2.11	971	978	2.43	9.68	Lc	123B3518
NLY60RRb	5.98	1/5	HMBP	F	115-127V 60 Hz	CSR	R	C-V	245	385	827	2.29	971	978	2.65	9.78	Lc	123B3519
NLY75RRa	7.57	3/8	HMBP	F	115-127V 60 Hz	CSIR	R	C-V	278	445	1010	2.14	1200	1201	2.5	10.07	Ld	123B3520
NLY75RRb	7.57	3/8	HMBP	F	115-127V 60 Hz	CSR	R	C-V	278	454	1034	2.36	1227	1229	2.76	10.17	Ld	123B3521
NLY80RRa	8.1	1/4	HMBP	F	115-127V 60 Hz	CSIR	R	C-V	314	497	1098	2.12	1297	1302	2.45	10.03	Ld	123B3522
NLY80RRb	8.1	1/4	HMBP	F	115-127V 60 Hz	CSR	R	C-V	314	497	1098	2.31	1297	1302	2.67	10.13	Ld	123B3523
NLY90RRa	9.09	1/3	HMBP	F	115-127V 60 Hz	CSIR	R	C-V	353	563	1239	2.03	1462	1469	2.35	10.55	Ld	123B3524
NLY90RRb	9.09	1/3	HMBP	F	115-127V 60 Hz	CSR	R	C-V	353	563	1239	2.21	1462	1469	2.56	10.65	Ld	123B3525
NLT12RR [2]	10.7	1/8	HBP	F	115-127V 60 Hz	CSR	R	C-V	428	683	1504	2.12	1775	1782	2.45	11.2	Ld	123B3533
NLY12RGa [2]	10.7	3/8	HMBP	F	200-220/220-230 V 50/60 Hz	CSIR	R	C-V	418	669	1445	2.07	1696	1709	2.41	12.1	Ld	123B3531
NLY12RGb [2]	10.7	3/8	HMBP	F	200-220/220-230 V 50/60 Hz	CSR	R	C-V	429	679	1469	2.25	1727	1738	2.63	12.2	Ld	123B3532

[1] Green Cooling Models
[2] New Models
[3] Ordering code for single compressors. For pallet packed compressors, please use 123F instead of 123B

Light Commercial Refrigeration Compressors

Natural refrigerant - R600a LBP - 60 Hz

Model [1]	Displacement	Power	Application	CPR Cooling	Voltage Frequency	Motor	Starting	Expansion	Refrigeration capacity COP in [w/w] Evaporating temperature [°C] CECOMAF [W] 35	-30	-25 [W]	-25 [COP]	-10	ASHRAE -23.3 [W]	-23.3 [COP]	Weight	Design	Code no. [3]
	[cm³]	[hp]														[Kg]		
L30CL [2]	3.1	1/14	LBP	S	220 – 240 V 50 / 60 Hz	RSIR	P	C	22	30	41	0.9	86	54	1.14	3.6	SLc	123B8402
B35C [2]	3.5	1/15	LBP	S	220 – 240 V 50 / 60 Hz	RSIR	P	C	24	33	45	0.93	94	60	1.21	4.6	Bc	123B8425
B43CB [2]	4.3	1/12	LBP	S	220 – 240 V 50 / 60 Hz	RSIR	P	C	30	39	52	0.98	110	69	1.25	4.6	Bc	123B8419
B60CBL [2]	6	1/8	LBP	S	220 – 240 V 60 Hz	RSIR	P	C	44	61	83	1.03	174	110	1.32	4.6	Bc	123B8423
HPY12AGa	12.1	1/4	LBP	S	200 – 220 / 220 – 230 V 50 / 60 Hz	RSIR	P	C	92	126	168	1.08	351	223	1.37	10.9	Pc	123B4116
HPY12AGb	12.1	1/4	LBP	S	200 – 220 / 220 – 230 V 50 / 60 Hz	RSCR	P	C	92	126	168	1.08	351	223	1.37	11.01	Pc	123B4117
L22C5L [2]	2.2	1/16	LBP	S	110 – 120 V 60 Hz	RSIR	P	C	16	22	30	0.86	63	39	1.1	3.6	SLb	123B8415
B35C5B [2]	3.5	1/12	LBP	S	110 – 115 60 Hz	RSIR	P	C	26	36	49	0.95	403	65	1.21	4.6	Bb	123B8417
B35C5BL [2]	3.5	1/12	LBP	S	110 – 115 60 Hz	RSCR	P	C	26	36	49	1.1	103	65	1.4	4.6	Bc	123B8418
B43C5B [2]	4.3	1/10	LBP	S	110 – 115V 60 Hz	RSIR	P	C	31	43	58	1.02	121	78	1.3	4.6	Bb	123B8421
B52C5BL [2]	5.2	1/8	LBP	S	110 – 120 V 60 Hz	RSCR	P	C	38	53	71	1.18	149	95	1.5	5.2	Be	123B8422
B60C5BL [2]	6	1/8	LBP	S	110 – 120 V 60 Hz	RSCR	P	C	44	61	82	1.1	172	109	1 2/5	5.2	Bd	123B8424
B43C0 [2]	4.3	1/10	LBP	S	100 V 50 / 60 Hz	RSIR	P	C	31	43	58	0.93	121	78	1 1/6	4.6	Bb	123B8407
B52C0L [2]	5.2	1/8	LBP	S	100 V 50 / 60 Hz	RSIR	P	C	38	53	71	0.86	149	95	1 1/9	4.8	Bc	123B8410
HPY14AJa	14.32	1/5	LBP	S	100 V 50 / 60 Hz	RSIR	P	C	101	139	187	1.06	393	249	1 1/3	10.75	Pd	123B4120
HPY14AJb	14.32	1/5	LBP	S	100 V 50 / 60 Hz	RSCR	P	C	101	139	187	1.12	393	249	1.41	10.86	Pd	123B4121

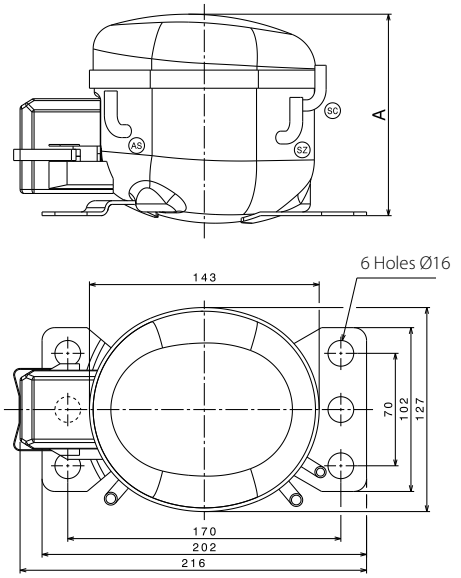
[1] Green Cooling Models
[2] New Models
[3] Ordering code for single compressors. For pallet packed compressors, please use 123F instead of 123B

Conditions	CECOMAF		ASHRAE	
	LBP	HMBP/HBP	LBP	HMBP/HBP
Evaporating temperature [°C]	-25	5	-23.3	7.2
Condensing temperature [°C]	55	55	55	55
Liquid temperature [°C]	55	55	32	46
Suction temperature [°C]	32	32	32	35
Ambient temperature [°C]	32	32	32	35

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Diagram and dimensions

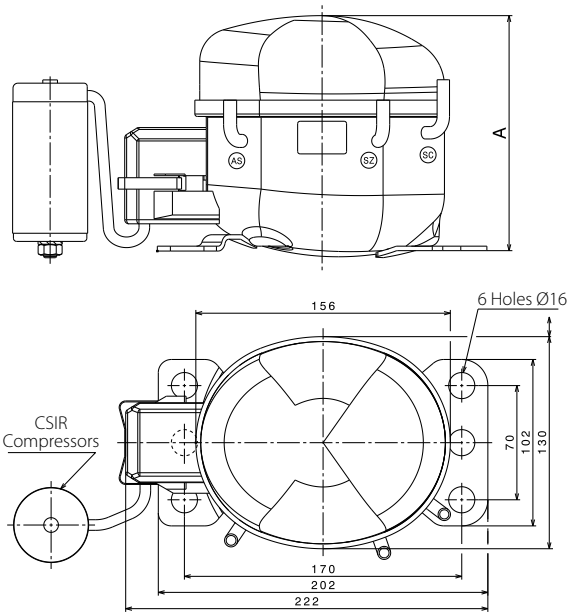
Small L range



	Designation	Internal diam.
AS	Suction	6.2
SC	Discharge	4.9
SZ	Service	6.2

	A [mm]
Lb	125.5
Lc	129
Ld	138
Le	141

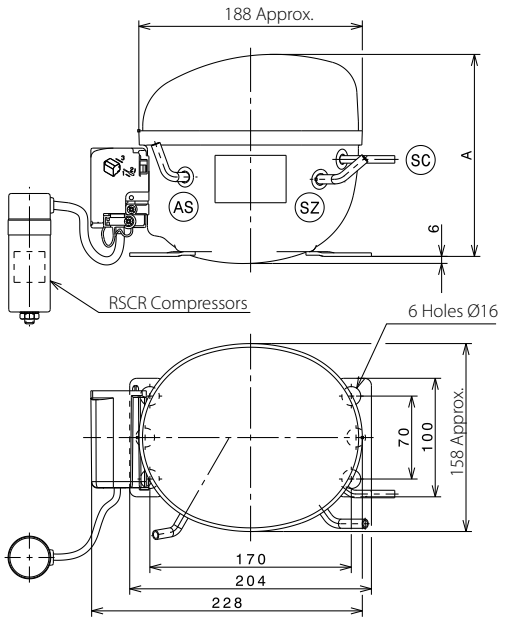
B range



	Designation	Internal diam.
AS	Suction	6.2
SC	Discharge	4.9
SZ	Service	6.2

	A [mm]
Bb	141
Bc	145
Bd	153
Be	159

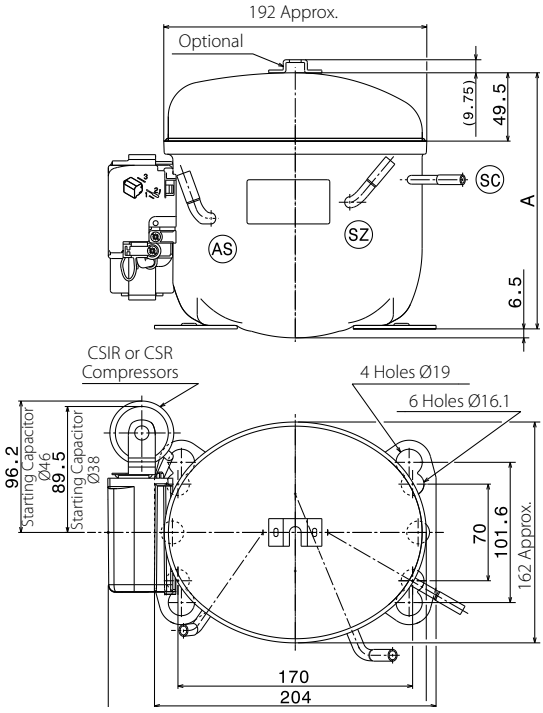
U range



	A [mm]
Ub	173.5
Uc	176.5

Legend	
AS	Suction/Service
SC	Discharge
SZ	Service/Suction

L range

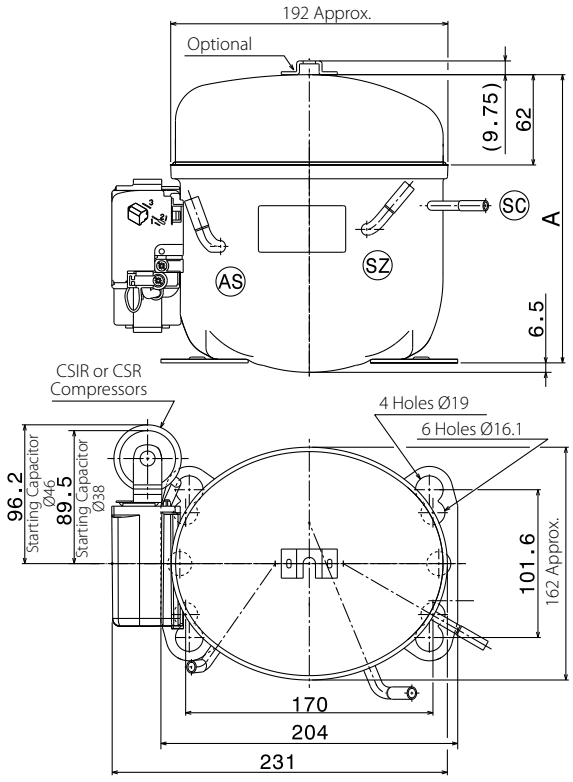


	A [mm]
Lb	175
Lc	185.6
Ld	198

Legend	
AS	Suction/Service
SC	Discharge
SZ	Service/Suction

Diagram and dimensions

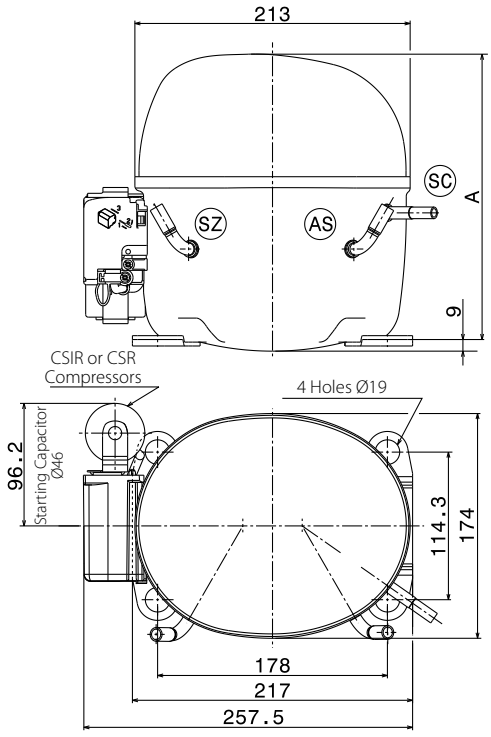
P range



	A [mm]
Pc	198.1
Pd	210.5

Legend	
AS	Suction/Service
SC	Discharge
SZ	Service/Suction

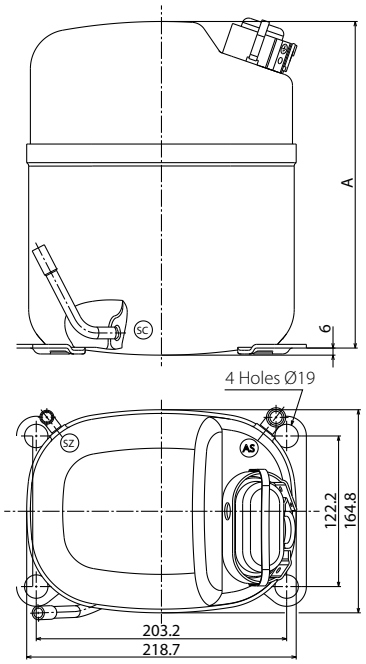
X range



	A [mm]
Xc	215
Xd	221

Legend	
AS	Suction/Service
SC	Discharge
SZ	Service/Suction

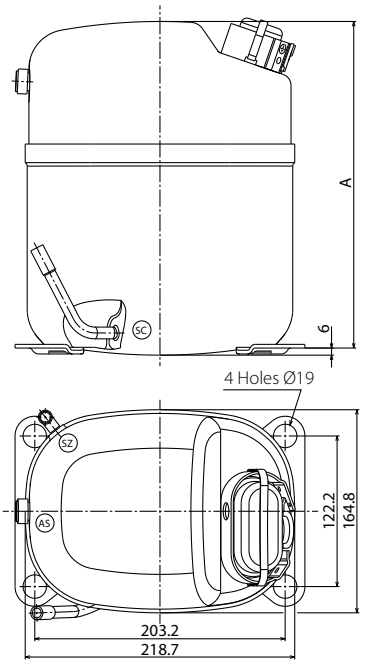
S range (Tube)



	A [mm]
Sb	252
Sc	265
Sd	276

Legend (Tube)	
AS	Suction/Service
SC	Discharge
SZ	Service/Suction

S range (Valve)

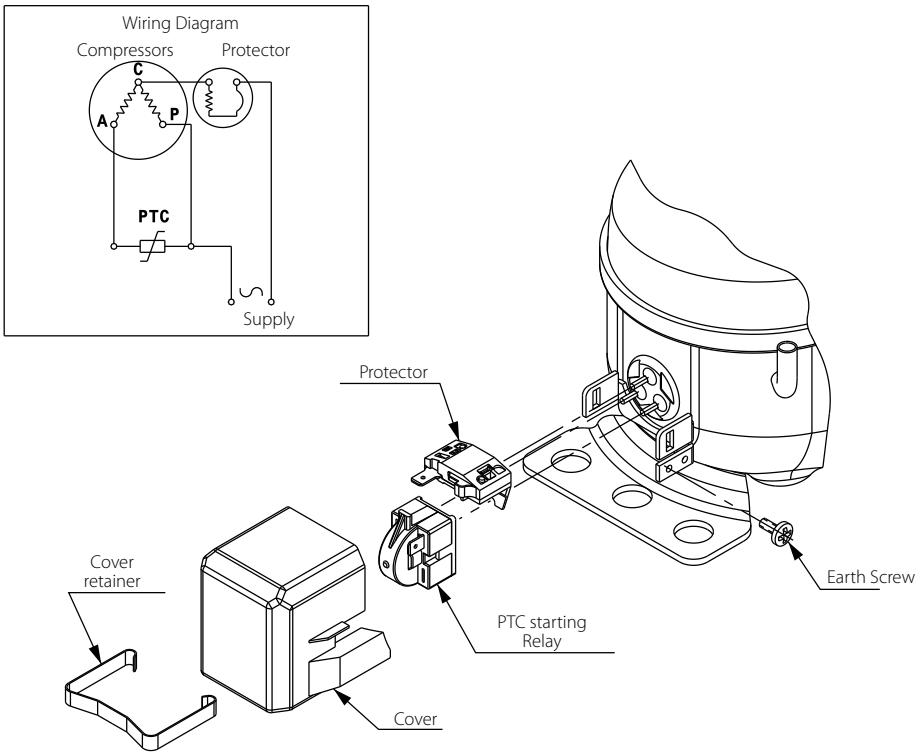


	A [mm]
Sb	252
Sc	265
Sd	276

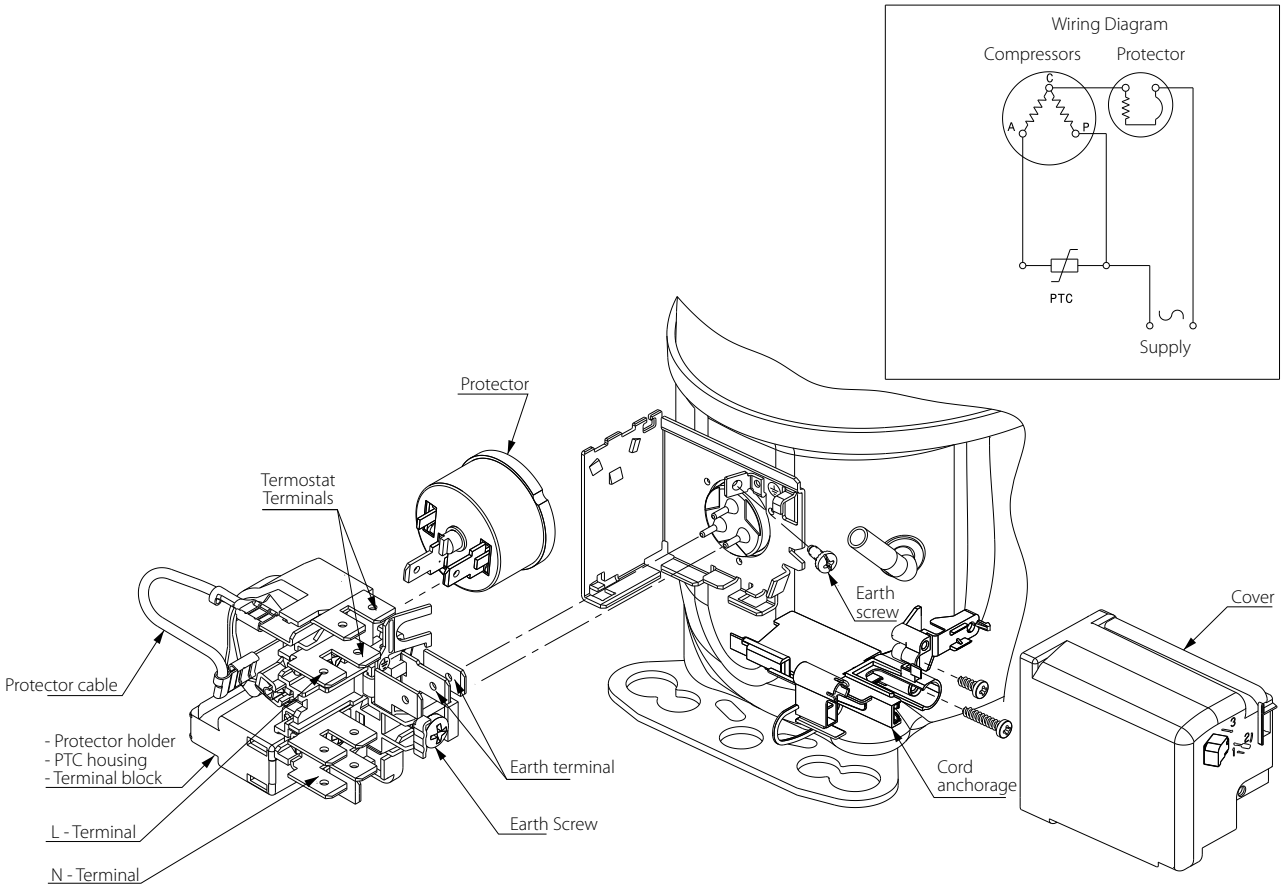
Legend (Valve)	
AS	Valve Service
SC	Discharge
SZ	Service/Suction

Wiring diagram and electrical assembly

RSIR connection (PTC) small L & B

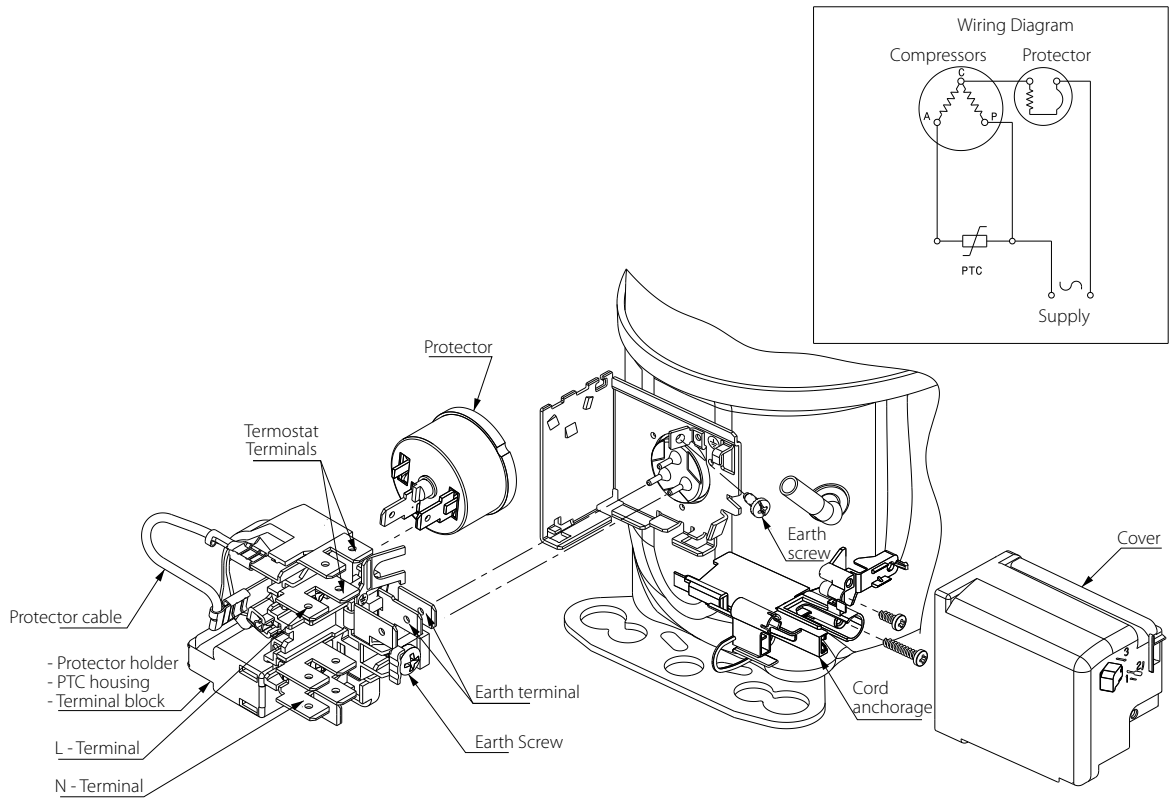


RSIR connection (PTC)

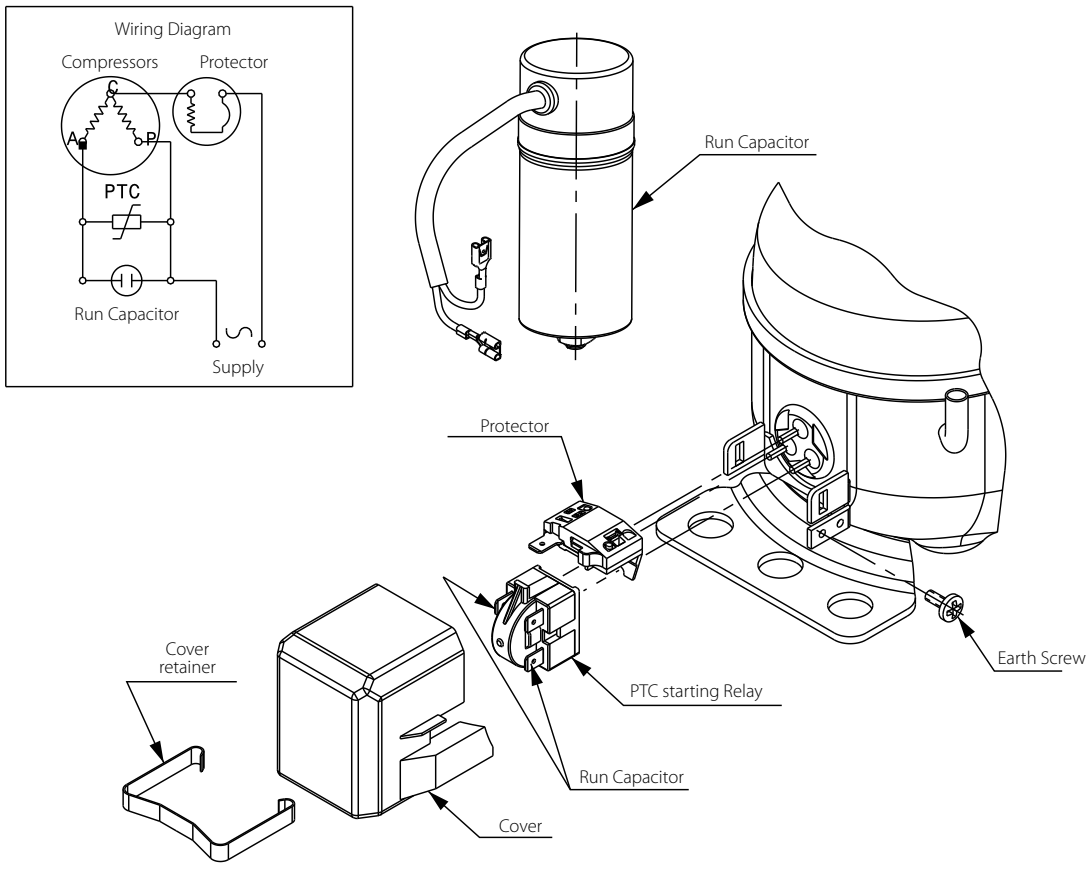


Wiring Diagrams and electrical assembly

RSIR connection (RELAY)

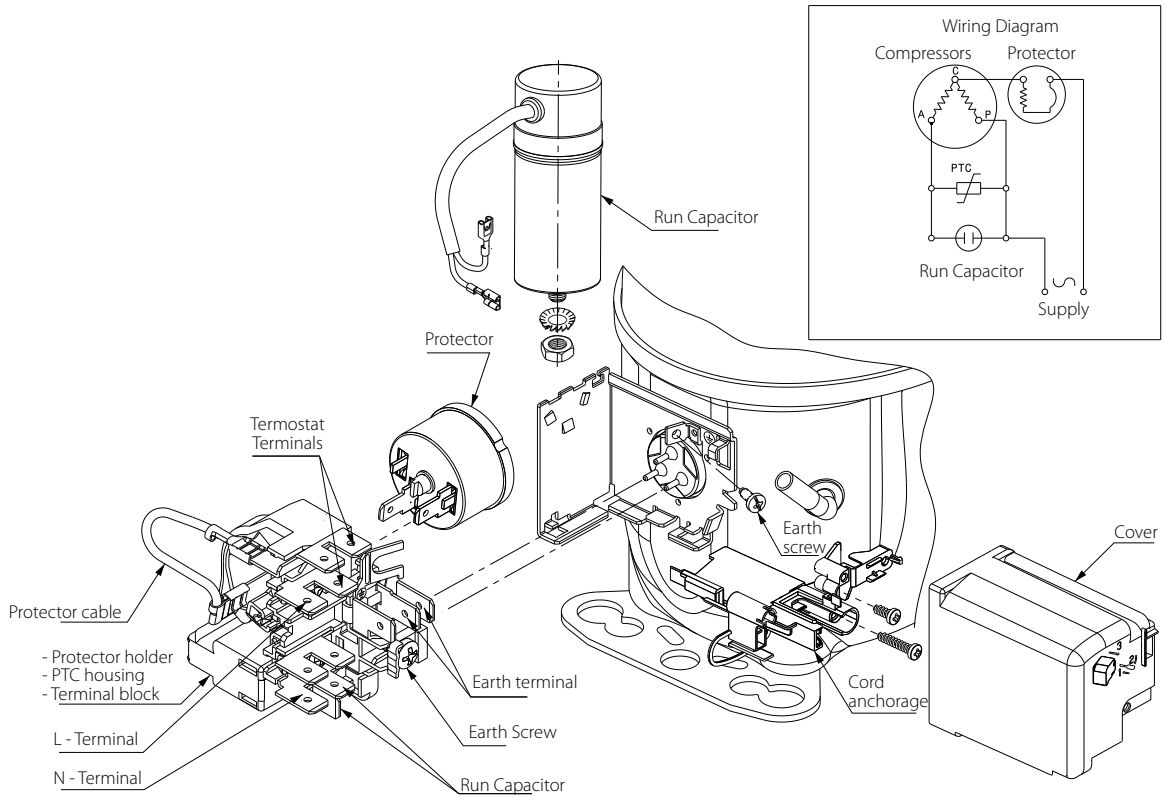


RSCR connection (PTC) small L & B

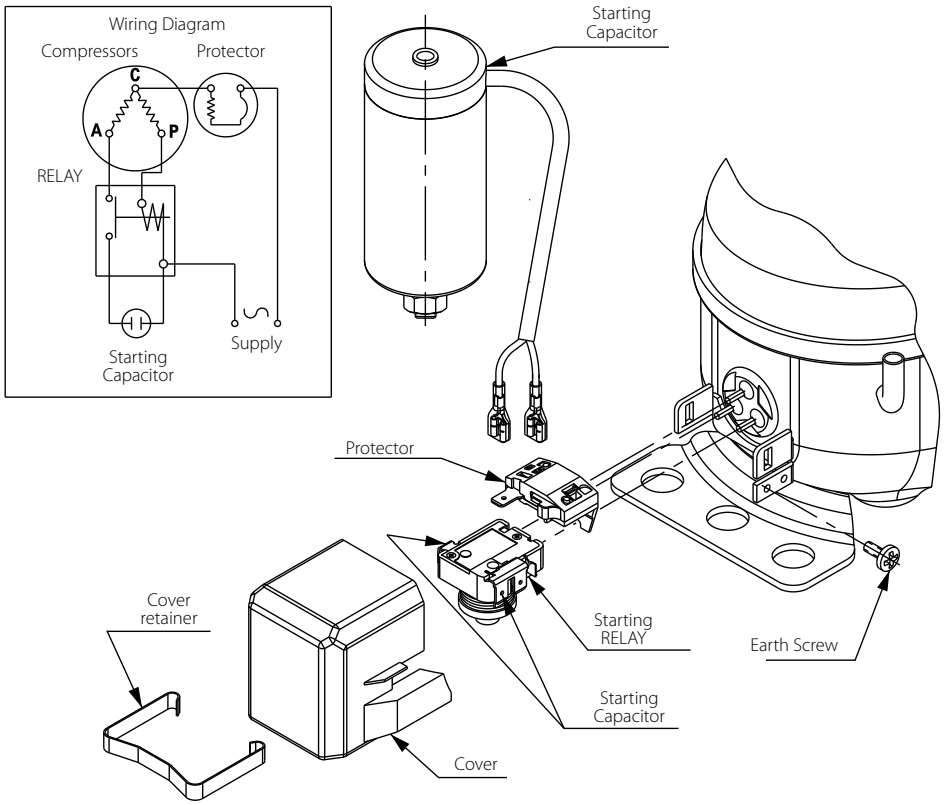


Wiring Diagrams and electrical assembly

RSCR connection

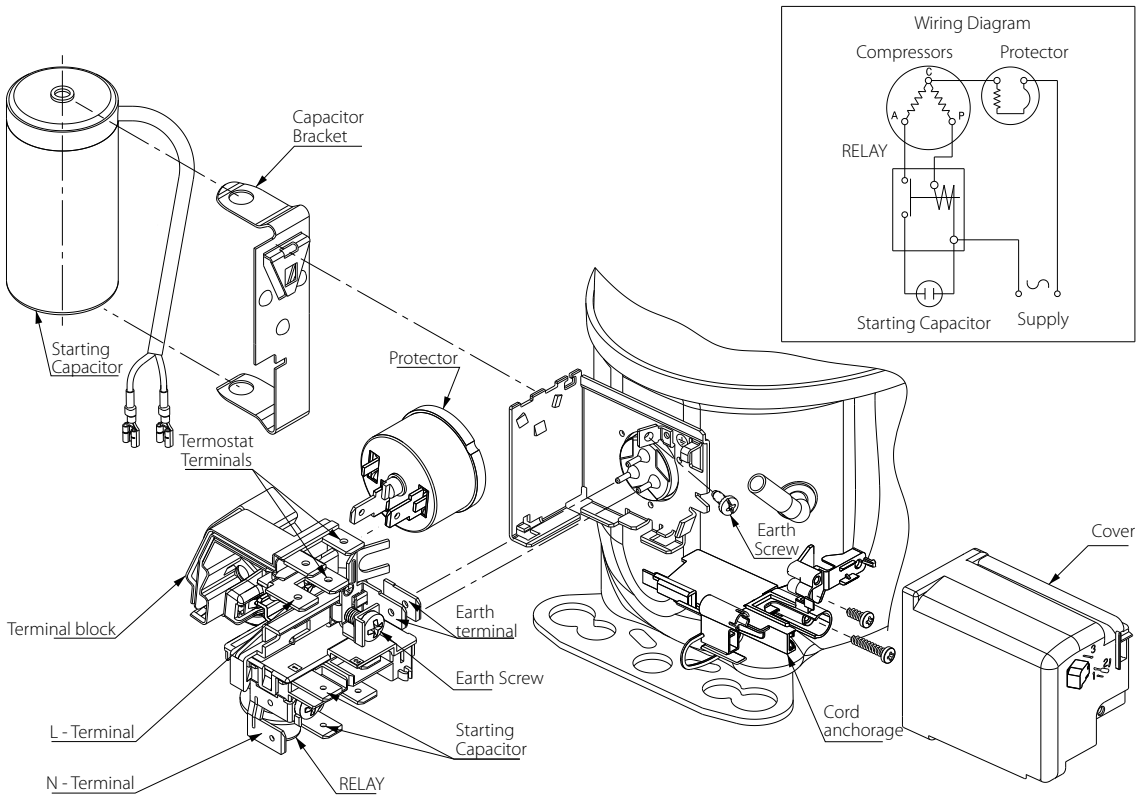


CSIR connection small L & B

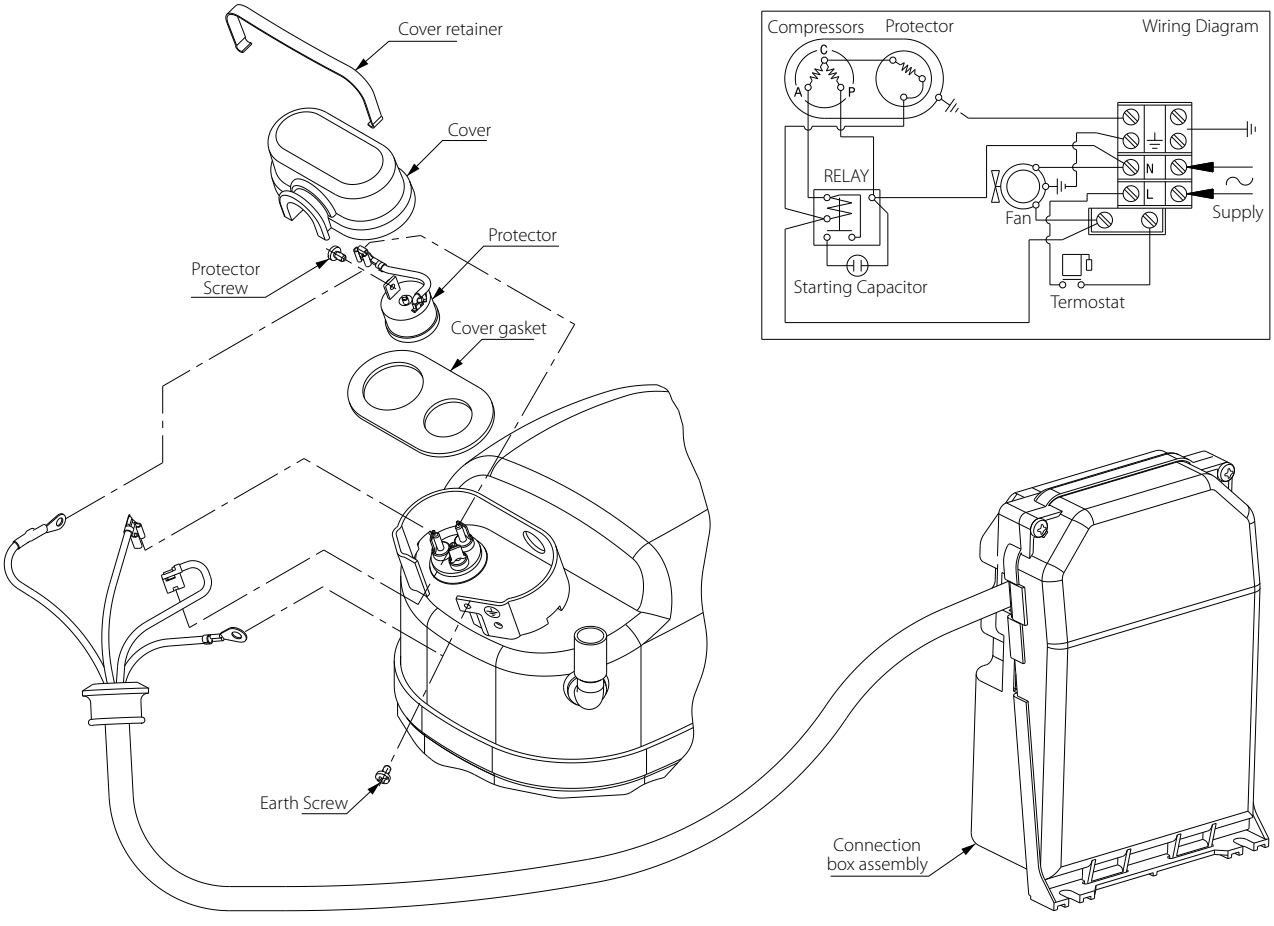


Wiring Diagrams and electrical assembly

CSIR connection

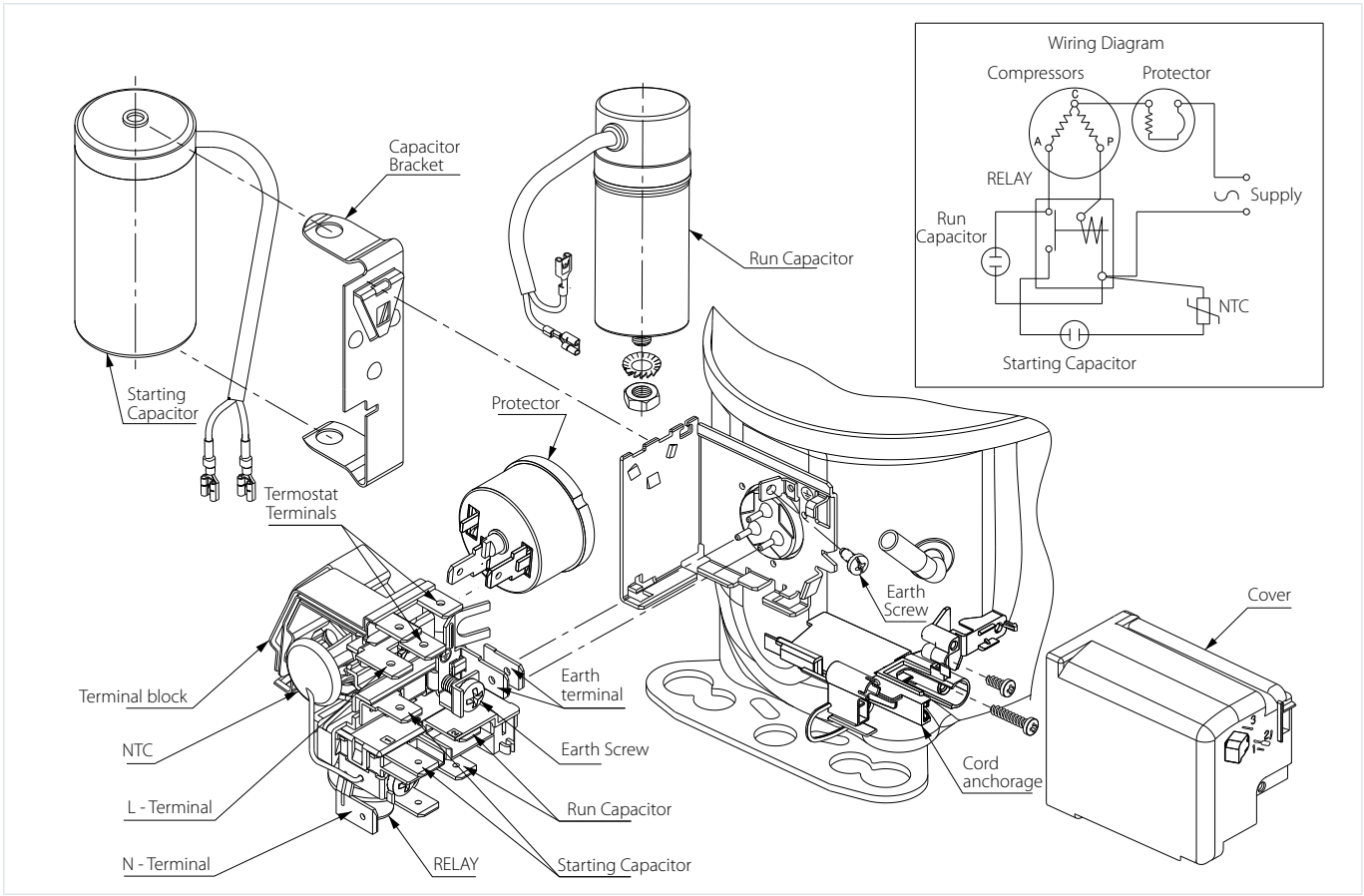


CSIR connection (external connecting box) (S range)

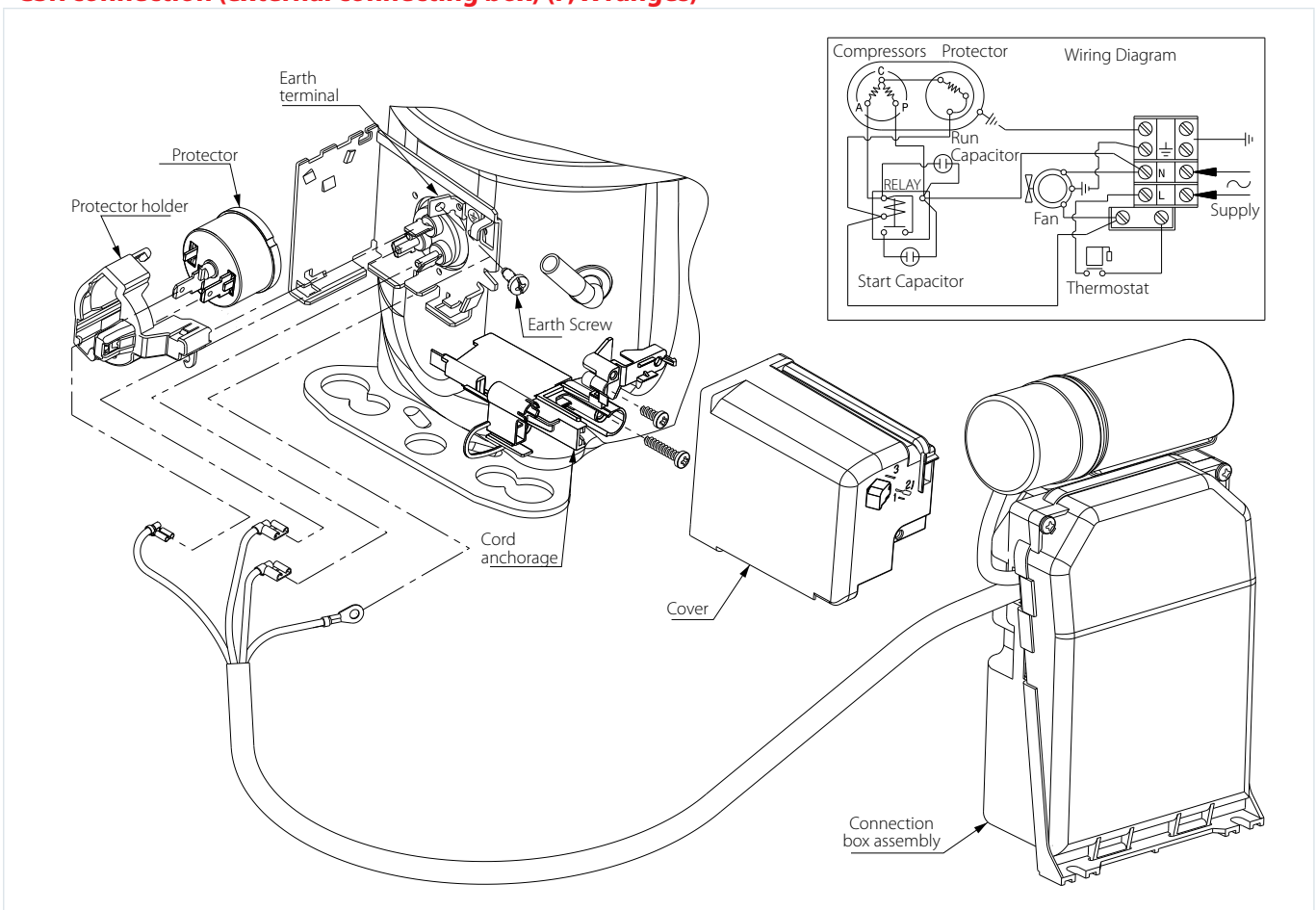


Wiring Diagrams and electrical assembly

CSR connection (current RELAY + NTC)

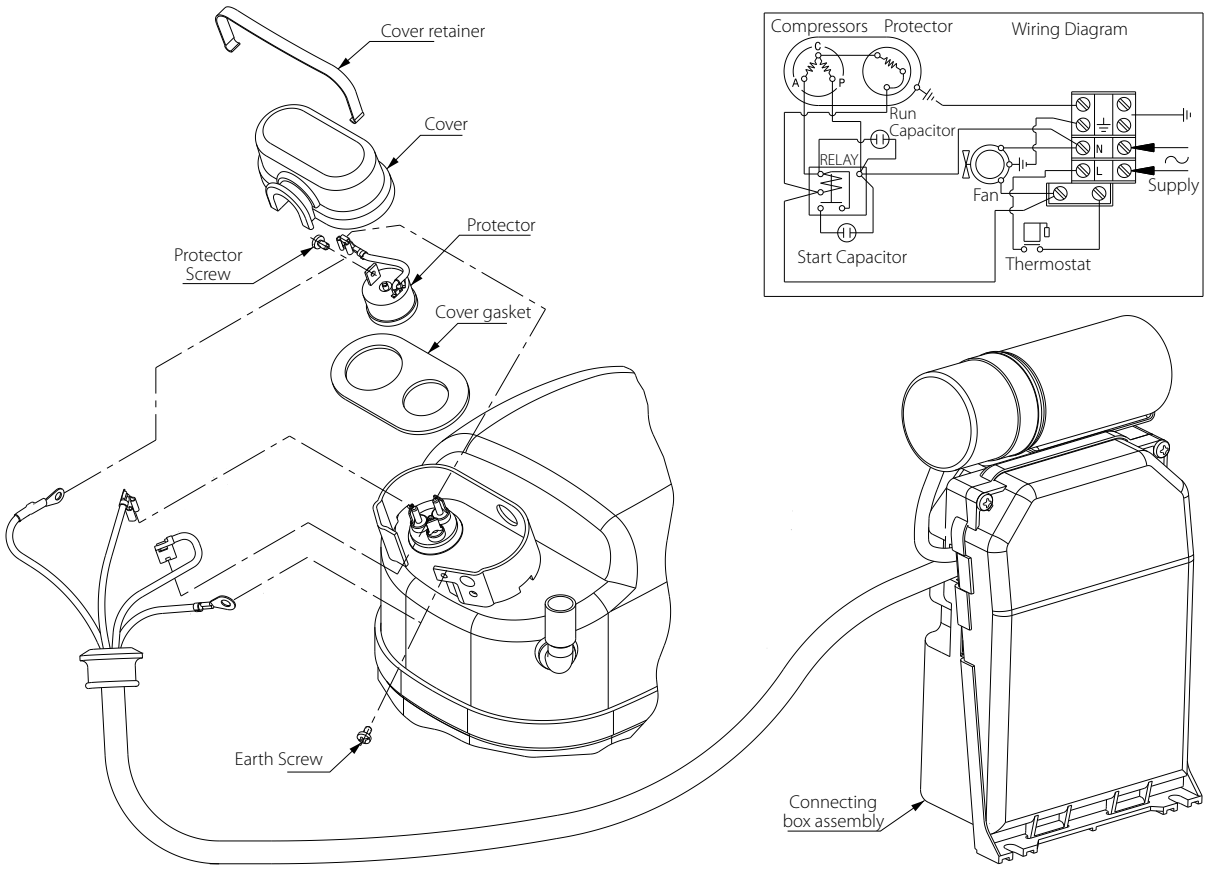


CSR connection (external connecting box) (P, X ranges)

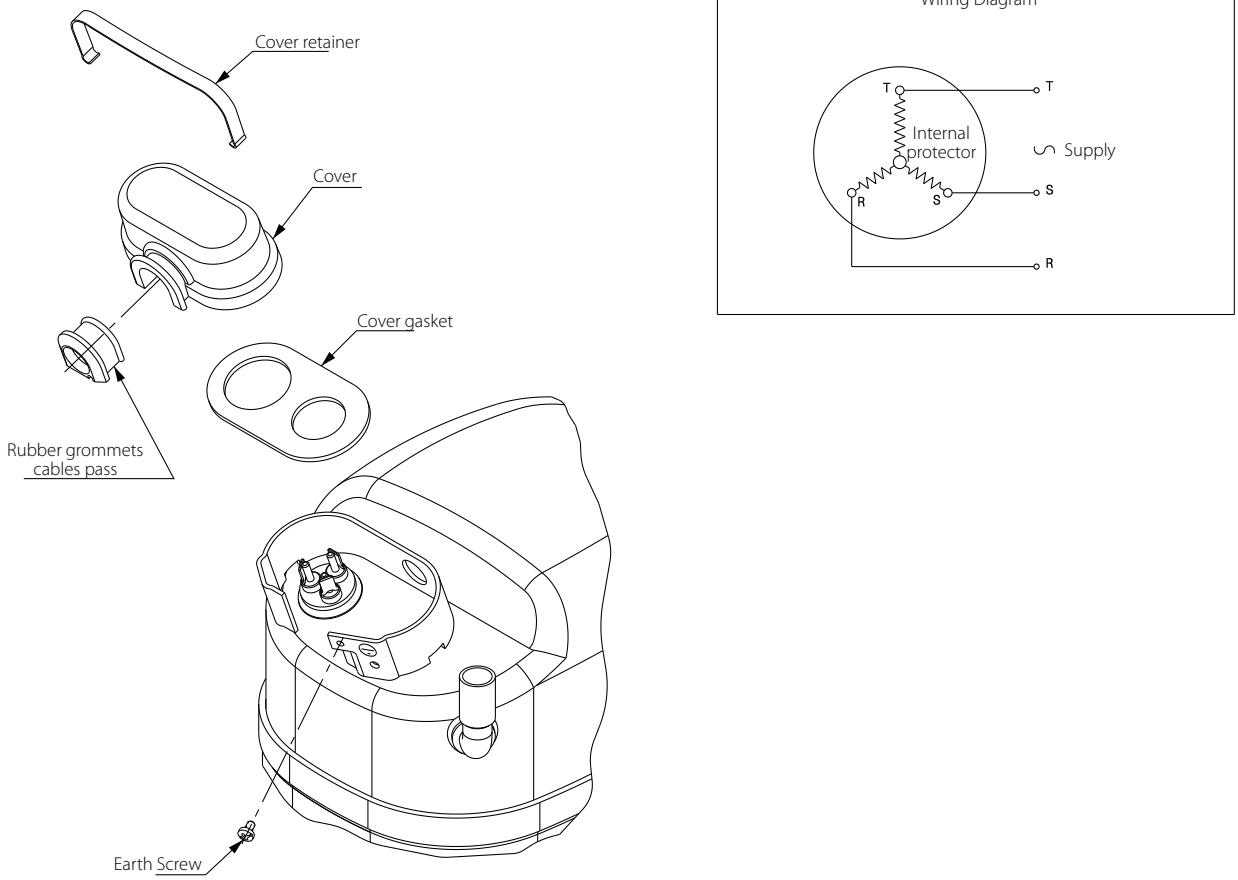


Wiring Diagrams and electrical assembly

CSR connection (external connecting box) (S range)



3PH connection (S range)



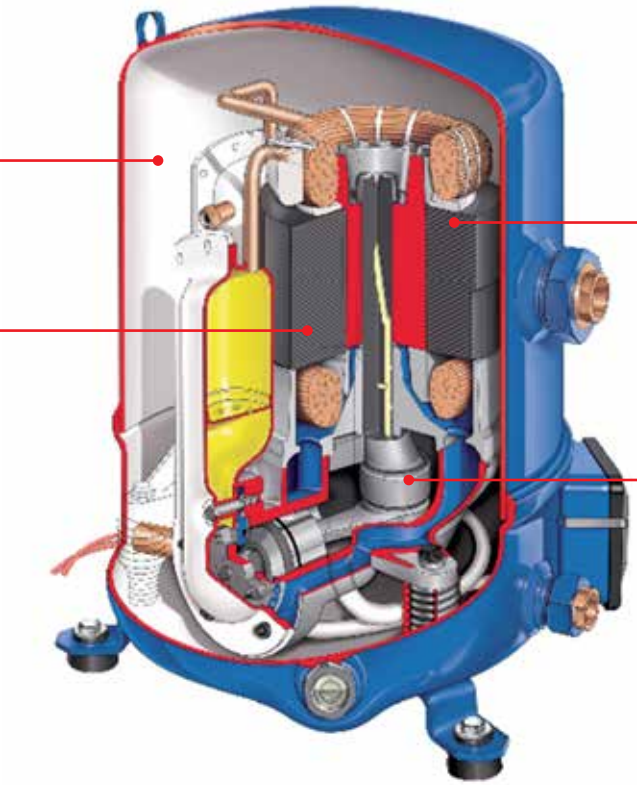
MT / MTZ / NTZ, Reciprocating compressors

Maneurop® MT and MTZ series compressors are of the hermetic reciprocating type and are designed for medium and high evaporating temperature applications.
NTZ are designed for low evaporating temperature applications.

Available in a large variety of single and tandem models for refrigerants R404A, R134a, R407A/F, R407C, R448A, R449A, R452A and R513A, the compressors fit in lots of different applications.



Features
MT / MTZ / NTZ



Facts

Applications:
- Walk-in freezers and cold rooms
- Frozen food processing and storage
- Blast freezers
- Low temperature racks
- Ice cream machines
- Display cabinets
- Water chillers
- Large packaged air conditioners
- Operation under extreme conditions
- Versatile
- No need for air circulation around the compressor
- Long lifetime expectancy and reliability

Technical data and ordering

NTZ - Reciprocating compressors

Technical data

Compressor model	Swept volume [cm³/rev]	Displacement		Nominal ratings *)				Number of cylinders	Oil charge litre	Net weight [kg]
				50 Hz		60 Hz				
		50 Hz 2900 rpm [m³/h]	60 Hz 3500 rpm [m³/h]	Cooling capacity [W]	COP [W/W]	Cooling capacity [W]	COP [W/W]			
NTZ048	48	8.40	10.1	995	1.15	1190	1.13	1	0.95	21
NTZ068	68	11.8	14.3	1749	1.15	2065	1.15	1	0.95	23
NTZ096	96	16.7	20.2	2002	1.15	2395	1.16	2	1.8	35
NTZ108	108	18.7	22.6	2465	1.16	2788	1.10	2	1.8	35
NTZ136	136	23.6	28.5	3225	1.11	3739	1.12	2	1.8	35
NTZ215	215	37.5	45.2	4948	1.19	5886	1.19	4	3.9	62
NTZ271	271	47.3	57.0	6955	1.24	8058	1.21	4	3.9	64

*) Motor code 4 operating conditions: R404A, Evap. temp.: -35°C, Cond. temp.: 40°C, RGT: 20°C, SC: 0 K
For full NTZ data details and capacity tables refer to Online Datasheet Generator: www.danfoss.com/odsg

NTZ - Reciprocating compressors

Ordering single pack *)

Compressor model	Motor voltage code				
	1	3	4	5	9
	208-230/1/60	200-230/3/60	460/3/60 400/3/50	230/1/50	380/3/60
NTZ048	120F0293	120F0279	120F0226	120F0228	120F0302
NTZ068	120F0294	120F0280	120F0230	120F0232	120F0303
NTZ096	120F0295	120F0281	120F0234	–	–
NTZ108	120F0296	120F0282	120F0238	–	120F0304
NTZ136	120F0297	120F0283	120F0236	–	120F0305
NTZ215	–	120F0284	120F0240	–	120F0306
NTZ271	–	120F0285	120F0242	–	120F0307

*) Single pack: one compressor packed in a cardboard box 4 cyl.: cardboard box on 1/4 euro pallet

NTZ compressors

Industrial pack***)

Compressor model	Motor voltage code		
	3	4	5
	200-230/3/60	460/3/60 400/3/50	230/1/50
NTZ048	120F0286	120F0227	120F0229
NTZ068	120F0287	120F0231	120F0233
NTZ096	120F0288	120F0235	
NTZ108	120F0289	120F0239	
NTZ136	120F0290	120F0237	
NTZ215	120F0291	120F0241	
NTZ271	120F0292	120F0243	

***) Industrial pack: a full pallet of unpacked compressors

Technical data and ordering

MT / MTZ - Reciprocating compressors

Technical data

Compressor model	Displacement			Nominal		Net weight [kg]	Available motor voltage codes						
	Code	[cm³/rev]	[m³/h] at 2900 rpm	Cyl. number	Oil charge [dm³]		1	3	4	5	6	7	9
MT / MTZ018	JA	30.23	5.26	1	0.95	21	●	●	●	●	–	–	–
MT / MTZ022	JC	38.12	6.63	1	0.95	21	●	●	●	●	●	–	●
MT / MTZ028	JE	48.06	8.36	1	0.95	23	●	●	●	●	●	–	○
MT / MTZ032	JF	53.86	9.37	1	0.95	24	●	●	●	●	●	○	●
MT / MTZ036	JG	60.47	10.52	1	0.95	24	●	●	●	●	●	○	○
MT / MTZ040	JH	67.89	11.81	1	0.95	24	●	●	●	–	●	–	–
MT / MTZ044	HJ	76.22	13.26	2	1.80	35	○	●	●	–	○	○	●
MT / MTZ050	HK	85.64	14.9	2	1.80	35	●	●	●	–	●	○	●
MT / MTZ056	HL	96.13	16.73	2	1.80	37	●	●	●	–	●	●	●
MT / MTZ064	HM	107.71	18.74	2	1.80	37	●	●	●	–	●	–	●
MT / MTZ072	HN	120.94	21.04	2	1.80	40	–	●	●	–	○	–	●
MT / MTZ080	HP	135.78	23.63	2	1.80	40	–	●	●	–	●	–	●
MT / MTZ100	HS	171.26	29.8	4	3.90	60	–	●	●	–	●	●	●
MT / MTZ125	HU	215.44	37.49	4	3.90	64	–	●	●	–	●	●	●
MT / MTZ144	HV	241.87	42.09	4	3.90	67	–	●	●	–	●	●	●
MT / MTZ160	HW	271.55	47.25	4	3.90	67	–	●	●	–	●	●	●

● Available in MT and MTZ ○ Available in MTZ only

MTZ - Reciprocating compressors

Ordering single pack for R404A / R507 / R134a / R407A / C / F / R448A*) / R449A*) / R452A*)

Compressor model	Code no.						
	1	3	4	5	6	7	9
	208-230/1/60	200-230/3/60	460/3/60 400/3/50	230/1/50	230/3/50	575/3/60 500/3/50	380/3/60
MTZ018	MTZ18-1VI	MTZ18-3VI	MTZ18-4VI	MTZ18-5VI	–	–	–
MTZ022	MTZ22-1VI	MTZ22-3VI	MTZ22-4VI	MTZ22-5VI	MTZ22-6VI	–	MTZ22-9VI
MTZ028	MTZ28-1VI	MTZ28-3VI	MTZ28-4VI	MTZ28-5VI	MTZ28-6VI	–	MTZ28-9VI
MTZ032	MTZ32-1VI	MTZ32-3VI	MTZ32-4VI	MTZ32-5VI	MTZ32-6VI	MTZ32-7VI	MTZ32-9VI
MTZ036	MTZ36-1VI	MTZ36-3VI	MTZ36-4VI	MTZ36-5VI	MTZ36-6VI	MTZ36-7VI	MTZ36-9VI
MTZ040	MTZ40-1VI	MTZ40-3VI	MTZ40-4VI	–	MTZ40-6VI	–	–
MTZ044	MTZ44-1VI	MTZ44-3VI	MTZ44-4VI	–	MTZ44-6VI	MTZ44-7VI	MTZ44-9VI
MTZ050	MTZ50-1VI	MTZ50-3VI	MTZ50-4VI	–	MTZ50-6VI	MTZ50-7VI	MTZ50-9VI
MTZ056	MTZ56-1VI	MTZ56-3VI	MTZ56-4VI	–	MTZ56-6VI	MTZ56-7VI	MTZ56-9VI
MTZ064	MTZ64-1VI	MTZ64-3VI	MTZ64-4VI	–	MTZ64-6VI	–	MTZ64-9VI
MTZ072	–	MTZ72-3VI	MTZ72-4VI	–	MTZ72-6VI	–	MTZ72-9VI
MTZ080	–	MTZ80-3VI	MTZ80-4VI	–	MTZ80-6VI	–	MTZ80-9VI
MTZ100	–	MTZ100-3VI	MTZ100-4VI	–	MTZ100-6VI	MTZ100-7VI	MTZ100-9VI
MTZ125	–	MTZ125-3VI	MTZ125-4VI	–	MTZ125-6VI	MTZ125-7VI	MTZ125-9VI
MTZ144	–	MTZ144-3VI	MTZ144-4VI	–	–	MTZ144-7VI	MTZ144-9VI
MTZ160	–	MTZ160-3VI	MTZ160-4VI	–	MTZ160-6VI	MTZ160-7VI	MTZ160-9VI

VI = Single compressor, threaded oil sight glass, ⅜" oil equalisation connection
**) For the availability, please contact Danfoss.*

Technical data and ordering

MTZ - Reciprocating compressors

Ordering industrial pack for R404A / R507 / R134a / R407A / C / F / R448A*) / R449A*) / R452A*)

Compressor model	Code no.				
	1	3	4	5	9
	208-230/1/60	200-230/3/60	460/3/60 400/3/50	230/1/50	380/3/60
MTZ018	MTZ18-1VM	MTZ18-3VM	MTZ18-4VM	MTZ18-5VM	–
MTZ022	MTZ22-1VM	MTZ22-3VM	MTZ22-4VM	MTZ22-5VM	MTZ22-9VM
MTZ028	MTZ28-1VM	MTZ28-3VM	MTZ28-4VM	MTZ28-5VM	MTZ28-9VM
MTZ032	MTZ32-1VM	MTZ32-3VM	MTZ32-4VM	MTZ32-5VM	MTZ32-9VM
MTZ036	MTZ36-1VM	MTZ36-3VM	MTZ36-4VM	MTZ36-5VM	MTZ36-9VM
MTZ040	MTZ40-1VM	MTZ40-3VM	MTZ40-4VM	–	–
MTZ044	MTZ44-1VM	MTZ44-3VM	MTZ44-4VM	–	MTZ44-9VM
MTZ050	MTZ50-1VM	MTZ50-3VM	MTZ50-4VM	–	MTZ50-9VM
MTZ056	MTZ56-1VM	MTZ56-3VM	MTZ56-4VM	–	MTZ56-9VM
MTZ064	MTZ64-1VM	MTZ64-3VM	MTZ64-4VM	–	MTZ64-9VM
MTZ072	–	MTZ72-3VM	MTZ72-4VM	–	MTZ72-9VM
MTZ080	–	MTZ80-3VM	MTZ80-4VM	–	MTZ80-9VM
MTZ100	–	MTZ100-3VM	MTZ100-4VM	–	MTZ100-9VM
MTZ125	–	MTZ125-3VM	MTZ125-4VM	–	MTZ125-9VM
MTZ144	–	MTZ144-3VM	MTZ144-4VM	–	MTZ144-9VM
MTZ160	–	MTZ160-3VM	MTZ160-4VM	–	MTZ160-9VM

VM = Compressor, threaded oil sight glass, 3/8" oil equalisation connection
**) For the availability, please contact Danfoss.*

MT - Reciprocating compressors

Ordering single pack for R22

Compressor model	Code no.						
	1	3	4	5	6	7	9
	208-230/1/60	200-230/3/60	460/3/60 400/3/50	230/1/50	230/3/50	575/3/60 500/3/50	380/3/60
MTZ018	MTZ18-1VI	MTZ18-3VI	MTZ18-4VI	MTZ18-5VI	–	–	–
MTZ022	MTZ22-1VI	MTZ22-3VI	MTZ22-4VI	MTZ22-5VI	MTZ22-6VI	–	MTZ22-9VI
MTZ028	MTZ28-1VI	MTZ28-3VI	MTZ28-4VI	MTZ28-5VI	MTZ28-6VI	–	MTZ28-9VI
MTZ032	MTZ32-1VI	MTZ32-3VI	MTZ32-4VI	MTZ32-5VI	MTZ32-6VI	–	–
MTZ036	MTZ36-1VI	MTZ36-3VI	MTZ36-4VI	MTZ36-5VI	MTZ36-6VI	–	MTZ36-9VI
MTZ040	MTZ40-1VI	MTZ40-3VI	MTZ40-4VI	–	MTZ40-6VI	–	–
MTZ044	–	MTZ44-3VI	MTZ44-4VI	–	–	–	MTZ44-9VI
MTZ050	MTZ50-1VI	MTZ50-3VI	MTZ50-4VI	–	MTZ50-6VI	–	MTZ50-9VI
MTZ056	MTZ56-1VI	MTZ56-3VI	MTZ56-4VI	–	MTZ56-6VI	MTZ56-7VI	MTZ56-9VI
MTZ064	MTZ64-1VI	MTZ64-3VI	MTZ64-4VI	–	MTZ64-6VI	–	MTZ64-9VI
MTZ072	–	MTZ72-3VI	MTZ72-4VI	–	–	–	MTZ72-9VI
MTZ080	–	MTZ80-3VI	MTZ80-4VI	–	MTZ80-6VI	–	MTZ80-9VI
MTZ100	–	MTZ100-3VI	MTZ100-4VI	–	MTZ100-6VI	MTZ100-7VI	MTZ100-9VI
MTZ125	–	MTZ125-3VI	MTZ125-4VI	–	MTZ125-6VI	MTZ125-7VI	MTZ125-9VI
MTZ144	–	MTZ144-3VI	MTZ144-4VI	–	–	MTZ144-7VI	MTZ144-9VI
MTZ160	–	MTZ160-3VI	MTZ160-4VI	–	MTZ160-6VI	MTZ160-7VI	MTZ160-9VI

VI = Single compressor, threaded oil sight glass, 3/8" oil equalisation connection

Technical data and ordering

MT - Reciprocating compressors

Ordering Industrial pack for R22

Compressor model	Code no.				
	1	3	4	5	9
	208-230/1/60	200-230/3/60	460/3/60 400/3/50	230/1/50	380/3/60
MT018	MT18-1VM	MT18-3VM	MT18-4VM	MT18-5VM	–
MT022	MT22-1VM	MT22-3VM	MT22-4VM	MT22-5VM	MT22-9VM
MT028	MT28-1VM	MT28-3VM	MT28-4VM	MT28-5VM	MT28-9VM
MT032	MT32-1VM	MT32-3VM	MT32-4VM	MT32-5VM	MT32-9VM
MT036	MT36-1VM	MT36-3VM	MT36-4VM	MT36-5VM	MT36-9VM
MT040	MT40-1VM	MT40-3VM	MT40-4VM	–	–
MT044	MT44-1VM	MT44-3VM	MT44-4VM	–	MT44-9VM
MT050	MT50-1VM	MT50-3VM	MT50-4VM	–	MT50-9VM
MT056	MT56-1VM	MT56-3VM	MT56-4VM	–	MT56-9VM
MT064	MT64-1VM	MT64-3VM	MT64-4VM	–	MT64-9VM
MT072	–	MT72-3VM	MT72-4VM	–	MT72-9VM
MT080	–	MT80-3VM	MT80-4VM	–	MT80-9VM
MT100	–	MT100-3VM	MT100-4VM	–	MT100-9VM
MT125	–	MT125-3VM	MT125-4VM	–	MT125-9VM
MT144	–	MT144-3VM	MT144-4VM	–	MT144-9VM
MT160	–	MT160-3VM	MT160-4VM	–	MT160-9VM

VM = Compressor, threaded oil sight glass, ⅜" oil equalisation connection

MT - R22 - Reciprocating compressors - 50 Hz

Nominal performance data

Compressor model	To	-25		-20		-15		-10		-5		0		5		10		15	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
MT018	45	530	0.64	830	0.76	1210	0.88	1690	1.00	2280	1.10	3010	1.19	3880	1.26	4920	1.31	6140	1.33
MT022	45	690	0.77	1190	0.95	1790	1.12	2490	1.29	3310	1.44	4260	1.56	5350	1.66	6600	1.73	8010	1.76
MT028	45	1360	1.22	2040	1.43	2830	1.63	3730	1.81	4760	1.98	5920	2.11	7220	2.20	8690	2.25	10330	2.24
MT032	45	1450	1.46	2150	1.68	2980	1.90	3950	2.11	5080	2.31	6380	2.47	7880	2.60	9590	2.69	11530	2.74
MT036	45	1830	1.68	2690	1.90	3680	2.13	4810	2.35	6070	2.56	7500	2.76	9090	2.93	10860	3.07	12820	3.17
MT040	45	1910	1.77	2870	2.08	3970	2.39	5220	2.67	6630	2.93	8210	3.15	9980	3.32	11950	3.42	14130	3.45
MT044	45	1790	1.70	2570	1.97	3590	2.22	4860	2.46	6420	2.68	8300	2.88	10510	3.07	13080	3.23	16040	3.38
MT050	45	2020	1.93	3070	2.31	4350	2.65	5870	2.94	7670	3.20	9770	3.42	12210	3.61	14990	3.77	18160	3.92
MT056	45	2500	2.20	3510	2.55	4820	2.88	6440	3.18	8420	3.46	10780	3.72	13560	3.96	16780	4.18	20480	4.38
MT064	45	2920	2.40	4260	2.85	5860	3.27	7750	3.64	9970	3.98	12550	4.27	15520	4.53	18910	4.76	22770	4.94
MT072	45	3010	2.61	4600	3.20	6490	3.72	8710	4.19	11310	4.60	14320	4.96	17800	5.27	21780	5.54	26310	5.78
MT080	45	3940	3.32	5750	3.89	7880	4.41	10360	4.89	13230	5.33	16540	5.72	20320	6.09	24620	6.42	29480	6.72
MT100	45	4250	4.06	6190	4.66	8530	5.25	11330	5.79	14660	6.27	18570	6.66	23140	6.94	28430	7.09	34510	7.08
MT125	45	6230	5.48	8710	6.17	11700	6.87	15260	7.55	19470	8.18	24420	8.75	30170	9.24	36820	9.63	44430	9.88
MT144	45	7160	6.16	9930	6.94	13270	7.71	17280	8.47	22040	9.17	27670	9.81	34240	10.36	41850	10.80	50610	11.09
MT160	45	8060	6.93	11100	7.79	14780	8.65	19190	9.49	24450	10.28	30650	11.00	37910	11.61	46330	12.10	56000	12.44

To : Evaporating temperature in [°C]
Tc : Condensing temperature in [°C]
Qo: Cooling Capacity in [W]
Pe : Power input in [kW]
Subcooling : 0 K
Superheat : 10 K
Voltage : 400 V /3 /50 Hz

MT - R22 - Reciprocating compressors - 60 Hz

Nominal performance data

Compressor model	To	-25		-20		-15		-10		-5		0		5		10		15	
	Tc	Qe	P	Qe	P	Qe	P	Qe	P	Qe	P	Qe	P	Qe	P	Qe	P	Qe	P
MT018	45	640	0.77	1000	0.92	1450	1.06	2030	1.20	2740	1.32	3610	1.43	4660	1.51	5910	1.57	7370	1.60
MT022	45	820	0.92	1430	1.14	2150	1.35	2990	1.54	3970	1.72	5110	1.88	6420	2.00	7910	2.08	9610	2.11
MT028	45	1630	1.46	2450	1.71	3390	1.95	4480	2.18	5710	2.37	7100	2.53	8670	2.64	10430	2.70	12390	2.69
MT032	45	1740	1.75	2580	2.02	3570	2.28	4740	2.54	6090	2.77	7660	2.97	9460	3.12	11510	3.23	13830	3.28
MT036	45	2190	2.01	3230	2.28	4420	2.55	5770	2.82	7290	3.07	9000	3.31	10910	3.51	13030	3.68	15390	3.80
MT040	45	2290	2.12	3440	2.50	4760	2.86	6260	3.21	7950	3.52	9850	3.78	11980	3.98	14340	4.11	16960	4.14
MT044	45	2020	1.98	3160	2.39	4510	2.74	6120	3.04	8000	3.31	10190	3.53	12710	3.73	15610	3.90	18900	4.05
MT050	45	2740	2.43	3970	2.86	5440	3.24	7190	3.56	9240	3.85	11650	4.10	14440	4.31	17650	4.50	21320	4.66
MT056	45	3050	2.68	4490	3.14	6190	3.56	8180	3.93	10510	4.27	13190	4.57	16280	4.85	19810	5.09	23800	5.32
MT064	45	3970	3.24	5390	3.65	7160	4.05	9310	4.43	11880	4.80	14920	5.15	18460	5.48	22550	5.80	27230	6.10
MT072	45	4390	3.39	6110	3.97	8200	4.51	10730	5.03	13730	5.52	17260	5.97	21360	6.39	26080	6.76	31470	7.09
MT080	45	5040	3.97	7070	4.59	9490	5.19	12350	5.76	15710	6.30	19630	6.83	24160	7.35	29360	7.86	35280	8.36
MT100	45	5100	4.87	7430	5.59	10240	6.29	13600	6.95	17590	7.52	22290	7.99	27770	8.33	34120	8.51	41410	8.50
MT125	45	7470	6.57	10460	7.41	14040	8.24	18310	9.06	23370	9.82	29300	10.51	36210	11.09	44180	11.55	53320	11.86
MT144	45	8590	7.39	11910	8.32	15920	9.25	20730	10.16	26450	11.01	33200	11.78	41090	12.43	50230	12.95	60730	13.31
MT160	45	9670	8.31	13320	9.35	17730	10.38	23030	11.39	29340	12.34	36780	13.20	45490	13.94	55590	14.52	67200	14.93

To : Evaporating temperature in [°C]
Tc : Condensing temperature in [°C]
Qo: Cooling Capacity in [W]
Pe : Power input in [kW]
Subcooling : 0 K
Superheat : 10 K
Voltage : 460 V /3 /60 Hz

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

MTZ - R134a - Reciprocating compressors - 50 Hz

Nominal performance data

Compressor model	To	-25		-20		-15		-10		-5		0		5		10		15	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
MTZ018	45	250	0.46	470	0.54	740	0.61	1070	0.69	1480	0.76	1980	0.82	2570	0.87	3260	0.91	4060	0.93
MTZ022	45	400	0.52	660	0.62	990	0.72	1410	0.81	1920	0.91	2550	0.99	3310	1.06	4210	1.11	5270	1.15
MTZ028	45	600	0.70	930	0.80	1330	0.91	1820	1.02	2440	1.13	3200	1.23	4130	1.34	5250	1.43	6600	1.51
MTZ032	45	670	0.77	1040	0.93	1500	1.09	2080	1.25	2800	1.40	3690	1.54	4790	1.66	6110	1.76	7700	1.83
MTZ036	45	940	0.99	1440	1.14	2030	1.29	2750	1.45	3610	1.60	4620	1.74	5810	1.86	7180	1.97	8770	2.05
MTZ040	45	1140	1.18	1620	1.32	2200	1.47	2910	1.61	3780	1.75	4830	1.89	6080	2.01	7570	2.12	9310	2.21
MTZ044	45	940	0.79	1460	1.05	2110	1.29	2930	1.49	3940	1.67	5190	1.83	6720	1.95	8540	2.05	10720	2.13
MTZ050	45	1060	1.00	1660	1.30	2420	1.57	3360	1.80	4550	2.00	6010	2.17	7790	2.31	9930	2.42	12470	2.51
MTZ056	45	1160	1.11	1760	1.38	2530	1.64	3530	1.88	4790	2.11	6380	2.31	8340	2.49	10730	2.64	13590	2.77
MTZ064	45	1310	1.18	2060	1.54	3000	1.87	4190	2.17	5680	2.43	7500	2.67	9720	2.87	12370	3.04	15510	3.18
MTZ072	45	1610	1.37	2470	1.79	3540	2.16	4870	2.50	6530	2.81	8560	3.08	11030	3.33	13990	3.54	17500	3.74
MTZ080	45	2100	1.84	3110	2.23	4340	2.59	5860	2.93	7720	3.24	9990	3.54	12720	3.80	16000	4.05	19860	4.27
MTZ100	45	2080	2.44	3270	2.84	4760	3.25	6620	3.65	8900	4.02	11680	4.35	15010	4.63	18960	4.84	23590	4.96
MTZ125	45	2670	2.53	4160	3.07	6010	3.63	8310	4.17	11110	4.69	14500	5.16	18540	5.57	23300	5.89	28860	6.09
MTZ144	45	3740	3.78	5620	4.31	7930	4.85	10730	5.40	14100	5.94	18110	6.46	22840	6.93	28350	7.34	34720	7.67
MTZ160	45	4230	4.09	6300	4.64	8830	5.23	11900	5.84	15590	6.45	19990	7.06	25190	7.65	31250	8.21	38280	8.72

To : Evaporating temperature in [°C]
Tc : Condensing temperature in [°C]
Qo: Cooling Capacity in [W]
Pe : Power input in [kW]
Subcooling : 0 K
Superheat : 10 K
Voltage : 400 V /3 /50 Hz

MTZ - R134a - Reciprocating compressors - 60 Hz

Nominal performance data

Compressor model	To	-25		-20		-15		-10		-5		0		5		10		15	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
MTZ018	45	310	0.55	560	0.64	890	0.74	1290	0.83	1780	0.91	2370	0.98	3080	1.04	3910	1.09	4870	1.11
MTZ022	45	480	0.63	790	0.74	1190	0.86	1690	0.98	2310	1.09	3060	1.19	3970	1.27	5050	1.33	6330	1.38
MTZ028	45	720	0.84	1120	0.97	1590	1.09	2190	1.22	2930	1.35	3840	1.48	4950	1.60	6300	1.71	7920	1.81
MTZ032	45	800	0.92	1250	1.11	1800	1.31	2490	1.50	3360	1.68	4430	1.85	5750	1.99	7340	2.11	9230	2.19
MTZ036	45	1130	1.18	1720	1.37	2440	1.55	3300	1.74	4330	1.92	5550	2.09	6970	2.24	8620	2.36	10520	2.46
MTZ040	45	1370	1.42	1940	1.59	2640	1.76	3500	1.93	4540	2.10	5800	2.26	7300	2.41	9080	2.54	11170	2.65
MTZ044	45	1130	0.95	1750	1.26	2530	1.54	3510	1.79	4730	2.01	6230	2.19	8060	2.35	10250	2.46	12860	2.55
MTZ050	45	1270	1.20	1990	1.56	2900	1.88	4040	2.16	5460	2.40	7210	2.61	9350	2.78	11920	2.91	14970	3.01
MTZ056	45	1400	1.33	2110	1.66	3040	1.97	4230	2.26	5750	2.53	7660	2.77	10010	2.99	12870	3.17	16300	3.32
MTZ064	45	1580	1.42	2470	1.85	3600	2.24	5030	2.60	6810	2.92	9010	3.20	11670	3.45	14850	3.65	18610	3.81
MTZ072	45	1930	1.64	2970	2.14	4250	2.60	5850	3.00	7830	3.37	10270	3.70	13230	3.99	16790	4.25	21000	4.49
MTZ080	45	2520	2.21	3730	2.67	5210	3.11	7030	3.51	9260	3.89	11980	4.24	15270	4.56	19200	4.86	23840	5.13
MTZ100	45	2500	2.93	3930	3.41	5710	3.90	7940	4.37	10680	4.82	14010	5.22	18010	5.56	22750	5.81	28310	5.95
MTZ125	45	3200	3.03	4990	3.69	7210	4.35	9970	5.01	13330	5.63	17400	6.20	22240	6.68	27960	7.06	34630	7.31
MTZ144	45	4490	4.54	6750	5.17	9520	5.82	12880	6.48	16920	7.13	21730	7.75	27400	8.31	34020	8.80	41670	9.21
MTZ160	45	5080	4.91	7560	5.57	10600	6.28	14280	7.00	18710	7.74	23990	8.47	30220	9.18	37510	9.85	45940	10.47

To : Evaporating temperature in [°C]
Tc : Condensing temperature in [°C]
Qo: Cooling Capacity in [W]
Pe : Power input in [kW]
Subcooling : 0 K
Superheat : 10 K
Voltage : 460 V /3 /60 Hz

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

MTZ - R404A - Reciprocating compressors - 50 Hz

Nominal performance data

Compressor model	To	-30		-25		-20		-15		-10		-5		0		5		10	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
MTZ018	45	390	0.69	650	0.83	980	0.96	1400	1.09	1900	1.21	2520	1.31	3250	1.40	4110	1.47	5120	1.53
MTZ022	45	640	0.86	980	1.03	1410	1.19	1960	1.34	2620	1.48	3440	1.61	4410	1.72	5550	1.82	6880	1.90
MTZ028	45	760	1.05	1250	1.30	1850	1.53	2570	1.75	3430	1.96	4450	2.14	5640	2.31	7040	2.45	8640	2.56
MTZ032	45	1040	1.20	1580	1.46	2240	1.71	3030	1.94	3980	2.16	5110	2.36	6440	2.55	7980	2.71	9760	2.86
MTZ036	45	1300	1.50	1930	1.78	2690	2.06	3600	2.33	4670	2.58	5930	2.81	7400	3.01	9100	3.19	11050	3.34
MTZ040	45	1600	1.70	2320	2.05	3160	2.37	4160	2.67	5330	2.95	6700	3.20	8290	3.44	10130	3.65	12230	3.84
MTZ044	45	1360	1.60	2100	1.94	2990	2.25	4070	2.52	5370	2.77	6910	3.00	8740	3.20	10890	3.38	13370	3.54
MTZ050	45	1700	1.94	2500	2.29	3510	2.62	4750	2.93	6260	3.22	8070	3.48	10220	3.71	12740	3.91	15680	4.07
MTZ056	45	1730	2.04	2620	2.43	3710	2.81	5060	3.17	6710	3.51	8690	3.83	11060	4.11	13840	4.36	17090	4.57
MTZ064	45	2160	2.32	3200	2.83	4480	3.32	6060	3.78	7980	4.20	10300	4.60	13070	4.96	16330	5.28	20150	5.55
MTZ072	45	2550	2.74	3670	3.25	5080	3.75	6810	4.23	8920	4.69	11450	5.11	14450	5.51	17970	5.87	22050	6.19
MTZ080	45	3170	3.15	4530	3.85	6170	4.48	8130	5.07	10470	5.61	13230	6.11	16470	6.57	20240	7.01	24580	7.41
MTZ100	45	3240	4.01	4930	4.80	6960	5.53	9390	6.18	12280	6.76	15700	7.26	19710	7.70	24370	8.06	29760	8.34
MTZ125	45	4660	5.16	6620	6.02	9060	6.86	12060	7.67	15710	8.44	20080	9.16	25250	9.83	31300	10.44	38310	10.98
MTZ144	45	5700	6.08	8060	7.05	10920	8.00	14370	8.91	18490	9.78	23380	10.60	29110	11.36	35770	12.06	43450	12.69
MTZ160	45	6280	6.80	8870	7.95	12010	9.04	15790	10.08	20310	11.08	25640	12.05	31900	13.01	39160	13.97	47540	14.95

To : Evaporating temperature in [°C]
Tc : Condensing temperature in [°C]
Qo: Cooling Capacity in [W]
Pe : Power input in [kW]
Subcooling : 0 K
Superheat : 10 K
Voltage : 400 V /3 /50 Hz

MTZ - R404A - Reciprocating compressors - 60 Hz

Nominal performance data

Compressor model	To	-30		-25		-20		-15		-10		-5		0		5		10	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
MTZ018	45	340	0.78	730	1.06	1190	1.29	1750	1.48	2410	1.63	3190	1.76	4100	1.85	5160	1.91	6380	1.96
MTZ022	45	820	1.08	1280	1.30	1840	1.51	2510	1.70	3330	1.87	4300	2.03	5440	2.17	6770	2.29	8320	2.39
MTZ028	45	1240	1.42	1840	1.71	2540	1.98	3370	2.23	4350	2.45	5500	2.66	6830	2.84	8360	2.99	10110	3.13
MTZ032	45	1350	1.52	1980	1.84	2740	2.15	3660	2.44	4750	2.72	6050	2.97	7580	3.19	9370	3.37	11440	3.51
MTZ036	45	1400	1.67	2160	2.01	3070	2.35	4170	2.69	5480	3.03	7040	3.35	8860	3.67	10990	3.97	13440	4.24
MTZ040	45	1660	1.93	2520	2.32	3550	2.69	4790	3.05	6260	3.42	8010	3.77	10050	4.12	12420	4.47	15150	4.82
MTZ044	45	1470	1.85	2440	2.33	3600	2.78	4990	3.19	6650	3.55	8600	3.87	10890	4.15	13540	4.38	16580	4.56
MTZ050	45	1970	2.29	3060	2.80	4370	3.27	5930	3.69	7780	4.06	9970	4.38	12520	4.66	15470	4.90	18870	5.10
MTZ056	45	2160	2.41	3430	3.07	4940	3.64	6750	4.14	8870	4.58	11360	4.98	14250	5.34	17580	5.69	21380	6.03
MTZ064	45	2630	2.83	3990	3.52	5610	4.15	7560	4.70	9860	5.21	12580	5.67	15760	6.10	19440	6.51	23680	6.90
MTZ072	45	3160	3.44	4640	4.16	6440	4.83	8610	5.45	11210	6.01	14280	6.53	17900	7.00	22100	7.41	26940	7.77
MTZ080	45	3940	4.02	5580	4.91	7560	5.72	9930	6.47	12760	7.16	16090	7.80	20000	8.40	24540	8.96	29760	9.51
MTZ100	45	3790	4.61	5800	5.63	8220	6.54	11110	7.35	14530	8.06	18560	8.69	23270	9.23	28730	9.70	35000	10.10
MTZ125	45	5820	6.37	8290	7.47	11230	8.52	14710	9.52	18820	10.45	23650	11.30	29260	12.06	35750	12.72	43190	13.28
MTZ144	45	7210	7.40	10030	8.66	13400	9.83	17430	10.91	22200	11.95	27810	12.94	34360	13.92	41950	14.90	50680	15.91
MTZ160	45	8000	8.38	11040	9.64	14670	10.93	18990	12.23	24120	13.52	30160	14.80	37220	16.05	45400	17.26	54800	18.40

To : Evaporating temperature in [°C]
Tc : Condensing temperature in [°C]
Qo: Cooling Capacity in [W]
Pe : Power input in [kW]
Subcooling : 0 K
Superheat : 10 K
Voltage : 460 V /3 /60 Hz

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

MTZ - R407A - Reciprocating compressors - 50 Hz

Nominal performance data

Compressor model	To	-30		-25		-20		-15		-10		-5		0		5		10	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
MTZ018	45	260	0.49	510	0.62	830	0.76	1240	0.90	1740	1.02	2340	1.14	3070	1.24	3930	1.32	4940	1.39
MTZ022	45	430	0.60	760	0.77	1190	0.94	1730	1.10	2390	1.26	3200	1.40	4170	1.53	5300	1.64	6630	1.72
MTZ028	45	510	0.74	990	0.99	1570	1.23	2280	1.46	3130	1.67	4140	1.86	5330	2.03	6720	2.19	8330	2.32
MTZ032	45	700	0.85	1240	1.11	1890	1.37	2690	1.61	3630	1.84	4760	2.05	6080	2.25	7630	2.43	9400	2.59
MTZ036	45	870	1.06	1510	1.35	2270	1.64	3180	1.92	4260	2.19	5520	2.44	7000	2.66	8700	2.86	10670	3.03
MTZ040	45	1070	1.21	1830	1.56	2700	1.90	3710	2.22	4890	2.51	6250	2.79	7840	3.04	9670	3.27	11760	3.47
MTZ044	45	920	1.13	1630	1.47	2520	1.79	3590	2.09	4890	2.36	6440	2.60	8270	2.83	10410	3.03	12890	3.20
MTZ050	45	1140	1.36	1940	1.73	2950	2.08	4190	2.42	5700	2.73	7520	3.02	9670	3.28	12190	3.50	15120	3.69
MTZ056	45	1160	1.43	2030	1.84	3120	2.23	4470	2.62	6120	2.98	8100	3.32	10460	3.63	13240	3.91	16480	4.15
MTZ064	45	1450	1.64	2480	2.15	3760	2.64	5340	3.12	7270	3.57	9600	3.99	12360	4.38	15620	4.73	19420	5.03
MTZ072	45	1710	1.93	2850	2.46	4260	2.98	6010	3.49	8130	3.98	10670	4.44	13680	4.87	17190	5.27	21260	5.61
MTZ080	45	2130	2.23	3520	2.91	5190	3.57	7180	4.18	9540	4.76	12330	5.30	15590	5.81	19360	6.28	23710	6.72
MTZ100	45	2170	2.82	3860	3.64	5880	4.41	8300	5.10	11200	5.74	14620	6.31	18640	6.80	23310	7.22	28700	7.56
MTZ125	45	3130	3.65	5130	4.56	7610	5.45	10650	6.33	14330	7.17	18710	7.96	23890	8.70	29950	9.36	36940	9.95
MTZ144	45	3830	4.33	6270	5.37	9190	6.39	12700	7.37	16870	8.32	21780	9.21	27540	10.04	34220	10.81	41910	11.49
MTZ160	45	4220	4.84	6900	6.05	10120	7.21	13960	8.33	18520	9.42	23890	10.48	30180	11.51	37470	12.53	45860	13.53

To : Evaporating temperature in [°C]
Tc : Condensing temperature in [°C]
Qo: Cooling Capacity in [W]
Pe : Power input in [kW]
Subcooling : 0 K
Superheat : 10 K
Voltage : 400 V /3 /50 Hz

MTZ - R407A - Reciprocating compressors - 60 Hz

Nominal performance data

Compressor model	To	-30		-25		-20		-15		-10		-5		0		5		10	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
MTZ018	45	310	0.58	620	0.75	1000	0.91	1490	1.07	2080	1.22	2810	1.36	3690	1.48	4720	1.59	5930	1.66
MTZ022	45	520	0.72	910	0.93	1420	1.13	2070	1.32	2870	1.51	3840	1.68	5000	1.83	6360	1.96	7950	2.07
MTZ028	45	620	0.89	1190	1.19	1890	1.48	2740	1.75	3760	2.00	4970	2.23	6400	2.44	8070	2.62	9990	2.78
MTZ032	45	840	1.05	1490	1.38	2270	1.70	3220	2.00	4360	2.28	5710	2.55	7300	2.79	9150	3.01	11290	3.21
MTZ036	45	1050	1.27	1810	1.62	2730	1.97	3820	2.31	5110	2.62	6630	2.92	8400	3.19	10440	3.44	12800	3.64
MTZ040	45	1290	1.45	2190	1.87	3230	2.28	4450	2.66	5860	3.02	7510	3.34	9410	3.65	11600	3.92	14110	4.16
MTZ044	45	1100	1.35	1960	1.76	3020	2.15	4310	2.50	5870	2.83	7730	3.12	9920	3.39	12490	3.63	15470	3.84
MTZ050	45	1370	1.63	2330	2.08	3540	2.50	5030	2.90	6840	3.28	9020	3.62	11600	3.93	14630	4.20	18140	4.43
MTZ056	45	1400	1.72	2440	2.21	3750	2.68	5370	3.14	7340	3.58	9720	3.99	12560	4.36	15890	4.69	19770	4.98
MTZ064	45	1740	1.97	2980	2.58	4520	3.17	6410	3.74	8730	4.29	11520	4.79	14840	5.26	18750	5.67	23300	6.03
MTZ072	45	2050	2.32	3420	2.95	5120	3.57	7210	4.18	9760	4.77	12810	5.33	16410	5.85	20630	6.32	25510	6.73
MTZ080	45	2560	2.67	4230	3.50	6230	4.28	8620	5.02	11450	5.71	14800	6.37	18700	6.97	23240	7.54	28450	8.06
MTZ100	45	2610	3.39	4630	4.37	7050	5.29	9960	6.13	13440	6.89	17540	7.57	22360	8.16	27970	8.67	34440	9.08
MTZ125	45	3750	4.38	6150	5.47	9130	6.55	12780	7.59	17190	8.60	22460	9.55	28670	10.44	35930	11.24	44330	11.94
MTZ144	45	4600	5.19	7520	6.45	11030	7.67	15240	8.85	20240	9.98	26140	11.05	33050	12.05	41070	12.97	50300	13.79
MTZ160	45	5060	5.81	8280	7.26	12140	8.65	16750	10.00	22220	11.30	28670	12.57	36210	13.81	44960	15.03	55030	16.24

To : Evaporating temperature in [°C]
Tc : Condensing temperature in [°C]
Qo: Cooling Capacity in [W]
Pe : Power input in [kW]
Subcooling : 0 K
Superheat : 10 K
Voltage : 460 V /3 /60 Hz

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

MTZ - R407F - Reciprocating compressors - 50 Hz

Nominal performance data

Compressor model	To	-25		-20		-15		-10		-5		0		5		10	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
MTZ018	45	540	0.70	890	0.83	1320	0.96	1850	1.08	2490	1.20	3260	1.30	4170	1.39	5230	1.44
MTZ022	45	810	0.86	1270	1.02	1840	1.18	2540	1.33	3400	1.48	4410	1.61	5620	1.72	7030	1.80
MTZ028	45	1030	1.09	1660	1.31	2420	1.53	3320	1.76	4390	1.96	5650	2.15	7130	2.31	8830	2.42
MTZ032	45	1310	1.22	2010	1.46	2850	1.70	3860	1.94	5050	2.17	6450	2.38	8080	2.56	9970	2.71
MTZ036	45	1610	1.49	2430	1.76	3390	2.04	4520	2.31	5860	2.57	7410	2.81	9210	3.01	11290	3.16
MTZ040	45	1930	1.71	2850	2.02	3920	2.34	5170	2.65	6620	2.94	8300	3.21	10250	3.44	12480	3.63
MTZ044	45	1750	1.62	2690	1.92	3830	2.21	5200	2.49	6830	2.75	8760	2.99	11020	3.19	13660	3.35
MTZ050	45	2090	1.88	3160	2.24	4470	2.58	6060	2.90	7970	3.19	10240	3.44	12910	3.67	16020	3.85
MTZ056	45	2180	2.03	3340	2.40	4770	2.78	6500	3.16	8590	3.51	11080	3.84	14020	4.11	17460	4.33
MTZ064	45	2670	2.38	4040	2.84	5700	3.31	7730	3.78	10180	4.22	13100	4.63	16540	4.97	20580	5.25
MTZ072	45	3060	2.74	4570	3.21	6410	3.71	8640	4.21	11310	4.69	14480	5.14	18190	5.53	22520	5.85
MTZ080	45	3790	3.23	5560	3.84	7650	4.44	10140	5.04	13070	5.60	16500	6.13	20490	6.60	25100	7.01
MTZ100	45	4090	4.01	6270	4.73	8840	5.42	11900	6.07	15500	6.66	19740	7.18	24680	7.59	30400	7.89
MTZ125	45	5520	5.07	8160	5.88	11360	6.73	15220	7.58	19830	8.41	25290	9.17	31700	9.84	39130	10.38
MTZ144	45	6730	5.92	9840	6.85	13530	7.81	17910	8.78	23090	9.72	29160	10.60	36220	11.36	44370	11.99
MTZ160	45	7420	6.70	10820	7.75	14870	8.84	19670	9.95	25320	11.05	31950	12.13	39650	13.16	48540	14.12

To : Evaporating temperature in [°C]
Tc : Condensing temperature in [°C]
Qo: Cooling Capacity in [W]
Pe : Power input in [kW]
Subcooling : 0 K
Superheat : 10 K
Voltage : 400 V /3 /50 Hz

MTZ - R407F - Reciprocating compressors - 60 Hz

Nominal performance data

Compressor model	To	-25		-20		-15		-10		-5		0		5		10	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
MTZ018	45	650	0.84	1060	0.99	1580	1.15	2220	1.30	2990	1.44	3910	1.57	5010	1.66	6280	1.73
MTZ022	45	970	1.03	1520	1.22	2210	1.41	3050	1.60	4070	1.77	5300	1.93	6740	2.06	8430	2.16
MTZ028	45	1240	1.30	1990	1.57	2900	1.84	3980	2.11	5270	2.36	6780	2.58	8550	2.77	10600	2.91
MTZ032	45	1580	1.46	2420	1.75	3430	2.04	4630	2.33	6060	2.60	7740	2.85	9700	3.07	11960	3.25
MTZ036	45	1930	1.79	2910	2.12	4070	2.45	5430	2.78	7030	3.09	8890	3.37	11060	3.61	13550	3.79
MTZ040	45	2320	2.05	3420	2.43	4700	2.81	6200	3.18	7940	3.53	9970	3.85	12300	4.13	14980	4.36
MTZ044	45	2100	1.95	3230	2.30	4600	2.66	6240	2.99	8190	3.30	10510	3.58	13230	3.82	16390	4.01
MTZ050	45	2500	2.26	3790	2.69	5370	3.09	7270	3.48	9560	3.82	12290	4.13	15490	4.40	19220	4.62
MTZ056	45	2610	2.44	4010	2.88	5720	3.34	7800	3.79	10310	4.22	13300	4.60	16830	4.94	20950	5.19
MTZ064	45	3210	2.85	4840	3.40	6840	3.97	9280	4.53	12210	5.07	15710	5.55	19850	5.97	24690	6.30
MTZ072	45	3680	3.28	5490	3.85	7690	4.45	10370	5.05	13570	5.63	17370	6.17	21830	6.64	27030	7.02
MTZ080	45	4540	3.87	6670	4.60	9180	5.33	12170	6.05	15680	6.73	19800	7.36	24590	7.92	30120	8.41
MTZ100	45	4910	4.81	7520	5.67	10610	6.50	14270	7.29	18600	8.00	23690	8.61	29610	9.11	36480	9.47
MTZ125	45	6630	6.08	9790	7.06	13630	8.07	18260	9.10	23800	10.09	30350	11.00	38040	11.80	46960	12.45
MTZ144	45	8080	7.11	11810	8.22	16240	9.37	21500	10.54	27710	11.67	34990	12.72	43460	13.64	53240	14.39
MTZ160	45	8900	8.04	12990	9.30	17850	10.61	23600	11.94	30390	13.27	38340	14.56	47580	15.79	58250	16.94

To : Evaporating temperature in [°C]
Tc : Condensing temperature in [°C]
Qo: Cooling Capacity in [W]
Pe : Power input in [kW]
Subcooling : 0 K
Superheat : 10 K
Voltage : 460 V /3 /60 Hz

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

MTZ - R407C - Reciprocating compressors - 50 Hz

Nominal performance data

Compressor model	To	-15		-10		-5		0		5		10		15	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
MTZ018	45	1080	0.82	1610	0.94	2230	1.04	2980	1.13	3850	1.20	4860	1.25	6030	1.30
MTZ022	45	1620	1.07	2280	1.24	3060	1.39	3970	1.50	5030	1.60	6260	1.67	7670	1.73
MTZ028	45	1980	1.30	2850	1.52	3870	1.72	5070	1.89	6470	2.03	8080	2.13	9940	2.21
MTZ032	45	2480	1.50	3430	1.75	4530	1.95	5820	2.12	7310	2.27	9030	2.38	11000	2.48
MTZ036	45	2990	1.81	4040	2.10	5240	2.36	6620	2.57	8210	2.73	10030	2.86	12100	2.95
MTZ040	45	3560	2.18	4720	2.48	6070	2.74	7630	2.98	9420	3.18	11480	3.35	13820	3.48
MTZ044	45	3260	1.97	4510	2.28	6050	2.54	7910	2.76	10140	2.94	12770	3.10	15830	3.24
MTZ050	45	3850	2.34	5300	2.70	7020	3.00	9070	3.24	11480	3.45	14300	3.61	17560	3.75
MTZ056	45	4150	2.50	5790	2.90	7740	3.24	10080	3.53	12830	3.77	16050	3.98	19790	4.16
MTZ064	45	5080	2.91	6860	3.35	9020	3.73	11600	4.05	14670	4.32	18260	4.57	22430	4.79
MTZ072	45	5770	3.49	7830	3.96	10320	4.39	13280	4.77	16770	5.11	20840	5.39	25550	5.63
MTZ080	45	6670	4.08	9040	4.64	11830	5.12	15100	5.54	18930	5.89	23350	6.19	28450	6.45
MTZ100	45	7200	4.81	10100	5.47	13590	6.04	17730	6.52	22600	6.92	28290	7.26	34860	7.56
MTZ125	45	10530	6.13	14180	6.97	18480	7.69	23510	8.31	29390	8.84	36190	9.30	44020	9.69
MTZ144	45	11580	7.07	15600	7.92	20370	8.70	25970	9.42	32520	10.04	40110	10.58	48860	11.01
MTZ160	45	14060	8.21	18490	9.20	23730	10.09	29910	10.91	37150	11.68	45560	12.42	55270	13.16

To : Evaporating temperature in [°C]
Tc : Condensing temperature in [°C]
Qo: Cooling Capacity in [W]
Pe : Power input in [kW]
Subcooling : 0 K
Superheat : 10 K
Voltage : 400 V /3 /50 Hz

MTZ - R407C - Reciprocating compressors - 60 Hz

Nominal performance data

Compressor model	To	-15		-10		-5		0		5		10		15	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
MTZ018	45	1560	1.03	2230	1.20	3010	1.32	3920	1.42	4970	1.49	6180	1.54	7570	1.57
MTZ022	45	2130	1.32	2910	1.52	3840	1.68	4930	1.82	6200	1.93	7670	2.02	9370	2.10
MTZ028	45	2900	1.77	3860	1.96	5000	2.14	6380	2.30	8010	2.45	9950	2.58	12210	2.71
MTZ032	45	3290	1.94	4320	2.17	5550	2.37	7030	2.57	8780	2.74	10850	2.89	13260	3.02
MTZ036	45	3590	2.21	4720	2.54	6110	2.86	7800	3.15	9810	3.41	12190	3.63	14960	3.80
MTZ040	45	3960	2.45	5420	2.81	7130	3.18	9130	3.54	11450	3.90	14140	4.23	17230	4.52
MTZ044	45	4170	2.47	5790	2.87	7700	3.20	9940	3.46	12550	3.67	15570	3.83	19040	3.95
MTZ050	45	4870	2.92	6550	3.32	8570	3.66	10980	3.95	13860	4.19	17260	4.38	21240	4.53
MTZ056	45	5560	3.24	7470	3.69	9770	4.07	12530	4.40	15790	4.69	19630	4.96	24110	5.22
MTZ064	45	6080	3.64	8330	4.14	10940	4.56	13990	4.93	17520	5.27	21590	5.58	26250	5.89
MTZ072	45	7200	4.25	9710	4.88	12670	5.43	16120	5.91	20140	6.33	24780	6.70	30120	7.03
MTZ080	45	7780	4.80	10570	5.47	13820	6.08	17640	6.63	22160	7.15	27480	7.63	33700	8.10
MTZ100	45	9540	5.95	13030	6.79	17160	7.47	22020	8.02	27720	8.48	34350	8.88	42010	9.25
MTZ125	45	13460	7.78	17720	8.75	22720	9.63	28550	10.42	35330	11.15	43170	11.82	52170	12.45
MTZ144	45	15250	8.78	20220	9.90	25920	10.88	32450	11.73	39940	12.47	48480	13.11	58200	13.68
MTZ160	45	17150	9.98	22430	11.22	28610	12.42	35830	13.54	44230	14.57	53930	15.46	65090	16.19

To : Evaporating temperature in [°C]
Tc : Condensing temperature in [°C]
Qo: Cooling Capacity in [W]
Pe : Power input in [kW]
Subcooling : 0 K
Superheat : 10 K
Voltage : 460 V /3 /60 Hz

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

MTZ - R448A - Reciprocating compressors - 50 Hz

Nominal performance data

Compressor model	To	-30		-25		-20		-15		-10		-5		0		5		10	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
MTZ018	45	260	0.48	550	0.64	900	0.78	1330	0.92	1840	1.04	2440	1.14	3160	1.22	3980	1.28	4930	1.32
MTZ022	45	790	0.85	1110	0.98	1500	1.11	1980	1.24	2580	1.37	3320	1.49	4220	1.60	5310	1.70	6610	1.79
MTZ028	45	980	1.05	1370	1.21	1850	1.37	2440	1.53	3180	1.69	4100	1.84	5210	1.97	6560	2.10	8170	2.20
MTZ032	45	1080	1.10	1550	1.30	2110	1.49	2810	1.68	3660	1.87	4700	2.05	5960	2.22	7470	2.37	9250	2.50
MTZ036	45	1180	1.27	1720	1.51	2400	1.76	3240	2.00	4250	2.24	5460	2.46	6900	2.66	8590	2.84	10550	3.00
MTZ040	45	1340	1.49	1960	1.77	2740	2.06	3710	2.34	4880	2.62	6280	2.88	7930	3.12	9870	3.33	12110	3.50
MTZ044	45	1130	1.34	1820	1.64	2670	1.94	3720	2.22	5010	2.49	6570	2.73	8430	2.95	10650	3.12	13240	3.26
MTZ050	45	1250	1.43	2050	1.80	3020	2.18	4230	2.54	5700	2.87	7490	3.18	9620	3.44	12150	3.64	15110	3.78
MTZ056	45	1390	1.57	2280	1.99	3360	2.40	4700	2.79	6340	3.16	8320	3.50	10690	3.78	13500	4.01	16800	4.16
MTZ064	45	1740	1.87	2730	2.33	3960	2.78	5480	3.22	7330	3.62	9540	3.99	12150	4.30	15210	4.56	18740	4.75
MTZ072	45	2000	2.17	3140	2.70	4560	3.23	6310	3.73	8440	4.20	10980	4.62	13990	4.99	17510	5.29	21580	5.52
MTZ080	45	2840	2.82	4140	3.36	5730	3.91	7670	4.45	10010	4.97	12800	5.45	16090	5.89	19930	6.27	24380	6.57
MTZ100	45	2770	3.28	4250	3.91	6120	4.55	8450	5.19	11310	5.79	14780	6.34	18940	6.82	23850	7.21	29600	7.49
MTZ125	45	3740	4.19	5720	5.01	8230	5.85	11370	6.67	15220	7.44	19890	8.15	25470	8.77	32060	9.26	39760	9.60
MTZ144	45	5150	5.02	7430	6.01	10210	6.93	13550	7.81	17560	8.63	22320	9.42	27920	10.16	34430	10.86	41960	11.54
MTZ160	45	5890	5.80	8530	6.88	11710	7.93	15550	8.92	20140	9.87	25590	10.77	32010	11.62	39480	12.42	48120	13.16

To : Evaporating temperature in [°C]
Tc : Condensing temperature in [°C]
Qo: Cooling Capacity in [W]
Pe : Power input in [kW]
Subcooling : 0 K
Superheat : 10 K
Voltage : 400 V /3 /50 Hz

MTZ - R448A - Reciprocating compressors - 60 Hz

Nominal performance data

Compressor model	To	-30		-25		-20		-15		-10		-5		0		5		10	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
MTZ018	45	310	0.58	660	0.76	1080	0.94	1590	1.10	2210	1.24	2930	1.37	3790	1.47	4780	1.54	5920	1.58
MTZ022	45	950	1.02	1330	1.18	1790	1.33	2370	1.49	3090	1.64	3980	1.79	5070	1.92	6380	2.04	7940	2.15
MTZ028	45	1180	1.26	1640	1.45	2220	1.64	2930	1.84	3820	2.02	4920	2.20	6260	2.37	7880	2.52	9810	2.64
MTZ032	45	1300	1.32	1860	1.56	2540	1.79	3370	2.02	4390	2.25	5640	2.46	7150	2.66	8960	2.84	11100	3.00
MTZ036	45	1410	1.52	2070	1.82	2880	2.11	3880	2.41	5100	2.69	6550	2.95	8280	3.19	10310	3.41	12660	3.60
MTZ040	45	1600	1.79	2350	2.13	3290	2.47	4450	2.81	5850	3.14	7530	3.45	9520	3.74	11840	3.99	14530	4.21
MTZ044	45	1360	1.61	2190	1.97	3210	2.32	4470	2.66	6010	2.98	7880	3.28	10120	3.53	12780	3.75	15890	3.91
MTZ050	45	1510	1.71	2460	2.16	3630	2.61	5070	3.05	6840	3.45	8980	3.81	11550	4.12	14580	4.37	18130	4.54
MTZ056	45	1670	1.89	2730	2.39	4040	2.88	5640	3.35	7610	3.79	9990	4.19	12830	4.54	16210	4.81	20160	5.00
MTZ064	45	2090	2.25	3270	2.80	4760	3.34	6580	3.86	8800	4.35	11450	4.79	14580	5.17	18250	5.48	22490	5.70
MTZ072	45	2400	2.60	3770	3.25	5480	3.87	7580	4.48	10120	5.04	13180	5.55	16790	5.99	21010	6.35	25890	6.62
MTZ080	45	3410	3.39	4960	4.04	6870	4.69	9200	5.34	12010	5.96	15360	6.53	19310	7.06	23920	7.52	29250	7.89
MTZ100	45	3330	3.91	5110	4.69	7350	5.47	10140	6.23	13570	6.95	17740	7.61	22720	8.18	28620	8.65	35510	8.99
MTZ125	45	4490	4.77	6870	5.87	9880	6.96	13640	8.00	18260	8.97	23860	9.83	30560	10.54	38460	11.08	47700	11.42
MTZ144	45	6190	6.03	8920	7.21	12240	8.32	16260	9.37	21080	10.36	26790	11.30	33510	12.19	41330	13.04	50350	13.86
MTZ160	45	7080	6.91	10230	8.24	14050	9.51	18650	10.71	24170	11.85	30720	12.92	38420	13.95	47390	14.91	57750	15.83

To : Evaporating temperature in [°C]
Tc : Condensing temperature in [°C]
Qo: Cooling Capacity in [W]
Pe : Power input in [kW]
Subcooling : 0 K
Superheat : 10 K
Voltage : 460 V /3 /60 Hz

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

MTZ - R449A - Reciprocating compressors - 50 Hz

Nominal performance data

Compressor model	To	-30		-25		-20		-15		-10		-5		0		5		10	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
MTZ018	45	260	0.48	550	0.64	900	0.78	1330	0.92	1840	1.04	2440	1.14	3160	1.22	3980	1.28	4930	1.32
MTZ022	45	790	0.85	1110	0.98	1500	1.11	1980	1.24	2580	1.37	3320	1.49	4220	1.60	5310	1.70	6610	1.79
MTZ028	45	980	1.05	1370	1.21	1850	1.37	2440	1.53	3180	1.69	4100	1.84	5210	1.97	6560	2.10	8170	2.20
MTZ032	45	1080	1.10	1550	1.30	2110	1.49	2810	1.68	3660	1.87	4700	2.05	5960	2.22	7470	2.37	9250	2.50
MTZ036	45	1180	1.27	1720	1.51	2400	1.76	3240	2.00	4250	2.24	5460	2.46	6900	2.66	8590	2.84	10550	3.00
MTZ040	45	1340	1.49	1960	1.77	2740	2.06	3710	2.34	4880	2.62	6280	2.88	7930	3.12	9870	3.33	12110	3.50
MTZ044	45	1130	1.34	1820	1.64	2670	1.94	3720	2.22	5010	2.49	6570	2.73	8430	2.95	10650	3.12	13240	3.26
MTZ050	45	1250	1.43	2050	1.80	3020	2.18	4230	2.54	5700	2.87	7490	3.18	9620	3.44	12150	3.64	15110	3.78
MTZ056	45	1390	1.57	2280	1.99	3360	2.40	4700	2.79	6340	3.16	8320	3.50	10690	3.78	13500	4.01	16800	4.16
MTZ064	45	1740	1.87	2730	2.33	3960	2.78	5480	3.22	7330	3.62	9540	3.99	12150	4.30	15210	4.56	18740	4.75
MTZ072	45	2000	2.17	3140	2.70	4560	3.23	6310	3.73	8440	4.20	10980	4.62	13990	4.99	17510	5.29	21580	5.52
MTZ080	45	2840	2.82	4140	3.36	5730	3.91	7670	4.45	10010	4.97	12800	5.45	16090	5.89	19930	6.27	24380	6.57
MTZ100	45	2770	3.28	4250	3.91	6120	4.55	8450	5.19	11310	5.79	14780	6.34	18940	6.82	23850	7.21	29600	7.49
MTZ125	45	3740	4.19	5720	5.01	8230	5.85	11370	6.67	15220	7.44	19890	8.15	25470	8.77	32060	9.26	39760	9.60
MTZ144	45	5150	5.02	7430	6.01	10210	6.93	13550	7.81	17560	8.63	22320	9.42	27920	10.16	34430	10.86	41960	11.54
MTZ160	45	5890	5.80	8530	6.88	11710	7.93	15550	8.92	20140	9.87	25590	10.77	32010	11.62	39480	12.42	48120	13.16

To : Evaporating temperature in [°C]
Tc : Condensing temperature in [°C]
Qo: Cooling Capacity in [W]
Pe : Power input in [kW]
Subcooling : 0 K
Superheat : 10 K
Voltage : 400 V /3 /50 Hz

MTZ - R449A - Reciprocating compressors - 60 Hz

Nominal performance data

Compressor model	To	-30		-25		-20		-15		-10		-5		0		5		10	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
MTZ018	45	310	0.58	660	0.76	1080	0.94	1590	1.10	2210	1.24	2930	1.37	3790	1.47	4780	1.54	5920	1.58
MTZ022	45	950	1.02	1330	1.18	1790	1.33	2370	1.49	3090	1.64	3980	1.79	5070	1.92	6380	2.04	7940	2.15
MTZ028	45	1180	1.26	1640	1.45	2220	1.64	2930	1.84	3820	2.02	4920	2.20	6260	2.37	7880	2.52	9810	2.64
MTZ032	45	1300	1.32	1860	1.56	2540	1.79	3370	2.02	4390	2.25	5640	2.46	7150	2.66	8960	2.84	11100	3.00
MTZ036	45	1410	1.52	2070	1.82	2880	2.11	3880	2.41	5100	2.69	6550	2.95	8280	3.19	10310	3.41	12660	3.60
MTZ040	45	1600	1.79	2350	2.13	3290	2.47	4450	2.81	5850	3.14	7530	3.45	9520	3.74	11840	3.99	14530	4.21
MTZ044	45	1360	1.61	2190	1.97	3210	2.32	4470	2.66	6010	2.98	7880	3.28	10120	3.53	12780	3.75	15890	3.91
MTZ050	45	1510	1.71	2460	2.16	3630	2.61	5070	3.05	6840	3.45	8980	3.81	11550	4.12	14580	4.37	18130	4.54
MTZ056	45	1670	1.89	2730	2.39	4040	2.88	5640	3.35	7610	3.79	9990	4.19	12830	4.54	16210	4.81	20160	5.00
MTZ064	45	2090	2.25	3270	2.80	4760	3.34	6580	3.86	8800	4.35	11450	4.79	14580	5.17	18250	5.48	22490	5.70
MTZ072	45	2400	2.60	3770	3.25	5480	3.87	7580	4.48	10120	5.04	13180	5.55	16790	5.99	21010	6.35	25890	6.62
MTZ080	45	3410	3.39	4960	4.04	6870	4.69	9200	5.34	12010	5.96	15360	6.53	19310	7.06	23920	7.52	29250	7.89
MTZ100	45	3330	3.91	5110	4.69	7350	5.47	10140	6.23	13570	6.95	17740	7.61	22720	8.18	28620	8.65	35510	8.99
MTZ125	45	4490	4.77	6870	5.87	9880	6.96	13640	8.00	18260	8.97	23860	9.83	30560	10.54	38460	11.08	47700	11.42
MTZ144	45	6190	6.03	8920	7.21	12240	8.32	16260	9.37	21080	10.36	26790	11.30	33510	12.19	41330	13.04	50350	13.86
MTZ160	45	7080	6.91	10230	8.24	14050	9.51	18650	10.71	24170	11.85	30720	12.92	38420	13.95	47390	14.91	57750	15.83

To : Evaporating temperature in [°C]
Tc : Condensing temperature in [°C]
Qo: Cooling Capacity in [W]
Pe : Power input in [kW]
Subcooling : 0 K
Superheat : 10 K
Voltage : 460 V /3 /60 Hz

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

MTZ - R452A - Reciprocating compressors - 50 Hz

Nominal performance data

Compressor model	To	-30		-25		-20		-15		-10		-5		0		5		10	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
MTZ018	45	410	0.56	700	0.73	1050	0.89	1480	1.03	2000	1.15	2610	1.24	3340	1.32	4190	1.37	5180	1.39
MTZ022	45	790	0.91	1160	1.07	1610	1.22	2150	1.37	2810	1.51	3580	1.63	4490	1.73	5560	1.81	6780	1.87
MTZ028	45	1210	1.23	1560	1.39	2000	1.55	2550	1.70	3250	1.86	4130	2.00	5210	2.14	6520	2.26	8100	2.36
MTZ032	45	1100	1.18	1590	1.42	2190	1.65	2910	1.86	3790	2.06	4830	2.24	6070	2.40	7530	2.54	9220	2.65
MTZ036	45	1450	1.48	1960	1.75	2580	2.00	3350	2.25	4300	2.48	5440	2.69	6810	2.88	8430	3.04	10330	3.18
MTZ040	45	1670	1.72	2290	2.04	3040	2.34	3960	2.63	5090	2.89	6450	3.14	8070	3.36	10000	3.55	12250	3.71
MTZ044	45	1370	1.58	2100	1.91	2990	2.21	4060	2.49	5370	2.73	6920	2.96	8770	3.16	10940	3.34	13460	3.50
MTZ050	45	1520	1.65	2360	2.09	3370	2.49	4610	2.84	6110	3.16	7890	3.44	10000	3.68	12480	3.89	15340	4.07
MTZ056	45	1690	1.84	2620	2.31	3750	2.74	5130	3.13	6790	3.47	8780	3.78	11120	4.06	13870	4.29	17060	4.48
MTZ064	45	2100	2.17	3160	2.71	4440	3.19	5990	3.60	7840	3.98	10030	4.31	12610	4.61	15610	4.88	19060	5.13
MTZ072	45	2410	2.53	3630	3.15	5110	3.69	6890	4.18	9020	4.61	11550	4.99	14520	5.34	17970	5.66	21950	5.95
MTZ080	45	3090	3.18	4320	3.78	5800	4.32	7570	4.81	9680	5.26	12180	5.67	15100	6.07	18500	6.45	22410	6.82
MTZ100	45	3330	3.77	4990	4.50	6990	5.19	9410	5.81	12310	6.37	15770	6.87	19880	7.29	24690	7.65	30280	7.93
MTZ125	45	4340	4.76	6500	5.75	9110	6.66	12270	7.47	16070	8.19	20600	8.83	25940	9.37	32190	9.83	39440	10.20
MTZ144	45	6060	5.56	8270	6.89	10920	7.96	14080	8.84	17830	9.58	22250	10.23	27430	10.84	33440	11.48	40370	12.19
MTZ160	45	6730	6.92	9220	8.04	12180	9.05	15700	9.96	19880	10.80	24810	11.61	30580	12.41	37290	13.24	45040	14.12

To : Evaporating temperature in [°C]
Tc : Condensing temperature in [°C]
Qo: Cooling Capacity in [W]
Pe : Power input in [kW]
Subcooling : 0 K
Superheat : 10 K
Voltage : 400 V /3 /50 Hz

MTZ - R452A - Reciprocating compressors - 60 Hz

Nominal performance data

Compressor model	To	-30		-25		-20		-15		-10		-5		0		5		10	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
MTZ018	45	490	0.67	840	0.88	1260	1.07	1780	1.23	2390	1.38	3130	1.49	4010	1.58	5030	1.64	6220	1.67
MTZ022	45	950	1.09	1390	1.28	1930	1.47	2580	1.65	3370	1.81	4300	1.96	5390	2.08	6670	2.18	8140	2.24
MTZ028	45	1450	1.48	1870	1.67	2400	1.86	3060	2.04	3900	2.23	4950	2.40	6250	2.57	7830	2.71	9730	2.83
MTZ032	45	1320	1.42	1910	1.71	2620	1.98	3490	2.24	4540	2.47	5800	2.69	7290	2.88	9040	3.04	11070	3.17
MTZ036	45	1730	1.78	2350	2.10	3100	2.40	4020	2.70	5160	2.97	6530	3.23	8170	3.45	10110	3.65	12390	3.81
MTZ040	45	2010	2.07	2750	2.45	3650	2.81	4760	3.15	6110	3.47	7740	3.77	9690	4.03	12000	4.26	14700	4.46
MTZ044	45	1640	1.89	2520	2.29	3580	2.66	4880	2.98	6440	3.28	8310	3.55	10520	3.79	13120	4.01	16150	4.20
MTZ050	45	1830	1.98	2830	2.51	4050	2.99	5540	3.41	7330	3.79	9470	4.13	12010	4.42	14970	4.67	18410	4.88
MTZ056	45	2030	2.21	3150	2.77	4500	3.29	6160	3.75	8150	4.17	10530	4.54	13350	4.87	16650	5.14	20480	5.38
MTZ064	45	2520	2.61	3790	3.25	5330	3.82	7190	4.33	9410	4.77	12040	5.17	15130	5.53	18730	5.85	22880	6.15
MTZ072	45	2900	3.04	4360	3.78	6130	4.43	8270	5.01	10830	5.53	13860	5.99	17420	6.41	21560	6.79	26340	7.14
MTZ080	45	3700	3.81	5180	4.53	6960	5.18	9080	5.77	11620	6.31	14610	6.81	18120	7.28	22200	7.74	26890	8.18
MTZ100	45	3990	4.52	5990	5.41	8390	6.22	11290	6.97	14770	7.65	18930	8.24	23850	8.75	29620	9.18	36340	9.52
MTZ125	45	5210	5.71	7790	6.90	10930	7.99	14720	8.96	19280	9.83	24720	10.59	31130	11.25	38630	11.79	47330	12.24
MTZ144	45	7270	6.67	9930	8.26	13100	9.55	16890	10.61	21390	11.50	26700	12.27	32920	13.01	40130	13.77	48440	14.62
MTZ160	45	8070	8.30	11060	9.65	14620	10.86	18840	11.95	23860	12.96	29770	13.93	36700	14.89	44750	15.89	54040	16.95

To : Evaporating temperature in [°C]
Tc : Condensing temperature in [°C]
Qo: Cooling Capacity in [W]
Pe : Power input in [kW]
Subcooling : 0 K
Superheat : 10 K
Voltage : 460 V /3 /60 Hz

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

MTZ - R513A - Reciprocating compressors - 50 Hz

Nominal performance data

Compressor model	To	-30		-25		-20		-15		-10		-5		0		5		10	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
MTZ018	45	340	0.42	570	0.54	840	0.64	1180	0.74	1590	0.81	2080	0.87	2670	0.91	3370	0.92	4180	0.91
MTZ022	45	530	0.56	790	0.67	1130	0.78	1550	0.88	2070	0.97	2700	1.05	3450	1.11	4350	1.15	5400	1.17
MTZ028	45	690	0.76	1020	0.89	1430	1.02	1950	1.14	2590	1.25	3360	1.35	4280	1.43	5370	1.49	6640	1.53
MTZ032	45	800	0.81	1210	0.97	1710	1.13	2320	1.27	3060	1.40	3940	1.52	4980	1.62	6190	1.69	7590	1.75
MTZ036	45	880	0.91	1370	1.13	1960	1.32	2670	1.47	3520	1.61	4540	1.72	5740	1.82	7150	1.91	8780	2.00
MTZ040	45	1190	1.24	1720	1.44	2370	1.62	3170	1.78	4140	1.94	5300	2.08	6670	2.22	8280	2.35	10130	2.48
MTZ044	45	970	1.02	1540	1.26	2270	1.48	3180	1.68	4300	1.85	5630	1.99	7220	2.10	9090	2.17	11240	2.20
MTZ050	45	1350	1.25	1950	1.48	2690	1.70	3620	1.90	4770	2.08	6170	2.24	7850	2.36	9860	2.45	12220	2.49
MTZ056	45	1300	1.31	1930	1.57	2760	1.81	3820	2.05	5140	2.26	6740	2.45	8650	2.61	10900	2.74	13520	2.83
MTZ064	45	1500	1.47	2250	1.77	3210	2.06	4420	2.34	5900	2.59	7700	2.82	9840	3.01	12360	3.17	15300	3.29
MTZ072	45	1850	1.78	2670	2.09	3720	2.40	5040	2.69	6670	2.98	8650	3.24	11020	3.47	13810	3.67	17080	3.84
MTZ080	45	2080	2.03	2990	2.40	4190	2.75	5700	3.09	7580	3.41	9850	3.71	12570	4.00	15760	4.28	19470	4.54
MTZ100	45	2570	2.64	3800	3.10	5300	3.52	7150	3.91	9410	4.26	12140	4.57	15420	4.83	19310	5.04	23890	5.18
MTZ125	45	3860	3.32	5400	3.83	7290	4.33	9610	4.81	12480	5.27	15970	5.70	20190	6.11	25240	6.48	31220	6.82
MTZ144	45	4390	3.86	6110	4.46	8290	5.04	11000	5.60	14310	6.13	18290	6.64	23010	7.12	28540	7.57	34950	7.99
MTZ160	45	5030	4.36	7000	5.06	9460	5.73	12490	6.38	16160	7.01	20560	7.61	25750	8.20	31830	8.76	38860	9.31

To : Evaporating temperature in [°C]
Tc : Condensing temperature in [°C]
Qo: Cooling Capacity in [W]
Pe : Power input in [kW]
Subcooling : 0 K
Superheat : 10 K
Voltage : 400 V /3 /50 Hz

MTZ - R513A - Reciprocating compressors - 60 Hz

Nominal performance data

Compressor model	To	-30		-25		-20		-15		-10		-5		0		5		10	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
MTZ018	45	420	0.50	690	0.64	1040	0.76	1460	0.87	1980	0.96	2600	1.04	3330	1.10	4190	1.14	5180	1.16
MTZ022	45	630	0.65	990	0.82	1440	0.97	1980	1.11	2620	1.23	3400	1.33	4300	1.41	5360	1.46	6590	1.48
MTZ028	45	850	0.88	1320	1.08	1880	1.25	2560	1.41	3360	1.55	4310	1.67	5420	1.76	6700	1.84	8180	1.90
MTZ032	45	990	0.97	1560	1.21	2230	1.42	3020	1.60	3960	1.77	5050	1.90	6330	2.02	7800	2.12	9480	2.20
MTZ036	45	1050	1.12	1630	1.39	2330	1.61	3170	1.80	4190	1.96	5390	2.10	6820	2.22	8500	2.33	10440	2.44
MTZ040	45	1410	1.40	2020	1.65	2800	1.88	3760	2.08	4930	2.28	6340	2.47	8000	2.66	9940	2.87	12190	3.09
MTZ044	45	1270	1.27	1920	1.55	2770	1.81	3850	2.04	5190	2.26	6810	2.44	8750	2.60	11020	2.73	13660	2.83
MTZ050	45	1630	1.57	2340	1.85	3240	2.12	4360	2.38	5740	2.61	7430	2.80	9450	2.96	11870	3.07	14710	3.12
MTZ056	45	1570	1.58	2470	1.97	3590	2.31	4970	2.63	6620	2.90	8590	3.14	10910	3.35	13620	3.53	16750	3.68
MTZ064	45	1670	1.74	2740	2.21	4020	2.63	5570	2.99	7430	3.31	9610	3.58	12180	3.82	15160	4.03	18590	4.21
MTZ072	45	2330	2.17	3450	2.62	4810	3.04	6450	3.42	8420	3.78	10760	4.10	13510	4.39	16720	4.65	20430	4.86
MTZ080	45	2690	2.53	4040	3.07	5630	3.55	7520	3.99	9750	4.38	12360	4.75	15400	5.08	18900	5.39	22920	5.69
MTZ100	45	3060	3.02	4560	3.66	6440	4.24	8760	4.76	11560	5.22	14920	5.61	18880	5.95	23510	6.23	28860	6.46
MTZ125	45	4630	3.96	6670	4.75	9130	5.45	12070	6.09	15580	6.66	19730	7.18	24580	7.67	30220	8.14	36720	8.58
MTZ144	45	5480	4.73	7770	5.58	10510	6.34	13810	7.03	17720	7.67	22350	8.27	27770	8.86	34060	9.45	41310	10.07
MTZ160	45	6670	5.32	9010	6.39	11880	7.30	15380	8.11	19580	8.84	24590	9.56	30500	10.29	37380	11.07	45340	11.97

To : Evaporating temperature in [°C]
Tc : Condensing temperature in [°C]
Qo: Cooling Capacity in [W]
Pe : Power input in [kW]
Subcooling : 0 K
Superheat : 10 K
Voltage : 460 V /3 /60 Hz

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

NTZ - R404A - Reciprocating compressors - 50 Hz

Nominal performance data

Compressor model	To	-40		-35		-30		-25		-20		-15		-10	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
NTZ048	45	420	0.59	710	0.84	1070	1.09	1700	1.34	2240	1.57	2860	1.79	3570	1.99
NTZ068	45	870	1.28	1290	1.54	1810	1.81	2790	2.09	3570	2.38	4490	2.68	5540	2.99
NTZ096	45	910	1.29	1420	1.67	2090	2.09	3360	2.53	4510	2.99	5900	3.48	7550	3.97
NTZ108	45	1120	1.57	1770	2.03	2590	2.49	4080	2.95	5340	3.40	6820	3.85	8530	4.29
NTZ136	45	1570	2.27	2360	2.86	3350	3.47	5200	4.08	6750	4.69	8570	5.29	10710	5.87
NTZ215	45	2220	3.23	3530	4.10	5120	5.00	8020	5.91	10430	6.81	13210	7.68	16420	8.49
NTZ271	45	3460	4.60	5140	5.65	7200	6.73	11040	7.82	14170	8.92	17790	10.03	21970	11.13

To : Evaporating temperature in [°C]
Tc : Condensing temperature in [°C]
Qo: Cooling Capacity in [W]
Pe : Power input in [kW]
Subcooling : 0 K
Superheat : 10 K
Voltage : 400 V /3 /50 Hz

NTZ - R404A - Reciprocating compressors - 60 Hz

Nominal performance data

Compressor model	To	-40		-35		-30		-25		-20		-15		-10	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
NTZ048	45	500	0.71	850	1.02	1270	1.33	2040	1.62	2690	1.89	3440	2.13	4310	2.33
NTZ068	45	1020	1.51	1530	1.82	2140	2.14	3290	2.47	4220	2.81	5290	3.16	6530	3.53
NTZ096	45	890	1.40	1630	1.96	2550	2.54	4160	3.12	5560	3.70	7190	4.24	9050	4.75
NTZ108	45	1240	2.04	2040	2.51	3030	3.04	4860	3.62	6440	4.24	8290	4.88	10460	5.53
NTZ136	45	1690	2.65	2720	3.31	3970	4.03	6260	4.80	8170	5.60	10380	6.44	12920	7.31
NTZ215	45	2640	3.74	4170	4.81	6050	5.91	9480	7.01	12320	8.09	15600	9.11	19380	10.05
NTZ271	45	4090	5.44	6070	6.68	8500	7.94	13040	9.21	16740	10.50	21050	11.80	26010	13.10

To : Evaporating temperature in [°C]
Tc : Condensing temperature in [°C]
Qo: Cooling Capacity in [W]
Pe : Power input in [kW]
Subcooling : 0 K
Superheat : 10 K
Voltage : 460 V /3 /60 Hz

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

NTZ - R452A - Reciprocating compressors - 50 Hz

Nominal performance data

Compressor model	To	-40		-35		-30		-25		-20		-15		-10	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
NTZ048	45	520	0.70	760	0.87	1080	1.06	1660	1.26	2190	1.47	2830	1.69	3580	1.91
NTZ068	45	840	1.16	1260	1.33	1790	1.54	2730	1.79	3540	2.12	4490	2.53	5600	3.04
NTZ096	45	1020	1.28	1540	1.62	2220	1.99	3450	2.39	4580	2.79	5930	3.20	7520	3.59
NTZ108	45	1430	1.71	2030	2.06	2790	2.43	4200	2.82	5440	3.23	6930	3.66	8680	4.10
NTZ136	45	1810	2.27	2560	2.79	3530	3.32	5310	3.87	6870	4.43	8740	5.00	10960	5.60
NTZ215	45	2370	3.24	3580	3.99	5080	4.77	7760	5.57	10110	6.38	12900	7.20	16160	8.02
NTZ271	45	2990	3.81	4660	4.87	6690	5.97	10230	7.10	13300	8.22	16890	9.32	21060	10.38

To : Evaporating temperature in [°C]
Tc : Condensing temperature in [°C]
Qo: Cooling Capacity in [W]
Pe : Power input in [kW]
Subcooling : 0 K
Superheat : 10 K
Voltage : 400 V /3 /50 Hz

NTZ - R452A - Reciprocating compressors - 60 Hz

Nominal performance data

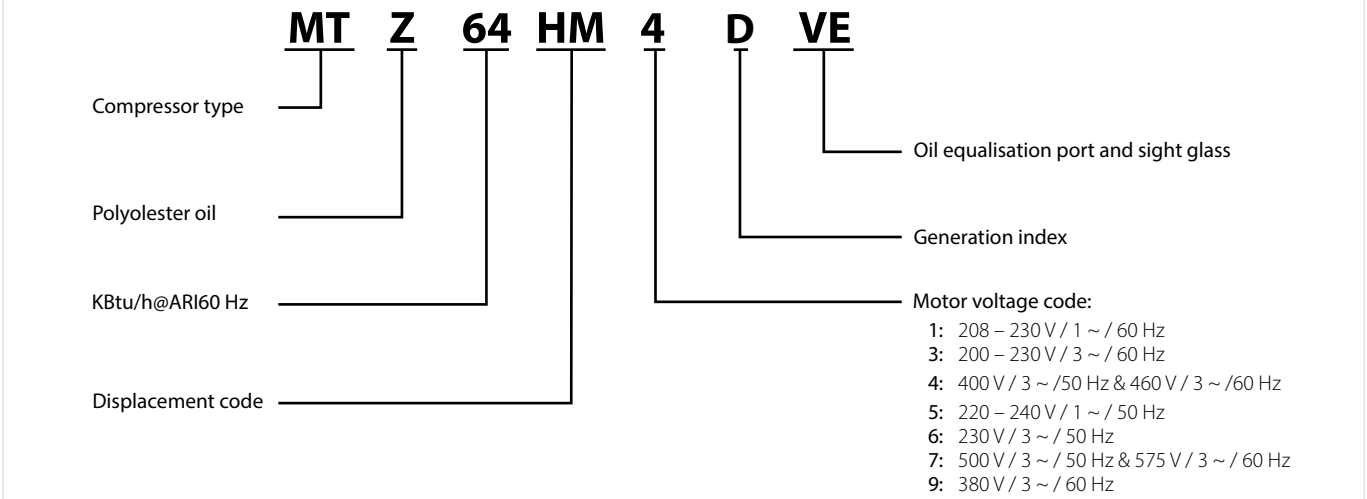
Compressor model	To	0		-35		-30		-25		-20		-15		-10	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
NTZ048	45	650	0.84	950	1.04	1350	1.26	2070	1.51	2730	1.76	3530	2.02	4470	2.29
NTZ068	45	960	1.36	1450	1.56	2060	1.80	3130	2.10	4060	2.49	5160	2.97	6420	3.57
NTZ096	45	1250	1.59	1880	2.01	2720	2.48	4230	2.97	5620	3.47	7270	3.97	9220	4.46
NTZ108	45	1720	2.10	2440	2.53	3360	2.99	5060	3.47	6560	3.97	8350	4.50	10450	5.04
NTZ136	45	2170	2.73	3080	3.35	4240	3.99	6390	4.64	8270	5.31	10520	6.01	13190	6.73
NTZ215	45	3020	3.90	4550	4.95	6450	5.97	9840	6.96	12820	7.95	16350	8.94	20480	9.97
NTZ271	45	3780	4.93	5880	6.31	8450	7.74	12920	9.19	16800	10.64	21330	12.07	26600	13.44

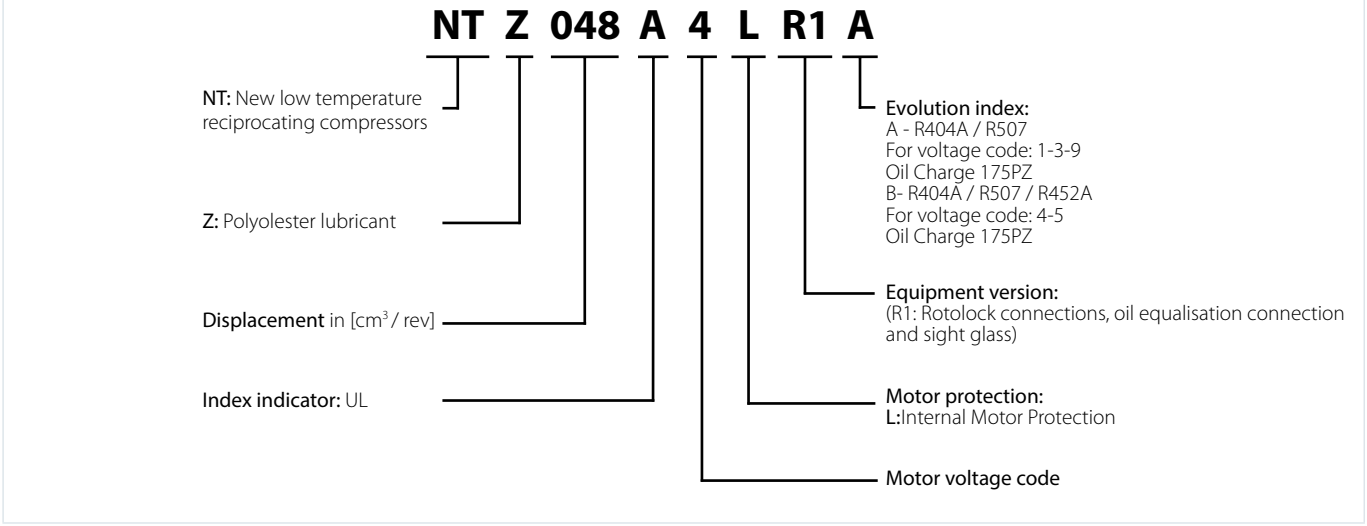
To : Evaporating temperature in [°C]
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Qo: Cooling Capacity in [W]
Pe : Power input in [kW]
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Superheat : 10 K
Voltage : 460 V /3 /60 Hz

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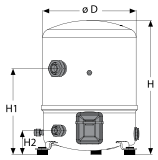
Nomenclature and Dimensions

Nomenclature

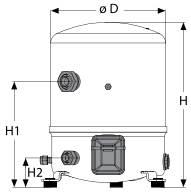




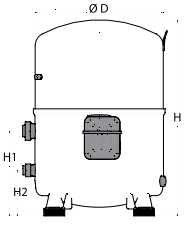
Please consult Danfoss for motor version available



MT / MTZ / NTZ
1 cylinder



MT / MTZ / NTZ
2 cylinders



MT / MTZ / NTZ
4 cylinders

Single compressors [mm]

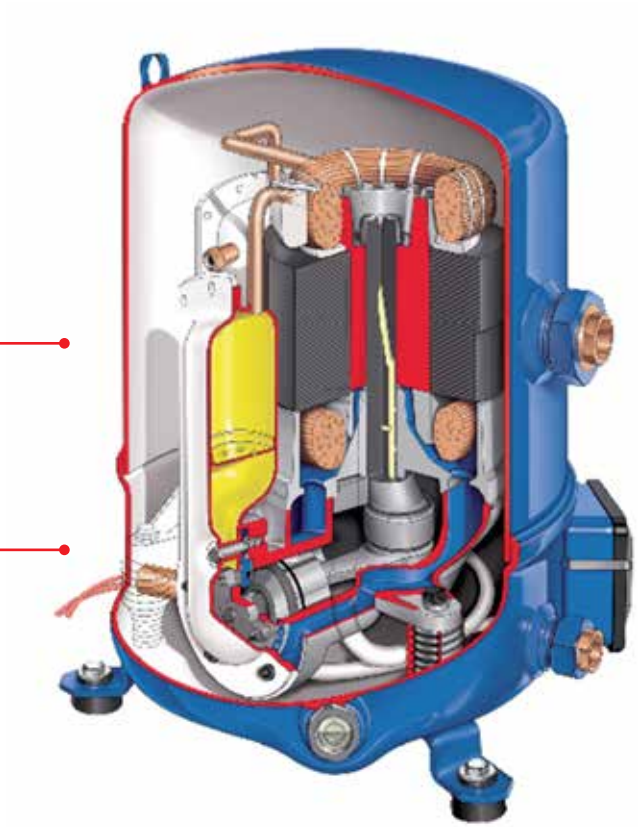
Type	D	H	H1	H2
1 cylinder	224	333 / 358	263	68
2 cylinders	288	413	265	74
4 cylinders	352	519 / 540	233	128

VTZ, Inverter reciprocating compressor

Maneurop® - VTZ reciprocating inverter compressors 3 – 48 kW multirefrigerant units - R404A, R407C and R134a - for commercial and process cooling applications prevent you from oversized and short cycling systems by automatically adapting to the current load in your commercial package air conditioning, chillers and rooftops.

Use the innovative and intelligent compressor package that utilizes variable speed technology to ensure superior efficiency across the entire operating range.





Flexibility and precision cooling within a wide capacity range (30 – 90 rps)

High COP across the whole operating range for great energy savings

Highly reliable solution

One qualified "*plug & play*" compressor and drive solution

Facts

Applications:
- Packaged air conditioning
- Rooftops
- Chillers
- Close controls
- Heat pumps
- Data centers

- Capacity modulation: adapts motorspeed to varying load continuously, quickly and smoothly
- Tight temperature control ± 0.3 °C
- Pre-qualified compressor and drive package
- Drive protection
- Multi-refrigerant capacibility inverter reciprocating compressors
- Advanced energy efficiency cuts the electric bill and easily meets the energy standards

- Improves comfort and process reliability, greater humidity control
- Lower noise level during part-load operations
- Faster time to market, saves time on development and enhances overall system reliability
- Reduces the size of needed power back up systems
- Reduces installation costs with eliminationof components

Technical data and ordering

VTZ - Inverter reciprocating compressor - Voltage code G 380 – 480 V and CD302

Ordering

Compressor			Frequency converter				
Type	Code no.		Model & power	IP class	RFI class	LCP	Code no.
	Single pack	Industrial pack					Single pack
VTZ038-G	120B0001	NA	CD302 - 4.0 kW	IP20	H1	yes	131B3543
	120B0001	NA	CD302 - 4.0 kW	IP20	H1	no	131B3544
	120B0001	NA	CD302 - 4.0 kW	IP20	H2	yes	131B3545
	120B0001	NA	CD302 - 4.0 kW	IP20	H2	no	131B3546
	120B0001	NA	CD302 - 4.0 kW	IP55	H1	yes	131B3547
	120B0001	NA	CD302 - 4.0 kW	IP55	H1	no	131B3548
	120B0001	NA	CD302 - 4.0 kW	IP55	H2	yes	131B3550
	120B0001	NA	CD302 - 4.0 kW	IP55	H2	no	131B3549
VTZ054-G	120B0002	NA	CD302 - 5.5 kW	IP20	H1	yes	131B3552
	120B0002	NA	CD302 - 5.5 kW	IP20	H1	no	131B3553
	120B0002	NA	CD302 - 5.5 kW	IP20	H2	yes	131B3554
	120B0002	NA	CD302 - 5.5 kW	IP20	H2	no	131B3555
	120B0002	NA	CD302 - 5.5 kW	IP55	H1	yes	131B3556
	120B0002	NA	CD302 - 5.5 kW	IP55	H1	no	131B3557
	120B0002	NA	CD302 - 5.5 kW	IP55	H2	yes	131B3558
	120B0002	NA	CD302 - 5.5 kW	IP55	H2	no	131B3559
	120B0003	120B0054	CD302 - 7.5 kW	IP20	H1	yes	131B3560
	120B0003	120B0054	CD302 - 7.5 kW	IP20	H1	no	131B3561
	120B0003	120B0054	CD302 - 7.5 kW	IP20	H2	yes	131B3562
	120B0003	120B0054	CD302 - 7.5 kW	IP20	H2	no	131B3563
	120B0003	120B0054	CD302 - 7.5 kW	IP55	H1	yes	131B3564
	120B0003	120B0054	CD302 - 7.5 kW	IP55	H1	no	131B3565
	120B0003	120B0054	CD302 - 7.5 kW	IP55	H2	yes	131B3566
	120B0003	120B0054	CD302 - 7.5 kW	IP55	H2	no	131B3567
	120B0004	120B0052	CD302 - 11.0 kW	IP20	H1	no	131X2198
	120B0004	120B0052	CD302 - 11.0 kW	IP21	H1	yes	131B3568
	120B0004	120B0052	CD302 - 11.0 kW	IP21	H1	no	131B3569
	120B0004	120B0052	CD302 - 11.0 kW	IP21	H2	yes	131B3570
	120B0004	120B0052	CD302 - 11.0 kW	IP21	H2	no	131B3571
	120B0004	120B0052	CD302 - 11.0 kW	IP55	H1	yes	131B3572
	120B0004	120B0052	CD302 - 11.0 kW	IP55	H1	no	131B3573
	120B0004	120B0052	CD302 - 11.0 kW	IP55	H2	yes	131B3574
	120B0004	120B0052	CD302 - 11.0 kW	IP55	H2	no	131B3575
VTZ171-G	120B0005	120B0055	CD302 - 15.0 kW	IP20	H1	no	131X2199
	120B0005	120B0055	CD302 - 15.0 kW	IP21	H1	yes	131B3576
	120B0005	120B0055	CD302 - 15.0 kW	IP21	H1	no	131B3577
	120B0005	120B0055	CD302 - 15.0 kW	IP21	H2	yes	131B3578
	120B0005	120B0055	CD302 - 15.0 kW	IP21	H2	no	–
	120B0005	120B0055	CD302 - 15.0 kW	IP55	H1	yes	131B3580
	120B0005	120B0055	CD302 - 15.0 kW	IP55	H1	no	–
	120B0005	120B0055	CD302 - 15.0 kW	IP55	H2	yes	131B3582
	120B0005	120B0055	CD302 - 15.0 kW	IP55	H2	no	131B3583
VTZ215-G	120B0006	120B0056	CD302 - 18.5 kW	IP20	H1	no	131X2200
	120B0006	120B0056	CD302 - 18.5 kW	IP21	H1	yes	131B3584
	120B0006	120B0056	CD302 - 18.5 kW	IP21	H1	no	131B3585
	120B0006	120B0056	CD302 - 18.5 kW	IP21	H2	yes	131B3586
	120B0006	120B0056	CD302 - 18.5 kW	IP21	H2	no	131B3587
	120B0006	120B0056	CD302 - 18.5 kW	IP55	H1	yes	131B3588
	120B0006	120B0056	CD302 - 18.5 kW	IP55	H1	no	131B3589
	120B0006	120B0056	CD302 - 18.5 kW	IP55	H2	yes	131B3590
	120B0006	120B0056	CD302 - 18.5 kW	IP55	H2	no	131B3591

Technical data and ordering

VTZ - Inverter reciprocating compressor - Voltage code J 200 - 240 V and CD302

Ordering

Compressor			Frequency converter				
Type	Code no.		Model and power	IP class	RFI class	LCP	Code no.
	Single pack	Industrial pack					Single pack
VTZ038-J	120B0029	NA	CD302 - 4.0 kW	IP20	H1	yes	131B5347
	120B0029	NA	CD302 - 4.0 kW	IP20	–	no	131B5348
	120B0029	NA	CD302 - 4.0 kW	IP20	H2	yes	131B5349
	120B0029	NA	CD302 - 4.0 kW	IP20	H2	no	131B5350
	120B0029	NA	CD302 - 4.0 kW	IP55	H1	yes	–
	120B0029	NA	CD302 - 4.0 kW	IP55	–	no	–
	120B0029	NA	CD302 - 4.0 kW	IP55	H2	yes	–
	120B0029	NA	CD302 - 4.0 kW	IP55	H2	no	–
VTZ054-J	120B0030	NA	CD302 - 5.5 kW	IP21	H1	yes	131B5351
	120B0030	NA	CD302 - 5.5 kW	IP21	–	no	131B5352
	120B0030	NA	CD302 - 5.5 kW	IP21	H2	yes	131B5355
	120B0030	NA	CD302 - 5.5 kW	IP21	H2	no	131B5356
	120B0030	NA	CD302 - 5.5 kW	IP55	H1	yes	–
	120B0030	NA	CD302 - 5.5 kW	IP55	–	no	131B5354
	120B0030	NA	CD302 - 5.5 kW	IP55	H2	yes	131B5357
	120B0030	NA	CD302 - 5.5 kW	IP55	H2	no	131B5358
VTZ086-J	120B0031	NA	CD302 - 7.5 kW	IP21	H1	yes	131B5009
	120B0031	NA	CD302 - 7.5 kW	IP21	–	no	131B5359
	120B0031	NA	CD302 - 7.5 kW	IP21	H2	yes	–
	120B0031	NA	CD302 - 7.5 kW	IP21	H2	no	131B5360
	120B0031	NA	CD302 - 7.5 kW	IP55	H1	yes	131B5361
	120B0031	NA	CD302 - 7.5 kW	IP55	–	no	131B5362
	120B0031	NA	CD302 - 7.5 kW	IP55	H2	yes	131B5363
	120B0031	NA	CD302 - 7.5 kW	IP55	H2	no	131B5364
VTZ121-J	120B0032	tbd	CD302 - 11.0 kW	IP21	H1	yes	131B5365
	120B0032	tbd	CD302 - 11.0 kW	IP21	H1	no	–
	120B0032	tbd	CD302 - 11.0 kW	IP21	H2	yes	131B5367
	120B0032	tbd	CD302 - 11.0 kW	IP21	H2	no	131B5368
	120B0032	tbd	CD302 - 11.0 kW	IP55	H1	yes	131B5369
	120B0032	tbd	CD302 - 11.0 kW	IP55	H1	no	131B5370
	120B0032	tbd	CD302 - 11.0 kW	IP55	H2	yes	131B5371
	120B0032	tbd	CD302 - 11.0 kW	IP55	H2	no	131B5372

Technical data and ordering

VTZ - Inverter reciprocating compressor

Electrical specification

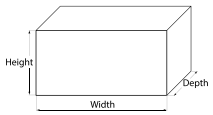
Supply voltage	Compressor Type	Nominal motor power [kW]	RW [Ohm]	RT [Ohm]	RLA [A]	MMT [A]	LRA [A]
200 – 240 V	VTZ038-J	3.59	0.31	0.65	13.5	17	69
	VTZ054-J	5	0.215	0.44	20	25	93
	VTZ086-J	7.8	0.158	0.317	32.5	40.6	88
	VTZ121-J	12.5	0.095	0.156	50	64.4	160
380 – 480 V	VTZ038-G	3.59	1.684	3.37	7.35	9.2	30.5
	VTZ054-G	4.95	1.039	2.08	12	15	47
	VTZ086-G	7.8	0.685	1.37	16	20	74
	VTZ121-G	11.66	0.294	0.59	23.2	29	139
	VTZ171-G	16	0.337	0.67	30.5	38.1	130
	VTZ215-G	21.3	0.236	0.47	40.8	51	197

RW: *Winding resistance per winding (in CD302 parameter list)*
RT: *Winding resistance as measured at motor terminals*
RLA: *Rated load current with R404A at 5 – 60 °C*
MMT: *Maximum must trip current*
LRA: *Locked rotor current*

Note that parameter 1-30 in the frequency converter settings reflects the winding resistance per winding
This is not the same value as measured at the motor terminals

VTZ - Inverter reciprocating compressor

Frequency converter single pack



Drive supply voltage	Drive supply voltage code	Drive power [kW]	IP20			IP21			IP55		
			Drive enclosure	Overall dimension (H x W x L) [mm]	Weight [kg]	Drive enclosure	Overall dimension (H x W x L) [mm]	Weight [kg]	Drive enclosure	Overall dimension (H x W x L) [mm]	Weight [kg]
200 – 240 / 3 / 50 – 60	T2	3.7	A3	290x390x200	6.6	–	–	–	–	–	–
	T2	5.5	–	–	–	B1	346x810x320	23	B1	346x810x320	23
	T2	7.5	–	–	–	B1	346x810x320	23	B1	346x810x320	23
	T2	11	–	–	–	B2	346x810x320	28	B2	346x810x320	28
380 – 480 / 3 / 50 – 60	T4	4	A2	290x390x160	5	–	–	–	A5	335x550x280	15
	T4	5.5	A3	290x390x200	6.6	–	–	–	A5	335x550x280	15
	T4	7.5	A3	290x390x200	6.6	–	–	–	A5	335x550x280	15
	T4	11	B3	349x500x330	13	B1	346x810x320	23	B1	346x810x320	23
	T4	15	B3	349x500x330	13	B1	346x810x320	23	B1	346x810x320	23
	T4	18.5	B4	346x810x320	24	B2	346x810x320	28	B2	346x810x320	28
	T4	22	–	–	–	B2	346x810x320	28	B2	346x810x320	28

Dimensions are given with drives in delivery position, without black plastic pallet

Technical data and ordering

VTZ - Inverter reciprocating compressor - R134a - 380 – 480 V

Performance table

Type	[rpm]	Te	-15		-10		-5		0		5		10		15	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
VTZ038-G	2100	40	800	0.52	1000	0.60	1300	0.67	1800	0.72	2300	0.77	2900	0.80	3700	0.82
	2100	50	600	0.52	800	0.61	1100	0.70	1500	0.77	1900	0.84	2500	0.90	3200	0.94
	2100	60	–	–	–	–	900	0.73	1200	0.82	1600	0.90	2100	0.98	2700	1.04
	3600	40	1400	0.95	1900	1.09	2500	1.20	3300	1.30	4200	1.39	5400	1.45	6800	1.49
	3600	50	1100	0.95	1500	1.12	2000	1.27	2700	1.40	3600	1.52	4600	1.62	5900	1.70
	3600	60	–	–	–	–	1600	1.31	2200	1.48	2900	1.63	3800	1.76	4900	1.88
	5400	40	2100	1.41	2800	1.60	3800	1.77	4900	1.92	6400	2.04	8100	2.13	10300	2.19
	5400	50	1600	1.40	2300	1.64	3100	1.87	4100	2.06	5400	2.24	7000	2.38	8900	2.50
	5400	60	–	–	–	–	2400	1.92	3300	2.17	4400	2.40	5800	2.60	7500	2.77
VTZ054-G	2100	40	1200	0.73	1600	0.81	2100	0.90	2700	0.98	3400	1.06	4200	1.13	5100	1.20
	2100	50	900	0.76	1300	0.86	1700	0.96	2300	1.07	2900	1.17	3600	1.27	4500	1.37
	2100	60	–	–	–	–	1400	1.02	1900	1.14	2400	1.27	3000	1.40	3800	1.52
	3600	40	2200	1.32	2900	1.47	3800	1.63	4900	1.78	6300	1.92	7800	2.05	9500	2.16
	3600	50	1700	1.37	2400	1.56	3200	1.75	4200	1.93	5300	2.12	6700	2.30	8300	2.47
	3600	60	–	–	–	–	2600	1.84	3500	2.07	4500	2.30	5600	2.53	7000	2.76
	5400	40	3300	1.93	4400	2.17	5800	2.39	7500	2.62	9500	2.83	11800	3.02	14400	3.19
	5400	50	2600	2.02	3700	2.29	4900	2.57	6400	2.85	8100	3.12	10200	3.39	12500	3.64
	5400	60	–	–	–	–	4000	2.71	5200	3.04	6800	3.38	8500	3.71	10600	4.04
VTZ086-G	1800	40	1500	0.99	2100	1.12	2800	1.23	3600	1.32	4600	1.39	5800	1.45	7200	1.50
	1800	50	1200	1.00	1700	1.16	2300	1.31	3000	1.44	3900	1.55	5000	1.65	6200	1.74
	1800	60	–	–	–	–	1800	1.36	2500	1.52	3200	1.67	4100	1.80	5200	1.93
	3600	40	3200	2.10	4500	2.37	6000	2.59	7900	2.77	10000	2.92	12600	3.07	15600	3.20
	3600	50	2500	2.11	3600	2.46	5000	2.77	6600	3.03	8500	3.25	10800	3.46	13400	3.66
	3600	60	–	–	–	–	3900	2.87	5300	3.21	6900	3.52	8900	3.81	11200	4.08
	5400	40	4900	3.04	6800	3.49	9100	3.85	11900	4.13	15200	4.35	19100	4.52	23700	4.65
	5400	50	3800	3.06	5500	3.61	7600	4.08	10000	4.48	12900	4.82	16300	5.11	20300	5.38
	5400	60	–	–	–	–	5900	4.26	8000	4.74	10500	5.18	13500	5.57	16900	5.95
VTZ121-G	1800	40	2400	1.39	3100	1.54	4000	1.69	5000	1.83	6300	1.96	7700	2.08	9400	2.19
	1800	50	2000	1.49	2700	1.68	3400	1.86	4300	2.04	5400	2.21	6700	2.37	8300	2.53
	1800	60	–	–	–	–	2800	1.99	3600	2.21	4500	2.43	5700	2.64	7000	2.84
	3600	40	5100	2.92	6600	3.23	8400	3.54	10500	3.83	13100	4.11	16200	4.36	19700	4.60
	3600	50	4300	3.13	5600	3.52	7200	3.90	9100	4.28	11400	4.64	14200	4.98	17400	5.30
	3600	60	–	–	–	–	5900	4.19	7500	4.65	9500	5.10	11900	5.54	14800	5.97
	5100	40	7300	4.05	9400	4.49	11900	4.92	15000	5.34	18700	5.72	23100	6.08	28200	6.38
	5100	50	6100	4.35	7900	4.88	10200	5.41	13000	5.93	16300	6.45	20200	6.94	24800	7.40
	5100	60	–	–	–	–	8300	5.82	10700	6.45	13600	7.08	17000	7.70	21100	8.31
VTZ171-G	1800	40	2900	2.09	4000	2.31	5500	2.49	7200	2.64	9200	2.76	11600	2.86	14400	2.96
	1800	50	2100	2.12	3200	2.44	4400	2.71	5900	2.94	7700	3.13	9800	3.29	12300	3.43
	1800	60	–	–	–	–	3400	2.84	4700	3.18	6200	3.46	8000	3.71	10200	3.92
	3600	40	6500	4.23	9000	4.76	12100	5.22	15700	5.62	20000	5.97	25000	6.28	30800	6.55
	3600	50	4900	4.22	7200	4.93	9900	5.55	13100	6.10	16900	6.60	21400	7.03	26600	7.43
	3600	60	–	–	–	–	7600	5.69	10400	6.43	13700	7.10	17600	7.71	22100	8.25
	5400	40	10000	6.22	13800	7.25	18300	8.19	23600	9.02	29900	9.73	37200	10.31	45700	10.74
	5400	50	7600	6.19	11000	7.32	15100	8.44	19900	9.51	25600	10.54	32300	11.50	40000	12.38
	5400	60	–	–	–	–	11800	8.62	16000	9.80	21000	11.00	26900	12.21	33800	13.41
VTZ215-G	1800	40	4300	2.77	5700	3.07	7500	3.33	9500	3.56	11900	3.79	14800	4.03	18000	4.29
	1800	50	3500	2.88	4800	3.28	6300	3.63	8200	3.94	10300	4.23	12900	4.50	15800	4.78
	1800	60	–	–	–	–	5100	3.82	6700	4.25	8600	4.63	10900	4.99	13500	5.33
	3600	40	9300	5.87	12400	6.51	16200	7.08	20600	7.60	25800	8.10	31800	8.61	38700	9.14
	3600	50	7500	6.07	10300	6.93	13700	7.68	17700	8.35	22400	8.96	27700	9.54	33900	10.11
	3600	60	–	–	–	–	11100	8.07	14600	8.97	18700	9.77	23500	10.49	29000	11.17
	5400	40	14000	8.66	18800	9.56	24500	10.38	31200	11.16	39100	11.92	48300	12.70	58900	13.54
	5400	50	11300	8.97	15600	10.16	20700	11.23	26800	12.22	33900	13.17	42200	14.09	51900	15.02
	5400	60	–	–	–	–	16800	11.83	22100	13.12	28300	14.32	35700	15.46	44300	16.58

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Qo: *Cooling capacity in [W]*
Pe: *Power input in [kW]*
Subcooling: *0 K*
Superheat: *10 K*
Voltage code: *G: 380 – 480 V / 3 / 50 and 60 Hz*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

VTZ - Inverter reciprocating compressor - R404A - 380 – 480 V

Performance table

Type	[rpm]	Te	-30		-25		-20		-15		-10		-5		0		5	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
VTZ038-G	2100	20	1100	0.61	1400	0.67	1800	0.71	2400	0.74	2900	0.76	3700	0.77	–	–	–	–
	2100	30	800	0.64	1100	0.72	1500	0.79	1900	0.85	2400	0.89	3000	0.93	3700	0.95	4600	0.96
	2100	40	600	0.64	900	0.75	1100	0.85	1500	0.94	1900	1.02	2400	1.09	3000	1.14	3700	1.18
	2100	50	400	0.62	600	0.76	800	0.90	1100	1.02	1500	1.14	1900	1.24	2400	1.33	2900	1.40
	2100	60	–	–	–	–	500	0.92	700	1.08	1000	1.23	1300	1.37	1700	1.50	2200	1.61
	3600	20	1700	1.08	2300	1.20	3000	1.29	3900	1.37	4900	1.43	6100	1.45	–	–	–	–
	3600	30	1400	1.10	1900	1.26	2600	1.40	3400	1.52	4300	1.62	5400	1.69	6700	1.74	8200	1.75
	3600	40	1000	1.10	1500	1.30	2100	1.49	2800	1.66	3600	1.81	4600	1.93	5700	2.03	7000	2.11
	3600	50	600	1.04	1000	1.29	1500	1.52	2100	1.75	2800	1.95	3600	2.14	4600	2.30	5800	2.44
	3600	60	–	–	–	–	1000	1.47	1400	1.75	2000	2.02	2600	2.27	3400	2.50	4400	2.70
	5400	20	2200	1.76	3100	2.01	4200	2.22	5500	2.39	7000	2.51	8800	2.57	–	–	–	–
	5400	30	1700	1.74	2500	2.08	3500	2.38	4600	2.64	6000	2.86	7700	3.03	9500	3.15	11700	3.22
	5400	40	1100	1.60	1900	2.03	2700	2.43	3700	2.78	5000	3.10	6400	3.37	8100	3.60	10000	3.78
	5400	50	600	1.34	1200	1.86	1900	2.34	2800	2.79	3800	3.21	5100	3.58	6500	3.92	8200	4.20
	5400	60	–	–	–	–	1200	2.11	1900	2.66	2700	3.17	3600	3.65	4800	4.09	6200	4.49
VTZ054-G	2100	20	1500	0.88	2000	0.97	2600	1.05	3400	1.11	4300	1.16	5400	1.19	–	–	–	–
	2100	30	1200	0.94	1600	1.06	2100	1.16	2800	1.26	3600	1.34	4500	1.40	5700	1.45	7100	1.48
	2100	40	900	0.96	1300	1.11	1700	1.25	2200	1.38	2900	1.50	3700	1.60	4700	1.69	5800	1.76
	2100	50	700	0.96	900	1.14	1300	1.32	1700	1.49	2200	1.64	2900	1.79	3700	1.92	4600	2.03
	2100	60	–	–	–	–	900	1.37	1200	1.57	1600	1.77	2100	1.96	2700	2.13	3500	2.29
	3600	20	2500	1.58	3300	1.76	4300	1.91	5400	2.05	6900	2.16	8600	2.26	–	–	–	–
	3600	30	2100	1.67	2800	1.89	3700	2.09	4800	2.28	6100	2.44	7600	2.59	9400	2.72	11400	2.82
	3600	40	1700	1.69	2300	1.96	3100	2.22	4000	2.46	5100	2.69	6500	2.90	8000	3.09	9900	3.25
	3600	50	1200	1.64	1700	1.97	2400	2.29	3100	2.60	4100	2.89	5200	3.17	6500	3.42	8100	3.66
	3600	60	–	–	–	–	1600	2.29	2200	2.66	2900	3.03	3800	3.37	4900	3.71	6200	4.02
	5400	20	3700	2.45	4900	2.76	6200	3.06	7900	3.34	9900	3.61	12200	3.84	–	–	–	–
	5400	30	3000	2.47	4000	2.84	5300	3.21	6800	3.57	8600	3.92	10700	4.26	13200	4.58	16100	4.87
	5400	40	2200	2.43	3100	2.85	4200	3.28	5500	3.72	7100	4.16	9000	4.59	11200	5.02	13800	5.43
	5400	50	1400	2.30	2200	2.77	3100	3.26	4200	3.77	5500	4.29	7100	4.82	9000	5.35	11300	5.87
	5400	60	–	–	–	–	1900	3.15	2800	3.73	3900	4.32	5100	4.94	6700	5.56	8600	6.19
VTZ086-G	1800	20	1800	1.18	2600	1.31	3500	1.42	4700	1.49	6000	1.54	7700	1.56	–	–	–	–
	1800	30	1300	1.21	2000	1.40	2700	1.56	3700	1.69	4800	1.80	6200	1.87	7800	1.92	9600	1.94
	1800	40	900	1.16	1400	1.43	2000	1.66	2800	1.85	3700	2.02	4800	2.16	6100	2.27	7700	2.35
	1800	50	600	1.04	1000	1.38	1500	1.69	2000	1.97	2800	2.21	3600	2.42	4700	2.60	5900	2.75
	1800	60	–	–	–	–	900	1.67	1400	2.03	1900	2.36	2600	2.65	3400	2.91	4300	3.14
	3600	20	4300	2.46	5800	2.74	7600	2.97	9800	3.16	12400	3.29	15500	3.38	–	–	–	–
	3600	30	3300	2.53	4600	2.91	6200	3.25	8100	3.54	10400	3.78	13100	3.96	16300	4.10	19900	4.18
	3600	40	2300	2.46	3400	2.97	4800	3.42	6500	3.82	8400	4.17	10800	4.47	13500	4.72	16700	4.91
	3600	50	1400	2.24	2300	2.87	3500	3.45	4800	3.98	6500	4.46	8400	4.88	10700	5.25	13400	5.56
	3600	60	–	–	–	–	2200	3.34	3200	4.00	4500	4.62	6000	5.18	7900	5.68	10100	6.13
	5400	20	6200	3.89	8300	4.34	11000	4.74	14100	5.10	17900	5.40	22300	5.66	–	–	–	–
	5400	30	5000	4.00	6900	4.59	9300	5.13	12100	5.61	15500	6.05	19400	6.44	23900	6.78	29100	7.07
	5400	40	3600	3.91	5400	4.66	7400	5.35	9900	5.99	12800	6.58	16200	7.11	20200	7.60	24700	8.03
	5400	50	2300	3.59	3700	4.51	5500	5.38	7500	6.19	10000	6.94	12800	7.64	16200	8.28	20000	8.87
	5400	60	–	–	–	–	3400	5.16	5100	6.15	7000	7.09	9300	7.96	12000	8.78	15100	9.55

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

VTZ - Inverter reciprocating compressor - R404A - 380 – 480 V

Performance table

Type	[rpm]	Te	-30		-25		-20		-15		-10		-5		0		5	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
VTZ121-G	1800	20	2700	1.89	3700	2.05	4800	2.19	6200	2.30	7900	2.39	10000	2.46	–	–	–	–
	1800	30	2300	2.03	3100	2.25	4100	2.44	5400	2.60	6900	2.74	8700	2.85	10800	2.95	13300	3.02
	1800	40	1800	2.10	2500	2.38	3400	2.64	4400	2.86	5700	3.06	7300	3.24	9100	3.39	11300	3.52
	1800	50	1200	2.08	1800	2.44	2500	2.77	3400	3.07	4400	3.35	5700	3.60	7300	3.82	9100	4.01
	1800	60	–	–	–	–	1700	2.82	2300	3.21	3100	3.57	4100	3.90	5300	4.20	6700	4.48
	3600	20	5500	3.69	7500	4.09	9900	4.47	12900	4.85	16400	5.21	20600	5.56	–	–	–	–
	3600	30	4500	3.88	6200	4.36	8400	4.82	11000	5.26	14100	5.70	17900	6.12	22300	6.54	27400	6.96
	3600	40	3500	3.99	5000	4.56	6800	5.11	9000	5.64	11800	6.17	15000	6.68	18900	7.18	23400	7.68
	3600	50	2600	4.00	3800	4.68	5200	5.33	7000	5.98	9300	6.60	12000	7.21	15200	7.81	19100	8.41
	3600	60	–	–	–	–	3700	5.49	5000	6.25	6700	6.99	8800	7.72	11400	8.43	14600	9.14
	5100	20	8100	5.47	10800	6.11	14200	6.73	18300	7.32	23400	7.85	29400	8.31	–	–	–	–
	5100	30	6400	5.63	8800	6.38	11700	7.14	15300	7.90	19800	8.64	25000	9.34	31300	9.99	[1])	–
	5100	40	4900	5.67	6900	6.50	9400	7.38	12400	8.29	16200	9.20	20700	10.10	26100	10.99	[1])	–
	5100	50	3400	5.64	5100	6.53	7100	7.49	9600	8.51	12600	9.57	16400	10.65	20900	11.74	[1])	–
	5100	60	–	–	–	–	4900	7.52	6800	8.62	9100	9.79	12100	11.02	15700	12.29	[1])	–
VTZ171-G	1800	20	3900	2.31	5400	2.59	7200	2.83	9400	3.04	12000	3.20	15200	3.31	–	–	–	–
	1800	30	2900	2.32	4200	2.65	5700	2.96	7600	3.24	9800	3.47	12400	3.67	15500	3.82	19100	3.91
	1800	40	2100	2.31	3100	2.72	4300	3.11	5900	3.48	7700	3.81	9900	4.10	12500	4.36	15500	4.57
	1800	50	1400	2.23	2200	2.74	3100	3.23	4300	3.70	5800	4.14	7500	4.56	9600	4.94	12100	5.28
	1800	60	–	–	–	–	2100	3.25	2900	3.84	4000	4.41	5300	4.97	6900	5.49	8800	5.98
	3600	20	7700	4.52	10400	5.12	13800	5.67	18100	6.16	23200	6.61	29200	7.03	–	–	–	–
	3600	30	6200	4.73	8700	5.49	11700	6.16	15400	6.77	19900	7.32	25200	7.82	31400	8.28	38600	8.71
	3600	40	4700	4.78	6800	5.75	9500	6.61	12600	7.39	16400	8.08	21000	8.71	26300	9.28	32500	9.81
	3600	50	3100	4.54	4900	5.76	7100	6.87	9700	7.87	12900	8.77	16600	9.58	21000	10.31	26200	10.98
	3600	60	–	–	–	–	4700	6.81	6700	8.08	9200	9.24	12100	10.29	15600	11.24	19700	12.10
	5400	20	11300	7.31	15900	8.36	21500	9.26	28000	10.05	35600	10.73	44300	11.32	–	–	–	–
	5400	30	8900	7.54	13000	8.95	17900	10.20	23700	11.32	30400	12.32	38000	13.21	46600	14.03	56100	14.77
	5400	40	6400	7.24	10000	9.03	14200	10.66	19300	12.14	25000	13.50	31600	14.73	39000	15.87	47200	16.93
	5400	50	3800	6.29	6800	8.51	10400	10.55	14700	12.44	19500	14.17	25000	15.78	31200	17.28	38100	18.69
	5400	60	–	–	–	–	6500	9.78	9900	12.09	13900	14.25	18300	16.27	23300	18.16	28900	19.95
VTZ215-G	1800	20	4800	3.00	6700	3.31	9000	3.58	11900	3.79	15400	3.95	19500	4.04	–	–	–	–
	1800	30	3700	3.18	5300	3.60	7400	3.97	9800	4.30	12800	4.57	16300	4.79	20400	4.94	25200	5.02
	1800	40	2700	3.24	4100	3.78	5800	4.28	7800	4.74	10300	5.15	13300	5.51	16800	5.80	20800	6.03
	1800	50	1800	3.15	2900	3.83	4200	4.48	5900	5.09	7900	5.65	10300	6.16	13200	6.62	16500	7.02
	1800	60	–	–	–	–	2800	4.52	4100	5.30	5600	6.03	7400	6.72	9700	7.36	12300	7.95
	3600	20	9200	5.45	12700	6.26	17200	7.01	22700	7.68	29400	8.27	37400	8.76	–	–	–	–
	3600	30	7600	5.86	10700	6.85	14600	7.79	19300	8.68	25100	9.49	32100	10.23	40300	10.86	49800	11.38
	3600	40	5900	6.12	8600	7.28	11900	8.41	15900	9.49	20800	10.53	26700	11.49	33700	12.38	41900	13.16
	3600	50	4100	6.24	6400	7.55	9200	8.85	12500	10.13	16500	11.37	21300	12.56	27100	13.68	33900	14.72
	3600	60	–	–	–	–	6300	9.13	8900	10.58	12000	12.02	15700	13.41	20300	14.76	25700	16.04
	5400	20	15200	9.71	20500	11.10	27000	12.40	34800	13.62	44100	14.73	55000	15.73	–	–	–	–
	5400	30	12200	9.94	17200	11.64	23200	13.30	30300	14.90	38800	16.44	48700	17.91	60200	19.30	73400	20.59
	5400	40	9000	9.79	13400	11.78	18700	13.76	25000	15.73	32500	17.67	41200	19.58	51400	21.44	63200	23.24
	5400	50	5800	9.21	9500	11.46	13900	13.73	19100	16.03	25400	18.35	32900	20.66	41600	22.97	51800	25.26
	5400	60	–	–	–	–	8900	13.17	13000	15.77	17900	18.43	23800	21.13	30900	23.85	39300	26.60

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Qo: *Cooling capacity in [W]*
Pe: *Power input in [kW]*
Subcooling: *0 K*
Superheat: *10 K*
Voltage code: *G: 380 – 480 V / 3 / 50 and 60 Hz*
[1]) *Error 3: Evaporating temperature too high. Approximative result*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

VTZ - Inverter reciprocating compressor - R407C - 380 – 480 V

Performance table

Type	[rpm]	Te	-15		-10		-5		0		5		10		15	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
VTZ038-G	2100	20	2000	0.69	2600	0.71	3300	0.73	4100	0.72	–	–	–	–	–	–
	2100	30	1700	0.77	2200	0.84	2800	0.89	3600	0.91	4400	0.93	5400	0.93	–	–
	2100	40	1300	0.82	1800	0.93	2300	1.01	3000	1.08	3700	1.13	4600	1.17	5600	1.20
	2100	50	–	–	1400	0.98	1900	1.11	2400	1.22	3100	1.32	3800	1.40	4700	1.47
	2100	60	–	–	–	–	1400	1.18	1800	1.34	2400	1.48	3000	1.61	3800	1.73
	3600	20	3200	1.11	4200	1.19	5400	1.25	6900	1.30	–	–	–	–	–	–
	3600	30	2700	1.24	3600	1.35	4700	1.45	6000	1.53	7500	1.59	9400	1.63	–	–
	3600	40	2200	1.34	3000	1.49	3900	1.63	5100	1.75	6400	1.86	8000	1.94	9900	2.01
	3600	50	–	–	2400	1.60	3300	1.79	4200	1.96	5400	2.11	6700	2.25	8400	2.36
	3600	60	–	–	–	–	2600	1.92	3400	2.14	4300	2.35	5500	2.54	6900	2.71
	5400	20	4600	1.79	6000	2.00	7600	2.19	9700	2.35	–	–	–	–	–	–
	5400	30	4000	1.96	5200	2.22	6700	2.47	8600	2.70	10900	2.91	13600	3.08	–	–
	5400	40	3300	2.06	4400	2.38	5700	2.68	7400	2.98	9400	3.26	11800	3.51	14700	3.73
	5400	50	–	–	3500	2.49	4600	2.85	6100	3.21	7800	3.55	9900	3.88	12500	4.18
	5400	60	–	–	–	–	3600	2.98	4800	3.40	6200	3.81	8000	4.21	10200	4.59
VTZ054-G	2100	20	2700	0.90	3500	0.94	4400	0.97	5500	0.99	–	–	–	–	–	–
	2100	30	2300	1.03	3000	1.11	3800	1.17	4800	1.21	6000	1.24	7500	1.26	–	–
	2100	40	1900	1.13	2500	1.26	3200	1.36	4100	1.45	5100	1.51	6400	1.56	7900	1.60
	2100	50	–	–	1900	1.37	2500	1.53	3300	1.67	4200	1.79	5300	1.88	6600	1.96
	2100	60	–	–	–	–	1900	1.65	2500	1.86	3300	2.04	4200	2.20	5200	2.33
	3600	20	4700	1.66	6100	1.79	7800	1.90	9900	1.99	–	–	–	–	–	–
	3600	30	4000	1.82	5200	2.00	6800	2.16	8700	2.32	10900	2.46	13500	2.58	–	–
	3600	40	3300	1.96	4400	2.19	5700	2.41	7400	2.62	9400	2.83	11700	3.02	14400	3.20
	3600	50	–	–	3600	2.33	4700	2.62	6100	2.89	7800	3.17	9900	3.43	12300	3.69
	3600	60	–	–	–	–	3700	2.76	4900	3.10	6300	3.45	8100	3.79	10200	4.13
	5400	20	6600	2.70	8600	3.01	11200	3.28	14300	3.51	–	–	–	–	–	–
	5400	30	5700	2.92	7500	3.32	9700	3.70	12400	4.05	15800	4.37	19800	4.63	–	–
	5400	40	4700	3.05	6300	3.53	8200	4.01	10600	4.48	13500	4.93	17000	5.34	21200	5.69
	5400	50	–	–	5200	3.63	6800	4.20	8800	4.78	11300	5.35	14300	5.89	17900	6.41
	5400	60	–	–	–	–	5400	4.26	7100	4.93	9100	5.62	11700	6.29	14700	6.96
VTZ086-G	1800	20	3700	1.14	5000	1.19	6500	1.22	8400	1.24	–	–	–	–	–	–
	1800	30	2900	1.34	3900	1.45	5200	1.53	6700	1.58	8600	1.62	10700	1.65	–	–
	1800	40	2200	1.47	3100	1.67	4100	1.82	5400	1.93	6800	2.02	8600	2.09	10700	2.14
	1800	50	–	–	2300	1.78	3200	2.03	4200	2.23	5500	2.40	6900	2.53	8600	2.63
	1800	60	–	–	–	–	2400	2.13	3300	2.45	4300	2.71	5400	2.93	6800	3.12
	3600	20	6300	2.61	8600	2.76	11500	2.88	14900	2.96	–	–	–	–	–	–
	3600	30	5500	2.86	7600	3.10	10100	3.28	13000	3.42	16500	3.53	20500	3.62	–	–
	3600	40	4600	3.04	6400	3.40	8600	3.69	11200	3.92	14200	4.10	17700	4.25	21700	4.38
	3600	50	–	–	5200	3.61	7100	4.04	9400	4.40	11900	4.69	14800	4.94	18200	5.16
	3600	60	–	–	–	–	5500	4.27	7400	4.80	9500	5.24	11900	5.63	14700	5.97
	5400	20	10200	3.86	13400	4.11	17500	4.31	22600	4.44	–	–	–	–	–	–
	5400	30	8800	4.33	11500	4.69	14900	5.02	19200	5.30	24500	5.52	31100	5.65	–	–
	5400	40	7700	4.72	9900	5.19	12700	5.65	16200	6.07	20700	6.45	26100	6.76	32800	7.00
	5400	50	–	–	8400	5.62	10800	6.19	13700	6.75	17300	7.29	21800	7.77	27300	8.21
	5400	60	–	–	–	–	8900	6.66	11300	7.35	14300	8.04	17900	8.69	22400	9.31

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

VTZ - Inverter reciprocating compressor - R407C - 380 – 480 V

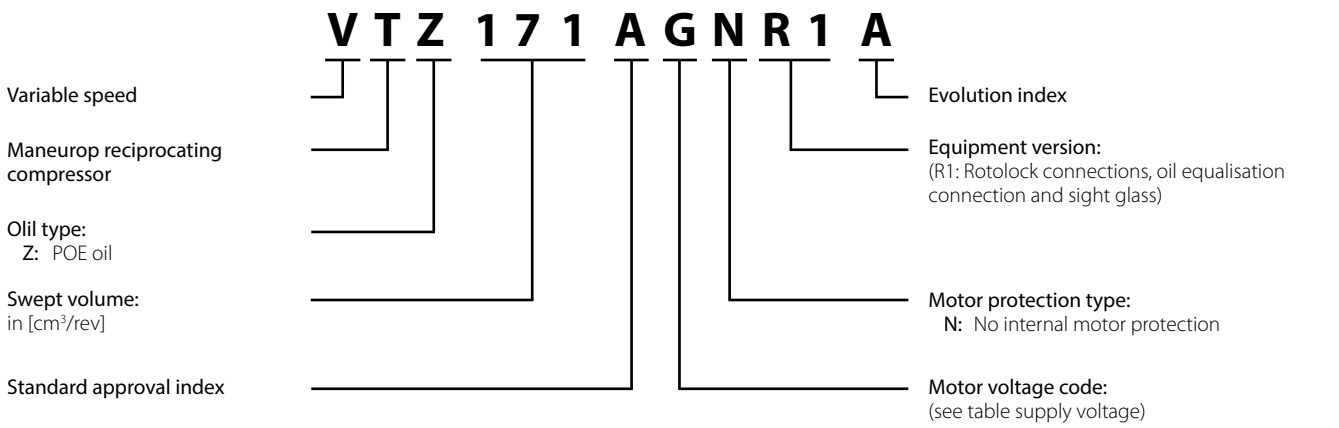
Performance table

Type	[rpm]	Te	-15		-10		-5		0		5		10		15	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
VTZ121-G	1800	20	5200	1.66	6900	1.77	8900	1.84	11300	1.85	–	–	–	–	–	–
	1800	30	4400	1.91	5800	2.10	7600	2.25	9700	2.35	12200	2.40	15100	2.39	–	–
	1800	40	3500	2.11	4800	2.39	6400	2.62	8200	2.80	10400	2.94	12900	3.02	15800	3.04
	1800	50	–	–	3900	2.63	5200	2.95	6800	3.21	8600	3.43	10800	3.60	13300	3.71
	1800	60	–	–	–	–	4100	3.23	5400	3.58	6900	3.89	8700	4.15	10900	4.35
	3600	20	11100	3.94	14300	4.27	18200	4.60	22800	4.92	–	–	–	–	–	–
	3600	30	9400	4.21	12200	4.60	15700	4.98	19900	5.34	24800	5.69	30600	6.03	–	–
	3600	40	7800	4.52	10300	5.01	13300	5.47	17100	5.93	21500	6.36	26700	6.77	32700	7.16
	3600	50	–	–	8400	5.36	11100	5.97	14300	6.55	18200	7.11	22800	7.64	28200	8.15
	3600	60	–	–	–	–	8900	6.33	11600	7.09	14900	7.82	18900	8.51	23700	9.18
	5100	20	15400	5.71	19800	6.34	25000	6.98	31300	7.64	–	–	–	–	–	–
	5100	30	13100	6.11	17100	6.81	21900	7.52	27600	8.26	34300	9.02	42200	9.79	–	–
	5100	40	10900	6.48	14400	7.28	18700	8.09	23800	8.92	29900	9.77	37000	10.64	45200	11.52
	5100	50	–	–	11800	7.68	15500	8.62	19900	9.56	25300	10.53	31600	11.51	39000	12.51
	5100	60	–	–	–	–	12400	9.04	16100	10.13	20700	11.23	26100	12.35	32600	13.49
VTZ171-G	1800	20	6900	2.27	9000	2.38	11700	2.45	14800	2.47	–	–	–	–	–	–
	1800	30	6000	2.68	7900	2.88	10300	3.05	13200	3.17	16700	3.24	20800	3.27	–	–
	1800	40	4900	3.00	6600	3.31	8800	3.59	11400	3.84	14500	4.04	18100	4.19	22500	4.28
	1800	50	–	–	5200	3.64	7100	4.05	9300	4.44	12000	4.78	15200	5.08	19000	5.33
	1800	60	–	–	–	–	5300	4.38	7100	4.93	9300	5.44	12000	5.92	15300	6.34
	3600	20	15300	5.05	19600	5.33	24800	5.49	30900	5.50	–	–	–	–	–	–
	3600	30	12900	5.67	16900	6.18	21700	6.59	27400	6.88	34200	7.02	42100	7.00	–	–
	3600	40	10500	6.06	14100	6.82	18400	7.49	23700	8.06	29900	8.50	37200	8.80	45700	8.93
	3600	50	–	–	11300	7.25	15100	8.19	19700	9.04	25300	9.80	31900	10.43	39700	10.91
	3600	60	–	–	–	–	11800	8.69	15700	9.84	20600	10.91	26400	11.88	33300	12.72
	5400	20	21100	7.82	27300	8.46	34800	9.00	43600	9.43	–	–	–	–	–	–
	5400	30	18500	8.77	24500	9.71	31600	10.55	39900	11.31	49600	11.97	60700	12.54	–	–
	5400	40	15600	9.47	21100	10.71	27600	11.87	35300	12.96	44200	13.96	54600	14.89	66400	15.73
	5400	50	–	–	17300	11.40	23100	12.89	30000	14.31	38100	15.66	47400	16.95	58200	18.18
	5400	60	–	–	–	–	18300	13.52	24200	15.29	31300	17.01	39600	18.67	49100	20.29
VTZ215-G	1800	20	9200	2.96	11800	3.13	15100	3.26	18900	3.37	–	–	–	–	–	–
	1800	30	8100	3.48	10500	3.75	13400	3.98	17000	4.16	21200	4.31	26300	4.42	–	–
	1800	40	6800	3.93	8900	4.34	11600	4.70	14700	5.00	18500	5.26	23100	5.47	28400	5.64
	1800	50	–	–	7200	4.82	9500	5.35	12300	5.82	15600	6.23	19600	6.58	24300	6.88
	1800	60	–	–	–	–	7400	5.87	9700	6.54	12500	7.14	15900	7.68	19900	8.15
	3600	20	20700	6.67	26200	7.18	32800	7.63	40600	8.03	–	–	–	–	–	–
	3600	30	17800	7.45	22800	8.14	28900	8.79	36000	9.38	44400	9.92	54100	10.40	–	–
	3600	40	14800	8.04	19300	8.97	24800	9.85	31200	10.68	38800	11.45	47700	12.16	57900	12.81
	3600	50	–	–	15800	9.62	20600	10.78	26300	11.88	33100	12.93	41000	13.92	50300	14.85
	3600	60	–	–	–	–	16400	11.54	21300	12.96	27200	14.33	34200	15.64	42400	16.89
	5400	20	28400	10.93	36500	12.14	46200	13.25	57500	14.22	–	–	–	–	–	–
	5400	30	24600	11.71	32100	13.25	41100	14.75	51600	16.17	63800	17.48	77800	18.64	–	–
	5400	40	20600	12.27	27500	14.11	35700	15.97	45300	17.81	56400	19.60	69300	21.30	84000	22.87
	5400	50	–	–	22700	14.80	30000	16.98	38600	19.20	48600	21.43	60100	23.64	73500	25.78
	5400	60	–	–	–	–	24100	17.85	31600	20.42	40400	23.06	50600	25.73	62500	28.40

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Qo: *Cooling capacity in [W]*
Pe: *Power input in [kW]*
Subcooling: *0 K*
Superheat: *10 K*
Voltage code*: G: 380 – 480 V / 3 / 50 and 60 Hz*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

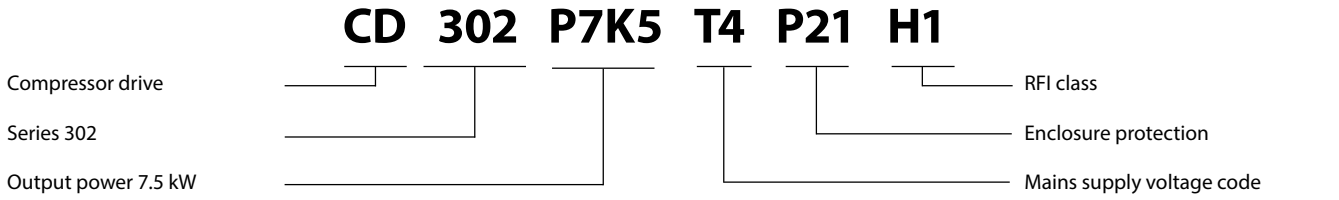
Nomenclature



Compressor specifications

Compressor Type	Swept volume [cm³/rev]	Displacement			Cyl. nbr	Oil charge [dm³]	Net Weight [kg]
		Min speed [m³/h]	50 Hz [m³/h]	Max speed [m³/h]			
VTZ038	38.12	4.57	6.63	12.12	1	0.95	21
VTZ054	53.86	6.46	9.37	17.13	1	0.95	24
VTZ086	85.64	8.74	14.90	27.23	2	1.80	35
VTZ121	120.94	12.34	21.04	36.28	2	1.80	40
VTZ171	171.26	17.47	29.80	54.46	4	3.90	60
VTZ215	215.44	21.97	37.49	68.51	4	3.90	64

Frequency converter nomenclature

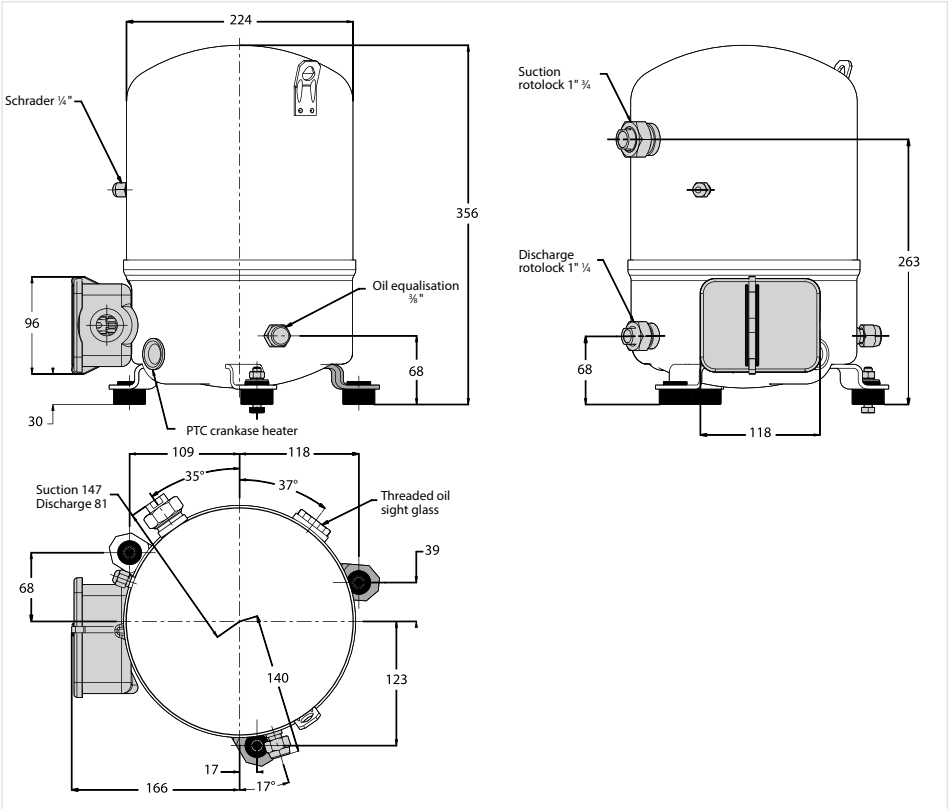


Frequency converter specifications

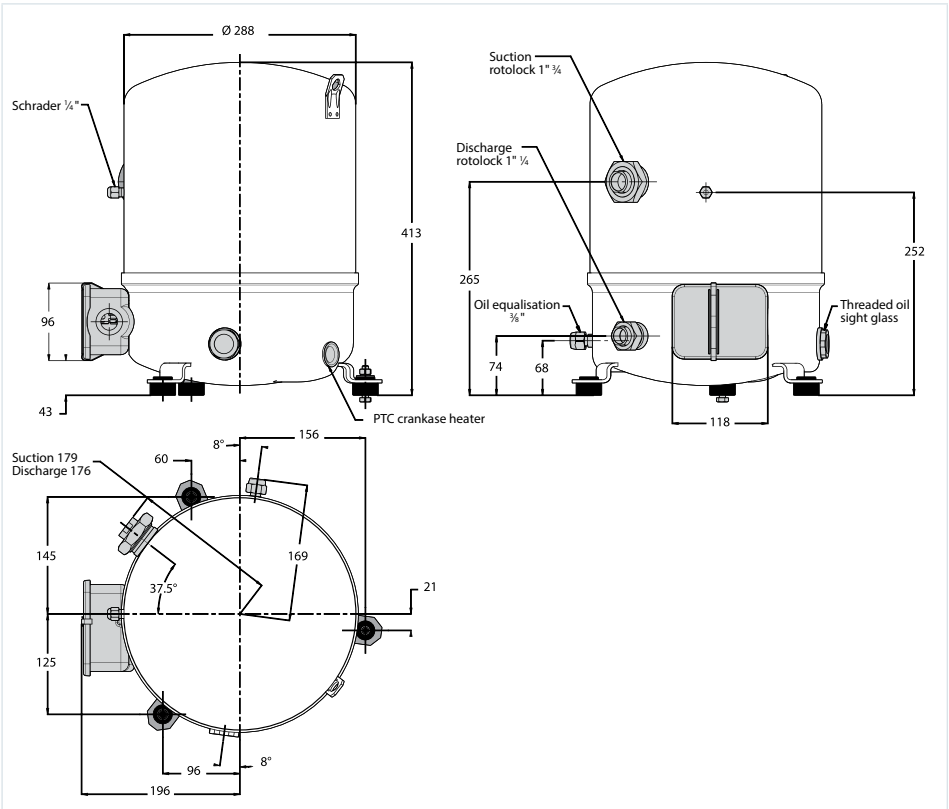
Mains supply voltage	T2: 200 – 240 V ± 10% (3-phase), T4: 380 – 480 V ± 10% (3-phase)
Supply frequency	50 / 60 Hz
Output voltage	0 – 100% of supply voltage
Inputs	6 digital (0 – 24 V), 2 analogue (-10 – 10 V or 0 / 4 V -20 mA, scalable)
Programmable outputs	2 digital (0 – 24 V), 1 analogue, 2 relay
Protection functions	Over-current protection, over-modulation handling, low / high current handling
Smart Logic Control functions	Pump-down function, Anti short-cycle function, Oil return management
Communication	Modbus

Dimensions

VTZ038 / VTZ054

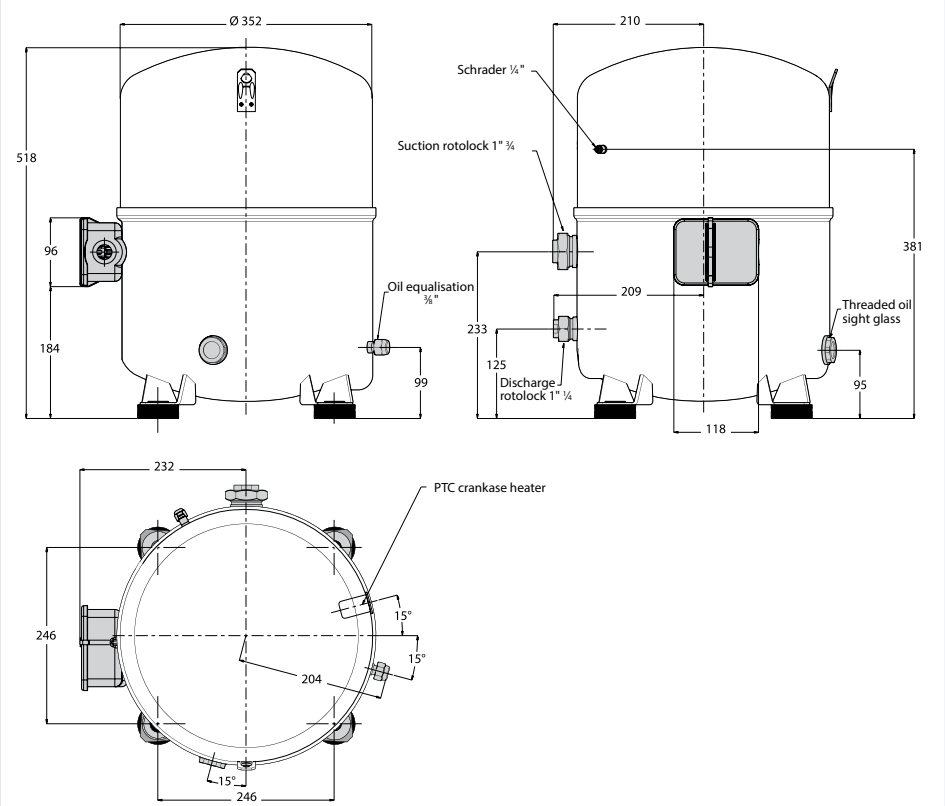


VTZ086 / VTZ121



Dimensions

VTZ171 / VTZ215



Technical data

Sight glass

VTZ compressors come equipped with a threaded oil sight glass with 1 1/8 – 18 inch UNEF connection.
It can be used for visual check of oil amount and conditions, or it may be replaced by an oil management device.

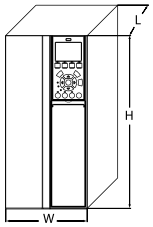
Schrader

The oil fill connection and gauge port is a 1/4 inch male flare connector incorporating a schrader valve.

Suction and discharge connections

VTZ compressors are all delivered with suction and discharge rotolock connections only.

Type	Rotolock connections size		Pipe sizing		Rotolock valve	
	Suction [in]	Discharge [in]	Suction [in]	Discharge [in]	Suction	Discharge
VTZ038 – 054	1 1/4	1	5/8	1/2	V09	V06
VTZ086 – 121	1 3/4	1 1/4	7/8	3/4	V07	V04
VTZ171 – 215	1 3/4	1 1/4	1 1/8	3/4	V02	V04



VTZ - Inverter reciprocating compressor

Frequency converter dimensions

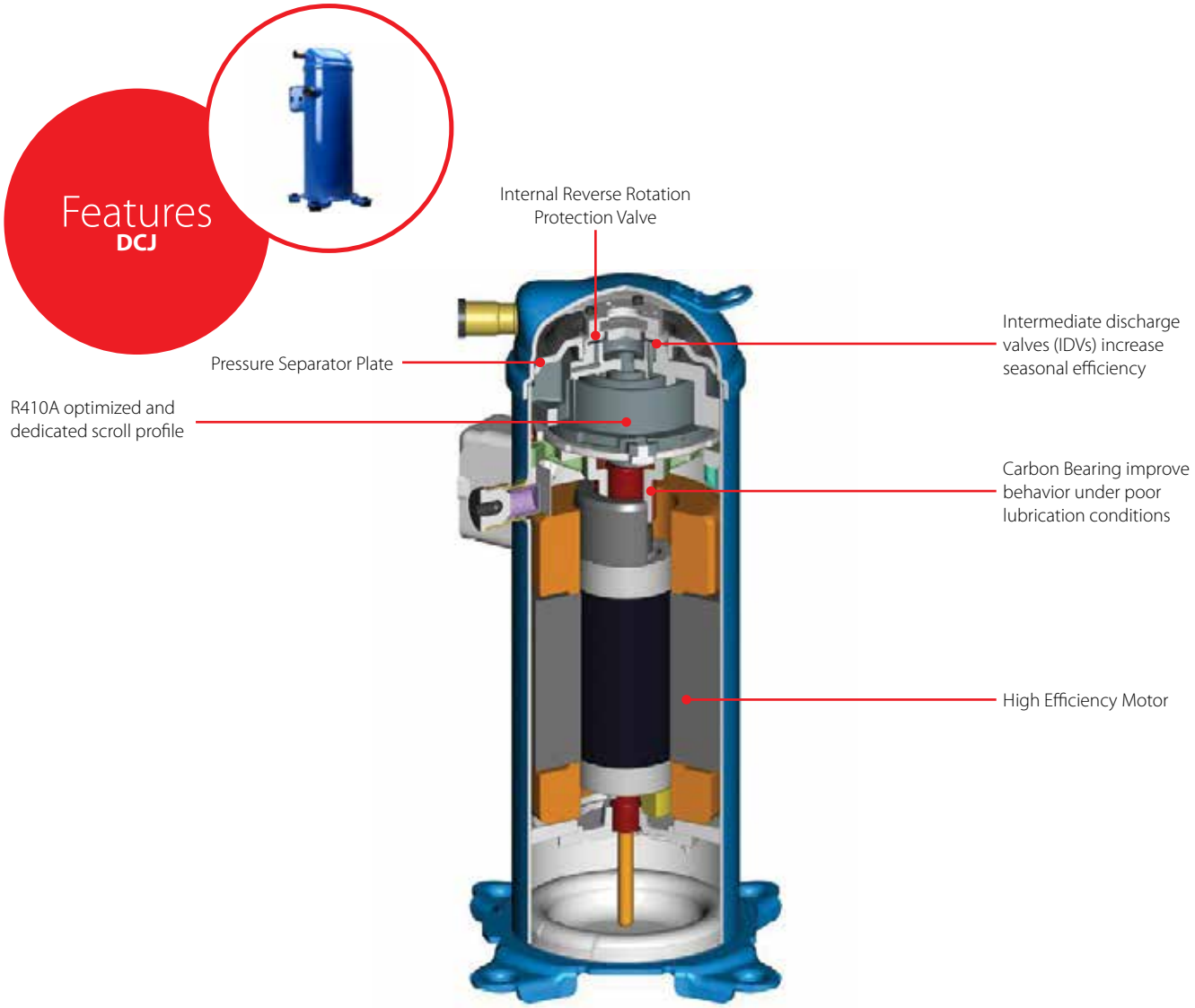
Drive supply voltage	Drive power [kW]	Compressor voltage code	Compressor model	IP20			IP21			IP55		
				Drive enclosure	Overall dimension (H x W x L) [mm]	Weight [kg]	Drive enclosure	Overall dimension (H x W x L) [mm]	Weight [kg]	Drive enclosure	Overall dimension (H x W x L) [mm]	Weight [kg]
T2: 200 – 240 / 3 / 50 – 60	3.7	J	VTZ038	A3	268x130x205	6.6	–	–	–	–	–	–
	5.5	J	VTZ054	–	–	–	B1	494x242x260	23	B1	480x242x260	23
	7.5	J	VTZ086	–	–	–	B1	494x242x260	23	B1	480x242x260	23
	11	J	VTZ121	–	–	–	B2	664x242x260	27	B2	664x242x260	27
T4: 380 – 480 / 3 / 50 – 60	4	G	VTZ038	A2	268x90x205	4.9	–	–	–	A5	420x242x200	13.5
	5.5	G	VTZ054	A3	268x130x205	6.6	–	–	–	A5	420x242x200	13.5
	7.5	G	VTZ086	A3	268x130x205	6.6	–	–	–	A5	420x242x200	13.5
	11	G	VTZ121	B3	399x165x248	12	B1	494x242x260	23	B1	480x242x260	23
	15	G	VTZ171	B3	399x165x248	12	B1	494x242x260	23	B1	480x242x260	23
	18.5	G	VTZ215	B4	518x231x242	23	B2	664x242x260	27	B2	650x242x260	27

Frequency converter dimensions depend on supply voltage, IP rating and power
The below table gives an overview of the overall dimensions and different drive enclosures (B1 - C3)
Details for each drive enclosure are on the following pages

Quick Selection Notes:

DCJ, Scroll compressor - R410A

DCJ compressors range from 7.5 to 10 TR. They are designed for excellence in performance and feature the Intermediate Discharge Valves (IDVs) for higher part-load efficiency. They are compact and are available in single and tandem models. They are optimized for R410A.



Facts

Applications:

- A good fit for compact air conditioning systems operating with R410A

- **Intermediate Discharge Valves (IDVs)**
- Mechanically reduce excessive compression of refrigerant under part-load conditions while maintaining the same cooling capacity. They adapt the effort of the motor to the pressure conditions in the system by openingwhen condensing pressure and pressure ratio (part-load) fall below the built-in optimization point of the scroll. This reduces the effort of the motor and its electrical consumption thus improving the system's seasonal energy efficiency. IDV technology enhances system efficiency by 15% on average in Water-to- Water chillers and by 6% in rooftops and Air-to-Water chillers
- Reduce the load on mechanical parts at start up, provide safer operation at high condensing and evaporating temperatures and contribute to better liquid management

Technical data and ordering

DCJ - Scroll compressor - R410A

Ordering - Single pack

Compressor model	Model Variation	Connections	Feature	Code no.			
				2	4	7	9
				200-220/3/50 208-230/3/60	380-415/3/50 460/3/60	575/3/50	380/3/60
DCJ091	T	C	6	121L5003	121L5001	121L5005 [2)]	121L5007 [2)]
	T	C	8 [1)]	121L5029	121L5027	121L5031 [2)]	121L5033 [2)]
DCJ106	T	C	6	121L5011	121L5009	121L5013 [2)]	121L5015 [2)]
	T	C	8 [1)]	121L5037	121L5035	121L5039 [2)]	121L5041 [2)]
DCJ121	T	C	6	121L5019	121L5017	121L5021 [2)]	121L5023 [2)]
	T	C	8 [1)]	121L5045	121L5043	121L5047 [2)]	121L5049 [2)]

[1)] Feature 8 is for tandem manifolding
[2)] These code are preliminary.

DCJ - Scroll compressor - R410A

Ordering - Industrial pack

Compressor model	Model Variation	Connections	Feature	Code no.			
				2	4	7	9
				200-220/3/50 208-230/3/60	380-415/3/50 460/3/60	575/3/50	380/3/60
DCJ091	T	C	6	121L5002	121L5000	121L5004 [2)]	121L5006 [2)]
	T	C	8 [1)]	121L5028	121L5026	121L5030 [2)]	121L5032 [2)]
DCJ106	T	C	6	121L5010	121L5008	121L5012 [2)]	121L5014 [2)]
	T	C	8 [1)]	121L5036	121L5034	121L5038 [2)]	121L5040 [2)]
DCJ121	T	C	6	121L5018	121L5016	121L5020 [2)]	121L5022 [2)]
	T	C	8 [1)]	121L5044	121L5042	121L5046 [2)]	121L5048 [2)]

[1)] Feature 8 is for tandem manifolding
[2)] These code are preliminary.

DCJ – Scroll compressors – R410A – 50 Hz – 60 Hz

Technical data

Compressor model		Nominal tons 60 Hz	Nominal cooling capacity		Power input	COP	E.E.R.	Swept volume		Displacement [1)]		Oil charge		Net weight [2)]	
		[TR]	[W]	[Btu/h]	[W]	[W/W]	[Btu/h/W]	[cm³/rev]	[cu.in/rev]	[m³/h]	[cu.ft/h]	[dm³]	[oz]	[kg]	[lbs]
50 Hz	DCJ091	7.5	19670	67114	6360	3.09	10.55	86.9	5.3	15.11	533.6	2.46	84	49	108
	DCJ106	9	23000	78476	7363	3.12	10.66	101.6	6.2	17.68	624.4	2.46	84	49	108
	DCJ121	10	26250	89565	8431	3.11	10.62	116.4	7.1	20.24	714.8	2.46	84	49	108
60 Hz	DCJ091	7.5	27084	92437	8393	3.23	11.01	86.9	5.3	18.24	644.1	2.46	84	49	108
	DCJ106	9	31472	107412	9671	3.25	11.11	101.6	6.2	21.34	753.6	2.46	84	49	108
	DCJ121	10	35723	121921	11122	3.21	10.96	116.4	7.1	24.43	862.7	2.46	84	49	108

[1)] Displacement at nominal speed: 2900 rpm at 50 Hz, 3500 rpm at 60 Hz
[2)] Net weight with oil charge
TR: Ton of Refrigeration,
Standard rating conditions:
For 50 Hz: Evaporating temperature: 5 °C / 41°F, Condensing temperature: 50 °C / 122 °F, Superheat: 10 K (18°F), Subcooling: 0 K (0 °F)
For 60 Hz: Evaporating temperature: 7.1 °C / 45 °F, Condensing temperature: 54.4 °C / 130 °F, Superheat: 11.1 K (20°F), Subcooling: 8.3 K (15 °F)
EER: Energy Efficiency Ratio Refrigerant: R410A
COP: Coefficient Of Performance,
All performance data test after run-in 72 hrs
Subject to modification without prior notification.

Technical data and ordering

DCJ – Scroll compressors – R410A – 50 Hz

Performance table

Compressor model	Te	-25		-15		-5		0		5		10		20	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
DCJ091T4	30	8200	4.03	12850	4.12	19140	4.18	23020	4.16	27470	4.07	32520	3.90	–	–
DCJ091T4	45	–	–	10610	5.63	16070	5.68	19450	5.71	23330	5.72	27760	5.68	38480	5.40
DCJ106T4	30	9740	4.64	15220	4.71	22580	4.78	27110	4.77	32290	4.70	38180	4.54	–	–
DCJ106T4	45	–	–	12390	6.55	18830	6.57	22800	6.59	27350	6.59	32540	6.56	45080	6.31
DCJ121T4	30	11280	5.29	17530	5.34	25950	5.45	31140	5.46	37080	5.41	43820	5.26	–	–
DCJ121T4	45	–	–	14140	7.56	21520	7.49	26090	7.52	31320	7.54	37290	7.54	51700	7.34

To : Evaporating temperature in [°C]
Tc : Condensing temperature in [°C]
Qo: Cooling Capacity in [W]
Pe : Power input in [kW]
Subcooling : 8.3K
Superheat : 11.1K
Voltage : 400 V /3 /50 Hz

DCJ – Scroll compressors – R410A – 60 Hz

Performance table

Compressor model	Te	-25		-15		-5		0		5		10		20	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
DCJ091T4	30	10150	4.80	15760	4.98	23340	5.11	28020	5.08	33380	4.94	39480	4.65	-	-
DCJ091T4	45	-	-	13130	6.67	19710	6.81	23780	6.89	28460	6.93	33800	6.89	46720	6.47
DCJ106T4	30	11970	5.49	18500	5.65	27310	5.82	32750	5.81	38970	5.68	46050	5.38	-	-
DCJ106T4	45	-	-	15300	7.68	22980	7.79	27730	7.89	33190	7.95	39420	7.94	54490	7.52
DCJ121T4	30	13830	6.24	21270	6.39	31290	6.60	37480	6.60	44540	6.48	52570	6.19	-	-
DCJ121T4	45	-	-	17440	8.82	26240	8.90	31670	9.00	37900	9.09	45010	9.11	62170	8.75

To : Evaporating temperature in [°C]
Tc : Condensing temperature in [°C]
Qo: Cooling Capacity in [W]
Pe : Power input in [kW]
Subcooling : 8.3K
Superheat : 11.1K
Voltage : 460 V /3 /60 Hz

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Nomenclature and Dimensions

Type	Size	Motor	Features
DCJ	091	T4L	C6

DCJ:
Commercial scroll,PVE lubricant,for R410A

Nominal capacity:
In thousand Btu/h at 60 Hz,
ARI conditions

Model variation:
T: Design optimized for 7.2 – 54.4 °C

Other features

	Oil sight glass	Oil equalisation	Oil drain	LP gauge port	Gas equalisation port
6	None	None	None	None	None
8	None	Brazed	None	None	Brazed

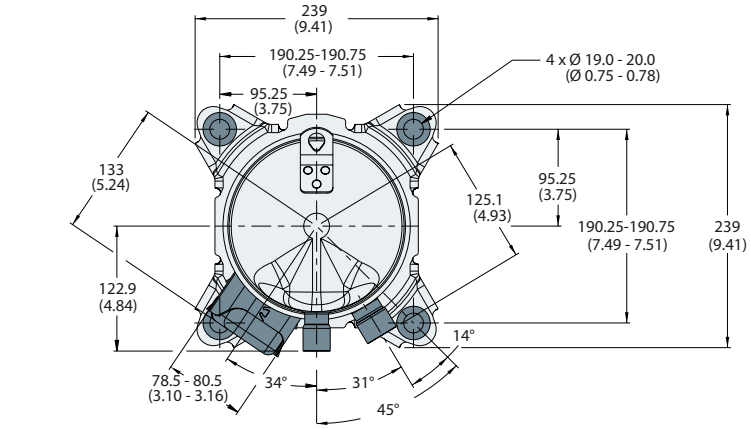
Tubing and electrical connections
C: brazed connections, screw terminals

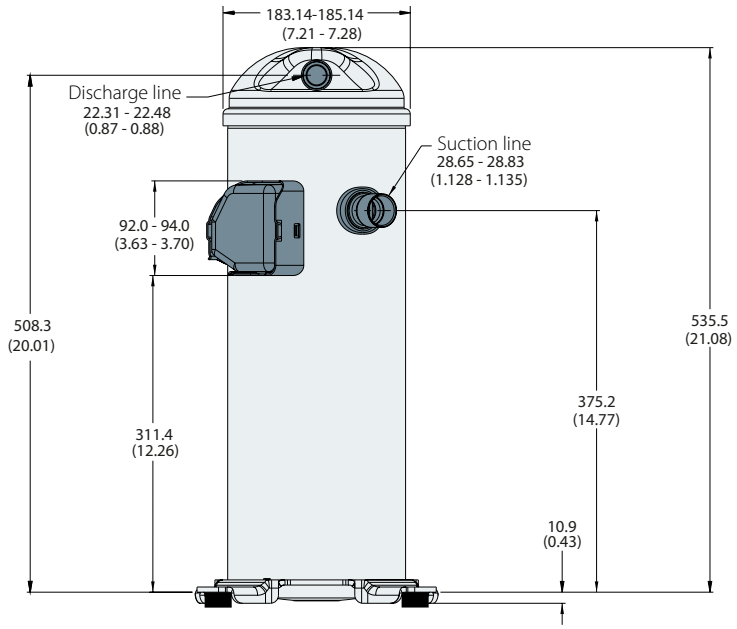


Motor protection
C: brazed connections, screw terminals

Motor voltage code
2: 200-220 V/3~/50 Hz & 208-230 V/3~/60 Hz
4: 380-415V/3~/50 Hz & 460 V/3~/60 Hz
7: 575V/3~/60 Hz
9: 380 V/3~/60 Hz

Single compressors DCJ091-106-121





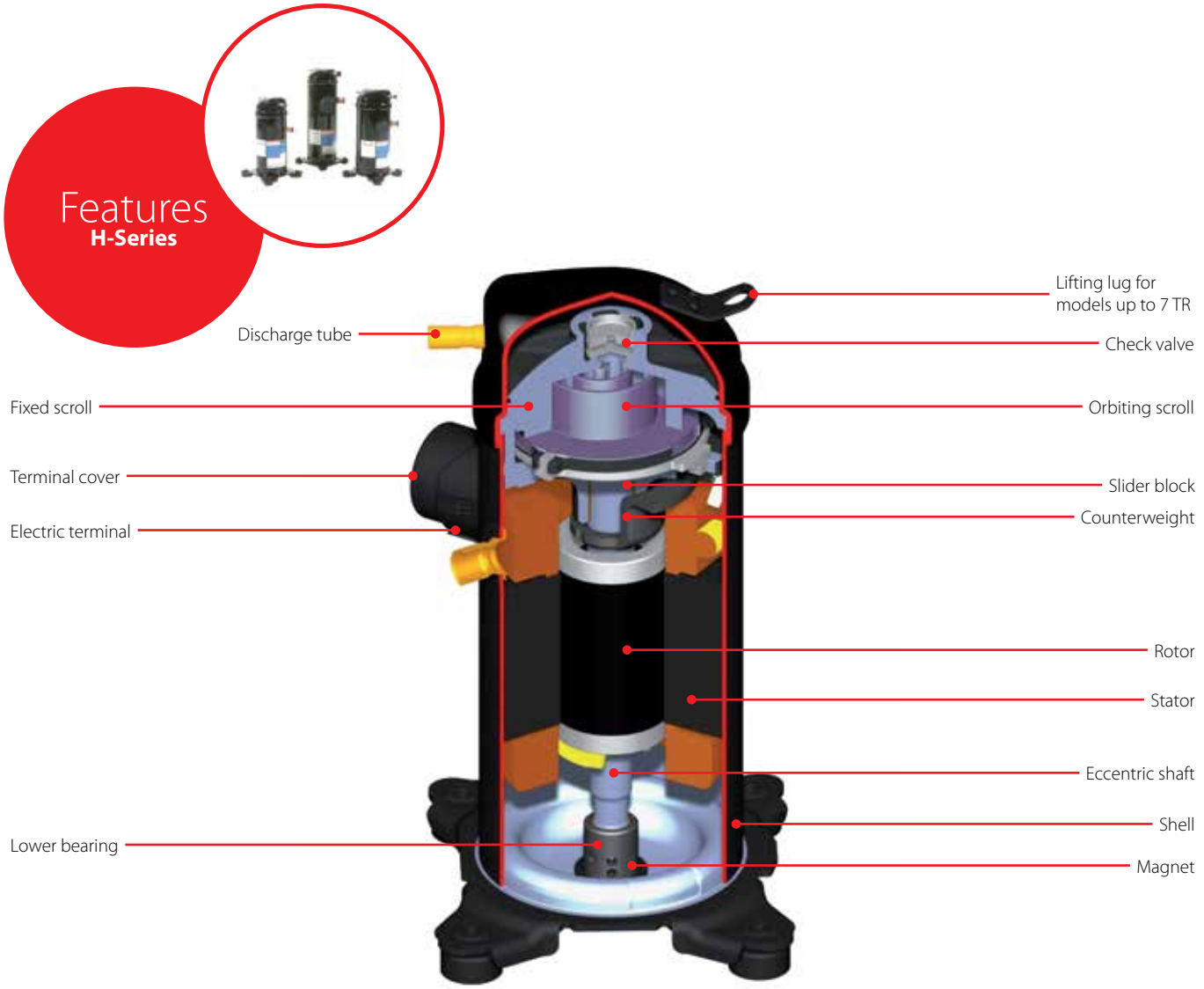
DCJ091-106-121

All dimensions in mm (inch)

H-Series, Scroll compressor

Danfoss scrolls are designed for excellence in performance, silence and endurance. They feature compressors that are among the quietest, most efficient, reliable and available on the market. Ranging from 2.5 – 10 TR, the universal dimension, footprint and connections of the H series make it the natural choice for greater comfort in existing or new residences.

Available in a large variety of single and tandem models for refrigerants R407C, R134a, R410A and R22, the compressors combine high energy efficiency with low sound and minimal vibration.



Facts

- Discharge check valve: no reverse rotation hence no shutdown noise
- Radial scroll compliance: good resistance to liquid flood back
- Axial scroll compliance: low starting current
- Oil injection: good lubrication at fierce conditions
- Lead-free bearings: high reliability even with low lubrication
- Patented internal protection combined with HOOP (Hot Oil Over Protector) thermal valve: excellent reliability
- Standard dimensions and tubing: ideal for both new installations and replacement markets

Technical data and ordering

H series - Scroll compressor - R22 / R407C / R410A - 50 Hz

Technical data

Type		Nominal tons 60 Hz	Nominal cooling capacity		Power input	COP	E.E.R	Swept volume	Displacement	Oil charge	Net weight
		[TR]	[W]	[Btu/h]	[kW]	[W/W]	[Btu/h/W]	[cm³/rev]	[m³/h]	[dm³]	[kg]
R22	HRM025T4	2	5 950	20 300	1.86	3.2	10.9	34.1	5.9	1.06	32
	HRM034U4	2.8	8 350	28 490	2.66	3.14	10.7	46.2	8.03	1.06	32
	HRM034T4	2.8	8 200	28 000	2.66	3.29	11.2	46.2	8.03	1.06	32
	HRM038U4	3.2	9 240	31 520	2.94	3.14	10.7	51.6	8.98	1.06	32
	HRM040U4	3.3	9 710	33 120	2.98	3.26	11.1	54.4	9.47	1.06	32
	HRM042U4	3.5	10 190	34 770	3.13	3.26	11.1	57.2	9.95	1.06	32
	HRM042T4	3.5	10 110	34 500	3..08	3.28	11.2	57.2	9.95	1.06	32
	HRM045U4	3.8	10 940	37 310	3.45	3.17	10.8	61.5	10.69	1.33	32
	HRM047U4	3.9	11 500	39 250	3.57	3.23	11	64.1	11.15	1.33	32
	HRM048U4	4	11 510	39 270	3.57	3.23	11	64.4	11.21	1.57	39
	HRM051T4	4.3	12 390	42 280	3.67	3.37	11.5	68.8	11.98	1.57	39
	HRM051U4	4.3	12 800	43 690	3.83	3.34	11.4	68.8	11.98	1.57	39
	HRM054U4	4.5	13 390	45 680	3.97	3.37	11.5	72.9	12.69	1.57	41
	HRM054T4	4.5	13 300	45 400	3.84	3.46	11.8	72.9	12.69	1.57	41
	HRM058U4	4.8	14 340	48 930	4.25	3.37	11.5	78.2	13.6	1.57	41
	HRM060T4	5	14 570	49 720	4.28	3.4	11.6	81	14.09	1.57	41
	HRM060U4	5	14 820	50 580	4.4	3.37	11.5	81	14.09	1.57	41
	HLM068T4	5.7	16 880	57 580	5	3.37	11.5	93.1	16.2	1.57	41
	HLM072T4	6	17 840	60 870	5.29	3.37	11.5	98.7	17.2	1.57	41
	HLM075T4	6.3	18 430	62 880	5.37	3.43	11.7	102.8	17.88	1.57	41
	HLM081T4	6.8	19 890	67 880	5.8	3.43	11.7	110.9	19.3	1.57	41
	HCM094T4	7.8	23 060	78 670	6.8	3.39	11.6	126	21.93	2.66	47
	HCM109T4	9.1	26 690	91 070	7.77	3.43	11.7	148.8	25.89	2.66	47
	HCM120T4	10	29 130	99 390	8.51	3.42	11.7	162.4	28.26	2.66	47
R407C	HRP025T4	2	5730	19 570	1.86	3.08	10.5	34.1	5.9	1.06	32
	HRP034T4	2.8	7 940	27 080	2.68	2.96	10.1	46.2	8.03	1.06	32
	HRP038T4	3.2	8 840	30 150	2.82	3.14	10.7	51.6	8.98	1.06	32
	HRP040T4	3.3	9 110	31 080	3.14	2.9	9.9	54.4	9.47	1.06	32
	HRP042T4	3.5	9 580	32 680	3.3	2.9	9.9	57.2	9.95	1.06	32
	HRP045T4	3.8	10 810	36 890	3.58	3.02	10.3	61.5	10.69	1.33	32
	HRP047T4	3.9	11 130	37 980	3.69	3.02	10.3	64.1	11.15	1.33	32
	HRP048T4	4	11 100	37 880	3.35	3.31	11.3	64.4	11.21	1.57	39
	HRP051T4	4.3	12 120	41 370	3.83	3.17	10.8	68.8	11.98	1.57	39
	HRP054T4	4.5	12 570	42 880	3.97	3.17	10.8	72.8	12.66	1.57	41
	HRP058T4	4.8	13 470	45 970	4.25	3.17	10.8	78.2	13.6	1.57	41
	HRP060T4	5	13 860	47 280	4.26	3.25	11.1	81	14.09	1.57	41
	HLP068T4	5.7	15 700	53 560	5.1	3.08	10.5	93.1	16.2	1.57	41
	HLP072T4	6	16 620	56 740	5.3	3.14	10.7	98.7	17.17	1.57	41
	HLP075T4	6.3	18 040	61 550	5.54	3.26	11.1	102.8	17.88	1.57	41
	HLP081T4	6.8	19 480	66 510	5.99	3.25	11.1	110.9	19.3	1.57	41
	HCP094T4	7.8	21 590	73 660	6.63	3.26	11.1	126	21.93	2.66	47
	HCP109T4	9.1	26 060	88 950	7.93	3.28	11.2	148.8	25.89	2.66	47
	HCP120T4	10	28 150	96 080	8.88	3.17	10.8	162.4	28.26	2.66	47
R410A	HRH029U4	2.4	7 120	24 310	2.43	2.93	10	27.8	4.84	1.06	32
	HRH031U4	2.6	7 530	25 710	2.67	2.82	9.62	29.8	5.19	1.06	32
	HRH032U4	2.7	7 670	26 170	2.75	2.79	9.51	30.6	5.33	1.06	32
	HRH034U4	2.8	8 500	29 000	2.9	2.93	10	33.3	5.75	1.06	32
	HRH036U4	3	8 820	30 110	3.13	2.82	9.62	34.7	6.04	1.06	32
	HRH038U4	3.2	9 250	31 560	3.35	2.76	9.41	36.5	6.36	1.06	39
	HRH040U4	3.3	10 200	34 810	3.58	2.85	9.72	39.6	6.9	1.33	39
	HRH041U4	3.3	10 050	34 300	3.43	2.93	10	39.3	6.8	1.57	39
	HRH044U4	3.7	10 830	36 940	3.92	2.76	9.41	42.6	7.41	1.57	39
	HRH047U4	3.9	11 340	38 700	3.87	2.93	10.01	44.4	7.73	1.57	39
	HRH049U4	4.1	12 110	41 320	4.04	2.99	10.22	47.4	8.24	1.57	39
	HRH051U4	4.3	12 860	43 890	4.21	3.05	10.42	49.3	8.58	1.57	41
	HRH054U4	4.5	13 340	45 510	4.41	3.02	10.32	52.1	9.07	1.57	41
	HRH056U4	4.7	13 830	47 200	4.58	3.02	10.31	54.1	9.42	1.57	41
	HLH061T4	5.1	15 210	51 880	4.89	3.11	10.61	57.8	10.1	1.57	41
	HLH068T4	5.7	16 880	57 610	5.26	3.21	10.96	64.4	11.21	1.57	41
	HLJ072T4	6	17 840	60 900	5.56	3.21	11	68	11.82	1.57	41
	HLJ075T4	6.3	18 600	63 490	5.77	3.22	11	70.8	12.32	1.57	41
	HLJ083T4	6.9	20 420	69 690	6.28	3.25	11.1	78.1	13.59	1.57	41
	HCJ090T4	7.5	22 320	76 190	7.19	3.11	10.6	86.9	15.11	2.66	44
	HCJ091T4	7.5	22 380	76 360	7.03	3.18	10.87	86.9	15.11	2.46	49
	HCJ105T4	8.8	26 100	89 090	8.25	3.16	10.8	101.6	17.68	2.66	44
	HCJ106T4	8.8	26 050	88 880	8.07	3.23	11.01	101.6	17.68	2.46	49
	HCJ120T4	10	29 610	101080	9.53	3.11	10.6	116.4	20.24	2.66	44
	HCJ121T4	10	29 720	101400	9.22	3.22	11	116.4	20.24	2.46	49

TR: *Ton of Refrigeration*
COP: *Coefficient Of Performance*
EER: *Energy Efficiency Ratio*

**) ARI standard rating conditions, 400 V / 3 ph / 50 Hz*

Evaporating temperature: 7.2 °C
Condensing temperature: 54.4 °C
Superheat: 11.1 K
Sub-cooling: 8.3 K

Technical data and ordering

H series - Scroll compressor - R22 / R407C / R410A - 60 Hz

Technical data

Type		Nominal tons 60 Hz	Nominal cooling capacity		Power input	COP	E.E.R	Swept volume	Displacement	Oil charge	Net weight
		[TR]	[W]	[Btu/h]	[kW]	[W/W]	[Btu/h/W]	[cm³/rev]	[m³/h]	[dm³]	[kg]
R22	HRM025T4	2	7 090	24 200	2.22	3.2	10.9	34.1	7.12	1.06	32
	HRM034U4	2.8	9 810	33 480	3.07	3.2	10.9	46.2	9.69	1.06	32
	HRM034T4	2.8	9 960	34 010	2.98	3.34	11.4	46.2	9.69	1.06	32
	HRM038U4	3.2	11 130	37 980	3.39	3.28	11.2	51.6	10.84	1.06	32
	HRM040U4	3.3	11 720	39 980	3.57	3.28	11.2	54.4	11.43	1.06	32
	HRM042U4	3.5	12 300	41 980	3.75	3.28	11.2	57.2	12	1.06	32
	HRM042T4	3.5	12 160	41 510	3.64	3.34	11.4	57.2	12	1.06	32
	HRM045U4	3.8	13 180	44 980	4.01	3.28	11.2	61.5	12.9	1.33	32
	HRM047U4	3.9	13 920	47 490	4.22	3.3	11.3	64.1	13.46	1.33	32
	HRM048U4	4	13 830	47 180	4.25	3.25	11.1	64.4	13.53	1.57	39
	HRM051T4	4.3	15 030	51 270	4.46	3.37	11.5	68.8	14.46	1.57	39
	HRM051U4	4.3	15 030	51 280	4.46	3.37	11.5	68.8	14.46	1.57	39
	HRM054U4	4.5	15 730	53 680	4.62	3.4	11.6	72.9	15.32	1.57	41
	HRM054T4	4.5	15 820	54 000	4.53	3.49	11.9	72.9	15.32	1.57	41
	HRM058U4	4.8	16 930	57 780	5.02	3.37	11.5	78.2	16.41	1.57	41
	HRM060T4	5	17 490	59 670	5.14	3.4	11.6	81	17	1.57	41
	HRM060U4	5	17 490	59 680	5.19	3.37	11.5	81	17	1.57	41
	HLM068T4	5.7	20 190	68 880	5.94	3.4	11.6	93.1	19.55	1.57	41
	HLM072T4	6	21 330	72 770	6.27	3.4	11.6	98.7	20.76	1.57	41
	HLM075T4	6.3	22 120	75 480	6.45	3.43	11.7	102.8	21.58	1.57	41
	HLM081T4	6.8	23 880	81 470	6.96	3.43	11.7	110.9	23.29	1.57	41
	HCM094T4	7.8	27 690	94 470	8.07	3.43	11.7	126	26.47	2.66	47
	HCM109T4	9.1	32 020	109 270	9.33	3.43	11.7	148.8	31.25	2.66	47
	HCM120T4	10	34 950	119 260	10.22	3.42	11.7	162.4	34.11	2.66	47
R407C	HRP025T4	2	6880	23 490	2.22	3.11	10.6	34.1	7.12	1.06	32
	HRP034T4	2.8	9580	32 700	3.2	3	10.2	46.2	9.69	1.06	32
	HRP038T4	3.2	10 670	36 410	3.36	3.18	10.8	46.2	10.84	1.06	32
	HRP040T4	3.3	10 990	37 510	3.7	2.97	10.1	54.4	11.43	1.06	32
	HRP042T4	3.5	11 560	39 460	3.93	2.94	10	57.2	12.01	1.06	32
	HRP045T4	3.8	13 050	44 540	4.27	3.06	10.4	61.5	12.9	1.33	32
	HRP047T4	3.9	12 690	43 300	4.24	3	10.2	64.1	13.46	1.33	32
	HRP048T4	4	13 400	45 740	3.99	3.36	11.5	64.4	13.53	1.57	39
	HRP051T4	4.3	14 380	49080	4.46	3.23	11	68.8	14.46	1.57	39
	HRP054T4	4.5	15 120	51 770	4.73	3.21	11	72.8	15.28	1.57	41
	HRP058T4	4.8	16 260	55 510	5.07	3.17	10.8	78.2	16.41	1.57	41
	HRP060T4	5	16 720	57 010	5.07	3.3	11.3	81	17.01	1.57	41
	HLP068T4	5.7	18 950	64 660	6.08	3.12	10.6	93.1	19.55	1.57	41
	HLP072T4	6	20 060	68 480	6.32	3.17	10.8	98.7	20.72	1.57	41
	HLP075T4	6.3	21 770	74 330	6.6	3.3	11.3	102.8	21.58	1.57	41
	HLP081T4	6.8	23 380	79 810	7.14	3.27	11.2	110.9	23.29	1.57	41
	HCP094T4	7.8	26 060	88 950	7.9	3.3	11.3	126	26.47	2.66	47
	HCP109T4	9.1	31 450	107 350	9.46	3.32	11.3	148.8	31.25	2.66	47
	HCP120T4	10	33 970	115 960	10.59	3.21	11	162.4	34.11	2.66	47
R410A	HRH029U4	2.4	8 500	29 000	2.84	2.99	10.2	27.8	5.84	1.06	32
	HRH031U4	2.6	9 080	30 990	3.04	2.99	10.2	29.8	6.26	1.06	32
	HRH032U4	2.7	9 380	31 990	3.1	3.02	10.3	30.6	6.43	1.06	32
	HRH034U4	2.8	10 110	34 510	3.38	2.99	10.2	33.3	6.94	1.06	32
	HRH036U4	3	10 370	35 390	3.47	2.99	10.2	34.7	7.3	1.06	32
	HRH038U4	3.2	11 100	37 890	3.79	2.93	10	36.5	7.67	1.06	39
	HRH040U4	3.3	12 160	41 490	4.03	3.02	10.3	39.6	8.3	1.33	39
	HRH041U4	3.3	12 100	41 300	4.05	2.99	10.2	39.3	8.3	1.57	39
	HRH044U4	3.7	13 010	44 390	4.31	3.02	10.3	42.6	8.95	1.57	39
	HRH047U4	3.9	13 630	46 510	4.56	2.99	10.2	44.4	9.33	1.57	39
	HRH049U4	4.1	14 360	48 990	4.66	3.08	10.5	47.4	9.95	1.57	39
	HRH051U4	4.3	15 180	51 780	4.84	3.14	10.7	49.3	10.36	1.57	41
	HRH054U4	4.5	15 970	54 480	5.14	3.11	10.6	52.1	10.94	1.57	41
	HRH056U4	4.7	16 670	56 880	5.36	3.11	10.6	54.1	11.36	1.57	41
	HLH061T4	5.1	18 050	61 580	5.7	3.17	10.8	57.8	12.13	1.57	41
	HLH068T4	5.7	20 130	68 670	6.3	3.2	10.9	64.4	13.52	1.57	41
	HLJ072T4	6	21 240	72 500	6.65	3.19	10.9	68	14.27	1.57	41
	HLJ075T4	6.3	22 320	76 190	6.86	3.25	11.1	70.8	14.87	1.57	41
	HLJ083T4	6.9	24 340	83 090	7.55	3.22	11	78.1	16.4	1.57	41
	HCJ090T4	7.5	26 810	91 500	8.47	3.16	10.8	86.9	18.24	2.66	44
	HCJ091T4	7.5	27 140	92 600	8.37	3.24	11.07	86.9	18.24	2.46	49
	HCJ105T4	8.8	31 170	106 390	9.75	3.2	10.9	101.6	21.34	2.66	44
	HCJ106T4	8.8	31 670	108 050	9.67	3.28	11.18	101.6	21.34	2.46	49
	HCJ120T4	10	35 620	121 600	11.15	3.2	10.9	116.4	24.43	2.66	44
	HCJ121T4	10	35 940	122 620	11.07	3.25	11.08	116.4	24.43	2.46	49

TR: *Ton of Refrigeration*
COP: *Coefficient Of Performance*
EER: *Energy Efficiency Ratio*

**) ARI standard rating conditions, 460 V / 3 ph / 60 Hz*

Evaporating temperature: 7.2 °C
Condensing temperature: 54.4 °C
Superheat: 11.1 K
Sub-cooling: 8.3 K

Technical data and ordering

H series - Scroll compressor - R410A

Ordering single pack

Type	Model Variation	Connect.	Features	Code no.					
				1	2	4	5	7	9
HRH029	U	P	6	120U2277	120U2282	120U2287	–	–	–
HRH031	U	P	6	120U1136	120U1251	120U1191	120U1166	–	–
HRH032	U	P	6	120U1141	120U1256	120U1196	120U1171	120U1221	–
HRH034	U	P	6	120U1146	120U1261	120U2443	120U2650	120U1226	–
HRH036	U	P	6	120U1151	120U1266	120U1201	120U1176	120U1231	–
HRH038	U	P	6	120U1156	120U1271	120U1206	120U1181	–	120U2658
HRH039	U	P	6	120U2466	–	–	–	–	–
HRH040	U	P	6	120U1161	120U1276	120U1211	120U1186	120U1241	–
HRH041	U	P	6	120U1281	120U1451	120U1356	–	120U1406	–
	U	C	8	–	120U2407	120U2397	–	–	–
HRH044	U	P	6	120U1286	120U1456	120U1361	–	–	–
HRH047	U	P	6	120U2362	–	–	–	–	–
HRH048	U	P	6	120U2582	–	–	–	–	–
HRH049	U	P	6	120U1291	120U1461	120U1366	–	–	–
	U	C	8	–	120U2482	120U2474	–	120U2478	–
HRH050	U	P	6	120U2470	–	–	–	–	–
HRH051	U	P	6	120U1296	120U1466	120U1371	120U1326	120U1421	–
HRH054	U	P	6	120U1301	120U1471	120U1376	120U1331	120U1426	–
HRH056	U	C	6	–	–	120U1386	–	120U2237	–
	U	P	6	120U1306	120U1476	120U1381	120U1336	120U1431	–
HLH061	T	C	6	–	120U2062	120U2052		120U2057	120U2450
	T	P	6	120U2042	–	–	120U2047	–	–
	T	C	8	–	120U2494	120U2486	–	120U2490	–
HLH068	T	C	6	–	120U1481	120U1391	–	120U1436	–
	T	P	6	120U1311	–	–	120U1341	–	–
	T	C	8	–	120U2427	120U2417	–	120U2422	–
HLJ072	T	C	6	–	120U1486	120U1396	–	120U2037	–
	T	P	6	120U1316	–	–	120U1346	–	–
	T	C	8	–	120U2177	120U2167	–	120U2498	–
HLJ075	T	C	6	–	120U2272	120U2267	–	–	–
HLJ083	T	C	6	–	120U1491	120U1401	–	120U1441	120U2387
	T	P	6	120U1321	–	–	120U1351	–	–
	T	C	8	–	120U2182	120U2172	–	120U2502	–
HCJ090	T	C	6	–	120U2307	120U2302	–	120U2312	–
	T	C	7	–	120U2542	120U2534	–	120U2510	–
	T	C	8	–	120U2546	120U2538	–	–	–
HCJ105	T	C	6	–	120U2327	120U2322	–	120U2332	–
	T	C	7	–	–	120U2574	–	–	–
	T	C	8	–	120U2554	120U2578	–	–	–
HCJ120	T	C	6	–	120U2347	120U2342	–	120U2352	–
	T	C	7	–	–	120U2558	–	–	–
	T	C	8	–	120U2570	120U2562	–	–	–

Technical data and ordering

H series - Scroll compressor - R410A

Ordering industrial pack

Type	Model Variation	Connect.	Features	Code no.					
				1	2	4	5	7	9
HRH029	U	P	6	120U2274	120U2279	120U2284	–	–	–
HRH031	U	P	6	120U1133	120U1248	120U1188	120U1163	–	–
HRH032	U	P	6	120U1138	120U1253	120U1193	120U1168	120U1218	–
HRH034	U	P	6	120U1143	120U1258	120U2446	120U2647	120U1223	–
HRH036	U	P	6	120U1148	120U1263	120U1198	120U1173	120U1228	–
HRH038	U	P	6	120U1153	120U1268	120U1203	120U1178		120U2655
HRH039	U	P	6	120U2463	–	–	–		–
HRH040	U	P	6	120U1158	120U1273	120U1208	120U1183	120U1238	–
HRH041	U	P	6	120U1278	120U1448	120U1353	–	120U1403	–
	U	C	8	–	120U2404	120U2394	–	–	–
HRH044	U	P	6	120U1283	120U1453	120U1358	–	–	–
HRH047	U	P	6	120U2359	–	–	–	–	–
HRH048	U	P	6	120U2579	–	–	–	–	–
HRH049	U	P	6	120U1288	120U1458	120U1363	–	–	–
	U	C	8	–	120U2479	120U2471	–	120U2475	–
HRH050	U	P	6	120U2467	–	–	–	–	–
HRH051	U	P	6	120U1293	120U1463	120U1368	120U1323	120U1418	–
HRH054	U	P	6	120U1298	120U1468	120U1373	120U1328	120U1423	–
HRH056	U	C	6	–	–	120U1383	–	120U2234	–
HRH056	U	P	6	120U1303	120U1473	120U1378	120U1333	120U1428	–
HLH061	T	P	6	120U2039	–	–	120U2044	–	–
	T	C	6	–	120U2059	120U2049	–	120U2054	120U2447
	T	C	8	–	120U2491	120U2483	–	120U2487	–
HLH068	T	C	6	–	120U1478	120U1388	–	120U1433	–
	T	C	8		120U2424	120U2414	–	120U2419	–
	T	P	6	120U1308	–	–	120U1338	–	–
HLJ072	T	C	6	–	120U1483	120U1393	–	120U2034	–
	T	C	8	–	120U2174	120U2164	–	120U2495	–
	T	P	6	120U1313	–	–	120U1343	–	–
HLJ075	T	C	6	–	120U2269	120U2264	–	–	120U1443
HLJ083	T	C	6	–	120U1488	120U1398	–	120U1438	120U2384
	T	C	8	–	120U2179	120U2169	–	120U2499	–
	T	P	6	120U1318	–	–	120U1348	–	–
HCJ090	T	C	6	–	120U2304	120U2299	–	120U2309	–
	T	C	7	–	120U2539	120U2531	–	120U2507	–
	T	C	8	–	120U2543	120U2535	–	–	–
HCJ105	T	C	6	–	120U2324	120U2319	–	120U2329	–
	T	C	7	–	–	120U2571	–	–	–
	T	C	8	–	120U2551	120U2575	–	–	–
HCJ120	T	C	6	–	120U2344	120U2339	–	120U2349	–
	T	C	7	–	–	120U2555	–	–	–
	T	C	8	–	120U2567	120U2559	–	–	–

Technical data and ordering

H series - Scroll compressor - R407C

Ordering single pack

Type	Model Variation	Connect.	Features	Code no.					
				1	2	4	5	7	9
HRP025	T	P	6	–	–	120U3088	–	–	–
HRP034	T	P	6	–	–	120U2024	120U2019	–	–
HRP038	T	P	6	–	120U1086	120U1006	120U0961	–	–
HRP040	T	P	6	–	120U1096	120U1016	120U1929	–	–
HRP042	T	P	6	–	–	120U1026	120U2157	–	–
HRP045	T	P	6	–	–	120U1036	120U0976	–	–
HRP047	T	P	6	–	120U1126	120U1046	120U0986	–	–
HRP048	T	C	8	–	–	120U1661	–	–	–
HRP048	T	P	6	–	–	120U1656	–	–	–
HRP051	T	P	6	120U1501	120U1861	120U1681	–	–	–
HRP054	T	P	6	–	–	120U1691	120U2197	–	–
HRP058	T	P	6	–	–	120U1701	120U1596	–	–
HRP060	T	C	8	–	–	120U1731	–	–	–
	T	P	6	–	120U2297	120U1726	120U1606	–	–
HLP068	T	C	6	–	–	120U2014	–	–	–
	T	P	6	120U1561	–	–	120U1621	–	–
HLP072	T	C	6	–	–	120U1756	–	–	–
	T	C	8	–	–	120U2072	–	–	–
	T	P	6	120U1571	–	–	120U1631	–	–
HLP075	T	C	6	–	–	120U1766	–	–	–
HLP078	T	C	6	–	120U2458	120U2454	–	–	–
HLP081	T	C	6	–	120U1916	120U1781	–	–	–
	T	C	8	–	–	120U1786	–	–	–
	T	P	6	120U1591	–	–	120U1651	–	–
HCP094	T	C	6	–	120U0906	120U0601	–	–	–
	T	C	7	–	–	120U0606	–	–	–
	T	C	8	–	120U0916	120U0611	–	–	–
HCP109	T	C	6	–	–	120U0376	–	–	–
	T	C	7	–	–	120U0381	–	–	–
	T	C	8	–	–	120U0386	–	–	–
HCP120	T	C	6	–	120U0766	120U0401	–	–	–
	T	C	7	–	–	120U0406	–	–	–
	T	C	8	–	–	120U0411	–	–	–

Technical data and ordering

H series - Scroll compressor - R407C

Ordering industrial pack

Type	Model Variation	Connect.	Features	Code no.					
				1	2	4	5	7	9
HRP025	T	P	6	–	–	120U3087	–	–	–
HRP034	T	P	6	–	–	120U2021	120U2016	–	–
HRP038	T	P	6	–	120U1083	120U1003	120U0958	–	–
HRP040	T	P	6	–	120U1093	120U1013	120U1926	–	–
HRP042	T	P	6	–	–	120U1023	120U2154	–	–
HRP045	T	P	6	–	–	120U1033	120U0973	–	–
HRP047	T	P	6	–	120U1123	120U1043	120U0983	–	–
HRP048	T	C	8	–	–	120U1658	–	–	–
HRP048	T	P	6	–	–	120U1653	–	–	–
HRP051	T	P	6	120U1498	120U1858	120U1678	–	–	–
HRP054	T	P	6	–	–	120U1688	120U2194	–	–
HRP058	T	P	6	–	–	120U1698	120U1593	–	–
HRP060	T	C	8	–	–	120U1728	–	–	–
	T	P	6	–	120U2297	120U1723	120U1603	–	–
HLP068	T	C	6	–	–	120U2011	–	–	–
	T	P	6	120U1558	–	–	120U1618	–	–
HLP072	T	C	6	–	–	120U1753	–	–	–
	T	C	8	–	–	120U2069	–	–	–
	T	P	6	–	–	–	120U1628	–	–
HLP075	T	C	6	–	–	120U1763	–	–	–
HLP078	T	C	6	–	120U2455	120U2451	–	–	–
HLP081	T	C	6	–	120U1913	120U1778	–	–	–
	T	C	8	–	–	120U1783	–	–	–
	T	P	6	120U1588	–	–	120U1648	–	–
HCP094	T	C	6	–	120U0903	120U0598	–	–	–
	T	C	7	–	–	120U0603	–	–	–
	T	C	8	–	120U0913	120U0608	–	–	–
HCP109	T	C	6	–	–	120U0373	–	–	–
	T	C	7	–	–	120U0378	–	–	–
	T	C	8	–	–	120U0383	–	–	–
HCP120	T	C	6	–	120U0763	120U0398	–	–	–
	T	C	7	–	–	120U0403	–	–	–
	T	C	8	–	–	120U0408	–	–	–

Technical data and ordering

H series - Scroll compressor - R22

Ordering single pack

Type	Model Variation	Connect.	Features	Code no.					
				1	2	4	5	7	9
HRM032	U	P	6	120U0921	–	–	–	–	–
HRM034	U	P	6	120U0926	120U1081	120U1001	–	–	–
	T	P	6	–	–	120U2367	–	–	120U2087
HRM038	U	P	6	120U0931	120U1091	120U1011	120U0966	120U1056	–
	T	P	6	–	–	–	–	–	120U2092
HRM040	U	P	6	120U0936	120U1101	120U1021	–	–	–
HRM042	U	P	6	120U0941	120U1111	120U1031	–	120U1066	–
	T	P	6	–	–	120U2127	120U2152	–	120U2107
HRM045	U	P	6	120U0946	120U1121	120U1041	–	120U1071	–
HRM047	U	P	6	120U0951	120U1131	120U1051	120U0991	120U1076	–
	T	P	6	–	–	120U2132	120U2162	–	120U2097
HRM048	U	C	8	–	–	120U1671	–	–	–
	U	P	6	120U1496	–	120U1666	–	120U1791	–
HRM051	T	P	6	–	–	120U1676	–	–	–
	U	P	6	120U1506	–	–	–	–	–
HRM054	U	C	6	120U1516	–	–	–	–	–
	U	P	6	120U1511	120U1871	120U1696	–	120U1811	–
	T	P	6	–	–	–	–	–	120U2292
HRM058	T	P	6	120U1521	–	–	–	–	–
	U	C	6	120U1536	–	–	–	–	–
	U	P	6	120U1531	120U1876	120U1711	–	120U1821	–
HRM060	T	P	6	120U1541	120U2760	120U1721	–	–	120U2082
	U	C	6	120U1551	120U2077	–	–	–	–
	U	P	6	120U1546	120U1881	120U1736	120U1611	120U1831	–
HLM068	T	C	6	–	120U1891	120U1746	–	–	–
	T	P	6	120U1556	–	–	–	–	–
HLM072	T	C	6	–	120U1896	120U1751	–	120U2602	120U1856
	T	P	6	120U1566	–	–	–	–	–
HLM075	T	C	6	–	120U1901	120U1761	–	120U1836	–
	T	P	6	120U1576	–	–	120U1636	–	–
HLM078	T	C	6	–	–	120U1771	–	–	–
HLM081	T	C	6	–	120U1911	120U1776	–	–	120U2102
	T	P	6	120U1586	–	–	–	–	–
HCM094	T	C	6	–	120U0891	120U0581	–	120U0711	120U0746
	T	C	7	–	–	120U0586	–	–	–
	T	C	8	–	–	120U0596	–	120U0721	–
HCM109	T	C	6	–	120U2506	120U0366	–	–	–
HCM120	T	C	6	–	120U0761	120U0391	–	–	–
	T	C	7	–	–	120U0396	–	–	–
	T	C	8	–	–	120U2207	–	–	–

Technical data and ordering

H series - Scroll compressor - R22

Ordering industrial pack

Type	Model Variation	Connect.	Features	Code no.					
				1	2	4	5	7	9
HRM032	U	P	6	120U0918	–	–	–	–	–
HRM034	T	P	6	–	–	120U2364	–	–	120U2084
	U	P	6	120U0923	120U1078	120U0998	–	–	–
HRM038	T	P	6	–	–	–	–	–	120U2089
	U	P	6	120U0928	120U1088	120U1008	120U0963	120U1053	–
HRM040	U	P	6	120U0933	120U1098	120U1018	–	–	–
HRM042	T	P	6	–	–	120U2124	120U2149	–	120U2104
	U	P	6	120U0938	120U1108	120U1028	–	120U1063	–
HRM045	U	P	6	120U0943	120U1118	120U1038	–	120U1068	–
HRM047	T	P	6	–	–	120U2129	120U2159	–	120U2094
	U	P	6	120U0948	120U1128	120U1048	120U0988	120U1073	–
HRM048	U	C	8	–	–	120U1668	–		–
	U	P	6	120U1493		120U1663	–	120U1788	–
HRM051	T	P	6	–	–	120U1673	–	–	–
	U	P	6	120U1503	–	–	–	–	–
HRM054	T	P	6		–	–	–	–	120U2289
	U	C	6	120U1513	–	–	–	–	–
	U	P	6	120U1508	120U1868	120U1693	–	120U1808	–
HRM058	T	P	6	120U1518	–	–	–	–	–
	U	C	6	120U1533	–	–	–	–	–
	U	C	8	–	–	120U1716	–	–	–
	U	P	6	120U1528	120U1873	120U1708	–	120U1818	–
HRM060	T	P	6	120U1538	120U2757	120U1718	–	–	120U2079
	U	C	6	120U1548	120U2074	–	–	–	–
	U	P	6	120U1543	120U1878	120U1733	120U1608	120U1828	–
HLM068	T	C	6	–	120U1888	120U1743	–	–	–
	T	P	6	120U1553	–	–	–	–	–
HLM072	T	C	6	–	120U1893	120U1748	–	120U2599	120U1853
	T	P	6	120U1563	–	–	–	–	–
HLM075	T	C	6	–	120U1898	120U1758	–	120U1833	–
	T	P	6	120U1573	–	–	120U1633	–	–
HLM078	T	C	6	–	–	120U1768	–	–	
HLM081	T	C	6	–	120U1908	120U1773	–	–	120U2099
	T	P	6	120U1583	–	–	–	–	–
HCM094	T	C	6	–	120U0888	120U0578	–	120U0708	120U0743
	T	C	7	–	–	120U0583	–	–	–
	T	C	8	–	–	120U0593	–	120U0718	–
HCM109	T	C	6	–	120U2503	120U0363	–	–	–
HCM120	T	C	6	–	120U0758	120U0388	–	–	–
	T	C	7	–	–	120U0393	–	–	–
	T	C	8	–	–	120U2204	–	–	–

Technical data and ordering

H series - Scroll compressor - R22

Ordering single pack

Model		Model Variation	Voltage code	Connect.	Features	Code no.	
						Industrial pack	Single pack
HRM025	R22	T	4	P	6	121L2781	121L2784
HRM034		T	4	P	6	121L2364	121L2367
HRM034		T	5	P	6	121L2119	121L2122
HRM038		T	9	P	6	121L2089	121L2092
HRM042		T	4	P	6	121L2124	121L2127
HRM051		T	4	P	6	121L1673	121L1676
HRM054		T	4	P	6	121L2749	121L2752
HRM060		T	4	P	6	121L1718	121L1721
HRM060		T	2	P	6	121L2757	121L2760
HRM060		T	9	P	6	121L2079	121L2082
HRM060		T	4	C	8	121L3071	121L3072
HLM072		T	4	C	6	121L1748	121L1751
HLM072		T	9	C	6	121L1853	121L1856
HLM081		T	4	C	6	121L1773	121L1776
HLM081		T	2	C	6	121L1908	121L1911
HLM081		T	9	C	6	121L2099	121L2102
HCM094		T	4	C	6	121L0578	121L0581
HCM109		T	4	C	6	121L0363	121L0366
HCM120		T	4	C	6	121L0388	121L0391
HRP054	R407C	T	4	P	6	121L1688	121L1691
HRP054		T	4	C	6	121L3183	121L3184
HRP060		T	4	P	6	121L1723	121L1726
HLP072		T	4	C	6	121L1753	121L1756
HLP081		T	4	C	6	121L1778	121L1781
HCP094		T	4	C	6	121L0598	121L0601
HCP109		T	4	C	6	121L0373	121L0376
HCP120		T	4	C	6	121L0398	121L0401
HRH047	R410A	U	4	P	6	121L2848	121L2851
HRH049		U	4	P	6	121L1363	121L1366
HRH051		U	4	P	6	121L1368	121L1371
HRH054		U	4	P	6	121L1373	121L1376
HRH054		U	4	C	8	121L3030	121L3033
HLH061		T	9	C	6	121L2447	121L2450
HLH061		T	4	C	6	121L2049	121L2052
HLH061		T	4	C	8	121L2483	121L2486
HLH068		T	4	C	6	121L1388	121L1391
HLJ072		T	9	C	6	121L2989	121L2992
HLJ072		T	4	C	6	121L1393	121L1396
HLJ072		T	4	C	8	121L2164	121L2167
HLJ075		T	4	C	6	121L2264	121L2267
HLJ083		T	4	C	6	121L1398	121L1401
HLJ083		T	4	C	8	121L2169	121L2172
HCJ091		T	4	C	6	121L3112	121L3113
HCJ091		T	4	C	8	121L3118	121L3119
HCJ106		T	4	C	6	121L3114	121L3115
HCJ106		T	4	C	8	121L3120	121L3121
HCJ121		T	4	C	6	121L3116	121L3117
HCJ121		T	4	C	8	121L3122	121L3123

Industrial pack: 12 compressors per pallet
Single pack: 1 compressor in cardboard box, 9pcs on a full pallet

Technical data and ordering

H-Series - Scroll compressors - R410A - 50 Hz

Performance table

Type	To	-25		-20		-15		-10		-5		0		5		10	
	Tc	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe
HRH029U4	35	–	–	2670	1.62	3480	1.60	4430	1.58	5550	1.56	6850	1.54	8330	1.52	10010	1.49
	55	–	–	–	–	–	–	–	–	4150	2.56	5230	2.52	6460	2.48	7860	2.44
HRH031U4	35	–	–	2870	1.74	3730	1.71	4750	1.69	5950	1.67	7340	1.65	8930	1.63	10730	1.60
	55	–	–	–	–	–	–	–	–	4380	2.82	5520	2.78	6830	2.74	8300	2.69
HRH032U4	35	–	–	2910	1.71	3780	1.68	4820	1.66	6040	1.65	7450	1.63	9060	1.60	10890	1.57
	55	–	–	–	–	–	–	–	–	4470	2.91	5630	2.87	6960	2.82	8470	2.78
HRH034U4	35	–	–	3220	1.88	4190	1.86	5340	1.83	6690	1.81	8250	1.79	10030	1.77	12060	1.74
	55	–	–	–	–	–	–	–	–	4950	3.06	6230	3.01	7700	2.97	9370	2.91
HRH036U4	35	–	–	3350	1.98	4350	1.95	5550	1.93	6950	1.91	8570	1.88	10420	1.86	12530	1.82
	55	–	–	–	–	–	–	–	–	5130	3.31	6470	3.26	8000	3.21	9730	3.15
HRH038U4	35	–	–	3550	2.16	4610	2.13	5880	2.10	7360	2.08	9080	2.05	11050	2.02	13280	1.99
	55	–	–	–	–	–	–	–	–	5390	3.55	6790	3.49	8390	3.44	10210	3.38
HRH040U4	35	–	–	3850	2.34	5010	2.31	6390	2.28	8000	2.25	9870	2.23	12000	2.20	14430	2.16
	55	–	–	–	–	–	–	–	–	5940	3.78	7480	3.73	9250	3.67	11250	3.60
HRH041U4	35	–	–	5380	2.55	6720	2.58	8210	2.59	9930	2.60	11940	2.58	14310	2.54	17130	2.48
	55	–	–	–	–	–	–	–	–	7340	4.11	9150	4.12	11080	4.11	13200	4.09
HRH044U4	35	–	–	5830	2.70	7280	2.73	8890	2.75	10750	2.75	12930	2.73	15500	2.69	18550	2.63
	55	–	–	–	–	–	–	–	–	7890	4.38	9840	4.39	11910	4.38	14190	4.35
HRH047U4	35	–	–	5130	3.00	6670	2.96	8500	2.93	10640	2.89	13130	2.86	15970	2.82	19190	2.77
	55	–	–	–	–	–	–	–	–	7930	4.80	10000	4.73	12360	4.66	15030	4.58
HRH048U4	35	–	–	5350	3.14	6960	3.10	8880	3.06	11120	3.02	13710	2.99	16680	2.95	20050	2.90
	55	–	–	–	–	–	–	–	–	8220	4.93	10360	4.86	12810	4.78	15580	4.70
HRH049U4	35	–	–	6380	2.95	7970	2.98	9740	3.00	11770	3.00	14150	2.98	16970	2.94	20310	2.87
	55	–	–	–	–	–	–	–	–	8710	4.74	10860	4.75	13150	4.74	15670	4.71
HRH050U4	35	–	–	5620	3.29	7310	3.25	9320	3.21	11670	3.18	14400	3.14	17520	3.10	21060	3.04
	55	–	–	–	–	–	–	–	–	8610	5.16	10860	5.09	13420	5.01	16320	4.92
HRH051U4	35	–	–	6800	3.10	8490	3.13	10370	3.15	12540	3.15	15080	3.13	18080	3.08	21640	3.01
	55	–	–	–	–	–	–	–	–	9200	4.92	11470	4.92	13890	4.91	16560	4.88
HRH054U4	35	–	–	7160	3.31	8940	3.35	10920	3.37	13200	3.37	15870	3.35	19030	3.30	22780	3.22
	55	–	–	–	–	–	–	–	–	9680	5.22	12070	5.23	14620	5.22	17420	5.19
HRH056U4	35	–	–	6320	3.65	8220	3.60	10470	3.56	13120	3.52	16170	3.48	19680	3.43	23650	3.37
	55	–	–	–	–	–	–	–	–	9700	5.65	12230	5.57	15120	5.48	18390	5.38
HLH061T4	35	6160	3.82	8040	3.89	10050	3.93	12270	3.95	14840	3.95	17840	3.93	21390	3.87	25600	3.79
	55	–	–	–	–	–	–	8360	5.78	11000	5.81	13720	5.82	16610	5.81	19790	5.77
HLH068T4	35	6810	4.10	8880	4.16	11090	4.21	13550	4.23	16380	4.23	19700	4.20	23620	4.14	28260	4.05
	55	–	–	–	–	–	–	9280	6.37	12210	6.39	15220	6.40	18440	6.39	21970	6.35
HLJ072T4	35	7190	4.31	9380	4.38	11710	4.43	14310	4.45	17290	4.45	20790	4.42	24930	4.36	29840	4.26
	55	–	–	–	–	–	–	9800	6.72	12890	6.75	16070	6.76	19460	6.75	23190	6.70
HLJ075T4	35	7680	4.62	10040	4.70	12540	4.75	15320	4.78	18510	4.78	22260	4.75	26700	4.68	31950	4.58
	55	–	–	–	–	–	–	10280	6.92	13540	6.96	16880	6.97	20440	6.95	24350	6.91
HLJ083T4	35	8320	5.08	10860	5.17	13570	5.23	16570	5.26	20030	5.26	24090	5.22	28890	5.15	34570	5.03
	55	–	–	–	–	–	–	11220	7.62	14770	7.66	18410	7.67	22290	7.65	26560	7.60
HCJ090T4	35	9020	5.49	11770	5.57	14710	5.61	17990	5.61	21740	5.61	26110	5.62	31250	5.68	37300	5.79
	55	–	–	–	–	–	–	13710	8.55	16960	8.59	20540	8.59	24600	8.58	29280	8.58
HCJ091T4	35	9770	5.36	12280	5.38	15200	5.42	18590	5.46	22510	5.51	27020	5.57	32180	5.64	38040	5.71
	55	–	–	–	–	–	–	13910	8.43	17050	8.43	20680	8.44	24850	8.46	29640	8.50
HCJ105T4	35	10580	6.03	13810	6.13	17350	6.21	21310	6.29	25790	6.39	30920	6.51	36790	6.69	43510	6.93
	55	–	–	–	–	–	–	15690	9.53	19420	9.62	23650	9.71	28510	9.81	34100	9.94
HCJ106T4	35	11410	6.19	14330	6.25	17740	6.30	21700	6.35	26270	6.41	31530	6.48	37550	6.56	44390	6.66
	55	–	–	–	–	–	–	16230	9.75	19890	9.76	24130	9.77	29000	9.79	34580	9.81
HCJ120T4	35	12110	7.01	15810	7.13	19860	7.22	24390	7.30	29520	7.39	35390	7.53	42110	7.74	49810	8.04
	55	–	–	–	–	–	–	17950	10.94	22190	11.00	27030	11.08	32580	11.20	38980	11.38
HCJ121T4	35	12950	7.09	16270	7.12	20130	7.17	24620	7.22	29800	7.29	35770	7.36	42590	7.46	50340	7.56
	55	–	–	–	–	–	–	18430	11.14	22580	11.15	27390	11.17	32910	11.20	39240	11.25

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
H. *Heating capacity in [W]*
Pe: *Power input in [kW]*
Subcooling: *8.3 K*
Superheat: *11.1 K*
Voltage code: *G: 380 – 480 V / 3 / 50 Hz*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

H-Series - Scroll compressors - R410A - 60 Hz

Performance table

Type	To	-25		-20		-15		-10		-5		0		5		10	
	Tc	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe
HRH029U4	35	–	–	3210	1.91	4180	1.89	5320	1.87	6670	1.84	8220	1.82	10000	1.80	12020	1.77
	55	–	–	–	–	–	–	–	–	4950	2.99	6230	2.95	7710	2.90	9370	2.85
HRH031U4	35	–	–	3430	2.05	4470	2.02	5690	2.00	7130	1.97	8790	1.95	10700	1.92	12860	1.89
	55	–	–	–	–	–	–	–	–	5290	3.20	6660	3.15	8240	3.10	10020	3.05
HRH032U4	35	–	–	3520	2.10	4580	2.07	5840	2.05	7310	2.02	9010	2.00	10970	1.97	13180	1.94
	55	–	–	–	–	–	–	–	–	5460	3.27	6880	3.22	8500	3.17	10350	3.12
HRH034U4	35	–	–	3810	2.25	4950	2.22	6310	2.20	7900	2.17	9750	2.15	11860	2.12	14250	2.08
	55	–	–	–	–	–	–	–	–	5880	3.56	7420	3.51	9170	3.46	11150	3.40
HRH036U4	35	–	–	3940	2.33	5120	2.30	6520	2.27	8170	2.25	10080	2.22	12260	2.19	14740	2.15
	55	–	–	–	–	–	–	–	–	6040	3.66	7610	3.60	9400	3.54	11440	3.48
HRH038U4	35	–	–	4180	2.47	5440	2.44	6930	2.41	8680	2.38	10710	2.35	13030	2.32	15660	2.28
	55	–	–	–	–	–	–	–	–	6460	4.00	8150	3.94	10070	3.87	12250	3.81
HRH040U4	35	–	–	4560	2.69	5930	2.65	7560	2.62	9470	2.59	11680	2.56	14210	2.53	17080	2.48
	55	–	–	–	–	–	–	–	–	7080	4.24	8920	4.18	11030	4.12	13420	4.04
HRH041U4	35	–	–	5380	2.55	6720	2.58	8210	2.59	9930	2.60	11940	2.58	14310	2.54	17130	2.48
	55	–	–	–	–	–	–	–	–	7340	4.11	9150	4.12	11080	4.11	13200	4.09
HRH044U4	35	–	–	5830	2.70	7280	2.73	8890	2.75	10750	2.75	12930	2.73	15500	2.69	18550	2.63
	55	–	–	–	–	–	–	–	–	7890	4.38	9840	4.39	11910	4.38	14190	4.35
HRH047U4	35	–	–	5130	3.00	6670	2.96	8500	2.93	10640	2.89	13130	2.86	15970	2.82	19190	2.77
	55	–	–	–	–	–	–	–	–	7930	4.80	10000	4.73	12360	4.66	15030	4.58
HRH048U4	35	–	–	5350	3.14	6960	3.10	8880	3.06	11120	3.02	13710	2.99	16680	2.95	20050	2.90
	55	–	–	–	–	–	–	–	–	8220	4.93	10360	4.86	12810	4.78	15580	4.70
HRH049U4	35	–	–	6380	2.95	7970	2.98	9740	3.00	11770	3.00	14150	2.98	16970	2.94	20310	2.87
	55	–	–	–	–	–	–	–	–	8710	4.74	10860	4.75	13150	4.74	15670	4.71
HRH050U4	35	–	–	5620	3.29	7310	3.25	9320	3.21	11670	3.18	14400	3.14	17520	3.10	21060	3.04
	55	–	–	–	–	–	–	–	–	8610	5.16	10860	5.09	13420	5.01	16320	4.92
HRH051U4	35	–	–	6800	3.10	8490	3.13	10370	3.15	12540	3.15	15080	3.13	18080	3.08	21640	3.01
	55	–	–	–	–	–	–	–	–	9200	4.92	11470	4.92	13890	4.91	16560	4.88
HRH054U4	35	–	–	7160	3.31	8940	3.35	10920	3.37	13200	3.37	15870	3.35	19030	3.30	22780	3.22
	55	–	–	–	–	–	–	–	–	9680	5.22	12070	5.23	14620	5.22	17420	5.19
HRH056U4	35	–	–	6320	3.65	8220	3.60	10470	3.56	13120	3.52	16170	3.48	19680	3.43	23650	3.37
	55	–	–	–	–	–	–	–	–	9700	5.65	12230	5.57	15120	5.48	18390	5.38
HLH061T4	35	6160	3.82	8040	3.89	10050	3.93	12270	3.95	14840	3.95	17840	3.93	21390	3.87	25600	3.79
	55	–	–	–	–	–	–	8360	5.78	11000	5.81	13720	5.82	16610	5.81	19790	5.77
HLH068T4	35	6810	4.10	8880	4.16	11090	4.21	13550	4.23	16380	4.23	19700	4.20	23620	4.14	28260	4.05
	55	–	–	–	–	–	–	9280	6.37	12210	6.39	15220	6.40	18440	6.39	21970	6.35
HLJ072T4	35	7190	4.31	9380	4.38	11710	4.43	14310	4.45	17290	4.45	20790	4.42	24930	4.36	29840	4.26
	55	–	–	–	–	–	–	9800	6.72	12890	6.75	16070	6.76	19460	6.75	23190	6.70
HLJ075T4	35	7680	4.62	10040	4.70	12540	4.75	15320	4.78	18510	4.78	22260	4.75	26700	4.68	31950	4.58
	55	–	–	–	–	–	–	10280	6.92	13540	6.96	16880	6.97	20440	6.95	24350	6.91
HLJ083T4	35	8320	5.08	10860	5.17	13570	5.23	16570	5.26	20030	5.26	24090	5.22	28890	5.15	34570	5.03
	55	–	–	–	–	–	–	11220	7.62	14770	7.66	18410	7.67	22290	7.65	26560	7.60
HCJ090T4	35	9020	5.49	11770	5.57	14710	5.61	17990	5.61	21740	5.61	26110	5.62	31250	5.68	37300	5.79
	55	–	–	–	–	–	–	13710	8.55	16960	8.59	20540	8.59	24600	8.58	29280	8.58
HCJ091T4	35	9770	5.36	12280	5.38	15200	5.42	18590	5.46	22510	5.51	27020	5.57	32180	5.64	38040	5.71
	55	–	–	–	–	–	–	13910	8.43	17050	8.43	20680	8.44	24850	8.46	29640	8.50
HCJ105T4	35	10580	6,03	13810	6,13	17350	6,21	21310	6,29	25790	6,39	30920	6,51	36790	6,69	43510	6,93
	55	–	–	–	–	–	–	15690	9,53	19420	9,62	23650	9,71	28510	9,81	34100	9,94
HCJ106T4	35	11410	6.19	14330	6.25	17740	6.30	21700	6.35	26270	6.41	31530	6.48	37550	6.56	44390	6.66
	55	–	–	–	–	–	–	16230	9.75	19890	9.76	24130	9.77	29000	9.79	34580	9.81
HCJ120T4	35	12110	7,01	15810	7,13	19860	7,22	24390	7,30	29520	7,39	35390	7,53	42110	7,74	49810	8,04
	55	–	–	–	–	–	–	17950	10,94	22190	11,00	27030	11,08	32580	11,20	38980	11,38
HCJ121T4	35	12950	7.09	16270	7.12	20130	7.17	24620	7.22	29800	7.29	35770	7.36	42590	7.46	50340	7.56
	55	–	–	–	–	–	–	18430	11.14	22580	11.15	27390	11.17	32910	11.20	39240	11.25

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
H: *Heating capacity in [W]*
Pe: *Power input in [kW]*
Subcooling: *8.3 K*
Superheat: *11.1 K*
Voltage code: *G: 380 – 480 V / 3 / 60 Hz*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

H-Series - Scroll compressors - R407C - 50 Hz

Performance table

Type	To	-25		-20		-15		-10		-5		0		5		10	
	Tc	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe
HRP025T4	35	1920	1.11	2440	1.15	3050	1.18	3750	1.21	4550	1.24	5460	1.26	6480	1.29	7630	1.32
	55	–	–	–	–	–	–	3020	1.76	3680	1.81	4440	1.85	5290	1.88	6240	1.89
HRP034T4	35	2480	1.73	3190	1.71	4050	1.70	5080	1.69	6290	1.68	7710	1.67	9340	1.64	11220	1.59
	55	–	–	–	–	–	–	3790	2.77	4760	2.76	5900	2.75	7220	2.73	8740	2.71
HRP038T4	35	2710	1.85	3480	1.83	4410	1.82	5530	1.82	6850	1.80	8390	1.79	10170	1.76	12210	1.71
	55	–	–	–	–	–	–	4230	2.91	5300	2.90	6570	2.89	8040	2.87	9740	2.84
HRP040T4	35	2850	2.03	3670	2.01	4660	2.00	5840	1.99	7230	1.97	8850	1.95	10730	1.92	12890	1.87
	55	–	–	–	–	–	–	4350	3.24	5460	3.23	6770	3.22	8280	3.20	10030	3.17
HRP042T4	35	3000	2.13	3860	2.11	4900	2.10	6140	2.09	7600	2.08	9310	2.06	11290	2.02	13560	1.97
	55	–	–	–	–	–	–	4570	3.41	5740	3.40	7120	3.38	8710	3.36	10550	3.33
HRP045T4	35	3270	2.19	4200	2.16	5320	2.15	6670	2.14	8260	2.13	10120	2.11	12270	2.07	14720	2.01
	55	–	–	–	–	–	–	5170	3.70	6490	3.69	8040	3.68	9840	3.66	11920	3.62
HRP047T4	35	3430	2.30	4410	2.28	5600	2.26	7020	2.25	8690	2.24	10650	2.22	12910	2.18	15500	2.12
	55	–	–	–	–	–	–	5320	3.81	6680	3.80	8270	3.78	10130	3.76	12270	3.73
HRP048T4	35	3460	2.39	4450	2.38	5640	2.37	7070	2.36	8760	2.35	10730	2.32	13010	2.28	15620	2.23
	55	–	–	–	–	–	–	5300	3.44	6660	3.44	8250	3.42	10100	3.40	12230	3.37
HRP051T4	35	3750	2.33	4790	2.36	6070	2.39	7610	2.42	9420	2.46	11540	2.50	14000	2.54	16810	2.60
	55	–	–	–	–	–	–	5830	4.00	7300	3.95	9030	3.91	11040	3.89	13350	3.87
HRP054T4	35	3920	2.44	5010	2.46	6350	2.50	7950	2.53	9850	2.57	12070	2.61	14630	2.66	17580	2.72
	55	–	–	–	–	–	–	6050	4.15	7570	4.10	9360	4.06	11440	4.03	13840	4.01
HRP058T4	35	4200	2.61	5380	2.64	6810	2.68	8530	2.71	10560	2.75	12940	2.80	15690	2.85	18840	2.91
	55	–	–	–	–	–	–	6490	4.45	8120	4.39	10030	4.35	12260	4.32	14840	4.30
HRP060T4	35	4340	2.71	5560	2.74	7040	2.78	8820	2.81	10920	2.85	13380	2.90	16230	2.95	19490	3.02
	55	–	–	–	–	–	–	6690	4.50	8350	4.42	10320	4.36	12610	4.32	15260	4.31
HLP068T4	35	5320	3.37	6830	3.42	8630	3.46	10790	3.50	13340	3.55	16330	3.60	19820	3.67	23850	3.77
	55	–	–	–	–	–	–	7760	5.43	9540	5.31	11680	5.22	14240	5.16	17260	5.15
HLP072T4	35	5580	3.57	7170	3.66	9060	3.71	11330	3.75	14010	3.78	17150	3.83	20810	3.89	25040	4.00
	55	–	–	–	–	–	–	8200	5.76	10090	5.56	12370	5.42	15080	5.35	18280	5.37
HLP075T4	35	5550	3.84	7130	3.81	9040	3.80	11330	3.78	14040	3.76	17200	3.72	20850	3.65	25020	3.56
	55	–	–	–	–	–	–	8620	5.70	10820	5.69	13410	5.67	16410	5.64	19880	5.58
HLP078T4	35	5940	3.42	7600	3.46	9620	3.50	12050	3.55	14930	3.61	18290	3.67	22180	3.74	26630	3.81
	55	–	–	–	–	–	–	9220	6.04	11550	6.00	14280	5.96	17460	5.93	21130	5.91
HLP081T4	35	5730	4.16	7330	4.15	9280	4.13	11640	4.11	14420	4.07	17660	4.02	21400	3.95	25670	3.85
	55	–	–	–	–	–	–	9340	6.26	11700	6.21	14490	6.16	17750	6.10	21510	6.02
HCP094T4	35	6600	4.61	8480	4.59	10750	4.57	13480	4.55	16690	4.52	20450	4.47	24790	4.40	29750	4.29
	55	–	–	–	–	–	–	10320	6.83	12960	6.81	16050	6.78	19650	6.74	23800	6.68
HCP109T4	35	8100	4.80	10230	4.93	12990	5.02	16360	5.09	20270	5.15	24670	5.21	29530	5.26	34780	5.32
	55	–	–	–	–	–	–	12560	7.84	15580	7.98	19310	8.05	23700	8.06	28700	8.01
HCP120T4	35	8980	5.49	11340	5.64	14380	5.75	18060	5.81	22330	5.86	27160	5.91	32520	5.98	38360	6.07
	55	–	–	–	–	–	–	13670	8.82	16830	8.94	20810	8.99	25560	9.01	31050	8.99

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
H: *Heating capacity in [W]*
Pe: *Power input in [kW]*
Subcooling: *8.3 K*
Superheat: *11.1 K*
Voltage code: *G: 380 – 480 V / 3 / 50 Hz*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

H-Series, Scroll compressors - R407C - 60 Hz

Performance table

Type	To	-25		-20		-15		-10		-5		0		5		10	
	Tc	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe
HRP025T4	35	2310	1.31	2930	1.35	3650	1.40	4500	1.43	5460	1.47	6550	1.50	7780	1.53	9150	1.57
	55	–	–	–	–	–	–	3620	2.09	4420	2.15	5320	2.20	6340	2.23	7490	2.25
HRP034T4	35	2960	2.17	3810	2.15	4840	2.14	6060	2.13	7510	2.12	9190	2.09	11150	2.06	13390	2.01
	55	–	–	–	–	–	–	4530	3.34	5690	3.33	7050	3.31	8630	3.30	10450	3.26
HRP040T4	35	3490	2.07	4460	2.08	5650	2.11	7070	2.14	8760	2.18	10730	2.22	13010	2.26	15640	2.29
	55	–	–	–	–	–	–	5320	3.79	6630	3.78	8180	3.78	9990	3.77	12100	3.75
HRP042T4	35	3630	2.51	4670	2.49	5930	2.47	7430	2.46	9200	2.45	11270	2.42	13660	2.38	16410	2.32
	55	–	–	–	–	–	–	5510	4.02	6920	4.01	8570	4.00	10490	3.97	12710	3.94
HRP047T4	35	4110	2.38	5260	2.40	6660	2.43	8330	2.47	10310	2.51	12630	2.56	15320	2.60	18420	2.64
	55	–	–	–	–	–	–	6180	4.34	7670	4.33	9450	4.32	11530	4.31	13970	4.29
HRP051T4	35	4410	2.98	5660	2.96	7180	2.94	9000	2.93	11150	2.91	13660	2.88	16560	2.83	19870	2.76
	55	–	–	–	–	–	–	6880	4.60	8630	4.58	10690	4.57	13090	4.54	15850	4.50
HRP060T4	35	5100	3.53	6560	3.50	8320	3.48	10430	3.47	12910	3.44	15820	3.41	19170	3.35	23020	3.27
	55	–	–	–	–	–	–	7920	5.50	9950	5.48	12320	5.46	15080	5.43	18270	5.38
HLP072T4	35	6700	4.23	8600	4.30	10880	4.36	13590	4.40	16810	4.45	20580	4.52	24980	4.61	30050	4.74
	55	–	–	–	–	–	–	9830	6.70	12110	6.53	14840	6.40	18100	6.32	21940	6.30
HLP078T4	35	7120	4.32	9110	4.37	11540	4.43	14460	4.49	17910	4.55	21940	4.63	26610	4.72	31950	4.82
	55	–	–	–	–	–	–	11070	7.30	13860	7.19	17150	7.11	20960	7.05	25360	7.03
HLP081T4	35	6880	4.95	8790	4.92	11140	4.90	13960	4.88	17300	4.85	21200	4.80	25680	4.72	30800	4.60
	55	–	–	–	–	–	–	11210	7.34	14040	7.33	17390	7.31	21300	7.26	25810	7.19
HCP094T4	35	8220	4.91	10390	5.05	13170	5.14	16550	5.20	20470	5.24	24910	5.28	29820	5.34	35160	5.43
	55	–	–	–	–	–	–	12570	7.85	15490	7.94	19160	7.99	23530	8.00	28560	7.99
HCP120T4	35	10760	6.69	13600	6.90	17240	7.01	21650	7.07	26770	7.11	32570	7.16	38990	7.24	45990	7.40
	55	–	–	–	–	–	–	16410	10.56	20210	10.65	24980	10.69	30680	10.70	37260	10.74

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
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Pe: *Power input in [kW]*
Subcooling: *8.3 K*
Superheat: *11.1 K*
Voltage code: *G: 380 – 480 V / 3 / 60 Hz*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

H-Series, Scroll compressors - R22 - 50 Hz

Performance table

Type	To	-25		-20		-15		-10		-5		0		5		10	
	Tc	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe
HRM025T4	35	–	–	2550	1.33	3100	1.32	3810	1.31	4670	1.30	5660	1.28	6780	1.26	8010	1.22
	55	–	–	–	–	–	–	–	–	3600	1.95	4490	1.91	5450	1.89	6480	1.88
HRM032T4	35	–	–	3280	1.45	4000	1.44	4930	1.45	6040	1.48	7330	1.53	8780	1.57	10350	1.59
	55	–	–	–	–	–	–	–	–	4750	2.27	5940	2.33	7210	2.37	8550	2.38
HRM032U4	35	–	–	3330	1.69	4050	1.67	4980	1.66	6110	1.65	7400	1.63	8870	1.60	10470	1.54
	55	–	–	–	–	–	–	–	–	4760	2.68	5930	2.63	7200	2.60	8560	2.58
HRM034T4	35	2950	1.83	3470	1.80	4220	1.79	5190	1.77	6350	1.76	7700	1.74	9220	1.70	10890	1.65
	55	–	–	–	–	–	–	3870	2.70	4970	2.62	6190	2.57	7530	2.53	8950	2.52
HRM034U4	35	–	–	3530	1.75	4300	1.73	5280	1.72	6470	1.71	7840	1.69	9390	1.65	11090	1.60
	55	–	–	–	–	–	–	–	–	5060	2.80	6300	2.74	7660	2.71	9110	2.69
HRM038T4	35	3340	1.98	3930	1.94	4780	1.92	5880	1.91	7200	1.89	8740	1.87	10460	1.83	12350	1.78
	55	–	–	–	–	–	–	4350	3.02	5590	2.93	6970	2.87	8460	2.83	10070	2.81
HRM038U4	35	–	–	3970	1.93	4830	1.90	5940	1.89	7270	1.88	8820	1.85	10560	1.82	12480	1.76
	55	–	–	–	–	–	–	–	–	5590	3.10	6970	3.04	8470	3.00	10070	2.98
HRM040T4	35	3480	2.12	4100	2.09	4990	2.06	6130	2.05	7510	2.03	9110	2.01	10900	1.97	12880	1.91
	55	–	–	–	–	–	–	4540	3.12	5840	3.02	7280	2.96	8840	2.93	10510	2.91
HRM040U4	35	–	–	4140	1.99	5030	1.97	6190	1.96	7580	1.94	9190	1.92	11000	1.88	13000	1.82
	55	–	–	–	–	–	–	–	–	5880	3.14	7330	3.07	8900	3.04	10590	3.02
HRM042T4	35	3660	2.23	4310	2.19	5240	2.17	6450	2.15	7900	2.13	9580	2.11	11460	2.07	13540	2.01
	55	–	–	–	–	–	–	4760	3.33	6120	3.23	7630	3.16	9270	3.13	11020	3.10
HRM042U4	35	–	–	4340	2.09	5280	2.07	6490	2.05	7950	2.04	9640	2.01	11550	1.97	13640	1.91
	55	–	–	–	–	–	–	–	–	6170	3.29	7690	3.23	9350	3.19	11120	3.17
HRM045U4	35	–	–	4690	2.22	5710	2.19	7020	2.17	8600	2.16	10420	2.13	12480	2.09	14740	2.02
	55	–	–	–	–	–	–	–	–	6620	3.64	8260	3.56	10030	3.52	11920	3.50
HRM047T4	35	4170	2.43	4910	2.38	5970	2.36	7340	2.34	8990	2.32	10900	2.30	13050	2.25	15420	2.18
	55	–	–	–	–	–	–	5430	3.75	6970	3.63	8690	3.56	10560	3.52	12560	3.49
HRM047U4	35	–	–	4910	2.32	5970	2.30	7340	2.28	8990	2.26	10900	2.24	13050	2.19	15420	2.12
	55	–	–	–	–	–	–	–	–	6970	3.75	8690	3.68	10550	3.63	12550	3.61
HRM048U4	35	–	–	4940	2.36	6010	2.36	7390	2.36	9060	2.35	10980	2.33	13150	2.29	15530	2.23
	55	–	–	–	–	–	–	–	–	6970	3.67	8690	3.64	10560	3.62	12550	3.61
HRM051T4	35	4430	2.43	5210	2.35	6340	2.32	7810	2.33	9580	2.38	11620	2.44	13910	2.51	16410	2.56
	55	–	–	–	–	–	–	5820	3.48	7500	3.56	9370	3.64	11380	3.70	13500	3.74
HRM051U4	35	–	–	5310	2.48	6460	2.47	7940	2.47	9730	2.46	11800	2.44	14120	2.40	16680	2.34
	55	–	–	–	–	–	–	–	–	7760	3.95	9670	3.91	11750	3.89	13980	3.88
HRM054T4	35	–	–	5610	2.39	6830	2.37	8410	2.39	10310	2.44	12510	2.51	14970	2.57	17670	2.62
	55	–	–	–	–	–	–	–	–	8060	3.72	10050	3.81	12210	3.87	14500	3.90
HRM054U4	35	–	–	5620	2.60	6840	2.60	8410	2.60	10300	2.59	12490	2.56	14950	2.52	17660	2.46
	55	–	–	–	–	–	–	–	–	8110	4.09	10110	4.05	12290	4.03	14610	4.02
HRM058U4	35	–	–	6030	2.79	7340	2.79	9020	2.79	11050	2.77	13400	2.75	16040	2.71	18940	2.64
	55	–	–	–	–	–	–	–	–	8690	4.38	10830	4.34	13160	4.32	15650	4.31
HRM060T4	35	5210	2.85	6120	2.75	7460	2.72	9190	2.73	11270	2.78	13670	2.85	16360	2.93	19310	3.00
	55	–	–	–	–	–	–	6840	4.07	8830	4.15	11020	4.24	13380	4.31	15880	4.36
HRM060U4	35	–	–	6230	2.88	7580	2.88	9320	2.88	11420	2.87	13850	2.84	16580	2.80	19580	2.73
	55	–	–	–	–	–	–	–	–	8980	4.53	11190	4.49	13600	4.47	16180	4.45
HLM068T4	35	6120	3.36	7200	3.25	8760	3.21	10770	3.22	13200	3.28	16000	3.36	19160	3.45	22630	3.54
	55	–	–	–	–	–	–	7950	4.76	10220	4.85	12740	4.94	15480	5.03	18410	5.09
HLM072T4	35	6420	3.53	7550	3.41	9190	3.36	11310	3.38	13860	3.44	16810	3.53	20130	3.63	23760	3.71
	55	–	–	–	–	–	–	8390	5.02	10810	5.13	13480	5.23	16370	5.32	19450	5.38
HLM075T4	35	6520	3.70	7650	3.70	9310	3.70	11440	3.70	14020	3.68	17000	3.65	20350	3.59	24030	3.51
	55	–	–	–	–	–	–	8700	5.59	11170	5.52	13920	5.48	16920	5.45	20120	5.43
HLM078T4	35	6760	3.61	7940	3.46	9700	3.43	11980	3.48	14720	3.57	17870	3.69	21380	3.78	25180	3.82
	55	–	–	–	–	–	–	9060	5.42	11780	5.62	14740	5.79	17890	5.88	21160	5.87
HLM081T4	35	7370	3.86	8670	3.72	10540	3.67	12940	3.70	15840	3.78	19200	3.89	22990	3.99	27190	4.07
	55	–	–	–	–	–	–	9480	5.60	12140	5.75	15110	5.89	18370	5.99	21880	6.03
HCM094T4	35	8240	4.77	9680	4.78	11780	4.79	14480	4.78	17740	4.76	21510	4.72	25760	4.64	30420	4.54
	55	–	–	–	–	–	–	10880	7.08	13970	6.99	17410	6.93	21160	6.89	25160	6.87
HCM109T4	35	9480	5.94	11140	5.86	13550	5.80	16660	5.76	20410	5.71	24750	5.64	29630	5.54	34990	5.38
	55	–	–	–	–	–	–	12600	8.39	16170	8.15	20160	7.98	24500	7.88	29140	7.83
HCM120T4	35	8980	5.61	11550	5.71	14710	5.78	18410	5.84	22610	5.88	27260	5.93	32320	6.01	37740	6.11
	55	–	–	–	–	–	–	14550	9.27	18150	9.00	22220	8.87	26730	8.90	31630	9.09

To: *Evaporating temperature in [°C]* ***Tc:*** *Condensing temperature in [°C]* ***H:*** *Heating capacity in [W]* ***Pe:*** *Power input in [kW]*
Subcooling: *8.3 K* ***Superheat:*** *11.1 K* ***Voltage code:*** *G: 380 – 480 V / 3 / 50 Hz*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

H-Series, Scroll compressors - R22 - 60 Hz

Performance table

Type	To	-25		-20		-15		-10		-5		0		5		10	
	Tc	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe
HRM025T4	35	–	–	3030	1.59	3690	1.58	4530	1.56	5550	1.55	6730	1.53	8060	1.50	9530	1.46
	55	–	–	–	–	–	–	–	–	4290	2.33	5350	2.28	6500	2.25	7730	2.24
HRM032T4	35	–	–	3900	1.78	4750	1.76	5850	1.77	7180	1.80	8710	1.85	10420	1.90	12300	1.94
	55	–	–	–	–	–	–	–	–	5620	2.69	7020	2.75	8530	2.80	10120	2.83
HRM032U4	35	–	–	3930	1.96	4780	1.94	5870	1.93	7200	1.91	8730	1.89	10450	1.85	12340	1.79
	55	–	–	–	–	–	–	–	–	5640	3.09	7040	3.03	8550	2.99	10170	2.97
HRM034T4	35	3570	2.17	4200	2.14	5110	2.12	6280	2.10	7690	2.08	9330	2.06	11170	2.02	13190	1.96
	55	–	–	–	–	–	–	4700	3.22	6030	3.13	7520	3.06	9140	3.02	10870	3.00
HRM034U4	35	–	–	4190	2.05	5100	2.03	6280	2.01	7690	2.00	9320	1.98	11160	1.94	13180	1.87
	55	–	–	–	–	–	–	–	–	5940	3.23	7410	3.16	9000	3.13	10700	3.10
HRM038T4	35	3980	2.36	4680	2.32	5700	2.30	7000	2.28	8580	2.26	10400	2.23	12460	2.19	14710	2.13
	55	–	–	–	–	–	–	5220	3.52	6710	3.42	8360	3.35	10160	3.31	12080	3.28
HRM038U4	35	–	–	4760	2.30	5800	2.27	7120	2.25	8730	2.24	10580	2.21	12670	2.17	14970	2.10
	55	–	–	–	–	–	–	–	–	6740	3.56	8400	3.49	10210	3.45	12140	3.43
HRM040T4	35	4150	2.51	4880	2.47	5940	2.45	7300	2.43	8950	2.41	10850	2.38	12990	2.34	15340	2.27
	55	–	–	–	–	–	–	5430	3.69	6970	3.58	8690	3.51	10560	3.46	12560	3.44
HRM040U4	35	–	–	5010	2.42	6100	2.39	7500	2.37	9190	2.36	11140	2.33	13340	2.28	15760	2.21
	55	–	–	–	–	–	–	–	–	7100	3.75	8850	3.68	10750	3.63	12780	3.61
HRM042T4	35	4370	2.65	5140	2.60	6260	2.58	7690	2.56	9420	2.54	11430	2.51	13680	2.46	16160	2.39
	55	–	–	–	–	–	–	5730	3.93	7360	3.82	9180	3.74	11150	3.69	13270	3.67
HRM042U4	35	–	–	5210	2.54	6340	2.51	7790	2.49	9540	2.47	11570	2.45	13850	2.40	16360	2.32
	55	–	–	–	–	–	–	–	–	7450	3.94	9290	3.86	11290	3.81	13430	3.79
HRM045U4	35	–	–	5610	2.66	6820	2.63	8390	2.61	10280	2.59	12460	2.56	14920	2.51	17620	2.43
	55	–	–	–	–	–	–	–	–	7980	4.22	9950	4.14	12090	4.09	14380	4.06
HRM047T4	35	4970	2.86	5840	2.81	7110	2.78	8730	2.76	10700	2.74	12980	2.71	15540	2.65	18350	2.57
	55	–	–	–	–	–	–	6570	4.47	8430	4.34	10510	4.25	12770	4.20	15190	4.17
HRM047U4	35	–	–	5840	2.77	7110	2.74	8740	2.72	10700	2.70	12980	2.67	15540	2.62	18350	2.53
	55	–	–	–	–	–	–	–	–	8430	4.44	10510	4.35	12770	4.30	15190	4.27
HRM048U4	35	–	–	5870	2.78	7140	2.78	8780	2.78	10760	2.77	13040	2.74	15620	2.70	18450	2.63
	55	–	–	–	–	–	–	–	–	8380	4.38	10440	4.34	12690	4.32	15080	4.30
HRM051T4	35	5340	2.94	6280	2.83	7660	2.80	9430	2.82	11570	2.87	14040	2.95	16800	3.03	19820	3.10
	55	–	–	–	–	–	–	7040	4.22	9100	4.32	11370	4.41	13800	4.49	16370	4.53
HRM051U4	35	–	–	6310	2.93	7680	2.93	9440	2.92	11570	2.91	14030	2.89	16790	2.84	19830	2.77
	55	–	–	–	–	–	–	–	–	9110	4.59	11350	4.55	13790	4.53	16400	4.51
HRM054T4	35	–	–	6660	2.85	8110	2.82	9990	2.84	12250	2.90	14860	2.98	17780	3.06	20990	3.12
	55	–	–	–	–	–	–	–	–	9580	4.39	11960	4.49	14520	4.57	17240	4.60
HRM054U4	35	–	–	6650	3.09	8090	3.09	9950	3.09	12190	3.07	14780	3.04	17690	3.00	20900	2.92
	55	–	–	–	–	–	–	–	–	9530	4.76	11880	4.72	14430	4.70	17160	4.68
HRM058U4	35	–	–	7140	3.32	8690	3.31	10690	3.31	13090	3.30	15880	3.27	19000	3.21	22450	3.13
	55	–	–	–	–	–	–	–	–	10260	5.17	12790	5.13	15540	5.10	18480	5.09
HRM060T4	35	6250	3.42	7350	3.31	8960	3.26	11030	3.28	13530	3.34	16410	3.43	19640	3.52	23180	3.61
	55	–	–	–	–	–	–	8210	4.88	10590	4.98	13220	5.08	16060	5.17	19060	5.23
HRM060U4	35	–	–	7380	3.42	8980	3.42	11040	3.42	13520	3.41	16400	3.37	19630	3.32	23190	3.24
	55	–	–	–	–	–	–	–	–	10600	5.34	13210	5.29	16050	5.27	19080	5.25
HLM068T4	35	7330	3.98	8630	3.85	10500	3.80	12910	3.82	15810	3.88	19170	3.98	22950	4.09	27120	4.20
	55	–	–	–	–	–	–	9520	5.64	12230	5.75	15240	5.86	18520	5.97	22020	6.04
HLM072T4	35	7670	4.17	9020	4.03	10990	3.98	13520	4.00	16570	4.07	20100	4.17	24060	4.29	28400	4.39
	55	–	–	–	–	–	–	10030	5.95	12920	6.07	16110	6.20	19570	6.31	23250	6.38
HLM075T4	35	7820	4.43	9180	4.44	11160	4.44	13730	4.44	16820	4.42	20390	4.38	24410	4.31	28830	4.21
	55	–	–	–	–	–	–	10440	6.72	13410	6.63	16710	6.57	20310	6.54	24160	6.52
HLM078T4	35	8210	4.66	9650	4.66	11740	4.67	14430	4.66	17680	4.64	21440	4.60	25670	4.53	30310	4.42
	55	–	–	–	–	–	–	10850	6.98	13930	6.89	17370	6.83	21110	6.79	25100	6.77
HLM081T4	35	8520	4.83	10020	4.84	12190	4.85	14980	4.84	18350	4.82	22260	4.77	26640	4.70	31460	4.59
	55	–	–	–	–	–	–	11260	7.25	14470	7.15	18030	7.09	21910	7.05	26060	7.03
HCM094T4	35	9880	5.79	11620	5.81	14130	5.82	17380	5.82	21290	5.79	25820	5.73	30900	5.65	36500	5.52
	55	–	–	–	–	–	–	13060	8.39	16770	8.29	20910	8.21	25410	8.17	30220	8.14
HCM109T4	35	11380	6.82	13370	6.85	16260	6.86	19990	6.86	24500	6.82	29710	6.76	35560	6.66	41990	6.51
	55	–	–	–	–	–	–	15110	9.69	19400	9.58	24190	9.50	29390	9.44	34960	9.41
HCM120T4	35	12420	7.47	14600	7.50	17760	7.51	21830	7.51	26740	7.47	32430	7.40	38820	7.29	45850	7.13
	55	–	–	–	–	–	–	16490	10.61	21180	10.49	26400	10.40	32080	10.34	38160	10.30

To: *Evaporating temperature in [°C]*
Subcooling: *8.3 K*

Tc: *Condensing temperature in [°C]*
Superheat: *11.1 K*

H: *Heating capacity in [W]*
Voltage code: *G: 380 – 480 V / 3 / 60 Hz*

Pe: *Power input in [kW]*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Nomenclature and Dimensions

Type	Size	Motor	Features
HRH	**036**	**U1L**	**P6**

Application:
H: high temperature / air conditioning

Family:
C: light commercial scroll
R: residential scroll (new platform)
L: light commercial scroll (new platform)

Refrigerant & Lubricant:
M: LR22, alkylbenzene lubricant
P: R407C, PVE lubricant
H: R410A, PVE lubricant
J: R410A, PVE lubricant

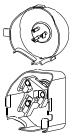
Nominal capacity:
in thousand Btu/h at 60 Hz, ARI conditions

Model variation:
T: design optimized for 7.2 / 54.4 °C
U: design optimized for 7.2 / 37.8 °C

Other features

	Oil sight glass	Oil equalisation	Oil drain	LP gauge port	Gas equalis. port
6	None	None	None	None	None
7	Threaded	None	None	None	None
8	None	Brazed	None	None	Brazed

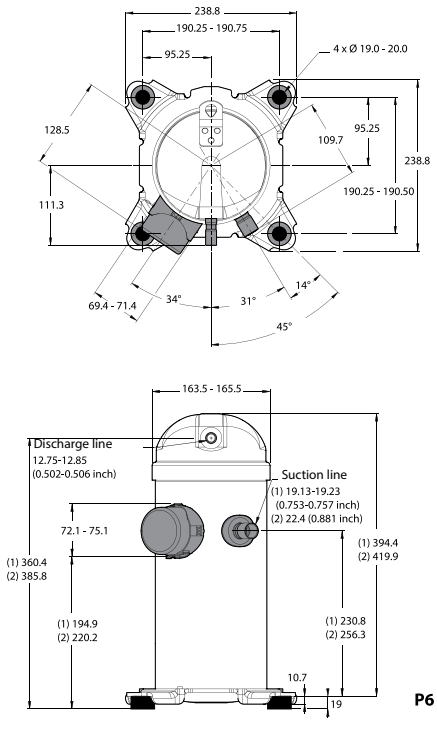
Tubing and electrical connections:
P: brazed connections, spade terminals
C: brazed connections, screw terminals



Motor protection:
L: internal motor protection

Motor voltage code:
1: 208 – 230 V / 1 ~ / 60 Hz
2: 200 – 220 V / 3 ~ / 50 Hz & 208 – 230 V / 3 ~ / 60 Hz
4: 380 – 400 V / 3 ~ / 50 Hz & 460 V / 3 ~ / 60 Hz
5: 220 – 240 V / 1 ~ / 50 Hz
7: 500 V / 3 ~ / 50 Hz & 575 V / 3 ~ / 60 Hz
9: 380 V / 3 ~ / 60 Hz

HRM032-034-038-040-042 / HRP034-038-040-042 / HRH029-031-032-034-036-038 / HRM-045-047 / HRP-045-047 / HRH039-040

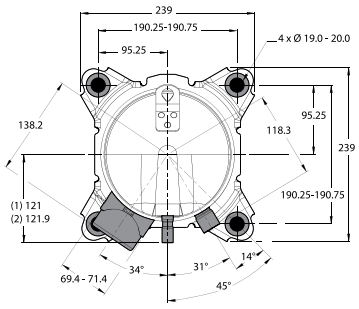


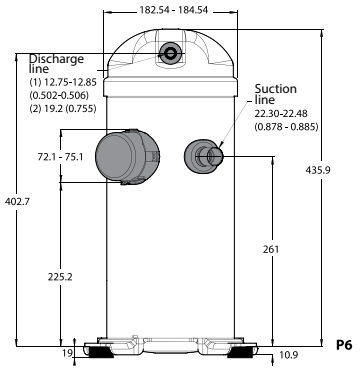
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(2) HRM-045-047 / HRP-045-047 / HRH039-040

All dimensiond in mm

Dimensions

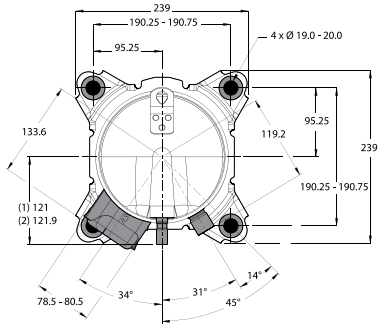
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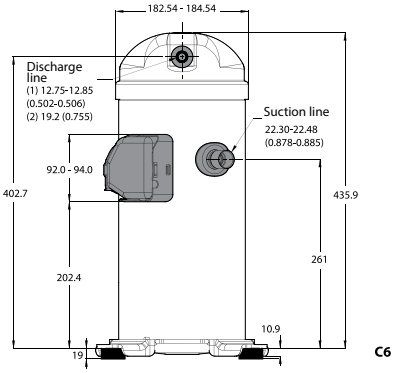




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(2) HLM078-081 / HLP078-081

All dimensiond in mm

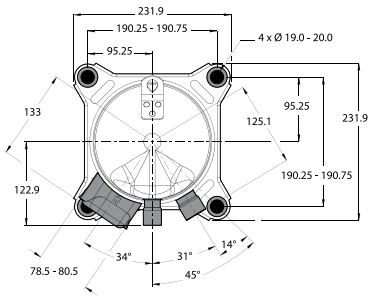


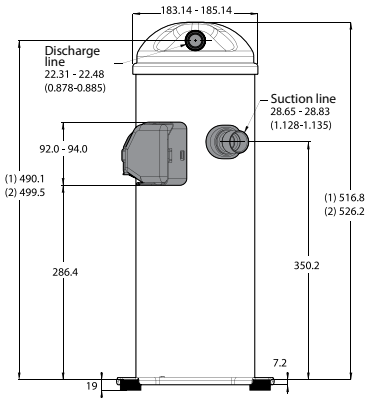


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(2) HLM078-081 / HLP078-081

All dimensiond in mm

HCM / HCP 094-109-120

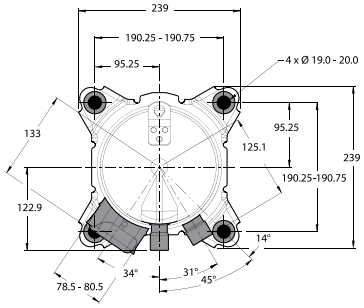


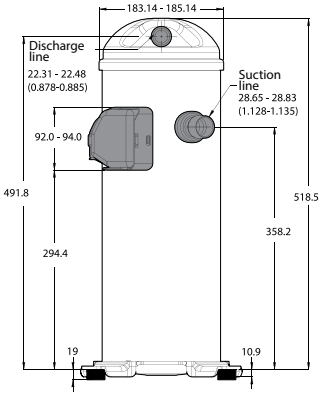


(1) HCM/HCP 094
(2) HCM/HCP 109-120

All dimensiond in mm

HCJ090-105-120

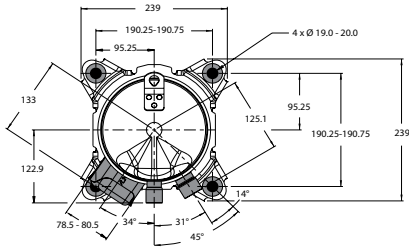


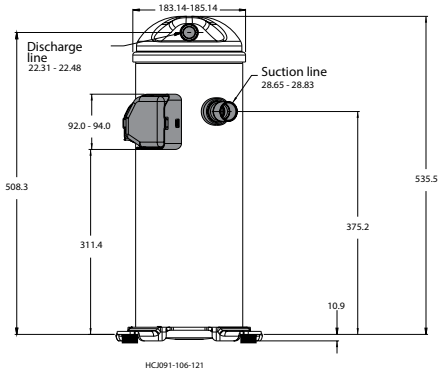


HCJ090-105-120

All dimensiond in mm

HCJ091-106-121





HCJ091-106-121

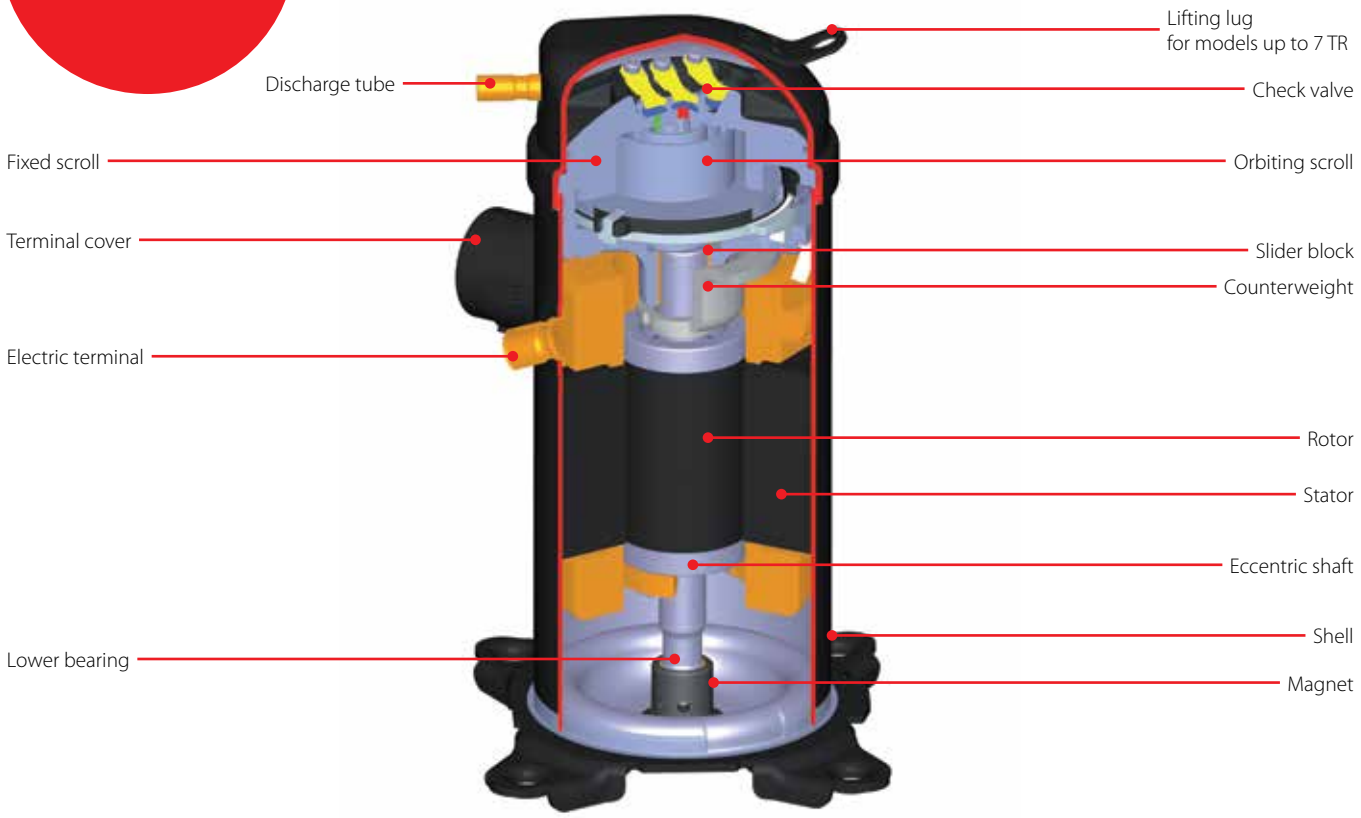
All dimensiond in mm

HHP, Scroll heating compressor optimized - R407C

The Heat Pump Scroll compressor has an extended operating envelope. This means that your heat pumps will still be highly efficient when the outdoor temperature is below -20 °C.

Your customers will be able to save energy by reducing the use of a supplementary heating source.





Facts

- Discharge check valve:
  no reverse rotation hence no shutdown noise
- Radial scroll compliance:
  good resistance to liquid fl ood back
- Axial scroll compliance:
  low starting current
- Oil injection:
  good lubrication at fierce conditions
- Lead-free bearings:
  high reliability even with low lubrication
- Patented internal protection combined with HOOP (Hot Oil Over Protector) thermal valve: excellent reliability
- Standard dimensions and tubing:
  ideal for both new installations and replacement markets

Technical data and ordering

HHP - Scroll compressor for heating - R407C - 50 Hz

Technical data

Type	Heating capacity	Power input	Max. A.	Heating efficiency	Swept volume	Displacement	Oil charge	Net weight
	[W]	[W]	[A]	COP [W/W]	[cm³/rev]	[m³/hr] at 2900 [rpm]	[l]	[kg]
HHP015T4LP6	4800	1540	5.1	3.13	34	5.9	1.06	31
HHP015T5LP6	4880	1660	14.2	2.93	34	5.9	1.06	30
HHP019T4LP6	5780	1910	5.8	3.02	41	7.1	1.06	31
HHP019T5LP6	5830	2040	17.7	2.86	41	7.1	1.06	31
HHP021T4LP6	6410	2030	5.8	3.16	46	8	1.06	31
HHP021T5LP6	6630	2110	18.2	3.15	46	8	1.06	31
HHP026T4LP6	8100	2520	7.1	3.22	57	10	1.06	31
HHP026T5LP6	8160	2680	22.7	3.04	57	10	1.06	31
HHP030T4LC6	9700	3070	8.6	3.17	67	11.7	1.57	37
HHP030T5LC6	9790	3190	27.7	3.07	67	11.7	1.57	41
HHP038T4LC6	12050	3730	10.8	3.23	82	14.2	1.57	39
HHP038T5LC6	12140	3850	35.2	3.16	82	14.2	1.57	41
HHP045T4LC6	13940	4300	12.6	3.25	99	17.2	1.57	40

Evaporating temperature: -7 °C *Condensing temperature: 50 °C* *Superheat: 10 K* *Subcooling: 5 K*
Subject to modification without prior notification *Conditions: 400 V / 3 ph / 50 Hz (motor T4), 230 V / 1 ph / 50 Hz (motor T5)*

HHP - Scroll compressor for heating - R407C - 50 Hz

Ordering

Type	Model Variation	Connections	Features	Single pack		Industrial pack	
				4	5	4	5
HHP015	T	P	6	121U9002	121U9004	121U9001	121U9003
HHP019	T	P	6	121U9006	121U9008	121U9005	121U9007
HHP021	T	P	6	121U9010	121U9012	121U9009	121U9011
HHP026	T	P	6	121U9014	121U9016	121U9013	121U9015
HHP030	T	C	6	121U9018	121U9020	121U9017	121U9019
HHP038	T	C	6	121U9022	121U9024	121U9021	121U9023
HHP045	T	C	6	121U9026	–	121U9025	–

HHP - Scroll compressor for heating - R407C - 50 Hz

Performance table

Type	To	-25		-20		-15		-10		-5		0		5		10		15	
	Tc	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe
HHP015T4	40	2 550	1.1	3 070	1.1	3 720	1.2	4 510	1.3	5 450	1.3	6 520	1.4	7 730	1.4	9 080	1.4	10 570	1.4
	50	2 620	1.5	3 050	1.5	3 620	1.5	4 320	1.5	5 150	1.6	6 120	1.6	7 220	1.7	8 460	1.7	9 840	1.7
	60	–	–	–	–	3 860	2.2	4 410	2.1	5 090	2.1	5 890	2.1	6 830	2.1	7 900	2.1	9 100	2.1
HHP019T4	40	3 070	1.3	3 680	1.4	4 450	1.5	5 400	1.5	6 520	1.6	7 810	1.7	9 270	1.7	10 900	1.7	12 690	1.7
	50	3 180	1.7	3 680	1.7	4 340	1.8	5 180	1.9	6 180	1.9	7 340	2.0	8 670	2.1	10 160	2.2	11 830	2.2
	60	–	–	–	–	4 660	2.3	5 300	2.4	6 110	2.4	7 070	2.5	8 200	2.6	9 480	2.7	10 930	2.8
HHP021T4	40	3 530	1.4	4 250	1.5	5 090	1.6	6 080	1.7	7 230	1.7	8 570	1.8	10 100	1.8	11 840	1.7	13 820	1.7
	50	3 430	1.6	4 080	1.8	4 860	1.9	5 770	2.0	6 830	2.1	8 070	2.1	9 500	2.2	11 140	2.2	13 000	2.2
	60	–	–	–	–	4 710	2.2	5 530	2.3	6 510	2.5	7 650	2.6	8 970	2.7	10 490	2.8	12 240	2.8
HHP026T4	40	4 540	1.7	5 410	1.9	6 440	2.0	7 650	2.1	9 070	2.1	10 740	2.2	12 690	2.2	14 950	2.1	17 550	2.0
	50	4 590	2.0	5 350	2.1	6 260	2.3	7 330	2.4	8 610	2.6	10 120	2.6	11 900	2.7	13 970	2.7	16 370	2.7
	60	–	–	–	–	6 240	2.7	7 150	2.9	8 250	3.0	9 560	3.2	11 130	3.3	12 980	3.3	15 150	3.3
HHP030T4	40	4 910	2.1	6 100	2.3	7 480	2.4	9 050	2.6	10 830	2.6	12 830	2.7	15 060	2.7	17 520	2.8	20 240	2.9
	50	4 830	2.3	5 940	2.6	7 230	2.8	8 690	3.0	10 350	3.1	12 200	3.2	14 270	3.4	16 560	3.5	19 090	3.6
	60	–	–	–	–	7 000	3.1	8 330	3.4	9 850	3.6	11 550	3.8	13 440	4.0	15 540	4.2	17 870	4.4
HHP038T4	40	6 150	2.4	7 600	2.8	9 360	3.0	11 390	3.2	13 660	3.2	16 130	3.3	18 750	3.3	21 510	3.4	24 360	3.6
	50	5 730	2.2	7 120	2.8	8 800	3.3	10 740	3.6	12 890	3.8	15 220	4.0	17 700	4.1	20 280	4.2	22 940	4.4
	60	–	–	–	–	8 090	3.2	9 930	3.8	11 970	4.2	14 170	4.5	16 500	4.7	18 920	5.0	21 400	5.2
HHP045T4	40	7 110	3.0	8 800	3.1	10 830	3.3	13 180	3.5	15 800	3.7	18 660	3.8	21 700	3.9	24 890	3.8	28 180	3.7
	50	6 630	3.5	8 240	3.7	10 190	3.9	12 420	4.2	14 910	4.4	17 610	4.6	20 480	4.7	23 460	4.8	26 540	4.8
	60	–	–	–	–	9 360	4.5	11 490	4.8	13 850	5.1	16 400	5.5	19 100	5.7	21 890	6.0	24 760	6.1

To: *Evaporating temperature in [°C]* ***Tc:*** *Condensing temperature in [°C]* ***H:*** *Heating capacity in [W]* ***Pe.*** *Power input in [kW]*
Subcooling: *5 K* ***Superheat:*** *5 K*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Nomenclature and Dimensions

Type	Size	Motor	Features
HHP	**030**	**T4L**	**P6**

Application:
H: high temperature

Family:
HP:heat pump R407C PVE

Nominal capacity

Model variation:
T: motor design

Other features

	Oil sight glass	Oil equalisation	Oil drain	LP gauge port	Gas equalis. port
6	None	None	None	None	None

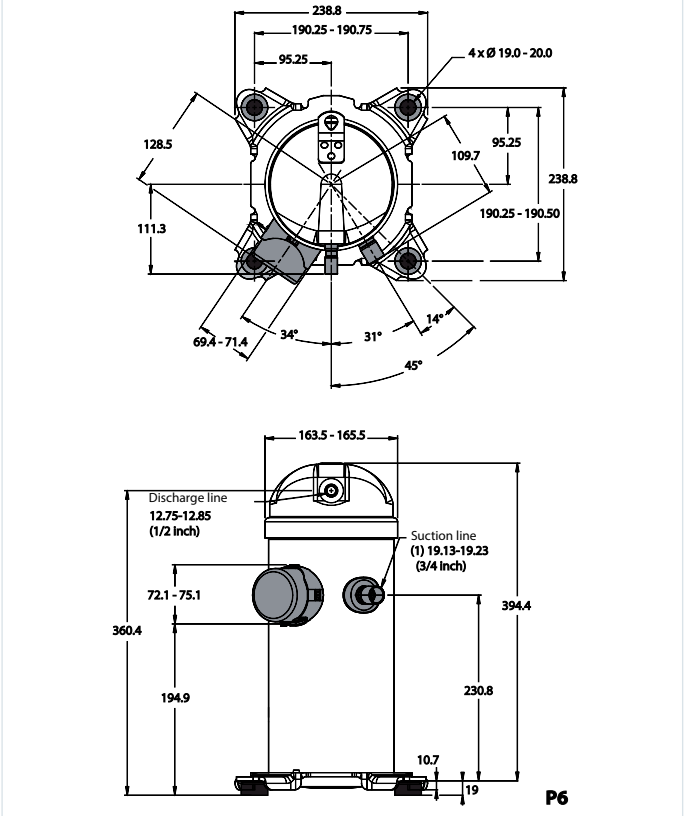
Tubing and electrical connections:
P: brazed connections, spade terminals
C: brazed connections, screw terminals



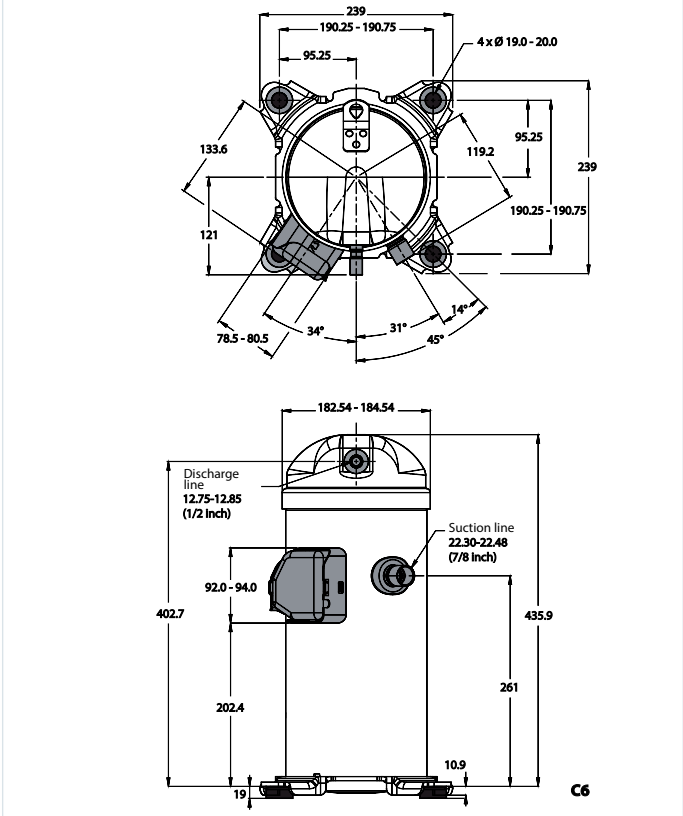
Motor protection:
L: internal motor protection

Motor voltage code:
4: 380 – 400 V / 3 ~ / 50 Hz
5: 220 – 240 V / 1 ~ / 50 Hz

HHP015-019-021-026



HHP030-038-045

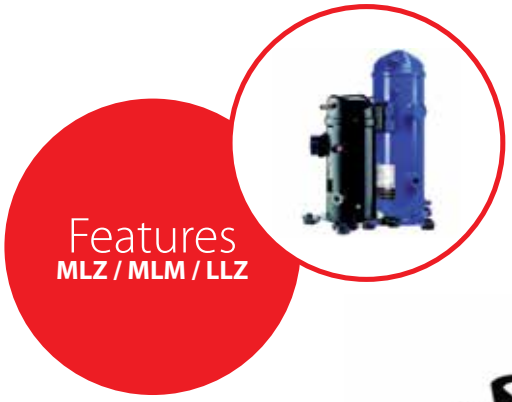


Quick Selection Notes:

MLZ / MLM / LLZ, Scroll compressors for refrigeration

MLZ / MLM and LLZ scroll compressors are dedicated to commercial and light commercial refrigeration applications with refrigerants R134a, R404A / R507A, R22, R407A. Both brazed and rotolock connections are available for most of the compressors.

MLZ: medium-temperature scroll compressors
R404 / R507A, R407A / F, R134a, R448A, R449A, R452A, R22
MLM: medium-temperature scroll compressors (R22).
LLZ: low-temperature scroll available with and without liquid injection and operate with R404A, R507A, R452A.



High efficiency motor

Optimised pressure ration for refrigeration applications

Optimized scroll design

HOOP overload protection
Rotalock or braze connections



MLZ / MLM LLZ

Optional sound jacket attenuates sound levels

Multi-refrigerant scrolls save on inventory

Suitable for transport of refrigerated goods

Vapor injection available with optional economizer kit increases LLZ efficiency and cooling capacity

Facts

- Compact design esp. in large capacities
- Complete the existing scroll range for medium temperatures
- **Energy Savings**
  Optimize your system with the scroll compressors for refrigeration. The combination of an energy efficient motor and an optimized scroll wrap for refrigeration applications delivers high efficiency in fixed-speed compressors. Optional vapor injection boosts the cooling capacity and efficiency by more than 20% on LLZ
- **Reliability**
  Improve your system reliability to reduce your maintenance and warranty costs. Reliability is built into this compressor range, from the compliant scroll design and the engineered bearings to the simplified manufacturing process (30% fewer parts). The patented thermal fault protection also contributes to excellent reliability. A smart way to reduce your field service costs
- **Low sound**
  Improve the sound environment with the lowest sound level in the industry. Scroll technology is quiet by design: the scroll provides smooth continuous compression, the absence of suction and discharge valves, and the unique disc check valve design ensure quiet, vibration-free operations
- **Compactness**
  Footprint up to 30% smaller than alternative reduces the logistics costs and frees up space in the system

Technical data and ordering

MLZ - Scroll compressors - R404A/R134a/R22/R407A/R448A/R449A - Made in CN

Ordering - Brazed version - Single pack

Type		Model variation	Connections	Features	Voltage code 1	Voltage code 2	Voltage code 4	Voltage code 5	Voltage code 9
Danfoss palette	MLZ015	T	P	9	121L8659	121L8669	121L8629	121L8631	121L8689
	MLZ021	T	P	9	121L8661	121L8671	121L8633	121L8635	121L8691
	MLZ026	T	P	9	121L8663	121L8673	121L8637	121L8639	121L8693
	MLZ030	T	C	9	121L8665	121L8675	121L8641	121L8643	121L8695
	MLZ038	T	C	9	121L8667	121L8677	121L8645	121L8647	121L8697
	MLZ045	T	C	9	–	121L8679	121L8649	–	121L8699
	MLZ048	T	C	9	–	121L8681	121L8651	–	121L8701
	MLZ058	T	C	9	–	121L8683	121L8653	–	121L8703
	MLZ066	T	C	9	–	121L8685	121L8657	–	121L8705
	MLZ076	T	C	9	–	121L8687	121L8655	–	121L8707

MLZ - Scroll compressors - R404A/R134a/R22/R407A/R448A/R449A - Made in CN

Ordering - Brazed version - Industrial pack

Type		Model variation	Connections	Features	Voltage code 1	Voltage code 2	Voltage code 4	Voltage code 5	Voltage code 9
Danfoss palette	MLZ015	T	P	9	121L8658	121L8668	121L8628	121L8630	121L8688
	MLZ021	T	P	9	121L8660	121L8670	121L8632	121L8634	121L8690
	MLZ026	T	P	9	121L8662	121L8672	121L8636	121L8638	121L8692
	MLZ030	T	C	9	121L8664	121L8674	121L8640	121L8642	121L8694
	MLZ038	T	C	9	121L8666	121L8676	121L8644	121L8646	121L8696
	MLZ045	T	C	9	–	121L8678	121L8648	–	121L8698
	MLZ048	T	C	9	–	121L8680	121L8650	–	121L8700
	MLZ058	T	C	9	–	121L8682	121L8652	–	121L8702
	MLZ066	T	C	9	–	121L8684	121L8656	–	121L8704
	MLZ076	T	C	9	–	121L8686	121L8654	–	121L8706

MLZ / MLM - Scroll compressors - R404A / R407A / R407F / R134a / R22 / R448A / R449A - Made from US

Ordering - Rotolock version - Single pack

Type	Model	Connections	Features	Voltage code 1	Voltage code 2	Voltage code 4	Voltage code 5	Voltage code 7	Voltage code 9
MLZ015	T	T	9	121U8513	121U8553	121U8529	121U8521	–	121U8545
MLZ019	T	T	9	121U8515	121U8555	121U8531	121U8523	–	121U8547
MLZ021	T	T	9	121U8517	121U8557	121U8533	121U8525	121U8541	121U8549
MLZ026	T	T	9	121U8519	121U8559	121U8535	121U8527	121U8543	121U8551
MLZ030	T	Q	9	121U8561	121U8597	121U8573	121U8567	121U8581	121U8589
MLZ038	T	Q	9	121U8563	121U8599	121U8575	121U8569	121U8583	121U8591
MLZ042	T	Q	9	121U8565	–	–	121U8571	–	–
MLZ045	T	Q	9	–	121U8601	121U8577	–	121U8585	121U8593
MLZ048	T	Q	9	–	121U8603	121U8579	–	121U8587	121U8595
MLZ058	T	Q	9	–	121U8627	121U8609	–	121U8615	121U8621
MLZ066	T	Q	9	–	121U8623	121U8605	–	121U8611	121U8617
MLZ076	T	Q	9	–	121U8625	121U8607	–	121U8613	121U8619

MLZ / MLM - Scroll compressors - R404A / R407A / R407F / R134a / R22 / R448A / R449A - Made from US

Ordering - Rotolock version - Industrial pack

Type	Model	Connections	Features	Voltage code 1	Voltage code 2	Voltage code 4	Voltage code 5	Voltage code 7	Voltage code 9
MLZ015	T	T	9	121U8512	121U8552	121U8528	121U8520	–	121U8544
MLZ019	T	T	9	121U8514	121U8554	121U8530	121U8522	–	121U8546
MLZ021	T	T	9	121U8516	121U8556	121U8532	121U8524	121U8540	121U8548
MLZ026	T	T	9	121U8518	121U8558	121U8534	121U8526	121U8542	121U8550
MLZ030	T	Q	9	121U8560	121U8596	121U8572	121U8566	121U8580	121U8588
MLZ038	T	Q	9	121U8562	121U8598	121U8574	121U8568	121U8582	121U8590
MLZ042	T	Q	9	121U8564	–	–	121U8570	–	–
MLZ045	T	Q	9	–	121U8600	121U8576	–	121U8584	121U8592
MLZ048	T	Q	9	–	121U8602	121U8578	–	121U8586	121U8594
MLZ058	T	Q	9	–	121U8626	121U8608	–	121U8614	121U8620
MLZ066	T	Q	9	–	121U8622	121U8604	–	121U8610	121U8616
MLZ076	T	Q	9	–	121U8624	121U8606	–	121U8612	121U8618

Technical data and ordering

MLZ / MLM - Scroll compressors - R404A / R407A / R407F / R134a / R22

Ordering - Brazed version - Single pack

Type		Model	Connections	Features	Voltage code 1	Voltage code 2	Voltage code 4	Voltage code 5	Voltage code 7	Voltage code 9
Danfoss pallet	MLZ015	T	P	9	–	120U8036	121U8002	121U8024	–	–
	MLZ019	T	P	9	121U8060	121U8038	121U8004	121U8026	–	–
	MLZ021	T	P	9	121U8062	121U8040	121U8006	121U8028	–	–
	MLZ026	T	P	9	121U8064	121U8042	121U8008	121U8030	–	–
	MLZ030	T	C	9	121U8066	121U8044	121U8010	121U8032	–	–
	MLZ038	T	C	9	121U8068	121U8046	121U8012	121U8034	–	–
	MLZ042	T	C	9	–	–	–	121U8419	–	–
	MLZ045	T	C	9	–	121U8048	121U8014	–	–	–
	MLZ048	T	C	9	–	121U8050	121U8016	–	–	–
	MLZ058	T	C	9	–	121U8052	121U8018	–	–	–
	MLZ066	T	C	9	–	121U8054	121U8020	–	–	–
	MLZ076	T	C	9	–	121U8056	121U8022	–	–	–
US pallet	MLZ015	T	P	9	120U8058	120U8036	120U8002	120U8024	–	120U8413
	MLZ019	T	P	9	120U8060	120U8038	120U8004	120U8026	–	120U8266
	MLZ021	T	P	9	120U8062	120U8040	120U8006	120U8028	–	120U8272
	MLZ026	T	P	9	120U8064	120U8042	120U8008	120U8030	–	120U8278
	MLZ030	T	C	9	120U8066	120U8044	120U8010	120U8032	–	120U8284
	MLZ038	T	C	9	120U8068	120U8046	120U8012	120U8034	–	120U8296
	MLZ042	T	C	9	120U8399	–	–	–	–	–
	MLZ045	T	C	9	–	120U8048	120U8014	–	120U8332	120U8302
	MLZ048	T	C	9	–	120U8050	120U8016	–	120U8338	120U8308
	MLZ058	T	C	9	–	120U8052	120U8018	–	120U8344	120U8314
	MLZ066	T	C	9	–	120U8054	120U8020	–	120U8350	–
	MLZ076	T	C	9	–	120U8056	120U8022	–	120U8356	–

MLZ / MLM - Scroll compressors - R404A / R407A / R407F / R134a / R22

Ordering - Brazed version - Industrial pack

Type		Model	Connections	Features	Voltage code 1	Voltage code 2	Voltage code 4	Voltage code 5	Voltage code 7	Voltage code 9
Danfoss pallet	MLZ015	T	P	9	–	120U8035	121U8001	121U8023	–	–
	MLZ019	T	P	9	121U8059	121U8037	121U8003	121U8025	–	–
	MLZ021	T	P	9	121U8061	121U8039	121U8005	121U8027	–	–
	MLZ026	T	P	9	121U8063	121U8041	121U8007	121U8029	–	–
	MLZ030	T	C	9	121U8065	121U8043	121U8009	121U8031	–	–
	MLZ038	T	C	9	121U8067	121U8045	121U8011	121U8033	–	–
	MLZ042	T	C	9	–	–	–	121U8418	–	–
	MLZ045	T	C	9	–	121U8047	121U8013	–	–	–
	MLZ048	T	C	9	–	121U8049	121U8015	–	–	–
	MLZ058	T	C	9	–	121U8051	121U8017	–	–	–
	MLZ066	T	C	9	–	121U8053	121U8019	–	–	–
	MLZ076	T	C	9	–	121U8055	121U8021	–	–	–
US pallet	MLZ015	T	P	9	120U8057	120U8035	120U8001	120U8023	–	120U8412
	MLZ019	T	P	9	120U8059	120U8037	120U8003	120U8025	–	120U8265
	MLZ021	T	P	9	120U8061	120U8039	120U8005	120U8027	–	120U8271
	MLZ026	T	P	9	120U8063	120U8041	120U8007	120U8029	–	120U8277
	MLZ030	T	C	9	120U8065	120U8043	120U8009	120U8031	–	120U8283
	MLZ038	T	C	9	120U8067	120U8045	120U8011	120U8033	–	120U8295
	MLZ042	T	C	9	120U8398	–	–	–	–	–
	MLZ045	T	C	9	–	120U8047	120U8013	–	120U8331	120U8301
	MLZ048	T	C	9	–	120U8049	120U8015	–	120U8337	120U8307
	MLZ058	T	C	9	–	120U8051	120U8017	–	120U8343	120U8313
	MLZ066	T	C	9	–	120U8053	120U8019	–	120U8349	–
	MLZ076	T	C	9	–	120U8055	120U8021	–	120U8355	–

Technical data and ordering

MLZ / MLM - Scroll compressors - R404A / R134a / R22 / R448A / R449A - 50 Hz

Technical data

Type		HP	Nominal cooling capacity [1]		Power input [1]	Efficiency [1]		Swept volume		Displacement		Oil charge		Net weight (with oil)	
			[W]	[Btu/h]	[kW]	COP [W/W]	EER [Btu/h/W]	[cm³/rev]	[cu.in/rev]	[m³/h]	[cu.ft/h]	[Litres]	[oz]	[kg]	[lb]
R404A [2]	MLZ015	2	3300	11300	1.75	1.89	6.45	33.8	2.06	5.9	208	1.1	37	31	68
	MLZ019	2.5	4500	15400	2.16	2.06	7.03	43.5	2.65	7.6	268	1.1	37	31	68
	MLZ021	3	4700	16000	2.27	2.08	7.1	46.2	2.82	8	283	1.1	37	31	68
	MLZ026	3.5	5800	19800	2.9	2	6.83	57.1	3.48	9.9	350	1.1	37	31	68
	MLZ030	4	7100	24200	3.35	2.11	7.2	68.8	4.2	12	424	1.6	54	41	90
	MLZ038	5	8400	28700	3.86	2.19	7.47	81	4.94	14.1	498	1.6	54	41	90
	MLZ042	5.5	9500	32400	4.72	2.02	6.89	93.1	5.68	16.2	572	1.6	54	41	90
	MLZ045	6	10200	34800	4.81	2.11	7.2	98.6	6.02	17.2	607	1.6	54	41	90
	MLZ048	7	11100	37900	5.17	2.14	7.3	107.5	6.56	18.7	660	1.6	54	41	90
	MLZ058	7.5	13000	44400	6.08	2.13	7.27	126	7.69	21.9	773	2.7	91	47	104
	MLZ066	9	15100	51500	7.01	2.15	7.34	148.8	9.08	25.9	915	2.7	91	47	104
	MLZ076	10	17300	59000	7.93	2.18	7.44	162.4	9.91	28.3	999	2.7	91	47	104
R134a [3]	MLZ015	2	2000	6800	1.02	1.95	6.66	33.8	2.06	5.9	208	1.1	37	31	68
	MLZ019	2.5	2500	8500	1.28	1.98	6.76	43.5	2.65	7.6	268	1.1	37	31	68
	MLZ021	3	2700	9200	1.33	2.04	6.96	46.2	2.82	8	283	1.1	37	31	68
	MLZ026	3.5	3300	11300	1.62	2.06	7.03	57.1	3.48	9.9	350	1.1	37	31	68
	MLZ030	4	4000	13700	1.93	2.09	7.13	68.8	4.2	12	424	1.6	54	41	90
	MLZ038	5	4700	16000	2.34	2.02	6.89	81	4.94	14.1	498	1.6	54	41	90
	MLZ042	5.5	5300	18100	2.74	1.95	6.66	93.1	5.68	16.2	572	1.6	54	41	90
	MLZ045	6	5900	20100	2.69	2.17	7.41	98.6	6.02	17.2	607	1.6	54	41	90
	MLZ048	7	6200	21200	2.91	2.14	7.3	107.5	6.56	18.7	660	1.6	54	41	90
	MLZ058	7.5	7400	25300	3.61	2.06	7.03	126	7.69	21.9	773	2.7	91	47	104
	MLZ066	9	8600	29400	4.1	2.1	7.17	148.8	9.08	25.9	915	2.7	91	47	104
	MLZ076	10	9600	32800	4.67	2.06	7.03	162.4	9.91	28.3	999	2.7	91	47	104
R448A [4]	MLZ015	2	3200	11000	1.68	1.91	6.52	33.8	2.06	5.9	208	1.1	37	31	68
	MLZ019	2.5	4200	14300	2.11	1.99	6.79	43.5	2.65	7.6	268	1.1	37	31	68
	MLZ021	3	4400	15000	2.23	1.97	6.73	46.2	2.82	8	283	1.1	37	31	68
	MLZ026	3.5	5500	18700	2.78	1.97	6.72	57.1	3.48	9.9	350	1.1	37	31	68
	MLZ030	4	6600	22500	3.17	2.08	7.09	68.8	4.2	12	424	1.6	54	41	90
	MLZ038	5	7800	26600	3.64	2.14	7.3	81	4.94	14.1	498	1.6	54	41	90
	MLZ042	5.5	9100	31000	4.55	1.99	6.81	93.1	5.68	16.2	572	1.6	54	41	90
	MLZ045	6	9700	33000	4.58	2.11	7.21	98.6	6.02	17.2	607	1.6	54	41	90
	MLZ048	7	10400	35500	5.06	2.06	7.02	107.5	6.56	18.7	660	1.6	54	41	90
	MLZ058	7.5	12200	41700	5.57	2.19	7.48	126	7.69	21.9	773	2.7	91	47	104
	MLZ066	9	14200	48500	6.75	2.11	7.21	148.8	9.08	25.9	915	2.7	91	47	104
	MLZ076	10	15200	51700	7.61	1.99	6.8	162.4	9.91	28.3	999	2.7	91	47	104
R22	MLZ015	2	3300	11263	1.53	2.15	7.34	33.8	2.06	5.9	208	1.1	37	31	68
	MLZ019	2.5	4300	14676	1.87	2.3	7.85	43.5	2.65	7.6	268	1.1	37	31	68
	MLZ021	3	4600	15700	2.02	2.27	7.75	46.2	2.82	8	283	1.1	37	31	68
	MLZ026	3.5	5700	19454	2.43	2.33	7.95	57.1	3.48	9.9	350	1.1	37	31	68
	MLZ030	4	6800	23208	2.93	2.33	7.95	68.8	4.2	12	424	1.6	54	41	90
	MLZ038	5	8100	27645	3.45	2.34	7.99	81	4.94	14.1	498	1.6	54	41	90
	MLZ042	5.5	9100	31058	4.23	2.15	7.34	93.1	5.68	16.2	572	1.6	54	41	90
	MLZ045	6	9300	31741	4.14	2.24	7.65	98.6	6.02	17.2	607	1.6	54	41	90
	MLZ048	7	10600	36177	4.53	2.33	7.95	107.5	6.56	18.7	660	1.6	54	41	90
	MLZ058	7.5	12300	41980	5.29	2.33	7.95	126	7.69	21.9	773	2.7	91	47	104
	MLZ066	9	14100	48123	5.94	2.38	8.12	148.8	9.08	25.9	915	2.7	91	47	104
	MLZ076	10	16600	56655	6.96	2.38	8.12	162.4	9.91	28.3	999	2.7	91	47	104

[1]) at EN12900 conditions: To= -10 °C / 14° F, Tc= 45 °C / 113 °F, RGT= 20 °C / 68 °F, SC= 0 K
[2]) R507 performance data are nearly identical to R404A performance data
[3]): To= -10°C(14°F), Tc= 45 °C / 113 °F, SH= 10 K(18 °F), SC= 0 K
[4]) R449A performance data are nearly identical to R448A performance data
All performance test data after run-in 72hrs. Motor voltage code 4: 400 V/3~/50 Hz, MLZ042: Motor voltage code 5: 220-240 V/1~/50 Hz

Technical data and ordering

MLZ / MLM - Scroll compressors - R407A / R407F/ R452A - 50 Hz

Technical data

Type		HP	Nominal cooling capacity [1]		Power input [1]	Efficiency [1]		Swept volume		Displacement		Oil charge		Net weight (with oil)	
						COP	EER								
			[W]	[Btu/h]	[kW]	[W/W]	[Btu/h/W]	[cm³/rev]	[cu.in/rev]	[m³/h]	[cu.ft/h]	[Litres]	[oz]	[kg]	[lb]
R407A	MLZ015	2	3100	10580	1.55	2	6.83	33.8	2.06	5.9	208	1.1	37	31	68
	MLZ019	2.5	4000	13652	2.04	1.96	6.69	43.5	2.65	7.6	268	1.1	37	31	68
	MLZ021	3	4200	14334	2.21	1.91	6.52	46.2	2.82	8	283	1.1	37	31	68
	MLZ026	3.5	5300	18089	2.71	1.96	6.69	57.1	3.48	9.9	350	1.1	37	31	68
	MLZ030	4	6500	22184	2.99	2.17	7.41	68.8	4.2	12	424	1.6	54	41	90
	MLZ038	5	7500	25597	3.47	2.16	7.37	81	4.94	14.1	498	1.6	54	41	90
	MLZ042	5.5	8600	29352	4.53	1.9	6.48	93.1	5.68	16.2	572	1.6	54	41	90
	MLZ045	6	9100	31058	4.55	2.01	6.86	98.6	6.02	17.2	607	1.6	54	41	90
	MLZ048	7	10000	34130	5.01	2	6.83	107.5	6.56	18.7	660	1.6	54	41	90
	MLZ058	7.5	11500	39249	5.69	2.02	6.89	126	7.69	21.9	773	2.7	91	47	104
	MLZ066	9	13400	45734	6.78	1.98	6.76	148.8	9.08	25.9	915	2.7	91	47	104
	MLZ076	10	14700	50171	7.51	1.96	6.69	162.4	9.91	28.3	999	2.7	91	47	104
R407F	MLZ015	2	3300	11263	1.66	2	6.83	33.8	2.06	5.9	208	1.1	37	31	68
	MLZ019	2.5	4300	14676	2.19	1.96	6.69	43.5	2.65	7.6	268	1.1	37	31	68
	MLZ021	3	4500	15358	2.37	1.91	6.52	46.2	2.82	8	283	1.1	37	31	68
	MLZ026	3.5	5700	19454	2.9	1.96	6.69	57.1	3.48	9.9	350	1.1	37	31	68
	MLZ030	4	6900	23549	3.2	2.17	7.41	68.8	4.2	12	424	1.6	54	41	90
	MLZ038	5	8000	27304	3.72	2.16	7.37	81	4.94	14.1	498	1.6	54	41	90
	MLZ042	5.5	9200	31399	4.85	1.9	6.48	93.1	5.68	16.2	572	1.6	54	41	90
	MLZ045	6	9800	33447	4.87	2.01	6.86	98.6	6.02	17.2	607	1.6	54	41	90
	MLZ048	7	10800	36860	5.37	2.01	6.86	107.5	6.56	18.7	660	1.6	54	41	90
	MLZ058	7.5	12300	41980	6.09	2.02	6.89	126	7.69	21.9	773	2.7	91	47	104
	MLZ066	9	14400	49147	7.26	1.99	6.79	148.8	9.08	25.9	915	2.7	91	47	104
	MLZ076	10	15800	53925	8.04	1.96	6.69	162.4	9.91	28.3	999	2.7	91	47	104
R452A	MLZ015	2	3400	11500	1.71	1.97	6.72	33.8	2.06	5.9	208	1.1	37	31	68
	MLZ019	2.5	4300	14700	2.17	1.99	6.8	43.5	2.65	7.6	268	1.1	37	31	68
	MLZ021	3	4600	15700	2.27	2.02	6.89	46.2	2.82	8	283	1.1	37	31	68
	MLZ026	3.5	5700	29400	2.81	2.02	6.9	57.1	3.48	9.9	350	1.1	37	31	68
	MLZ030	4	6800	23400	3.27	2.1	7.18	68.8	4.2	12	424	1.6	54	41	90
	MLZ038	5	8000	27300	3.81	2.1	7.18	81	4.94	14.1	498	1.6	54	41	90
	MLZ042	5.5	9300	31700	4.84	1.92	6.56	93.1	5.68	16.2	572	1.6	54	41	90
	MLZ045	6	10100	34300	4.81	2.09	7.14	98.6	6.02	17.2	607	1.6	54	41	90
	MLZ048	7	11000	37500	5.17	2.12	7.25	107.5	6.56	18.7	660	1.6	54	41	90
	MLZ058	7.5	12900	44000	5.89	2.19	7.48	126	7.69	21.9	773	2.7	91	47	104
	MLZ066	9	15100	51500	7.15	2.11	7.2	148.8	9.08	25.9	915	2.7	91	47	104
	MLZ076	10	16200	55200	7.94	2.04	6.95	162.4	9.91	28.3	999	2.7	91	47	104

[1]) at EN12900 conditions: To= -10°C(14°F), Tc= 45°C(113°F), RGT= 20°C(68°F), SC= 0 K
Only motor code 4, code 5 of MLZ are qualified with R407A/R407F
All performance test data after run-in 72hrs
Motor voltage code 4: 400 V/3~/50 Hz
MLZ042: Motor voltage code 5: 220-240 V/1~/50 Hz

Technical data and ordering

MLZ / MLM - Scroll compressors - R404A / R134a / R22 / R448A / R449A - 60 Hz

Technical data

Type		HP	Nominal cooling capacity [1]		Power input [1]	Efficiency [1]		Swept volume		Displacement		Oil charge		Net weight (with oil)	
						COP	EER								
			[W]	[Btu/h]	[kW]	[W/W]	[Btu/h/W]	[cm³/rev]	[cu.in/rev]	[m³/h]	[cu.ft/h]	[Litres]	[oz]	[kg]	[lb]
R404A [2]	MLZ015	2	4100	14000	2.1	1.94	6.62	33.8	2.06	7.1	251	1.1	37	31	68
	MLZ019	2.5	5500	18800	2.58	2.11	7.2	43.5	2.65	9.1	321	1.1	37	31	68
	MLZ021	3	5800	19800	2.74	2.13	7.27	46.2	2.82	9.7	343	1.1	37	31	68
	MLZ026	3.5	7200	24600	3.44	2.1	7.17	57.1	3.48	12	424	1.1	37	31	68
	MLZ030	4	8500	29000	3.9	2.18	7.44	68.8	4.2	14.4	509	1.6	54	41	90
	MLZ038	5	10200	34800	4.7	2.18	7.44	81	4.94	17	600	1.6	54	41	90
	MLZ042	5.5	11800	40300	5.73	2.07	7.06	93.1	5.68	19.6	692	1.6	54	41	90
	MLZ045	6	12400	42300	5.64	2.19	7.47	98.6	6.02	20.7	731	1.6	54	41	90
	MLZ048	7	13500	46100	6.15	2.2	7.51	107.5	6.56	22.6	798	1.6	54	41	90
	MLZ058	7.5	15700	53600	7.35	2.14	7.3	126	7.69	26.4	932	2.7	91	47	104
	MLZ066	9	18400	62800	8.4	2.18	7.44	148.8	9.08	31.3	1105	2.7	91	47	104
	MLZ076	10	20900	71300	9.59	2.18	7.44	162.4	9.91	34.1	1204	2.7	91	47	104
R134a [3]	MLZ015	2	2400	8200	1.19	2.05	7	33.8	2.06	7.1	251	1.1	37	31	68
	MLZ019	2.5	3100	10600	1.53	2.03	6.93	43.5	2.65	9.1	321	1.1	37	31	68
	MLZ021	3	3300	11300	1.58	2.1	7.17	46.2	2.82	9.7	343	1.1	37	31	68
	MLZ026	3.5	4100	14000	1.91	2.15	7.34	57.1	3.48	12	424	1.1	37	31	68
	MLZ030	4	5000	17100	2.35	2.11	7.2	68.8	4.2	14.4	509	1.6	54	41	90
	MLZ038	5	5800	19800	2.8	2.09	7.13	81	4.94	17	600	1.6	54	41	90
	MLZ042	5.5	6500	22200	3.33	1.94	6.62	93.1	5.68	19.6	692	1.6	54	41	90
	MLZ045	6	7100	24200	3.32	2.14	7.3	98.6	6.02	20.7	731	1.6	54	41	90
	MLZ048	7	7600	25900	3.54	2.14	7.3	107.5	6.56	22.6	798	1.6	54	41	90
	MLZ058	7.5	9100	31100	4.28	2.13	7.27	126	7.69	26.4	932	2.7	91	47	104
	MLZ066	9	10400	35500	4.85	2.15	7.34	148.8	9.08	31.3	1105	2.7	91	47	104
	MLZ076	10	11700	39900	5.61	2.09	7.13	162.4	9.91	34.1	1204	2.7	91	47	104
R448A [4]	MLZ015	2	3800	13100	1.96	1.96	6.69	33.8	2.06	7.1	251	1.1	37	31	68
	MLZ019	2.5	5100	17400	2.48	2.06	7.02	43.5	2.65	9.1	321	1.1	37	31	68
	MLZ021	3	5400	18400	2.62	2.06	7.03	46.2	2.82	9.7	343	1.1	37	31	68
	MLZ026	3.5	6800	23200	3.21	2.12	7.23	57.1	3.48	12	424	1.1	37	31	68
	MLZ030	4	6600	22500	3.17	2.08	7.09	68.8	4.2	14.5	512	1.6	54	41	90
	MLZ038	5	8200	28100	3.72	2.22	7.56	81	4.94	17	600	1.6	54	41	90
	MLZ042	5.5	11000	37600	5.55	1.99	6.79	94	5.74	19.6	692	1.6	54	41	90
	MLZ045	6	11600	39500	5.57	2.08	7.1	98.6	6.02	20.7	731	1.6	54	41	90
	MLZ048	7	12800	43800	5.93	2.16	7.38	107.5	6.56	22.6	798	1.6	54	41	90
	MLZ058	7.5	15100	51500	6.65	2.27	7.74	126	7.69	26.5	936	2.7	91	47	104
	MLZ066	9	17400	59300	8.05	2.16	7.36	148.8	9.08	31.3	1105	2.7	91	47	104
	MLZ076	10	18700	63800	8.88	2.11	7.19	162.4	9.91	34.1	1204	2.7	91	47	104
R22	MLZ015	2	3900	13311	1.74	2.26	7.71	33.8	2.06	7.1	251	1.1	37	31	68
	MLZ019	2.5	5200	17747	2.22	2.37	8.09	43.5	2.65	9.1	321	1.1	37	31	68
	MLZ021	3	5600	19113	2.36	2.36	8.05	46.2	2.82	9.7	343	1.1	37	31	68
	MLZ026	3.5	7000	23891	2.93	2.39	8.16	57.1	3.48	12	424	1.1	37	31	68
	MLZ030	4	8200	27986	3.46	2.36	8.05	68.8	4.2	14.5	512	1.6	54	41	90
	MLZ038	5	9600	32765	4.06	2.36	8.05	81	4.94	17	600	1.6	54	41	90
	MLZ042	5.5	10900	37201	5	2.18	7.44	94	5.74	19.6	692	1.6	54	41	90
	MLZ045	6	11700	39932	4.91	2.38	8.12	98.6	6.02	20.7	731	1.6	54	41	90
	MLZ048	7	12900	44027	5.36	2.4	8.19	107.5	6.56	22.6	798	1.6	54	41	90
	MLZ058	7.5	14900	50853	6.34	2.34	7.99	126	7.69	26.5	936	2.7	91	47	104
	MLZ066	9	17000	58020	7.14	2.38	8.12	148.8	9.08	31.3	1105	2.7	91	47	104
	MLZ076	10	20100	68601	8.4	2.39	8.16	162.4	9.91	34.1	1204	2.7	91	47	104

[1]) at EN12900 conditions: To= -10 °C/ 14 °F, Tc= 45 °C/ 113 °F, RGT= 20 °C/ 68 °F, SC= 0 K
[2]) R507 performance data are nearly identical to R404A performance data
[3]) : To= -10 °C / 14 °F, Tc= 45 °C / 113 °F, SH= 10 K(18 °F), SC= 0 K
[4]) R449A performance data are nearly identical to R448A performance data
All performance test data after run-in 72hrs
Motor voltage code 4: 460 V/3~/60 Hz
MLZ042: Motor voltage code 1: 208-230 V/1~/60 Hz

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

MLZ / MLM - Scroll compressors - R407A / R407F / R452A - 60 Hz

Technical data

Type		HP	Nominal cooling capacity [1]		Power input [1]	Efficiency [1]		Swept volume		Displacement		Oil charge		Net weight (with oil)	
						COP	EER								
			[W]	[Btu/h]	[kW]	[W/W]	[Btu/h/W]	[cm³/rev]	[cu.in/rev]	[m³/h]	[cu.ft/h]	[Litres]	[oz]	[kg]	[lb]
R407A	MLZ015	2	3800	12969	1.85	2.04	6.96	33.8	2.06	7.1	251	1.1	37	31	68
	MLZ019	2.5	4900	16724	2.4	2.06	7.03	43.5	2.65	9.1	321	1.1	37	31	68
	MLZ021	3	5300	18089	2.63	2.01	6.86	46.2	2.82	9.7	343	1.1	37	31	68
	MLZ026	3.5	6400	21843	3.1	2.07	7.06	57.1	3.48	12	424	1.1	37	31	68
	MLZ030	4	7900	26962	3.52	2.25	7.68	68.8	4.2	14.5	512	1.6	54	41	90
	MLZ038	5	9200	31399	4.1	2.24	7.65	81	4.94	17	600	1.6	54	41	90
	MLZ045	6	11200	38225	5.37	2.09	7.13	98.6	6.02	20.7	731	1.6	54	41	90
	MLZ048	7	12200	41638	6.01	2.03	6.93	107.5	6.56	22.6	798	1.6	54	41	90
	MLZ058	7.5	14300	48805	6.68	2.14	7.3	126	7.69	26.5	936	2.7	91	47	104
	MLZ066	9	16700	56997	7.89	2.12	7.24	148.8	9.08	31.3	1105	2.7	91	47	104
	MLZ076	10	18100	61775	8.64	2.09	7.13	162.4	9.91	34.1	1204	2.7	91	47	104
R407F	MLZ015	2	4100	13993	1.98	2.05	7	33.8	2.06	7.1	251	1.1	37	31	68
	MLZ019	2.5	5300	18089	2.57	2.06	7.03	43.5	2.65	9.1	321	1.1	37	31	68
	MLZ021	3	5700	19454	2.81	2.01	6.86	46.2	2.82	9.7	343	1.1	37	31	68
	MLZ026	3.5	6900	23549	3.32	2.08	7.1	57.1	3.48	12	424	1.1	37	31	68
	MLZ030	4	8500	29010	3.77	2.26	7.71	68.8	4.2	14.5	512	1.6	54	41	90
	MLZ038	5	9800	33447	4.38	2.24	7.65	81	4.94	17	600	1.6	54	41	90
	MLZ045	6	12000	40956	5.75	2.09	7.13	98.6	6.02	20.7	731	1.6	54	41	90
	MLZ048	7	13100	44710	6.44	2.04	6.96	107.5	6.56	22.6	798	1.6	54	41	90
	MLZ058	7.5	15300	52218	7.15	2.14	7.3	126	7.69	26.5	936	2.7	91	47	104
	MLZ066	9	18000	61433	8.45	2.13	7.27	148.8	9.08	31.3	1105	2.7	91	47	104
	MLZ076	10	19400	66212	9.25	2.09	7.13	162.4	9.91	34.1	1204	2.7	91	47	104
R452A	MLZ015	2	4100	13900	2.05	1.99	6.78	33.8	2.06	7.1	251	1.1	37	31	68
	MLZ019	2.5	5200	17900	2.57	2.03	6.94	43.5	2.65	9.1	321	1.1	37	31	68
	MLZ021	3	5500	18800	2.7	2.05	6.99	46.2	2.82	9.7	343	1.1	37	31	68
	MLZ026	3.5	6800	23300	3.34	2.04	6.97	57.1	3.48	12	424	1.1	37	31	68
	MLZ030	4	8400	28700	3.94	2.14	7.29	68.8	4.2	14.5	512	1.6	54	41	90
	MLZ038	5	9800	33300	4.55	2.15	7.34	81	4.94	17	600	1.6	54	41	90
	MLZ042	5.5	11400	38900	5.68	2.01	6.85	93.1	5.68	19.6	692	1.6	54	41	90
	MLZ045	6	12000	41000	5.71	2.11	7.18	98.6	6.02	20.7	731	1.6	54	41	90
	MLZ048	7	13300	45200	6.24	2.13	7.26	107.5	6.56	22.6	798	1.6	54	41	90
	MLZ058	7.5	15500	53000	7.09	2.19	7.48	126	7.69	26.5	936	2.7	91	47	104
	MLZ066	9	18500	63100	8.42	2.2	7.5	148.8	9.08	31.3	1105	2.7	91	47	104
	MLZ076	10	19800	67600	9.26	2.14	7.3	162.4	9.91	34.1	1204	2.7	91	47	104

[1]) at EN12900 conditions: To= -10°C(14°F), Tc= 45°C(113°F), RGT= 20°C(68°F), SC= 0 K
Only motor code 4, code 5 of MLZ are qualified with R407A/R407F
All performance test data after run-in 72hrs
Motor voltage code 4: 460 V/3~/60 Hz
MLZ042: Motor voltage code 1: 208-230 V/1~/60 Hz

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

MLZ / MLM - Scroll compressors - R134a - 50 / 60 Hz

Performance table

Type		To	-10		-5		0		5		10		15	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
50 Hz	MLZ / MLM015T4	30	2400	0.74	3000	0.75	3700	0.75	4500	0.76	5400	0.77	–	–
		40	–	–	2700	0.92	3300	0.93	4100	0.94	4900	0.95	5900	0.96
		50	–	–	2400	1.14	3000	1.15	3600	1.16	4400	1.17	5200	1.18
	MLZ / MLM019T4	30	3100	0.95	3800	0.96	4700	0.96	5800	0.97	7000	0.99	–	–
		40	–	–	3500	1.18	4300	1.19	5200	1.20	6300	1.21	7600	1.22
		50	–	–	3100	1.44	3800	1.46	4700	1.48	5600	1.49	6700	1.50
	MLZ / MLM021T4	30	3300	0.98	4100	0.99	5000	1.00	6100	1.01	7400	1.03	–	–
		40	–	–	3700	1.22	4600	1.23	5600	1.25	6700	1.26	8000	1.28
		50	–	–	3300	1.49	4000	1.51	4900	1.53	6000	1.54	7200	1.56
	MLZ / MLM026T4	30	4100	1.19	5100	1.20	6200	1.22	7600	1.23	9100	1.25	–	–
		40	–	–	4600	1.48	5600	1.50	6900	1.52	8300	1.54	9900	1.55
		50	–	–	4100	1.82	5000	1.85	6100	1.87	7400	1.89	8900	1.91
	MLZ / MLM030T4	30	4900	1.42	6100	1.43	7500	1.45	9100	1.46	11000	1.48	–	–
		40	–	–	5500	1.76	6800	1.78	8300	1.80	10000	1.82	12000	1.84
		50	–	–	4900	2.16	6000	2.19	7400	2.21	8900	2.23	10700	2.26
	MLZ / MLM038T4	30	5800	1.73	7200	1.75	8800	1.77	10700	1.79	12900	1.81	–	–
		40	–	–	6500	2.15	8000	2.18	9700	2.20	11700	2.22	14000	2.24
		50	–	–	5700	2.64	7100	2.68	8700	2.71	10500	2.73	12500	2.75
	MLZ / MLM042T5	30	6600	2.15	8200	2.20	10100	2.23	12100	2.28	14400	2.35	–	–
		40	–	–	7500	2.60	9200	2.64	11100	2.68	13200	2.72	15700	2.78
		50	–	–	6500	3.08	8100	3.15	9900	3.19	11800	3.22	14100	3.25
	MLZ / MLM045T4	30	7100	1.96	8900	1.99	11000	2.00	13300	2.01	16000	2.02	–	–
		40	–	–	8000	2.46	9900	2.49	12100	2.51	14600	2.53	17400	2.55
		50	–	–	7100	3.03	8800	3.07	10800	3.10	13000	3.13	15600	3.17
	MLZ / MLM048T4	30	7600	2.12	9500	2.15	11600	2.18	14100	2.20	16900	2.22	–	–
		40	–	–	8500	2.66	10500	2.70	12800	2.72	15400	2.74	18300	2.75
		50	–	–	7500	3.27	9300	3.32	11400	3.36	13800	3.38	16400	3.39
	MLZ / MLM058T4	30	9100	2.64	11300	2.69	13800	2.77	16600	2.83	20000	2.87	–	–
		40	–	–	10100	3.33	12400	3.40	15100	3.44	18100	3.45	21600	3.40
		50	–	–	9000	4.06	11100	4.15	13400	4.20	16100	4.20	19200	4.12
	MLZ / MLM066T4	30	10500	3.01	13000	3.07	16000	3.14	19300	3.20	23200	3.24	–	–
		40	–	–	11800	3.79	14500	3.85	17500	3.89	21100	3.90	25000	3.86
		50	–	–	10400	4.62	12800	4.70	15600	4.75	18800	4.75	22300	4.69
	MLZ / MLM076T4	30	11800	3.41	14600	3.49	17900	3.58	21600	3.65	25800	3.69	–	–
		40	–	–	13100	4.31	16100	4.39	19600	4.44	23500	4.45	28000	4.39
		50	–	–	11600	5.26	14300	5.36	17400	5.42	21000	5.42	25000	5.34
60 Hz	MLZ / MLM015T4	30	3000	0.89	3700	0.90	4600	0.92	5500	0.94	6600	0.96	–	–
		40	–	–	3400	1.10	4200	1.12	5100	1.14	6100	1.16	7200	1.18
		50	–	–	3000	1.33	3700	1.36	4600	1.38	5500	1.40	6500	1.43
	MLZ / MLM019T4	30	3800	1.15	4800	1.18	5900	1.20	7100	1.22	8500	1.25	–	–
		40	–	–	4300	1.43	5400	1.46	6500	1.48	7800	1.50	9300	1.54
		50	–	–	3900	1.73	4800	1.77	5900	1.79	7100	1.82	8400	1.84
	MLZ / MLM021T4	30	4100	1.19	5100	1.21	6200	1.23	7600	1.25	9100	1.28	–	–
		40	–	–	4600	1.48	5700	1.50	6900	1.52	8300	1.54	9900	1.57
		50	–	–	4100	1.79	5100	1.83	6200	1.85	7500	1.87	8900	1.90
	MLZ / MLM026T4	30	5000	1.44	6300	1.46	7700	1.49	9300	1.52	11200	1.57	–	–
		40	–	–	5700	1.78	7000	1.82	8600	1.85	10300	1.88	12200	1.91
		50	–	–	5100	2.16	6300	2.22	7700	2.26	9300	2.29	11000	2.30
	MLZ / MLM030T4	30	6000	1.75	7500	1.78	9300	1.81	11300	1.85	13500	1.90	–	–
		40	–	–	6800	2.18	8500	2.21	10300	2.24	12400	2.28	14700	2.33
		50	–	–	6100	2.64	7600	2.68	9300	2.72	11200	2.76	13300	2.81
	MLZ / MLM038T4	30	7100	2.06	8800	2.10	10900	2.15	13200	2.21	15900	2.26	–	–
		40	–	–	8000	2.57	9900	2.62	12100	2.67	14600	2.72	17300	2.77
		50	–	–	7200	3.14	8900	3.19	10900	3.24	13200	3.29	15700	3.34
	MLZ / MLM042T1	30	8800	2.45	11000	2.49	13500	2.53	16300	2.58	19500	2.65	–	–
		40	–	–	9900	3.05	12200	3.09	14800	3.13	17800	3.18	21100	3.26
		50	–	–	8600	3.74	10700	3.79	13100	3.83	15800	3.88	18900	3.94
	MLZ / MLM045T4	30	9300	2.61	11600	2.66	14200	2.72	17200	2.78	20600	2.86	–	–
		40	–	–	10400	3.26	12900	3.31	15600	3.37	18800	3.43	22200	3.49
		50	–	–	9200	3.99	11300	4.06	13900	4.11	16700	4.16	19900	4.21
	MLZ / MLM048T4	30	11100	3.14	13700	3.23	16800	3.35	20200	3.47	24000	3.57	–	–
		40	–	–	12400	3.96	15200	4.07	18300	4.17	21900	4.24	25900	4.27
		50	–	–	11000	4.84	13500	4.96	16300	5.06	19600	5.12	23300	5.13
	MLZ / MLM058T4	30	12700	3.60	15700	3.70	19200	3.83	23200	3.97	27600	4.10	–	–
		40	–	–	14200	4.53	17400	4.66	21100	4.77	25200	4.85	29800	4.90
		50	–	–	12600	5.52	15500	5.68	18800	5.79	22500	5.86	26700	5.85
	MLZ / MLM066T4	30	14300	4.12	17600	4.23	21500	4.38	26000	4.54	31000	4.70	–	–
		40	–	–	16000	5.19	19600	5.33	23600	5.46	28300	5.56	33400	5.61
		50	–	–	14200	6.35	17400	6.51	21100	6.64	25300	6.71	29800	6.71
	MLZ / MLM076T4	30	14 300	4.1	17 600	4.2	21 500	4.4	26 000	4.5	31 000	4.7	–	–
		40	–	–	16 000	5.2	19 600	5.3	23 600	5.5	28 300	5.6	33 400	5.6
		50	–	–	14 200	6.4	17 400	6.5	21 100	6.6	25 300	6.7	29 800	6.7

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Qo: *Cooling capacity in [W]*
Pe: *Power input in [kW]*
Subcooling: *0 K*
RGT: *20 °C*
Capacity data at other conditions are available in the datasheets at: www.danfoss.com / odsg

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

MLZ / MLM - Scroll compressors - R404A / R507 - 50 / 60 Hz

Performance table

Type		To	-25		-20		-15		-10		-5		0		5		10	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
50 Hz	MLZ015T4	30	2300	1.25	2900	1.24	3500	1.22	4300	1.20	5200	1.18	6200	1.16	7400	1.14	8700	1.14
		40	1900	1.63	2400	1.60	3000	1.57	3700	1.54	4400	1.51	5300	1.49	6300	1.47	7400	1.47
		50	–	–	1800	2.10	2400	2.05	2900	2.00	3600	1.95	4300	1.91	5100	1.88	6000	1.86
	MLZ019T4	30	3000	1.51	3800	1.53	4600	1.53	5600	1.53	6700	1.52	8000	1.52	9500	1.53	11200	1.57
		40	2600	1.88	3300	1.92	4000	1.93	4800	1.93	5800	1.91	6900	1.90	8200	1.89	9700	1.89
		50	–	–	2700	2.36	3300	2.40	4000	2.41	4800	2.40	5800	2.38	6800	2.36	8100	2.34
	MLZ021T4	30	3200	1.60	4000	1.60	4900	1.61	5900	1.62	7100	1.63	8500	1.64	10000	1.66	11800	1.68
		40	2800	1.99	3500	2.01	4300	2.02	5100	2.03	6200	2.03	7300	2.03	8700	2.01	10300	2.00
		50	–	–	2900	2.52	3500	2.54	4300	2.55	5100	2.55	6100	2.53	7300	2.49	8600	2.44
	MLZ026T4	30	3900	2.00	4900	2.02	6000	2.03	7300	2.05	8800	2.06	10500	2.06	12500	2.07	14800	2.07
		40	3400	2.55	4200	2.56	5200	2.57	6300	2.58	7600	2.58	9100	2.59	10800	2.58	12800	2.58
		50	–	–	3600	3.26	4400	3.27	5300	3.27	6400	3.26	7600	3.25	9100	3.24	10800	3.23
	MLZ030T4	30	4800	2.33	6000	2.36	7300	2.38	8800	2.39	10600	2.40	12700	2.42	15000	2.43	17700	2.44
		40	4100	2.95	5100	2.97	6300	2.98	7700	2.99	9300	3.00	11100	3.00	13100	3.00	15500	3.00
		50	–	–	4300	3.77	5300	3.77	6400	3.77	7800	3.76	9300	3.75	11100	3.73	13100	3.72
	MLZ038T4	30	5800	2.69	7200	2.69	8700	2.70	10500	2.72	12600	2.76	15000	2.81	17700	2.88	20800	2.97
		40	5000	3.45	6200	3.43	7600	3.42	9200	3.42	11000	3.43	13200	3.46	15600	3.50	18300	3.56
		50	–	–	5100	4.39	6300	4.37	7600	4.35	9200	4.34	11000	4.34	13100	4.35	15400	4.38
	MLZ042T5	30	6300	3.24	7900	3.33	9800	3.42	12000	3.50	14500	3.57	17500	3.60	20900	3.58	24800	3.51
		40	5500	4.12	6900	4.14	8500	4.19	10400	4.24	12500	4.28	15000	4.31	18000	4.32	21500	4.28
		50	–	–	5800	5.32	7100	5.30	8600	5.30	10400	5.31	12600	5.32	15100	5.33	18100	5.31
	MLZ045T4	30	7100	3.46	8700	3.45	10700	3.44	12900	3.44	15500	3.44	18500	3.46	21900	3.49	25700	3.54
		40	6000	4.34	7500	4.35	9200	4.34	11200	4.33	13500	4.33	16100	4.33	19100	4.34	22500	4.36
		50	–	–	6100	5.53	7500	5.54	9200	5.54	11200	5.53	13500	5.53	16000	5.53	19000	5.53
	MLZ048T4	30	7700	3.80	9600	3.78	11700	3.76	14100	3.74	16900	3.72	20100	3.71	23700	3.69	27700	3.67
		40	6500	4.78	8200	4.78	10100	4.79	12300	4.79	14800	4.79	17600	4.79	20800	4.79	24400	4.78
		50	–	–	6600	5.93	8200	5.97	10100	6.01	12300	6.04	14700	6.07	17500	6.10	20600	6.12
	MLZ058T4	30	8700	4.18	10900	4.25	13500	4.33	16400	4.40	19800	4.46	23500	4.53	27800	4.59	32500	4.64
		40	7200	5.29	9300	5.33	11600	5.38	14200	5.43	17200	5.49	20500	5.55	24200	5.60	28400	5.66
		50	–	–	7400	6.81	9400	6.81	11700	6.83	14300	6.85	17100	6.88	20400	6.92	24000	6.96
	MLZ066T4	30	10000	4.92	12600	4.93	15600	4.96	19100	5.02	23100	5.12	27700	5.25	32900	5.43	38900	5.66
		40	8500	6.18	10800	6.18	13400	6.19	16400	6.23	19900	6.30	23900	6.40	28500	6.55	33700	6.73
		50	–	–	8900	7.90	11100	7.90	13600	7.92	16600	7.97	19900	8.05	23800	8.16	28200	8.32
	MLZ076T4	30	12200	5.71	15200	5.71	18500	5.75	22400	5.83	26800	5.94	31900	6.07	37800	6.21	44600	6.34
		40	10600	7.04	13100	7.04	15900	7.08	19100	7.15	22900	7.23	27200	7.33	32300	7.43	38200	7.51
		50	–	–	11000	8.70	13000	8.74	15400	8.80	18300	8.87	21800	8.94	25900	9.00	30800	9.04
60 Hz	MLZ015T4	30	2800	1.50	3500	1.49	4300	1.49	5200	1.48	6200	1.46	7500	1.45	8900	1.42	10500	1.38
		40	2300	1.87	2900	1.87	3600	1.87	4500	1.87	5400	1.86	6400	1.84	7600	1.81	9000	1.78
		50	–	–	2300	2.34	3000	2.35	3700	2.35	4400	2.35	5300	2.33	6300	2.31	7500	2.27
	MLZ019T4	30	3800	1.80	4600	1.82	5700	1.82	6900	1.81	8200	1.81	9700	1.82	11500	1.86	13500	1.94
		40	3200	2.21	4000	2.28	4900	2.31	5900	2.31	7100	2.30	8400	2.29	10000	2.29	11700	2.31
		50	–	–	3300	2.76	4100	2.84	5000	2.87	6000	2.87	7100	2.85	8400	2.83	9900	2.81
	MLZ021T4	30	4000	1.84	4900	1.94	6000	1.97	7300	1.98	8700	1.97	10400	1.96	12200	1.99	14200	2.06
		40	3400	2.29	4300	2.40	5200	2.45	6300	2.46	7600	2.44	9000	2.43	10600	2.44	12400	2.50
		50	–	–	3600	3.01	4400	3.06	5300	3.07	6400	3.05	7600	3.02	9000	3.02	10500	3.04
	MLZ026T4	30	5000	2.30	6100	2.40	7500	2.45	9100	2.47	10900	2.47	12900	2.47	15200	2.47	17800	2.50
		40	4300	2.85	5300	2.98	6500	3.05	7900	3.08	9400	3.09	11200	3.08	13200	3.07	15400	3.08
		50	–	–	4400	3.71	5400	3.80	6600	3.84	7900	3.84	9400	3.82	11100	3.80	13000	3.78
	MLZ030T4	30	5800	2.75	7200	2.77	8800	2.81	10700	2.84	12800	2.86	15200	2.86	17800	2.84	20800	2.78
		40	5100	3.45	6300	3.46	7600	3.47	9300	3.50	11100	3.53	13200	3.54	15500	3.53	18200	3.50
		50	–	–	5200	4.35	6400	4.34	7700	4.35	9300	4.36	11100	4.37	13100	4.37	15400	4.36
	MLZ038T4	30	7000	3.37	8600	3.35	10500	3.36	12700	3.39	15300	3.42	18100	3.42	21400	3.39	25100	3.31
		40	6000	4.20	7500	4.18	9200	4.19	11100	4.22	13300	4.24	15800	4.25	18600	4.23	21800	4.15
		50	–	–	6200	5.19	7700	5.20	9300	5.23	11200	5.26	13300	5.27	15600	5.25	18300	5.18
	MLZ045T4	30	8500	3.95	10500	4.01	12800	4.04	15500	4.05	18600	4.06	22000	4.06	26000	4.08	30400	4.11
		40	7400	4.93	9100	5.00	11100	5.03	13400	5.05	16100	5.05	19100	5.05	22600	5.06	26400	5.08
		50	–	–	7600	6.27	9300	6.30	11300	6.32	13500	6.31	16100	6.31	19000	6.31	22300	6.32
	MLZ048T4	30	9300	4.31	11400	4.35	14000	4.40	16900	4.44	20300	4.48	24100	4.48	28400	4.43	33100	4.32
		40	8100	5.41	9900	5.43	12100	5.48	14700	5.53	17600	5.56	21000	5.58	24700	5.55	28800	5.46
		50	–	–	8300	6.77	10100	6.80	12300	6.84	14800	6.88	17600	6.89	20800	6.87	24300	6.80
	MLZ058T4	30	10800	5.22	13600	5.29	16800	5.39	20500	5.51	24800	5.63	29600	5.72	35000	5.78	40900	5.78
		40	9000	6.57	11400	6.54	14200	6.57	17400	6.64	21100	6.75	25300	6.86	29900	6.95	35100	7.01
		50	–	–	8900	8.27	11200	8.19	13900	8.17	17000	8.21	20400	8.29	24300	8.38	28500	8.46
	MLZ066T4	30	12600	5.95	15500	6.05	18900	6.19	22900	6.35	27600	6.52	32800	6.68	38800	6.82	45500	6.93
		40	10900	7.32	13500	7.39	16500	7.50	19900	7.64	23900	7.79	28500	7.94	33600	8.07	39300	8.17
		50	–	–	11200	9.07	13800	9.15	16700	9.25	20100	9.37	23800	9.50	28100	9.61	32900	9.69
	MLZ076T4	30	14600	6.72	17900	6.93	21800	7.09	26400	7.22	31700	7.37	37800	7.57	44800	7.86	52900	8.27
		40	12600	8.21	15500	8.43	18900	8.59	22800	8.70	27300	8.83	32500	8.99	38500	9.23	45300	9.59
		50	–	–	12900	10.35	15700	10.50	18900	10.60	22600	10.69	26800	10.82	31700	11.01	37300	11.30

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Qo: *Cooling capacity in [W]*
Pe: *Power input in [kW]*
Subcooling: *0 K*
RGT: *20 °C*
Capacity data at other conditions are available in the datasheets at: www.danfoss.com/odsg

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

MLZ / MLM - Scroll compressors - R407A - 50 / 60 Hz

Performance table

Type		To	-25		-20		-15		-10		-5		0		5		10	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
50 Hz	MLZ015T4	30	2400	1.09	3100	1.11	3800	1.13	4700	1.14	5800	1.14	7000	1.12	8400	1.10	8400	1.1
		40	–	–	2700	1.37	3400	1.39	4200	1.41	5100	1.42	6300	1.43	7600	1.42	7600	1.42
		50	–	–	–	–	2800	1.73	3500	1.76	4400	1.78	5400	1.80	6600	1.81	6600	1.81
	MLZ019T4	30	3200	1.44	4000	1.47	5000	1.49	6100	1.50	7500	1.50	9100	1.48	10900	1.44	10900	1.44
		40	–	–	3400	1.80	4300	1.83	5400	1.86	6600	1.88	8100	1.88	9800	1.87	9800	1.87
		50	–	–	–	–	3700	2.28	4600	2.32	5700	2.35	7000	2.37	8500	2.38	8500	2.38
	MLZ021T4	30	3200	1.52	4100	1.56	5100	1.59	6300	1.61	7700	1.63	9400	1.64	11200	1.65	11200	1.65
		40	–	–	3600	1.93	4500	1.96	5600	1.99	6900	2.02	8400	2.04	10100	2.05	10100	2.05
		50	–	–	–	–	3900	2.50	4900	2.53	6000	2.56	7300	2.58	8800	2.61	8800	2.61
	MLZ026T4	30	4100	1.87	5200	1.91	6500	1.94	8000	1.97	9700	2.00	11800	2.01	14100	2.02	14100	2.02
		40	–	–	4500	2.37	5700	2.41	7100	2.44	8700	2.47	10500	2.50	12700	2.51	12700	2.51
		50	–	–	–	–	4900	3.06	6100	3.10	7500	3.14	9200	3.17	11100	3.19	11100	3.19
	MLZ030T4	30	5000	2.07	6300	2.12	7800	2.15	9700	2.16	11800	2.18	14400	2.20	17300	2.24	17300	2.24
		40	–	–	5600	2.63	6900	2.68	8500	2.71	10400	2.72	12700	2.72	15300	2.73	15300	2.73
		50	–	–	–	–	6000	3.32	7400	3.37	9000	3.40	11000	3.40	13300	3.39	13300	3.39
	MLZ038T4	30	5800	2.41	7300	2.47	9100	2.50	11200	2.52	13700	2.54	16600	2.56	20000	2.61	20000	2.61
		40	–	–	6500	3.06	8000	3.12	9900	3.15	12100	3.16	14700	3.17	17700	3.17	17700	3.17
		50	–	–	–	–	7000	3.86	8600	3.92	10500	3.95	12700	3.96	15400	3.95	15400	3.95
	MLZ042T5	30	6700	3.19	8400	3.22	10500	3.24	13000	3.26	15900	3.29	19300	3.37	23200	3.49	23200	3.49
		40	–	–	7400	4.00	9200	4.03	11500	4.04	14100	4.05	17100	4.08	20700	4.13	20700	4.13
		50	–	–	–	–	7900	5.09	9900	5.12	12200	5.13	14900	5.13	18000	5.13	18000	5.13
	MLZ045T4	30	7200	3.19	9200	3.24	11500	3.28	14200	3.31	17400	3.31	21100	3.28	25300	3.21	25300	3.21
		40	–	–	7800	4.04	10000	4.06	12400	4.09	15300	4.12	18600	4.12	22500	4.11	22500	4.11
		50	–	–	–	–	8300	5.11	10500	5.11	13100	5.12	16000	5.13	19500	5.13	19500	5.13
	MLZ048T4	30	7900	3.52	10100	3.57	12600	3.61	15600	3.64	19100	3.65	23200	3.62	27800	3.54	27800	3.54
		40	–	–	8600	4.45	10900	4.48	13600	4.51	16800	4.54	20500	4.55	24700	4.53	24700	4.53
		50	–	–	–	–	9100	5.63	11500	5.63	14400	5.64	17600	5.65	21400	5.66	21400	5.66
	MLZ058T4	30	9000	3.90	11400	3.98	14200	4.07	17400	4.15	21300	4.19	25700	4.16	30800	4.04	30800	4.04
		40	–	–	9900	5.00	12400	5.05	15300	5.13	18800	5.21	22700	5.25	27300	5.24	27300	5.24
		50	–	–	–	–	10600	6.44	13100	6.46	16100	6.51	19600	6.57	23600	6.61	23600	6.61
	MLZ066T4	30	10500	4.65	13300	4.75	16600	4.85	20400	4.95	24900	4.99	30000	4.96	36000	4.81	36000	4.81
		40	–	–	11600	5.96	14500	6.03	17900	6.12	21900	6.21	26600	6.26	31900	6.25	31900	6.25
		50	–	–	–	–	12300	7.68	15400	7.70	18900	7.77	22900	7.84	27600	7.88	27600	7.88
	MLZ076T4	30	11500	5.30	14800	5.32	18600	5.37	23000	5.44	28200	5.54	34200	5.66	41100	5.82	41100	5.82
		40	–	–	12600	6.67	16000	6.68	20100	6.72	24800	6.78	30200	6.87	36400	6.99	36400	6.99
		50	–	–	–	–	13400	8.48	16900	8.47	21100	8.49	25900	8.54	31500	8.62	31500	8.62
60 Hz	MLZ015T4	30	2900	1.31	3700	1.32	4700	1.33	5800	1.33	7100	1.34	8600	1.35	10300	1.38	8400	1.38
		40	–	–	3200	1.64	4100	1.66	5100	1.67	6300	1.67	7600	1.68	9200	1.69	7600	1.69
		50	–	–	–	–	3500	2.07	4400	2.09	5400	2.11	6600	2.12	8000	2.12	6600	2.12
	MLZ019T4	30	3700	1.70	4800	1.71	6100	1.72	7500	1.72	9200	1.73	11200	1.75	13400	1.78	10900	1.78
		40	–	–	4200	2.12	5300	2.15	6600	2.16	8200	2.16	9900	2.17	12000	2.18	9800	2.18
		50	–	–	–	–	4500	2.67	5700	2.71	7100	2.73	8600	2.74	10400	2.75	8500	2.75
	MLZ021T4	30	4100	1.83	5200	1.85	6400	1.89	7900	1.92	9700	1.95	11700	1.97	14000	1.99	11200	1.99
		40	–	–	4500	2.31	5700	2.33	7000	2.37	8600	2.40	10400	2.44	12500	2.47	10100	2.47
		50	–	–	–	–	4900	2.98	6100	3.01	7500	3.04	9100	3.08	10900	3.12	8800	3.12
	MLZ026T4	30	5000	2.15	6300	2.19	7800	2.22	9600	2.26	11800	2.30	14200	2.33	17000	2.35	14100	2.35
		40	–	–	5500	2.72	6900	2.75	8500	2.79	10500	2.83	12700	2.87	15200	2.91	12700	2.91
		50	–	–	–	–	5900	3.52	7400	3.55	9100	3.59	11000	3.64	13300	3.68	11100	3.68
	MLZ030T4	30	6200	2.46	7700	2.51	9600	2.53	11800	2.56	14500	2.60	17700	2.68	21300	2.81	17300	2.81
		40	–	–	6900	3.10	8500	3.16	10500	3.19	12800	3.22	15600	3.26	18900	3.32	15300	3.32
		50	–	–	–	–	7400	3.90	9100	3.98	11100	4.02	13600	4.05	16500	4.08	13300	4.08
	MLZ038T4	30	7200	2.86	8900	2.92	11100	2.95	13700	2.98	16800	3.02	20400	3.12	24700	3.28	20000	3.28
		40	–	–	7900	3.61	9800	3.68	12100	3.72	14800	3.75	18100	3.79	21900	3.87	17700	3.87
		50	–	–	–	–	8600	4.54	10500	4.63	12900	4.68	15700	4.71	19100	4.75	15400	4.75
	MLZ045T1	30	8800	3.77	11200	3.84	14000	3.88	17300	3.90	21200	3.88	25700	3.80	30900	3.66	25300	3.66
		40	–	–	9600	4.76	12100	4.80	15100	4.83	18600	4.82	22600	4.78	27200	4.69	22500	4.69
		50	–	–	–	–	10200	6.01	12900	6.01	15900	6.00	19500	5.96	23500	5.89	19500	5.89
	MLZ048T4	30	9600	4.22	12200	4.30	15300	4.35	18900	4.37	23100	4.34	28000	4.26	33700	4.10	27800	4.1
		40	–	–	10500	5.34	13200	5.38	16500	5.41	20300	5.40	24700	5.36	29700	5.25	24700	5.25
		50	–	–	–	–	11200	6.73	14000	6.73	17400	6.72	21200	6.68	25700	6.60	21400	6.6
	MLZ058T4	30	11200	4.64	14100	4.68	17600	4.76	21600	4.85	26300	4.97	–	5.09	38100	5.22	30800	5.22
		40	–	–	12300	5.90	15400	5.94	19000	6.01	23300	6.11	28100	6.23	33800	6.36	27300	6.36
		50	–	–	–	–	13100	7.54	16300	7.57	20000	7.64	24300	7.74	29300	7.86	23600	7.86
	MLZ066T4	30	13100	5.48	16500	5.53	20600	5.62	25300	5.73	30900	5.87	37300	6.01	44600	6.16	36000	6.16
		40	–	–	14400	6.97	18100	7.02	22300	7.10	27300	7.22	33000	7.36	39600	7.52	31900	7.52
		50	–	–	–	–	15400	8.91	19100	8.95	23500	9.03	28500	9.14	34300	9.29	27600	9.29
	MLZ076T4	30	14100	6.09	17900	6.16	22400	6.25	27700	6.33	33800	6.36	40900	6.32	49100	6.15	41100	6.15
		40	–	–	15500	7.68	19500	7.72	24200	7.81	29700	7.89	36000	7.95	43300	7.94	36400	7.94
		50	–	–	–	–	16600	9.71	20700	9.72	25500	9.78	31000	9.86	37400	9.93	31500	9.93

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Qo: *Cooling capacity in [W]*
Pe: *Power input in [kW]*
Subcooling: *0 K*
RGT: *20 °C*
Capacity data at other conditions are available in the datasheets at: www.danfoss.com/odsg

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

MLZ / MLM - Scroll compressors - R407F - 50 / 60 Hz

Performance table

Type		To	-25		-20		-15		-10		-5		0		5		10	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
50 Hz	MLZ015T4	30	2600	1.17	3300	1.19	4100	1.19	5000	1.20	6200	1.21	7500	1.21	9000	1.21	9000	1,21
		40	–	–	–	–	3600	1.48	4500	1.50	5500	1.51	6700	1.51	8100	1.52	8100	1,52
		50	–	–	–	–	–	–	3800	1.88	4700	1.90	5800	1.91	7100	1.92	7100	1,92
	MLZ019T4	30	3400	1.54	4200	1.56	5300	1.58	6500	1.58	8000	1.59	9600	1.60	11600	1.60	11600	1,6
		40	–	–	–	–	4600	1.96	5800	1.98	7100	1.99	8700	2.00	10500	2.00	10500	2
		50	–	–	–	–	–	–	4900	2.48	6100	2.50	7500	2.52	9200	2.53	9200	2,53
	MLZ021T4	30	3500	1.63	4400	1.66	5500	1.67	6700	1.69	8200	1.72	9900	1.77	11900	1.83	11900	1,83
		40	–	–	–	–	4900	2.09	6000	2.11	7400	2.13	8900	2.16	10700	2.20	10700	2,2
		50	–	–	–	–	–	–	5200	2.71	6400	2.72	7800	2.74	9500	2.77	9500	2,77
	MLZ026T4	30	4300	2.00	5500	2.03	6900	2.05	8500	2.07	10300	2.11	12500	2.16	15000	2.25	15000	2,25
		40	–	–	–	–	6100	2.57	7600	2.59	9300	2.61	11200	2.65	13500	2.70	13500	2,7
		50	–	–	–	–	–	–	6600	3.31	8100	3.34	9900	3.36	11900	3.39	11900	3,39
	MLZ030T4	30	5300	2.21	6700	2.26	8300	2.28	10200	2.29	12500	2.31	15200	2.34	18300	2.40	18300	2,4
		40	–	–	–	–	7400	2.86	9100	2.88	11100	2.89	13500	2.90	16300	2.91	16300	2,91
		50	–	–	–	–	–	–	8000	3.61	9700	3.63	11800	3.63	14300	3.63	14300	3,63
	MLZ038T4	30	6200	2.57	7700	2.62	9600	2.65	11900	2.67	14500	2.68	17600	2.72	21100	2.79	21100	2,79
		40	–	–	–	–	8600	3.33	10500	3.35	12900	3.36	15600	3.37	18900	3.39	18900	3,39
		50	–	–	–	–	–	–	9200	4.20	11300	4.23	13700	4.23	16500	4.22	16500	4,22
	MLZ042T5	30	7100	3.40	8900	3.43	11200	3.45	13800	3.46	16800	3.49	20400	3.55	24500	3.64	24500	3,64
		40	–	–	–	–	9900	4.31	12200	4.32	15000	4.33	18200	4.34	22000	4.38	22000	4,38
		50	–	–	–	–	–	–	10600	5.49	13100	5.50	16000	5.49	19300	5.49	19300	5,49
	MLZ045T4	30	7700	3.39	9700	3.44	12200	3.49	15100	3.52	18400	3.51	22300	3.45	26700	3.30	26700	3,3
		40	–	–	–	–	10600	4.34	13200	4.38	16300	4.40	19800	4.39	23900	4.34	23900	4,34
		50	–	–	–	–	–	–	11300	5.48	14000	5.49	17200	5.50	20900	5.49	20900	5,49
	MLZ048T4	30	8400	3.74	10700	3.80	13400	3.85	16600	3.88	20200	3.87	24500	3.80	29400	3.64	29400	3,64
		40	–	–	–	–	11700	4.79	14600	4.83	17900	4.85	21800	4.85	26300	4.79	26300	4,79
		50	–	–	–	–	–	–	12400	6.04	15400	6.05	18900	6.07	23000	6.05	23000	6,05
	MLZ058T4	30	9500	4.15	12100	4.23	15000	4.32	18400	4.39	22500	4.43	27100	4.40	32400	4.27	32400	4,27
		40	–	–	–	–	13200	5.40	16400	5.47	20000	5.54	24200	5.59	29000	5.57	29000	5,57
		50	–	–	–	–	–	–	14100	6.93	17300	6.98	21000	7.03	25300	7.06	25300	7,06
	MLZ066T4	30	11200	4.94	14100	5.04	17500	5.15	21600	5.24	26300	5.28	31700	5.24	38000	5.09	38000	5,09
		40	–	–	–	–	15500	6.43	19100	6.52	23400	6.61	28300	6.66	33900	6.64	33900	6,64
		50	–	–	–	–	–	–	16500	8.26	20300	8.31	24600	8.38	29600	8.42	29600	8,42
	MLZ076T4	30	12300	5.70	15700	5.74	19700	5.77	24400	5.83	29800	5.92	36100	6.06	43300	6.27	43300	6,27
		40	–	–	–	–	17100	7.15	21400	7.17	26400	7.22	32100	7.32	38700	7.49	38700	7,49
		50	–	–	–	–	–	–	18200	9.07	22700	9.07	27800	9.11	33800	9.21	33800	9,21
60 Hz	MLZ015T4	30	3100	1.40	3900	1.41	4900	1.41	6100	1.41	7500	1.42	9100	1.44	10900	1.50	9000	1,5
		40	–	–	–	–	4400	1.77	5400	1.78	6700	1.77	8100	1.78	9800	1.80	8100	1,8
		50	–	–	–	–	–	–	4700	2.24	5800	2.25	7100	2.25	8600	2.26	7100	2,26
	MLZ019T4	30	4000	1.82	5100	1.83	6400	1.82	8000	1.82	9800	1.83	11900	1.87	14300	1.94	11600	1,94
		40	–	–	–	–	5700	2.29	7100	2.30	8700	2.30	10600	2.30	12800	2.33	10500	2,33
		50	–	–	–	–	–	–	6100	2.90	7600	2.91	9300	2.91	11200	2.92	9200	2,92
	MLZ021T4	30	4300	1.96	5500	1.97	6800	2.00	8400	2.02	10200	2.06	12400	2.11	14800	2.16	11900	2,16
		40	–	–	–	–	6100	2.49	7500	2.51	9200	2.54	11100	2.58	13300	2.63	10700	2,63
		50	–	–	–	–	–	–	6500	3.22	8000	3.25	9800	3.28	11800	3.32	9500	3,32
	MLZ026T4	30	5300	2.31	6700	2.33	8300	2.35	10200	2.39	12500	2.43	15100	2.48	18000	2.55	15000	2,55
		40	–	–	–	–	7400	2.94	9100	2.96	11200	3.00	13500	3.05	16200	3.10	13500	3,1
		50	–	–	–	–	–	–	7900	3.80	9800	3.83	11900	3.87	14300	3.91	11900	3,91
	MLZ030T4	30	6600	2.62	8200	2.67	10200	2.69	12500	2.71	15300	2.76	18600	2.84	22400	2.98	18300	2,98
		40	–	–	–	–	9000	3.38	11200	3.41	13700	3.43	16600	3.47	20100	3.54	16300	3,54
		50	–	–	–	–	–	–	9800	4.27	12000	4.31	14600	4.34	17700	4.37	14300	4,37
	MLZ038T4	30	7600	3.05	9500	3.11	11800	3.13	14500	3.16	17800	3.21	21600	3.30	26000	3.47	21100	3,47
		40	–	–	–	–	10500	3.93	12900	3.97	15800	3.99	19200	4.04	23300	4.12	18900	4,12
		50	–	–	–	–	–	–	11300	4.96	13800	5.01	16900	5.04	20400	5.09	16500	5,09
	MLZ045T1	30	9300	4.01	11900	4.08	14900	4.12	18400	4.13	22400	4.11	27100	4.04	32600	3.93	26700	3,93
		40	–	–	–	–	13000	5.13	16100	5.14	19800	5.13	24000	5.09	28900	5.00	23900	5
		50	–	–	–	–	–	–	13900	6.44	17100	6.42	20900	6.37	25200	6.29	20900	6,29
	MLZ048T4	30	10200	4.50	12900	4.57	16200	4.61	20000	4.63	24500	4.60	29600	4.53	35500	4.41	29400	4,41
		40	–	–	–	–	14100	5.74	17600	5.76	21600	5.75	26200	5.70	31600	5.60	26300	5,6
		50	–	–	–	–	–	–	15100	7.22	18700	7.19	22800	7.13	27500	7.05	23000	7,05
	MLZ058T4	30	11900	4.94	15000	4.98	18600	5.05	22900	5.14	27800	5.26	33500	5.41	40100	5.58	32400	5,58
		40	–	–	–	–	16400	6.34	20300	6.41	24800	6.50	29900	6.63	35900	6.78	29000	6,78
		50	–	–	–	–	–	–	17600	8.12	21500	8.18	26100	8.27	31400	8.40	25300	8,4
	MLZ066T4	30	13900	5.84	17500	5.88	21800	5.96	26800	6.07	32600	6.22	39300	6.39	47100	6.60	38000	6,6
		40	–	–	–	–	19300	7.49	23800	7.57	29000	7.68	35100	7.83	42100	8.01	33900	8,01
		50	–	–	–	–	–	–	20600	9.59	25200	9.66	30600	9.77	36800	9.92	29600	9,92
	MLZ076T4	30	15000	6.49	19000	6.54	23700	6.62	29300	6.69	35700	6.72	43100	6.71	51700	6.62	43300	6,62
		40	–	–	–	–	20800	8.24	25800	8.31	31600	8.38	38200	8.44	45900	8.46	38700	8,46
		50	–	–	–	–	–	–	22300	10.41	27400	10.45	33300	10.52	40100	10.59	33800	10,59

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Qo: *Cooling capacity in [W]*
Pe: *Power input in [kW]*
Subcooling: *0 K*
RGT: *20 °C*
Capacity data at other conditions are available in the datasheets at: www.danfoss.com/odsg

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

MLZ / MLM - Scroll compressors - R22 - 50 / 60 Hz

Performance table

Type		To	-20		-15		-10		-5		0		5		10	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
50 Hz	MLZ/MLM015T4	30	2600	1.08	3200	1.10	3800	1.11	4600	1.13	5500	1.15	6600	1.17	7800	1.19
		40	–	–	2800	1.36	3500	1.38	4200	1.40	5100	1.41	6000	1.42	7100	1.44
		50	–	–	–	–	–	–	3800	1.71	4500	1.73	5400	1.75	6400	1.76
	MLZ/MLM019T4	30	3400	1.32	4200	1.34	5000	1.36	6000	1.38	7100	1.40	8500	1.43	10000	1.46
		40	–	–	3800	1.67	4600	1.69	5500	1.71	6500	1.72	7800	1.74	9200	1.76
		50	–	–	–	–	–	–	4900	2.09	5800	2.11	6900	2.13	8300	2.14
	MLZ/MLM021T4	30	3600	1.43	4400	1.47	5300	1.50	6400	1.52	7600	1.55	9000	1.57	10600	1.60
		40	–	–	4000	1.79	4800	1.83	5800	1.85	6900	1.88	8200	1.89	9800	1.90
		50	–	–	–	–	–	–	5200	2.27	6200	2.30	7400	2.31	8800	2.32
	MLZ/MLM026T4	30	4400	1.76	5400	1.77	6600	1.77	7900	1.76	9600	1.75	11500	1.74	13800	1.75
		40	–	–	4900	2.17	6000	2.19	7200	2.19	8800	2.18	10600	2.16	12700	2.15
		50	–	–	–	–	–	–	6500	2.71	7900	2.71	9500	2.69	11400	2.66
	MLZ/MLM030T4	30	5100	2.08	6400	2.14	7900	2.19	9700	2.25	11600	2.32	13800	2.38	16200	2.46
		40	–	–	5800	2.60	7200	2.67	8800	2.72	10700	2.78	12700	2.83	14900	2.89
		50	–	–	–	–	–	–	7900	3.30	9600	3.36	11500	3.40	13600	3.44
	MLZ/MLM038T4	30	5800	2.40	7400	2.48	9200	2.57	11300	2.66	13700	2.76	16300	2.84	19100	2.91
		40	–	–	6800	3.04	8500	3.13	10400	3.22	12600	3.29	14900	3.36	17500	3.40
		50	–	–	–	–	–	–	9400	3.90	11400	3.98	13600	4.03	15900	4.06
	MLZ/MLM042T5	30	9000	3.18	9500	3.05	10800	3.01	12700	3.03	15400	3.11	18500	3.23	22000	3.36
		40	–	–	8400	3.81	9700	3.75	11600	3.75	14000	3.79	16600	3.86	19600	3.93
		50	–	–	–	–	–	–	10300	4.78	12600	4.79	15000	4.81	17600	4.82
	MLZ/MLM045T4	30	7000	3.05	8800	3.08	11000	3.08	13600	3.08	16500	3.08	19700	3.11	23200	3.17
		40	–	–	7900	3.72	9900	3.76	12300	3.77	15000	3.77	18000	3.79	21200	3.84
		50	–	–	–	–	–	–	10800	4.62	13300	4.64	16100	4.65	19100	4.68
	MLZ/MLM048T4	30	8100	3.32	10000	3.36	12200	3.37	14800	3.36	17800	3.37	21300	3.40	25300	3.47
		40	–	–	9000	4.07	11100	4.11	13500	4.12	16300	4.12	19500	4.13	23200	4.17
		50	–	–	–	–	–	–	12200	5.05	14700	5.06	17600	5.07	20900	5.10
	MLZ/MLM058T4	30	9200	3.93	11500	3.97	14300	3.96	17400	3.95	21100	3.94	25300	3.98	30200	4.09
		40	–	–	10500	4.76	13000	4.80	15900	4.80	19300	4.81	23200	4.84	27800	4.92
		50	–	–	–	–	–	–	14100	5.89	17300	5.90	20900	5.92	25100	5.97
	MLZ/MLM066T4	30	10200	4.34	12900	4.40	16200	4.43	20000	4.45	24300	4.49	29100	4.57	34400	4.71
		40	–	–	11900	5.34	14900	5.39	18300	5.43	22300	5.48	26800	5.54	31600	5.66
		50	–	–	–	–	–	–	16500	6.62	20200	6.66	24200	6.72	28700	6.80
	MLZ/MLM076T4	30	12400	5.26	15400	5.27	19000	5.20	23200	5.11	27900	5.06	33300	5.12	39300	5.34
		40	–	–	14100	6.36	17400	6.33	21300	6.27	25600	6.22	30500	6.25	36100	6.42
		50	–	–	–	–	–	–	19100	7.68	23100	7.64	27600	7.65	32600	7.78
60 Hz	MLZ/MLM015T4	30	3000	1.22	3800	1.25	4600	1.29	5600	1.32	6700	1.36	7900	1.40	9300	1.45
		40	–	–	3400	1.54	4200	1.58	5100	1.62	6100	1.65	7200	1.68	8500	1.70
		50	–	–	–	–	–	–	4500	1.96	5500	2.00	6500	2.03	7700	2.04
	MLZ/MLM019T4	30	3900	1.56	4900	1.60	6000	1.65	7300	1.70	8800	1.74	10400	1.76	12200	1.76
		40	–	–	4500	1.97	5500	2.02	6700	2.07	8100	2.11	9600	2.13	11300	2.12
		50	–	–	–	–	–	–	6000	2.49	7300	2.53	8700	2.54	10200	2.53
	MLZ/MLM021T4	30	4100	1.69	5200	1.73	6400	1.77	7800	1.80	9400	1.84	11200	1.90	13200	1.97
		40	–	–	4800	2.12	5900	2.15	7200	2.18	8700	2.20	10300	2.24	12100	2.29
		50	–	–	–	–	–	–	6400	2.63	7800	2.66	9300	2.69	11000	2.73
	MLZ/MLM026T4	30	5100	2.02	6300	2.07	7800	2.11	9500	2.16	11500	2.20	13700	2.23	16300	2.24
		40	–	–	5900	2.57	7300	2.64	8900	2.69	10600	2.73	12600	2.75	14900	2.74
		50	–	–	–	–	–	–	8100	3.32	9700	3.37	11500	3.39	13500	3.37
	MLZ/MLM030T4	30	6000	2.44	7500	2.51	9400	2.57	11500	2.65	13800	2.72	16400	2.81	19300	2.89
		40	–	–	6900	3.07	8600	3.14	10500	3.21	12700	3.27	15100	3.34	17800	3.40
		50	–	–	–	–	–	–	9500	3.89	11500	3.96	13800	4.01	16200	4.06
	MLZ/MLM038T4	30	6900	2.83	8800	2.92	11000	3.03	13500	3.14	16300	3.25	19400	3.35	22800	3.42
		40	–	–	8100	3.58	10100	3.68	12400	3.79	15000	3.88	17900	3.96	20900	4.00
		50	–	–	–	–	–	–	11200	4.59	13600	4.68	16200	4.75	19000	4.79
	MLZ/MLM042T1	30	8600	3.50	10800	3.57	13500	3.64	16500	3.71	20000	3.79	23800	3.89	28000	4.01
		40	–	–	9800	4.38	12300	4.45	15100	4.51	18400	4.57	21900	4.63	25800	4.70
		50	–	–	–	–	–	–	13600	5.50	16500	5.56	19800	5.61	23400	5.66
	MLZ/MLM045T4	30	9700	3.76	12200	3.82	15000	3.89	18300	3.98	21900	4.08	26000	4.21	30500	4.36
		40	–	–	10900	4.74	13600	4.82	16700	4.90	20100	4.97	23900	5.05	28200	5.14
		50	–	–	–	–	–	–	14900	6.04	18100	6.11	21600	6.17	25600	6.22
	MLZ/MLM048T4	30	10900	4.50	13800	4.62	17200	4.74	21100	4.87	25600	5.00	30600	5.13	36200	5.27
		40	–	–	12600	5.61	15700	5.75	19300	5.88	23500	5.99	28200	6.08	33400	6.16
		50	–	–	–	–	–	–	17300	7.16	21100	7.26	25500	7.33	30400	7.37
	MLZ/MLM058T4	30	12200	5.03	15500	5.18	19400	5.35	24000	5.51	29200	5.68	35000	5.83	41300	5.97
		40	–	–	14200	6.30	17800	6.48	22100	6.65	26900	6.82	32300	6.96	38200	7.08
		50	–	–	–	–	–	–	20000	8.06	24500	8.22	29400	8.36	34700	8.46
	MLZ/MLM066T4		14500	6.07	18300	6.20	22800	6.31	28000	6.42	33900	6.54	40400	6.69	47400	6.87
		40	–	–	16900	7.48	21000	7.62	25800	7.74	31200	7.86	37100	7.98	43500	8.13
		50	–	–	–	–	–	–	23400	9.43	28300	9.55	33700	9.66	39600	9.78
	MLZ/MLM076T4	30	14 500	6.1	18 300	6.2	22 800	6.3	28 000	6.4	33 900	6.5	40 400	6.7	47 400	6.9
		40	–	–	16 900	7.5	21 000	7.6	25 800	7.7	31 200	7.9	37 100	8.0	43 500	8.1
		50	–	–	–	–	–	–	23 400	9.4	28 300	9.6	33 700	9.7	39 600	9.8

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Qo:*Cooling capacity in [W]*
Pe: *Power input in [kW]*
Subcooling: *0 K*
RGT: *20 °C*
Capacity data at other conditions are available in the datasheets at: www.danfoss.com/odsg

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

MLZ - Scroll compressors - R448A - 50 / 60 Hz

Performance table

Type		To	-25		-20		-15		-10		-5		0		5		10	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
50 Hz	MLZ015T4A	30	2003	1.19	2544	1.19	3180	1.19	3926	1.21	4796	1.23	5805	1.25	6969	1.26	8303	1.28
		40	–	–	2215	1.51	2792	1.50	3466	1.50	4254	1.51	5171	1.53	6231	1.55	7450	1.57
		50	–	–	–	–	–	–	2955	1.91	3650	1.90	4463	1.91	5408	1.92	6501	1.94
	MLZ019T4A	30	2578	1.44	3285	1.48	4115	1.50	5087	1.52	6223	1.54	7541	1.55	9061	1.57	10804	1.60
		40	–	–	2892	1.81	3636	1.86	4506	1.90	5521	1.92	6702	1.94	8069	1.96	9641	1.98
		50	–	–	–	–	–	–	3898	2.35	4784	2.40	5819	2.43	7022	2.45	8413	2.48
	MLZ021T4A	30	2737	1.53	3485	1.53	4363	1.55	5393	1.56	6594	1.58	7989	1.60	9598	1.62	11441	1.64
		40	–	–	3034	1.98	3823	1.97	4746	1.97	5824	1.98	7078	1.99	8530	2.01	10200	2.03
		50	–	–	–	–		–	4051	2.54	4993	2.53	6094	2.52	7376	2.52	8859	2.53
	MLZ026T4A	30	3379	1.84	4344	1.88	5459	1.91	6748	1.92	8239	1.94	9955	1.95	11924	1.97	14170	2.00
		40	–	–	3726	2.40	4746	2.43	5919	2.45	7270	2.47	8826	2.47	10611	2.48	12651	2.49
		50	–	–	–	–	–	–	5006	3.15	6204	3.17	7584	3.17	9171	3.17	10991	3.17
	MLZ030T4A	30	4153	2.15	5253	2.15	6542	2.18	8052	2.23	9812	2.28	11853	2.32	14206	2.34	16900	2.33
		40	–	–	4568	2.82	5733	2.79	7097	2.79	8690	2.82	10543	2.86	12686	2.91	15150	2.95
		50	–	–	–	–	–	–	6041	3.63	7442	3.60	9081	3.60	10989	3.63	13197	3.67
	MLZ038T4A	30	4934	2.52	6228	2.49	7745	2.50	9521	2.54	11592	2.61	13995	2.71	16766	2.83	19940	2.98
		40	–	–	5426	3.24	6790	3.20	8385	3.20	10247	3.24	12411	3.32	14915	3.43	17795	3.57
		50	–	–	–	–	–	–	7161	4.15	8791	4.15	10695	4.19	12911	4.27	15474	4.39
	MLZ045T4A	30	5926	3.15	7577	3.15	9510	3.16	11770	3.19	14403	3.23	17454	3.28	20970	3.35	24997	3.43
		40	–	–	6641	4.05	8378	4.04	10401	4.04	12758	4.05	15493	4.09	18653	4.13	22285	4.20
		50	–	–	–	–	–	–	8899	5.21	10943	5.19	13326	5.19	16094	5.20	19292	5.24
	MLZ048T4A	30	6500	3.59	8254	3.54	10314	3.51	12727	3.51	15544	3.53	18814	3.58	22585	3.64	26907	3.72
		40	–	–	7209	4.58	9059	4.50	11222	4.46	13750	4.45	16690	4.46	20092	4.51	24006	4.57
		50	–	–	–	–	–	–	9598	5.77	11803	5.70	14381	5.67	17382	5.67	20854	5.70
	MLZ058T4A	30	7605	3.77	9643	3.81	12037	3.86	14843	3.91	18117	3.98	21917	4.07	26301	4.17	31323	4.31
		40	–	–	8450	4.88	10603	4.90	13125	4.93	16073	4.97	19502	5.03	23471	5.11	28036	5.21
		50	–	–	–	–	–	–	11244	6.32	13818	6.32	16832	6.34	20342	6.37	24404	6.44
	MLZ066T4A	30	8812	4.56	11211	4.61	14028	4.67	17331	4.73	21186	4.81	25660	4.91	30820	5.03	36732	5.17
		40	–	–	9783	5.92	12324	5.94	15301	5.97	18781	6.01	22832	6.08	27519	6.17	32909	6.29
		50	–	–	–	–	–	–	13084	7.66	16138	7.65	19713	7.67	23876	7.71	28694	7.78
	MLZ076T4A	30	9243	5.45	11928	5.40	15085	5.37	18787	5.38	23110	5.44	28126	5.56	33909	5.75	40534	6.01
		40	–	–	10219	6.89	13081	6.80	16439	6.74	20367	6.73	24940	6.77	30232	6.88	36315	7.07
		50	–	–	–	–	–	–	13858	8.64	17331	8.54	21399	8.50	26137	8.52	31617	8.61
60 Hz	MLZ015T4A	30	2307	1.36	2961	1.38	3730	1.41	4632	1.44	5686	1.47	6910	1.49	8324	1.49	9945	1.48
		40	–	–	2614	1.72	3302	1.74	4104	1.76	5039	1.78	6126	1.81	7384	1.83	8830	1.83
		50	–	–	–	–	–	–	3573	2.19	4387	2.20	5334	2.22	6433	2.24	7703	2.25
	MLZ019T4A	30	3105	1.69	3947	1.72	4937	1.75	6099	1.77	7458	1.80	9036	1.83	10859	1.86	12950	1.90
		40	–	–	3517	2.16	4401	2.19	5435	2.21	6644	2.23	8051	2.26	9681	2.28	11557	2.31
		50	–	–	–	–	–	–	4729	2.77	5774	2.79	6995	2.81	8417	2.83	10064	2.85
	MLZ021T4A	30	3305	1.79	4196	1.82	5247	1.85	6484	1.87	7930	1.90	9613	1.92	11558	1.95	13790	1.99
		40	–	–	3736	2.29	4676	2.32	5779	2.34	7071	2.36	8578	2.38	10325	2.39	12338	2.42
		50	–	–	–	–	–	–	5025	2.94	6145	2.95	7459	2.96	8992	2.97	10768	2.98
	MLZ026T4A	30	4180	2.17	5303	2.19	6618	2.22	8158	2.24	9953	2.28	12035	2.32	14437	2.38	17189	2.45
		40	–	–	4733	2.81	5909	2.82	7280	2.84	8879	2.86	10736	2.88	12884	2.91	15354	2.96
		50	–	–	–	–	–	–	6294	3.64	7664	3.64	9265	3.64	11128	3.65	13285	3.68
	MLZ030T4A	30	5052	2.57	6391	2.60	7961	2.65	9801	2.71	11948	2.77	14439	2.83	17312	2.89	20604	2.92
		40	–	–	5716	3.28	7132	3.29	8788	3.33	10721	3.38	12969	3.45	15568	3.51	18556	3.57
		50	–	–	–	–	–	–	7647	4.16	9333	4.18	11304	4.22	13596	4.27	16247	4.33
	MLZ038T4A	30	5955	3.03	7496	3.06	9319	3.10	11468	3.16	13988	3.22	16923	3.30	20319	3.40	24221	3.52
		40	–	–	6621	3.88	8245	3.92	10164	3.96	12421	4.02	15062	4.08	18131	4.16	21673	4.25
		50	–	–	–	–	–	–	8768	4.99	10729	5.05	13040	5.11	15747	5.18	18896	5.27
	MLZ045T4A	30	7136	3.75	9071	3.83	11362	3.91	14062	3.98	17229	4.05	20918	4.11	25185	4.17	30086	4.23
		40	–	–	7956	4.82	10005	4.90	12420	4.98	15257	5.05	18573	5.11	22422	5.17	26862	5.22
		50	–	–	–	–	–	–	10757	6.23	13248	6.30	16173	6.36	19589	6.41	23552	6.45
	MLZ048T4A	30	7921	4.07	10065	4.08	12583	4.11	15535	4.17	18981	4.24	22980	4.33	27593	4.45	32880	4.58
		40	–	–	8845	5.25	11114	5.24	13770	5.25	16872	5.29	20481	5.36	24657	5.45	29459	5.57
		50	–	–	–	–	–	–	11874	6.72	14596	6.71	17778	6.74	21480	6.79	25760	6.87
	MLZ058T4A	30	9375	4.43	11829	4.57	14719	4.68	18116	4.79	22090	4.89	26711	5.00	32048	5.13	38173	5.28
		40	–	–	10495	5.70	13083	5.83	16121	5.95	19678	6.05	23825	6.15	28632	6.26	34169	6.39
		50	–	–	–	–	–	–	14017	7.44	17121	7.55	20757	7.65	24996	7.75	29908	7.85
	MLZ066T4A	30	10728	5.42	13650	5.51	17085	5.61	21112	5.71	25813	5.84	31268	6.00	37559	6.22	44766	6.49
		40	–	–	11916	7.03	15027	7.08	18674	7.14	22937	7.22	27898	7.33	33638	7.48	40238	7.69
		50	–	–	–	–	–	–	16025	9.11	19796	9.13	24208	9.17	29342	9.25	35279	9.37
	MLZ076T4A	30	11529	6.11	14724	6.12	18474	6.17	22864	6.26	27982	6.41	33915	6.63	40750	6.93	48573	7.33
		40	–	–	12742	7.87	16158	7.85	20161	7.86	24839	7.92	30279	8.05	36566	8.24	43789	8.52
		50	–	–	–	–	–	–	17187	10.07	21356	10.04	26232	10.07	31903	10.16	38456	10.32

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Qo: *Cooling capacity in [W]*
Pe: *Power input in [kW]*
Subcooling: *0 K*
RGT: *20 °C*
Capacity data at other conditions are available in the datasheets at: www.danfoss.com/odsg

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

MLZ - Scroll compressors - R449A - 50 / 60 Hz

Performance table

Type		To	-25		-20		-15		-10		-5		0		5		10	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
50 Hz	MLZ015T4A	30	2003	1.19	2544	1.19	3180	1.19	3926	1.21	4796	1.23	5805	1.25	6969	1.26	8303	1.28
		40	-	-	2215	1.51	2792	1.50	3466	1.50	4254	1.51	5171	1.53	6231	1.55	7450	1.57
		50	-	-	-	-	-	-	2955	1.91	3650	1.90	4463	1.91	5408	1.92	6501	1.94
	MLZ019T4A	30	2578	1.44	3285	1.48	4115	1.50	5087	1.52	6223	1.54	7541	1.55	9061	1.57	10804	1.60
		40	-	-	2892	1.81	3636	1.86	4506	1.90	5521	1.92	6702	1.94	8069	1.96	9641	1.98
		50	-	-	-	-	-	-	3898	2.35	4784	2.40	5819	2.43	7022	2.45	8413	2.48
	MLZ021T4A	30	2737	1.53	3485	1.53	4363	1.55	5393	1.56	6594	1.58	7989	1.60	9598	1.62	11441	1.64
		40	-	-	3034	1.98	3823	1.97	4746	1.97	5824	1.98	7078	1.99	8530	2.01	10200	2.03
		50	-	-	-	-	-	-	4051	2.54	4993	2.53	6094	2.52	7376	2.52	8859	2.53
	MLZ026T4A	30	3379	1.84	4344	1.88	5459	1.91	6748	1.92	8239	1.94	9955	1.95	11924	1.97	14170	2.00
		40	-	-	3726	2.40	4746	2.43	5919	2.45	7270	2.47	8826	2.47	10611	2.48	12651	2.49
		50	-	-	-	-	-	-	5006	3.15	6204	3.17	7584	3.17	9171	3.17	10991	3.17
	MLZ030T4A	30	4153	2.15	5253	2.15	6542	2.18	8052	2.23	9812	2.28	11853	2.32	14206	2.34	16900	2.33
		40	-	-	4568	2.82	5733	2.79	7097	2.79	8690	2.82	10543	2.86	12686	2.91	15150	2.95
		50	-	-	-	-	-	-	6041	3.63	7442	3.60	9081	3.60	10989	3.63	13197	3.67
	MLZ038T4A	30	4934	2.52	6228	2.49	7745	2.50	9521	2.54	11592	2.61	13995	2.71	16766	2.83	19940	2.98
		40	-	-	5426	3.24	6790	3.20	8385	3.20	10247	3.24	12411	3.32	14915	3.43	17795	3.57
		50	-	-	-	-	-	-	7161	4.15	8791	4.15	10695	4.19	12911	4.27	15474	4.39
	MLZ045T4A	30	5926	3.15	7577	3.15	9510	3.16	11770	3.19	14403	3.23	17454	3.28	20970	3.35	24997	3.43
		40	-	-	6641	4.05	8378	4.04	10401	4.04	12758	4.05	15493	4.09	18653	4.13	22285	4.20
		50	-	-	-	-	-	-	8899	5.21	10943	5.19	13326	5.19	16094	5.20	19292	5.24
	MLZ048T4A	30	6500	3.59	8254	3.54	10314	3.51	12727	3.51	15544	3.53	18814	3.58	22585	3.64	26907	3.72
		40	-	-	7209	4.58	9059	4.50	11222	4.46	13750	4.45	16690	4.46	20092	4.51	24006	4.57
		50	-	-	-	-	-	-	9598	5.77	11803	5.70	14381	5.67	17382	5.67	20854	5.70
	MLZ058T4A	30	7605	3.77	9643	3.81	12037	3.86	14843	3.91	18117	3.98	21917	4.07	26301	4.17	31323	4.31
		40	-	-	8450	4.88	10603	4.90	13125	4.93	16073	4.97	19502	5.03	23471	5.11	28036	5.21
		50	-	-	-	-	-	-	11244	6.32	13818	6.32	16832	6.34	20342	6.37	24404	6.44
	MLZ066T4A	30	8812	4.56	11211	4.61	14028	4.67	17331	4.73	21186	4.81	25660	4.91	30820	5.03	36732	5.17
		40	-	-	9783	5.92	12324	5.94	15301	5.97	18781	6.01	22832	6.08	27519	6.17	32909	6.29
		50	-	-	-	-	-	-	13084	7.66	16138	7.65	19713	7.67	23876	7.71	28694	7.78
	MLZ076T4A	30	9243	5.45	11928	5.40	15085	5.37	18787	5.38	23110	5.44	28126	5.56	33909	5.75	40534	6.01
		40	-	-	10219	6.89	13081	6.80	16439	6.74	20367	6.73	24940	6.77	30232	6.88	36315	7.07
		50	-	-	-	-	-	-	13858	8.64	17331	8.54	21399	8.50	26137	8.52	31617	8.61
60 Hz	MLZ015T4A	30	2307	1.36	2961	1.38	3730	1.41	4632	1.44	5686	1.47	6910	1.49	8324	1.49	9945	1.48
		40	-	-	2614	1.72	3302	1.74	4104	1.76	5039	1.78	6126	1.81	7384	1.83	8830	1.83
		50	-	-	-	-	-	-	3573	2.19	4387	2.20	5334	2.22	6433	2.24	7703	2.25
	MLZ019T4A	30	3105	1.69	3947	1.72	4937	1.75	6099	1.77	7458	1.80	9036	1.83	10859	1.86	12950	1.90
		40	-	-	3517	2.16	4401	2.19	5435	2.21	6644	2.23	8051	2.26	9681	2.28	11557	2.31
		50	-	-	-	-	-	-	4729	2.77	5774	2.79	6995	2.81	8417	2.83	10064	2.85
	MLZ021T4A	30	3305	1.79	4196	1.82	5247	1.85	6484	1.87	7930	1.90	9613	1.92	11558	1.95	13790	1.99
		40	-	-	3736	2.29	4676	2.32	5779	2.34	7071	2.36	8578	2.38	10325	2.39	12338	2.42
		50	-	-	-	-	-	-	5025	2.94	6145	2.95	7459	2.96	8992	2.97	10768	2.98
	MLZ026T4A	30	4180	2.17	5303	2.19	6618	2.22	8158	2.24	9953	2.28	12035	2.32	14437	2.38	17189	2.45
		40	-	-	4733	2.81	5909	2.82	7280	2.84	8879	2.86	10736	2.88	12884	2.91	15354	2.96
		50	-	-	-	-	-	-	6294	3.64	7664	3.64	9265	3.64	11128	3.65	13285	3.68
	MLZ030T4A	30	5052	2.57	6391	2.60	7961	2.65	9801	2.71	11948	2.77	14439	2.83	17312	2.89	20604	2.92
		40	-	-	5716	3.28	7132	3.29	8788	3.33	10721	3.38	12969	3.45	15568	3.51	18556	3.57
		50	-	-	-	-	-	-	7647	4.16	9333	4.18	11304	4.22	13596	4.27	16247	4.33
	MLZ038T4A	30	5955	3.03	7496	3.06	9319	3.10	11468	3.16	13988	3.22	16923	3.30	20319	3.40	24221	3.52
		40	-	-	6621	3.88	8245	3.92	10164	3.96	12421	4.02	15062	4.08	18131	4.16	21673	4.25
		50	-	-	-	-	-	-	8768	4.99	10729	5.05	13040	5.11	15747	5.18	18896	5.27
	MLZ045T4A	30	7136	3.75	9071	3.83	11362	3.91	14062	3.98	17229	4.05	20918	4.11	25185	4.17	30086	4.23
		40	-	-	7956	4.82	10005	4.90	12420	4.98	15257	5.05	18573	5.11	22422	5.17	26862	5.22
		50	-	-	-	-	-	-	10757	6.23	13248	6.30	16173	6.36	19589	6.41	23552	6.45
	MLZ048T4A	30	7921	4.07	10065	4.08	12583	4.11	15535	4.17	18981	4.24	22980	4.33	27593	4.45	32880	4.58
		40	-	-	8845	5.25	11114	5.24	13770	5.25	16872	5.29	20481	5.36	24657	5.45	29459	5.57
		50	-	-	-	-	-	-	11874	6.72	14596	6.71	17778	6.74	21480	6.79	25760	6.87
	MLZ058T4A	30	9375	4.43	11829	4.57	14719	4.68	18116	4.79	22090	4.89	26711	5.00	32048	5.13	38173	5.28
		40	-	-	10495	5.70	13083	5.83	16121	5.95	19678	6.05	23825	6.15	28632	6.26	34169	6.39
		50	-	-	-	-	-	-	14017	7.44	17121	7.55	20757	7.65	24996	7.75	29908	7.85
	MLZ066T4A	30	10728	5.42	13650	5.51	17085	5.61	21112	5.71	25813	5.84	31268	6.00	37559	6.22	44766	6.49
		40	-	-	11916	7.03	15027	7.08	18674	7.14	22937	7.22	27898	7.33	33638	7.48	40238	7.69
		50	-	-	-	-	-	-	16025	9.11	19796	9.13	24208	9.17	29342	9.25	35279	9.37
	MLZ076T4A	30	11529	6.11	14724	6.12	18474	6.17	22864	6.26	27982	6.41	33915	6.63	40750	6.93	48573	7.33
		40	-	-	12742	7.87	16158	7.85	20161	7.86	24839	7.92	30279	8.05	36566	8.24	43789	8.52
		50	-	-	-	-	-	-	17187	10.07	21356	10.04	26232	10.07	31903	10.16	38456	10.32

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Qo: *Cooling capacity in [W]*
Pe: *Power input in [kW]*
Subcooling: *0 K*
RGT: *20 °C*
Capacity data at other conditions are available in the datasheets at: www.danfoss.com/odsg

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

MLZ - Scroll compressors - R452A - 50/60 Hz

Performance table

Type		To	-30		-25		-20		-15		-10		-5		0		5		10	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
50 Hz	MLZ015T4A	30	1725	1.15	2185	1.18	2732	1.21	3380	1.23	4144	1.24	5036	1.25	6072	1.24	7265	1.23	8629	1.22
		40	–	–	–	–	2403	1.49	2964	1.51	3624	1.53	4397	1.54	5296	1.55	6335	1.54	7529	1.53
		50	–	–	–	–	–	–	2534	1.88	3083	1.90	3729	1.91	4484	1.92	5362	1.92	6379	1.91
	MLZ019T4A	30	2207	1.48	2814	1.50	3526	1.52	4362	1.54	5336	1.56	6467	1.57	7771	1.57	9264	1.57	10963	1.57
		40	–	–	–	–	3084	1.90	3815	1.92	4666	1.94	5654	1.95	6795	1.96	8105	1.97	9602	1.97
		50	–	–	–	–	–	–	3241	2.42	3956	2.43	4789	2.44	5754	2.45	6870	2.46	8152	2.46
	MLZ021T4A	30	2326	1.54	2976	1.58	3741	1.60	4640	1.62	5690	1.62	6909	1.63	8316	1.63	9928	1.63	11765	1.63
		40	–	–	–	–	3255	1.99	4045	2.02	4966	2.03	6036	2.03	7273	2.03	8695	2.02	10321	2.02
		50	–	–	–	–	–	–	3414	2.51	4194	2.54	5103	2.55	6157	2.55	7376	2.54	8778	2.53
	MLZ026T4A	30	2919	1.90	3726	1.92	4672	1.94	5781	1.96	7075	1.98	8573	2.00	10300	2.01	12276	2.02	14523	2.02
		40	–	–	–	–	4057	2.47	5033	2.48	6168	2.49	7486	2.50	9008	2.52	10756	2.53	12751	2.54
		50	–	–	–	–	–	–	4212	3.19	5164	3.18	6275	3.18	7566	3.18	9059	3.18	10777	3.19
	MLZ030T4A	30	3558	2.23	4491	2.27	5604	2.30	6929	2.32	8496	2.34	10334	2.36	12476	2.38	14950	2.40	17786	2.43
		40	–	–	–	–	4922	2.88	6069	2.90	7426	2.92	9022	2.93	10888	2.94	13054	2.95	15551	2.97
		50	–	–	–	–	–	–	5177	3.63	6304	3.65	7638	3.66	9210	3.66	11050	3.67	13188	3.67
	MLZ038T4A	30	4161	2.55	5288	2.58	6611	2.62	8160	2.66	9965	2.70	12058	2.74	14468	2.79	17227	2.83	20365	2.88
		40	–	–	–	–	5726	3.32	7097	3.35	8692	3.39	10543	3.43	12678	3.47	15130	3.51	17929	3.55
		50	–	–	–	–	–	–	5940	4.25	7297	4.28	8877	4.31	10710	4.34	12827	4.37	15259	4.41
	MLZ045T4A	30	5204	3.28	6592	3.31	8232	3.34	10162	3.38	12419	3.42	15042	3.47	18068	3.51	21535	3.56	25481	3.60
		40	–	–	–	–	7216	4.22	8908	4.25	10889	4.28	13196	4.32	15867	4.36	18940	4.40	22454	4.45
		50	–	–	–	–	–	–	7525	5.39	9177	5.40	11117	5.42	13381	5.45	16009	5.48	19038	5.51
	MLZ048T4A	30	5671	3.60	7219	3.59	9045	3.59	11191	3.60	13700	3.62	16613	3.64	19972	3.67	23820	3.71	28199	3.74
		40	–	–	–	–	7827	4.57	9721	4.57	11937	4.58	14517	4.60	17503	4.63	20936	4.66	24860	4.71
		50	–	–	–	–	–	–	8114	5.86	9986	5.85	12181	5.86	14742	5.88	17709	5.91	21126	5.95
	MLZ058T4A	30	6574	3.89	8419	4.00	10583	4.08	13115	4.15	16064	4.20	19479	4.25	23410	4.31	27905	4.38	33014	4.48
		40	–	–	–	–	9154	5.11	11400	5.19	14014	5.25	17046	5.30	20543	5.35	24557	5.41	29134	5.48
		50	–	–	–	–	–	–	9508	6.54	11727	6.62	14315	6.67	17320	6.72	20791	6.76	24777	6.81
	MLZ066T4A	30	7581	4.75	9792	4.90	12359	4.99	15334	5.05	18769	5.08	22717	5.12	27228	5.17	32354	5.25	38149	5.39
		40	–	–	–	–	10647	6.25	13311	6.34	16381	6.38	19909	6.40	23946	6.41	28544	6.44	33756	6.49
		50	–	–	–	–	–	–	11080	7.96	13718	8.02	16760	8.04	20257	8.03	24261	8.02	28824	8.01
	MLZ076T4A	30	7978	5.51	10402	5.59	13200	5.64	16431	5.68	20153	5.72	24423	5.77	29299	5.86	34838	6.00	41100	6.20
		40	–	–	–	–	11331	7.02	14244	7.07	17587	7.10	21416	7.14	25790	7.18	30766	7.26	36402	7.38
		50	–	–	–	–	–	–	11790	8.84	14682	8.88	17999	8.91	21799	8.93	26140	8.97	31080	9.03
60 Hz	MLZ015T4A	30	2093	1.36	2648	1.42	3311	1.47	4099	1.50	5028	1.52	6113	1.52	7371	1.52	8817	1.51	10466	1.50
		40	–	–	–	–	2925	1.79	3605	1.83	4407	1.85	5349	1.86	6444	1.87	7711	1.86	9163	1.85
		50	–	–	–	–	–	–	3099	2.24	3762	2.27	4546	2.29	5467	2.29	6540	2.29	7782	2.27
	MLZ019T4A	30	2699	1.75	3420	1.79	4272	1.83	5274	1.86	6447	1.89	7811	1.91	9385	1.92	11191	1.94	13248	1.94
		40	–	–	–	–	3769	2.26	4642	2.29	5662	2.31	6849	2.33	8223	2.36	9804	2.37	11612	2.39
		50	–	–	–	–	–	–	3981	2.85	4834	2.87	5830	2.89	6989	2.91	8331	2.93	9876	2.95
	MLZ021T4A	30	2836	1.86	3617	1.89	4536	1.92	5614	1.96	6872	1.98	8331	2.00	10013	2.02	11937	2.03	14125	2.03
		40	–	–	–	–	3939	2.38	4893	2.40	6006	2.43	7298	2.45	8792	2.46	10507	2.47	12466	2.48
		50	–	–	–	–	–	–	4113	2.99	5059	3.01	6164	3.02	7448	3.03	8934	3.04	10641	3.04
	MLZ026T4A	30	3619	2.18	4534	2.28	5631	2.34	6938	2.39	8481	2.41	10287	2.42	12381	2.44	14791	2.45	17540	2.48
		40	–	–	–	–	4960	2.89	6087	2.95	7422	2.99	8993	3.01	10826	3.02	12947	3.03	15382	3.03
		50	–	–	–	–	–	–	5191	3.68	6289	3.74	7595	3.77	9136	3.79	10938	3.79	13028	3.78
	MLZ030T4A	30	4362	2.63	5523	2.72	6899	2.79	8522	2.84	10425	2.87	12641	2.90	15202	2.93	18140	2.96	21488	3.01
		40	–	–	–	–	6031	3.42	7455	3.50	9125	3.55	11075	3.58	13338	3.61	15944	3.62	18928	3.64
		50	–	–	–	–	–	–	6324	4.26	7732	4.35	9387	4.41	11322	4.45	13568	4.46	16159	4.47
	MLZ038T4A	30	5058	2.87	6388	3.06	7971	3.17	9849	3.23	12059	3.27	14640	3.33	17633	3.42	21075	3.58	25004	3.84
		40	–	–	–	–	7036	3.89	8667	4.01	10587	4.08	12836	4.13	15453	4.17	18476	4.25	21946	4.38
		50	–	–	–	–	–	–	7420	4.90	9016	5.04	10898	5.12	13105	5.17	15677	5.21	18652	5.27
	MLZ045T4A	30	6376	3.97	7996	3.93	9925	3.97	12211	4.07	14903	4.19	18048	4.30	21694	4.39	25890	4.43	30681	4.38
		40	–	–	–	–	8733	5.04	10712	5.05	13045	5.12	15779	5.23	18962	5.36	22643	5.46	26868	5.52
		50	–	–	–	–	–	–	9137	6.42	11069	6.39	13350	6.45	16029	6.55	19154	6.67	22773	6.79
	MLZ048T4A	30	6909	4.18	8751	4.28	10928	4.36	13491	4.42	16491	4.47	19979	4.51	24004	4.55	28617	4.60	33867	4.66
		40	–	–	–	–	9524	5.42	11780	5.51	14422	5.58	17501	5.64	21068	5.68	25172	5.72	29864	5.77
		50	–	–	–	–	–	–	9934	6.86	12166	6.96	14783	7.04	17838	7.10	21382	7.15	25464	7.19
	MLZ058T4A	30	8023	4.62	10229	4.78	12815	4.92	15839	5.04	19361	5.14	23441	5.24	28136	5.33	33505	5.42	39605	5.52
		40	–	–	–	–	11100	6.12	13783	6.24	16904	6.35	20521	6.44	24694	6.52	29481	6.61	34941	6.69
		50	–	–	–	–	–	–	11546	7.84	14208	7.93	17305	8.01	20898	8.07	25047	8.14	29809	8.20
	MLZ066T4A	30	9473	5.60	12064	5.75	15106	5.86	18669	5.93	22823	6.01	27641	6.11	33190	6.25	39541	6.46	46761	6.77
		40	–	–	–	–	13274	7.35	16408	7.45	20055	7.52	24285	7.59	29170	7.66	34779	7.77	41181	7.95
		50	–	–	–	–	–	–	13978	9.32	17049	9.42	20625	9.48	24777	9.52	29576	9.57	35092	9.65
	MLZ076T4A	30	10024	6.15	12885	6.38	16220	6.52	20101	6.61	24596	6.69	29776	6.79	35711	6.95	42468	7.21	50116	7.61
		40	–	–	–	–	14107	8.05	17557	8.21	21538	8.30	26118	8.37	31369	8.44	37358	8.57	44156	8.78
		50	–	–	–	–	–	–	14779	10.16	18183	10.33	22104	10.43	26610	10.48	31772	10.54	37660	10.63

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Qo: *Cooling capacity in [W]*
Pe: *Power input in [kW]*
Subcooling: *0 K*
RGT: *20 °C*
Capacity data at other conditions are available in the datasheets at: www.danfoss.com/odsg

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

LLZ (Evolution A) - Scroll Compressors - R404A/R507 / R452A / R448A / R449A

Ordering - Rotolock version - Single pack

Type	Model Variation	Connections	Features	Evolution	Voltage Code 2	Voltage Code 4	Voltage Code 9
LLZ013	T	Q	9	A	121L9545	121L9535	121L9555
LLZ015	T	Q	9	A	121L9547	121L9537	121L9557
LLZ018	T	Q	9	A	121L9549	121L9539	121L9559
LLZ024	T	Q	9	A	121L9551	121L9541	121L9561
LLZ034	T	Q	9	A	121L9553	121L9543	121L9563

LLZ (Evolution A) - Scroll Compressors - R404A / R507 / R452A / R448A / R449A

Ordering - Rotolock version - Single pack

Type	Model Variation	Connections	Features	Evolution	Voltage Code 2	Voltage Code 4	Voltage Code 9
LLZ013	T	Q	9	A	121L9544	121L9534	121L9554
LLZ015	T	Q	9	A	121L9546	121L9536	121L9556
LLZ018	T	Q	9	A	121L9548	121L9538	121L9558
LLZ024	T	Q	9	A	121L9550	121L9540	121L9560
LLZ034	T	Q	9	A	121L9552	121L9542	121L9562

LLZ - Scroll compressors - R404A / R507

Ordering - Rotolock version - Single pack

Type		Model variation	Connections	Features	Voltage code 2	Voltage code 4	Voltage code 9
Danfoss pallet	LLZ013	T	Q	9	121L9519	121L9517	121L9531
	LLZ015	T	Q	9	121L9515	121L9513	121L9529
	LLZ018	T	Q	9	121L9511	121L9509	121L9527
	LLZ024	T	Q	9	121L9507	121L9505	121L9525
	LLZ034	T	Q	9	NA	121L9521	121L9533

LLZ - Scroll compressors - R404A / R507

Ordering - Rotolock version - Industrial pack

Type		Model variation	Connections	Features	Voltage code 2	Voltage code 4	Voltage code 9
Danfoss pallet	LLZ013	T	Q	9	121L9518	121L9516	121L9530
	LLZ015	T	Q	9	121L9514	121L9512	121L9528
	LLZ018	T	Q	9	121L9510	121L9508	121L9526
	LLZ024	T	Q	9	121L9506	121L9504	121L9524
	LLZ034	T	Q	9	NA	121L9520	121L9532

Technical data and ordering

LLZ - Scroll compressors - R448A / R449A*) - 50/60 Hz

Technical data - with Liquid injection line

Type		Nominal tons 60 Hz	Nominal cooling capacity		Power input [1)]	COP	EER	Swept volume	Displacement [1)]	Oil charge	Net weight [2)]
		[TR]	[W]	[Btu/h]	[kW]	[W/W]	[Btu/h/W]	[cm³/rev]	[m³/h]	[dm³]	[kg]
50 Hz	LLZ013	4	2048	6990	2106	0.97	3.32	67.4	11.7	1.62	42
	LLZ015	5	2605	8890	2642	0.99	3.37	83.5	14.5	1.62	42
	LLZ018	6	3084	10525	2964	1.04	3.55	97.6	17	1.62	43
	LLZ024	8	3846	13126	3542	1.09	3.71	120.2	20.9	2.51	46
	LLZ034	10	5480	18704	4684	1.17	3.99	168.7	29.4	2.51	51
60 Hz	LLZ013	4	3314	11310	2737	1.21	4.13	67.4	14.2	1.62	42
	LLZ015	5	4097	13983	3416	1.2	4.09	83.5	17.5	1.62	42
	LLZ018	6	4900	16723	3815	1.28	4.38	97.6	20.5	1.62	43
	LLZ024	8	6046	20636	4580	1.32	4.51	120.2	25.3	2.51	46
	LLZ034	10	8531	29116	5928	1.44	4.91	168.7	35.4	2.51	51

[1)] Displacement at nominal speed: 2900 rpm at 50 Hz, 3500 rpm at 60 Hz
[2)] Net weight with oil charge
TR: Ton of Refrigeration, EER: Energy Efficiency Ratio , COP: Coefficient Of Performance, Refrigerant: R448A)*

Rating condition:
50 Hz data: EN12900 LT, Evaporating temperature -35°C, Condensing temperature 40°C, Super Heat 10 K, Subcooling 5K.
60 Hz data: ARI 540 LT, Evaporating temperature -31.5°C, Condensing temperature 40.5°C, Return Gas Temperature 4.5°C, Subcooling 5K.

All of the compressor performance test after run-in 72h
**) R449A performance data are nearly identical to R448A performance data*
Subject to modification without prior notification.
Data given for motor code 4 compressor, for full data details and capacity tables refer to Online Datasheet Generator: www.danfoss.com/odsg

LLZ - Scroll compressors - R404A / R507*) - 50/60 Hz

Technical data - without injection

Type		Nominal tons 60 Hz	Nominal cooling capacity		Power input [1)]	COP	EER	Swept volume	Displacement [1)]	Oil charge	Net weight [2)]
		[TR]	[W]	[Btu/h]	[kW]	[W/W]	[Btu/h/W]	[cm³/rev]	[m³/h]	[dm³]	[kg]
50 Hz	LLZ013	4	2417	8249	2366	1.02	3.48	67.4	11.7	1.62	42
	LLZ015	5	2937	10024	2776	1.06	3.62	83.5	14.5	1.62	42
	LLZ018	6	3453	11785	3150	1.1	3.75	97.6	17	1.62	43
	LLZ024	8	4411	15055	3957	1.11	3.79	120.2	20.9	2.51	46
	LLZ034	10	6051	20652	5458	1.11	3.79	168.7	29.4	2.51	51
60 Hz	LLZ013	4	2896	9884	2774	1.04	3.55	67.4	14.2	1.62	42
	LLZ015	5	3552	12123	3307	1.07	3.65	83.5	17.5	1.62	42
	LLZ018	6	4228	14430	3799	1.11	3.79	97.6	20.5	1.62	43
	LLZ024	8	5278	18014	4611	1.14	3.89	120.2	25.3	2.51	46
	LLZ034	10	7404	25270	6157	1.2	4.1	168.7	35.4	2.51	51

[1)] Displacement at nominal speed: 2900 rpm at 50 Hz, 3500 rpm at 60 Hz
[2)] Net weight with oil charge
TR: Ton of Refrigeration, Standard rating conditions: ARI, Evaporating temperature: -31.7 °C, Superheat: 50 K
EER: Energy Efficiency Ratio, Condensing temperature: 40.6 °C, Subcooling: 0 K, COP: Coefficient Of Performance, Refrigerant: R404A)*

All of the compressor performance test after run-in 72h
**)R507 performance data are nearly identical to R404A performance data*

Subject to modification without prior notification.
Data given for motor code 4 compressor, for full data details and capacity tables refer to Online Datasheet Generator: www.danfoss.com/odsg

Technical data and ordering

LLZ - Scroll compressors - R448A / R449A*) - 50/60 Hz

Technical data - without injection

Type		Nominal tons 60 Hz	Nominal cooling capacity		Power input [1)]	COP	EER	Swept volume	Displacement [1)]	Oil charge	Net weight [2)]
		[TR]	[W]	[Btu/h]	[kW]	[W/W]	[Btu/h/W]	[cm³/rev]	[m³/h]	[dm³]	[kg]
50 Hz	LLZ013	4	2048	6990	2106	0.97	3.32	67.4	11.7	1.62	42
	LLZ015	5	2605	8890	2642	0.99	3.37	83.5	14.5	1.62	42
	LLZ018	6	3084	10525	2964	1.04	3.55	97.6	17	1.62	43
	LLZ024	8	3846	13126	3542	1.09	3.71	120.2	20.9	2.51	46
	LLZ034	10	5480	18704	4684	1.17	3.99	168.7	29.4	2.51	51
60 Hz	LLZ013	4	3314	11310	2737	1.21	4.13	67.4	14.2	1.62	42
	LLZ015	5	4097	13983	3416	1.2	4.09	83.5	17.5	1.62	42
	LLZ018	6	4900	16723	3815	1.28	4.38	97.6	20.5	1.62	43
	LLZ024	8	6046	20636	4580	1.32	4.51	120.2	25.3	2.51	46
	LLZ034	10	8531	29116	5928	1.44	4.91	168.7	35.4	2.51	51

[1)] Displacement at nominal speed: 2900 rpm at 50 Hz, 3500 rpm at 60 Hz
[2)] Net weight with oil charge
TR: Ton of Refrigeration, EER: Energy Efficiency Ratio , COP: Coefficient Of Performance, Refrigerant: R448A)*

Rating condition:
50 Hz data: EN12900 LT, Evaporating temperature -35°C, Condensing temperature 40°C, Super Heat 10 K, Subcooling 5K.
60 Hz data: ARI 540 LT, Evaporating temperature -31.5°C, Condensing temperature 40.5°C, Return Gas Temperature 4.5°C, Subcooling 5K.

All of the compressor performance test after run-in 72h
**) R449A performance data are nearly identical to R448A performance data*
Subject to modification without prior notification.
Data given for motor code 4 compressor, for full data details and capacity tables refer to Online Datasheet Generator: www.danfoss.com/odsg

LLZ - Scroll compressors - R404A*) - 50/60 Hz

Technical data - without injection

Type		Nominal tons 60 Hz	Nominal cooling capacity		Power input [1)]	COP	EER	Swept volume	Displacement [1)]	Oil charge	Net weight [2)]
		[TR]	[W]	[Btu/h]	[kW]	[W/W]	[Btu/h/W]	[cm³/rev]	[m³/h]	[dm³]	[kg]
50 Hz	LLZ013	4	3213	10966	2507	1.28	4.37	67.4	11.7	1.62	42
	LLZ015	5	3898	13304	2949	1.32	4.51	83.5	14.5	1.62	42
	LLZ018	6	4583	15642	3346	1.37	4.68	97.6	17	1.62	43
	LLZ024	8	5854	19980	4204	1.39	4.74	120.2	20.9	2.51	46
	LLZ034	10	7991	27273	5772	1.38	4.71	168.7	29.4	2.51	51
60 Hz	LLZ013	4	3857	13164	2938	1.31	4.47	67.4	14.2	1.62	42
	LLZ015	5	4718	16102	3507	1.35	4.61	83.5	17.5	1.62	42
	LLZ018	6	5616	19167	4028	1.39	4.74	97.6	20.5	1.62	43
	LLZ024	8	7011	23928	4889	1.43	4.88	120.2	25.3	2.51	46
	LLZ034	10	9791	33416	6616	1.48	5.05	168.7	35.4	2.51	51

[1)] Displacement at nominal speed: 2900 rpm at 50 Hz, 3500 rpm at 60 Hz
[2)] Net weight with oil charge
TR: Ton of Refrigeration, Standard rating conditions: ARI, Evaporating temperature: -31.7 °C, Superheat: 50 K
EER: Energy Efficiency Ratio, Condensing temperature: 40.6 °C, Subcooling: 0 K, COP: Coefficient Of Performance, Refrigerant: R404A)*

All of the compressor performance test after run-in 72h
**) R507 performance data are nearly identical to R404A performance data*
Subject to modification without prior notification.
Data given for motor code 4 compressor, for full data details and capacity tables refer to Online Datasheet Generator: www.danfoss.com/odsg

Technical data and ordering

LLZ - Scroll compressors - R452A - 50 Hz

Technical data - without injection

Type		Nominal tons 60 Hz	Nominal cooling capacity		Power input [1]	COP	EER	Swept volume	Displacement [1]	Oil charge	Net weight [2]
		[TR]	[W]	[Btu/h]	[kW]	[W/W]	[Btu/h/W]	[cm³/rev]	[m³/h]	[dm³]	[kg]
50 Hz	LLZ013	4	2189	7469	1990	1.1	3.75	67.4	11.7	1.62	42
	LLZ015	5	2718	9274	2514	1.08	3.69	83.5	14.5	1.62	42
	LLZ018	6	3223	10997	2960	1.09	3.72	97.6	17	1.62	43
	LLZ024	8	4000	13648	3609	1.11	3.78	120.2	20.9	2.51	46
	LLZ034	10	5865	20011	5082	1.15	3.94	168.7	29.4	2.51	51

[1]) Displacement at nominal speed: 2900 rpm at 50 Hz, 3500 rpm at 60 Hz
[2]) Net weight with oil charge

TR: Ton of Refrigeration, Standard rating conditions: EN12900, Evaporating temperature: -35 °C, Superheat: 10 K
EER: Energy Efficiency Ratio, COP: Coefficient Of Performance Condensing temperature: 40 °C, Subcooling: 0 K, Refrigerant: R452A

All of the compressor performance test after run-in 72h
Subject to modification without prior notification.
Data given for motor code 4 compressor, for full data details and capacity tables refer to Online Datasheet Generator: www.danfoss.com/odsg

LLZ - Scroll compressors - R452A - 60 Hz

Technical data - without injection

Type		Nominal tons 60 Hz	Nominal cooling capacity		Power input [1]	COP	EER	Swept volume	Displacement [1]	Oil charge	Net weight [2]
		[TR]	[W]	[Btu/h]	[kW]	[W/W]	[Btu/h/W]	[cm³/rev]	[m³/h]	[dm³]	[kg]
50 Hz	LLZ013	4	3335	11383	2886	1.16	3.94	67.4	14.2	1.62	42
	LLZ015	5	4187	14289	3476	1.2	4.11	83.5	17.5	1.62	42
	LLZ018	6	4919	16788	3952	1.24	4.25	97.6	20.5	1.62	43
	LLZ024	8	6137	20945	4829	1.27	4.34	120.2	25.3	2.51	46
	LLZ034	10	8516	29065	6595	1.29	4.41	168.7	35.4	2.51	51

[1]) Displacement at nominal speed: 2900 rpm at 50 Hz, 3500 rpm at 60 Hz
[2]) Net weight with oil charge

TR: Ton of Refrigeration, Standard rating conditions: ARI 540 LT standard, Evaporating temperature: -31.5 °C, Return Gas Temperature: 4.5 °C
EER: Energy Efficiency Ratio, Condensing temperature: 40.5 °C, Subcooling: 0 K, COP: Coefficient Of Performance, Refrigerant: R452A

All of the compressor performance test after run-in 72h
Subject to modification without prior notification.
Data given for motor code 4 compressor, for full data details and capacity tables refer to Online Datasheet Generator: www.danfoss.com/odsg

Technical data and ordering

LLZ - Scroll compressors - R404A - 50 / 60 Hz

Performance table - Without economizer

Type		To	-40		-35		-30		-25		-20		-15		-10	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
50 Hz	LLZ013T4	30	2200	1,94	2900	2,10	3700	2,25	4600	2,40	5700	2,53	6900	2,62	8400	2,66
		40	1800	2,19	2400	2,37	3100	2,55	3900	2,74	4800	2,91	6000	3,06	7300	3,17
		50	–	–	1900	2,72	2500	2,92	3200	3,14	3900	3,35	4900	3,55	6000	3,73
	LLZ015T4	30	2700	2,28	3500	2,48	4400	2,69	5600	2,89	7000	3,08	8600	3,25	10600	3,38
		40	2300	2,57	2900	2,78	3800	3,01	4700	3,26	5900	3,50	7400	3,74	9000	3,96
		50	–	–	2300	3,16	3000	3,41	3800	3,69	4800	3,98	6000	4,28	7400	4,58
	LLZ018T4	30	3200	2,59	4100	2,81	5200	3,05	6600	3,28	8200	3,50	10200	3,69	12400	3,83
		40	2700	2,91	3500	3,15	4400	3,42	5600	3,69	7000	3,98	8600	4,24	10600	4,49
		50	–	–	2800	3,58	3500	3,87	4500	4,18	5600	4,52	7000	4,86	8700	5,19
	LLZ024T4	30	4100	3,25	5200	3,54	6700	3,83	8400	4,12	10500	4,40	13000	4,63	15900	4,81
		40	3400	3,66	4400	3,96	5600	4,29	7100	4,64	8900	5,00	11000	5,33	13600	5,64
		50	–	–	3500	4,50	4500	4,86	5700	5,25	7200	5,68	9000	6,10	11100	6,52
60 Hz	LLZ013T4	30	2600	2,27	3400	2,46	4400	2,65	5500	2,81	6800	2,94	8300	3,03	10100	3,06
		40	2200	2,57	2900	2,77	3700	2,99	4700	3,20	5800	3,39	7100	3,56	8600	3,69
		50	–	–	2300	3,15	3000	3,39	3800	3,63	4700	3,88	5800	4,11	7100	4,32
	LLZ015T4	30	3300	2,74	4200	2,98	5300	3,22	6700	3,46	8400	3,68	10400	3,85	12800	3,96
		40	2700	3,07	3600	3,31	4500	3,58	5700	3,86	7200	4,15	8900	4,41	10900	4,63
		50	–	–	2900	3,76	3700	4,03	4700	4,34	5900	4,67	7300	5,00	9000	5,31
	LLZ018T4	30	3900	3,15	5000	3,42	6400	3,70	8000	3,98	10000	4,23	12400	4,42	15200	4,55
		40	3300	3,53	4200	3,80	5400	4,11	6800	4,44	8600	4,77	10600	5,07	13000	5,32
		50	–	–	3400	4,32	4400	4,63	5600	4,99	7000	5,36	8700	5,74	10700	6,10
	LLZ024T4	30	4800	3,82	6200	4,15	7900	4,49	10000	4,83	12500	5,13	15500	5,37	19000	5,53
		40	4100	4,28	5300	4,61	6800	4,99	8500	5,39	10700	5,78	13200	6,15	16300	6,46
		50	–	–	4200	5,24	5500	5,62	6900	6,05	8700	6,51	10900	6,97	13400	7,41

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Qo: *Cooling capacity in [W]*
Pe: *Power input in [kW]*
Subcooling: *0 K*
Superheat: *10*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

LLZ - Scroll compressors - R404A - 50 / 60 Hz

Performance table - With economizer

Type		To	-40		-35		-30		-25		-20		-15		-10	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
50 Hz	LLZ013T4	30	3300	2,44	4200	2,59	5100	2,74	6100	2,88	7300	3,01	8500	3,13	9800	3,24
		40	3200	2,96	4000	3,13	4800	3,28	5800	3,42	6900	3,55	8000	3,68	9200	3,80
		50	–	–	3700	3,80	4600	3,99	5500	4,18	6500	4,35	7500	4,51	8600	4,66
	LLZ015T4	30	4000	2,90	5000	3,05	6000	3,20	7200	3,35	8600	3,49	10200	3,58	12000	3,63
		40	3900	3,48	4700	3,66	5700	3,85	6900	4,04	8200	4,22	9700	4,36	11300	4,46
		50	–	–	4500	4,46	5400	4,71	6500	4,95	7700	5,19	9000	5,40	10500	5,56
	LLZ018T4	30	4800	3,34	5900	3,50	7200	3,68	8600	3,86	10300	4,01	12200	4,13	14300	4,18
		40	4600	4,01	5600	4,21	6800	4,43	8200	4,65	9800	4,86	11500	5,02	13500	5,14
		50	–	–	5400	5,14	6500	5,42	7700	5,70	9200	5,97	10800	6,21	12500	6,40
	LLZ024T4	30	6000	4,13	7400	4,33	9000	4,55	10800	4,77	12900	4,96	15300	5,10	17900	5,16
		40	5800	4,95	7100	5,20	8600	5,48	10300	5,75	12300	6,00	14500	6,21	16900	6,35
		50	–	–	6700	6,35	8100	6,69	9700	7,04	11500	7,38	13500	7,67	15700	7,91
60 Hz	LLZ013T4	30	3900	2,80	5000	2,99	6100	3,16	7300	3,31	8600	3,45	10100	3,57	11800	3,67
		40	3800	3,42	4800	3,62	5800	3,80	6900	3,97	8100	4,12	9500	4,25	11000	4,36
		50	–	–	4500	4,40	5500	4,65	6500	4,88	7600	5,10	8800	5,29	10200	5,47
	LLZ015T4	30	4900	3,42	5900	3,64	7200	3,83	8700	3,99	10400	4,14	12300	4,28	14500	4,41
		40	4700	4,08	5700	4,33	6900	4,57	8300	4,79	9900	5,00	11700	5,22	13600	5,44
		50	–	–	5400	5,26	6600	5,56	7800	5,85	9300	6,14	10900	6,44	12600	6,76
	LLZ018T4	30	5900	3,89	7100	4,15	8600	4,36	10400	4,55	12400	4,72	14700	4,88	17300	5,03
		40	5600	4,65	6800	4,94	8200	5,21	9900	5,46	11800	5,70	13900	5,95	16300	6,20
		50	–	–	6500	6,00	7800	6,33	9400	6,66	11100	6,99	13000	7,34	15100	7,70
	LLZ024T4	30	7300	4,75	8800	5,06	10600	5,32	12800	5,55	15400	5,76	18200	5,95	21400	6,14
		40	6900	5,67	8400	6,03	10200	6,36	12300	6,66	14600	6,96	17300	7,26	20200	7,57
		50	–	–	8000	7,32	9700	7,73	11600	8,13	13800	8,54	16100	8,96	18700	9,40

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Qo: *Cooling capacity in [W]*
Pe: *Power input in [kW]*
Subcooling: *0 K*
Superheat: *10 K*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

LLZ - Scroll compressors - R452A - 50 Hz

Performance table - Without economizer

Type		To	-40		-35		-30		-25		-20		-15		-10	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
50 Hz	LLZ013T4A	30	1951	1.63	2551	1.85	3300	2.03	4220	2.18	5333	2.31	6663	2.44	8231	2.57
		40	1684	1.66	2187	1.99	2821	2.27	3608	2.50	4570	2.70	5733	2.87	7121	3.04
		50	1429	1.55	1826	2.03	2335	2.43	2978	2.77	3778	3.07	4762	3.32	5955	3.55
	LLZ015T4A	30	2482	2.05	3192	2.31	4055	2.51	5095	2.68	6335	2.83	7802	2.98	9518	3.16
		40	2097	2.12	2715	2.51	3468	2.83	4379	3.10	5474	3.32	6779	3.52	8320	3.71
		50	1687	2.01	2197	2.60	2822	3.08	3588	3.49	4520	3.83	5645	4.12	6992	4.38
	LLZ018T4A	30	2939	2.39	3787	2.69	4813	2.92	6045	3.12	7513	3.29	9246	3.47	11273	3.69
		40	2478	2.51	3220	2.96	4118	3.32	5201	3.62	6497	3.87	8038	4.10	9855	4.33
		50	1982	2.47	2601	3.13	3354	3.66	4268	4.11	5374	4.48	6705	4.81	8292	5.12
	LLZ024T4A	30	3653	2.94	4699	3.27	5967	3.54	7492	3.78	9310	4.00	11458	4.22	13971	4.46
		40	3084	3.11	3997	3.61	5104	4.03	6442	4.38	8046	4.70	9956	4.98	12208	5.25
		50	2472	3.12	3230	3.85	4156	4.47	5283	5.00	6651	5.45	8297	5.85	10265	6.21
	LLZ034T4A	30	5364	4.11	6902	4.59	8764	4.97	11002	5.30	13670	5.60	16821	5.91	20507	6.28
		40	4519	4.36	5861	5.08	7487	5.67	9451	6.16	11805	6.58	14605	6.98	17909	7.39
		50	3611	4.37	4726	5.42	6084	6.29	7738	7.02	9743	7.65	12158	8.21	15041	8.74
60 Hz	LLZ013T4A	30	2361	2.22	3076	2.42	3945	2.60	4990	2.78	6236	2.94	7704	3.10	9418	3.24
		40	1969	2.45	2601	2.70	3365	2.94	4283	3.16	5380	3.38	6681	3.58	8210	3.77
		50	1556	2.69	2097	3.00	2747	3.30	3530	3.58	4472	3.85	5598	4.11	6935	4.35
	LLZ015T4A	30	2997	2.62	3877	2.83	4954	3.06	6258	3.30	7821	3.53	9672	3.74	11840	3.90
		40	2509	3.07	3279	3.28	4218	3.53	5359	3.80	6732	4.07	8371	4.33	10309	4.56
		50	2009	3.65	2661	3.84	3455	4.09	4424	4.37	5602	4.67	7023	4.98	8723	5.27
	LLZ018T4A	30	3490	2.96	4514	3.21	5766	3.51	7288	3.81	9122	4.10	11308	4.36	13888	4.56
		40	2953	3.47	3856	3.72	4951	4.02	6278	4.35	7880	4.70	9801	5.04	12086	5.34
		50	2379	4.20	3154	4.40	4083	4.68	5207	5.02	6572	5.40	8221	5.79	10205	6.17
	LLZ024T4A	30	4300	3.56	5577	3.91	7142	4.28	9043	4.66	11327	5.01	14044	5.31	17238	5.55
		40	3674	4.15	4807	4.51	6175	4.92	7828	5.35	9814	5.77	12185	6.17	14991	6.52
		50	2963	4.98	3943	5.33	5109	5.75	6508	6.22	8191	6.70	10212	7.18	12627	7.63
	LLZ034T4A	30	5832	4.79	7638	5.31	9860	5.80	12556	6.28	15785	6.74	19604	7.20	24069	7.65
		40	5100	5.47	6660	6.11	8570	6.73	10888	7.32	13676	7.90	16996	8.45	20910	9.00
		50	4350	6.27	5639	7.07	7211	7.84	9126	8.58	11447	9.29	14240	9.98	17575	10.66

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Qo: *Cooling capacity in [W]*
Pe: *Power input in [kW]*
Subcooling: *0 K*
Superheat: *10*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

LLZ - Scroll compressors - R448A - 50 / 60 Hz

Performance table - Without economizer

Type		To	-40		-35		-30		-25		-20		-15		-10	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
50 Hz	LLZ013T4A	30	1621	1.66	2173	1.79	2861	1.94	3705	2.09	4721	2.24	5927	2.37	7341	2.48
		40	1463	2.00	1936	2.11	2534	2.24	3274	2.41	4174	2.58	5251	2.75	6524	2.90
		50	1338	2.49	1717	2.55	2208	2.67	2829	2.82	3597	2.99	4530	3.18	5645	3.37
	LLZ015T4A	30	2049	2.08	2764	2.24	3641	2.42	4703	2.61	5973	2.80	7475	2.97	9231	3.10
		40	1826	2.53	2463	2.64	3239	2.81	4177	3.00	5301	3.22	6634	3.44	8200	3.65
		50	1612	3.21	2163	3.26	2831	3.37	3639	3.55	4611	3.77	5769	4.01	7137	4.27
	LLZ018T4A	30	2454	2.35	3269	2.52	4274	2.73	5500	2.97	6974	3.20	8727	3.41	10785	3.57
		40	2194	2.85	2915	2.96	3803	3.16	4886	3.40	6191	3.67	7749	3.94	9588	4.18
		50	1939	3.58	2564	3.62	3330	3.77	4265	3.99	5399	4.26	6758	4.56	8372	4.87
	LLZ024T4A	30	3140	2.81	4081	3.01	5255	3.27	6707	3.55	8485	3.84	10633	4.10	13197	4.31
		40	2798	3.37	3636	3.54	4670	3.80	5944	4.11	7504	4.46	9397	4.82	11667	5.17
		50	2418	4.26	3153	4.38	4046	4.62	5142	4.96	6485	5.36	8122	5.80	10097	6.26
	LLZ034T4A	30	4483	3.65	5807	4.02	7451	4.42	9467	4.81	11906	5.18	14821	5.50	18265	5.75
		40	4015	4.31	5181	4.68	6626	5.11	8402	5.57	10561	6.04	13155	6.50	16236	6.92
		50	3523	5.20	4511	5.57	5739	6.02	7256	6.55	9116	7.11	11369	7.70	14067	8.28
60 Hz	LLZ013T4A	30	2234	2.05	2895	2.18	3707	2.35	4698	2.55	5894	2.74	7322	2.92	9006	3.07
		40	1988	2.54	2590	2.62	3316	2.76	4194	2.95	5252	3.16	6517	3.38	8016	3.59
		50	1696	3.24	2240	3.24	2882	3.33	3650	3.48	4572	3.69	5676	3.92	6991	4.17
	LLZ015T4A	30	2755	2.79	3545	2.85	4529	2.97	5754	3.13	7268	3.33	9116	3.53	11344	3.74
		40	2483	3.23	3216	3.30	4091	3.44	5156	3.62	6458	3.84	8047	4.07	9967	4.31
		50	2109	3.84	2804	3.91	3593	4.05	4522	4.25	5640	4.48	6994	4.74	8632	5.00
	LLZ018T4A	30	3292	2.92	4249	3.09	5432	3.29	6890	3.50	8673	3.75	10828	4.03	13401	4.35
		40	2958	3.43	3838	3.63	4897	3.85	6183	4.09	7747	4.36	9637	4.66	11902	4.99
		50	2526	4.19	3336	4.40	4279	4.64	5402	4.89	6756	5.17	8391	5.48	10359	5.83
	LLZ024T4A	30	4098	3.47	5260	3.70	6683	3.97	8421	4.29	10529	4.64	13060	5.00	16064	5.36
		40	3676	4.12	4751	4.35	6034	4.63	7581	4.97	9446	5.35	11686	5.74	14354	6.15
		50	3140	5.11	4133	5.31	5284	5.57	6648	5.90	8282	6.28	10241	6.69	12582	7.13
	LLZ034T4A	30	5832	4.50	7487	4.81	9491	5.25	11897	5.77	14758	6.33	18127	6.90	22050	7.43
		40	5210	5.36	6708	5.61	8516	6.02	10689	6.55	13282	7.17	16350	7.84	19944	8.52
		50	4529	6.57	5836	6.71	7414	7.06	9319	7.57	11609	8.21	14340	8.94	17570	9.72

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Qo: *Cooling capacity in [W]*
Pe: *Power input in [kW]*
Subcooling: *0 K*
Superheat: *10 K*

LLZ - Scroll compressors - R449A - 50 / 60 Hz

Performance table - without economizer

Type		To	-40		-35		-30		-25		-20		-15		-10	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
50 Hz	LLZ013T4A	30	1619	1.66	2171	1.79	2859	1.94	3702	2.09	4717	2.24	5923	2.37	7335	2.48
		40	1462	2.00	1934	2.11	2531	2.24	3271	2.41	4170	2.58	5247	2.75	6518	2.90
		50	1336	2.49	1715	2.55	2205	2.67	2826	2.82	3593	2.99	4525	3.18	5639	3.37
	LLZ015T4A	30	2047	2.08	2762	2.24	3638	2.42	4699	2.61	5968	2.80	7469	2.97	9224	3.10
		40	1824	2.53	2460	2.64	3235	2.81	4173	3.00	5296	3.22	6628	3.44	8193	3.65
		50	1609	3.21	2160	3.26	2827	3.37	3635	3.55	4606	3.77	5763	4.01	7130	4.27
	LLZ018T4A	30	2452	2.35	3266	2.52	4270	2.73	5495	2.97	6969	3.20	8720	3.41	10777	3.57
		40	2192	2.85	2912	2.96	3799	3.16	4881	3.40	6185	3.67	7742	3.94	9580	4.18
		50	1936	3.58	2561	3.62	3326	3.77	4260	3.99	5393	4.26	6751	4.56	8364	4.87
	LLZ024T4A	30	3137	2.81	4077	3.01	5250	3.27	6702	3.55	8478	3.84	10624	4.10	13187	4.31
		40	2795	3.37	3632	3.54	4665	3.80	5938	4.11	7497	4.46	9388	4.82	11656	5.17
		50	2414	4.26	3149	4.38	4041	4.62	5136	4.96	6478	5.36	8114	5.80	10087	6.26
	LLZ034T4A	30	4478	3.65	5802	4.02	7445	4.42	9459	4.81	11896	5.18	14810	5.50	18251	5.75
		40	4011	4.31	5175	4.68	6619	5.11	8394	5.57	10551	6.04	13143	6.50	16222	6.92
		50	3518	5.20	4505	5.57	5732	6.02	7248	6.55	9106	7.11	11357	7.70	14053	8.28
60 Hz	LLZ013T4A	30	2225	2.05	2886	2.18	3697	2.35	4687	2.55	5883	2.74	7311	2.92	8997	3.07
		40	1979	2.54	2580	2.62	3305	2.76	4183	2.95	5241	3.16	6506	3.38	8006	3.59
		50	1687	3.24	2229	3.24	2871	3.33	3638	3.48	4560	3.69	5665	3.92	6981	4.17
	LLZ015T4A	30	2745	2.79	3534	2.85	4517	2.97	5741	3.13	7255	3.33	9103	3.53	11332	3.74
		40	2472	3.23	3203	3.30	4077	3.44	5142	3.62	6444	3.84	8033	4.07	9954	4.31
		50	2097	3.84	2791	3.91	3579	4.05	4508	4.25	5625	4.48	6980	4.74	8620	5.00
	LLZ018T4A	30	3279	2.92	4235	3.09	5417	3.29	6875	3.50	8657	3.75	10813	4.03	13387	4.35
		40	2945	3.43	3824	3.63	4881	3.85	6167	4.09	7730	4.36	9621	4.66	11888	4.99
		50	2512	4.19	3321	4.40	4262	4.64	5385	4.89	6738	5.17	8375	5.48	10344	5.83
	LLZ024T4A	30	4082	3.47	5244	3.70	6665	3.97	8402	4.29	10510	4.64	13041	5.00	16047	5.36
		40	3660	4.12	4733	4.35	6014	4.63	7560	4.97	9426	5.35	11666	5.74	14336	6.15
		50	3123	5.11	4113	5.31	5263	5.57	6627	5.90	8260	6.28	10220	6.69	12564	7.13
	LLZ034T4A	30	5810	4.50	7464	4.81	9465	5.25	11870	5.77	14731	6.33	18101	6.90	22027	7.43
		40	5187	5.36	6683	5.61	8488	6.02	10660	6.55	13253	7.17	16322	7.84	19919	8.52
		50	4504	6.57	5809	6.71	7385	7.06	9289	7.57	11579	8.21	14312	8.94	17545	9.72

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Qo: *Cooling capacity in [W]*
Pe: *Power input in [kW]*
Subcooling: *0 K*
Superheat: *10 K*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Nomenclature and Dimensions

Type	Size	Motor		Features		Evolution
MLZ	021	T	4 L	P	9	A

Application:
M: Medium temperature refrigeration

Family, Refrigerant:
LZ(A): R404A - R507 - R22 - R134a - R407A - R407F - R448A - R449A - R452A

Nominal capacity:
In thousand Btu/h at 60 Hz, ARI, MBP conditions

Model variation:
T: Design optimised for refrigeration

Index
- with PVE oil
A with POE oil

Other features

	Oil sight glass	Oil equalisation	Oil drain	LP gauge port	Gas equalisation port
9	Threaded	None	Schrader	None	None

Tubing and electrical connections:
P: Brazed connections, spade terminals
C: Brazed connections, screw terminals
T: Rotolock connections, spade terminals
Q: Rotolock connections, screws terminals

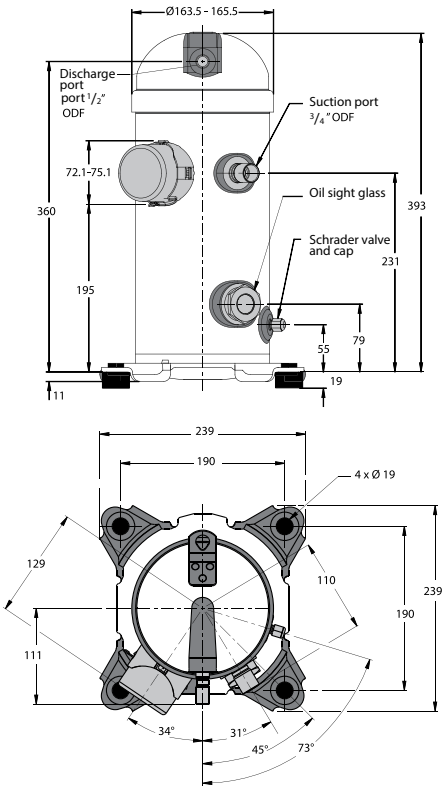


Motor protection:
L: internal motor protection

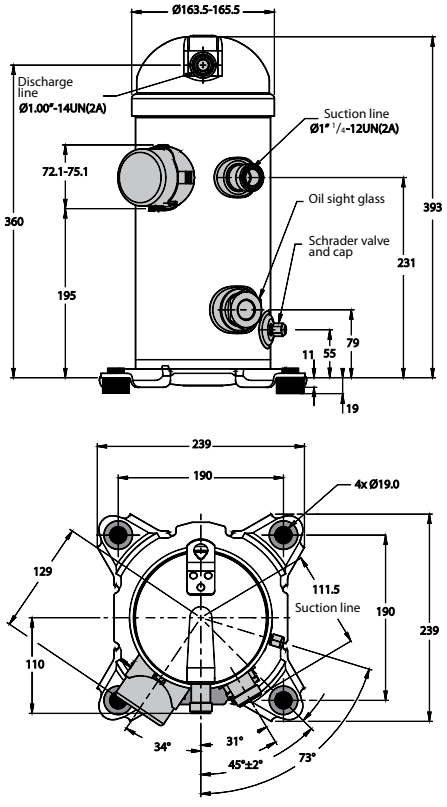
Motor voltage code
1: 208-230 V/1~/60 Hz
2: 200-220 V/3~/50 Hz & 208-230 V/3~/60 Hz
4: 380-415V/3~/50 Hz & 460 V/3~/60 Hz
5: 220-240 V/1~/50 Hz
7: 575V/ 3~/60 Hz
9: 380 V/3~/60 Hz

MLZ015-019-021-026

Brazed



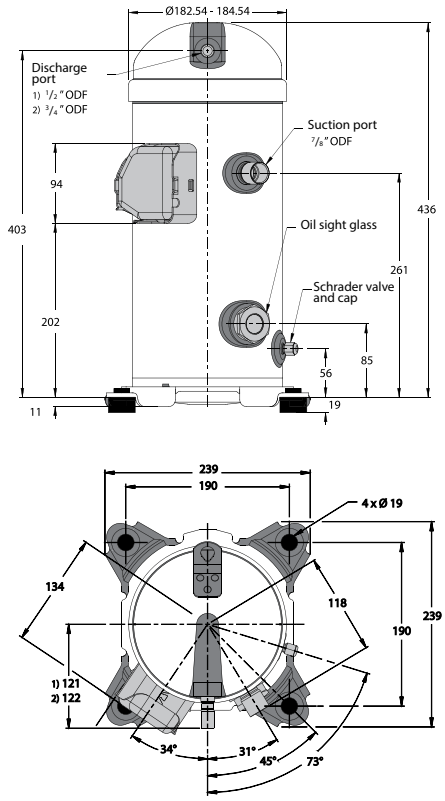
Rotolock



Dimensions

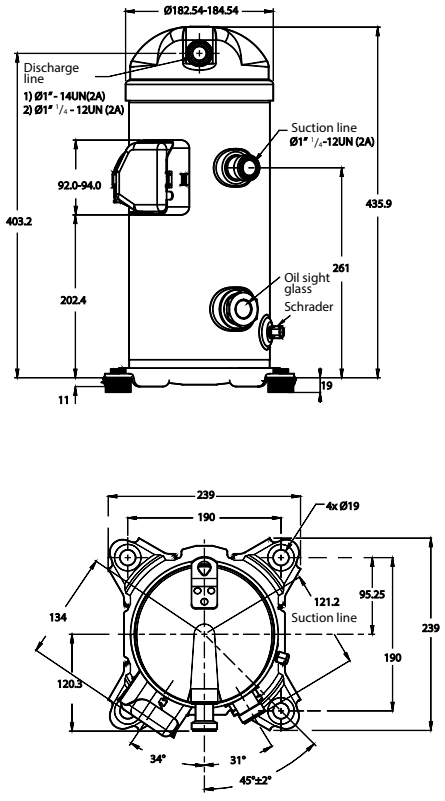
MLZ030-038-042-045-048

Brazed



1) MLZ030-038-042-045
2) MLZ048

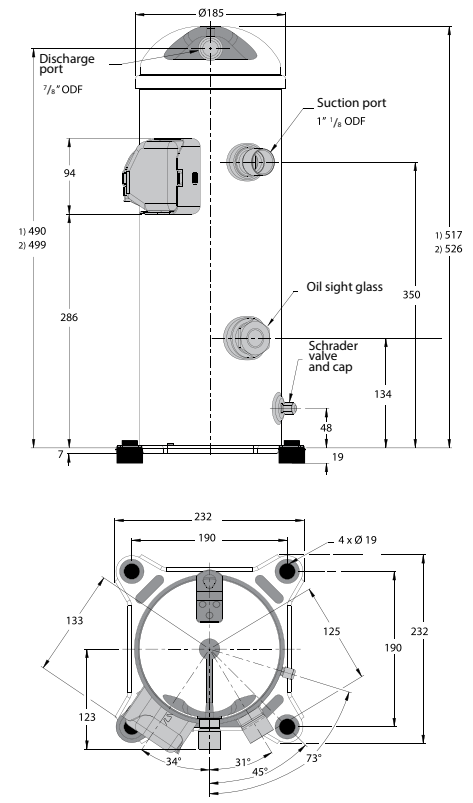
Rotolock



1) MLZ030-038-042-045
2) MLZ048

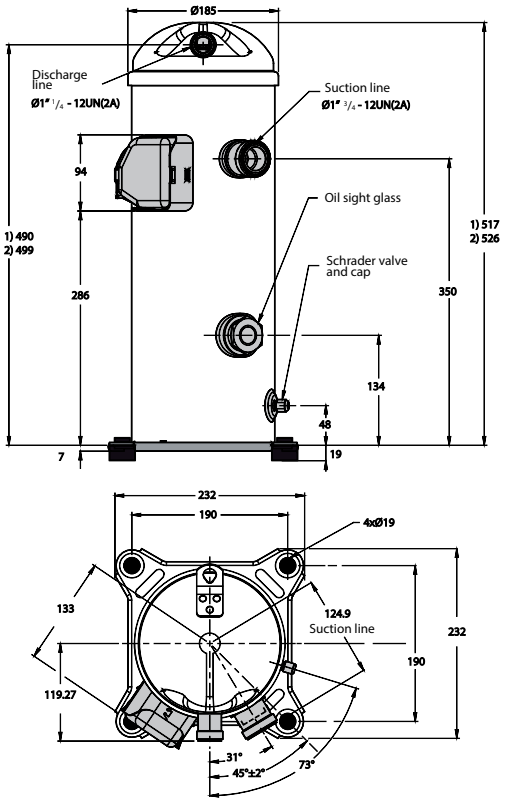
MLZ058-066-076

Brazed



1) MLZ030-038-042-045
2) MLZ048

Rotolock



1) MLZ085
2) MLZ066-076

Nomenclature and Dimensions

Type	Size	Motor	Features	Evolution
LLZ	013	T 4 L	Q 9	A

Application:
L: low temperature refrigeration

Family, Refrigerant:
LZ: R404A, R507, R452A, R448A, R449A

Nominal capacity:
In thousand Btu/h at 60 Hz,
ARI, LBP conditions of R404A

Model variation:
T: design optimised for refrigeration

Motor voltage code:
2: 200-220 V/3~/50 Hz & 208-230 V/3~/60 Hz
4: 380-415V/3~/50 Hz & 460 V/3~/60 Hz
9: 380 V/3~60 Hz

Motor protection:
L: Internal motor protection

Tubing and electrical connections:
Q: Rotolock connections, screw terminals

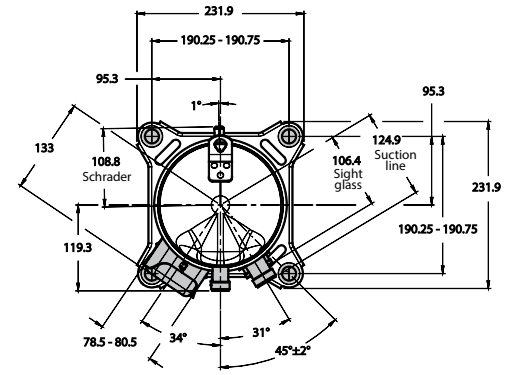


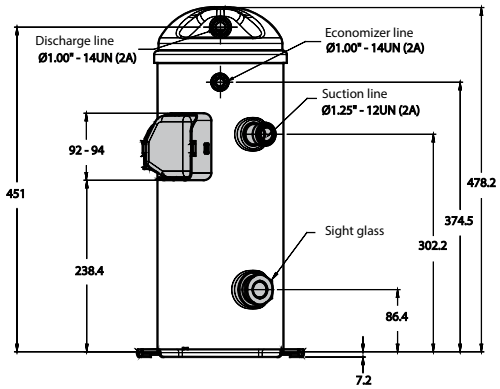
Other features

	Oil sight glass	Oil equalisation	Oil drain	LP gauge port	Gas equalis. port
9	Threaded	None	Schrader	None	None

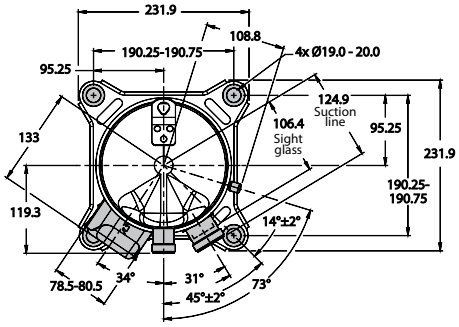
- with PVE Oil
A with POE Oil

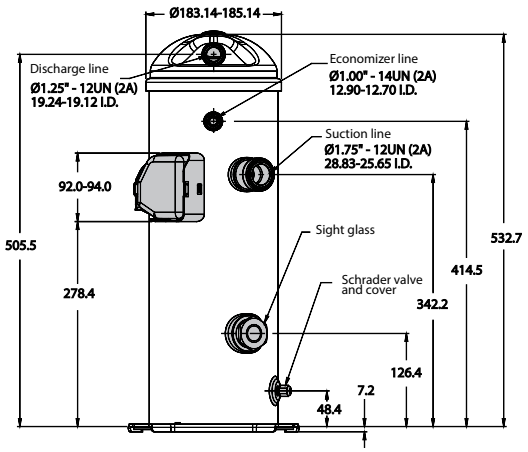
LLZ013-015-018





LLZ024



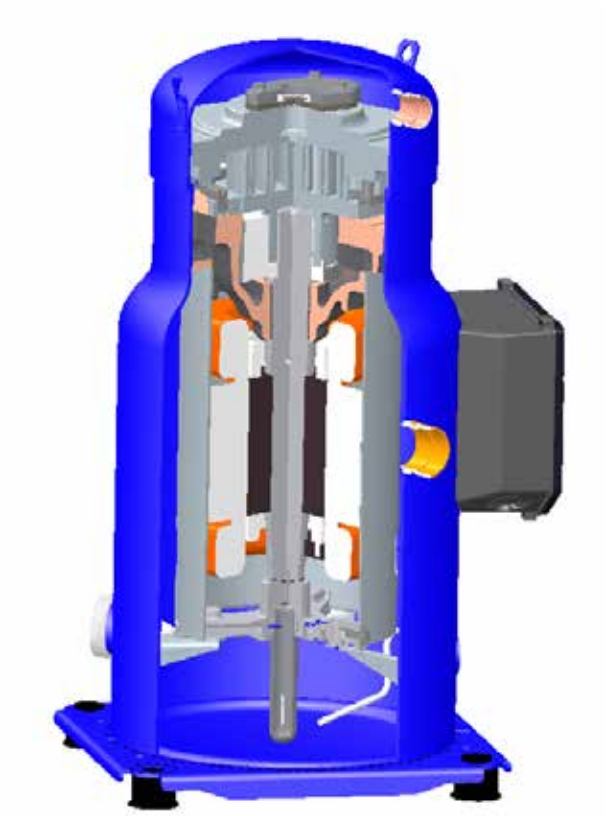


MLM / MLZ 116, Scroll compressors

The addition of the 15HP scroll compressor for MBP/LBP refrigeration perfectly suits the OEM and contractor requirements for cold rooms, mushroom growing rooms, supermarket racks, lab equipment and ice makers with low applied costs.



Features
MLM / MLZ 116



Facts

Applications:
- A design appropriate for cold rooms operating at typically -18 °C
- A high cooling capacity allowing fast pull down
- Industry leading energy efficiency when maintaining the room temperatures with an highly energy efficient motor and a scroll wrap optimized for refrigeration
- Higher energy efficiency, temperature control, flexibility and lower applied costs with staged modulation and manifold configurations

Technical data and ordering

MLM / MLZ 116 - Scroll compressors - R404A

Ordering - Industrial pack

Compressor model		Model variation	Connections	Features	Voltage code 4
Danfoss pallet	MLM116	B	C	5	120H1118
		B	Q	5	120H1231
	MLZ116	B	C	5	120H1117
		B	Q	5	120H1230

MLM / MLZ 116 - Scroll compressors - R404A - 50 Hz

Technical data

Compressor model	HP	Nominal cooling capacity		Power input	Efficiency		Swept volume	Displacement	Oil charge	Net weight (with oil)
					COP	E.E.R.				
		[W]	[Btu/h]	[kW]	[W/W]	[Btu/h/W]	[cm³/rev]	[m³/h]	Litres	[kg]
MLM116	15	24451	83427	10789	2.27	7.73	249.9	43.5	6.7	100
MLZ116	15	26865	91664	12127	2.22	7.56	249.9	43.5	6.7	100

Note: EN12900 conditions: To = -10 °C, Tc= 45 °C, RGT= 20 °C, SC= 0 K

MLM / MLZ 116 - Scroll compressors - R22 - R404A - 50 Hz

Performance table

Type	To	-30		-25		-20		-15		-10		-5		0		5		10	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
MLM116T4	30	–	–	–	–	18710	7.69	23111	8.19	28238	8.79	34179	9.45	41027	10.16	48885	10.88	57871	11.58
	40	–	–	–	–	–	–	21029	9.47	25742	10.03	31195	10.70	37477	11.47	44685	12.31	52927	13.20
	50	–	–	–	–	–	–	–	–	23137	11.68	28072	12.30	33759	13.06	40285	13.95	47751	14.94
MLZ116T4	30	14300	7.94	17866	8.30	22071	8.72	26998	9.21	32732	9.77	39357	10.43	46965	11.18	55659	12.05	65568	13.04
	40	12557	9.48	15766	9.83	19508	10.23	23865	10.70	28914	11.23	34735	11.85	41407	12.56	49015	13.37	57662	14.30
	50	–	–	13483	11.79	16693	12.19	20409	12.64	24706	13.15	29653	13.74	35317	14.41	41766	15.18	49071	16.06

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Qo: *Cooling Capacity in [W]*
Pe: *Power input in [kW]*
Subcooling: *0 K*
RTG: *20 °C*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Nomenclature and Dimensions

Type	Size	Motor	Features
M LZ	116	T 4 B	C 5

Application:
M: Medium temperature refrigeration

Family, Refrigerant:
LZ: R404A, PVE lubricant (160HV)
LM: R22, mineral lubricant

Nominal capacity:
In thousand Btu/h at 60 Hz, ARI, MBP conditions

Model variation:
T: Design optimised for refrigeration

Motor protection:
B: Electronic, 230 V

Motor voltage code
4: 380-415 V/3 ph/50 Hz

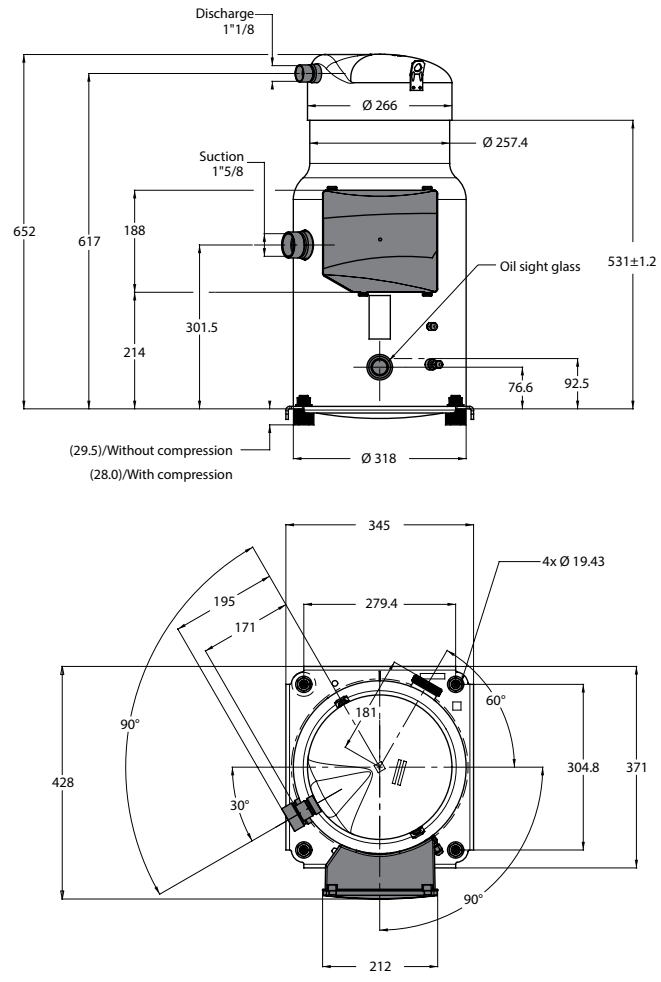
Tubing and electrical connections:
C: Brazed connections, screw terminals
Q: Rotolock connections, screws terminals

Other features

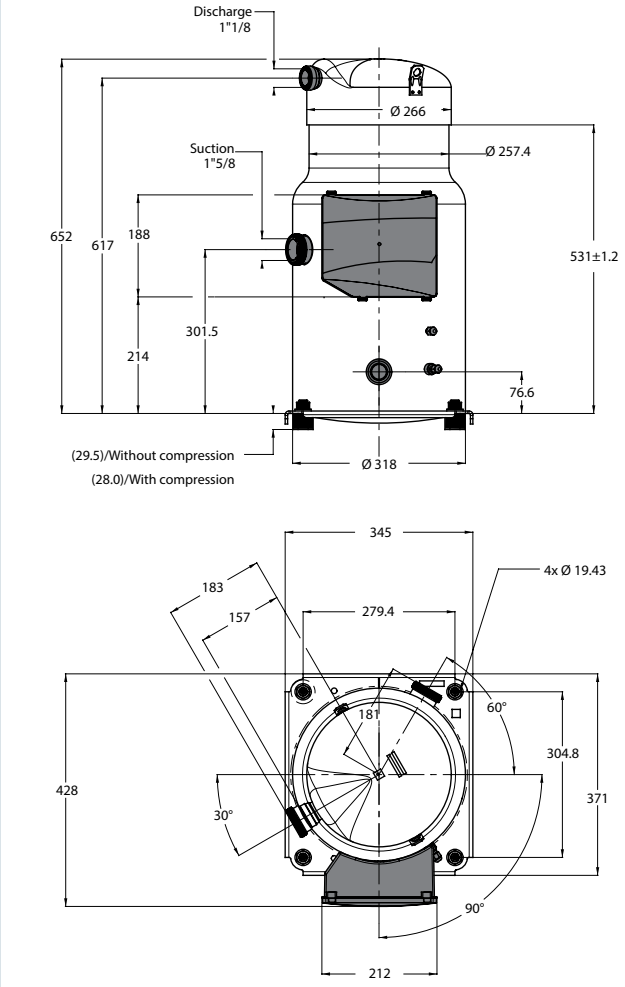
	Oil sight glass	Oil equalisation	Oil drain	LP gauge port	Gas equalisation port
5	Threaded	Threaded	Schrader	Schrader	None

MLM / MLZ 116

Brazed connection-MLZ / MLM116 T4BC5



Rotolock connection-MLZ / MLM116 T4QC5



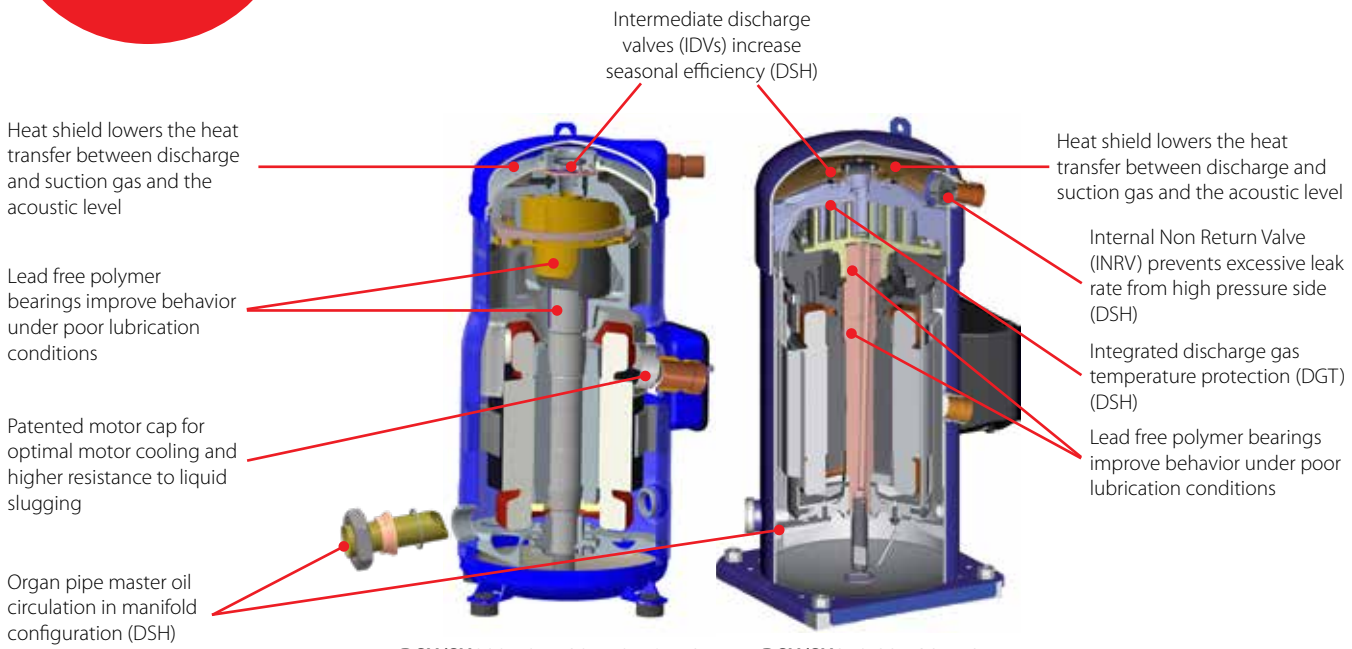
All dimensions are in mm

Quick Selection Notes:

DSH / SH series, Scroll compressors

Danfoss Scrolls SH and DSH are industry leading ranges of high efficiency scrolls optimized for rooftop and chiller applications. They range from 7.5 to 40TR (SH range) and 50 TR (DSH range). Innovative design of the DSH range bring a new level of compressor robustness and system reliability. They are available in a large variety of single and manifold models for refrigerants R410A, and alternate refrigerants with lower-GWP in the fall of 2018 and 2019.





DSH/SH090-105-120-140-161-184 **DSH/SH240-295-381-485**

Facts

Applications:

- Ideal for chillers, rooftops, CRAC systems from 7.5 to 50TR with a single compressor, up to 150 TR per circuit
- The Danfoss Scrolls DSH include several innovative features to improve compressor and system robustness.
- **Intermediate Discharge Valves (IDVs)**
- Mechanically reduce excessive compression of refrigerant under part-load conditions while maintaining the same cooling capacity. They adapt the effort of the motor to the pressure conditions in the system by opening when condensing pressure and pressure ratio (part-load) fall below the built-in optimization point of the scroll. This reduces the effort of the motor and its electrical consumption thus improving the system's seasonal energy efficiency. IDV technology enhances system efficiency by 15% on average in Water-to- Water chillers and by 6% in rooftops and Air-to-Water chillers.
- Reduce the load on mechanical parts at start up, provide safer operation at high condensing and evaporating temperatures and contribute to better liquid management

Technical data and ordering

DSH - Single scroll compressor - R410A

Ordering - Single pack

Compressor model	Connections	Motor protection	Code no.			
			3	4	7	9
			200-230/3/60	380-415/3/50 460/3/60	575/3/60	380-400/3/60
DSH090	Brazed	Internal	120H1180	120H1182	120H1184	120H1186
DSH105	Brazed	Internal	120H1188	120H1190	120H1192	120H1194
DSH120	Brazed	Internal	120H1196	120H1198	120H1200	120H1202
DSH140	Brazed	Internal	120H1204	120H1206	120H1208	120H1210
DSH161	Brazed	Internal	120H1212	120H1214	120H1216	120H1218
DSH184	Brazed	Internal	120H1220	120H1222	120H1224	120H1226
DSH240	Brazed	Module 24V AC [1]	120H1159	120H1119	120H1151	120H1135
	Brazed	Module 110 – 240 V [1]	120H1161	120H1121	120H1152	120H1137
DSH295	Brazed	Module 24V AC [1]	120H1163	120H1123	120H1153	120H1139
	Brazed	Module 110 – 240 V [1]	120H1165	120H1125	120H1154	120H1141
DSH381	Brazed	Module 24V AC [1]	120H1167	120H1127	120H1155 [2]	120H1143 [2]
	Brazed	Module 110 – 240 V [1]	120H1169	120H1129	120H1156 [2]	120H1145 [2]
DSH485	Brazed	Module 24V AC [1]	120H1105 [2]	120H1131	120H1157	120H1147
	Brazed	Module 110 – 240 V [1]	–	120H1133	120H1158	120H1149

[1]) Electronic motor protection, module located in terminal box
[2]) Soon to be released
Mounting kit for DSH240-295-381-485 single compressor applications : ***Ref 8156138***

DSH - Single scroll compressor - R410A

Ordering - Industrial pack

Compressor model	Connections	Motor protection	Code no.			
			3	4	7	9
			200-230/3/60	380-415/3/50 460/3/60	575/3/60	380-400/3/60
DSH090	Brazed	Internal	120H1181	120H1183	120H1185	120H1187
DSH105	Brazed	Internal	120H1189	120H1191	120H1193	120H1195
DSH120	Brazed	Internal	120H1197	120H1199	120H1201	120H1203
DSH140	Brazed	Internal	120H1205	120H1207	120H1209	120H1211
DSH161	Brazed	Internal	120H1213	120H1215	120H1217	120H1219
DSH184	Brazed	Internal	120H1221	120H1223	120H1225	120H1227
DSH240	Brazed	Module 24V AC [1]	120H1160	120H1120	–	120H1136
	Brazed	Module 110 – 240 V [1]	120H1162	120H1122	–	120H1138
DSH295	Brazed	Module 24V AC [1]	120H1164	120H1124	–	120H1140
	Brazed	Module 110 – 240 V [1]	120H1166	120H1126	–	120H1142
DSH381	Brazed	Module 24V AC [1]	120H1168	120H1128	–	120H1144 [2]
	Brazed	Module 110 – 240 V [1]	120H1170	120H1130	–	120H1146 [2]
DSH485	Brazed	Module 24V AC [1]	120H1104 [2]	120H1132	–	120H1148
	Brazed	Module 110 – 240 V [1]	–	120H1134	–	120H1150

[1]) Electronic motor protection, module located in terminal box
[2]) Soon to be released
Mounting kit for DSH240-295-381-485 manifold configurations (one kit per compressor):
Ref 7777045 *for 50 Hz applications*
Ref 120Z0495 *for 60 Hz applications*

Technical data and ordering

DSH - Single scroll compressor - R410A - 50/60 Hz

Technical data

Compressor model		Nominal tons 60 Hz	Nominal cooling capacity		Power input	COP	EER	Swept volume		Displacement [1]		Oil charge		Net weight [2]	
		[TR]	[W]	[Btu/h]	[kW]	[W/W]	[Btu/h/W]	[cm³/rev]	[cu.in/rev]	[m³/h]	[cu.ft/h]	[Litres]	[oz]	[kg]	[lb]
50 Hz	DSH090	7.5	20050	68413	6.54	3.06	10.46	88.4	5.39	15.4	544	3	102	58	128
	DSH105	9	23580	80457	7.65	3.08	10.52	103.5	6.32	18	636	3.3	113	64	141
	DSH120	10	26790	91410	8.61	3.11	10.62	116.9	7.13	20.3	717	3.3	113	64	141
	DSH140	12	30370	103625	9.69	3.13	10.69	133	8.12	23.1	816	3.3	113	67	148
	DSH161	13	34890	119048	11.03	3.16	10.79	151.7	9.26	26.4	932	3.3	113	69	152
	DSH184	15	39040	133208	12.36	3.16	10.78	170.3	10.39	29.6	1045	3.6	123	71.5	158
	DSH240	20	52730	179920	17.04	3.09	10.56	227.6	13.89	39.6	1398	6.7	229	108	238
	DSH295	25	64520	220149	20.35	3.17	10.82	276.2	16.85	48.1	1699	6.7	229	111	245
	DSH381	30	81490	278052	26.21	3.11	10.61	345	21.05	60	2119	6.7	229	159	351
	DSH485	40	103500	353152	32.72	3.16	10.79	442.6	27.01	77	2719	6.7	229	175	386
60 Hz	DSH090	7.5	27470	93730	8.55	3.21	10.96	88.4	5.39	18.6	657	3	102	58	128
	DSH105	9	32280	110100	10.01	3.22	11	103.5	6.32	21.8	770	3.3	113	64	141
	DSH120	10	36630	125000	11.25	3.26	11.11	116.9	7.13	24.6	869	3.3	113	64	141
	DSH140	12	41510	141600	12.75	3.26	11.11	133	8.12	27.9	985	3.3	113	67	148
	DSH161	13	47220	161100	14.7	3.21	10.96	151.7	9.26	31.9	1127	3.3	113	69	152
	DSH184	15	53160	181400	16.36	3.25	11.09	170.3	10.39	35.8	1264	3.6	123	71.5	158
	DSH240	20	71760	244852	22.46	3.2	10.9	227.6	13.89	47.8	1688	6.7	229	108	238
	DSH295	25	87610	298934	26.96	3.25	11.09	276.2	16.85	58	2048	6.7	229	111	245
	DSH381	30	110300	376355	34.52	3.2	10.9	345	21.05	72.3	2553	6.7	229	159	351
	DSH485	40	141900	484177	43.66	3.25	11.09	442.6	27.01	92.9	3281	6.7	229	175	386

[1]) Displacement at nominal speed: 2900rpm at 50 Hz, 3500rpm at 60 Hz
[2]) Net weight with oil charge
TR: Ton of Refrigeration
COP: Coefficient Of Performance
EER: Energy Efficiency Ratio

Standard rating conditions
For 50 Hz: Evaporating temperature: 5 °C / 41 °F *Condensing temperature: 50 °C / 122 °F* *Superheat: 10 K (18 °F)* *Subcooling: 0 K (0 °F)*
For 60 Hz: Evaporating temperature: 7.2°C / 45 °F *Condensing temperature: 54.4°C / 130 °F* *Superheat: 11.1 K (20 °F)* *Subcooling: 8.3 K (15 °F)*

Subject to modification without prior notification.
Data given for motor code 4 compressor with above condition, for full data details and capacity tables refer to Coolselector®2
www.coolselector.danfoss.com

Technical data and ordering

DSH - Single scroll compressor - R410A - 50 Hz

Performance table

Type	To	-30		-20		-10		0		10		15		20		25	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
DSH090	35	5660	4.69	9666	4.60	15073	4.68	22285	4.67	31702	4.32	37363	3.93	43725	3.36	50839	2.57
	45	–	–	8535	5.86	13368	5.81	19837	5.86	28350	5.75	33500	5.56	39314	5.24	45842	4.74
	55	–	–	–	–	11477	7.35	17085	7.31	24586	7.30	29177	7.23	34398	7.07	40302	6.80
DSH105	35	6904	5.79	11575	5.51	17891	5.53	26330	5.52	37369	5.15	44013	4.73	51484	4.10	59844	3.21
	45	–	–	9986	7.02	15681	6.85	23329	6.87	33415	6.77	39523	6.57	46423	6.21	54173	5.66
	55	–	–	–	–	13212	8.62	19960	8.51	28997	8.50	34530	8.43	40820	8.26	47932	7.95
DSH120	35	8062	6.28	13295	6.19	20402	6.24	29928	6.17	42417	5.71	49942	5.26	58411	4.61	67893	3.73
	45	–	–	11723	7.78	18057	7.74	26567	7.75	37806	7.55	44621	7.29	52326	6.87	60989	6.26
	55	–	–	–	–	15519	9.63	22919	9.60	32829	9.52	38902	9.39	45814	9.14	53637	8.75
DSH140	35	9552	7.22	15309	6.85	23210	6.94	33891	7.02	47981	6.60	56502	6.05	66111	5.20	76889	3.99
	45	–	–	13527	8.78	20559	8.57	30113	8.68	42829	8.65	50574	8.42	59349	7.98	69236	7.26
	55	–	–	–	–	17681	10.81	26012	10.70	37276	10.79	44213	10.76	52130	10.59	61109	10.23
DSH161	35	10645	7.80	17464	7.75	26674	7.89	38974	7.90	55063	7.48	64746	7.00	75638	6.30	87826	5.32
	45	–	–	15354	9.73	23590	9.77	34637	9.89	49204	9.77	58028	9.52	67998	9.10	79202	8.46
	55	–	–	–	–	20201	12.17	29837	12.25	42742	12.29	50647	12.19	59643	11.98	69820	11.60
DSH184	35	12424	8.68	19896	8.75	30097	8.93	43818	8.95	61846	8.53	72722	8.08	84969	7.40	98686	6.49
	45	–	–	17510	10.85	26573	10.96	38837	11.09	55101	10.98	64983	10.74	76165	10.33	88747	9.72
	55	–	–	–	–	22726	13.63	33369	13.73	47728	13.76	56557	13.67	66623	13.45	78028	13.08
DSH240	35	16780	12.17	26933	11.94	40691	12.17	59073	12.27	83094	11.64	97535	10.87	113767	9.70	131914	8.04
	45	–	–	23718	15.05	36005	15.02	52491	15.25	74204	15.14	87343	14.77	102176	14.10	118830	13.05
	55	–	–	–	–	30845	18.84	45210	18.90	64422	19.01	76176	18.91	89537	18.59	104639	17.99
DSH295	35	20543	14.40	32995	14.28	49827	14.50	72283	14.61	101601	14.18	119219	13.62	139016	12.77	161145	11.55
	45	–	–	29069	17.87	44117	17.93	64253	18.18	90735	18.19	106748	17.97	124818	17.52	145103	16.79
	55	–	–	–	–	37809	22.37	55362	22.54	78779	22.77	93088	22.77	109346	22.62	127716	22.27
DSH381	35	25441	19.05	41177	18.60	62453	18.90	90843	19.16	127915	18.55	150195	17.67	175232	16.27	203221	14.25
	45	–	–	36483	23.05	55512	23.02	80968	23.49	114443	23.64	134685	23.34	157528	22.65	183171	21.49
	55	–	–	–	–	47895	28.44	70102	28.74	99709	29.25	117797	29.34	138346	29.18	161563	28.67
DSH485	35	32323	22.60	52665	23.38	78979	24.07	114448	24.07	162237	22.77	191738	21.45	225501	19.58	263920	17.09
	45	–	–	46624	28.51	70684	29.03	102564	29.51	145479	29.33	172078	28.81	202638	27.89	237560	26.51
	55	–	–	–	–	61128	35.41	89251	35.89	127171	36.36	150832	36.40	178176	36.20	209613	35.71

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Qo: *Cooling Capacity in [W]*
Pe: *Power input in [kW]*
Subcooling: *8.3 K*
Superheat: *11.1 K*
Voltage: *400 V /3 /50 Hz*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

DSH - Single scroll compressor - R410A - 60 Hz

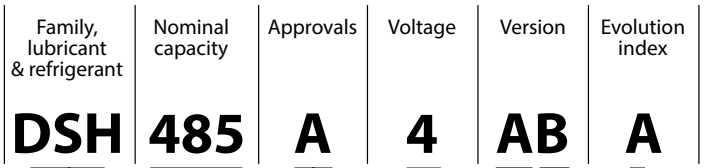
Performance table

Type	To	-30		-20		-10		0		10		15		20		25	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
DSH090	35	7355	5.59	12044	5.54	18414	5.65	26974	5.65	38229	5.27	45026	4.86	52687	4.25	61276	3.41
	45	–	–	10602	6.89	16324	6.92	24060	7.00	34319	6.90	40552	6.68	47607	6.32	55545	5.78
	55	–	–	–	–	14103	8.58	20905	8.63	30054	8.66	35668	8.58	42060	8.40	49292	8.08
DSH105	35	8621	7.03	14212	6.60	21759	6.63	31863	6.67	45122	6.29	53122	5.80	62137	5.03	72240	3.93
	45	–	–	12376	8.41	19176	8.14	28327	8.20	40429	8.16	47774	7.96	56082	7.56	65428	6.91
	55	–	–	–	–	16431	10.27	24506	10.10	35328	10.15	41956	10.11	49496	9.96	58022	9.65
DSH120	35	10077	7.52	16257	7.41	24702	7.48	36099	7.44	51136	6.98	60234	6.51	70500	5.81	82019	4.86
	45	–	–	14322	9.22	21871	9.19	32124	9.25	45768	9.09	54076	8.84	63489	8.42	74094	7.79
	55	–	–	–	–	18927	11.37	27923	11.38	40060	11.37	47522	11.27	56026	11.05	65660	10.67
DSH140	35	11841	8.61	18705	8.14	28137	8.29	40909	8.47	57792	8.12	68018	7.57	79561	6.67	92518	5.35
	45	–	–	16607	10.43	25014	10.20	36508	10.40	51861	10.46	61226	10.26	71845	9.81	83815	9.05
	55	–	–	–	–	21692	12.88	31725	12.78	45364	12.94	53777	12.94	63381	12.79	74273	12.42
DSH161	35	13416	9.23	21424	9.42	32288	9.62	46882	9.65	66080	9.32	77679	8.96	90756	8.43	105421	7.73
	45	–	–	18988	11.60	28672	11.83	41731	12.00	59040	11.92	69560	11.73	81471	11.41	94881	10.93
	55	–	–	–	–	24880	14.57	36249	14.80	51513	14.89	60878	14.83	71545	14.67	83622	14.38
DSH184	35	15104	10.13	24121	10.50	36368	10.77	52833	10.83	74503	10.56	87599	10.26	102367	9.84	118930	9.28
	45	–	–	21299	12.75	32223	13.14	46983	13.38	66565	13.36	78474	13.21	91959	12.95	107143	12.56
	55	–	–	–	–	27853	16.02	40717	16.41	58021	16.59	68647	16.56	80753	16.44	94464	16.21
DSH240	35	20540	14.43	32608	14.19	49037	14.58	71088	14.87	100021	14.31	117462	13.47	137097	12.15	159082	10.23
	45	–	–	28853	17.83	43535	17.82	63354	18.27	89573	18.41	105475	18.14	123450	17.52	143655	16.45
	55	–	–	–	–	37698	22.19	55016	22.38	78248	22.82	92476	22.91	108656	22.78	126944	22.35
DSH295	35	25444	16.99	40028	16.97	59962	17.39	86807	17.78	122124	17.64	143447	17.22	167473	16.49	194398	15.39
	45	–	–	35398	21.13	53208	21.33	77368	21.85	109441	22.18	128931	22.13	150985	21.86	175797	21.31
	55	–	–	–	–	45983	26.49	67103	26.87	95575	27.42	113055	27.61	132958	27.66	155480	27.51
DSH381	35	30518	22.58	49235	22.23	74569	22.73	108461	23.26	152851	22.98	179590	22.28	209681	21.05	243368	19.22
	45	–	–	43530	27.41	66291	27.50	96866	28.22	137197	28.74	161627	28.66	189224	28.22	220230	27.31
	55	–	–	–	–	57544	33.78	84428	34.25	120324	35.13	142258	35.47	167173	35.59	195312	35.39
DSH485	35	40492	27.82	63625	28.10	95560	28.96	138816	29.44	195912	28.56	230438	27.32	269368	25.37	313018	22.59
	45	–	–	56457	34.11	85244	34.86	124320	35.87	176204	36.18	207736	35.77	243415	34.82	283556	33.21
	55	–	–	–	–	74094	42.19	108623	43.30	154928	44.36	183284	44.57	215529	44.41	251977	43.75

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Qo: *Cooling Capacity in [W]*
Pe: *Power input in [kW]*
Subcooling: *8.3 K*
Superheat: *11.1 K*
Voltage: *460 V/3/60 Hz*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Nomenclature



Family, lubricant & refrigerant
DSH: Scroll, POE lubricant, for R410A temperature refrigeration

Nominal capacity
in thousand Btu/h at 60 Hz, R410A, ARI conditions

UL index

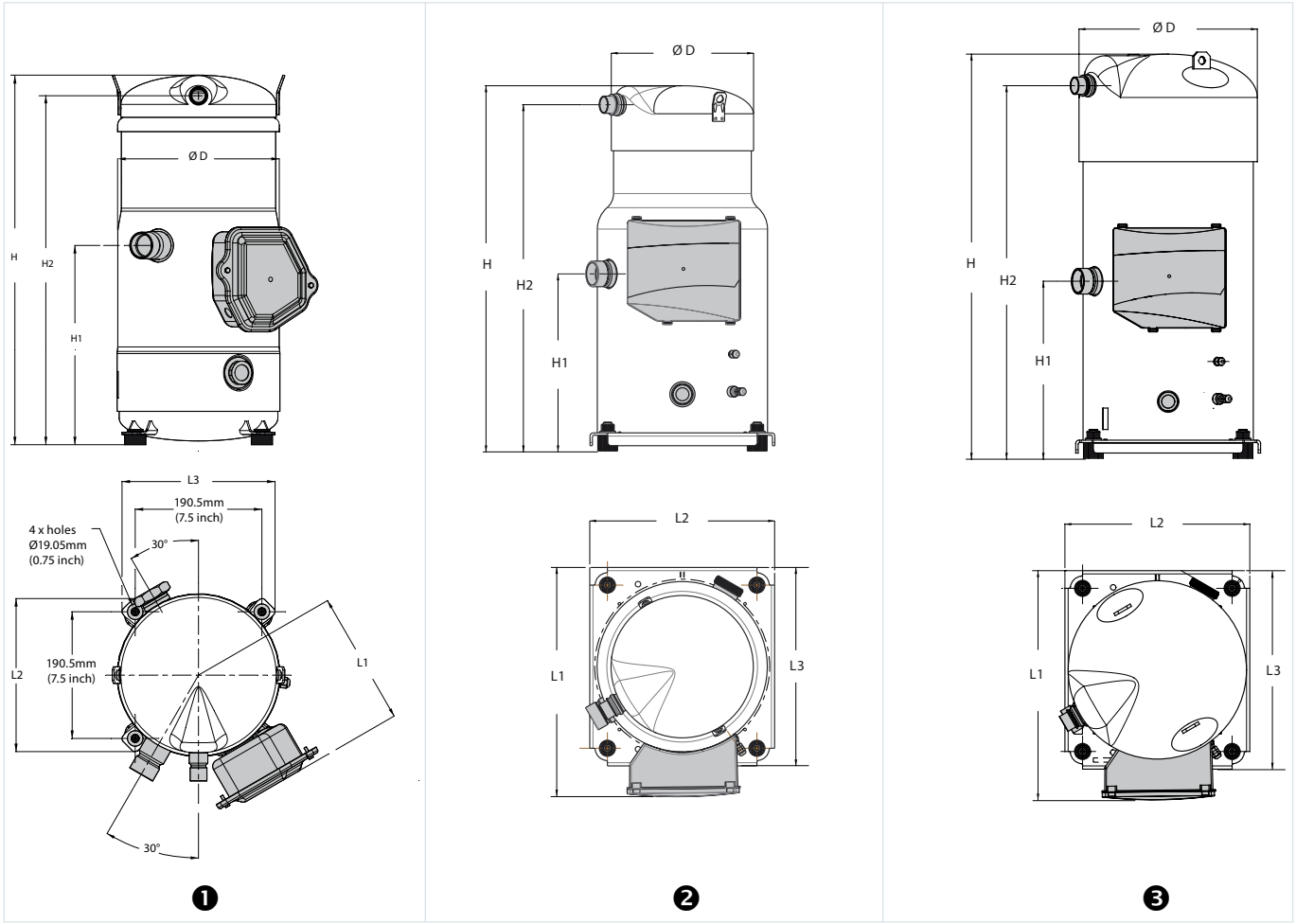
Motor voltage code
3: 200-230 V/3~/60 Hz
4: 380-415V/3~/50 Hz - 460 V/3~/60 Hz
for DSH240 and DSH381: 380-400 V/3~/50 Hz - 460 V/3~/60 Hz
7: 575V/3~/60 Hz
9: for DSH090 to DSH184: 380-400 V/3~/60 Hz
for DSH240 to DSH485: 380 V/3~/60 Hz

Evolution index
A~Z

Motor protection:
B: Electronic, 230 V

Suction and discharge connections
A: Brazed connections

Dimensions



Type	D		H		H1		H2		L1		L2		L3		Outline drawing number	
	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]		
DSH090	243	9.57	485	19.09	235	9.25	451	17.76	180	7.09	230	9.06	230	9.06	❶	8560004
DSH105-120-140-161	243	9.57	542	21.34	278	10.94	509	20.04	180 [1]) 201 [2])	7.09 [1]) 7.91 [2])	230	9.06	230	9.06		8560003 1) 8560041 [2])
DSH184	243	9.57	558	21.97	299	11.77	524	20.63	201	7.91	230	9.06	230	9.06	❷	8560023
DSH240	318	12.52	683	26.89	331	13.03	648	25.51	428	16.85	345	13.58	371	14.61		8556089
DSH295	318	12.52	683	26.89	331	13.03	648	25.51	428	16.85	345	13.58	371	14.61		
DSH381	333	13.11	755	29.72	331	13.03	697	27.44	428 [1]) 477 [2])	16.85 [1]) 18.78 [2])	345	13.58	371	14.61	❸	8556091 1) 8556059 [2])
DSH485	333	13.11	755	29.72	331	13.03	697	27.44	428 [1]) 446 [2])	16.85 [1]) 17.56 [2])	345	13.58	371	14.61		8556133 8556160 [2])

[1]) compressor motor codes 4, 7, 9
[2]) compressor motor code 3

Technical data and ordering

DSH - Tandem Scroll compressors - R410A - 50/60 Hz

Ordering

Cp1		Cp2	Tandem Model	Suction From	Washer Reference	Washer Inner Diameter		Washer In Suction Of	Kit code no.
						[mm]	[in]		
DSH090	+	DSH090	DSH180E	Left	Not needed				120Z0634
				Right					
DSH090	+	DSH105	DSH195U	Left	5312497P01	25	0.98	Cp2	120Z0694
				Right	5312497P05	26	1.02	Cp2	
DSH090	+	DSH120	DSH210U	Left	5312497P04	27	1.06	Cp2	120Z0694
				Right	5312497P04	27	1.06	Cp2	
DSH105	+	DSH105	DSH210E	Left	Not needed				120Z0634
				Right					
DSH090	+	DSH140	DSH230U	Left	5312639P05	23	0.91	Cp1	120Z0694
				Right	5312639P05	23	0.91	Cp1	
DSH120	+	DSH120	DSH240E	Left	Not needed				120Z0634
				Right					
DSH090	+	DSH161	DSH251U	Left	5312639P07	21	0.83	Cp1	120Z0694
				Right	5312639P07	21	0.83	Cp1	
DSH120	+	DSH140	DSH260U	Left	5312497P04	27	1.06	Cp1	120Z0692
				Right	5312497P04	27	1.06	Cp1	
DSH090	+	DSH184	DSH274U	Left	5312639P01	20	0.79	Cp1	120Z0693
				Right	5312639P01	20	0.79	Cp1	
DSH120	+	DSH161	DSH281U	Left	5312497P01	25	0.98	Cp1	120Z0692
				Right	5312497P01	25	0.98	Cp1	
DSH140	+	DSH140	DSH280E	Left	Not needed				120Z0634
				Right					
DSH105	+	DSH184	DSH289U	Left	5312497P03	23	0.91	Cp1	120Z0693
				Right	5312497P03	23	0.91	Cp1	
DSH140	+	DSH161	DSH301U	Left	5312497P08	27.5	1.08	Cp1	120Z0692
				Right	5312497P05	26	1.02	Cp1	
DSH120	+	DSH184	DSH304U	Left	5312497P06	24	0.94	Cp1	120Z0694
				Right	5312497P06	24	0.94	Cp1	
DSH161	+	DSH161	DSH322E	Left	Not needed				120Z0634
				Right					
DSH140	+	DSH184	DSH324U	Left	5312497P01	25	0.98	Cp1	120Z0694
				Right	5312497P01	25	0.98	Cp1	
DSH161	+	DSH184	DSH345U	Left	5312639P08	27.5	1.08	Cp1	120Z0694
				Right	5312639P08	27.5	1.08	Cp1	
DSH120	+	DSH240	DSH360X	Left	5312497P06	24	0.94	Cp1	120Z0709
				Right	5312497P01	25	0.98	Cp1	
DSH184	+	DSH184	DSH368E	Left	Not needed				120Z0634
				Right					
DSH184	+	DSH240	DSH424X	Left	5311579P10	35.5	1.4	CP2	120Z0709
				Right	5311579P10	35.5	1.4	CP2	
DSH161	+	DSH295	DSH456X	Left	5312497P01	25	0.98	Cp1	120Z0709
				Right	5312497P05	26	1.02	Cp1	
DSH184	+	DSH295	DSH479X	Left	5312497P05	26	1.02	CP1	120Z0709
				Right	5312497P05	26	1.02	CP1	
DSH240	+	DSH240	DSH482	Left	Not needed				7777041
				Right					
DSH240	+	DSH295	DSH535	Left	5311579P01	31	1.22	Cp1	7777037
				Right					
DSH184	+	DSH381	DSH565X	Left	5312497P06	24	0.94	CP1	120Z0709
				Right	5312497P06	24	0.94	CP1	
DSH295	+	DSH295	DSH590	Left	Not needed				7777041
				Right					
DSH240	+	DSH381	DSH620	Left	5311579P05	29	1.14	Cp1	7777048
				Right					
DSH295	+	DSH381	DSH675	Left	5311579P01	31	1.22	Cp1	7777037
				Right					
DSH240	+	DSH485	DSH725	Left	5311579P09	24	0.94	Cp1	120Z0569
				Right					
DSH381	+	DSH381	DSH760	Left	Not needed				7777041
				Right					

Tandem to be achieved by assembly of individual compressors
For cross platform tandem application, which tandem model name ending with X, a external non-return valve (NRV) in highly recommended to install on DSH120/161/184 discharge line.

Technical data and ordering

DSH - Tandem Scroll compressors - R410A - 50/60 Hz (cont.)

Ordering

Cp1	Cp2	Tandem Model	Suction From	Washer Reference	Washer Inner Diameter		Washer In Suction Of	Kit code no.
					[mm]	[in]		
DSH295	DSH485	DSH780	Left	5311579P07	27	1.06	Cp1	120Z0551
			Right					
DSH381	DSH485	DSH865	Left	5311579P08	30	1.18	Cp1	120Z0550
			Right					
DSH485	DSH485	DSH970	Left	Not needed				120Z0578
			Right					

Tandem to be achieved by assembly of individual compressors
For cross platform tandem application, which tandem model name ending with X, a external non-return valve (NRV) in highly recommended to install on DSH120/161/184 discharge line.

DSH - Trio Scroll compressors - R410A - 50/60 Hz

Ordering

Cp1	Cp2	Cp3	Tandem Model	Suction From	Washer Reference	Washer Inner Diameter		Washer In Suction Of	Kit Code o.
						[mm]	[in]		
DSH140	DSH140	DSH140	DSH420	Left	5312497P05	26	1.02	CP1	120Z0672
					5312497P06	24	0.94	CP3	
				Right	5312639P04	24.5	0.96	CP1	
					5312639P04	24.5	0.96	CP3	
DSH161	DSH161	DSH161	DSH483	Left	5312497P05	26	1.02	CP1	120Z0684
					5312497P01	25	0.98	CP3	
				Right	5312497P05	26	1.02	CP1	
					5312497P01	25	0.98	CP3	
DSH184	DSH184	DSH184	DSH552	Left	5312497P04	27	1.06	CP1	120Z0685
					5312497P06	24	0.94	CP3	
				Right	5312497P08	26.5	1.04	CP1	
					5312639P04	24.5	0.96	CP3	
DSH240	DSH240	DSH240	DSH720	Left	5311579P08	30	1.18	Cp3	120Z0673
				Right	5311579P03	34.5	1.36	Cp1 and Cp3	7777039
DSH295	DSH295	DSH295	DSH885	Left	5311579P08	30	1.18	Cp3	120Z0673
				Right	5311579P03	34.5	1.36	Cp1 and Cp3	7777039
DSH381	DSH381	DSH381	DSH1140	Left	5311579P01	31	1.22	Cp1	120Z0686
					5311579P05	29	1.14	Cp3	
				Right	5311579P01	31	1.22	Cp1	120Z0688
DSH381	DSH381	DSH485	DSH1245	Left	5311579P05	29	1.14	Cp1	7777063
				Right					
DSH485	DSH485	DSH381	DSH1350	Left	5311579P05	29	1.14	Cp3	7777063
				Right					
DSH485	DSH485	DSH485	DSH1455	Left	5311579P02	33	1.3	Cp2 and Cp3	7777040
				Right					

Tandem to be achieved by assembly of individual compressors
For cross platform tandem application, which tandem model name ending with X, a external non-return valve (NRV) in highly recommended to install on DSH120/161/184 discharge line.

Technical data and ordering

SH - Scroll compressors - R410A - 50 / 60 Hz

Technical data

Type		Nominal tons 60 Hz	Nominal cooling capacity		Power input	COP	E.E.R.	Swept volume	Displacement [1]	Oil charge	Net weight [2]
		[TR]	[W]	[Btu/h]	[kW]	[W]/[W]	[Btu/h]/[W]	[cm³/rev]	[m³/h]	[dm³]	[kg]
50 Hz	SH090	7.5	22300	76100	7.19	3.10	10.58	88.40	15.4	3.0	58.0
	SH105	9	26800	91500	8.47	3.17	10.82	103.50	18.0	3.3	64.0
	SH120	10	30000	102400	9.46	3.17	10.82	116.90	20.3	3.3	64.0
	SH140	12	34700	118400	10.58	3.28	11.19	133.00	23.1	3.3	67.0
	SH161	13	38800	132400	12.15	3.19	10.89	151.70	26.4	3.3	69.0
	SH184	15	44700	152600	13.73	3.25	11.09	170.30	29.6	3.6	71.5
	SH180	15	44500	151900	13.87	3.21	10.96	170.20	29.6	6.7	108.0
	SH240	20	59700	203800	18.50	3.23	11.02	227.60	39.6	6.7	108.0
	SH295 [3]	25	73200	249800	22.51	3.25	11.09	276.20	48.1	6.7	111.0
	SH380	30	90500	308900	28.18	3.21	10.96	345.00	60.0	6.7	159.0
	SH485	40	116400	397300	35.65	3.26	11.13	442.60	77.0	6.7	175.0
60 Hz	SH090	7.5	27100	92500	8.57	3.16	10.78	88.40	18.6	3.0	58.0
	SH105	9	32100	109600	9.96	3.22	10.99	103.50	21.8	3.3	64.0
	SH120	10	36800	125600	11.25	3.27	11.16	116.90	24.6	3.3	64.0
	SH140	12	42300	144400	12.77	3.31	11.30	133.00	27.9	3.3	67.0
	SH161	13	47200	161100	14.43	3.27	11.16	151.70	31.9	3.3	69.0
	SH184	15	54000	184300	16.45	3.28	11.19	170.30	35.8	3.6	71.5
	SH180	15	54300	185300	16.58	3.27	11.16	170.20	35.7	6.7	108.0
	SH240	20	72200	246400	22.10	3.27	11.16	227.60	47.8	6.7	108.0
	SH295 [3]	25	88500	302000	27.21	3.25	11.09	276.20	58.0	6.7	111.0
	SH380	30	109600	374100	33.99	3.22	10.99	345.00	72.3	6.7	159.0
	SH485	40	140600	479900	43.28	3.25	11.09	442.60	92.9	6.7	175.0

[1]) Displacement at nominal speed: 2900 rpm at 50 Hz, 3500 rpm at 60 Hz
[2]) Net weight with oil charge

TR) *Ton of Refrigeration*
EER) *Energy Efficiency Ratio*
COP) *Coefficient Of Performance*

Standard rating conditions ARI standard
Refrigerant: R410A

Evaporating temperature: 7.2 °C
Condensing temperature: 54.4 °C

Superheat: 11.1 K
Subcooling: 8.3 K

Subject to modification without prior notification
Data given for motor code 4 compressor

[3]) SH295 replaces SH300. SH300 model remains available for after-market

SH - Scroll compressors - R410A - 50 / 60 Hz

Ordering single pack

Compressor model	Connections	Mounting feet	Motor protection	Code no.			
				3	4	7	9
				200-230/3/60	460/3/60 380-400/3/50	575/3/60 500/3/50	380/3/60
SH090	Brazed	Flexible	Internal	120H0001	120H0003	120H0007	120H0009
SH105	Brazed	Flexible	Internal	120H0209	120H0211	120H0215	120H0217
SH120	Brazed	Flexible	Internal	120H0011	120H0013	120H0017	120H0019
SH140	Brazed	Flexible	Internal	120H0199	120H0201	120H0205	120H0207
SH161	Brazed	Flexible	Internal	120H0021	120H0023	120H0027	120H0029
SH184	Brazed	Flexible	Internal	120H0359	120H0361	120H0365	120H0367
SH180	Brazed	Rigid	Module 24V AC [1])	120H0265	120H0267	–	120H0271
	Brazed	Rigid	Module 110-240 V [1])	120H0273	120H0275	120H0277	120H0279
SH240	Brazed	Rigid	Module 24V AC [1])	120H0289	120H0291	–	120H0295
	Brazed	Rigid	Module 110-240 V [1])	120H0297	120H0299	120H0301	120H0303
SH295	Brazed	Rigid	Module 24V AC [1])	120H0851	120H0825	–	120H0841
	Brazed	Rigid	Module 110-240 V [1])	120H0853	120H0827	120H0835	120H0843
SH380	Brazed	Rigid	Module 24V AC [1])	120H0151	120H0253	–	120H0261
	Brazed	Rigid	Module 110-240 V [1])	120H0152	120H0255	120H0259	120H0263
SH485	Brazed	Rigid	Module 24V AC [1])	–	120H1062	–	120H1072
	Brazed	Rigid	Module 110-240 V [1])	–	120H1064	120H1098	120H1074
SH294 (Korea)	Brazed	Rigid	Module 24 V AC [1])	–	–	–	120H1101
	Brazed	Rigid	Module 115 – 230 V [1])	–	120H1086	–	120H1088

[1]) Electronic motor protection, module located in terminal box

Technical data and ordering

SH - Scroll compressors - R410A - 50 / 60 Hz

Ordering industrial pack

Compressor model	Connections	Mounting feet	Motor protection	Code no.		
				3	4	9
				200-230/3/60	400/3/50 460/3/60	380/3/60
SH090	Brazed	Flexible	Internal	120H0002	120H0004	120H0010
SH105	Brazed	Flexible	Internal	120H0210	120H0212	120H0218
SH120	Brazed	Flexible	Internal	120H0012	120H0014	120H0020
SH140	Brazed	Flexible	Internal	120H0200	120H0202	120H0208
SH161	Brazed	Flexible	Internal	120H0022	120H0024	120H0030
SH184	Brazed	Flexible	Internal	120H0360	120H0362	120H0368
SH180	Brazed	Rigid	Module 24V AC [1]	120H0266	120H0268	120H0272
	Brazed	Rigid	Module 110-240 V [1]	120H0274	120H0276	120H0280
SH240	Brazed	Rigid	Module 24V AC [1]	120H0290	120H0292	120H0296
	Brazed	Rigid	Module 110-240 V [1]	120H0298	120H0300	120H0304
SH295	Brazed	Rigid	Module 24V AC [1]	120H0852	120H0826	120H0842
	Brazed	Rigid	Module 110-240 V [1]	120H0854	120H0828	120H0844
SH380	Brazed	Rigid	Module 24V AC [1]	120H0250	120H0254	120H0262
	Brazed	Rigid	Module 110-240 V [1]	120H0252	120H0256	120H0264
SH485	Brazed	Rigid	Module 24V AC [1]	-	120H1063	120H1073
	Brazed	Rigid	Module 110-240 V [1]	-	120H1065	120H1075
SH294 (Korea)	Brazed	Rigid	Module 24 V AC [1]	–	–	120H1100
	Brazed	Rigid	Module 115 – 230 V [1]	–	120H1087	120H1089

[1]) *Electronic motor protection, module located in terminal box*

SH - Scroll compressors - R410A - 50 Hz

Performance table

Compressor model	To	-20		-15		-10		-5		0		5		10		15	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
SH090-4	35	9700	4.5	12100	4.6	15000	4.7	18200	4.8	22000	4.8	26300	4.9	31200	4.9	36800	4.9
	45	8500	5.6	10700	5.7	13200	5.7	16200	5.8	19600	5.9	23500	5.9	28000	6.0	33000	6.0
	55	–	–	–	–	11300	7.1	13900	7.1	16900	7.2	20400	7.3	24400	7.3	28900	7.4
SH105-4	35	11200	5.4	14100	5.5	17400	5.6	21400	5.7	25900	5.7	31200	5.9	37200	6.0	44000	6.1
	45	10200	6.7	12800	6.7	15900	6.8	19400	6.8	23500	6.9	28100	7.0	33400	7.2	39500	7.3
	55	–	–	–	–	13900	8.4	17000	8.4	20600	8.5	24600	8.5	29200	8.6	34500	8.8
SH120-4	35	13100	5.9	16300	6.0	20100	6.1	24500	6.2	29500	6.3	35300	6.4	41900	6.5	49400	6.5
	45	11400	7.4	14300	7.4	17800	7.5	21800	7.6	26300	7.7	31600	7.8	37600	7.9	44400	7.9
	55	–	–	–	–	15200	9.3	18700	9.4	22800	9.5	27400	9.6	32700	9.6	38800	9.7
SH140-4	35	15700	6.8	19300	6.9	23500	7.0	28400	7.0	34000	7.1	40400	7.2	47700	7.2	56000	7.2
	45	13700	8.3	17000	8.4	20900	8.5	25400	8.6	30500	8.6	36400	8.7	43200	8.8	50800	8.8
	55	–	–	–	–	18000	10.5	22000	10.5	26500	10.6	31800	10.7	37900	10.7	44800	10.8
SH161-4	35	17300	7.8	21500	7.9	26300	7.9	31900	8.0	38300	8.0	45700	8.1	54100	8.2	63600	8.4
	45	15100	9.8	18900	9.8	23300	9.8	28400	9.8	34300	9.9	41000	9.9	48700	10.0	57400	10.1
	55	–	–	–	–	19900	12.4	24300	12.3	29500	12.3	35500	12.3	42400	12.3	50200	12.3
SH180-4	35	19200	9.1	24000	9.1	29600	9.1	36000	9.2	43500	9.2	52100	9.2	61800	9.3	72700	9.4
	45	16600	11.3	21000	11.3	26200	11.3	32100	11.3	39000	11.3	46800	11.3	55700	11.3	65800	11.4
	55	–	–	–	–	22300	14.1	27600	14.1	33700	14.1	40700	14.1	48700	14.0	57800	14.0
SH184-4	35	20200	8.7	24900	8.8	30300	9.0	36700	9.2	44000	9.4	52400	9.5	61900	9.7	72700	9.8
	45	17800	10.6	22100	10.8	27100	10.9	32800	11.1	39400	11.2	47000	11.4	55700	11.6	65500	11.8
	55	–	–	–	–	23400	13.4	28400	13.5	34300	13.6	41000	13.8	48700	14.0	57500	14.2
SH240-4	35	26700	12.0	33200	12.0	40700	12.1	49200	12.1	59000	12.2	70200	12.3	82800	12.4	97100	12.6
	45	23300	14.8	29300	14.9	36100	15.0	43900	15.0	52800	15.1	63000	15.1	74500	15.2	87400	15.3
	55	–	–	–	–	30900	18.6	37800	18.6	45800	18.7	54800	18.7	65100	18.8	76800	18.8
SH295-4	35	32700	14.5	40600	14.6	49800	14.7	60300	14.8	72400	14.9	86100	15.1	101700	15.5	119200	15.9
	45	28700	17.9	35800	18.1	44100	18.2	53600	18.3	64600	18.3	77100	18.5	91200	18.7	107200	18.9
	55	–	–	–	–	37800	22.4	46200	22.6	56000	22.7	67100	22.7	79900	22.9	94300	23.0
SH380-4	35	40400	18.4	50000	18.6	61100	18.7	74000	18.8	88900	19.0	105900	19.2	125300	19.6	147200	20.2
	45	35500	22.3	44200	22.7	54300	22.9	66000	23.0	79600	23.1	95100	23.3	112900	23.5	133000	23.8
	55	–	–	–	–	46600	28.0	57000	28.2	69000	28.3	82900	28.5	98900	28.6	117100	28.8
SH485-4	35	52600	23.0	64800	23.5	78900	23.8	95400	24.1	114400	24.1	136200	23.9	161100	23.4	189400	22.6
	45	46700	28.0	57700	28.4	70600	28.8	85400	29.2	102500	29.4	122200	29.5	144700	29.4	170300	29.0
	55	–	–	–	–	61200	35.0	74300	35.4	89400	35.8	106900	36.0	126900	36.1	149800	36.0

To: *Evaporating temperature in [°C]*
Subcooling: *8.3 K*

Tc: *Condensing temperature in [°C]*
Superheat: *11.1 K*

Pe: *Power input in [kW]*
Voltage: *400 V / 3 / 50 Hz*

Qo: *Cooling capacity in [W]*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

SH - Scroll compressors - R410A - 60 Hz

Performance table

Compressor model	To	-20		-15		-10		-5		0		5		10		15	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
SH090	35	11500	5.53	14400	5.56	17800	5.61	21800	5.66	26400	5.72	31600	5.79	37600	5.87	44400	5.96
	45	10000	6.84	12700	6.87	15800	6.90	19500	6.94	23600	6.98	28500	7.04	33900	7.11	40200	7.20
	55	–	–	–	–	13500	8.58	16800	8.60	20500	8.62	24800	8.66	29700	8.71	35300	8.77
SH105	35	14200	6.51	17500	6.59	21400	6.68	25900	6.78	31000	6.88	37000	6.96	43700	7.03	51300	7.06
	45	12500	7.91	15600	7.94	19200	8.01	23300	8.10	28000	8.21	33500	8.33	39700	8.44	46800	8.55
	55	–	–	–	–	16600	9.76	20300	9.81	24500	9.90	29400	10.01	35100	10.15	41500	10.29
SH120	35	16000	7.15	19900	7.26	24500	7.38	29800	7.51	35800	7.67	42800	7.85	50700	8.06	59700	8.31
	45	14000	8.80	17600	8.88	21800	8.98	26600	9.08	32200	9.21	38500	9.36	45700	9.55	53900	9.77
	55	–	–	–	–	18700	11.08	23000	11.14	28000	11.22	33700	11.32	40100	11.46	47500	11.63
SH140	35	19100	8.18	23400	8.31	28500	8.44	34400	8.59	41200	8.73	49000	8.88	57900	9.02	67900	9.16
	45	16900	9.97	20900	10.07	25500	10.19	30900	10.32	37100	10.47	44300	10.63	52400	10.80	61700	10.96
	55	–	–	–	–	22100	12.47	26900	12.57	32400	12.70	38800	12.85	46100	13.01	54500	13.18
SH161	35	21400	9.22	26300	9.34	32100	9.47	38700	9.60	46400	9.75	55200	9.91	65200	10.09	76600	10.28
	45	18700	11.37	23300	11.47	28500	11.56	34600	11.67	41600	11.79	49600	11.92	58800	12.07	69200	12.24
	55	–	–	–	–	24500	14.34	29900	14.40	36100	14.48	43200	14.56	51500	14.67	60800	14.79
SH180	35	23400	10.85	29300	10.89	36100	10.93	44000	10.96	53200	11.00	63600	11.03	75500	11.07	88900	11.11
	45	20300	13.46	25700	13.48	31900	13.51	39200	13.54	47600	13.56	57200	13.59	68100	13.62	80400	13.65
	55	–	–	–	–	27200	16.86	33600	16.84	41100	16.82	49600	16.81	59400	16.79	70600	16.78
SH184	35	24500	10.44	30100	10.66	36600	10.89	44100	11.11	52700	11.32	62600	11.51	73800	11.66	86500	11.76
	45	21600	12.68	26700	12.87	32700	13.08	39500	13.31	47500	13.55	56500	13.77	66800	13.98	78500	14.16
	55	–	–	–	–	28300	15.90	34400	16.09	41500	16.31	49600	16.53	58900	16.76	69500	16.98
SH240	35	32800	14.32	40400	14.41	49200	14.48	59400	14.56	71200	14.69	84600	14.89	100000	15.20	117300	15.65
	45	28800	17.53	35700	17.71	43800	17.83	53000	17.92	63700	18.01	75900	18.14	89900	18.33	105800	18.62
	55	–	–	–	–	37800	21.90	46000	22.07	55400	22.20	66300	22.32	78700	22.46	93000	22.66
SH294 (Korea) / SH295	35	40300	17.44	49600	17.66	60300	17.86	72800	18.07	87200	18.37	103700	18.79	122400	19.39	143600	20.23
	45	35500	21.18	43900	21.55	53700	21.82	65000	22.04	78000	22.26	93000	22.54	110100	22.93	129400	23.48
	55	–	–	–	–	46400	26.60	56400	26.92	68000	27.18	81300	27.42	96500	27.69	113800	28.06
SH380	35	48700	22.23	60200	22.44	73600	22.71	89200	23.02	107100	23.37	127600	23.77	151000	24.19	177500	24.65
	45	42800	27.08	53300	27.23	65400	27.44	79600	27.69	96000	28.00	114800	28.35	136300	28.73	160800	29.15
	55	–	–	–	–	56400	33.48	68900	33.68	83500	33.94	100400	34.24	119900	34.58	142100	34.97
SH485	35	63100	28.00	77700	28.38	94700	28.81	114500	29.22	137400	29.50	163800	29.56	193900	29.33	228200	28.71
	45	55800	34.23	69100	34.42	84500	34.79	102400	35.24	123100	35.69	147100	36.05	174500	36.23	205800	36.14
	55	–	–	–	–	73300	42.35	89200	42.68	107600	43.12	129000	43.58	153500	43.99	181700	44.24

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Pe: *Power input in [kW]*
Qo: *Cooling capacity in [W]*
Subcooling: *8.3 K*
Superheat: *11.1 K*
Voltage: *400 V / 3 / 60 Hz*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Nomenclature and Dimensions

Family, lubricant & refrigerant	Normal capacity	Approvals	Voltage	Version	Evolution index
SH	**485**	**A**	**4**	**AB**	**A**

Family, refrigerant & lubrificant:
SH: scroll, POE lubrificant for R410A

Nominal capacity:
in thousand [Btu/h] at 60 Hz, R410A, ARI condition

UL index

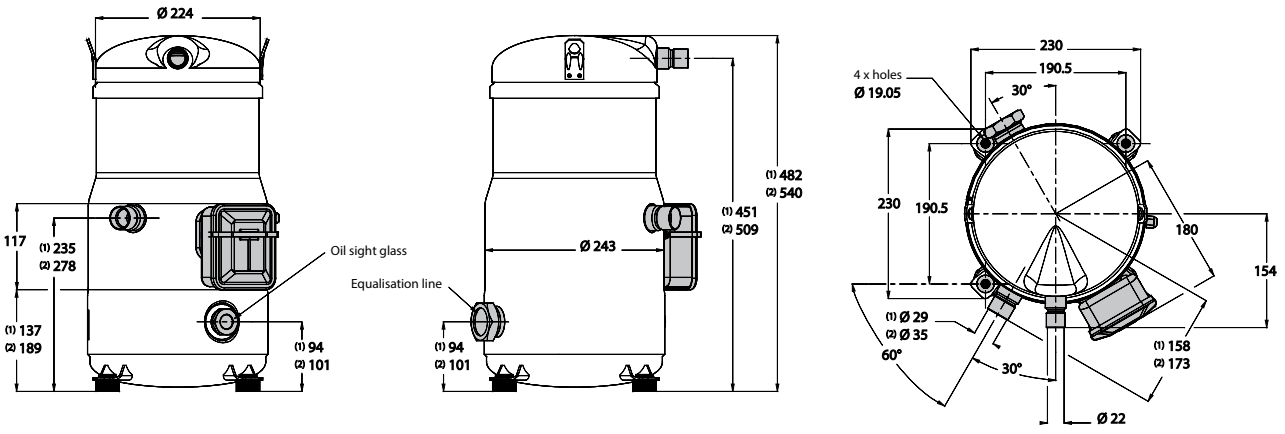
Motor voltage code:
3:200-230 V/3~/60 Hz
4: 380-400 V/3~/50 Hz - 460 V/3~/60 Hz
for SH295 & SH485: 380-415V/3~/50 Hz - 460 V/3~/60 Hz
6: 230 V/3~/50 Hz
7: 500 V/3~/50 Hz - 575V/3~/60 Hz
9: 380 V/3~/60 Hz

Evolution index:
A~Z

Motor protection:
L: Internal overload protector
A: Electronic, 24V AC
B: Electronic, 110-240 V
C: Customized electrical box

Suction and discharge connections:
A: Brazed connections

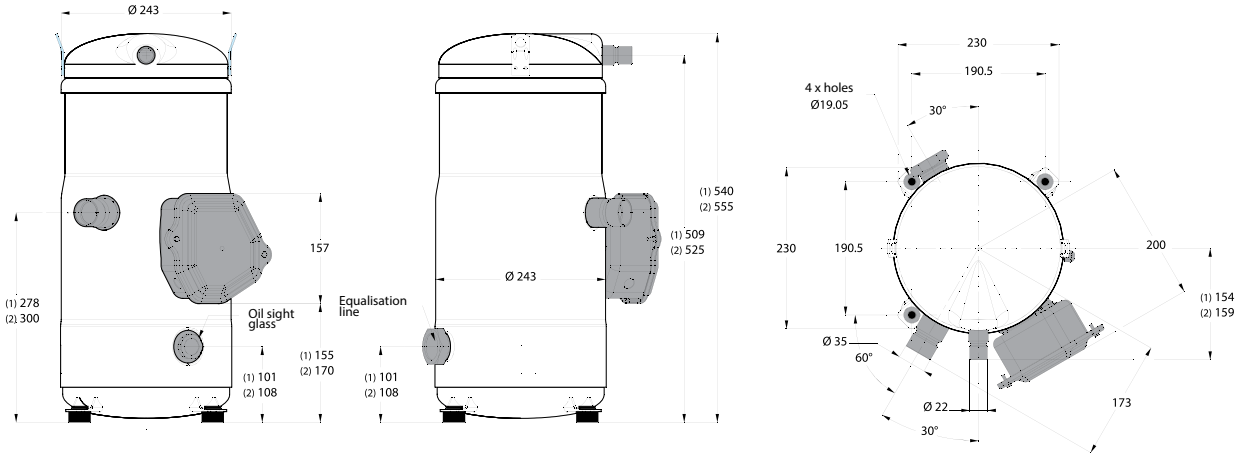
SH090 / 105 / 120 / 140 [3]) / 161 [3])



[1]) *SH090*
[2]) *SH105 / 120 / 140 / 161*
[3]) *except code 3*

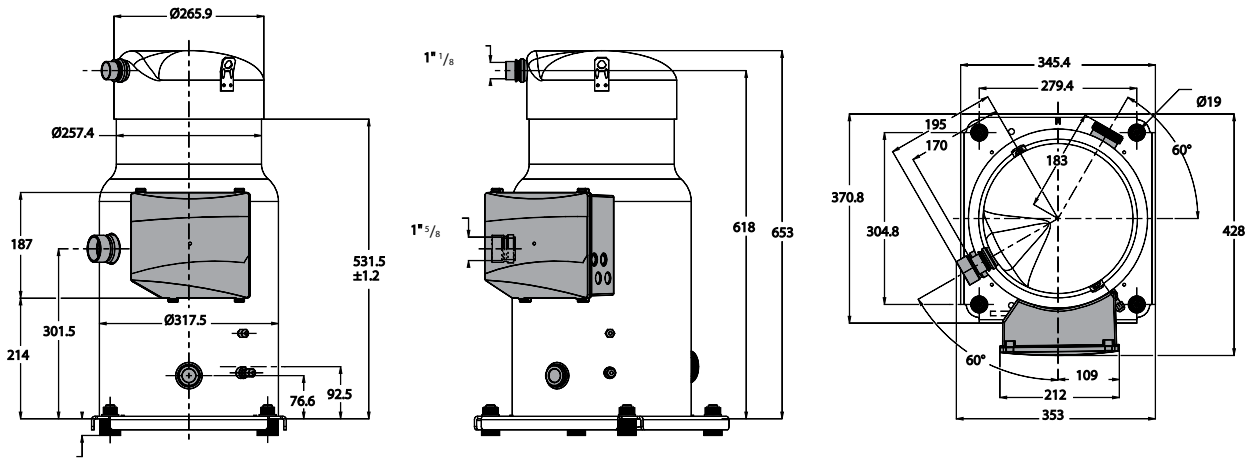
Dimensions

SH 140 / 161 code 3 and SH184

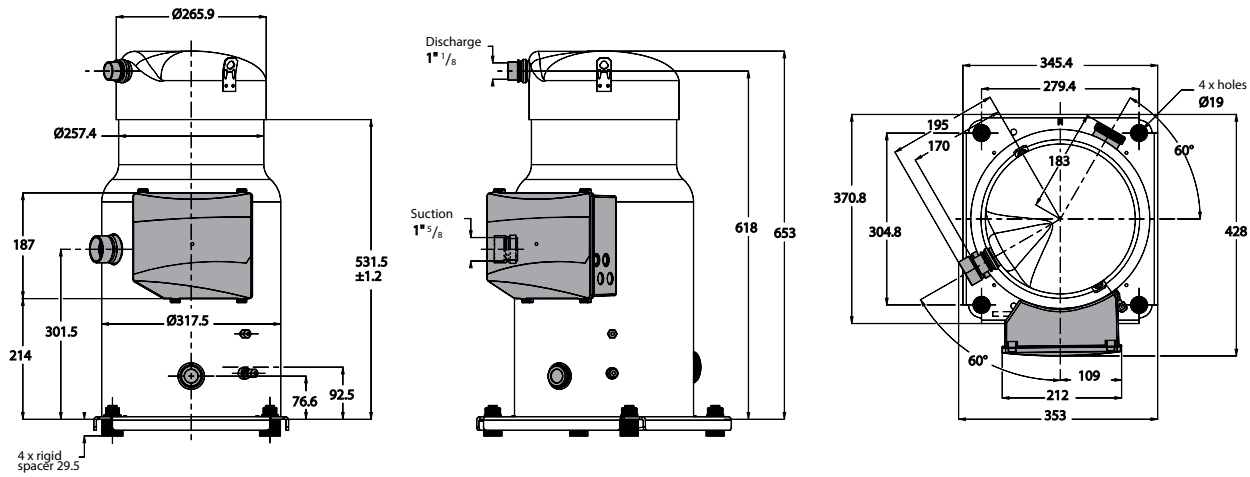


[1]) SH140 / 161 code 3
[2]) SH184

SH380-485 (except code 3)



SH180-240-294 (Korea) / SH180-240-295



Technical data

Tandem models

Ordering

CP1		CP2		Tandem model	Suction from	Washer reference	Washer Ø [mm]	Washer in suction of	Kit code no.
SH090	+	SH090	=	SH182	Left	Not needed			7777044
					Right				
SH090	+	SH105	=	SH195	Left	5312497P03	23	CP2	7777043
					Right	5312497P03	23	CP2	
SH090	+	SH120	=	SH210	Left	5312497P01	25	CP2	7777043
					Right	5312497P02	24	CP1	
SH105	+	SH105	=	SH212	Left	Not needed			7777044
					Right				
SH090	+	SH140	=	SH230	Left	Not needed			7777043
					Right				
SH120	+	SH120	=	SH242	Left	Not needed			7777044
					Right				
SH120	+	SH140	=	SH260	Left	Not needed			7777042
					Right	5312497P01	25	CP1	
SH120	+	SH161	=	SH281	Left	5312497P01	25	CP1	7777042
					Right	5312497P03	23	CP1	
SH140	+	SH140	=	SH282	Left	Not needed			7777044
					Right				
SH140	+	SH161	=	SH301	Left	5312497P05	26	CP1	7777042
					Right				
SH120	+	SH184	=	SH304	Left	5312497P03	23	CP1	7777052
					Right				
SH161	+	SH161	=	SH322	Left	Not needed			7777044
					Right				
SH140	+	SH184	=	SH324	Left	5312479P06	35	CP1	7777052
					Right				
SH161	+	SH184	=	SH345	Left	5312479P05	26	CP1	7777052
					Right				
SH180	+	SH180	=	SH360	Left	Not needed			7777041
					Right				
SH184	+	SH184	=	SH368	Left	Not needed			7777054
					Right				
SH180	+	SH240	=	SH420	Left	5311579P01	31	CP1	7777037
					Right	5311579P01	31	CP1	
SH180	+	SH295	=	SH475	Left	5311579P04	26	CP1	7777038
					Right	5311579P04	26	CP1	
SH240	+	SH240	=	SH482	Left	Not needed			7777041
					Right				
SH240	+	SH294 (Korea)	=	SH535	Left	5311579P01	31	CP1	7777037
					Right	5311579P01	31	CP1	
SH240	+	SH295	=	SH535	Left	5311579P01	31	CP1	7777037
					Right	5311579P01	31	CP1	
SH180	+	SH380	=	SH560	Left	5311579P04	26	CP1	7777038
					Right	5311579P04	26	CP1	
SH294 (Korea)	+	SH294 (Korea)	=	SH590	Left	Not needed			7777041
					Right				
SH295	+	SH295	=	SH590	Left	Not needed			7777041
					Right				
SH240	+	SH380	=	SH620	Left	5311579P05	29	CP1	7777048
					Right	5311579P05	29	CP1	
SH295	+	SH380	=	SH675	Left	5311579P01	31	CP1	7777037
					Right	5311579P01	31	CP1	
SH240	+	SH485	=	SH725	Left	5311579P09	24	CP1	120Z0569
					Right				
SH380	+	SH380	=	SH760	Left	Not needed			7777041
					Right				
SH295	+	SH485	=	SH780	Left	5311579P07	27	CP1	120Z0551
					Right				
SH380	+	SH485	=	SH865	Left	5311579P08	30	CP1	120Z0550
					Right				
SH485	+	SH485	=	SH970	Left	Not needed			120Z0578
					Right				

Technical data

Trio models

Ordering

CP1		CP2		CP3		Trio model	Suction from	Washer reference	Washer Ø [mm]	Washer in suction of	Kit code no.
SH180	+	SH180	+	SH180	=	SH550	Left	5311579P02	33	CP3	7777040
							Right	5311579P03	34.5	CP1 and CP3	7777039
SH184	+	SH184	+	SH184	=	SH552	Right	5312497P05	33	CP1 and CP3	120Z0640
SH294 (Korea)	+	SH294	+	SH294	=	SH885	Left	5311579P02	33	CP3	7777040
							Right	5311579P03	34.5	CP1 and CP3	7777039
SH240	+	SH240	+	SH240	=	SH720	Left	5311579P08	33	CP3	120Z0673
							Right	5311579P03	34.5	CP1 and CP3	7777039
SH295	+	SH295	+	SH295	=	SH885	Left	5311579P08	33	CP3	120Z0673
							Right	5311579P03		CP1 and CP3	7777039
SH380	+	SH380	+	SH380	=	SH1140	Left	5311579P01/ 5311579P05	29/31	CP1 and CP3	120Z0686
							Right		Not needed		7777049
SH485	+	SH485	+	SH485	=	SH1455	Left	5311579P02	33	CP2 and CP3	7777040
							Right				

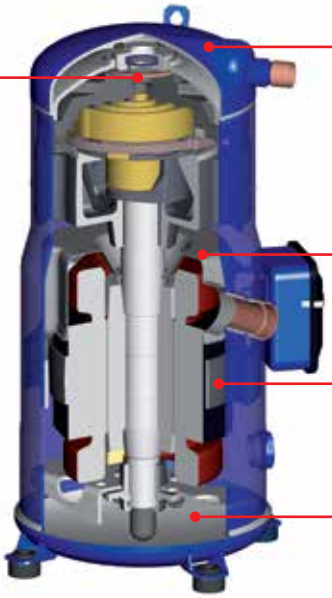
SM / SY / SZ, S-Series, Scroll compressors

By combining an in-depth understanding of customer needs with continuous investment in product technology Danfoss is able to offer you the SM/SY/SZ series, which comprise a 7-30TR industry-leading range of scroll compressors optimized for rooftop and chiller applications.

Available in a large variety of single and manifold models for R407C, R134a and R22. Well established technology with proven track records.



Features
SM / SY / SZ



Facts

S-Series compressor design
- Environmentally-friendly lead-free bearings
- Prepared for manifolding with oil sight glass and oil equalizer
- Easy maintenance with oil drain tube

Technical data and ordering

SM / SY / SZ - Scroll compressors - R22 / R407C - 50 Hz

Technical data

Compressor model		Nominal Cap. 60 Hz	Nominal cooling capacity		Power input	COP	E.E.R.	Swept volume	Displacement [1]	Oil charge	Net weight [2]
		[TR]	[W]	[Btu/h]	[kW]	[W]/[W]	[Btu/h]/[W]	[cm³/rev]	[m³/h]	[dm³]	[kg]
R22 SINGLE	SM084	7	20 400	69 600	6.12	3.33	11.4	114.5	19.9	3.25	64
	SM090	7.5	21 800	74 400	6.54	3.33	11.4	120.5	21	3.25	65
	SM100	8	23 100	78 800	6.96	3.33	11.4	127.2	22.1	3.25	65
	SM110	9	25 900	88 400	7.82	3.32	11.3	144.2	25.1	3.25	73
	SM112	9.5	27 600	94 200	7.92	3.49	11.9	151.5	26.4	3.3	64
	SM120	10	30 100	102 700	8.96	3.36	11.5	166.6	29	3.25	73
	SM124	10	31 200	106 500	8.75	3.56	12.2	169.5	29.5	3.3	64
	SM147	12	36 000	122 900	10.08	3.57	12.2	193.5	33.7	3.3	67
	SM148	12	36 100	123 200	10.8	3.34	11.4	199	34.6	3.6	88
	SM161	13	39 000	133 100	11.59	3.37	11.5	216.6	37.7	3.6	88
	SM175	14	42 000	143 300	12.47	3.37	11.5	233	40.5	6.2	100
	SM/SY185	15	45 500	155 300	13.62	3.34	11.4	249.9	43.5	6.2	100
	SY240	20	61 200	208 900	18.2	3.36	11.5	347.8	60.5	8	150
	SY300	25	78 200	266 900	22.83	3.43	11.7	437.5	76.1	8	157
	SY380	30	94 500	322 500	27.33	3.46	11.8	531.2	92.4	8.4	158
R407C SINGLE	SZ084	7	19 300	65 900	6.13	3.15	10.8	114.5	19.9	3.25	64
	SZ090	7.5	20 400	69 600	6.45	3.16	10.8	120.5	21	3.25	65
	SZ100	8	21 600	73 700	6.84	3.15	10.8	127.2	22.1	3.25	65
	SZ110	9	24 600	84 000	7.76	3.17	10.8	144.2	25.1	3.25	73
	SZ120	10	28 600	97 600	8.99	3.17	10.8	166.6	29	3.25	73
	SZ147	12	34 900	119 079	9.92	3.52	12	193.5	33.7	3.3	67
	SZ148	12	35 100	119 800	10.99	3.19	10.9	199	34.6	3.6	88
	SZ161	13	38 000	129 700	11.84	3.21	11	216.6	37.7	3.6	88
	SZ175	14	40 100	136 900	12.67	3.17	10.8	233	40.5	6.2	100
	SZ185	15	43 100	147 100	13.62	3.16	10.8	249.9	43.5	6.2	100
	SY240	20	59 100	201 700	18.55	3.19	10.9	347.8	60.5	8	150
	SY300	25	72 700	248 100	22.73	3.2	10.9	437.5	76.1	8	157
	SY380	30	89 600	305 800	27.59	3.25	11.1	531.2	92.4	8.4	158

TR: *Ton of Refrigeration*
COP: *Coefficient Of Performance*
EER: *Energy Efficiency Ratio*
[1]) Displacement at nominal speed: 2900 rpm at 50 Hz, 3500 rpm at 60 Hz
[2]) Net weight with oil charge
Data given for code 4 compressor, for full data details and capacity tables refer to Online Datasheet Generator: www.danfoss.com/ODSG

Rating conditions

	SM/SY compressors	SZ compressors
Refrigerant	R22	R407C
Frequency	50 Hz	50 Hz
Standard rating conditions	ARI standard conditions	–
Evaporating temperature	7.2 °C	7.2 °C (dew point)
Condensing temperature	54.4 °C	54.4 °C (dew point)
Sub-cooling	8.3 K	8.3 K
Superheat	11.1 K	11.1 K

Subject to modification without prior notification
For full data details and capacity tables refer to Online Datasheet Generator : www.danfoss.com/odsg

Technical data and ordering

SM / SY / SZ - Scroll compressors - R22 / R407C - 60 Hz

Technical data

	Compressor model	Nominal Cap. 60 Hz	Nominal cooling capacity		Power input	COP	E.E.R.	Swept volume	Displacement [1]	Oil charge	Net weight [2]
		[TR]	[W]	[Btu/h]	[kW]	[W]/[W]	[Btu/h]/[W]	[cm³/rev]	[m³/h]	[dm³]	[kg]
R22 SINGLE	SM084	7	24 600	84 000	7.4	3.34	11.4	114.5	24.1	3.25	64
	SM090	7.5	26 400	90 100	7.8	3.37	11.5	120.5	25.3	3.25	65
	SM100	8	27 500	93 900	8.1	3.38	11.5	127.2	26.7	3.25	65
	SM110	9	31 600	107 800	9.3	3.38	11.5	144.2	30.3	3.25	73
	SM112	9.5	34 000	116 000	9.6	3.53	12.1	151.5	31.8	3.3	64
	SM120	10	36 700	125 300	10.8	3.4	11.6	166.6	35	3.25	73
	SM124	10.5	37 700	128 700	10.6	3.56	12.2	169.5	35.6	3.3	64
	SM147	12	43 600	148 800	12.2	3.58	12.2	193.5	40.6	3.3	67
	SM148	12	43 800	149 500	13	3.37	11.5	199	41.8	3.6	88
	SM161	13	47 600	162 500	14.1	3.39	11.6	216.6	45.5	3.6	88
	SM175	14	51 100	174 400	15.3	3.34	11.4	233	48.9	6.2	100
	SM/SY185	15	55 300	188 700	16.3	3.39	11.6	249.9	52.5	6.2	100
	SY240	20	74 100	252 900	22.1	3.35	11.4	347.8	73	8	150
	SY300	25	94 500	322 500	27.5	3.43	11.7	437.5	91.9	8	157
	SY380	30	115 300	393 500	33.4	3.46	11.8	531.2	111.6	8.4	158
R407C SINGLE	SZ084	7	22 500	76 800	7.1	3.19	10.9	114.5	24.1	3.25	64
	SZ090	7.5	24 400	83 300	7.6	3.2	10.9	120.5	25.3	3.25	65
	SZ100	8	26 500	90 400	8.2	3.24	11.1	127.2	26.7	3.25	65
	SZ110	9	30 100	102 700	9.3	3.24	11.1	144.2	30.3	3.25	73
	SZ120	10	34 800	118 800	10.7	3.24	11.1	166.6	35	3.25	73
	SZ147	12	42 300	144 328	12.03	3.52	12	193.5	40.6	3.3	67
	SZ148	12	42 600	145 400	13.3	3.19	10.9	199	41.8	3.6	88
	SZ161	13	46 000	157 000	14.3	3.21	11	216.6	45.5	3.6	88
	SZ175	14	48 700	166 200	15.3	3.19	10.9	233	48.9	6.2	100
	SZ185	15	51 800	176 800	16.4	3.15	10.8	249.9	52.5	6.2	100
	SY240	20	71 100	242 700	22.7	3.14	10.7	347.8	73	8	150
	SY300	25	87 900	300 000	27.5	3.2	10.9	437.5	91.9	8	157
	SY380	30	107 300	366 200	33.5	3.2	10.9	531.2	111.6	8.4	158

TR: *Ton of Refrigeration*
COP: *Coefficient Of Performance*
EER: *Energy Efficiency Ratio*
[1]) Displacement at nominal speed: 2900 rpm at 50 Hz, 3500 rpm at 60 Hz
[2]) Net weight with oil charge
Data given for code 4 compressor, for full data details and capacity tables refer to Online Datasheet Generator: www.danfoss.com/ODSG

Rating conditions

	SM/SY compressors	SZ compressors
Refrigerant	R22	R407C
Frequency	60 Hz	60 Hz
Standard rating conditions	ARI standard conditions	–
Evaporating temperature	7.2 °C	7.2 °C (dew point)
Condensing temperature	54.4 °C	54.4 °C (dew point)
Sub-cooling	8.3 K	8.3 K
Superheat	11.1 K	11.1 K

Subject to modification without prior notification
For full data details and capacity tables refer to Online Datasheet Generator : www.danfoss.com/odsg

Technical data and ordering

SM112-124-147 - Scroll compressors - R22

Ordering single pack

Compressor model	Connections	Motor protection	Code no.				
			3	4	6	7	9
			200 – 230 / 3 / 60	460 / 3 / 60 380 – 400 / 3 / 50	230 / 3 / 50	575 / 3 / 60 500 / 3 / 50	380 / 3 / 60
SM112	Brazed	Internal	–	120H0611	–	–	120H0613
SM124	Brazed	Internal	120H0183	120H0185	–	–	120H0187
SM147	Brazed	Internal	120H0189	120H0191	–	–	120H0197
SZ147	Brazed	Internal	–	120H1096	–	–	–

SM112-124-147 - Scroll compressors - R22

Ordering industrial pack

Compressor model	Connections	Motor protection	Code no.				
			3	4	6	7	9
			200 – 230 / 3 / 60	460 / 3 / 60 380 – 400 / 3 / 50	230 / 3 / 50	575 / 3 / 60 500 / 3 / 50	380 / 3 / 60
SM112	Brazed	Internal	120H0610	120H0612	–	–	120H0614
SM124	Brazed	Internal	120H0184	120H0186	–	–	120H0188
SM147	Brazed	Internal	120H0190	120H0311	–	–	120H0198
SZ147	Brazed	Internal	–	120H1097	–	–	–

SM / SY - Scroll compressors - R22

Ordering single pack

Compressor model	Connections	Motor protection	Code no.		
			3	4	9
			200-230 V/3/60 Hz	460 V/3/60 Hz 380-400 V/3/50 Hz	380 V/3/60 Hz
SM084	Brazed	Internal	–	SM084-4VI	–
SM090	Brazed	Internal	SM090-3VI	SM090-4VI	–
SM100	Brazed	Internal	SM100-3VI	SM100-4VI	SM100-9VI
SM110	Brazed	Internal	SM110-3VI	SM110-4VI	SM110-9VI
SM112	Brazed	Internal	–	120H0611	–
SM120	Brazed	Internal	SM120-3VI	SM120-4VI	SM120-9VI
SM124	Brazed	Internal	120H0183	120H0185	120H0187
SM147	Brazed	Internal	120H0189	120H0191	120H0197
SM148	Brazed	Internal	SM148-3VAI	SM148-4VAI	SM148-9VAI
SM161	Brazed	Internal	SM161-3VAI	SM161-4VAI	SM161-9VAI
SM175	Brazed	Thermostat	SM175-3CAI	SM175-4CAI	–
	Rotolock	Thermostat	–	SM175-4RI	–
SM185	Brazed	Thermostat	SM185-3CAI	SM185-4CAI	SM185-9CAI
	Brazed	Module 24V AC	–	SM185-4PCI	–
	Brazed	Module 110-240 V AC	–	–	–
	Rotolock	Thermostat	SM185-3RI	SM185-4RI	SM185-9RI
	Rotolock	Module 110-240 V AC	–	SM185-4YCI	SM185-9YCI
SY185	Brazed	Thermostat	–	SY185-4CAI	–
	Rotolock	Thermostat	–	SY185-4RI	–
SY240	Brazed	Module 24V AC	–	SY240A4CAI	–
	Brazed	Module 110-240 V AC	SY240A3CBI	SY240A4CBI	SY240A9CBI
	Rotolock	Module 24V AC	–	SY240A4PAI	–
	Rotolock	Module 110-240 V AC	–	SY240A4PBI	–
SY300	Brazed	Module 24V AC	–	SY300A4CAI	–
	Brazed	Module 110-240 V AC	SY300A3CBI	SY300A4CBI	SY300A9CBI
	Rotolock	Module 24V AC	–	SY300A4PAI	–
	Rotolock	Module 110-240 V AC	–	SY300A4PBI	–
SY380	Brazed	Module 24V AC	–	SY380A4CAI	–
	Brazed	Module 110-240 V AC	–	SY380A4CBI	120H1115

SM / SY compressors in industrial pack: use numbers from above table and replace the last digit by "M". Example: SY240A3CAM, except for voltage codes 6 and 7 available in single pack only

Technical data and ordering

SM / SY - Scroll compressors - R22

Ordering Industrial pack

Compressor model	Connections	Motor protection	Code no.		
			3	4	9
			200-230 V/3/60 Hz	460 V/3/60 Hz 380-400 V/3/50 Hz	380 V/3/60 Hz
SM084	Brazed	Internal	–	SM084-4VM	–
SM090	Brazed	Internal	SM090-3VM	SM090-4VM	SM090-9VM
SM100	Brazed	Internal	SM100-3VM	SM100-4VM	SM100-9VM
SM110	Brazed	Internal	SM110-3VM	SM110-4VM	SM110-9VM
SM112	Brazed	Internal	120H0610	120H0612	120H0614
SM120	Brazed	Internal	SM120-3VM	SM120-4VM	SM120-9VM
SM124	Brazed	Internal	120H0184	120H0186	120H0188
SM147	Brazed	Internal	120H0190	120H0311	120H0198
	Brazed *)	Internal	–	120H1179	–
SM148	Brazed	Internal	SM148-3VAM	SM148-4VAM	SM148-9VAM
SM161	Brazed	Internal	SM161-3VAM	SM161-4VAM	SM161-9VAM
SM175	Brazed	Thermostat	–	–	–
	Rotolock	Thermostat	–	SM175-4RM	–
SM185	Brazed	Thermostat	SM185-3CAM	SM185-4CAM	SM185-9CAM
	Brazed	Module 24V AC	–	SM185-4PCM	–
	Brazed	Module 110-240 V AC	–	SM185-4XCM	–
	Rotolock	Thermostat	SM185-3RM	SM185-4RM	SM185-9RM
	Rotolock	Module 110-240 V AC	–	SM185-4YCM	SM185-9YCM
SY185	Brazed	Thermostat	–	SY185-4CAM	–
SY240	Brazed	Module 24V AC	–	SY240A4CAM	–
	Brazed	Module 110-240 V AC	SY240A3CBM	SY240A4CBM	SY240A9CBM
	Rotolock	Module 24V AC	–	SY240A4PAM	–
	Rotolock	Module 110-240 V AC	SY240A3PBM	SY240A4PBM	SY240A9PBM
SY300	Brazed	Module 24V AC	–	SY300A4CAM	–
	Brazed	Module 110-240 V AC	SY300A3CBM	SY300A4CBM	SY300A9CBM
	Rotolock	Module 24V AC	–	SY300A4PAM	–
	Rotolock	Module 110-240 V AC	SY300A3PBM	SY300A4PBM	SY300A9PBM
SY380	Brazed	Module 24V AC	–	SY380A4CAM	–
	Brazed	Module 110-240 V AC	–	SY380A4CBM	120H1116

**) Single installation version without oil equalization and sight glass*

SZ - Scroll compressors - R407C / R134a

Ordering single pack

Compressor model	Connections	Motor protection	Code no.		
			3	4	9
			200-230 V/3/60 Hz	460 V/3/60 Hz 380-400 V/3/50 Hz	380 V/3/60 Hz
SZ084	Brazed	Internal	–	SZ084-4VI	–
SZ090	Brazed	Internal	SZ090-3VI	SZ090-4VI	SZ090-9VI
SZ100	Brazed	Internal	SZ100-3VI	SZ100-4VI	SZ100-9VI
SZ110	Brazed	Internal	SZ110-3VI	SZ110-4VI	SZ110-9VI
SZ120	Brazed	Internal	SZ120-3VI	SZ120-4VI	SZ120-9VI
SZ147	Brazed	Internal	–	120H1096	–
SZ148	Brazed	Internal	SZ148-3VAI	SZ148-4VAI	SZ148-9VAI
SZ161	Brazed	Internal	SZ161-3VAI	SZ161-4VAI	SZ161-9VAI
SZ175	Brazed	Thermostat	–	SZ175-4CAI	–
	Rotolock	Thermostat	–	SZ175-4RI	–
SZ185	Brazed	Thermostat	SZ185-3CAI	SZ185-4CAI	SZ185-9CAI
	Brazed	Module 24V AC	–	SZ185-4PCI	–
	Rotolock	Thermostat	SZ185-3RI	SZ185-4RI	SZ185-9RI

SZ compressors in industrial pack: use numbers from above table and replace the last digit by "M". Example: SZ240A4CAM, except for voltage codes 6 and 7 available in single pack only

Technical data and ordering

SZ - Scroll compressors - R407C / R134a

Ordering Industrial pack

Compressor model	Connections	Motor protection	Code no.		
			3	4	9
			200-230 V/3/60 Hz	460 V/3/60 Hz 380-400 V/3/50 Hz	380 V/3/60 Hz
SZ084	Brazed	Internal	–	SZ084-4VM	–
SZ090	Brazed	Internal	SZ090-3VM	SZ090-4VM	SZ090-9VM
SZ100	Brazed	Internal	–	SZ100-4VM	SZ100-9VM
SZ110	Brazed	Internal	SZ110-3VM	SZ110-4VM	SZ110-9VM
SZ120	Brazed	Internal	SZ120-3VM	SZ120-4VM	SZ120-9VM
SZ147	Brazed	Internal	–	120H1097	–
SZ148	Brazed	Internal	SZ148-3VAM	SZ148-4VAM	–
SZ161	Brazed	Internal	SZ161-3VAM	SZ161-4VAM	SZ161-9VAM
SZ175	Rotolock	Thermostat	–	SZ175-4RM	–
SZ185	Brazed	Thermostat	SZ185-3CAM	SZ185-4CAM	SZ185-9CAM
	Brazed	Module 24V AC	–	–	–
	Brazed	Module 110 – 240 V	–	SZ185-4XCM	–
	Rotolock	Thermostat	–	SZ185-4RM	SZ185-9RM

Technical data and ordering

SZ - Scroll compressors - R134a - 50 Hz

Performance table

Type	To	-15		-10		-5		0		5		10		15	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
SZ084	35	6200	2.8	8000	2.8	10100	2.8	12600	2.8	15400	2.7	18700	2.7	22400	2.6
	55	–	–	6100	4.3	7900	4.3	9900	4.3	12400	4.3	15100	4.3	18300	4.2
SZ090	35	6700	2.9	8600	2.9	10900	3.0	13400	2.9	16400	2.9	19800	2.9	23600	2.8
	55	–	–	6600	4.5	8500	4.6	10700	4.6	13200	4.6	16000	4.5	19300	4.5
SZ100	35	7300	3.1	9400	3.1	11700	3.1	14400	3.1	17500	3.1	21000	3.1	25000	3.1
	55	–	–	7300	4.8	9300	4.8	11500	4.9	14100	4.9	17100	4.9	20400	4.8
SZ110	35	8200	3.5	10500	3.5	13200	3.5	16200	3.5	19800	3.5	23800	3.5	28400	3.5
	55	–	–	8100	5.4	10400	5.4	13000	5.5	16000	5.5	19400	5.5	23300	5.4
SZ120	35	9400	4.0	12000	4.0	15100	4.1	18700	4.1	22800	4.1	27500	4.1	32900	4.0
	55	–	–	9300	6.2	11900	6.3	14900	6.3	18400	6.3	22400	6.3	27000	6.2
SZ148	35	11200	5.0	14400	5.0	18100	5.0	22600	5.0	27900	5.0	34000	5.0	41100	5.0
	55	–	–	11200	7.7	14200	7.7	17800	7.7	22100	7.7	27100	7.8	32800	7.8
SZ161	35	12000	5.2	15300	5.2	19200	5.3	23800	5.3	29200	5.4	35500	5.4	42700	5.4
	55	–	–	12100	8.0	15300	8.0	19200	8.1	23700	8.1	28900	8.1	35000	8.1
SZ175	35	13200	5.7	16900	5.8	21200	5.8	26200	5.9	32100	5.9	38700	5.9	46200	5.8
	55	–	–	13100	8.6	16700	8.6	21000	8.7	26000	8.7	31700	8.8	38100	8.8
SZ185	35	14000	6.1	18000	6.1	22600	6.2	27900	6.2	34100	6.3	41200	6.3	49200	6.2
	55	–	–	13900	9.1	17800	9.2	22400	9.3	27700	9.3	33700	9.3	40600	9.3
SZ240	35	18900	8.4	23900	8.5	29900	8.6	37100	8.7	45700	8.7	56000	8.8	68200	8.9
	55	–	–	18800	12.3	23800	12.5	29700	12.6	36700	12.7	45000	12.9	54700	13.0
SZ300	35	23700	10.2	30000	10.4	37500	10.5	46300	10.6	56700	10.7	68900	10.8	82800	11.0
	55	–	–	23600	15.2	29700	15.4	37100	15.6	45800	15.9	55900	16.1	67800	16.4
SZ380	35	30200	12.3	38000	12.5	47300	12.7	58200	12.9	71000	13.1	85800	13.4	102900	13.6
	55	–	–	30100	18.1	37800	18.4	46900	18.7	57600	19.0	70000	19.2	84400	19.4
SZ170	35	12200	5.5	15700	5.6	19900	5.6	24800	5.5	30400	5.5	36800	5.4	44000	5.3
	55	–	–	11900	8.6	15500	8.6	19600	8.6	24300	8.6	29800	8.5	36000	8.4
SZ180	35	13300	5.9	17000	5.9	21400	5.9	26500	5.9	32300	5.8	39000	5.8	46500	5.7
	55	–	–	13100	9.1	16800	9.1	21100	9.1	26000	9.1	31600	9.1	38000	9.0
SZ200	35	14500	6.2	18400	6.2	23000	6.3	28400	6.3	34500	6.2	41400	6.2	49200	6.1
	55	–	–	14400	9.6	18200	9.7	22700	9.7	27800	9.7	33600	9.7	40200	9.7
SZ220	35	16300	7.0	20700	7.0	25900	7.1	32000	7.1	39000	7.1	46900	7.0	56000	6.9
	55	–	–	16100	10.8	20500	10.9	25600	10.9	31400	10.9	38200	10.9	45900	10.9
SZ230	35	17800	7.6	22800	7.6	28600	7.6	35300	7.6	43000	7.6	51700	7.5	61600	7.4
	55	–	–	17500	11.7	22500	11.8	28200	11.8	34800	11.8	42200	11.8	50700	11.7
SZ242	35	18600	8.0	23700	8.1	29700	8.1	36800	8.1	44900	8.1	54200	8.1	64900	8.0
	55	–	–	18300	12.5	23400	12.5	29300	12.5	36200	12.5	44200	12.5	53300	12.4
SZ250	35	19000	8.1	24300	8.1	30500	8.1	37600	8.1	45800	8.1	55100	8.0	65600	7.9
	55	–	–	18600	12.5	23900	12.5	30000	12.6	37000	12.6	45000	12.5	54000	12.5
SZ268	35	20600	9.0	26400	9.1	33200	9.1	41200	9.1	50600	9.1	61400	9.1	73900	9.0
	55	–	–	20100	13.9	25700	14.0	32300	14.0	39900	14.0	48800	14.0	59100	14.0
SZ271	35	20200	8.7	25800	8.7	32300	8.8	40000	8.9	48900	8.9	59200	8.9	71000	8.9
	55	–	–	19900	13.4	25300	13.5	31600	13.5	39000	13.6	47600	13.6	57400	13.6
SZ281	35	21400	9.2	27300	9.3	34300	9.3	42400	9.4	51900	9.4	62900	9.4	75500	9.4
	55	–	–	21000	14.2	26800	14.3	33500	14.3	41500	14.4	50600	14.4	61200	14.3
SZ285	35	21700	9.3	27800	9.4	34900	9.4	43100	9.5	52600	9.5	63400	9.4	75600	9.3
	55	–	–	21400	14.2	27500	14.2	34500	14.3	42600	14.4	51900	14.4	62400	14.3
SZ290	35	21900	9.5	28000	9.6	35200	9.6	43500	9.7	53100	9.7	64000	9.6	76300	9.5
	55	–	–	21600	14.4	27700	14.5	34800	14.6	43000	14.6	52300	14.7	62900	14.6
SZ296	35	22100	10.0	28300	10.0	35700	10.0	44500	10.0	54900	10.0	67000	10.0	80900	10.0
	55	–	–	22000	15.4	28000	15.4	35200	15.4	43500	15.5	53300	15.5	64700	15.6
SZ310	35	23300	10.1	29800	10.2	37500	10.3	46300	10.3	56500	10.3	68100	10.2	81200	10.1
	55	–	–	23000	15.4	29500	15.5	37100	15.5	45800	15.6	55700	15.6	67000	15.6
SZ320	35	24400	10.5	31300	10.6	39300	10.7	48700	10.8	59400	10.8	71700	10.8	85700	10.8
	55	–	–	24200	15.8	31000	15.9	39000	16.0	48200	16.1	58700	16.2	70700	16.2
SZ322	35	23600	10.4	30100	10.5	37800	10.5	46900	10.6	57600	10.7	69900	10.8	84100	10.8
	55	–	–	23800	15.9	30200	16.0	37800	16.1	46600	16.2	56900	16.2	68900	16.2
SZ350	35	26000	11.4	33200	11.5	41800	11.6	51700	11.7	63100	11.8	76200	11.7	91100	11.7
	55	–	–	25700	17.1	33000	17.3	41400	17.4	51200	17.5	62400	17.5	75100	17.5
SZ370	35	27600	12.1	35400	12.3	44500	12.4	55000	12.5	67200	12.5	81100	12.5	96900	12.4
	55	–	–	27400	18.2	35100	18.4	44100	18.5	54500	18.6	66400	18.7	79900	18.6

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Pe: *Power input in [kW]*
Qo: *Cooling capacity in [W]*
Subcooling: *8.3 K*
Superheat: *11.1 K*
Voltage: *400 V / 3 / 50 Hz*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

SZ - Scroll compressors - R134a - 60 Hz

Performance table

Type	To	-15		-10		-5		0		5		10		15	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
SZ084	35	7800	3.28	9800	3.30	12300	3.31	15300	3.32	18700	3.31	22700	3.28	27200	3.25
	55	–	–	7800	5.02	9900	5.05	12300	5.09	15200	5.11	18500	5.13	22400	5.13
SZ090	35	8200	3.45	10400	3.48	13100	3.50	16100	3.51	19700	3.50	23900	3.48	28600	3.45
	55	–	–	8300	5.28	10500	5.33	13000	5.36	16000	5.39	19500	5.41	23600	5.41
SZ100	35	8800	3.65	11100	3.68	13900	3.70	17100	3.72	20900	3.72	25300	3.71	30200	3.68
	55	–	–	8800	5.58	11100	5.63	13800	5.67	17000	5.70	20700	5.72	24900	5.72
SZ110	35	10100	4.14	12800	4.18	15900	4.23	19600	4.26	23800	4.27	28700	4.28	34300	4.26
	55	–	–	10000	6.35	12700	6.40	15800	6.45	19400	6.48	23600	6.50	28300	6.51
SZ120	35	11900	4.78	15000	4.85	18600	4.91	22800	4.97	27700	5.00	33300	5.02	39600	5.02
	55	–	–	11700	7.35	14800	7.41	18400	7.47	22600	7.51	27400	7.54	32800	7.54
SZ148	35	13400	6.00	17100	6.14	21400	6.23	26500	6.27	32500	6.26	39500	6.17	47500	6.01
	55	–	–	13400	9.24	17000	9.39	21300	9.48	26300	9.50	32200	9.45	39000	9.31
SZ161	35	14600	6.23	18600	6.34	23300	6.42	28800	6.48	35300	6.52	42800	6.54	51400	6.53
	55	–	–	14700	9.44	18700	9.59	23300	9.70	28600	9.78	34900	9.82	42000	9.84
SZ175	35	16300	6.76	20500	6.85	25600	6.94	31500	7.02	38400	7.08	46300	7.11	55300	7.13
	55	–	–	16100	10.13	20300	10.25	25400	10.37	31200	10.47	38000	10.56	45800	10.63
SZ185	35	17300	7.22	21900	7.32	27200	7.42	33500	7.50	40900	7.56	49300	7.60	58900	7.61
	55	–	–	17100	10.82	21700	10.95	27000	11.08	33300	11.19	40500	11.29	48800	11.36
	35	17300	7.22	21900	7.32	27200	7.42	33500	7.50	40900	7.56	49300	7.60	58900	7.61
	55	–	–	17100	10.82	21700	10.95	27000	11.08	33300	11.19	40500	11.29	48800	11.36
SZ240	35	23200	10.14	29400	10.24	36700	10.37	45400	10.51	55500	10.68	67300	10.86	80800	11.06
	55	–	–	23000	14.86	29100	15.04	36400	15.23	44900	15.44	54800	15.67	66200	15.91
SZ300	35	29100	12.32	36500	12.69	45400	12.98	55900	13.21	68300	13.40	82700	13.58	99500	13.75
	55	–	–	28800	18.40	36100	18.91	44700	19.34	55100	19.69	67200	20.00	81400	20.28
SZ380	35	36200	15.20	45500	15.65	56500	16.00	69500	16.29	84800	16.54	102600	16.78	123200	17.05
	55	–	–	36000	22.19	45200	22.72	56100	23.11	68900	23.38	84000	23.56	101500	23.68
SZ170	35	15300	6.56	19400	6.60	24300	6.62	30100	6.63	36800	6.61	44700	6.56	53600	6.49
	55	–	–	15400	10.02	19500	10.10	24300	10.17	29900	10.22	36500	10.25	44100	10.26
SZ180	35	16200	6.90	20500	6.95	25700	6.99	31800	7.01	38900	7.00	47100	6.96	56400	6.89
	55	–	–	16300	10.56	20600	10.65	25700	10.72	31600	10.77	38500	10.81	46500	10.82
SZ200	35	17200	7.29	21800	7.35	27300	7.40	33700	7.43	41200	7.44	49800	7.41	59600	7.35
	55	–	–	17300	11.16	21800	11.25	27200	11.33	33500	11.39	40800	11.43	49100	11.43
SZ220	35	19900	8.27	25100	8.36	31300	8.45	38600	8.51	47000	8.54	56600	8.54	67500	8.51
	55	–	–	19800	12.68	25000	12.79	31200	12.88	38300	12.95	46400	12.99	55800	13.00
SZ242	35	23300	9.56	29500	9.70	36700	9.82	45000	9.93	54600	10.00	65500	10.04	77900	10.04
	55	–	–	23100	14.69	29200	14.82	36300	14.93	44500	15.01	53900	15.06	64600	15.07
SZ268	35	24900	10.78	31600	10.99	39400	11.15	48600	11.24	59300	11.26	71600	11.19	85700	11.03
	55	–	–	24700	16.58	31400	16.80	39200	16.95	48200	17.01	58700	16.98	70700	16.85
SZ271	35	24300	10.36	30900	10.52	38600	10.65	47700	10.74	58200	10.79	70400	10.81	84400	10.79
	55	–	–	24400	15.78	30900	15.99	38500	16.14	47300	16.26	57600	16.32	69300	16.34
SZ281	35	26100	11.01	33000	11.19	41300	11.34	50900	11.45	62100	11.52	74900	11.56	89600	11.55
	55	–	–	26000	16.79	33000	17.00	41100	17.17	50500	17.29	61300	17.36	73700	17.38
SZ296	35	26500	11.99	33700	12.27	42200	12.46	52300	12.54	64000	12.50	77700	12.33	93500	12.01
	55	–	–	26400	18.46	33500	18.77	42000	18.95	51900	19.00	63500	18.88	76900	18.61
SZ322	35	28800	12.44	36600	12.67	45900	12.84	56800	12.96	69500	13.03	84300	13.06	101300	13.05
	55	–	–	29000	18.87	36700	19.16	45800	19.38	56400	19.54	68700	19.63	82800	19.66
SZ350	35	32100	13.50	40500	13.70	50400	13.88	62100	14.03	75600	14.14	91200	14.22	109000	14.24
	55	–	–	31600	20.25	40100	20.49	50000	20.73	61500	20.94	74900	21.11	90200	21.25
SZ370	35	34100	14.42	43100	14.63	53700	14.82	66100	14.98	80500	15.11	97100	15.19	116000	15.21
	55	–	–	33700	21.63	42700	21.89	53200	22.14	65500	22.37	79700	22.56	96100	22.70

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Pe: *Power input in [kW]*
Qo: *Cooling capacity in [W]*
Subcooling: *8.3 K*
Superheat: *11.1 K*
Voltage: *400 V / 3 / 60 Hz*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

SZ - Scroll compressors - R407C - 50 Hz

Performance table

Type	To	-20		-15		-10		-5		0		5		10		15	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
SZ084	35	7200	3.9	9300	3.9	11800	4.0	14800	4.0	18300	4.0	22300	4.0	27000	4.0	32300	3.9
	55	–	–	–	–	–	–	11300	6.2	14200	6.2	17500	6.2	21400	6.2	25800	6.2
SZ090	35	7600	4.1	9800	4.1	12500	4.2	15600	4.2	19300	4.2	23600	4.2	28500	4.2	34100	4.1
	55	–	–	–	–	–	–	12000	6.5	15000	6.5	18500	6.5	22500	6.5	27200	6.5
SZ100	35	8100	4.3	10500	4.4	13300	4.4	16600	4.4	20500	4.5	25000	4.4	30100	4.4	36000	4.4
	55	–	–	–	–	–	–	12700	6.9	15900	6.9	19600	6.9	23800	6.9	28700	6.9
SZ110	35	9300	4.9	12000	5.0	15200	5.0	19000	5.0	23400	5.0	28500	5.0	34300	5.0	40900	4.9
	55	–	–	–	–	–	–	14500	7.9	18100	7.9	22300	7.9	27200	7.8	32700	7.8
SZ120	35	11000	5.7	14200	5.7	17900	5.8	22200	5.8	27300	5.8	33200	5.8	39900	5.7	47600	5.6
	55	–	–	–	–	–	–	17000	9.2	21200	9.2	26100	9.2	31600	9.1	38000	9.0
SZ148	35	13500	6.9	17300	7.0	21700	7.0	27000	7.0	33100	7.1	40300	7.1	48500	7.1	57800	7.2
	55	–	–	–	–	–	–	21200	11.1	26200	11.1	32100	11.1	38900	11.1	46700	11.1
SZ161	35	14600	7.4	18700	7.5	23500	7.5	29200	7.6	35800	7.6	43500	7.6	52400	7.7	62600	7.8
	55	–	–	–	–	–	–	22900	12.0	28400	12.0	34700	12.0	42100	12.0	50600	12.0
SZ175	35	15500	8.0	19800	8.0	25000	8.1	31100	8.2	38100	8.2	46300	8.2	55600	8.2	66200	8.2
	55	–	–	–	–	–	–	24000	12.7	29800	12.8	36500	12.8	44200	12.8	53000	12.8
SZ185	35	16600	8.6	21300	8.6	26900	8.7	33400	8.8	41000	8.8	49700	8.8	59700	8.8	71100	8.8
	55	–	–	–	–	–	–	25700	13.7	32000	13.7	39200	13.8	47500	13.8	56900	13.8
SZ240	35	22400	11.7	28900	11.8	36500	11.9	45400	12.1	55900	12.2	68000	12.4	82000	12.5	98000	12.6
	55	–	–	21900	17.9	28100	18.0	35500	18.2	44000	18.4	54000	18.7	65500	18.9	78800	19.2
SZ300	35	28700	13.7	36200	13.9	45100	14.1	55500	14.3	67600	14.5	81700	14.7	98000	14.9	116600	15.2
	55	–	–	28500	21.2	35900	21.6	44600	22.1	54800	22.5	66600	22.9	80400	23.2	96300	23.6
SZ380	35	36000	16.9	45300	17.3	56400	17.6	69400	18.0	84600	18.3	102200	18.6	122400	18.9	145400	19.4
	55	–	–	35000	26.1	44200	26.6	55000	27.0	67500	27.4	82100	27.8	98900	28.1	118200	28.5
SZ170	35	14200	7.8	18300	7.9	23200	8.0	29100	8.0	36000	8.0	44000	8.0	53200	8.0	63700	7.9
	55	–	–	–	–	–	–	22300	12.3	27900	12.4	34500	12.4	42100	12.4	50900	12.4
SZ180	35	15000	8.2	19400	8.3	24600	8.3	30800	8.4	38000	8.4	46400	8.4	56100	8.3	67100	8.2
	55	–	–	–	–	–	–	23600	13.0	29500	13.0	36400	13.1	44400	13.0	53600	13.0
SZ200	35	16000	8.7	20600	8.8	26100	8.8	32700	8.9	40300	8.9	49200	8.9	59300	8.8	70900	8.7
	55	–	–	–	–	–	–	25000	13.8	31300	13.9	38600	13.9	47000	13.8	56600	13.8
SZ220	35	18400	9.9	23700	9.9	30000	10.0	37400	10.1	46100	10.1	56100	10.0	67500	10.0	80600	9.8
	55	–	–	–	–	–	–	28600	15.8	35800	15.8	44000	15.8	53500	15.7	64400	15.5
SZ230	35	20000	10.8	25800	10.8	32800	10.9	40900	10.9	50400	10.9	61200	10.9	73700	10.8	87700	10.7
	55	–	–	–	–	–	–	31100	17.4	38900	17.3	48000	17.3	58400	17.2	70200	17.0
SZ242	35	21600	11.4	27900	11.5	35200	11.6	43800	11.6	53800	11.6	65400	11.5	78600	11.4	93700	11.2
	55	–	–	–	–	–	–	33600	18.3	41800	18.4	51300	18.3	62300	18.1	74800	17.9
SZ250	35	21200	11.4	27500	11.4	34900	11.5	43500	11.5	53600	11.5	65200	11.4	78300	11.4	93300	11.3
	55	–	–	–	–	–	–	33100	18.3	41400	18.3	51100	18.2	62100	18.1	74700	17.9
SZ268	35	24100	12.6	31000	12.7	39000	12.8	48500	12.9	59500	12.9	72300	12.9	87000	12.9	103800	12.8
	55	–	–	–	–	–	–	37600	20.3	46700	20.3	57300	20.3	69400	20.2	83400	20.1
SZ271	35	23900	12.4	30600	12.5	38700	12.6	48100	12.6	59100	12.6	71900	12.7	86600	12.7	103400	12.7
	55	–	–	–	–	–	–	36700	19.9	45700	19.9	56000	19.9	68000	19.9	81800	19.8
SZ281	35	25200	13.1	32300	13.2	40800	13.3	50700	13.4	62200	13.4	75600	13.4	90900	13.4	108500	13.4
	55	–	–	–	–	–	–	39300	21.2	48800	21.2	59900	21.2	72600	21.1	87200	21.0
SZ285	35	25500	13.0	32900	13.2	41500	13.3	51700	13.3	63500	13.3	77200	13.3	92900	13.3	110800	13.2
	55	–	–	–	–	–	–	39300	21.0	48900	21.0	60100	21.0	73100	21.0	87900	20.9
SZ290	35	25200	13.4	32500	13.5	41000	13.5	51100	13.6	62800	13.7	76200	13.7	91600	13.6	109000	13.5
	55	–	–	–	–	–	–	39100	21.4	48800	21.5	59900	21.5	72700	21.4	87300	21.3
SZ296	35	26600	13.8	34000	13.9	42800	14.0	53200	14.1	65300	14.2	79300	14.2	95500	14.3	114000	14.4
	55	–	–	–	–	–	–	41700	22.2	51700	22.3	63200	22.3	76600	22.3	92000	22.3
SZ310	35	27000	14.2	34700	14.4	43900	14.5	54700	14.5	67200	14.6	81600	14.6	98000	14.5	116700	14.4
	55	–	–	–	–	–	–	41900	22.9	52200	22.9	64100	22.9	77800	22.9	93400	22.8
SZ320	35	29200	14.7	37300	14.9	47000	15.0	58400	15.1	71800	15.2	87200	15.2	105000	15.2	125400	15.2
	55	–	–	–	–	–	–	45700	23.6	56700	23.7	69400	23.8	84200	23.8	101300	23.9
SZ322	35	28700	14.9	36800	15.0	46300	15.1	57500	15.1	70600	15.2	85800	15.3	103300	15.4	123300	15.5
	55	–	–	–	–	–	–	45100	23.9	55900	24.0	68400	24.0	82900	24.0	99600	24.0
SZ350	35	30500	15.9	39100	16.1	49300	16.2	61200	16.3	75200	16.4	91200	16.4	109500	16.4	130300	16.4
	55	–	–	–	–	–	–	47200	25.4	58600	25.6	71900	25.6	87100	25.7	104400	25.7
SZ370	35	32700	17.1	42000	17.3	52900	17.4	65800	17.5	80700	17.6	98000	17.7	117700	17.7	140000	17.6
	55	–	–	–	–	–	–	50700	27.4	63000	27.5	77200	27.6	93500	27.6	112100	27.6

To: *Evaporating temperature in [°C]*
Subcooling: *8.3 K*

Tc: *Condensing temperature in [°C]*
Superheat: *11.1 K*

Pe: *Power input in [kW]*
Voltage: *400 V / 3 / 50 Hz*

Qo: *Cooling capacity in [W]*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

SZ - Scroll compressors - R407C - 60 Hz

Performance table

Type	To	-20		-15		-10		-5		0		5		10		15	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
SZ084	35	8400	4.45	11100	4.49	14300	4.52	17900	4.53	22000	4.52	26700	4.49	32000	4.42	37900	4.33
	55	–	–	–	–	–	–	12600	7.16	16200	7.17	20300	7.17	25000	7.14	30100	7.08
SZ090	35	9200	4.82	12000	4.87	15300	4.92	19100	4.95	23500	4.96	28500	4.95	34200	4.91	40700	4.84
	55	–	–	–	–	–	–	14100	7.69	17800	7.72	22100	7.74	27000	7.73	32500	7.69
SZ100	35	10000	5.16	12900	5.23	16400	5.30	20400	5.35	25100	5.39	30600	5.41	36800	5.40	43800	5.36
	55	–	–	–	–	–	–	15800	8.19	19700	8.24	24100	8.28	29200	8.29	35000	8.28
SZ110	35	11500	5.85	14800	5.93	18700	6.01	23300	6.06	28600	6.10	34700	6.10	41700	6.08	49600	6.02
	55	–	–	–	–	–	–	18000	9.35	22400	9.40	27400	9.41	33200	9.40	39700	9.35
SZ112	35	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	55	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SZ120	35	13500	6.76	17300	6.85	21800	6.94	27000	7.00	33100	7.03	40100	7.02	48100	6.98	57100	6.88
	55	–	–	–	–	–	–	20900	10.88	25900	10.91	31700	10.91	38300	10.86	45900	10.76
SZ124	35	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	55	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SZ147	35	17200	7.51	21500	7.59	26600	7.71	32500	7.85	39500	8.03	47600	8.25	56900	8.52	67600	8.82
	55	–	–	–	–	–	–	26100	11.94	31900	12.01	38700	12.12	46500	12.27	55600	12.47
SZ148	35	16500	8.31	21100	8.40	26400	8.52	32700	8.66	40000	8.78	48500	8.88	58300	8.92	69500	8.89
	55	–	–	–	–	–	–	25800	13.28	31800	13.36	38800	13.47	46900	13.59	56200	13.70
SZ161	35	17800	8.90	22700	9.03	28500	9.14	35300	9.24	43200	9.34	52300	9.44	62900	9.56	75000	9.69
	55	–	–	–	–	–	–	27900	14.27	34400	14.38	41900	14.47	50600	14.55	60700	14.63
SZ175	35	19300	9.48	24600	9.63	30800	9.77	38000	9.89	46500	9.99	56300	10.07	67500	10.12	80200	10.14
	55	–	–	–	–	–	–	29400	15.14	36300	15.29	44300	15.43	53600	15.54	64100	15.62
SZ185	35	20600	10.19	26100	10.35	32700	10.50	40500	10.63	49500	10.75	59900	10.83	71800	10.89	85400	10.90
	55	–	–	–	–	–	–	31300	16.28	38600	16.44	47200	16.59	57000	16.71	68200	16.79
SZ185	35	20600	10.19	26100	10.35	32700	10.50	40500	10.63	49500	10.75	59900	10.83	71800	10.89	85400	10.90
	55	–	–	–	–	–	–	31300	16.28	38600	16.44	47200	16.59	57000	16.71	68200	16.79
SZ240	35	26900	13.97	34700	14.33	43900	14.68	54700	15.00	67300	15.31	81900	15.62	98700	15.92	117900	16.22
	55	–	–	26600	21.18	34200	21.63	42900	22.05	53100	22.43	64800	22.78	78400	23.11	94000	23.40
SZ300	35	35800	16.75	44900	17.09	55700	17.43	68400	17.76	83500	18.09	101300	18.42	122000	18.75	146100	19.08
	55	–	–	34300	25.62	43000	26.11	53300	26.61	65500	27.10	80000	27.61	97100	28.11	117100	28.62
SZ380	35	42900	20.29	54100	20.75	67300	21.23	82900	21.73	101000	22.24	122100	22.76	146400	23.28	174100	23.81
	55	–	–	41900	31.38	52800	31.88	65500	32.42	80500	33.00	97900	33.62	118100	34.26	141300	34.93
SZ170	35	16600	8.90	21900	8.98	28100	9.04	35300	9.06	43400	9.04	52600	8.97	63000	8.84	74600	8.65
	55	–	–	–	–	–	–	24800	14.31	31900	14.34	40000	14.33	49200	14.26	59400	14.14
SZ180	35	18100	9.63	23600	9.74	30100	9.83	37600	9.89	46300	9.92	56200	9.89	67500	9.82	80100	9.68
	55	–	–	–	–	–	–	27800	15.37	35100	15.44	43600	15.47	53100	15.45	63900	15.37
SZ200	35	19800	10.31	25500	10.46	32300	10.59	40200	10.70	49500	10.77	60200	10.80	72400	10.78	86300	10.71
	55	–	–	–	–	–	–	31200	16.37	38700	16.48	47500	16.55	57600	16.57	69000	16.54
SZ220	35	22700	11.69	29200	11.86	36800	12.00	45800	12.12	56300	12.19	68300	12.20	82100	12.15	97600	12.02
	55	–	–	–	–	–	–	35500	18.69	44100	18.78	54000	18.81	65300	18.79	78200	18.69
SZ242	35	26600	13.50	34000	13.70	42900	13.86	53200	13.98	65200	14.05	79000	14.04	94800	13.95	112600	13.76
	55	–	–	–	–	–	–	41200	21.75	51100	21.81	62500	21.80	75500	21.71	90400	21.51
SZ268	35	29600	15.07	37800	15.25	47400	15.46	58800	15.65	72000	15.81	87300	15.90	104800	15.90	124700	15.77
	55	–	–	–	–	–	–	46100	24.16	56900	24.27	69500	24.37	84000	24.45	100600	24.46
SZ271	35	28900	14.75	37000	14.96	46500	15.14	57700	15.30	70700	15.43	85700	15.54	103000	15.63	122700	15.71
	55	–	–	–	–	–	–	45200	23.63	55900	23.78	68300	23.89	82500	23.95	98900	23.98
SZ281	35	30900	15.65	39400	15.88	49500	16.07	61300	16.24	75100	16.37	91100	16.46	109300	16.53	130100	16.57
	55	–	–	–	–	–	–	48100	25.16	59400	25.30	72500	25.38	87600	25.41	105000	25.39
SZ294	35	34100	15.02	42600	15.18	52700	15.41	64500	15.70	78300	16.07	94400	16.51	112800	17.03	133900	17.64
	55	–	–	–	–	–	–	51800	23.88	63300	24.02	76700	24.24	92300	24.54	110200	24.94
SZ296	35	32600	16.62	41500	16.79	52000	17.03	64400	17.30	78800	17.55	95500	17.74	114800	17.83	136900	17.76
	55	–	–	–	–	–	–	50900	26.55	62700	26.70	76500	26.92	92500	27.16	110800	27.38
SZ322	35	35100	17.78	44800	18.04	56100	18.27	69500	18.47	85000	18.66	103100	18.87	123900	19.10	147700	19.37
	55	–	–	–	–	–	–	54900	28.53	67700	28.75	82600	28.93	99800	29.09	119600	29.24
SZ350	35	38100	18.95	48400	19.24	60600	19.52	74900	19.77	91700	19.98	110900	20.14	133000	20.23	158100	20.26
	55	–	–	–	–	–	–	57900	30.26	71600	30.56	87300	30.83	105500	31.05	126200	31.22
SZ370	35	40500	20.38	51500	20.69	64400	20.99	79700	21.26	97500	21.48	118000	21.65	141500	21.76	168200	21.79
	55	–	–	–	–	–	–	61600	32.53	76100	32.86	92900	33.15	112300	33.39	134300	33.57

To: *Evaporating temperature in [°C]*
Subcooling: *8.3 K*

Tc: *Condensing temperature in [°C]*
Superheat: *11.1 K*

Pe: *Power input in [kW]*
Voltage: *400 V / 3 / 60 Hz*

Qo: *Cooling capacity in [W]*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

SM / SY - Scroll compressors - R22 - 50 Hz

Performance table

Type	To	-20		-15		-10		-5		0		5		10		15	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
SM084	35	7700	4.0	9900	4.0	12500	4.0	15500	4.0	18900	4.0	22800	4.0	27200	3.9	32100	3.9
	55	–	–	–	–	–	–	12000	6.4	15000	6.3	18500	6.2	22500	6.2	26900	6.1
SM090	35	8600	4.3	10900	4.4	13600	4.4	16700	4.4	20200	4.4	24300	4.4	28900	4.4	34100	4.4
	55	–	–	–	–	–	–	13300	6.7	16400	6.7	19900	6.6	23900	6.6	28400	6.5
SM100	35	9000	4.6	11500	4.6	14400	4.7	17700	4.7	21500	4.7	25800	4.7	30700	4.7	36200	4.7
	55	–	–	–	–	–	–	14200	7.1	17400	7.1	21200	7.1	25400	7.0	30200	7.0
SM110	35	10200	5.2	13000	5.2	16200	5.2	20000	5.2	24200	5.2	29000	5.2	34400	5.2	40400	5.2
	55	–	–	–	–	–	–	15900	8.0	19600	8.0	23800	7.9	28400	7.9	33700	7.8
SM112	35	11300	5.1	14100	5.1	17400	5.2	21200	5.3	25500	5.4	30500	5.5	36100	5.6	42500	5.7
	55	–	–	–	–	–	–	17500	7.8	21200	7.9	25400	8.0	30200	8.1	35700	8.2
SM120	35	11800	6.0	15200	6.0	19000	6.0	23300	5.9	28200	5.9	33700	5.9	39900	5.9	46700	5.9
	55	–	–	–	–	–	–	18600	9.2	22800	9.2	27600	9.1	33000	9.0	38900	9.0
SM124	35	13100	5.4	16200	5.5	19800	5.7	23900	5.8	28700	6.0	34100	6.1	40300	6.2	47200	6.4
	55	–	–	–	–	–	–	19800	8.4	24000	8.6	28700	8.8	34100	9.0	40200	9.2
SM147	35	14900	6.3	18600	6.4	22900	6.5	27800	6.7	33500	6.9	40000	7.1	47300	7.2	55600	7.4
	55	–	–	–	–	–	–	22700	9.8	27500	9.9	33100	10.1	39400	10.3	46600	10.5
SM148	35	14800	7.0	18500	7.0	22900	7.1	27800	7.1	33600	7.2	40100	7.2	47500	7.3	55900	7.3
	55	–	–	–	–	–	–	22600	10.9	27500	10.9	33100	10.9	39500	11.0	46800	11.0
SM161	35	16000	7.5	20100	7.6	24700	7.6	30100	7.6	36300	7.7	43400	7.7	51400	7.8	60500	7.8
	55	–	–	–	–	–	–	24400	11.7	29700	11.7	35800	11.7	42800	11.8	50600	11.8
SM175	35	17000	8.1	21300	8.1	26400	8.2	32300	8.3	39000	8.4	46600	8.4	55200	8.5	64800	8.5
	55	–	–	–	–	–	–	26200	12.4	32000	12.5	38500	12.6	46000	12.6	54400	12.7
SM185	35	18400	8.8	23100	8.9	28600	9.0	35000	9.1	42200	9.1	50500	9.2	59800	9.3	70200	9.3
	55	–	–	–	–	–	13.5	28400	13.6	34600	13.7	41800	13.8	49800	13.8	58900	13.9
SY185	35	17600	8.7	22500	8.7	28100	8.7	34500	8.8	42000	8.9	50400	9.0	60000	9.1	70900	9.2
	55	–	–	–	–	–	13.3	28600	13.3	34800	13.3	41900	13.4	49800	13.5	58600	13.7
SY240	35	25100	11.7	31400	11.8	38800	12.0	47300	12.1	57100	12.4	68300	12.6	81000	13.0	95300	13.3
	55	–	–	–	–	–	–	38400	17.8	46600	18.0	56100	18.3	67000	18.6	79300	18.9
SY300	35	31900	14.2	39900	14.5	49300	14.8	60300	15.1	73100	15.6	87900	16.1	104800	16.7	124100	17.4
	55	–	–	–	–	–	–	48600	22.0	59200	22.4	71600	22.8	85900	23.4	102300	24.1
SY380	35	40100	17.3	49500	17.6	60500	18.0	73300	18.4	88100	18.8	104900	19.2	124100	19.8	145800	20.4
	55	–	–	–	–	–	–	59700	26.8	72300	27.1	86800	27.5	103400	27.9	122300	28.4
SM170	35	15200	8.0	19500	8.0	24600	8.0	30500	8.0	37200	8.0	44900	7.9	53500	7.9	63200	7.8
	55	–	–	–	–	–	–	23600	12.7	29600	12.6	36500	12.5	44300	12.3	53100	12.1
SM180	35	16900	8.6	21400	8.7	26700	8.8	32800	8.8	39900	8.8	47900	8.8	56900	8.8	67100	8.7
	55	–	–	–	–	–	–	26200	13.4	32300	13.3	39300	13.3	47100	13.2	56000	13.1
SM200	35	17700	9.2	22600	9.3	28300	9.3	34800	9.3	42300	9.4	50900	9.4	60500	9.4	71300	9.4
	55	–	–	–	–	–	–	27900	14.3	34400	14.2	41700	14.1	50000	14.0	59400	13.9
SM220	35	20000	10.4	25500	10.4	32000	10.4	39300	10.4	47700	10.5	57100	10.5	67700	10.4	79500	10.4
	55	–	–	–	–	–	–	31400	16.0	38600	16.0	46800	15.9	56000	15.8	66300	15.6
SM230	35	22000	10.8	27400	10.9	33700	10.9	41000	10.9	49500	10.9	59100	10.9	70100	10.9	82400	10.8
	55	–	–	–	–	–	–	32500	17.2	40800	17.1	50200	16.9	61000	16.7	73100	16.5
SM242	35	23300	12.0	29900	11.9	37400	11.9	45900	11.9	55600	11.9	66400	11.9	78500	11.8	92000	11.8
	55	–	–	–	–	–	–	36600	18.4	45000	18.3	54400	18.2	64900	18.1	76600	17.9
SM248	35	26300	10.9	32500	11.1	39600	11.3	47900	11.6	57400	11.9	68200	12.2	80500	12.5	94400	12.7
	55	–	–	–	–	–	–	39700	16.9	47900	17.2	57400	17.5	68100	17.9	80300	18.4
SM250	35	23700	11.6	29500	11.7	36200	11.7	44100	11.7	53200	11.7	63500	11.7	75300	11.7	88600	11.6
	55	–	–	–	–	–	–	35000	18.5	43800	18.4	54000	18.2	65600	18.0	78600	17.7
SM268	35	26600	13.0	33700	13.0	41800	13.0	51100	13.1	61700	13.1	73700	13.2	87300	13.2	102400	13.2
	55	–	–	–	–	–	–	40700	20.1	49800	20.1	60100	20.0	71700	20.0	84800	20.0
SM271	35	25800	12.7	32500	12.8	40300	12.8	49300	12.9	59600	12.9	71300	13.0	84500	13.0	99300	13.0
	55	–	–	–	–	–	–	39700	19.7	48600	19.7	58700	19.7	70100	19.6	83000	19.6
SM272	35	28000	11.7	34800	11.9	42600	12.2	51700	12.5	62100	12.8	73900	13.2	87400	13.5	102600	13.8
	55	–	–	–	–	–	–	41700	18.3	50500	18.5	60600	18.9	72100	19.3	85200	19.7
SM281	35	27500	13.5	34700	13.5	43000	13.6	52600	13.6	63600	13.6	75900	13.7	89900	13.7	105500	13.7
	55	–	–	–	–	–	–	42300	20.9	51800	20.9	62500	20.8	74600	20.8	88200	20.8
SM285	35	27100	13.4	34000	13.5	42100	13.6	51400	13.7	62000	13.8	74100	13.9	87800	14.0	103200	14.1
	55	–	–	–	–	–	–	41200	20.8	51100	20.8	62300	20.8	75000	20.8	89300	20.7
SM290	35	27700	13.5	34700	13.6	42900	13.7	52300	13.8	63100	13.8	75400	13.9	89400	13.9	105100	13.9
	55	–	–	–	–	–	–	42000	21.0	51900	21.1	63100	21.1	75800	21.0	90100	20.9
SM294	35	29900	12.5	37200	12.7	45800	13.0	55600	13.4	67000	13.7	79900	14.1	94600	14.5	111200	14.8
	55	–	–	–	–	–	–	45400	19.7	55100	19.9	66200	20.2	78900	20.6	93300	21.1
SM296	35	29200	14.0	36500	14.1	45000	14.2	54800	14.2	66100	14.3	79000	14.4	93600	14.5	110100	14.6
	55	–	–	–	–	–	–	44500	21.8	54100	21.8	65200	21.8	77900	21.9	92200	21.9
SM310	35	30000	14.6	37500	14.7	46300	14.8	56500	14.9	68200	15.0	81500	15.1	96500	15.1	113500	15.1
	55	–	–	–	–	–	–	45400	22.8	56000	22.9	68100	22.9	81900	22.8	97300	22.7
SM320	35	30600	15.2	38600	15.4	47900	15.6	58600	15.7	70800	15.9	84700	16.1	100300	16.3	117900	16.5
	55	–	–	–	–	–	–	47400	23.1	58300	23.3	70600	23.4	84500	23.5	100100	23.7
SM322	35	31600	15.0	39500	15.1	48700	15.2	59300	15.3	71500	15.4	85500	15.5	101300	15.6	119100	15.6
	55	–	–	–	–	–	–	48100	23.4	58600	23.4	70600	23.4	84200	23.5	99700	23.5
SM350	35	33500	16.1	42000	16.3	52000	16.4	63600	16.6	76800	16.7	91800	16.8	108700	16.9	127700	17.0
	55	–	–	–	–	–	–	51600	24.9	63000	25.0	75900	25.2	90600	25.3	107100	25.4
SM370	35	36200	17.6	45500	17.8	56400	18.0	68900	18.1	83200	18.3	99400	18.4	117700	18.5	138300	18.6
	55	–	–	–	–	–	–	55900	27.2	68200	27.3	82300	27.5	98200	27.6	116000	27.7

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Pe: *Power input in [kW]*
Qo: *Cooling capacity in [W]*
Subcooling: *8.3 K*
Superheat: *11.1 K*
Voltage: *400 V / 3 / 50 Hz*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

SM / SY - Scroll compressors - R22 - 60 Hz

Performance table

Type	To	-20		-15		-10		-5		0		5		10		15	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
SM084	35	9600	4.78	12200	4.81	15200	4.83	18700	4.86	22600	4.89	27100	4.91	32100	4.92	37800	4.93
	55	–	–	–	–	–	–	15000	7.53	18500	7.51	22500	7.49	27000	7.45	32100	7.40
SM090	35	10600	5.20	13300	5.25	16500	5.29	20200	5.33	24500	5.36	29400	5.38	34900	5.39	41100	5.39
	55	–	–	–	–	–	–	16400	7.93	20000	7.93	24200	7.92	28900	7.90	34300	7.86
SM100	35	11200	5.41	14100	5.46	17400	5.50	21300	5.54	25700	5.58	30700	5.61	36400	5.62	42700	5.63
	55	–	–	–	–	–	–	17200	8.26	21000	8.26	25300	8.25	30100	8.23	35600	8.19
SM110	35	12800	6.17	16100	6.22	20000	6.26	24400	6.30	29500	6.34	35200	6.37	41600	6.40	48800	6.43
	55	–	–	–	–	–	–	19800	9.46	24100	9.47	29000	9.47	34500	9.46	40700	9.44
SM112	35	14100	6.07	17600	6.19	21600	6.33	26200	6.48	31500	6.64	37600	6.83	44400	7.02	52200	7.23
	55	–	–	–	–	–	–	21700	9.40	26200	9.51	31300	9.66	37100	9.82	43700	10.02
SM120	35	15000	7.10	18800	7.13	23300	7.17	28400	7.20	34200	7.25	40800	7.29	48300	7.34	56600	7.39
	55	–	–	–	–	–	–	23000	10.92	28000	10.93	33700	10.94	40100	10.94	47300	10.95
SM124	35	16000	6.50	19800	6.64	24300	6.82	29500	7.05	35400	7.32	42200	7.63	49900	7.97	58600	8.36
	55	–	–	–	–	–	–	24100	10.20	29100	10.37	34700	10.60	41200	10.87	48600	11.18
SM147	35	18600	7.58	22800	7.75	27800	7.93	33500	8.10	40000	8.29	47500	8.47	55900	8.66	65500	8.84
	55	–	–	–	–	–	–	28000	11.75	33600	11.97	40100	12.20	47600	12.46	56000	12.73
SM148	35	18100	8.32	22600	8.44	27800	8.54	33800	8.62	40600	8.71	48500	8.79	57400	8.89	67500	9.00
	55	–	–	–	–	–	–	27600	12.91	33500	13.03	40300	13.13	48000	13.22	56700	13.31
SM161	35	19700	8.99	24600	9.12	30200	9.23	36700	9.32	44200	9.41	52700	9.51	62400	9.61	73300	9.72
	55	–	–	–	–	–	–	30000	13.96	36400	14.08	43800	14.19	52100	14.29	61600	14.39
SM175	35	21100	9.81	26400	9.98	32500	10.15	39500	10.31	47500	10.46	56500	10.59	66600	10.70	77800	10.80
	55	–	–	–	–	–	–	32200	15.06	39200	15.23	47000	15.39	55800	15.53	65600	15.65
SM185	35	22500	10.42	28100	10.60	34600	10.78	42000	10.95	50500	11.10	60100	11.25	70800	11.37	82800	11.47
	55	–	–	–	–	–	–	34300	15.99	41700	16.17	50000	16.34	59300	16.49	69800	16.62
SY185	35	22500	10.37	28000	10.49	34500	10.60	42000	10.71	50800	10.83	60800	10.94	72200	11.05	85100	11.16
	55	–	–	–	–	–	–	34600	15.85	42100	16.13	50800	16.39	60700	16.63	71900	16.86
SY240	35	30600	13.98	38200	14.17	47100	14.43	57300	14.75	69100	15.15	82500	15.63	97600	16.19	114800	16.84
	55	–	–	–	–	–	–	46700	21.37	56700	21.74	68100	22.16	81000	22.64	95700	23.19
SY300	35	39800	16.39	49400	16.85	60600	17.38	73600	17.97	88500	18.59	105600	19.25	125000	19.91	146900	20.58
	55	–	–	–	–	–	–	59600	25.95	72300	26.65	86800	27.43	103400	28.30	122300	29.22
SY380	35	49000	20.86	60600	21.18	74200	21.63	89900	22.16	108000	22.77	128600	23.41	152100	24.06	178600	24.68
	55	–	–	–	–	–	–	72800	32.58	88300	32.94	106000	33.45	126200	34.09	149000	34.81
SM170	35	18900	9.54	24000	9.60	29900	9.66	36800	9.72	44500	9.77	53300	9.80	63300	9.83	74400	9.85
	55	–	–	–	–	–	–	29500	15.04	36400	15.01	44300	14.96	53300	14.89	63300	14.80
SM180	35	20900	10.40	26200	10.49	32600	10.57	39900	10.65	48300	10.71	57900	10.76	68700	10.78	80900	10.78
	55	–	–	–	–	–	–	32300	15.85	39400	15.85	47600	15.83	57000	15.79	67500	15.71
SM200	35	22000	10.81	27700	10.91	34300	11.00	41900	11.08	50600	11.15	60500	11.21	71700	11.24	84200	11.25
	55	–	–	–	–	–	–	34000	16.50	41400	16.51	49800	16.49	59400	16.45	70100	16.37
SM220	35	25300	12.34	31800	12.42	39400	12.51	48100	12.59	58000	12.66	69300	12.74	82000	12.80	96200	12.85
	55	–	–	–	–	–	–	39000	18.91	47500	18.92	57100	18.92	68000	18.90	80300	18.86
SM242	35	29500	14.19	37100	14.25	45800	14.32	55900	14.40	67400	14.48	80400	14.58	95100	14.67	111400	14.78
	55	–	–	–	–	–	–	45300	21.83	55200	21.84	66400	21.86	79100	21.87	93200	21.88
SM248	35	32000	13.01	39600	13.27	48600	13.64	58900	14.09	70700	14.63	84300	15.25	99700	15.95	117200	16.71
	55	–	–	–	–	–	–	48100	20.40	58100	20.75	69400	21.19	82400	21.73	97100	22.36
SM268	35	32600	15.41	40800	15.56	50300	15.70	61200	15.83	73700	15.95	88000	16.08	104100	16.23	122200	16.39
	55	–	–	–	–	–	–	49900	23.83	60600	23.95	72900	24.06	86800	24.16	102500	24.25
SM271	35	32100	15.16	40100	15.33	49400	15.48	60200	15.62	72500	15.75	86600	15.88	102500	16.01	120300	16.15
	55	–	–	–	–	–	–	49100	23.42	59600	23.55	71700	23.66	85400	23.75	100800	23.83
SM272	35	34500	14.08	42600	14.39	52000	14.74	62900	15.15	75300	15.60	89600	16.09	105700	16.63	124000	17.20
	55	–	–	–	–	–	–	52000	21.95	62600	22.34	74800	22.80	88700	23.32	104500	23.91
SM281	35	34200	16.09	42700	16.25	52700	16.39	64100	16.53	77200	16.66	92100	16.80	109000	16.95	128000	17.11
	55	–	–	–	–	–	–	52200	24.87	63500	25.01	76300	25.13	90900	25.24	107300	25.34
SM294	35	37100	15.15	45600	15.50	55500	15.85	66900	16.21	79900	16.57	94800	16.94	111700	17.31	130900	17.69
	55	–	–	–	–	–	–	55900	23.50	67200	23.94	80200	24.40	95000	24.91	111800	25.46
SM296	35	35800	16.62	44500	16.86	54700	17.06	66500	17.24	80000	17.40	95500	17.57	113100	17.76	132900	17.98
	55	–	–	–	–	–	–	54400	25.80	66000	26.04	79300	26.24	94500	26.42	111700	26.60
SM322	35	38900	17.97	48400	18.22	59500	18.44	72300	18.63	87000	18.81	103800	19.00	122900	19.20	144500	19.43
	55	–	–	–	–	–	–	59100	27.89	71700	28.15	86200	28.37	102700	28.57	121400	28.76
SM350	35	41600	19.61	52000	19.95	64000	20.28	77800	20.60	93500	20.90	111200	21.16	131100	21.40	153300	21.58
	55	–	–	–	–	–	–	63500	30.10	77100	30.44	92600	30.75	109900	31.04	129200	31.28
SM370	35	44300	20.83	55300	21.19	68100	21.54	82800	21.88	99500	22.19	118300	22.48	139500	22.72	163100	22.92
	55	–	–	–	–	–	–	67600	31.96	82100	32.32	98500	32.66	116900	32.96	137500	33.22

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Pe: *Power input in [kW]*
Qo: *Cooling capacity in [W]*
Subcooling: *8.3 K*
Superheat: *11.1 K*
Voltage: *400 V / 3 / 60 Hz*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Nomenclature

Family,lubrificant & refrigerant	Normal capacity	Approval	Voltage	Version	Evolution index	
SZ	**185**	**-**	**4**	**R**	**C**	Single compressor
SY	**300**	**A**	**7**	**CA**	**A**	Single compressor

Family, refrigerant & lubrificant:
SM: Scroll, Mineral oil, R22/R417A*)
SY: Scroll, POE lubricant, R22/R417A (R407C for SY185 to 380,R134a for SY240 to 380)
SZ: Scroll, POE lubricant, R407C - R134a (and R404A, R507A for SZ084 to SZ185)

Nominal capacity:
in thousand Btu/h at 60 Hz, R22, ARI conditions

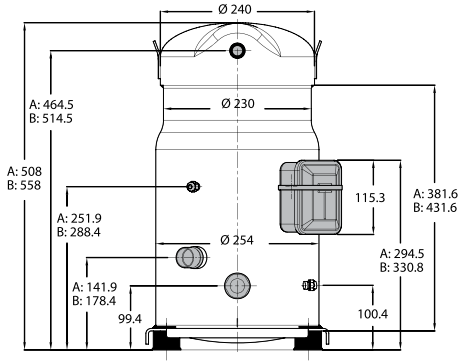
Motor voltage code:
3: 200-230 V/3~/60 Hz
4: 380-400 V/3~/50 Hz - 460 V/3~/60 Hz
SY380: 380-415V/3~/50 Hz - 460 V/3~/60 Hz
6: 230 V/3~/50 Hz
7: 500 V/3~/50 Hz - 575V/3~/60 Hz
9: 380 V/3~/60 Hz
SY380: 380-400 V/3~/60 Hz

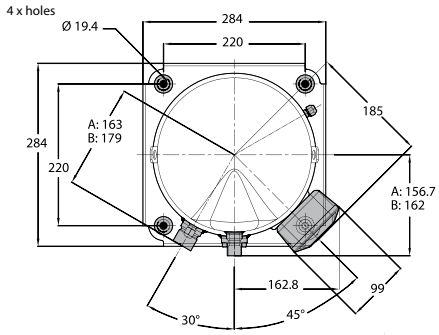
Motor protection type		Connection	Module voltage	Applies to
Internal overload protector	**V**	: brazed		S 084-090-100-110-120-148-161
	A	: brazed		S 112-124-147
Internal thermostat	**C**	: brazed		S 185
	R	: rotolock		
Electronic protection module	**P**	: brazed	24 V AC	
	X	: brazed	110 – 240 V	
	Y	: rotolock	110 – 240 V	
	CA	**C**: brazed	**A**: 24 V AC	S 240 - 300
	CB		**B**: 110 – 240 V	
	PA	**P**: rotolock	**A**: 24 V AC	
	PB		**B**: 110 – 240 V	
	CA	**C**: brazed	**A**: 24 V AC	S 380
	CB		**B**: 110 – 240 V	

*) When SM compressors are used with R417A, the factory charged mineral oil 160P must be replaced by polyolester oil 160SZ

Dimensions

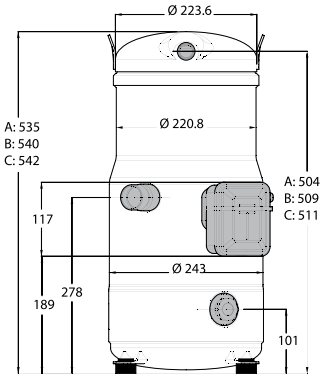
SM / SZ 084-090-100-110-120

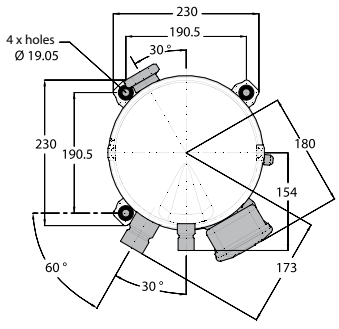




A: SM / SZ 084-090-100
B: SM / SZ 110-120

SM 112-124-SM / SZ147 [3])

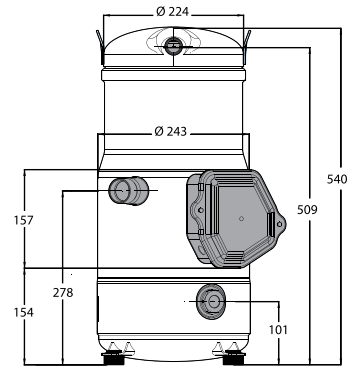


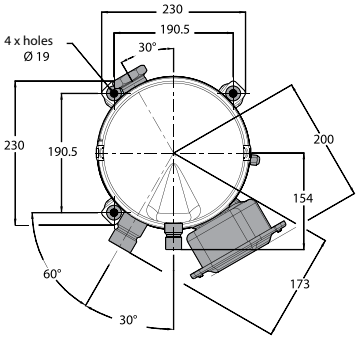


A: SM112
B: SM124
C: SZ147

[3]) except code 3

SM / SZ 147 code 3

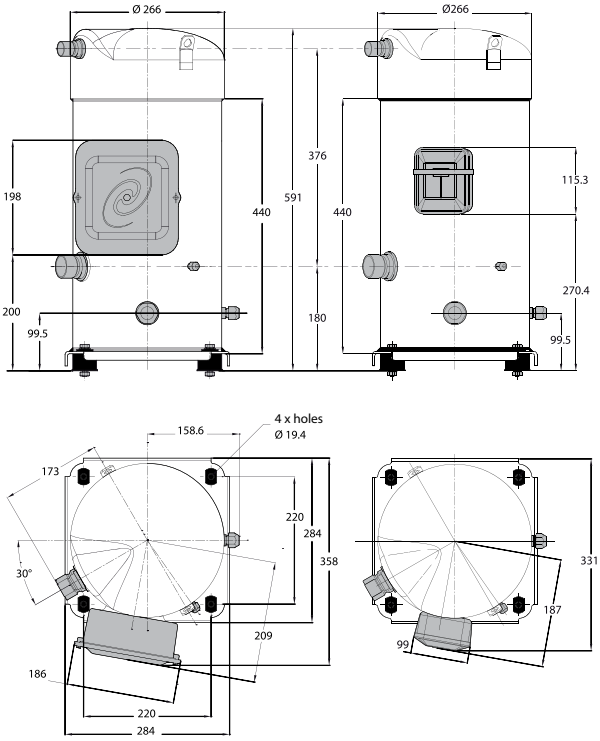




Dimensions

SM / SZ148-161

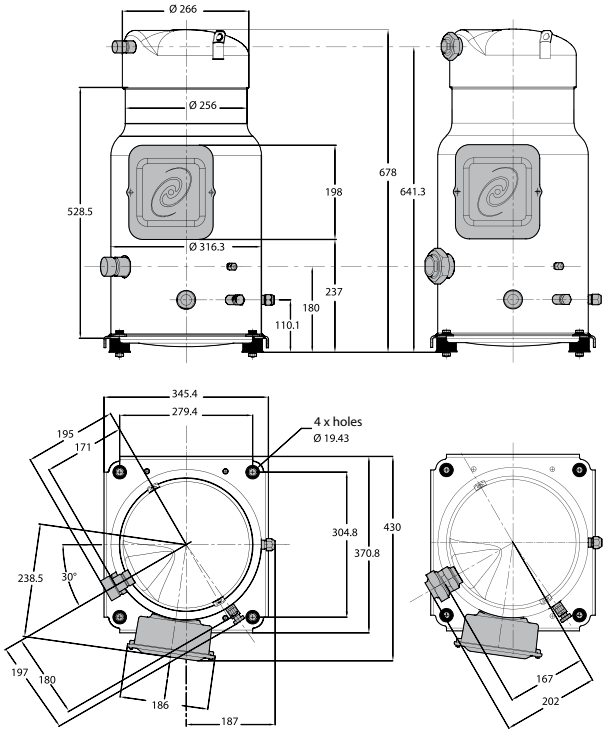
SM148-161 code 3



SM148-161 code 4

SM/SZ 175-185 & SY185 - R and C version

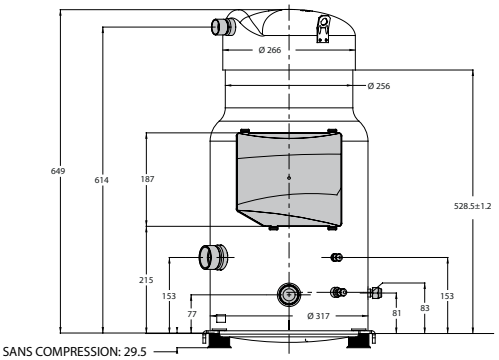
Brazed version



Rotolock version

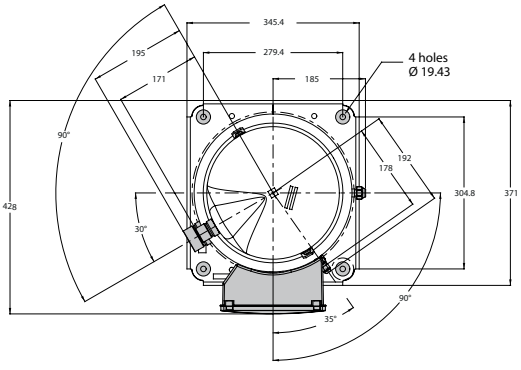
SM/SZ 185 P, X, Y version

Brazed version

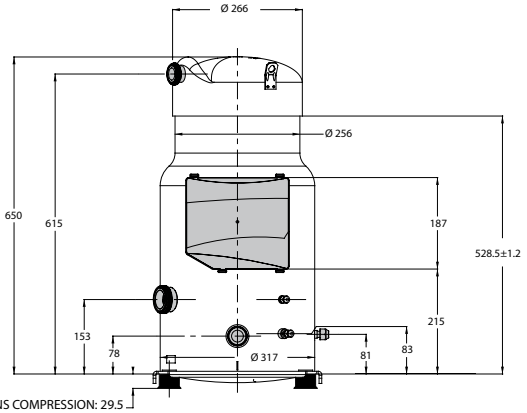


SANS COMPRESSION: 29.5
/ Without compression

AVEC COMPRESSION: 28.0
/ With compression

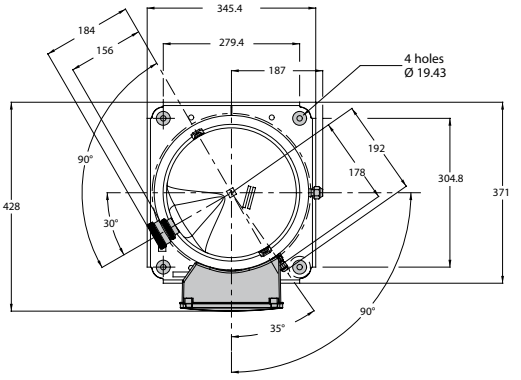


Rotolock version



SANS COMPRESSION: 29.5
/ Without compression

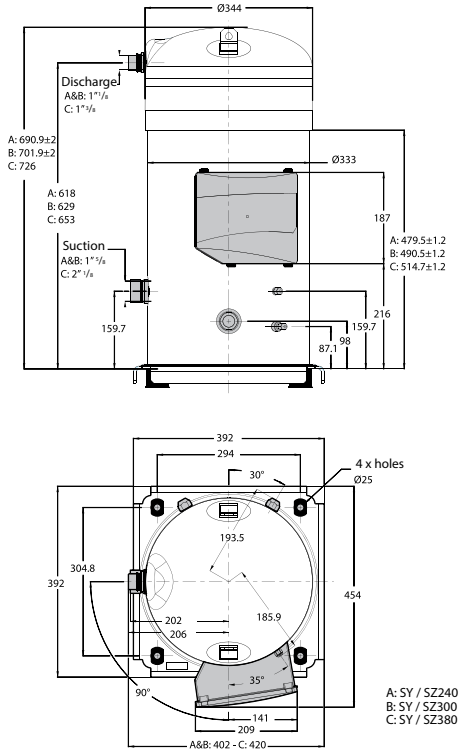
AVEC COMPRESSION: 28.0
/ With compression



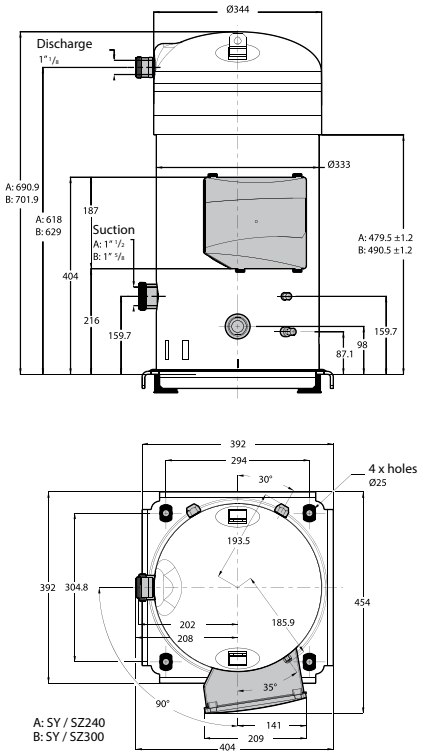
Dimensions

SY / SZ 240-300-380

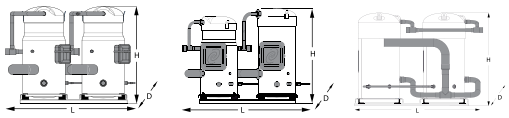
Brazed version



Rotolock version



Technical data



SM / SY / SZ - Scroll compressors - Tandem / Trio

Features

Type		Composition	R22	R404A / R507A	R407C	R134a	Oil management
Tandem	SM/SZ170	SM/SZ084 + SM/SZ084	o	o	o	o	Dynamic
	SM/SZ180	SM/SZ090 + SM/SZ090	o	o	o	o	Dynamic
	SM/SZ200	SM/SZ100 + SM/SZ100	o	o	o	o	Dynamic
	SM/SZ220	SM/SZ110 + SM/SZ110	o	o	o	o	Dynamic
	SM/SZ242	SM/SZ120 + SM/SZ120	o	o	o	o	Dynamic
	SM248	SM124 + SM124	o	–	–	–	Static
	SM/SZ268	SM/SZ120 + SM/SZ148	o	o	o	o	Dynamic
	SM/SZ271	SM/SZ110 + SM/SZ161	o	o	o	o	Dynamic
	SM272	SM124 + SM147	o	–	–	–	Static
	SM/SZ281	SM/SZ120 + SM/SZ161	o	o	o	o	Dynamic
	SM294	SM147 + SM147	o	–	–	–	Static
	SM/SZ296	SM/SZ148 + SM/SZ148	o	o	o	o	Dynamic
	SM/SZ322	SM/SZ161 + SM/SZ161	o	o	o	o	Dynamic
	SM/SZ350	SM/SZ175 + SM/SZ175	o	o	o	o	Dynamic
	SY/SZ370	SY/SZ185 + SY/SZ185	o	o	o	o	Dynamic
	SY/SZ425	SY/SZ240 + SY/SZ185	o	–	o	o	Dynamic
	SY/SZ482	SY/SZ240 + SY/SZ240	o	–	o	o	Static
	SY/SZ485	SY/SZ300 + SY/SZ185	o	–	o	o	Dynamic
	SY/SZ540	SY/SZ300 + SY/SZ240	o	–	o	o	Static
	SY/SZ600	SY/SZ300 + SY/SZ300	o	–	o	o	Static
	SY/SZ620	SY/SZ240 + SY/SZ380	o	–	o	o	Static
	SY/SZ680	SY/SZ300 + SY/SZ380	o	–	o	o	Static
	SY/SZ760	SY/SZ380 + SY/SZ380	o	–	o	o	Static
Trio	SM/SZ444	3 x SM/SZ148	o	o	o	o	Static
	SM/SZ483	3 x SM/SZ161	o	o	o	o	Static
	SY/SZ550	3 x SY/SZ185	o	o	o	o	Dynamic
	SY/SZ720	3 x SY/SZ240	o	–	o	o	Static
	SY/SZ900	3 x SY/SZ300	o	–	o	o	Static
	SY/SZ1140	3 x SY/SZ380	o	–	o	o	Static
Quadro	SM/SZ740	4 x SY/SZ185	o	o	o	o	Dynamic

o *Field assembly*
– *Not available*

SM / SY / SZ - Scroll compressors

Field assembly

Tandem Type	Connection	Configuration example	Oil equalisation fittings	Tandem assembly kit code no.	
				Kit [1]	Kit [2]
SM/SZ170	Brazed	SZ084-4VI + SZ084-4VI	2 x 023U801466	7703251	7765012
SM/SZ180	Brazed	SZ090-4VI + SZ090-4VI	2 x 023U801466	7703251	7765012
SM/SZ200	Brazed	SZ100-4VI + SZ100-4VI	2 x 023U801466	7703251	7765012
SM/SZ220	Brazed	SZ110-4VI + SZ110-4VI	2 x 023U801466	7703384	7765025
SM/SZ242	Brazed	SZ120-4VI + SZ120-4VI	2 x 023U801466	7703384	7765025
SM/SZ268	Brazed	SZ148-4VAI + SZ120-4VI	2 x 023U801466	7703390	7765025
SM/SZ271	Brazed	SZ161-4VAI + SZ110-4VI	2 x 023U801466	7703390	7765025
SM/SZ281	Brazed	SZ161-4VAI + SZ120-4VI	2 x 023U801466	7703390	7765025
SM/SZ296	Brazed	SZ148-4VAI + SZ148-4VAI	2 x 023U801466	7703390	7765025
SM/SZ322	Brazed	SZ161-4VAI + SZ161-4VAI	2 x 023U801466	7703390	7765025
SM/SZ350	Rotolock	SZ175-4SCI + SZ175-4SCI	2 x 023U801466	7703371	7765013
SM/SZ350	Brazed	SZ175-4PCI + SZ175-4PCI	2 x 023U801466	–	7765017
SM/SZ370	Rotolock	SZ185-4SCI + SZ185-4SCI	2 x 023U801466	7703371	7765013
SM/SZ370	Brazed	SZ185-4PCI + SZ185-4PCI	2 x 023U801466	–	7765017
SY/SZ425	Brazed	SZ240A4AAI + SZ185-4PCI	023U801666 + 023U801466	–	7765027
SY/SZ485	Rotolock	SZ300A4AAI + SZ185-4PCI	023U801666 + 023U801466	–	7765027

Different tandem assembly kits are available:
[1]) Containing the suction and discharge Tees sleeves and the suction oil separator / gas restrictor
[2]) Containing the suction oil separator / gas restrictor only

Technical data

SM - Scroll compressors

Operation principle

Tandem model	Composition	Suction [in]	Discharge [in]	Oil equalisation line [in]	Outline drawing number
SM248	SM124 + SM124	1 5/8	1 3/8	7/8	8556051
SM272	SM124 + SM147	1 5/8	1 3/8	7/8	8556051
SM294	SM147 + SM147	1 5/8	1 3/8	1 1/8	8556051

SM - Scroll compressors

Ordering information

Tandem model	Configuration example	Tandem assembly kit code no.
SM248	120H0185 + 120H0185	7777044
SM272	120H0185 + 120H0191	7777050
SM294	120H0191 + 120H0191	7777054

Refer to FRCC.PC.003 "Ordering information & packaging" section for other codes or industrial pack version.

SY / SZ - Scroll compressors

Operation principle

Tandem model	Composition	Suction [in]	Discharge [in]	Oil equalisation line [in]	Outline drawing number
SY/SZ482	S 240 + S 240	2 5/8	1 5/8	1/2	8556013
SY/SZ540	S 300 + S 240	2 5/8	1 5/8	1/2	8556034
SY/SZ600	S 300 + S 300	2 5/8	1 5/8	1/2	8556013
SY/SZ620	S 380 + S 240	2 5/8	2 1/8	1/2	8556036
SY/SZ680 left suction	S 380 + S 300	2 5/8	2 1/8	1/2	8556032
SY/SZ680 right suction	S 380 + S 300	2 5/8	2 1/8	1/2	8556032
SY/SZ760	S 380 + S 380	2 5/8	2 1/8	1/2	8556029

SY / SZ - Scroll compressors

Ordering information

Tandem model	Composition		Code number	Washer Ø [mm]	Oil equalisation fitting	Washer in suction of compressor
	Cp1	Cp2				
SY/SZ482	SZ240	SZ240	–	–	2 x 023U801666	–
SY/SZ540	SZ300	SZ240	7777023	29.5	2 x 023U801666	Cp1
SY/SZ600	SZ300	SZ300	–	–	2 x 023U801666	–
SY/SZ620	SZ380	SZ240	–	–	2 x 023U801666	–
SY/SZ680 left suction	SZ380	SZ300	7777036	38	2 x 023U801666	Cp2
SY/SZ680 right suction	SZ380	SZ300	7777036	39	2 x 023U801666	Cp2
SY/SZ760	SZ380	SZ380	–	–	2 x 023U801666	–

Refer to FRCC.PC.003. "Ordering information & packaging" section for other codes or other connections, or other motor protection version or industrial pack version.

SY / SZ - Scroll compressors

Operation principle

Trio model	Composition	Suction [in]	Discharge [in]	Oil equalisation [in]	Trio drawing number
SY/SZ720	3 x S240	2 5/8	1 3/8	1/2	8556018 *) 8556024 **)
SY/SZ900	3 x S300	2 5/8	1 3/8	1/2	8556018 *) 8556024 **)
SY/SZ1140	S x S380	2 5/8	1 3/8	1/2	8556145 *) 8556030 **)

*)Left suction connection **) Right suction connection

SY / SZ - Scroll compressors

Operation principle

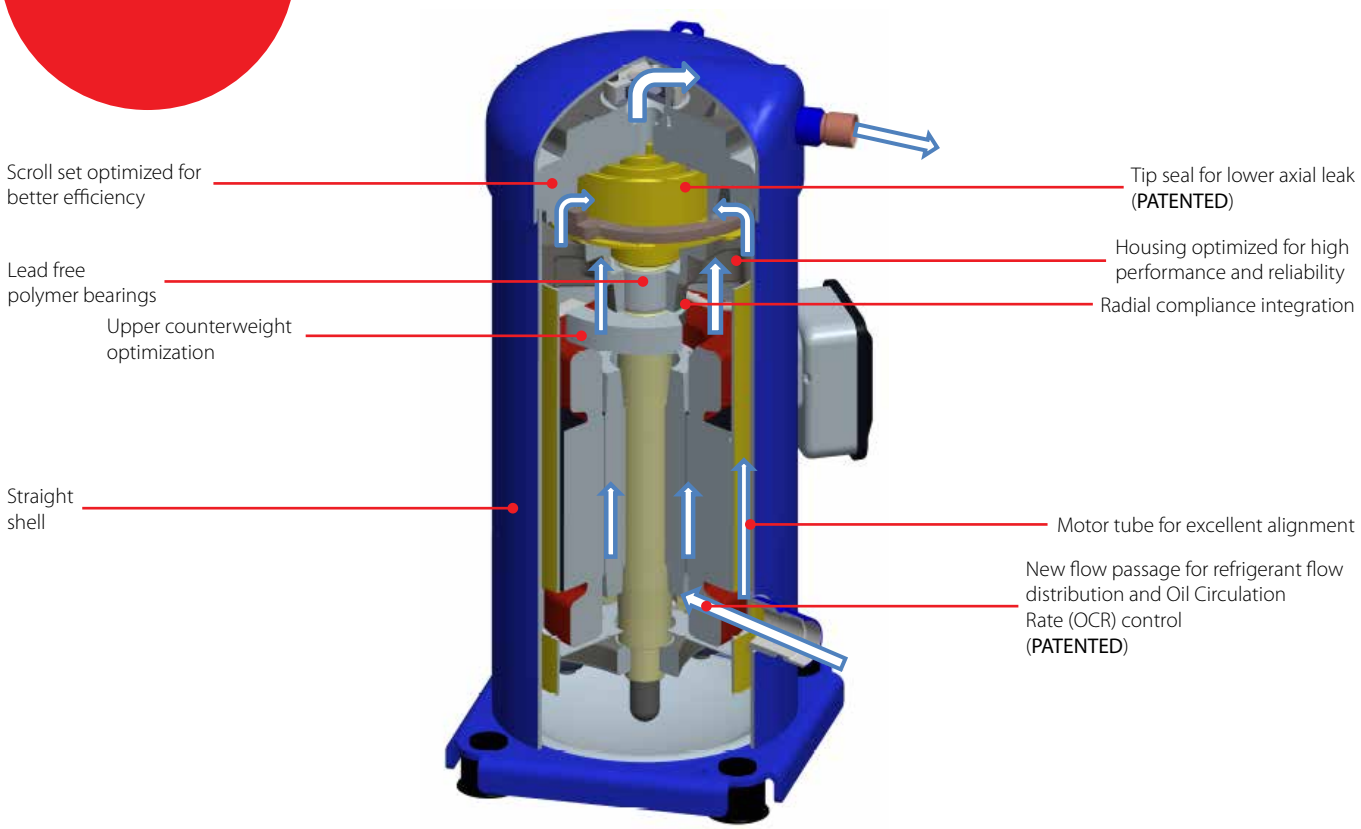
Trio model	Configuration example	Flare adapters	Restrictors
SY/SZ720	3 x SZ240A4CBM	6 x 023U801666	Standard piping and Tee's
SY/SZ900	3 x SZ300A4CBM	6 x 023U801666	Standard piping and Tee's
SY/SZ1140	3 x SZ380A4CBM	6 x 023U801666	Standard piping and Tee's

CXH 140, Scroll compressor - R410A

For Chinese modular chillers – 12HP - R410A.
CXH scroll compressor is optimized for air-cooled chillers.
The product associates the best in scroll technologies to obtain a higher
level of reliability and industry leading EER. The CXH compressor boosts energy performance and savings in end user applications and helps meeting the demanding Chinese energy efficiency standards.

Combined with a sturdy design, it is today the best fixed-speed offer for light commercial modular chillers that guarantees great comfort at low running costs.
The model is based on the combination of tested and reliable scroll designs. Tip seal and radial compliance ensure strong reliability.
The optimization for Chinese chillers gives a measured saving on electricity consumption of 4% versus the next best alternative in modular air-cooled chillers.





Facts

Product advantages
- New scroll set design
- Optimization for higher efficiency in air-cooled modular chiller conditions
- 11.35 industry leading EER
- Standard footprint
- Wide operating envelope

- Customer benefits
- Higher reliability
- Meet the new energy standards
- Reduced running costs
- Easy drop-in in existing chiller design
- Suitable for applications in extreme conditions

Technical data and ordering

CXH - Scroll compressor - R410A - 50 Hz

Technical data

Type	Nominal tons 60 Hz	Nominal cooling capacity		Power input	COP	E.E.R	Swept volume	Displacement	Oil charge	Net weight
	[TR]	[W]	[Btu/h]	[kW]	[W/W]	[Btu/h/W]	[cm³/rev]	[m³/h]	[dm3]	[kg]
CXH140	12	34 756	119 079	10.45	3.33	11.35	132.9	23.1	2.5	71.5

Note: compressor performance after 72 hours wear in

Type	Nominal tons 60 Hz	Nominal cooling capacity		Power input	Max operating current ①	Efficiency		Sound power	Displacement ②
	[TR]	[W]	[Btu/h]	[kW]		COP [W/W]	E.E.R [Bty/h/W]	dB [A]	[m³/h]
CXH282	23.5	68886	235050	20.9	47	3.30	11.25	75.5	46.2
CXH140 + CXH140									

Note: compressor performance after 72 hours wear in
① for +15 °C evap. temp; +68 °C cond. temp under nominal voltage 400 V / 3 / 50 Hz
② displacement at nominal speed: 2900 rpm at 50 Hz
***TR:** Ton of Refrigeration*
COP: *Coefficient Of Performance*
Rating conditions: CXH compressors *Refrigerant: R410A* *Frequency: 50 Hz* *Standard rating conditions: ARI standard*
Evaporating temperature: 7.2 °C *Condensing temperature: 54.4 °C* *Sub-cooling: 8.3 K* *Superheat: 11.1 K*

CXH - Scroll compressor - R410A

Ordering

Danfoss scroll compressor CXH can be ordered in either industrial packs or in single packs.
Please use the code numbers from below tables for ordering.



CXH - Scroll compressor - R410A

Ordering - Single pack

Type	Version	Code no.
		4
CXH140	AL version	120H1102
	BL version	120H1171



CXH - Scroll compressor - R410A

Ordering - Industrial pack

Type	Version	Code no.
		4
CXH140	AL version	120H1103
	BL version	120H1172

CXH - Scroll compressor - R410A

Performance table

Type	To	-25		-20		-15		-10		-5		0		5		10		15	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
CXH140	35	11878	6.78	15122	6.84	18907	6.85	23307	6.83	28393	6.80	34237	6.79	40911	6.81	48486	6.89	57035	7.04
	45	10117	8.41	13078	8.53	16533	8.57	20552	8.57	25210	8.54	30576	8.50	36723	8.47	43724	8.48	51649	8.54
	55	–	–	–	–	13876	10.70	17390	10.73	21492	10.71	26255	10.67	31750	10.61	38049	10.58	45225	10.57

***To:** Evaporating temperature in [°C]* ***Tc:** Condensing temperature in [°C]* ***Qo:** Cooling capacity in [W]* ***Pe:** Power input in [kW]*
***Subcooling:** 8.3 K* ***Superheat:** 11.1 K* ***Voltage:** 400 V / 3 / 50 Hz*

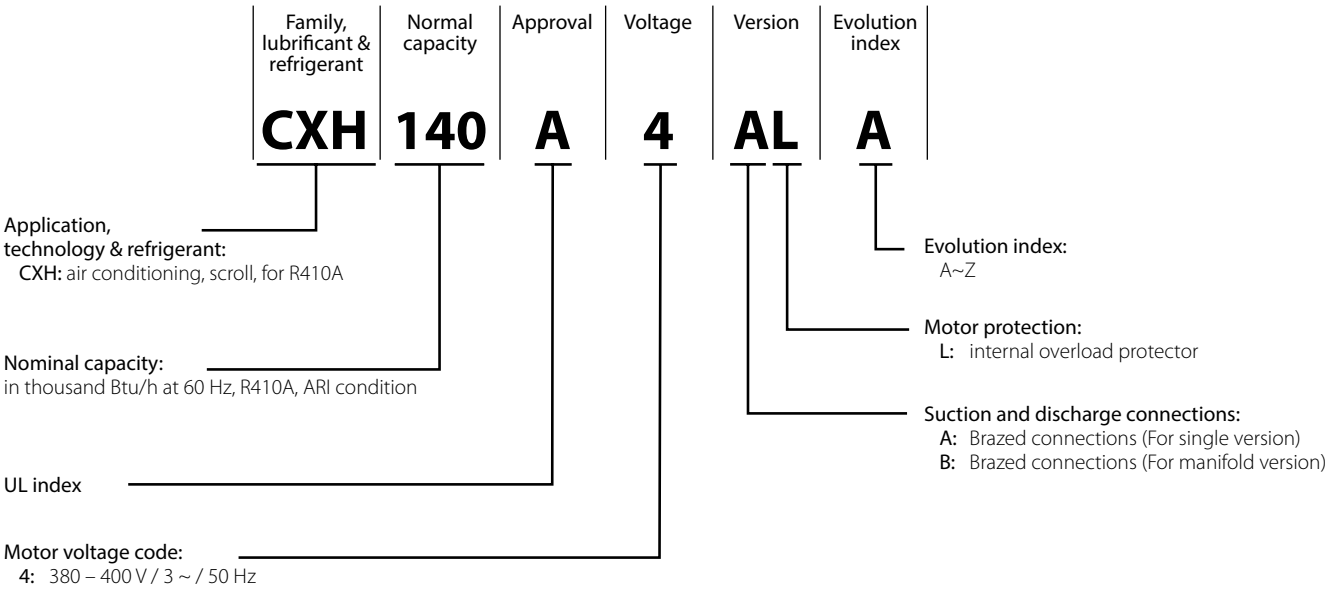
CXH - Scroll compressor - R410A

Ordering - Tandem version

Compressor	Tandem	Code no.
Compressor 1	Model	CXH140
	Code No. [1])	120H1172
Compressor 2	Model	CXH140
	Code No. [1])	120H1172
Tandem kit	Code No.	120Z0616

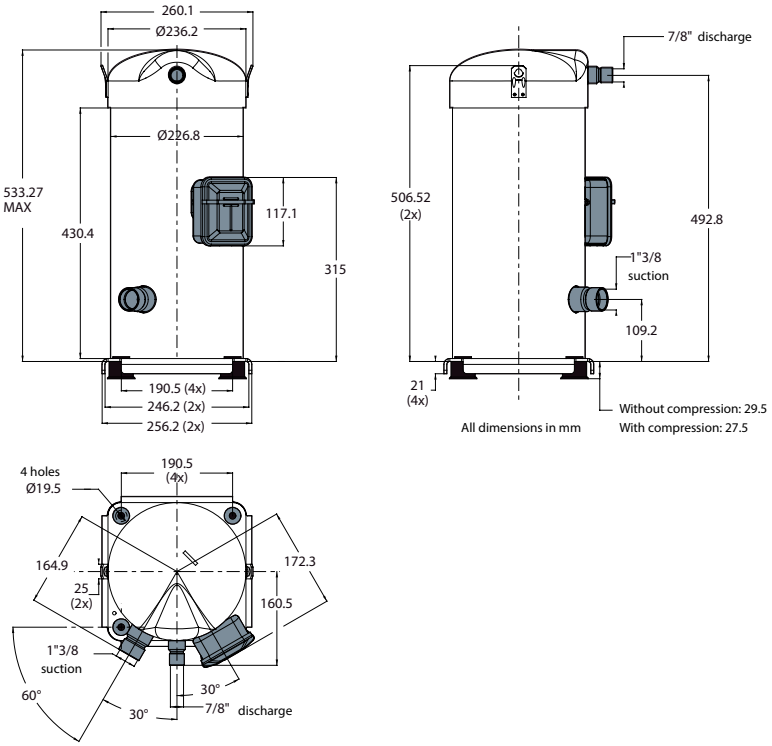
[1]) *Example for the voltage code 4 (industrial pack). Refer to "code number information" part for single pack version*

Nomenclature

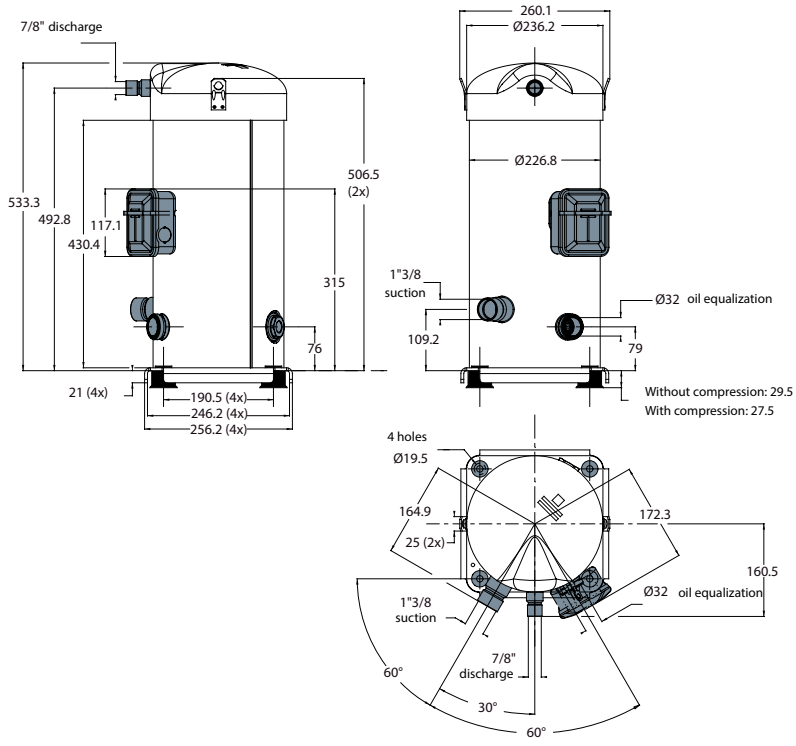


Dimensions

CXH140 - AL - Single version



CXH140 - BL - Manifold version

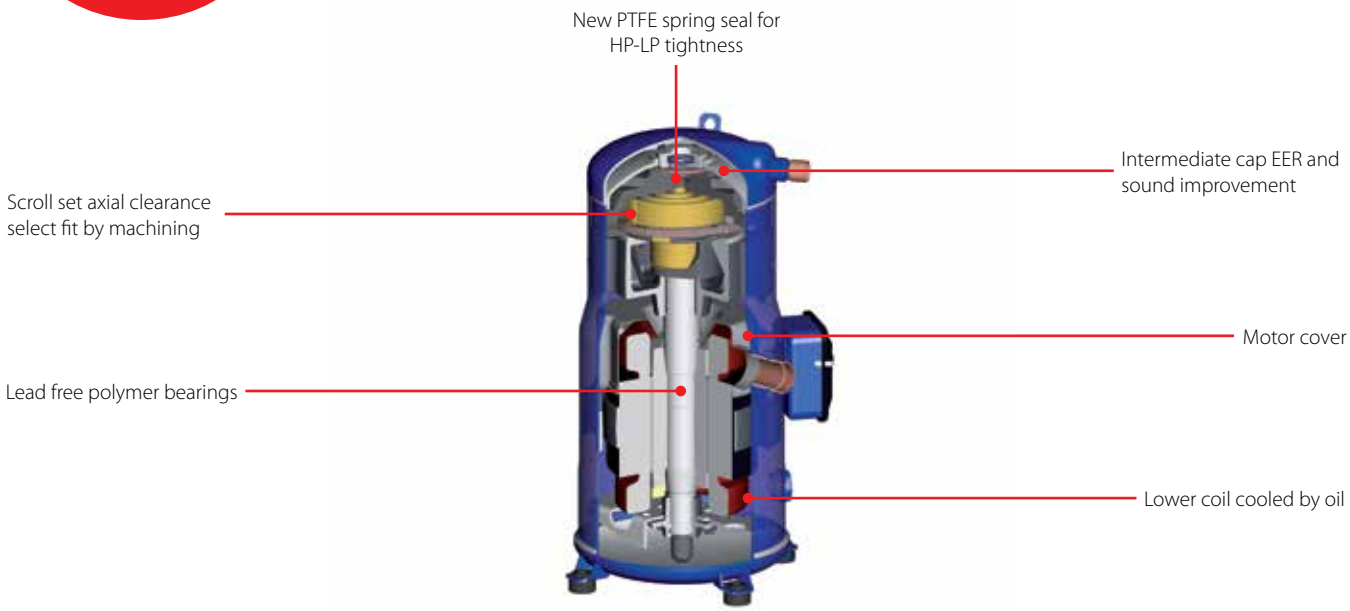


PSH, Scroll compressor heating optimized - R410A

R410A, single, Danfoss scroll compressors dedicated to heating applications. PSH compressors have an extended operating envelope thanks to a liquid injection system and an integrated electronic module. The product reliability is improved via map monitoring, data storage and bus communication.

PSH compressors are suitable with a patented Surface Sump Heater (SSH) with integrated insulation, which largely contributes to the reduction in sound level.





PSH 019 - 039

Facts

- Water heated to 60 °C at -15 °C ambient temperature
- Equipment manufacturers will benefit from the liquid injection system, which offers a wider operating temperature envelope. In comparison with gas or oil furnaces for space heating and Hot Sanitary Water (HSW) production, a heat pump system offers very large energy savings – up to 50%. But until now, most heat pumps have been limited with regard to operating temperatures
- An energy efficient solution that qualifies for the European Ecolabel. The PSH019-039 obtain a compressor COP better than that required for the Ecolabel (3.4W / W). All displacements offer a minimum COP of 3.77, and figures of up 4.11 can be achieved for Air-to-Water heat pumps, depending on the model
- Heat pumps for heating in factories, offices, shopping malls, etc
- A simpler and more efficient solution for OEMs 25% cost reduction. A light PSH compressor requires fewer components in the system. It saves installing an brazed plate heat exchanger, electronic expansion valves and extra piping, thus reducing costs. The new integrated liquid injection valve and controller make it simpler to design and manufacture heat pumps

Technical data and ordering

PSH - Scroll compressors heating optimized

Ordering - Single pack

Compressor	Connections	Code no.		
		Motor code 3	Motor code 4	Motor code 9
PSH019	Full package	120H0963	120H0931	120H0987
PSH023		120H0965	120H0933	120H0989
PSH026		120H0967	120H0935	120H0991
PSH030		120H0969	120H0937	120H0993
PSH034		120H0971	120H0939	120H0995
PSH039		120H0973	120H0941	120H0997
PSH019	Bare compressor	–	120H0951	–
PSH023		–	120H0953	–
PSH026		–	120H0955	–
PSH030		–	120H0957	–
PSH034		–	120H0959	–
PSH039		–	120H0961	–

PSH - Scroll compressors heating optimized

Ordering - Industrial pack

Compressor	Connections	Code no.		
		Motor code 3	Motor code 4	Motor code 9
PSH019	Full package	120H0964	120H0932	120H0988
PSH023		120H0966	120H0934	120H0990
PSH026		120H0968	120H0936	120H0992
PSH030		120H0970	120H0938	120H0994
PSH034		120H0972	120H0940	120H0996
PSH039		120H0974	120H0942	120H0998
PSH019	Bare compressor	–	120H0952	–
PSH023		–	120H0954	–
PSH026		–	120H0956	–
PSH030		–	120H0958	–
PSH034		–	120H0960	–
PSH039		–	120H0962	–

PSH - Scroll compressors heating optimized

Compressor specifications

Type		Nominal Heating capacity	Power Input	Heating COP	Swept volume	Displacement [1]	Oil charge	Net weight [2]
		[W]	[W]	[W]/[W]	[cm³/rev]	[m³/h]	[dm³]	[kg]
50 Hz	PSH019	19600	6.62	2.96	88.40	15.40	3.0	58.5
	PSH023	23000	7.47	3.07	103.50	18.00	3.3	64.5
	PSH026	26000	8.65	3.00	116.90	20.30	3.3	64.5
	PSH030	30000	9.60	3.13	133.00	23.12	3.3	67.5
	PSH034	34200	10.95	3.12	151.17	26.40	3.3	69.5
	PSH039	38900	12.19	3.19	170.30	29.60	3.6	72.0
60 Hz	PSH019	23600	7.97	2.96	88.40	18.60	3.0	58.5
	PSH023	28000	8.84	3.17	103.50	21.80	3.3	64.5
	PSH026	31400	10.19	3.08	116.90	24.60	3.3	64.5
	PSH030	35700	11.35	3.15	133.00	27.90	3.3	67.5
	PSH034	40500	12.72	3.18	151.17	31.90	3.3	69.5
	PSH039	46500	14.49	3.21	170.30	35.80	3.6	72.0

Evaporating temperature: -7 °C Condensing temperature: 50 °C Superheat: 5 K Subcooling: 4 K Refrigerant: R410A

[1]) Displacement at nominal speed: 2900 rpm at 50 Hz. 3500 rpm at 60 Hz
[2]) Net weight with oil charge

Technical data and ordering

PSH - Scroll compressors heating optimized - R410A - 50 Hz

Cooling performance table - Heating optimized

Type	Te	-30		-20		-15		-10		-5		0		5		10		15	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
PSH019-4	20	7040	3.48	11140	3.59	13810	3.66	16930	3.75	20570	3.87	24740	4.03	29510	4.23	–	–	–	–
	30	6170	4.26	10070	4.36	12560	4.41	15470	4.48	18840	4.57	22710	4.68	27130	4.83	32130	5.02	37760	5.27
	40	5230	5.25	8820	5.36	11100	5.40	13750	5.44	16810	5.50	20330	5.58	24340	5.68	28900	5.81	34040	5.99
	50	4230	6.52	7430	6.65	9430	6.68	11770	6.72	14470	6.75	17590	6.79	21160	6.86	25220	6.94	29820	7.06
	60	–	–	5890	8.31	7580	8.35	9550	8.37	11840	8.39	14510	8.41	17580	8.44	21100	8.48	25110	8.55
	68	–	–	–	–	–	–	7600	10.03	9530	10.04	11800	10.04	14440	10.04	17490	10.06	20990	10.09
PSH023-4	20	8570	4.08	13310	4.38	16360	4.52	19940	4.61	24100	4.64	28880	4.58	34340	4.42	–	–	–	–
	30	7470	4.91	11980	5.13	14860	5.29	18220	5.44	22100	5.57	26560	5.66	31650	5.67	37420	5.60	43920	5.41
	40	6310	6.15	10500	6.14	13140	6.25	16220	6.39	19780	6.55	23870	6.70	28540	6.83	33840	6.90	39830	6.90
	50	5080	8.01	8830	7.63	11190	7.61	13940	7.67	17120	7.78	20780	7.93	24990	8.09	29770	8.24	35200	8.36
	60	–	–	6990	9.82	9010	9.60	11370	9.50	14120	9.50	17310	9.57	20980	9.69	25200	9.84	30010	10.00
	68	–	–	–	–	–	–	9100	11.50	11460	11.35	14230	11.31	17450	11.35	21180	11.45	25450	11.59
PSH026-4	20	9490	4.47	15160	4.64	18860	4.76	23220	4.93	28290	5.14	34130	5.41	40800	5.74	–	–	–	
	30	8350	5.49	13720	5.61	17160	5.69	21200	5.81	25880	5.97	31260	6.17	37410	6.44	44370	6.77	52210	7.18
	40	7140	6.82	12060	6.90	15190	6.95	18840	7.02	23070	7.13	27930	7.28	33490	7.47	39800	7.73	46910	8.05
	50	5840	8.55	10210	8.60	12950	8.63	16160	8.67	19870	8.73	24150	8.82	29050	8.95	34640	9.14	40980	9.38
	60	–	–	8150	10.82	10450	10.82	13140	10.83	16270	10.85	19910	10.90	24100	10.97	28910	11.09	34390	11.26
	68	–	–	–	–	–	–	10490	13.01	13120	13.00	16190	13.01	19770	13.05	23910	13.12	28670	13.23
PSH030-4	20	11280	5.02	17620	5.23	21730	5.34	26560	5.49	32160	5.67	38600	5.90	45950	6.19	–	–	–	–
	30	9960	6.05	15940	6.28	19760	6.38	24220	6.50	29380	6.64	35320	6.81	42080	7.03	49750	7.32	58370	7.69
	40	8580	7.35	14070	7.63	17530	7.74	21570	7.85	26240	7.96	31600	8.10	37720	8.27	44670	8.49	52500	8.77
	50	7130	8.98	12000	9.36	15050	9.50	18590	9.61	22690	9.72	27420	9.84	32840	9.98	39000	10.15	45990	10.37
	60	–	–	9710	11.56	12280	11.74	15270	11.88	18740	12.00	22770	12.12	27420	12.24	32740	12.38	38810	12.56
	68	–	–	–	–	–	–	12350	14.11	15280	14.26	18710	14.39	22690	14.51	27290	14.64	32580	14.80
PSH034-4	20	12690	5.57	20070	5.82	24860	5.97	30460	6.14	36960	6.33	44430	6.52	52940	6.72	–	–	–	–
	30	11140	6.83	18060	6.99	22470	7.12	27620	7.28	33580	7.45	40410	7.65	48200	7.86	57020	8.08	66940	8.30
	40	9560	8.55	15910	8.59	19900	8.67	24530	8.78	29880	8.93	36020	9.10	43030	9.30	50970	9.52	59930	9.76
	50	7930	10.91	13580	10.77	17080	10.78	21140	10.83	25830	10.92	31220	11.05	37380	11.22	44400	11.42	52330	11.64
	60	–	–	11030	13.70	14000	13.61	17430	13.58	21390	13.60	25970	13.66	31230	13.77	37250	13.92	44110	14.11
	68	–	–	–	–	–	–	14190	16.39	17540	16.34	21420	16.33	25920	16.38	31110	16.48	37060	16.62
PSH039-4	20	14480	6.13	22290	6.48	27420	6.70	33450	6.95	40450	7.26	48500	7.63	57660	8.07	–	–	–	–
	30	12950	7.46	20350	7.81	25110	8.01	30690	8.24	37140	8.51	44530	8.83	52930	9.21	62420	9.66	73050	10.20
	40	11290	9.13	18110	9.48	22440	9.67	27480	9.87	33300	10.10	39960	10.38	47530	10.70	56090	11.08	65690	11.54
	50	9450	11.31	15540	11.69	19350	11.86	23780	12.04	28880	12.24	34730	12.47	41400	12.73	48940	13.05	57440	13.43
	60	–	–	12560	14.60	15790	14.77	19520	14.93	23830	15.10	28790	15.28	34470	15.50	40920	15.75	48230	16.05
	68	–	–	–	–	–	–	15680	17.89	19300	18.03	23490	18.19	28320	18.36	33850	18.56	40150	18.80

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Pe: *Power input in [kW]*
Qo: *Cooling capacity in [W]*
Subcooling: *4 K*
Superheat: *5 K*
Frequency: *50 Hz*
Subject to modification without prior notification

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

PSH - Scroll compressors heating optimized - R410A - 50 Hz

Heating performance table - Heating optimized

Type	Te	-30		-20		-15		-10		-5		0		5		10		15	
	Tc	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe
PSH019-4	20	10370	3.48	14580	3.59	17310	3.66	20520	3.75	24270	3.87	28600	4.03	33560	4.23	–	–	–	–
	30	10240	4.26	14240	4.36	16790	4.41	19760	4.48	23210	4.57	27190	4.68	31750	4.83	36940	5.02	42800	5.27
	40	10250	5.25	13950	5.36	16270	5.40	18960	5.44	22070	5.50	25660	5.58	29780	5.68	34470	5.81	39780	5.99
	50	10470	6.52	13790	6.65	15830	6.68	18200	6.72	20930	6.75	24090	6.79	27720	6.86	31870	6.94	36580	7.06
	60	–	–	13840	8.31	15570	8.35	17560	8.37	19880	8.39	22560	8.41	25650	8.44	29220	8.48	33290	8.55
	68	–	–	–	–	–	–	17200	10.03	19140	10.04	21410	10.04	24050	10.04	27120	10.06	30650	10.09
PSH023-4	20	12500	4.08	17520	4.38	20710	4.52	24380	4.61	28570	4.64	33300	4.58	38590	4.42	–	–	–	–
	30	12200	4.91	16920	5.13	19950	5.29	23450	5.44	27460	5.57	32010	5.66	37120	5.67	42810	5.60	49130	5.41
	40	12230	6.15	16410	6.14	19150	6.25	22370	6.39	26080	6.55	30320	6.70	35110	6.83	40490	6.90	46470	6.90
	50	12790	8.01	16180	7.63	18520	7.61	21320	7.67	24610	7.78	28420	7.93	32780	8.09	37710	8.24	43250	8.36
	60	–	–	16440	9.82	18250	9.60	20510	9.50	23260	9.50	26520	9.57	30310	9.69	34680	9.84	39640	10.00
	68	–	–	–	–	–	–	20170	11.50	22390	11.35	25120	11.31	28380	11.35	32210	11.45	36620	11.59
PSH026-4	20	13880	4.47	19720	4.64	23540	4.76	28060	4.93	33340	5.14	39450	5.41	46450	5.74	–	–	–	–
	30	13750	5.49	19230	5.61	22760	5.69	26910	5.81	31740	5.97	37330	6.17	43730	6.44	51020	6.77	59260	7.18
	40	13840	6.82	18840	6.90	22020	6.95	25750	7.02	30080	7.13	35080	7.28	40830	7.47	47390	7.73	54830	8.05
	50	14250	8.55	18660	8.60	21430	8.63	24670	8.67	28440	8.73	32810	8.82	37850	8.95	43620	9.14	50190	9.38
	60	–	–	18780	10.82	21090	10.82	23790	10.83	26940	10.85	30620	10.90	34880	10.97	39810	11.09	45460	11.26
	68	–	–	–	–	–	–	23280	13.01	25900	13.00	28980	13.01	32590	13.05	36800	13.12	41670	13.23
PSH030-4	20	16270	5.02	22820	5.23	27050	5.34	32010	5.49	37790	5.67	44460	5.90	52110	6.19	–	–	–	–
	30	15980	6.05	22190	6.28	26110	6.38	30680	6.50	35980	6.64	42090	6.81	49080	7.03	57030	7.32	66020	7.69
	40	15890	7.35	21660	7.63	25230	7.74	29370	7.85	34150	7.96	39650	8.10	45940	8.27	53110	8.49	61230	8.77
	50	16060	8.98	21310	9.36	24490	9.50	28150	9.61	32360	9.72	37210	9.84	42760	9.98	49100	10.15	56300	10.37
	60	–	–	21200	11.56	23950	11.74	27080	11.88	30680	12.00	34830	12.12	39600	12.24	45060	12.38	51300	12.56
	68	–	–	–	–	–	–	26380	14.11	29460	14.26	33020	14.39	37120	14.51	41860	14.64	47300	14.80
PSH034-4	20	17960	5.57	25580	5.82	30500	5.97	36270	6.14	42950	6.33	50600	6.52	59300	6.72	–	–	–	–
	30	17600	6.83	24670	6.99	29210	7.12	34510	7.28	40630	7.45	47650	7.65	55630	7.86	64660	8.08	74790	8.30
	40	17660	8.55	24030	8.59	28090	8.67	32840	8.78	38330	8.93	44630	9.10	51830	9.30	59980	9.52	69160	9.76
	50	18250	10.91	23760	10.77	27280	10.78	31390	10.83	36160	10.92	41680	11.05	48000	11.22	55200	11.42	63340	11.64
	60	–	–	23990	13.70	26870	13.61	30270	13.58	34250	13.60	38900	13.66	44260	13.77	50430	13.92	57460	14.11
	68	–	–	–	–	–	–	29700	16.39	32990	16.34	36880	16.33	41420	16.38	46700	16.48	52780	16.62
PSH039-4	20	20570	6.13	28720	6.48	34060	6.70	40340	6.95	47650	7.26	56060	7.63	65660	8.07	–	–	–	–
	30	20350	7.46	28090	7.81	33060	8.01	38860	8.24	45570	8.51	53280	8.83	62070	9.21	72000	9.66	83170	10.20
	40	20340	9.13	27520	9.48	32030	9.67	37280	9.87	43320	10.10	50250	10.38	58150	10.70	67080	11.08	77140	11.54
	50	20670	11.31	27130	11.69	31120	11.86	35720	12.04	41020	12.24	47100	12.47	54030	12.73	61880	13.05	70750	13.43
	60	–	–	27040	14.60	30440	14.77	34330	14.93	38810	15.10	43950	15.28	49840	15.50	56540	15.75	64150	16.05
	68	–	–	–	–	–	–	33420	17.89	37190	18.03	41530	18.19	46520	18.36	52250	18.56	58790	18.80

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Pe: *Power input in [kW]*
H: *Heating capacity in [W]*
Subcooling: *4 K*
Superheat: *5 K*
Frequency: *50 Hz*
Subject to modification without prior notification

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Technical data and ordering

PSH - Scroll compressors heating optimized - R410A - 60 Hz

Cooling performance table - Heating optimized

Type	Te	-30		-20		-15		-10		-5		0		5		10		15	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
PSH019-4	20	8700	4.00	13620	4.35	16810	4.49	20550	4.62	24900	4.74	29910	4.85	35620	4.98	–	–	–	–
	30	7720	4.89	12350	5.29	15320	5.46	18780	5.61	22790	5.74	27400	5.88	32650	6.02	38610	6.17	45310	6.34
	40	6700	5.82	10950	6.26	13640	6.44	16770	6.61	20390	6.76	24550	6.91	29310	7.06	34700	7.22	40780	7.39
	50	5620	7.00	9400	7.46	11760	7.65	14510	7.83	17700	7.99	21360	8.14	25560	8.30	30350	8.46	35760	8.63
	60	–	–	7670	9.09	9660	9.29	11980	9.47	14680	9.63	17800	9.78	21410	9.94	25530	10.10	30230	10.27
	68	–	–	–	–	–	–	9750	11.22	12020	11.38	14680	11.53	17770	11.68	21330	11.83	25430	11.99
PSH023-4	20	10290	4.81	16020	5.02	19740	5.16	24110	5.33	29180	5.54	35020	5.79	41670	6.10	–	–	–	–
	30	9210	5.80	14640	6.00	18110	6.12	22160	6.27	26850	6.45	32230	6.67	38370	6.92	45330	7.23	53160	7.59
	40	8080	7.02	13090	7.23	16250	7.35	19930	7.48	24170	7.64	29050	7.82	34620	8.04	40930	8.31	48060	8.62
	50	6860	8.54	11340	8.78	14130	8.90	17370	9.03	21120	9.18	25430	9.34	30370	9.54	35990	9.76	42350	10.03
	60	–	–	9350	10.72	11720	10.86	14470	11.00	17660	11.14	21350	11.30	25600	11.48	30460	11.68	36000	11.91
	68	–	–	–	–	–	–	11880	12.92	14580	13.07	17730	13.23	21390	13.40	25600	13.59	30450	13.81
PSH026-4	20	11670	5.40	18260	5.67	22560	5.83	27620	6.03	33510	6.27	40300	6.57	48050	6.94	–	–	–	–
	30	10400	6.52	16610	6.75	20610	6.88	25290	7.04	30730	7.23	36980	7.47	44120	7.76	52210	8.13	61330	8.57
	40	9050	7.95	14750	8.17	18370	8.28	22610	8.40	27510	8.55	33160	8.73	39620	8.95	46960	9.24	55240	9.59
	50	7600	9.80	12650	10.02	15830	10.11	19540	10.20	23850	10.31	28830	10.44	34540	10.61	41050	10.82	48420	11.09
	60	–	–	10290	12.38	12960	12.46	16090	12.54	19730	12.61	23960	12.70	28850	12.81	34460	12.96	40860	13.16
	68	–	–	–	–	–	–	13030	14.84	16090	14.90	19670	14.96	23860	15.03	28700	15.14	34270	15.28
PSH030-4	20	13780	5.98	21300	6.25	26190	6.44	31920	6.71	38570	7.06	46210	7.51	54930	8.08	–	–	–	–
	30	12240	7.26	19280	7.48	23780	7.63	29040	7.83	35130	8.09	42120	8.44	50090	8.89	59120	9.45	69270	10.15
	40	10670	8.85	17110	9.06	21170	9.18	25910	9.34	31380	9.54	37670	9.81	44840	10.16	52980	10.61	62160	11.17
	50	8990	10.84	14720	11.09	18300	11.21	22460	11.34	27260	11.50	32790	11.71	39120	11.99	46320	12.35	54460	12.80
	60	–	–	12070	13.65	15110	13.79	18630	13.92	22710	14.07	27430	14.24	32850	14.47	39050	14.75	46120	15.12
	68	–	–	–	–	–	–	15250	16.46	18710	16.61	22740	16.78	27400	16.97	32770	17.22	38930	17.53
PSH034-4	20	15400	6.67	23950	6.99	29530	7.24	36080	7.57	43680	7.99	52430	8.53	62400	9.20	–	–	–	–
	30	13590	8.16	21680	8.39	26860	8.57	32900	8.81	39900	9.14	47920	9.56	57060	10.09	67400	10.76	79020	11.57
	40	11800	10.03	19260	10.21	23960	10.34	29420	10.51	35720	10.75	42950	11.07	51180	11.49	60500	12.02	70990	12.68
	50	9910	12.43	16590	12.60	20730	12.69	25530	12.81	31060	12.98	37410	13.22	44650	13.54	52870	13.95	62160	14.48
	60	–	–	13580	15.70	17090	15.77	21140	15.86	25820	15.98	31210	16.15	37380	16.38	44430	16.69	52440	17.10
	68	–	–	–	–	–	–	17220	18.94	21160	19.03	25720	19.15	30980	19.33	37030	19.57	43950	19.90
PSH039-4	20	17880	7.41	27450	7.90	33630	8.20	40880	8.54	49280	8.94	58930	9.41	69930	9.97	–	–	–	–
	30	15910	8.92	24920	9.39	30660	9.66	37350	9.96	45080	10.31	53950	10.71	64060	11.19	75500	11.75	88360	12.41
	40	13830	10.84	22120	11.31	27330	11.56	33370	11.84	40350	12.14	48360	12.49	57490	12.90	67840	13.39	79510	13.95
	50	11600	13.27	18990	13.78	23580	14.02	28900	14.28	35040	14.56	42100	14.87	50160	15.23	59340	15.64	69720	16.12
	60	–	–	15480	16.89	19370	17.15	23880	17.40	29100	17.67	35120	17.95	42040	18.27	49960	18.63	58970	19.04
	68	–	–	–	–	–	–	19440	20.47	23850	20.73	28980	21.00	34930	21.29	41780	21.62	49630	21.99

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Pe: *Power input in [kW]*
Qo: *Cooling capacity in [W]*
Subcooling: *4 K*
Superheat: *5 K*
Frequency: *60 Hz*
Subject to modification without prior notification

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Technical data and ordering

PSH - Scroll compressors heating optimized - R410A - 60 Hz

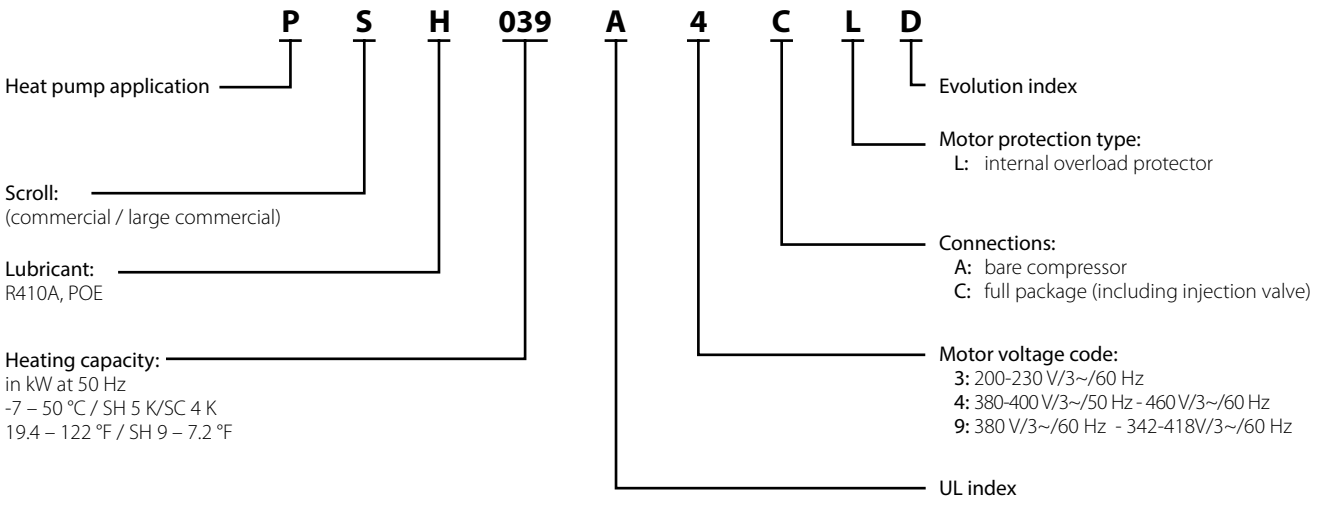
Heating performance table - Heating optimized

Type	Te	-30		-20		-15		-10		-5		0		5		10		15	
	Tc	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe
PSH019-4	20	12490	4.00	17740	4.35	21070	4.49	24930	4.62	29400	4.74	34520	4.85	40340	4.98	–	–	–	–
	30	12360	4.89	17370	5.29	20490	5.46	24100	5.61	28240	5.74	32980	5.88	38360	6.02	44460	6.17	51320	6.34
	40	12230	5.82	16890	6.26	19760	6.44	23040	6.61	26810	6.76	31110	6.91	36000	7.06	41550	7.22	47790	7.39
	50	12260	7.00	16480	7.46	19020	7.65	21940	7.83	25270	7.99	29090	8.14	33430	8.30	38370	8.46	43950	8.63
	60	–	–	16290	9.09	18470	9.29	20960	9.47	23820	9.63	27090	9.78	30830	9.94	35110	10.10	39980	10.27
	68	–	–	–	–	–	–	20390	11.22	22820	11.38	25620	11.53	28850	11.68	32560	11.83	36810	11.99
PSH023-4	20	14880	4.81	20810	5.02	24660	5.16	29190	5.33	34460	5.54	40540	5.79	47480	6.10	–	–	–	–
	30	14740	5.80	20360	6.00	23950	6.12	28140	6.27	33000	6.45	38590	6.67	44970	6.92	52220	7.23	60400	7.59
	40	14770	7.02	19980	7.23	23260	7.35	27060	7.48	31450	7.64	36510	7.82	42290	8.04	48850	8.31	56270	8.62
	50	15000	8.54	19710	8.78	22620	8.90	25980	9.03	29870	9.18	34340	9.34	39460	9.54	45300	9.76	51910	10.03
	60	–	–	19580	10.72	22070	10.86	24960	11.00	28280	11.14	32120	11.30	36540	11.48	41600	11.68	47360	11.91
	68	–	–	–	–	–	–	24190	12.92	27040	13.07	30340	13.23	34160	13.40	38560	13.59	43610	13.81
PSH026-4	20	16920	5.40	23770	5.67	28230	5.83	33480	6.03	39610	6.27	46690	6.57	54810	6.94	–	–	–	–
	30	16730	6.52	23180	6.75	27310	6.88	32140	7.04	37760	7.23	44240	7.47	51670	7.76	60120	8.13	69670	8.57
	40	16780	7.95	22700	8.17	26430	8.28	30780	8.40	35830	8.55	41650	8.73	48330	8.95	55940	9.24	64570	9.59
	50	17130	9.80	22400	10.02	25670	10.11	29470	10.20	33880	10.31	38980	10.44	44850	10.61	51570	10.82	59210	11.09
	60	–	–	22340	12.38	25090	12.46	28280	12.54	32000	12.61	36320	12.70	41310	12.81	47070	12.96	53660	13.16
	68	–	–	–	–	–	–	27460	14.84	30580	14.90	34220	14.96	38480	15.03	43420	15.14	49130	15.28
PSH030-4	20	19410	5.98	27180	6.25	32250	6.44	38240	6.71	45220	7.06	53290	7.51	62540	8.08	–	–	–	–
	30	19080	7.26	26320	7.48	30960	7.63	36410	7.83	42750	8.09	50070	8.44	58460	8.89	68020	9.45	78830	10.15
	40	19000	8.85	25640	9.06	29820	9.18	34700	9.34	40370	9.54	46910	9.81	54410	10.16	62970	10.61	72680	11.17
	50	19190	10.84	25170	11.09	28860	11.21	33140	11.34	38100	11.50	43820	11.71	50410	11.99	57940	12.35	66520	12.80
	60	–	–	24920	13.65	28090	13.79	31740	13.92	35960	14.07	40840	14.24	46470	14.47	52950	14.75	60350	15.12
	68	–	–	–	–	–	–	30750	16.46	34360	16.61	38540	16.78	43390	16.97	48990	17.22	55440	17.53
PSH034-4	20	21570	6.67	30420	6.99	36220	7.24	43070	7.57	51070	7.99	60320	8.53	70910	9.20	–	–	–	–
	30	21140	8.16	29440	8.39	34780	8.57	41050	8.81	48350	9.14	56760	9.56	66400	10.09	77350	10.76	89720	11.57
	40	21070	10.03	28700	10.21	33520	10.34	39140	10.51	45660	10.75	53180	11.07	61800	11.49	71610	12.02	82720	12.68
	50	21410	12.43	28230	12.60	32470	12.69	37380	12.81	43070	12.98	49630	13.22	57170	13.54	65770	13.95	75550	14.48
	60	–	–	28090	15.70	31680	15.77	35810	15.86	40600	15.98	46140	16.15	52530	16.38	59870	16.69	68250	17.10
	68	–	–	–	–	–	–	34730	18.94	38760	19.03	43430	19.15	48860	19.33	55130	19.57	62350	19.90
PSH039-4	20	25070	7.41	35120	7.90	41590	8.20	49160	8.54	57950	8.94	68060	9.41	79600	9.97	–	–	–	–
	30	24560	8.92	34040	9.39	40030	9.66	47010	9.96	55080	10.31	64350	10.71	74920	11.19	86900	11.75	100400	12.41
	40	24340	10.84	33100	11.31	38550	11.56	44850	11.84	52130	12.14	60480	12.49	70010	12.90	80830	13.39	93040	13.95
	50	24470	13.27	32360	13.78	37190	14.02	42750	14.28	49160	14.56	56520	14.87	64940	15.23	74520	15.64	85370	16.12
	60	–	–	31870	16.89	36010	17.15	40770	17.40	46240	17.67	52530	17.95	59760	18.27	68030	18.63	77450	19.04
	68	–	–	–	–	–	–	39290	20.47	43960	20.73	49360	21.00	55580	21.29	62750	21.62	70970	21.99

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Pe: *Power input in [kW]*
H: *Heating capacity in [W]*
Subcooling: *4 K*
Superheat: *5 K*
Frequency: *60 Hz*
Subject to modification without prior notification

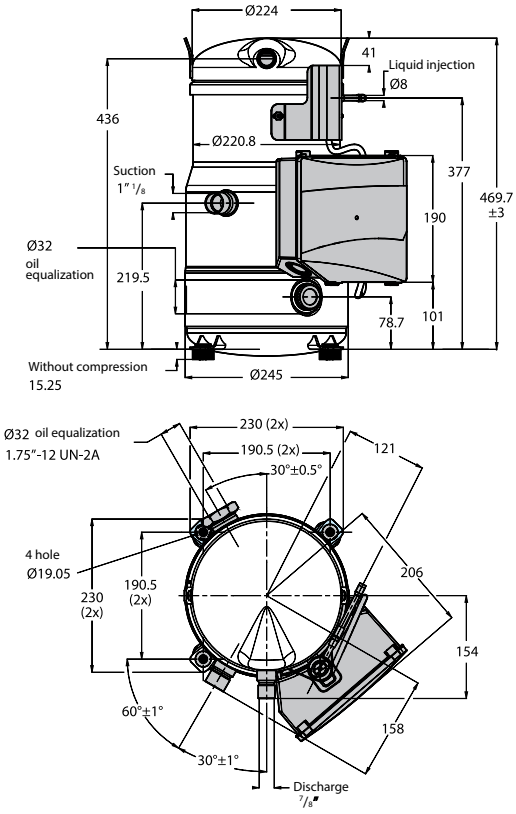
For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Nomenclature

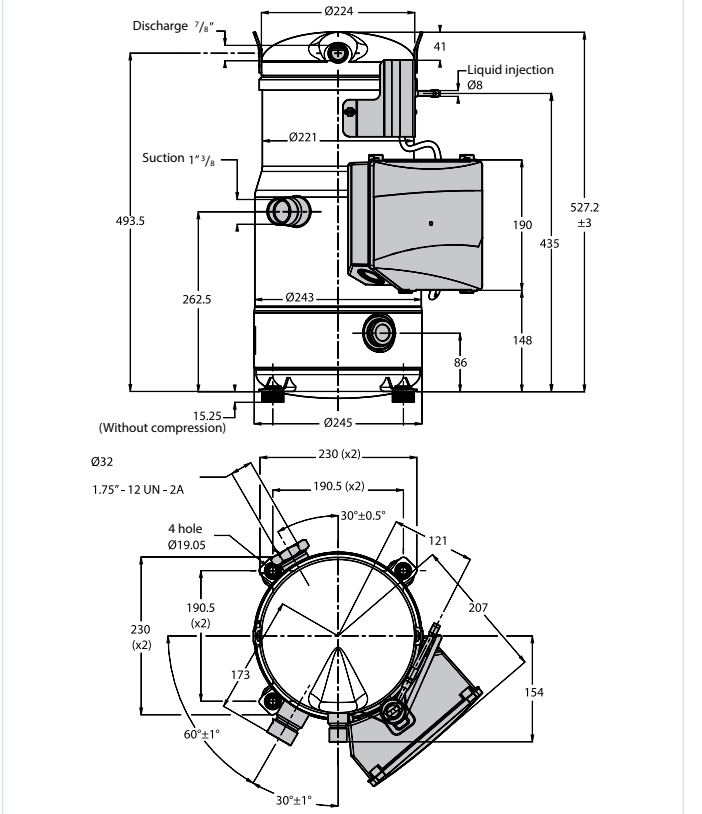


Dimensions

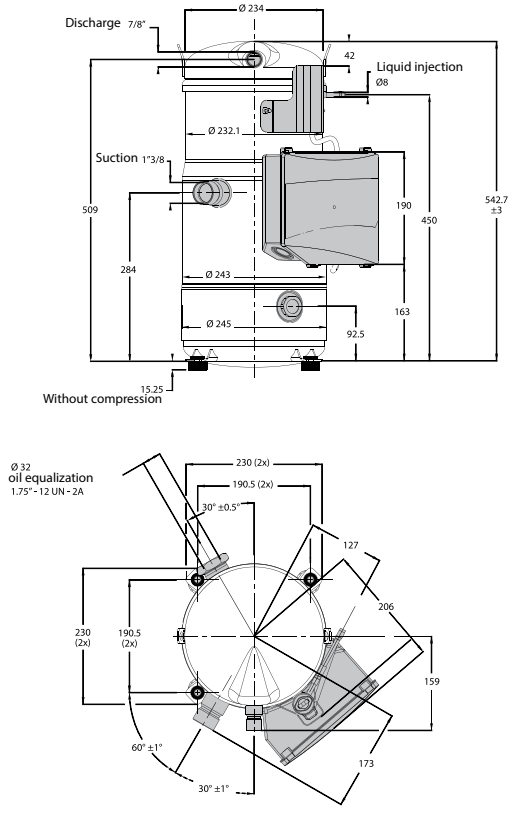
PSH019



PSH023-026-030-034



PSH039



Technical data and ordering

PSH019 – PSH039 - Scroll compressors heating optimized

Tandem kit - Code numbers

Compressor 1	Compressor 2	Tandem type	Suction from	Washer reference	Washer Ø [mm]	Washer in suction of	Kit code no.
PSH019	PSH019	PSH038	Left Right		Not needed		7777044
PSH023	PSH023	PSH046	Left Right		Not needed		7777044
PSH026	PSH026	PSH052	Left Right		Not needed		7777044
PSH030	PSH030	PSH060	Left Right		Not needed		7777044
PSH034	PSH034	PSH068	Left Right		Not needed		7777044
PSH039	PSH039	PSH078	Left Right		Not needed		7777053

Quick Selection Notes:

PCH, Scroll compressor heating optimized - R410A

Danfoss scroll compressor dedicated to heating applications. PCH compressor is designed specifically for the requirements of the heat pump Chinese market of 130 kW module.

It has an extended operating envelope thanks to a vapor injection system for heat pump applications with low ambient such as floor heating and fan coil. The product reliability and energy efficiency are high.



Facts

Applications:

- Water heated to 50 °C at -15 °C ambient temperature
- Equipment manufacturers will benefit from the vapor injection system, with a wide operating temperature envelope. In comparison with gas or oil furnaces for space heating (floor heating and fan coil), a heat pump system offers very large energy savings – up to 50%
- An energy efficient solution that allows reduction of the energy bills and lower CO_2 emissions
- Heat pumps for heating in factories, offices, shopping malls, etc
- A simple and cost efficient solution for OEMs

Technical data and ordering

PCH - Scroll compressors - R410A

Ordering - Single pack

Compressor model	Connections	Model Variation	Code no.
			8
			380/3/50
PCH065	Brazed	Module 110 – 240 V [1])	120H1273

[1]) *Electronic motor protection, module located in terminal box*
Mounting kit for single compressor applications : ***Ref 8156138***

PCH - Scroll compressors - R410A

Ordering - Industrial pack

Compressor model	Connections	Model Variation	Code no.
			8
			380/3/50
PCH065	Brazed	Module 110 – 240 V [1])	120H1272

[1]) *Electronic motor protection, module located in terminal box*

PCH - Scroll compressors - R410A - 50 Hz

Technical data

Compressor model	Swept volume	Displacement [1])	Oil charge	Net weight [2])	Conditions						Nominal heating capacity	Nominal cooling capacity	Power input	Heating COP	Cooling COP
					Evap temp	Cond temp	ΔT intX	Suction Superheat	Injection Superheat	Subcooling					
	[cm³/rev]	[m³/h]	[dm³]	[kg]	[°C]	[°C]	[K]	[K]	[K]	[K]	[W]	[W]	[W]	[W/W]	[W/W]
PCH065	276.2	48.1	6.7	111	3	50	5	5	5	5	92597	70935	22971	4	3.1
					-15	44	5	5	5	5	58572	41093	18536	3.2	2.2
					-7	50	5	5	5	5	71938	51273	21914	3.3	2.3

[1]) *at 2900 tr/min*
[2]) *net weight with oil charge*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Nomenclature and Dimensions

Family, lubricant & refrigerant	Nominal capacity	Approvals	Voltage	Version	Evolution index
PCH	065	A	8	VB	A

Family, lubricant & refrigerant
PCH: Heat pump optimized scroll, dedicated to chinese market, POE lubricant, for R410A

Nominal capacity
in kW at 50 Hz with R410A and at condition:
-7°C /50°C Superheat 5K / Sub cooling 5K (w/o injection)

UL index

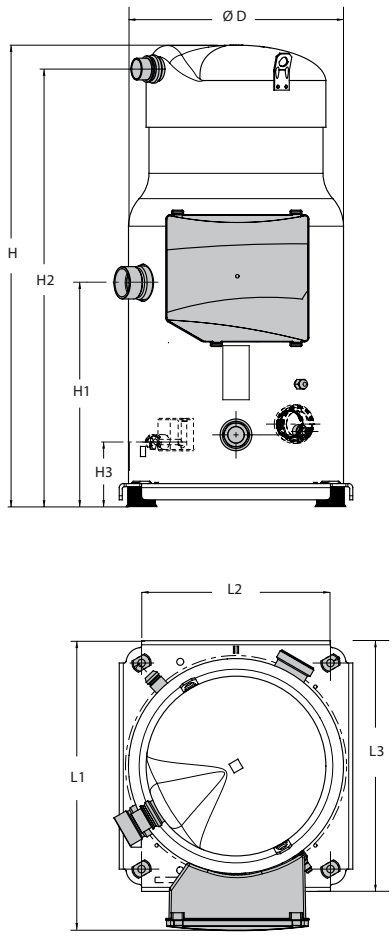
Motor voltage code:
8: 380 V/3~/50 Hz

Evolution index
A~Z

Motor protection:
B: Electronic module, 110 – 240 V

Options
V: Vapor Injection (No control logic and no injection valve included)

PCH065 - Single compressors



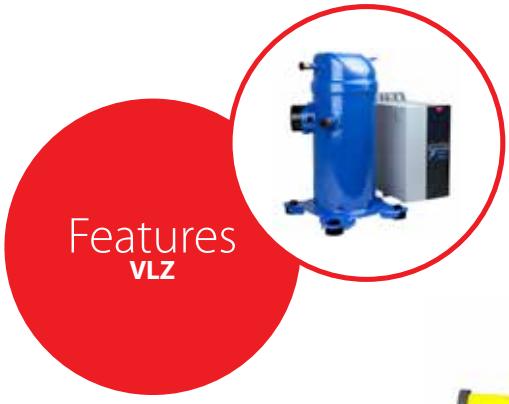
Compressor model	D [mm]	H [mm]	H1 [mm]	H2 [mm]	H3 [mm]	L1 [mm]	L2 [mm]	L3 [mm]	Outline drawing number
PCH065	318	683	331	648	97	428	345	371	8560119

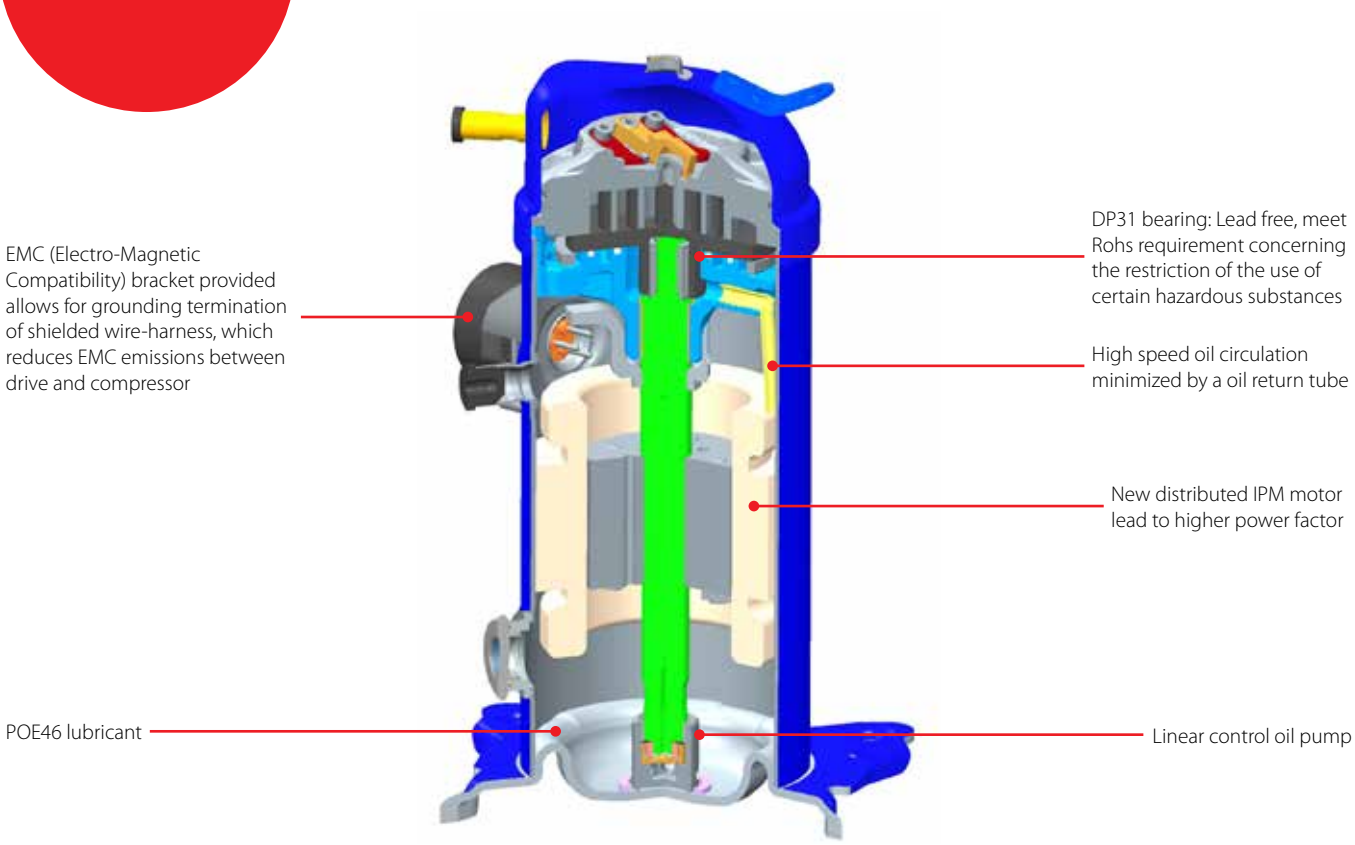
Quick Selection Notes:

VLZ, Inverter scroll compressor - R404A, R448A and R449A

By continuously matching the load fluctuations, Danfoss Inverter Scroll VLZ technology fulfills a major requirement of commercial refrigeration applications.

Temperatures are precisely maintained leading to better food quality and a reduction in the associated energy consumption.
VLZ compressor and drive package consist in 3 compressor models ranging from 1.7 to 9.3 kW.





Facts

Applications:

- Designed for refrigeration applications at medium temperatures, such as cold rooms and mini chillers for process cooling, or milk cooling
- A single compressor and drive can simultaneously handle the load demands of multiple display cabinets or cold rooms running at different temperatures
- **Advanced Efficiency:**
  The DC permanent magnet motor of the compressor with patented Intermediate Discharge Valves (IDV) enhances compressor part-load efficiency and reduces components stress, leading to savings on energy usage. Under part-load conditions, the inverter uses up to 30% less energy than mechanically modulated technology as it is able to slow the compressor down to efficiently match requirements
- **Enhanced capacity:**
  Stepless compressor modulation - able to slow down and speed up from 30 to 100 RPS to save energy and match load fluctuations very accurately. The inverter drive incorporates smart logic to increase reliability during operation
- **Accurate temperature and humidity control:**
  For greater storage temperature stability, better food preservation, and longer product shelf life
- **Simplicity to shorten development time:**
  The pre-qualified compressor and drive package is fully integrated to get your product to market faster and act as a black-box/slave to your application and management controller.

Technical data and ordering

VLZ - Inverter scroll compressor

Compressors specifications

Compressor model	Swept volume	Displacement				Oil charge	Net weight
		30 rps	50 rps	60 rps	100 rps		
	[cm³/rev]	[m³/h]	[m³/h]	[m³/h]	[m³/h]	[Liters]	[Kg]
VLZ028	27.8	3	5	6	10	1.1	26
VLZ035	34.9	3.8	6.3	7.5	12.6	1.3	27
VLZ044	44.5	4.8	8	9.6	16	1.3	27

VLZ - Inverter scroll compressor

Frequency converter specifications

Mains supply voltage	CDS803-T2: 200 – 240 V ±10% (3-phase)
	CDS803-T4: 380 – 480 V ±10% (3-phase)
Supply frequency	50 / 60 Hz
Output voltage	0 – 100% of supply voltage
Standby power	T2: P7K5: 23.17 W
	T4: P7K5: 11.3 W
Inputs	CDS803: 4 digital (0 – 24 V), 2 analog (0 /±10 V or 4 – 20 mA, scalable)
Programmable outputs	CDS803: 2 digital (0 – 24 V), 2 analog (0 – 24 V), 2 relay
Protection functions	Over-current protection, low / high current handling
Compressor functions	Pressostat / thermostat function, short cycle protection, oil return management

VLZ - Inverter scroll compressor

Ordering - Single pack

Compressor model	Equipment version	G		J	
		Compressor Name	Code no	Compressor Name	Code no
VLZ028	Single	VLZ028TGNE9A/M	120G0162	VLZ028TJNE9A/M	120G0171
VLZ035	Single	VLZ035TGNE9A/M	120G0159	VLZ035TJNE9A/M	120G0168
VLZ044	Single	VLZ044TGNE9A/M	120G0156	VLZ044TJNE9A/M	120G0165

VLZ - Inverter scroll compressor

Ordering - Industrial pack

Compressor model	Equipment version	G 380-480 V/3ph/50&60 Hz		J 200-240 V/3ph/50&60 Hz	
		Compressor Name	Code no	Compressor Name	Code no
VLZ028	Single	VLZ028TGNE9A/I	120G0164	VLZ028TJNE9A/I	120G0173
VZH035	Single	VLZ035TGNE9A/I	120G0161	VLZ035TJNE9A/I	120G0170
VLZ044	Single	VLZ044TGNE9A/I	120G0158	VLZ044TJNE9A/I	120G0167

VLZ - Inverter scroll compressor

Ordering - Industrial pack

Compressor model	CDS803 drive		
	Voltage	Compressor Name	Code no
VLZ028-035-044	T2 200-240 V/3ph/50&60 Hz	CDS803P7K5T2E20H4	134N4261
VLZ028-035-044	T4 380-480 V/3ph/50&60 Hz	CDS803P7K5T4E20H4	134N4263

LCP: use interface 120Z0581(accessory)

Technical data and ordering

VLZ - Single scroll compressor - R404A - 380 – 480 V / 3 / 50/60 Hz

Performance table (EN12900)

Type	Rpm	Frequency	Te	-25		-20		-15		-10		-5		0		5		10	
			Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
VLZ028TGA	1800	30	15	1184	0.55	1506	0.56	1891	0.55	2347	0.53	2881	0.5	–	–	–	–	–	–
			25	1030	0.65	1327	0.66	1680	0.66	2097	0.66	2584	0.64	3151	0.61	3803	0.57	–	–
			35	–	–	1138	0.79	1454	0.79	1826	0.8	2262	0.79	2769	0.78	3354	0.76	4026	0.72
			45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	15	2507	1.11	3168	1.13	3957	1.12	4888	1.09	5977	1.02	–	–	–	–	–	–
			25	2172	1.28	2774	1.32	3488	1.34	4330	1.34	5315	1.31	6457	1.26	7772	1.17	–	–
			35	1845	1.5	2383	1.54	3018	1.57	3767	1.59	4642	1.6	5660	1.58	6836	1.53	8184	1.45
			45	1508	1.8	1978	1.83	2530	1.86	3180	1.89	3942	1.91	4831	1.91	5863	1.9	7052	1.85
	6000	100	15	4127	2.08	5203	2.14	6483	2.16	7991	2.14	9753	2.07	–	–	–	–	–	–
			25	3619	2.35	4615	2.44	5790	2.5	7171	2.54	8781	2.53	10645	2.47	12789	2.35	–	–
			35	3100	2.67	4001	2.77	5058	2.86	6296	2.93	7739	2.98	9414	2.98	11343	2.93	13553	2.83
			45	2552	3.1	3344	3.19	4268	3.29	5349	3.38	6612	3.45	8082	3.5	9783	3.51	11740	3.47
VLZ035TGA	1800	30	15	1531	0.64	1936	0.65	2421	0.64	2996	0.62	3669	0.58	–	–	–	–	–	–
			25	1328	0.76	1703	0.77	2148	0.78	2674	0.78	3289	0.77	4003	0.74	4826	0.68	–	–
			35	–	–	1452	0.93	1851	0.94	2321	0.95	2871	0.95	3511	0.94	4251	0.92	5099	0.88
			45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	15	3152	1.27	3974	1.29	4964	1.28	6142	1.26	7527	1.2	–	–	–	–	–	–
			25	2770	1.51	3517	1.54	4411	1.55	5473	1.56	6720	1.54	8174	1.49	9854	1.42	–	–
			35	2379	1.79	3044	1.82	3836	1.86	4773	1.88	5876	1.89	7163	1.88	8656	1.85	10373	1.78
			45	1962	2.14	2539	2.18	3221	2.22	4027	2.26	4978	2.29	6092	2.3	7390	2.3	8891	2.27
	6000	100	15	5131	2.51	6458	2.6	8069	2.65	9999	2.65	12287	2.59	–	–	–	–	–	–
			25	4538	2.82	5746	2.94	7200	3.03	8939	3.1	10998	3.12	13416	3.08	16229	2.97	–	–
			35	3932	3.24	5013	3.35	6303	3.47	7841	3.57	9663	3.64	11808	3.68	14312	3.66	17212	3.58
			45	3278	3.8	4223	3.89	5341	4	6669	4.11	8247	4.22	10109	4.3	12295	4.35	14841	4.35
VLZ044TGA	1800	30	15	2012	0.76	2526	0.78	3140	0.78	3865	0.76	4714	0.71	–	–	–	–	–	–
			25	1751	0.9	2230	0.93	2798	0.95	3467	0.95	4248	0.94	5155	0.9	6200	0.83	–	–
			35	–	–	1903	1.12	2415	1.15	3016	1.17	3720	1.18	4539	1.17	5484	1.13	6569	1.07
			45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	15	4085	1.59	5139	1.63	6396	1.64	7878	1.6	9609	1.51	–	–	–	–	–	–
			25	3574	1.87	4540	1.94	5683	2	7029	2.02	8598	2	10415	1.93	12503	1.79	–	–
			35	3057	2.19	3924	2.28	4946	2.37	6146	2.43	7546	2.46	9169	2.45	11039	2.4	13178	2.27
			45	2507	2.61	3268	2.69	4160	2.78	5205	2.87	6426	2.93	7847	2.97	9491	2.98	11380	2.93
	6000	100	15	6657	2.98	8421	3.09	10532	3.16	13029	3.19	15952	3.15	–	–	–	–	–	–
			25	5848	3.45	7460	3.61	9376	3.74	11635	3.82	14278	3.86	17342	3.84	20866	3.77	–	–
			35	5029	3.98	6476	4.17	8186	4.32	10196	4.45	12546	4.54	15275	4.59	18421	4.59	22025	4.52
			45	4150	4.64	5421	4.82	6912	4.99	8661	5.14	10707	5.27	13089	5.36	15846	5.41	19018	5.41

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

VLZ - Single scroll compressor - R448A - 380 – 480 V / 3 / 50/60 Hz

Performance table (EN12900)

Type	Rpm	Frequency	Te	-25		-20		-15		-10		-5		0		5		10	
			Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
VLZ028TGA	1800	30	15	1044	0.48	1342	0.49	1699	0.5	2124	0.5	2625	0.48	–	–	–	–	–	–
			25	923	0.57	1202	0.58	1535	0.6	1931	0.6	2396	0.6	2938	0.59	3566	0.56	–	–
			35	–	–	1052	0.71	1357	0.72	1718	0.73	2144	0.73	2642	0.73	3219	0.72	3884	0.7
			45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	15	2178	0.95	2779	0.96	3499	0.96	4356	0.93	5363	0.87	–	–	–	–	–	–
			25	1951	1.12	2513	1.15	3184	1.17	3977	1.17	4909	1.15	5994	1.1	7248	1.03	–	–
			35	1706	1.34	2226	1.38	2840	1.4	3564	1.42	4415	1.43	5406	1.42	6554	1.39	7873	1.33
			45	1443	1.65	1913	1.67	2466	1.7	3116	1.73	3879	1.75	4771	1.76	5806	1.76	7000	1.74
	6000	100	15	3581	1.79	4539	1.85	5710	1.88	7133	1.87	8843	1.82	–	–	–	–	–	–
			25	3221	2.04	4100	2.13	5162	2.2	6444	2.23	7982	2.24	9813	2.2	11973	2.12	–	–
			35	2857	2.36	3668	2.46	4632	2.55	5784	2.62	7161	2.66	8800	2.67	10738	2.65	13011	2.57
			45	2452	2.78	3208	2.88	4085	2.98	5119	3.06	6347	3.13	7805	3.18	9531	3.19	11562	3.17
VLZ035TGA	1800	30	15	1320	0.58	1694	0.59	2146	0.59	2686	0.57	3326	0.55	–	–	–	–	–	–
			25	1168	0.68	1518	0.7	1936	0.71	2433	0.71	3021	0.7	3710	0.68	4510	0.64	–	–
			35	–	–	1327	0.84	1710	0.85	2164	0.86	2699	0.87	3326	0.87	4055	0.85	4897	0.82
			45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	15	2751	1.17	3515	1.22	4426	1.26	5501	1.26	6760	1.23	–	–	–	–	–	–
			25	2434	1.36	3151	1.42	4000	1.48	4997	1.51	6162	1.52	7512	1.49	9067	1.43	–	–
			35	2100	1.63	2765	1.69	3545	1.75	4458	1.8	5522	1.83	6757	1.83	8180	1.81	9810	1.74
			45	1748	2.03	2354	2.07	3059	2.12	3881	2.17	4840	2.21	5952	2.23	7238	2.22	8714	2.19
	6000	100	15	4525	2.21	5738	2.29	7226	2.35	9034	2.38	11210	2.38	–	–	–	–	–	–
			25	4058	2.53	5162	2.63	6502	2.71	8123	2.78	10072	2.82	12397	2.84	15144	2.82	–	–
			35	3602	2.93	4613	3.04	5820	3.14	7269	3.24	9007	3.31	11081	3.37	13538	3.39	16425	3.38
			45	3113	3.45	4046	3.57	5136	3.68	6429	3.79	7971	3.88	9810	3.97	11992	4.03	14565	4.06
VLZ044TGA	1800	30	15	1731	0.68	2213	0.69	2786	0.69	3465	0.68	4259	0.65	–	–	–	–	–	–
			25	1523	0.82	1978	0.84	2517	0.86	3152	0.87	3896	0.86	4761	0.83	5758	0.79	–	–
			35	–	–	1721	1.03	2219	1.06	2804	1.08	3490	1.09	4289	1.09	5212	1.07	6271	1.02
			45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	15	3520	1.29	4494	1.34	5657	1.35	7032	1.33	8645	1.26	–	–	–	–	–	–
			25	3117	1.59	4027	1.63	5107	1.68	6382	1.71	7875	1.71	9610	1.68	11612	1.59	–	–
			35	2704	2	3542	2.01	4531	2.04	5696	2.09	7060	2.13	8648	2.16	10483	2.16	12591	2.11
			45	2280	2.61	3037	2.54	3926	2.52	4972	2.54	6199	2.58	7631	2.63	9291	2.67	11205	2.7
	6000	100	15	5876	2.52	7465	2.65	9346	2.75	11557	2.8	14136	2.78	–	–	–	–	–	–
			25	5213	2.93	6731	3.07	8513	3.21	10598	3.34	13024	3.43	15830	3.45	19055	3.39	–	–
			35	4483	3.48	5912	3.59	7578	3.74	9518	3.9	11772	4.05	14379	4.16	17377	4.23	20805	4.21
			45	3685	4.25	5007	4.3	6537	4.4	8314	4.55	10378	4.73	12767	4.9	15520	5.04	18676	5.14

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

VLZ - Single scroll compressor - R449A - 380 – 480 V / 3 / 50/60 Hz

Performance table (EN12900)

Type	Rpm	Frequency	Te	-25		-20		-15		-10		-5		0		5		10	
			Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
VLZ028TGA	1800	30	15	1044	0.48	1342	0.49	1699	0.5	2124	0.5	2625	0.48	–	–	–	–	–	–
			25	923	0.57	1202	0.58	1535	0.6	1931	0.6	2396	0.6	2938	0.59	3566	0.56	–	–
			35	–	–	1052	0.71	1357	0.72	1718	0.73	2144	0.73	2642	0.73	3219	0.72	3884	0.7
			45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	15	2178	0.95	2779	0.96	3499	0.96	4356	0.93	5363	0.87	–	–	–	–	–	–
			25	1951	1.12	2513	1.15	3184	1.17	3977	1.17	4909	1.15	5994	1.1	7248	1.03	–	–
			35	1706	1.34	2226	1.38	2840	1.4	3564	1.42	4415	1.43	5406	1.42	6554	1.39	7873	1.33
			45	1443	1.65	1913	1.67	2466	1.7	3116	1.73	3879	1.75	4771	1.76	5806	1.76	7000	1.74
	6000	100	15	3581	1.79	4539	1.85	5710	1.88	7133	1.87	8843	1.82	–	–	–	–	–	–
			25	3221	2.04	4100	2.13	5162	2.2	6444	2.23	7982	2.24	9813	2.2	11973	2.12	–	–
			35	2857	2.36	3668	2.46	4632	2.55	5784	2.62	7161	2.66	8800	2.67	10738	2.65	13011	2.57
			45	2452	2.78	3208	2.88	4085	2.98	5119	3.06	6347	3.13	7805	3.18	9531	3.19	11562	3.17
VLZ035TGA	1800	30	15	1320	0.58	1694	0.59	2146	0.59	2686	0.57	3326	0.55	–	–	–	–	–	–
			25	1168	0.68	1518	0.7	1936	0.71	2433	0.71	3021	0.7	3710	0.68	4510	0.64	–	–
			35	–	–	1327	0.84	1710	0.85	2164	0.86	2699	0.87	3326	0.87	4055	0.85	4897	0.82
			45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	15	2751	1.17	3515	1.22	4426	1.26	5501	1.26	6760	1.23	–	–	–	–	–	–
			25	2434	1.36	3151	1.42	4000	1.48	4997	1.51	6162	1.52	7512	1.49	9067	1.43	–	–
			35	2100	1.63	2765	1.69	3545	1.75	4458	1.8	5522	1.83	6757	1.83	8180	1.81	9810	1.74
			45	1748	2.03	2354	2.07	3059	2.12	3881	2.17	4840	2.21	5952	2.23	7238	2.22	8714	2.19
	6000	100	15	4525	2.21	5738	2.29	7226	2.35	9034	2.38	11210	2.38	–	–	–	–	–	–
			25	4058	2.53	5162	2.63	6502	2.71	8123	2.78	10072	2.82	12397	2.84	15144	2.82	–	–
			35	3602	2.93	4613	3.04	5820	3.14	7269	3.24	9007	3.31	11081	3.37	13538	3.39	16425	3.38
			45	3113	3.45	4046	3.57	5136	3.68	6429	3.79	7971	3.88	9810	3.97	11992	4.03	14565	4.06
VLZ044TGA	1800	30	15	1731	0.68	2213	0.69	2786	0.69	3465	0.68	4259	0.65	–	–	–	–	–	–
			25	1523	0.82	1978	0.84	2517	0.86	3152	0.87	3896	0.86	4761	0.83	5758	0.79	–	–
			35	–	–	1721	1.03	2219	1.06	2804	1.08	3490	1.09	4289	1.09	5212	1.07	6271	1.02
			45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	15	3520	1.29	4494	1.34	5657	1.35	7032	1.33	8645	1.26	–	–	–	–	–	–
			25	3117	1.59	4027	1.63	5107	1.68	6382	1.71	7875	1.71	9610	1.68	11612	1.59	–	–
			35	2704	2	3542	2.01	4531	2.04	5696	2.09	7060	2.13	8648	2.16	10483	2.16	12591	2.11
			45	2280	2.61	3037	2.54	3926	2.52	4972	2.54	6199	2.58	7631	2.63	9291	2.67	11205	2.7
	6000	100	15	5876	2.52	7465	2.65	9346	2.75	11557	2.8	14136	2.78	–	–	–	–	–	–
			25	5213	2.93	6731	3.07	8513	3.21	10598	3.34	13024	3.43	15830	3.45	19055	3.39	–	–
			35	4483	3.48	5912	3.59	7578	3.74	9518	3.9	11772	4.05	14379	4.16	17377	4.23	20805	4.21
			45	3685	4.25	5007	4.3	6537	4.4	8314	4.55	10378	4.73	12767	4.9	15520	5.04	18676	5.14

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

VLZ - Single scroll compressor - R404A - 200 – 240 V / 3 / 50/60 Hz

Performance table (EN12900)

Type	Rpm	Frequency	Te	-25		-20		-15		-10		-5		0		5		10	
			Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
VLZ028TGA	1800	30	15	1184	0.56	1506	0.57	1891	0.56	2347	0.54	2881	0.51	–	–	–	–	–	–
			25	1030	0.66	1327	0.67	1680	0.67	2097	0.67	2584	0.65	3151	0.62	3803	0.58	–	–
			35	–	–	1138	0.8	1454	0.81	1826	0.81	2262	0.81	2769	0.79	3354	0.77	4026	0.73
			45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	15	2507	1.15	3168	1.17	3957	1.17	4888	1.14	5977	1.07	–	–	–	–	–	–
			25	2172	1.33	2774	1.37	3488	1.39	4330	1.4	5315	1.37	6457	1.31	7772	1.21	–	–
			35	1845	1.56	2383	1.6	3018	1.64	3767	1.66	4642	1.67	5660	1.65	6836	1.6	8184	1.51
			45	1508	1.87	1978	1.9	2530	1.94	3180	1.97	3942	1.99	4831	1.99	5863	1.98	7052	1.93
	6000	100	15	4127	2.14	5203	2.2	6483	2.22	7991	2.2	9753	2.12	–	–	–	–	–	–
			25	3619	2.41	4615	2.5	5790	2.57	7171	2.61	8781	2.6	10645	2.54	12789	2.41	–	–
			35	3100	2.75	4001	2.85	5058	2.94	6296	3.02	7739	3.06	9414	3.06	11343	3.01	13553	2.91
			45	2552	3.18	3344	3.28	4268	3.38	5349	3.47	6612	3.55	8082	3.59	9783	3.6	11740	3.57
VLZ035TGA	1800	30	15	1531	0.65	1936	0.66	2421	0.65	2996	0.63	3669	0.59	–	–	–	–	–	–
			25	1328	0.77	1703	0.79	2148	0.79	2674	0.79	3289	0.78	4003	0.75	4826	0.69	–	–
			35	–	–	1452	0.94	1851	0.95	2321	0.96	2871	0.97	3511	0.96	4251	0.93	5099	0.89
			45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	15	3152	1.27	3974	1.29	4964	1.28	6142	1.25	7527	1.2	–	–	–	–	–	–
			25	2770	1.5	3517	1.53	4411	1.55	5473	1.55	6720	1.54	8174	1.49	9854	1.42	–	–
			35	2379	1.78	3044	1.82	3836	1.86	4773	1.88	5876	1.89	7163	1.88	8656	1.84	10373	1.78
			45	1962	2.13	2539	2.18	3221	2.22	4027	2.25	4978	2.28	6092	2.3	7390	2.29	8891	2.27
	6000	100	15	5131	2.53	6458	2.62	8069	2.67	9999	2.67	12287	2.61	–	–	–	–	–	–
			25	4538	2.85	5746	2.96	7200	3.06	8939	3.12	10998	3.14	13416	3.1	16229	2.99	–	–
			35	3932	3.26	5013	3.38	6303	3.49	7841	3.6	9663	3.67	11808	3.71	14312	3.69	17212	3.61
			45	3278	3.83	4223	3.92	5341	4.03	6669	4.14	8247	4.25	10109	4.33	12295	4.38	14841	4.38
VLZ044TGA	1800	30	15	2012	0.76	2526	0.78	3140	0.78	3865	0.76	4714	0.71	–	–	–	–	–	–
			25	1751	0.9	2230	0.92	2798	0.94	3467	0.95	4248	0.93	5155	0.89	6200	0.82	–	–
			35	–	–	1903	1.12	2415	1.14	3016	1.16	3720	1.17	4539	1.16	5484	1.13	6569	1.07
			45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	15	4085	1.61	5139	1.66	6396	1.67	7878	1.63	9609	1.54	–	–	–	–	–	–
			25	3574	1.9	4540	1.98	5683	2.04	7029	2.06	8598	2.04	10415	1.96	12503	1.82	–	–
			35	3057	2.23	3924	2.32	4946	2.41	6146	2.47	7546	2.51	9169	2.5	11039	2.44	13178	2.32
			45	2507	2.65	3268	2.74	4160	2.83	5205	2.92	6426	2.99	7847	3.03	9491	3.03	11380	2.98
	6000	100	15	6657	2.97	8421	3.08	10532	3.16	13029	3.18	15952	3.14	–	–	–	–	–	–
			25	5848	3.44	7460	3.6	9376	3.73	11635	3.81	14278	3.85	17342	3.83	20866	3.76	–	–
			35	5029	3.97	6476	4.15	8186	4.31	10196	4.44	12546	4.53	15275	4.58	18421	4.57	22025	4.51
			45	4150	4.63	5421	4.81	6912	4.98	8661	5.13	10707	5.25	13089	5.34	15846	5.39	19018	5.4

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

VLZ - Single scroll compressor - R448A - 200-240 V / 3 / 50/60 Hz

Performance table (EN12900)

Type	Rpm	Frequency	Te	-25		-20		-15		-10		-5		0		5		10	
			Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
VLZ028TGA	1800	30	15	1044	0.48	1342	0.5	1699	0.5	2124	0.5	2625	0.48	–	–	–	–	–	–
			25	923	0.57	1202	0.59	1535	0.6	1931	0.6	2396	0.6	2938	0.59	3566	0.57	–	–
			35	–	–	1052	0.71	1357	0.72	1718	0.73	2144	0.74	2642	0.74	3219	0.73	3884	0.7
			45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	15	2178	0.97	2779	0.99	3499	0.98	4356	0.95	5363	0.89	–	–	–	–	–	–
			25	1951	1.15	2513	1.17	3184	1.19	3977	1.19	4909	1.17	5994	1.13	7248	1.05	–	–
			35	1706	1.37	2226	1.41	2840	1.43	3564	1.45	4415	1.46	5406	1.45	6554	1.42	7873	1.35
			45	1443	1.69	1913	1.71	2466	1.74	3116	1.77	3879	1.79	4771	1.8	5806	1.8	7000	1.77
	6000	100	15	3581	1.82	4539	1.88	5710	1.91	7133	1.9	8843	1.85	–	–	–	–	–	–
			25	3221	2.08	4100	2.17	5162	2.24	6444	2.27	7982	2.28	9813	2.24	11973	2.16	–	–
			35	2857	2.4	3668	2.51	4632	2.6	5784	2.67	7161	2.71	8800	2.72	10738	2.69	13011	2.62
			45	2452	2.83	3208	2.93	4085	3.03	5119	3.12	6347	3.19	7805	3.24	9531	3.25	11562	3.23
VLZ035TGA	1800	30	15	1320	0.59	1694	0.6	2146	0.6	2686	0.59	3326	0.56	–	–	–	–	–	–
			25	1168	0.7	1518	0.71	1936	0.72	2433	0.73	3021	0.72	3710	0.7	4510	0.66	–	–
			35	–	–	1327	0.86	1710	0.87	2164	0.88	2699	0.89	3326	0.89	4055	0.87	4897	0.84
			45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	15	2751	1.21	3515	1.27	4426	1.3	5501	1.3	6760	1.27	–	–	–	–	–	–
			25	2434	1.41	3151	1.48	4000	1.53	4997	1.56	6162	1.57	7512	1.55	9067	1.48	–	–
			35	2100	1.69	2765	1.75	3545	1.81	4458	1.86	5522	1.89	6757	1.9	8180	1.87	9810	1.81
			45	1748	2.1	2354	2.15	3059	2.2	3881	2.25	4840	2.29	5952	2.31	7238	2.3	8714	2.27
	6000	100	15	4525	2.25	5738	2.33	7226	2.39	9034	2.42	11210	2.43	–	–	–	–	–	–
			25	4058	2.57	5162	2.67	6502	2.76	8123	2.83	10072	2.87	12397	2.89	15144	2.87	–	–
			35	3602	2.98	4613	3.09	5820	3.2	7269	3.29	9007	3.37	11081	3.42	13538	3.45	16425	3.44
			45	3113	3.51	4046	3.63	5136	3.74	6429	3.85	7971	3.95	9810	4.04	11992	4.1	14565	4.13
VLZ044TGA	1800	30	15	1731	0.66	2213	0.68	2786	0.68	3465	0.67	4259	0.64	–	–	–	–	–	–
			25	1523	0.8	1978	0.82	2517	0.84	3152	0.85	3896	0.84	4761	0.82	5758	0.77	–	–
			35	–	–	1721	1.01	2219	1.04	2804	1.06	3490	1.07	4289	1.06	5212	1.04	6271	1
			45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	15	3520	1.29	4494	1.33	5657	1.35	7032	1.33	8645	1.26	–	–	–	–	–	–
			25	3117	1.58	4027	1.62	5107	1.67	6382	1.7	7875	1.71	9610	1.67	11612	1.58	–	–
			35	2704	1.99	3542	2	4531	2.03	5696	2.08	7060	2.12	8648	2.15	10483	2.15	12591	2.1
			45	2280	2.6	3037	2.53	3926	2.51	4972	2.52	6199	2.57	7631	2.62	9291	2.66	11205	2.69
	6000	100	15	5876	2.56	7465	2.68	9346	2.78	11557	2.83	14136	2.82	–	–	–	–	–	–
			25	5213	2.97	6731	3.11	8513	3.26	10598	3.38	13024	3.47	15830	3.49	19055	3.43	–	–
			35	4483	3.53	5912	3.64	7578	3.79	9518	3.95	11772	4.1	14379	4.22	17377	4.28	20805	4.26
			45	3685	4.31	5007	4.35	6537	4.46	8314	4.61	10378	4.79	12767	4.96	15520	5.1	18676	5.2

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

VLZ - Single scroll compressor - R449A - 200-240 V / 3 / 50/60 Hz

Performance table (EN12900)

Type	Rpm	Frequency	Te	-25		-20		-15		-10		-5		0		5		10	
			Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
VLZ028TGA	1800	30	15	1044	0.48	1342	0.5	1699	0.5	2124	0.5	2625	0.48	–	–	–	–	–	–
			25	923	0.57	1202	0.59	1535	0.6	1931	0.6	2396	0.6	2938	0.59	3566	0.57	–	–
			35	–	–	1052	0.71	1357	0.72	1718	0.73	2144	0.74	2642	0.74	3219	0.73	3884	0.7
			45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	15	2178	0.97	2779	0.99	3499	0.98	4356	0.95	5363	0.89	–	–	–	–	–	–
			25	1951	1.15	2513	1.17	3184	1.19	3977	1.19	4909	1.17	5994	1.13	7248	1.05	–	–
			35	1706	1.37	2226	1.41	2840	1.43	3564	1.45	4415	1.46	5406	1.45	6554	1.42	7873	1.35
			45	1443	1.69	1913	1.71	2466	1.74	3116	1.77	3879	1.79	4771	1.8	5806	1.8	7000	1.77
	6000	100	15	3581	1.82	4539	1.88	5710	1.91	7133	1.9	8843	1.85	–	–	–	–	–	–
			25	3221	2.08	4100	2.17	5162	2.24	6444	2.27	7982	2.28	9813	2.24	11973	2.16	–	–
			35	2857	2.4	3668	2.51	4632	2.6	5784	2.67	7161	2.71	8800	2.72	10738	2.69	13011	2.62
			45	2452	2.83	3208	2.93	4085	3.03	5119	3.12	6347	3.19	7805	3.24	9531	3.25	11562	3.23
VLZ035TGA	1800	30	15	1320	0.59	1694	0.6	2146	0.6	2686	0.59	3326	0.56	–	–	–	–	–	–
			25	1168	0.7	1518	0.71	1936	0.72	2433	0.73	3021	0.72	3710	0.7	4510	0.66	–	–
			35	–	–	1327	0.86	1710	0.87	2164	0.88	2699	0.89	3326	0.89	4055	0.87	4897	0.84
			45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	15	2751	1.21	3515	1.27	4426	1.3	5501	1.3	6760	1.27	–	–	–	–	–	–
			25	2434	1.41	3151	1.48	4000	1.53	4997	1.56	6162	1.57	7512	1.55	9067	1.48	–	–
			35	2100	1.69	2765	1.75	3545	1.81	4458	1.86	5522	1.89	6757	1.9	8180	1.87	9810	1.81
			45	1748	2.1	2354	2.15	3059	2.2	3881	2.25	4840	2.29	5952	2.31	7238	2.3	8714	2.27
	6000	100	15	4525	2.25	5738	2.33	7226	2.39	9034	2.42	11210	2.43	–	–	–	–	–	–
			25	4058	2.57	5162	2.67	6502	2.76	8123	2.83	10072	2.87	12397	2.89	15144	2.87	–	–
			35	3602	2.98	4613	3.09	5820	3.2	7269	3.29	9007	3.37	11081	3.42	13538	3.45	16425	3.44
			45	3113	3.51	4046	3.63	5136	3.74	6429	3.85	7971	3.95	9810	4.04	11992	4.1	14565	4.13
VLZ044TGA	1800	30	15	1731	0.66	2213	0.68	2786	0.68	3465	0.67	4259	0.64	–	–	–	–	–	–
			25	1523	0.8	1978	0.82	2517	0.84	3152	0.85	3896	0.84	4761	0.82	5758	0.77	–	–
			35	–	–	1721	1.01	2219	1.04	2804	1.06	3490	1.07	4289	1.06	5212	1.04	6271	1
			45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	15	3520	1.29	4494	1.33	5657	1.35	7032	1.33	8645	1.26	–	–	–	–	–	–
			25	3117	1.58	4027	1.62	5107	1.67	6382	1.7	7875	1.71	9610	1.67	11612	1.58	–	–
			35	2704	1.99	3542	2	4531	2.03	5696	2.08	7060	2.12	8648	2.15	10483	2.15	12591	2.1
			45	2280	2.6	3037	2.53	3926	2.51	4972	2.52	6199	2.57	7631	2.62	9291	2.66	11205	2.69
	6000	100	15	5876	2.56	7465	2.68	9346	2.78	11557	2.83	14136	2.82	–	–	–	–	–	–
			25	5213	2.97	6731	3.11	8513	3.26	10598	3.38	13024	3.47	15830	3.49	19055	3.43	–	–
			35	4483	3.53	5912	3.64	7578	3.79	9518	3.95	11772	4.1	14379	4.22	17377	4.28	20805	4.26
			45	3685	4.31	5007	4.35	6537	4.46	8314	4.61	10378	4.79	12767	4.96	15520	5.1	18676	5.2

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Nomenclature and Dimensions

V L Z 044 T G N E 9 A

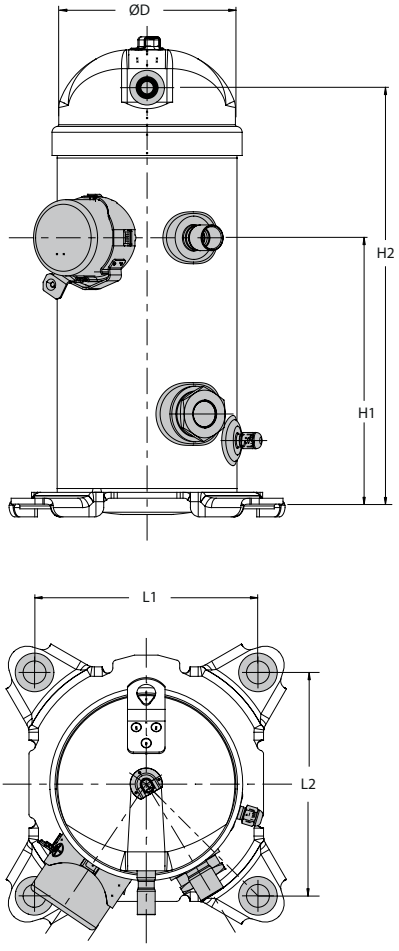
- **V** — Variable speed
- **L** — Family: Scroll (refrigeration)
- **Z** — Lubricant: POE46(RL46HB) lubricant, R404A/R448A/R449A refrigerant
- **044** — Swept volume: in cm^3/rev
- **T** — Design pressure ratio: **T:** Design optimized for refrigeration
- **G** — Motor voltage code to CDS303 *): **G:** 380-480 V/3~/50 & 60 Hz; **J:** 200-240 V/3~/50 & 60 Hz
- **N** — Motor protection type: **N:** no internal motor protection (protection by Danfoss drive)
- **E** — Fittings/connections: Brazed connections, EMC compatible terminal box
- **9** — Other features

	Oil sight glass	Oil equalization	Oil drain
9	Threaded	None	Schrader

- **A** — Evolution index

**) main supply voltage to frequency converter*

VLZ - Single compressors



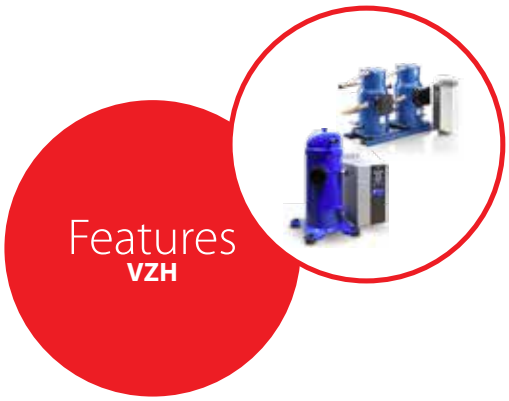
Version	Compressor model	D	H	H1	H2	L1	L2	Outline drawing number
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
Single	VLZ028-035-044	164.5	404.4	230.5	360.4	190.5	190.5	0 VG8213B

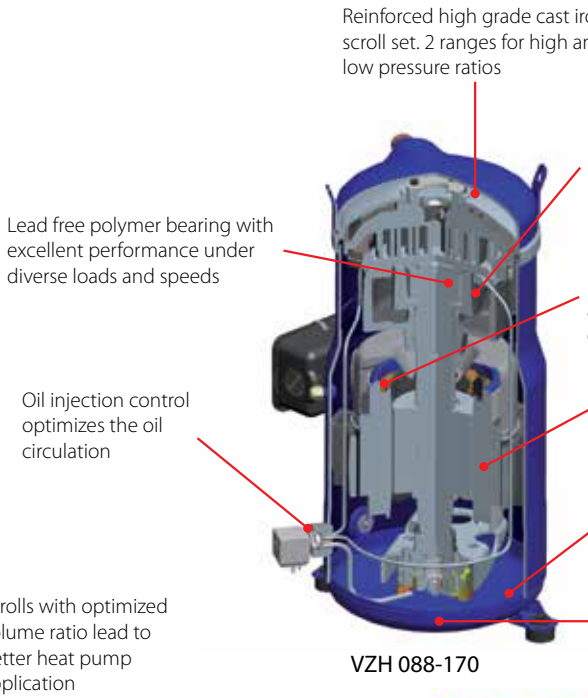
Quick Selection Notes:

VZH, Inverter scroll compressor - R410A

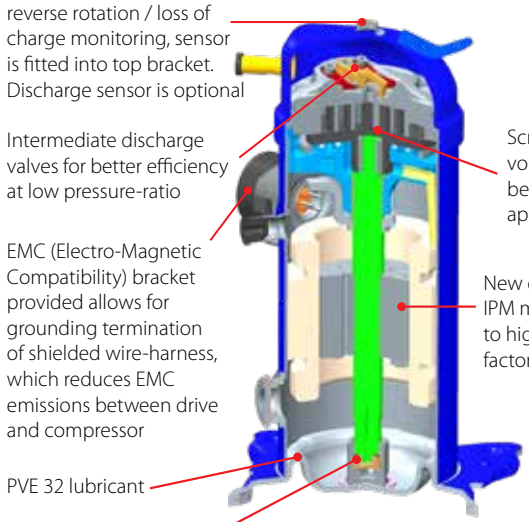
Danfoss inverter scroll compressor VZH is the second generation of scroll compressors offering variable speed technology for commercial applications in air conditioning. It allows OEMs to stand out in the commercial HVAC and process cooling marketplaces from 4 – 52 TR (15 – 184 kW) and to exceed the upgraded energy level requirements.

It provides a stepless modulation from
VZH088 / 117 / 170: 25 – 100 rps (1500 – 6000 rpm)
VZH052 / 065: 16.7 – 110 rps (1000 – 6600 rpm)
VZH028 / 035 / 044: 15 – 100 rps (900 – 6000 rpm
depending on the model.
The compressors comes with a pre-qualified drive for a shorter time to market and increased reliability.

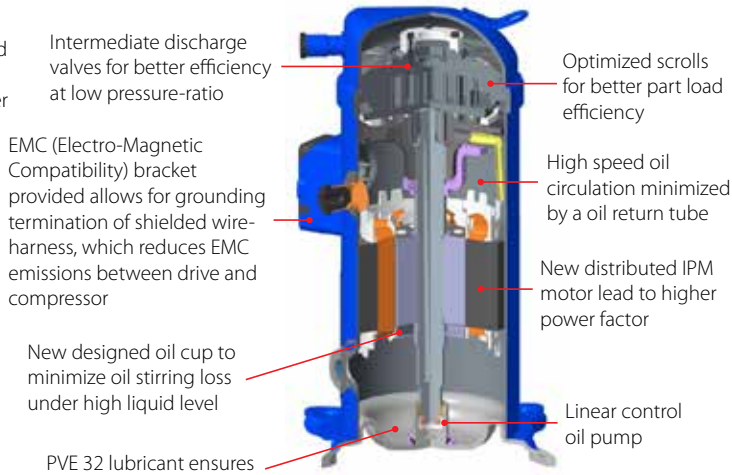




VZH 088-170



VZH 028-044



VZH052-065

Facts

Applications:
- Packaged air conditioning
- Rooftops
- Chillers
- Close controls
- Heat pumps
- Data centers

- Capacity modulation: adapts motor speed to varying load continuously, quickly and smoothly for great comfort and reliability
  VZH028-044: 15 – 100 rps (900 – 6000 rpm)
  VZH052-065:1 6.7 – 110 rps (1000 – 6600 rpm)
  VZH088-170: 25 – 100 rps (1500 – 6000 rpm)
- Tight temperature control ± 0.3 °C
- Pre-qualified compressor and drive package
- Motor's protection is managed by the driver
- Low in rush current

- Advanced energy efficiency cuts the electric bill and easily meets the energy standards
- Improves comfort and process reliability, greater humidity control
- Lowers noise level during part-load operations
- Faster time to market, saves time on development and enhances overall system reliability
- Reduces the size of power back up systems needed
- Reduces installation costs with elimination of components

Technical data and ordering

VZH028-044 - Inverter scroll compressor

Compressors specifications

Compressor model	Swept volume [cm³/rev]	Displacement				Oil charge [l]	Net weight [kg]
		15 rps [m³/ h]	50 rps [m³/h]	60 rps [m³/h]	100 rps [m³/h]		
VZH028	27.8	1.5	5.0	6.0	10.0	1.1	26
VZH035	34.9	1.9	6.3	7.5	12.6	1.3	27
VZH044	44.5	2.4	8.0	9.6	16.0	1.3	27

VZH052-065 - Inverter scroll compressor

Compressors specifications

Compressor model	Swept volume [cm³/rev]	Displacement				Oil charge [l]	Net weight [kg]
		1000 rpm [m³/ h]	3000 rpm [m³/h]	3600 rpm [m³/h]	6600 rpm [m³/h]		
VZH052	52.1	3.1	9.4	11.3	20.6	1.57	35
VZH065	65.1	3.9	11.7	14.1	25.8	1.57	35

Frequency converter specifications

Mains supply voltage	T2: 200 – 240 V ± 10% (3-phase), T4: 380 – 480 V ± 10% (3-phase), T6: 525 – 600 V ± 10 % (3-phase)
Supply frequency	50 / 60 Hz
Output voltage	0 – 100% of supply voltage
Inputs	4 digital (0 – 24 V), 2 analog (0 / ± 10 V or 4 – 20 mA, scalable)
Programmable outputs	2 digital (0 – 24 V), 2 analog (0 – 24 V), 2 relay
Protection functions	Over-current protection, low / high current handling
Compressor functions	Pressostat / thermostat function, short cycle protection, oil return management

VZH 028-065 - Single pack

Ordering

Compressor model	Equipment version	G 380-480 V/3ph/50&60 Hz		J 200-240 V/3ph/50&60 Hz		H 525-600 V/3ph/50&60 Hz	
		Compressor Name	Code no.	Compressor name	Code no.	Compressor name	Code no.
VZH028	OSG	VZH028CGANA	120G0061	VZH028CJANA	120G0064	VZH028CHANA	120G0123
VZH035	OSG	VZH035CGANA	120G0060	VZH035CJANA	120G0063	VZH035CHANA	120G0124
	OLS	VZH035CGBNA	120G0073	VZH035CJBNA	120G0076	–	–
VZH044	OSG	VZH044CGANA	120G0059	VZH044CJANA	120G0062	VZH044CHANA	120G0125
	OLS	VZH044CGBNA	120G0072	VZH044CJBNA	120G0075	–	–
VZH052	Single	VZH052CGANB/M	120G0149	VZH052CJANB/M	120G0155	VZH052CHANB/M	120G0147
VZH065	Single	VZH065CGANB/M	120G0152	VZH065CJANB/M	120G0153	VZH065CHANB/M	120G0150

VZH 028-065 - Industrial pack

Ordering

Compressor model	Equipment version	G 380-480 V/3ph/50&60 Hz		J 200-240 V/3ph/50&60 Hz		H 525-600 V/3ph/50&60 Hz	
		Compressor Name	Code no.	Compressor name	Code no.	Compressor name	Code no.
VZH028	OSG	VZH028CGANA/I	120G0138	VZH028CJANA/I	120G0135	VZH028CHANA/I	120G0129
VZH035	OSG	VZH035CGANA/I	120G0139	VZH035CJANA/I	120G0136	VZH035CHANA/I	120G0130
VZH044	OSG	VZH044CGANA/I	120G0140	VZH044CJANA/I	120G0137	VZH044CHANA/I	120G0131
VZH052	Single	VZH052CGANB/I	120G0143	VZH052CJANB/I	120G0142	VZH052CHANB/I	120G0141
VZH065	Single	VZH065CGANB/I	120G0146	VZH065CJANB/I	120G0145	VZH065CHANB/I	120G0144

Technical data and ordering

VZH 028-044 - Frequency converter - Single pack

Ordering

Compressor model	CDS803 drive		
	Voltage	Description	Code no.
VZH028	T2 200-240 V/3ph/50&60 Hz	CDS803P6K0T2E20H4	134N4260
VZH035		CDS803P7K5T2E20H4	134N4261
VZH044		CDS803P10 KT2E20H4	134L9470
VZH028	T4 380-480 V/3ph/50&60 Hz	CDS803P6K0T4E20H4	134N4262
VZH035		CDS803P7K5T4E20H4	134N4263
VZH044		CDS803P10 KT4E20H4	134L9473

LCP: user interface 120Z0581 (accessory)

VZH 028-044 - Frequency converter - Industrial pack

Ordering

Compressor model	CDS803 drive		
	Voltage	Description	Code no.
VZH028	T6 525-600 V/3ph/50&60 Hz	CDS303P7K5T6E20HX	134X8358
VZH035		CDS303P11KT6E20HX	135N3582
VZH044		CDS303P11KT6E20HX	135N3582

LCP: user interface 120Z0581 (accessory)

VZH 052-065 - Frequency converter

Ordering

Compressor model	CDS803 drive					
	Voltage	Model & power	IP class	RFI class	Drive name	Code no.
VZH052/ VZH065	T2 200-240 V/3ph/50&60 Hz	CDS303 11kW	IP20	H2	CDS303P11KT2E20H2	135X3360
			IP20	H3	CDS303P11KT2E20H3	135X3371
			IP55	H2	CDS303P11KT2P55H2	135X3361
			IP55	H3	CDS303P11KT2P55H3	135X3372
VZH052	T4 380-480 V/3ph/50&60 Hz	CDS303 11kW	IP20	H2	CDS303P11KT4E20H2	135X3298
			IP20	H3	CDS303P11KT4E20H3	135X3373
			IP55	H2	CDS303P11KT4P55H2	135X3362
			IP55	H3	CDS303P11KT4P55H3	135X3375
VZH065		CDS303 15kW	IP20	H2	CDS303P15KT4E20H2	135X1998
			IP20	H3	CDS303P15KT4E20H3	135X3379
			IP55	H2	CDS303P15KT4P55H2	135X3369
			IP55	H3	CDS303P15KT4P55H3	135X3380
VZH052	T6 525-600 V/3ph/50&60 Hz	CDS303 15kW	IP20	HX	CDS303P15KT6E20HX	135X3543
			IP55	HX	CDS303P15KT6P55HX	135X4863
VZH065		CDS303 22kW	IP20	HX	CDS303P22KT6E20HX	135X3560
			IP55	HX	CDS303P22KT6P55HX	135X3559

LCP: user interface 120Z0581 (accessory)

Technical data and ordering

VZH 088-170 - Inverter scroll compressor

Compressor specifications

Type	Swept volume [cm³/rev]	Displacement				Oil charge [dm³]	Net weight [kg]
		25 rps [m³/ h]	50 rps [m³/h]	60 rps [m³/h]	100 rps [m³ /h]		
VZH088	88.4	7.7	15.4	18.6	30.8	3.3	55
VZH117	116.9	10.1	20.3	24.6	40.6	3.6	61
VZH170	170.2	14.8	29.6	35.7	54.2	6.7	112

Frequency converter specifications

Mains supply voltage	T2: 200 – 240 V ± 10% (3-phase), T4: 380 – 480 V ± 10% (3-phase), T6: 525 – 600 V ± 10% (3-phase)
Supply frequency	50 / 60 Hz
Output voltage	0 – 100% of supply voltage
Inputs	6 digital (0 – 24 V), 2 analogue (0 ± 10 V or 4 – 20 mA, scalable)
Programmable outputs	2 digital (0 – 24 V), 1 analogue (0 – 24 V), 2 relay
Protection functions	Over-current protection, low / high current handling
Compressor functions	Discharge gas temperature protection, pressostat/thermostat function, short cycle protection, oil return management

VZH 088-170 - Inverter scroll compressor - Single pack

Ordering

Compressor model	Pressure ratio	Equipment version	Technical name	X=motor code		
				G 380-480 V/3ph/ 50&60 Hz	J 200-240 V/3ph/ 50&60 Hz	H 525-600 V/3ph/ 50&60 Hz
VZH088	High	Single	VZH088AXANA	120G0010	120G0012	120G0047
	Low	Single	VZH088BXANA	120G0011	120G0013	120G0049
	High	Manifold	VZH088AXBNA	120G0022	120G0024	120G0048
	Low	Manifold	VZH088BXBNA	120G0023	120G0025	120G0050
VZH117	High	Single	VZH117AXANA	120G0014	120G0016	120G0051
	Low	Single	VZH117BXANA	120G0015	120G0017	120G0053
	High	Manifold	VZH117AXBNA	120G0026	120G0028	120G0052
	Low	Manifold	VZH117BXBNA	120G0027	120G0029	120G0054
VZH170	High	Single	VZH170AXANB	120G0018	120G0020	120G0055
	Low	Single	VZH170BXANB	120G0019	120G0021	120G0057
	High	Manifold	VZH170AXBNB	120G0030	120G0032	120G0056
	Low	Manifold	VZH170BXBNB	120G0031	120G0033	120G0058

VZH 088-170 - Inverter scroll compressor - Industrial pack

Ordering

Compressor model	Technical name	X=motor code	
		Code G	Code J
VZH088	VZH088AXANA	120G0078	120G0080
	VZH088BXANA	120G0079	120G0081
	VZH088AXBNA	120G0090	120G0092
	VZH088BXBNA	120G0091	120G0093
VZH117	VZH117AXANA	120G0082	120G0084
	VZH117BXANA	120G0083	120G0085
	VZH117AXBNA	120G0094	120G0096
	VZH117BXBNA	120G0095	120G0097
VZH170	VZH170AXANB	120G0086	120G0088
	VZH170BXANB	120G0087	120G0089
	VZH170AXBNB	120G0098	120G0100
	VZH170BXBNB	120G0099	120G0101

Coils

Ordering

Coil model	Code no.
208V-240 V coil + adaptor	120Z0521
24V coil + adaptor	120Z0522

Technical data and ordering

VZH voltage code G - 380-480 Volt

Ordering

Compressor model	Frequency converter				
	Model & power	IP class	RFI class	Coating	Code no
VZH088-G	CDS303 15.0 KW	IP20	H3	No	134G3576
	CDS303 15.0 KW			Yes	134G3577
	CDS303 15.0 KW		H2	No	134F9366
	CDS303 15.0 KW			Yes	134G3578
	CDS303 15.0 KW	IP55	H3	No	134G4008
	CDS303 15.0 KW			Yes	134G4010
	CDS303 15.0 KW		H2	No	134G4012
	CDS303 15.0 KW			Yes	134G4013
VZH117-G	CDS303 15.0 KW	IP20	H3	No	134G3579
	CDS303 18.5kW			Yes	134G3580
	CDS303 18.5kW		H2	No	134F9368
	CDS303 18.5kW			Yes	134G3581
	CDS303 18.5kW	IP55	H3	No	134G4015
	CDS303 18.5kW			Yes	134G4016
	CDS303 18.5kW		H2	No	134G4018
	CDS303 18.5kW			Yes	134G4019
VZH170-G	CDS303 18.5kW	IP20	H3	No	134G3582
	CDS303 18.5kW			Yes	134G3583
	CDS303 22.0 KW		H2	No	134F9371
	CDS303 22.0 KW			Yes	134G3584
	CDS303 22.0 KW	IP55	H3	No	134G4020
	CDS303 22.0 KW			Yes	134G4021
	CDS303 22.0 KW		H2	No	134G4022
	CDS303 22.0 KW			Yes	134G4023

LCP: user interface 120Z0326 (accessory)

VZH voltage code H - 525-600 Volt

Ordering

Compressor model	Frequency converter			
	Model & power	IP class	RFI class	Code no
VZH088-H	CDS303 18.5kW	IP20	HX	134L7237
VZH117-H	CDS303 30 KW	IP20	HX	134L7239
VZH170-H	CDS303 30 KW	IP20	HX	134L7239

Technical data and ordering

VZH - Inverter scroll compressor - VZH028CJ-VZH035CJ-VZH044CJ-VZH052CJ-VZH065CJ

EN12900

Type	[rpm]	[rps]	Te	-30		-25		-20		-15		-10		-5		0		5		10		15		20	
			Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
VZH028CJ	1800	30	5	–	–	1791	0.54	2252	0.519	2798	0.499	3437	0.479	4177	0.46	5027	0.442	–	–	–	–	–	–	–	–
			25	–	–	1460	0.812	1873	0.804	2351	0.79	2905	0.771	3541	0.747	4269	0.717	5096	0.682	6031	0.643	7081	0.599	8257	0.55
			45	–	–	–	–	–	–	1805	1.198	2256	1.218	2772	1.227	3359	1.224	4027	1.21	4783	1.185	5636	1.149	6593	1.103
			65	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	5	3009	1.04	3787	1.056	4725	1.042	5840	0.984	7151	0.869	8676	0.68	10435	0.403	–	–	–	–	–	–	–	–
			25	2371	1.492	3054	1.527	3863	1.572	4817	1.613	5934	1.634	7232	1.622	8730	1.56	10445	1.436	12396	1.234	14602	0.94	17081	0.539
			45	–	–	2284	2.296	2937	2.292	3702	2.323	4597	2.375	5638	2.431	6845	2.479	8235	2.502	9825	2.487	11634	2.419	13680	2.283
			65	–	–	–	–	–	–	–	–	–	–	3761	3.567	4622	3.615	5626	3.68	6789	3.744	8128	3.795	9660	3.818
	6000	100	5	5025	1.96	6302	2.006	7834	1.996	9651	1.917	11784	1.756	14263	1.499	17119	1.131	–	–	–	–	–	–	–	–
			25	4004	2.64	5147	2.772	6495	2.887	8075	2.972	9920	3.012	12058	2.994	14520	2.905	17336	2.73	20536	2.456	24150	2.068	28209	1.555
			45	–	–	3860	3.845	4978	3.968	6278	4.1	7789	4.225	9540	4.331	11560	4.403	13879	4.429	16527	4.393	19532	4.283	22923	4.084
			65	–	–	–	–	–	–	–	–	–	–	6426	6.069	7912	6.187	9633	6.296	11616	6.383	13888	6.433	16477	6.434
VZH035CJ	1800	30	5	–	–	2268	0.658	2851	0.633	3542	0.608	4350	0.584	5287	0.561	6363	0.539	–	–	–	–	–	–	–	–
			25	–	–	1848	0.99	2370	0.98	2977	0.964	3677	0.94	4483	0.91	5403	0.874	6450	0.832	7634	0.784	8964	0.73	10452	0.67
			45	–	–	–	–	–	–	2284	1.461	2856	1.485	3508	1.496	4252	1.492	5098	1.475	6055	1.445	7134	1.401	8346	1.345
			65	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	5	3808	1.268	4794	1.287	5981	1.27	7392	1.2	9052	1.059	10983	0.829	13209	0.491	–	–	–	–	–	–	–	–
			25	3002	1.82	3866	1.862	4890	1.917	6098	1.966	7512	1.992	9155	1.977	11050	1.903	13222	1.751	15692	1.505	18484	1.146	21622	0.657
			45	–	–	2891	2.799	3718	2.795	4687	2.833	5819	2.895	7137	2.965	8665	3.022	10424	3.051	12437	3.033	14727	2.95	17316	2.784
			65	–	–	–	–	–	–	–	–	–	–	4760	4.349	5851	4.408	7121	4.487	8594	4.566	10289	4.628	12228	4.655
	6000	100	5	6361	2.344	7977	2.398	9916	2.387	12217	2.293	14917	2.1	18055	1.792	21670	1.353	–	–	–	–	–	–	–	–
			25	5069	3.157	6516	3.314	8221	3.452	10222	3.553	12557	3.601	15263	3.58	18379	3.473	21944	3.264	25994	2.936	30570	2.473	35708	1.859
			45	–	–	4885	4.597	6301	4.745	7947	4.902	9859	5.052	12076	5.178	14633	5.265	17569	5.295	20920	5.253	24723	5.121	29017	4.883
			65	–	–	–	–	–	–	–	–	–	–	8134	7.256	10015	7.397	12193	7.528	14704	7.632	17580	7.692	20857	7.693
VZH044CJ	1800	30	5	–	–	2916	0.824	3666	0.792	4554	0.76	5594	0.731	6799	0.702	8183	0.675	–	–	–	–	–	–	–	–
			25	–	–	2377	1.239	3048	1.227	3828	1.206	4729	1.176	5765	1.139	6949	1.094	8295	1.041	9817	0.98	11527	0.913	13441	0.839
			45	–	–	–	–	–	–	2938	1.828	3673	1.858	4512	1.871	5468	1.867	6556	1.846	7787	1.808	9175	1.753	10733	1.682
			65	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	5	4897	1.558	6165	1.581	7691	1.561	9507	1.475	11641	1.301	14124	1.018	16986	0.604	–	–	–	–	–	–	–	–
			25	3860	2.235	4972	2.288	6289	2.355	7842	2.416	9660	2.448	11773	2.429	14211	2.337	17003	2.152	20180	1.849	23770	1.408	27806	0.807
			45	–	–	3718	3.439	4782	3.433	6027	3.48	7483	3.557	9179	3.642	11143	3.713	13405	3.748	15994	3.726	18939	3.624	22269	3.42
			65	–	–	–	–	–	–	–	–	–	–	6122	5.343	7524	5.416	9158	5.512	11052	5.609	13232	5.685	15725	5.718
	6000	100	5	8180	2.932	10259	3	12752	2.986	15711	2.868	19183	2.627	23219	2.242	27868	1.692	–	–	–	–	–	–	–	–
			25	6518	3.949	8379	4.146	10572	4.318	13145	4.445	16148	4.505	19628	4.478	23636	4.345	28220	4.083	33429	3.673	39313	3.094	45920	2.326
			45	–	–	6283	5.751	8103	5.936	10220	6.132	12679	6.32	15529	6.478	18818	6.586	22593	6.624	26903	6.571	31794	6.406	37316	6.109
			65	–	–	–	–	–	–	–	–	–	–	10460	9.077	12879	9.254	15681	9.418	18909	9.547	22608	9.623	26823	9.624
VZH052CG	1800	30	5	2837	0.87	3679	0.86	4596	0.83	5600	0.78	6702	0.69	7913	0.55	9245	0.34	–	–	–	–	–	–	–	–
			25	1040	1.47	2070	1.42	3165	1.4	4335	1.39	5592	1.38	6947	1.35	8410	1.29	9993	1.19	11707	1.04	13563	0.81	15573	0.5
			45	–	–	–	–	–	–	1836	2.31	3123	2.27	4496	2.25	5965	2.23	7541	2.21	9236	2.17	11060	2.1	13023	1.98
			65	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	5	5886	1.82	7488	1.86	9295	1.85	11331	1.77	13624	1.58	16198	1.24	19080	0.73	–	–	–	–	–	–	–	–
			25	3224	2.85	4963	2.8	6884	2.82	9013	2.85	11375	2.87	13996	2.86	16900	2.77	20113	2.57	23662	2.23	27570	1.72	31865	1.01
			45	–	–	–	–	3195	4.72	5185	4.54	7383	4.45	9816	4.42	12507	4.41	15481	4.4	18764	4.35	22379	4.23	26351	4
			65	–	–	–	–	–	–	–	–	–	–	–	–	6490	7.07	8906	6.91	11592	6.81	14573	6.74	17869	6.66
	6000	100	5	9514	3.41	12058	3.44	15031	3.42	18480	3.31	22454	3.09	27000	2.72	32166	2.16	38000	1.4	–	–	–	–	–	–
			25	6474	5.15	9025	5.14	11933	5.17	15247	5.21	19012	5.23	23277	5.2	28089	5.09	33494	4.85	39541	4.47	46277	3.91	53749	3.14
			45	–	–	5027	8.14	7619	7.92	10543	7.81	13845	7.77	17571	7.77	21768	7.78	26480	7.77	31755	7.71	37639	7.56	44177	7.29
			65	–	–	–	–	–	–	–	–	7220	12.06	10057	11.78	13275	11.61	16916	11.52	21024	11.46	25639	11.42	30806	11.35
VZH065CG	1800	30	5	3610	1.07	4658	1.08	5806	1.07	7068	1.02	8461	0.91	9998	0.72	11694	0.41	–	–	–	–	–	–	–	–
			25	1411	1.89	2669	1.78	4013	1.72	5458	1.71	7020	1.7	8712	1.68	10549	1.62	12546	1.51	14717	1.31	17078	1.01	19643	0.59
			45	–	–	–	–	–	–	2378	3.25	3949	3.07	5636	2.95	7454	2.87	9416	2.81	11536	2.74	13830	2.64	16310	2.49
			65	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	5	7165	2.26	9074	2.26	11282	2.23	13828	2.13	16752	1.92	20092	1.56	23886	1.02	–	–	–	–	–	–	–	–
			25	4444	3.65	6484	3.55	8777	3.52	11361	3.53	14274	3.54	17553	3.51	21237	3.41	25365	3.2	29974	2.83	35103	2.28	40791	1.51
			45	–	–	–	–	4678	5.87	6992	5.65	9586	5.54	12495	5.51	15758	5.5	19412	5.5	23493	5.45	28039	5.32	33087	5.08
			65	–	–	–	–	–	–	–	–	–	–	–	–	8282	8.85	11063	8.71	14205	8.64	17741	8.6	21705	8.55
	6000	100	5	11818	4.35	14813	4.36	18362	4.34	22542	4.23	27432	3.98	33109	3.55	39653	2.86	47141	1.88	–	–	–	–	–	–
			25	8594	6.62	11636	6.45	15126	6.41	19139	6.44	23753	6.49	29044	6.52	35090	6.45	41968	6.25	49754	5.86	58528	5.22	68365	4.29
			45	–	–	7083	10.6	10125	10.03	13582	9.7	17529	9.55	22039	9.52	27189	9.58	33053	9.66	39708	9.7	47227	9.66	55687	9.49
			65	–	–	–	–	–	–	–	–	9478	15.48	12722	14.91	16471	14.58	20797	14.43	25768	14.41	31455	14.46	37925	14.54

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Qo: *Cooling capacity in [W]*
Pe: *Power input in [kW] (with drive loss)*
Superheat: *10 K*
Subcooling: *0 K*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

VZH - Inverter scroll compressor - VZH028CG-VZH035CG-VZH044CG-VZH052CG-VZH065CG

EN12900

Type	[rpm]	[rps]	Te	-30		-25		-20		-15		-10		-5		0		5		10		15		20	
			Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
VZH028CG	1800	30	5	–	–	1791	0.535	2252	0.514	2798	0.494	3437	0.474	4177	0.456	5027	0.438	–	–	–	–	–	–	–	–
			25	–	–	1460	0.804	1873	0.796	2351	0.783	2905	0.763	3541	0.739	4269	0.71	5096	0.676	6031	0.636	7081	0.593	8257	0.544
			45	–	–	–	–	–	–	1805	1.186	2256	1.206	2772	1.215	3359	1.212	4027	1.198	4783	1.173	5636	1.138	6593	1.092
			65	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	5	3009	1.03	3787	1.045	4725	1.032	5840	0.975	7151	0.86	8676	0.673	10435	0.399	–	–	–	–	–	–	–	–
			25	2371	1.478	3054	1.512	3863	1.557	4817	1.597	5934	1.618	7232	1.605	8730	1.545	10445	1.422	12396	1.222	14602	0.931	17081	0.533
			45	–	–	2284	2.273	2937	2.269	3702	2.3	4597	2.351	5638	2.407	6845	2.454	8235	2.478	9825	2.463	11634	2.395	13680	2.261
			65	–	–	–	–	–	–	–	–	–	–	3761	3.531	4622	3.58	5626	3.643	6789	3.707	8128	3.758	9660	3.78
	6000	100	5	5025	1.941	6302	1.986	7834	1.976	9651	1.898	11784	1.739	14263	1.484	17119	1.12	–	–	–	–	–	–	–	–
			25	4004	2.614	5147	2.745	6495	2.859	8075	2.942	9920	2.982	12058	2.964	14520	2.876	17336	2.703	20536	2.431	24150	2.048	28209	1.539
			45	–	–	3860	3.807	4978	3.929	6278	4.059	7789	4.183	9540	4.288	11560	4.36	13879	4.385	16527	4.349	19532	4.24	22923	4.044
			65	–	–	–	–	–	–	–	–	–	–	6426	6.009	7912	6.126	9633	6.234	11616	6.32	13888	6.37	16477	6.37
VZH035CG	1800	30	5	–	–	2268	0.652	2851	0.627	3542	0.602	4350	0.578	5287	0.555	6363	0.534	–	–	–	–	–	–	–	–
			25	–	–	1848	0.981	2370	0.971	2977	0.954	3677	0.931	4483	0.901	5403	0.866	6450	0.824	7634	0.776	8964	0.723	10452	0.664
			45	–	–	–	–	–	–	2284	1.447	2856	1.471	3508	1.481	4252	1.478	5098	1.461	6055	1.431	7134	1.388	8346	1.331
			65	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	5	3808	1.256	4794	1.274	5981	1.258	7392	1.188	9052	1.049	10983	0.82	13209	0.486	–	–	–	–	–	–	–	–
			25	3002	1.802	3866	1.844	4890	1.898	6098	1.947	7512	1.973	9155	1.958	11050	1.884	13222	1.734	15692	1.49	18484	1.135	21622	0.65
			45	–	–	2891	2.771	3718	2.767	4687	2.805	5819	2.867	7137	2.935	8665	2.993	10424	3.021	12437	3.003	14727	2.921	17316	2.757
			65	–	–	–	–	–	–	–	–	–	–	4760	4.306	5851	4.365	7121	4.442	8594	4.52	10289	4.582	12228	4.609
	6000	100	5	6361	2.321	7977	2.374	9916	2.363	12217	2.27	14917	2.079	18055	1.774	21670	1.339	–	–	–	–	–	–	–	–
			25	5069	3.126	6516	3.282	8221	3.418	10222	3.518	12557	3.565	15263	3.544	18379	3.438	21944	3.231	25994	2.907	30570	2.449	35708	1.841
			45	–	–	4885	4.551	6301	4.698	7947	4.853	9859	5.002	12076	5.127	14633	5.213	17569	5.243	20920	5.2	24723	5.07	29017	4.835
			65	–	–	–	–	–	–	–	–	–	–	8134	7.184	10015	7.324	12193	7.454	14704	7.556	17580	7.616	20857	7.617
VZH044CG	1800	30	5	–	–	2916	0.815	3666	0.784	4554	0.753	5594	0.723	6799	0.695	8183	0.668	–	–	–	–	–	–	–	–
			25	–	–	2377	1.227	3048	1.214	3828	1.194	4729	1.165	5765	1.128	6949	1.083	8295	1.03	9817	0.971	11527	0.904	13441	0.83
			45	–	–	–	–	–	–	2938	1.81	3673	1.84	4512	1.853	5468	1.849	6556	1.828	7787	1.79	9175	1.736	10733	1.666
			65	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	5	4897	1.543	6165	1.565	7691	1.545	9507	1.46	11641	1.288	14124	1.008	16986	0.598	–	–	–	–	–	–	–	–
			25	3860	2.213	4972	2.265	6289	2.332	7842	2.392	9660	2.423	11773	2.405	14211	2.314	17003	2.13	20180	1.831	23770	1.394	27806	0.799
			45	–	–	3718	3.405	4782	3.399	6027	3.446	7483	3.522	9179	3.606	11143	3.676	13405	3.711	15994	3.689	18939	3.588	22269	3.386
			65	–	–	–	–	–	–	–	–	–	–	6122	5.29	7524	5.362	9158	5.457	11052	5.553	13232	5.629	15725	5.662
	6000	100	5	8180	2.903	10259	2.97	12752	2.956	15711	2.84	19183	2.601	23219	2.22	27868	1.675	–	–	–	–	–	–	–	–
			25	6518	3.91	8379	4.105	10572	4.276	13145	4.401	16148	4.46	19628	4.434	23636	4.302	28220	4.042	33429	3.637	39313	3.063	45920	2.303
			45	–	–	6283	5.694	8103	5.877	10220	6.071	12679	6.257	15529	6.414	18818	6.521	22593	6.559	26903	6.506	31794	6.343	37316	6.049
			65	–	–	–	–	–	–	–	–	–	–	10460	8.988	12879	9.162	15681	9.324	18909	9.453	22608	9.528	26823	9.528
VZH052CG	1800	30	5	2837	0.86	3679	0.84	4596	0.82	5600	0.77	6702	0.68	7913	0.54	9245	0.33	–	–	–	–	–	–	–	–
			25	1040	1.44	2070	1.4	3165	1.37	4335	1.36	5592	1.35	6947	1.32	8410	1.27	9993	1.17	11707	1.02	13563	0.8	15573	0.49
			45	–	–	–	–	–	–	1836	2.27	3123	2.23	4496	2.2	5965	2.19	7541	2.17	9236	2.13	11060	2.06	13023	1.95
			65	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	5	5886	1.79	7488	1.82	9295	1.82	11331	1.74	13624	1.55	16198	1.22	19080	0.72	–	–	–	–	–	–	–	–
			25	3224	2.8	4963	2.75	6884	2.76	9013	2.8	11375	2.82	13996	2.81	16900	2.72	20113	2.52	23662	2.19	27570	1.69	31865	0.99
			45	–	–	–	–	3195	4.63	5185	4.46	7383	4.37	9816	4.34	12507	4.33	15481	4.32	18764	4.27	22379	4.15	26351	3.92
			65	–	–	–	–	–	–	–	–	–	–	–	–	6490	6.94	8906	6.78	11592	6.68	14573	6.61	17869	6.54
	6000	100	5	9514	3.37	12058	3.4	15031	3.38	18480	3.27	22454	3.05	27000	2.68	32166	2.14	38000	1.39	–	–	–	–	–	–
			25	6474	5.08	9025	5.08	11933	5.11	15247	5.15	19012	5.17	23277	5.14	28089	5.03	33494	4.8	39541	4.42	46277	3.87	53749	3.1
			45	–	–	5027	8.04	7619	7.83	10543	7.71	13845	7.67	17571	7.68	21768	7.69	26480	7.68	31755	7.62	37639	7.47	44177	7.21
			65	–	–	–	–	–	–	–	–	7220	11.91	10057	11.64	13275	11.47	16916	11.38	21024	11.33	25639	11.28	30806	11.22
VZH065CG	1800	30	5	3610	1.02	4658	1.03	5806	1.03	7068	0.98	8461	0.88	9998	0.69	11694	0.4	–	–	–	–	–	–	–	–
			25	1411	1.81	2669	1.7	4013	1.65	5458	1.63	7020	1.63	8712	1.61	10549	1.56	12546	1.45	14717	1.26	17078	0.97	19643	0.56
			45	–	–	–	–	–	–	2378	3.11	3949	2.94	5636	2.83	7454	2.75	9416	2.69	11536	2.63	13830	2.53	16310	2.39
			65	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	5	7165	2.2	9074	2.2	11282	2.17	13828	2.07	16752	1.87	20092	1.52	23886	0.99	–	–	–	–	–	–	–	–
			25	4444	3.56	6484	3.46	8777	3.43	11361	3.44	14274	3.45	17553	3.42	21237	3.32	25365	3.11	29974	2.76	35103	2.22	40791	1.47
			45	–	–	–	–	4678	5.72	6992	5.51	9586	5.4	12495	5.36	15758	5.36	19412	5.35	23493	5.31	28039	5.18	33087	4.95
			65	–	–	–	–	–	–	–	–	–	–	–	–	8282	8.62	11063	8.49	14205	8.42	17741	8.37	21705	8.33
	6000	100	5	11818	4.24	14813	4.25	18362	4.23	22542	4.12	27432	3.88	33109	3.46	39653	2.79	47141	1.83	–	–	–	–	–	–
			25	8594	6.46	11636	6.29	15126	6.25	19139	6.28	23753	6.33	29044	6.35	35090	6.29	41968	6.1	49754	5.71	58528	5.09	68365	4.18
			45	–	–	7083	10.34	10125	9.78	13582	9.46	17529	9.31	22039	9.29	27189	9.34	33053	9.42	39708	9.46	47227	9.42	55687	9.25
			65	–	–	–	–	–	–	–	–	9478	15.1	12722	14.54	16471	14.22	20797	14.07	25768	14.05	31455	14.11	37925	14.18

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Qo: *Cooling capacity in [W]*
Pe: *Power input in [kW] (with drive loss)*
Subcooling: *0 K*
Superheat: *10 K*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

VZH - Inverter scroll compressor - VZH028CJ-VZH035CJ-VZH044CJ-VZH052CJ-VZH065CJ

ARI

Type	[rpm]	[rps]	Te	-30		-25		-20		-15		-10		-5		0		5		10		15		20	
			Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
VZH028CJ	1800	30	5	–	–	1894	0.54	2380	0.519	2954	0.499	3626	0.479	4405	0.46	5298	0.442	–	–	–	–	–	–	–	–
			25	–	–	1568	0.812	2009	0.804	2521	0.79	3111	0.771	3790	0.747	4565	0.717	5445	0.682	6440	0.643	7557	0.599	8805	0.55
			45	–	–	–	–	–	–	1990	1.198	2484	1.218	3048	1.227	3690	1.224	4418	1.21	5242	1.185	6171	1.149	7212	1.103
			65	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	5	3183	1.04	4004	1.056	4992	1.042	6167	0.984	7546	0.869	9150	0.68	10999	0.403	–	–	–	–	–	–	–	–
			25	2550	1.492	3280	1.527	4145	1.572	5164	1.613	6356	1.634	7740	1.622	9336	1.56	11162	1.436	13237	1.234	15582	0.94	18215	0.539
			45	–	–	2526	2.296	3244	2.292	4082	2.323	5062	2.375	6200	2.431	7518	2.479	9034	2.502	10767	2.487	12737	2.419	14963	2.283
			65	–	–	–	–	–	–	–	–	–	–	4505	3.567	5520	3.615	6701	3.68	8067	3.744	9637	3.795	11431	3.818
	6000	100	5	5317	1.96	6663	2.006	8277	1.996	10191	1.917	12435	1.756	15043	1.499	18044	1.131	–	–	–	–	–	–	–	–
			25	4305	2.64	5528	2.772	6969	2.887	8657	2.972	10625	3.012	12905	2.994	15527	2.905	18525	2.73	21928	2.456	25770	2.068	30082	1.555
			45	–	–	4269	3.845	5497	3.968	6922	4.1	8576	4.225	10491	4.331	12697	4.403	15226	4.429	18111	4.393	21383	4.283	25074	4.084
			65	–	–	–	–	–	–	–	–	–	–	7698	6.069	9450	6.187	11474	6.296	13802	6.383	16466	6.433	19498	6.434
VZH035CJ	1800	30	5	–	–	2398	0.658	3012	0.633	3740	0.608	4590	0.584	5576	0.561	6707	0.539	–	–	–	–	–	–	–	–
			25	–	–	1985	0.99	2543	0.98	3191	0.964	3939	0.94	4797	0.91	5778	0.874	6893	0.832	8151	0.784	9565	0.73	11146	0.67
			45	–	–	–	–	–	–	2519	1.461	3145	1.485	3858	1.496	4670	1.492	5593	1.475	6636	1.445	7811	1.401	9129	1.345
			65	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	5	4029	1.268	5069	1.287	6319	1.27	7806	1.2	9552	1.059	11583	0.829	13922	0.491	–	–	–	–	–	–	–	–
			25	3227	1.82	4152	1.862	5247	1.917	6537	1.966	8046	1.992	9798	1.977	11817	1.903	14129	1.751	16756	1.505	19724	1.146	23057	0.657
			45	–	–	3198	2.799	4106	2.795	5168	2.833	6407	2.895	7849	2.965	9517	3.022	11436	3.051	13630	3.033	16123	2.95	18941	2.784
			65	–	–	–	–	–	–	–	–	–	–	5703	4.349	6988	4.408	8483	4.487	10212	4.566	12199	4.628	14469	4.655
	6000	100	5	6730	2.344	8434	2.398	10478	2.387	12900	2.293	15741	2.1	19041	1.792	22841	1.353	–	–	–	–	–	–	–	–
			25	5449	3.157	6998	3.314	8821	3.452	10958	3.553	13449	3.601	16335	3.58	19655	3.473	23449	3.264	27758	2.936	32621	2.473	38079	1.859
			45	–	–	5403	4.597	6958	4.745	8763	4.902	10856	5.052	13279	5.178	16072	5.265	19274	5.295	22926	5.253	27067	5.121	31739	4.883
			65	–	–	–	–	–	–	–	–	–	–	9744	7.256	11962	7.397	14524	7.528	17471	7.632	20844	7.692	24681	7.693
VZH044CJ	1800	30	5	–	–	3083	0.824	3874	0.792	4809	0.76	5903	0.731	7171	0.702	8625	0.675	–	–	–	–	–	–	–	–
			25	–	–	2553	1.239	3271	1.227	4104	1.206	5065	1.176	6169	1.139	7431	1.094	8864	1.041	10483	0.98	12301	0.913	14333	0.839
			45	–	–	–	–	–	–	3239	1.828	4044	1.858	4961	1.871	6006	1.867	7192	1.846	8533	1.808	10045	1.753	11740	1.682
			65	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	5	5182	1.558	6518	1.581	8127	1.561	10038	1.475	12284	1.301	14896	1.018	17904	0.604	–	–	–	–	–	–	–	–
			25	4150	2.235	5340	2.288	6748	2.355	8407	2.416	10347	2.448	12600	2.429	15197	2.337	18169	2.152	21548	1.849	25365	1.408	29652	0.807
			45	–	–	4113	3.439	5280	3.433	6646	3.48	8239	3.557	10093	3.642	12238	3.713	14706	3.748	17528	3.726	20734	3.624	24357	3.42
			65	–	–	–	–	–	–	–	–	–	–	7334	5.343	8986	5.416	10909	5.512	13132	5.609	15688	5.685	18607	5.718
	6000	100	5	8654	2.932	10846	3	13474	2.986	16589	2.868	20243	2.627	24487	2.242	29373	1.692	–	–	–	–	–	–	–	–
			25	7008	3.949	9000	4.146	11344	4.318	14092	4.445	17296	4.505	21007	4.478	25276	4.345	30155	4.083	35696	3.673	41950	3.094	48969	2.326
			45	–	–	6949	5.751	8949	5.936	11269	6.132	13961	6.32	17077	6.478	20668	6.586	24786	6.624	29483	6.571	34809	6.406	40816	6.109
			65	–	–	–	–	–	–	–	–	–	–	12531	9.077	15383	9.254	18678	9.418	22468	9.547	26805	9.623	31740	9.624
VZH052CJ	1800	30	5	3002	0.87	3889	0.86	4856	0.83	5913	0.78	7072	0.69	8345	0.55	9744	0.34	–	–	–	–	–	–	–	–
			25	1118	1.47	2223	1.42	3396	1.4	4647	1.39	5989	1.38	7434	1.35	8992	1.29	10677	1.19	12500	1.04	14472	0.81	16606	0.5
			45	–	–	–	–	–	–	2024	2.31	3438	2.27	4943	2.25	6550	2.23	8272	2.21	10121	2.17	12107	2.1	14243	1.98
			65	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	5	6227	1.82	7917	1.86	9820	1.85	11964	1.77	14376	1.58	17082	1.24	20109	0.73	–	–	–	–	–	–	–	–
			25	3466	2.85	5330	2.8	7386	2.82	9662	2.85	12183	2.87	14977	2.86	18071	2.77	21491	2.57	25264	2.23	29418	1.72	33978	1.01
			45	–	–	–	–	3527	4.72	5716	4.54	8129	4.45	10793	4.42	13735	4.41	16982	4.4	20560	4.35	24497	4.23	28820	4
			65	–	–	–	–	–	–	–	–	–	–	–	–	7750	7.07	10605	6.91	13771	6.81	17273	6.74	21139	6.66
	6000	100	5	10065	3.41	12748	3.44	15880	3.42	19512	3.31	23693	3.09	28473	2.72	33901	2.16	40028	1.4	–	–	–	–	–	–
			25	6959	5.15	9692	5.14	12803	5.17	16344	5.21	20363	5.23	24910	5.2	30035	5.09	35788	4.85	42219	4.47	49378	3.91	57313	3.14
			45	–	–	5560	8.14	8412	7.92	11624	7.81	15243	7.77	19320	7.77	23905	7.78	29047	7.77	34796	7.71	41202	7.56	48316	7.29
			65	–	–	–	–	–	–	–	–	8675	12.06	12044	11.78	15851	11.61	20144	11.52	24974	11.46	30391	11.42	36444	11.35
VZH065CJ	1800	30	5	3819	1.07	4924	1.08	6134	1.07	7463	1.02	8928	0.91	10543	0.72	12325	0.41	–	–	–	–	–	–	–	–
			25	1517	1.89	2866	1.78	4305	1.72	5851	1.71	7518	1.7	9323	1.68	11280	1.62	13405	1.51	15714	1.31	18222	1.01	20945	0.59
			45	–	–	–	–	–	–	2622	3.25	4348	3.07	6197	2.95	8185	2.87	10328	2.81	12641	2.74	15139	2.64	17838	2.49
			65	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	5	7580	2.26	9593	2.26	11919	2.23	14600	2.13	17677	1.92	21188	1.56	25174	1.02	–	–	–	–	–	–	–	–
			25	4777	3.65	6964	3.55	9417	3.52	12178	3.53	15287	3.54	18784	3.51	22709	3.41	27102	3.2	32004	2.83	37455	2.28	43496	1.51
			45	–	–	–	–	5165	5.87	7709	5.65	10553	5.54	13739	5.51	17305	5.5	21293	5.5	25743	5.45	30694	5.32	36187	5.08
			65	–	–	–	–	–	–	–	–	–	–	–	–	9889	8.85	13175	8.71	16874	8.64	21029	8.6	25678	8.55
	6000	100	5	12503	4.35	15661	4.36	19399	4.34	23800	4.23	28946	3.98	34916	3.55	41792	2.86	49656	1.88	–	–	–	–	–	–
			25	9239	6.62	12497	6.45	16229	6.41	20516	6.44	25440	6.49	31081	6.52	37522	6.45	44842	6.25	53124	5.86	62449	5.22	72898	4.29
			45	–	–	7833	10.6	11180	10.03	14974	9.7	19298	9.55	24232	9.52	29858	9.58	36257	9.66	43510	9.7	51698	9.66	60903	9.49
			65	–	–	–	–	–	–	–	–	11387	15.48	15235	14.91	19668	14.58	24766	14.43	30611	14.41	37284	14.46	44866	14.54

To: *Evaporating temperature in [°C],* ***Tc:*** *Condensing temperature in [°C],* ***Qo:*** *Cooling capacity in [W],* ***Pe:*** *Power input in [kW] (with drive loss),* ***Subcooling:*** *8.3 K,* ***Superheat:*** *11.1 K*
Rating point: *ARI at 60 rps*
To / Tc / SH / SC: *7.2 °C / 54.4 °C / 11.1 K / 8.3 K at 60 rps*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

VZH - Inverter scroll compressor - VZH028CG-VZH035CG-VZH044CG-VZH052CG-VZH065CG

ARI

Type	[rpm]	[rps]	Te	-30		-25		-20		-15		-10		-5		0		5		10		15		20	
			Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
VZH028CG	1800	30	5	–	–	1894	0.535	2380	0.514	2954	0.494	3626	0.474	4405	0.456	5298	0.438	–	–	–	–	–	–	–	–
			25	–	–	1568	0.804	2009	0.796	2521	0.783	3111	0.763	3790	0.739	4565	0.71	5445	0.676	6440	0.636	7557	0.593	8805	0.544
			45	–	–	–	–	–	–	1990	1.186	2484	1.206	3048	1.215	3690	1.212	4418	1.198	5242	1.173	6171	1.138	7212	1.092
			65	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	5	3183	1.03	4004	1.045	4992	1.032	6167	0.975	7546	0.86	9150	0.673	10999	0.399	–	–	–	–	–	–	–	–
			25	2550	1.478	3280	1.512	4145	1.557	5164	1.597	6356	1.618	7740	1.605	9336	1.545	11162	1.422	13237	1.222	15582	0.931	18215	0.533
			45	–	–	2526	2.273	3244	2.269	4082	2.3	5062	2.351	6200	2.407	7518	2.454	9034	2.478	10767	2.463	12737	2.395	14963	2.261
			65	–	–	–	–	–	–	–	–	–	–	4505	3.531	5520	3.58	6701	3.643	8067	3.707	9637	3.758	11431	3.78
	6000	100	5	5317	1.941	6663	1.986	8277	1.976	10191	1.898	12435	1.739	15043	1.484	18044	1.12	–	–	–	–	–	–	–	–
			25	4305	2.614	5528	2.745	6969	2.859	8657	2.942	10625	2.982	12905	2.964	15527	2.876	18525	2.703	21928	2.431	25770	2.048	30082	1.539
			45	–	–	4269	3.807	5497	3.929	6922	4.059	8576	4.183	10491	4.288	12697	4.36	15226	4.385	18111	4.349	21383	4.24	25074	4.044
			65	–	–	–	–	–	–	–	–	–	–	7698	6.009	9450	6.126	11474	6.234	13802	6.32	16466	6.37	19498	6.37
VZH035CG	1800	30	5	–	–	2398	0.652	3012	0.627	3740	0.602	4590	0.578	5576	0.555	6707	0.534	–	–	–	–	–	–	–	–
			25	–	–	1985	0.981	2543	0.971	3191	0.954	3939	0.931	4797	0.901	5778	0.866	6893	0.824	8151	0.776	9565	0.723	11146	0.664
			45	–	–	–	–	–	–	2519	1.447	3145	1.471	3858	1.481	4670	1.478	5593	1.461	6636	1.431	7811	1.388	9129	1.331
			65	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	5	4029	1.256	5069	1.274	6319	1.258	7806	1.188	9552	1.049	11583	0.82	13922	0.486	–	–	–	–	–	–	–	–
			25	3227	1.802	4152	1.844	5247	1.898	6537	1.947	8046	1.973	9798	1.958	11817	1.884	14129	1.734	16756	1.49	19724	1.135	23057	0.65
			45	–	–	3198	2.771	4106	2.767	5168	2.805	6407	2.867	7849	2.935	9517	2.993	11436	3.021	13630	3.003	16123	2.921	18941	2.757
			65	–	–	–	–	–	–	–	–	–	–	5703	4.306	6988	4.365	8483	4.442	10212	4.52	12199	4.582	14469	4.609
	6000	100	5	6730	2.321	8434	2.374	10478	2.363	12900	2.27	15741	2.079	19041	1.774	22841	1.339	–	–	–	–	–	–	–	–
			25	5449	3.126	6998	3.282	8821	3.418	10958	3.518	13449	3.565	16335	3.544	19655	3.438	23449	3.231	27758	2.907	32621	2.449	38079	1.841
			45	–	–	5403	4.551	6958	4.698	8763	4.853	10856	5.002	13279	5.127	16072	5.213	19274	5.243	22926	5.2	27067	5.07	31739	4.835
			65	–	–	–	–	–	–	–	–	–	–	9744	7.184	11962	7.324	14524	7.454	17471	7.556	20844	7.616	24681	7.617
VZH044CG	1800	30	5	–	–	3083	0.815	3874	0.784	4809	0.753	5903	0.723	7171	0.695	8625	0.668	–	–	–	–	–	–	–	–
			25	–	–	2553	1.227	3271	1.214	4104	1.194	5065	1.165	6169	1.128	7431	1.083	8864	1.03	10483	0.971	12301	0.904	14333	0.83
			45	–	–	–	–	–	–	3239	1.81	4044	1.84	4961	1.853	6006	1.849	7192	1.828	8533	1.79	10045	1.736	11740	1.666
			65	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	5	5182	1.543	6518	1.565	8127	1.545	10038	1.46	12284	1.288	14896	1.008	17904	0.598	–	–	–	–	–	–	–	–
			25	4150	2.213	5340	2.265	6748	2.332	8407	2.392	10347	2.423	12600	2.405	15197	2.314	18169	2.13	21548	1.831	25365	1.394	29652	0.799
			45	–	–	4113	3.405	5280	3.399	6646	3.446	8239	3.522	10093	3.606	12238	3.676	14706	3.711	17528	3.689	20734	3.588	24357	3.386
			65	–	–	–	–	–	–	–	–	–	–	7334	5.29	8986	5.362	10909	5.457	13132	5.553	15688	5.629	18607	5.662
	6000	100	5	8654	2.903	10846	2.97	13474	2.956	16589	2.84	20243	2.601	24487	2.22	29373	1.675	–	–	–	–	–	–	–	–
			25	7008	3.91	9000	4.105	11344	4.276	14092	4.401	17296	4.46	21007	4.434	25276	4.302	30155	4.042	35696	3.637	41950	3.063	48969	2.303
			45	–	–	6949	5.694	8949	5.877	11269	6.071	13961	6.257	17077	6.414	20668	6.521	24786	6.559	29483	6.506	34809	6.343	40816	6.049
			65	–	–	–	–	–	–	–	–	–	–	12531	8.988	15383	9.162	18678	9.324	22468	9.453	26805	9.528	31740	9.528
VZH052CG	1800	30	5	3002	0.86	3889	0.84	4856	0.82	5913	0.77	7072	0.68	8345	0.54	9744	0.33	–	–	–	–	–	–	–	–
			25	1118	1.44	2223	1.4	3396	1.37	4647	1.36	5989	1.35	7434	1.32	8992	1.27	10677	1.17	12500	1.02	14472	0.8	16606	0.49
			45	–	–	–	–	–	–	2024	2.27	3438	2.23	4943	2.2	6550	2.19	8272	2.17	10121	2.13	12107	2.06	14243	1.95
			65	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	5	6227	1.79	7917	1.82	9820	1.82	11964	1.74	14376	1.55	17082	1.22	20109	0.72	–	–	–	–	–	–	–	–
			25	3466	2.8	5330	2.75	7386	2.76	9662	2.8	12183	2.82	14977	2.81	18071	2.72	21491	2.52	25264	2.19	29418	1.69	33978	0.99
			45	–	–	–	–	3527	4.63	5716	4.46	8129	4.37	10793	4.34	13735	4.33	16982	4.32	20560	4.27	24497	4.15	28820	3.92
			65	–	–	–	–	–	–	–	–	–	–	–	–	7750	6.94	10605	6.78	13771	6.68	17273	6.61	21139	6.54
	6000	100	5	10065	3.37	12748	3.4	15880	3.38	19512	3.27	23693	3.05	28473	2.68	33901	2.14	40028	1.39	–	–	–	–	–	–
			25	6959	5.08	9692	5.08	12803	5.11	16344	5.15	20363	5.17	24910	5.14	30035	5.03	35788	4.8	42219	4.42	49378	3.87	57313	3.1
			45	–	–	5560	8.04	8412	7.83	11624	7.71	15243	7.67	19320	7.68	23905	7.69	29047	7.68	34796	7.62	41202	7.47	48316	7.21
			65	–	–	–	–	–	–	–	–	8675	11.91	12044	11.64	15851	11.47	20144	11.38	24974	11.33	30391	11.28	36444	11.22
VZH065CG	1800	30	5	3819	1.02	4924	1.03	6134	1.03	7463	0.98	8928	0.88	10543	0.69	12325	0.4	–	–	–	–	–	–	–	–
			25	1517	1.81	2866	1.7	4305	1.65	5851	1.63	7518	1.63	9323	1.61	11280	1.56	13405	1.45	15714	1.26	18222	0.97	20945	0.56
			45	–	–	–	–	–	–	2622	3.11	4348	2.94	6197	2.83	8185	2.75	10328	2.69	12641	2.63	15139	2.53	17838	2.39
			65	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	60	5	7580	2.2	9593	2.2	11919	2.17	14600	2.07	17677	1.87	21188	1.52	25174	0.99	–	–	–	–	–	–	–	–
			25	4777	3.56	6964	3.46	9417	3.43	12178	3.44	15287	3.45	18784	3.42	22709	3.32	27102	3.11	32004	2.76	37455	2.22	43496	1.47
			45	–	–	–	–	5165	5.72	7709	5.51	10553	5.4	13739	5.36	17305	5.36	21293	5.35	25743	5.31	30694	5.18	36187	4.95
			65	–	–	–	–	–	–	–	–	–	–	–	–	9889	8.62	13175	8.49	16874	8.42	21029	8.37	25678	8.33
	6000	100	5	12503	4.24	15661	4.25	19399	4.23	23800	4.12	28946	3.88	34916	3.46	41792	2.79	49656	1.83	–	–	–	–	–	–
			25	9239	6.46	12497	6.29	16229	6.25	20516	6.28	25440	6.33	31081	6.35	37522	6.29	44842	6.1	53124	5.71	62449	5.09	72898	4.18
			45	–	–	7833	10.34	11180	9.78	14974	9.46	19298	9.31	24232	9.29	29858	9.34	36257	9.42	43510	9.46	51698	9.42	60903	9.25
			65	–	–	–	–	–	–	–	–	11387	15.1	15235	14.54	19668	14.22	24766	14.07	30611	14.05	37284	14.11	44866	14.18

To: *Evaporating temperature in [°C],* **Tc:** *Condensing temperature in [°C],* **Qo:** *Cooling capacity in [W],* **Subcooling:** *8.3 K,* **Superheat:** *11.1 K,* **Pe:** *Power input in [kW] (with drive loss)*
Rating point: *ARI at 60 rps*
To / Tc / SH / SC: *7.2° C / 54.4 °C / 11.1 K / 8.3 K at 60 rps*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

Inverter scroll compressor - VZH 088-170BG - R410A

Low pressure ratio - ARI

Type	[rpm]	Te	-25		-20		-15		-10		-5		0		5		10		15	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
VZH088BG	1500	20	–	–	6500	1.795	7900	1.699	9400	1.613	11200	1.541	13300	1.488	15700	1.457	–	–	–	–
	1500	30	–	–	5600	2.335	6900	2.256	8300	2.176	10000	2.098	12000	2.025	14200	1.963	16700	1.914	19600	1.882
	1500	40	–	–	4700	2.925	5900	2.886	7300	2.833	8900	2.77	10700	2.701	12700	2.628	15100	2.558	17700	2.492
	1500	50	–	–	–	–	–	–	6200	3.651	7600	3.624	9300	3.579	11200	3.52	13400	3.449	15800	3.371
	1500	60	–	–	–	–	–	–	–	–	–	–	7900	4.727	9600	4.702	11600	4.653	13900	4.585
	1500	63	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	20	11900	4.447	14600	4.419	17800	4.338	21700	4.232	26200	4.133	31400	4.071	37400	4.074	–	–	–	–
	3600	30	10500	5.484	13100	5.537	16200	5.5	19800	5.405	24100	5.281	28900	5.157	34400	5.064	40700	5.032	47700	5.091
	3600	40	–	–	11700	6.799	14600	6.856	18000	6.818	21900	6.715	26300	6.579	31400	6.438	37100	6.322	43500	6.262
	3600	50	–	–	–	–	–	–	15900	8.502	19500	8.47	23500	8.368	28100	8.226	33200	8.074	39100	7.943
	3600	60	–	–	–	–	–	–	–	–	–	–	20200	10.556	24300	10.461	29000	10.321	34200	10.166
	3600	63	–	–	–	–	–	–	–	–	–	–	–	–	23200	11.223	27600	11.096	32700	10.943
	6000	20	–	–	23900	7.6	28900	7.596	34900	7.554	42000	7.54	50200	7.618	59600	7.857	–	–	–	–
	6000	30	–	–	22000	9.669	26900	9.74	32700	9.694	39500	9.598	47300	9.517	56200	9.517	66400	9.666	77900	10.029
	6000	40	–	–	19800	11.778	24500	12.018	29900	12.063	36200	11.98	43400	11.835	51700	11.693	61100	11.621	71800	11.685
	6000	50	–	–	–	–	–	–	26400	14.579	32000	14.605	38500	14.489	45900	14.3	54400	14.103	64100	13.964
	6000	60	–	–	–	–	–	–	–	–	–	–	32600	17.398	39100	17.256	46500	17.029	55100	16.781
	6000	63	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
VZH117BG	1500	20	–	–	8700	2.357	10500	2.231	12700	2.118	15100	2.024	17900	1.954	21100	1.913	–	–	–	–
	1500	30	–	–	7500	3.066	9200	2.963	11200	2.858	13500	2.755	16100	2.66	19100	2.578	22500	2.513	26300	2.472
	1500	40	–	–	6300	3.842	7900	3.791	9800	3.721	11900	3.638	14300	3.547	17100	3.452	20200	3.359	23800	3.273
	1500	50	–	–	–	–	–	–	8300	4.795	10200	4.76	12500	4.701	15000	4.623	18000	4.53	21300	4.428
	1500	60	–	–	–	–	–	–	–	–	–	–	10600	6.209	12900	6.175	15600	6.111	18700	6.021
	1500	63	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	20	15900	5.84	19600	5.804	23900	5.697	29100	5.559	35200	5.429	42200	5.347	50200	5.351	–	–	–	–
	3600	30	14100	7.203	17600	7.272	21800	7.224	26600	7.099	32300	6.935	38800	6.773	46200	6.651	54600	6.61	64000	6.687
	3600	40	–	–	15700	8.93	19600	9.004	24200	8.954	29400	8.82	35300	8.64	42100	8.455	49800	8.303	58500	8.224
	3600	50	–	–	–	–	–	–	21400	11.167	26100	11.124	31500	10.99	37700	10.804	44600	10.605	52400	10.432
	3600	60	–	–	–	–	–	–	–	–	–	–	27200	13.864	32700	13.739	38900	13.555	45900	13.352
	3600	63	–	–	–	–	–	–	–	–	–	–	–	–	31100	14.74	37100	14.573	43900	14.373
	6000	20	–	–	32000	9.981	38800	9.977	46900	9.922	56300	9.902	67300	10.006	80000	10.319	–	–	–	–
	6000	30	–	–	29500	12.699	36100	12.792	43900	12.732	53000	12.605	63500	12.499	75500	12.5	89200	12.695	104600	13.171
	6000	40	–	–	26600	15.469	32900	15.784	40100	15.844	48500	15.735	58300	15.544	69400	15.357	82000	15.263	96300	15.347
	6000	50	–	–	–	–	–	–	35400	19.148	43000	19.182	51700	19.03	61600	18.782	73100	18.522	86000	18.34
	6000	60	–	–	–	–	–	–	–	–	–	–	43800	22.851	52500	22.664	62500	22.365	73900	22.04
	6000	63	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
VZH170BG	1500	20	–	–	12400	3.172	14900	3.041	17900	2.907	21400	2.762	25400	2.597	30000	2.405	–	–	–	–
	1500	30	–	–	10800	4.297	13300	4.157	16100	4.026	19400	3.895	23200	3.755	27600	3.599	32500	3.418	38100	3.204
	1500	40	–	–	9300	5.546	11600	5.397	14300	5.268	17300	5.15	20900	5.035	24900	4.915	29600	4.781	34800	4.625
	1500	50	–	–	–	–	–	–	12200	6.784	15100	6.679	18300	6.589	22000	6.504	26300	6.416	31200	6.318
	1500	60	–	–	–	–	–	–	–	–	–	–	15500	8.566	18900	8.516	22800	8.475	27300	8.434
	1500	63	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	20	22900	8.352	28200	8.195	34600	8.029	42200	7.839	51100	7.608	61400	7.321	73300	6.961	–	–	–	–
	3600	30	20500	10.392	25600	10.262	31600	10.137	38700	10.004	47000	9.845	56600	9.646	67700	9.389	80400	9.06	94800	8.642
	3600	40	–	–	22900	12.728	28400	12.623	34900	12.524	42500	12.416	51300	12.282	61500	12.106	73100	11.873	86400	11.566
	3600	50	–	–	–	–	–	–	30900	15.652	37600	15.572	45500	15.481	54600	15.363	65200	15.204	77200	14.986
	3600	60	–	–	–	–	–	–	–	–	–	–	39300	19.495	47300	19.414	56600	19.306	67400	19.156
	3600	63	–	–	–	–	–	–	–	–	–	–	–	–	45100	20.821	54100	20.725	64500	20.59
	6000	20	–	–	47100	14.689	57600	14.8	70000	14.747	84500	14.48	101400	13.947	120800	13.097	–	–	–	–
	6000	30	–	–	42800	17.702	52900	17.949	64700	18.102	78500	18.111	94400	17.924	112700	17.488	133500	16.754	157200	15.669
	6000	40	–	–	38300	21.481	47700	21.744	58700	21.983	71500	22.147	86300	22.185	103200	22.046	122600	21.676	144700	21.026
	6000	50	–	–	–	–	–	–	52000	26.837	63500	27.037	76900	27.18	92400	27.216	110100	27.091	130400	26.756
	6000	60	–	–	–	–	–	–	–	–	–	–	66600	33.356	80400	33.446	96400	33.447	114700	33.306
	6000	63	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Pe: *Power input in [kW]*
Qo: *Cooling capacity in [W]*
Subcooling: *8.3 K*
Superheat: *11.1 K*
Voltage code: *G: 380 – 480 V / 3 / 50 and 60 Hz*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

Inverter scroll compressor - VZH088-VZH170BG - R410A

Low pressure ratio - EN12900

Type	[rpm]	Te	-25		-20		-15		-10		-5		0		5		10		15	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
VZH088BG	1500	20	–	–	6100	1.795	7400	1.699	8800	1.613	10600	1.541	12500	1.488	14700	1.457	–	–	–	–
	1500	30	–	–	5200	2.335	6400	2.256	7800	2.176	9300	2.098	11200	2.025	13200	1.963	15600	1.914	18300	1.882
	1500	40	–	–	4300	2.925	5400	2.886	6700	2.833	8100	2.77	9800	2.701	11700	2.628	13900	2.558	16300	2.492
	1500	50	–	–	–	–	–	–	5500	3.651	6900	3.624	8400	3.579	10100	3.52	12100	3.449	14300	3.371
	1500	60	–	–	–	–	–	–	–	–	–	–	6800	4.727	8400	4.702	10100	4.653	12200	4.585
	1500	63	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	20	11100	4.447	13600	4.419	16700	4.338	20400	4.232	24600	4.133	29500	4.071	35100	4.074	–	–	–	–
	3600	30	9700	5.484	12200	5.537	15000	5.5	18400	5.405	22400	5.281	26900	5.157	32000	5.064	37900	5.032	44500	5.091
	3600	40	–	–	10700	6.799	13400	6.856	16500	6.818	20100	6.715	24200	6.579	28800	6.438	34100	6.322	40100	6.262
	3600	50	–	–	–	–	–	–	14300	8.502	17500	8.47	21100	8.368	25300	8.226	30000	8.074	35300	7.943
	3600	60	–	–	–	–	–	–	–	–	–	–	17600	10.556	21200	10.461	25200	10.321	29800	10.166
	3600	63	–	–	–	–	–	–	–	–	–	–	–	–	19800	11.223	23700	11.096	28100	10.943
	6000	20	–	–	22300	7.6	27100	7.596	32700	7.554	39400	7.54	47100	7.618	56000	7.857	–	–	–	–
	6000	30	–	–	20400	9.669	25000	9.74	30400	9.694	36700	9.598	44000	9.517	52400	9.517	61900	9.666	72700	10.029
	6000	40	–	–	18100	11.778	22400	12.018	27400	12.063	33200	11.98	39900	11.835	47500	11.693	56200	11.621	66100	11.685
	6000	50	–	–	–	–	–	–	23700	14.579	28800	14.605	34700	14.489	41400	14.3	49100	14.103	57900	13.964
	6000	60	–	–	–	–	–	–	–	–	–	–	28300	17.398	34000	17.256	40600	17.029	48100	16.781
	6000	63	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
VZH117BG	1500	20	–	–	8200	2.357	9900	2.231	11900	2.118	14200	2.024	16800	1.954	19800	1.913	–	–	–	–
	1500	30	–	–	6900	3.066	8500	2.963	10400	2.858	12500	2.755	15000	2.66	17800	2.578	20900	2.513	24500	2.472
	1500	40	–	–	5700	3.842	7200	3.791	8900	3.721	10900	3.638	13200	3.547	15700	3.452	18600	3.359	21900	3.273
	1500	50	–	–	–	–	–	–	7400	4.795	9200	4.76	11200	4.701	13600	4.623	16200	4.53	19200	4.428
	1500	60	–	–	–	–	–	–	–	–	–	–	9200	6.209	11200	6.175	13600	6.111	16300	6.021
	1500	63	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	20	14900	5.84	18300	5.804	22400	5.697	27300	5.559	33000	5.429	39600	5.347	47200	5.351	–	–	–	–
	3600	30	13100	7.203	16300	7.272	20200	7.224	24700	7.099	30000	6.935	36100	6.773	43000	6.651	50900	6.61	59700	6.687
	3600	40	–	–	14400	8.93	18000	9.004	22100	8.954	26900	8.82	32400	8.64	38700	8.455	45800	8.303	53800	8.224
	3600	50	–	–	–	–	–	–	19200	11.167	23500	11.124	28400	10.99	34000	10.804	40300	10.605	47400	10.432
	3600	60	–	–	–	–	–	–	–	–	–	–	23600	13.864	28400	13.739	33900	13.555	40100	13.352
	3600	63	–	–	–	–	–	–	–	–	–	–	–	–	26500	14.74	31800	14.573	37700	14.373
	6000	20	–	–	30000	9.981	36400	9.977	43900	9.922	52900	9.902	63200	10.006	75200	10.319	–	–	–	–
	6000	30	–	–	27400	12.699	33500	12.792	40800	12.732	49300	12.605	59100	12.499	70300	12.5	83100	12.695	97500	13.171
	6000	40	–	–	24400	15.469	30100	15.784	36800	15.844	44500	15.735	53500	15.544	63800	15.357	75500	15.263	88700	15.347
	6000	50	–	–	–	–	–	–	31800	19.148	38600	19.182	46500	19.03	55600	18.782	66000	18.522	77700	18.34
	6000	60	–	–	–	–	–	–	–	–	–	–	38000	22.851	45600	22.664	54400	22.365	64500	22.04
	6000	63	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
VZH170BG	1500	20	–	–	11600	3.172	14000	3.041	16800	2.907	20100	2.762	23800	2.597	28200	2.405	–	–	–	–
	1500	30	–	–	10000	4.297	12300	4.157	15000	4.026	18100	3.895	21600	3.755	25700	3.599	30300	3.418	35500	3.204
	1500	40	–	–	8500	5.546	10600	5.397	13100	5.268	15900	5.15	19200	5.035	22900	4.915	27200	4.781	32000	4.625
	1500	50	–	–	–	–	–	–	11000	6.784	13500	6.679	16500	6.589	19900	6.504	23800	6.416	28200	6.318
	1500	60	–	–	–	–	–	–	–	–	–	–	13500	8.566	16500	8.516	19900	8.475	23800	8.434
	1500	63	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	20	21400	8.352	26400	8.195	32400	8.029	39600	7.839	47900	7.608	57700	7.321	68900	6.961	–	–	–	–
	3600	30	19000	10.392	23700	10.262	29300	10.137	35900	10.004	43700	9.845	52700	9.646	63000	9.389	74900	9.06	88400	8.642
	3600	40	–	–	20900	12.728	26000	12.623	32000	12.524	39000	12.416	47100	12.282	56500	12.106	67300	11.873	79600	11.566
	3600	50	–	–	–	–	–	–	27700	15.652	33800	15.572	41000	15.481	49300	15.363	58800	15.204	69800	14.986
	3600	60	–	–	–	–	–	–	–	–	–	–	34100	19.495	41100	19.414	49300	19.306	58800	19.156
	3600	63	–	–	–	–	–	–	–	–	–	–	–	–	38500	20.821	46300	20.725	55300	20.59
	6000	20	–	–	44100	14.689	54000	14.8	65700	14.747	79300	14.48	95200	13.947	113500	13.097	–	–	–	–
	6000	30	–	–	39700	17.702	49100	17.949	60100	18.102	72900	18.111	87800	17.924	104900	17.488	124500	16.754	146600	15.669
	6000	40	–	–	35000	21.481	43700	21.744	53800	21.983	65600	22.147	79200	22.185	94900	22.046	112900	21.676	133300	21.026
	6000	50	–	–	–	–	–	–	46700	26.837	57100	27.037	69300	27.18	83300	27.216	99400	27.091	117800	26.756
	6000	60	–	–	–	–	–	–	–	–	–	–	57800	33.356	69900	33.446	84000	33.447	100100	33.306
	6000	63	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Pe: *Power input in [kW]*
Qo: *Cooling capacity in [W]*
Subcooling: *0 K*
Superheat: *10 K*
Voltage code: *G: 380 – 480 V / 3 / 50 and 60 Hz*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

Inverter scroll compressor - VZH088-VZH170AG - R410A

High pressure ratio - ARI

Type	[rpm]	Te	-25		-20		-15		-10		-5		0		5		10		15	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
VZH088AG	1500	20	–	–	5700	1.472	7100	1.542	8600	1.623	10400	1.677	12500	1.665	14900	1.549	–	–	–	–
	1500	30	–	–	5200	2.043	6500	2.008	7900	2.032	9700	2.076	11600	2.103	13900	2.073	16400	1.949	19200	1.692
	1500	40	–	–	4600	2.917	5800	2.735	7200	2.659	8800	2.651	10700	2.673	12700	2.687	15000	2.654	17600	2.537
	1500	50	–	–	–	–	5100	3.786	6400	3.568	7800	3.466	9500	3.441	11300	3.457	13400	3.473	15800	3.453
	1500	60	–	–	–	–	–	–	–	–	6600	4.587	8100	4.473	9700	4.447	11600	4.47	13600	4.504
	1500	68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	20	12000	4.19	14700	4.258	17900	4.335	21700	4.424	26100	4.529	31200	4.652	37100	4.798	–	–	–	–
	3600	30	10600	5.044	13100	5.11	16200	5.181	19700	5.262	23900	5.357	28600	5.467	34100	5.596	40300	5.748	47300	5.926
	3600	40	–	–	11700	6.214	14600	6.274	17800	6.34	21600	6.417	26000	6.507	31000	6.613	36800	6.74	43200	6.889
	3600	50	–	–	–	–	12900	7.746	15800	7.79	19300	7.843	23200	7.906	27700	7.982	32900	8.076	38800	8.191
	3600	60	–	–	–	–	–	–	–	–	16600	9.767	20100	9.796	24100	9.836	28700	9.891	34000	9.963
	3600	68	–	–	–	–	–	–	–	–	–	–	–	–	21300	11.759	25600	11.777	30400	11.81
	6000	20	–	–	24000	7.654	29200	7.958	35400	8.307	42700	8.709	51100	9.176	60700	9.716	–	–	–	–
	6000	30	–	–	21800	9.043	26800	9.284	32700	9.558	39500	9.875	47400	10.245	56400	10.677	66700	11.18	78300	11.765
	6000	40	–	–	19800	10.85	24400	11.021	29800	11.213	36100	11.439	43300	11.705	51600	12.023	61000	12.401	71700	12.849
	6000	50	–	–	–	–	21800	13.353	26600	13.458	32200	13.585	38700	13.741	46100	13.938	54600	14.184	64200	14.49
	6000	60	–	–	–	–	–	–	–	–	27900	16.498	33500	16.538	40000	16.607	47400	16.715	55900	16.87
	6000	68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
VZH117AG	1500	20	–	–	7700	1.933	9500	2.025	11600	2.132	14000	2.203	16800	2.187	20000	2.035	–	–	–	–
	1500	30	–	–	6900	2.683	8700	2.638	10700	2.669	13000	2.727	15600	2.762	18600	2.723	22000	2.56	25800	2.223
	1500	40	–	–	6100	3.831	7800	3.592	9700	3.492	11900	3.482	14300	3.511	17100	3.529	20200	3.486	23700	3.332
	1500	50	–	–	–	–	6800	4.973	8500	4.686	10500	4.552	12700	4.52	15200	4.54	18000	4.561	21200	4.535
	1500	60	–	–	–	–	–	–	–	–	8900	6.024	10800	5.875	13100	5.841	15500	5.871	18300	5.916
	1500	68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	20	16200	5.503	19800	5.592	24000	5.693	29100	5.811	35000	5.948	41900	6.11	49700	6.301	–	–	–	–
	3600	30	14200	6.625	17600	6.711	21700	6.805	26500	6.912	32000	7.035	38500	7.18	45800	7.35	54100	7.55	63600	7.783
	3600	40	–	–	15700	8.162	19500	8.24	23900	8.327	29100	8.428	34900	8.546	41700	8.686	49300	8.852	58000	9.048
	3600	50	–	–	–	–	17300	10.173	21300	10.232	25800	10.3	31100	10.383	37200	10.484	44100	10.607	52000	10.757
	3600	60	–	–	–	–	–	–	–	–	22300	12.828	27000	12.866	32400	12.919	38500	12.991	45600	13.086
	3600	68	–	–	–	–	–	–	–	–	–	–	–	–	28700	15.444	34300	15.467	40800	15.512
	6000	20	–	–	32300	10.053	39200	10.452	47500	10.91	57300	11.439	68500	12.052	81500	12.761	–	–	–	–
	6000	30			29300	11.877	36000	12.193	43900	12.553	53000	12.97	63600	13.455	75700	14.023	89500	14.684	105100	15.452
	6000	40	–	–	26500	14.25	32800	14.474	40000	14.728	48500	15.023	58200	15.373	69300	15.791	81900	16.287	96200	16.876
	6000	50					29200	17.538	35800	17.676	43300	17.842	52000	18.048	61900	18.306	73300	18.63	86200	19.03
	6000	60	–	–	–	–	–	–	–	–	37400	21.668	45000	21.721	53600	21.812	63600	21.953	75000	22.157
	6000	68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
VZH170AG	1500	20	–	–	11900	3.095	14500	3.074	17500	3.047	21100	2.982	25200	2.844	29900	2.601	–	–	–	–
	1500	30	–	–	10700	4.019	13100	3.962	16000	3.949	19400	3.948	23300	3.925	27700	3.847	32700	3.68	38400	3.391
	1500	40	–	–	9300	5.287	11600	5.112	14300	5.032	17400	5.013	21000	5.023	25000	5.029	29700	4.996	34900	4.891
	1500	50	–	–	–	–	9900	6.724	12300	6.495	15100	6.378	18300	6.339	21900	6.346	26100	6.366	30800	6.363
	1500	60	–	–	–	–	–	–	–	–	12500	8.242	15200	8.074	18400	8.001	22100	7.99	26300	8.009
	1500	68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	20	24500	7.456	29300	7.626	35200	7.808	42400	7.979	50800	8.115	60700	8.191	72100	8.184	–	–	–	–
	3600	30	21800	9.377	26500	9.47	32200	9.611	39000	9.775	46900	9.94	56200	10.081	66900	10.174	79100	10.196	93100	10.122
	3600	40	–	–	24000	11.86	29300	11.904	35500	12.007	42800	12.146	51300	12.297	61100	12.435	72400	12.538	85200	12.581
	3600	50	–	–	–	–	26200	14.819	31700	14.806	38200	14.865	45800	14.97	54500	15.1	64600	15.229	76200	15.333
	3600	60	–	–	–	–	–	–	–	–	32900	18.228	39400	18.234	47000	18.299	55900	18.399	66100	18.511
	3600	68	–	–	–	–	–	–	–	–	–	–	–	–	41000	21.332	49000	21.369	58200	21.447
	6000	20	–	–	48200	13.279	58500	13.868	70800	14.517	85300	15.273	102100	16.184	121500	17.296	–	–	–	–
	6000	30	–	–	43000	16.274	52900	16.84	64400	17.388	77900	17.965	93500	18.618	111400	19.394	131800	20.341	154900	21.505
	6000	40	–	–	38900	19.827	48100	20.446	58800	20.967	71200	21.439	85400	21.909	101800	22.423	120400	23.03	141400	23.776
	6000	50	–	–	–	–	43400	24.851	53100	25.421	64200	25.863	77000	26.224	91700	26.551	108400	26.892	127300	27.294
	6000	60	–	–	–	–	–	–	–	–	56400	31.402	67700	31.729	80600	31.943	95400	32.094	112200	32.226
	6000	68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Pe: *Power input in [kW]*
Qo: *Cooling capacity in [W]*
Subcooling: *8.3 K*
Superheat: *11.1 K*
Voltage code: *G: 380 – 480 V / 3 / 50 and 60 Hz*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

Inverter scroll compressor - VZH088-VZH170AG - R410A

High pressure ratio - EN12900

Type	[rpm]	Te	-25		-20		-15		-10		-5		0		5		10		15	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
VZH088AG	1500	20	–	–	5400	1.472	6600	1.542	8100	1.623	9800	1.677	11800	1.665	14000	1.549	–	–	–	–
	1500	30	–	–	4800	2.043	6000	2.008	7400	2.032	9000	2.076	10800	2.103	12900	2.073	15300	1.949	17900	1.692
	1500	40	–	–	4200	2.917	5300	2.735	6600	2.659	8100	2.651	9800	2.673	11700	2.687	13800	2.654	16200	2.537
	1500	50	–	–	–	–	4500	3.786	5700	3.568	7000	3.466	8500	3.441	10200	3.457	12100	3.473	14300	3.453
	1500	60	–	–	–	–	–	–	–	–	5700	4.587	7000	4.473	8500	4.447	10100	4.47	11900	4.504
	1500	68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	20	11300	4.19	13800	4.258	16800	4.335	20300	4.424	24500	4.529	29300	4.652	34800	4.798	–	–	–	–
	3600	30	9800	5.044	12200	5.11	15000	5.181	18300	5.262	22200	5.357	26700	5.467	31800	5.596	37600	5.748	44200	5.926
	3600	40	–	–	10700	6.214	13300	6.274	16300	6.34	19900	6.417	23900	6.507	28500	6.613	33800	6.74	39800	6.889
	3600	50	–	–	–	–	11500	7.746	14200	7.79	17300	7.843	20900	7.906	25000	7.982	29700	8.076	35000	8.191
	3600	60	–	–	–	–	–	–	–	–	14400	9.767	17500	9.796	21000	9.836	25000	9.891	29600	9.963
	3600	68	–	–	–	–	–	–	–	–	–	–	–	–	17300	11.759	20800	11.777	24800	11.81
	6000	20	–	–	22500	7.654	27400	7.958	33200	8.307	40000	8.709	48000	9.176	57100	9.716	–	–	–	–
	6000	30	–	–	20200	9.043	24900	9.284	30400	9.558	36700	9.875	44100	10.245	52500	10.677	62100	11.18	73000	11.765
	6000	40	–	–	18100	10.85	22300	11.021	27300	11.213	33100	11.439	39800	11.705	47400	12.023	56200	12.401	66000	12.849
	6000	50	–	–	–	–	19500	13.353	23900	13.458	29000	13.585	34900	13.741	41600	13.938	49300	14.184	58000	14.49
	6000	60	–	–	–	–	–	–	–	–	24200	16.498	29100	16.538	34800	16.607	41300	16.715	48800	16.87
	6000	68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
VZH117AG	1500	20	–	–	7200	1.933	8900	2.025	10800	2.132	13100	2.203	15800	2.187	18800	2.035	–	–	–	–
	1500	30	–	–	6400	2.683	8000	2.638	9900	2.669	12100	2.727	14500	2.762	17300	2.723	20500	2.56	24100	2.223
	1500	40	–	–	5600	3.831	7100	3.592	8900	3.492	10900	3.482	13100	3.511	15700	3.529	18600	3.486	21800	3.332
	1500	50	–	–	–	–	6100	4.973	7700	4.686	9400	4.552	11500	4.52	13700	4.54	16300	4.561	19100	4.535
	1500	60	–	–	–	–	–	–	–	–	7700	6.024	9400	5.875	11400	5.841	13500	5.871	16000	5.916
	1500	68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	20	15100	5.503	18500	5.592	22500	5.693	27300	5.811	32900	5.948	39300	6.11	46700	6.301	–	–	–	–
	3600	30	13100	6.625	16400	6.711	20200	6.805	24600	6.912	29800	7.035	35800	7.18	42600	7.35	50400	7.55	59300	7.783
	3600	40	–	–	14400	8.162	17900	8.24	21900	8.327	26700	8.428	32100	8.546	38300	8.686	45400	8.852	53400	9.048
	3600	50	–	–	–	–	15500	10.173	19100	10.232	23200	10.3	28000	10.383	33600	10.484	39900	10.607	47000	10.757
	3600	60	–	–	–	–	–	–	–	–	19300	12.828	23400	12.866	28100	12.919	33600	12.991	39800	13.086
	3600	68	–	–	–	–	–	–	–	–	–	–	–	–	23200	15.444	27900	15.467	33300	15.512
	6000	20	–	–	30200	10.053	36800	10.452	44600	10.91	53700	11.439	64400	12.052	76600	12.761	–	–	–	–
	6000	30	–	–	27200	11.877	33400	12.193	40700	12.553	49300	12.97	59200	13.455	70500	14.023	83400	14.684	98000	15.452
	6000	40	–	–	24200	14.25	30000	14.474	36700	14.728	44500	15.023	53400	15.373	63700	15.791	75400	16.287	88600	16.876
	6000	50	–	–	–	–	26200	17.538	32100	17.676	38900	17.842	46800	18.048	55800	18.306	66100	18.63	77900	19.03
	6000	60	–	–	–	–	–	–	–	–	32400	21.668	39000	21.721	46700	21.812	55400	21.953	65500	22.157
	6000	68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
VZH170AG	1500	20	–	–	11200	3.095	13600	3.074	16400	3.047	19800	2.982	23600	2.844	28100	2.601				
	1500	30	–	–	9900	4.019	12200	3.962	14900	3.949	18000	3.948	21600	3.925	25800	3.847	30500	3.68	35800	3.391
	1500	40	–	–	8500	5.287	10600	5.112	13100	5.032	16000	5.013	19200	5.023	23000	5.029	27300	4.996	32200	4.891
	1500	50	–	–	–	–	8900	6.724	11000	6.495	13600	6.378	16400	6.339	19800	6.346	23600	6.366	27900	6.363
	1500	60	–	–	–	–	–	–	–	–	10800	8.242	13200	8.074	16000	8.001	19200	7.99	22900	8.009
	1500	68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	20	22900	7.456	27500	7.626	33000	7.808	39700	7.979	47700	8.115	57000	8.191	67700	8.184	–	–	–	–
	3600	30	20200	9.377	24600	9.47	29900	9.611	36200	9.775	43600	9.94	52300	10.081	62300	10.174	73800	10.196	86800	10.122
	3600	40	–	–	21900	11.86	26800	11.904	32500	12.007	39300	12.146	47100	12.297	56200	12.435	66600	12.538	78500	12.581
	3600	50	–	–	–	–	23400	14.819	28500	14.806	34300	14.865	41200	14.97	49200	15.1	58400	15.229	68900	15.333
	3600	60	–	–	–	–	–	–	–	–	28500	18.228	34200	18.234	40900	18.299	48700	18.399	57700	18.511
	3600	68	–	–	–	–	–	–	–	–	–	–	–	–	33200	21.332	39800	21.369	47400	21.447
	6000	20	–	–	45100	13.279	54800	13.868	66400	14.517	80100	15.273	95900	16.184	114200	17.296	–	–	–	–
	6000	30	–	–	39900	16.274	49000	16.84	59800	17.388	72400	17.965	87000	18.618	103700	19.394	122800	20.341	144500	21.505
	6000	40	–	–	35600	19.827	44100	20.446	53900	20.967	65300	21.439	78500	21.909	93500	22.423	110800	23.03	130300	23.776
	6000	50	–	–	–	–	38900	24.851	47700	25.421	57800	25.863	69400	26.224	82700	26.551	97800	26.892	115000	27.294
	6000	60	–	–	–	–	–	–	–	–	48900	31.402	58800	31.729	70100	31.943	83100	32.094	97900	32.226
	6000	68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Pe: *Power input in [kW]*
Qo: *Cooling capacity in [W]*
Subcooling: *0 K*
Superheat: *10 K*
Voltage code: *G: 380 – 480 V / 3 / 50 and 60 Hz*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Nomenclature and Dimensions

V Z H 044 C G A N A

Variable speed

Family:
VZH scroll

Lubricant:
PVE 32 (160 HV) lubricant,
R410A refrigerant

Swept volume:
in [cm^3/rev]

Design pressure ratio:
C: IDV and IEER optimized

Evolution index

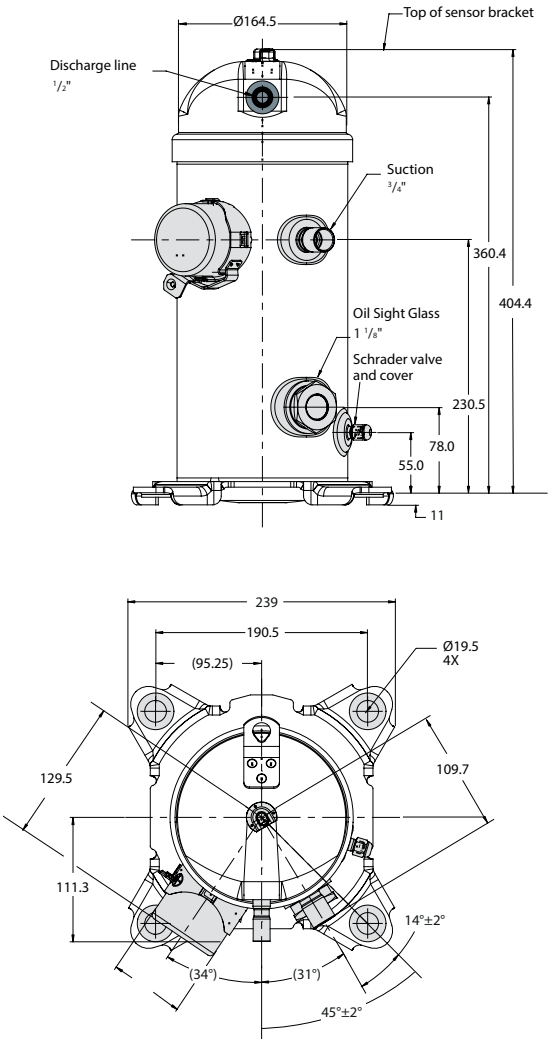
Motor protection:
N: no internal motor protection
(protection by drive)

Equipement version:
A: brazed connections, OSG version
B: brazed connections, OLS version

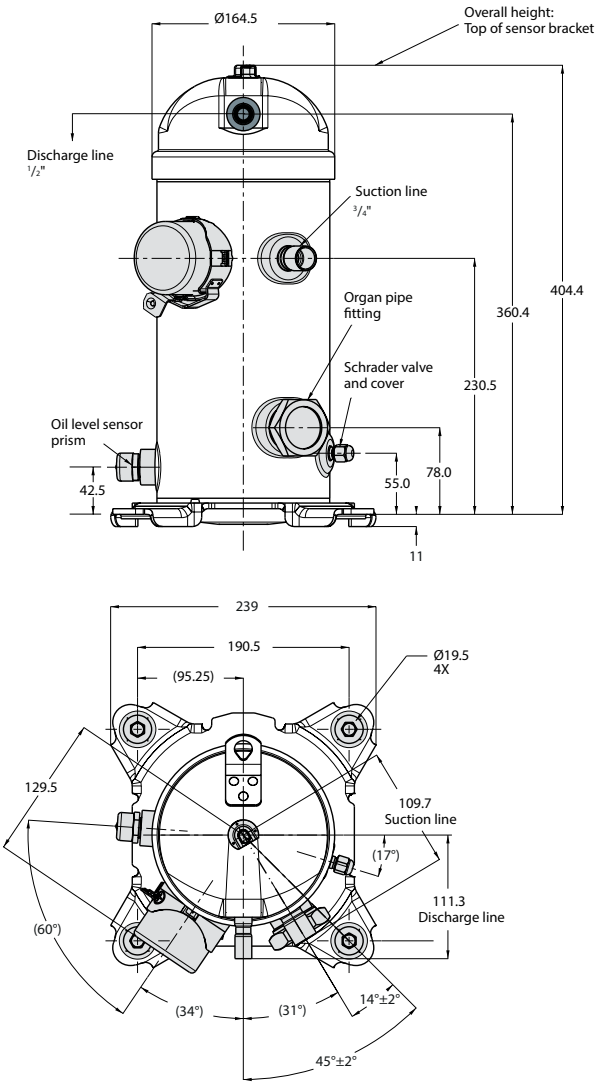
	Oil sight glass	Oil level switch
OSG (oil sight glass) version	Threaded	None
OLS (oil level sensor) version	None	Threaded

Motor voltage code to CDS803: *)
G: 380-480 V/3~/50 & 60 Hz
H: 525-600 V/3~/50&60 Hz
J: 200-240 V/3~/50 & 60 Hz
*) main supply voltage to frequency converter

VZH028-035-044G / J - Single version

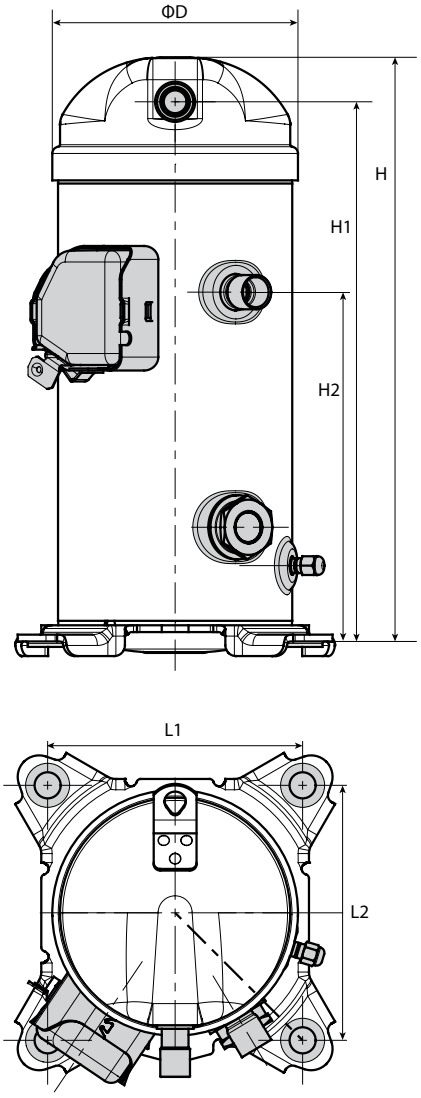


VZH028-035-044G / J - Manifold version



Note: Manifolding drawing is a preliminary version

Dimensions



Single version

Version	Compressor model	D	H	H1	H2	L1	L2	Outline drawing number
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
Single	VZH052-065	183.5	436	403	261	190.5	190.5	8590007

Nomenclature and Dimensions

V	Z	H	117	A	G	A	N	A

Variable speed:

Family:
VZH scroll

Lubricant:
POE lubrificant
R410A refrigerant

Swept volume:
in [cm³/rev]

Design pressure ratio:
- **A:** high PR
- **B:** low PR

Motor voltage code to CDS303: *)
- **G:** 380 – 480 V / 3 ~ / 50 / 60 Hz
- **H:** 252 – 600 V / 3 ~ / 50 / 60 Hz
- **J:** 200 – 240 V / 3 ~ / 50 / 60 Hz

*) main supply voltage to frequency converter

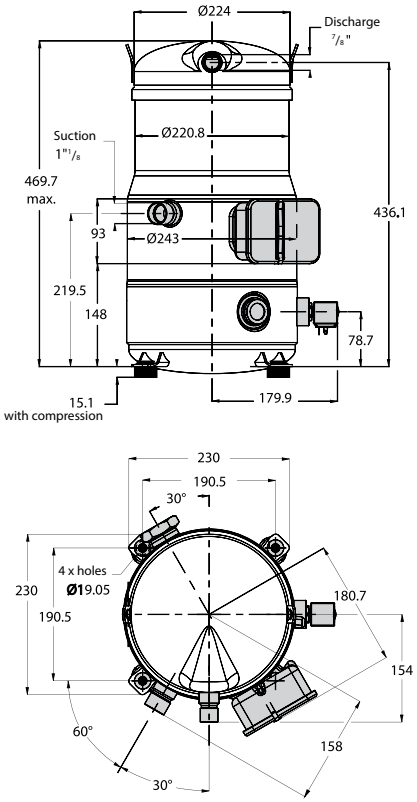
Evolution index

Motor protection:
- **N:** no internal motor protection (protection by drive)

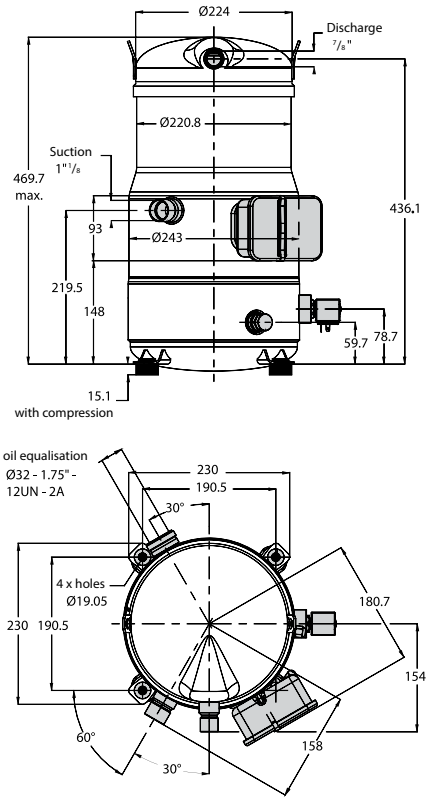
Equipement version:
- **A:** brazed connections, single version
- **B:** brazed connections, manifold version

	Oil sight glass	Oil level switch
Single version	Threaded	None
Manifold version	None	Threaded

VZH088-G-H - Single version

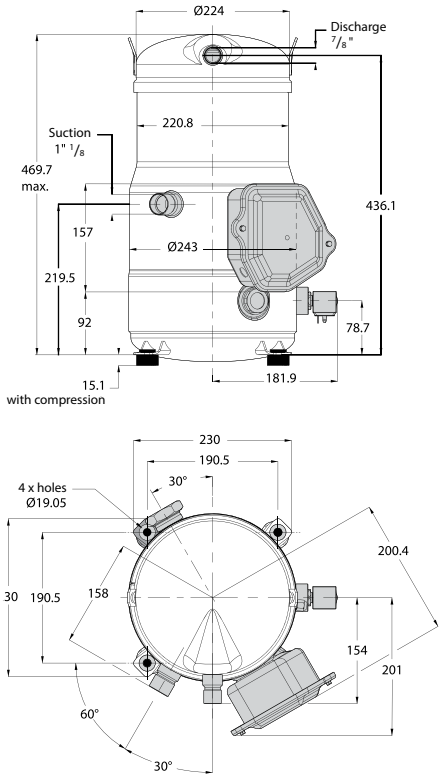


VZH088-G-H - Manifolded version

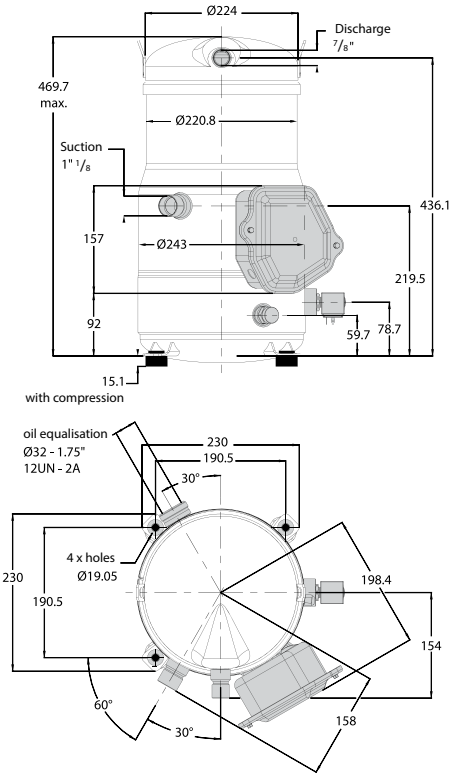


Dimensions

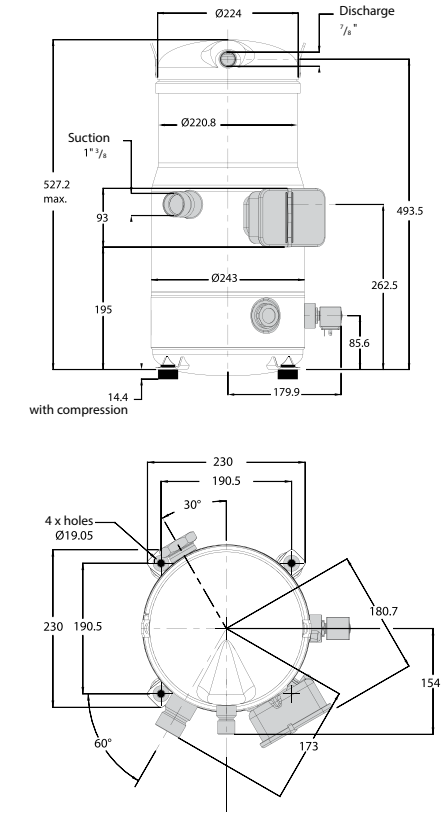
VZH088-J - Single version



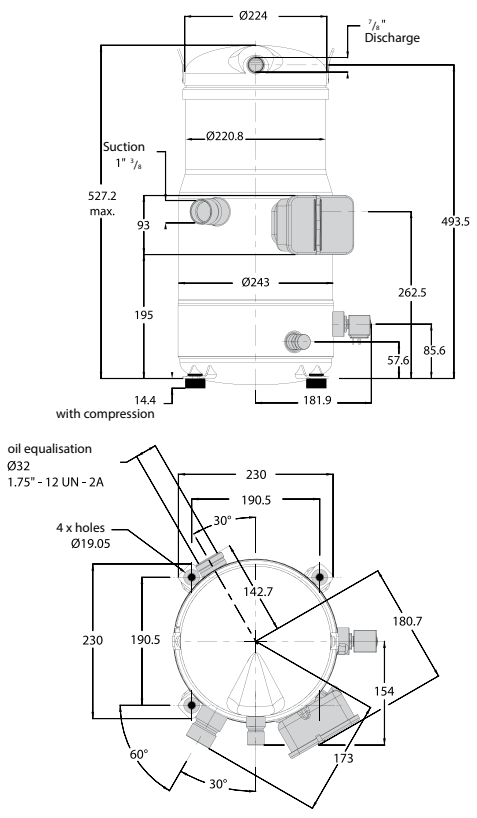
VZH088-J - Manifolded version



VZH117-G-H - Single version

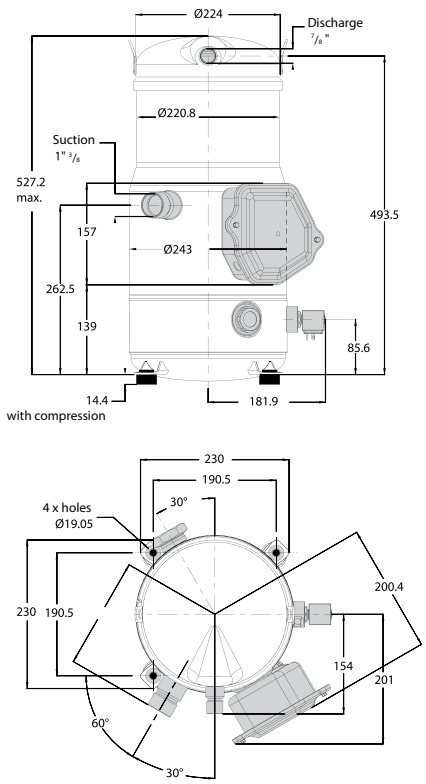


VZH117-G-H - Manifolded version

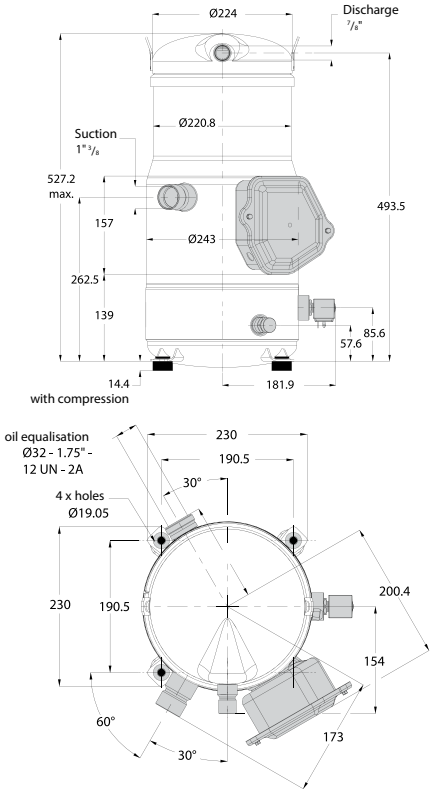


Dimensions

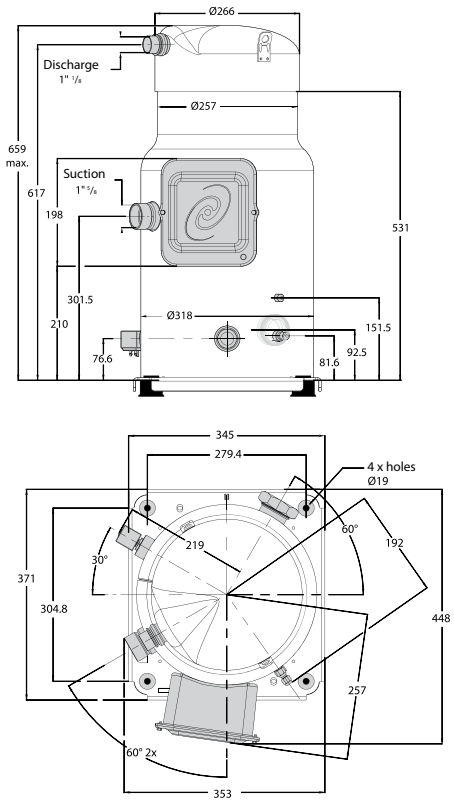
VZH117-J - Single version



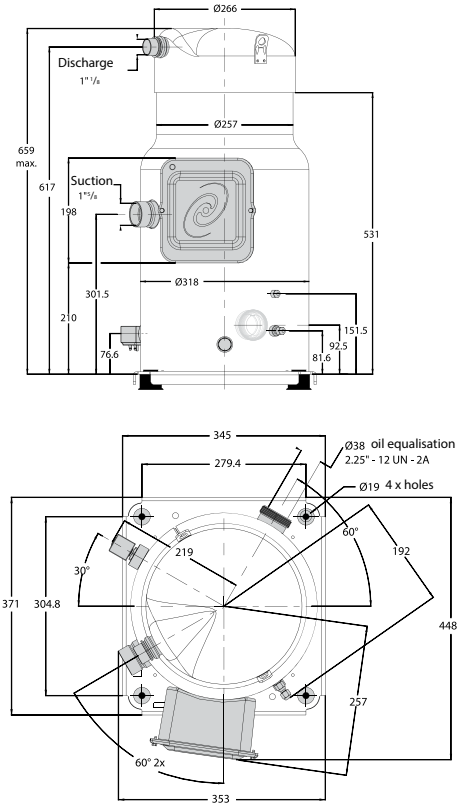
VZH117-J - Manifolded version



VZH170-G-H - Single version

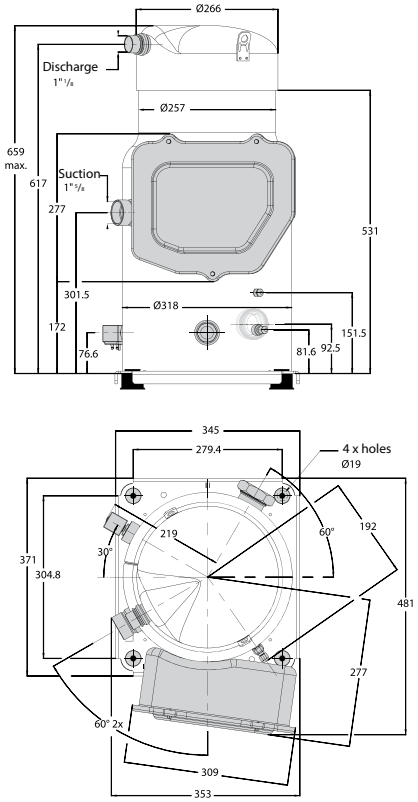


VZH170-G-H - Manifolded version

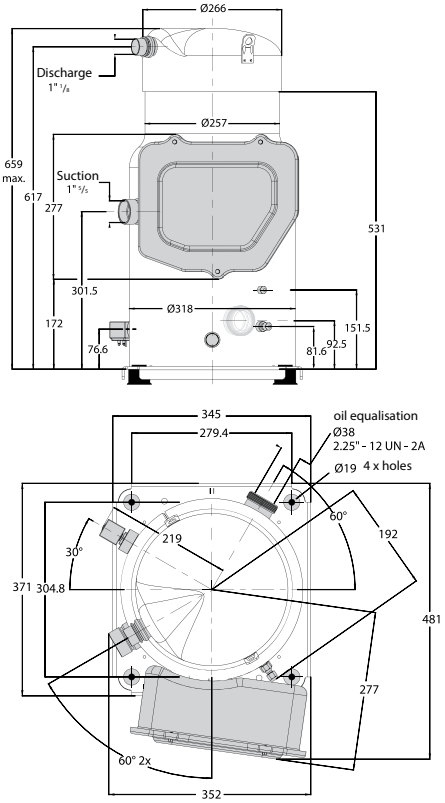


Dimensions

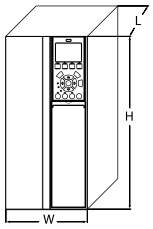
VZH170-J - Single version



VZH170-J - Manifolded version



Technical data



Inverter scroll compressor - VZH 028-065 converter

Frequency converter dimensions

Compressor model	Drive supply voltage	Drive power [kW]	Compressor voltage code	IP20				IP55			
				Drive enclosure	Overall drive size (H x W x L) [mm]	Overall drive size incl. decoupling plate (H x W x L) [mm]	Clearance above / below [mm/inch.]	Drive enclosure	Overall drive size (H x W x L) [mm]	Overall drive size incl. decoupling plate (H x W x L) [mm]	Clearance above / below [mm/inch.]
VZH028	T2: 200-240/3/50-60	6	J	H4	296x135x241	359x135x241	100/4	–	–	–	–
VZH035		7.5		H4	296x135x241	359x135x241	100/4	–	–	–	–
VZH044		10		H5	334x150x255	402x150x255	100/4	–	–	–	–
VZH052-065		11		B4	520x230x242	595x230x242	200/8	B2	650x242x260	-	200/8
VZH028	T4: 380-480/3/50-60	6	G	H3	255x100x206	329x100x206	100/4	–	–	–	–
VZH035		7.5		H3	255x100x206	329x100x206	100/4	–	–	–	–
VZH044		10		H4	296x135x241	359x135x241	100/4	–	–	–	–
VZH052		11		B3	399x165x249	420x165x249	100/4	B1	480x242x260	-	100/4
VZH065		15		B3	399x165x249	420x165x249	100/4	B1	480x242x260	-	100/4
VZH028	T6: 525-600/3/50-60	7.5	H	A3	268x130x205	374x130x205	100/4	–	–	–	–
VZH035		11		B3	399x165x249	420x165x249	100/4	–	–	–	–
VZH044		11		B3	399x165x249	420x165x249	100/4	–	–	–	–
VZH052		11		B3	399x165x249	420x165x249	100/4	B1	480x242x260	–	100/4
VZH065		11		B4	520x230x242	595x230x242	200/8	B2	650x242x260	–	200/8

Frequency converter dimensions depend on supply voltage, IP rating and power
The table gives an overview of the overall dimensions and different drive enclosures (H3 - H5)
Details for each drive enclosure are on the following pages

Inverter scroll compressor - VZH 088-170 converter

Frequency converter dimensions

Compressor model	Drive supply voltage	Drive power [kW]	Compressor voltage code	IP20			IP55		
				Drive enclosure	Overall drive size (H x W x L) [mm]	bracket supplied [mm²]	Overall drive size incl. decoupling plate (H x W x L) [mm]	Clearance above /below [mm/inch.]	bracket supplied [mm²]
VZH088	T2: 200-240/3/50-60	15	J	B4	595x230x242	2pcs, ø24-28k28b 1pcs, ø32-36 k36b	C1	680x308x310	1pcs, ø32-36 k36b 1pcs, ø36-40 k40b
VZH117		18.5		C3	630x308x333	1pcs, ø32-36 k36b 1pcs, ø36-40 k40b	C1	680x308x310	1pcs, ø32-36 k36b 1pcs, ø36-40 k40b
VZH170		22		C3	630x308x333	1pcs, ø32-36 k36b 1pcs, ø36-40 k40b	C1	680x308x310	1pcs, ø32-36 k36b 1pcs, ø36-40 k40b
VZH088	T4: 380-480/3/50-60	15	G	B3	420x165x249	3pcs, Ø13-22	B1	480x242x260	3pcs, ø3-32
VZH117		18.5		B4	595x230x242	2pcs, ø24-28 k28b	B2	650x242x260	3pcs, ø3-32
VZH170		22		B4	595x230x242	2pcs, ø24-28 k28b	B2	650x242x260	3pcs, ø14-40
VZH088	T6: 525-600/3/50-60	18	H	B4	595x230x242	2pcs, ø24-28 k28b	–	–	–
VZH117		30		B4	595x230x242	2pcs, ø24-28 k28b	–	–	–
VZH170		30		B4	595x230x242	2pcs, ø24-28 k28b	–	–	–

Frequency converter dimensions depend on supply voltage, IP rating and power
The table gives an overview of the overall dimensions and different drive enclosures (H3 - H5)
Details for each drive enclosure are on the following pages
For customers who need other size brackets, please refer to accessories for ordering.

VSH, Inverter scroll compressor - R410A

Danfoss Inverter Scroll VSH ranges 41 – 80 kW of cooling capacity / 11 – 23 TR, with a hermetic R410A compressor for commercial air conditioning and heating.

It combines Danfoss know-how in both compressors and inverters.





Facts

Applications:
- Packaged air conditioning
- Rooftops
- Chillers
- Close controls
- Heat pumps
- Data centers

- Capacity modulation: adapts motor speed 30 – 90 rps to varying load continuously, quickly and smoothly
- Tight temperature control ± 0.3 °C
- Pre-qualified compressor and drive package
- Motor's protection is managed by the drive
- Low in rush current
- Advanced energy efficiency cuts the electric bill and easily meets the energy standards

- Improves comfort and process reliability, greater humidity control
- Lower noise level during part-load operations
- Faster time to market, saves time on development and enhances overall system reliability
- Reduces the size of needed power back up systems
- Reduces installation costs with elimination of components

Technical data and ordering

VSH - Inverter scroll compressor

Compressors specifications

Compressor model	Swept volume (cm^3/rev)	Displacement				Oil charge [dm^3]	Net weight [kg]
		Min speed [m^3/h]	3000 rpm [m^3/h]	3600 rpm [m^3/h]	Width [mm]		
VSH088	88.4	9.3	15.4	18.6	27.8	3.3	58
VSH117	116.9	12.3	20.3	24.6	36.6	3.6	64
VSH170	170.2	17.8	29.6	35.7	53.3	6.7	105

Frequency converter specifications

Mains supply voltage	T2: 200 – 240 V ± 10% (3-phase), T4: 380 – 480 V ± 10% (3-phase), T6: 525 – 600 V ± 10% (3-phase)
Supply frequency	50 / 60 Hz
Output voltage	0 – 100% of supply voltage
Inputs	6 digital (0 – 24 V), 2 analogue (-10 – 10 V or 0 / 4 V -20 mA, scalable)
Programmable outputs	2 digital (0 – 24 V), 1 analogue, 2 relay
Protection functions	Over-current protection, over-modulation handling, low / high current handling
Compressor function	Discharge gas temperature protection, pressostat/thermostat function, short cycle protection, oil return management

VSH - Inverter scroll compressor - Voltage code J – 200 – 240 V

Ordering

Compressor		Frequency converter					
Type	Code no.	Model & power [kW]	LCP	IP class	RFI class	Coating	Code no.
VSH088-J	120G0004	CDS302 15.0 KW	No	IP20	H2	No	131H9124
						Yes	131H9125
			Yes	IP20	H2	No	131H9132
				IP55	H2	Yes	131H9137
VSH117-J	120G0005	CDS302 18.5kW	No	IP20	H3	No	131H9138
					H2	No	131H9140
						Yes	131H9141
			Yes	IP20	H3	No	131F0395
					H2	No	131H9147
				IP55	H2	Yes	131H9152
VSH170-J	120G0006	CDS302 22.0 KW	No	IP20	H2	No	131H9155
						Yes	131H9156
			Yes	IP20	H2	No	131H9162

Technical data and ordering

VSH - Inverter scroll compressor - Voltage code G - 380 – 480 V

Ordering

Compressor		Frequency converter					
Type	Code no.	Model & power [kW]	LCP	IP class	RFI class	Coating	Code no.
VSH088-G	120G0001	CDS302 15.0 KW	No	IP20	H3	No	131H4380
					H2	No	131H9078
						Yes	131H9080
				IP55	H2	Yes	131H9084
			Yes	IP20	H3	No	131B8789
						Yes	131H9085
					H2	No	131H9086
						Yes	131H9087
				IP55	H3	No	131H9088
					H2	Yes	131H9091
VSH117-G	120G0002	CDS302 18.5kW	No	IP20	H3	No	131H4381
					H2	No	131H9093
						Yes	131H9094
				IP55	H2	Yes	131H9097
			Yes	IP20	H3	No	131F5247
					H2	No	131H9100
				IP55	H2	Yes	131H9106
VSH170-G	120G0003	CDS302 22.0 kW	No	IP20	H3	No	131H4382
						Yes	131H9107
					H2	No	131H9108
						Yes	131H9109
				IP55	H3	Yes	131H9111
					H2	Yes	131H9113
			Yes	IP20	H2	No	131H9116
				IP55	H3	Yes	131H9119
					H2	No	131H9120
						Yes	131H9121

Technical data and ordering

VSH - Inverter scroll compressor - R410A

High pressure ratio - ARI

Type	[rpm]	Te	-25		-20		-15		-10		-5		0		5		10		15	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
VSH088-G	1500	20	–	–	6600	2.25	8100	2.25	9900	2.236	12000	2.202	14400	2.144	17200	2.056	–	–	–	–
	1500	30	–	–	6000	2.814	7400	2.825	9100	2.828	11100	2.82	13500	2.796	16100	2.75	19100	2.679	22500	2.577
	1500	40	–	–	–	–	6500	3.517	8100	3.52	9900	3.52	12100	3.512	14500	3.49	17300	3.451	20400	3.389
	1500	50	–	–	–	–	–	–	–	–	8400	4.457	10300	4.446	12500	4.431	15000	4.406	17800	4.365
	1500	60	–	–	–	–	–	–	–	–	–	–	–	–	10100	5.726	12300	5.697	14700	5.661
	1500	68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	20	11600	4.313	14200	4.38	17400	4.444	21100	4.499	25400	4.534	30400	4.542	36100	4.514	–	–	–	–
	3600	30	10200	5.338	12700	5.389	15700	5.455	19200	5.525	23300	5.591	28000	5.645	33300	5.679	39400	5.684	46200	5.651
	3600	40	–	–	–	–	14100	6.632	17400	6.699	21100	6.778	25400	6.86	30300	6.937	35800	7.001	42100	7.041
	3600	50	–	–	–	–	–	–	–	–	18600	8.256	22500	8.347	26900	8.449	31800	8.552	37500	8.648
	3600	60	–	–	–	–	–	–	–	–	–	–	–	–	23000	10.373	27400	10.498	32400	10.631
	3600	68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	23900	12.447	28500	12.596
	6000	20	17500	5.763	21300	5.952	25900	6.1	31400	6.212	37800	6.292	45200	6.342	53800	6.368	–	–	–	–
	6000	30	15400	8.001	19200	8.229	23700	8.421	28900	8.581	35000	8.713	42000	8.822	50000	8.911	59200	8.984	69600	9.045
	6000	40	–	–	–	–	21300	10.237	26100	10.445	31800	10.631	38300	10.797	45700	10.949	54200	11.089	63800	11.223
	6000	50	–	–	–	–	–	–	–	–	28100	12.599	33900	12.823	40600	13.037	48300	13.245	57000	13.451
	6000	60	–	–	–	–	–	–	–	–	–	–	–	–	34800	15.73	41600	16.006	49400	16.284
	6000	68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	36300	19.022	43400	19.358
VSH117-G	1500	20	–	–	7500	2.825	9500	2.856	12000	2.864	14900	2.858	18200	2.85	22100	2.85	–	–	–	–
	1500	30	–	–	7100	3.621	9100	3.659	11400	3.674	14200	3.676	17300	3.676	21000	3.685	25000	3.714	29700	3.772
	1500	40	–	–	–	–	8200	4.592	10400	4.607	13000	4.609	15800	4.609	19100	4.619	22800	4.648	27000	4.709
	1500	50	–	–	–	–	–	–	–	–	11300	5.798	13800	5.791	16700	5.793	19900	5.816	23600	5.871
	1500	60	–	–	–	–	–	–	–	–	–	–	–	–	13700	7.352	16400	7.36	19500	7.401
	1500	68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	20	16200	5.814	19900	5.915	24200	6.035	29400	6.167	35300	6.305	42200	6.444	50100	6.576	–	–	–	–
	3600	30	13700	7.046	17200	7.127	21200	7.242	26000	7.386	31500	7.552	37800	7.734	45100	7.927	53400	8.125	62700	8.321
	3600	40	–	–	–	–	18600	8.723	23000	8.838	28000	8.991	33700	9.176	40300	9.389	47900	9.622	56400	9.87
	3600	50	–	–	–	–	–	–	–	–	24500	10.849	29700	10.998	35600	11.189	42300	11.417	50000	11.676
	3600	60	–	–	–	–	–	–	–	–	–	–	–	–	30700	13.555	36700	13.737	43500	13.966
	3600	68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	32500	16.124	38900	16.301
	6000	20	23100	8.505	28400	8.836	34700	9.227	42200	9.643	50900	10.051	60900	10.417	72500	10.706	–	–	–	–
	6000	30	20200	10.491	25300	10.73	31400	11.074	38400	11.49	46600	11.944	56100	12.402	66900	12.829	79200	13.192	93200	13.458
	6000	40	–	–	–	–	28100	13.122	34600	13.464	42200	13.889	50900	14.365	60800	14.856	72200	15.329	85000	15.75
	6000	50	–	–	–	–	–	–	–	–	37300	16.258	45100	16.677	54100	17.158	64300	17.667	75900	18.17
	6000	60	–	–	–	–	–	–	–	–	–	–	–	–	46500	20.107	55600	20.577	65900	21.088
	6000	68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	48900	23.567	58400	24.03
VSH170-G	1500	20	–	–	10400	4.076	14100	4.101	18500	4.109	23600	4.07	29300	3.957	35700	3.741	–	–	–	–
	1500	30	–	–	8600	5.298	12000	5.308	16000	5.341	20500	5.366	25600	5.358	31200	5.287	37500	5.125	44300	4.844
	1500	40	–	–	–	–	10100	6.774	13700	6.769	17800	6.796	22400	6.83	27400	6.84	32900	6.8	38800	6.681
	1500	50	–	–	–	–	–	–	–	–	15100	8.669	19200	8.682	23700	8.711	28500	8.73	33700	8.71
	1500	60	–	–	–	–	–	–	–	–	–	–	–	–	19600	11.209	24000	11.224	28600	11.24
	1500	68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	20	22000	8.231	27200	8.353	33400	8.469	40600	8.559	49200	8.602	59000	8.577	70400	8.464	–	–	–	–
	3600	30	19100	10.658	24000	10.713	29900	10.8	36700	10.896	44700	10.983	53900	11.038	64500	11.041	76500	10.972	90100	10.81
	3600	40	–	–	–	–	26500	13.268	32800	13.318	40100	13.395	48500	13.477	58200	13.544	69200	13.575	81600	13.549
	3600	50	–	–	–	–	–	–	–	–	35200	16.309	42700	16.365	51300	16.442	61200	16.521	72400	16.579
	3600	60	–	–	–	–	–	–	–	–	–	–	–	–	43900	20.208	52600	20.28	62500	20.369
	3600	68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	45900	24.189	55000	24.264
	6000	20	34000	12.656	41700	12.946	51000	13.264	61900	13.587	74600	13.891	89200	14.152	106000	14.348	–	–	–	–
	6000	30	29700	16.006	37200	16.211	46000	16.479	56300	16.787	68100	17.113	81800	17.431	97400	17.72	115000	17.956	134900	18.115
	6000	40	–	–	–	–	41300	19.87	50800	20.112	61700	20.406	74200	20.729	88500	21.058	104600	21.37	122800	21.641
	6000	50	–	–	–	–	–	–	–	–	54800	24.337	66000	24.612	78800	24.929	93400	25.265	109800	25.595
	6000	60	–	–	–	–	–	–	–	–	–	–	–	–	68200	29.901	81100	30.207	95700	30.544
	6000	68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	71600	35.296	85000	35.6

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Pe: *Power input in [kW]*
Qo: *Cooling capacity in [W]*
Subcooling: *8.3 K*
Superheat: *11.1 K*
Voltage code: *G: 380 – 480 V / 3 / 50 and 60 Hz*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

VSH - Inverter scroll compressor - R410A

High pressure ratio - ASERCOM

Type	[rpm]	Te	-25	-25	-20	-20	-15	-15	-10	-10	-5	-5	0	0	5	5	10	10	15	15
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
VSH088-G	1500	20	–	–	6200	2.25	7600	2.25	9300	2.236	11300	2.202	13500	2.144	16200	2.056	–	–	–	–
	1500	30	–	–	5500	2.814	6900	2.825	8500	2.828	10400	2.82	12500	2.796	15000	2.75	17800	2.679	21000	2.577
	1500	40	–	–	4700	3.515	6000	3.517	7400	3.52	9100	3.52	11100	3.512	13300	3.49	15900	3.451	18800	3.389
	1500	50	–	–	–	–	–	–	6100	4.467	7600	4.457	9300	4.446	11300	4.431	13500	4.406	16100	4.365
	1500	60	–	–	–	–	–	–	–	–	–	–	7200	5.753	8800	5.726	10700	5.697	12900	5.661
	1500	68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	20	10800	4.313	13300	4.38	16300	4.444	19800	4.499	23800	4.534	28600	4.542	34000	4.514	–	–	–	–
	3600	30	9400	5.338	11800	5.389	14600	5.455	17900	5.525	21700	5.591	26000	5.645	31000	5.679	36700	5.684	43100	5.651
	3600	40	–	–	10300	6.585	12900	6.632	15900	6.699	19400	6.778	23300	6.86	27800	6.937	33000	7.001	38800	7.041
	3600	50	–	–	–	–	–	–	13700	8.182	16700	8.256	20200	8.347	24200	8.449	28700	8.552	33900	8.648
	3600	60	–	–	–	–	–	–	–	–	–	–	16600	10.266	20000	10.373	23900	10.498	28300	10.631
	3600	68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	19400	12.447	23200	12.596
	6000	20	16300	5.763	19900	5.952	24300	6.1	29400	6.212	35500	6.292	42500	6.342	50500	6.368	–	–	–	–
	6000	30	14300	8.001	17800	8.229	22000	8.421	26800	8.581	32500	8.713	39100	8.822	46600	8.911	55200	8.984	64900	9.045
	6000	40	–	–	15700	10.002	19500	10.237	24000	10.445	29100	10.631	35100	10.797	42000	10.949	49800	11.089	58700	11.223
	6000	50	–	–	–	–	–	–	20700	12.361	25300	12.599	30500	12.823	36600	13.037	43600	13.245	51500	13.451
	6000	60	–	–	–	–	–	–	–	–	–	–	25100	15.454	30300	15.73	36200	16.006	43100	16.284
	6000	68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	29500	19.022	35400	19.358
VSH117-G	1500	20	–	–	7000	2.825	8900	2.856	11200	2.864	13900	2.858	17100	2.85	20700	2.85	–	–	–	–
	1500	30	–	–	6500	3.621	8400	3.659	10600	3.674	13200	3.676	16100	3.676	19500	3.685	23300	3.714	27700	3.772
	1500	40	–	–	5800	4.555	7500	4.592	9600	4.607	11900	4.609	14600	4.609	17600	4.619	21000	4.648	24900	4.709
	1500	50	–	–	–	–	–	–	8100	5.804	10100	5.798	12400	5.791	15000	5.793	18000	5.816	21300	5.871
	1500	60	–	–	–	–	–	–	–	–	–	–	9800	7.364	11900	7.352	14300	7.36	17100	7.401
	1500	68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	20	15100	5.814	18600	5.915	22700	6.035	27500	6.167	33200	6.305	39700	6.444	47100	6.576	–	–	–	–
	3600	30	12700	7.046	15900	7.127	19700	7.242	24100	7.386	29300	7.552	35200	7.734	42000	7.927	49800	8.125	58500	8.321
	3600	40	–	–	13600	8.653	17100	8.723	21100	8.838	25700	8.991	31000	9.176	37100	9.389	44000	9.622	51900	9.87
	3600	50	–	–	–	–	–	–	18000	10.75	22100	10.849	26700	10.998	32100	11.189	38200	11.417	45200	11.676
	3600	60	–	–	–	–	–	–	–	–	–	–	22100	13.425	26700	13.555	31900	13.737	38000	13.966
	3600	68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	26400	16.124	31600	16.301
	6000	20	21700	8.505	26600	8.836	32500	9.227	39500	9.643	47700	10.051	57200	10.417	68100	10.706	–	–	–	–
	6000	30	18700	10.491	23500	10.73	29100	11.074	35700	11.49	43300	11.944	52200	12.402	62300	12.829	73800	13.192	86900	13.458
	6000	40	–	–	20600	12.897	25700	13.122	31700	13.464	38700	13.889	46700	14.365	55900	14.856	66400	15.329	78300	15.75
	6000	50	–	–	–	–	–	–	27400	15.934	33500	16.258	40600	16.677	48700	17.158	58000	17.667	68600	18.17
	6000	60	–	–	–	–	–	–	–	–	–	–	33600	19.71	40500	20.107	48400	20.577	57600	21.088
	6000	68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	39700	23.567	47500	24.03
VSH170-G	1500	20	–	–	9700	4.076	13300	4.101	17400	4.109	22100	4.07	27500	3.957	33600	3.741	–	–	–	–
	1500	30	–	–	7900	5.298	11100	5.308	14800	5.341	19100	5.366	23800	5.358	29100	5.287	34900	5.125	41300	4.844
	1500	40	–	–	6200	6.841	9200	6.774	12600	6.769	16400	6.796	20600	6.83	25200	6.84	30200	6.8	35700	6.681
	1500	50	–	–	–	–	–	–	10100	8.702	13500	8.669	17300	8.682	21300	8.711	25700	8.73	30400	8.71
	1500	60	–	–	–	–	–	–	–	–	–	–	13500	11.223	17100	11.209	20900	11.224	24900	11.24
	1500	68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3600	20	20600	8.231	25500	8.353	31300	8.469	38100	8.559	46100	8.602	55500	8.577	66200	8.464	–	–	–	–
	3600	30	17700	10.658	22300	10.713	27700	10.8	34100	10.896	41600	10.983	50200	11.038	60000	11.041	71300	10.972	84000	10.81
	3600	40	–	–	19300	13.265	24300	13.268	30100	13.318	36800	13.395	44600	13.477	53500	13.544	63700	13.575	75200	13.549
	3600	50	–	–	–	–	–	–	25700	16.296	31600	16.309	38500	16.365	46300	16.442	55300	16.521	65500	16.579
	3600	60	–	–	–	–	–	–	–	–	–	–	31500	20.173	38200	20.208	45800	20.28	54600	20.369
	3600	68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	37300	24.189	44800	24.264
	6000	20	31800	12.656	39100	12.946	47800	13.264	58000	13.587	70000	13.891	83800	14.152	99600	14.348	–	–	–	–
	6000	30	27500	16.006	34500	16.211	42700	16.479	52300	16.787	63400	17.113	76100	17.431	90700	17.72	107200	17.956	125800	18.115
	6000	40	–	–	30200	19.704	37800	19.87	46600	20.112	56600	20.406	68200	20.729	81300	21.058	96300	21.37	113100	21.641
	6000	50	–	–	–	–	–	–	40300	24.127	49300	24.337	59500	24.612	71100	24.929	84300	25.265	99200	25.595
	6000	60	–	–	–	–	–	–	–	–	–	–	49300	29.649	59300	29.901	70700	30.207	83500	30.544
	6000	68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	58100	35.296	69300	35.6

To: *Evaporating temperature in [°C]*
Tc: *Condensing temperature in [°C]*
Pe: *Power input in [kW]*
Qo: *Cooling capacity in [W]*
Subcooling: *0 K*
Superheat: *10 K*
Voltage code: *G: 380 – 480 V / 3 / 50 and 60 Hz*

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Nomenclature and Dimensions

V SH 117 A G A N A

- **V** — Variable speed
- **SH** — Family lubrificant
  SH scroll
  POE lubrificant
  R410A refrigerant
- **117** — Swept volume
  in [cm³/rev]
- **A** — Standard approval
  UL index
- **G** — Motor voltage code to CDS803: *)
  - **J:** 200 – 240 V / 3 ph / 50 / 60 Hz
  - **G:** 380 – 480 V / 3 ph / 50 / 60 Hz
  - **H:** 525 – 600 V / 3 ph / 50 / 60 Hz

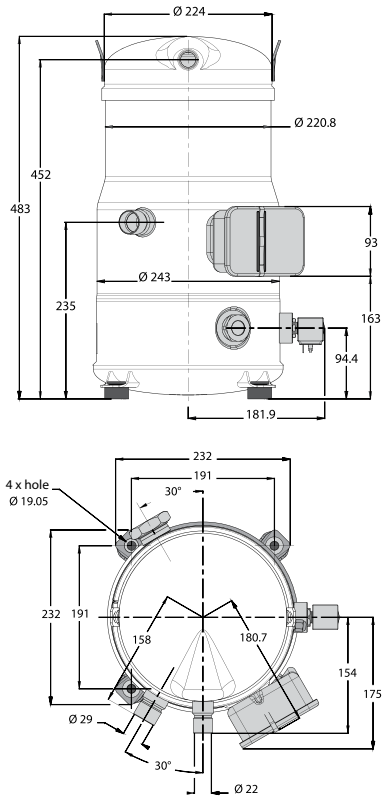
  *) main supply voltage to frequency converter
- **A** — Equipement version:
  A: brazed connections
- **N** — Motor protection:
  N: no internal motor protection (protection by drive)
- **A** — Evolution index:

Frequency converter nomenclature

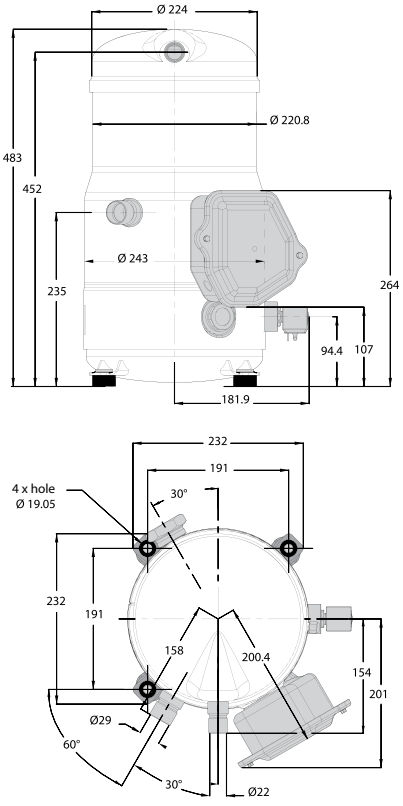
CDS 302 P15K T4 E20 H2

- **CDS** — Dedicated compressor drive
  for VSH scroll
- **302** — Serie 302
- **P15K** — Output power
  in [KW]
- **T4** — Main supply voltage
  - **T2:** 200 – 240 V / 3 ph / 50 / 60 Hz
  - **T4:** 380 – 480 V / 3 ph / 50 / 60 Hz
  - **T6:** 525 – 600 V / 3 ph / 50 / 60 Hz
- **E20** — Enclosure protection:
  IP rating
- **H2** — RFI class

VSH088-G and H

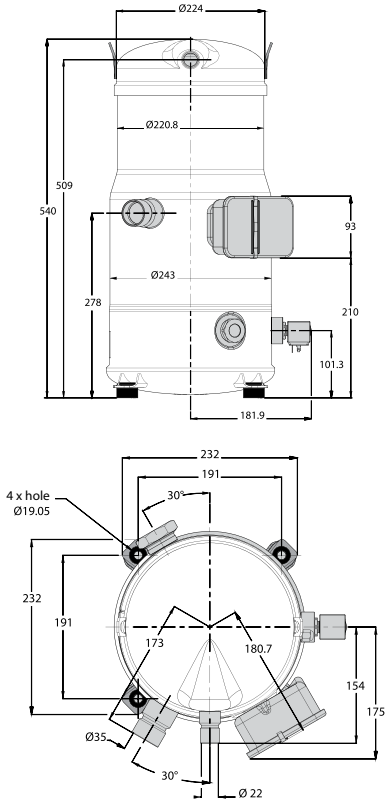


VSH088-J

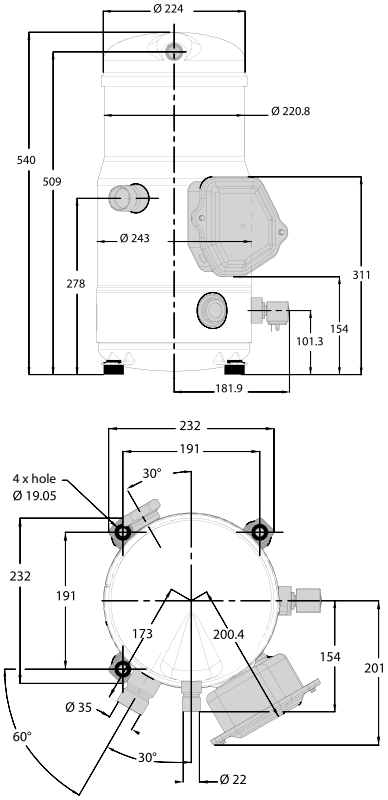


Dimensions

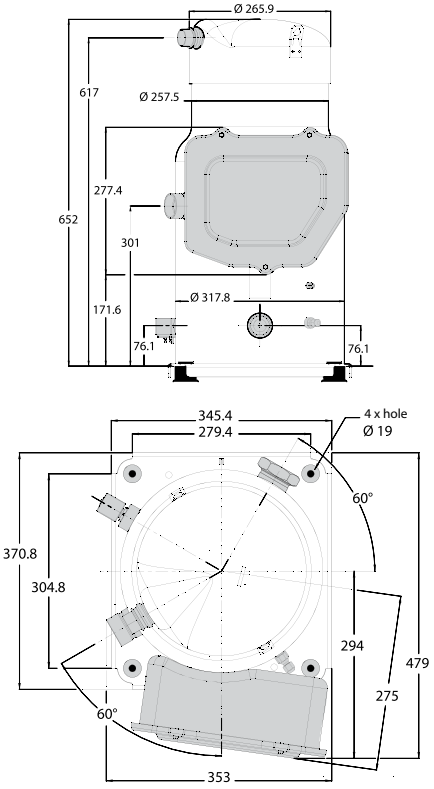
VSH117-G and H



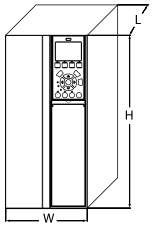
VSH117-J



VSH170-G-H and J



Technical data and ordering



VSH - Inverter scroll compressor

Frequency converter dimensions

Drive supply voltage	Drive power [kW]	Compressor voltage code	Compressor model	IP20			IP55		
				Drive enclosure	Overall drive size (H x W x L) [mm]	Net weight [kg]	Drive enclosure	Overall drive size (H x W x L) [mm]	Net weight [kg]
T2: 200-240/3 / 50-60	15	J	VSH088	B4	595x231x242	23.5	C1	680x308x310	45
	18.5	J	VSH117	C3	630x308x334	35	C1	680x308x310	45
	22	J	VSH170	C3	630x308x334	35	C1	680x308x310	45
T4: 380-480/3 / 50-60	15	G	VSH088	B3	419x165x248	12	B1	480x240x260	23
	18.5	G	VSH117	B4	595x231x242	23.5	B2	650x242x260	27
	22	G	VSH170	B4	595x231x242	23.5	B2	650x242x260	27
T6: 525-600/3 / 50-60	15	H	VSH088	B3	419x165x248	12	B1	480x240x260	23
	18.5	H	VSH117	B4	595x231x242	23.5	B2	650x242x260	27
	22	H	VSH170	B4	595x231x242	23.5	B2	650x242x260	27

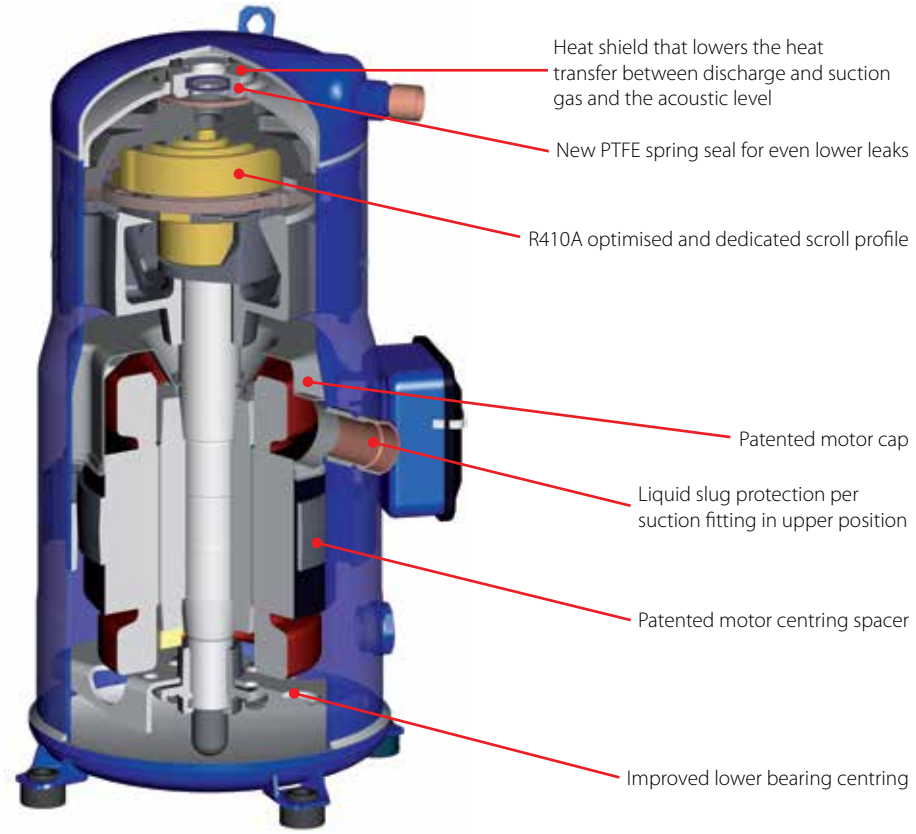
Frequency converter dimensions depend on supply voltage, IP rating and power
The below table gives an overview of the overall dimensions and different drive enclosures (B1 - C3)
Details for each drive enclosure are on the following pages

WSH, Scroll compressor - R410A

WSH range is composed of WSH090-105-120-140-161-184 models. It is based on current SH R410A range light commercial platform.

The WSH range benefit from a further improved design to achieve the ~5% higher efficiency for low pressure ratio applications such as water cooled chiller, air-to-air rooftop etc...





Facts

- Gas circulation, motor cooling and oil behaviour are improved on light commercial platform models by a new patented motor cap design
- Part protection and assembly reduces internal leaks and increases life durability
- Improved part isolation reduces greatly acoustic levels
- Gas intake design induces higher resistance to liquid slugging

Technical data and ordering

WSH - Scroll compressor - R410A - 50 - 60 Hz

Technical data and ordering

Model		Nominal tons 60 Hz	Nominal cooling capacity		Power input	COP	E.E.R	Swept volume	Displacement	Oil charge	Net weight
		[TR]	[W]	[Btu/h]	[kW]	[W/W]	[Bty/h/W]	[cm³/rev]	[m³/h]	[dm³]	[kg]
50 Hz	WSH090	7.5	22400	76500	7.22	3.1	10.59	88.4	15.4	3	58
	WSH105	9	26800	91500	8.6	3.12	10.63	103.5	18	3.3	64
	WSH120	10	30200	103100	9.54	3.17	10.8	116.9	20.3	3.3	64
	WSH140	12	34100	116400	10.7	3.19	10.87	133	23.12	3.3	67
	WSH161	13	39000	133100	12.1	3.22	11	151.7	26.4	3.3	69
	WSH184	15	44000	150200	13.65	3.22	11	170.3	29.6	3.6	71.5
60 Hz	WSH090	7.5	27500	93900	8.62	3.19	10.88	88.4	18.6	3	58
	WSH105	9	32700	111600	10.24	3.19	10.9	103.5	21.8	3.3	64
	WSH120	10	37000	126300	11.38	3.25	11.08	116.9	24.6	3.3	64
	WSH140	12	41600	142000	12.65	3.29	11.22	133	27.9	3.3	67
	WSH161	13	47400	161800	14.4	3.29	11.22	151.7	31.9	3.3	69
	WSH184	15	53100	181200	16.33	3.25	11.1	170.3	35.8	3.6	71.5

TR: *Ton of refrigeration*
COP: *Coefficient Of Performance*
Refrigerant: R410A
Condensing Temperature: 54.4 °C
Standard rating conditions: ARI standard
Sub-Cooling: 8.3 K
Evaporating Temperature: 7.2 °C
Superheat: 11.1 K

WSH - Scroll compressor

Ordering

Danfoss WSH scroll compressors can be ordered in either industrial packs or in single packs.
Please use the code numbers from below tables for ordering.



WSH - Scroll compressor

Ordering - Single pack

Compressor	Code no.			
	3	4	7	9
WSH090	120H1012	120H1014	120H1016	120H1018
WSH105	120H1020	120H1022	120H1024	120H1026
WSH120	120H1028	120H1030	120H1032	120H1034
WSH140	120H1036	120H1038	120H1040	120H1042
WSH161	120H1044	120H1046	120H1048	120H1050
WSH184	120H1052	120H1054	120H1056	120H1058

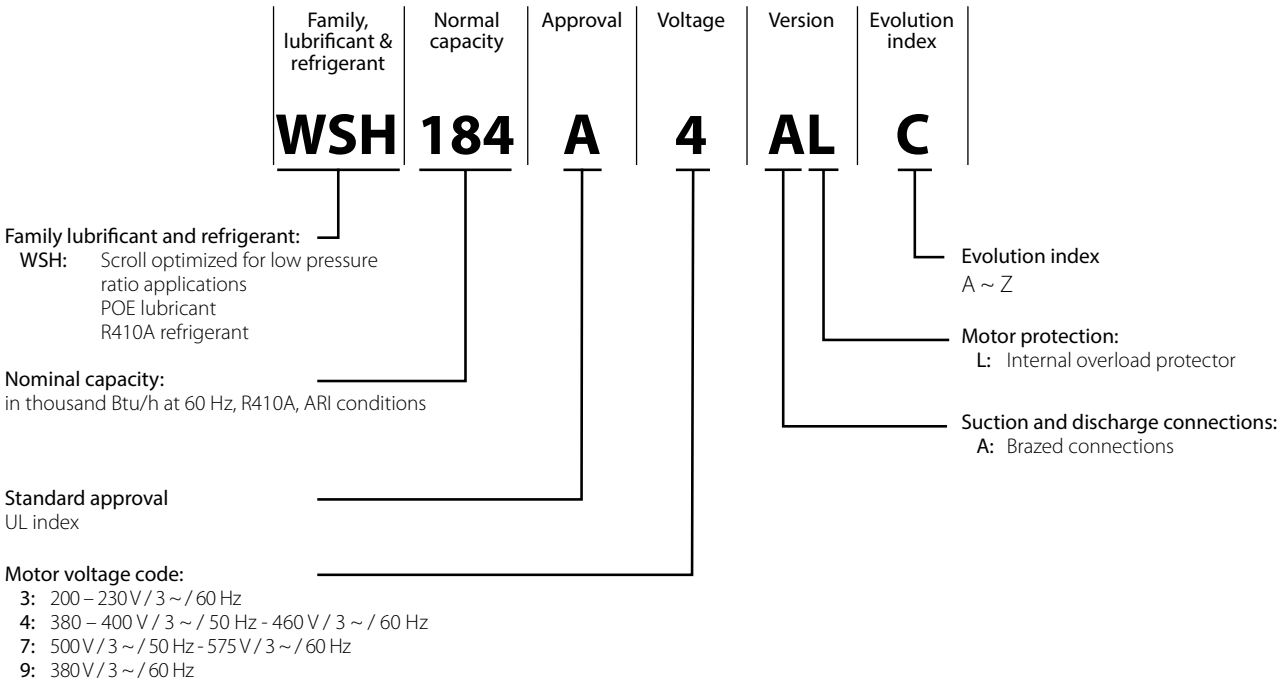


WSH - Scroll compressor

Ordering - Single pack

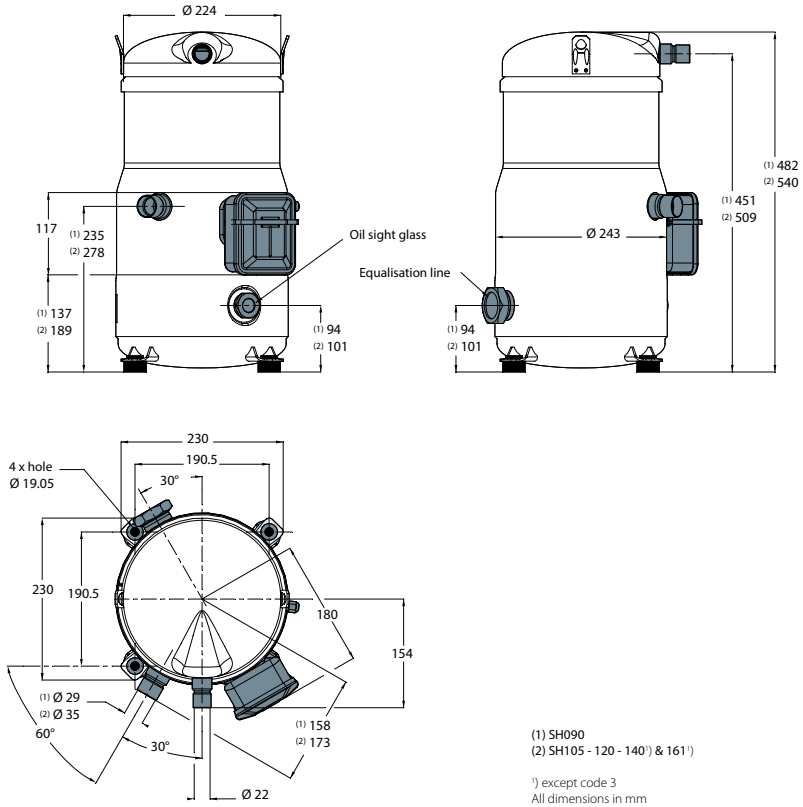
Compressor	Code no.			
	3	4	7	9
WSH090	120H1013	120H1015	120H1017	120H1019
WSH105	120H1021	120H1023	120H1025	120H1027
WSH120	120H1029	120H1031	120H1033	120H1035
WSH140	120H1037	120H1039	120H1041	120H1043
WSH161	120H1045	120H1047	120H1049	120H1051
WSH184	120H1053	120H1055	120H1057	120H1059

Nomenclature



Dimensions

WSH090-105-120-140 [1]) and 161 [1])

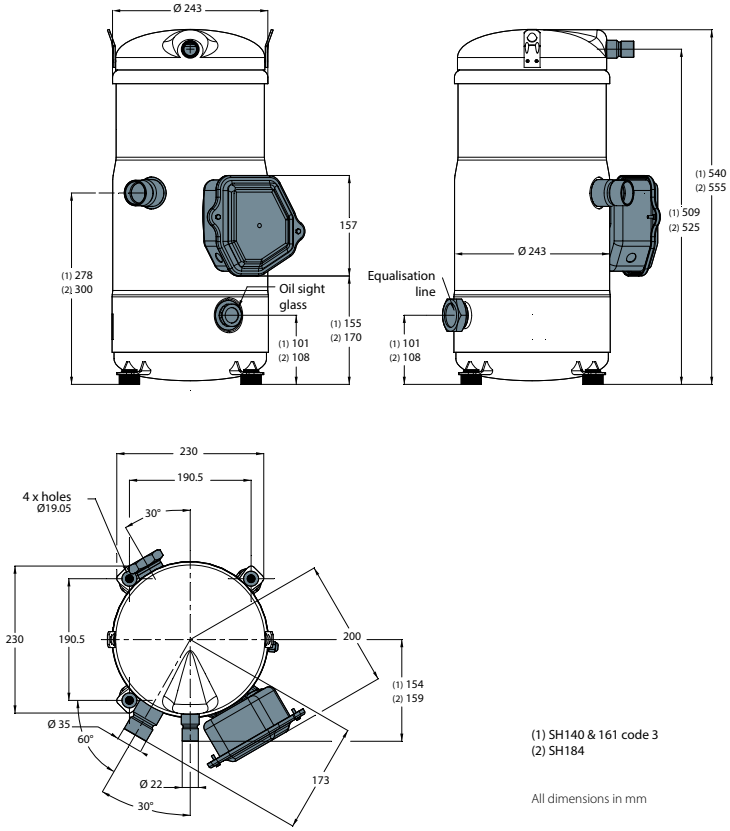


(1) SH090
(2) SH105 - 120 - 140[1]) & 161[1])

[1]) except code 3
All dimensions in mm

[1]) *except code 3*

WSH 140 and 161 code 3 and WSH184



(1) SH140 & 161 code 3
(2) SH184

All dimensions in mm

GEA Bock semi-hermetic compressor

HG semi-hermetic compressors are traditionally cooled by suction gas.

HA semi-hermetic compressors are specifically designed for low-temperature applications with R22 and R404A refrigerants, and are cooled by air.





Facts

- HG (Gas-cooled)
  Suction gas-cooled conventional compressor design
- HA (Air-cooled)
  Special design for freezing applications with R22/R404A, featuring suction air-cooled motor directly on the cylinder.
- Significantly higher performance comfort
- High efficiency and reliability with the higher quality standards
- Easy maintenance
  (e.g.: interchangeable motors)
- Lubrication by oil pump
- Electronic protection to MP10 motor, easy-to-operate design with LED indicators
- Appropriate for both conventional and chlorine-free HFC refrigerants

Nomenclature

Compressor and lubricant type	Size	Cylinders	Line	Cylinder capacity	Version
HGX	2	2	P	125	4S

Compressor and lubricant type
HG: Gas-cooled, medium and low temperature;
HA: Air-cooled, low temperature;
X: Ester oil: to be used with HCFc's

Compressor size

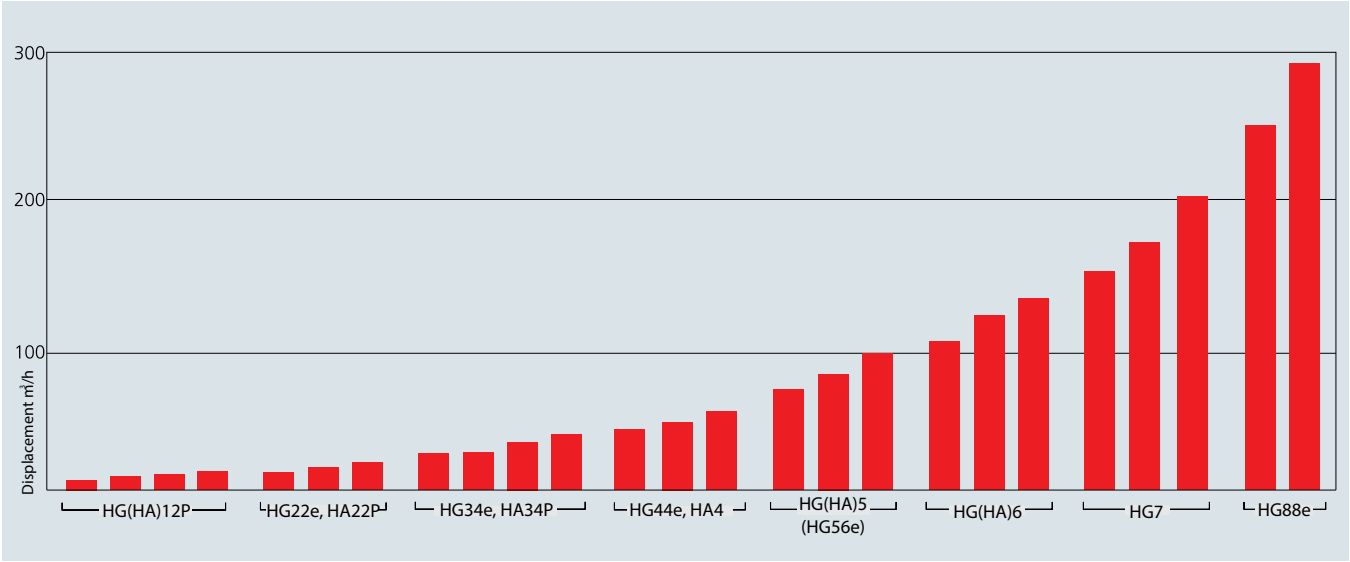
Amount of cylinders

Motor Type
4 = Number of poles
S = Stronger motor
E.g.: for cooling and freezing

Cylinder capacity in cm³

P = Pluscom Line
e = Optimized Efficiency Line

The complete program currently has models of 8 sizes and 26 different capacity levels, ranging from 5.4 to 281.3 m³/h (60 Hz).



Technical data and ordering

HG / HGX available models and technical specifications

Technical data and ordering

Models			Dimensions [mm]			Available motors			Technical specifications		
			C	L	H	60 Hz three-phase 220 – 380 V	60 Hz three-phase 440 V	50 Hz three-phase	Displaced Volume [m^3/h]	Oil load [liters]	Weight [Kg]
Medium and low temperatures	HG12P / 60 – 4S	2 Cylinders	415	220	280	QC14541 – C0	–	QC14541 – B0	6.4	0.9	49
	HG12P / 75 – 4S		415	220	280	QC14543 – C0	–	QC14543 – B0	8.1	0.9	49
	HG12P / 90 – 4S		415	220	280	QC14545 – C0	–	QC14545 – B0	9.6	0.9	49
	HG12P / 110 – 4S		415	220	280	QC14547 – C0	–	QC14547 – B0	11.3	0.9	49
	HG22e / 125 – 4S		470	240	310	QC14436 – C0	QC14436 – D0	QC14436 – B0	13.3	1.1	72
	HG22e / 160 – 4S		470	240	310	QC14437 – C0	–	QC14437 – B0	16.4	1.1	76
	HG22e / 190 – 4S		470	240	310	QC14792 – C0	QC14438 – D0	QC14792 – B0	19.8	1.1	75
	HG34e / 215 – 4S	4 Cylinders	540	285	315	QC14371 – C0	–	QC14371 – B0	22.6	1.4	95
	HG34e / 255 – 4S		540	285	315	QC14372 – C0	QC14372 – D0	QC14372 – B0	26.6	1.4	95
	HG34e / 315 – 4S		540	285	315	QC14373 – C0	QC14373 – D0	QC14373 – B0	32.8	1.4	97
	HG34e / 380 – 4S		540	285	315	QC14374 – C0	QC14374 – D0	QC14374 – B0	39.7	1.4	97
	HG44e / 475 – 4S		650	360	385	QC14904 – C0	–	QC14904 – A0	49.6	2.3	168
	HG44e / 565 – 4S		650	360	385	QC14905 – C0	–	QC14905 – A0	59	2.3	168
	HG44e / 665 – 4S		650	360	385	QC14906 – C0	–	QC14906 – A0	69.2	2.3	168
	HG44e / 770 – 4S		650	360	385	QC14907 – C0	–	QC14907 – A0	80.4	2.3	168
	HG5 / 830 – 4S		815	435	405	QC13743 – C0	–	QC13743 – A0	86.7	4.5	204
	HG5 / 945 – 4S		815	435	405	QC13745 – C0	–	QC13745 – A0	98.6	4.5	205
	HG6 / 1080 – 4S		850	455	405	QC13723 – C0	–	QC13723 – A0	112.4	4.5	223
	HG6 / 1240 – 4S		850	455	405	QC13725 – C0	–	QC13725 – A0	129.1	4.5	225
	HG6 / 1410 – 4S		850	455	405	QC13727 – C0	–	QC13727 – A0	146.9	4.5	222
	HGX12P / 60 – 4S	2 Cylinders	415	220	280	–	–	QC14549 – B0	6.4	0.9	49
	HGX12P / 75 – 4S		415	220	280	–	–	QC14551 – B0	8.1	0.9	49
	HGX12P / 90 – 4S		415	220	280	QC14553 – C0	–	QC14553 – B0	9.6	0.9	49
	HGX12P / 110 – 4		415	220	280	QC14554 – C0	–	QC14555 – B0	11.3	0.9	49
	HGX22e / 125 – 4S		470	240	280	–	–	QC14793 – B0	13.3	1.1	72
	HGX22e / 160 – 4S		470	240	280	–	–	QC14794 – B0	16.4	1.1	76
	HGX22e / 190 – 4S		470	240	280	QC14795 – C0	–	QC14795 – B0	19.8	1.1	75
	HGX34e / 215 – 4S	4 Cylinders	510	285	315	–	QC17037 – D0	QC14375 – B0	22.6	1.4	95
	HGX34e / 255 – 4S		510	285	315	QC14376 – C0	–	QC14376 – B0	26.6	1.4	95
	HGX34e / 315 – 4S		510	285	315	QC14377 – C0	QC17041 – D0	QC14377 – B0	32.8	1.4	97
	HGX34e / 380 – 4S		510	285	315	QC14378 – C0	–	QC14378 – B0	39.7	1.4	97
	HGX44e / 475 – 4S		690	370	405	QC14912 – C0	–	QC14912 – A0	49.6	2.3	168
	HGX44e / 565 – 4S		690	370	405	QC14913 – C0	–	QC14913 – A0	59	2.3	168
	HGX44e / 665 – 4S		690	370	405	QC14914 – C0	–	QC14914 – A0	69.2	2.3	168
	HGX44e / 770 – 4S		690	370	405	QC14915 – C0	–	QC14915 – A0	80.4	2.3	168
	HGX5 / 830 – 4S		815	435	405	QC13803 – C0	–	QC13803 – A0	86.7	4.5	204
	HGX5 / 945 – 4S		815	435	405	–	–	QC13805 – A0	98.6	4.5	205
	HGX6 / 1080 – 4S		850	455	405	QC13753 – C0	–	QC13753 – A0	112.4	4.5	223
	HGX6 / 1240 – 4S		850	455	405	QC13755 – C0	–	QC13755 – A0	129.1	4.5	225
	HGX6 / 1410 – 4S		850	455	405	QC13757 – C0	–	QC13757 – A0	146.9	4.5	222

Conditions taken into account:
- Suction gas temperature: 25 °C, except for Pluscom models (20 °C)
- Sub-cooling: 0 K

Technical data and ordering

HA / HAX available models and technical specifications

Technical data and ordering

Models			Dimensions [mm]			Available motors			Technical specifications		
			C	L	H	60 Hz three-phase 220 V-380 V	60 Hz three-phase 440 V	50 Hz three-phase	Displaced Volume [m³/h]	Oil load [liters]	Weight [Kg]
Low temperatures	HA12P / 60 – 4	2 Cylinders	440	220	310	QC14556-C0	–	QC14556-B0	6.4	0.9	52
	HA12P / 75 – 4		440	220	310	QC14557-C0	–	QC14557-B0	8.1	0.9	53
	HA12P / 90 – 4		440	220	310	QC14558-C0	–	QC14558-B0	9.6	0.9	54
	HA12P / 110 – 4		440	220	310	QC14559-C0	–	QC14559-B0	11.3	0.9	54
	HA22P / 125 – 4		525	300	340	QC14442-C0	–	QC14442-B0	13.3	1.1	80
	HA22P / 160 – 4		525	300	340	QC14443-C0	–	QC14443-B0	16.4	1.1	83
	HA22P / 190 – 4		525	300	340	QC14444-C0	–	QC14444-B0	19.8	1.1	81
	HA34P / 215 – 4	4 Cylinders	575	300	345	QC14363-C0	–	QC14363-B0	22.6	1.4	99
	HA34P / 255 – 4		575	300	345	QC14364-C0	–	QC14364-B0	26.6	1.4	98
	HA34P / 315 – 4		575	300	345	QC14365-C0	–	QC14365-B0	32.8	1.4	100
	HA34P / 380 – 4		575	300	345	QC14366-C0	–	QC14366-B0	39.7	1.4	100
	HA4 / 465 – 4		725	400	405	QC13767-C0	QC13767 – D0	QC13767-A0	48.6	3.4	155
	HA4 / 555 – 4		725	400	405	QC13768-C0	–	QC13768-A0	57.8	3.4	157
	HA4 / 650 – 4		725	400	405	QC13769-C0	QC13769 – D0	QC13769-A0	67.9	3.4	157
	HA5 / 725 – 4		810	435	435	QC13746-C0	–	QC13746-A0	75.5	4.5	205
	HA5 / 830 – 4		810	435	435	QC13747-C0	–	QC13747-A0	86.7	4.5	208
	HA5 / 945 – 4		810	435	435	QC13748-C0	–	QC13748-A0	98.6	4.5	206
	HA6 / 1080 – 4		830	455	430	QC13660-C0	–	QC13660-A0	112.4	4.5	224
	HA6 / 1240 – 4		830	455	430	QC13661-C0	–	QC13661-A0	129.1	4.5	222
	HA6 / 1410 – 4		830	455	430	QC13662-C0	–	QC13662-A0	146.9	4.5	220
	HAX12P / 60 – 4	2 Cylinders	440	220	310	–	–	QC14560-B0	6.4	0.9	52
	HAX12P / 75 – 4		440	220	310	–	–	QC14561-B0	8.1	0.9	53
	HAX12P / 90 – 4		440	220	310	–	–	QC14562-B0	9.6	0.9	54
	HAX12P / 110 – 4		440	220	310	–	–	QC14563-B0	11.3	0.9	54
	HAX22P / 125 – 4		525	300	340	–	–	QC14445-B0	13.3	1.1	80
	HAX22P / 160 – 4		525	300	340	–	–	QC14446-B0	16.4	1.1	83
	HAX22P / 190 – 4		525	300	340	–	–	QC14447-B0	19.8	1.1	81
	HAX34P / 215 – 4	4 Cylinders	575	300	345	–	–	QC14367-B0	22.6	1.4	99
	HAX34P / 255 – 4		575	300	345	QC14368-C0	–	QC14368-B0	26.6	1.4	98
	HAX34P / 315 – 4		575	300	345	QC14369-C0	–	QC14369-B0	32.8	1.4	100
	HAX34P / 380 – 4		575	300	345	QC14370-C0	–	QC14370-B0	39.7	1.4	100
	HAX4 / 465 – 4		725	400	405	QC13787-C0	QC13787 – D0	QC13787-A0	48.6	3.4	155
	HAX4 / 555 – 4		725	400	405	QC13788-C0	–	QC13788-A0	57.8	3.4	157
	HAX4 / 650 – 4		725	400	405	QC13789-C0	–	QC13789-A0	67.9	3.4	157
	HAX5 / 725 – 4		810	435	435	–	–	QC13806-A0	75.5	4.5	205
	HAX5 / 830 – 4		810	435	435	–	–	QC13807-A0	86.7	4.5	208
	HAX5 / 945 – 4		810	435	435	–	–	QC13808-A0	98.6	4.5	206
	HAX6 / 1080 – 4		830	455	430	–	–	QC13663-A0	112.4	4.5	224
	HAX6 / 1240 – 4		830	455	430	–	–	QC13664-A0	129.1	4.5	222
	HAX6 / 1410 – 4		830	455	430	QC13665-C0	–	QC13665-A0	146.9	4.5	220

Conditions taken into account:
- Suction gas temperature: 25 °C, except for Pluscom models (20 °C)
- Sub-cooling: 0 K

Technical data and ordering

Capacity data – HG – R22

Technical data and ordering

Models	T.E.	10 °C		5 °C		0 °C		-5 °C		-10 °C		-15 °C		-20 °C		-25 °C		-30 °C		-35 °C	
	T.C [°C]	C.R.	P.C.	C.R.	P.C.	C.R.	P.C.	C.R.	P.C.	C.R.	P.C.	C.R.	P.C.	C.R.	P.C.	C.R.	P.C.	C.R.	P.C.	C.R.	P.C.
HG12P60-4S	30	6648	1.1	5558	1.1	4604	1.1	3774	1.1	3054	1.1	2436	1.0	1904	0.9	1449	0.9	1059	0.8	722	07
	40	5869	1.4	4891	1.4	4034	1.4	3289	1.3	2643	1.2	2083	1.1	1600	1.0	1180	0.9	813	0.8	486	07
	50	5119	1.7	4248	1.7	3487	1.6	2825	1.5	2249	1.4	1749	1.2	1312	1.1	926	1.0	–	–	–	–
HG12P / 75-4S	30	8305	1.4	6944	1.4	5753	1.4	4714	1.4	3817	1.3	3042	1.3	2379	1.2	1810	1.1	1323	1.0	901	0.8
	40	7332	1.8	6110	1.8	5039	1.7	4108	1.6	3301	1.5	2603	1.4	1998	1.3	1475	1.1	1016	1.0	607	0.9
	50	6395	2.2	5306	2.1	4357	2.0	3529	1.8	2811	1.7	2185	1.5	1639	1.4	1157	1.2	–	–	–	–
HG12P / 90-4S	30	9905	1.6	8282	1.7	6861	1.7	5623	1.7	4551	1.6	3629	1.5	2837	1.4	2159	1.3	1578	1.1	1074	1.0
	40	8746	2.1	7287	2.1	6011	2.0	4900	1.9	3937	1.8	3104	1.7	2384	1.5	1759	1.4	1212	1.2	725	1.0
	50	7627	2.6	6330	1.5	5195	2.4	4209	2.2	3352	2.0	2606	1.8	1955	1.6	1380	1.4	–	–	–	–
HG12P / 110-4S	30	11645	1.9	9738	2.0	8066	2.0	6611	1.9	5351	1.9	4266	1.8	3336	1.6	2539	1.5	1855	1.3	1264	1.2
	40	10282	2.5	8567	2.5	7066	2.4	5761	2.3	4629	2.1	3649	2.0	2803	1.8	2068	1.6	1425	1.4	852	1.2
	50	8967	3.1	744117	2.9	6108	2.8	4949	2.6	3941	2.4	3064	2.1	2298	1.9	1622	1.7	–	–	–	–
HG22e / 125-4S	30	13701	2.3	11457	2.3	9490	2.3	7778	2.3	6296	2.2	5019	2.1	3925	1.9	2987	1.8	2182	1.6	1487	1.4
	40	12098	3.0	10080	2.9	8315	2.8	6778	2.7	5446	2.5	4293	2.3	3298	2.1	2433	1.9	1676	1.7	1003	1.4
	50	10550	3.6	8755	3.4	7188	3.3	5822	3.0	4637	2.8	3605	2.5	2704	2.3	1909	2.0	–	–	–	–
HG22e / 160-4S	30	16915	2.8	14144	2.9	11717	2.9	9603	2.8	7773	2.7	6197	2.6	4845	2.4	3687	2.2	2695	1.9	1835	1.7
	40	14935	3.7	12444	3.6	10264	3.5	8368	3.3	6723	3.1	5300	2.9	4070	2.6	3003	2.3	2069	2.0	1237	1.8
	50	13025	4.4	10809	4.2	8873	4.0	7189	3.7	5724	3.4	4450	3.1	3339	2.8	2357	2.4	–	–	–	–
HG22e / 190-4S	30	20468	3.4	17114	3.5	14177	3.5	11620	3.4	9405	3.3	7499	3.1	5863	2.9	4462	2.6	3260	2.4	2221	2.1
	40	18072	4.4	15057	4.4	12421	4.2	10125	4.0	8134	3.8	6414	3.5	4925	3.2	3634	2.8	2504	2.5	1497	2.1
	50	15760	5.4	13079	5.1	10736	4.9	8698	4.5	6926	4.2	5385	3.8	4039	3.4	2851	3.0	–	–	–	–
HG34e / 215-4S	30	23306	3.9	19487	4.0	16143	4.0	13231	3.9	10710	3.8	8538	3.5	6675	3.3	5080	3.0	3712	2.7	2528	2.3
	40	20578	5.1	17145	5.0	14143	4.8	11529	4.6	9263	4.3	7303	4.0	5609	3.6	4139	3.2	2580	2.8	1705	2.4
	50	14796	6.1	14892	5.8	12225	5.5	9904	5.1	7887	4.7	6132	4.3	4599	3.8	3247	3.4	–	–	–	–
HG34e / 255-4S	30	17945	4.5	22913	4.7	18981	4.7	15557	4.6	12592	4.4	10039	4.2	7849	3.9	5974	3.5	4365	3.1	2973	2.7
	40	24195	5.9	20160	5.8	16629	5.7	13556	5.4	10891	5.0	8587	4.7	6595	4.2	4866	3.8	3352	3.3	2005	2.8
	50	21100	7.2	17510	6.9	14374	6.5	11645	6.1	9273	5.6	7210	5.1	5407	4.5	3818	4.0	–	–	–	–
HG34e / 315-4S	30	33830	5.6	28288	5.8	23433	5.8	19206	5.7	15545	5.4	12394	5.1	9691	4.8	7375	4.3	5388	3.9	3671	3.4
	40	29871	7.3	24888	7.2	20530	7.0	16736	6.6	13446	6.2	10602	5.7	8142	5.2	6008	4.7	4139	4.1	2475	3.5
	50	26050	8.9	21618	8.5	17747	8.0	14376	7.5	11448	6.9	8901	6.2	6676	5.6	4713	4.9	–	–	–	–
HG34e / 380-4S	30	40934	6.8	34229	7.0	28353	7.0	23239	6.9	18811	6.6	14997	6.2	1172	5.8	8923	5.3	6520	4.7	4441	4.1
	40	36143	8.9	30114	8.7	24841	8.4	20250	8.0	16270	7.5	12827	6.9	9852	6.3	7268	5.6	5007	4.9	2995	4.2
	50	31521	10.7	26157	10.3	21473	9.7	17396	9.1	13852	8.3	10771	7.5	8078	6.7	5703	5.9	–	–	–	–
HG44e / 475-4S	30	54514	8.77	45830	8.88	38177	8.79	31556	8.53	25709	8.13	20722	7.61	16509	6.99	12812	6.31	9630	5.58	6887	4.84
	40	49269	11.0	41187	10.8	34222	10.4	28117	9.91	22786	9.25	18229	8.49	14273	7.66	10920	6.78	7962	5.87	5417	4.97
	50	43852	13.1	36543	12.6	30181	11.9	24592	11.1	19776	10.2	15649	9.24	12124	8.2	9028	7.13	–	–	–	–
HG44e / 565-4S	30	65090	10.4	54686	10.5	45658	10.4	37747	10.1	30868	9.65	24936	9.03	19776	8.3	15391	7.49	11694	6.62	8392	5.74
	40	58813	13.1	49269	12.8	40929	12.4	33706	11.7	27343	10.9	21926	10	17283	9.09	13242	8.04	9716	6.97	6664	5.89
	50	52537	15.5	43766	14.9	36199	14.1	29579	13.2	23904	12.1	18917	10.9	14703	9.73	11006	8.46	–	–	–	–
HG44e / 665-4S	30	75924	12.1	63715	12.3	53138	12.2	43766	11.8	35770	11.2	28805	10.5	22872	9.68	17713	8.72	13328	7.7	9544	6.66
	40	68358	15.3	57180	15	47463	14.5	38951	13.7	31556	12.8	25279	11.7	19776	10.6	15047	9.38	11006	8.1	7429	6.84
	50	60877	18.3	50645	17.6	41788	16.6	34050	15.5	27429	14.2	21668	12.8	16767	11.3	12468	9.86	–	–	–	–
HG44e / 770-4S	30	88564	14.1	73947	14.2	61651	14.1	50903	13.7	41617	13	33620	12.1	26741	11.1	20808	10	15735	8.88	11264	7.67
	40	79278	17.8	66380	17.5	55116	16.8	45314	15.9	36887	14.8	29493	13.6	23216	12.2	17799	10.8	13070	9.34	8942	7.86
	50	70593	21.3	58813	20.4	48667	19.3	39725	18	32072	16.5	25451	14.8	19776	13.1	14789	11.3	–	–	–	–
HG5 / 830-4S	30	94652	14.9	80158	14.6	67230	14.3	55758	13.9	45633	13.4	36745	12.9	28982	12.2	22237	11.4	16398	10.4	11357	9.2
	40	86259	18.9	72891	18.2	60997	17.5	50468	16.7	41193	15.8	33063	14.8	25967	13.7	19796	12.5	14440	11.1	9789	9.5
	50	76437	22.9	64337	21.8	53619	20.6	44174	19.3	35892	17.9	28662	16.5	22375	14.9	16907	13.2	–	–	–	–
HG5 / 945-4S	30	107693	17.0	91202	16.6	76493	16.3	63441	15.8	51920	15.3	41808	14.6	32976	13.9	25301	12.9	18658	11.8	12921	10.5
	40	98143	21.5	82933	20.7	69401	19.9	57421	18.9	46868	17.9	37617	16.8	29545	15.6	22523	14.2	16430	12.6	11138	10.8
	50	86968	26.1	73201	24.8	61006	23.4	50260	21.9	40837	20.4	32611	18.8	25458	17.0	19253	15.0	–	–	–	–
HG6 / 1080-4S	30	121715	21.7	100307	21.0	86453	20.3	71701	19.4	58681	18.4	47251	17.3	37270	15.9	28595	14.4	21087	12.5	14604	10.4
	40	110923	26.7	93733	25.7	78438	24.5	64897	23.2	52971	21.8	42516	20.2	33391	18.3	25456	16.1	18569	13.7	12588	10.9
	50	98292	31.4	82733	29.9	68950	28.3	56805	26.5	46154	24.5	36858	22.3	28773	19.8	21760	17.0	–	–	–	–
HG6 / 1240-4S	30	139725	24.9	111832	24.1	99244	23.3	82311	22.3	67364	21.2	54242	19.8	42784	18.3	32826	16.5	24208	14.4	16765	11.9
	40	127335	30.7	100760	29.5	90044	28.1	74499	26.7	60808	25.0	48806	23.1	38331	21.0	29223	18.5	1317	15.7	14451	12.5
	50	112835	36.1	94973	34.4	79152	32.5	65209	30.5	52983	28.2	42311	25.6	33030	22.8	24979	19.6	–	–	–	–
HG6 / 1410-4S	30	158976	28.4	113463	27.5	112918	27.5	93650	25.4	76644	24.1	61716	22.6	48678	20.8	37349	18.8	27542	16.4	19074	13.6
	40	144878	34.9	112242	33.5	102449	33.5	84765	30.4	69186	28.5	55531	26.3	43613	23.9	33249	21.1	24254	17.9	16442	14.3
	50	128381	41.1	100805	39.1	90058	39.1	74194	34.6	60283	32.1	48140	29.1	37581	25.9	28422	22.3	–	–	–	–

Key:
T.E. = Evaporation Temperature [°C]
T.C. = Condensation Temperature [°C]
C.R. = Cooling Capacity [kcal/h]
P.C. = Consumed Power [kW]

Limits and conditions taken into account:
- Suction gas temperature: 25 °C,
except for Pluscom models (20 °C)
- Sub-cooling: 0 K
- Please, refer to application limits on page 110

Note: For conditions other than those taken into account, capacity and consumption are different. In this case, please contact us at 0800 701 0054.

Technical data and ordering

Capacity data – HGX – R134a

Technical data and ordering

Models	T.E	10 °C		5 °C		0 °C		-5 °C		-10 °C		-15 °C		-20 °C		-25 °C		-30 °C	
	T.C [°C]	CR	PC	CR	PC	CR	PC	CR	PC	CR	PC	CR	PC	CR	PC	CR	PC	CR	PC
HGX12P / 60-4 S	30	4572	0.9	3768	0.9	3066	0.8	2461	0.8	1944	0.7	1508	0.7	1146	0.6	852	0.5	617	0.5
	40	3948	1.0	3246	1.0	2634	0.9	2105	0.9	1653	0.8	1270	0.7	949	0.7	683	0.6	464	0.5
	50	3355	1.2	2750	1.1	2223	1.0	1767	0.9	1375	0.8	1041	0.8	756	0.7	514	0.6	308	0.6
HGX12P / 75-4 S	30	5679	1.2	4685	1.2	3810	1.2	3050	1.1	2398	1.0	1847	1.0	1390	0.9	1021	0.8	734	0.7
	40	5023	1.4	4129	1.4	3344	1.3	2661	1.2	2074	1.1	1578	1.0	1163	0.9	825	0.8	558	0.7
	50	4334	1.6	3543	1.5	2851	1.4	2249	1.3	1732	1.2	1293	1.1	926	0.9	624	0.8	380	0.6
HGX12P / 90-4 S	30	6782	1.4	5553	1.4	4496	1.4	3597	1.3	2840	1.2	2211	1.1	1694	1.0	1272	0.9	931	0.8
	40	5959	1.7	4870	1.6	3937	1.6	3143	1.5	2472	1.4	1910	1.2	1441	1.1	1050	1.0	722	0.8
	50	5140	1.9	4192	1.8	3379	1.7	2687	1.6	2100	1.4	1603	1.3	1180	1.1	817	1.0	498	0.8
HGX12P / 110-4 S	30	8008	1.5	6601	1.5	5373	1.4	4312	1.4	3406	1.3	2643	1.1	2009	1.0	1492	0.9	1080	0.9
	40	6917	1.8	5687	1.7	4614	1.6	3688	1.5	2896	1.4	2225	1.3	1662	1.1	1195	1.0	812	1.0
	50	5877	2.1	4816	1.9	3893	1.8	3095	1.6	2409	1.5	1823	1.3	1324	1.2	900	1.1	538	1.0
HGX22e / 125-4 S	30	9360	1.7	7896	1.7	6393	1.7	5104	1.6	4008	1.5	3090	1.4	2329	1.3	1706	1.1	1205	1.0
	40	8393	2.1	6861	2.1	5536	1.9	4401	1.8	3438	1.7	2629	1.5	1956	1.3	1397	1.1	937	0.9
	50	7197	2.5	5859	2.3	4706	2.2	3722	2.0	2886	1.8	2182	1.6	1589	1.4	1089	1.1	665	0.9
HGX22e / 160-4 S	30	11881	2.1	9730	2.1	7874	2.1	6286	2.0	4941	1.8	3813	1.7	2881	1.5	2118	1.3	1498	1.1
	40	10292	2.6	8405	2.5	6763	2.4	5403	2.2	4239	2.0	3266	1.8	2460	1.6	1796	1.4	1248	1.2
	50	8788	3.0	7151	2.8	5753	2.6	4568	2.4	3572	2.2	2740	1.9	2047	1.7	1470	1.4	980	1.2
HGX22e / 190-4 S	30	14231	2.7	11734	2.7	9575	2.6	7727	2.4	6155	2.3	4834	2.1	3728	1.9	2810	1.6	2048	1.4
	40	12540	3.2	10325	3.1	8416	2.9	6781	2.7	5392	2.5	4218	2.3	3227	2.0	2390	1.7	16765	1.4
	50	10856	3.8	8922	3.5	7261	3.3	5841	3.0	4633	2.7	3606	2.4	2729	2.1	1972	1.8	1305	1.4
HGX34e / 215-4 S	30	16100	2.9	13137	2.9	10585	2.8	8412	2.7	6582	2.5	5066	2.3	382	2.0	2838	1.8	206	1.6
	40	14013	3.5	11387	3.4	9136	3.2	7225	2.9	5622	2.7	4296	2.4	3210	2.1	2336	1.8	1637	1.6
	50	11966	4.0	9675	3.8	7722	3.5	6072	3.2	4692	2.8	3552	2.5	2616	2.1	1854	1.8	1231	1.5
HGX34e / 255-4 S	30	18939	3.4	15497	3.4	12527	3.3	9989	3.1	7847	2.9	6065	2.6	4603	2.4	3428	2.1	2500	1.8
	40	16536	4.1	13494	4.0	10875	3.8	8644	3.5	6762	3.2	5193	2.8	390	2.5	2845	2.2	1993	1.9
	50	14165	4.8	11515	4.5	9241	4.1	7309	3.8	5679	3.4	4318	3.0	318	2.6	2245	2.2	1461	1.9
HGX34e / 315-4 S	30	22716	4.3	18573	4.2	15015	4.4	11992	3.9	9451	3.6	7343	3.3	561	2.9	4219	2.6	3103	2.3
	40	19869	5.2	16216	5.0	13085	4.7	10425	4.3	8187	3.9	6319	3.7	4771	3.1	3491	2.7	2429	2.3
	50	17103	6.0	13926	5.6	11211	5.2	8906	4.7	6959	4.2	5322	4.1	3941	3.2	2767	2.7	1749	2.2
HGX34e / 380-4 S	30	28151	5.3	23202	5.2	18885	5.1	15157	4.8	11972	4.4	9288	4.4	705	3.7	5243	3.3	3795	3.0
	40	24314	6.3	19988	6.0	16220	5.7	12966	5.3	10181	4.8	7821	4.7	5844	4.0	4203	3.6	2856	3.4
	50	20659	7.2	16931	6.8	13687	6.3	10880	5.8	8469	5.2	6408	5.1	4654	4.2	3164	3.9	1892	3.7
HGX44e / 475-4 S	30	36543	5.82	30181	5.81	24678	5.67	19862	5.42	15735	5.09	12296	4.68	9458	4.23	6991	3.76	5021	3.29
	40	32158	7.19	26483	6.97	21582	6.64	17283	6.21	13672	5.71	10576	5.16	7962	4.57	5795	3.97	3972	3.39
	50	27859	8.47	22872	8.04	18487	7.51	14789	6.89	11608	6.22	8856	5.51	6569	4.78	4617	4.06	2941	3.36
HGX44e / 565-4 S	30	43594	6.91	36028	6.89	29493	6.72	23818	6.43	18917	6.03	14875	5.55	11436	5.02	8495	4.46	6131	3.89
	40	38521	8.53	31728	8.27	25881	7.88	20808	7.37	16509	6.77	12812	6.11	9716	5.42	7102	4.71	4918	4.01
	50	33448	10	27429	9.54	22270	8.91	17885	8.18	14101	7.38	10834	6.54	8074	5.67	5744	4.81	3723	3.98
HGX44e / 665-4 S	30	50903	8.04	41960	8.02	34222	7.82	27601	7.48	21926	7	17111	6.44	13070	5.81	9716	5.15	6930	4.48
	40	44712	9.96	36801	9.65	29923	9.18	23990	8.58	18917	7.88	14617	7.1	11006	6.28	7979	5.45	5451	4.63
	50	38693	11.7	31728	11.1	25623	10.4	20464	9.54	15993	8.6	12296	7.6	9028	6.58	6320	5.57	3998	4.59
HGX44e / 770-4 S	30	59071	9.27	48753	9.25	39897	8.61	32158	8.61	25623	8.06	20034	7.41	15391	6.68	11522	5.91	8246	5.13
	40	52021	11.5	42820	11.1	34910	10.6	28031	9.9	22184	9.08	17283	8.18	13070	7.22	9544	6.25	6578	5.3
	50	45056	13.6	36973	12.9	30009	12	23990	11	18917	9.92	14531	8.76	10834	7.57	7653	6.39	4927	5.25
HGX5 / 830-4S	30	61245	13.4	50761	12.4	41587	11.6	33618	10.7	26745	9.9	20865	9.7	15868	8.4	11651	7.5	8108	6.7
	40	55060	15.0	45540	13.9	37239	12.8	30054	11.7	23878	10.7	18602	10.1	14124	8.7	10334	7.6	7129	6.5
	50	47756	16.7	39338	15.3	32053	13.9	25792	12.6	20450	11.4	15921	10.1	12100	8.8	8878	7.4	6152	6.0
HGX5 / 945-4 S	30	69682	15.2	57755	14.1	47318	13.1	38250	12.2	30430	11.3	23739	10.4	18055	9.5	13257	8.6	9225	7.6
	40	62645	17.1	51813	15.8	42370	14.5	34195	13.4	27167	12.2	21165	11.1	16069	9.9	11758	8.7	8111	7.4
	50	54335	19.0	44759	17.4	36468	15.9	29346	14.4	23268	12.9	18116	11.5	13767	10.0	10102	8.4	7000	6.8
HGX6 / 1080-4 S	30	79830	17.3	66114	16.1	54112	15.0	43686	14.0	34699	13.0	27015	11.9	20498	10.9	15010	9.8	10414	8.7
	40	71854	19.5	59424	18.0	18576	16.6	39175	15.3	31084	13.9	24165	12.6	18282	11.3	13298	9.9	9076	8.5
	50	62257	21.7	51328	19.9	41852	18.1	33693	16.4	26714	14.7	20776	13.0	15744	11.3	11482	9.6	7851	7.8
HGX6 / 1240-4 S	30	91642	19.9	75896	18.5	62118	17.3	50149	16.1	39834	14.9	31013	13.7	23531	12.5	17231	11.3	11955	9.9
	40	82486	22.4	68215	20.7	55763	19.1	44971	17.5	35683	16.0	27740	14.5	20986	13.0	15265	11.4	10419	9.7
	50	71468	24.9	58922	22.8	480454	20.8	38679	18.8	30666	16.9	23850	15.0	18074	13.0	13181	11.0	9013	8.9
HGX6 / 1410-4 S	30	104268	22.6	86353	21.1	70677	19.6	57058	18.3	45321	16.9	35285	15.6	26773	14.2	19604	12.8	13602	11.3
	40	93850	25.4	77615	23.5	63446	21.7	51167	19.9	40599	18.2	31562	16.5	23879	14.7	17369	12.9	11854	11.0
	50	81315	28.3	67040	25.9	54665	23.6	44008	21.4	34891	19.2	27137	17.0	20564	14.8	14997	12.5	10254	10.2

Key:
T.E. = Evaporation Temperature [°C]
T.C. = Condensation Temperature [°C]
C.R. = Cooling Capacity [kcal/h]
P.C. = Consumed Power [kW]

Limits and conditions taken into account:
- Suction gas temperature: 25 °C,
except for Pluscom models (20 °C)
- Sub-cooling: 0 K
- Please, refer to application limits on page 111

Note: For conditions other than those taken into account here, capacity and consumption are different. In this case, please contact us at 0800 701 0054.

Technical data and ordering

Capacity data – HGX – R404A

Technical data and ordering

Models	T.E	0 °C		-5 °C		-10 °C		-15 °C		-20 °C		-25 °C		-30 °C		-35 °C		-40 °C		-45 °C	
	T.C [°C]	CR	PC	CR	PC	CR	PC	CR	PC	CR	PC	CR	PC	CR	PC	CR	PC	CR	PC	CR	PC
HGX12P / 60-4S	30	5085	1.5	4186	1.4	3399	1.4	2717	1.3	2133	1.2	1640	1.1	1230	0.0	894	0.9	627	0.7	421	0.6
	40	4271	1.7	3493	1.7	2816	1.5	2234	1.4	1738	1.3	1321	1.1	977	1.0	697	0.9	473	0.7	301	0.6
	50	3454	1.9	2800	1.8	2236	1.7	1755	1.5	1349	1.3	1011	1.2	735	1.0	512	0.8	335	0.7	–	–
HGX12P / 75-4S	30	6404	1.9	5309	1.8	4348	1.8	3511	1.7	2791	1.5	2177	1.4	1661	1.2	1235	1.1	888	0.9	614	0.8
	40	5405	2.5	4459	2.1	3634	1.0	2919	1.8	2306	1.6	1786	1.5	1350	1.3	989	1.1	696	0.9	458	0.8
	50	4427	2.2	3632	2.3	2942	2.1	2348	1.9	1842	1.7	1416	1.5	1059	1.3	764	1.1	521	0.9	–	–
HGX12P / 90-4S	30	7643	2.2	6339	2.2	5195	2.1	4201	1.0	3346	1.8	2620	1.7	2009	1.5	1507	1.3	1099	1.1	777	0.0
	40	6465	2.6	5340	2.5	4357	2.3	3508	2.2	2782	1.0	2166	1.7	1650	1.5	1225	1.3	880	1.1	602	0.9
	50	5311	2.0	4363	2.8	3543	2.6	2839	2.3	2239	2.1	1735	1.8	1314	1.6	967	1.4	681	1.1	–	–
HGX12P / 110-4S	30	8856	2.6	7364	2.5	6051	2.4	4906	2.3	3919	2.1	3076	1.9	2366	1.7	1777	1.5	1296	1.3	912	1.1
	40	7501	3.1	6211	2.9	5083	2.7	4103	2.5	3262	2.3	2545	2.0	1942	1.8	1439	1.5	1027	1.3	691	1.0
	50	6114	3.5	5034	3.2	4094	2.0	3285	2.7	2594	2.4	2009	2.1	1518	1.8	1108	1.5	769	1.2	–	–
HGX22e / 125-4S	30	10573	2.9	8743	2.8	7150	2.7	5771	2.5	4590	2.3	3586	2.1	2740	1.8	2033	1.6	1446	1.4	959	1.1
	40	8899	3.4	7335	3.2	5979	2.0	4811	2.7	3814	2.5	2967	2.2	2252	1.9	1648	1.6	1139	1.4	703	1.1
	50	7244	3.8	5940	3.5	4818	3.3	3858	2.9	3042	2.6	2349	2.3	1759	1.0	1257	1.6	820	1.3	–	–
HGX22e / 160-4S	30	12932	3.7	10731	3.5	8797	3.3	7116	3.1	5666	2.8	4432	2.5	3394	2.2	2536	1.9	1839	1.7	1286	1.4
	40	10887	4.2	8992	3.0	7338	3.7	5905	3.3	4677	2.0	3636	2.6	2761	2.3	2038	1.0	1447	1.7	970	1.4
	50	8892	4.7	7305	4.3	5928	3.9	4744	3.5	3736	3.1	2884	2.7	2171	2.3	1581	1.0	1094	1.6	–	–
HGX22e / 190-4S	30	16049	4.4	13393	4.3	11055	4.0	9011	3.8	7242	3.4	5723	3.1	4432	2.8	3347	2.4	2445	2.1	1705	1.7
	40	13504	5.2	11233	4.9	9244	4.5	7511	4.2	6015	3.8	4731	3.3	3638	2.9	2712	2.5	1934	2.1	1277	1.7
	50	11032	5.9	9145	5.5	7500	4.0	6076	4.5	4849	3.0	3798	3.5	2899	3.0	2130	2.5	1470	2.1	–	–
HGX34e / 215-4S	30	18157	4.7	14932	4.5	12113	4.3	961	4.1	7580	3.7	5813	3.4	4346	2.0	3150	2.6	2199	2.2	1467	1.8
	40	15167	5.5	12390	5.2	9978	4.8	7902	4.4	6137	3.9	4655	3.5	3432	3.0	2439	2.5	1651	2.1	1042	1.7
	50	12278	6.2	9946	5.7	7937	5.2	6225	4.6	4782	4.1	3584	3.5	2601	2.0	1809	2.5	1182	1.0	–	–
HGX34e / 255-4S	30	21277	5.6	17602	5.4	14386	5.2	11598	4.8	9203	4.5	7171	4.0	5467	3.6	4059	3.1	2913	2.6	1999	2.2
	40	17967	6.5	14780	6.2	12007	5.8	9617	5.3	7575	4.8	5852	4.2	4412	3.7	322	3.1	2254	2.6	1469	2.1
	50	14645	7.3	11944	6.8	9615	6.2	7623	5.6	5937	4.0	4522	4.3	3347	3.6	2378	3.0	1584	2.4	–	–
HGX34e / 315-4S	30	26269	6.9	21816	6.7	17913	6.4	14519	5.0	11593	5.5	9093	5.0	6979	4.5	5212	3.8	3749	3.2	2548	2.5
	40	22037	8.0	18219	7.6	14889	7.1	12002	6.5	9520	5.8	7402	5.1	5607	4.4	4093	3.7	2820	2.9	1747	2.1
	50	17911	9.0	14722	8.4	11956	7.6	9572	6.9	7528	6.0	5784	5.2	4300	4.3	3033	3.4	1945	2.6	–	–
HGX34e / 380-4S	30	31523	8.7	26248	8.3	21617	7.8	17585	7.3	14110	6.7	11148	6.0	8659	5.4	6596	4.7	4918	4.0	3581	3.4
	40	26443	10.2	21950	9.6	18025	8.8	14627	8.0	11710	7.2	9233	6.4	7153	5.6	5425	4.8	4008	4.1	2857	3.5
	50	21543	11.6	17819	10.6	14591	9.6	11813	8.7	9443	7.7	7440	6.7	5757	5.8	4354	4.0	3186	4.2	–	–
HGX44e / 475-4S	30	41273	9.58	34308	9.45	28203	9.12	22958	8.62	18487	7.99	14617	7.25	11350	6.43	8504	5.57	6148	4.7	4144	3.85
	40	35168	11.5	29149	11.0	23818	10.3	19261	9.55	15391	8.64	12038	7.68	9200	6.68	6793	5.69	4712	4.74	2898	3.85
	50	28977	13.2	23818	12.3	19347	11.3	15563	10.2	12296	9.14	9544	8.01	7120	6.9	5090	5.83	3319	4.85	–	–
HGX44e / 565-4S	30	49355	11.3	41101	11.2	33878	10.8	27601	10.2	22270	9.48	17627	8.6	13758	7.63	10404	6.61	7592	5.57	5176	4.56
	40	42218	13.7	34996	13.1	28719	12.3	23302	11.3	18659	10.2	14703	9.11	11350	7.93	8401	6.75	5907	5.62	3706	4.56
	50	34910	15.6	28719	14.6	23388	13.4	18831	12.1	14961	10.8	11694	9.51	8856	8.18	6389	6.92	4248	5.75	–	–
HGX44e / 665-4S	30	57352	13.3	47635	13.1	39209	12.6	31900	11.9	25623	11	20206	10	15649	8.89	11780	7.68	8495	6.47	5718	5.28
	40	48839	16.1	40327	15.4	33018	14.4	26655	13.2	21238	12	16681	10.6	12726	9.25	9372	7.86	6475	6.52	3964	5.28
	50	40069	18.4	32932	17.2	26741	15.8	21410	14.2	16939	12.7	13070	11.1	9802	9.55	6965	8.05	4514	6.68	–	–
HGX44e / 770-4S	30	66466	15.4	55288	15.2	45572	14.6	37145	13.8	29923	12.8	23732	11.6	18487	10.2	14015	8.86	10232	7.44	6973	6.05
	40	56664	18.7	46948	17.8	38521	16.7	31212	15.4	25021	13.9	19690	12.3	15133	10.6	11264	9.06	7902	7.5	4953	6.05
	50	46604	21.4	38349	20	31212	18.3	25193	16.5	20034	14.7	15563	12.8	11780	11	8512	9.29	5632	7.68	–	–
HGX5 / 830-4S	30	68797	18.4	57428	17.6	47287	16.6	38320	15.4	30470	13.0	23682	12.5	17901	10.9	13071	9.3	9138	7.8	6045	6.3
	40	58308	21.6	48341	20.2	39495	18.5	31715	16.8	24946	14.9	19131	13.0	14217	11.2	10147	9.3	6864	7.6	4315	5.0
	50	47823	24.3	39308	22.2	31808	20.1	25266	17.8	19627	15.6	14837	13.4	10839	11.2	7578	9.1	4997	7.2	–	–
HGX5 / 945-4S	30	78752	21.4	65539	20.5	53946	19.3	43848	17.0	35123	16.5	27644	14.8	21286	13.1	15926	11.3	11438	9.4	7698	7.4
	40	66458	24.9	55144	23.4	45252	21.7	36658	19.9	29235	17.9	22863	15.8	17413	13.7	12762	11.4	8785	9.1	5358	6.8
	50	54069	28.3	44650	26.2	36455	23.0	29359	21.6	23237	19.0	17966	16.4	13420	13.7	9474	10.0	6005	8.2	–	–
HGX6 / 1080-4S	30	92790	25.8	76737	24.7	62736	23.2	50635	21.4	40276	19.4	31510	17.3	24182	15.1	18136	12.9	13222	10.7	9286	8.7
	40	78372	30.5	64646	28.4	52731	26.0	42474	23.5	33720	20.8	26318	18.1	20113	15.4	14952	12.9	10682	10.4	7147	8.2
	50	64310	34.5	52842	31.5	42944	28.3	34463	25.1	27248	21.9	21143	18.7	15994	15.6	11649	12.8	7955	10.2	–	–
HGX6 / 1240-4S	30	104727	31.4	86927	29.6	71335	27.5	57795	25.3	46146	22.9	36235	20.4	27898	17.9	20982	15.4	15327	12.0	10774	10.7
	40	88786	36.5	73414	33.7	60018	30.7	48438	27.7	38518	24.6	30099	21.5	23023	18.4	17132	15.5	12267	12.8	8274	10.3
	50	73104	40.8	60164	37.1	48964	33.4	39348	29.6	31157	25.8	24234	22.2	18419	18.8	13556	15.5	9485	12.6	–	–
HGX6 / 1410-4S	30	115990	36.4	97207	34.3	80566	31.9	65936	29.2	53181	26.5	42169	23.6	32765	20.8	24837	17.9	18250	15.1	12871	12.5
	40	98204	43.1	82026	39.7	67757	36.2	55262	32.6	44410	28.9	35065	25.3	27093	21.7	20363	18.3	14740	15.1	10090	12.1
	50	81481	48.0	67760	44.4	55714	39.9	45208	35.3	36108	30.8	28283	26.5	21596	22.4	15916	18.5	11108	14.9	–	–

Key:
T.E. = Evaporation Temperature [°C]
T.C. = Condensation Temperature [°C]
C.R. = Cooling Capacity [kcal/h]
P.C. = Consumed Power [kW]

Limits and conditions taken into account:
- Suction gas temperature: 20 °C
- Sub-cooling: 0 K
- Please, refer to application limits on page 111

Note: For conditions other than those taken into account here, capacity and consumption are different. In this case, please contact us at 0800 701 0054.

Technical data and ordering

Capacity data – HGX – R407C

Technical data and ordering

Models	T.E	10 °C		5 °C		0 °C		-5 °C		-10 °C		-15 °C		-20 °C		-25 °C	
	T.C [°C]	CR	PC	CR	PC	CR	PC	CR	PC	CR	PC	CR	PC	CR	PC	CR	PC
HGX12P / 60-4S	30	6289	11	5176	11	4214	11	3393	11	2698	00	2117	09	1638	08	1248	07
	40	5433	14	4460	14	3623	13	2910	12	2308	11	1803	10	1384	09	1037	08
	50	4628	17	3791	16	3073	15	2463	14	1947	12	1514	11	1150	00	841	08
HGX12P / 75-4S	30	8105	14	6671	14	5431	14	4372	14	3478	13	2730	12	2111	11	1608	00
	40	7003	18	5748	18	4670	17	3751	16	2974	14	2324	13	1784	12	1337	10
	50	5965	22	4885	21	3961	19	3174	17	2510	16	1951	14	1482	12	1085	11
HGX12P / 90-4S	30	9668	17	7956	17	6478	17	5215	16	4148	15	3256	14	2519	13	1917	11
	40	8352	22	6856	21	5570	20	4473	19	3548	17	2772	15	2127	14	1594	12
	50	7115	26	5827	24	4724	23	3785	21	2994	19	2327	17	1768	15	1294	13
HGX12P / 110-4S	30	11367	20	9354	20	7616	20	6131	19	4877	18	3827	17	2961	15	2255	13
	40	9819	25	8061	25	6548	24	5259	22	4171	20	3260	18	2501	16	1875	14
	50	8364	30	6851	29	5554	27	4451	24	3519	22	2737	20	2078	17	1521	15
HGX22e / 125-4S	30	13373	23	11005	24	8961	23	7215	23	5738	21	4503	19	3484	18	2653	16
	40	11553	30	9483	29	7705	28	6188	26	4907	24	2835	21	2944	19	2206	17
	50	9842	36	8061	34	6534	31	5238	29	4141	26	3220	23	2445	20	1790	18
HGX22e / 160-4S	30	16510	28	13587	29	11064	29	8907	28	7083	26	5560	24	4301	22	3275	10
	40	14263	37	11708	36	9512	34	7640	32	6059	29	4734	26	3635	24	2724	21
	50	12150	44	9951	42	8068	39	6466	35	5113	32	3975	28	3019	25	2210	22
HGX22e / 190-4S	30	19978	34	16441	35	13387	35	10778	34	8571	32	6728	29	5205	26	3963	24
	40	17258	45	14167	44	11509	41	9245	39	7331	35	5729	32	4398	28	3295	25
	50	14702	53	12040	51	9761	47	7824	43	6186	39	4810	34	3653	30	2674	27
HGX34e / 215-4S	30	22748	39	18720	40	15244	40	12273	38	9760	36	7660	33	5927	20	4513	27
	40	19652	51	16132	40	13106	47	10527	44	8348	40	6524	36	5007	32	3753	29
	50	16741	61	13710	58	11115	54	8908	49	7045	44	5477	39	4159	34	3045	30
HGX34e / 255-4S	30	26747	46	22011	47	17923	47	14430	45	11476	42	9007	39	6968	35	5306	32
	40	23107	50	18968	58	15409	55	12376	52	9815	47	7670	43	5888	38	4412	34
	50	19683	71	16121	68	13069	63	10475	58	8284	52	6440	46	4890	40	3581	35
HGX34e / 315-4S	30	33021	57	27174	58	22128	58	17815	56	14168	52	11120	48	8604	44	6551	39
	40	28526	74	23417	72	19024	69	15280	64	12118	59	9470	53	7269	47	5448	41
	50	24301	88	19903	83	16135	78	12932	71	10226	64	7951	57	6038	40	4420	44
HGX34e / 380-4S	30	39955	69	32881	71	26775	60	21557	67	17144	63	13455	58	10410	53	7927	47
	40	34516	89	28335	87	23020	83	18489	77	14662	71	11458	64	8795	57	6592	50
	50	29405	106	24082	101	19523	94	15648	86	12374	77	9621	69	7305	60	5349	53
HGX44e / 475-4S	30	52623	8.74	43594	8.7	35856	8.48	29149	8.1	23388	7.6	18573	7	14445	6.34	10920	5.64
	40	46690	10.8	38521	10.5	31470	9.98	25451	9.32	20378	8.56	15993	7.73	12296	6.86	9114	5.98
	50	40413	12.7	33190	12	26999	11.2	21668	10.3	17197	9.32	13414	8.28	10146	7.21	7266	6.16
HGX44e / 565-4S	30	62769	10.3	52107	10.3	42820	10	34824	9.61	28031	9.02	22270	8.31	17369	7.52	13242	6.68
	40	55718	12.9	46002	12.4	37661	11.8	30525	11	24420	10.1	19261	9.18	14789	8.14	11006	7.09
	50	48323	15.1	39725	14.3	32416	13.3	26053	12.2	20722	11	16165	9.82	12296	8.56	8942	7.31
HGX44e / 665-4S	30	73173	12.1	60705	12	49785	11.7	40499	11.2	32502	10.5	25795	9.69	20034	8.76	15133	7.77
	40	64832	15.1	53482	14.6	43766	13.8	35340	12.9	28203	11.8	22184	10.7	16939	9.49	12554	8.25
	50	56062	17.8	46002	16.8	37403	15.6	30095	14.3	23818	12.9	18487	11.4	13929	9.98	10060	8.51
HGX44e / 770-4S	30	85641	14.1	70937	14.1	58126	13.7	47206	13	37833	12.1	29837	11.1	23044	9.96	17369	8.73
	40	75580	17.7	62339	17	50817	16.1	41015	14.9	32588	13.6	25451	12.1	19347	10.6	14101	9.06
	50	65176	20.8	53396	19.5	43250	18.1	34652	16.4	27257	14.6	20980	12.8	15649	10.9	11006	9.04
HGX5 / 830-4S	30	87871	172	73068	164	60097	154	48805	144	39040	133	30650	120	23482	107	17382	93
	40	78729	203	65243	191	53482	178	43291	164	34518	150	27013	135	20621	119	15191	102
	50	68993	233	56852	217	46327	201	37265	184	29514	167	22920	149	17333	131	12600	112
HGX5 / 945-4S	30	99977	196	83136	186	68377	175	55529	164	44419	151	34872	137	26716	122	19777	105
	40	89576	231	74233	217	60850	203	49255	187	39275	171	30735	154	23462	136	17284	116
	50	78498	265	64685	247	52709	228	42399	209	33580	180	26078	160	19721	149	14336	127
HGX6 / 1080-4S	30	114211	224	94970	212	78111	200	63434	187	50743	172	39837	156	30520	139	22593	120
	40	102328	264	84800	248	69512	231	56267	214	44865	195	35111	175	26803	155	19746	133
	50	89673	302	73893	282	60213	261	48435	239	38360	217	29791	194	22529	160	16376	145
HGX6 / 1240-4S	30	131109	257	109023	244	89669	220	72820	215	58250	198	45732	179	35035	150	25936	138
	40	117468	303	97347	285	79798	266	64592	245	51504	224	40305	202	30769	178	22667	153
	50	102942	347	84827	324	69123	290	55602	275	44036	249	34198	223	25862	195	18800	167
HGX6 / 1410-4S	30	149173	292	124043	278	102024	262	82853	244	66277	225	52033	204	39863	182	29510	157
	40	133653	345	110759	324	90792	302	73492	279	58601	255	45859	229	35008	202	25790	174
	50	117125	395	96514	368	78647	341	63262	313	50104	283	38911	253	29426	222	21390	189

Key:
T.E. = Evaporation Temperature [°C]
T.C. = Condensation Temperature [°C]
C.R. = Cooling Capacity [kcal/h]
P.C. = Consumed Power [kW]

Limits and conditions taken into account:
- Suction gas temperature: 25 °C,
except for Pluscom models (20 °C)
- Sub-cooling: 0 K
- Please, refer to application limits on page 112

Note: For conditions other than those taken into account here, capacity and consumption are different. In this case, please contact us at 0800 701 0054.

Technical data and ordering

Capacity data – HA – R22

Technical data and ordering

Models	T.E.	-20 °C		-25 °C		-30 °C		-35 °C		-40 °C		-45 °C	
	T.C [°C]	C.R.	P.C.	C.R.	P.C.	C.R.	P.C.	C.R.	P.C.	C.R.	P.C.	C.R.	P.C.
HA12P / 60-4S	30	1858	0.9	1433	0.8	1074	0.6	772	0.5	521	0.4	313	0.3
	40	1629	0.0	1260	0.8	947	0.7	684	0.6	464	0.4	280	0.3
	50	1464	1.0	1148	0.9	881	0.7	655	0.6	463	0.5	299	0.4
HA12P / 75-4S	30	2308	1.1	1781	0.9	1335	0.8	959	0.6	649	0.5	391	0.3
	40	2023	1.2	1565	1.0	1178	0.9	851	0.7	578	0.5	349	0.4
	50	1819	1.3	1426	1.1	1095	0.9	815	0.8	577	0.6	374	0.5
HA12P / 90-4S	30	2753	1.3	2123	1.1	1591	0.9	1144	0.7	772	0.6	465	0.4
	40	2414	1.4	1866	1.2	1404	1.0	1015	0.8	688	0.6	141	0.4
	50	2169	1.5	1700	1.3	1305	1.1	971	0.9	686	0.7	443	0.5
HA12P / 110-4S	30	3235	1.5	2495	1.3	1870	1.1	1345	0.9	908	0.7	547	0.5
	40	2836	1.7	2194	1.4	1649	1.2	1192	0.0	809	0.7	488	0.5
	50	2548	1.8	1998	1.5	1533	1.3	1140	1.1	807	0.8	521	0.6
HA22P / 125-4S	30	3939	1.8	3039	1.6	2277	1.4	1637	1.1	1105	0.8	666	0.6
	40	3454	2.0	2671	1.7	2009	1.5	1452	1.2	985	0.9	594	0.6
	50	3104	2.1	2434	1.9	1868	1.6	1389	1.3	983	1.0	634	0.8
HA22P / 160-4S	30	4864	2.3	3752	1.0	2811	1.7	2021	1.4	1365	1.0	822	0.7
	40	4264	2.5	3297	2.2	2480	1.8	1793	1.5	1216	1.1	733	0.8
	50	3832	2.7	3005	2.3	2305	1.0	1715	1.6	1213	1.3	783	0.9
HA22P / 190-4S	30	5885	2.7	4541	2.4	3401	2.0	2446	1.6	1651	1.3	994	0.9
	40	5160	3.0	3990	2.6	3001	2.2	2169	1.8	1472	1.4	887	0.9
	50	4636	3.2	3636	2.8	2790	2.4	2074	1.0	1468	1.5	948	1.1
HA34P / 215-4S	30	6701	3.1	5170	2.7	3873	2.3	2786	1.9	1881	1.4	1133	0.0
	40	5876	3.4	4544	2.0	3418	2.5	2471	2.0	1677	1.5	1010	1.1
	50	5279	3.6	4140	3.2	3176	2.7	2362	2.2	1672	1.8	1080	1.3
HA34P / 255-4S	30	7879	3.7	6078	3.2	4554	2.7	3275	2.2	2211	1.7	1331	1.2
	40	6908	4.1	5343	3.5	4018	2.9	2905	2.4	1971	1.8	1188	1.3
	50	6208	4.3	4868	3.7	3735	3.2	2778	2.6	1966	2.1	1269	1.5
HA34P / 315-4S	30	9728	4.5	7505	3.9	5623	3.3	4044	2.7	2730	2.1	1644	1.4
	40	8528	5.0	6596	4.3	4960	3.6	3586	2.9	2434	2.2	1466	1.5
	50	7664	5.3	6010	4.6	4611	3.9	3429	3.2	2427	2.6	1567	1.9
HA34P / 380-4S	30	11770	5.5	9081	4.8	6804	4.0	4893	3.3	3303	2.5	1990	1.7
	40	10320	6.1	7981	5.2	6003	4.4	4340	3.5	2945	2.7	1775	1.9
	50	9274	6.4	7272	5.6	5579	4.7	4149	3.9	2938	3.1	1896	2.3
HA4 / 465-4S	30	16773	6.9	13139	6.4	10027	5.8	7389	5.1	5170	4.3	3320	3.4
	40	14900	7.9	11582	7.2	8749	6.4	6353	5.4	4337	4.4	2651	3.1
	50	12728	8.7	9782	7.7	7284	6.6	5183	5.4	3426	4.0	1961	2.4
HA4 / 555-4S	30	19961	8.2	15636	7.6	11934	6.9	8794	6.1	6154	5.1	3951	3.0
	40	17732	9.4	13783	8.6	10413	7.6	7560	6.5	5161	5.2	3155	3.7
	50	15147	10.4	11641	9.2	8669	7.9	6168	6.4	4077	4.8	2334	2.9
HA4 / 650-4S	30	23427	9.7	18350	8.0	14006	8.1	10321	7.2	722	6.0	4636	4.7
	40	20811	11.1	16176	10.1	12222	8.9	8873	7.6	6057	6.1	3703	4.3
	50	17778	12.2	13663	10.8	10174	9.3	7239	7.5	4785	5.6	2740	3.4
HA5 / 725-4S	30	26120	10.8	20469	9.0	15635	9.1	11532	7.0	8077	6.7	5186	5.2
	40	23186	12.4	18026	11.2	13626	9.9	9903	8.5	6772	6.8	4150	4.8
	50	19793	13.6	15205	12.0	11324	10.3	8063	8.4	5339	6.2	3068	3.8
HA5 / 830-4S	30	29903	12.3	23433	11.4	17897	10.4	13200	9.1	9245	7.7	5937	5.0
	40	26543	14.1	20635	12.9	15598	11.4	11336	9.7	7754	7.7	4756	5.5
	50	22658	15.6	17406	13.8	12962	11.8	9232	9.6	6117	7.1	3523	4.4
HA5 / 945-4S	30	34011	14.0	26673	13.0	20389	11.8	15056	10.4	10572	8.7	6836	6.8
	40	30159	16.1	23434	14.6	17707	12.0	12876	11.0	8839	8.8	5497	6.3
	50	–	–	1957	15.7	14668	13.5	10422	10.0	6915	8.2	4046	4.0
HA6 / 1080-4S	30	38467	15.3	30160	13.6	23052	11.9	17021	10.2	11943	8.5	7698	6.7
	40	34109	17.6	26508	15.6	20039	13.6	14579	11.6	10003	9.5	6191	7.2
	50	29125	19.6	22338	17.3	16612	14.9	11826	12.5	7857	9.9	4581	7.2
HA6 / 1240-4S	30	44155	17.5	34626	15.6	26466	13.7	19540	11.8	13720	9.8	8877	7.7
	40	–	–	30418	17.9	22981	15.7	16712	13.3	11477	10.9	7148	8.3
	50	–	–	–	–	19041	17.1	13534	14.3	8992	11.4	5283	8.3
HA6 / 1410-4S	30	–	–	39362	17.7	30093	15.6	22219	13.4	15616	11.1	10157	8.7
	40	–	–	–	–	26094	17.8	18950	15.2	13010	12.4	8150	9.5
	50	–	–	–	–	–	–	15301	16.3	10118	13.0	5950	9.4

Key:
T.E. = Evaporation Temperature [°C]
T.C. = Condensation Temperature [°C]
C.R. = Cooling Capacity [kcal/h]
P.C. = Consumed Power [kW]

Limits and conditions taken into account:
- Suction gas temperature: 25 °C, except for Pluscom models (20 °C)
- Sub-cooling: 0 K
- Please, refer to application limits on page 110

Note: For conditions other than those taken into account here, capacity and consumption are different. In this case, please contact us at 0800 701 0054.

Technical data and ordering

Capacity data – HAX – R404A

Technical data and ordering

Models	T.E	-20 °C		-25 °C		-30 °C		-35 °C		-40 °C		-45 °C		-50 °C	
	T.C [°C]	CR	PC	CR	PC	CR	PC	CR	PC	CR	PC	CR	PC	CR	PC
HAX12P / 60-4	30 40 50	2371 1993 1612	1.3 1.4 1.4	1886 1567 1246	1.1 1.2 1.3	1469 1204 938	1.0 1.1 1.1	1117 899 682	0.9 0.9 0.9	824 647 473	0.8 0.8 0.7	583 443 306	0.7 0.7 0.6	392 281 176	0.6 0.5 0.5
HAX12P / 75-4	30 40 50	2943 2473 1999	1.6 1.7 1.8	2339 1944 1545	1.4 1.5 1.6	1823 1494 1164	1.3 1.3 1.3	1386 115 846	1.1 1.1 1.1	1023 803 588	0.0 0.0 0.9	724 550 381	0.8 0.8 0.8	487 348 218	0.7 0.7 0.6
HAX12P / 90-4	30 40 50	3472 2907 2331	1.9 2.0 2.1	2749 2271 1785	1.7 1.8 1.9	2128 1731 1327	1.6 1.6 1.6	1604 1277 949	1.4 1.4 1.4	1167 905 645	1.2 1.2 1.1	811 607 406	1.0 0.0 0.9	529 374 226	0.9 0.8 0.7
HAX12P / 110-4	30 40 50	4170 3516 2862	2.1 2.3 2.5	3327 2778 2230	2.0 2.1 2.2	2606 2149 1695	1.8 1.8 1.9	1997 1620 1250	1.5 1.6 1.6	1488 1181 882	1.3 1.3 1.3	1071 821 582	1.1 1.1 1.1	734 530 341	1.0 0.9 0.9
HAX22P / 125-4	30 40 50	4818 4034 3272	2.3 2.5 2.7	3863 3218 2586	2.1 2.2 2.3	3037 2513 1993	1.8 1.9 1.0	2334 1911 1485	1.6 1.7 1.7	1747 1408 1057	1.4 1.4 1.3	1270 995 702	1.1 1.1 1.0	897 669 414	0.9 0.8 0.7
HAX22P / 160-4	30 40 50	5948 4981 4039	2.9 3.1 3.3	4769 3973 3193	2.5 2.7 2.9	3750 3102 2460	2.3 2.4 2.4	2882 2360 1833	1.0 2.0 2.0	2158 1738 1305	1.7 1.7 1.6	1569 1229 867	1.4 1.4 1.2	1108 826 511	1.1 1.0 0.9
HAX22P / 190-4	30 40 50	7197 6027 4888	3.5 3.8 4.0	5771 4808 3864	3.1 3.3 3.5	4538 3754 2977	2.7 2.9 2.0	3487 2855 2218	2.4 2.5 2.5	2610 2103 1579	2.0 2.1 1.0	1898 1487 1049	1.7 1.7 1.5	1341 999 619	1.4 1.3 1.0
HAX34P / 215-4	30 40 50	8195 6863 5566	3.9 4.3 4.5	6572 5474 4399	3.5 3.8 3.9	5167 4274 3390	3.1 3.3 3.4	3971 3250 2526	2.7 2.8 2.8	2973 2394 1798	2.3 2.4 2.3	2162 1693 1194	1.9 1.9 1.7	1527 1138 705	1.6 1.4 1.2
HAX34P / 255-4	30 40 50	9636 8070 6544	4.6 5.0 5.4	7726 6437 5172	4.1 4.4 4.6	6075 5026 3985	3.6 3.9 3.0	4669 3822 2970	3.2 3.3 3.3	3495 2815 2114	2.7 2.8 2.7	2542 1992 1405	2.3 2.3 2.0	1795 1338 828	1.8 1.7 1.4
HAX34P / 315-4	30 40 50	11896 9962 8080	5.7 6.2 6.6	9539 7946 6386	5.1 5.5 5.7	7500 6204 4921	4.5 4.8 4.9	5765 4719 3667	3.9 4.1 4.1	4315 3476 2610	3.4 3.4 3.3	3138 2459 1734	2.8 2.7 2.5	2216 1651 1023	2.3 2.1 1.7
HAX34P / 380-4	30 40 50	14394 12054 9777	6.9 7.5 7.0	11542 9616 7727	6.2 6.6 6.9	9076 7507 5954	5.4 5.8 5.9	6975 5711 4438	4.8 4.9 4.9	5222 4206 3159	4.1 4.1 3.0	3797 2975 2098	3.4 3.3 3.0	2682 1999 1238	2.7 2.5 2.1
HAX4 / 465-4	30 40 50	18904 15904 13004	9.4 10.1 10.6	15166 12666 10272	8.3 8.8 9.2	11943 9886 7937	7.3 7.6 7.8	9192 7518 5957	6.3 6.4 6.5	6870 5522 4289	5.3 5.3 5.2	4933 3852 2889	4.3 4.2 3.0	3339 2466 1714	3.4 3.1 2.8
HAX4 / 555-4	30 40 50	22259 18724 15299	10.7 11.4 11.0	17904 14955 12121	9.5 9.0 10.4	14140 11707 9396	8.3 8.6 8.8	10917 8933 7076	7.2 7.3 7.3	8190 6584 5113	6.0 6.0 5.9	5909 4614 3460	4.0 4.8 4.6	4027 2974 2069	3.9 3.6 3.3
HAX4 / 650-4	30 40 50	25455 21413 17494	11.7 12.5 13.2	20520 17140 13892	10.4 10.0 11.4	16249 13454 10798	9.1 9.5 9.7	12587 10300 8158	7.9 8.0 8.1	9481 7622 5919	6.7 6.7 6.5	6875 5368 4026	5.5 5.3 5.1	4715 3483 2423	4.4 4.0 3.7
HAX5 / 725-4	30 40 50	27399 23051 18840	12.9 13.8 14.5	21846 18246 14790	11.4 11.0 12.5	17065 14128 11337	9.9 10.3 10.5	12999 10636 8422	8.5 8.6 8.7	9588 7709 5986	7.1 7.0 6.9	6770 5288 3966	5.7 5.5 5.3	4487 3314 2305	4.5 4.1 3.7
HAX5 / 830-4	30 40 50	30972 26090 –	14.5 15.6 –	24729 20668 –	12.8 13.6 –	19365 16033 12882	11.2 11.6 11.9	14807 12108 9593	9.6 9.8 9.8	10977 8819 6846	8.0 8.0 7.9	7801 6090 4564	6.5 6.3 6.0	5202 3844 2674	5.1 4.7 4.3
HAX5 / 945-4	30 40 50	– – –	– – –	28528 – –	14.8 – –	22408 18552 –	12.9 13.4 –	17188 14062 11137	11.1 11.3 11.4	12787 10281 7983	9.3 9.3 9.1	9130 7130 5348	7.6 7.4 7.0	6139 4534 3155	5.0 5.5 4.0
HAX6 / 1080-4	30 40 50	42774 – –	20.1 – –	34215 28608 –	17.8 18.8 –	26863 22244 17882	15.5 16.1 16.5	20610 16854 13357	13.3 13.6 13.7	15348 12329 9571	11.2 11.2 11.0	10968 8561 6417	9.1 8.8 8.4	7365 5443 3786	7.2 6.6 5.0
HAX6 / 1240-4	30 40 50	– – –	– – –	39481 – –	20.5 – –	30987 25674 –	17.9 18.6 –	23774 19445 15414	15.4 15.7 15.8	17709 14224 11040	12.9 12.9 12.7	12660 9880 7403	10.6 10.2 9.7	8496 6279 4369	8.2 7.6 6.9
HAX6 / 1410-4	30 40 50	– – –	– – –	– – –	– – –	34412 – –	19.9 – –	26413 21567 17077	17.0 17.4 17.5	19679 15777 12232	14.3 14.3 14.0	14070 10961 8207	11.7 11.3 10.7	9443 6974 4863	9.2 8.5 7.7

Key:
T.E. = Evaporation Temperature [°C]
T.C. = Condensation Temperature [°C]
C.R. = Cooling Capacity [kcal/h]
P.C. = Consumed Power [kW]

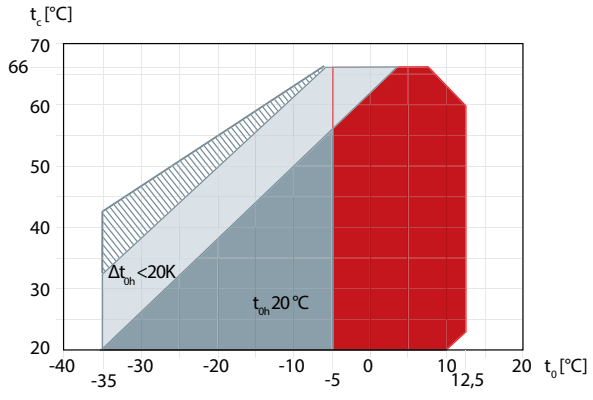
Limits and conditions taken into account:
- Suction gas temperature: 20 °C,
- Sub-cooling: 0 K
- Please, refer to application limits on page 111

Note: For conditions other than those taken into account here, capacity and consumption are different. In this case, please contact us at 0800 701 0054.

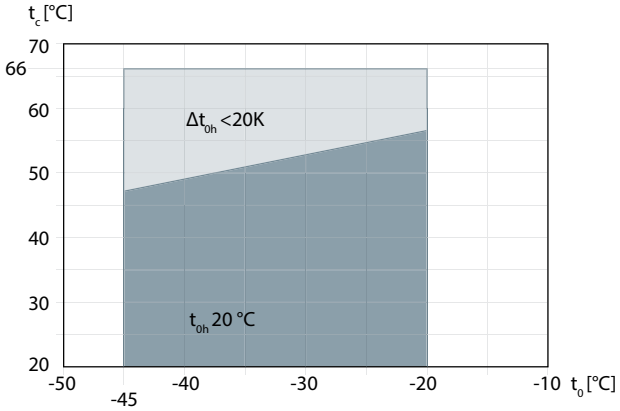
Technical data

Application limits – HG/HA -R22

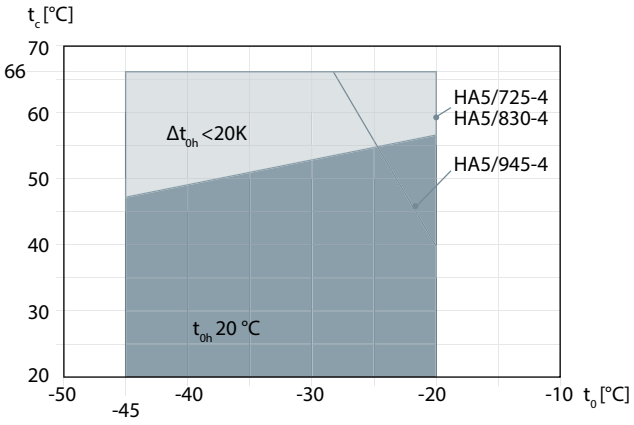
HG12P / HG22e / HG34e
HG44e / HG5 / HG6



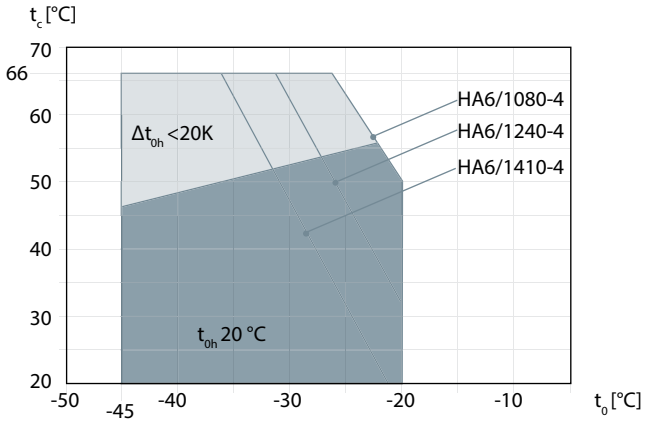
HA12P / HA22P / HA34P / HA4



HA5



HA6



Maximum allowed operation pressure (LP/HP) [1]: 19/28 bar

[1]) LP = Low Pressure HP = High Pressure

Application range

- HG: Additional cooling or reduced suction gas temperature
- HA: Reduced suction gas temperature

- Additional cooling or reduced suction gas temperature

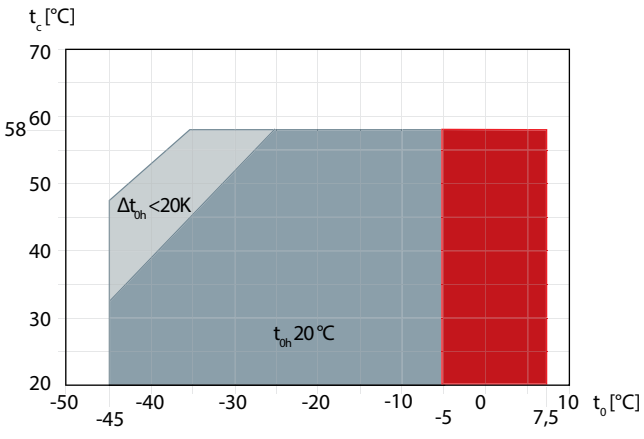
Motor variation – S – (stronger motor)

t_o	Evaporation temperature
t_c	Condensation temperature
Δt_{oh}	Suction gas superheating [K]
t_{oh}	Suction gas temperature [°C]

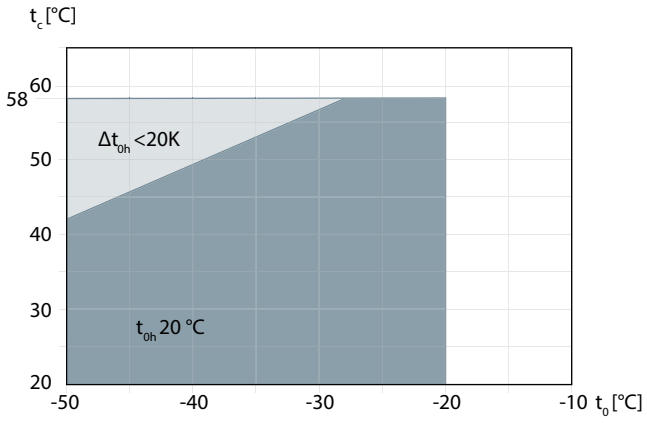
Technical data

Application limits – HGX/HAX – R404A / R507

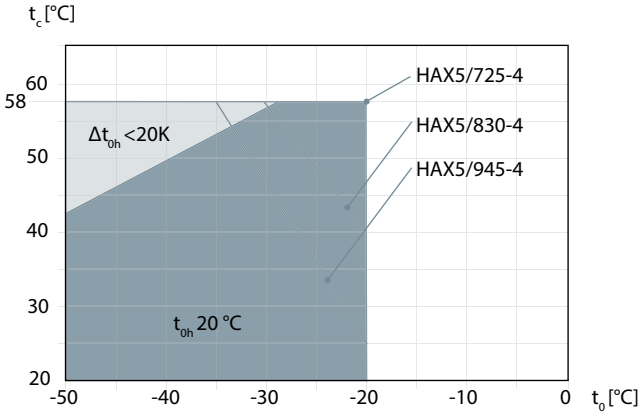
HGX12P / HGX22e / HGX34e
HGX44e / HGX5 / HGX6[1])



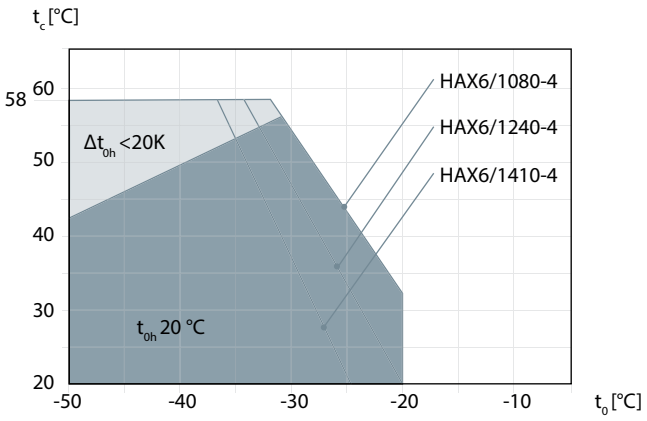
HAX12P / HAX22P / HAX34P / HAX4



HAX5



HAX6



Maximum allowed operation pressure (LP/HP) [2]: 19/28 bar

[2]) LP = Low Pressure HP = High Pressure

[1]) HGX6/1410-4S
Evaporation maximum temperature t_o = 2 °C

HGX6/1410-4
Evaporation maximum temperature t_o = -7 °C

Unlimited application range

- HG: Additional cooling or reduced temperature of the reduced suction gas temperature
- HA: Reduced suction gas temperature

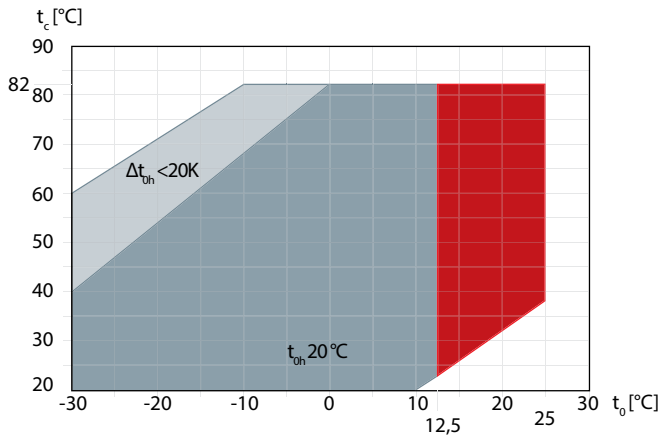
Motor variation – S – (stronger motor)

t_o	Evaporation temperature [°C]
t_c	Condensation temperature [°C]
Δt_{oh}	Suction gas superheating [K]
t_{oh}	Suction gas temperature [°C]

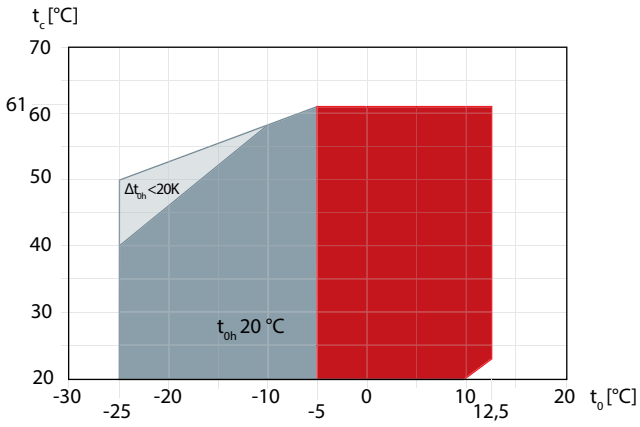
Technical data

Application limits: HGX12P / HGX22e / HGX34e / HGX44e / HGX5 / HGX6

R134a



R407C



Maximum allowed operation pressure (LP/HP) [2]: 19/28 bar

[2]) LP = Low Pressure HP = High Pressure

Unlimited application range

- HG: Additional cooling or reduced temperature of the reduced suction gas temperature
- HA: Reduced suction gas temperature

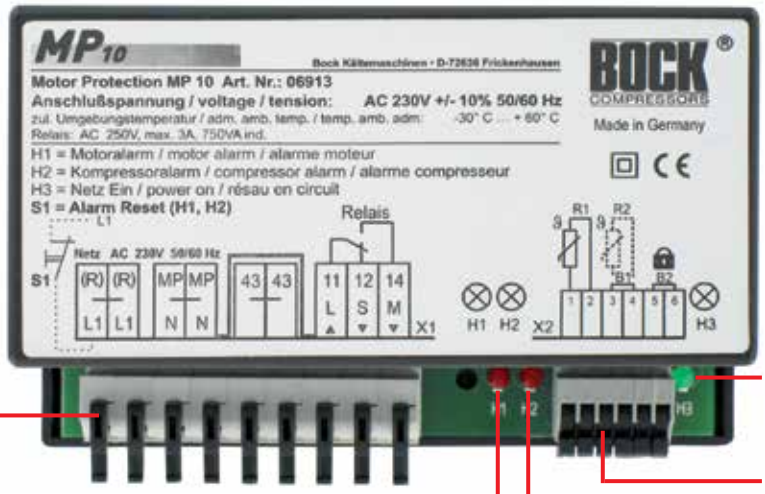
Motor variation – S – (stronger motor)

t_o	Evaporation temperature [°C]
t_c	Condensation temperature [°C]
Δt_{oh}	Suction gas superheating [K]
t_{oh}	Suction gas temperature [°C]

Technical data

Unit designation	MP10
Connection voltage	230 V AC - 1 - 50 / 60 Hz
Relay	250 V AC - 3A - 750 VA ind.
Dimensions	100 x 60 x 52 mm

MP10 Motor Protection



Connection part to the power source. Cable connections to terminals without screws.

Green LED.
Indicates available feed voltage.

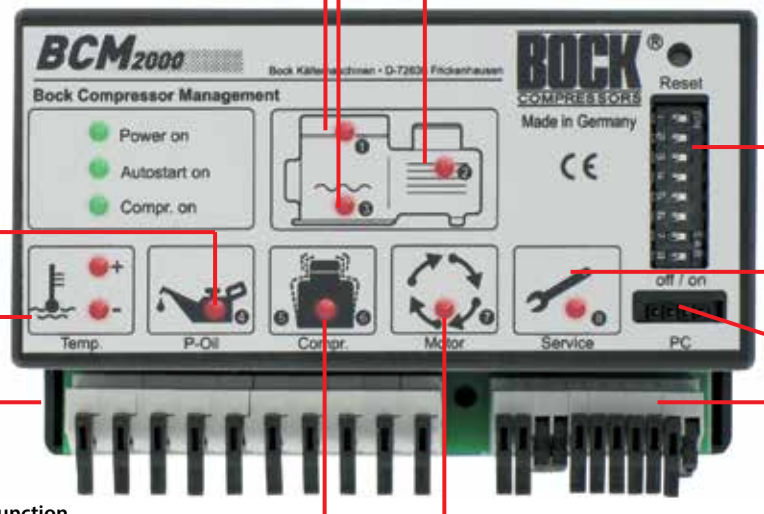
Part for connection of drives.
Cable connections to terminals without screws.

Red LED. Motor
Temperature failure.

Red LED.
Temperature failure (random, for example, for the thermal protection thermostat).

Unit designation	BCM2000
Connection voltage	230 V AC - 1 - 50 / 60 Hz
Relay	250 V AC - 3A - 750 VA ind.
Dimensions	100 x 60 x 52 mm

BCM2000 Bock Compressor Management



Compressed gas temperature

Oil temperature

Motor coil temperature

Overpressure switch

Oil pressure control

Recommendation of oil service

Temperature indication

PC interface

Connection part to the power source

Control part

Double function
1. Protection against liquid hammering
2. Recognition of start-up after operation start

Cycle block device

Spare Parts

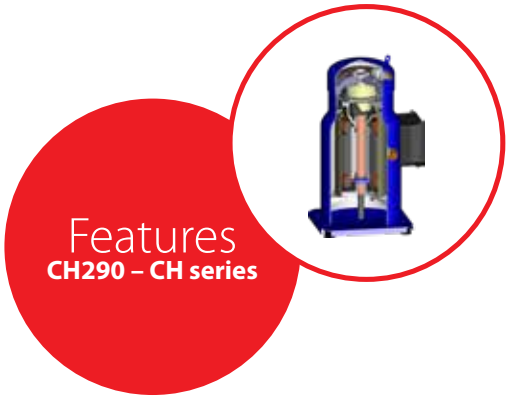
									
COMPRESSOR	**CRANKSHAFT**	**PISTON**	**VALVE PLATE**	**CONNECT ROD**	**GASKET**	**BEARING BUSH**	**OIL PUMP**	**BEARING FLANGE**	**OIL SUMP HEATER**
HG4 / 465-4	QP08900-00	QP80103-00	QP08690-00	QP08894-00	QP08913-00	QP80175-00	QP08384-00	QP80078-00	QP08425-00
HA4 / 465-4									
HG4 / 555-4		QP80104-00	QP08889-00						
HA4 / 555-4									
HG4 / 650-4		QP80105-00							
HA4 / 650-4									
HG5 / 725-4	QP08853-00	QP80047-00	QP08851-00	QP08307-00	QP08961-00	QP80175-00	QP08384-00	QP80080-00	QP08426-00
HA5 / 725-4									
HG5 / 830-4		QP80048-00							
HA5 / 830-4									
HG5 / 945-4		QP80106-00							
HA5 / 945-4									
HA6 / 1080-4	QP08951-00	QP80047-00	QP08498-00	QP08306-00	QP80041-00	QP80176-00	QP80017-00	QP80180-00	QP08426-00
HA6 / 1240-4		QP80048-00							
HA6 / 1410-4		QP80106-00							
HG22P / 125-4	QP80312-00	QP80297-00	QP80305-00	QP08422-00	QP80313-00	QP05371-00	QP08324-00	QP05371-00	QP08028-00
HA22P / 125-4									
HG22P / 160-4		QP80298-00	QP80306-00						
HA22P / 160-4									
HG22P / 190-4		QP80299-00							
HG22P / 190-4									
HG34P / 215-4	QP08045-00	QP80296-00	QP80305-00	QP08422-00	QP08534-00	QP05371-00	QP08324-00	QP05371-00	QP08028
HA34P / 215-4									
HG34P / 255-4		QP80297-00							
HA34P / 255-4									
HG34P / 315-4		QP80298-00	QP80306-00						
HA34P / 315-4									
HG34P / 380-4		QP80299-00							
HA34P / 380-4									
HG12P / 110-4	QP80342-00	QP80347-00	QP80342-00	QP80340-00	QP80339-00	QP05372-00	QP08324-00	QP05372-00	QP08028-00
HG44e / 475-4	QP80951-00	QP80942-00	QP80965-00	QP81085-00	QP80953-00	–	QP80950-00	–	QP80854-00
HG44e / 565-4		QP80943-00				–		–	
HG44e / 665-4		QP80944-00	QP80966-00			–		–	
HG44e / 770-4		QP80945-00				–		–	

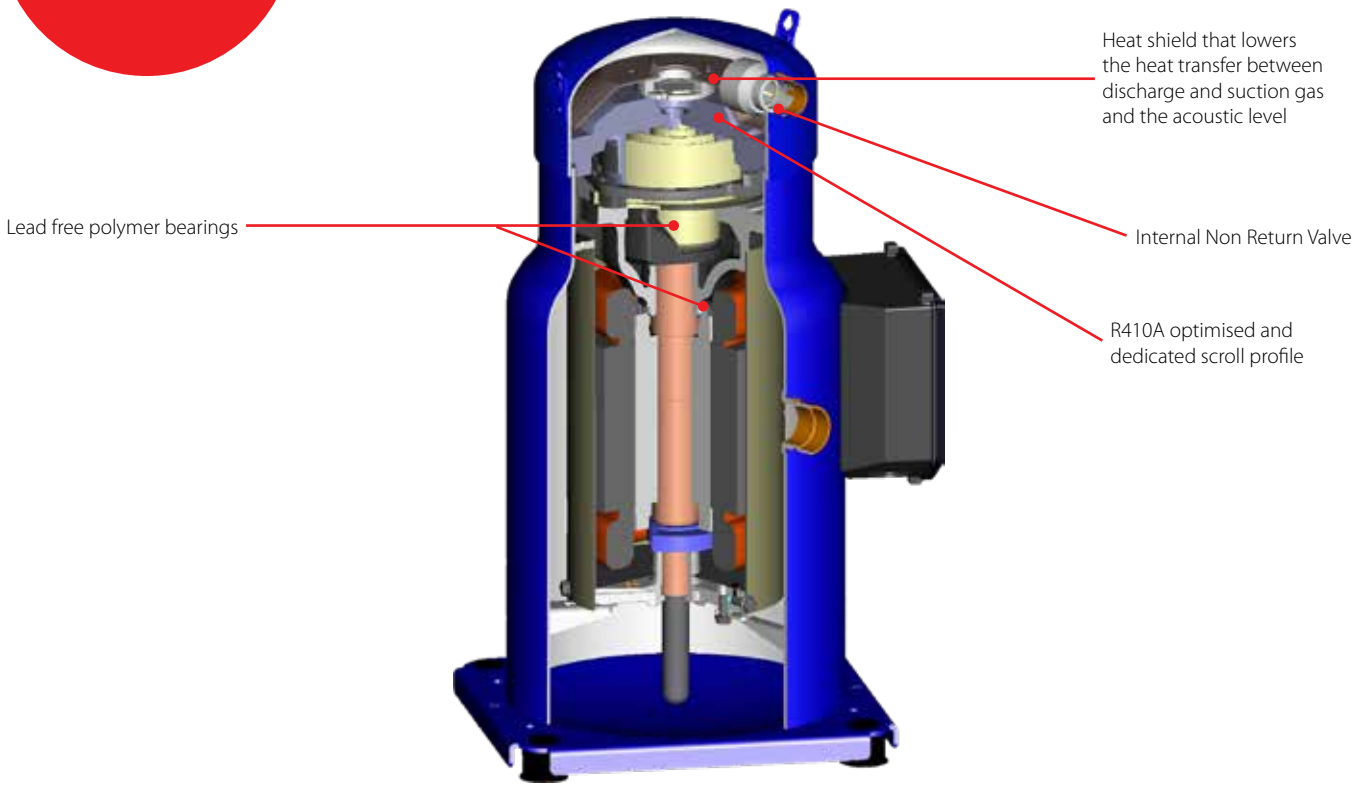
Quick Selection Notes:

CH290, CH series - Scroll compressor

The new CH290 compressor is designed specifically for the Chinese market. The cooling capacity is 25HP, suitable for large rooftops and modular chillers. The design further improves efficiency and reliability and reduces overall costs of the units.

Based on the in-depth understanding of the needs of the Chinese customers, we committed to provide industry-leading commercial scroll compressors to meet customer demand.





Facts

Reliability:
- In the same unit, new 25 HP compressor is equivalent to two existing 12 HP compressor. It delivers better overall performance and superior reliability. At the same time, its robustness helps reduce the warranty cost

Cost savings:
- The prevention against deficiency and reverse rotation is very important. In the HVAC industry CH290 comes with highly efficient and reliable protection against overheating, overloading, phase loss and phase order with specific module protection

Low noise:
- The effect of Danfoss patented crankcase sump heater is equivalent to the installation of a soundproof cover. The noise level is decreased by 2 – 4 dB (A). This removes extra application costs and installation procedure

Technical data and ordering

CH290 – Scroll compressor - R410A – 50 / 60 Hz

Technical data

Frequency	Nominal tons 60 Hz	Nominal cooling capacity		Power Input	COP	E.E.R.	Swept volume	Displacement [1])	Oil charge	Net weight [2])
	[TR]	[W]	[Btu/h]	[Kw]	[W/W]	[Btu/h/W]	[cm³/rev]	[m³/h]	[dm³]	[kg]
50 Hz	25	73200	249800	22.50	3.25	11.10	276.20	48.10	6.7	111.0
60 Hz	25	88500	302000	27.20	3.25	11.10	276.20	58.00	6.7	111.0

[1]) Displacement at nominal speed: 2900 rpm at 50 Hz, 3500 rpm at 60 Hz
[2]) Net weight with oil charge

TR: *Ton of Refrigeration.*
EER: *Energy Efficiency Ratio*
COP: *Coefficient Of Performance*

Standard rating conditions: ARI standard
Refrigerant: R410A

Evaporating temperature: 7.2 °C
Condensing temperature: 54.4 °C

Superheat: 11.1 K
Subcooling: 8.3 K

Subject to modification without prior notification

CH290 – Scroll compressor - R410A – 50 / 60 Hz

Ordering information

Pack	Connections	Mounting feet	Motor protection	Code no.
Single	Brazed	Flexible	Module 115-230 V *)	120H1070
Industrial	Brazed	Flexible	Module 115-230 V *)	120H1071

CH290 – Scroll compressor - R410A – 50 / 60 Hz

Performance table

Frequency	To	-20		-15		-10		-5		0		5		10		15	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
50 Hz	35	32.700	14.5	40.600	14.6	49.800	14.7	60.300	14.8	72.400	14.9	86.100	15.1	101.700	15.5	119.200	15.9
	45	28.700	17.9	35.800	18.1	44.100	18.2	53.600	18.3	64.600	18.3	77.100	18.5	91.200	18.7	107.200	18.9
	55	–	–	–	–	37.800	22.4	46.200	22.6	56.000	22.7	67.100	22.7	79.900	22.9	94.300	23.0
60 Hz	35	40300	17.44	49600	17.66	60300	17.86	72800	18.07	87200	18.37	103700	18.79	122400	19.39	143600	20.23
	45	35500	21.18	43900	21.55	53700	21.82	65000	22.04	78000	22.26	93000	22.54	110100	22.93	129400	23.48
	55	–	–	–	–	46400	26.60	56400	26.92	68000	27.18	81300	27.42	96500	27.69	113800	28.06

To*: Evaporating temperature in [°C]*
Tc*: Condensing temperature in [°C]*
H*: Heating capacity in [W]*
Qo*: Cooling capacity in [W]*
Superheat*: 11.1 K*
Subcooling*: 8.3 K*
Voltage*: 400 V / 3 / 60 Hz*

Nomenclature and Dimensions

Family, lubrificant & refrigerant	Nominal capacity	Approval	Voltage	Version	Evolution index
CH	**290**	**A**	**4**	**BB**	**A**

Family, refrigerant & lubrificant:
CH: Scroll, POE lubricant for R410A, 60 Hz

Nominal capacity:
in thousand of Btu / h at 60 Hz, R410A, ARI conditions

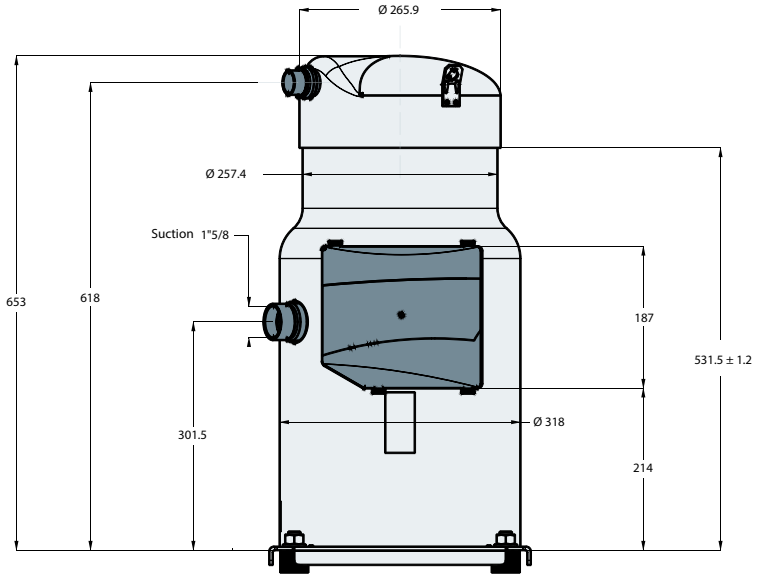
Index:
UL

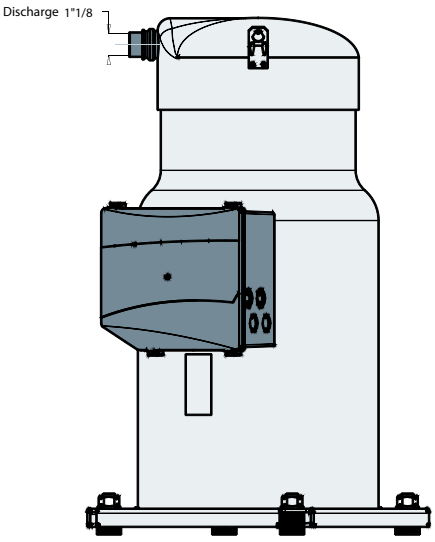
Motor voltage code:
4: 380 – 415 V / 3~/50 Hz - 460 V /3~/60 Hz

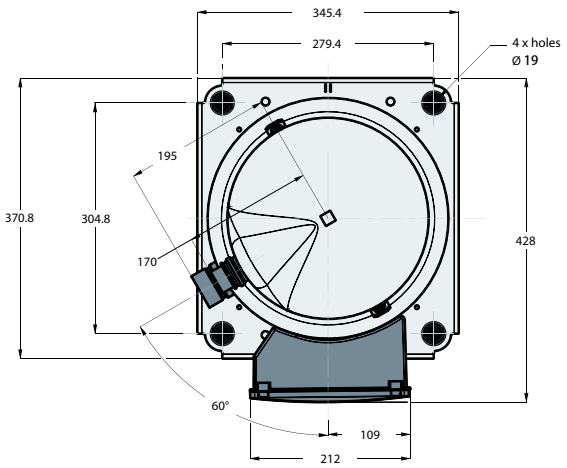
Evolution index:
A~Z

Motor protection:
A: electronic module, 24 V AC
B: electronic module, 115 – 230 V

Suction and discharge connections:
B: brazed connections







Quick Selection Notes:

Overview of oil types

Recommended to reduce friction, reduce abrasion of mobile pieces of compressors and protect them against corrosion.

Features
Oil





Facts

Type:
- Mineral
- Synthetic
- Semi-synthetic

Features:
- Obtained per distillation of the petroleum
- Produced from chemical and petrochemical compound
- Blend of different oil bases

Technical data and ordering

Oil types

Ordering

Type	Description	Application	Compressor model	Code no.
160 P	Mineral 2L	R-22 e 402B	MT, LT e SM	7754001
160 P	Mineral 5L	R-22 e 402B	MT, LT e SM	7754002
160 ABM	Alkylbenzene	R-22	HRM, HLM e HCM	–
160 PZ	Polyolester 1L	R-134A, 404A, 407C, 410A e 507A	MTZ	7754019
160 SZ	Polyolester 1L	R-134A, 404A, 407C, 410A e 507A	MFZ, LFZ,SZ , SH, HGX e HAX	7754023
160 Z	Polyolester 1L	R-404A e R-507A	LTZ e NTZ	7754025
160 Z	Polyolester 2L	R-404A e R-507A	LTZ e NTZ	7754026
320 SZ	Polyolester 1L	R-22	SY	7754121
160 HZ	Polyolester 1L	R-407C e R-410A	HRP, HLP, HCP, HRH, HLH	120Z5033
320 HV	Polyvinyl 1 L	R-134A, R-22, 404A, R-410A R-507A	HLJ, HLH 061, MLZ	120Z5034
RENISO SP - 46	Alkylbenzene 1L	R-22	HG e HA	191U3396
RENISO SP - 46	Alkylbenzene 20L	R-22	HG e HA	191U339601

Attention:
Always use the original specific oil for each compressor model . The use of a different oil specified can lead to compressor failure . Special attention should be given to the management of the polyolester oil as this is highly hygroscopic and when exposed, quickly absorbs moisture from the air. Do not let the compressor or the oil packaging open to the atmosphere for a long period.

Optyma™ - Condensing Units

4 ranges to fit the different market needs of LBP, MBP refrigeration:

- Broad choice for various climates
- Fast installation and maintenance
- Low noise to fit in residential areas
- F-Gas: ready for refrigerants with lower GWP
- Eco Design compliance

Designed by Danfoss with 40 years of know-how in condensing units
Various options:



Optyma™

The widest range of hermetic condensing units with reciprocating compressors

Optyma™ **Slim Pack**

The compact and cost effective packaged unit with Micro Channel Heat Exchanger technology

Optyma™ **Plus**

The premium condensing unit: energy optimized, low noise levels and quick installation / maintenance

Optyma™ **Plus INVERTER**

Combines ease of use and energy efficiency with the latest Danfoss inverter scroll technology

Range span by refrigerant

Minimum / maximum Cooling capacity in [kW]	Optyma™	Optyma™ **Slim Pack *)**	Optyma™ **Plus *)**	Optyma™ **Plus INVERTER**
MBP				
R134a	0.1 / 13.6	0.7 / 6.5	1.7 / 10.3	–
R404A	0.3 / 21.9	1.1 / 10.3	0.7 / 16.0	1.8 / 9.2
R407A	1.8 / 19.5	3.3 / 9.9	3.3 / 14.6	1.7 / 8.6
R407C	1.7 / 20	–	–	–
R407F	1.9 / 20.5	3.5 / 10.2	3.5 / 15.5	1.8 / 9.3
R449A	–	0.5 / 10.2	0.5 / 14.9	–
R448A	–	2.8 / 8.4	3.4 / 14.9	–
LBP				
R404A	0.2 / 10.3	0.4 / 3.6	0.4 / 6.2	–
R452A	–	0.4 / 3.4	0.4 / 6.2	–

Rating Conditions: Ambient Temperature 32 °C, Superheat 10 K, Subcooling 0 K, Evaporator Temperature MBP: -10 °C / LBP: -25 °C
**) MBP Rated conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Superheat 10 K. SubCooling 0K*
**) LBP Rated conditions, Saturated suction temperature -35 °C. Ambient air temperature 32 °C. Superheat 10 K. SubCooling 0K*

Quick Selection Notes:

Optyma™ - Condensing Units

Optyma™ is the widest range of hermetic condensing units on the market. Optyma™ condensing unit is available with reciprocating compressors to cover a large range of commercial refrigeration applications, reducing costs and complexity of the systems.
All Optyma™ condensing units are extremely efficient and reliable.

That means less energy consumption and less running costs, less cost for service and maintenance. In addition to the wide Optyma™ range, we also offer local support and guidance if needed.
A network of partner wholesalers and local Danfoss teams can offer you help and will do their outmost to fulfil your needs. At Danfoss we simply believe it is important to offer an "Optimum service".





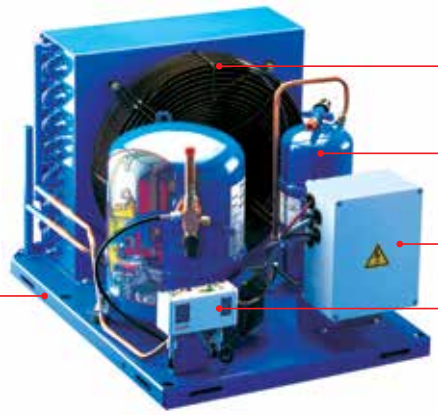
Optimum airflow due to Danfoss designed fan cowl

Pre-mounted LP / HP tubes for easy connection of pressure switch

Easy accessible valves

Base rails designed for easy installition

A01 *)



Single or double fan design

Receiver equipped with 3/8 inch. NPTF plug and shuft-OFF valve with access port

Fully prewired and factory tested

Combined HP / LP pressure switch Danfoss KP17WB

Compact design and extended application envelope

*) Version:
A00 - without valves and receiver for capillary tubes
A04 - A01 + KP17WB + FSA-kit + power cord

A02

Facts

- Danfoss Optyma™ condensing units perfectly suit applications like:
  - Cold stores and freezer rooms
  - Milk cooling
  - Beer and wine cellars
  - Small food retail and mini markets
  - Garage forecourt shops
  - Display cabinets
  - Ice cream freezers
  - Bottle coolers
- HFC refrigerants R134a, R404A / R507, R407A, R407F, R407C and propane (R290)
- Capacity: from a few to 20000 Watt (R404A)
- High COP
- 100% factory tested for leakage
- Low energy consumption
- Wide application range
- Powder coated steel parts
- Crankcase heater standard (optional for fractional units)
- Service valves standard with access ports
- Access valves / stubs for easy connection
- High-efficiency condensers allowing an extended application envelope in high ambient conditions
- Low electrical consumption and low running costs
- Reliable components for longer life and less warranty call out costs
- Fully pre-wired and factory tested, reducing commissioning time on site
- Built-in grab handles for easier handling on site
- Base plate designed to allow easy mounting on wall brackets
- Flexible add-on design options including: fan speed control, oil separator, pressure switches or weather proof housing
- Easy access to all components for higher serviceability and simplified maintenance
- Compact dimensions and minimum foot print for easy handling, shipping and installation

Quick Selection Notes:

Technical data and ordering

Optyma™ - R404A / R507 LBP

Fan	Test conditions	Unit	Version	Code no.	Electrical code	Compressor	Amb. temp. [°C]	Cooling capacity range in [W] at evaporating temperature [°C]							Power consumption [W] at -25 °C evap temp
								-40 °C	-35 °C	-30 °C	-25 °C	-20 °C	-15 °C	-10 °C	
	CECOMAF	OP–LCHC004	A00	114X1208	G	TL4CLX	27	80	110	140	180	220	280	340	170
			A01	114X1209			32	70	90	120	160	200	250	310	
			A04	114X1211			38	60	80	100	130	170	220	270	
							43	–	–	–	–	–	–	–	
		OP-LCHC006	A00	114X1216	G	FR6CLX	27	130	170	230	290	370	460	570	270
			A01	114X1217			32	120	160	210	260	330	420	510	
			A04	114X1219			38	100	140	180	230	290	360	440	
							43	90	120	150	200	250	–	–	
		OP-LCHC008	A00	114X1324	G	FR8.5CLX	27	160	210	270	350	450	560	700	340
			A01	114X1325			32	140	190	250	320	410	510	630	
			A04	114X1327			38	110	150	200	270	350	–	–	
							43	–	–	–	–	–	–	–	
		OP-LCHC007	A00	114X1328	G	NL7CLX	27	170	230	310	400	500	620	760	300
			A01	114X1329			32	160	210	280	370	460	570	700	
			A04	114X1331			38	140	190	250	320	410	510	630	
							43	–	–	–	–	–	–	–	
		OP-LCHC008	A00	114X1304	G	NL8.4CLX	27	190	260	340	430	550	680	830	340
							32	170	230	310	400	500	620	760	
							38	150	200	270	350	450	560	680	
							43	130	180	240	310	390	490	610	
		OP-LCHC010	A00	114X1332	G	SC10CLX	27	–	230	330	450	600	760	950	390
			A01	114X1333			32	–	190	290	400	530	690	860	
			A04	114X1335			38	–	–	240	340	460	600	760	
							43	–	–	–	290	400	530	670	
		OP-LCHC012	A00	114X1440	G	SC12CLX	27	230	330	460	620	800	1000	1240	500
			A01	114X1441			32	170	280	400	540	710	910	1130	
			A04	114X1443			38	110	200	320	450	600	780	990	
							43	–	140	250	370	510	680	880	
		OP-LCHC012	A00	114X1444	G	SC12CLX.2	27	270	370	480	620	790	970	1190	530
							32	230	320	430	560	720	890	1100	
							38	180	270	370	490	630	790	980	
							43	–	230	320	430	560	710	880	
		OP-LCHC015	A00	114X1548	G	SC15CLX	27	280	410	560	730	910	1130	1370	600
			A01	114X1549			32	200	350	500	660	850	1050	1280	
			A04	114X1551			38	–	250	410	580	760	950	1170	
							43	–	–	330	500	670	860	1070	
		OP-LCHC018	A00	114X1556	G	SC18CLX	27	360	500	670	870	1110	1380	1690	660
			A01	114X1557			32	310	440	590	780	1000	1250	1530	
			A04	114X1559			38	240	360	500	670	870	1090	1350	
							43	–	300	430	580	760	960	1200	
		OP-LCHC021	A00	114X1564	G	SC21CLX	27	420	590	780	1010	1270	1570	1910	740
			A01	114X1565			32	360	510	680	890	1140	1420	1730	
			A04	114X1567			38	300	420	570	760	980	1230	1520	
							43	–	350	490	650	860	1090	1360	
	RGT20	OP-LCHC026	A01	114X1673	G	GS26CLX	27	550	770	1030	1340	1700	2120	2600	980
							32	470	670	910	1200	1530	1920	2360	
							38	370	560	780	1030	1330	1680	2080	
							43	300	470	660	900	1170	1490	1850	
		OP-LCHC034	A01	114X1781	G	GS34CLX	27	800	1080	1430	1830	2310	2860	3490	1300
							32	700	970	1290	1670	2110	2630	3220	
			A04	114X1783			38	580	830	1120	1470	1870	2350	2890	
							43	480	710	980	1300	1670	2110	2610	

Test condition

	RGT20	*CECOMAF*
Ambient temperature:	*32 °C*	*32 °C*
Suction gas temperature:	*20 °C*	*32 °C*
Subcooling:	*0 K*	*0 K*

Power consumption referred at 32 °C ambient temperature
Subcooling within the limits of the condensing unit

Electrical code

G: compressor 220 V / 1 phase / 50 Hz, fan 220 V / 1 phase / 50 Hz

Version

A00: without valves and receiver for capillary tubes
A01: with receiver, 2 stop valves, brackets and copper pipes for KP
A04: A01 + KP17WB + FSA-kit + power cord (except LCHC034)

Technical data and ordering

Optyma™ - R404A / R507 LBP

Unit	Condenser coil			Condenser fan	Receiver volume [L]	Fig.	Dimensions [mm]			Line [in]		Weight [kg] (version A01)	
	Type	Air flow [m³/h]	Int. volume [dm³]	Fan blade Ø [mm]			Height H	Width W	Depth D	Suction	Liquid	Gross	Net
OP-LCHC004	BG2	231	0.25	1x200	0.8	1	226	304	446	1/4	1/4	19	17
OP-LCHC006	BG2	231	0.25	1x200	0.8	2	226	304	446	3/8	1/4	19	17
OP-LCHC008	BG3	518	0.31	1x230	1.1	2	256	321	458	3/8	1/4	20	18
OP-LCHC007	BG3	518	0.31	1x230	1.1	3	256	321	458	3/8	1/4	20	18
OP-LCHC008	BG3	518	0.31	1x230	1.1	3	256	321	458	3/8	1/4	18 *)	16 *)
OP-LCHC010	BG3	518	0.31	1x230	1.1	4	256	321	458	3/8	1/4	20	18
OP-LCHC012	BG4	631	0.40	1x254	1.1	4	296	331	465	3/8	1/4	25	22
OP-LCHC012	BG4	631	0.40	1x254	1.1	4	296	331	465	3/8	1/4	23 *)	20 *)
OP-LCHC015	BG5	583	0.53	1x254	1.1	4	296	331	465	3/8	1/4	26	23
OP-LCHC018	BG5	583	0.53	1x254	1.1	4	296	331	465	1/2	1/4	26	23
OP-LCHC021	BG5	583	0.53	1x254	1.1	4	296	331	465	1/2	1/4	26	23
OP-LCHC026	BG6	1150	0.63	1x300	2.4	7	340	430	480	1/2	3/8	45	39
OP-LCHC034	BG7	990	0.84	1x300	2.4	7	340	430	480	1/2	3/8	48	42

*) weight referred to version A00

Technical data and ordering

Optyma™ - R404A / R507 LBP

Fan	Test conditions	Unit	Code no. Version A02	Electrical code	Compressor	Amb. temp. [°C]	Cooling capacity range in [W] at evaporating temperature [°C]							Power consumption [W] at -25 °C evap temp
							-40 °C	-35 °C	-30 °C	-25 °C	-20 °C	-15 °C	-10 °C	
	SH = 10 K	OP-LCHC048	114X5044	G	NTZ048	27	750	1050	1400	1800	2250	2700	3150	1450
						32	650	900	1250	1600	2000	2400	2800	
			114X5037	E		38	500	750	1050	1350	1700	2050	2450	
						43	400	650	900	1150	1450	–	–	
		OP-LCHC068	114X5045	G	NTZ068	27	1350	1850	2400	3050	3750	4500	5300	2250
						32	1200	1650	2150	2750	3350	4050	4800	
			114X5038	E		38	1000	1400	1850	2350	2950	3550	4200	
						43	850	1200	1600	2050	2600	–	–	
		OP-LCHC096	114X5039	E	NTZ096	27	1550	2150	2850	3650	4550	5600	6700	2700
						32	1350	1850	2500	3250	4050	5000	6000	
						38	1050	1550	2100	2750	3500	4300	5200	
						43	850	1250	1750	2350	3000	–	–	
		OP-LCHC108	114X5040	E	NTZ108	27	1900	2600	3450	4400	5400	6550	7750	3200
						32	1600	2250	3050	3900	4850	5900	6950	
						38	1300	1900	2550	3350	4200	5100	6050	
						43	1050	1600	2200	2850	3600	–	–	
		OP-LCHC136	114X5041	E	NTZ136	27	2450	3300	4350	5500	6750	8150	9650	4300
						32	2150	2950	3850	4900	6100	7350	8750	
						38	1750	2450	3300	4250	5250	6400	7650	
						43	1450	2100	2850	3650	4600	–	–	
		OP-LCHC215	114X5042	E	NTZ215	27	3750	5100	6650	8400	10300	12400	14550	6700
						32	3200	4450	5900	7500	9250	11150	13100	
						38	2550	3700	4950	6400	7950	9600	11400	
						43	2000	3050	4200	5450	6850	–	–	
		OP-LCHC271	114X5043	E	NTZ271	27	5100	6850	8850	11100	13500	16050	18700	8600
						32	4500	6100	7900	9950	12100	14450	16850	
						38	3750	5150	6800	8550	10450	12500	14600	
						43	3100	4400	5800	7400	9100	–	–	
		OP-LGHC048	114X5089	E	NTZ048	27	750	1100	1450	1900	2350	2850	3400	1650
						32	650	950	1300	1700	2100	2550	3050	
						38	500	800	1100	1450	1800	2200	2650	
						43	400	650	950	1250	1550	–	–	
		OP-LGHC068	114X5090	E	NTZ068	27	1350	1800	2350	2950	3650	4350	5100	2550
						32	1150	1600	2100	2650	3250	3900	4600	
						38	950	1350	1800	2300	2850	3450	4050	
						43	800	1150	1550	2000	2500	–	–	
		OP-LGHC096	114X5091	E	NTZ096	27	1550	2150	2850	3650	4600	5650	6750	3050
						32	1350	1850	2500	3250	4100	5050	6100	
						38	1050	1550	2100	2750	3500	4350	5300	
						43	850	1250	1750	2350	3050	–	–	
		OP-LGHC108	114X5092	E	NTZ108	27	1900	2650	3500	4500	5650	6850	8100	3700
						32	1650	2350	3100	4050	5050	6150	7300	
						38	1350	1950	2650	3450	4350	5300	6350	
						43	1050	1600	2250	3000	3800	–	–	
		OP-LGHC136	114X5093	E	NTZ136	27	2550	3400	4500	5700	7100	8600	10250	4800
						32	2200	3000	4000	5100	6400	7800	9300	
						38	1800	2550	3400	4400	5550	6800	8150	
						43	1500	2150	2950	3850	4850	–	–	
		OP-LGHC215	114X5094	E	NTZ215	27	3950	5400	7100	9050	11250	13700	16350	7450
						32	3400	4750	6350	8150	10150	12400	14850	
						38	2750	3950	5400	7000	8800	10800	13000	
						43	2150	3250	4550	6000	7650	–	–	
		OP-LGHC271	114X5095	E	NTZ271	27	5250	7050	9150	11500	14100	16850	19800	9400
						32	4600	6250	8200	10350	12700	15250	17900	
						38	3850	5350	7050	8950	11000	13250	15600	
						43	3200	4550	6050	7750	9600	–	–	

Test condition

	SH 10 K
Ambient temperature:	*32 °C*
Superheat:	*10 K*
Subcooling:	*0 K*

Electrical code

E: compressor 400 V / 3 phase / 50 Hz, fan 230 V / 1 phase / 50 Hz
G: compressor 230 V / 1 phase / 50 Hz, fan 230 V / 1 phase / 50 Hz

Version

A02: with receiver, stop valve, universal pressure switch (KP17WB), flexible hoses and electrical box

Power consumption referred at 32 °C ambient temperature

Technical data and ordering

Optyma™ - R404A / R507 LBP

Unit	Condenser coil			Condenser fan	Receiver volume [L]	Fig.	Dimensions [mm]			Line [in]		Weight [kg]	
	Type	Air flow [m³/h]	Int. volume [dm³]	Fan blade Ø [mm]			Height H	Width W	Depth D	Suction	Liquid	Gross	Net
OP-LCHC048	A4	1200	1.2	1×300	3	5	402	500	600	5/8	3/8	52	45
OP-LCHC068	C4	2150	2.3	1×350	6	5	555	630	650	5/8	1/2	64	57
OP-LCHC096	D4	2000	3.1	1×350	6	5	555	630	650	7/8	1/2	78	71
OP-LCHC108	E4	3150	2.5	1×400	6	5	605	630	650	7/8	1/2	92	80
OP-LCHC136	G4	3150	4.1	1×400	8	5	656	755	700	7/8	1/2	95	83
OP-LCHC215	J4	6000	4.4	1×500	14	5	708	900	900	1 1/8	5/8	151	136
OP-LCHC271	L4	5850	6.3	1×500	14	5	759	900	900	1 1/8	5/8	166	151
OP-LGHC048	C3	1.300	1.6	2×254	3	6	392	700	500	5/8	3/8	52	45
OP-LGHC068	D3	2800	1.5	2×300	6	6	442	800	600	5/8	1/2	62	55
OP-LGHC096	E3	2600	2.2	2×300	6	6	442	800	600	7/8	1/2	78	71
OP-LGHC108	G3	4600	2.3	2×350	8	6	555	1000	700	7/8	1/2	102	89
OP-LGHC136	H3	3600	4.7	2×350	8	6	555	1000	700	7/8	1/2	107	94
OP-LGHC215	L3	8600	5.1	2×450	14	6	671	1200	800	1 1/8	5/8	152	138
OP-LGHC271	L3	8600	5.1	2×450	14	6	671	1200	800	1 1/8	5/8	158	144

Technical data and ordering

Optyma™ - R404A/R507 LBP - ASEAN

Fan	Test conditions	Unit	Version code	Electrical code	Compressor	Amb. temp. [°C]	Cooling capacity [Btu/h] at evaporating temperature				
			D40				-40 °C	-35 °C	-30 °C	-25 °C	-20 °C
	SH = 18 K SC = 3 K	OP-LJZ048D	114N3343 114N3344	N Q	NTZ048	32	2950	4400	6100	8000	10200
						35	2700	4050	5650	7500	9550
						38	2400	3700	5200	6950	8900
						43	1950	3100	4500	6050	7850
		OP-LJZ068D	114N3347 114N3348 114N3349	N Q R	NTZ068	32	5050	7000	9200	11700	14450
						35	4650	6500	8600	10950	13550
						38	4250	6000	8000	10250	12700
						43	3650	5250	7050	9100	11350
		OP-LJZ108D	114N3352 114N3353 114N3354	N Q R	NTZ108	32	6550	9800	13600	17950	22850
						35	6050	9100	12700	16800	21450
						38	5500	8400	11800	15650	20050
						43	–	7150	10250	13750	17650
		OP-LJZ136D	114N3356 114N3357 114N3358	N Q R	NTZ136	32	9350	13500	18350	23900	30250
						35	8550	12500	17100	22450	28550
						38	7700	11500	15900	21000	26800
						43	–	9800	13900	18600	23950
		OP-LGZ215D	114N3360 114N3361	Q R	NTZ215	32	14900	20800	27750	35800	44950
						35	13500	19200	25850	33500	42250
						38	12100	17500	23900	31200	39500
						43	9700	14700	20500	27200	34800
		OP-LGZ271D	114N3363 114N3364	Q R	NTZ271	32	20200	27600	36250	46000	56900
						35	18600	25700	33900	43200	53500
						38	17050	23800	31550	40300	50050
						43	14400	20550	27550	35500	44300

Electrical codes:
N - Compressor 230 V / 1-ph / 60 Hz, Fan(s) 230 V / 1-ph / 60 Hz
Q - Compressor 230 V / 3-ph / 60 Hz, Fan(s) 230 V / 1-ph / 60 Hz
R - Compressor 460 V / 3-ph / 60 Hz , Fan(s) 460 V / 1-ph / 60 Hz

Cooling capacity for three-phase models shown. For single-phase models a difference of ± 1% shall apply
The consumption values shown relate to an ambient temperature in the equipment room of 32°C.

Technical data and ordering

Optyma™ - R404A/R507 LBP - ASEAN

Unit	Condenser			Fan Ø [mm]	Receiver [L]	Power consumption [Btu/h] at evaporating temp.	Dimensions [mm]						Weight [kg]	
	Type	Air flow [m³/h]	Internal volume [l]			-25 °C	Figure	Height H [mm]	Depth D [mm]	Length L [mm]	Suction line [in]	Liquid line [in]	Gross	Net
OP-LJZ048D	D8	2400	0.4	1x355	3	1900	1B	463	310	1000	5/8	3/8	85	76
OP-LJZ068D	D8	2400	0.4	1x355	3	2700	1B	463	310	1000	5/8	3/8	85	76
OP-LJZ108D	J8	6300	1.3	1x457	8	4450	1B	688	420	1150	7/8	1/2	134	121
OP-LJZ136D	J8	6300	1.3	1x457	8	5650	1B	688	420	1150	7/8	1/2	134	121
OP-LGZ215D	N8	8800	1.6	2x457	14	8650	2B	715	800	1200	1 1/8	5/8	201	186
OP-LGZ271D	N8	8800	1.6	2x457	14	10950	2B	715	800	1200	1 1/8	5/8	201	186

Optyma™ - R404A / R507 LBP - ASEAN

Unit	Code no. Version A06	Electrical code	Compressor	Amb. temp. [°C]	Cooling capacity range in [W] at evaporating temperature [°C]						Power consumption [W] at -30 °C evap temp	Dimensions (mm)			Weight
					-35 °C	-30 °C	-25 °C	-20 °C	-15 °C	-10 °C		Height	Depth	Length	
												mm	mm	mm	Kg
OP-LCHE068	114X8000	G	NTZ068	35	1569	2094	2693	3366	4111	4924	1780	445	600	800	67
	114X8001	D		43	1251	1699	2210	2785	3425	4126	1851				
				48	1069	1469	1926	2441	3015	3647	1891				
OP-LCHE096	114X8002	D	NTZ096	35	1823	2496	3306	4258	5351	6582	2113	655	760	700	71
				43	1368	1935	2620	3432	4372	5439	2053				
				48	1093	1589	2195	2919	3763	4729	1991				
OP-LGHE108	114X8003	D	NTZ108	35	2175	2955	3849	4853	5957	7150	2497	555	700	1000	92
				43	1664	2327	3084	3932	4864	5874	2462				
				48	-	1944	2615	3365	4191	–	2409				
OP-LGHE136	114X8004	D	NTZ136	35	2865	3829	4951	6233	7675	9271	3466	555	700	1000	97
				43	2244	3067	4025	5121	6358	7732	3467				
				48	1868	2600	3453	4432	5540	-	3469				
OP-LGHE215	114X8005	D	NTZ215	35	4038	5371	6855	8473	10206	12031	5008	725	800	1210	141
				43	3010	4147	5404	6769	8228	–	4905				
				48	2377	3390	4502	5710	–	–	4766				
OP-LGHE271	114X8006	D	NTZ271	35	5787	7594	9616	11828	14203	16712	6729	725	800	1210	144
				43	4544	6066	7759	9607	11592	–	6817				
				48	3772	5112	6597	8217	–	–	6818				

Technical data and ordering

Unidades Condensadoras Herméticas con R404A/R507 (Bajas temperaturas) - LAM 1 (Columbia)

Tipo de compresor	Ventiladores	Condiciones de prueba	Modelo	Código por versión	Código eléctrico	Compresor	Temperatura ambiente [°C]	Capacidad de refrigeración [W] a temperatura de evaporación				
				D40				-40 °C	-35 °C	-30 °C	-25 °C	-20 °C
Reciprocante hermético		sobrecalentamiento 18K subenfriamiento 3K	OP-LJZ048D	114N3345 114N3346	G E	NTZ048	32	730	1.085	1.502	1.982	2.525
							35	662	999	1.396	1.851	2.365
							38	593	914	1.290	1.720	2.206
							43	481	774	1.114	1.504	1.943
			OP-LJZ068D	114N3350 114N3351	G E	NTZ068	32	1.266	1.752	2.310	2.942	3.641
							35	1.163	1.625	2.156	2.757	3.423
							38	1.065	1.504	2.008	2.578	3.210
							43	911	1.313	1.772	2.289	2.867
			OP-LJZ096D	114N3408	E	NTZ096	32	1.539	2.169	2.952	3.900	5.021
							35	1.394	1.992	2.735	3.637	4.705
							38	1.249	1.813	2.516	3.371	4.387
							43	–	1.516	2.150	2.925	3.851
			OP-LJZ108D	114N3355	E	NTZ108	32	1.906	2.719	3.702	4.862	6.206
							35	1.733	2.510	3.447	4.551	5.830
							38	1.560	2.301	3.192	4.241	5.454
							43	–	1.956	2.769	3.724	4.829
			OP-LJZ136D	114N3359	E	NTZ136	32	2.468	3.417	4.556	5.898	7.449
							35	2.265	3.171	4.256	5.536	7.015
							38	2.065	2.926	3.958	5.174	6.583
							43	–	2.523	3.465	4.575	5.864
			OP-LGZ215D	114N3362	E	NTZ215	32	3.764	5.273	7.055	9.125	11.488
							35	3.417	4.868	6.575	8.556	10.816
							38	3.062	4.451	6.082	7.973	10.130
							43	2.460	3.741	5.240	6.976	8.957
			OP-LGZ271D	114N3365	E	NTZ271	32	5.118	7.022	9.251	11.810	14.676
							35	4.728	6.545	8.666	11.092	13.821
							38	4.333	6.062	8.073	10.370	12.956
							43	3.671	5.247	7.074	9.154	11.501

Códigos elétricos:
G - Compresor 230V/1F/50Hz, ventilador(es) 230V/1F/50 Hz
E - Compresor 400V/3F/50Hz, ventilador(es) 230V/1F/50 Hz

La capacidad de enfriamiento se presenta para modelos trifásicos. Para los modelos monofásicos, presentará diferencia de ±1%.
El consumo indicado corresponde a una temperatura ambiente de 32 ºC en la sala de máquinas.
La configuración detallada de la versión puede encontrarse en la página 03.

Technical data and ordering

Unidades Condensadoras Herméticas con R404A/R507 (Bajas temperaturas) - LAM 1 (Columbia)

Modelo	Condensador			Ventilador Ø [mm]	Recibidor de líquido [l]	Consumo de la unidad [W] a temp. de evaporación	Dimensiones [mm]						Peso [kg]	
	Tipo	Flujo de aire [m³/h]	Volumen interno [l]			-25 °C	Dib.	Alto A [mm]	Profundidad P [mm]	Largo L [mm]	Línea succión [in]	Línea líquido [in]	Bruto	Neto
OP-LJZ048D	D8	2080	0,4	1x355	3	1610	1B	463	310	1000	5/8	3/8	85	76
OP-LJZ068D	D8	2080	0,4	1x355	3	2342	1B	463	310	1000	5/8	3/8	85	76
OP-LJZ096D	J8	5480	1,3	1x457	8	3403	1B	688	420	1150	7/8	1/2	134	121
OP-LJZ108D	J8	5480	1,3	1x457	8	3773	1B	688	420	1150	7/8	1/2	134	121
OP-LJZ136D	J8	5480	1,3	1x457	8	4901	1B	688	420	1150	7/8	1/2	134	121
OP-LGZ215D	N8	8200	1,6	2x457	14	7582	2B	715	800	1200	1 1/8	5/8	201	186
OP-LGZ271D	N8	8200	1,6	2x457	14	9472	2B	715	800	1200	1 1/8	5/8	201	186

Technical data and ordering

Optyma™ - R404A / R507 LBP - LAM 2 (Mexico)

Fan	Test conditions	Unit	Version code	Electrical code	Compressor	Amb. temp. [°C]	Cooling capacity [Btu/h] at evaporating temperature				
			D40				-40 °C	-35 °C	-30 °C	-25 °C	-20 °C
	SH = 18 K SC = 3 K	OP-LJZ048D	114N3343 114N3344	N Q	NTZ048	32	2950	4400	6100	8000	10200
						35	2700	4050	5650	7500	9550
						38	2400	3700	5200	6950	8900
						43	1950	3100	4500	6050	7850
		OP-LJZ068D	114N3347 114N3348 114N3349	N Q R	NTZ068	32	5050	7000	9200	11700	14450
						35	4650	6500	8600	10950	13550
						38	4250	6000	8000	10250	12700
						43	3650	5250	7050	9100	11350
		OP-LJZ108D	114N3352 114N3353 114N3354	N Q R	NTZ108	32	6550	9800	13600	17950	22850
						35	6050	9100	12700	16800	21450
						38	5500	8400	11800	15650	20050
						43	–	7150	10250	13750	17650
		OP-LJZ136D	114N3356 114N3357 114N3358	N Q R	NTZ136	32	9350	13500	18350	23900	30250
						35	8550	12500	17100	22450	28550
						38	7700	11500	15900	21000	26800
						43	–	9800	13900	18600	23950
		OP-LGZ215D	114N3360 114N3361	Q R	NTZ215	32	14900	20800	27750	35800	44950
						35	13500	19200	25850	33500	42250
						38	12100	17500	23900	31200	39500
						43	9700	14700	20500	27200	34800
		OP-LGZ271D	114N3363 114N3364	Q R	NTZ271	32	20200	27600	36250	46000	56900
						35	18600	25700	33900	43200	53500
						38	17050	23800	31550	40300	50050
						43	14400	20550	27550	35500	44300

Electrical codes:
N - Compressor 230 V / 1-ph / 60 Hz, Fan(s) 230 V / 1-ph / 60 Hz
Q - Compressor 230 V / 3-ph / 60 Hz, Fan(s) 230 V / 1-ph / 60 Hz
R - Compressor 460 V / 3-ph / 60 Hz , Fan(s) 460 V / 1-ph / 60 Hz

Cooling capacity for three-phase models shown. For single-phase models a difference of ± 1% shall apply
The consumption values shown relate to an ambient temperature in the equipment room of 32°C.

Technical data and ordering

Optyma™ - R404A / R507 LBP - LAM 2 (Mexico)

Unit	Condenser			Fan Ø [mm]	Receiver [L]	Power consumption [Btu/h] at evaporating temp.	Dimensions [mm]						Weight [kg]	
	Type	Air flow [m³/h]	Internal volume [l]			-25 °C	Figure	Height H [mm]	Depth D [mm]	Length L [mm]	Suction line [in]	Liquid line [in]	Gross	Net
OP-LJZ048D	D8	2400	0.4	1x355	3	1900	1B	463	310	1000	5/8	3/8	85	76
OP-LJZ068D	D8	2400	0.4	1x355	3	2700	1B	463	310	1000	5/8	3/8	85	76
OP-LJZ108D	J8	6300	1.3	1x457	8	4450	1B	688	420	1150	7/8	1/2	134	121
OP-LJZ136D	J8	6300	1.3	1x457	8	5650	1B	688	420	1150	7/8	1/2	134	121
OP-LGZ215D	N8	8800	1.6	2x457	14	8650	2B	715	800	1200	1 1/8	5/8	201	186
OP-LGZ271D	N8	8800	1.6	2x457	14	10950	2B	715	800	1200	1 1/8	5/8	201	186

Technical data and ordering

Optyma™ - R404A/R507 LBP - LAM 4 (Brazil)

Ventiladores	Condições de teste	Modelo	Código por versão	Código elétrico	Compressor	Temperatura ambiente	Capacidade de refrigeração (Kcal/h) na temperatura de evaporação				
			D49				-40 °C	-35 °C	-30 °C	-25 °C	-20 °C
	superaquecimento 18K sub-resfriamento 3K	OP-LJZ048D	115F0411 115F0412 115F0413	N Q V	NTZ048	32°C	747	1108	1531	2019	2572
						35 °C	675	1018	1420	1884	2408
						38°C	603	929	1310	1749	2245
						43°C	487	783	1129	1526	1976
		OP-LJZ068D	115F0415 115F0416 115F0417	N Q V	NTZ068	32°C	1273	1759	2316	2944	3636
						35 °C	1169	1632	2162	2759	3417
						38°C	1070	1510	2013	2579	3204
						43°C	916	1318	1776	2291	2861
		OP-LJZ096D	115F0419 115F0420	N Q	NTZ096	32°C	1512	2229	3073	4049	5160
						35 °C	1328	2017	2828	3764	4831
						38°C	1144	1805	2582	3479	4500
						43°C	–	1456	2176	3006	3954
		OP-LJZ108D	115F0423 115F0424 115F0425	N Q V	NTZ108	32°C	1656	2464	3423	4525	5761
						35 °C	1521	2290	3198	4239	5406
						38°C	1382	2111	2969	3949	5049
						43°C	–	1807	2580	3461	4448
		OP-LJZ136D	115F0427 115F0428 115F0429	N Q V	NTZ136	32°C	2361	3399	4618	6025	7625
						35 °C	2149	3145	4314	5660	7189
						38°C	1939	2893	4009	5296	6756
						43°C	–	2476	3503	4688	6034
		OP-LGZ215D	115F0431 115F0432	Q V	NTZ215	32°C	3751	5243	6999	9024	11325
						35 °C	3401	4834	6514	8448	10647
						38°C	3043	4414	6017	7860	9953
						43°C	2439	3701	5172	6859	8770
		OP-LGZ271D	115F0434 115F0435	Q V	NTZ271	32°C	5086	6958	9130	11597	14333
						35 °C	4693	6478	8541	10882	13477
						38°C	4296	5992	7947	10161	12617
						43°C	3633	5175	6945	8948	11166

Códigos Eléctricos:
G - Compresor 230V/1F/50Hz, ventilador(es) 230V/1F/50 Hz
E - Compresor 400V/3F/50Hz, ventilador(es) 230V/1F/50 Hz

A capacidade de refrigeração informada é para modelos trifásicos. Para modelos monofásicos apresentará diferença de ± 1%
O consumo indicado corresponde a uma temperatura ambiente de 32°C na casa de máquinas.
O detalhamento da configuração das versões D20, D39, D40 e D49 pode ser encontrado na página 03.

Technical data and ordering

Optyma™ - R404A/R507 LBP - LAM 4 (Brazil)

Modelo	Condensador			Ventilador Ø [mm]	Tanque de líquido [l]	Consumo da unidade [W] na temp. evaporação	Dimensões [mm]						Peso [kg]	
	Tipo	Vazão ar [m3/h]	Volume interno [l]			-25 °C	Figura	Altura A [mm]	Profundidade P [mm]	Largura L [mm]	Linha sucção [in]	Linha líquido [in]	Bruto	Líquido
OP-LJZ048D	D8	2400	0.4	1x355	3	1887	1C	463	310	1000	1/2	3/8	69	60
OP-LJZ068D	D8	2400	0.4	1x355	3	2722	1C	463	310	1000	1/2	3/8	69	60
OP-LJZ096D	G8	4800	0.5	1x457	8	3998	1C	538	420	1150	7/8	1/2	104	91
OP-LJZ108D	G8	4800	0.5	1x457	8	4480	1C	538	420	1150	7/8	1/2	104	91
OP-LJZ136D	J8	6300	1.3	1x457	8	5634	1C	688	420	1150	7/8	1/2	115	102
OP-LGZ215D	N8	8800	1.6	2x457	14	8672	2C	715	800	1200	1 1/8	5/8	171	156
OP-LGZ271D	N8	8800	1.6	2x457	14	10927	2C	715	800	1200	1 1/8	5/8	171	156

Technical data and ordering

Optyma™ - R404A/R507 MBP/HBP - ASEAN

Fan	Test conditions	Unit	Version code		Electrical code	Compressor	Amb. temp. [°C]	Cooling capacity [Btu/h] at evaporating temperature								
			D32	D40				-30 °C	-25 °C	-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C
	SH = 18 K SC = 3 K	OP-HJZ018D	114N3207 114N3209 114N3211	114N3208 114N3210 114N3212	N Q R	MTZ018	32	2400	3950	5700	7800	10150	12850	15800	19050	22600
							35	2100	3600	5300	7300	9550	12150	15000	18100	21500
							38	1800	3200	4850	6800	8950	11400	14150	17150	20400
							43	1300	2650	4150	5900	7950	10200	12700	15500	18550
		OP-HJZ022D	114N3223 114N3225 114N3227	114N3224 114N3226 114N3228	N Q R	MTZ022	32	4250	6000	8100	10500	13300	16400	19800	23450	27400
							35	3900	5600	7600	9950	12600	15550	18750	22300	26050
							38	3550	5200	7100	9350	11850	14650	17700	21050	24650
							43	3000	4500	6250	8250	10550	13100	15900	19000	22300
		OP-HJZ028D	114N3238 114N3240	114N3239 114N3241	N Q R	MTZ028	32	6300	8650	11400	14550	18150	22150	26650	31500	36800
							35	5900	8150	10800	13850	17250	21150	25400	30100	35200
							38	5450	7650	10150	13100	16400	20100	24200	28650	33550
							43	4650	6750	9100	11800	14850	18250	22050	26200	30750
		OP-HJZ036D	114N3251 114N3253 114N3255	114N3252 114N3254 114N3256	N Q R	MTZ036	32	7350	10300	13750	17700	22200	27200	32700	38650	45050
							35	6750	9550	12900	16700	21000	25800	31050	36750	42900
							38	6150	8850	12050	15650	19800	24350	29400	34850	40750
							43	5150	7700	10650	14000	17750	22000	26650	31700	37200
		OP-HJZ040D	114N3267 114N3269 114N3271	114N3268 114N3270 114N3272	N Q R	MTZ040	32	8750	12250	16400	21200	26700	32900	39850	47400	55650
							35	8100	11450	15450	20050	25300	31250	37900	45150	53050
							38	7400	10650	14450	18900	23900	29600	35900	42900	50450
							43	6350	9350	12900	16950	21600	26800	32650	39100	46200
		OP-HJZ050D	114N3281 114N3283 114N3285	114N3282 114N3284 114N3286	N Q R	MTZ050	32	10850	15100	20000	25750	32250	39600	47750	56750	66500
							35	9900	14000	18750	24250	30500	37600	45450	54100	63500
							38	8950	12900	17450	22750	28750	35550	43100	51350	60450
							43	7350	11000	15250	20150	25750	32050	39050	46800	55300
		OP-HGZ064D	114N3296 114N3298 114N3300	114N3297 114N3299 114N3301	N Q R	MTZ064	32	13700	18800	24700	31500	39100	47550	56700	66600	77200
							35	12550	17450	23150	29600	36900	44950	53750	63250	73400
							38	11400	16100	21550	27750	34700	42400	50800	59850	69650
							43	9500	13850	18900	24600	30950	38050	45800	54250	63400
		OP-HGZ080D	114N3308 114N3310	114N3309 114N3311	Q R	MTZ080	32	19300	25650	33000	41500	51100	61800	73550	86350	100150
							35	17950	24050	31100	39200	48400	58650	69900	82150	95400
							38	16600	22450	29200	36900	45650	55450	66200	77950	90650
							43	14400	19750	25950	33050	41050	50050	59950	70850	82750
		OP-HGZ100D	114N3318 114N3320	114N3319 114N3321	Q R	MTZ100	32	19800	27300	35950	45800	56850	68950	82150	96300	111400
							35	18000	25200	33500	42900	53450	65050	77650	91250	105750
							38	16250	23150	31100	40050	50100	61150	73200	86200	100100
							43	13400	19800	27100	35300	44550	54700	65800	77900	90900
		OP-HGZ125D	114N3328 114N3330	114N3329 114N3331	Q R	MTZ125	32	29600	39100	50100	62700	76950	92950	110500	129750	150550
							35	27300	36450	47050	59150	72800	88100	105000	123450	143450
							38	25000	33850	44000	55550	68600	83250	99400	117100	136300
							43	21250	29450	38850	49550	61600	75100	90050	106550	124500
		OP-HGZ160D	114N3338 114N3340	114N3339 114N3341	Q R	MTZ160	32	38250	49550	62500	77250	93750	112000	132000	153550	176700
							35	35500	46300	58750	72900	88700	106200	125300	146050	168350
							38	32700	43150	55000	68500	83600	100350	118650	138600	160050
							43	28200	37850	48850	61250	75200	90650	107650	126250	146500

Electrical codes:
N - Compressor 230 V / 1-ph / 60 Hz, Fan(s) 230 V / 1-ph / 60 Hz
Q - Compressor 230 V / 3-ph / 60 Hz, Fan(s) 230 V / 1-ph / 60 Hz
R - Compressor 460 V / 3-ph / 60 Hz , Fan(s) 460 V / 1-ph / 60 Hz

Cooling capacity for three-phase models shown. For single-phase models a difference of ± 1% shall apply
The consumption values shown relate to an ambient temperature in the equipment room of 32°C.

Technical data and ordering

Optyma™ - R404A/R507 MBP/HBP - ASEAN

Unit	Condenser			Fan Ø [mm]	Receiver [L]	Power consumption [Btu/h] at evaporating temp.		Dimensions [mm]						Weight [kg]	
	Type	Air flow [m³/h]	Internal volume [l]			-10 °C	5 °C	Figure	Height H [mm]	Depth D [mm]	Length L [mm]	Suction line [in]	Liquid line [in]	Gross	Net
OP-HJZ018D	D8	2400	0.4	1x355	3	1900	2250	D32= 1A D40= 1B	463	310	1000	1/2	3/8	D32= 64 D40= 80	D32= 55 D40= 71
OP-HJZ022D	D8	2400	0.4	1x355	3	2100	2700	D32= 1A D40= 1B	463	310	1000	1/2 5/8 (N)	3/8	D32= 64 D40= 80	D32= 55 D40= 71
OP-HJZ028D	G8	4800	0.5	1x457	6	3250	3900	D32= 1A D40= 1B	538	420	1150	1/2 5/8 (N)	1/2	D32= 83 D40= 107	D32= 71 D40= 95
OP-HJZ036D	G8	4800	0.5	1x457	8	3850	5000	D32= 1A D40= 1B	538	420	1150	5/8	1/2	D32= 85 D40= 109	D32= 73 D40= 97
OP-HJZ040D	J8	6300	1.3	1x457	8	4150	5350	D32= 1A D40= 1B	688	420	1150	5/8	1/2	D32= 93 D40= 120	D32= 80 D40= 107
OP-HJZ050D	J8	6300	1.3	1x457	8	4850	5900	D32= 1A D40= 1B	688	420	1150	7/8	1/2	D32= 104 D40= 134	D32= 91 D40= 121
OP-HGZ064D	N8	8800	1.6	2x457	10	6850	8350	D32= 2A D40= 2B	715	800	1200	1 1/8	1/2	D32= 140 D40= 182	D32= 125 D40= 167
OP-HGZ080D	N8	8800	1.6	2x457	14	8800	11100	D32= 2A D40= 2B	715	800	1200	1 1/8	5/8	D32= 143 D40= 185	D32= 128 D40= 170
OP-HGZ100D	N8	8800	1.6	2x457	14	9800	12150	D32= 2A D40= 2B	715	800	1200	1 1/8	5/8	D32= 159 D40= 201	D32= 144 D40= 186
OP-HGZ125D	Q8	13980	2.5	2x550	14	12150	15100	D32= 2A D40= 2B	971	800	1500	1 1/8	5/8	D32= 243 D40= 302	D32= 225 D40= 284
OP-HGZ160D	Q8	13980	2.5	2x550	14	15450	20250	D32= 2A D40= 2B	971	800	1500	1 1/8	5/8	D32= 248 D40= 307	D32= 230 D40= 289

Technical data and ordering

Optyma™ - R404A/R507 MBP/HBP - ASEAN

Fan	Test conditions	Unit	Version code	Electrical code	Compressor	Amb. temp. [°C]	Cooling capacity [Btu/h] at evaporating temperature								
			D40				-30 °C	-25 °C	-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C
	SH = 18 K SC = 3 K	OP-HNU015D	114N3366 114N3367 114N3368	N Q R	MLZ015	32	6400	8400	10700	13250	16100	19350	23000	27100	31600
						35	–	7900	10100	12600	15350	18500	22000	25900	30250
						38	–	7350	9500	11900	14550	17550	20950	24700	28950
						43	–	–	8450	10700	13200	16000	19150	22700	26650
		OP-HNU021D	114N3370 114N3371 114N3372	N Q R	MLZ021	32	9650	12150	15000	18300	22000	26150	30750	35800	41300
						35	–	11550	14300	17450	21000	25000	29450	34350	39750
						38	–	10900	13550	16550	19950	23800	28100	32900	38150
						43	–	–	12250	15050	18200	21850	25900	30450	35550
		OP-HNU030D	114N3374 114N3375 114N3376	N Q R	MLZ030	32	14400	18000	22150	27000	32500	38700	45600	53200	61500
						35	–	17100	21100	25750	31000	37000	43650	51000	59100
						38	–	16200	20000	24450	29500	35250	41650	48800	56700
						43	–	–	18100	22200	26900	32250	38300	45100	52700
		OP-HRU038D	114N3378 114N3379 114N3380	N Q R	MLZ038	32	16950	21650	27000	33000	39800	47350	55850	65300	75700
						35	–	20600	25750	31550	38050	45350	53550	62650	72800
						38	–	19450	24450	30050	36300	43300	51200	60000	69850
						43	–	–	22150	27350	33250	39800	47200	55500	64850
		OP-HRU048D	114N3382 114N3383	Q R	MLZ048	32	22750	28200	34700	42200	50800	60350	70900	82450	95000
						35	–	26850	33050	40250	48450	57600	67800	79000	91200
						38	–	25400	31300	38200	46000	54850	64650	75450	87350
						43	–	–	28300	34600	41850	50100	59250	69500	80900
		OP-HRU058D	114N3385 114N3386	Q R	MLZ058	32	23800	32050	41250	51450	62750	75300	89150	104300	120850
						35	–	29900	38800	48600	59450	71450	84700	99300	115200
						38	–	27700	36250	45700	56050	67550	80200	94150	109400
						43	–	–	31950	40650	50200	60750	72400	85300	99450
		OP-HRU076D	114N3388 114N3389	Q R	MLZ076	32	35600	44500	54600	66150	79200	93850	110150	128100	147700
						35	–	42300	52000	63000	75400	89400	104950	122100	140950
						38	–	40000	49250	59750	71550	84850	99650	116050	134150
						43	–	–	44550	54150	64950	77050	90650	105800	122650

Electrical codes:
N - Compressor 230 V / 1-ph / 60 Hz, Fan(s) 230 V / 1-ph / 60 Hz
Q - Compressor 230 V / 3-ph / 60 Hz, Fan(s) 230 V / 1-ph / 60 Hz
R - Compressor 460 V / 3-ph / 60 Hz , Fan(s) 460 V / 1-ph / 60 Hz

Cooling capacity for three-phase models shown. For single-phase models a difference of ± 1% shall apply
The consumption values shown relate to an ambient temperature in the equipment room of 32°C.

Technical data and ordering

Optyma™ - R404A/R507 MBP/HBP - ASEAN

Unit	Condenser			Fan Ø [mm]	Receiver [L]	Power consumption [Btu/h] at evaporating temp.		Dimensions [mm]						Weight [kg]	
	Type	Air flow [m³/h]	Internal volume [l]			-10 °C	5 °C	Figure	Height H [mm]	Depth D [mm]	Length L [mm]	Suction line [in]	Liquid line [in]	Gross	Net
OP-HNU015D	G8	4800	0.5	1x457	6	2350	2600	3A	538	420	1150	5/8	1/2	115	103
OP-HNU021D	G8	4800	0.5	1x457	6	3450	3700	3A	538	420	1150	5/8	1/2	115	103
OP-HNU030D	J8	6300	1.3	1x457	8	4450	4850	3A	688	420	1150	7/8	1/2	136	123
OP-HRU038D	N8	8800	1.6	2x457	10	5350	5900	4A	715	800	1200	7/8	1/2	182	167
OP-HRU048D	N8	8800	1.6	2x457	10	7550	8250	4A	715	800	1200	7/8	1/2	182	167
OP-HRU058D	Q8	13980	2.5	2x550	14	8950	10050	4A	971	800	1500	1 1/8	5/8	287	269
OP-HRU076D	Q8	13980	2.5	2x550	14	11000	12300	4A	971	800	1500	1 1/8	5/8	288	270

Technical data and ordering

Unidades Condensadoras Herméticas con R404A/R507 (Media y Alta temperaturas) - LAM 1 (Columbia)

Tipo de compresor	Ventiladores	Condiciones de prueba	Modelo	Código por versión		Código eléctrico	Compresor	Temperatura ambiente [°C]	Capacidad de refrigeración [W] a temperatura de evaporación								
				D32	D40				-30 °C	-25 °C	-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C
Reciprocante hermético		sobrecalentamiento 18K subenfriamiento 3K	OP-HJZ018D	114N3213 114N3214	114N3396 114N3215	G E	MTZ018	32	616	948	1.358	1.846	2.414	3.062	3.787	4.584	5.450
								35	565	882	1.271	1.734	2.273	2.888	3.578	4.338	5.165
								38	516	818	1.186	1.624	2.133	2.716	3.370	4.093	4.883
								43	437	713	1.046	1.442	1.903	2.432	3.027	3.690	4.416
			OP-HJZ022D	114N3229 114N3230	114N3397 114N3231	G E	MTZ022	32	986	1.398	1.900	2.493	3.177	3.953	4.810	5.746	6.755
								35	903	1.294	1.770	2.333	2.983	3.721	4.540	5.434	6.401
								38	822	1.192	1.642	2.175	2.790	3.491	4.269	5.123	6.049
								43	695	1.028	1.433	1.913	2.472	3.109	3.822	4.609	5.468
			OP-HJZ028D	114N3242 114N3243	114N3398 114N3399	G E	MTZ028	32	1.318	1.912	2.617	3.438	4.381	5.450	6.646	7.965	9.408
								35	1.186	1.758	2.433	3.220	4.124	5.149	6.297	7.566	8.956
								38	1.059	1.607	2.254	3.006	3.870	4.851	5.949	7.170	8.509
								43	857	1.365	1.963	2.657	3.454	4.362	5.381	6.519	7.772
			OP-HJZ036D	114N3257 114N3258	114N3400 114N3401	G E	MTZ036	32	1.951	2.683	3.542	4.528	5.643	6.884	8.240	9.708	11.280
								35	1.804	2.510	3.332	4.275	5.337	6.521	7.814	9.214	10.716
								38	1.657	2.336	3.122	4.021	5.031	6.156	7.387	8.720	10.153
								43	1.411	2.045	2.771	3.595	4.520	5.546	6.675	7.901	9.221
			OP-HJZ040D	114N3273	114N3402	E	MTZ040	32	2.394	3.243	4.237	5.384	6.688	8.151	9.774	11.551	13.476
								35	2.230	3.050	4.006	5.104	6.350	7.747	9.294	10.995	12.840
								38	2.065	2.856	3.772	4.821	6.008	7.339	8.814	10.437	12.196
								43	1.789	2.528	3.376	4.341	5.430	6.651	8.002	9.495	11.115
			OP-HJZ050D	114N3287	114N3288	E	MTZ050	32	2.589	3.582	4.777	6.183	7.805	9.649	11.701	13.962	16.417
								35	2.385	3.331	4.467	5.804	7.349	9.104	11.068	13.234	15.591
								38	2.188	3.087	4.166	5.434	6.900	8.570	10.444	12.513	14.774
								43	1.877	2.698	3.679	4.832	6.170	7.697	9.420	11.332	13.438
			OP-HGZ064D	114N3302	114N3403	E	MTZ064	32	3.387	4.651	6.180	7.997	10.123	12.567	15.339	18.428	21.835
								35	3.120	4.332	5.795	7.531	9.562	11.900	14.555	17.522	20.801
								38	2.856	4.017	5.412	7.067	9.002	11.233	13.769	16.617	19.774
								43	2.426	3.498	4.779	6.297	8.073	10.126	12.470	15.118	18.065
			OP-HGZ080D	114N3312	114N3404	E	MTZ080	32	4.632	6.215	8.071	10.216	12.652	15.392	18.410	21.706	25.273
								35	4.306	5.826	7.603	9.654	11.982	14.602	17.494	20.656	24.086
								38	3.988	5.445	7.142	9.098	11.320	13.820	16.583	19.613	22.908
								43	3.472	4.824	6.389	8.185	10.225	12.521	15.079	17.896	20.970
			OP-HGZ100D	114N3322	114N3405	E	MTZ100	32	4.842	6.728	8.956	11.519	14.420	17.625	21.108	24.853	28.830
								35	4.472	6.291	8.425	10.871	13.629	16.677	19.992	23.561	27.358
								38	4.092	5.848	7.888	10.216	12.837	15.729	18.878	22.273	25.895
								43	3.432	5.085	6.975	9.114	11.504	14.149	17.032	20.143	23.487
			OP-HGZ125D	114N3332	114N3406	E	MTZ125	32	6.842	9.227	12.081	15.429	19.272	23.635	28.478	33.797	39.581
								35	6.339	8.610	11.325	14.514	18.183	22.350	26.987	32.093	37.659
								38	5.861	8.016	10.594	13.619	17.109	21.072	25.514	30.414	35.758
								43	5.115	7.074	9.417	12.172	15.361	19.003	23.105	27.652	32.649
			OP-HGZ160D	114N3342	114N3407	E	MTZ160	32	8.878	11.824	15.259	19.194	23.641	28.563	33.944	39.754	45.957
								35	8.256	11.083	14.371	18.128	22.374	27.078	32.219	37.786	43.746
								38	7.649	10.353	13.487	17.067	21.106	25.589	30.497	35.824	41.545
								43	6.666	9.161	12.032	15.306	19.007	23.118	27.647	32.579	37.927

Código eléctrico:
G - Compresor 230V/1F/50Hz, ventilador(es) 230V/1F/50 Hz
E - Compresor 400V/3F/50Hz, ventilador(es) 230V/1F/50 Hz

La capacidad de enfriamiento se presenta para modelos trifásicos. Para los modelos monofásicos, presentará diferencia de ±1%.
El consumo indicado corresponde a una temperatura ambiente de 32 °C en la sala de máquinas.
La configuración detallada de la versión puede encontrarse en la página 03.

Technical data and ordering

Unidades Condensadoras Herméticas con R404A/R507 (Media y Alta temperaturas) - LAM 1 (Columbia)

Modelo	Condensador			Ventilador Ø [mm]	Recibidor de líquido [l]	Consumo de la unidad [W] a temp. de evaporación		Dimensiones [mm]						Peso [kg]	
	Tipo	Flujo de aire [m³/h]	Volumen interno [l]			-10 °C	5 °C	Dib.	Alto A [mm]	Profundidad P [mm]	Largo L [mm]	Línea succión [in]	Línea líquido [in]	Bruto	Neto
OP-HJZ018D	D8	2080	0,4	1x355	3	1454	1755	D32= 1A D40= 1B	463	310	1000	1/2	3/8	D32= 64 D40= 80	D32= 55 D40= 71
OP-HJZ022D	D8	2080	0,4	1x355	3	1735	2189	D32=1A D40=1B	463	310	1000	1/2	3/8	D32=64 D40=80	D32=55 D40=71
OP-HJZ028D	G8	4400	0,5	1x457	6	2768	3308	D32=1A D40=1B	538	420	1150	1/2	1/2	D32=83 D40=107	D32=71 D40=95
OP-HJZ036D	G8	4400	0,5	1x457	8	3389	4174	D32=1A D40=1B	538	420	1150	5/8	1/2	D32=85 D40=109	D32=73 D40=97
OP-HJZ040D	J8	5480	1,3	1x457	8	3690	4478	D32=1A D40=1B	688	420	1150	5/8	1/2	D32=93 D40=120	D32=80 D40=107
OP-HJZ050D	J8	5480	1,3	1x457	8	3997	4831	D32= 1A D40= 1B	688	420	1150	7/8	1/2	D32= 104 D40= 134	D32= 91 D40= 121
OP-HGZ064D	N8	8200	1,6	2x457	10	5820	7009	D32=2A D40=2B	715	800	1200	1 1/8	1/2	D32=140 D40=182	D32=125 D40=167
OP-HGZ080D	N8	8200	1,6	2x457	14	7232	8927	D32=2A D40=2B	715	800	1200	1 1/8	5/8	D32=143 D40=201	D32=128 D40=170
OP-HGZ100D	N8	8200	1,6	2x457	14	8417	10286	D32=2A D40=2B	715	800	1200	1 1/8	5/8	D32=159 D40=201	D32=144 D40=186
OP-HGZ125D	Q8	12720	2,5	2x550	14	10152	12609	D32=2A D40=2B	971	800	1500	1 1/8	5/8	D32=243 D40=302	D32=225 D40=284
OP-HGZ160D	Q8	12720	2,5	2x550	14	12911	16656	D32=2A D40=2B	971	800	1500	1 1/8	5/8	D32=248 D40=307	D32=230 D40=289

Technical data and ordering

Unidades Condensadoras Scroll con R404A/R507 (Media y Alta temperaturas) - LAM 1 (Columbia)

Tipo de compresor	Ventiladores	Condiciones de prueba	Modelo	Código por versión	Código eléctrico	Compresor	Temperatura ambiente [°C]	Capacidad de refrigeración [W] a temperatura de evaporación								
				D40				-30 °C	-25 °C	-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C
Scroll		sobrecalentamiento 18K subenfriamiento 3K	OP-HNU015D	114N3369	E	MLZ015	32	1.546	2.044	2.601	3.230	3.942	4.743	5.643	6.646	7.757
							35	–	1.903	2.446	3.055	3.739	4.508	5.371	6.332	7.401
							38	–	1.756	2.284	2.872	3.530	4.266	5.092	6.014	7.041
							43	–	–	1.998	2.552	3.166	3.850	4.616	5.473	6.430
			OP-HNU021D	114N3373	E	MLZ021	32	2.298	2.925	3.630	4.426	5.328	6.349	7.500	8.788	10.225
							35	–	2.776	3.455	4.219	5.084	6.062	7.169	8.412	9.805
							38	–	2.621	3.273	4.005	4.833	5.769	6.833	8.030	9.379
							43	–	–	2.955	3.632	4.397	5.264	6.254	7.379	8.659
			OP-HNU030D	114N3377	E	MLZ030	32	3.426	4.331	5.384	6.598	7.989	9.569	11.348	13.333	15.534
							35	–	4.110	5.123	6.292	7.631	9.153	10.871	12.795	14.936
							38	–	3.884	4.858	5.979	7.265	8.728	10.387	12.248	14.332
							43	–	–	4.402	5.443	6.637	8.003	9.560	11.323	13.314
			OP-HRU038D	114N3381	E	MLZ038	32	4.271	5.365	6.639	8.113	9.805	11.731	13.902	16.338	19.032
							35	–	5.096	6.324	7.745	9.375	11.230	13.326	15.684	18.299
							38	–	4.817	5.997	7.360	8.926	10.709	12.728	15.000	17.544
							43	–	–	5.425	6.688	8.140	9.800	11.688	13.829	16.245
			OP-HRU048D	114N3384	E	MLZ048	32	5.354	6.849	8.508	10.368	12.468	14.846	17.523	20.528	23.892
							35	–	6.495	8.091	9.875	11.889	14.171	16.745	19.645	22.908
							38	–	6.129	7.661	9.369	11.295	13.475	15.952	18.750	21.915
							43	–	–	6.917	8.495	10.274	12.296	14.606	17.237	20.245
			OP-HRU058D	114N3387	E	MLZ058	32	5.958	7.848	9.995	12.432	15.177	18.258	21.685	25.490	29.663
							35	–	7.369	9.455	11.817	14.478	17.458	20.779	24.475	28.536
							38	–	6.878	8.900	11.185	13.756	16.637	19.851	23.429	27.388
							43	–	–	7.943	10.093	12.511	15.222	18.256	21.650	25.437
			OP-HRU076D	114N3390	E	MLZ076	32	8.640	11.048	13.648	16.512	19.713	23.322	27.380	31.951	37.071
							35	–	10.555	12.992	15.677	18.683	22.075	25.928	30.281	35.185
							38	–	10.071	12.331	14.823	17.624	20.800	24.434	28.557	33.248
							43	–	–	11.225	13.370	15.806	18.598	21.839	25.571	29.886

Código eléctrico:
E - Compresor 400V/3F/50Hz, ventilador(es) 230V/1F/50 Hz

La capacidad de enfriamiento se presenta para modelos trifásicos. Para los modelos monofásicos, presentará diferencia de ±1%.
El consumo indicado corresponde a una temperatura ambiente de 32 °C en la sala de máquinas.
La configuración detallada de la versión puede encontrarse en la página 03.

Technical data and ordering

Unidades Condensadoras Scroll con R404A/R507 (Media y Alta temperaturas) - LAM 1 (Columbia)

Modelo	Condensador			Ventilador Ø [mm]	Recibidor de líquido [l]	Consumo de la unidad [W] a temp. de evaporación		Dimensiones [mm]						Peso [kg]	
	Tipo	Flujo de aire [m³/h]	Volumen interno [l]			-10 °C	5 °C	Dib.	Alto A [mm]	Profundidad P [mm]	Largo L [mm]	Línea succión [in]	Línea líquido [in]	Bruto	Neto
OP-HNU015D	G8	4400	0,5	1x457	6	2366	2415	3A	538	420	1150	5/8	1/2	115	103
OP-HNU021D	G8	4400	0,5	1x457	6	2948	2228	3A	538	420	1150	5/8	1/2	115	103
OP-HNU030D	J8	5480	1,3	1x457	8	3914	3327	3A	688	420	1150	7/8	1/2	136	123
OP-HRU038D	N8	8200	1,6	2x457	10	5109	5455	4A	715	800	1200	7/8	1/2	182	167
OP-HRU048D	N8	8200	1,6	2x457	10	4719	5178	4A	715	800	1200	7/8	1/2	182	167
OP-HRU058D	Q8	12720	2,5	2x550	14	7258	7844	4A	971	800	1500	1 1/8	5/8	287	269
OP-HRU076D	Q8	12720	2,5	2x550	14	7274	8180	4A	971	800	1500	1 1/8	5/8	288	270

Technical data and ordering

Optyma™ - R404A / R507 MBP / HBP - LAM 2 (Mexico)

Fan	Test conditions	Unit	Version code		Electrical code	Compressor	Amb. temp. [°C]	Cooling capacity [Btu/h] at evaporating temperature								
			D32	D40				-30 °C	-25 °C	-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C
	SH = 18 K SC = 3 K	OP-HJZ018D	114N3207 114N3209 114N3211	114N3208 114N3210 114N3212	N Q R	MTZ018	32	2400	3950	5700	7800	10150	12850	15800	19050	22600
							35	2100	3600	5300	7300	9550	12150	15000	18100	21500
							38	1800	3200	4850	6800	8950	11400	14150	17150	20400
							43	1300	2650	4150	5900	7950	10200	12700	15500	18550
		OP-HJZ022D	114N3223 114N3225 114N3227	114N3224 114N3226 114N3228	N Q R	MTZ022	32	4250	6000	8100	10500	13300	16400	19800	23450	27400
							35	3900	5600	7600	9950	12600	15550	18750	22300	26050
							38	3550	5200	7100	9350	11850	14650	17700	21050	24650
							43	3000	4500	6250	8250	10550	13100	15900	19000	22300
		OP-HJZ028D	114N3238 114N3240	114N3239 114N3241	N Q R	MTZ028	32	6300	8650	11400	14550	18150	22150	26650	31500	36800
							35	5900	8150	10800	13850	17250	21150	25400	30100	35200
							38	5450	7650	10150	13100	16400	20100	24200	28650	33550
							43	4650	6750	9100	11800	14850	18250	22050	26200	30750
		OP-HJZ036D	114N3251 114N3253 114N3255	114N3252 114N3254 114N3256	N Q R	MTZ036	32	7350	10300	13750	17700	22200	27200	32700	38650	45050
							35	6750	9550	12900	16700	21000	25800	31050	36750	42900
							38	6150	8850	12050	15650	19800	24350	29400	34850	40750
							43	5150	7700	10650	14000	17750	22000	26650	31700	37200
		OP-HJZ040D	114N3267 114N3269 114N3271	114N3268 114N3270 114N3272	N Q R	MTZ040	32	8750	12250	16400	21200	26700	32900	39850	47400	55650
							35	8100	11450	15450	20050	25300	31250	37900	45150	53050
							38	7400	10650	14450	18900	23900	29600	35900	42900	50450
							43	6350	9350	12900	16950	21600	26800	32650	39100	46200
		OP-HJZ050D	114N3281 114N3283 114N3285	114N3282 114N3284 114N3286	N Q R	MTZ050	32	10850	15100	20000	25750	32250	39600	47750	56750	66500
							35	9900	14000	18750	24250	30500	37600	45450	54100	63500
							38	8950	12900	17450	22750	28750	35550	43100	51350	60450
							43	7350	11000	15250	20150	25750	32050	39050	46800	55300
		OP-HGZ064D	114N3296 114N3298 114N3300	114N3297 114N3299 114N3301	N Q R	MTZ064	32	13700	18800	24700	31500	39100	47550	56700	66600	77200
							35	12550	17450	23150	29600	36900	44950	53750	63250	73400
							38	11400	16100	21550	27750	34700	42400	50800	59850	69650
							43	9500	13850	18900	24600	30950	38050	45800	54250	63400
		OP-HGZ080D	114N3308 114N3310	114N3309 114N3311	Q R	MTZ080	32	19300	25650	33000	41500	51100	61800	73550	86350	100150
							35	17950	24050	31100	39200	48400	58650	69900	82150	95400
							38	16600	22450	29200	36900	45650	55450	66200	77950	90650
							43	14400	19750	25950	33050	41050	50050	59950	70850	82750
		OP-HGZ100D	114N3318 114N3320	114N3319 114N3321	Q R	MTZ100	32	19800	27300	35950	45800	56850	68950	82150	96300	111400
							35	18000	25200	33500	42900	53450	65050	77650	91250	105750
							38	16250	23150	31100	40050	50100	61150	73200	86200	100100
							43	13400	19800	27100	35300	44550	54700	65800	77900	90900
		OP-HGZ125D	114N3328 114N3330	114N3329 114N3331	Q R	MTZ125	32	29600	39100	50100	62700	76950	92950	110500	129750	150550
							35	27300	36450	47050	59150	72800	88100	105000	123450	143450
							38	25000	33850	44000	55550	68600	83250	99400	117100	136300
							43	21250	29450	38850	49550	61600	75100	90050	106550	124500
		OP-HGZ160D	114N3338 114N3340	114N3339 114N3341	Q R	MTZ160	32	38250	49550	62500	77250	93750	112000	132000	153550	176700
							35	35500	46300	58750	72900	88700	106200	125300	146050	168350
							38	32700	43150	55000	68500	83600	100350	118650	138600	160050
							43	28200	37850	48850	61250	75200	90650	107650	126250	146500

Electrical codes:
N - Compressor 230 V / 1-ph / 60 Hz, Fan(s) 230 V / 1-ph / 60 Hz
Q - Compressor 230 V / 3-ph / 60 Hz, Fan(s) 230 V / 1-ph / 60 Hz
R - Compressor 460 V / 3-ph / 60 Hz , Fan(s) 460 V / 1-ph / 60 Hz

Cooling capacity for three-phase models shown. For single-phase models a difference of ± 1% shall apply
The consumption values shown relate to an ambient temperature in the equipment room of 32°C.

Technical data and ordering

Optyma™ - R404A / R507 MBP / HBP - LAM 2 (Mexico)

Unit	Condenser			Fan Ø [mm]	Receiver [L]	Power consumption [Btu/h] at evaporating temp.		Dimensions [mm]						Weight [kg]	
	Type	Air flow [m³/h]	Internal volume [l]			-10 °C	5 °C	Figure	Height H [mm]	Depth D [mm]	Length L [mm]	Suction line [in]	Liquid line [in]	Gross	Net
OP-HJZ018D	D8	2400	0.4	1x355	3	1900	2250	D32= 1A D40= 1B	463	310	1000	1/2	3/8	D32= 64 D40= 80	D32= 55 D40= 71
OP-HJZ022D	D8	2400	0.4	1x355	3	2100	2700	D32= 1A D40= 1B	463	310	1000	1/2 5/8 (N)	3/8	D32= 64 D40= 80	D32= 55 D40= 71
OP-HJZ028D	G8	4800	0.5	1x457	6	3250	3900	D32= 1A D40= 1B	538	420	1150	1/2 5/8 (N)	1/2	D32= 83 D40= 107	D32= 71 D40= 95
OP-HJZ036D	G8	4800	0.5	1x457	8	3850	5000	D32= 1A D40= 1B	538	420	1150	5/8	1/2	D32= 85 D40= 109	D32= 73 D40= 97
OP-HJZ040D	J8	6300	1.3	1x457	8	4150	5350	D32= 1A D40= 1B	688	420	1150	5/8	1/2	D32= 93 D40= 120	D32= 80 D40= 107
OP-HJZ050D	J8	6300	1.3	1x457	8	4850	5900	D32= 1A D40= 1B	688	420	1150	7/8	1/2	D32= 104 D40= 134	D32= 91 D40= 121
OP-HGZ064D	N8	8800	1.6	2x457	10	6850	8350	D32= 2A D40= 2B	715	800	1200	1 1/8	1/2	D32= 140 D40= 182	D32= 125 D40= 167
OP-HGZ080D	N8	8800	1.6	2x457	14	8800	11100	D32= 2A D40= 2B	715	800	1200	1 1/8	5/8	D32= 143 D40= 185	D32= 128 D40= 170
OP-HGZ100D	N8	8800	1.6	2x457	14	9800	12150	D32= 2A D40= 2B	715	800	1200	1 1/8	5/8	D32= 159 D40= 201	D32= 144 D40= 186
OP-HGZ125D	Q8	13980	2.5	2x550	14	12150	15100	D32= 2A D40= 2B	971	800	1500	1 1/8	5/8	D32= 243 D40= 302	D32= 225 D40= 284
OP-HGZ160D	Q8	13980	2.5	2x550	14	15450	20250	D32= 2A D40= 2B	971	800	1500	1 1/8	5/8	D32= 248 D40= 307	D32= 230 D40= 289

Technical data and ordering

Optyma™ - R404A / R507 MBP / HBP - LAM 2 (Mexico)

Fan	Test conditions	Unit	Version code	Electrical code	Compressor	Amb. temp. [°C]	Cooling capacity [Btu/h] at evaporating temperature								
			D40				-30 °C	-25 °C	-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C
	SH = 18 K SC = 3 K	OP-HNU015D	114N3366 114N3367 114N3368	N Q R	MLZ015	32	6400	8400	10700	13250	16100	19350	23000	27100	31600
						35	–	7900	10100	12600	15350	18500	22000	25900	30250
						38	–	7350	9500	11900	14550	17550	20950	24700	28950
						43	–	–	8450	10700	13200	16000	19150	22700	26650
		OP-HNU021D	114N3370 114N3371 114N3372	N Q R	MLZ021	32	9650	12150	15000	18300	22000	26150	30750	35800	41300
						35	–	11550	14300	17450	21000	25000	29450	34350	39750
						38	–	10900	13550	16550	19950	23800	28100	32900	38150
						43	–	–	12250	15050	18200	21850	25900	30450	35550
		OP-HNU030D	114N3374 114N3375 114N3376	N Q R	MLZ030	32	14400	18000	22150	27000	32500	38700	45600	53200	61500
						35	–	17100	21100	25750	31000	37000	43650	51000	59100
						38	–	16200	20000	24450	29500	35250	41650	48800	56700
						43	–	–	18100	22200	26900	32250	38300	45100	52700
		OP-HRU038D	114N3378 114N3379 114N3380	N Q R	MLZ038	32	16950	21650	27000	33000	39800	47350	55850	65300	75700
						35	–	20600	25750	31550	38050	45350	53550	62650	72800
						38	–	19450	24450	30050	36300	43300	51200	60000	69850
						43	–	–	22150	27350	33250	39800	47200	55500	64850
		OP-HRU048D	114N3382 114N3383	Q R	MLZ048	32	22750	28200	34700	42200	50800	60350	70900	82450	95000
						35	–	26850	33050	40250	48450	57600	67800	79000	91200
						38	–	25400	31300	38200	46000	54850	64650	75450	87350
						43	–	–	28300	34600	41850	50100	59250	69500	80900
		OP-HRU058D	114N3385 114N3386	Q R	MLZ058	32	23800	32050	41250	51450	62750	75300	89150	104300	120850
						35	–	29900	38800	48600	59450	71450	84700	99300	115200
						38	–	27700	36250	45700	56050	67550	80200	94150	109400
						43	–	–	31950	40650	50200	60750	72400	85300	99450
		OP-HRU076D	114N3388 114N3389	Q R	MLZ076	32	35600	44500	54600	66150	79200	93850	110150	128100	147700
						35	–	42300	52000	63000	75400	89400	104950	122100	140950
						38	–	40000	49250	59750	71550	84850	99650	116050	134150
						43	–	–	44550	54150	64950	77050	90650	105800	122650

Electrical codes:
N - Compressor 230 V / 1-ph / 60 Hz, Fan(s) 230 V / 1-ph / 60 Hz
Q - Compressor 230 V / 3-ph / 60 Hz, Fan(s) 230 V / 1-ph / 60 Hz
R - Compressor 460 V / 3-ph / 60 Hz , Fan(s) 460 V / 1-ph / 60 Hz

Cooling capacity for three-phase models shown. For single-phase models a difference of ± 1% shall apply
The consumption values shown relate to an ambient temperature in the equipment room of 32°C.

Technical data and ordering

Optyma™ - R404A / R507 MBP / HBP - LAM 2 (Mexico)

Unit	Condenser			Fan Ø [mm]	Receiver [L]	Power consumption [Btu/h] at evaporating temp.		Dimensions [mm]						Weight [kg]	
	Type	Air flow [m³/h]	Internal volume [l]			-10 °C	5 °C	Figure	Height H [mm]	Depth D [mm]	Length L [mm]	Suction line [in]	Liquid line [in]	Gross	Net
OP-HNU015D	G8	4800	0.5	1x457	6	2350	2600	3A	538	420	1150	5/8	1/2	115	103
OP-HNU021D	G8	4800	0.5	1x457	6	3450	3700	3A	538	420	1150	5/8	1/2	115	103
OP-HNU030D	J8	6300	1.3	1x457	8	4450	4850	3A	688	420	1150	7/8	1/2	136	123
OP-HRU038D	N8	8800	1.6	2x457	10	5350	5900	4A	715	800	1200	7/8	1/2	182	167
OP-HRU048D	N8	8800	1.6	2x457	10	7550	8250	4A	715	800	1200	7/8	1/2	182	167
OP-HRU058D	Q8	13980	2.5	2x550	14	8950	10050	4A	971	800	1500	1 1/8	5/8	287	269
OP-HRU076D	Q8	13980	2.5	2x550	14	11000	12300	4A	971	800	1500	1 1/8	5/8	288	270

Technical data and ordering

Optyma™ - R404A/R507 MBP/HBP - LAM3 (Argentina)

Ventiladore	Condiciones de prueba	Modelo	Código por versión		Código Eléctrico	Compresor	Temperatura ambiente [°C]	Capacidad de refrigeración (W) a temperatura de evaporación								
			D20	D39				-30 °C	-25 °C	-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C
	sobrecalentamiento 18 K subenfriamiento 3 K	OP-HJZ019D	115F0066 115F0068	115F0272	G E	MTZ018	32	616	948	1358	1846	2414	3062	3787	4584	5450
							35	565	882	1271	1734	2273	2888	3578	4338	5165
							38	516	818	1186	1624	2133	2716	3370	4093	4883
							43	437	713	1046	1442	1903	2432	3027	3690	4416
		OP-HJZ022D	115F0071 115F0073	115F0276	G E	MTZ022	32	986	1398	1900	2493	3177	3953	4810	5746	6755
							35	903	1294	1770	2333	2983	3721	4540	5434	6401
							38	822	1192	1642	2175	2790	3491	4269	5123	6049
							43	695	1028	1433	1913	2472	3109	3822	4609	5468
		OP-HJZ028D	115F0076 115F0078	115F0280	G E	MTZ028	32	1318	1912	2617	3438	4381	5450	6646	7965	9408
							35	1186	1758	2433	3220	4124	5149	6297	7566	8956
							38	1059	1607	2254	3006	3870	4851	5949	7170	8509
							43	857	1365	1963	2657	3454	4362	5381	6519	7772
		OP-HJZ032D	115F0081 115F0083	115F0284	G E	MTZ032	32	1653	2298	3063	3953	4971	6120	7399	8801	10324
							35	1514	2133	2865	3715	4688	5787	7013	8358	9819
							38	1378	1970	2668	3478	4407	5454	6625	7912	9314
							43	1158	1703	2344	3086	3938	4901	5981	7172	8478
		OP-HJZ036D	115F0086 115F0088	115F0288	G E	MTZ036	32	1951	2683	3542	4528	5643	6884	8240	9708	11280
							35	1804	2510	3332	4275	5337	6521	7814	9214	10716
							38	1657	2336	3122	4021	5031	6156	7387	8720	10153
							43	1411	2045	2771	3595	4520	5546	6675	7901	9221
		OP-HJZ040D	115F0092	115F0292	E	MTZ040	32	2394	3243	4237	5384	6688	8151	9774	11551	13476
							35	2230	3050	4006	5104	6350	7747	9294	10995	12840
							38	2065	2856	3772	4821	6008	7339	8814	10437	12196
							43	1789	2528	3376	4341	5430	6651	8002	9495	11115
		OP-HJZ044D	115F0096	115F0296	E	MTZ044	32	2177	3053	4104	5343	6781	8424	10275	12328	14580
							35	2002	2848	3858	5046	6422	7994	9765	11739	13903
							38	1826	2641	3609	4745	6059	7561	9255	11146	13227
							43	1530	2293	3191	4239	5449	6835	8399	10154	12093
		OP-HJZ050D	115F0100	115F0300	E	MTZ050	32	2589	3582	4777	6183	7805	9649	11701	13962	16417
							35	2385	3331	4467	5804	7349	9104	11068	13234	15591
							38	2188	3087	4166	5434	6900	8570	10444	12513	14774
							43	1877	2698	3679	4832	6170	7697	9420	11332	13438
		OP-HJZ056D	115F0104	115F0304	E	MTZ056	32	2653	3714	4992	6498	8237	10218	12424	14853	17500
							35	2440	3456	4675	6111	7771	9664	11776	14108	16656
							38	2236	3205	4366	5732	7313	9119	11137	13372	15822
							43	1911	2804	3868	5118	6567	8224	10094	12172	14461
		OP-HJZ064D	115F0108	115F0308	E	MTZ064	32	3260	4455	5884	7559	9490	11668	14089	16749	19635
							35	3001	4147	5512	7109	8951	11033	13350	15902	18679
							38	2745	3842	5142	6662	8412	10399	12616	15059	17730
							43	2328	3341	4532	5921	7523	9350	11395	13669	16171
		OP-HGZ072D	115F0111	115F0311	E	MTZ072	32	3837	5223	6893	8861	11138	13731	16641	19858	23370
							35	3546	4867	6458	8335	10510	12993	15786	18877	22262
							38	3269	4524	6036	7821	9896	12264	14938	17906	21166
							43	2837	3981	5359	6989	8891	11075	13552	16314	19374
		OP-HGZ080D	115F0114	115F0314	E	MTZ080	32	4632	6215	8071	10216	12652	15392	18410	21706	25273
							35	4306	5826	7603	9654	11982	14602	17494	20656	24086
							38	3988	5445	7142	9098	11320	13820	16583	19613	22908
							43	3472	4824	6389	8185	10225	12521	15079	17896	20970
		OP-HGZ100D	115F0117	115F0317	E	MTZ100	32	4842	6728	8956	11519	14420	17625	21108	24853	28830
							35	4472	6291	8425	10871	13629	16677	19992	23561	27358
							38	4092	5848	7888	10216	12837	15729	18878	22273	25895
							43	3432	5085	6975	9114	11504	14149	17032	20143	23487
		OP-HGZ125D	115F0120	115F0320	E	MTZ125	32	6842	9227	12081	15429	19272	23635	28478	33797	39581
							35	6339	8610	11325	14514	18183	22350	26987	32093	37659
							38	5861	8016	10594	13619	17109	21072	25514	30414	35758
							43	5115	7074	9417	12172	15361	19003	23105	27652	32649
		OP-HGZ144D	115F0123	115F0323	E	MTZ144	32	8191	10924	14125	17811	21996	26655	31772	37336	43316
							35	7612	10231	13289	16806	20802	25246	30138	35466	41204
							38	7046	9548	12461	15806	19596	23841	28513	33600	39101
							43	6131	8432	11097	14156	17617	21510	25805	30509	35630
		OP-HGZ160D	115F0126	115F0326	E	MTZ160	32	8878	11824	15259	19194	23641	28563	33944	39754	45957
							35	8256	11083	14371	18128	22374	27078	32219	37786	43746
							38	7649	10353	13487	17067	21106	25589	30497	35824	41545
							43	6666	9161	12032	15306	19007	23118	27647	32579	37927

Códigos Eléctricos:
G - Compresor 230V/1F/50Hz, ventilador(es) 230V/1F/50 Hz
E - Compresor 400V/3F/50Hz, ventilador(es) 230V/1F/50 Hz

La capacidad de enfriamiento se presenta para modelos trifásicos. Para los modelos monofásicos, presentará diferencia de ±1%.
El consumo indicado corresponde a una temperatura ambiente de 32ºC en la sala de máquinas.
La configuración detallada de versiones D20 y D39 puede encontrarse en la página 03.

Technical data and ordering

Optyma™ - R404A/R507 MBP/HBP - LAM3 (Argentina)

Modelo	Condensador			Ventilador Ø [mm]	Recibidor de líquido [l]	Consumo de la unidad [W] a temp. de evaporación		Dimensiones [mm]						Peso [kg]	
	Tipo	Flujo de aire [m³/h]	Volumen interno [l]			-10 °C	5 °C	Dib.	Alto A [mm]	Profundidad P [mm]	Largo L [mm]	Línea succión [in]	Línea líquido [in]	Bruto	Neto
OP-HJZ019D	D8	2080	0.4	1x355	3	1169	1470	1A	463	310	1000	1/2	3/8	D20 = 62 D39 = 64	D20 = 53 D39 = 55
OP-HJZ022D	D8	2080	0.4	1x355	3	1450	1904	1A	463	310	1000	1/2	3/8	D20 = 62 D39 = 64	D20 = 53 D39 = 55
OP-HJZ028D	G8	4400	0.5	1x457	6	1879	2419	1A	538	420	1150	1/2	1/2	D20 = 83 D39 = 85	D20 = 71 D39 = 73
OP-HJZ032D	G8	4400	0.5	1x457	8	2087	2730	1A	538	420	1150	5/8	1/2	D20 = 85 D39 = 87	D20 = 73 D39 = 75
OP-HJZ036D	G8	4400	0.5	1x457	8	2500	3285	1A	538	420	1150	5/8	1/2	D20 = 85 D39 = 87	D20 = 73 D39 = 75
OP-HJZ040D	J8	5480	1.3	1x457	8	2801	3589	1A	688	420	1150	5/8	1/2	D20 = 93 D39 = 95	D20 = 80 D39 = 82
OP-HJZ044D	J8	5480	1.3	1x457	8	2653	3341	1A	688	420	1150	7/8	1/2	D20 = 104 D39 = 107	D20 = 91 D39 = 94
OP-HJZ050D	J8	5480	1.3	1x457	8	3108	3942	1A	688	420	1150	7/8	1/2	D20 = 104 D39 = 107	D20 = 91 D39 = 94
OP-HJZ056D	J8	5480	1.3	1x457	8	3409	4458	1A	688	420	1150	7/8	1/2	D20 = 104 D39 = 107	D20 = 91 D39 = 94
OP-HJZ064D	J8	5480	1.3	1x457	8	4134	5516	1A	688	420	1150	7/8	1/2	D20 = 104 D39 = 107	D20 = 91 D39 = 94
OP-HGZ072D	N8	8200	1.6	2x457	14	4539	5892	2A	715	800	1200	1 1/8	5/8	D20 = 140 D39 = 143	D20 = 125 D39 = 128
OP-HGZ080D	N8	8200	1.6	2x457	14	5454	7149	2A	715	800	1200	1 1/8	5/8	D20 = 143 D39 = 146	D20 = 128 D39 = 131
OP-HGZ100D	N8	8200	1.6	2x457	14	6639	8508	2A	715	800	1200	1 1/8	5/8	D20 = 159 D39 = 162	D20 = 154 D39 = 147
OP-HGZ125D	Q8	12720	2.5	2x600	14	8178	10635	2A	971	800	1500	1 1/8	5/8	D20 = 243 D39 = 247	D20 = 225 D39 = 229
OP-HGZ144D	Q8	12720	2.5	2x600	14	9581	12532	2A	971	800	1500	1 1/8	5/8	D20 = 248 D39 = 252	D20 = 230 D39 = 234
OP-HGZ160D	Q8	12720	2.5	2x600	14	10937	14682	2A	971	800	1500	1 1/8	5/8	D20 = 248 D39 = 252	D20 = 230 D39 = 234

Technical data and ordering

Optyma™ - R404A/R507 MBP/HBP - LAM3 (Argentina)

Ventiladore	Condiciones de prueba	Modelo	Código por versión	Código Eléctrico	Compresor	Temperatura ambiente [°C]	Capacidad de refrigeración (W) a temperatura de evaporación				
			D20				-40 °C	-35 °C	-30 °C	-25 °C	-20 °C
	sobrecalentamiento 18 K subenfriamiento 3 K	OP-LJZ048D	115F0414	E	NTZ048	32	730	1085	1502	1982	2525
						35	662	999	1396	1851	2365
						38	593	914	1290	1720	2206
						43	481	774	1114	1504	1943
		OP-LJZ068D	115F0418	E	NTZ068	32	1266	1752	2310	2942	3641
						35	1163	1625	2156	2757	3423
						38	1065	1504	2008	2578	3210
						43	911	1313	1772	2289	2867
		OP-LJZ096D	115F0422	E	NTZ096	32	1539	2169	2952	3900	5021
						35	1394	1992	2735	3637	4705
						38	1249	1813	2516	3371	4387
						43	–	1516	2150	2925	3851
		OP-LJZ108D	115F0426	E	NTZ108	32	1825	2588	3498	4554	5753
						35	1656	2386	3251	4254	5393
						38	1489	2184	3005	3955	5031
						43	–	1851	2599	3460	4437
		OP-LJZ136D	115F0430	E	NTZ136	32	2468	3417	4556	5898	7449
						35	2265	3171	4256	5536	7015
						38	2065	2926	3958	5174	6583
						43	–	2523	3465	4575	5864
		OP-LGZ215D	115F0433	E	NTZ215	32	3764	5273	7055	9125	11488
						35	3417	4868	6575	8556	10816
						38	3062	4451	6082	7973	10130
						43	2460	3741	5240	6976	8957
		OP-LGZ271D	115F0436	E	NTZ271	32	5118	7022	9251	11810	14676
						35	4728	6545	8666	11092	13821
						38	4333	6062	8073	10370	12956
						43	3671	5247	7074	9154	11501

Códigos Eléctricos:

G - Compresor 230V/1F/50Hz, ventilador(es) 230V/1F/50 Hz

E - Compresor 400V/3F/50Hz, ventilador(es) 230V/1F/50 Hz

La capacidad de enfriamiento se presenta para modelos trifásicos. Para los modelos monofásicos, presentará diferencia de ±1%.

El consumo indicado corresponde a una temperatura ambiente de 32ºC en la sala de máquinas.

La configuración detallada de versiones D20 y D39 puede encontrarse en la página 03.

Technical data and ordering

Optyma™ - R404A/R507 MBP/HBP - LAM3 (Argentina)

Modelo	Condensador			Ventilador Ø [mm]	Recibidor de líquido [l]	Consumo de la unidad [W] a temp. de evaporación	Dimensiones [mm]						Peso [kg]	
	Tipo	Flujo de aire [m³/h]	Volumen interno [l]			-25 °C	Dib.	Alto A [mm]	Profundidad P [mm]	Largo L [mm]	Línea succión [in]	Línea líquido [in]	Bruto	Neto
OP-LJZ048D	D8	2080	0.4	1x355	3	1325	1C	463	310	1000	5/8	3/8	69	60
OP-LJZ068D	D8	2080	0.4	1x355	3	2057	1C	463	310	1000	5/8	3/8	69	60
OP-LJZ096D	G8	4400	0.5	1x457	8	2514	1C	538	420	1150	7/8	1/2	104	91
OP-LJZ108D	G8	4400	0.5	1x457	8	2915	1C	538	420	1150	7/8	1/2	104	91
OP-LJZ136D	J8	5480	1.3	1x457	8	4012	1C	688	420	1150	7/8	1/2	115	102
OP-LGZ215D	N8	8200	1.6	2x457	14	5804	2C	715	800	1200	1 1/8	5/8	171	156
OP-LGZ271D	N8	8200	1.6	2x457	14	7694	2C	715	800	1200	1 1/8	5/8	171	156

Technical data and ordering

Optyma™ - R404A/R507 MBP/HBP - LAM4 (Brazil)

Ventiladores	Condições de teste	Modelo	Código por versão				Código elétrico	Compressor	Temperatura ambiente	Capacidade de refrigeração (Kcal/h) na temperatura de evaporação								
			D20	D39	D40	D49				-30 °C	-25 °C	-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C
	superaquecimento 18K sub-resfriamento 3K	OP-HJZ019D	115F0064 115F0065 115F0067	115F0269 115F0270 115F0271	115F0327 115F0328 115F0329	115F0369 115F0370 115F0371	N Q V	MTZ019	32°C 35 °C 38°C 43°C	609 533 456 330	990 901 811 662	1440 1334 1227 1047	1963 1837 1709 1492	2561 2410 2257 1998	3236 3057 2875 2568	3983 3775 3563 3205	4802 4561 4318 3907	5691 5416 5139 4673
		OP-HJZ022D	115F0069 115F0070 115F0072	115F0273 115F0274 115F0275	115F0330 115F0331 115F0332	115F0372 115F0373 115F0374	N Q V	MTZ022	32°C 35 °C 38°C 43°C	1065 984 899 751	1508 1412 1310 1133	2035 1917 1793 1576	2648 2503 2350 2083	3348 3169 2984 2659	4129 3913 3689 3303	4986 4729 4465 4012	5915 5614 5307 4785	6908 6563 6212 5623
		OP-HJZ028D	115F0074 115F0075 115F0077	115F0277 115F0278 115F0279	115F0333 115F0334 115F0335	115F0375 115F0376 115F0377	N Q V	MTZ028	32°C 35 °C 38°C 43°C	1592 1482 1369 1175	2181 2054 1923 1696	2870 2720 2564 2294	3665 3484 3297 2974	4568 4352 4128 3743	5583 5325 5060 4602	6710 6405 6094 5559	7941 7587 7226 6607	9278 8869 8454 7749
		OP-HJZ032D	115F0079 115F0080 115F0082	115F0281 115F0282 115F0283	115F0336 115F0337 115F0338	115F0378 115F0379 115F0380	N Q V	MTZ032	32°C 35 °C 38°C 43°C	1681 1574 1465 1276	2311 2182 2050 1826	3062 2901 2738 2462	3937 3736 3533 3191	4937 4688 4437 4017	6064 5759 5454 4943	7304 6941 6577 5971	8659 8231 7804 7098	10120 9626 9134 8322
		OP-HJZ036D	115F0084 115F0085 115F0087	115F0285 115F0286 115F0287	115F0339 115F0340 115F0341	115F0381 115F0382 115F0383	N Q V	MTZ036	32°C 35 °C 38°C 43°C	1851 1699 1548 1299	2592 2413 2235 1941	3460 3247 3034 2681	4461 4205 3950 3526	5597 5292 4985 4478	6860 6500 6141 5544	8243 7825 7407 6715	9744 9264 8785 7993	11352 10808 10268 9380
		OP-HJZ040D	115F0089 115F0090 115F0091	115F0289 115F0290 115F0291	115F0342 115F0343 115F0344	115F0384 115F0385 115F0386	N Q V	MTZ040	32°C 35 °C 38°C 43°C	2206 2036 1870 1600	3089 2887 2688 2361	4133 3889 3647 3247	5346 5051 4757 4271	6734 6380 6026 5438	8297 7878 7457 6757	10039 9546 9053 8228	11948 11378 10807 9858	14019 13368 12717 11639
		OP-HJZ044D	115F0093 115F0094 115F0095	115F0293 115F0294 115F0295	115F0345 115F0346 115F0347	115F0387 115F0388 115F0389	N Q V	MTZ044	32°C 35 °C 38°C 43°C	2254 2022 1791 1411	3224 2958 2690 2248	4365 4054 3741 3219	5686 5321 4954 4338	7194 6767 6336 5615	8892 8397 7895 7054	10783 10212 9633 8663	12859 12204 11545 10441	15111 14371 13628 12391
		OP-HJZ050D	115F0097 115F0098 115F0099	115F0297 115F0298 115F0299	115F0348 115F0349 115F0350	115F0390 115F0391 115F0392	N Q V	MTZ050	32°C 35 °C 38°C 43°C	2736 2494 2251 1846	3799 3524 3245 2774	5044 4725 4400 3848	6485 6112 5731 5082	8128 7691 7247 6486	9985 9476 8957 8070	12039 11454 10856 9840	14300 13628 12946 11795	16757 15997 15228 13935
		OP-HJZ056D	115F0101 115F0102 115F0103	115F0301 115F0302 115F0303	115F0351 115F0352 115F0353	115F0393 115F0394 115F0395	N Q V	MTZ056	32°C 35 °C 38°C 43°C	3037 2752 2467 1995	4247 3919 3590 3043	5659 5277 4892 4250	7272 6825 6374 5621	9090 8569 8040 7161	11100 10497 9890 8875	13294 12607 11913 10752	15666 14884 14100 12797	18200 17326 16451 15001
		OP-HJZ064D	115F0105 115F0106 115F0107	115F0305 115F0306 115F0307	115F0354 115F0355 115F0356	115F0396 115F0397 115F0398	N Q V	MTZ064	32°C 35 °C 38°C 43°C	3453 3162 2871 2390	4735 4398 4059 3495	6227 5830 5431 4761	7934 7463 6988 6195	9855 9302 8742 7805	11978 11333 10680 9589	14293 13547 12796 11545	16789 15940 15088 13675	19451 18499 17547 15978
		OP-HGZ072D	115F0109 115F0110	115F0309 115F0310	115F0357 115F0358	115F0399 115F0400	Q V	MTZ072	32°C 35 °C 38°C 43°C	4134 3806 3481 2953	5612 5224 4838 4204	7351 6889 6427 5661	9365 8814 8264 7345	11660 11009 10354 9264	14243 13481 12713 11427	17096 16212 15324 13844	20211 19201 18188 16505	23584 22444 21304 19417
		OP-HGZ080D	115F0112 115F0113	115F0312 115F0313	115F0359 115F0360	115F0401 115F0402	Q V	MTZ080	32°C 35 °C 38°C 43°C	4869 4528 4188 3629	6459 6056 5653 4983	8318 7837 7354 6543	10453 9880 9301 8326	12877 12195 11507 10343	15576 14775 13967 12612	18539 17612 16677 15112	21766 20705 19639 17857	25237 24042 22844 20853
		OP-HGZ100D	115F0115 115F0116	115F0315 115F0316	115F0361 115F0362	115F0403 115F0404	Q V	MTZ100	32°C 35 °C 38°C 43°C	4985 4535 4092 3372	6877 6355 5837 4989	9061 8446 7835 6829	11546 10817 10094 8901	14320 13471 12628 11226	17376 16395 15412 13784	20698 19569 18444 16585	24268 22992 21721 19628	28069 26645 25231 22911
		OP-HGZ125D	115F0118 115F0119	115F0318 115F0319	115F0363 115F0364	115F0405 115F0406	Q V	MTZ125	32°C 35 °C 38°C 43°C	7456 6879 6303 5351	9851 9190 8527 7423	12625 11857 11084 9789	15802 14904 13999 12483	19395 18348 17293 15520	23421 22206 20985 18928	27852 26455 25054 22697	32696 31106 29508 26847	37937 36146 34352 31369
		OP-HGZ144D	115F0121 115F0122	115F0321 115F0322	115F0365 115F0366	115F0407 115F0408	Q V	MTZ144	32°C 35 °C 38°C 43°C	8857 8210 7563 6495	11537 10789 10039 8789	14641 13767 12890 11415	18189 17166 16130 14396	22195 21002 19792 17761	26641 25259 23859 21506	31517 29927 28324 25642	36807 35004 33190 30162	42484 40465 38442 35085
		OP-HGZ160D	115F0124 115F0125	115F0324 115F0325	115F0367 115F0368	115F0409 115F0410	Q V	MTZ160	32°C 35 °C 38°C 43°C	9644 8940 8244 7102	12484 11674 10868 9537	15750 14807 13866 12305	19466 18370 17260 15434	23628 22351 21073 18950	28230 26759 25293 22845	33260 31582 29905 27125	38700 36808 34922 31810	44528 42422 40332 36913

Códigos elétricos:

N - Compressor 230V / 1F / 60Hz, ventilador(es) 230V / 1F / 60 Hz
Q - Compressor 230V / 3F / 60Hz, ventilador(es) 230V / 1F / 60 Hz
V - Compressor 380V / 3F / 60Hz, ventilador(es) 230V / 1F / 60 Hz

A capacidade de refrigeração informada é para modelos trifásicos. Para modelos monofásicos apresentará diferença de ± 1%
O consumo indicado corresponde a uma temperatura ambiente de 32°C na casa de máquinas.
O detalhamento da configuração das versões D20, D39, D40 e D49 pode ser encontrado na página 03.

Technical data and ordering

Optyma™ - R404A/R507 MBP/HBP - LAM4 (Brazil)

Modelo	Condensador			Ventilador Ø [mm]	Tanque de líquido [l]	Consumo da unidade [W] na temp. evaporação		Dimensões [mm]						Peso [kg]	
	Tipo	Vazão ar [m3/h]	Volume interno [l]			-10 °C	5 °C	Figura	Altura A [mm]	Profundidade P [mm]	Largura L [mm]	Linha sucção [in]	Linha líquido [in]	Bruto	Líquido
OP-HJZ019D	D8	2400	0.36	1x355	3	1881	2230	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	463	310	1000	1/2	3/8	D20 = 62 D39 = 64 D40 = 75 D49 = 69	D20 = 53 D39 = 55 D40 = 66 D49 = 60
OP-HJZ022D	D8	2400	0.36	1x355	3	2123	2720	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	463	310	1000	1/2 5/8 (N)	3/8	D20 = 62 D39 = 64 D40 = 75 D49 = 69	D20 = 53 D39 = 55 D40 = 66 D49 = 60
OP-HJZ028D	G8	4800	0.47	1x457	6	3246	3900	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	538	420	1150	1/2 5/8 (N)	1/2	D20 = 83 D39 = 85 D40 = 102 D49 = 90	D20 = 71 D39 = 73 D40 = 90 D49 = 78
OP-HJZ032D	G8	4800	0.47	1x457	8	3519	4334	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	538	420	1150	5/8	1/2	D20 = 85 D39 = 87 D40 = 104 D49 = 93	D20 = 73 D39 = 75 D40 = 92 D49 = 81
OP-HJZ036D	G8	4800	0.47	1x457	8	3866	5022	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	538	420	1150	5/8	1/2	D20 = 85 D39 = 87 D40 = 104 D49 = 93	D20 = 73 D39 = 75 D40 = 92 D49 = 81
OP-HJZ040D	J8	6300	1.25	1x457	8	4173	5347	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	688	420	1150	5/8	1/2	D20 = 93 D39 = 95 D40 = 114 D49 = 101	D20 = 80 D39 = 82 D40 = 101 D49 = 88
OP-HJZ044D	J8	6300	1.25	1x457	8	4342	5284	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	688	420	1150	7/8	1/2	D20 = 104 D39 = 107 D40 = 126 D49 = 115	D20 = 91 D39 = 94 D40 = 113 D49 = 102
OP-HJZ050D	J8	6300	1.25	1x457	8	4827	5920	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	688	420	1150	7/8	1/2	D20 = 104 D39 = 107 D40 = 126 D49 = 115	D20 = 91 D39 = 94 D40 = 113 D49 = 102
OP-HJZ056D	J8	6300	1.25	1x457	8	5398	6779	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	688	420	1150	7/8	1/2	D20 = 104 D39 = 107 D40 = 126 D49 = 115	D20 = 91 D39 = 94 D40 = 113 D49 = 102
OP-HJZ064D	J8	6300	1.25	1x457	8	6051	7729	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	688	420	1150	7/8	1/2	D20 = 104 D39 = 107 D40 = 126 D49 = 115	D20 = 91 D39 = 94 D40 = 113 D49 = 102
OP-HGZ072D	N8	8800	1.55	2x457	14	7658	9373	D20 = 2A D39 = 2A D40 = 2B D49 = 2C	715	800	1200	1 1/8	5/8	D20 = 140 D39 = 143 D40 = 173 D49 = 152	D20 = 125 D39 = 128 D40 = 158 D49 =137
OP-HGZ080D	N8	8800	1.55	2x457	14	8818	11104	D20 = 2A D39 = 2A D40 = 2B D49 = 2C	715	800	1200	1 1/8	5/8	D20 = 143 D39 = 146 D40 = 176 D49 = 155	D20 = 128 D39 = 131 D40 = 161 D49 = 140
OP-HGZ100D	N8	8800	1.55	2x457	14	9800	12138	D20 = 2A D39 = 2A D40 = 2B D49 = 2C	715	800	1200	1 1/8	5/8	D20 = 159 D39 = 162 D40 = 182 D49 = 171	D20 = 154 D39 = 147 D40 = 177 D49 = 156
OP-HGZ125D	Q8	13980	2.54	2x600	14	12172	15109	D20 = 2A D39 = 2A D40 = 2B D49 = 2C	971	800	1500	1 1/8	5/8	D20 = 243 D39 = 247 D40 = 287 D49 = 257	D20 = 225 D39 = 229 D40 = 269 D49 = 239
OP-HGZ144D	Q8	13980	2.54	2x600	14	13780	17578	D20 = 2A D39 = 2A D40 = 2B D49 = 2C	971	800	1500	1 1/8	5/8	D20 = 248 D39 = 252 D40 = 293 D49 = 262	D20 = 230 D39 = 234 D40 = 274 D49 = 244
OP-HGZ160D	Q8	13980	2.54	2x600	14	15451	20266	D20 = 2A D39 = 2A D40 = 2B D49 = 2C	971	800	1500	1 1/8	5/8	D20 = 248 D39 = 252 D40 = 293 D49 = 262	D20 = 230 D39 = 234 D40 = 274 D49 = 244

Technical data and ordering

Optyma™ R404A / R507 MBP

Fan	Test conditions	Unit	Version	Code no.	Electrical code	Compressor	Amb. temp. [°C]	Cooling capacity range in [W] at evaporating temperature [°C]							Power consumption [W] at evap. temp.	
								-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	-10 °C	5 °C
	SH = 10 K	OP-MCHC004	A00	114X2208	G	TL4DLX	27	250	280	340	410	510	620	740	230	280
			A01	114X2209			32	220	250	300	380	460	570	680		
			A04	114X2211			38	180	210	260	330	410	500	–		
							43	–	–	–	–	–	–	–		
		OP-MCHC006	A00	114X2316	G	FR6DLX	27	380	460	560	690	830	1000	1190	380	480
			A01	114X2317			32	340	420	510	620	750	910	1080		
			A04	114X2319			38	300	360	440	540	660	790	–		
							43	–	–	–	–	–	–	–		
		OP-MCHC007	A00	114X2424	G	NF7MLX	27	–	600	740	910	1090	1300	–	450	530
			A01	114X2425			32	–	550	680	830	1000	1200	–		
			A04	114X2427			38	–	490	600	740	900	1080	–		
							43	–	430	540	670	810	970	–		
		OP-MCHC010	A00	114X2532	A	SC10MLX	27	650	810	1010	1240	1500	1810	–	560	670
			A01	114X2533			32	590	740	920	1130	1370	1650	–		
			A04	114X2535			38	510	650	810	1000	1210	1460	–		
							43	–	570	720	890	1080	1300	–		
		OP-MCHC012	A00	114X2540	G	SC12MLX	27	790	990	1220	1490	1810	2170	–	660	800
			A01	114X2541			32	720	900	1120	1370	1660	1990	–		
			A04	114X2543			38	630	790	990	1210	1470	1760	–		
							43	–	700	870	1080	1310	1570	–		
		OP-MCHC015	A01	114X2649	G	SC15MLX	27	980	1220	1510	1840	2220	2650	–	840	1030
							32	890	1120	1380	1690	2040	2450	–		
			A04	114X2651			38	790	990	1220	1500	1820	2200	–		
							43	–	880	1090	1350	1640	1980	–		
		OP-MCHC018	A00	114X2756	G	SC18MLX	27	1150	1430	1750	2140	2580	3080	–	920	1130
			A01	114X2757			32	1040	1300	1610	1960	2370	2840	–		
			A04	114X2759			38	920	1150	1430	1750	2120	2550	–		
							43	–	1030	1280	1570	1910	2300	–		
		OP-MCHC021	A01	114X2765	G	GS21MLX	27	1370	1730	2160	2670	3260	3950	–	1030	1260
							32	1230	1560	1960	2420	2960	3590	–		
			A04	114X2767			38	1080	1370	1720	2130	2610	3170	–		
							43	950	1220	1530	1900	2330	2820	–		
		OP-MCHC026	A01	114X2773	G	GS26MLX	27	1760	2220	2750	3360	4060	4870	–	1270	1570
							32	1600	2020	2510	3080	3730	4470	–		
							38	1400	1790	2230	2740	3320	3990	–		
							43	1240	1600	2000	2460	2990	3590	–		
		OP-MCHC034	A01	114X2881	G	GS34MLX	27	2360	2920	3560	4300	5140	6090	–	1830	2320
							32	2160	2680	3280	3970	4750	5640	–		
			A04	114X2883			38	1900	2380	2930	3550	4250	5060	–		
							43	1690	2130	2620	3180	3820	4550	–		

Test condition

	SH 10 K
Ambient temperature:	*32 °C*
Superheat:	*32 K*
Subcooling:	*0 K*

Electrical code

G: compressor 230 V / 1 phase / 50 Hz, fan 230 V / 1 phase / 50 Hz
A: compressor 220 V / 1 phase / 50 + 60 Hz, fan 220 V / 1 phase / 50 + 60 H

Version

A00: without valves and receiver for capillary tubes
A01: with receiver, 2 stop valves, brackets and copper pipes for KP
A04: A01 + KP17WB + FSA-kit + power cord

Power consumption referred at 32 °C ambient temperature

Technical data and ordering

Optyma™ R404A / R507 MBP

Unit	Condenser coil			Condenser fan	Receiver volume [L]	Fig.	Dimensions [mm]			Line [in]		Weight [kg] (version A01)	
	Type	Air flow [m³/h]	Int. volume [dm³]	Fan blade Ø [mm]			Height H	Width W	Depth D	Suction	Liquid	Gross	Net
OP-MCHC004	BG2	231	0.25	1X200	0.8	1	226	304	446	3/8	1/4	19	17
OP-MCHC006	BG3	518	0.31	1X230	1.1	2	256	321	458	3/8	1/4	20	18
OP-MCHC007	BG4	631	0.40	1X254	1.1	3	296	331	478	3/8	1/4	25	22
OP-MCHC010	BG5	583	0.53	1X254	1.1	4	296	331	478	3/8	1/4	26	23
OP-MCHC012	BG5	583	0.53	1X254	1.1	4	296	331	478	3/8	1/4	26	23
OP-MCHC015	BG6	1132	1.1	1X300	1.1	4	350	442	610	1/2	1/4	48	42
OP-MCHC018	BG7	827	1.8	1X300	1.1	4	350	442	610	1/2	1/4	50	44
OP-MCHC021	BG7	990	0.84	1X300	1.6	7	340	430	480	5/8	3/8	48	42
OP-MCHC026	BG7	990	0.84	1X300	1.6	7	340	430	480	5/8	3/8	48	42
OP-MCHC034	BG8	2300	1.36	1X350	2.4	8	450	500	600	5/8	3/8	51	44

Technical data and ordering

Optyma™ R404A / R507 MBP

Fan	Test conditions	Unit	Version	Code no.	Electrical code	Compressor	Amb. temp. [°C]	Cooling capacity range in [W] at evaporating temperature [°C]							Power consumption [W] at evap. temp.	
								-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	-10 °C	5 °C
	SH = 10 K	OP-MCZC030	A02	114X5024	G	MTZ018	27	1300	1700	2200	2700	3250	3850	4450	1350	1750
							32	1150	1550	2000	2450	2950	3500	4050		
				114X5012	E		38	1000	1350	1700	2150	2600	3050	3550		
							43	850	1150	1500	1900	2300	–	–		
		OP-MCZC038	A02	114X5025	G	MTZ022	27	1850	2400	3000	3700	4400	5150	5950	1700	2250
							32	1650	2150	2700	3300	4000	4650	5400		
				114X5013	E		38	1400	1850	2350	2900	3450	4100	4750		
							43	1200	1600	2050	2550	3050	–	–		
		OP-MCZC048	A02	114X5026	G	MTZ028	27	2500	3250	4050	4900	5850	6850	7900	2150	2850
							32	2250	2900	3650	4450	5300	6250	7200		
				114X5014	E		38	1900	2500	3150	3900	4700	5500	6400		
							43	1650	2150	2800	3450	4150	–	–		
		OP-MCZC054	A02	114X5027	G	MTZ032	27	2900	3650	4500	5400	6350	7400	8450	2350	3200
							32	2600	3300	4050	4900	5800	6700	7700		
				114X5015	E		38	2200	2850	3550	4300	5100	5900	6800		
							43	1900	2500	3100	3800	4500	–	–		
		OP-MCZC060	A02	114X5028	G	MTZ036	27	3350	4200	5150	6150	7200	8300	9400	2800	3800
							32	3050	3800	4650	5600	6550	7550	8550		
				114X5016	E		38	2650	3350	4100	4900	5750	6600	7500		
							43	2300	2950	3600	4350	5100	–	–		
		OP-MCZC068	A02	114X5017	E	MTZ040	27	3950	4900	5950	7050	8250	9450	10700	3250	4350
							32	3550	4450	5400	6400	7500	8600	9750		
							38	3100	3900	4750	5650	6600	7600	8600		
							43	2750	3450	4200	5000	5850	–	–		
		OP-MCZC086	A02	114X5018	E	MTZ050	27	4450	5650	6950	8350	9850	11450	13100	3500	4600
							32	4000	5050	6250	7550	8950	10400	11900		
							38	3450	4400	5450	6600	7850	9150	10550		
							43	3000	3850	4800	5850	6950	–	–		
		OP-MCZC096	A02	114X5019	E	MTZ056	27	4800	6100	7550	9150	10900	12700	14600	3800	5100
							32	4300	5500	6850	8300	9900	11600	13350		
							38	3700	4800	6000	7300	8750	10300	11900		
							43	3250	4200	5300	6500	7800	–	–		
		OP-MCZC108	A02	114X5020	E	MTZ064	27	5800	7350	9050	10950	13050	15200	17500	5000	6550
							32	5200	6600	8200	9950	11850	13900	16000		
							38	4500	5750	7150	8750	10450	12300	14250		
							43	3900	5050	6300	7750	9300	–	–		
		OP-MCZC121	A02	114X5021	E	MTZ072	27	6600	8350	10250	12400	14700	17150	19750	5450	7100
							32	5900	7500	9300	11250	13400	15700	18100		
							38	5150	6550	8150	9950	11850	13950	16150		
							43	4500	5800	7250	8850	10600	–	–		
		OP-MCZC136	A02	114X5022	E	MTZ080	27	7700	9550	11600	13850	16200	18700	21300	6450	8450
							32	6950	8650	10550	12600	14800	17100	19500		
							38	6050	7600	9300	11150	13100	15200	17350		
							43	5350	6750	8250	9950	11700	–	–		
		OP-MCZC171	A02	114X5023	E	MTZ100	27	8650	11000	13500	16200	19050	22000	25050	7650	9850
							32	7800	9950	12250	14700	17300	20000	22800		
							38	6750	8650	10700	12900	15200	17600	20100		
							43	5900	7600	9450	11400	13500	–	–		
		OP-MGZC215	A02	114X5073	E	MTZ125	27	11750	14750	18100	21800	25800	30050	34500	11450	14400
							32	10550	13300	16400	19800	23500	27400	31550		
							38	9150	11600	14350	17450	20750	24300	28100		
							43	8000	10250	12750	15500	18500	–	–		
		OP-MGZC242	A02	114X5074	E	MTZ144	27	13550	16750	20350	24200	28250	32550	36950	12950	16450
							32	12200	15150	18450	21950	25700	29650	33700		
							38	10600	13250	16200	19300	22650	26200	29850		
							43	9300	11700	14300	17150	20150	–	–		
		OP- MGZC271	A02	114X5075	E	MTZ160	27	15050	18700	22750	27150	31800	36750	41800	14200	18300
							32	13600	16950	20700	24700	29050	33550	38250		
							38	11850	14900	18200	21800	25700	29750	34000		
							43	10450	13150	16150	19400	22900	–	–		

Test condition

	SH 10 K
Ambient temperature:	*32 °C*
Superheat:	*10 K*
Subcooling:	*0 K*

Electrical code

G: Compressor 230 V / 1 phase / 50 Hz, fan 230 V / 1 phase / 50 Hz
E: Compressor 400 V / 3 phase / 50 Hz, fan 230 V / 1 phase / 50 Hz

Version

A02: With receiver, stop valve, universal pressure switch, (KP17WB), flexible hoses and electrical box

Power consumption referred at 32 °C ambient temperature

Technical data and ordering

Optyma™ R404A / R507 MBP

Unit	Condenser coil			Condenser fan	Receiver volume [L]	Fig.	Dimensions [mm]			Line [in]		Weight [kg]	
	Type	Air flow [m³/h]	Int. volume [dm³]	Fan blade Ø [mm]			Height H	Width W	Depth D	Suction	Liquid	Gross	Net
OP-MCZC030	A4	1200	1.2	1 × 300	3	5	408	500	600	1/2	3/8	52	45
OP-MCZC038	B4	1750	1.3	1 × 350	3	5	451	500	620	1/2	3/8	54	47
OP-MCZC048	C4	2150	2.3	1 × 350	6	5	555	630	650	1/2	1/2	64	57
OP-MCZC054	C4	2150	2.3	1 × 350	6	5	555	630	650	5/8	1/2	65	58
OP-MCZC060	D4	2000	3.1	1 × 350	6	5	555	630	650	5/8	1/2	68	61
OP-MCZC068	E4	3150	2.5	1 × 400	6	5	605	630	650	5/8	1/2	72	65
OP-MCZC086	F4	3300	3.1	1 × 400	8	5	656	755	700	7/8	1/2	95	83
OP-MCZC096	G4	3150	4.1	1 × 400	8	5	656	755	700	7/8	1/2	100	88
OP-MCZC108	H4	4300	4.1	1 × 500	8	5	656	755	700	7/8	1/2	113	101
OP-MCZC121	J4	6000	4.4	1 × 500	10	5	708	900	900	1 1/8	1/2	127	113
OP-MCZC136	K4	6200	4.7	1 × 500	10	5	759	900	900	1 1/8	1/2	140	126
OP-MCZC171	L4	5850	6.3	1 × 500	14	5	759	900	900	1 1/8	5/8	162	147
OP-MGZC215	M4	11000	7.4	2 x 500	14	6	759	1350	820	1 1/8	5/8	191	176
OP-MGZC242	M4	11000	7.4	2 × 500	14	6	759	1350	820	1 1/8	5/8	194	179
OP- MGZC271	N4	9200	12.3	2 x 500	14	6	759	1350	820	1 1/8	5/8	199	184

Technical data and ordering

Optyma™ R404A / R507 MBP

Fan	Test conditions	Unit	Code no. Version A02	Electrical code	Compressor	Amb. temp. [°C]	Cooling capacity range in [W] at evaporating temperature [°C]							Power consumption [W] at evap. temp.	
							-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	-10 °C	5 °C
	SH = 10 K	OP-MGZD030	114X5061	E	MTZ018	32	1200	1600	2100	2600	3150	3750	4350	1500	1850
						38	1050	1400	1800	2250	2750	3300	3850		
						43	900	1200	1600	2000	2450	–	–		
						46	800	1100	1450	1850	2250	–	–		
		OP-MGZD038	114X5062	E	MTZ022	32	1750	2300	2900	3600	4350	5150	6050	1950	2450
						38	1500	1950	2500	3150	3800	4550	5350		
						43	1300	1700	2200	2750	3350	–	–		
						46	1150	1550	2000	2550	3100	–	–		
		OP-MGZD048	114X5063	E	MTZ028	32	2300	2950	3750	4600	5550	6550	7600	2450	3100
						38	1950	2550	3250	4050	4900	5800	6750		
						43	1650	2250	2900	3600	4350	–	–		
						46	1500	2050	2650	3300	4050	–	–		
		OP-MGZD054	114X5064	E	MTZ032	32	2650	3400	4200	5100	6050	7100	8150	2650	3450
						38	2300	2950	3650	4450	5350	6250	7200		
						43	2000	2550	3250	3950	4750	–	–		
						46	1800	2350	2950	3650	4400	–	–		
		OP-MGZD060	114X5065	E	MTZ036	32	3200	4100	5050	6100	7250	8450	9700	3300	4200
						38	2800	3600	4450	5400	6400	7500	8600		
						43	2450	3150	3950	4800	5700	–	–		
						46	2250	2900	3650	4450	5300	–	–		
		OP-MGZD068	114X5066	E	MTZ040	32	3800	4800	5950	7150	8500	9900	11450	3650	4550
						38	3350	4250	5250	6350	7550	8850	10200		
						43	2950	3800	4700	5650	6750	–	–		
						46	2700	3500	4350	5250	6250	–	–		
		OP-MGZD086	114X5067	E	MTZ050	32	4250	5450	6800	8300	9900	11700	13550	3950	4950
						38	3650	4700	5950	7300	8750	10350	12050		
						43	3200	4150	5250	6450	7800	–	–		
						46	2900	3800	4850	5950	7200	–	–		
		OP-MGZD108	114X5069	E	MTZ064	32	5450	6950	8700	10650	12800	15100	17600	5100	6550
						38	4700	6050	7650	9400	11300	13400	15700		
						43	4100	5350	6750	8350	10100	–	–		
						46	3750	4900	6200	7700	9350	–	–		
		OP-MGZD121	114X5070	E	MTZ072	32	6000	7600	9450	11500	13700	16050	18550	5600	7250
						38	5200	6650	8300	10150	12100	14300	16600		
						43	4550	5850	7350	9000	10850	–	–		
						46	4200	5400	6800	8350	10100	–	–		
		OP-MGZD136	114X5071	E	MTZ080	32	7300	9200	11300	13650	16200	18900	21800	7150	9000
						38	6400	8100	10000	12100	14400	16850	19500		
						43	5650	7200	8900	10850	12900	–	–		
						46	5200	6650	8250	10050	12050	–	–		
		OP-MGZD171	114X5072	E	MTZ100	32	8250	10600	13200	16050	19150	22450	25850	8300	10250
						38	7200	9300	11650	14200	16950	19850	22950		
						43	6300	8200	10300	12600	15100	–	–		
						46	5750	7550	9500	11650	13950	–	–		
		OP-MGZD215	114X5118	E	MTZ125	32	10900	13800	17150	20800	24850	29200	33850	11350	14100
						38	9450	12050	15050	18350	22000	25950	30200		
						43	8300	10650	13350	16350	19700	–	–		
						46	7650	9850	12350	15200	18300	–	–		
		OP-MGZD242	114X5119	E	MTZ144	32	12650	15850	19400	23250	27400	31850	36500	12800	16100
						38	11050	13900	17050	20500	24250	28250	32450		
						43	9700	12250	15100	18250	21650	–	–		
						46	8900	11300	13950	16900	20050	–	–		
		OP-MGZD271	114X5120	E	MTZ160	32	14200	17850	21900	26400	31250	36500	42000	13800	17600
						38	12400	15700	19350	23400	27750	32500	37500		
						43	10950	13900	17200	20900	24850	–	–		
						46	10100	12850	15950	19400	23150	–	–		

Test condition

	SH 10 K
Ambient temperature:	*32 °C*
Superheat:	*10 K*
Subcooling:	*0 K*

Electrical code

E: compressor 400 V / 3 phase / 50 Hz, fan 230 V / 1 phase / 50 Hz

Version

A02: with receiver, stop valve, universal pressure switch, (KP17WB), flexible hoses and electrical box

Power consumption referred at 32 °C ambient temperature

Technical data and ordering

Optyma™ R404A / R507 MBP

Unit	Condenser coil			Condenser fan	Receiver volume [L]	Fig.	Dimensions [mm]			Line [in]		Weight [kg]	
	Type	Air flow [m³/h]	Int. volume [dm³]	Fan blade Ø [mm]			Height H	Width W	Depth D	Suction	Liquid	Gross	Net
OP-MGZD030	C3	1300	1.7	2 × 254	3	6	392	700	500	1/2	3/8	56	46
OP-MGZD038	D3	2800	1.5	2 × 300	6	6	442	800	600	1/2	1/2	60	53
OP-MGZD048	E3	2600	2.2	2 × 300	6	6	442	800	600	1/2	1/2	64	57
OP-MGZD054	E3	2600	2.2	2 × 300	6	6	442	800	600	5/8	1/2	65	58
OP-MGZD060	G3	4600	2.3	2 × 350	8	6	555	1000	700	5/8	1/2	88	75
OP-MGZD068	H3	3600	4.7	2 × 350	8	6	555	1000	700	5/8	1/2	96	82
OP-MGZD086	H3	3600	4.7	2 × 350	8	6	555	1000	700	7/8	1/2	107	93
OP-MGZD108	J3	5400	4.7	2 × 400	10	6	555	1000	700	7/8	1/2	113	99
OP-MGZD121	J3	5400	4.7	2 × 400	10	6	555	1000	700	7/8	1/2	115	101
OP-MGZD136	L3	8600	5.1	2 × 450	10	6	671	1200	800	1 1/8	1/2	133	118
OP-MGZD171	M3	8200	6.8	2 × 450	14	6	671	1200	800	1 1/8	5/8	158	144
OP-MGZD215	N4	9200	12.25	2 × 500	14	6	759	1350	820	1 1/8	5/8	196	180
OP-MGZD242	N4	9200	12.25	2 × 500	14	6	759	1350	820	1 1/8	5/8	199	183
OP-MGZD271	U	14000	14.2	2 × 630	14	6	975	1500	870	1 1/8	5/8	230	212

Technical data and ordering

Optyma™ - R404A / R507 MBP - ASEAN

Unit	Code no. Version A06	Electrical code	Compressor	Amb. temp. [°C]	Cooling capacity range in [W] at evaporating temperature [°C]					Power consumption [W] at -10 °C evap temp	Dimensions (mm)			Weight
					-15 °C	-10 °C	-5 °C	0 °C	5 °C		Height	Depth	Length	
											mm	mm	mm	Kg
OP- MGZE038	114X8007	G	MTZ22	35	2273	2924	3668	4502	5422	1457	445	600	800	67
				43	1840	2392	3027	3743	4540	1530				
				48	1578	2066	2631	3273	3992	1571				
OP- MGZE048	114X8008	D	MTZ28	35	2847	3616	4473	5413	6433	1951	445	600	800	69
				43	2305	2971	3714	4532	5423	2039				
				48	1979	2580	3251	3993	–	2089				
OP- MGZE060	114X8009	G	MTZ36	35	3912	4865	5912	7048	8263	2580	555	700	1000	84
				43	3230	4043	4935	5901	6937	2718				
				48	2803	3528	4323	5186	–	2790				
OP- MGZE086	114X8010	D	MTZ50	35	5172	6528	8074	9797	11678	3608	725	800	1210	102
				43	4182	5327	6626	8070	9645	3759				
				48	3610	4605	5734	6990	–	3836				
OP- MGZE108	114X8011	D	MTZ64	35	6499	8097	9824	11656	13562	4619	725	800	1210	118
				43	5326	6672	8109	9618	11182	4814				
				48	4609	5779	7019	–	–	4914				
OP- MGZE136	114X8012	D	MTZ80	35	8866	10969	13308	15875	18656	5606	725	800	1210	128
				43	7386	9194	11209	13428	15844	5901				
				48	6477	8099	9910	11912	–	6072				
OP- MGZE171	114X8013	D	MTZ100	35	10661	13458	16598	20068	23851	6641	1005	875	1510	208
				43	8841	11239	13922	16890	20134	7027				
				48	7685	9839	12244	14905	17819	7209				
OP- MGZE215	114X8014	D	MTZ125	35	13211	16475	20134	24171	28561	8433	1005	875	1510	220
				43	10892	13678	16819	20306	24124	8864				
				48	9501	11984	14799	17942	–	9120				
OP- MGZE242	114X8015	D	MTZ144	35	15217	18722	22584	26777	31271	9876	1005	875	1510	223
				43	12576	15559	18853	22443	26308	10331				
				48	10945	13597	16534	19748	–	10585				
OP- MGZE271	114X8016	D	MTZ160	35	16714	20561	24799	29399	34321	11190	1005	875	1510	228
				43	13860	17146	20772	24721	28967	11732				
				48	12093	15021	18262	–	–	12058				
OP- MGUE126	114X8045	D	MLZ058	35	11266	13629	16275	19139	22157	5905	1005	875	1510	201
				43	9237	11328	13665	16187	18834	7036				
				48	7853	9779	11929	14244	16667	7897				
OP- MGUE148	114X8046	D	MLZ066	35	13164	15629	18342	21310	24544	6760	1005	875	1510	201
				43	11354	13504	15845	18393	21168	7994				
				48	10142	12101	14215	16507	19001	6454				
OP- MGUE162	114X8047	D	MLZ076	35	14923	17445	20230	23298	26686	7944	1005	875	1510	201
				43	12653	14592	16774	19224	21983	9268				
				48	11196	12741	14508	16550	18903	10204				
OP- MGZE217	114X8760	D	SZ160	35	16483	20068	24105	28568	33452	11282	1005	875	1510	249
				43	14225	17781	20006	23801	27957	13111				
				48	–	16799	19764	20630	24323	14558				

Quick Selection Notes:

Technical data and ordering

Optyma™ R134a LBP / MBP / HBP

Fan	Test conditions	Unit	Version	Code no.	Electrical code	Compressor	Amb. temp. °C	Cooling capacity range in [W] at evaporating temperature [°C]							Power consumption [W] at -10 °C evap temp
								-30 °C	-25 °C	-20 °C	-10 °C	0 °C	5 °C	10 °C	
	CECOMAF	OP-UCGC003	A00	114X0104	G	TL3GX	27	50	70	90	150	240	290	350	120
			A01	114X0105			32	40	60	80	140	220	270	330	
			A04	114X0107			38	40	50	70	130	200	250	300	
							43	30	40	60	110	180	220	270	
		OP-UCGC004	A00	114X0108	G	TL4GX	27	70	90	120	190	300	360	430	140
			A01	114X0109			32	60	80	110	180	280	340	410	
			A04	114X0111			38	50	70	90	160	250	310	–	
							43	40	60	80	150	240	–	–	
		OP-UCGC005	A00	114X0112	G	TL5GX	27	80	110	140	230	360	440	530	170
			A01	114X0113			32	70	100	130	220	340	410	500	
			A04	114X0115			38	70	90	120	200	310	380	460	
							43	60	80	110	190	290	360	430	
		OP-UCGC006	A00	114X0200	G	FR6GX	27	100	140	190	310	470	580	700	190
			A01	114X0201			32	90	120	170	290	440	540	660	
			A04	114X0203			38	70	110	150	260	410	500	610	
							43	50	90	130	240	380	470	570	
		OP-MCGC006	A00	114X0228	A	NL6.1MF	27	–	–	200	330	520	640	770	200
							32	–	–	180	310	490	600	720	
							38	–	–	170	280	440	550	660	
							43	–	–	150	260	410	500	610	
		OP-UCGC007	A00	114X0216	G	FR7.5GX	27	110	150	200	340	530	640	780	210
			A01	114X0217			32	100	140	190	320	490	610	740	
			A04	114X0227			38	80	120	170	290	460	560	690	
							43	70	110	150	270	430	530	640	
		OP-UCGC008	A00	114X0224	G	FR8.5GX	27	140	190	250	400	620	750	910	250
			A01	114X0225			32	130	170	230	380	590	720	860	
			A04	114X0227			38	110	150	200	340	540	660	800	
							43	90	130	180	310	500	620	750	
		OP-MCGC007	A00	114X0244	A	NL7.3MF	27	–	–	250	410	640	780	940	240
							32	–	–	230	380	590	730	880	
							38	–	–	210	350	540	670	810	
							43	–	–	190	320	500	620	750	
		OP-UCGC010	A00	114X0232	G	FR10GX	27	150	200	270	430	670	820	990	280
							32	130	180	240	400	630	770	930	
			A01	114X0233			38	110	160	220	370	580	710	860	
							43	100	140	200	340	540	660	–	
		OP-MCGC008	A00	114X0352	A	NL8.4MF	27	–	–	290	470	730	890	1080	270
							32	–	–	270	440	680	830	1010	
							38	–	–	240	400	620	760	930	
							43	–	–	220	370	580	710	860	
		OP-UCGC010	A04	114X0223	G	SC10GX	27	160	230	310	490	710	820	950	300
							32	140	210	280	450	660	780	910	
							38	110	170	240	400	610	730	–	
							43	90	140	210	370	–	–	–	
		OP-UCGC011	A00	114X0336	G	FR11GX	27	170	250	330	550	830	1000	–	330
			A01	114X0337			32	150	230	310	500	770	940	–	
			A04	114X0339			38	130	200	270	450	710	870	–	
							43	120	180	250	410	650	810	–	
		OP-UCGC012	A00	114X0340	G	SC12GX	27	210	290	390	660	1030	1260	1520	370
			A01	114X0341			32	180	260	350	610	960	1180	1430	
			A04	114X0343			38	150	220	310	540	870	1080	1320	
							43	120	190	270	490	800	1000	1230	
		OP-UCGC015	A00	114X0448	G	SC15GX	27	–	320	440	750	1170	1440	1740	460
			A01	114X0449			32	–	290	410	710	1110	1360	1640	
			A04	114X0451			38	–	240	360	650	1020	1250	1510	
							43	–	190	310	600	950	1160	1400	
		OP-UCGC018	A00	114X0556	G	SC18GX	27	–	410	550	910	1390	1670	2000	520
			A01	114X0557			32	–	370	500	840	1300	1570	1890	
			A04	114X0559			38	–	320	440	760	1190	1460	1760	
							43	–	290	410	710	1120	1380	1670	
		OP-UCGC021	A00	114X0564	G	SC21GX	27	–	490	660	1100	1670	2010	2390	600
			A01	114X0565			32	–	450	60	1020	1570	1900	2270	
			A04	114X0567			38	–	400	540	930	1450	1760	2110	
							43	–	360	480	840	1330	1630	1970	
		OP-MCGC021	A00	114X0568	G	SC21MF	27	–	–	680	1090	1670	2030	2440	630
							32	–	–	640	1030	1570	1910	2310	
							38	–	–	580	940	1450	1780	2150	
							43	–	–	540	880	1360	1660	2010	
	RGT20	OP-UCGC026	A01	114X0773	G	GS26MFX	27	–	–	860	1440	2240	2750	–	770
							32	–	–	800	1340	2080	2550	–	
							38	–	–	730	1220	1900	2320	–	
							43	–	–	660	1120	1750	2140	–	
		OP-UCGC034	A01	114X0781	G	GS34MFX	27	–	–	1150	1870	2860	3480	–	980
							32	–	–	1060	1740	2680	3270	–	
							38	–	–	950	1590	2470	3020	–	
							43	–	–	860	1460	2290	2810	–	

Test condition

	RGT20	CECOMAF
Ambient temperature:	*32 °C*	*32 °C*
Suction gas temperature:	*20 °C*	*32 °C*
Subcooling:	*0 K*	*0 K*

Power consumption referred at 32 °C ambient temperature

Electrical code

A: compressor 230 V / 1 phase / 50+60 Hz, fan 230 V / 1 phase / 50 + 60 Hz

G: compressor 230 V / 1 phase / 50 Hz, fan 230 V / 1 phase / 50 Hz

Version

A00: without valves and receiver for capillary tubes

A01: with receiver, 2 stop valves, brackets and copper pipes for KP

A04: A01 + KP17WB + FSA-kit + power cord

Technical data and ordering

Optyma™ R134a LBP / MBP / HBP

Unit	Condenser coil			Condenser fan	Receiver volume [L]	Fig.	Dimensions [mm]			Line [in]		Weight [kg] (version A01)	
	Type	Air flow [m³/h]	Int. volume [dm³]	Fan blade Ø [mm]			Height H	Width W	Depth D	Suction	Liquid	Gross	Net
OP-UCGC003	BG1	243	0.13	1x172	0.8	1	197	289	410	1/4	1/4	16	14
OP-UCGC004	BG1	243	0.13	1x172	0.8	1	197	289	410	1/4	1/4	16	14
OP-UCGC005	BG1	243	0.13	1x172	0.8	1	197	289	410	1/4	1/4	16	14
OP-UCGC006	BG2	231	0.25	1x200	0.8	2	226	304	432	3/8	1/4	19	17
OP-MCGC006	BG2	231	0.25	1x200	0.8	2	226	304	432	3/8	1/4	19*	17 *)
OP-UCGC007	BG2	231	0.25	1x200	0.8	2	226	304	432	3/8	1/4	19	17
OP-UCGC008	BG2	231	0.25	1x200	0.8	2	226	304	432	3/8	1/4	19	17
OP-MCGC007	BG2	231	0.25	1x200	0.8	2	226	304	432	3/8	1/4	19	17
OP-UCGC010	BG2	231	0.25	1x200	0.8	4	226	304	432	3/8	1/4	19	17
OP-MCGC008	BG2	231	0.25	1x200	0.8	2	226	304	432	3/8	1/4	20 *)	18 *)
OP-UCGC010	BG2	231	0.25	1x200	0.8	4	226	304	432	3/8	1/4	21 **)	19 **)
OP-UCGC011	BG3	518	0.31	1x230	1.1	4	256	321	444	3/8	1/4	20	18
OP-UCGC012	BG3	518	0.31	1x230	1.1	4	256	321	444	3/8	1/4	22	20
OP-UCGC015	BG4	631	0.40	1x254	1.1	4	296	331	451	3/8	1/4	25	22
OP-UCGC018	BG5	583	0.53	1x254	1.1	4	296	331	473	3/8	1/4	26	23
OP-UCGC021	BG5	583	0.53	1x254	1.1	4	296	331	513	3/8	1/4	26	23
OP-MCGC021	BG5	583	0.53	1x254	1.1	4	296	331	513	3/8	1/4	26 *)	23 *)
OP-UCGC026	BG7	990	0.84	1x300	2.4	7	340	430	480	3/8	1/4	39	33
OP-UCGC034	BG7	990	0.84	1x300	2.4	7	340	430	480	1/2	3/8	40	34

*) weight referred to version A00
**) weight referred to version A04

Technical data and ordering

Optyma™ - R134a MBP/HBP - ASEAN

Fan	Test conditions	Unit	Version code		Electrical code	Compressor	Amb. temp. [°C]	Cooling capacity [Btu/h] at evaporating temperature						
			D32	D40				-10 °C	-5 °C	0 °C	5 °C	10 °C	15 °C	20 °C
	SH = 18 K SC = 3 K	OP-HJZ018D	114N3207 114N3209 114N3211	114N3208 114N3210 114N3212	N Q R	MTZ018	32	6000	7750	9900	12450	15400	18850	22750
							35	5650	7350	9400	11900	14800	18150	21950
							38	5300	6950	8950	11350	14200	17450	21100
							43	4700	6250	8200	10450	13150	16200	19700
		OP-HJZ022D	114N3223 114N3225 114N3227	114N3224 114N3226 114N3228	N Q R	MTZ022	32	7600	9900	12600	15750	19300	23250	27600
							35	7250	9450	12100	15100	18550	22400	26600
							38	6850	9000	11550	14450	17800	21450	25500
							43	6250	8250	10650	13350	16450	19900	23700
		OP-HJZ028D	114N3238 114N3240	114N3239 114N3241	N Q	MTZ028	32	10400	13500	17000	21000	25500	30400	35850
							35	9950	12950	16400	20250	24600	29400	34700
							38	9450	12350	15700	19500	23700	28400	33500
							43	8600	11400	14600	18150	22150	26600	31450
		OP-HJZ036D	114N3251 114N3253 114N3255	114N3252 114N3254 114N3256	N Q R	MTZ036	32	13500	17100	21250	26000	31300	37150	43550
							35	12800	16350	20400	25000	30150	35850	42050
							38	12150	15600	19550	24000	29000	34550	40550
							43	11050	14300	18100	22300	27050	32300	38000
		OP-HJZ040D	114N3267 114N3269 114N3271	114N3268 114N3270 114N3272	N Q R	MTZ040	32	17050	21100	25700	31050	37050	43850	51350
							35	16000	20000	24550	29800	35700	42350	49800
							38	15000	18900	23400	28550	34350	40950	48200
							43	13350	17150	21500	26550	32200	38550	45650
		OP-HJZ050D	114N3281 114N3283 114N3285	114N3282 114N3284 114N3286	N Q R	MTZ050	32	16950	22500	29000	36450	45000	54550	65100
							35	16300	21700	28050	35300	43600	52900	63150
							38	15600	20900	27000	34100	42150	51150	61050
							43	14300	19350	25200	31900	39500	48050	57450
		OP-HGZ064D	114N3296 114N3298 114N3300	114N3297 114N3299 114N3301	N Q R	MTZ064	32	21800	28750	36750	45850	56000	67100	79100
							35	20900	27650	35400	44250	54050	64800	76400
							38	19950	26500	34050	42550	52050	62450	73650
							43	18200	24450	31600	39700	48600	58400	69000
		OP-HGZ080D	114N3308 114N3310	114N3309 114N3311	Q R	MTZ080	32	29000	37600	47600	59000	71850	86100	101700
							35	27750	36150	45850	56900	69350	83200	98300
							38	26500	34650	44050	54800	66850	80250	94900
							43	24400	32100	41000	51150	62600	75250	89150
		OP-HGZ100D	114N3318 114N3320	114N3319 114N3321	Q R	MTZ100	32	33250	43200	54700	67600	82050	97950	115150
							35	31350	41000	52150	64650	78650	93950	110600
							38	29450	38800	49550	61650	75150	89950	106000
							43	26250	35100	45150	56550	69250	83150	98250
		OP-HGZ125D	114N3328 114N3330	114N3329 114N3331	Q R	MTZ125	32	42950	55750	70650	87600	106750	127900	151050
							35	40600	53050	67450	83900	102350	122800	145200
							38	38300	50350	64250	80100	97950	117650	139250
							43	34450	45800	58850	73700	90350	108850	129050
		OP-HGZ160D	114N3338 114N3340	114N3339 114N3341	Q R	MTZ160	32	60400	75500	92550	111500	132400	155100	179550
							35	57700	72400	89000	107450	127700	149700	173400
							38	54950	69250	85400	103250	122900	144200	167150
							43	50250	63850	79100	96050	114600	134750	156400

Electrical codes:
N - Compressor 230 V / 1-ph / 60 Hz, Fan(s) 230 V / 1-ph / 60 Hz
Q - Compressor 230 V / 3-ph / 60 Hz, Fan(s) 230 V / 1-ph / 60 Hz
R - Compressor 460 V / 3-ph / 60 Hz , Fan(s) 460 V / 1-ph / 60 Hz

Cooling capacity for three-phase models shown. For single-phase models a difference of ± 1% shall apply
The consumption values shown relate to an ambient temperature in the equipment room of 32°C.

Technical data and ordering

Optyma™ - R134a MBP/HBP - ASEAN

Unit	Condenser			Fan Ø [mm]	Receiver [L]	Power consumption [Btu/h] at evaporating temp.		Dimensions [mm]						Weight [kg]	
	Type	Air flow [m³/h]	Internal volume [l]			-10 °C	5 °C	Figure	Height H [mm]	Depth D [mm]	Length L [mm]	Suction line [in]	Liquid line [in]	Gross	Net
OP-HJZ018D	D8	2400	0.4	1x355	3	1050	1300	D32= 1A D40= 1B	463	310	1000	1/2	3/8	D32= 64 D40= 80	D32= 55 D40= 71
OP-HJZ022D	D8	2400	0.4	1x355	3	1250	1600	D32=1A D40=1B	463	310	1000	1/2 5/8 (N)	3/8	D32=64 D40=80	D32=55 D40=71
OP-HJZ028D	G8	4800	0.5	1x457	6	2150	2600	D32=1A D40=1B	538	420	1150	1/2 5/8 (N)	1/2	D32=83 D40=107	D32=71 D40=95
OP-HJZ036D	G8	4800	0.5	1x457	8	2650	3350	D32=1A D40=1B	538	420	1150	5/8	1/2	D32= 85 D40= 109	D32= 73 D40= 97
OP-HJZ040D	J8	6300	1.3	1x457	8	2850	3600	D32= 1A D40= 1B	688	420	1150	5/8	1/2	D32= 93 D40= 120	D32= 80 D40= 107
OP-HJZ050D	J8	6300	1.3	1x457	8	3000	3600	D32= 1A D40= 1B	688	420	1150	7/8	1/2	D32= 104 D40= 134	D32= 91 D40= 121
OP-HGZ064D	N8	8800	1.6	2x457	10	3600	4550	D32= 2A D40= 2B	715	800	1200	1 1/8	1/2	D32= 140 D40= 182	D32= 125 D40= 167
OP-HGZ080D	N8	8800	1.6	2x457	14	5250	6500	D32= 2A D40= 2B	715	800	1200	1 1/8	5/8	D32= 143 D40= 185	D32= 128 D40= 170
OP-HGZ100D	N8	8800	1.6	2x457	14	6050	7600	D32= 2A D40= 2B	715	800	1200	1 1/8	5/8	D32= 159 D40= 201	D32= 144 D40= 186
OP-HGZ125D	Q8	13 980	2.5	2x550	14	6900	8800	D32= 2A D40= 2B	971	800	1500	1 1/8	5/8	D32= 243 D40= 302	D32= 225 D40= 284
OP-HGZ160D	Q8	13 980	2.5	2x550	14	9200	11800	D32= 2A D40= 2B	971	800	1500	1 1/8	5/8	D32= 248 D40= 307	D32= 230 D40= 289

Technical data and ordering

Optyma™ - R134a MBP/HBP - ASEAN

Fan	Test conditions	Unit	Version code	Electrical code	Compressor	Amb. temp. [°C]	Cooling capacity [Btu/h] at evaporating temperature						
			D40				-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	15 °C
	SH = 18 K SC = 3 K	OP-HNU015D	114N3366 114N3367 114N3368	N Q R	MLZ015	32	7500	9500	11900	14600	17600	20900	24450
						35	7200	9200	11550	14200	17100	20350	23850
						38	6950	8900	11150	13750	16650	19800	23200
						43	6450	8350	10500	13000	15750	18800	22100
		OP-HNU021D	114N3370 114N3371 114N3372	N Q R	MLZ021	32	10300	13300	16650	20400	24650	29300	34500
						35	9900	12850	16150	19850	24000	28600	33650
						38	9450	12400	15650	19300	23350	27850	32750
						43	8750	11600	14800	18300	22200	26550	31250
		OP-HNU030D	114N3374 114N3375 114N3376	N Q R	MLZ030	32	15600	19850	24800	30500	36900	43950	51600
						35	15000	19200	24100	29700	35950	42850	50350
						38	14450	18550	23350	28800	34950	41700	49100
						43	13450	17400	22050	27350	33250	39750	46850
		OP-HRU038D	114N3378 114N3379 114N3380	N Q R	MLZ038	32	18300	23050	28750	35400	42850	51000	59800
						35	17700	22300	27900	34400	41700	49700	58350
						38	17100	21600	27050	33400	40500	48350	56850
						43	16100	20350	25550	31600	38500	46050	54200
		OP-HRU048D	114N3382 114N3383	Q R	MLZ048	32	24100	30400	37700	46100	55450	65850	77200
						35	23200	29300	36450	44650	53800	63950	75050
						38	22300	28200	35150	43150	52100	62000	72900
						43	20700	26350	32950	40550	49150	58700	69100
		OP-HRU058D	114N3385 114N3386	Q R	MLZ058	32	28550	35800	44100	53500	64050	75650	88350
						35	27600	34600	42650	51850	62100	73500	85950
						38	26600	33400	41200	50150	60150	71250	83450
						43	25000	31350	38750	47250	56800	67450	79150
		OP-HRU076D	114N3388 114N3389	Q R	MLZ076	32	37800	46950	57850	70400	84450	100000	116850
						35	36450	45450	56100	68350	82100	97250	113650
						38	35050	43850	54300	66250	79650	94400	110450
						43	32650	41150	51150	62600	75450	89600	104900

Electrical codes:
N - Compressor 230 V / 1-ph / 60 Hz, Fan(s) 230 V / 1-ph / 60 Hz
Q - Compressor 230 V / 3-ph / 60 Hz, Fan(s) 230 V / 1-ph / 60 Hz
R - Compressor 460 V / 3-ph / 60 Hz , Fan(s) 460 V / 1-ph / 60 Hz

Cooling capacity for three-phase models shown. For single-phase models a difference of ± 1% shall apply
The consumption values shown relate to an ambient temperature in the equipment room of 32°C.

Technical data and ordering

Optyma™ - R134a MBP/HBP - ASEAN

Unit	Condenser			Fan Ø [mm]	Receiver [L]	Power consumption [Btu/h] at evaporating temp.		Dimensions [mm]						Weight [kg]	
	Type	Air flow [m³/h]	Internal volume [l]			-10 °C	5 °C	Figure	Height H [mm]	Depth D [mm]	Length L [mm]	Suction line [in]	Liquid line [in]	Gross	Net
OP-HNU015D	G8	4800	0.5	1x457	6	2450	2650	3A	538	420	1150	5/8	1/2	115	103
OP-HNU021D	G8	4800	0.5	1x457	6	3100	3400	3A	538	420	1150	5/8	1/2	115	103
OP-HNU030D	J8	6300	1.3	1x457	8	4050	4550	3A	688	420	1150	7/8	1/2	136	123
OP-HRU038D	N8	8800	1.6	2x457	10	5400	5950	4A	715	800	1200	7/8	1/2	182	167
OP-HRU048D	N8	8800	1.6	2x457	10	6750	7550	4A	715	800	1200	7/8	1/2	182	167
OP-HRU058D	Q8	13 980	2.5	2x550	14	7600	8350	4A	971	800	1500	1 1/8	5/8	287	269
OP-HRU076D	Q8	13 980	2.5	2x550	14	9750	10900	4A	971	800	1500	1 1/8	5/8	288	270

Technical data and ordering

Unidades Condensadoras Herméticas con R134a (Media y Alta temperaturas) - LAM 1 (Columbia)

Ventiladores	Condiciones de prueba	Modelo	Código por versión		Código eléctrico	Compresor	Temperatura ambiente [°C]	Capacidad de refrigeración [W] a temperatura de evaporación						
			D32	D40				-10 °C	-5 °C	0 °C	5 °C	10 °C	15 °C	20 °C
	sobrecalentamiento 18K subenfriamiento 3K	OP-HJZ018D	114N3213 114N3214	114N3396 114N3215	G E	MTZ018	32	1.387	1.855	2.396	3.013	3.705	4.472	5.309
							35	1.297	1.749	2.271	2.864	3.529	4.267	5.072
							38	1.211	1.646	2.147	2.716	3.354	4.061	4.831
							43	1.077	1.481	1.944	2.471	3.060	3.713	4.426
		OP-HJZ022D	114N3229 114N3230	114N3397 114N3231	G E	MTZ022	32	1.743	2.311	2.974	3.735	4.590	5.538	6.574
							35	1.642	2.190	2.829	3.561	4.386	5.298	6.295
							38	1.544	2.072	2.686	3.388	4.180	5.056	6.014
							43	1.388	1.879	2.449	3.101	3.836	4.651	5.541
		OP-HJZ028D	114N3242 114N3243	114N3398 114N3399	G E	MTZ028	32	2.197	2.909	3.775	4.803	6.003	7.380	8.930
							35	2.086	2.774	3.610	4.604	5.763	7.094	8.594
							38	1.979	2.641	3.446	4.403	5.520	6.802	8.253
							43	1.812	2.426	3.175	4.067	5.112	6.313	7.674
		OP-HJZ036D	114N3257 114N3258	114N3400 114N3401	G E	MTZ036	32	3.312	4.212	5.260	6.462	7.824	9.342	11.017
							35	3.176	4.049	5.066	6.231	7.550	9.020	10.641
							38	3.040	3.885	4.869	5.994	7.269	8.689	10.256
							43	2.811	3.608	4.532	5.590	6.788	8.123	9.595
		OP-HJZ040D	114N3273	114N3402	E	MTZ040	32	3.803	4.725	5.783	6.984	8.331	9.831	11.489
							35	3.677	4.578	5.610	6.780	8.092	9.552	11.164
							38	3.547	4.426	5.431	6.568	7.844	9.262	10.829
							43	3.323	4.160	5.116	6.197	7.408	8.754	10.238
		OP-HJZ050D	114N3287	114N3288	E	MTZ050	32	4.287	5.628	7.208	9.037	11.124	13.460	16.046
							35	4.046	5.336	6.856	8.618	10.631	12.891	15.398
							38	3.814	5.053	6.515	8.211	10.149	12.337	14.764
							43	3.443	4.603	5.971	7.562	9.383	11.445	13.739
		OP-HGZ064D	114N3302	114N3403	E	MTZ064	32	5.009	6.692	8.646	10.875	13.371	16.130	19.139
							35	4.749	6.380	8.272	10.431	12.849	15.520	18.438
							38	4.492	6.071	7.901	9.988	12.328	14.914	17.741
							43	4.069	5.563	7.291	9.255	11.467	13.911	16.587
		OP-HGZ080D	114N3312	114N3404	E	MTZ080	32	7.009	9.081	11.522	14.346	17.570	21.189	25.206
							35	6.698	8.708	11.073	13.809	16.937	20.450	24.352
							38	6.383	8.331	10.620	13.271	16.302	19.706	23.493
							43	5.855	7.697	9.859	12.364	15.232	18.460	22.054
		OP-HGZ100D	114N3322	114N3405	E	MTZ100	32	8.061	10.494	13.342	16.624	20.328	24.453	28.978
							35	7.641	10.002	12.762	15.937	19.517	23.504	27.878
							38	7.237	9.520	12.185	15.248	18.706	22.549	26.769
							43	6.601	8.742	11.238	14.107	17.345	20.946	24.902
		OP-HGZ125D	114N3332	114N3406	E	MTZ125	32	10.472	13.539	17.128	21.263	25.968	31.238	37.069
							35	9.909	12.893	16.379	20.393	24.960	30.068	35.722
							38	9.356	12.252	15.630	19.516	23.929	28.882	34.357
							43	8.460	11.196	14.381	18.047	22.205	26.875	32.042
		OP-HGZ160D	114N3342	114N3407	E	MTZ160	32	14.162	18.004	22.448	27.514	33.177	39.424	46.219
							35	13.525	17.248	21.546	26.439	31.904	37.930	44.483
							38	12.900	16.493	20.635	25.352	30.610	36.410	42.717
							43	11.875	15.235	19.104	23.503	28.409	33.815	39.703

Código eléctrico:
G - Compresor 230V/1F/50Hz, ventilador(es) 230V/1F/50 Hz
E - Compresor 400V/3F/50Hz, ventilador(es) 230V/1F/50 Hz

La capacidad de enfriamiento se presenta para modelos trifásicos. Para los modelos monofásicos, presentará diferencia de ±1%.
El consumo indicado corresponde a una temperatura ambiente de 32 °C en la sala de máquinas.
La configuración detallada de la versión puede encontrarse en la página 03.

Technical data and ordering

Unidades Condensadoras Herméticas con R134a (Media y Alta temperaturas) - LAM 1 (Columbia)

Modelo	Condensador			Ventilador Ø [mm]	Recibidor de líquido [l]	Consumo de la unidad [W] a temp. de evaporación		Dimensiones [mm]						Peso [kg]	
	Tipo	Flujo de aire [m³/h]	Volumen interno [l]			-10 °C	5 °C	Dib.	Alto A [mm]	Profundidad P [mm]	Largo L [mm]	Línea succión [in]	Línea líquido [in]	Bruto	Neto
OP-HJZ018D	D8	2080	0,4	1x355	3	936	1106	D32= 1A D40= 1B	463	310	1000	1/2	3/8	D32= 64 D40= 80	D32= 55 D40= 71
OP-HJZ022D	D8	2080	0,4	1x355	3	1063	1312	D32=1A D40=1B	463	310	1000	1/2	3/8	D32=64 D40=80	D32=55 D40=71
OP-HJZ028D	G8	4400	0,5	1x457	6	1837	2136	D32=1A D40=1B	538	420	1150	1/2	1/2	D32=83 D40=107	D32=71 D40=95
OP-HJZ036D	G8	4400	0,5	1x457	8	2251	2681	D32=1A D40=1B	538	420	1150	5/8	1/2	D32=85 D40=109	D32=73 D40=97
OP-HJZ040D	J8	5480	1,3	1x457	8	2353	2729	D32=1A D40=1B	688	420	1150	5/8	1/2	D32=93 D40=120	D32=80 D40=107
OP-HJZ050D	J8	5480	1,3	1x457	8	2617	3093	D32= 1A D40= 1B	688	420	1150	7/8	1/2	D32= 104 D40= 134	D32= 91 D40= 121
OP-HGZ064D	N8	8200	1,6	2x457	10	3856	4479	D32=2A D40=2B	715	800	1200	1 1/8	1/2	D32=140 D40=182	D32=125 D40=167
OP-HGZ080D	N8	8200	1,6	2x457	14	4573	5434	D32=2A D40=2B	715	800	1200	1 1/8	5/8	D32=143 D40=201	D32=128 D40=170
OP-HGZ100D	N8	8200	1,6	2x457	14	5250	6303	D32=2A D40=2B	715	800	1200	1 1/8	5/8	D32=159 D40=201	D32=144 D40=186
OP-HGZ125D	Q8	12720	2,5	2x600	14	5978	7299	D32=2A D40=2B	971	800	1500	1 1/8	5/8	D32=243 D40=302	D32=225 D40=284
OP-HGZ160D	Q8	12720	2,5	2x600	14	7561	9524	D32=2A D40=2B	971	800	1500	1 1/8	5/8	D32=248 D40=307	D32=230 D40=289

Technical data and ordering

Optyma™ - R134a MBP / HBP - LAM 2 (Mexico)

Fan	Test conditions	Unit	Version code		Electrical code	Compressor	Amb. temp. [°C]	Cooling capacity [Btu/h] at evaporating temperature						
			D32	D40				-10 °C	-5 °C	0 °C	5 °C	10 °C	15 °C	20 °C
	SH = 18 K SC = 3 K	OP-HJZ018D	114N3207 114N3209 114N3211	114N3208 114N3210 114N3212	N Q R	MTZ018	32	6000	7750	9900	12450	15400	18850	22750
							35	5650	7350	9400	11900	14800	18150	21950
							38	5300	6950	8950	11350	14200	17450	21100
							43	4700	6250	8200	10450	13150	16200	19700
		OP-HJZ022D	114N3223 114N3225 114N3227	114N3224 114N3226 114N3228	N Q R	MTZ022	32	7600	9900	12600	15750	19300	23250	27600
							35	7250	9450	12100	15100	18550	22400	26600
							38	6850	9000	11550	14450	17800	21450	25500
							43	6250	8250	10650	13350	16450	19900	23700
		OP-HJZ028D	114N3238 114N3240	114N3239 114N3241	N Q	MTZ028	32	10400	13500	17000	21000	25500	30400	35850
							35	9950	12950	16400	20250	24600	29400	34700
							38	9450	12350	15700	19500	23700	28400	33500
							43	8600	11400	14600	18150	22150	26600	31450
		OP-HJZ036D	114N3251 114N3253 114N3255	114N3252 114N3254 114N3256	N Q R	MTZ036	32	13500	17100	21250	26000	31300	37150	43550
							35	12800	16350	20400	25000	30150	35850	42050
							38	12150	15600	19550	24000	29000	34550	40550
							43	11050	14300	18100	22300	27050	32300	38000
		OP-HJZ040D	114N3267 114N3269 114N3271	114N3268 114N3270 114N3272	N Q R	MTZ040	32	17050	21100	25700	31050	37050	43850	51350
							35	16000	20000	24550	29800	35700	42350	49800
							38	15000	18900	23400	28550	34350	40950	48200
							43	13350	17150	21500	26550	32200	38550	45650
		OP-HJZ050D	114N3281 114N3283 114N3285	114N3282 114N3284 114N3286	N Q R	MTZ050	32	16950	22500	29000	36450	45000	54550	65100
							35	16300	21700	28050	35300	43600	52900	63150
							38	15600	20900	27000	34100	42150	51150	61050
							43	14300	19350	25200	31900	39500	48050	57450
		OP-HGZ064D	114N3296 114N3298 114N3300	114N3297 114N3299 114N3301	N Q R	MTZ064	32	21800	28750	36750	45850	56000	67100	79100
							35	20900	27650	35400	44250	54050	64800	76400
							38	19950	26500	34050	42550	52050	62450	73650
							43	18200	24450	31600	39700	48600	58400	69000
		OP-HGZ080D	114N3308 114N3310	114N3309 114N3311	Q R	MTZ080	32	29000	37600	47600	59000	71850	86100	101700
							35	27750	36150	45850	56900	69350	83200	98300
							38	26500	34650	44050	54800	66850	80250	94900
							43	24400	32100	41000	51150	62600	75250	89150
		OP-HGZ100D	114N3318 114N3320	114N3319 114N3321	Q R	MTZ100	32	33250	43200	54700	67600	82050	97950	115150
							35	31350	41000	52150	64650	78650	93950	110600
							38	29450	38800	49550	61650	75150	89950	106000
							43	26250	35100	45150	56550	69250	83150	98250
		OP-HGZ125D	114N3328 114N3330	114N3329 114N3331	Q R	MTZ125	32	42950	55750	70650	87600	106750	127900	151050
							35	40600	53050	67450	83900	102350	122800	145200
							38	38300	50350	64250	80100	97950	117650	139250
							43	34450	45800	58850	73700	90350	108850	129050
		OP-HGZ160D	114N3338 114N3340	114N3339 114N3341	Q R	MTZ160	32	60400	75500	92550	111500	132400	155100	179550
							35	57700	72400	89000	107450	127700	149700	173400
							38	54950	69250	85400	103250	122900	144200	167150
							43	50250	63850	79100	96050	114600	134750	156400

Electrical codes:
N - Compressor 230 V / 1-ph / 60 Hz, Fan(s) 230 V / 1-ph / 60 Hz
Q - Compressor 230 V / 3-ph / 60 Hz, Fan(s) 230 V / 1-ph / 60 Hz
R - Compressor 460 V / 3-ph / 60 Hz , Fan(s) 460 V / 1-ph / 60 Hz

Cooling capacity for three-phase models shown. For single-phase models a difference of ± 1% shall apply
The consumption values shown relate to an ambient temperature in the equipment room of 32°C.

Technical data and ordering

Optyma™ - R134a MBP / HBP - LAM 2 (Mexico)

Unit	Condenser			Fan Ø [mm]	Receiver [L]	Power consumption [Btu/h] at evaporating temp.		Dimensions [mm]						Weight [kg]	
	Type	Air flow [m³/h]	Internal volume [l]			-10 °C	5 °C	Figure	Height H [mm]	Depth D [mm]	Length L [mm]	Suction line [in]	Liquid line [in]	Gross	Net
OP-HJZ018D	D8	2400	0.4	1x355	3	1050	1300	D32= 1A D40= 1B	463	310	1000	1/2	3/8	D32= 64 D40= 80	D32= 55 D40= 71
OP-HJZ022D	D8	2400	0.4	1x355	3	1250	1600	D32=1A D40=1B	463	310	1000	1/2 5/8 (N)	3/8	D32=64 D40=80	D32=55 D40=71
OP-HJZ028D	G8	4800	0.5	1x457	6	2150	2600	D32=1A D40=1B	538	420	1150	1/2 5/8 (N)	1/2	D32=83 D40=107	D32=71 D40=95
OP-HJZ036D	G8	4800	0.5	1x457	8	2650	3350	D32=1A D40=1B	538	420	1150	5/8	1/2	D32= 85 D40= 109	D32= 73 D40= 97
OP-HJZ040D	J8	6300	1.3	1x457	8	2850	3600	D32= 1A D40= 1B	688	420	1150	5/8	1/2	D32= 93 D40= 120	D32= 80 D40= 107
OP-HJZ050D	J8	6300	1.3	1x457	8	3000	3600	D32= 1A D40= 1B	688	420	1150	7/8	1/2	D32= 104 D40= 134	D32= 91 D40= 121
OP-HGZ064D	N8	8800	1.6	2x457	10	3600	4550	D32= 2A D40= 2B	715	800	1200	1 1/8	1/2	D32= 140 D40= 182	D32= 125 D40= 167
OP-HGZ080D	N8	8800	1.6	2x457	14	5250	6500	D32= 2A D40= 2B	715	800	1200	1 1/8	5/8	D32= 143 D40= 185	D32= 128 D40= 170
OP-HGZ100D	N8	8800	1.6	2x457	14	6050	7600	D32= 2A D40= 2B	715	800	1200	1 1/8	5/8	D32= 159 D40= 201	D32= 144 D40= 186
OP-HGZ125D	Q8	13980	2.5	2x550	14	6900	8800	D32= 2A D40= 2B	971	800	1500	1 1/8	5/8	D32= 243 D40= 302	D32= 225 D40= 284
OP-HGZ160D	Q8	13980	2.5	2x550	14	9200	11800	D32= 2A D40= 2B	971	800	1500	1 1/8	5/8	D32= 248 D40= 307	D32= 230 D40= 289

Technical data and ordering

Unidades Condensadoras Scroll con R134a (Media y Alta temperaturas) - LAM 1 (Columbia)

Ventiladores	Condiciones de prueba	Modelo	Código por versión	Código eléctrico	Compresor	Temperatura ambiente [°C]	Capacidad de refrigeración [W] a temperatura de evaporación						
			D40				-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	15 °C
	sobrecalentamiento 18K subenfriamiento 3K	OP-HNU015D	114N3369	E	MLZ015	32	1.865	2.354	2.931	3.601	4.370	5.245	6.228
						35	1.807	2.282	2.843	3.496	4.248	5.104	6.068
						38	1.750	2.210	2.754	3.390	4.124	4.960	5.904
						43	1.655	2.088	2.604	3.210	3.912	4.714	5.623
		OP-HNU021D	114N3373	E	MLZ021	32	2.544	3.184	3.948	4.839	5.862	7.016	8.305
						35	2.462	3.084	3.828	4.697	5.694	6.820	8.079
						38	2.379	2.983	3.706	4.552	5.522	6.620	7.848
						43	2.237	2.811	3.498	4.303	5.229	6.279	7.456
		OP-HNU030D	114N3377	E	MLZ030	32	3.763	4.737	5.886	7.218	8.744	10.470	12.403
						35	3.645	4.591	5.709	7.007	8.496	10.181	12.072
						38	3.528	4.444	5.529	6.792	8.242	9.886	11.735
						43	3.332	4.195	5.223	6.424	7.808	9.382	11.155
		OP-HRU038D	114N3381	E	MLZ038	32	4.448	5.634	7.017	8.617	10.448	12.523	14.856
						35	4.298	5.456	6.806	8.367	10.155	12.182	14.461
						38	4.147	5.276	6.591	8.113	9.856	11.833	14.059
						43	3.891	4.969	6.225	7.678	9.345	11.239	13.373
		OP-HRU048D	114N3384	E	MLZ048	32	5.830	7.334	9.117	11.175	13.503	16.098	18.957
						35	5.631	7.092	8.830	10.839	13.116	15.655	18.454
						38	5.431	6.847	8.537	10.495	12.718	15.198	17.937
						43	5.098	6.433	8.037	9.905	12.031	14.412	17.046
		OP-HRU058D	114N3387	E	MLZ058	32	7.056	8.893	11.017	13.454	16.226	19.352	22.852
						35	6.799	8.599	10.677	13.059	15.768	18.822	22.242
						38	6.538	8.300	10.330	12.657	15.301	18.283	21.624
						43	6.094	7.791	9.740	11.971	14.506	17.366	20.574
		OP-HRU076D	114N3390	E	MLZ076	32	9.018	11.355	14.068	17.173	20.692	24.634	29.027
						35	8.708	10.979	13.622	16.653	20.093	23.954	28.259
						38	8.402	10.602	13.171	16.125	19.482	23.256	27.474
						43	7.901	9.973	12.409	15.225	18.436	22.062	26.121

Código eléctrico:
E - Compresor 400V/3F/50Hz, ventilador(es) 230V/1F/50 Hz

La capacidad de enfriamiento se presenta para modelos trifásicos. Para los modelos monofásicos, presentará diferencia de ±1%.
El consumo indicado corresponde a una temperatura ambiente de 32 °C en la sala de máquinas.
La configuración detallada de la versión puede encontrarse en la página 03.

Technical data and ordering

Unidades Condensadoras Scroll con R134a (Media y Alta temperaturas) - LAM 1 (Columbia)

Modelo	Condensador			Ventilador Ø [mm]	Recibidor de líquido [l]	Consumo de la unidad [W] a temp. de evaporación		Dimensiones [mm]						Peso [kg]	
	Tipo	Flujo de aire [m³/h]	Volumen interno [l]			-10 °C	5 °C	Dib.	Alto A [mm]	Profundidad P [mm]	Largo L [mm]	Línea succión [in]	Línea líquido [in]	Bruto	Neto
OP-HNU015D	G8	4400	0,5	1x457	6	1728	1793	3A	538	420	1150	5/8	1/2	D40= 115	D40= 103
OP-HNU021D	G8	4400	0,5	1x457	6	2025	2145	3A	538	420	1150	5/8	1/2	D40= 115	D40= 103
OP-HNU030D	J8	5480	1,3	1x457	8	2526	2694	3A	688	420	1150	7/8	1/2	D40= 136	D40= 123
OP-HRU038D	N8	8200	1,6	2x457	10	3731	3915	4A	715	800	1200	7/8	1/2	D40= 182	D40= 167
OP-HRU048D	N8	8200	1,6	2x457	10	4247	4532	4A	715	800	1200	7/8	1/2	D40= 182	D40= 167
OP-HRU058D	Q8	12720	2,5	2x550	14	4972	5312	4A	971	800	1500	1 1/8	5/8	D40= 287	D40= 269
OP-HRU076D	Q8	12720	2,5	2x550	14	5948	6442	4A	971	800	1500	1 1/8	5/8	D40= 288	D40= 270

Technical data and ordering

Optyma™ - R134a MBP / HBP - LAM 2 (Mexico)

Fan	Test conditions	Unit	Version code	Electrical code	Compressor	Amb. temp. [°C]	Cooling capacity [Btu/h] at evaporating temperature						
			D40				-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	15 °C
	SH = 18 K SC = 3 K	OP-HNU015D	114N3366 114N3367 114N3368	N Q R	MLZ015	32	7500	9500	11900	14600	17600	20900	24450
						35	7200	9200	11550	14200	17100	20350	23850
						38	6950	8900	11150	13750	16650	19800	23200
						43	6450	8350	10500	13000	15750	18800	22100
		OP-HNU021D	114N3370 114N3371 114N3372	N Q R	MLZ021	32	10300	13300	16650	20400	24650	29300	34500
						35	9900	12850	16150	19850	24000	28600	33650
						38	9450	12400	15650	19300	23350	27850	32750
						43	8750	11600	14800	18300	22200	26550	31250
		OP-HNU030D	114N3374 114N3375 114N3376	N Q R	MLZ030	32	15600	19850	24800	30500	36900	43950	51600
						35	15000	19200	24100	29700	35950	42850	50350
						38	14450	18550	23350	28800	34950	41700	49100
						43	13450	17400	22050	27350	33250	39750	46850
		OP-HRU038D	114N3378 114N3379 114N3380	N Q R	MLZ038	32	18300	23050	28750	35400	42850	51000	59800
						35	17700	22300	27900	34400	41700	49700	58350
						38	17100	21600	27050	33400	40500	48350	56850
						43	16100	20350	25550	31600	38500	46050	54200
		OP-HRU048D	114N3382 114N3383	Q R	MLZ048	32	24100	30400	37700	46100	55450	65850	77200
						35	23200	29300	36450	44650	53800	63950	75050
						38	22300	28200	35150	43150	52100	62000	72900
						43	20700	26350	32950	40550	49150	58700	69100
		OP-HRU058D	114N3385 114N3386	Q R	MLZ058	32	28550	35800	44100	53500	64050	75650	88350
						35	27600	34600	42650	51850	62100	73500	85950
						38	26600	33400	41200	50150	60150	71250	83450
						43	25000	31350	38750	47250	56800	67450	79150
		OP-HRU076D	114N3388 114N3389	Q R	MLZ076	32	37800	46950	57850	70400	84450	100000	116850
						35	36450	45450	56100	68350	82100	97250	113650
						38	35050	43850	54300	66250	79650	94400	110450
						43	32650	41150	51150	62600	75450	89600	104900

Electrical codes:
N - Compressor 230 V / 1-ph / 60 Hz, Fan(s) 230 V / 1-ph / 60 Hz
Q - Compressor 230 V / 3-ph / 60 Hz, Fan(s) 230 V / 1-ph / 60 Hz
R - Compressor 460 V / 3-ph / 60 Hz , Fan(s) 460 V / 1-ph / 60 Hz

Cooling capacity for three-phase models shown. For single-phase models a difference of ± 1% shall apply
The consumption values shown relate to an ambient temperature in the equipment room of 32°C.

Technical data and ordering

Optyma™ - R134a MBP / HBP - LAM 2 (Mexico)

Unit	Condenser			Fan Ø [mm]	Receiver [L]	Power consumption [Btu/h] at evaporating temp.		Dimensions [mm]						Weight [kg]	
	Type	Air flow [m³/h]	Internal volume [l]			-10 °C	5 °C	Figure	Height H [mm]	Depth D [mm]	Length L [mm]	Suction line [in]	Liquid line [in]	Gross	Net
OP-HNU015D	G8	4800	0.5	1x457	6	2450	2650	3A	538	420	1150	5/8	1/2	115	103
OP-HNU021D	G8	4800	0.5	1x457	6	3100	3400	3A	538	420	1150	5/8	1/2	115	103
OP-HNU030D	J8	6300	1.3	1x457	8	4050	4550	3A	688	420	1150	7/8	1/2	136	123
OP-HRU038D	N8	8800	1.6	2x457	10	5400	5950	4A	715	800	1200	7/8	1/2	182	167
OP-HRU048D	N8	8800	1.6	2x457	10	6750	7550	4A	715	800	1200	7/8	1/2	182	167
OP-HRU058D	Q8	13980	2.5	2x550	14	7600	8350	4A	971	800	1500	1 1/8	5/8	287	269
OP-HRU076D	Q8	13980	2.5	2x550	14	9750	10900	4A	971	800	1500	1 1/8	5/8	288	270

Technical data and ordering

Optyma™ - R134a MBP/HBP - LAM 3 (Argentina)

Ventiladore	Condiciones de prueba	Modelo	Código por versión		Código Eléctrico	Compresor	Temperatura ambiente [°C]	Capacidad de refrigeración (W) a temperatura de evaporación						
			D20	D39				-10 °C	-5 °C	0 °C	5 °C	10 °C	15 °C	20 °C
	sobrecalentamiento 18 K subenfriamiento 3 K	OP-HJZ019D	115F0066 115F0068	115F0272	G E	MTZ018	32	1387	1855	2396	3013	3705	4472	5309
							35	1297	1749	2271	2864	3529	4267	5072
							38	1211	1646	2147	2716	3354	4061	4831
							43	1077	1481	1944	2471	3060	3713	4426
		OP-HJZ022D	115F0071 115F0073	115F0276	G E	MTZ022	32	1743	2311	2974	3735	4590	5538	6574
							35	1642	2190	2829	3561	4386	5298	6295
							38	1544	2072	2686	3388	4180	5056	6014
							43	1388	1879	2449	3101	3836	4651	5541
		OP-HJZ028D	115F0076 115F0078	115F0280	G E	MTZ028	32	2197	2909	3775	4803	6003	7380	8930
							35	2086	2774	3610	4604	5763	7094	8594
							38	1979	2641	3446	4403	5520	6802	8253
							43	1812	2426	3175	4067	5112	6313	7674
		OP-HJZ032D	115F0081 115F0083	115F0284	G E	MTZ032	32	2568	3393	4380	5541	6882	8404	10107
							35	2436	3234	4189	5311	6606	8081	9728
							38	2305	3075	3996	5079	6328	7752	9344
							43	2095	2814	3675	4688	5858	7195	8693
		OP-HJZ036D	115F0086 115F0088	115F0288	G E	MTZ036	32	3312	4212	5260	6462	7824	9342	11017
							35	3176	4049	5066	6231	7550	9020	10641
							38	3040	3885	4869	5994	7269	8689	10256
							43	2811	3608	4532	5590	6788	8123	9595
		OP-HJZ040D	115F0092	115F0292	E	MTZ040	32	3803	4725	5783	6984	8331	9831	11489
							35	3677	4578	5610	6780	8092	9552	11164
							38	3547	4426	5431	6568	7844	9262	10829
							43	3323	4160	5116	6197	7408	8754	10238
		OP-HJZ044D	115F0096	115F0296	E	MTZ044	32	3777	4919	6283	7885	9735	11849	14218
							35	3571	4672	5986	7530	9318	11362	13656
							38	3368	4428	5693	7181	8905	10879	13101
							43	3035	4030	5215	6609	8229	10085	12189
		OP-HJZ050D	115F0100	115F0300	E	MTZ050	32	4287	5628	7208	9037	11124	13460	16046
							35	4046	5336	6856	8618	10631	12891	15398
							38	3814	5053	6515	8211	10149	12337	14764
							43	3443	4603	5971	7562	9383	11445	13739
		OP-HJZ056D	115F0104	115F0304	E	MTZ056	32	4335	5813	7560	9585	11898	14495	17376
							35	4088	5517	7207	9169	11417	13940	16745
							38	3848	5226	6859	8760	10938	13389	16119
							43	3467	4759	6295	8089	10153	12485	15085
		OP-HJZ064D	115F0108	115F0308	E	MTZ064	32	5009	6692	8646	10875	13371	16130	19139
							35	4749	6380	8272	10431	12849	15520	18438
							38	4492	6071	7901	9988	12328	14914	17741
							43	4069	5563	7291	9255	11467	13911	16587
		OP-HGZ072D	115F0111	115F0311	E	MTZ072	32	5836	7765	10033	12654	15642	19001	22721
							35	5570	7448	9652	12201	15102	18366	21983
							38	5299	7124	9263	11737	14552	17721	21235
							43	4839	6573	8604	10947	13616	16628	19966
		OP-HGZ080D	115F0114	115F0314	E	MTZ080	32	7009	9081	11522	14346	17570	21189	25206
							35	6698	8708	11073	13809	16937	20450	24352
							38	6383	8331	10620	13271	16302	19706	23493
							43	5855	7697	9859	12364	15232	18460	22054
		OP-HGZ100D	115F0117	115F0317	E	MTZ100	32	8061	10494	13342	16624	20328	24453	28978
							35	7641	10002	12762	15937	19517	23504	27878
							38	7237	9520	12185	15248	18706	22549	26769
							43	6601	8742	11238	14107	17345	20946	24902
		OP-HGZ125D	115F0120	115F0320	E	MTZ125	32	10472	13539	17128	21263	25968	31238	37069
							35	9909	12893	16379	20393	24960	30068	35722
							38	9356	12252	15630	19516	23929	28882	34357
							43	8460	11196	14381	18047	22205	26875	32042
		OP-HGZ144D	115F0123	115F0323	E	MTZ144	32	12993	16543	20655	25350	30619	36465	42870
							35	12392	15843	19832	24385	29492	35150	41351
							38	11796	15141	19002	23407	28343	33813	39809
							43	10816	13970	17606	21741	26395	31543	37189
		OP-HGZ160D	115F0126	115F0326	E	MTZ160	32	14162	18004	22448	27514	33177	39424	46219
							35	13525	17248	21546	26439	31904	37930	44483
							38	12900	16493	20635	25352	30610	36410	42717
							43	11875	15235	19104	23503	28409	33815	39703

Códigos Eléctricos:
G - Compresor 230V/1F/50Hz, ventilador(es) 230V/1F/50 Hz
E - Compresor 400V/3F/50Hz, ventilador(es) 230V/1F/50 Hz

La capacidad de enfriamiento se presenta para modelos trifásicos. Para los modelos monofásicos, presentará diferencia de ±1%.
El consumo indicado corresponde a una temperatura ambiente de 32ºC en la sala de máquinas.
La configuración detallada de versiones D20 y D39 puede encontrarse en la página 03.

Technical data and ordering

Optyma™ - R134a MBP/HBP - LAM 3 (Argentina)

Modelo	Condensador			Ventilador Ø [mm]	Recibidor de líquido [l]	Consumo de la unidad [W] a temp. de evaporación		Dimensiones [mm]						Peso [kg]	
	Tipo	Flujo de aire [m³/h]	Volumen interno [l]			-10 °C	5 °C	Dib.	Alto A [mm]	Profundidad P [mm]	Largo L [mm]	Línea succión [in]	Línea líquido [in]	Bruto	Neto
OP-HJZ019D	D8	2080	0.4	1x355	3	651	866	1A	463	310	1000	1/2	3/8	D20 = 62 D39 = 64	D20 = 53 D39 = 55
OP-HJZ022D	D8	2080	0.4	1x355	3	778	1101	1A	463	310	1000	1/2	3/8	D20 = 62 D39 = 64	D20 = 53 D39 = 55
OP-HJZ028D	G8	4400	0.5	1x457	6	948	1348	1A	538	420	1150	1/2	1/2	D20 = 83 D39 = 85	D20 = 71 D39 = 73
OP-HJZ032D	G8	4400	0.5	1x457	8	1185	1698	1A	538	420	1150	5/8	1/2	D20 = 85 D39 = 87	D20 = 73 D39 = 75
OP-HJZ036D	G8	4400	0.5	1x457	8	1362	1928	1A	538	420	1150	5/8	1/2	D20 = 85 D39 = 87	D20 = 73 D39 = 75
OP-HJZ040D	J8	5480	1.3	1x457	8	1464	1954	1A	688	420	1150	5/8	1/2	D20 = 85 D39 = 87	D20 = 73 D39 = 75
OP-HJZ044D	J8	5480	1.3	1x457	8	1428	1945	1A	688	420	1150	7/8	1/2	D20 = 93 D39 = 95	D20 = 80 D39 = 82
OP-HJZ050D	J8	5480	1.3	1x457	8	1728	2345	1A	688	420	1150	7/8	1/2	D20 = 104 D39 = 107	D20 = 91 D39 = 94
OP-HJZ056D	J8	5480	1.3	1x457	8	1833	2589	1A	688	420	1150	7/8	1/2	D20 = 104 D39 = 107	D20 = 91 D39 = 94
OP-HJZ064D	J8	5480	1.3	1x457	8	2095	3030	1A	688	420	1150	7/8	1/2	D20 = 104 D39 = 107	D20 = 91 D39 = 94
OP-HGZ072D	N8	8200	1.6	2x457	14	2379	3417	2A	715	800	1200	1 1/8	5/8	D20 = 104 D39 = 107	D20 = 91 D39 = 94
OP-HGZ080D	N8	8200	1.6	2x457	14	2795	3963	2A	715	800	1200	1 1/8	5/8	D20 = 140 D39 = 143	D20 = 128 D39 = 131
OP-HGZ100D	N8	8200	1.6	2x457	14	3472	4849	2A	715	800	1200	1 1/8	5/8	D20 = 143 D39 = 146	D20 = 154 D39 = 147
OP-HGZ125D	Q8	12720	2.5	2x600	14	4004	5694	2A	971	800	1500	1 1/8	5/8	D20 = 243 D39 = 247	D20 = 225 D39 = 229
OP-HGZ144D	Q8	12720	2.5	2x600	14	5135	7293	2A	971	800	1500	1 1/8	5/8	D20 = 248 D39 = 252	D20 = 230 D39 = 234
OP-HGZ160D	Q8	12720	2.5	2x600	14	5587	8258	2A	971	800	1500	1 1/8	5/8	D20 = 248 D39 = 252	D20 = 230 D39 = 234

Technical data and ordering

Optyma™ - R134a MBP/HBP - LAM 4 (Brazil)

Ventiladores	Condições de teste	Modelo	Código por versão				Código elétrico	Compressor	Temperatura ambiente	Capacidade de refrigeração (Kcal/h) na temperatura de evaporação						
			D20	D39	D40	D49				-10 °C	-5 °C	0 °C	5 °C	10 °C	15 °C	20 °C
	superaquecimento 18K sub-resfriamento 3K	OP-HJZ019D	115F0064 115F0065 115F0067	115F0269 115F0270 115F0271	115F0327 115F0328 115F0329	115F0369 115F0370 115F0371	N Q V	MTZ019	32°C	1509	1952	2490	3132	3885	4749	5727
									35 °C	1421	1851	2375	3000	3732	4573	5526
									38°C	1332	1750	2258	2865	3577	4394	5320
									43°C	1185	1580	2061	2636	3311	4089	4968
		OP-HJZ022D	115F0069 115F0070 115F0072	115F0273 115F0274 115F0275	115F0330 115F0331 115F0332	115F0372 115F0373 115F0374	N Q V	MTZ022	32°C	1912	2492	3175	3965	4861	5861	6960
									35 °C	1822	2384	3044	3808	4673	5639	6699
									38°C	1731	2273	2910	3647	4480	5410	6432
									43°C	1575	2082	2678	3366	4145	5014	5970
		OP-HJZ028D	115F0074 115F0075 115F0077	115F0277 115F0278 115F0279	115F0333 115F0334 115F0335	115F0375 115F0376 115F0377	N Q V	MTZ028	32°C	2627	3402	4290	5294	6421	7666	9033
									35 °C	2504	3262	4127	5106	6202	7414	8743
									38°C	2379	3118	3960	4912	5976	7155	8444
									43°C	2165	2871	3673	4578	5588	6707	7930
		OP-HJZ032D	115F0079 115F0080 115F0082	115F0281 115F0282 115F0283	115F0336 115F0337 115F0338	115F0378 115F0379 115F0380	N Q V	MTZ032	32°C	2674	3545	4547	5681	6950	8347	9871
									35 °C	2593	3434	4398	5489	6708	8051	9514
									38°C	2505	3314	4240	5285	6455	7741	9143
									43°C	2343	3094	3952	4920	6003	7193	8492
		OP-HJZ036D	115F0084 115F0085 115F0087	115F0285 115F0286 115F0287	115F0339 115F0340 115F0341	115F0381 115F0382 115F0383	N Q V	MTZ036	32°C	3396	4309	5358	6550	7883	9359	10974
									35 °C	3226	4119	5141	6302	7598	9033	10602
									38°C	3059	3928	4923	6051	7309	8701	10224
									43°C	2782	3610	4555	5625	6818	8135	9577
		OP-HJZ040D	115F0089 115F0090 115F0091	115F0289 115F0290 115F0291	115F0342 115F0343 115F0344	115F0384 115F0385 115F0386	N Q V	MTZ040	32°C	4300	5312	6482	7820	9338	11046	12945
									35 °C	4036	5034	6186	7504	8998	10678	12547
									38°C	3778	4761	5895	7193	8661	10315	12152
									43°C	3364	4321	5424	6685	8113	9719	11505
		OP-HJZ044D	115F0093 115F0094 115F0095	115F0293 115F0294 115F0295	115F0345 115F0346 115F0347	115F0387 115F0388 115F0389	N Q V	MTZ044	32°C	4098	5361	6833	8522	10439	12578	14939
									35 °C	3873	5100	6528	8166	10022	12101	14394
									38°C	3644	4835	6219	7806	9605	11620	13844
									43°C	3255	4385	5696	7199	8900	10811	12922
		OP-HJZ050D	115F0097 115F0098 115F0099	115F0297 115F0298 115F0299	115F0348 115F0349 115F0350	115F0390 115F0391 115F0392	N Q V	MTZ050	32°C	4277	5668	7302	9190	11341	13749	16410
									35 °C	4113	5473	7066	8902	10991	13328	15912
									38°C	3933	5261	6810	8594	10621	12885	15389
									43°C	3605	4873	6347	8039	9960	12104	14472
		OP-HJZ056D	115F0101 115F0102 115F0103	115F0301 115F0302 115F0303	115F0351 115F0352 115F0353	115F0393 115F0394 115F0395	N Q V	MTZ056	32°C	4852	6427	8260	10361	12723	15345	18214
									35 °C	4625	6159	7941	9979	12270	14812	17594
									38°C	4387	5880	7610	9586	11806	14266	16963
									43°C	3972	5393	7033	8902	11004	13331	15883
		OP-HJZ064D	115F0105 115F0106 115F0107	115F0305 115F0306 115F0307	115F0354 115F0355 115F0356	115F0396 115F0397 115F0398	N Q V	MTZ064	32°C	5498	7243	9262	11556	14108	16904	19928
									35 °C	5266	6966	8926	11149	13619	16326	19250
									38°C	5022	6675	8577	10728	13116	15733	18561
									43°C	4587	6163	7965	9999	12250	14717	17382
		OP-HGZ072D	115F0109 115F0110	115F0309 115F0310	115F0357 115F0358	115F0399 115F0400	Q V	MTZ072	32°C	6451	8443	10754	13393	16370	19675	23303
									35 °C	6170	8115	10366	12930	15824	19032	22556
									38°C	5878	7774	9963	12454	15259	18370	21787
									43°C	5368	7180	9262	11627	14287	17233	20471
		OP-HGZ080D	115F0112 115F0113	115F0312 115F0313	115F0359 115F0360	115F0401 115F0402	Q V	MTZ080	32°C	7304	9473	11992	14870	18106	21695	25622
									35 °C	6996	9104	11549	14343	17480	20962	24773
									38°C	6681	8728	11098	13805	16845	20220	23918
									43°C	6147	8089	10332	12894	15771	18964	22469
		OP-HGZ100D	115F0115 115F0116	115F0315 115F0316	115F0361 115F0362	115F0403 115F0404	Q V	MTZ100	32°C	8385	10891	13778	17041	20679	24678	29016
									35 °C	7902	10336	13136	16296	19814	23681	27874
									38°C	7420	9777	12480	15539	18936	22668	26717
									43°C	6618	8839	11384	14256	17449	20950	24753
		OP-HGZ125D	115F0118 115F0119	115F0318 115F0319	115F0363 115F0364	115F0405 115F0406	Q V	MTZ125	32°C	10820	14051	17799	22076	26896	32226	38062
									35 °C	10232	13369	17000	21139	25797	30949	36588
									38°C	9649	12684	16194	20187	24683	29647	35086
									43°C	8686	11536	14827	18568	22774	27429	32520
		OP-HGZ144D	115F0121 115F0122	115F0321 115F0322	115F0365 115F0366	115F0407 115F0408	Q V	MTZ144	32°C	13772	17285	21272	25739	30675	36081	41934
									35 °C	13173	16594	20467	24803	29588	34825	40491
									38°C	12564	15890	19644	23842	28472	33535	39012
									43°C	11523	14675	18221	22186	26551	31314	36474
		OP-HGZ160D	115F0124 115F0125	115F0324 115F0325	115F0367 115F0368	115F0409 115F0410	Q V	MTZ160	32°C	15217	19023	23322	28103	33364	39084	45248
									35 °C	14539	18250	22433	27074	32180	37726	43699
									38°C	13845	17455	21516	26022	30965	36340	42117
									43°C	12657	16088	19934	24204	28878	33955	39415

Códigos elétricos:
N - Compressor 230V / 1F / 60Hz, ventilador(es) 230V / 1F / 60 Hz
Q - Compressor 230V / 3F / 60Hz, ventilador(es) 230V / 1F / 60 Hz
V - Compressor 380V / 3F / 60Hz, ventilador(es) 230V / 1F / 60 Hz

A capacidade de refrigeração informada é para modelos trifásicos. Para modelos monofásicos apresentará diferença de ± 1%
O consumo indicado corresponde a uma temperatura ambiente de 32°C na casa de máquinas.
O detalhamento da configuração das versões D20, D39, D40 e D49 pode ser encontrado na página 03.

Technical data and ordering

Optyma™ - R134a MBP/HBP - LAM 4 (Brazil)

Modelo	Condensador			Ventilador Ø [mm]	Tanque de líquido [l]	Consumo da unidade [W] na temp. evaporação		Dimensões [mm]						Peso [kg]	
	Tipo	Vazão ar [m3/h]	Volume interno [l]			-10 °C	5 °C	Figura	Altura A [mm]	Profundidade P [mm]	Largura L [mm]	Linha sucção [in]	Linha líquido [in]	Bruto	Líquido
OP-HJZ019D	D8	2400	0.36	1x355	3	1067	1289	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	463	310	1000	1/2	3/8	D20 = 62 D39 = 64 D40 = 75 D49 = 69	D20 = 53 D39 = 55 D40 = 66 D49 = 60
OP-HJZ022D	D8	2400	0.36	1x355	3	1273	1617	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	463	310	1000	1/2 5/8 (N)	3/8	D20 = 62 D39 = 64 D40 = 75 D49 = 69	D20 = 53 D39 = 55 D40 = 66 D49 = 60
OP-HJZ028D	G8	4800	0.47	1x457	6	2160	2603	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	538	420	1150	1/2 5/8 (N)	1/2	D20 = 83 D39 = 85 D40 = 102 D49 = 90	D20 = 71 D39 = 73 D40 = 90 D49 = 78
OP-HJZ032D	G8	4800	0.47	1x457	8	2388	2930	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	538	420	1150	5/8	1/2	D20 = 85 D39 = 87 D40 = 104 D49 = 93	D20 = 73 D39 = 75 D40 = 92 D49 = 81
OP-HJZ036D	G8	4800	0.47	1x457	8	2634	3327	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	538	420	1150	5/8	1/2	D20 = 85 D39 = 87 D40 = 104 D49 = 93	D20 = 73 D39 = 75 D40 = 92 D49 = 81
OP-HJZ040D	J8	6300	1.25	1x457	8	2845	3624	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	688	420	1150	5/8	1/2	D20 = 93 D39 = 95 D40 = 114 D49 = 101	D20 = 80 D39 = 82 D40 = 101 D49 = 88
OP-HJZ044D	J8	6300	1.25	1x457	8	2718	3273	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	688	420	1150	7/8	1/2	D20 = 104 D39 = 107 D40 = 126 D49 = 115	D20 = 91 D39 = 94 D40 = 113 D49 = 102
OP-HJZ050D	J8	6300	1.25	1x457	8	3003	3620	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	688	420	1150	7/8	1/2	D20 = 104 D39 = 107 D40 = 126 D49 = 115	D20 = 91 D39 = 94 D40 = 113 D49 = 102
OP-HJZ056D	J8	6300	1.25	1x457	8	3362	4183	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	688	420	1150	7/8	1/2	D20 = 104 D39 = 107 D40 = 126 D49 = 115	D20 = 91 D39 = 94 D40 = 113 D49 = 102
OP-HJZ064D	J8	6300	1.25	1x457	8	3599	4536	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	688	420	1150	7/8	1/2	D20 = 104 D39 = 107 D40 = 126 D49 = 115	D20 = 91 D39 = 94 D40 = 113 D49 = 102
OP-HGZ072D	N8	8800	1.55	2x457	14	4832	5889	D20 = 2A D39 = 2A D40 = 2B D49 = 2C	715	800	1200	1 1/8	5/8	D20 = 140 D39 = 143 D40 = 173 D49 = 152	D20 = 125 D39 = 128 D40 = 158 D49 =137
OP-HGZ080D	N8	8800	1.55	2x457	14	5252	6500	D20 = 2A D39 = 2A D40 = 2B D49 = 2C	715	800	1200	1 1/8	5/8	D20 = 143 D39 = 146 D40 = 176 D49 = 155	D20 = 128 D39 = 131 D40 = 161 D49 = 140
OP-HGZ100D	N8	8800	1.55	2x457	14	6051	7599	D20 = 2A D39 = 2A D40 = 2B D49 = 2C	715	800	1200	1 1/8	5/8	D20 = 159 D39 = 162 D40 = 182 D49 = 171	D20 = 154 D39 = 147 D40 = 177 D49 = 156
OP-HGZ125D	Q8	13980	2.54	2x600	14	6894	8802	D20 = 2A D39 = 2A D40 = 2B D49 = 2C	971	800	1500	1 1/8	5/8	D20 = 243 D39 = 247 D40 = 287 D49 = 257	D20 = 225 D39 = 229 D40 = 269 D49 = 239
OP-HGZ144D	Q8	13980	2.54	2x600	14	8599	10609	D20 = 2A D39 = 2A D40 = 2B D49 = 2C	971	800	1500	1 1/8	5/8	D20 = 248 D39 = 252 D40 = 293 D49 = 262	D20 = 230 D39 = 234 D40 = 274 D49 = 244
OP-HGZ160D	Q8	13980	2.54	2x600	14	9206	11792	D20 = 2A D39 = 2A D40 = 2B D49 = 2C	971	800	1500	1 1/8	5/8	D20 = 248 D39 = 252 D40 = 293 D49 = 262	D20 = 230 D39 = 234 D40 = 274 D49 = 244

Technical data and ordering

Optyma™ R134a MBP

Fan	Test conditions	Unit	Code no. Version A02	Electrical code	Compressor	Amb. temp. [°C]	Cooling capacity range in [W] at evaporating temperature [°C]							Power consumption [W] at evap. temp.	
							-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	15 °C	-10 °C	5 °C
	SH = 10 K	OP-MCZC030	114X5024	G	MTZ018	27	1000	1350	1800	2250	2800	3350	4000	800	1000
						32	900	1250	1600	2050	2550	3100	3650		
			114X5012	E		38	750	1050	1450	1850	2300	2800	3300		
						43	650	950	1300	1650	2050	2500	–		
		OP-MCZC038	114X5025	G	MTZ022	27	1300	1750	2300	2900	3600	4400	5200	1000	1250
						32	1150	1600	2100	2700	3350	4050	4850		
			114X5013	E		38	1000	1400	1900	2400	3000	3650	4400		
						43	900	1250	1700	2200	2750	3350	–		
		OP-MCZC048	114X5026	G	MTZ028	27	1600	2200	2850	3650	4550	5600	6750	1150	1500
						32	1500	2000	2650	3400	4250	5200	6300		
			114X5014	E		38	1350	1800	2400	3050	3850	4750	5750		
						43	1200	1650	2150	2800	3550	4350	–		
		OP-MCZC054	114X5027	G	MTZ032	27	1900	2550	3300	4150	5200	6300	7550	1400	1900
						32	1700	2300	3050	3850	4800	5900	7050		
			114X5015	E		38	1500	2050	2700	3500	4350	5350	6400		
						43	1350	1850	2500	3200	4000	4900	–		
		OP-MCZC060	114X5028	G	MTZ036	27	2600	3250	4100	5050	6100	7300	8550	1600	2100
						32	2350	3000	3800	4700	5700	6850	8000		
			114X5016	E		38	2100	2750	3500	4300	5250	6250	7350		
						43	1950	2550	3200	4000	4850	5800	–		
		OP-MCZC068	114X5017	E	MTZ040	27	3000	3700	4550	5500	6550	7700	8950	1800	2300
						32	2750	3450	4300	5200	6200	7300	8500		
						38	2550	3200	3950	4800	5750	6750	7850		
						43	2350	2950	3700	4450	5350	6300	–		
		OP-MCZC086	114X5018	E	MTZ050	27	3200	4200	5400	6750	8300	10000	11850	2000	2600
						32	2850	3800	4950	6200	7700	9300	11050		
						38	2500	3350	4400	5600	6950	8450	10100		
						43	2200	3050	4000	5150	6400	7800	–		
		OP-MCZC096	114X5019	E	MTZ056	27	3150	4300	5650	7250	9050	11000	13200	2100	2800
						32	2850	3900	5200	6700	8400	10250	12350		
						38	2450	3450	4650	6050	7600	9400	11350		
						43	2150	3100	4200	5550	7000	8650	–		
		OP-MCZC108	114X5020	E	MTZ064	27	3650	5200	6700	8550	10600	12850	15350	2850	3650
						32	3350	4650	6150	7900	9850	12050	14350		
						38	2900	4150	5550	7200	9000	11050	13200		
						43	2550	3750	5100	6600	8300	10200	–		
		OP-MCZC121	114X5021	E	MTZ072	27	4250	5900	7600	9650	12050	14650	17500	3200	4100
						32	3900	5350	7050	9050	11300	13750	16500		
						38	3450	4800	6400	8300	10350	12700	15250		
						43	3050	4350	5900	7650	9600	11800	–		
		OP-MCZC136	114X5022	E	MTZ080	27	5350	6900	8850	11050	13600	16400	19450	3600	4650
						32	4850	6400	8250	10350	12700	15350	18250		
						38	4350	5800	7500	9450	11650	14150	16850		
						43	3900	5250	6850	8700	10800	13100	–		
		OP-MCZC171	114X5023	E	MTZ100	27	6250	8050	10350	13000	15950	19250	22850	4300	5500
						32	5550	7400	9550	12050	14850	17950	21350		
						38	4900	6600	8650	10950	13550	16400	19500		
						43	4400	6000	7900	10050	12450	15100	–		
		OP-MGZC215	114X5073	E	MTZ125	27	8000	10750	13400	16750	20500	24750	29400	7050	8600
						32	7250	9600	12350	15550	19100	23100	27500		
						38	6350	8550	11100	14100	17400	21150	25200		
						43	5600	7700	10100	12850	16000	19450	–		
		OP-MGZC242	114X5074	E	MTZ144	27	10250	12850	16150	19900	24100	28700	33700	8250	10100
						32	9150	11850	15000	18550	22550	26900	31600		
						38	8150	10700	13650	16950	20650	24650	29000		
						43	7350	9750	12500	15600	19000	22750	–		
		OP- MGZC271	114X5075	E	MTZ160	27	11300	14250	17950	22200	26950	32200	37850	8650	10750
						32	10200	13200	16700	20700	25200	30100	35450		
						38	9150	11950	15200	18900	23050	27550	32450		
						43	8350	10950	13950	17400	21200	25400	–		

Test condition

	SH 10 K
Ambient temperature:	*32 °C*
Superheat:	*10 K*
Subcooling:	*0 K*

Electrical code

E: compressor 400 V / 3 phase / 50 Hz, fan 230 V / 1 phase / 50 Hz
G: compressor 230 V / 1 phase / 50 Hz, fan 230 V / 1 phase / 50 Hz

Version

A02: with receiver, stop valve, universal pressure switch, (KP17WB), flexible hoses and electrical box

Power consumption referred at 32 °C ambient temperature

Technical data and ordering

Optyma™ R134a MBP

Unit	Condenser coil			Condenser fan	Receiver volume [L] (without valve)	Fig.	Dimensions [mm]			Line [in]		Weight [kg]	
	Type	Air flow [m³/h]	Int. volume [dm³]	Fan blade Ø [mm]			Height H	Width W	Depth D	Suction	Liquid	Gross	Net
OP-MCZC030	A4	1200	1.2	1 × 300	3	5	408	500	600	1/2	3/8	52	45
OP-MCZC038	B4	1750	1.3	1 × 350	3	5	451	500	620	1/2	3/8	54	47
OP-MCZC048	C4	2150	2.3	1 × 350	6	5	555	630	650	1/2	1/2	64	57
OP-MCZC054	C4	2150	2.3	1 × 350	6	5	555	630	650	5/8	1/2	65	58
OP-MCZC060	D4	2000	3.1	1 × 350	6	5	555	630	650	5/8	1/2	68	61
OP-MCZC068	E4	3150	2.5	1 × 400	6	5	605	630	650	5/8	1/2	72	65
OP-MCZC086	F4	3300	3.1	1 × 400	8	5	656	755	700	7/8	1/2	95	83
OP-MCZC096	G4	3150	4.1	1 × 400	8	5	656	755	700	7/8	1/2	100	88
OP-MCZC108	H4	4300	4.1	1 × 500	8	5	656	755	700	7/8	1/2	113	101
OP-MCZC121	J4	6000	4.4	1 × 500	10	5	708	900	900	1 1/8	1/2	127	113
OP-MCZC136	K4	6200	4.7	1 × 500	10	5	759	900	900	1 1/8	1/2	140	126
OP-MCZC171	L4	5850	6.3	1 × 500	14	5	759	900	900	1 1/8	5/8	162	147
OP-MGZC215	M4	11000	7.4	2 × 500	14	6	759	1350	820	1 1/8	5/8	191	176
OP-MGZC242	M4	11000	7.4	2 × 500	14	6	759	1350	820	1 1/8	5/8	194	179
OP- MGZC271	N4	9200	12.3	2 × 500	14	6	759	1350	820	1 1/8	5/8	199	184

Technical data and ordering

Optyma™ R134a MBP

Fan	Test conditions	Unit	Code no. Version: A02	Electrical code	Compressor	Amb. temp. [°C]	Cooling capacity range in [W] at evaporating temperature [°C]							Power consumption [W] at evap. temp.	
							-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	15 °C	-10 °C	5 °C
	SH = 10 K	OP-MGZD030	114X5061	E	MTZ018	32	900	1250	1700	2150	2700	3250	3900	950	1150
						38	750	1100	1500	1900	2400	2900	3500		
						43	650	1000	1350	1750	2150	2650	3150		
						46	600	900	1250	1600	2050	2500	–		
		OP-MGZD038	114X5062	E	MTZ022	32	1200	1650	2200	2800	3500	4300	5200	1300	1550
						38	1050	1450	1950	2550	3200	3900	4700		
						43	900	1300	1750	2300	2900	3550	4300		
						46	850	1200	1650	2150	2750	3350	–		
		OP-MGZD048	114X5063	E	MTZ028	32	1500	2050	2650	3450	4350	5350	6500	1450	1800
						38	1350	1850	2400	3100	3950	4900	5950		
						43	1200	1650	2200	2850	3650	4500	5450		
						46	1150	1600	2100	2700	3450	4250	–		
		OP-MGZD054	114X5064	E	MTZ032	32	1750	2350	3100	3950	4950	6050	7300	1700	2150
						38	1550	2100	2800	3600	4500	5500	6650		
						43	1400	1900	2550	3250	4100	5050	6150		
						46	1300	1800	2400	3100	3900	4800	–		
		OP-MGZD060	114X5065	E	MTZ036	32	2400	3100	3950	4950	6050	7250	8600	2150	2600
						38	2200	2850	3650	4550	5550	6700	7950		
						43	2000	2600	3350	4200	5150	6200	7400		
						46	1900	2500	3200	4000	4900	5900	–		
		OP-MGZD068	114X5066	E	MTZ040	32	2850	3600	4450	5450	6550	7750	9100	2250	2700
						38	2600	3350	4150	5050	6100	7250	8500		
						43	2400	3100	3850	4750	5700	6800	7950		
						46	2300	2950	3700	4500	5450	6500	–		
		OP-MGZD086	114X5067	E	MTZ050	32	2950	3950	5150	6550	8200	9950	11950	2500	3050
						38	2550	3500	4650	5900	7400	9100	10900		
						43	2300	3150	4200	5400	6800	8350	10100		
						46	2100	2950	3950	5100	6450	7950	–		
		OP-MGZD108	114X5069	E	MTZ064	32	3400	4750	6350	8200	10300	12600	15150	3050	3750
						38	3000	4250	5750	7450	9400	11600	13950		
						43	2650	3850	5250	6850	8700	10700	12950		
						46	2450	3600	4950	6500	8250	10200	–		
		OP-MGZD121	114X5070	E	MTZ072	32	3900	5400	7100	9150	11400	13950	16750	3350	4250
						38	3450	4850	6500	8350	10500	12850	15450		
						43	3100	4400	5950	7700	9700	11950	14400		
						46	2850	4150	5600	7300	9250	11400	–		
		OP-MGZD136	114X5071	E	MTZ080	32	5000	6600	8550	10750	13350	16250	19500	4400	5350
						38	4450	6000	7800	9850	12300	15000	18000		
						43	4000	5450	7150	9100	11400	13950	16750		
						46	3750	5150	6750	8650	10850	13300	–		
		OP-MGZD171	114X5072	E	MTZ100	32	5750	7650	9950	12650	15750	19200	23000	5100	6200
						38	5050	6850	9000	11500	14350	17550	21100		
						43	4550	6250	8250	10550	13200	16200	19500		
						46	4250	5900	7800	10000	12550	15400	–		
		OP-MGZD215	114X5118	E	MTZ125	32	7400	9800	12650	15950	19700	23950	28600	7050	8450
						38	6450	8750	11400	14500	18000	21950	26300		
						43	5750	7850	10350	13250	16550	20250	24300		
						46	5300	7350	9750	12500	15650	19200	–		
		OP-MGZD242	114X5119	E	MTZ144	32	9350	12150	15400	19150	23350	28000	33100	8200	9950
						38	8350	10950	14000	17500	21400	25750	30450		
						43	7550	10000	12850	16100	19750	23800	28200		
						46	7050	9450	12150	15300	18800	22650	–		
		OP-MGZD271	114X5120	E	MTZ160	32	10450	13550	17200	21450	26250	31600	37450	8400	10400
						38	9400	12300	15700	19650	24050	29000	34450		
						43	8550	11250	14450	18100	22200	26800	31850		
						46	8050	10650	13700	17150	21100	25450	–		

Test condition

	SH 10 K
Ambient temperature:	*32 °C*
Superheat:	*10 K*
Subcooling:	*0 K*

Electrical code

E: compressor 400 V / 3 phase / 50 Hz, fan 230 V / 1 phase / 50 Hz
G: compressor 230 V / 1 phase / 50 Hz, fan 230 V / 1 phase / 50 Hz

Version

A02: with receiver, stop valve, universal pressure switch, (KP17WB), flexible hoses and electrical box

Power consumption referred at 32 °C ambient temperature

Technical data and ordering

Optyma™ R134a MBP

Unit	Condenser coil			Condenser fan	Receiver volume [L] (without valve)	Fig.	Dimensions [mm]			Line [in]		Weight [kg]	
	Type	Air flow [m³/h]	Int. volume [dm³]	Fan blade Ø [mm]			Height H	Width W	Depth D	Suction	Liquid	Gross	Net
OP-MGZD030	C3	1300	1.7	2 × 254	3	6	392	700	500	1/2	3/8	56	46
OP-MGZD038	D3	2800	1.5	2 × 300	6	6	442	800	600	1/2	1/2	60	53
OP-MGZD048	E3	2600	2.2	2 × 300	6	6	442	800	600	1/2	1/2	64	57
OP-MGZD054	E3	2600	2.2	2 × 300	6	6	442	800	600	5/8	1/2	65	58
OP-MGZD060	G3	4600	2.3	2 × 350	8	6	555	1000	700	5/8	1/2	88	75
OP-MGZD068	H3	3600	4.7	2 × 350	8	6	555	1000	700	5/8	1/2	96	82
OP-MGZD086	H3	3600	4.7	2 × 350	8	6	555	1000	700	7/8	1/2	107	93
OP-MGZD108	J3	5400	4.7	2 × 400	10	6	555	1000	700	7/8	1/2	113	99
OP-MGZD121	J3	5400	4.7	2 × 400	10	6	555	1000	700	7/8	1/2	115	101
OP-MGZD136	L3	8600	5.1	2 × 450	10	6	671	1200	800	1 1/8	1/2	133	118
OP-MGZD171	M3	8200	6.8	2 × 450	14	6	671	1200	800	1 1/8	5/8	158	144
OP-MGZD215	N4	9200	12.25	2 × 500	14	6	759	1350	820	1 1/8	5/8	196	180
OP-MGZD242	N4	9200	12.25	2 × 500	14	6	759	1350	820	1 1/8	5/8	199	183
OP-MGZD271	U	14000	14.2	2 × 630	14	6	975	1500	870	1 1/8	5/8	230	212

Technical data and ordering

Optyma™ - R134a MBP - ASEAN

Unit	Code no. Version A06	Electrical code	Compressor	Amb. temp. [°C]	Cooling capacity range in [W] at evaporating temperature [°C]					Power consumption [W] at -10 °C evap temp	Dimensions (mm)			Weight
					-15 °C	-10 °C	-5 °C	0 °C	5 °C		Height	Depth	Length	
											mm	mm	mm	Kg
OP- MGZE038	114X8007	G	MTZ22	35	1220	1700	2273	2946	3721	789	445	600	800	67
				43	1004	1436	1949	2550	3243	822				
				48	889	1286	1757	2309	2946	835				
OP- MGZE048	114X8008	D	MTZ28	35	1516	2054	2716	3511	4443	985	445	600	800	69
				43	1306	1785	2374	3081	3911	1040				
				48	1201	1635	2171	2817	3579	1069				
OP- MGZE060	114X8009	G	MTZ36	35	2444	3179	4045	5046	6186	1409	555	700	1000	84
				43	2138	2810	3596	4503	5533	1489				
				48	1952	2579	3309	4151	5108	1528				
OP- MGZE086	114X8010	D	MTZ50	35	2990	4030	5279	6747	8441	1967	725	800	1210	102
				43	2496	3441	4569	5893	7417	2033				
				48	2238	3111	4152	5373	6783	2060				
OP- MGZE108	114X8011	D	MTZ64	35	3682	4977	6506	8278	10294	2404	725	800	1210	118
				43	3070	4257	5653	7264	9095	2471				
				48	2729	3840	5142	6644	8350	2494				
OP- MGZE136	114X8012	D	MTZ80	35	5404	7113	9119	11434	14069	3053	725	800	1210	128
				43	4603	6177	8013	10128	12527	3158				
				48	4118	5594	7312	9288	11530	3204				
OP- MGZE171	114X8013	D	MTZ100	35	5877	7949	10433	13360	16751	3513	1005	875	1510	208
				43	4964	6854	9112	11765	14840	3692				
				48	4481	6237	8332	10796	13655	3777				
OP- MGZE215	114X8014	D	MTZ125	35	7377	9867	12808	16225	20133	4094	1005	875	1510	220
				43	6130	8420	11107	14221	17773	4211				
				48	5419	7560	10070	12974	16290	4239				
OP- MGZE242	114X8015	D	MTZ144	35	9417	12318	15702	19587	23977	5294	1005	875	1510	223
				43	8079	10738	13822	17346	21321	5556				
				48	7296	9781	12655	15936	19635	5692				
OP- MGZE271	114X8016	D	MTZ160	35	10425	13589	17295	21559	26383	5721	1005	875	1510	228
				43	9051	11919	15258	19082	23398	5992				
				48	8254	10903	13979	17504	21476	6143				
OP- MGUE126	114X8045	D	MLZ058	35	6314	7990	9922	12133	14643	3228	1005	875	1510	201
				43	5599	7163	8959	11011	13339	3774				
				48	–	6632	8339	10287	12497	4135				
OP- MGUE148	114X8046	D	MLZ066	35	7321	9203	11405	13938	16810	3725	1005	875	1510	201
				43	6522	8259	10291	12631	15287	4347				
				48		7654	9575	11788	14304	4757				
OP- MGUE162	114X8047	D	MLZ076	35	8068	10168	12608	15403	18564	4291	1005	875	1510	201
				43	7242	9138	11362	13930	16852	5018				
				48	–	8496	10571	12983	15745	5503				
OP- MGZE217	114X8760	D	SZ160	35	11469	14602	18198	22277	26851	6145	1005	875	1510	249
				43	10241	13170	16520	20306	24543	7188				
				48	–	12235	15413	19001	23015	7944				

Technical data and ordering

Optyma™ - R22 MBP - ASEAN

Unit	Code no. Version A06	Electrical code	Compressor	Amb. temp. [°C]	Cooling capacity range in [W] at evaporating temperature [°C]					Power consumption [W] at -10 °C evap temp	Dimensions (mm)			Weight
					-15 °C	-10 °C	-5 °C	0 °C	5 °C		Height	Depth	Length	
											mm	mm	mm	Kg
OP- MCME038	114X8017	G	MT22	35 °C	2064	2740	3505	4362	5310	1260	445	600	800	67
				43°C	1703	2322	3020	3800	4664	1317				
				48°C	1479	2058	2711	3440	4247	1342				
OP- MCME048	114X8018	D	MT28	35 °C	3028	3853	4762	5757	6833	1811	445	600	800	69
				43°C	2596	3358	4195	5103	6084	1887				
				48°C	2318	3038	3826	4680	5597	1927				
OP- MCME060	114X8111	G	MT36	35 °C	3928	4952	6071	7289	8598	2350	655	760	700	72
	114X8112	D		43°C	3361	4313	5349	6470	7672	2494				
				48°C	3001	3904	4886	5942	7073	2582				
OP- MGME086	114X8019	D	MT50	35 °C	4809	6111	7642	9415	11434	2917	725	800	1210	102
				43°C	4119	5306	6703	8318	10162	3111				
				48°C	3692	4799	6104	7620	9351	3214				
OP- MGME108	114X8022	D	MT64	35 °C	6018	7687	9559	11630	13890	3942	725	800	1210	118
				43°C	5284	6808	8511	10387	12429	4170				
				48°C		6308	7896	9643	11541	4280				
OP- MGME121	114X8025	D	MT73	35 °C	6997	9058	11373	13946	16766	4156	725	800	1210	122
				43°C	6024	7910	10026	12364	14929	4401				
				48°C	5414	7192	9180	11375	13783	4521				
OP- MGME136	114X8026	D	MT80	35 °C	8424	10732	13308	16144	19231	4860	725	800	1210	128
				43°C	7340	9448	11784	14352	17143	5196				
				48°C	6666	8643	10831	13226	15831	5369				
OP- MGME171	114X8028	D	MT100	35 °C	9639	12347	15478	19049	23065	5680	1005	875	1510	208
				43°C	8153	10638	13504	16769	20441	5966				
				48°C	7353	9681	12365	15424	18866	6147				
OP- MGME215	114X8029	D	MT125	35 °C	12580	15909	19678	23900	28560	7499	1005	875	1510	220
				43°C	10927	13918	17300	21066	25225	7968				
				48°C	9964	12721	15835	19310	23143	8221				
OP- MGME242	114X8030	D	MT144	35 °C	14038	17667	21765	26337	31357	8495	1005	875	1510	223
				43°C	12146	15382	19030	23084	27531	8995				
				48°C		14013	17351	21062	25133	9263				
OP- MGME271	114X8031	D	MT160	35 °C	15601	19605	24156	29241	34840	9530	1005	875	1510	228
				43°C	13559	17148	21207	25724	30714	10084				
				48°C		15655	19381	23538	28112	10382				
OP- MGUE126	114X8045	D	MLZ058	35 °C	10651	12994	15712	18822	22341	5000	1005	875	1510	201
				43°C	9680	11783	14249	17095	20338	5868				
				48°C		10867	13165	15834	18891	5333				
OP- MGUE148	114X8046	D	MLZ066	35 °C	11923	14751	17971	21538	25402	5729	1005	875	1510	201
				43°C	10885	13477	16432	19704	23245	6715				
				48°C		12522	15303	18382	21714	7477				
OP- MGUE162	114X8047	D	MLZ076	35 °C	13977	17042	20480	24279	28416	6896	1005	875	1510	201
				43°C	12636	15471	18635	22118	25900	8139				
				48°C		14714	17311	20592	24148	9038				
OP- MGME217	114X8660	D	SM160	35 °C	17697	21780	26359	31427	36989	9660	1005	875	1510	249
				43°C	16402	19757	23798	28482	33611	11401				
				48°C		18666	21960	26397	31240	12659				

Technical data and ordering

Optyma™ - R22 MBP/HBP - ASEAN

Fan	Test conditions	Unit	Version code		Electrical code	Compressor	Amb. temp. [°C]	Cooling capacity [Btu/h] at evaporating temperature						
			D32	D40				-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C
	SH = 18 K SC = 3 K	OP-HJM018D	114N3200 114N3203	114N3201 114N3204	N Q	MT018	32	4350	6100	8150	10600	13500	16800	20450
							35	4100	5750	7750	10100	12900	16050	19550
							38	3850	5400	7350	9600	12250	15250	18650
							43	3400	4900	6650	8750	11150	14000	17150
		OP-HJM022D	114N3216 114N3219	114N3217 114N3220	N Q	MT022	32	6350	8750	11500	14550	17950	21700	25750
							35	5900	8250	10900	13850	17150	20750	24650
							38	5400	7700	10250	13150	16300	19800	23550
							43	4650	6800	9200	11950	14900	18200	21700
		OP-HJM028D	114N3232 114N3235	114N3233 114N3236	N Q	MT028	32	10400	13650	17350	21450	26000	30950	36350
							35	9800	13000	16600	20600	25050	29850	35100
							38	9200	12350	15850	19750	24050	28750	33850
							43	8250	11250	14600	18300	22400	26850	31650
		OP-HJM036D	114N3244 114N3247	114N3245 114N3248	N Q	MT036	32	13300	17250	21650	26450	31700	37350	43400
							35	12550	16400	20700	25400	30500	36000	41850
							38	11750	15550	19700	24300	29250	34600	40300
							43	10450	14100	18100	22450	27200	32250	37650
		OP-HJM040D	114N3259 114N3262	114N3260 114N3263	N Q	MT040	32	15000	19450	24500	30100	36400	43350	51000
							35	14100	18500	23450	29050	35250	42100	49600
							38	13150	17550	22450	27950	34050	40850	48250
							43	11650	15950	20750	26150	32100	38700	45950
		OP-HJM050D	114N3274 114N3277	114N3275 114N3278	N Q	MT050	32	16300	21600	27700	34700	42500	51150	60600
							35	15500	20650	26550	33300	40850	49200	58300
							38	14750	19700	25400	31900	39200	47250	56050
							43	13500	18150	23550	29650	36500	44050	52300
 		OP-HGM064D	114N3289 114N3292	114N3290 114N3293	N Q	MT064	32	21100	27400	34700	43000	52300	62500	73600
							35	20300	26300	33350	41350	50300	60150	70800
							38	19450	25250	32000	39700	48300	57750	68050
							43	18150	23500	29750	36900	44950	53800	63450
		OP-HGM080D	114N3303	114N3304	Q	MT080	32	28250	36700	46350	57350	69600	83050	97800
							35	27050	35200	44600	55250	67100	80200	94400
							38	25750	33700	42800	53100	64600	77250	91000
							43	23650	31200	39800	49500	60350	72300	85250
		OP-HGM100D	114N3313	114N3314	Q	MT100	32	30850	40050	50750	62950	76650	91850	108550
							35	28750	37750	48150	60000	73350	88100	104250
							38	26800	35550	45650	57200	70100	84400	100000
							43	23900	32200	41800	52650	64850	78350	93000
		OP-HGM125D	114N3323	114N3324	Q	MT125	32	42950	55500	70050	86650	105250	125950	148600
							35	40650	52850	66900	82950	100950	120900	142750
							38	38450	50250	63800	79250	96650	115800	136850
							43	35000	46050	58750	73200	89400	107300	126900
		OP-HGM160D	114N3333	114N3334	Q	MT160	32	53000	67900	85100	104650	126450	150500	176550
							35	50250	64700	81350	100100	121150	144300	169350
							38	47600	61500	77550	95650	115850	138050	162100
							43	43400	56450	71350	88200	106950	127600	149950

Electrical codes:

N - Compressor 230 V / 1-ph / 60 Hz, Fan(s) 230 V / 1-ph / 60 Hz
Q - Compressor 230 V / 3-ph / 60 Hz, Fan(s) 230 V / 1-ph / 60 Hz

Cooling capacity for three-phase models shown. For single-phase models a difference of ± 1% shall apply
The consumption values shown relate to an ambient temperature in the equipment room of 32°C.

Technical data and ordering

Optyma™ - R22 MBP/HBP - ASEAN

Unit	Condenser			Fan Ø [mm]	Receiver [L]	Power consumption [Btu/h] at evaporating temp.		Dimensions [mm]						Weight [kg]	
	Type	Air flow [m³/h]	Internal volume [l]			-10 °C	5 °C	Figure	Height H [mm]	Depth D [mm]	Length L [mm]	Suction line [in]	Liquid line [in]	Gross	Net
OP-HJM018D	D8	2400	0.4	1x355	3	1400	1800	D32= 1A D40= 1B	463	310	1000	1/2	3/8	D32= 64 D40= 80	D32= 55 D40= 71
OP-HJM022D	D8	2400	0.4	1x355	3	1800	2350	D32= 1A D40= 1B	463	310	1000	1/2 5/8 (N)	3/8	D32= 64 D40= 80	D32= 55 D40= 71
OP-HJM028D	G8	4800	0.5	1x457	6	3000	3550	D32= 1A D40= 1B	538	420	1150	1/2 5/8 (N)	1/2	D32= 83 D40= 107	D32= 71 D40= 95
OP-HJM036D	G8	4800	0.5	1x457	8	3650	4550	D32= 1A D40= 1B	538	420	1150	5/8	1/2	D32= 85 D40= 109	D32= 73 D40= 97
OP-HJM040D	J8	6300	1.3	1x457	8	3900	4800	D32= 1A D40= 1B	688	420	1150	5/8	1/2	D32=93 D40=120	D32= 80 D40= 107
OP-HJM050D	J8	6300	1.3	1x457	8	4250	5250	D32= 1A D40= 1B	688	420	1150	7/8	1/2	D32= 104 D40= 134	D32= 91 D40= 121
OP-HGM064D	N8	8800	1.6	2x457	10	5950	7200	D32= 2A D40= 2B	715	800	1200	1 1/8	1/2	D32= 140 D40= 182	D32= 125 D40= 167
OP-HGM080D	N8	8800	1.6	2x457	14	7350	9400	D32= 2A D40= 2B	715	800	1200	1 1/8	5/8	D32= 143 D40= 185	D32= 128 D40= 170
OP-HGM100D	N8	8800	1.6	2x457	14	8650	10650	D32= 2A D40= 2B	715	800	1200	1 1/8	5/8	D32= 159 D40= 201	D32= 144 D40= 186
OP-HGM125D	Q8	13980	2.5	2x550	14	10700	13350	D32= 2A D40= 2B	971	800	1500	1 1/8	5/8	D32= 243 D40= 302	D32= 225 D40= 284
OP-HGM160D	Q8	13980	2.5	2x550	14	13150	16850	D32= 2A D40= 2B	971	800	1500	1 1/8	5/8	D32= 248 D40= 307	D32= 230 D40= 289

Technical data and ordering

Optyma™ - R22 MBP/HBP - ASEAN

Fan	Test conditions	Unit	Version code	Electrical code	Compressor	Amb. temp. [°C]	Cooling capacity [Btu/h] at evaporating temperature						
			D40				-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C
	SH = 18 K SC = 3 K	OP-HNU015D	114N3366 114N3367 114N3368	N Q R	MLZ015	32	10000	12400	15100	18150	21550	25300	29350
						35	9650	12000	14650	17650	20950	24600	28600
						38	9250	11550	14200	17100	20350	23900	27800
						43	–	10950	13450	16250	19350	22800	26550
		OP-HNU021D	114N3370 114N3371 114N3372	N Q R	MLZ021	32	13800	17050	20800	25050	29700	34700	40050
						35	13350	16550	20200	24300	28850	33750	39000
						38	12900	15950	19550	23550	27950	32750	37900
						43	–	15000	18400	22250	26500	31100	36050
		OP-HNU030D	114N3374 114N3375 114N3376	N Q R	MLZ030	32	20000	24900	30600	37000	44050	51650	59700
						35	19450	24200	29750	36000	42900	50300	58250
						38	18800	23450	28850	34950	41650	48950	56700
						43	–	22050	27200	33050	39500	46500	53950
		OP-HRU038D	114N3378 114N3379 114N3380	N Q R	MLZ038	32	23550	29450	36350	44200	52750	61950	71600
						35	22900	28600	35350	43000	51350	60350	69800
						38	22200	27750	34300	41750	49950	58750	68000
						43	–	26150	32400	39550	47400	55900	64850
		OP-HRU048D	114N3382 114N3383	Q R	MLZ048	32	31450	39200	48000	57800	68600	80350	92900
						35	30250	37800	46400	56000	66600	78050	90400
						38	29000	36400	44750	54150	64450	75700	87750
						43	–	33900	41900	50900	60750	71550	83200
		OP-HRU058D	114N3385 114N3386	Q R	MLZ058	32	37000	46100	56850	69200	83000	98200	114700
						35	36000	44800	55250	67250	80750	95650	111800
						38	34900	43400	53500	65200	78350	92900	108800
						43	–	40850	50400	61500	74050	88100	103400
		OP-HRU076D	114N3388 114N3389	Q R	MLZ076	32	48600	60650	74700	90400	107500	125700	144650
						35	47250	58950	72600	87950	104600	122350	140950
						38	45700	57100	70400	85350	101600	118950	137050
						43	–	53500	66250	80600	96150	112850	130250

Electrical codes:
N - Compressor 230 V / 1-ph / 60 Hz, Fan(s) 230 V / 1-ph / 60 Hz
Q - Compressor 230 V / 3-ph / 60 Hz, Fan(s) 230 V / 1-ph / 60 Hz
R - Compressor 460 V / 3-ph / 60 Hz , Fan(s) 460 V / 1-ph / 60 Hz

Cooling capacity for three-phase models shown. For single-phase models a difference of ± 1% shall apply
The consumption values shown relate to an ambient temperature in the equipment room of 32°C.

Technical data and ordering

Optyma™ - R22 MBP/HBP - ASEAN

Unit	Condenser			Fan Ø [mm]	Receiver [L]	Power consumption [Btu/h] at evaporating temp.		Dimensions [mm]						Weight [kg]	
	Type	Air flow [m³/h]	Internal volume [l]			-10 °C	5 °C	Figure	Height H [mm]	Depth D [mm]	Length L [mm]	Suction line [in]	Liquid line [in]	Gross	Net
OP-HNU015D	G8	4800	0.5	1x457	6	2450	2650	3A	538	420	1150	5/8	1/2	115	103
OP-HNU021D	G8	4800	0.5	1x457	6	3100	3400	3A	538	420	1150	5/8	1/2	115	103
OP-HNU030D	J8	6300	1.3	1x457	8	4050	4550	3A	688	420	1150	7/8	1/2	136	123
OP-HRU038D	N8	8800	1.6	2x457	10	5400	5950	4A	715	800	1200	7/8	1/2	182	167
OP-HRU048D	N8	8800	1.6	2x457	10	6750	7550	4A	715	800	1200	7/8	1/2	182	167
OP-HRU058D	Q8	13980	2.5	2x550	14	7600	8350	4A	971	800	1500	1 1/8	5/8	287	269
OP-HRU076D	Q8	13980	2.5	2x550	14	9750	10900	4A	971	800	1500	1 1/8	5/8	288	270

Technical data and ordering

Unidades Condensadoras Herméticas con R22 (Media y Alta temperaturas) - LAM 1 (Columbia)

Ventiladores	Condiciones de prueba	Modelo	Código por versión	Código eléctrico	Compresor	Temperatura ambiente [°C]	Capacidad de refrigeración [W] a temperatura de evaporación						
			D32				-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C
	sobrecalentamiento 18K subenfriamiento 3K	OP-HJM018D	114N3391 114N3206	G E	MT018	32	1.072	1.495	2.009	2.621	3.334	4.154	5.075
						35	1.006	1.414	1.908	2.496	3.182	3.969	4.856
						38	942	1.333	1.807	2.370	3.027	3.784	4.636
						43	842	1.201	1.637	2.157	2.765	3.467	4.260
		OP-HJM022D	114N3392 114N3222	G E	MT022	32	1.573	2.167	2.844	3.609	4.458	5.390	6.406
						35	1.455	2.034	2.693	3.434	4.256	5.159	6.141
						38	1.339	1.901	2.539	3.257	4.053	4.925	5.872
						43	1.146	1.680	2.283	2.958	3.707	4.527	5.417
		OP-HJM028D	114N3393 114N3394	G E	MT028	32	2.564	3.374	4.287	5.308	6.443	7.688	9.047
						35	2.423	3.216	4.108	5.105	6.209	7.422	8.744
						38	2.279	3.055	3.926	4.897	5.970	7.153	8.437
						43	2.036	2.780	3.613	4.541	5.563	6.687	7.906
		OP-HJM036D	114N3395 114N3250	G E	MT036	32	3.299	4.279	5.371	6.579	7.897	9.325	10.863
						35	3.109	4.070	5.139	6.318	7.602	8.996	10.490
						38	2.919	3.859	4.902	6.052	7.305	8.658	10.109
						43	2.597	3.502	4.502	5.599	6.794	8.082	9.461
		OP-HJM040D	114N3265	E	MT040	32	3.684	4.782	6.022	7.412	8.959	10.674	12.558
						35	3.463	4.549	5.776	7.149	8.677	10.370	12.224
						38	3.240	4.315	5.527	6.883	8.389	10.060	11.892
						43	2.867	3.920	5.108	6.434	7.907	9.538	11.324
		OP-HJM050D	114N3280	E	MT050	32	3.870	5.229	6.802	8.593	10.602	12.817	15.233
						35	3.644	4.958	6.475	8.202	10.141	12.277	14.615
						38	3.422	4.687	6.148	7.809	9.677	11.741	13.995
						43	3.059	4.241	5.607	7.161	8.906	10.844	12.965
		OP-HGM064D	114N3295	E	MT064	32	5.321	7.032	9.013	11.277	13.831	16.676	19.803
						35	5.042	6.703	8.628	10.821	13.292	16.050	19.072
						38	4.766	6.376	8.237	10.359	12.746	15.411	18.340
						43	4.307	5.828	7.583	9.582	11.833	14.347	17.111
		OP-HGM080D	114N3307	E	MT080	32	6.928	9.115	11.607	14.411	17.515	20.915	24.603
						35	6.590	8.718	11.136	13.854	16.858	20.150	23.720
						38	6.248	8.316	10.657	13.282	16.194	19.378	22.832
						43	5.673	7.638	9.857	12.334	15.078	18.083	21.340
		OP-HGM100D	114N3317	E	MT100	32	7691	9.994	12.678	15.764	19.249	23.133	27.421
						35	7.168	9.419	12.031	15.026	18.409	22.189	26.343
						38	6.678	8.869	11.403	14.318	17.595	21.253	25.275
						43	5.941	8.022	10.428	13.179	16.277	19.729	23.527
		OP-HGM125D	114N3327	E	MT125	32	10.597	13.712	17.331	21.470	26.152	31.362	37.089
						35	10.033	13.057	16.562	20.566	25.082	30.110	35.655
						38	9.490	12.416	15.801	19.655	24.019	28.865	34.200
						43	8.634	11.387	14.554	18.164	22.238	26.769	31.753
		OP-HGM160D	114N3337	E	MT160	32	13.117	16.824	21.132	26.039	31.553	37.653	44.328
						35	12.435	16.027	20.183	24.922	30.243	36.131	42.554
						38	11.777	15.249	19.245	13.817	28.930	34.591	40.771
						43	10.740	13.987	17.721	21.979	26.736	32.004	37.761

Código eléctrico:
G - Compresor 230V/1F/50Hz, ventilador(es) 230V/1F/50 Hz
E - Compresor 400V/3F/50Hz, ventilador(es) 230V/1F/50 Hz

La capacidad de enfriamiento se presenta para modelos trifásicos. Para los modelos monofásicos, presentará diferencia de ±1%.
El consumo indicado corresponde a una temperatura ambiente de 32 °C en la sala de máquinas.
La configuración detallada de la versión puede encontrarse en la página 03.

Technical data and ordering

Unidades Condensadoras Herméticas con R22 (Media y Alta temperaturas) - LAM 1 (Columbia)

Modelo	Condensador			Ventilador Ø [mm]	Recibidor de líquido [l]	Consumo de la unidad [W] a temp. de evaporación		Dimensiones [mm]						Peso [kg]	
	Tipo	Flujo de aire [m³/h]	Volumen interno [l]			-10 °C	5 °C	Dib.	Alto A [mm]	Profundidad P [mm]	Largo L [mm]	Línea succión [in]	Línea líquido [in]	Bruto	Neto
OP-HJM018D	D8	2080	0,4	1x355	3	1231	1527	1A	463	310	1000	1/2	3/8	64	55
OP-HJM022D	D8	2080	0,4	1x355	3	1535	1994	1A	463	310	1000	1/2	3/8	64	55
OP-HJM028D	G8	4400	0,5	1x457	6	1742	2161	1A	538	420	1150	1/2	1/2	83	71
OP-HJM036D	G8	4400	0,5	1x457	8	3163	3870	1A	538	420	1150	5/8	1/2	85	73
OP-HJM040D	J8	5480	1,3	1x457	8	3394	4099	1A	688	420	1150	5/8	1/2	93	80
OP-HJM050D	J8	5480	1,3	1x457	8	3679	4486	1A	688	420	1150	7/8	1/2	104	91
OP-HGM064D	N8	8200	1,6	2x457	10	5195	6184	2A	715	800	1200	1 1/8	1/2	140	125
OP-HGM080D	N8	8200	1,6	2x457	14	6452	7969	2A	715	800	1200	1 1/8	5/8	143	128
OP-HGM100D	N8	8200	1,6	2x457	14	7440	8985	2A	715	800	1200	1 1/8	5/8	159	144
OP-HGM125D	Q8	12720	2,5	2x550	14	9181	11273	2A	971	800	1500	1 1/8	5/8	243	225
OP-HGM160D	Q8	12720	2,5	2x550	14	11219	14120	2A	971	800	1500	1 1/8	5/8	248	230

Technical data and ordering

Optyma™ - R22 MBP / HBP - LAM 2 (Mexico)

Fan	Test conditions	Unit	Version code		Electrical code	Compressor	Amb. temp. [°C]	Cooling capacity [Btu/h] at evaporating temperature						
			D32	D40				-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C
	SH = 18 K SC = 3 K	OP-HJM018D	114N3200 114N3203	114N3201 114N3204	N Q	MT018	32	4350	6100	8150	10600	13500	16800	20450
							35	4100	5750	7750	10100	12900	16050	19550
							38	3850	5400	7350	9600	12250	15250	18650
							43	3400	4900	6650	8750	11150	14000	17150
		OP-HJM022D	114N3216 114N3219	114N3217 114N3220	N Q	MT022	32	6350	8750	11500	14550	17950	21700	25750
							35	5900	8250	10900	13850	17150	20750	24650
							38	5400	7700	10250	13150	16300	19800	23550
							43	4650	6800	9200	11950	14900	18200	21700
		OP-HJM028D	114N3232 114N3235	114N3233 114N3236	N Q	MT028	32	10400	13650	17350	21450	26000	30950	36350
							35	9800	13000	16600	20600	25050	29850	35100
							38	9200	12350	15850	19750	24050	28750	33850
							43	8250	11250	14600	18300	22400	26850	31650
		OP-HJM036D	114N3244 114N3247	114N3245 114N3248	N Q	MT036	32	13300	17250	21650	26450	31700	37350	43400
							35	12550	16400	20700	25400	30500	36000	41850
							38	11750	15550	19700	24300	29250	34600	40300
							43	10450	14100	18100	22450	27200	32250	37650
		OP-HJM040D	114N3259 114N3262	114N3260 114N3263	N Q	MT040	32	15000	19450	24500	30100	36400	43350	51000
							35	14100	18500	23450	29050	35250	42100	49600
							38	13150	17550	22450	27950	34050	40850	48250
							43	11650	15950	20750	26150	32100	38700	45950
		OP-HJM050D	114N3274 114N3277	114N3275 114N3278	N Q	MT050	32	16300	21600	27700	34700	42500	51150	60600
							35	15500	20650	26550	33300	40850	49200	58300
							38	14750	19700	25400	31900	39200	47250	56050
							43	13500	18150	23550	29650	36500	44050	52300
 		OP-HGM064D	114N3289 114N3292	114N3290 114N3293	N Q	MT064	32	21100	27400	34700	43000	52300	62500	73600
							35	20300	26300	33350	41350	50300	60150	70800
							38	19450	25250	32000	39700	48300	57750	68050
							43	18150	23500	29750	36900	44950	53800	63450
		OP-HGM080D	114N3303	114N3304	Q	MT080	32	28250	36700	46350	57350	69600	83050	97800
							35	27050	35200	44600	55250	67100	80200	94400
							38	25750	33700	42800	53100	64600	77250	91000
							43	23650	31200	39800	49500	60350	72300	85250
		OP-HGM100D	114N3313	114N3314	Q	MT100	32	30850	40050	50750	62950	76650	91850	108550
							35	28750	37750	48150	60000	73350	88100	104250
							38	26800	35550	45650	57200	70100	84400	100000
							43	23900	32200	41800	52650	64850	78350	93000
		OP-HGM125D	114N3323	114N3324	Q	MT125	32	42950	55500	70050	86650	105250	125950	148600
							35	40650	52850	66900	82950	100950	120900	142750
							38	38450	50250	63800	79250	96650	115800	136850
							43	35000	46050	58750	73200	89400	107300	126900
		OP-HGM160D	114N3333	114N3334	Q	MT160	32	53000	67900	85100	104650	126450	150500	176550
							35	50250	64700	81350	100100	121150	144300	169350
							38	47600	61500	77550	95650	115850	138050	162100
							43	43400	56450	71350	88200	106950	127600	149950

Electrical codes:
N - Compressor 230 V / 1-ph / 60 Hz, Fan(s) 230 V / 1-ph / 60 Hz
Q - Compressor 230 V / 3-ph / 60 Hz, Fan(s) 230 V / 1-ph / 60 Hz

Cooling capacity for three-phase models shown. For single-phase models a difference of ± 1% shall apply
The consumption values shown relate to an ambient temperature in the equipment room of 32°C.

Technical data and ordering

Optyma™ - R22 MBP / HBP - LAM 2 (Mexico)

Unit	Condenser			Fan Ø [mm]	Receiver [L]	Power consumption [Btu/h] at evaporating temp.		Dimensions [mm]						Weight [kg]	
	Type	Air flow [m³/h]	Internal volume [l]			-10 °C	5 °C	Figure	Height H [mm]	Depth D [mm]	Length L [mm]	Suction line [in]	Liquid line [in]	Gross	Net
OP-HJM018D	D8	2400	0.4	1x355	3	1400	1800	D32= 1A D40= 1B	463	310	1000	1/2	3/8	D32= 64 D40= 80	D32= 55 D40= 71
OP-HJM022D	D8	2400	0.4	1x355	3	1800	2350	D32= 1A D40= 1B	463	310	1000	1/2 5/8 (N)	3/8	D32= 64 D40= 80	D32= 55 D40= 71
OP-HJM028D	G8	4800	0.5	1x457	6	3000	3550	D32= 1A D40= 1B	538	420	1150	1/2 5/8 (N)	1/2	D32= 83 D40= 107	D32= 71 D40= 95
OP-HJM036D	G8	4800	0.5	1x457	8	3650	4550	D32= 1A D40= 1B	538	420	1150	5/8	1/2	D32= 85 D40= 109	D32= 73 D40= 97
OP-HJM040D	J8	6300	1.3	1x457	8	3900	4800	D32= 1A D40= 1B	688	420	1150	5/8	1/2	D32=93 D40=120	D32= 80 D40= 107
OP-HJM050D	J8	6300	1.3	1x457	8	4250	5250	D32= 1A D40= 1B	688	420	1150	7/8	1/2	D32= 104 D40= 134	D32= 91 D40= 121
OP-HGM064D	N8	8800	1.6	2x457	10	5950	7200	D32= 2A D40= 2B	715	800	1200	1 1/8	1/2	D32= 140 D40= 182	D32= 125 D40= 167
OP-HGM080D	N8	8800	1.6	2x457	14	7350	9400	D32= 2A D40= 2B	715	800	1200	1 1/8	5/8	D32= 143 D40= 185	D32= 128 D40= 170
OP-HGM100D	N8	8800	1.6	2x457	14	8650	10650	D32= 2A D40= 2B	715	800	1200	1 1/8	5/8	D32= 159 D40= 201	D32= 144 D40= 186
OP-HGM125D	Q8	13980	2.5	2x550	14	10700	13350	D32= 2A D40= 2B	971	800	1500	1 1/8	5/8	D32= 243 D40= 302	D32= 225 D40= 284
OP-HGM160D	Q8	13980	2.5	2x550	14	13150	16850	D32= 2A D40= 2B	971	800	1500	1 1/8	5/8	D32= 248 D40= 307	D32= 230 D40= 289

Technical data and ordering

Unidades Condensadoras Scroll con R22 (Media y Alta temperaturas) - LAM 1 (Columbia)

Ventiladores	Condiciones de prueba	Modelo	Código por versión	Código eléctrico	Compresor	Temperatura ambiente [°C]	Capacidad de refrigeración [W] a temperatura de evaporación						
			D40				-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C
	sobrecalentamiento 18K subenfriamiento 3K	OP-HNU015D	114N3369	E	MLZ015	32	2.497	3.075	3.727	4.464	5.296	6.235	7.283
						35	2.410	2.974	3.611	4.332	5.146	6.062	7.089
						38	2.326	2.875	3.495	4.196	4.989	5.882	6.886
						43	–	2.712	3.298	3.963	4.717	5.570	6.531
		OP-HNU021D	114N3373	E	MLZ021	32	3.477	4.240	5.074	6.009	7.070	8.273	9.641
						35	3.351	4.100	4.916	5.828	6.861	8.033	9.368
						38	3.227	3.959	4.754	5.639	6.643	7.785	9.085
						43	–	3.722	4.476	5.316	6.268	7.351	8.591
		OP-HNU030D	114N3377	E	MLZ030	32	4.967	6.181	7.580	9.155	10.892	12.772	14.780
						35	4.807	5.992	7.360	8.900	10.601	12.439	14.409
						38	4.640	5.795	7.130	8.632	10.295	12.098	14.029
						43	0000	5.442	6.721	8.164	9.763	11.501	13.372
		OP-HRU038D	114N3381	E	MLZ038	32	5.848	7.305	9.019	10.954	13.081	15.360	17.760
						35	5.695	7.112	8.782	10.671	12.747	14.977	17.328
						38	5.528	6.904	8.531	10.375	12.401	14.580	16.883
						43	–	6.517	8.075	9.845	11.798	13.900	16.127
		OP-HRU048D	114N3384	E	MLZ048	32	7.769	9.589	11.660	14.001	16.636	19.570	22.802
						35	7.523	9.305	11.323	13.603	16.166	19.013	22.158
						38	7.275	9.012	10.970	13.180	15.665	18.428	21.478
						43	–	8.486	10.337	12.421	14.764	17.368	20.256
		OP-HRU058D	114N3387	E	MLZ058	32	9.195	11.357	13.888	16.812	20.160	23.937	28.166
						35	8.949	11.038	13.491	16.337	19.602	23.301	27.452
						38	8.691	10.699	13.071	15.836	19.016	22.624	26.695
						43	–	10.066	12.295	14.913	17.945	21.411	25.333
		OP-HRU076D	114N3390	E	MLZ076	32	12.108	14.980	18.278	22.004	26.146	30.680	35.578
						35	11.733	14.544	17.764	21.395	25.438	29.849	34.626
						38	11.329	14.076	17.218	20.753	24.689	28.994	33.652
						43	–	13.210	16.220	19.605	23.368	27.484	31.950

Código eléctrico:
E - Compresor 400V/3F/50Hz, ventilador(es) 230V/1F/50 Hz

La capacidad de enfriamiento se presenta para modelos trifásicos. Para los modelos monofásicos, presentará diferencia de ±1%.
El consumo indicado corresponde a una temperatura ambiente de 32 °C en la sala de máquinas.
La configuración detallada de la versión puede encontrarse en la página 03.

Technical data and ordering

Unidades Condensadoras Herméticas con R22 (Media y Alta temperaturas) - LAM 1 (Columbia)

Modelo	Condensador			Ventilador Ø [mm]	Recibidor de líquido [l]	Consumo de la unidad [W] a temp. de evaporación		Dimensiones [mm]						Peso [kg]	
	Tipo	Flujo de aire [m³/h]	Volumen interno [l]			-10 °C	5 °C	Dib.	Alto A [mm]	Profundidad P [mm]	Largo L [mm]	Línea succión [in]	Línea líquido [in]	Bruto	Neto
OP-HNU015D	G8	4400	0,5	1x457	6	2209	2345	3A	538	420	1150	5/8	1/2	115	103
OP-HNU021D	G8	4400	0,5	1x457	6	2722	2938	3A	538	420	1150	5/8	1/2	115	103
OP-HNU030D	J8	5480	1,3	1x457	8	3554	3950	3A	688	420	1150	7/8	1/2	136	123
OP-HRU038D	N8	8200	1,6	2x457	10	4808	5250	4A	715	800	1200	7/8	1/2	182	167
OP-HRU048D	N8	8200	1,6	2x457	10	5910	6311	4A	715	800	1200	7/8	1/2	182	167
OP-HRU058D	Q8	12720	2,5	2x550	14	6608	6960	4A	971	800	1500	1 1/8	5/8	287	269
OP-HRU076D	Q8	12720	2,5	2x550	14	8329	8776	4A	971	800	1500	1 1/8	5/8	288	270

Technical data and ordering

Optyma™ - R22 MBP / HBP - LAM 2 (Mexico)

Fan	Test conditions	Unit	Version code	Electrical code	Compressor	Amb. temp. [°C]	Cooling capacity [Btu/h] at evaporating temperature						
			D40				-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C
	SH = 18 K SC = 3 K	OP-HNU015D	114N3366 114N3367 114N3368	N Q R	MLZ015	32	10000	12400	15100	18150	21550	25300	29350
						35	9650	12000	14650	17650	20950	24600	28600
						38	9250	11550	14200	17100	20350	23900	27800
						43	–	10950	13450	16250	19350	22800	26550
		OP-HNU021D	114N3370 114N3371 114N3372	N Q R	MLZ021	32	13800	17050	20800	25050	29700	34700	40050
						35	13350	16550	20200	24300	28850	33750	39000
						38	12900	15950	19550	23550	27950	32750	37900
						43	–	15000	18400	22250	26500	31100	36050
		OP-HNU030D	114N3374 114N3375 114N3376	N Q R	MLZ030	32	20000	24900	30600	37000	44050	51650	59700
						35	19450	24200	29750	36000	42900	50300	58250
						38	18800	23450	28850	34950	41650	48950	56700
						43	–	22050	27200	33050	39500	46500	53950
		OP-HRU038D	114N3378 114N3379 114N3380	N Q R	MLZ038	32	23550	29450	36350	44200	52750	61950	71600
						35	22900	28600	35350	43000	51350	60350	69800
						38	22200	27750	34300	41750	49950	58750	68000
						43	–	26150	32400	39550	47400	55900	64850
		OP-HRU048D	114N3382 114N3383	Q R	MLZ048	32	31450	39200	48000	57800	68600	80350	92900
						35	30250	37800	46400	56000	66600	78050	90400
						38	29000	36400	44750	54150	64450	75700	87750
						43	–	33900	41900	50900	60750	71550	83200
		OP-HRU058D	114N3385 114N3386	Q R	MLZ058	32	37000	46100	56850	69200	83000	98200	114700
						35	36000	44800	55250	67250	80750	95650	111800
						38	34900	43400	53500	65200	78350	92900	108800
						43	–	40850	50400	61500	74050	88100	103400
		OP-HRU076D	114N3388 114N3389	Q R	MLZ076	32	48600	60650	74700	90400	107500	125700	144650
						35	47250	58950	72600	87950	104600	122350	140950
						38	45700	57100	70400	85350	101600	118950	137050
						43	–	53500	66250	80600	96150	112850	130250

Electrical codes:

N - Compressor 230 V / 1-ph / 60 Hz, Fan(s) 230 V / 1-ph / 60 Hz
Q - Compressor 230 V / 3-ph / 60 Hz, Fan(s) 230 V / 1-ph / 60 Hz
R - Compressor 460 V / 3-ph / 60 Hz , Fan(s) 460 V / 1-ph / 60 Hz

Cooling capacity for three-phase models shown. For single-phase models a difference of ± 1% shall apply
The consumption values shown relate to an ambient temperature in the equipment room of 32°C.

Technical data and ordering

Optyma™ - R22 MBP / HBP - LAM 2 (Mexico)

Unit	Condenser			Fan Ø [mm]	Receiver [L]	Power consumption [Btu/h] at evaporating temp.		Dimensions [mm]						Weight [kg]	
	Type	Air flow [m³/h]	Internal volume [l]			-10 °C	5 °C	Figure	Height H [mm]	Depth D [mm]	Length L [mm]	Suction line [in]	Liquid line [in]	Gross	Net
OP-HNU015D	G8	4800	0.5	1x457	6	2450	2650	3A	538	420	1150	5/8	1/2	115	103
OP-HNU021D	G8	4800	0.5	1x457	6	3100	3400	3A	538	420	1150	5/8	1/2	115	103
OP-HNU030D	J8	6300	1.3	1x457	8	4050	4550	3A	688	420	1150	7/8	1/2	136	123
OP-HRU038D	N8	8800	1.6	2x457	10	5400	5950	4A	715	800	1200	7/8	1/2	182	167
OP-HRU048D	N8	8800	1.6	2x457	10	6750	7550	4A	715	800	1200	7/8	1/2	182	167
OP-HRU058D	Q8	13980	2.5	2x550	14	7600	8350	4A	971	800	1500	1 1/8	5/8	287	269
OP-HRU076D	Q8	13980	2.5	2x550	14	9750	10900	4A	971	800	1500	1 1/8	5/8	288	270

Technical data and ordering

Optyma™ - R22 MBP/HBP - LAM 3 (Argentina)

Ventiladore	Condiciones de prueba	Modelo	Código por versión		Código Eléctrico	Compresor	Temperatura ambiente [°C]	Capacidad de refrigeración (W) a temperatura de evaporación						
			D20	D39				-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C
	sobrecalentamiento 18 K subenfriamiento 3 K	OP-HJM019D	115F0003 114X5012	115F0130	G E	MT018	32	1072	1495	2009	2621	3334	4154	5075
							35	1006	1414	1908	2496	3182	3969	4856
							38	942	1333	1807	2370	3027	3784	4636
							43	842	1201	1637	2157	2765	3467	4260
		OP-HJM022D	115F0008 115F0010	115F0134	G E	MT022	32	1573	2167	2844	3609	4458	5390	6406
							35	1455	2034	2693	3434	4256	5159	6141
							38	1339	1901	2539	3257	4053	4925	5872
							43	1146	1680	2283	2958	3707	4527	5417
		OP-HJM028D	115F0013 115F0015	115F0138	G E	MT028	32	2564	3374	4287	5308	6443	7688	9047
							35	2423	3216	4108	5105	6209	7422	8744
							38	2279	3055	3926	4897	5970	7153	8437
							43	2036	2780	3613	4541	5563	6687	7906
		OP-HJM032D	115F0018 115F0020	115F0142	G E	MT032	32	2705	3551	4525	5632	6879	8266	9792
							35	2538	3367	4318	5398	6613	7960	9448
							38	2378	3188	4115	5164	6345	7658	9102
							43	2127	2902	3786	4786	5910	7156	8526
		OP-HJM036D	115F0023 115F0025	115F0146	G E	MT036	32	3299	4279	5371	6579	7897	9325	10863
							35	3109	4070	5139	6318	7602	8996	10490
							38	2919	3859	4902	6052	7305	8658	10109
							43	2597	3502	4502	5599	6794	8082	9461
		OP-HJM040D	115F0029	115F0150	E	MT040	32	3684	4782	6022	7412	8959	10674	12558
							35	3463	4549	5776	7149	8677	10370	12224
							38	3240	4315	5527	6883	8389	10060	11892
							43	2867	3920	5108	6434	7907	9538	11324
		OP-HJM044D	115F0033	115F0154	E	MT044	32	3259	4412	5791	7403	9250	11333	13644
							35	3069	4171	5495	7046	8825	10841	13074
							38	2890	3939	5205	6693	8404	10346	12511
							43	2611	3570	4736	6117	7716	9539	11578
		OP-HJM050D	115F0037	115F0158	E	MT050	32	3870	5229	6802	8593	10602	12817	15233
							35	3644	4958	6475	8202	10141	12277	14615
							38	3422	4687	6148	7809	9677	11741	13995
							43	3059	4241	5607	7161	8906	10844	12965
		OP-HJM056D	115F0041	115F0162	E	MT056	32	4211	5639	7330	9286	11506	13975	16684
							35	4009	5379	7002	8882	11021	13405	16030
							38	3819	5126	6681	8484	10543	12843	15380
							43	3529	4728	6164	7842	9765	11924	14313
		OP-HJM064D	115F0045	115F0166	E	MT064	32	5135	6756	8617	10716	13045	15593	18352
							35	4863	6436	8235	10266	12514	14980	17647
							38	4593	6115	7853	9813	11984	14365	16940
							43	4147	5583	7218	9061	11101	13340	15766
		OP-HGM072D	115F0048	115F0169	E	MT072	32	5751	7719	9993	12585	15499	18728	22268
							35	5440	7358	9566	12079	14904	18031	21469
							38	5129	6992	9135	11567	14304	17339	20668
							43	4601	6377	8410	10715	13301	16177	19337
		OP-HGM080D	115F0051	115F0172	E	MT080	32	6928	9115	11607	14411	17515	20915	24603
							35	6590	8718	11136	13854	16858	20150	23720
							38	6248	8316	10657	13282	16194	19378	22832
							43	5673	7638	9857	12334	15078	18083	21340
		OP-HGM100D	115F0054	115F0175	E	MT100	32	7691	9994	12678	15764	19249	23133	27421
							35	7168	9419	12031	15026	18409	22189	26343
							38	6678	8869	11403	14318	17595	21253	25275
							43	5941	8022	10428	13179	16277	19729	23527
		OP-HGM125D	115F0057	115F0178	E	MT125	32	10597	13712	17331	21470	26152	31362	37089
							35	10033	13057	16562	20566	25082	30110	35655
							38	9490	12416	15801	19655	24019	28865	34200
							43	8634	11387	14554	18164	22238	26769	31753
		OP-HGM144D	115F0060	115F0181	E	MT144	32	11951	15378	19356	23918	29040	34725	40969
							35	11302	14622	18469	22867	27798	33288	39295
							38	10679	13884	17584	21815	26570	31837	37610
							43	9703	12699	16150	20079	24507	29406	34781
		OP-HGM160D	115F0063	115F0184	E	MT160	32	13117	16824	21132	26039	31553	37653	44328
							35	12435	16027	20183	24922	30243	36131	42554
							38	11777	15249	19245	23817	28930	34591	40771
							43	10740	13987	17721	21979	26736	32004	37761

Códigos Eléctricos:
G - Compresor 230V/1F/50Hz, ventilador(es) 230V/1F/50 Hz
E - Compresor 400V/3F/50Hz, ventilador(es) 230V/1F/50 Hz

La capacidad de enfriamiento se presenta para modelos trifásicos. Para los modelos monofásicos, presentará diferencia de ±1%.
El consumo indicado corresponde a una temperatura ambiente de 32ºC en la sala de máquinas.
La configuración detallada de versiones D20 y D39 puede encontrarse en la página 03.

Technical data and ordering

Optyma™ - R22 MBP/HBP - LAM 3 (Argentina)

Modelo	Condensador			Ventilador Ø [mm]	Recibidor de líquido [l]	Consumo de la unidad [W] a temp. de evaporación		Dimensiones [mm]						Peso [kg]	
	Tipo	Flujo de aire [m³/h]	Volumen interno [l]			-10 °C	5 °C	Dib.	Alto A [mm]	Profundidad P [mm]	Largo L [mm]	Línea succión [in]	Línea líquido [in]	Bruto	Neto
OP-HJZ019D	D8	2080	0.4	1x355	3	1169	1470	1A	463	310	1000	1/2	3/8	D20 = 62 D39 = 64	D20 = 53 D39 = 55
OP-HJZ022D	D8	2080	0.4	1x355	3	1450	1904	1A	463	310	1000	1/2	3/8	D20 = 62 D39 = 64	D20 = 53 D39 = 55
OP-HJZ028D	G8	4400	0.5	1x457	6	1879	2419	1A	538	420	1150	1/2	1/2	D20 = 83 D39 = 85	D20 = 71 D39 = 73
OP-HJZ032D	G8	4400	0.5	1x457	8	2087	2730	1A	538	420	1150	5/8	1/2	D20 = 85 D39 = 87	D20 = 73 D39 = 75
OP-HJZ036D	G8	4400	0.5	1x457	8	2500	3285	1A	538	420	1150	5/8	1/2	D20 = 85 D39 = 87	D20 = 73 D39 = 75
OP-HJZ040D	J8	5480	1.3	1x457	8	2801	3589	1A	688	420	1150	5/8	1/2	D20 = 93 D39 = 95	D20 = 80 D39 = 82
OP-HJZ044D	J8	5480	1.3	1x457	8	2653	3341	1A	688	420	1150	7/8	1/2	D20 = 104 D39 = 107	D20 = 91 D39 = 94
OP-HJZ050D	J8	5480	1.3	1x457	8	3108	3942	1A	688	420	1150	7/8	1/2	D20 = 104 D39 = 107	D20 = 91 D39 = 94
OP-HJZ056D	J8	5480	1.3	1x457	8	3409	4458	1A	688	420	1150	7/8	1/2	D20 = 104 D39 = 107	D20 = 91 D39 = 94
OP-HJZ064D	J8	5480	1.3	1x457	8	4134	5516	1A	688	420	1150	7/8	1/2	D20 = 104 D39 = 107	D20 = 91 D39 = 94
OP-HGZ072D	N8	8200	1.6	2x457	14	4539	5892	2A	715	800	1200	1 1/8	5/8	D20 = 140 D39 = 143	D20 = 125 D39 = 128
OP-HGZ080D	N8	8200	1.6	2x457	14	5454	7149	2A	715	800	1200	1 1/8	5/8	D20 = 143 D39 = 146	D20 = 128 D39 = 131
OP-HGZ100D	N8	8200	1.6	2x457	14	6639	8508	2A	715	800	1200	1 1/8	5/8	D20 = 159 D39 = 162	D20 = 154 D39 = 147
OP-HGZ125D	Q8	12720	2.5	2x600	14	8178	10635	2A	971	800	1500	1 1/8	5/8	D20 = 243 D39 = 247	D20 = 225 D39 = 229
OP-HGZ144D	Q8	12720	2.5	2x600	14	9581	12532	2A	971	800	1500	1 1/8	5/8	D20 = 248 D39 = 252	D20 = 230 D39 = 234
OP-HGZ160D	Q8	12720	2.5	2x600	14	10937	14682	2A	971	800	1500	1 1/8	5/8	D20 = 248 D39 = 252	D20 = 230 D39 = 234

Technical data and ordering

Optyma™ - R22 MBP/HBP - LAM 4 (Brazil)

Ventiladores	Condições de teste	Modelo	Código por versão				Código elétrico	Compressor	Temperatura ambiente	Capacidade de refrigeração (Kcal/h) na temperatura de evaporação						
			D20	D39	D40	D49				-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C
	superaquecimento 18K sub-resfriamento 3K	OP-HJM019D	115F0001 115F0002 115F0004	115F0127 115F0128 115F0129	115F0185 115F0186 115F0187	115F0227 115F0228 115F0229	N Q V	MT019	32 °C	1099	1532	2056	2677	3402	4229	5155
									35 °C	1031	1448	1951	2549	3245	4039	4932
									38 °C	966	1365	1847	2419	3084	3848	4705
									43 °C	863	1230	1673	2201	2816	3522	4318
		OP-HJM022D	115F0006 115F0007 115F0009	115F0131 115F0132 115F0133	115F0188 115F0189 115F0190	115F0230 115F0231 115F0232	N Q V	MT022	32 °C	1605	2210	2899	3673	4529	5466	6483
									35 °C	1485	2074	2743	3493	4322	5229	6211
									38 °C	1366	1938	2586	3312	4113	4989	5936
									43 °C	1169	1712	2323	3007	3760	4581	5470
		OP-HJM028D	115F0011 115F0012 115F0014	115F0135 115F0136 115F0137	115F0191 115F0192 115F0193	115F0233 115F0234 115F0235	N Q V	MT028	32 °C	2617	3440	4368	5402	6546	7798	9156
									35 °C	2471	3278	4184	5192	6307	7523	8848
									38 °C	2324	3112	3996	4976	6062	7244	8528
									43 °C	2074	2831	3674	4610	5641	6764	7980
		OP-HJM032D	115F0016 115F0017 115F0019	115F0139 115F0140 115F0141	115F0194 115F0195 115F0196	115F0236 115F0237 115F0238	N Q V	MT032	32 °C	2753	3612	4598	5718	6969	8356	9880
									35 °C	2584	3424	4387	5479	6696	8047	9527
									38 °C	2421	3242	4179	5239	6427	7738	9174
									43 °C	2166	2952	3847	4855	5983	7227	8589
		OP-HJM036D	115F0021 115F0022 115F0024	115F0143 115F0144 115F0145	115F0197 115F0198 115F0199	115F0239 115F0240 115F0241	N Q V	MT036	32 °C	3353	4346	5452	6666	7988	9410	10937
									35 °C	3158	4132	5211	6396	7685	9071	10552
									38 °C	2963	3916	4967	6124	7376	8723	10160
									43 °C	2634	3550	4557	5660	6851	8130	9491
		OP-HJM040D	115F0026 115F0027 115F0028	115F0147 115F0148 115F0149	115F0200 115F0201 115F0202	115F0242 115F0243 115F0244	N Q V	MT040	32 °C	3775	4900	6169	7591	9176	10926	12847
									35 °C	3547	4660	5915	7320	8882	10608	12502
									38 °C	3318	4419	5659	7045	8585	10291	12159
									43 °C	2934	4013	5228	6584	8089	9752	11574
		OP-HJM044D	115F0030 115F0031 115F0032	115F0151 115F0152 115F0153	115F0203 115F0204 115F0205	115F0245 115F0246 115F0247	N Q V	MT044	32 °C	3421	4660	6094	7728	9567	11603	13831
									35 °C	3232	4434	5822	7403	9179	11147	13305
									38 °C	3042	4207	5550	7078	8789	10695	12777
									43 °C	2723	3825	5092	6531	8144	9935	11896
		OP-HJM050D	115F0034 115F0035 115F0036	115F0155 115F0156 115F0157	115F0206 115F0207 115F0208	115F0248 115F0249 115F0250	N Q V	MT050	32 °C	4103	5438	6982	8739	10714	12893	15270
									35 °C	3910	5201	6693	8389	10292	12395	14697
									38 °C	3717	4966	6406	8039	9878	11906	14124
									43 °C	3399	4579	5933	7469	9193	11096	13179
		OP-HJM056D	115F0038 115F0039 115F0040	115F0159 115F0160 115F0161	115F0209 115F0210 115F0211	115F0251 115F0252 115F0253	N Q V	MT056	32 °C	4682	6172	7872	9784	11900	14216	16729
									35 °C	4429	5875	7522	9374	11420	13669	16101
									38 °C	4179	5582	7175	8967	10950	13124	15481
									43 °C	3770	5103	6611	8301	10178	12229	14457
		OP-HJM064D	115F0042 115F0043 115F0044	115F0163 115F0164 115F0165	115F0212 115F0213 115F0214	115F0254 115F0255 115F0256	N Q V	MT064	32 °C	5319	6901	8744	10837	13174	15750	18542
									35 °C	5109	6632	8401	10417	12673	15153	17847
									38 °C	4903	6364	8059	10000	12167	14556	17149
									43 °C	4571	5924	7500	9303	11322	13554	15984
		OP-HGM072D	115F0046 115F0047	115F0167 115F0168	115F0215 115F0216	115F0257 115F0258	Q V	MT072	32 °C	6279	8169	10371	12899	15743	18907	22375
									35 °C	5983	7812	9942	12384	15139	18207	21579
									38 °C	5691	7457	9516	11870	14540	17505	20771
									43 °C	5216	6874	8806	11023	13535	16333	19418
		OP-HGM080D	115F0049 115F0050	115F0170 115F0171	115F0219 115F0220	115F0261 115F0262	Q V	MT080	32 °C	7121	9242	11682	14451	17539	20934	24642
									35 °C	6810	8872	11238	13918	16907	20204	23791
									38 °C	6495	8496	10785	13384	16277	19465	22931
									43 °C	5961	7860	10028	12480	15207	18214	21486
		OP-HGM100D	115F0052 115F0053	115F0173 115F0174	115F0219 115F0220	115F0261 115F0262	Q V	MT100	32 °C	7772	10089	12787	15859	19314	23152	27351
									35 °C	7248	9513	12137	15119	18480	22199	26268
									38 °C	6757	8960	11509	14410	17661	21264	25197
									43 °C	6021	8119	10530	13273	16342	19740	23439
		OP-HGM125D	115F0055 115F0056	115F0176 115F0177	115F0221 115F0222	115F0263 115F0264	Q V	MT125	32 °C	10818	13984	17648	21833	26529	31733	37442
									35 °C	10243	13315	16863	20906	25433	30466	35972
									38 °C	9690	12662	16080	19977	24350	29186	34484
									43 °C	8819	11610	14811	18443	22528	27040	31984
		OP-HGM144D	115F0058 115F0059	115F0179 115F0180	115F0223 115F0224	115F0265 115F0266	Q V	MT144	32 °C	12178	15652	19678	24253	29377	35028	41194
									35 °C	11519	14882	18765	23175	28113	33561	39493
									38 °C	10885	14133	17863	22111	26850	32081	37774
									43 °C	9897	12928	16402	20350	24748	29604	34893
		OP-HGM160D	115F0061 115F0062	115F0182 115F0183	115F0225 115F0226	115F0267 115F0268	Q V	MT160	32 °C	13360	17110	21449	26371	31865	37922	44493
									35 °C	12666	16301	20494	25230	30535	36359	42681
									38 °C	11997	15501	19542	24103	29195	34792	40855
									43 °C	10942	14221	17984	22229	26956	32157	37783

Códigos elétricos:

N - Compressor 230V / 1F / 60Hz, ventilador(es) 230V / 1F / 60 Hz
Q - Compressor 230V / 3F / 60Hz, ventilador(es) 230V / 1F / 60 Hz
V - Compressor 380V / 3F / 60Hz, ventilador(es) 230V / 1F / 60 Hz

A capacidade de refrigeração informada é para modelos trifásicos. Para modelos monofásicos apresentará diferença de ± 1%
O consumo indicado corresponde a uma temperatura ambiente de 32°C na casa de máquinas.
O detalhamento da configuração das versões D20, D39, D40 e D49 pode ser encontrado na página 03.

Technical data and ordering

Optyma™ - R22 MBP/HBP - LAM 4 (Brazil)

Modelo	Condensador			Ventilador Ø [mm]	Tanque de líquido [l]	Consumo da unidade [W] na temp. evaporação		Dimensões [mm]						Peso [kg]	
	Tipo	Vazão ar [m3/h]	Volume interno [l]			-10 °C	5 °C	Figura	Altura A [mm]	Profundidade P [mm]	Largura L [mm]	Linha sucção [in]	Linha líquido [in]	Bruto	Líquido
OP-HJM019D	D8	2400	0.36	1x355	3	1425	1553	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	463	310	1000	1/2	3/8	D20 = 62 D39 = 64 D40 = 75 D49 = 69	D20 = 53 D39 = 55 D40 = 66 D49 = 60
OP-HJM022D	D8	2400	0.36	1x355	3	1792	1989	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	463	310	1000	1/2 5/8 (N)	3/8	D20 = 62 D39 = 64 D40 = 75 D49 = 69	D20 = 53 D39 = 55 D40 = 66 D49 = 60
OP-HJM028D	G8	4800	0.47	1x457	6	2993	3190	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	538	420	1150	1/2 5/8 (N)	1/2	D20 = 83 D39 = 85 D40 = 102 D49 = 90	D20 = 71 D39 = 73 D40 = 90 D49 = 78
OP-HJM032D	G8	4800	0.47	1x457	8	3351	3595	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	538	420	1150	5/8	1/2	D20 = 85 D39 = 87 D40 = 104 D49 = 93	D20 = 73 D39 = 75 D40 = 92 D49 = 81
OP-HJM036D	G8	4800	0.47	1x457	8	3642	3934	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	538	420	1150	5/8	1/2	D20 = 85 D39 = 87 D40 = 104 D49 = 93	D20 = 73 D39 = 75 D40 = 92 D49 = 81
OP-HJM040D	J8	6300	1.25	1x457	8	3912	4232	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	688	420	1150	5/8	1/2	D20 = 93 D39 = 95 D40 = 114 D49 = 101	D20 = 80 D39 = 82 D40 = 101 D49 = 88
OP-HJM044D	J8	6300	1.25	1x457	8	3761	4029	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	688	420	1150	7/8	1/2	D20 = 104 D39 = 107 D40 = 126 D49 = 115	D20 = 91 D39 = 94 D40 = 113 D49 = 102
OP-HJM050D	J8	6300	1.25	1x457	8	4263	4581	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	688	420	1150	7/8	1/2	D20 = 104 D39 = 107 D40 = 126 D49 = 115	D20 = 91 D39 = 94 D40 = 113 D49 = 102
OP-HJM056D	J8	6300	1.25	1x457	8	4684	5063	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	688	420	1150	7/8	1/2	D20 = 104 D39 = 107 D40 = 126 D49 = 115	D20 = 91 D39 = 94 D40 = 113 D49 = 102
OP-HJM064D	J8	6300	1.25	1x457	8	5194	5643	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	688	420	1150	7/8	1/2	D20 = 104 D39 = 107 D40 = 126 D49 = 115	D20 = 91 D39 = 94 D40 = 113 D49 = 102
OP-HGM072D	N8	8800	1.55	2x457	14	6608	7141	D20 = 2A D39 = 2A D40 = 2B D49 = 2C	715	800	1200	1 1/8	5/8	D20 = 140 D39 = 143 D40 = 173 D49 = 152	D20 = 125 D39 = 128 D40 = 158 D49 =137
OP-HGM080D	N8	8800	1.55	2x457	14	7347	7980	D20 = 2A D39 = 2A D40 = 2B D49 = 2C	715	800	1200	1 1/8	5/8	D20 = 143 D39 = 146 D40 = 176 D49 = 155	D20 = 128 D39 = 131 D40 = 161 D49 = 140
OP-HGM100D	N8	8800	1.55	2x457	14	8626	9299	D20 = 2A D39 = 2A D40 = 2B D49 = 2C	715	800	1200	1 1/8	5/8	D20 = 159 D39 = 162 D40 = 182 D49 = 171	D20 = 154 D39 = 147 D40 = 177 D49 = 156
OP-HGM125D	Q8	13980	2.54	2x600	14	10694	11558	D20 = 2A D39 = 2A D40 = 2B D49 = 2C	971	800	1500	1 1/8	5/8	D20 = 243 D39 = 247 D40 = 287 D49 = 257	D20 = 225 D39 = 229 D40 = 269 D49 = 239
OP-HGM144D	Q8	13980	2.54	2x600	14	11861	12866	D20 = 2A D39 = 2A D40 = 2B D49 = 2C	971	800	1500	1 1/8	5/8	D20 = 248 D39 = 252 D40 = 293 D49 = 262	D20 = 230 D39 = 234 D40 = 274 D49 = 244
OP-HGM160D	Q8	13980	2.54	2x600	14	13171	14335	D20 = 2A D39 = 2A D40 = 2B D49 = 2C	971	800	1500	1 1/8	5/8	D20 = 248 D39 = 252 D40 = 293 D49 = 262	D20 = 230 D39 = 234 D40 = 274 D49 = 244

Technical data and ordering

Optyma™ R407C MBP

Fan	Test conditions	Unit	Code no. Version A02	Electrical code	Compressor	Amb. temp. [°C]	Cooling capacity range in [W] at evaporating temperature [°C]						Power consumption [W] at evap. temp.	
							-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	-10 °C	5 °C
	SH = 10 K	OP-MCZC030	114X5024	G	MTZ018	27	1450	1950	2500	3100	3750	4400	1050	1400
						32	1250	1750	2250	2850	3450	4050		
			114X5012	E		38	–	1500	2000	2500	3100	3650		
						43	–	–	1800	2300	–	–		
		OP-MCZC038	114X5025	G	MTZ022	27	2050	2650	3350	4100	4900	5700	1450	1950
						32	1850	2400	3050	3750	4500	5250		
			114X5013	E		38	–	2150	2700	3350	4050	4750		
						43	–	–	2450	3050	–	–		
		OP-MCZC048	114X5026	G	MTZ028	27	2550	3400	4350	5400	6500	7650	1700	2350
						32	2300	3100	4000	4950	6000	7100		
			114X5014	E		38	–	2750	3550	4450	5400	6400		
						43	–	–	3200	4050	–	–		
		OP-MCZC054	114X5027	G	MTZ032	27	3050	3950	4900	5950	7050	8200	1950	2700
						32	2800	3600	4500	5500	6500	7600		
			114X5015	E		38	–	3200	4050	4950	5850	6850		
						43	–	–	3650	4450	–	–		
		OP-MCZC060	114X5028	G	MTZ036	27	3600	4550	5550	6700	7850	9100	2300	3250
						32	3250	4150	5150	6200	7300	8400		
			114X5016	E		38	–	3750	4650	5600	6600	7600		
						43	–	–	4200	5100	–	–		
		OP-MCZC068	114X5017	E	MTZ040	27	4200	5300	6450	7750	9150	10550	2700	3750
						32	3850	4900	6000	7200	8500	9800		
						38	–	4400	5450	6550	7700	8900		
						43	–	–	4950	6000	–	–		
		OP-MCZC086	114X5018	E	MTZ050	27	4700	6000	7500	9100	10850	12650	2950	4100
						32	4250	5500	6900	8400	10000	11700		
						38	–	4850	6150	7500	9000	10550		
						43	–	–	5550	6800	–	–		
		OP-MCZC096	114X5019	E	MTZ056	27	5100	6650	8350	10200	12250	14400	3100	4400
						32	4650	6050	7650	9450	11300	13300		
						38	–	5400	6850	8500	10200	12050		
						43	–	–	6200	7700	–	–		
		OP-MCZC108	114X5020	E	MTZ064	27	6200	7900	9850	12000	14300	16850	4100	5500
						32	5650	7250	9050	11050	13250	15600		
						38	–	6500	8150	10000	12000	14150		
						43	–	–	7400	9100	–	–		
		OP-MCZC121	114X5021	E	MTZ072	27	7050	9050	11300	13800	16500	19400	4700	6300
						32	6450	8300	10400	12750	15300	18050		
						38	–	7450	9400	11550	13850	16350		
						43	–	–	8500	10500	–	–		
		OP-MCZC136	114X5022	E	MTZ080	27	7950	10150	12600	15300	18200	21250	5400	7300
						32	7300	9350	11700	14200	16900	19750		
						38	–	8450	10550	12850	15350	17950		
						43	–	–	9600	11750	–	–		
		OP-MCZC171	114X5023	E	MTZ100	27	8900	11550	14550	17800	21250	24950	6200	8450
						32	8000	10500	13300	16350	19600	23000		
						38	–	9300	11850	14650	17600	20700		
						43	–	–	10650	13200	–	–		
		OP-MGZC215	114X5073	E	MTZ125	27	12900	16350	20200	24450	29050	33950	9900	12650
						32	11750	15000	18650	22650	26950	31550		
						38	–	13450	16800	20450	24450	28650		
						43	–	–	15250	18650	–	–		
		OP-MGZC242	114X5074	E	MTZ144	27	13850	17550	21700	26250	31150	36300	10900	14100
						32	12650	16150	20050	24300	28900	33700		
						38	–	14450	18050	22000	26200	30600		
						43	–	–	16400	20050	–	–		
		OP- MGZC271	114X5075	E	MTZ160	27	16600	20750	25400	30500	36000	41900	12200	15800
						32	15250	19150	23550	28350	33500	38950		
						38	–	17300	21300	25700	30450	35450		
						43	–	–	19450	23550	–	–		

Test condition

	SH 10 K
Ambient temperature:	*32 °C*
Superheat:	*10 K*
Subcooling:	*0 K*

Electrical code

E: compressor 400 V / 3 phase / 50 Hz, fan 230 V / 1 phase / 50 Hz
G: compressor 230 V / 1 phase / 50 Hz, fan 230 V / 1 phase / 50 Hz

Version

A02: with receiver, stop valve, universal pressure switch, (KP17WB), flexible hoses and electrical box

Power consumption referred at 32 °C ambient temperature

Technical data and ordering

Optyma™ R407C MBP

Unit	Condenser coil			Condenser fan	Receiver volume [L]	Fig.	Dimensions [mm]			Line [in]		Weight [kg]	
	Type	Air flow [m³/h]	Int. volume [dm³]	Fan blade Ø [mm]			Height H	Width W	Depth D	Suction	Liquid	Gross	Net
OP-MCZC030	A4	1200	1.2	1 × 300	3	5	408	500	600	1/2	3/8	52	45
OP-MCZC038	B4	1750	1.3	1 × 350	3	5	451	500	620	1/2	3/8	54	47
OP-MCZC048	C4	2150	2.3	1 × 350	6	5	555	630	650	1/2	1/2	64	57
OP-MCZC054	C4	2150	2.3	1 × 350	6	5	555	630	650	5/8	1/2	65	58
OP-MCZC060	D4	2000	3.1	1 × 350	6	5	555	630	650	5/8	1/2	68	61
OP-MCZC068	E4	3150	2.5	1 × 400	6	5	605	630	650	5/8	1/2	72	65
OP-MCZC086	F4	3300	3.1	1 × 400	8	5	656	755	700	7/8	1/2	95	83
OP-MCZC096	G4	3150	4.1	1 × 400	8	5	656	755	700	7/8	1/2	100	88
OP-MCZC108	H4	4300	4.1	1 × 500	8	5	656	755	700	7/8	1/2	113	101
OP-MCZC121	J4	6000	4.4	1 × 500	10	5	708	900	900	1 1/8	1/2	127	113
OP-MCZC136	K4	6200	4.7	1 × 500	10	5	759	900	900	1 1/8	1/2	140	126
OP-MCZC171	L4	5850	6.3	1 × 500	14	5	759	900	900	1 1/8	5/8	162	147
OP-MGZC215	M4	11000	7.4	2 × 500	14	6	759	1350	820	1 1/8	5/8	191	176
OP-MGZC242	M4	11000	7.4	2 × 500	14	6	759	1350	820	1 1/8	5/8	194	179
OP- MGZC271	N4	9200	12.3	2 × 500	14	6	759	1350	820	1 1/8	5/8	199	184

Technical data and ordering

Optyma™ R407C MBP

Fan	Test conditions	Unit	Code no. Version A02	Electrical code	Compressor	Amb. temp. [°C]	Cooling capacity range in [W] at evaporating temperature [°C]						Power consumption [W] at evap. temp.	
							-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	-10 °C	5 °C
	SH = 10 K	OP-MGZD030	114X5061	E	MTZ018	32	1300	1800	2350	2950	3650	4350	1200	1550
						38	1100	1550	2100	2650	3250	3900		
						43	950	1400	1900	2400	–	–		
						46	850	1300	1750	2250	–	–		
		OP-MGZD038	114X5062	E	MTZ022	32	1950	2550	3250	4000	4850	5750	1700	2150
						38	1650	2250	2900	3600	4350	5200		
						43	1450	2000	2600	3250	–	–		
						46	1350	1850	2450	3050	–	–		
		OP-MGZD048	114X5063	E	MTZ028	32	2350	3200	4100	5100	6200	7400	2000	2650
						38	2050	2800	3650	4600	5600	6700		
						43	1800	2500	3300	4200	–	–		
						46	1650	2350	3100	3950	–	–		
		OP-MGZD054	114X5064	E	MTZ032	32	2850	3700	4650	5700	6800	7950	2250	2950
						38	2500	3300	4150	5100	6150	7200		
						43	2200	2950	3750	4650	–	–		
						46	2000	2750	3550	4350	–	–		
		OP-MGZD060	114X5065	E	MTZ036	32	3450	4400	5500	6650	7950	9300	2800	3650
						38	3050	3950	4950	6050	7200	8450		
						43	2700	3600	4500	5500	–	–		
						46	2500	3350	4250	5200	–	–		
		OP-MGZD068	114X5066	E	MTZ040	32	4100	5200	6500	7900	9400	11050	3150	4000
						38	3700	4750	5900	7200	8600	10100		
						43	3300	4300	5400	6600	–	–		
						46	3100	4050	5100	6250	–	–		
		OP-MGZD086	114X5067	E	MTZ050	32	4500	5850	7350	9100	10950	12950	3400	4400
						38	3950	5200	6600	8150	9900	11750		
						43	3500	4650	5950	7400	–	–		
						46	3200	4350	5600	6950	–	–		
		OP-MGZD108	114X5069	E	MTZ064	32	5850	7550	9500	11700	14150	16800	4200	5500
						38	5200	6750	8550	10600	12800	15250		
						43	4700	6100	7800	9650	–	–		
						46	4400	5750	7300	9100	–	–		
		OP-MGZD121	114X5070	E	MTZ072	32	6500	8400	10550	12950	15600	18400	4850	6400
						38	5800	7550	9500	11700	14150	16700		
						43	5200	6800	8650	10700	–	–		
						46	4850	6400	8150	10050	–	–		
		OP-MGZD136	114X5071	E	MTZ080	32	7600	9850	12400	15200	18250	21550	6150	7800
						38	6800	8900	11200	13800	16650	19650		
						43	6100	8050	10250	12650	–	–		
						46	5700	7600	9650	11950	–	–		
		OP-MGZD171	114X5072	E	MTZ100	32	8450	11150	14250	17700	21450	25500	6950	8900
						38	7350	9900	12750	15900	19350	23050		
						43	6500	8850	11500	14400	–	–		
						46	6000	8250	10750	13500	–	–		
		OP-MGZD215	114X5118	E	MTZ125	32	12100	15500	19350	23650	28300	33350	9800	12350
						38	10700	13900	17450	21400	25700	30350		
						43	9550	12550	15850	19550	–	–		
						46	8850	11700	14900	18400	–	–		
		OP-MGZD242	114X5119	E	MTZ144	32	13050	16750	20900	25450	30450	35800	10800	13750
						38	11550	15000	18850	23100	27700	32600		
						43	10350	13600	17150	21100	–	–		
						46	9650	12750	16150	19900	–	–		
		OP-MGZD271	114X5120	E	MTZ160	32	15850	20000	24700	29950	35650	41850	11800	15100
						38	14200	18050	22400	27250	32500	38200		
						43	12800	16450	20500	25000	–	–		
						46	12000	15450	19350	23650	–	–		

Test condition

	SH 10 K
Ambient temperature:	*32 °C*
Superheat:	*10 K*
Subcooling:	*0 K*

Electrical code

E: compressor 400 V / 3 phase / 50 Hz, fan 230 V / 1 phase / 50 Hz
G: compressor 230 V / 1 phase / 50 Hz, fan 230 V / 1 phase / 50 Hz

Version

A02: with receiver, stop valve, universal pressure switch, (KP17WB), flexible hoses and electrical box

Power consumption referred at 32 °C ambient temperature

Technical data and ordering

Optyma™ R407C MBP

Unit	Condenser coil			Condenser fan	Receiver volume [L]	Fig.	Dimensions [mm]			Line [in]		Weight [kg]	
	Type	Air flow [m³/h]	Int. volume [dm³]	Fan blade Ø [mm]			Height H	Width W	Depth D	Suction	Liquid	Gross	Net
OP-MGZD030	C3	1300	1.7	2 × 254	3	6	392	700	500	1/2	3/8	56	46
OP-MGZD038	D3	2800	1.5	2 × 300	6	6	442	800	600	1/2	1/2	60	53
OP-MGZD048	E3	2600	2.2	2 × 300	6	6	442	800	600	1/2	1/2	64	57
OP-MGZD054	E3	2600	2.2	2 × 300	6	6	442	800	600	5/8	1/2	65	58
OP-MGZD060	G3	4600	2.3	2 × 350	8	6	555	1000	700	5/8	1/2	88	75
OP-MGZD068	H3	3600	4.7	2 × 350	8	6	555	1000	700	5/8	1/2	96	82
OP-MGZD086	H3	3600	4.7	2 × 350	8	6	555	1000	700	7/8	1/2	107	93
OP-MGZD108	J3	5400	4.7	2 × 400	10	6	555	1000	700	7/8	1/2	113	99
OP-MGZD121	J3	5400	4.7	2 × 400	10	6	555	1000	700	7/8	1/2	115	101
OP-MGZD136	L3	8600	5.1	2 × 450	10	6	671	1200	800	1 1/8	1/2	133	118
OP-MGZD171	M3	8200	6.8	2 × 450	14	6	671	1200	800	1 1/8	5/8	158	144
OP-MGZD215	N4	9200	12.25	2 × 500	14	6	759	1350	820	1 1/8	5/8	196	180
OP-MGZD242	N4	9200	12.25	2 × 500	14	6	759	1350	820	1 1/8	5/8	199	183
OP-MGZD271	U	14000	14.2	2 × 630	14	6	975	1500	870	1 1/8	5/8	230	212

Technical data and ordering

Optyma™ R407A MBP

Fan	Test conditions	Unit	Code no.	Electrical code	Compressor	Amb. temp. [°C]	Cooling capacity range in [W] at evaporating temperature [°C]							Power consumption [W] at evap. temp.	
							-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	-10 °C	5 °C
		OP-MCZC030	114X5024	G	MTZ018	27	1100	1500	1950	2500	3050	3700	4350	1150	1550
						32	950	1350	1800	2250	2800	3350	3950		
			114X5012	E		38	850	1200	1550	2000	2500	3000	–		
						43	750	1050	1400	1800	2250	–	–		
		OP-MCZC038	114X5025	G	MTZ022	27	1550	2100	2700	3400	4150	4950	5800	1450	2000
						32	1400	1900	2450	3100	3800	4550	5300		
			114X5013	E		38	1200	1650	2150	2700	3350	4050	–		
						43	1000	1450	1900	2400	3000	–	–		
		OP-MCZC048	114X5026	G	MTZ028	27	2100	2800	3550	4450	5450	6500	7600	1850	2550
						32	1850	2500	3250	4100	5000	6000	7050		
			114X5014	E		38	1600	2200	2900	3650	4500	5400	–		
						43	1400	1950	2550	3300	4050	–	–		
		OP-MCZC054	114X5027	G	MTZ032	27	2400	3150	4050	4950	6000	7100	8200	2000	2850
						32	2150	2900	3650	4550	5500	6500	7600		
			114X5015	E		38	1850	2500	3250	4050	4900	5850	–		
						43	1600	2200	2900	3600	4400	–	–		
		OP-MCZC060	114X5028	G	MTZ036	27	2800	3700	4650	5650	6800	7950	9200	2400	3400
						32	2550	3350	4250	5200	6250	7350	8450		
			114X5016	E		38	2200	2950	3750	4650	5550	6550	–		
						43	1950	2600	3350	4150	5000	–	–		
		OP-MCZC068	114X5017	E	MTZ040	27	3300	4250	5300	6500	7750	9050	10400	2750	3850
						32	3000	3900	4900	6000	7150	8350	9600		
						38	2650	3450	4350	5350	6400	7500	–		
						43	2350	3100	3950	4800	5750	–	–		
		OP-MCZC086	114X5018	E	MTZ050	27	3750	4950	6250	7750	9350	11050	12800	2950	4100
						32	3350	4450	5700	7050	8550	10150	11800		
						38	2900	3900	5000	6250	7600	9050	–		
						43	2500	3400	4450	5600	6850	–	–		
	SH = 10 K	OP-MCZC096	114X5019	E	MTZ056	27	4000	5300	6800	8450	10250	12200	14250	3200	4550
						32	3600	4800	6200	7750	9400	11250	13200		
						38	3100	4200	5450	6900	8450	10150	–		
						43	2700	3700	4900	6200	7650	–	–		
		OP-MCZC108	114X5020	E	MTZ064	27	4850	6350	8100	10050	12250	14550	17050	4300	5900
						32	4350	5750	7400	9250	11250	13450	15800		
						38	3750	5050	6550	8200	10050	12100	–		
						43	3250	4450	5850	7400	9100	–	–		
		OP-MCZC121	114X5021	E	MTZ072	27	5550	7250	9200	11350	13750	16350	19150	4700	6400
						32	4950	6550	8350	10400	12650	15100	17750		
						38	4300	5750	7400	9300	11400	13650	–		
						43	3750	5100	6650	8400	10300	–	–		
		OP-MCZC136	114X5022	E	MTZ080	27	6450	8300	10400	12700	15250	17950	20800	5500	7600
						32	5800	7550	9550	11700	14050	16600	19250		
						38	5050	6700	8500	10500	12650	14950	–		
						43	4450	5950	7650	9500	11500	–	–		
		OP-MCZC171	114X5023	E	MTZ100	27	7300	9600	12150	14950	18000	21200	24550	6500	8800
						32	6600	8700	11100	13700	16550	19500	22600		
						38	5700	7650	9850	12200	14750	17450	–		
						43	4950	6750	8750	10950	13250	–	–		
		OP-MGZC215	114X5073	E	MTZ125	27	9800	12800	16200	19950	24100	28600	33400	8600	11600
						32	8800	11600	14750	18300	22200	26400	30900		
						38	7600	10150	13050	16300	19900	23800	–		
						43	6650	9000	11700	14700	18000	–	–		
		OP-MGZC242	114X5074	E	MTZ144	27	11300	14600	18250	22300	26650	31300	36150	9850	13450
						32	10200	13300	16700	20500	24550	28850	33350		
						38	8900	11700	14850	18300	22000	25900	–		
						43	7800	10400	13300	16450	19850	–	–		
		OP- MGZC271	114X5075	E	MTZ160	27	12550	16200	20350	24900	29850	35150	40700	10900	15050
						32	11350	14800	18650	22950	27550	32500	37700		
						38	9900	13100	16650	20550	24750	29300	–		
						43	8700	11650	14950	18550	22450	–	–		

Test condition

	SH 10 K
Ambient temperature:	*32 °C*
Superheat:	*10 K*
Subcooling:	*0 K*

Electrical code

E: compressor 400 V / 3 phase / 50 Hz, fan 230 V / 1 phase / 50 Hz
G: compressor 230 V / 1 phase / 50 Hz, fan 230 V / 1 phase / 50 Hz

Version

A02: with receiver, stop valve, universal pressure switch, (KP17WB), flexible hoses and electrical box

Power consumption referred at 32 °C ambient temperature

Technical data and ordering

Optyma™ R407A MBP

Unit	Condenser coil			Condenser fan	Receiver volume [L]	Fig.	Dimensions [mm]			Line [in]		Weight [kg]	
	Type	Air flow [m³/h]	Int. volume [dm³]	Fan blade Ø [mm]			Height H	Width W	Depth D	Suction	Liquid	Gross	Net
OP-MCZC030	A4	1200	1.2	1 × 300	3	5	408	500	600	1/2	3/8	52	45
OP-MCZC038	B4	1750	1.3	1 × 350	3	5	451	500	620	1/2	3/8	54	47
OP-MCZC048	C4	2150	2.3	1 × 350	6	5	555	630	650	1/2	1/2	64	57
OP-MCZC054	C4	2150	2.3	1 × 350	6	5	555	630	650	5/8	1/2	65	58
OP-MCZC060	D4	2000	3.1	1 × 350	6	5	555	630	650	5/8	1/2	68	61
OP-MCZC068	E4	3150	2.5	1 × 400	6	5	605	630	650	5/8	1/2	72	65
OP-MCZC086	F4	3300	3.1	1 × 400	8	5	656	755	700	7/8	1/2	95	83
OP-MCZC096	G4	3150	4.1	1 × 400	8	5	656	755	700	7/8	1/2	100	88
OP-MCZC108	H4	4300	4.1	1 × 500	8	5	656	755	700	7/8	1/2	113	101
OP-MCZC121	J4	6000	4.4	1 × 500	10	5	708	900	900	1 1/8	1/2	127	113
OP-MCZC136	K4	6200	4.7	1 × 500	10	5	759	900	900	1 1/8	1/2	140	126
OP-MCZC171	L4	5850	6.3	1 × 500	14	5	759	900	900	1 1/8	5/8	162	147
OP-MGZC215	M4	11000	7.4	2 × 500	14	6	759	1350	820	1 1/8	5/8	191	176
OP-MGZC242	M4	11000	7.4	2 × 500	14	6	759	1350	820	1 1/8	5/8	194	179
OP- MGZC271	N4	9200	12.3	2 × 500	14	6	759	1350	820	1 1/8	5/8	199	184

Technical data and ordering

Optyma™ R407A MBP

Fan	Test conditions	Unit	Code no. Version A02	Electrical code	Compressor	Amb. temp. [°C]	Cooling capacity range in [W] at evaporating temperature [°C]							Power consumption [W] at evap. temp.	
							-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	-10 °C	5 °C
	SH = 10 K	OP-MGZD030	114X5061	E	MTZ018	32	1000	1400	1850	2400	2950	3600	4250	1150	1550
						38	850	1200	1650	2100	2650	3200	3800		
						43	750	1100	1450	1900	2350	2900	–		
						46	700	1000	1350	1750	2200	–	–		
		OP-MGZD038	114X5062	E	MTZ022	32	1450	2000	2600	3300	4050	4900	5850	1500	1950
						38	1250	1700	2300	2900	3600	4400	5250		
						43	1050	1500	2000	2600	3250	3950	–		
						46	950	1400	1850	2400	3000	–	–		
		OP-MGZD048	114X5063	E	MTZ028	32	1900	2550	3350	4200	5150	6200	7350	1900	2550
						38	1650	2250	2950	3750	4650	5600	6650		
						43	1400	2000	2650	3400	4200	5100	–		
						46	1300	1850	2450	3150	3950	–	–		
		OP-MGZD054	114X5064	E	MTZ032	32	2200	2950	3800	4700	5700	6800	7950	2050	2850
						38	1900	2600	3350	4200	5100	6100	7150		
						43	1650	2300	3000	3750	4600	5500	–		
						46	1500	2100	2750	3500	4300	–	–		
		OP-MGZD060	114X5065	E	MTZ036	32	2650	3550	4500	5600	6800	8050	9450	2500	3400
						38	2350	3100	4000	5000	6100	7250	8500		
						43	2050	2750	3600	4500	5500	6550	–		
						46	1850	2550	3350	4200	5150	–	–		
		OP-MGZD068	114X5066	E	MTZ040	32	3150	4150	5250	6500	7850	9350	10950	2800	3750
						38	2800	3700	4750	5850	7100	8450	9900		
						43	2500	3350	4300	5300	6450	7700	–		
						46	2300	3100	4000	5000	6100	–	–		
		OP-MGZD086	114X5067	E	MTZ050	32	3550	4700	6050	7600	9300	11150	13150	3050	4050
						38	3050	4100	5350	6750	8300	10000	11850		
						43	2650	3650	4750	6050	7500	9100	–		
						46	2400	3350	4450	5650	7000	–	–		
		OP-MGZD108	114X5069	E	MTZ064	32	4500	6000	7750	9750	11950	14400	17050	4000	5450
						38	3900	5250	6850	8700	10750	13000	15450		
						43	3400	4650	6150	7850	9750	11800	–		
						46	3100	4300	5700	7300	9100	–	–		
		OP-MGZD121	114X5070	E	MTZ072	32	5000	6600	8500	10550	12900	15400	18150	4400	6050
						38	4300	5800	7500	9450	11600	13900	16450		
						43	3750	5150	6700	8500	10500	12700	–		
						46	3450	4750	6250	7950	9850	–	–		
		OP-MGZD136	114X5071	E	MTZ080	32	6050	7950	10100	12500	15100	18000	21100	5450	7350
						38	5300	7050	9000	11200	13650	16300	19150		
						43	4650	6300	8100	10150	12400	14900	–		
						46	4300	5850	7600	9550	11700	–	–		
		OP-MGZD171	114X5072	E	MTZ100	32	6900	9200	11800	14750	17950	21400	25100	6450	8450
						38	6000	8100	10500	13150	16100	19250	22650		
						43	5250	7200	9400	11850	14550	17450	–		
						46	4800	6650	8700	11050	13600	–	–		
		OP-MGZD215	114X5118	E	MTZ125	32	9050	11950	15300	19050	23250	27800	32750	8500	11300
						38	7850	10500	13550	17000	20900	25100	29700		
						43	6850	9300	12150	15350	18950	22850	–		
						46	6300	8600	11300	14350	17750	–	–		
		OP-MGZD242	114X5119	E	MTZ144	32	10550	13750	17400	21450	25850	30600	35650	9750	13050
						38	9200	12150	15500	19200	23200	27550	32200		
						43	8050	10800	13900	17300	21000	25050	–		
						46	7400	10000	12900	16150	–	–	–		
		OP-MGZD271	114X5120	E	MTZ160	32	11750	15400	19550	24150	29250	34750	40700	10650	14500
						38	10300	13650	17450	21700	26400	31450	36900		
						43	9050	12200	15700	19650	24000	28700	–		
						46	8350	11300	14650	18400	22500	–	–		

Test condition

	SH 10 K
Ambient temperature:	*32 °C*
Superheat:	*10 K*
Subcooling:	*0 K*

Power consumption referred at 32 °C ambient temperature

Electrical code

E: compressor 400 V / 3 phase / 50 Hz, fan 230 V / 1 phase / 50 Hz

Version

A02: with receiver, stop valve, universal pressure switch, (KP17WB), flexible hoses and electrical box

Technical data and ordering

Optyma™ R407A MBP

Unit	Condenser coil			Condenser fan	Receiver volume [L]	Fig.	Dimensions [mm]			Line [in]		Weight [kg]	
	Type	Air flow [m³/h]	Int. volume [dm³]	Fan blade Ø [mm]			Height H	Width W	Depth D	Suction	Liquid	Gross	Net
OP-MGZD030	C3	1300	1.7	2 × 254	3	6	392	700	500	1/2	3/8	56	46
OP-MGZD038	D3	2800	1.5	2 × 300	6	6	442	800	600	1/2	1/2	60	53
OP-MGZD048	E3	2600	2.2	2 × 300	6	6	442	800	600	1/2	1/2	64	57
OP-MGZD054	E3	2600	2.2	2 × 300	6	6	442	800	600	5/8	1/2	65	58
OP-MGZD060	G3	4600	2.3	2 × 350	8	6	555	1000	700	5/8	1/2	88	75
OP-MGZD068	H3	3600	4.7	2 × 350	8	6	555	1000	700	5/8	1/2	96	82
OP-MGZD086	H3	3600	4.7	2 × 350	8	6	555	1000	700	7/8	1/2	107	93
OP-MGZD108	J3	5400	4.7	2 × 400	10	6	555	1000	700	7/8	1/2	113	99
OP-MGZD121	J3	5400	4.7	2 × 400	10	6	555	1000	700	7/8	1/2	115	101
OP-MGZD136	L3	8600	5.1	2 × 450	10	6	671	1200	800	1 1/8	1/2	133	118
OP-MGZD171	M3	8200	6.8	2 × 450	14	6	671	1200	800	1 1/8	5/8	158	144
OP-MGZD215	N4	9200	12.25	2 × 500	14	6	759	1350	820	1 1/8	5/8	196	180
OP-MGZD242	N4	9200	12.25	2 × 500	14	6	759	1350	820	1 1/8	5/8	199	183
OP-MGZD271	U	14000	14.2	2 × 630	14	6	975	1500	870	1 1/8	5/8	230	212

Technical data and ordering

Optyma™ R407F MBP

Fan	Test conditions	Unit	Code no. Version A02	Electrical code	Compressor	Amb. temp. [°C]	Cooling capacity range in [W] at evaporating temperature [°C]							Power consumption [W] at evap. temp.	
							-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	-10 °C	5 °C
	SH = 10 K	OP-MCZC030	114X5024	G	MTZ018	27	1150	1550	2050	2600	3200	3850	4500	1200	1650
						32	1000	1400	1850	2400	2950	3550	–		
			114X5012	E		38	900	1250	1650	2150	–	–	–		
						43	800	1150	1500	–	–	–	–		
		OP-MCZC038	114X5025	G	MTZ022	27	1650	2200	2850	3550	4300	5150	6050	1500	2100
						32	1450	2000	2550	3250	3950	4750	–		
			114X5013	E		38	1250	1750	2300	2900	–	–	–		
						43	1100	1550	2050	–	–	–	–		
		OP-MCZC048	114X5026	G	MTZ028	27	2200	2950	3750	4650	5700	6750	7950	1950	2700
						32	1950	2650	3400	4300	5250	6300	–		
			114X5014	E		38	1650	2300	3050	3850	–	–	–		
						43	1450	2100	2800	–	–	–	–		
		OP-MCZC054	114X5027	G	MTZ032	27	2550	3350	4200	5200	6250	7400	8600	2150	3050
						32	2250	3000	3850	4750	5750	6850	–		
			114X5015	E		38	1950	2650	3450	4300	–	–	–		
						43	1750	2400	3150	–	–	–	–		
		OP-MCZC060	114X5028	G	MTZ036	27	2950	3850	4850	5900	7050	8300	9600	2500	3650
						32	2650	3500	4450	5450	6550	7750	–		
			114X5016	E		38	2350	3150	4000	5000	–	–	–		
						43	2100	2850	–	–	–	–	–		
		OP-MCZC068	114X5017	E	MTZ040	27	3450	4450	5550	6750	8050	9450	10900	2900	4150
						32	3100	4050	5100	6250	7500	8800	–		
						38	2750	3650	4650	5700	–	–	–		
						43	2500	3350	–	–	–	–	–		
		OP-MCZC086	114X5018	E	MTZ050	27	3950	5150	6550	8050	9700	11500	13400	3150	4400
						32	3500	4650	5950	7400	9000	10700	–		
						38	3050	4150	5350	6700	–	–	–		
						43	2750	3750	–	–	–	–	–		
		OP-MCZC096	114X5019	E	MTZ056	27	4200	5550	7100	8800	10650	12700	14900	3400	4850
						32	3750	5000	6450	8100	9900	11850	–		
						38	3300	4450	5850	7350	–	–	–		
						43	2950	4100	–	–	–	–	–		
		OP-MCZC108	114X5020	E	MTZ064	27	5100	6700	8500	10500	12750	15200	17800	4500	6250
						32	4550	6050	7750	9650	11800	14150	–		
						38	3950	5350	6950	8800	–	–	–		
						43	3550	4850	6400	–	–	–	–		
		OP-MCZC121	114X5021	E	MTZ072	27	5800	7600	9600	11850	14350	17050	19950	4950	6800
						32	5200	6850	8750	10900	13300	15900	–		
						38	4550	6100	7900	9900	–	–	–		
						43	4050	5550	7250	–	–	–	–		
		OP-MCZC136	114X5022	E	MTZ080	27	6750	8700	10900	13250	15900	18700	21700	5800	8100
						32	6100	7950	10000	12300	14800	17500	–		
						38	5400	7150	9100	11250	–	–	–		
						43	4900	6550	–	–	–	–	–		
		OP-MCZC171	114X5023	E	MTZ100	27	7600	10000	12700	15600	18750	22100	25600	6900	9000 **)
						32	6850	9100	11650	14400	17400	–	–		
						38	6050	8150	10550	13100	–	–	–		
						43	5400	7450	–	–	–	–	–		
		OP-MGZC215	114X5073	E	MTZ125	27	10350	13450	16950	20850	25150	29800	34800	9050	12300
						32	9200	12150	15450	19150	23250	27700	–		
						38	8050	10800	13900	17400	–	–	–		
						43	7250	9850	12800	–	–	–	–		
		OP-MGZC242	114X5074	E	MTZ144	27	11900	15300	19100	23250	27800	32650	37800	10350	14350
						32	10700	13950	17550	21500	25850	30500	–		
						38	9450	12500	15900	19650	–	–	–		
						43	8550	11450	–	–	–	–	–		
		OP- MGZC271	114X5075	E	MTZ160	27	13250	17050	21300	26000	31100	36600	42500	11450	16050
						32	11900	15550	19550	24050	28950	34200	–		
						38	10550	13950	17750	22000	–	–	–		
						43	9500	12800	–	–	–	–	–		

Test condition

	SH 10 K
Ambient temperature:	*32 °C*
Superheat:	*10 K*
Subcooling:	*0 K*

Electrical code

E: compressor 400 V / 3 phase / 50 Hz, fan 230 V / 1 phase / 50 Hz
G: compressor 230 V / 1 phase / 50 Hz, fan 230 V / 1 phase / 50 Hz

Version

A02: with receiver, stop valve, universal pressure switch, (KP17WB), flexible hoses and electrical box

Power consumption referred at 32 °C ambient temperature
***) Power consumption referred at 27 °C ambient temperature*

Technical data and ordering

Optyma™ R407F MBP

Unit	Condenser coil			Condenser fan	Receiver volume [L]	Fig.	Dimensions [mm]			Line [in]		Weigh [kg]	
	Type	Air flow [m³/h]	Int. volume [dm³]	Fan blade Ø [mm]			Height H	Width W	Depth D	Suction	Liquid	Gross	Net
OP-MCZC030	A4	1200	1.2	1 × 300	3	5	408	500	600	1/2	3/8	52	45
OP-MCZC038	B4	1750	1.3	1 × 350	3	5	451	500	620	1/2	3/8	54	47
OP-MCZC048	C4	2150	2.3	1 × 350	6	5	555	630	650	1/2	1/2	64	57
OP-MCZC054	C4	2150	2.3	1 × 350	6	5	555	630	650	5/8	1/2	65	58
OP-MCZC060	D4	2000	3.1	1 × 350	6	5	555	630	650	5/8	1/2	68	61
OP-MCZC068	E4	3150	2.5	1 × 400	6	5	605	630	650	5/8	1/2	72	65
OP-MCZC086	F4	3300	3.1	1 × 400	8	5	656	755	700	7/8	1/2	95	83
OP-MCZC096	G4	3150	4.1	1 × 400	8	5	656	755	700	7/8	1/2	100	88
OP-MCZC108	H4	4300	4.1	1 × 500	8	5	656	755	700	7/8	1/2	113	101
OP-MCZC121	J4	6000	4.4	1 × 500	10	5	708	900	900	1 1/8	1/2	127	113
OP-MCZC136	K4	6200	4.7	1 × 500	10	5	759	900	900	1 1/8	1/2	140	126
OP-MCZC171	L4	5850	6.3	1 × 500	14	5	759	900	900	1 1/8	5/8	162	147
OP-MGZC215	M4	11000	7.4	2 × 500	14	6	759	1350	820	1 1/8	5/8	191	176
OP-MGZC242	M4	11000	7.4	2 × 500	14	6	759	1350	820	1 1/8	5/8	194	179
OP- MGZC271	N4	9200	12.3	2 × 500	14	6	759	1350	820	1 1/8	5/8	199	184

Technical data and ordering

Optyma™ R407F MBP

Fan	Test conditions	Unit	Code no. Version A02	Electrical code	Compressor	Amb. temp. [°C]	Cooling capacity range in [W] at evaporating temperature [°C]							Power consumption [W] at evap. temp.	
							-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	-10 °C	5 °C
	SH = 10 K	OP-MGZD030	114X5061	E	MTZ018	27	1200	1650	2150	2750	3350	4050	4800	1200	1650
						32	1050	1450	1950	2500	3100	3750	–		
						38	900	1300	1750	2250	2800	–	–		
						43	800	1150	1550	–	–	–	–		
		OP-MGZD038	114X5062	E	MTZ022	27	1750	2350	3000	3800	4650	5600	6600	1550	2100
						32	1550	2100	2700	3450	4250	5150	–		
						38	1300	1800	2400	3100	3850	–	–		
						43	1150	1600	2150	–	–	–	–		
		OP-MGZD048	114X5063	E	MTZ028	27	2300	3000	3900	4850	5900	7050	8250	2000	2700
						32	2000	2700	3500	4400	5400	6500	–		
						38	1700	2350	3100	3950	4900	–	–		
						43	1500	2150	2850	–	–	–	–		
		OP-MGZD054	114X5064	E	MTZ032	27	2600	3450	4350	5350	6500	7700	9000	2200	3050
						32	2300	3100	3950	4900	6000	7150	–		
						38	2000	2750	3550	4450	5450	–	–		
						43	1800	2450	3250	–	–	–	–		
		OP-MGZD060	114X5065	E	MTZ036	27	3100	4100	5150	6350	7700	9100	10600	2650	3600
						32	2800	3700	4700	5850	7100	8450	–		
						38	2450	3300	4250	5300	6450	–	–		
						43	2200	3000	3900	–	–	–	–		
		OP-MGZD068	114X5066	E	MTZ040	27	3700	4800	6000	7400	8900	10550	12300	2950	3950
						32	3300	4350	5500	6800	8250	9800	–		
						38	2900	3900	5000	6200	7500	–	–		
						43	2650	3550	4600	–	–	–	–		
		OP-MGZD086	114X5067	E	MTZ050	27	4200	5500	7000	8700	10600	12600	14800	3250	4300
						32	3700	4950	6350	7950	9750	11650	–		
						38	3200	4350	5650	7150	8800	–	–		
						43	2850	3950	5200	–	–	–	–		
		OP-MGZD108	114X5069	E	MTZ064	27	5300	7000	8950	11100	13550	16250	19150	4200	5750
						32	4750	6300	8150	10200	12500	15100	–		
						38	4100	5600	7300	9200	11400	–	–		
						43	3650	5050	6650	–	–	–	–		
		OP-MGZD121	114X5070	E	MTZ072	27	5900	7700	9750	12050	14600	17350	20350	4650	6450
						32	5250	6950	8900	11050	13500	16150	–		
						38	4550	6150	8000	10050	12350	–	–		
						43	4100	5600	7350	–	–	–	–		
		OP-MGZD136	114X5071	E	MTZ080	27	7100	9200	11550	14200	17100	20250	23650	5750	7800
						32	6350	8350	10550	13050	15800	18850	–		
						38	5600	7450	9550	11900	14500	–	–		
						43	5050	6850	8850	–	–	–	–		
		OP-MGZD171	114X5072	E	MTZ100	27	8000	10600	13550	16800	20350	24150	28250	6750	8950
						32	7200	9600	12350	15400	18750	22400	–		
						38	6300	8600	11150	14000	17100	–	–		
						43	5650	7800	10200	–	–	–	–		
		OP-MGZD215	114X5118	E	MTZ125	27	10700	13950	17650	21800	26350	31400	36800	8950	11950
						32	9500	12550	16000	19950	24300	29100	–		
						38	8300	11100	14350	18000	22100	–	–		
						43	7450	10100	13150	–	–	–	–		
		OP-MGZD242	114X5119	E	MTZ144	27	12300	15900	19900	24350	29200	34500	40100	10250	13900
						32	11050	14450	18250	22450	27100	32100	–		
						38	9750	12900	16450	20400	24800	–	–		
						43	8750	11800	15150	–	–	–	–		
		OP-MGZD271	114X5120	E	MTZ160	27	13800	17850	22400	27450	33050	39100	45600	11200	15350
						32	12350	16150	20500	25300	30600	36350	–		
						38	10900	14450	18500	23000	28000	–	–		
						43	9850	13250	17050	–	–	–	–		

Test condition

	SH 10 K
Ambient temperature:	*32 °C*
Superheat:	*10 K*
Subcooling:	*0 K*

Power consumption referred at 32 °C ambient temperature

Electrical code

E: compressor 400 V / 3 phase / 50 Hz, fan 230 V / 1 phase / 50 Hz

Version

A02: with receiver, stop valve, universal pressure switch, (KP17WB), flexible hoses and electrical box

Technical data and ordering

Optyma™ R407F MBP

Unit	Condenser coil			Condenser fan	Receiver volume [L]	Fig.	Dimensions [mm]			Line [in]		Weight [kg]	
	Type	Air flow [m³/h]	Int. volume [dm³]	Fan blade Ø [mm]			Height H	Width W	Depth D	Suction	Liquid	Gross	Net
OP-MGZD030	C3	1300	1.7	2 × 254	3	6	392	700	500	1/2	3/8	56	46
OP-MGZD038	D3	2800	1.5	2 × 300	6	6	442	800	600	1/2	1/2	60	53
OP-MGZD048	E3	2600	2.2	2 × 300	6	6	442	800	600	1/2	1/2	64	57
OP-MGZD054	E3	2600	2.2	2 × 300	6	6	442	800	600	5/8	1/2	65	58
OP-MGZD060	G3	4600	2.3	2 × 350	8	6	555	1000	700	5/8	1/2	88	75
OP-MGZD068	H3	3600	4.7	2 × 350	8	6	555	1000	700	5/8	1/2	96	82
OP-MGZD086	H3	3600	4.7	2 × 350	8	6	555	1000	700	7/8	1/2	107	93
OP-MGZD108	J3	5400	4.7	2 × 400	10	6	555	1000	700	7/8	1/2	113	99
OP-MGZD121	J3	5400	4.7	2 × 400	10	6	555	1000	700	7/8	1/2	115	101
OP-MGZD136	L3	8600	5.1	2 × 450	10	6	671	1200	800	1 1/8	1/2	133	118
OP-MGZD171	M3	8200	6.8	2 × 450	14	6	671	1200	800	1 1/8	5/8	158	144
OP-MGZD215	N4	9200	12.25	2 × 500	14	6	759	1350	820	1 1/8	5/8	196	180
OP-MGZD242	N4	9200	12.25	2 × 500	14	6	759	1350	820	1 1/8	5/8	199	183
OP-MGZD271	U	14000	14.2	2 × 630	14	6	975	1500	870	1 1/8	5/8	230	212

Technical data and ordering

Optyma™ - R402B MBP/HBP - LAM 4 (Brazil)

Ventiladores	Condições de teste	Modelo	Código por versão				Código elétrico	Compressor	Temperatura ambiente	Capacidade de refrigeração (Kcal/h) na temperatura de evaporação								
			D20	D39	D40	D49				-30 °C	-25 °C	-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C
	Superaquecimento 18K sub-resfriamento 3K	OP-HJM019D	115F0001 115F0002 115F0004	115F0127 115F0128 115F0129	115F0185 115F0186 115F0187	115F0227 115F0228 115F0229	N Q V	MT019	32 °C	603	980	1425	1944	2536	3204	3944	4755	5635
									35 °C	527	892	1321	1819	2387	3027	3737	4516	5363
									38 °C	452	803	1215	1692	2235	2847	3527	4275	5088
									43 °C	327	655	1037	1477	1978	2543	3174	3868	4627
		OP-HJM022D	115F0006 115F0007 115F0009	115F0131 115F0132 115F0133	115F0188 115F0189 115F0190	115F0230 115F0231 115F0232	N Q V	MT022	32 °C	1054	1493	2015	2622	3315	4088	4937	5857	6839
									35 °C	974	1398	1898	2478	3138	3874	4682	5559	6498
									38 °C	890	1297	1775	2327	2954	3653	4420	5255	6151
									43 °C	744	1122	1560	2063	2632	3270	3972	4738	5567
		OP-HJM028D	115F0011 115F0012 115F0014	115F0135 115F0136 115F0137	115F0191 115F0192 115F0193	115F0233 115F0234 115F0235	N Q V	MT028	32 °C	1577	2160	2842	3629	4523	5528	6643	7863	9186
									35 °C	1467	2034	2693	3450	4309	5273	6342	7512	8782
									38 °C	1355	1904	2538	3265	4087	5010	6034	7154	8370
									43 °C	1163	1679	2271	2944	3706	4556	5504	6541	7672
		OP-HJM032D	115F0016 115F0017 115F0019	115F0139 115F0140 115F0141	115F0194 115F0195 115F0196	115F0236 115F0237 115F0238	N Q V	MT032	32 °C	1664	2288	3032	3898	4888	6004	7232	8573	10019
									35 °C	1559	2160	2872	3699	4642	5702	6873	8150	9531
									38 °C	1450	2030	2711	3498	4393	5400	6512	7727	9044
									43 °C	1263	1808	2438	3159	3977	4894	5912	7028	8240
		OP-HJM036D	115F0021 115F0022 115F0024	115F0143 115F0144 115F0145	115F0197 115F0198 115F0199	115F0239 115F0240 115F0241	N Q V	MT036	32 °C	1833	2566	3426	4417	5542	6792	8162	9648	11239
									35 °C	1682	2389	3215	4164	5239	6436	7747	9172	10701
									38 °C	1532	2213	3004	3911	4936	6080	7334	8698	10166
									43 °C	1286	1922	2654	3491	4434	5490	6649	7914	9287
		OP-HJM040D	115F0026 115F0027 115F0028	115F0147 115F0148 115F0149	115F0200 115F0201 115F0202	115F0242 115F0243 115F0244	N Q V	MT040	32 °C	2184	3059	4092	5293	6667	8215	9940	11830	13881
									35 °C	2016	2859	3851	5001	6317	7800	9451	11265	13236
									38 °C	1851	2661	3611	4710	5966	7383	8963	10700	12591
									43 °C	1584	2337	3215	4228	5384	6690	8147	9760	11524
		OP-HJM044D	115F0030 115F0031 115F0032	115F0151 115F0152 115F0153	115F0203 115F0204 115F0205	115F0245 115F0246 115F0247	N Q V	MT044	32 °C	2232	3192	4322	5630	7123	8804	10676	12731	14961
									35 °C	2002	2928	4014	5269	6700	8313	10111	12083	14229
									38 °C	1773	2664	3704	4905	6273	7816	9538	11430	13493
									43 °C	1397	2225	3188	4295	5559	6985	8577	10338	12268
		OP-HJM050D	115F0034 115F0035 115F0036	115F0155 115F0156 115F0157	115F0206 115F0207 115F0208	115F0248 115F0249 115F0250	N Q V	MT050	32 °C	2709	3761	4994	6421	8048	9886	11920	14158	16591
									35 °C	2470	3489	4678	6052	7615	9382	11341	13493	15838
									38 °C	2229	3212	4356	5675	7175	8869	10748	12818	15077
									43 °C	1828	2747	3810	5032	6422	7990	9743	11678	13797
		OP-HJM056D	115F0038 115F0039 115F0040	115F0159 115F0160 115F0161	115F0209 115F0210 115F0211	115F0251 115F0252 115F0253	N Q V	MT056	32 °C	3007	4205	5603	7200	9000	10990	13163	15511	18019
									35 °C	2724	3881	5224	6757	8485	10393	12482	14737	17154
									38 °C	2442	3555	4844	6311	7960	9792	11795	13961	16289
									43 °C	1976	3013	4208	5565	7090	8787	10646	12670	14853
		OP-HJM064D	115F0042 115F0043 115F0044	115F0163 115F0164 115F0165	115F0212 115F0213 115F0214	115F0254 115F0255 115F0256	N Q V	MT064	32 °C	3418	4688	6166	7855	9758	11859	14152	16623	19259
									35 °C	3130	4354	5772	7390	9210	11220	13412	15782	18316
									38 °C	2843	4019	5377	6919	8656	10575	12670	14939	17373
									43 °C	2366	3460	4714	6133	7728	9494	11431	13540	15820
		OP-HGM072D	115F0046 115F0047	115F0167 115F0168	115F0215 115F0216	115F0257 115F0258	Q V	MT072	32 °C	4093	5556	7278	9272	11545	14102	16927	20011	23350
									35 °C	3768	5172	6820	8727	10900	13348	16051	19011	22222
									38 °C	3447	4790	6363	8182	10252	12588	15173	18008	21093
									43 °C	2924	4162	5605	7272	9172	11314	13707	16342	19224
		OP-HGM080D	115F0049 115F0050	115F0170 115F0171	115F0219 115F0220	115F0261 115F0262	Q V	MT080	32 °C	4821	6395	8235	10349	12750	15422	18356	21550	24987
									35 °C	4483	5996	7760	9782	12074	14629	17438	20500	23804
									38 °C	4147	5597	7281	9209	11393	13829	16512	19445	22618
									43 °C	3593	4933	6478	8243	10241	12487	14963	17680	20647
		OP-HGM100D	115F0052 115F0053	115F0173 115F0174	115F0219 115F0220	115F0261 115F0262	Q V	MT100	32 °C	4936	6809	8971	11432	14178	17204	20493	24028	27791
									35 °C	4490	6292	8362	10710	13338	16233	19376	22764	26381
									38 °C	4052	5779	7757	9994	12503	15260	18261	21506	24981
									43 °C	3339	4939	6762	8813	11115	13647	16421	19434	22684
		OP-HGM125D	115F0055 115F0056	115F0176 115F0177	115F0221 115F0222	115F0263 115F0264	Q V	MT125	32 °C	7382	9753	12500	15646	19203	23189	27576	32372	37562
									35 °C	6811	9099	11739	14757	18166	21986	26193	30798	35789
									38 °C	6241	8443	10974	13860	17122	20777	24806	29216	34012
									43 °C	5298	7349	9692	12359	15367	18741	22472	26581	31059
		OP-HGM144D	115F0058 115F0059	115F0179 115F0180	115F0223 115F0224	115F0265 115F0266	Q V	MT144	32 °C	8770	11423	14496	18009	21975	26377	31205	36442	42063
									35 °C	8128	10682	13630	16996	20794	25009	29630	34657	40064
									38 °C	7489	9940	12762	15971	19596	23623	28044	32862	38061
									43 °C	6430	8702	11302	14253	17585	21293	25388	29864	34737
		OP-HGM160D	115F0061 115F0062	115F0182 115F0183	115F0225 115F0226	115F0267 115F0268	Q V	MT160	32 °C	9549	12360	15594	19274	23394	27950	32931	38317	44088
									35 °C	8851	11558	14660	18188	22129	26494	31269	36443	42002
									38 °C	8162	10761	13729	17089	20864	25043	29609	34576	39932
									43 °C	7032	9443	12183	15282	18762	22619	26856	31495	36547

Códigos elétricos:

N - Compressor 230V / 1F / 60Hz, ventilador(es) 230V / 1F / 60 Hz
Q - Compressor 230V / 3F / 60Hz, ventilador(es) 230V / 1F / 60 Hz
V - Compressor 380V / 3F / 60Hz, ventilador(es) 230V / 1F / 60 Hz

A capacidade de refrigeração informada é para modelos trifásicos. Para modelos monofásicos apresentará diferença de ± 1%
O consumo indicado corresponde a uma temperatura ambiente de 32°C na casa de máquinas.
O detalhamento da configuração das versões D20, D39, D40 e D49 pode ser encontrado na página 03.

Technical data and ordering

Optyma™ - R402B MBP/HBP - LAM 4 (Brazil)

Modelo	Condensador			Ventilador Ø [mm]	Tanque de líquido [l]	Consumo da unidade [W] na temp. evaporação		Dimensões [mm]						Peso [kg]	
	Tipo	Vazão ar [m3/h]	Volume interno [l]			-10 °C	5 °C	Figura	Altura A [mm]	Profundidade P [mm]	Largura L [mm]	Linha sucção [in]	Linha líquido [in]	Bruto	Líquido
OP-HJM019D	D8	2400	0.36	1x355	3	1862	2208	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	463	310	1000	1/2	3/8	D20 = 62 D39 = 64 D40 = 75 D49 = 69	D20 = 53 D39 = 55 D40 = 66 D49 = 60
OP-HJM022D	D8	2400	0.36	1x355	3	2102	2693	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	463	310	1000	1/2 5/8 (N)	3/8	D20 = 62 D39 = 64 D40 = 75 D49 = 69	D20 = 53 D39 = 55 D40 = 66 D49 = 60
OP-HJM028D	G8	4800	0.47	1x457	6	3214	3861	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	538	420	1150	1/2 5/8 (N)	1/2	D20 = 83 D39 = 85 D40 = 102 D49 = 90	D20 = 71 D39 = 73 D40 = 90 D49 = 78
OP-HJM032D	G8	4800	0.47	1x457	8	3484	4292	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	538	420	1150	5/8	1/2	D20 = 85 D39 = 87 D40 = 104 D49 = 93	D20 = 73 D39 = 75 D40 = 92 D49 = 81
OP-HJM036D	G8	4800	0.47	1x457	8	3828	4972	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	538	420	1150	5/8	1/2	D20 = 85 D39 = 87 D40 = 104 D49 = 93	D20 = 73 D39 = 75 D40 = 92 D49 = 81
OP-HJM040D	J8	6300	1.25	1x457	8	4132	5294	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	688	420	1150	5/8	1/2	D20 = 93 D39 = 95 D40 = 114 D49 = 101	D20 = 80 D39 = 82 D40 = 101 D49 = 88
OP-HJM044D	J8	6300	1.25	1x457	8	4299	5232	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	688	420	1150	7/8	1/2	D20 = 104 D39 = 107 D40 = 126 D49 = 115	D20 = 91 D39 = 94 D40 = 113 D49 = 102
OP-HJM050D	J8	6300	1.25	1x457	8	4779	5861	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	688	420	1150	7/8	1/2	D20 = 104 D39 = 107 D40 = 126 D49 = 115	D20 = 91 D39 = 94 D40 = 113 D49 = 102
OP-HJM056D	J8	6300	1.25	1x457	8	5345	6712	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	688	420	1150	7/8	1/2	D20 = 104 D39 = 107 D40 = 126 D49 = 115	D20 = 91 D39 = 94 D40 = 113 D49 = 102
OP-HJM064D	J8	6300	1.25	1x457	8	5991	7652	D20 = 1A D39 = 1A D40 = 1B D49 = 1C	688	420	1150	7/8	1/2	D20 = 104 D39 = 107 D40 = 126 D49 = 115	D20 = 91 D39 = 94 D40 = 113 D49 = 102
OP-HGM072D	N8	8800	1.55	2x457	14	7582	9280	D20 = 2A D39 = 2A D40 = 2B D49 = 2C	715	800	1200	1 1/8	5/8	D20 = 140 D39 = 143 D40 = 173 D49 = 152	D20 = 125 D39 = 128 D40 = 158 D49 =137
OP-HGM080D	N8	8800	1.55	2x457	14	8731	10994	D20 = 2A D39 = 2A D40 = 2B D49 = 2C	715	800	1200	1 1/8	5/8	D20 = 143 D39 = 146 D40 = 176 D49 = 155	D20 = 128 D39 = 131 D40 = 161 D49 = 140
OP-HGM100D	N8	8800	1.55	2x457	14	9703	12018	D20 = 2A D39 = 2A D40 = 2B D49 = 2C	715	800	1200	1 1/8	5/8	D20 = 159 D39 = 162 D40 = 182 D49 = 171	D20 = 154 D39 = 147 D40 = 177 D49 = 156
OP-HGM125D	Q8	13980	2.54	2x600	14	12051	14959	D20 = 2A D39 = 2A D40 = 2B D49 = 2C	971	800	1500	1 1/8	5/8	D20 = 243 D39 = 247 D40 = 287 D49 = 257	D20 = 225 D39 = 229 D40 = 269 D49 = 239
OP-HGM144D	Q8	13980	2.54	2x600	14	13644	17404	D20 = 2A D39 = 2A D40 = 2B D49 = 2C	971	800	1500	1 1/8	5/8	D20 = 248 D39 = 252 D40 = 293 D49 = 262	D20 = 230 D39 = 234 D40 = 274 D49 = 244
OP-HGM160D	Q8	13980	2.54	2x600	14	15298	20065	D20 = 2A D39 = 2A D40 = 2B D49 = 2C	971	800	1500	1 1/8	5/8	D20 = 248 D39 = 252 D40 = 293 D49 = 262	D20 = 230 D39 = 234 D40 = 274 D49 = 244

Technical data and ordering

Optyma™ - LBP

Electrical characteristics - 230 V / 1phase / 50 Hz

Unit	Wiring diagram	LRA compressor (A) 230 V / 1 phase	MCC compressor (A) 230 V / 1 phase	MCC Fan (A) 230 V / 1 phase
OP-LCHC004	–	5.7	–	0.19
OP-LCHC006	–	8.2	–	0.19
OP-LCHC008 (FR)	–	10	–	0.25
OP-LCHC007	–	10.4	–	0.25
OP-LCHC008 (NL)	–	13.7	–	0.25
OP-LCHC010	–	14.8	–	0.39
OP-LCHC012 (SC12CLX)	–	14.8	–	0.39
OP-LCHC012 (SC12CLX.2)	–	19.6	–	0.39
OP-LCHC015	–	18.6	–	0.39
OP-LCHC018	–	20	–	0.39
OP-LCHC021	–	23.4	–	0.39
OP-LCHC026	–	25.7	–	0.75
OP-LCHC034	–	40	–	0.75
OP-LCHC048	6002113P02	37	11	0.32
OP-LCHC068	6002113P02	53	17	0.58

Optyma™ - LBP

Electrical characteristics - 400 V / 3phase / 50 Hz

Unit	Wiring diagram	LRA compressor (A) 400 V / 3phase	MCC compressor (A) 400 V / 3phase	MCC Fan (A) 230 V / 1 phase
OP-LCHC048	6002113P06	16	4.8	0.32
OP-LCHC068	6002113P06	25	8.4	0.73
OP-LCHC096	6002113P06	32	10.1	0.73
OP-LCHC108	6002113P06	45	12.1	0.73
OP-LCHC136	6002113P06	51	14.3	0.73
OP-LCHC215	6002113P06	74	22.3	3.0
OP-LCHC271	6002113P06	96	27	3.0
OP-LGHC048	6002113P16	16	4.8	2x0.32
OP-LGHC068	6002113P06	25	8.4	2x0.32
OP-LGHC096	6002113P06	32	10.1	2x0.32
OP-LGHC108	6002113P06	45	12.1	2x0.73
OP-LGHC136	6002113P06	51	14.3	2x0.73
OP-LGHC215	6002113P06	74	22.3	2x2.1
OP-LGHC271	6002113P06	96	27	2x2.1

Optyma™ - LBP - ASEAN

Electrical characteristics - 230 V / 1phase / 60 Hz

Unit	Wiring diagram	LRA compressor (A) 230 V / 1 phase	MCC compressor (A) 230 V / 1 phase	FLA Fan (A) 230 V / 1 phase
OP-LJZ048D		43.7	13.2	1.2
OP-LJZ068D		72	21	1.2
OP-LJZ108D		97	33	3.6
OP-LJZ136D		140	41	3.6

Optyma™ - LBP - ASEAN

Electrical characteristics - 230 V / 3phase / 60 Hz

Unit	Wiring diagram	LRA compressor (A) 230 V / 3 phase	MCC compressor (A) 230 V / 3 phase	FLA Fan (A) 230 V / 1 phase
OP-LJZ048D		32	10.1	1.2
OP-LJZ068D		48.5	14.8	1.2
OP-LJZ108D		72	21.4	3.6
OP-LJZ136D		97.2	29	3.6
OP-LGZ215D		147.7	42.3	7.2
OP-LGZ271D		198	56.5	7.2

Optyma™ - LBP - ASEAN

Electrical characteristics - 460 V / 3phase / 60 Hz

Unit	Wiring diagram	LRA compressor (A) 460 V / 3 phase	MCC compressor (A) 460 V / 3 phase	FLA Fan (A) 230 V / 1 phase
OP-LJZ068D		25	8.4	0.6
OP-LJZ108D		45	12.1	1.8
OP-LJZ136D		51	14.3	1.8
OP-LGZ215D		74	22.3	3.6
OP-LGZ271D		96	27	3.6

Technical data and ordering

Optyma™ - LBP - LAM 2 (Mexico)

Electrical characteristics - 230 V / 1phase / 60 Hz

Unit	Wiring diagram	LRA compressor (A) 230 V / 1 phase	MCC compressor (A) 230 V / 1 phase	FLA Fan (A) 230 V / 1 phase
OP-LJZ048D	–	43.7	13.2	1.2
OP-LJZ068D	–	72	21	1.2
OP-LJZ108D	–	97	33	3.6
OP-LJZ136D	–	140	41	3.6

Optyma™ - LBP - LAM 2 (Mexico)

Electrical characteristics - 230 V / 3phase / 60 Hz

Unit	Wiring diagram	LRA compressor (A) 230 V / 3 phase	MCC compressor (A) 230 V / 3 phase	FLA Fan (A) 230 V / 1 phase
OP-LJZ048D	–	32	10.1	1.2
OP-LJZ068D	–	48.5	14.8	1.2
OP-LJZ108D	–	72	21.4	3.6
OP-LJZ136D	–	97.2	29	3.6
OP-LGZ215D	–	147.7	42.3	7.2
OP-LGZ271D	–	198	56.5	7.2

Optyma™ - LBP - LAM 2 (Mexico)

Electrical characteristics - 460 V / 3phase / 60 Hz

Unit	Wiring diagram	LRA compressor (A) 460 V / 3 phase	MCC compressor (A) 460 V / 3 phase	FLA Fan (A) 230 V / 1 phase
OP-LJZ068D	–	25	8.4	0.6
OP-LJZ108D	–	45	12.1	1.8
OP-LJZ136D	–	51	14.3	1.8
OP-LGZ215D	–	74	22.3	3.6
OP-LGZ271D	–	96	27	3.6

Optyma™ - LBP - LAM 4 (Brazil)

Electrical characteristics - 230 V / 1phase / 60 Hz

Unit	LRA compressor (A) 230 V / 1 phase	MCC compressor (A) 230 V / 1 phase	FLA Fan (A) 230 V / 1 phase
OP-LJZ048D	43.7	13.2	1.1
OP-LJZ068D	72	21	1.1
OP-LJZ096D	97	31	2.6
OP-LJZ108D	97	33	2.6
OP-LJZ136D	140	41	2.6

Optyma™ - LBP - LAM 4 (Brazil)

Electrical characteristics - 230 V / 3phase / 60 Hz

Unit	LRA compressor (A) 230 V / 3 phase	MCC compressor (A) 230 V / 3 phase	FLA Fan (A) 230 V / 1 phase
OP-LJZ048D	32	10.1	1.1
OP-LJZ068D	48.5	14.8	1.1
OP-LJZ096D	72	20.4	2.6
OP-LJZ108D	72	21.4	2.6
OP-LJZ136D	97.2	29	2.6
OP-LGZ215D	147.7	42.3	5.2
OP-LGZ271D	198	56.5	5.2

Optyma™ - LBP - LAM 4 (Brazil)

Electrical characteristics - 380 V / 3phase / 60 Hz

Unit	LRA compressor (A) 380 V / 3 phase	MCC compressor (A) 380 V / 3 phase	FLA Fan (A) 230 V / 1 phase
OP-LJZ048D	22	5	1.1
OP-LJZ068D	29	8.5	1.1
OP-LJZ096D	57	11	2.6
OP-LJZ108D	57	11	2.6
OP-LJZ136D	64	15	2.6
OP-LGZ215D	110	23	5.2
OP-LGZ271D	150	30	5.2

Technical data and ordering

Optyma™ - LBP

Spare parts

Unit	Condenser	Receiver	Rotalock valve		Fan motor	Weatherproof housing	Filter drier Type	Sight glass type	Pressure control type	Solenoid valve type (excl coil)
			Suction	Discharge	230 V					
OP-LCHC004	118U0029	118U0517	–`	–	118U0032	118U4620	DML / DCL 032	SGN 6	KP 1 / KP 7 / KP 17	EVR 2
OP-LCHC006	118U0029	118U0517	–	–	118U0032	118U4620	DML / DCL 032	SGN 6	KP 1 / KP 7 / KP 17	EVR 2
OP-LCHC008	118U0030	118U0523	–	–	118U0033	118U4620	DML / DCL 032	SGN 6	KP 1 / KP 7 / KP 17	EVR 2
OP-LCHC007	118U0030	118U0523	–	–	118U0033	118U4620	DML / DCL 032	SGN 6	KP 1 / KP 7 / KP 17	EVR 2
OP-LCHC008	118U0030	118U0523	–	–	118U0033	118U4620	DML / DCL 032	SGN 6	KP 1 / KP 7 / KP 17	EVR 2
OP-LCHC010	118U0030	118U0523	–	–	118U0033	118U4620	DML / DCL 032	SGN 6	KP 1 / KP 7 / KP 17	EVR 2
OP-LCHC012	118U0031	118U0523	–	–	118U0034	118U4620	DML / DCL 032	SGN 6	KP 1 / KP 7 / KP 17	EVR 3
OP-LCHC012	118U0031	118U0523	–	–	118U0034	118U4620	DML / DCL 032	SGN 6	KP 1 / KP 7 / KP 17	EVR 3
OP-LCHC015	118U0031	118U0523	–	–	118U0034	118U4620	DML / DCL 032	SGN 6	KP 1 / KP 7 / KP 17	EVR 3
OP-LCHC018	118U0031	118U0523	–	–	118U0034	118U4620	DML / DCL 032	SGN 6	KP 1 / KP 7 / KP 17	EVR 3
OP-LCHC021	118U0031	118U0523	–	–	118U0034	118U4620	DML / DCL 032	SGN 6	KP 1 / KP 7 / KP 17	EVR 3
OP-LCHC026	118U0054	118U0078	–	–	118U0058	118U4621	DML / DCL 032	SGN 10	KP 1 / KP 7 / KP 17	EVR 3
OP-LCHC034	118U0069	118U0078	–	–	118U0058	118U4621	DML / DCL 032	SGN 10	KP 1 / KP 7 / KP 17	EVR 3
OP-LCHC048	118U8000	8168179	7968014	7968012	8176043	–	DML / DCL 053	SGN 10	KP 1 / KP 7 / KP 17	EVR 3
OP-LCHC068	118U8002	8168180	7968014	7968013	8176045	–	DML / DCL 084	SGN 12	KP 1 / KP 7 / KP 17	EVR 3
OP-LCHC096	118U8003	8168180	7968017	7968014	8176045	–	DML / DCL 084	SGN 12	KP 1 / KP 7 / KP 17	EVR 3
OP-LCHC108	118U8004	8168180	7968017	7968014	8176047	–	DML / DCL 084	SGN 12	KP 1 / KP 7 / KP 17	EVR 3
OP-LCHC136	118U8006	8168181	7968017	7968014	8176047	–	DML / DCL 084	SGN 12	KP 1 / KP 7 / KP 17	EVR 6
OP-LCHC215	118U8008	8168183	7968018	7968015	118U8023	–	DML / DCL 165	SGN 16	KP 1 / KP 7 / KP 17	EVR 6
OP-LCHC271	118U8010	8168183	7968018	7968015	118U8023	–	DML / DCL 165	SGN 16	KP 1 / KP 7 / KP 17	EVR 6
OP-LGHC048	8174036	8168179	7968014	7968012	8176018	–	DML / DCL 053	SGN 10	KP 1 / KP 7 / KP 17	EVR 3
OP-LGHC068	8174037	8168180	7968014	7968013	8176043	–	DML / DCL 084	SGN 12	KP 1 / KP 7 / KP 17	EVR 3
OP-LGHC096	8174038	8168180	7968017	7968014	8176043	–	DML / DCL 084	SGN 12	KP 1 / KP 7 / KP 17	EVR 3
OP-LGHC108	8174041	8168181	7968017	7968014	8176045	–	DML / DCL 084	SGN 12	KP 1 / KP 7 / KP 17	EVR 3
OP-LGHC136	8174041	8168181	7968017	7968014	8176045	–	DML / DCL 084	SGN 12	KP 1 / KP 7 / KP 17	EVR 6
OP-LGHC215	8174044	8168183	7968018	7968015	8176070	–	DML / DCL 165	SGN 16	KP 1 / KP 7 / KP 17	EVR 6
OP-LGHC271	8174044	8168183	7968018	7968015	8176070	–	DML / DCL 165	SGN 16	KP 1 / KP 7 / KP 17	EVR 6

Note:
LRA: Locked Rotor Amps
MCC: Maximum Continuous Current

Optyma™ - LBP - LAM 1 (Columbia)

Repuestos - Reciprocante hermético

Modelo	Recibidor de líquido [l]		Gabinete		Separador de aceite		Capacitor de marcha del compresor		Capacitor de arranque del compresor		Kit del ventilador*	
OP-LJZ048D	3	118U6009	D8	191U127367	4"x10.75"x1/2" IDS	191U008100	30 MFD 440 VAC	119-7170	100 MFD 330 VAC	191U012900	D355 230V-1F	191U137150
OP-LJZ068D	3	118U6009	D8	191U127367	4"x10.75"x1/2" IDS	191U008100	30 MFD 440 VAC	119-7170	100 MFD 330 VAC	191U012900	D355 230V-1F	191U137150
OP-LJZ096D	8	118U601108	H8	191U127667	4"x13.19"x5/8" IDS	191U008200	–	–	–	–	D457 230V-1F	191U137350
OP-LJZ108D	8	118U601108	H8	191U127667	4"x13.19"x5/8" IDS	191U008200	–	–	–	–	D457 230V-1F	191U137350
OP-LJZ136D	8	118U601108	H8	191U127667	4"x13.19"x5/8" IDS	191U008200	–	–	–	–	D457 230V-1F	191U137350
OP-LGZ215D	14	118U6013	N8	191U127767	4"x13.19"x5/8" IDS	191U008200	–	–	–	–	D457 230V-1F	191U137350
OP-LGZ271D	14	118U6013	N8	191U127767	4"x13.19"x5/8" IDS	191U008200	–	–	–	–	D457 230V-1F	191U137350

Todas las unidades están equipadas con:
- *Resistencia de cárter PTC 35QW (código 7303507) - solo para unidades reciprocantes herméticas;*
- *Presostato encapsulado de alta modelo ACB-2UB 216W (código 061F6067);*
- *Presostato de baja modelo KP1 (código 060-110566);*
- *Relay de arraque modelo 3ARR3J4A4 (código 8173024) para todas las versiones monofásicas.*

Nota:
**El kit del ventilador se provee ensamblado con todas sus partes (motor, guarda, aspa y capacitor).*

Technical data and ordering

Optyma™ - LBP - LAM 1 (Columbia)

Repuestos - Reciprocante hermético

Modelo	Filtro secador		Indicador de líquido y humedad		Válvula de succión		Válvula de descarga		Válvula de líquido		Acumulador de succión	
OP-LJZ048D	DML083	023Z8040	SGI 10	014-0022	V09	6804502V09	V06	6804501V06	V01	6804500V01	3"ODx12.6"x5/8"	191U005110
OP-LJZ068D	DML083	023Z8040	SGI 10	014-0022	V09	6804502V09	V06	6804501V06	V01	6804500V01	3"ODx12.6"x5/8"	191U005110
OP-LJZ096D	DML164	023Z8044	SGI 12	014-0025	V07	6804505V07	V09	6804502V09	V06	6804501V06	5"ODx10"x7/8"	191U005310
OP-LJZ108D	DML164	023Z8044	SGI 12	014-0025	V07	6804505V07	V09	6804502V09	V06	6804501V06	5"ODx10"x7/8"	191U005310
OP-LJZ136D	DML164	023Z8044	SGI 12	014-0025	V07	6804505V07	V09	6804502V09	V06	6804501V06	5"ODx10"x7/8"	191U005310
OP-LGZ215D	DML165	023Z8045	SGI 16	014-0026	V02	6804506V02	V04	6804503V04	V10	6804507V10	5"ODx15"x1 1/8"	191U005410
OP-LGZ271D	DML165	023Z8045	SGI 16	014-0026	V02	6804506V02	V04	6804503V04	V10	6804507V10	5"ODx15"x1 1/8"	191U005410

Todas las unidades están equipadas con:

- *Resistencia de cárter PTC 35QW (código 7303507) - solo para unidades reciprocantes herméticas;*
- *Presostato encapsulado de alta modelo ACB-2UB 216W (código 061F6067);*
- *Presostato de baja modelo KP1 (código 060-110566);*
- *Relay de arraque modelo 3ARR3J4A4 (código 8173024) para todas las versiones monofásicas.*

Nota:

**El kit del ventilador se provee ensamblado con todas sus partes (motor, guarda, aspa y capacitor).*

Optyma™ - LBP - LAM 2 (Mexico)

Spare parts - Reciprocating

Modelo	Filtro secador		Indicador de líquido y humedad		Válvula de succión		Válvula de descarga		Válvula de líquido		Acumulador de succión	
											[in]	
OP-LJZ048D	DML083	023Z8040	SGI 10	014-0022	V09	6804502V09	V06	6804501V06	V01	6804500V01	3 OD x 12.6 x 5/8	191U005110
OP-LJZ068D	DML083	023Z8040	SGI 10	014-0022	V09	6804502V09	V06	6804501V06	V01	6804500V01	3 OD x 12.6 x 5/8	191U005110
OP-LJZ0108D	DML164	023Z8044	SGI 12	014-0025	V07	6804505V07	V09	6804502V09	V06	6804501V06	5 OD x 10 x 7/8	191U005310
OP-LJZ136D	DML164	023Z8044	SGI 12	014-0025	V07	6804505V07	V09	6804502V09	V06	6804501V06	5 OD x 10 x 7/8	191U005310
OP-LGZ215D	DML165	023Z8045	SGI 16	014-0026	V02	6804506V02	V04	6804503V04	V10	6804507V10	5 OD x 15 x 1 1/8	191U005410
OP-LGZ271D	DML165	023Z8045	SGI 16	014-0026	V02	6804506V02	V04	6804503V04	V10	6804507V10	5 OD x 15 x 1 1/8	191U005410

Todas las unidades están equipadas con:

Resistencia de cárter PTC 35QW (código 7303507) - solo para unidades reciprocantes herméticas;
Presostato encapsulado de alta modelo ACB-2UB 216W (código 061F6067);
Presostato de baja modelo KP1 (código 060-110566);
Relay de arraque modelo 3ARR3J4A4 (código 8173024) para todas las versiones monofásicas.

Nota:

**El kit del ventilador se provee ensamblado con todas sus partes (motor, guarda, aspa y capacitor).*

Optyma™ - LBP - LAM 2 (Mexico)

Spare parts - Reciprocating

Modelo	Recibidor de líquido (l)		Gabinete		Separador de aceite		Capacitor de marcha del compresor		Capacitor de arranque del compresor		Kit del ventilador*	
					[in]							
OP-LJZ048D	3	118U6009	D8	191U127367	4 x 10.75 x 1/2 IDS	191U008100	25 MFD 440 VAC	7304533	189-227 MFD 330 VAC	191U012700	D355 230V-1F D355 460V-1F	191U137150 191U137650
OP-LJZ068D	3	118U6009	D8	191U127367	4 x 10.75 x 1/2 IDS	191U008100	25 MFD 440 VAC	7304533	189-227 MFD 330 VAC	191U012700	D355 230V-1F D355 460V-1F	191U137150 191U137650
OP-LJZ108D	8	118U601108	J8	191U127667	4 x 13.19 x 5/8 IDS	191U008200	45 MFD 440 VAC	191U012501	189-227 MFD 330 VAC	191U012700	D457 230V-1F D457 460V-1F	191U137350 191U137850
OP-LJZ136D	8	118U601108	J8	191U127667	4 x 13.19 x 5/8 IDS	191U008200	45 MFD 440 VAC	191U012501	189-227 MFD 330 VAC	191U012700	D457 230V-1F D457 460V-1F	191U137350 191U137850
OP-LGZ215D	14	118U6013	N8	191U127767	4 x 13.19 x 5/8 IDS	191U008200	–	–	–	–	D457 230V-1F D457 460V-1F	191U137350 191U137850
OP-LGZ271D	14	118U6013	N8	191U127767	4 x 13.19 x 5/8 IDS	191U008200	–	–	–	–	D457 230V-1F D457 460V-1F	191U137350 191U137850

Technical data and ordering

Optyma™ - LBP - LAM3 (Argentina)

Spare parts

Modelo	Filtro secador		Indicador de líquido y humedad		Válvula de succión		Válvula de descarga		Válvula de líquido		Acumulador de succión	
OP-LJZ048D	DML083	023Z8040	SGP10	014L0100	V09	6804502V09	V06	6804501V06	V01	6804500V01	XF-204	191U006010
OP-LJZ068D	DML083	023Z8040	SGP10	014L0100	V09	6804502V09	V06	6804501V06	V01	6804500V01	XF-205	191U006110
OP-LJZ096D	DML164	023Z8044	SGP12	014L0075	V07	6804505V07	V09	6804502V09	V06	6804501V06	XF-207	191U006310
OP-LJZ108D	DML164	023Z8044	SGP12	014L0075	V07	6804505V07	V09	6804502V09	V06	6804501V06	XF-207	191U006310
OP-LJZ136D	DML164	023Z8044	SGP12	014L0075	V07	6804505V07	V09	6804502V09	V06	6804501V06	XF-207	191U006310
OP-LGZ215D	DML165	023Z8045	SGP16	014L0265	V02	6804506V02	V04	6804503V04	V10	6804507V10	XF-208	191U006410
OP-LGZ271D	DML165	023Z8045	SGP16	014L0265	V02	6804506V02	V04	6804503V04	V10	6804507V10	XF-208	191U006410

Todas las unidades están equipadas con:
Resistencia de cárter PTC 35W (código 7773001);
Presostato encapsulado de alta modelo ACB 2UB - 216 W - 26,5 / 20,5 bar (código 061F6067);
Presostato de baja modelo KP1 (código 060-110166).
Relay de arraque modelo 3ARR3J4A4 (código 8173024) para todas las versiones monofásicas

Aceite lubricante:
Para unidades OP-HJM / OP-HGM: código 7754001 (embalaje de 1 litro);
Para unidades OP-HJZ / OP-HGZ: código 7754019 (embalaje de 1 litro);
Para unidades OP-LJZ / OP-LGZ: código 7754025 (embalaje de 1 litro);

Notas:
**El carenado es un elemento opcional para las versiones D20, D39 y D49.*
***El kit del ventilador se provee ensamblado con todas sus partes (motor, guarda, aspa y capacitor).*

Optyma™ - LBP - LAM 4 (Brazil)

Spare parts

Modelo	Filtro secador		Visor de líquido		Válvula de sucção		Válvula de descarga		Válvula de líquido		Acumulador de sucção	
OP-LJZ048D	DML083	023Z5040	SGP10	014L0022	V09	6804502V09	V06	6804501V06	V01	6804500V01	XF-204	191U006010
OP-LJZ068D	DML083	023Z5040	SGP10	014L0022	V09	6804502V09	V06	6804501V06	V01	6804500V01	XF-205	191U006110
OP-LJZ096D	DML164	023Z5044	SGP12	014L0025	V07	6804505V07	V09	6804502V09	V06	6804501V06	XF-207	191U006310
OP-LJZ108D	DML164	023Z5044	SGP12	014L0025	V07	6804505V07	V09	6804502V09	V06	6804501V06	XF-207	191U006310
OP-LJZ136D	DML164	023Z5044	SGP12	014L0025	V07	6804505V07	V09	6804502V09	V06	6804501V06	XF-207	191U006310
OP-LGZ215D	DML165	023Z5045	SGP16	014L0026	V02	6804506V02	V04	6804503V04	V10	6804507V10	XF-208	191U006410
OP-LGZ271D	DML165	023Z5045	SGP16	014L0026	V02	6804506V02	V04	6804503V04	V10	6804507V10	XF-208	191U006410

Optyma™ - LBP - LAM 4 (Brazil)

Spare parts

Modelo	Tanque de líquido (l)		Carenagem*		Separador de óleo		Capacitor de marcha do compressor		Capacitor de partida do compressor		Kit del ventilador*	
OP-LJZ048D	3	118U6009	D8	191U127367	XFW-5201	191U007610	45 MFD 440VAC	191U0125	88-108 MFD 330V	191U0126	D355	191U135320
OP-LJZ068D	8	118U601108	D8	191U127367	XFW-5201	191U007610	50 MFD 440VAC	191U0136	135 MFD 330V	191U0129	D355	191U135320
OP-LJZ096D	8	118U601108	G8	191U127467	XFW-5202	191U007710	45 MFD 440VAC	191U0125	135 MFD 330V	191U0129	D457	191U135720
OP-LJZ108D	8	118U601108	G8	191U127467	XFW-5202	191U007710	45 MFD 440VAC	191U0125	135 MFD 330V	191U0129	D457	191U135720
OP-LJZ136D	8	118U601108	J8	191U127667	XFW-5202	191U007710	45 MFD 440VAC	191U0125	135 MFD 330V	191U0129	D457	191U135720
OP-LGZ215D	14	118U6013	N8	191U127767	XFW-5202	191U007710	–	–	–	–	D457	191U135720
OP-LGZ271D	14	118U6013	N8	191U127767	XFW-5202	191U007710	–	–	–	–	D457	191U135720

Todas as unidades são equipadas com:
Resistência de cárter PTC 35W (código 7773001);
Pressostato de alta modelo ACB 2UB - 215 W - 26,5 / 18,0 bar (código 061F6050);
Pressostato de baixa modelo KP1 (código 060-110166).
Relé de partida modelo 3ARR3J4A4 (código 8173024) para todas as versões monofásicas.

Óleo lubrificante:
Para unidades OP-HJM / OP-HGM: código 7754001 (embalagem de 1 litro);
Para unidades OP-HJZ / OP-HGZ: código 7754019 (embalagem de 1 litro);
Para unidades OP-LJZ / OP-LGZ: código 7754025 (embalagem de 1 litro);

Notas:
**A carenagem é um item opcional para as versões D20, D39 e D49.*
***O kit do ventilador é composto por motor, grade, hélice, capacitor, porcas e parafusos.*

Technical data and ordering

Optyma™ - MBP

Electrical characteristics - 230 V / 1phase / 50 Hz

Unit	Wiring diagram	LRA compressor (A) 230 V / 1 phase	MCC compressor (A) 230 V / 1 phase	MCC Fan (A) 230 V / 1 phase
OP-MCHC004	–	7.5	–	0.19
OP-MCHC006	–	10.0	–	0.25
OP-MCHC007	–	20.0	–	0.39
OP-MCHC010	–	18.4	–	0.39
OP-MCHC012	–	23.4	–	0.39
OP-MCHC015	–	23.5	–	0.48
OP-MCHC018	–	23.4	–	0.48
OP-MCHC021	–	24.4	–	0.75
OP-MCHC026	–	34.6	–	0.75
OP-MCHC034	–	45.7	–	0.62
OP-MCZC030	6002113P02	40	10	0.32
OP-MCZC038	6002113P02	41	15	0.58
OP-MCZC048	6002113P02	51	20	0.58
OP-MCZC054	6002113P02	70	20	0.58
OP-MCZC060	6002113P02	60	22	0.58

Optyma™ - MBP

Electrical characteristics - 400 V / 3phase / 50 Hz

Unit	Wiring diagram	LRA compressor (A) 400 V / 3phase	MCC compressor (A) 400 V / 3phase	MCC Fan (A) 230 V / 1 phase
OP-MCZC030	6002113P06	20	5	0.85
OP-MCZC038	6002113P06	16	6	1.2
OP-MCZC048	6002113P06	23	7.5	1.2
OP-MCZC054	6002113P06	25	8	1.2
OP-MCZC060	6002113P06	30	9	1.2
OP-MCZC068	6002113P06	38	10	1.3
OP-MCZC086	6002113P06	48.5	11.5	1.3
OP-MCZC096	6002113P06	64	12	1.3
OP-MCZC108	6002113P06	64	14	3.4
OP-MCZC121	6002113P06	80	17	3.4
OP-MCZC136	6002113P06	80	19	3.4
OP-MCZC171	6002113P06	90	22	3.4
OP-MGZC215	6002113P06	105	27	2 x 3.0
OP-MGZC242	6002113P06	130	36	2 x 3.0
OP- MGZC271	6002113P06	130	36	2 x 3.0
OP-MGZD030	6002113P16	20	5	2x0.32
OP-MGZD038	6002113P06	16	6	2x0.32
OP-MGZD048	6002113P06	23	7.5	2x0.32
OP-MGZD054	6002113P06	25	8	2x0.32
OP-MGZD060	6002113P06	30	9	2x0.73
OP-MGZD068	6002113P06	38	10	2x0.73
OP-MGZD086	6002113P06	48.5	11.5	2x0.73
OP-MGZD108	6002113P06	64	14	2x0.73
OP-MGZD121	6002113P06	80	17	2x0.73
OP-MGZD136	6002113P06	80	19	2x2.1
OP-MGZD171	6002113P06	90	22	2x2.1
OP-MGZD215	6002113P06	105	27	2x3.0
OP-MGZD242	6002113P06	130	36	2x3.0
OP-MGZD271	6002113P06	130	36	2x2.12

Technical data and ordering

Optyma™ - MBP - ASEAN

Electrical characteristics - 230 V / 1phase / 60 Hz

Unit	LRA compressor (A) 230 V / 1 phase	MCC compressor (A) 230 V / 1 phase	FLA Fan (A) 230 V / 1 phase
OP-HJM(Z)018D	51	13	1.2
OP-HJM(Z)022D	49.3	17	1.2
OP-HJM(Z)028D	81	25	3.6
OP-HJM(Z)036D	84	30	3.6
OP-HJM(Z)040D	99	34	3.6
OP-HJM(Z)050D	114	36	3.6
OP-HGM(Z)064D	143	46	7.2
OP-HNU015D	69	19	3.6
OP-HNU021D	97	24.5	3.6
OP-HNU030D	150	38	3.6
OP-HRU038D	160	45	7.2

Optyma™ - MBP - ASEAN

Electrical characteristics - 230 V / 3phase / 60 Hz

Unit	LRA compressor (A) 230 V / 3 phase	MCC compressor (A) 230 V / 3 phase	FLA Fan (A) 230 V / 1 phase
OP-HJM(Z)018D	38	9	1.2
OP-HJM(Z)022D	38	11	1.2
OP-HJM(Z)028D	57	16	3.6
OP-HJM(Z)036D	74	17	3.6
OP-HJM(Z)040D	98	22	3.6
OP-HJM(Z)050D	115	25	3.6
OP-HGM(Z)064D	137	29	7.2
OP-HGM(Z)080D	140	36	7.2
OP-HGM(Z)100D	157	43	7.2
OP-HGM(Z)125D	210	54	8.8
OP-HGM(Z)160D	259	70	8.8
OP-HNU015D	60	14.5	3.6
OP-HNU021D	95	17.5	3.6
OP-HNU030D	120	26	3.6
OP-HRU038D	123	26	7.2
OP-HRU048D	190	37	7.2
OP-HRU058D	190	40	8.8
OP-HRU076D	235	50	8.8

Optyma™ - MBP - ASEAN

Electrical characteristics - 460 V / 3phase / 60 Hz

Unit	LRA compressor (A) 460 V / 3 phase	MCC compressor (A) 460 V / 3 phase	FLA Fan (A) 230 V / 1 phase
OP-HJM(Z)018D	20	5	0.6
OP-HJM(Z)022D	16	6	0.6
OP-HJM(Z)028D	23	7.5	1.8
OP-HJM(Z)036D	30	9	1.8
OP-HJM(Z)040D	38	10	1.8
OP-HJM(Z)050D	48.5	11.5	1.8
OP-HGM(Z)064D	64	14	3.6
OP-HGM(Z)080D	80	19	3.6
OP-HGM(Z)100D	90	22	3.6
OP-HGM(Z)125D	105	27	4.4
OP-HGM(Z)160D	130	36	4.4
OP-HNU015D	30	7	1.8
OP-HNU021D	45	9.5	1.8
OP-HNU030D	60	13	1.8
OP-HRU038D	70	15	3.6
OP-HRU048D	87	16	3.6
OP-HRU058D	95	20	4.4
OP-HRU076D	140	25	4.4

Technical data and ordering

Optyma™ - MBP - LAM 2 (Mexico)

Electrical characteristics - 230 V / 1phase / 60 Hz

Unit	LRA compressor (A) 230 V / 1 phase	MCC compressor (A) 230 V / 1 phase	FLA Fan (A) 230 V / 1 phase
OP-HJM(Z)018D	51	13	1.2
OP-HJM(Z)022D	49.3	17	1.2
OP-HJM(Z)028D	81	25	3.6
OP-HJM(Z)036D	84	30	3.6
OP-HJM(Z)040D	99	34	3.6
OP-HJM(Z)050D	114	36	3.6
OP-HGM(Z)064D	143	46	7.2
OP-HNU015D	69	19	3.6
OP-HNU021D	97	24.5	3.6
OP-HNU030D	150	38	3.6
OP-HRU038D	160	45	7.2

Optyma™ - MBP - LAM 2 (Mexico)

Electrical characteristics - 230 V / 3phase / 60 Hz

Unit	LRA compressor (A) 230 V / 3 phase	MCC compressor (A) 230 V / 3 phase	FLA Fan (A) 230 V / 1 phase
OP-HJM(Z)018D	38	9	1.2
OP-HJM(Z)022D	38	11	1.2
OP-HJM(Z)028D	57	16	3.6
OP-HJM(Z)036D	74	17	3.6
OP-HJM(Z)040D	98	22	3.6
OP-HJM(Z)050D	115	25	3.6
OP-HGM(Z)064D	137	29	7.2
OP-HGM(Z)080D	140	36	7.2
OP-HGM(Z)100D	157	43	7.2
OP-HGM(Z)125D	210	54	8.8
OP-HGM(Z)160D	259	70	8.8
OP-HNU015D	60	14.5	3.6
OP-HNU021D	95	17.5	3.6
OP-HNU030D	120	26	3.6
OP-HRU038D	123	26	7.2
OP-HRU048D	190	37	7.2
OP-HRU058D	190	40	8.8
OP-HRU076D	235	50	8.8

Optyma™ - MBP - LAM 2 (Mexico)

Electrical characteristics - 460 V / 3phase / 60 Hz

Unit	LRA compressor (A) 460 V / 3 phase	MCC compressor (A) 460 V / 3 phase	FLA Fan (A) 230 V / 1 phase
OP-HJM(Z)018D	20	5	0.6
OP-HJM(Z)022D	16	6	0.6
OP-HJM(Z)028D	23	7.5	1.8
OP-HJM(Z)036D	30	9	1.8
OP-HJM(Z)040D	38	10	1.8
OP-HJM(Z)050D	48.5	11.5	1.8
OP-HGM(Z)064D	64	14	3.6
OP-HGM(Z)080D	80	19	3.6
OP-HGM(Z)100D	90	22	3.6
OP-HGM(Z)125D	105	27	4.4
OP-HGM(Z)160D	130	36	4.4
OP-HNU015D	30	7	1.8
OP-HNU021D	45	9.5	1.8
OP-HNU030D	60	13	1.8
OP-HRU038D	70	15	3.6
OP-HRU048D	87	16	3.6
OP-HRU058D	95	20	4.4
OP-HRU076D	140	25	4.4

Technical data and ordering

Optyma™ - MBP - LAM 3 (Argentina)

Electrical characteristics - 230 V / 1phase / 50 Hz

Unit	LRA compressor [A] 230 V / 1 phase	MCC compressor [A] 230 V / 1 phase	FLA Fan [A] 230 V / 1 phase
OP-HJM(Z)019D	40	10	1.1
OP-HJM(Z)022D	41	15	1.1
OP-HJM(Z)028D	51	20	2.6
OP-HJM(Z)032D	70	20	2.6
OP-HJM(Z)036D	60	22	2.6

Optyma™ - MBP - LAM 3 (Argentina)

Electrical characteristics - 400 V / 3phase / 50 Hz

Unit	LRA compressor (A) 460 V / 3 phase	MCC compressor (A) 460 V / 3 phase	FLA Fan (A) 230 V / 1 phase
OP-HJM(Z)019D	20	5	1.1
OP-HJM(Z)022D	16	6	1.1
OP-HJM(Z)028D	23	7.5	2.6
OP-HJM(Z)032D	25	8	2.6
OP-HJM(Z)036D	30	9	2.6
OP-HJM(Z)040D	38	10	2.6
OP-HJM(Z)044D	48.5	9.5	2.6
OP-HJM(Z)050D	48.5	11.5	2.6
OP-HJM(Z)056D	64	12	2.6
OP-HJM(Z)064D	64	14	2.6
OP-HGM(Z)072D	80	17	5.2
OP-HGM(Z)080D	80	19	5.2
OP-HGM(Z)100D	90	22	5.2
OP-HGM(Z)125D	105	27	7.0
OP-HGM(Z)144D	115	30	7.0
OP-HGM(Z)160D	140	36	7.0

Technical data and ordering

Optyma™ - MBP - LAM 4 (Brazil)

Electrical characteristics - 230 V / 1phase / 60 Hz

Unit	LRA compressor (A) 230 V / 1 phase	MCC compressor (A) 230 V / 1 phase	FLA Fan (A) 230 V / 1 phase
OP-HJM(Z)019D	51	13	1.1
OP-HJM(Z)022D	49.3	17	1.1
OP-HJM(Z)028D	81	25	2.6
OP-HJM(Z)032D	84	26.5	2.6
OP-HJM(Z)036D	84	30	2.6
OP-HJM(Z)040D	99	34	2.6
OP-HJM(Z)044D	97	31	2.6
OP-HJM(Z)050D	114	36	2.6
OP-HJM(Z)056D	136	42.5	2.6
OP-HJM(Z)064D	143	46	2.6

Optyma™ - MBP - LAM 4 (Brazil)

Electrical characteristics - 230 V / 3phase / 60 Hz

Unit	LRA compressor (A) 230 V / 3 phase	MCC compressor (A) 230 V / 3 phase	FLA Fan (A) 230 V / 1 phase
OP-HJM(Z)019D	38	9	1.1
OP-HJM(Z)022D	38	11	1.1
OP-HJM(Z)028D	57	16	2.6
OP-HJM(Z)032D	60	18	2.6
OP-HJM(Z)036D	74	17	2.6
OP-HJM(Z)040D	98	22	2.6
OP-HJM(Z)044D	115	17	2.6
OP-HJM(Z)050D	120	22	2.6
OP-HJM(Z)056D	130	24	2.6
OP-HJM(Z)064D	135	28	2.6
OP-HGM(Z)072D	155	32	5.2
OP-HGM(Z)080D	140	36	5.2
OP-HGM(Z)100D	157	43	5.2
OP-HGM(Z)125D	210	54	7
OP-HGM(Z)144D	259	64	7
OP-HGM(Z)160D	259	70	7

Optyma™ - MBP - LAM 4 (Brazil)

Electrical characteristics - 380 V / 3phase / 60 Hz

Unit	LRA compressor (A) 380 V / 3 phase	MCC compressor (A) 380 V / 3 phase	FLA Fan (A) 230 V / 1 phase
OP-HJM(Z)019D	23	5	1.1
OP-HJM(Z)022D	22.5	6	1.1
OP-HJM(Z)028D	32	8.5	2.6
OP-HJM(Z)032D	35	9	2.6
OP-HJM(Z)036D	35	9.5	2.6
OP-HJM(Z)040D	38	10	2.6
OP-HJM(Z)044D	78	13	2.6
OP-HJM(Z)050D	78	13.5	2.6
OP-HJM(Z)056D	72	15	2.6
OP-HJM(Z)064D	72	17.5	2.6
OP-HGM(Z)072D	100	18.5	5.2
OP-HGM(Z)080D	102	22.5	5.2
OP-HGM(Z)100D	110	26	5.2
OP-HGM(Z)125D	150	30	7
OP-HGM(Z)144D	165	40	7
OP-HGM(Z)160D	165	46	7

Technical data and ordering

Optyma™ - MBP

Spare parts

Unit	Condenser	Receiver	Rotolock valve		Fan motor	Watherproof housing	Filter drier type	Sight glass type	Pressure control type	Solenoid valve type (excl coil)
			Suction	Discharge	230 V					
OP-MCHC004	118U0029	118U0517	–	–	118U0032	118U4620	DML / DCL 052	SGN 6	KP1 / KP7 / KP17	EVR 2
OP-MCHC006	118U0030	118U0517	–	–	118U0033	118U4620	DML / DCL 052	SGN 6	KP1 / KP7 / KP17	EVR 2
OP-MCHC007	118U0031	118U0523	–	–	118U0034	118U4620	DML / DCL 052	SGN 6	KP1 / KP7 / KP17	EVR 2
OP-MCHC010	118U0031	118U0523	–	–	118U0034	118U4620	DML / DCL 052	SGN 6	KP1 / KP7 / KP17	EVR 2
OP-MCHC012	118U0031	118U0523	–	–	118U0034	118U4620	DML / DCL 052	SGN 6	KP1 / KP7 / KP17	EVR 3
OP-MCHC015	118U0031	118U0523	–	–	118U0034	118U4620	DML / DCL 052	SGN 6	KP1 / KP7 / KP17	EVR 3
OP-MCHC018	118U0031	118U0523	–	–	118U0034	118U4620	DML / DCL 052	SGN 6	KP1 / KP7 / KP17	EVR 3
OP-MCHC021	118U0031	118U0523	–	–	118U0034	118U4620	DML / DCL 052	SGN 6	KP1 / KP7 / KP17	EVR 3
OP-MCHC026	118U0069	118U0078	–	–	118U0058	118U4621	DML / DCL 052	SGN10	KP1 / KP7 / KP17	EVR 3
OP-MCHC034	118U0070	118U0078	–	–	118U0059	118U4621	DML / DCL 052	SGN10	KP1 / KP7 / KP17	EVR 3
OP-MCZC030	118U8000	8168179	7968013	7968012	8176043	–	DML / DCL053	SGN10	KP1 / KP7 / KP17	EVR 3
OP-MCZC038	118U8001	8168179	7968013	7968012	8176045	–	DML / DCL053	SGN10	KP1 / KP7 / KP17	EVR 3
OP-MCZC048	118U8002	8168180	7968013	7968013	8176045	–	DML / DCL084	SGN12	KP1 / KP7 / KP17	EVR 3
OP-MCZC054	118U8002	8168180	7968014	7968013	8176045	–	DML / DCL084	SGN12	KP1 / KP7 / KP17	EVR 3
OP-MCZC060	118U8003	8168180	7968014	7968013	8176045	–	DML / DCL084	SGN12	KP1 / KP7 / KP17	EVR 3
OP-MCZC068	118U8004	8168180	7968014	7968013	8176047	–	DML / DCL084	SGN12	KP1 / KP7 / KP17	EVR 3
OP-MCZC086	118U8005	8168181	7968017	7968014	8176047	–	DML / DCL084	SGN12	KP1 / KP7 / KP17	EVR 3
OP-MCZC096	118U8006	8168181	7968017	7968014	8176047	–	DML / DCL084	SGN12	KP1 / KP7 / KP17	EVR 3
OP-MCZC108	118U8007	8168181	7968017	7968014	118U8023	–	DML / DCL084	SGN12	KP1 / KP7 / KP17	EVR 3
OP-MCZC121	118U8008	8168182	7968018	7968015	118U8023	–	DML / DCL084	SGN12	KP1 / KP7 / KP17	EVR 3
OP-MCZC136	118U8010	8168182	7968018	7968015	118U8023	–	DML / DCL084	SGN12	KP1 / KP7 / KP17	EVR 3
OP-MCZC171	118U8010	8168183	7968018	7968015	118U8023	–	DML / DCL165	SGN16	KP1 / KP7 / KP17	EVR 6
OP-MGZC215	118U8012	8168183	7968018	7968016	118U8023	–	DML / DCL165	SGN16	KP1 / KP7 / KP17	EVR 6
OP-MGZC242	118U8012	8168183	7968018	7968016	118U8023	–	DML / DCL165	SGN16	KP1 / KP7 / KP17	EVR 6
OP- MGZC271	118U8012	8168183	7968018	7968016	118U8023	–	DML / DCL165	SGN16	KP1 / KP7 / KP17	EVR 6
OP-MGZD030	8174036	8168179	7968013	7968012	8176018	–	DML / DCL053	SGN10	KP1 / KP7 / KP17	EVR 3
OP-MGZD038	8174037	8168180	7968013	7968013	8176043	–	DML / DCL053	SGN10	KP1 / KP7 / KP17	EVR 3
OP-MGZD048	8174038	8168180	7968013	7968013	8176043	–	DML / DCL084	SGN12	KP1 / KP7 / KP17	EVR 3
OP-MGZD054	8174038	8168180	7968014	7968013	8176043	–	DML / DCL084	SGN12	KP1 / KP7 / KP17	EVR 3
OP-MGZD060	8174041	8168181	7968014	7968013	8176045	–	DML / DCL084	SGN12	KP1 / KP7 / KP17	EVR 3
OP-MGZD068	8174041	8168181	7968014	7968013	8176045	–	DML / DCL084	SGN12	KP1 / KP7 / KP17	EVR 3
OP-MGZD086	8174041	8168181	7968017	7968014	8176045	–	DML / DCL084	SGN12	KP1 / KP7 / KP17	EVR 3
OP-MGZD108	8174042	8168182	7968017	7968014	8176047	–	DML / DCL084	SGN12	KP1 / KP7 / KP17	EVR 3
OP-MGZD121	8174042	8168182	7968017	7968014	8176047	–	DML / DCL084	SGN12	KP1 / KP7 / KP17	EVR 3
OP-MGZD136	8174044	8168182	7968018	7968015	8176070	–	DML / DCL084	SGN12	KP1 / KP7 / KP17	EVR 3
OP-MGZD171	8174045	8168183	7968018	7968015	8176070	–	DML / DCL165	SGN16	KP1 / KP7 / KP17	EVR 6
OP-MGZD215	118U8012	8168183	7968018	7968016	118U8023	–	DML / DCL165	SGN16	KP1 / KP7 / KP17	EVR 6
OP-MGZD242	118U8012	8168183	7968018	7968016	118U8023	–	DML / DCL165	SGN16	KP1 / KP7 / KP17	EVR 6
OP-MGZD271	118U0375 *)	8168183	7968018	7968016	118U0373 *)	–	DML / DCL165	SGN16	KP1 / KP7 / KP17	EVR 6

Note:
LRA: Locked Rotor Amps
MCC: Maximum Continuous Current
**) For units with serial number up to 2915092004 produced before the 10th week of 2015 please use:*
Fan motor - 8176098 (Ø600mm)
Condenser - 8174048 (for fans Ø600mm)

Technical data and ordering

Optyma™ - MBP - LAM 1 (Columbia)

Repuestos - Reciprocante hermético

Modelo	Filtro secador		Indicador de líquido y humedad		Válvula de succión		Válvula de descarga		Válvula de líquido		Acumulador de succión	
OP-HJM(Z)018D	DML083	023Z8040	SGI 10	014-0022	V06	6804501V06	V06	6804501V06	V01	6804500V01	3"ODx12.6"x5/8"	191U005110
OP-HJM(Z)022D	DML083	023Z8040	SGI 10	014-0022	V06	6804501V06	V06	6804501V06	V01	6804500V01	3"ODx12.6"x5/8"	191U005110
OP-HJM(Z)028D	DML084	023Z8041	SGI 12	014-0025	V06	6804501V06	V06	6804501V06	V06	6804501V06	3"ODx12.6"x5/8"	191U005110
OP-HJM(Z)036D	DML084	023Z8041	SGI 12	014-0025	V09	6804502V09	V06	6804501V06	V06	6804501V06	3"ODx12.6"x5/8"	191U005110
OP-HJM(Z)040D	DML164	023Z8044	SGI 12	014-0025	V09	6804502V09	V06	6804501V06	V06	6804501V06	5"ODx10"x7/8"	191U005310
OP-HJM(Z)050D	DML164	023Z8044	SGI 12	014-0025	V07	6804505V07	V09	6804502V09	V06	6804501V06	5"ODx10"x7/8"	191U005310
OP-HGM(Z)064D	DML164	023Z8044	SGI 12	014-0025	V07	6804505V07	V04	6804503V04	V06	6804501V06	5"ODx10"x7/8"	191U005310
OP-HGM(Z)080D	DML165	023Z8045	SGI 16	014-0026	V02	6804506V02	V04	6804503V04	V10	6804507V10	5"ODx10"x7/8"	191U005310
OP-HGM(Z)100D	DML165	023Z8045	SGI 16	014-0026	V02	6804506V02	V04	6804503V04	V10	6804507V10	5"ODx15"x1 1/8"	191U005410
OP-HGM(Z)125D	DML165	023Z8045	SGI 16	014-0026	V02	6804506V02	V05	6804504V05	V10	6804507V10	5"ODx15"x1 1/8"	191U005410
OP-HGM(Z)160D	DML165	023Z8045	SGI 16	014-0026	V02	6804506V02	V05	6804504V05	V10	6804507V10	5"ODx15"x1 1/8"	191U005410

Todas las unidades están equipadas con:

- Resistencia de cárter PTC 35QW (código 7303507) - solo para unidades reciprocantes herméticas;
- Presostato encapsulado de alta modelo ACB-2UB 216W (código 061F6067);
- Presostato de baja modelo KP1 (código 060-110566);
- Relay de arraque modelo 3ARR3J4A4 (código 8173024) para todas las versiones monofásicas.

Nota:

**El kit del ventilador se provee ensamblado con todas sus partes (motor, guarda, aspa y capacitor).*

Optyma™ - MBP - LAM 1 (Columbia)

Repuestos - Scroll

Modelo	Filtro secador		Indicador de líquido y humedad		Válvula de succión		Válvula de descarga		Válvula de líquido		Acumulador de succión	
OP-HNU015D	DML084	023Z8041	SGI 12	014-0025	–	–	–	–	V06	6804501V06	3"ODx12.6"x5/8"	191U005110
OP-HNU021D	DML084	023Z8041	SGI 12	014-0025	–	–	–	–	V06	6804501V06	3"ODx12.6"x5/8"	191U005110
OP-HNU030D	DML164	023Z8044	SGI 12	014-0025	–	–	–	–	V06	6804501V06	5"ODx10"x7/8"	191U005310
OP-HRU038D	DML164	023Z8044	SGI 12	014-0025	–	–	–	–	V06	6804501V06	5"ODx10"x7/8"	191U005310
OP-HRU048D	DML164	023Z8044	SGI 12	014-0025	–	–	–	–	V06	6804501V06	5"ODx10"x7/8"	191U005310
OP-HRU058D	DML165	023Z8045	SGI 16	014-0026	–	–	–	–	V10	6804507V10	5"ODx15"x1 1/8"	191U005410
OP-HRU076D	DML165	023Z8045	SGI 16	014-0026	–	–	–	–	V10	6804507V10	5"ODx15"x1 1/8"	191U005410

Todas las unidades están equipadas con:

- Resistencia de cárter PTC 35QW (código 7303507) - solo para unidades reciprocantes herméticas;
- Presostato encapsulado de alta modelo ACB-2UB 216W (código 061F6067);
- Presostato de baja modelo KP1 (código 060-110566);
- Relay de arraque modelo 3ARR3J4A4 (código 8173024) para todas las versiones monofásicas.

Nota:

**El kit del ventilador se provee ensamblado con todas sus partes (motor, guarda, aspa y capacitor).*

Technical data and ordering

Optyma™ - MBP - LAM 2 (Mexico)

Modelo	Filtro secador		Indicador de líquido y humedad		Válvula de succión		Válvula de descarga		Válvula de líquido		Acumulador de succión [in]	
OP-HJM(Z)018D	DML083	023Z8040	SGI 10	014-0022	V06	6804501V06	V06	6804501V06	V01	3 OD x 12.6 x 5/8	3 OD x 12.6 x 5/8	191U005110
OP-HJM(Z)022D	DML083	023Z8040	SGI 10	014-0022	V09 (N) V06 (Q,V)	6804502V09 6804501V06	V06	6804501V06	V01	3 OD x 12.6 x 5/8	3 OD x 12.6 x 5/8	191U005110
OP-HJM(Z)028D	DML084	023Z8041	SGI 12	014-0025	V09 (N) V06 (Q,V)	6804502V09 6804501V06	V06	6804501V06	V06	3 OD x 12.6 x 5/8	3 OD x 12.6 x 5/8	191U005110
OP-HJM(Z)036D	DML084	023Z8041	SGI 12	014-0025	V09	6804502V09	V06	6804501V06	V06	3 OD x 12.6 x 5/8	3 OD x 12.6 x 5/8	191U005110
OP-HJM(Z)040D	DML164	023Z8044	SGI 12	014-0025	V09	6804502V09	V09	6804502V09	V06	5 OD x 10 x 7/8	5 OD x 10 x 7/8	191U005310
OP-HJM(Z)050D	DML164	023Z8044	SGI 12	014-0025	V07	6804505V07	V09	6804502V09	V06	5 OD x 10 x 7/8	5 OD x 10 x 7/8	191U005310
OP-HGM(Z)064D	DML164	023Z8044	SGI 12	014-0025	V07	6804505V07	V04	6804503V04	V06	5 OD x 10 x 7/8	5 OD x 10 x 7/8	191U005310
OP-HGM(Z)080D	DML165	023Z8045	SGI 16	014-0026	V02	6804506V02	V04	6804503V04	V10	5 OD x 10 x 7/8	5 OD x 10 x 7/8	191U005310
OP-HGM(Z)100D	DML165	023Z8045	SGI 16	014-0026	V02	6804506V02	V04	6804503V04	V10	5 OD x 15 x 1 1/8	5 OD x 15 x 1 1/8	191U005410
OP-HGM(Z)125D	DML165	023Z8045	SGI 16	014-0026	V02	6804506V02	V05	6804504V05	V10	5 OD x 15 x 1 1/8	5 OD x 15 x 1 1/8	191U005410
OP-HGM(Z)160D	DML165	023Z8045	SGI 16	014-0026	V02	6804506V02	V05	6804504V05	V10	5 OD x 15 x 1 1/8	5 OD x 15 x 1 1/8	191U005410
OP-HNU015D	DML084	023Z8041	SGI 12	014-0025	V06	–	–	–	V06	6804501V06	3 OD x 12.6 x 5/8	191U005110
OP-HNU021D	DML084	023Z8041	SGI 12	014-0025	V09 (N) V06 (Q,V)	–	–	–	V06	6804501V06	3 OD x 12.6 x 5/8	191U005110
OP-HNU030D	DML164	023Z8044	SGI 12	014-0025	V09 (N) V06 (Q,V)	–	–	–	V06	6804501V06	5 OD x 10 x 7/8	191U005310
OP-HRU038D	DML164	023Z8044	SGI 12	014-0025	V09	–	–	–	V06	6804501V06	5 OD x 10 x 7/8	191U005310
OP-HRU048D	DML164	023Z8044	SGI 12	014-0025	V09	–	–	–	V06	6804501V06	5 OD x 10 x 7/8	191U005310
OP-HRU058D	DML165	023Z8045	SGI 16	014-0026	V07	–	–	–	V10	6804507V10	5 OD x 15 x 1 1/8	191U005410
OP-HRU076D	DML165	023Z8045	SGI 16	014-0026	V07	–	–	–	V10	6804507V10	5 OD x 15 x 1 1/8	191U005410

Todas las unidades están equipadas con:

Resistencia de cárter PTC 35QW (código 7303507) - solo para unidades reciprocantes herméticas;
Presostato encapsulado de alta modelo ACB-2UB 216W (código 061F6067);
Presostato de baja modelo KP1 (código 060-110566);
Relay de arraque modelo 3ARR3J4A4 (código 8173024) para todas las versiones monofásicas.

Nota:

**El kit del ventilador se provee ensamblado con todas sus partes (motor, guarda, aspa y capacitor).*

Optyma™ - MBP - LAM 1 (Columbia)

Repuestos - Reciprocante hermético

Modelo	Recibidor de líquido [l]		Gabinete		Separador de aceite		Capacitor de marcha del compresor		Capacitor de arranque del compresor		Kit del ventilador*	
OP-HJM(Z)018D	3	118U6009	D8	191U127367	4"x10.75"x1/2" IDS	191U008100	30 MFD 440 VAC	119-7170	100 MFD 330 VAC	191U012900	D355 230V-1F	191U137150
OP-HJM(Z)022D	3	118U6009	D8	191U127367	4"x10.75"x1/2" IDS	191U008100	30 MFD 440 VAC	119-7170	100 MFD 330 VAC	191U012900	D355 230V-1F	191U137150
OP-HJM(Z)028D	6	118U601008	G8	191U127467	4"x10.75"x1/2" IDS	191U008100	30 MFD 440 VAC	119-7170	100 MFD 330 VAC	191U012900	D457 230V-1F	191U137350
OP-HJM(Z)036D	8	118U601108	G8	191U127467	4"x10.75"x1/2" IDS	191U008100	35 MFD 440 VAC	191U012201	135 MFD 330 VAC	191U012800	D457 230V-1F	191U137350
OP-HJM(Z)040D	8	118U601108	H8	191U127667	4"x13.19"x5/8" IDS	191U008200	–	–	–	–	D457 230V-1F	191U137350
OP-HJM(Z)050D	8	118U601108	H8	191U127667	4"x13.19"x5/8" IDS	191U008200	–	–	–	–	D457 230V-1F	191U137350
OP-HGM(Z)064D	10	118U6012	H8	191U127767	4"x13.19"x5/8" IDS	191U008200	–	–	–	–	D457 230V-1F	191U137350
OP-HGM(Z)080D	14	118U6013	N8	191U127767	4"x13.19"x5/8" IDS	191U008200	–	–	–	–	D457 230V-1F	191U137350
OP-HGM(Z)100D	14	118U6013	N8	191U127767	4"x13.19"x5/8" IDS	191U008200	–	–	–	–	D457 230V-1F	191U137350
OP-HGM(Z)125D	14	118U6013	Q8	191U127867	4"x15"x7/8" IDS	191U008300	–	–	–	–	D550 230V-1F	191137450
OP-HGM(Z)160D	14	118U6013	Q8	191U127867	4"x15"x7/8" IDS	191U008300	–	–	–	–	D550 230V-1F	191137450

Todas las unidades están equipadas con:

- *Resistencia de cárter PTC 35QW (código 7303507) - solo para unidades reciprocantes herméticas;*
- *Presostato encapsulado de alta modelo ACB-2UB 216W (código 061F6067);*
- *Presostato de baja modelo KP1 (código 060-110566);*
- *Relay de arraque modelo 3ARR3J4A4 (código 8173024) para todas las versiones monofásicas.*

Nota:

**El kit del ventilador se provee ensamblado con todas sus partes (motor, guarda, aspa y capacitor).*

Technical data and ordering

Optyma™ - MBP - LAM 1 (Columbia)

Repuestos - Scroll

Modelo	Recibidor de líquido [l]		Gabinete		Separador de aceite		Capacitor de marcha del compresor		Capacitor de arranque del compresor		Kit del ventilador*	
OP-HNU015D	6	118U601008	G8	191U127467	4"x10.75"x1/2" IDS	191U008100	–	–	–	–	D457 230V-1F	191U137350
OP-HNU021D	6	118U601008	G8	191U127467	4"x10.75"x1/2" IDS	191U008100	–	–	–	–	D457 230V-1F	191U137350
OP-HNU030D	8	118U601108	H8	191U127667	4"x13.19"x5/8" IDS	191U008200	–	–	–	–	D457 230V-1F	191U137350
OP-HRU038D	10	118U6012	N8	191U127767	4"x13.19"x5/8" IDS	191U008200	–	–	–	–	D457 230V-1F	191U137350
OP-HRU048D	10	118U6012	N8	191U127767	4"x13.19"x5/8" IDS	191U008200	–	–	–	–	D457 230V-1F	191U137350
OP-HRU058D	14	118U6013	Q8	191U127867	4"x15"x7/8" IDS	191U008300	–	–	–	–	D550 230V-1F	191137450
OP-HRU076D	14	118U6013	Q8	191U127867	4"x15"x7/8" IDS	191U008300	–	–	–	–	D550 230V-1F	191137450

Todas las unidades están equipadas con:

- *Resistencia de cárter PTC 35QW (código 7303507) - solo para unidades reciprocantes herméticas;*
- *Presostato encapsulado de alta modelo ACB-2UB 216W (código 061F6067);*
- *Presostato de baja modelo KP1 (código 060-110566);*
- *Relay de arraque modelo 3ARR3J4A4 (código 8173024) para todas las versiones monofásicas.*

Nota:

**El kit del ventilador se provee ensamblado con todas sus partes (motor, guarda, aspa y capacitor).*

Optyma™ - MBP - LAM 2 (Mexico)

Modelo	Recibidor de líquido (l)		Gabinete		Separador de aceite [in]		Capacitor de marcha del compresor		Capacitor de arranque del compresor		Kit del ventilador*	
OP-HJM(Z)018D	3	118U6009	D8	191U127367	4 x 10.75 x 1/2 IDS	191U008100	25 MFD 440 VAC	7304533	189-227 MFD 330 VAC	191U012700	D355 230V-1F D355 460V-1F	191U137150 191U137650
OP-HJM(Z)022D	3	118U6009	D8	191U127367	4 x 10.75 x 1/2 IDS	191U008100	45 MFD 440 VAC	191U012501	189-227 MFD 330 VAC	191U012700	D355 230V-1F D355 460V-1F	191U137150 191U137650
OP-HJM(Z)028D	6	118U601008	G8	191U127467	4 x 10.75 x 1/2 IDS	191U008100	50 MFD 440 VAC	191U013601	189-227 MFD 330 VAC	191U012700	D457 230V-1F D457 460V-1F	191U137350 191U137850
OP-HJM(Z)036D	8	118U601108	G8	191U127467	4 x 10.75 x 1/2 IDS	191U008100	45 MFD 440 VAC	191U012501	189-227 MFD 330 VAC	191U012700	D457 230V-1F D457 460V-1F	191U137350 191U137850
OP-HJM(Z)040D	8	118U601108	J8	191U127667	4 x 13.19 x 5/8 IDS	191U008200	55 MFD 440 VAC	191U013701	189-227 MFD 330 VAC	191U012700	D457 230V-1F D457 460V-1F	191U137350 191U137850
OP-HJM(Z)050D	8	118U601108	J8	191U127667	4 x 13.19 x 5/8 IDS	191U008200	45 MFD 440 VAC	191U012501	189-227 MFD 330 VAC	191U012700	D457 230V-1F D457 460V-1F	191U137350 191U137850
OP-HGM(Z)064D	10	118U6012	N8	191U127767	4 x 13.19 x 5/8 IDS	191U008200	55 MFD 440 VAC	191U013701	235 MFD 330V	191U012600	D457 230V-1F D457 460V-1F	191U137350 191U137850
OP-HGM(Z)080D	14	118U6013	N8	191U127767	4 x 13.19 x 5/8 IDS	191U008200	–	–	–	–	D457 230V-1F D457 460V-1F	191U137350 191U137850
OP-HGM(Z)100D	14	118U6013	N8	191U127767	4 x 13.19 x 5/8 IDS	191U008200	–	–	–	–	D457 230V-1F D457 460V-1F	191U137350 191U137850
OP-HGM(Z)125D	14	118U6013	Q8	191U127867	4 x 15 x 7/8 IDS	191U008300	–	–	–	–	D550 230V-1F D550 460V-1F	191U137450 191U137950
OP-HGM(Z)160D	14	118U6013	Q8	191U127867	4 x 15 x 7/8 IDS	191U008300	–	–	–	–	D550 230V-1F D550 460V-1F	191U137450 191U137950
OP-HNU015D	6	118U601108	G8	191U127467	4 x 10.75 x 1/2 IDS	191U008100	45 MFD 440 VAC	191U012501	135 MFD 330V	191U012800	D457 230V-1F D457 460V-1F	191U137350 191U137850
OP-HNU021D	6	118U601108	G8	191U127467	4 x 10.75 x 1/2 IDS	191U008100	45 MFD 440 VAC	191U012501	135 MFD 330V	191U012800	D457 230V-1F D457 460V-1F	191U137350 191U137850
OP-HNU030D	8	118U601108	J8	191U127667	4 x 13.19 x 5/8 IDS	191U008200	55 MFD 440 VAC	191U013701	135 MFD 330V	191U012800	D457 230V-1F D457 460V-1F	191U137350 191U137850
OP-HRU038D	10	118U6012	N8	191U127767	4 x 13.19 x 5/8 IDS	191U008200	55 MFD 440 VAC–	191U013701	100 MFD 330V	191U012900	D457 230V-1F D457 460V-1F	191U137350 191U137850
OP-HRU048D	10	118U6013	N8	191U127767	4 x 13.19 x 5/8 IDS	191U008200	–		–	–	D457 230V-1F D457 460V-1F	191U137350 191U137850
OP-HRU058D	14	118U6013	Q8	191U127867	4 x 15 x 7/8 IDS	191U008300	–		–	–	D550 230V-1F D550 460V-1F	191U137450 191U137950
OP-HRU076D	14	118U6013	Q8	191U127867	4 x 15 x 7/8 IDS	191U008300	–		–	–	D550 230V-1F D550 460V-1F	191U137450 191U137950

Technical data and ordering

Optyma™ - MBP - LAM3 (Argentina)

Spare parts

Modelo	Filtro secador		Indicador de líquido y humedad		Válvula de succión		Válvula de descarga		Válvula de líquido		Acumulador de succión	
OP-HJM(Z)019D	DML083	023Z8040	SGP10	014L0100	V06	6804501V06	V06	6804501V06	V01	6804500V01	XF-204	191U006010
OP-HJM(Z)022D	DML083	023Z8040	SGP10	014L0100	V06	6804501V06	V06	6804501V06	V01	6804500V01	XF-204	191U006010
OP-HJM(Z)028D	DML084	023Z8041	SGP12	014L0075	V06	6804501V06	V06	6804501V06	V06	6804501V06	XF-205	191U006110
OP-HJM(Z)032D	DML084	023Z8041	SGP12	014L0075	V09	6804502V09	V06	6804501V06	V06	6804501V06	XF-205	191U006110
OP-HJM(Z)036D	DML084	023Z8041	SGP12	014L0075	V09	6804502V09	V06	6804501V06	V06	6804501V06	XF-205	191U006110
OP-HJM(Z)040D	DML164	023Z8044	SGP12	014L0075	V09	6804502V09	V06	6804501V06	V06	6804501V06	XF-205	191U006110
OP-HJM(Z)044D	DML164	023Z8044	SGP12	014L0075	V07	6804505V07	V09	6804502V09	V06	6804501V06	XF-207	191U006310
OP-HJM(Z)050D	DML164	023Z8044	SGP12	014L0075	V07	6804505V07	V09	6804502V09	V06	6804501V06	XF-207	191U006310
OP-HJM(Z)056D	DML164	023Z8044	SGP12	014L0075	V07	6804505V07	V09	6804502V09	V06	6804501V06	XF-207	191U006310
OP-HJM(Z)064D	DML164	023Z8044	SGP12	014L0075	V07	6804505V07	V04	6804503V04	V06	6804501V06	XF-207	191U006310
OP-HGM(Z)072D	DML165	023Z8045	SGP16	014L0265	V02	6804506V02	V04	6804503V04	V10	6804507V10	XF-208	191U006410
OP-HGM(Z)080D	DML165	023Z8045	SGP16	014L0265	V02	6804506V02	V04	6804503V04	V10	6804507V10	XF-208	191U006410
OP-HGM(Z)100D	DML165	023Z8045	SGP16	014L0265	V02	6804506V02	V04	6804503V04	V10	6804507V10	XF-208	191U006410
OP-HGM(Z)125D	DML165	023Z8045	SGP16	014L0265	V02	6804506V02	V05	6804504V05	V10	6804507V10	XF-209	191U006610
OP-HGM(Z)144D	DML165	023Z8045	SGP16	014L0265	V02	6804506V02	V05	6804504V05	V10	6804507V10	XF-209	191U006610
OP-HGM(Z)160D	DML165	023Z8045	SGP16	014L0265	V02	6804506V02	V05	6804504V05	V10	6804507V10	XF-209	191U006610

Optyma™ - MBP - LAM3 (Argentina)

Spare parts

Modelo	Recibidor de líquido (l)		Gabinete		Separador de aceite		Capacitor de marcha del compresor		Kit del ventilador*	
OP-HJM(Z)019D	3	118U6009	D8	191U127367	XFW-5201	191U007610	25 MFD 440VAC	191U0135	D355	191U135320
OP-HJM(Z)022D	3	118U6009	D8	191U127367	XFW-5201	191U007610	35 MFD 440VAC	191U0122	D355	191U135320
OP-HJM(Z)028D	6	118U601008	G8	191U127467	XFW-5201	191U007610	50 MFD 440VAC	191U0136	D457	191U135720
OP-HJM(Z)032D	8	118U601108	G8	191U127467	XFW-5202	191U007710	45 MFD 440VAC	191U0125	D457	191U135720
OP-HJM(Z)036D	8	118U601108	G8	191U127467	XFW-5202	191U007710	45 MFD 440VAC	191U0125	D457	191U135720
OP-HJM(Z)040D	8	118U601108	H8	191U127667	XFW-5202	191U007710	----	----	D457	191U135720
OP-HJM(Z)044D	8	118U601108	H8	191U127667	XFW-5202	191U007710	----	----	D457	191U135720
OP-HJM(Z)050D	8	118U601108	H8	191U127667	XFW-5202	191U007710	----	----	D457	191U135720
OP-HJM(Z)056D	8	118U601108	H8	191U127667	XFW-5202	191U007710	----	----	D457	191U135720
OP-HJM(Z)064D	8	118U601108	H8	191U127667	XFW-5202	191U007710	----	----	D457	191U135720
OP-HGM(Z)072D	14	118U6013	N8	191U127767	XFW-5202	191U007710	----	----	D457	191U135720
OP-HGM(Z)080D	14	118U6013	N8	191U127767	XFW-5202	191U007710	----	----	D457	191U135720
OP-HGM(Z)100D	14	118U6013	N8	191U127767	XFW-5202	191U007710	----	----	D457	191U135720
OP-HGM(Z)125D	14	118U6013	Q8	191U127867	XFW-5203	191U007810	----	----	D600	191U135920
OP-HGM(Z)144D	14	118U6013	Q8	191U127867	XFW-5203	191U007810	----	----	D600	191U135920
OP-HGM(Z)160D	14	118U6013	Q8	191U127867	XFW-5203	191U007810	----	----	D600	191U135920

Todas las unidades están equipadas con:
Resistencia de cárter PTC 35W (código 7773001);
Presostato encapsulado de alta modelo ACB 2UB - 216 W - 26,5 / 20,5 bar (código 061F6067);
Presostato de baja modelo KP1 (código 060-110166).
Relay de arraque modelo 3ARR3J4A4 (código 8173024) para todas las versiones monofásicas

Aceite lubricante:
Para unidades OP-HJM / OP-HGM: código 7754001 (embalaje de 1 litro);
Para unidades OP-HJZ / OP-HGZ: código 7754019 (embalaje de 1 litro);
Para unidades OP-LJZ / OP-LGZ: código 7754025 (embalaje de 1 litro);

Notas:
**El carenado es un elemento opcional para las versiones D20, D39 y D49.*
***El kit del ventilador se provee ensamblado con todas sus partes (motor, guarda, aspa y capacitor).*

Technical data and ordering

Optyma™ - MBP - LAM 4 (Brazil)

Spare parts

Modelo	Filtro secador		Visor de líquido		Válvula de sucção		Válvula de descarga		Válvula de líquido		Acumulador de sucção	
OP-HJM(Z)019D	DML083	023Z5040	SGP10	014L0022	V06	6804501V06	V06	6804501V06	V01	6804500V01	XF-204	191U006010
OP-HJM(Z)022D	DML083	023Z5040	SGP10	014L0022	V09 (N)	6804502V09	V06	6804501V06	V01	6804500V01	XF-204	191U006010
OP-HJM(Z)022D	DML083	023Z5040	SGP10	014L0022	V06 (Q,V)	6804501V06	V06	6804501V06	V01	6804500V01	XF-204	191U006010
OP-HJM(Z)028D	DML084	023Z5041	SGP12	014L0025	V09 (N)	6804502V09	V06	6804501V06	V06	6804501V06	XF-205	191U006110
OP-HJM(Z)028D	DML084	023Z5041	SGP12	014L0025	V06 (Q,V)	6804501V06	V06	6804501V06	V06	6804501V06	XF-205	191U006110
OP-HJM(Z)032D	DML084	023Z5041	SGP12	014L0025	V09	6804502V09	V06	6804501V06	V06	6804501V06	XF-205	191U006110
OP-HJM(Z)036D	DML084	023Z5041	SGP12	014L0025	V09	6804502V09	V06	6804501V06	V06	6804501V06	XF-205	191U006110
OP-HJM(Z)040D	DML164	023Z5044	SGP12	014L0025	V09	6804502V09	V09	6804502V09	V06	6804501V06	XF-205	191U006110
OP-HJM(Z)044D	DML164	023Z5044	SGP12	014L0025	V07	6804505V07	V09	6804502V09	V06	6804501V06	XF-207	191U006310
OP-HJM(Z)050D	DML164	023Z5044	SGP12	014L0025	V07	6804505V07	V09	6804502V09	V06	6804501V06	XF-207	191U006310
OP-HJM(Z)056D	DML164	023Z5044	SGP12	014L0025	V07	6804505V07	V09	6804502V09	V06	6804501V06	XF-207	191U006310
OP-HJM(Z)064D	DML164	023Z5044	SGP12	014L0025	V07	6804505V07	V04	6804503V04	V06	6804501V06	XF-207	191U006310
OP-HGM(Z)072D	DML165	023Z5045	SGP16	014L0026	V02	6804506V02	V04	6804503V04	V10	6804507V10	XF-208	191U006410
OP-HGM(Z)080D	DML165	023Z5045	SGP16	014L0026	V02	6804506V02	V04	6804503V04	V10	6804507V10	XF-208	191U006410
OP-HGM(Z)100D	DML165	023Z5045	SGP16	014L0026	V02	6804506V02	V04	6804503V04	V10	6804507V10	XF-208	191U006410
OP-HGM(Z)125D	DML165	023Z5045	SGP16	014L0026	V02	6804506V02	V05	6804504V05	V10	6804507V10	XF-209	191U006610
OP-HGM(Z)144D	DML165	023Z5045	SGP16	014L0026	V02	6804506V02	V05	6804504V05	V10	6804507V10	XF-209	191U006610
OP-HGM(Z)160D	DML165	023Z5045	SGP16	014L0026	V02	6804506V02	V05	6804504V05	V10	6804507V10	XF-209	191U006610

Optyma™ - MBP - LAM 4 (Brazil)

Spare parts

Modelo	Tanque de líquido (l)		Carenagem*		Separador de óleo		Capacitor de marcha do compressor		Capacitor de partida do compressor		Kit del ventilador*	
OP-HJM(Z)019D	3	118U6009	D8	191U127367	XFW-5201	191U007610	25 MFD 440VAC	191U0135	88-108 MFD 330V	191U0126	D355	191U135320
OP-HJM(Z)022D	3	118U6009	D8	191U127367	XFW-5201	191U007610	35 MFD 440VAC	191U0122	88-108 MFD 330V	191U0126	D355	191U135320
OP-HJM(Z)028D	6	118U601008	G8	191U127467	XFW-5201	191U007610	50 MFD 440VAC	191U0136	135 MFD 330V	191U0129	D457	191U135720
OP-HJM(Z)032D	8	118U601108	G8	191U127467	XFW-5202	191U007710	45 MFD 440VAC	191U0125	88-108 MFD 330V	191U0126	D457	191U135720
OP-HJM(Z)036D	8	118U601108	G8	191U127467	XFW-5202	191U007710	45 MFD 440VAC	191U0125	88-108 MFD 330V	191U0126	D457	191U135720
OP-HJM(Z)040D	8	118U601108	J8	191U127667	XFW-5202	191U007710	55 MFD 440VAC	191U0137	135 MFD 330V	191U0129	D457	191U135720
OP-HJM(Z)044D	8	118U601108	J8	191U127667	XFW-5202	191U007710	45 MFD 440VAC	191U0125	135 MFD 330V	191U0129	D457	191U135720
OP-HJM(Z)050D	8	118U601108	J8	191U127667	XFW-5202	191U007710	45 MFD 440VAC	191U0125	135 MFD 330V	191U0129	D457	191U135720
OP-HJM(Z)056D	8	118U601108	J8	191U127667	XFW-5202	191U007710	55 MFD 440VAC	191U0137	200 MFD 330V	191U0128	D457	191U135720
OP-HJM(Z)064D	8	118U601108	J8	191U127667	XFW-5202	191U007710	55 MFD 440VAC	191U0137	235 MFD 330V	191U0134	D457	191U135720
OP-HGM(Z)072D	14	118U6013	N8	191U127767	XFW-5202	191U007710	–	–	–	–	D457	191U135720
OP-HGM(Z)080D	14	118U6013	N8	191U127767	XFW-5202	191U007710	–	–	–	–	D457	191U135720
OP-HGM(Z)100D	14	118U6013	N8	191U127767	XFW-5202	191U007710	–	–	–	–	D457	191U135720
OP-HGM(Z)125D	14	118U6013	Q8	191U127867	XFW-5203	191U007810	–	–	–	–	D600	191U135920
OP-HGM(Z)144D	14	118U6013	Q8	191U127867	XFW-5203	191U007810	–	–	–	–	D600	191U135920
OP-HGM(Z)160D	14	118U6013	Q8	191U127867	XFW-5203	191U007810	–	–	–	–	D600	191U135920

Todas as unidades são equipadas com:
Resistência de cárter PTC 35W (código 7773001);
Pressostato de alta modelo ACB 2UB - 215 W - 26,5 / 18,0 bar (código 061F6050);
Pressostato de baixa modelo KP1 (código 060-110166).
Relé de partida modelo 3ARR3J4A4 (código 8173024) para todas as versões monofásicas.

Óleo lubrificante:
Para unidades OP-HJM / OP-HGM: código 7754001 (embalagem de 1 litro);
Para unidades OP-HJZ / OP-HGZ: código 7754019 (embalagem de 1 litro);
Para unidades OP-LJZ / OP-LGZ: código 7754025 (embalagem de 1 litro);

Notas:
**A carenagem é um item opcional para as versões D20, D39 e D49.*
***O kit do ventilador é composto por motor, grade, hélice, capacitor, porcas e parafusos.*

Technical data and ordering

Optyma™ - LBP / MBP / HBP

Electrical characteristics - 230 V / 1phase /50 Hz

Unit	LRA compressor (A) 230 V / 1 phase	MCC Fan (A) 230 V / 1 phase
OP-UCGC003	4.9	0.19
OP-UCGC004	5.1	0.19
OP-UCGC005	5.7	0.19
OP-UCGC006	7.5	0.19
OP-MCGC006	9.2	0.19
OP-UCGC007	8.1	0.19
OP-UCGC008	8.2	0.19
OP-MCGC007	11.3	0.19
OP-UCGC010 (FR)	10	0.19
OP-MCGC008	11.7	0.19
OP-UCGC010 (SC)	11.1	0.19
OP-UCGC011	10	0.25
OP-UCGC012	12.6	0.25
OP-UCGC015	14.8	0.39
OP-UCGC018	18.6	0.39
OP-UCGC021	21.8	0.39
O P-MCGC021	23.6	0.39
OP-UCGC026	20.2	0.75
OP-UCGC034	25.7	0.75

Optyma™ - LBP / MBP / HBP

Spare parts

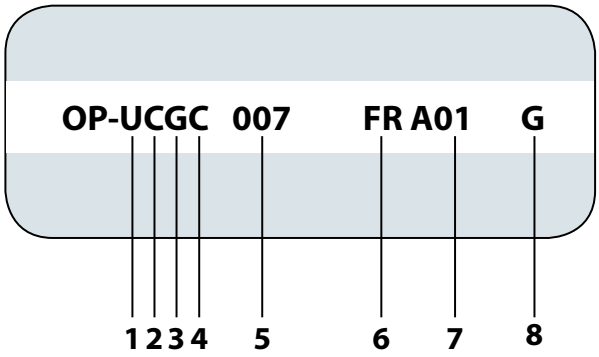
Unit	Condenser	Receiver	Fan motor 230 V	Weatherproof housing	Filter drier Type	Sight glass type	Pressure control type	Solenoid valve type (excl coil)
OP-UCGC003	118U0028	118U0517	118U0032	118U4620	DML / DCL032	SGN6	KP1 / KP5 / KP17	EVR2
OP-UCGC004	118U0028	118U0517	118U0032	118U4620	DML / DCL032	SGN6	KP1 / KP5 / KP17	EVR2
OP-UCGC005	118U0028	118U0517	118U0032	118U4620	DML / DCL032	SGN6	KP1 / KP5 / KP17	EVR2
OP-UCGC006	118U0029	118U0517	118U0032	118U4620	DML / DCL032	SGN6	KP1 / KP5 / KP17	EVR2
OP-MCGC006	118U0029	118U0517	118U0032	118U4620	DML / DCL032	SGN6	KP1 / KP5 / KP17	EVR2
OP-UCGC007	118U0029	118U0517	118U0032	118U4620	DML / DCL032	SGN6	KP1 / KP5 / KP17	EVR2
OP-UCGC008	118U0029	118U0517	118U0032	118U4620	DML / DCL032	SGN6	KP1 / KP5 / KP17	EVR2
OP-MCGC007	118U0029	118U0517	118U0032	118U4620	DML / DCL032	SGN6	KP1 / KP5 / KP17	EVR2
OP-UCGC010 (FR)	118U0029	118U0517	118U0032	118U4620	DML / DCL032	SGN6	KP1 / KP5 / KP17	EVR2
OP-MCGC008	118U0030	118U0523	118U0033	118U4620	DML / DCL032	SGN6	KP1 / KP5 / KP17	EVR2
OP-UCGC010 (SC)	118U0029	118U0517	118U0032	118U4620	DML / DCL032	SGN6	KP1 / KP5 / KP17	EVR2
OP-UCGC011	118U0030	118U0523	118U0033	118U4620	DML / DCL032	SGN6	KP1 / KP5 / KP17	EVR2
OP-UCGC012	118U0030	118U0523	118U0033	118U4620	DML / DCL052	SGN6	KP1 / KP5 / KP17	EVR3
OP-UCGC015	118U0031	118U0523	118U0033	118U4620	DML / DCL052	SGN6	KP1 / KP5 / KP17	EVR3
OP-UCGC018	118U0031	118U0523	118U0033	118U4620	DML / DCL052	SGN6	KP1 / KP5 / KP17	EVR3
O P-UCGC021	118U0031	118U0523	118U0033	118U4620	DML / DCL052	SGN6	KP1 / KP5 / KP17	EVR3
OP-MCGC021	118U0031	118U0523	118U0033	118U4620	DML / DCL052	SGN6	KP1 / KP5 / KP17	EVR3
OP-UCGC026	118U0069	118U0078	118U0058	118U4620	DML / DCL052	SGN6	KP1 / KP5 / KP17	EVR3
OP-UCGC034	118U0069	118U0078	118U0058	118U4620	DML / DCL052	SGN6	KP1 / KP5 / KP17	EVR3

Note:
LRA: Locked Rotor Amps
MCC :Maximum Continuous Current

Nomenclature

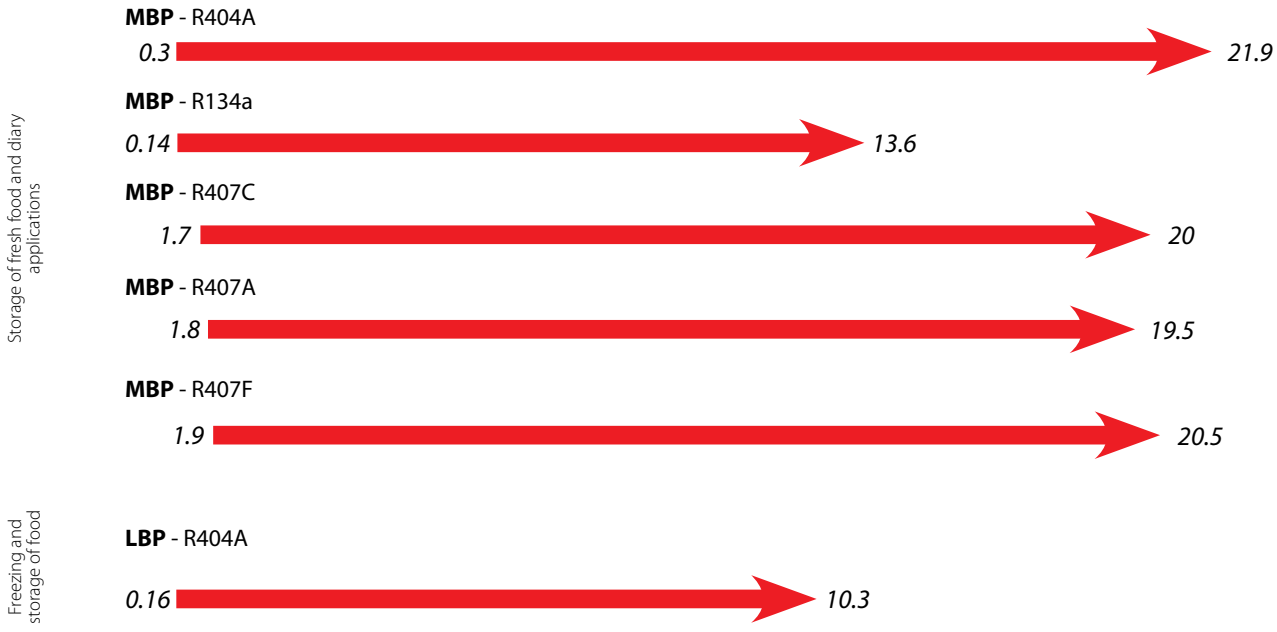
Designation system for the Optyma™ standard programm

(additional programm voltage, frequency etc.: please contact your local wholesaler)



No.	Title	Description	No.	Title	Description
1	Application	L = Low M = Medium U = Low / Medium / High	5	Displacement	[cm³]
2	Platform or design	C = Air cooled condensing unit with 1 fan and hermetic compressor G = Air cooled condensing unit with 2 fan and hermetic compressor	6	Compressor platform	SC = SC reciprocating AJ = CAJ / TAJ reciprocating ML = MLZ scroll NT = NTZ reciprocating LL = LLZ scroll MT = MT reciprocating SM = SM scroll SZ = SZ scroll
3	Refrigerant	G = R134a H = R404A / R507 Z = R404A / R134a / R507 / R407C / R407A / R407F U = R404A / R507 / R407C / R134a / R22	7	Version	W05 A06
4	Condenser option	C = Standard D/E = With oversized condenser (for higher ambient temperature and / or higher efficiency)	8	Electrical code	G = 230 V/1ph 50Hz compressor and fan E = 400 V/3ph 50Hz compressor and 230 V/1ph 50Hz fan

Cooling capacity range [kW]



Test condition	***LBP***	***MBP***
Ambient temperature:	*32 °C*	*32 °C*
Evaporating temperature:	*-25 °C*	*-10 °C*

Superheat and Subcooling depend on compressor type used in condensing units: for details please see cooling capacity tables

Optyma™ units can work in the following evaporating temperature range:

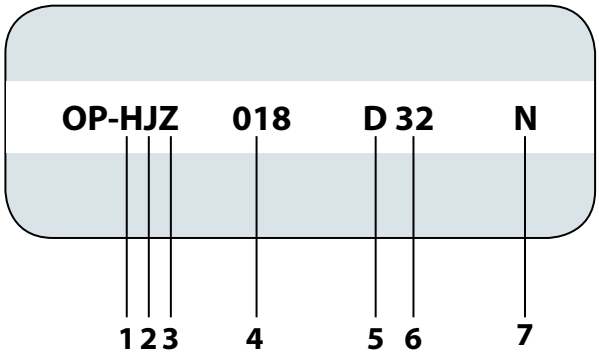
LBP R404A:	*-40 °C – -10 °C*
MBP R404A:	*-20 – 10 °C*
MBP R407A / R407F:	*-20 – 10 °C*
MBP R134a:	*-15 °C – 15 °C*
MBP R407C:	*-15 °C – 10 °C*

For further detailed information, please contact Danfoss or use dedicated software

Nomenclature - ASEAN

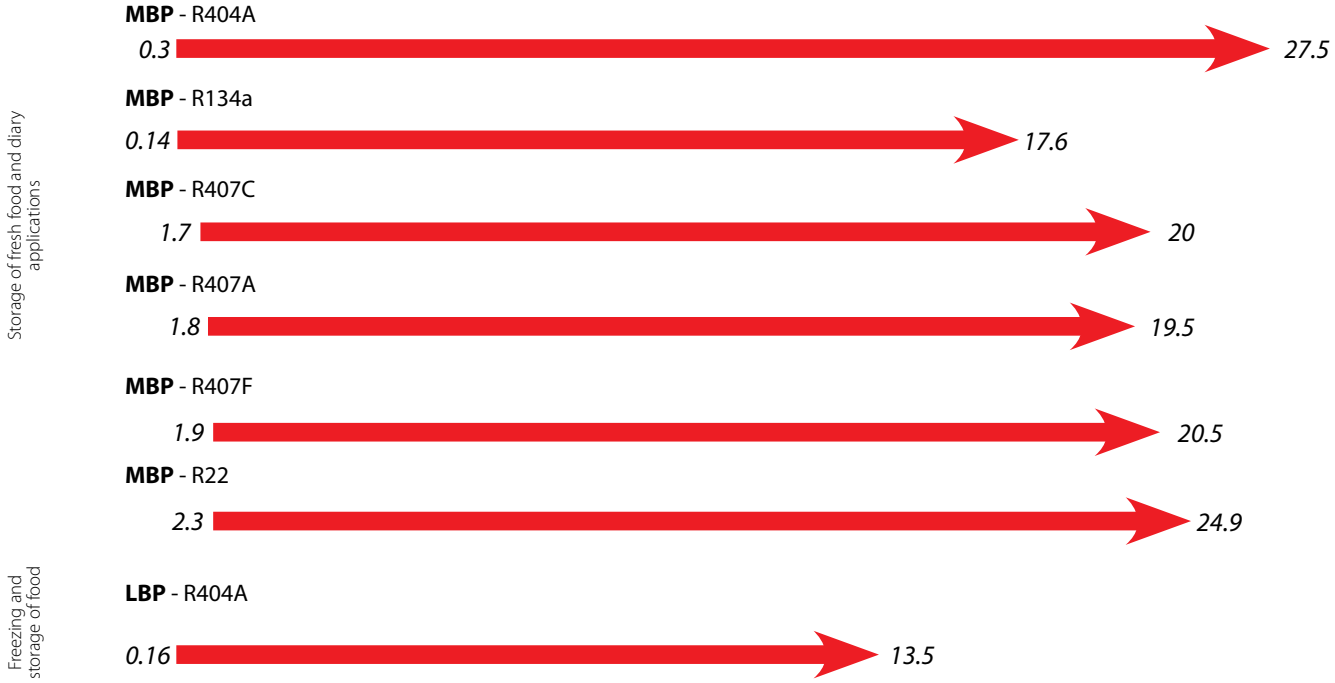
Designation system for the Optyma™ standard programm

(additional programm voltage, frequency etc.: please contact your local wholesaler)



No.	Title	Description	No.	Title	Description
1	Application	H = High and medium evaporating temperature (MBP) L = Low evaporating temperature (LBP)	5	Platform	D = Micro-channel technology
2	Platform or design	J = Condensing unit with reciprocating compressor and one fan N = Condensing unit with scroll compressor and one fan G = Condensing unit with reciprocating compressor and two fans R = Condensing unit with scroll compressor and two fans	6	Product configuration	32 / 40 = See table below
3	Refrigerant	M = R22 - Mineral Z = R134a/R404A/R507 - Polyolester U = R22/R134a/R404A/R507 – Polyvinyl ether			
4	Compressor model	MT and MTZ series for MBP reciprocating compressor NTZ series for LBP scroll compressor MLZ series for MBP scroll compressor	7	Version Electrical code	N = Compressor 230 V/1-ph/60 Hz , fan 230 V/1-ph/60 Hz Q = Compressor 230 V/3-ph/60 Hz , fan 230 V/1-ph/60 Hz R = Compressor 460 V/3-ph/60 Hz , fan 460 V/1-ph/60 Hz

Cooling capacity range [kW]



Test condition	***LBP***	***MBP***
Ambient temperature:	*32 °C*	*32 °C*
Evaporating temperature:	*-25 °C*	*-10 °C*

Superheat and Subcooling depend on compressor type used in condensing units: for details please see cooling capacity tables

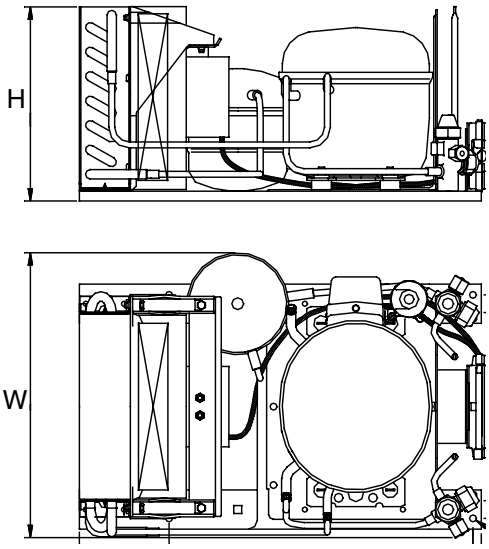
Optyma™ units can work in the following evaporating temperature range:

LBP R404A:	*-40 °C – -10 °C*
MBP R404A:	*-20 – 10 °C*
MBP R407A / R407F:	*-20 – 10 °C*
MBP R134a:	*-15 °C – 15 °C*
MBP R407C:	*-15 °C – 10 °C*

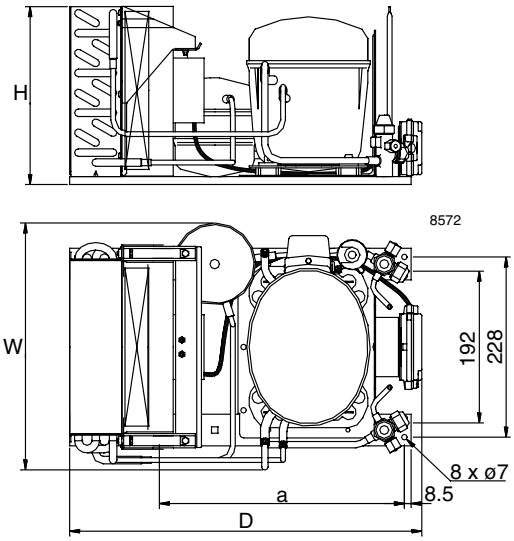
For further detailed information, please contact Danfoss or use dedicated software

Dimensions

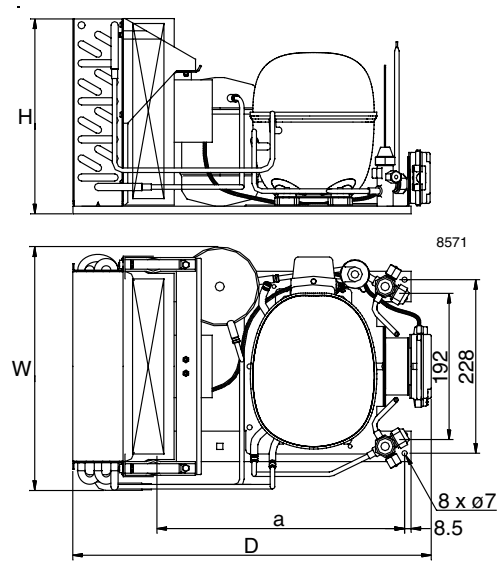
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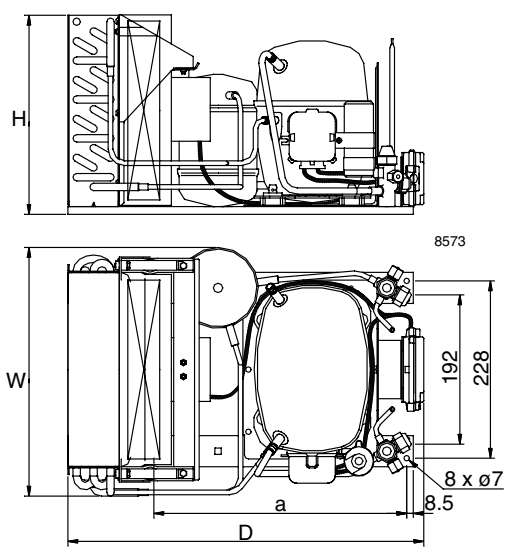
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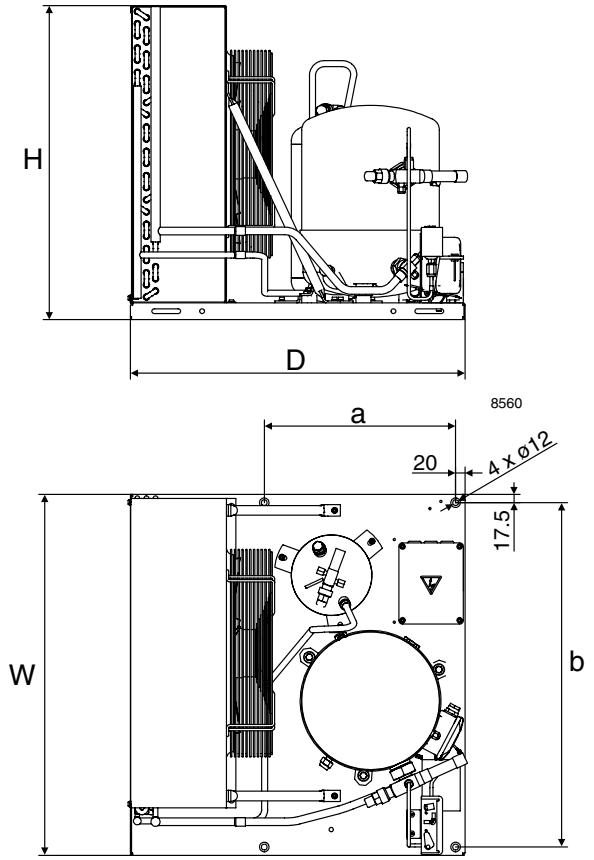
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4

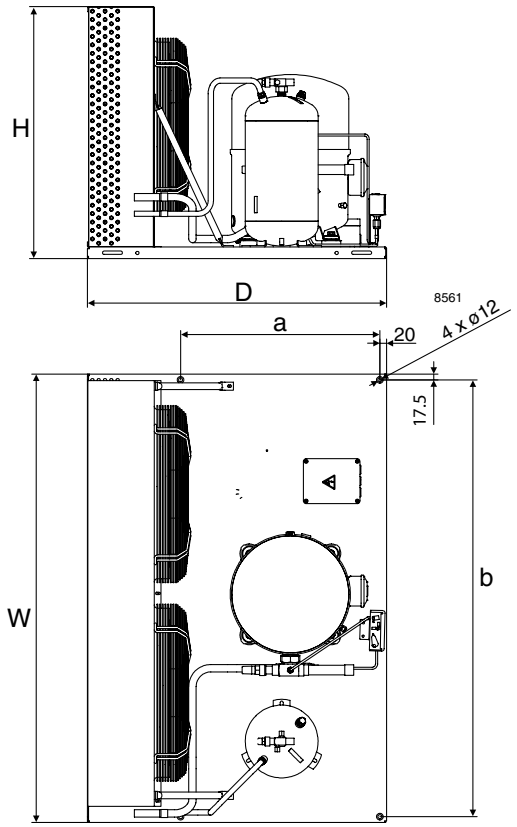


5

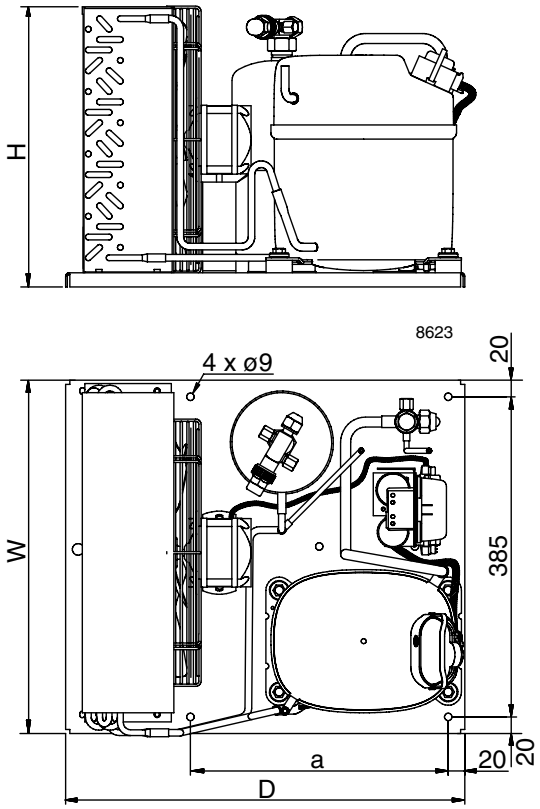


Dimensions

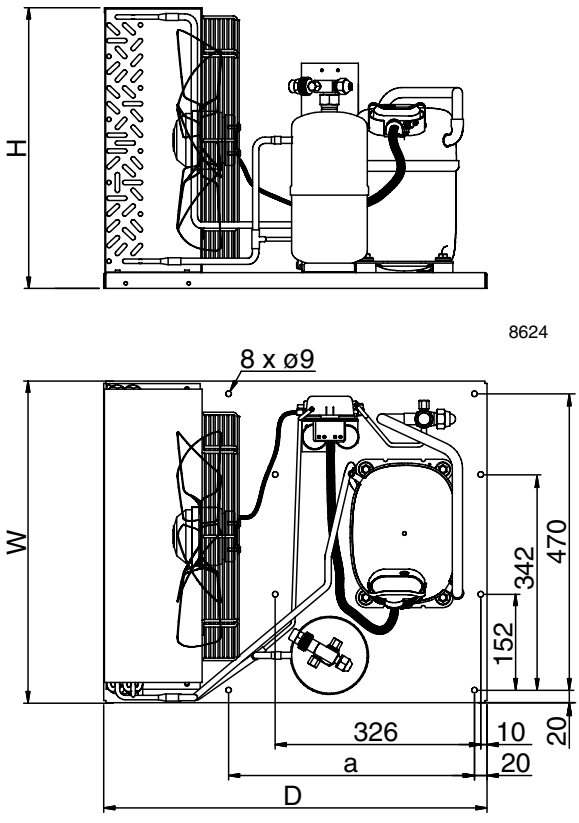
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7



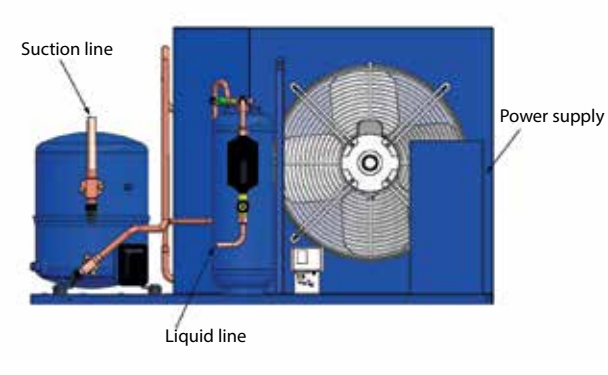
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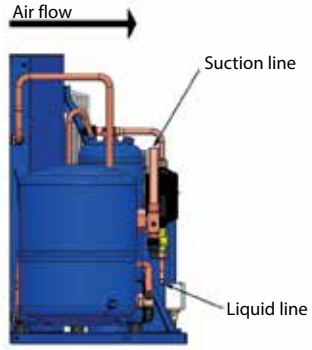
Dimensions

Figure 1A - D32 version (Reciprocating compressor - 1 fan)

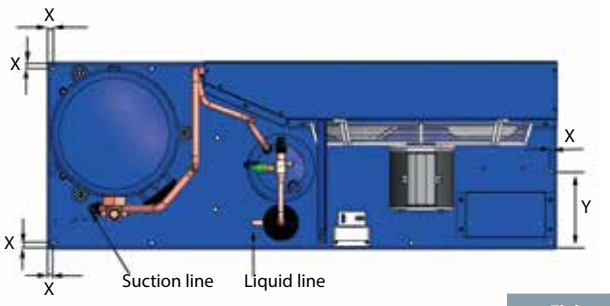
Front view



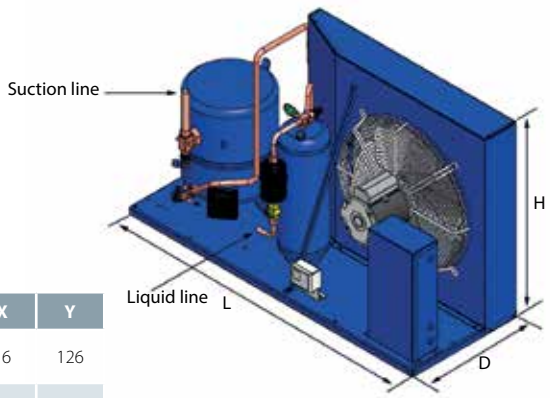
Viewed from rear left



Top view



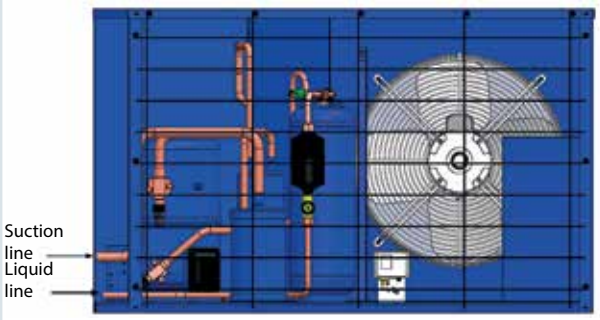
Isometric view



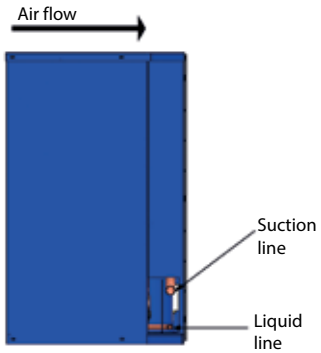
Fixing points	X	Y
OP-HJ...018D to 022D	16	126
OP-HJ...028D to 050D	14	174

Figure 1B - D40 version (Reciprocating compressor - 1 fan)

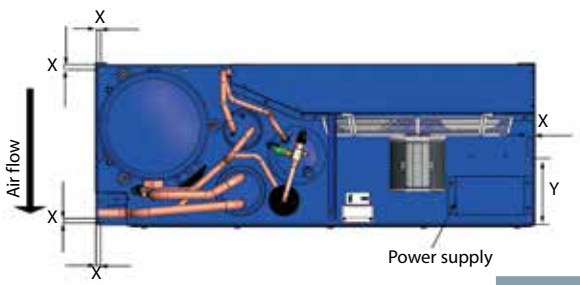
Front view



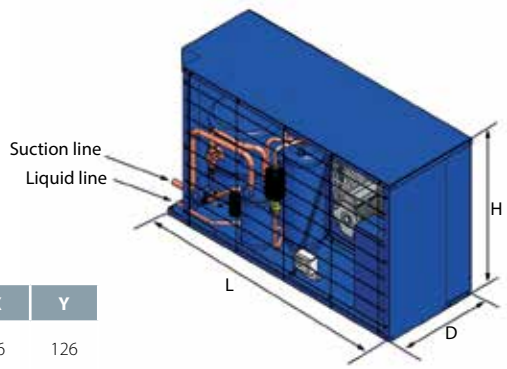
Viewed from rear left



Top view (without cover cap)



Isometric view

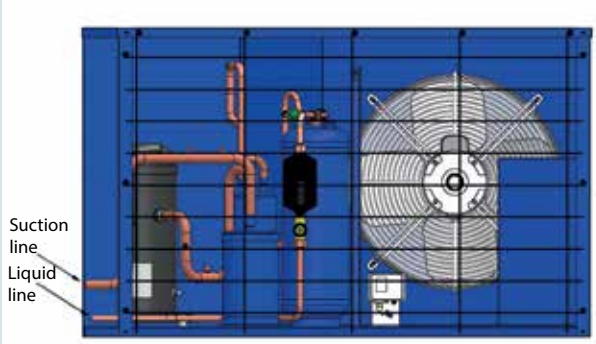


Fixing points	X	Y
OP-HJ...018D to 022D OP-LJ...048D to 068D	16	126
OP-HJ...028D to 050D OP-LJ…108D to 136D	14	174

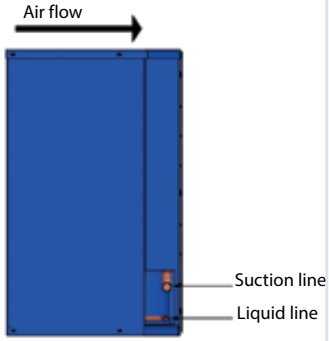
Dimensions

Figure 3A - D40 version (scroll compressor - 1 fan)

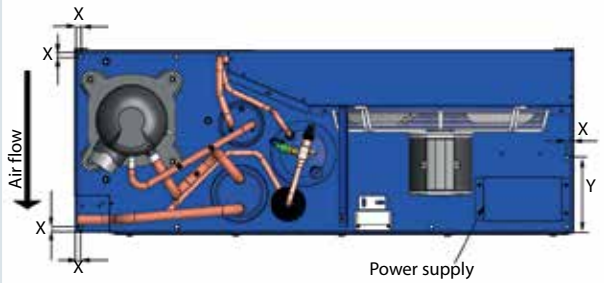
Front view



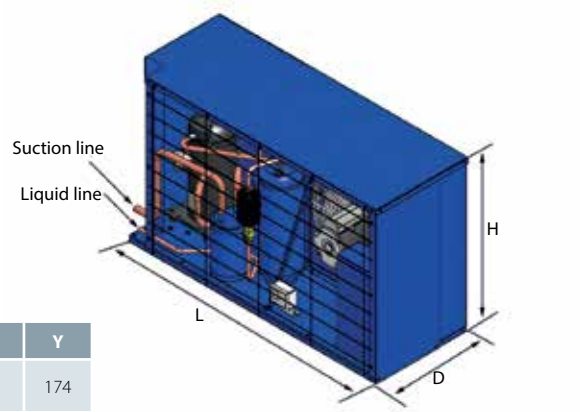
Viewed from rear left



Top view (without cover cap)



Isometric view



Fixing points	X	Y
OP-HNU…015D to 030D	14	174

Figure 2A - D32 version (Reciprocating compressor - 2 fans)

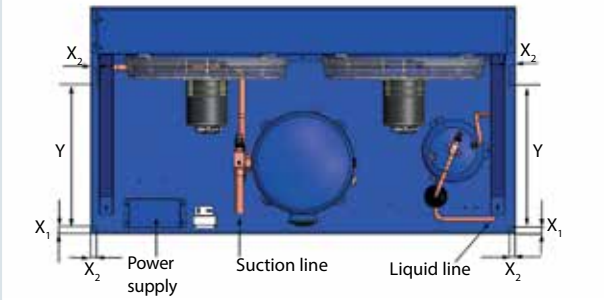
Front view



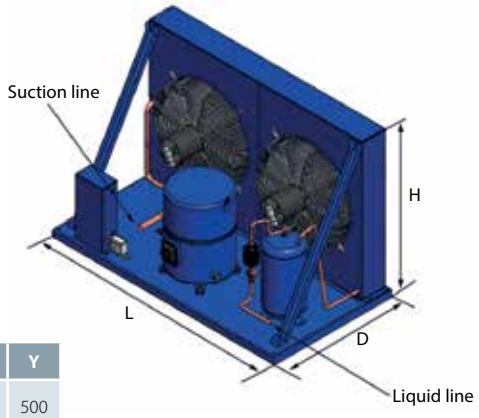
Viewed from rear left



Top view



Isometric view

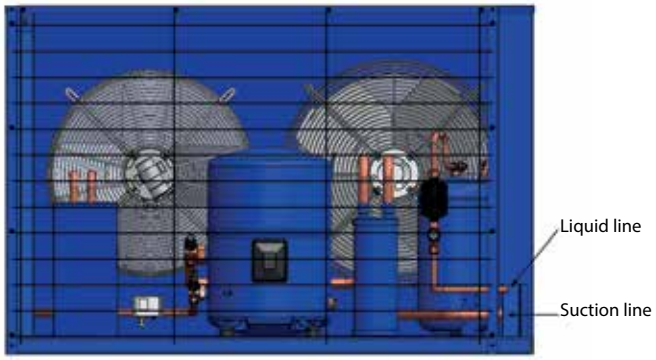


Fixing points	X_1	X_2	Y
OP-HG...064D to 160D	25	20	500

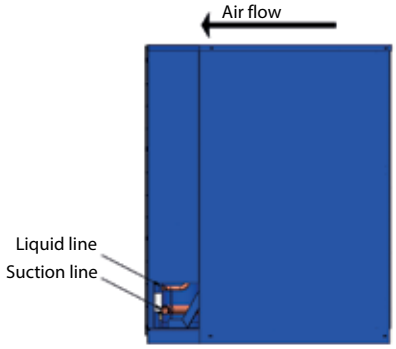
Dimensions

Figure 2B - D40 version (Reciprocating compressor - 2 fans)

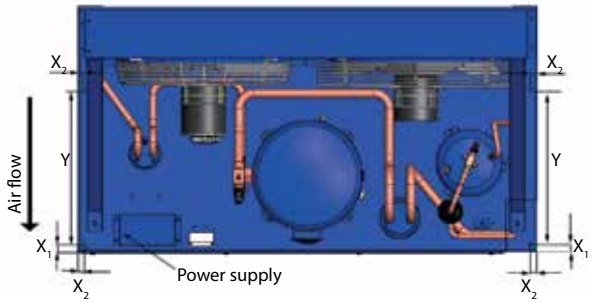
Front view



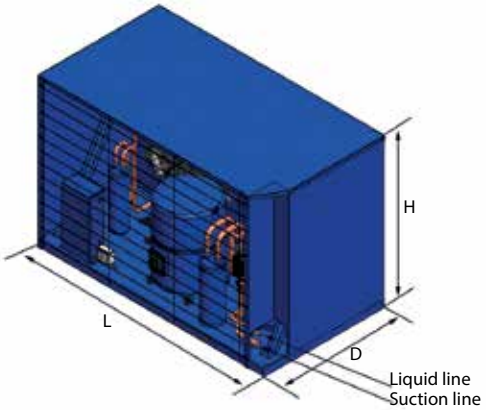
Viewed from rear right



Top view (without cover cap)



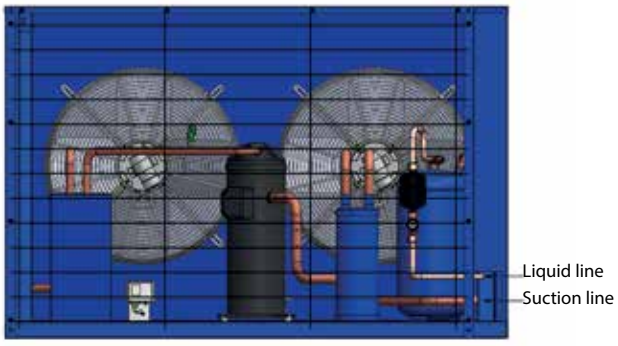
Isometric view



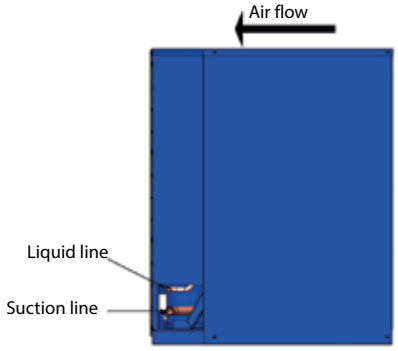
Fixing points	X_1	X_2	Y
OP-HG...064D to 160D OP-LG…215D to 271D	25	20	500

Figure 4A - D40 version (scroll compressor - 2 fans)

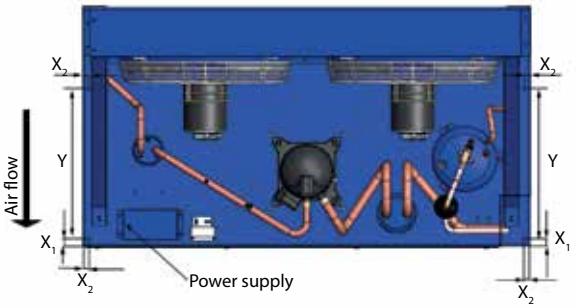
Front view



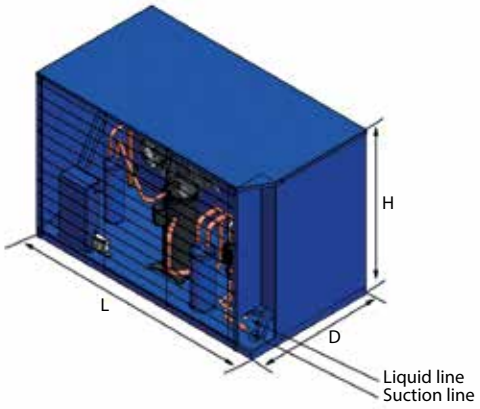
Viewed from rear right



Top view (without cover cap)



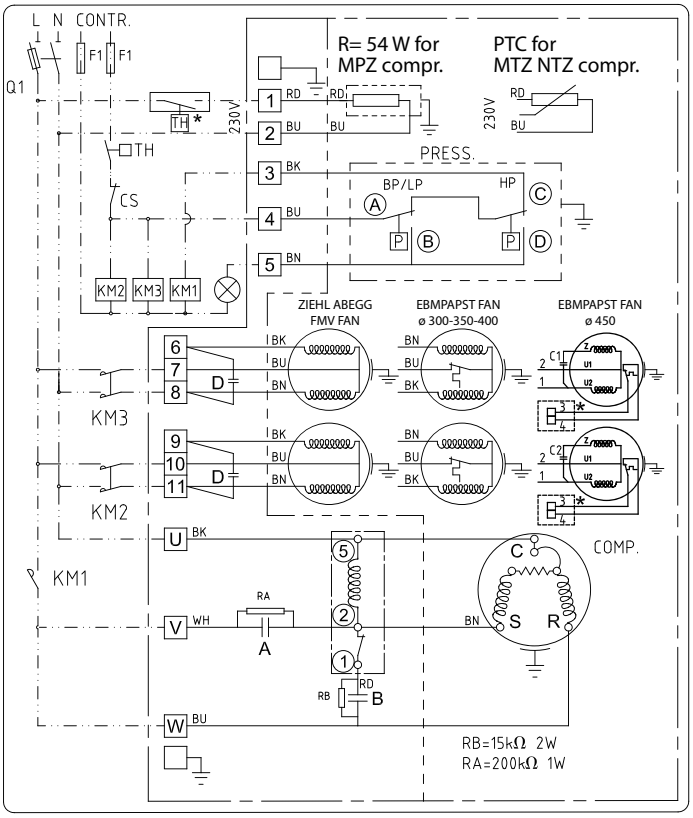
Isometric view



Fixing points	X_1	X_2	Y
OP-HRU…038D to 076D	25	20	500

Wiring diagram

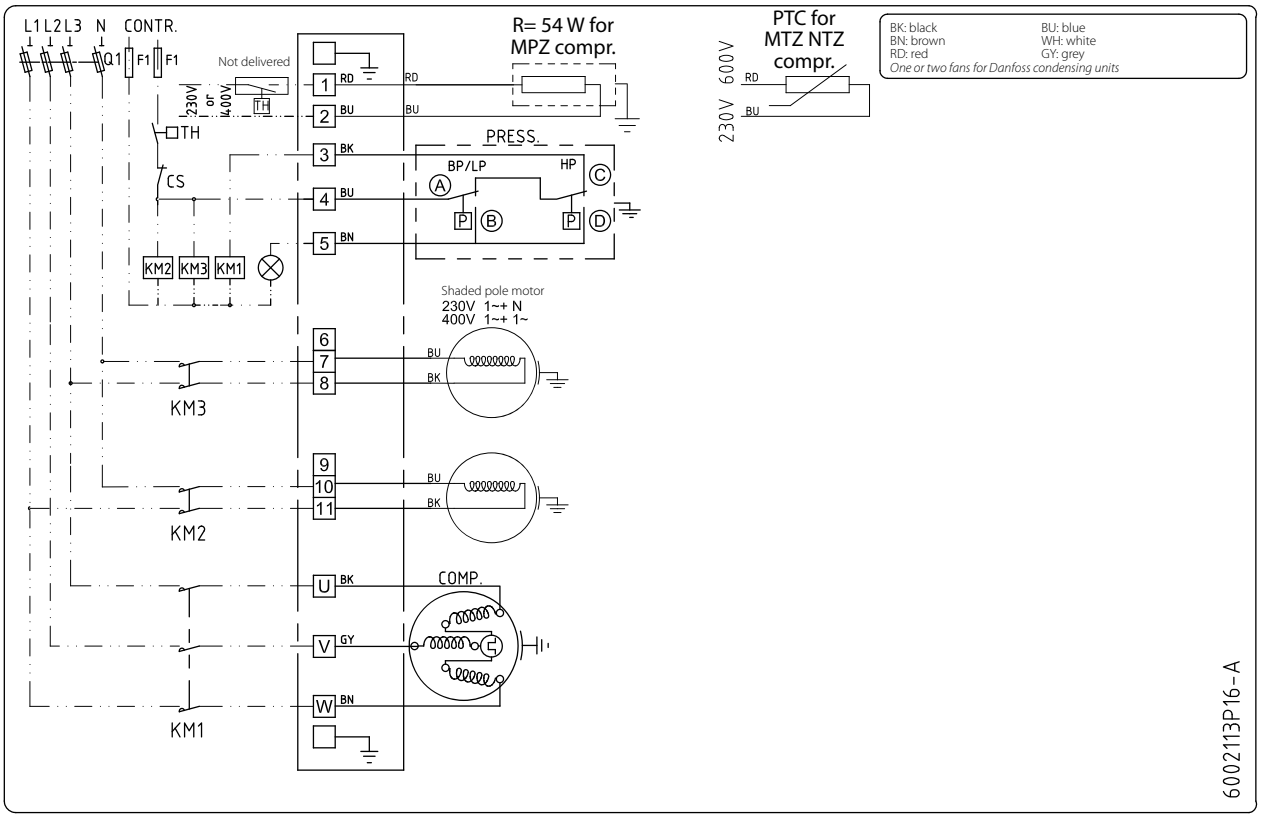
1



BK: black BU: blue
BN: brown WH: white
RD: red GY: grey
One or two fans for Danfoss condensing units

*) ***Option**:
overload protector if available

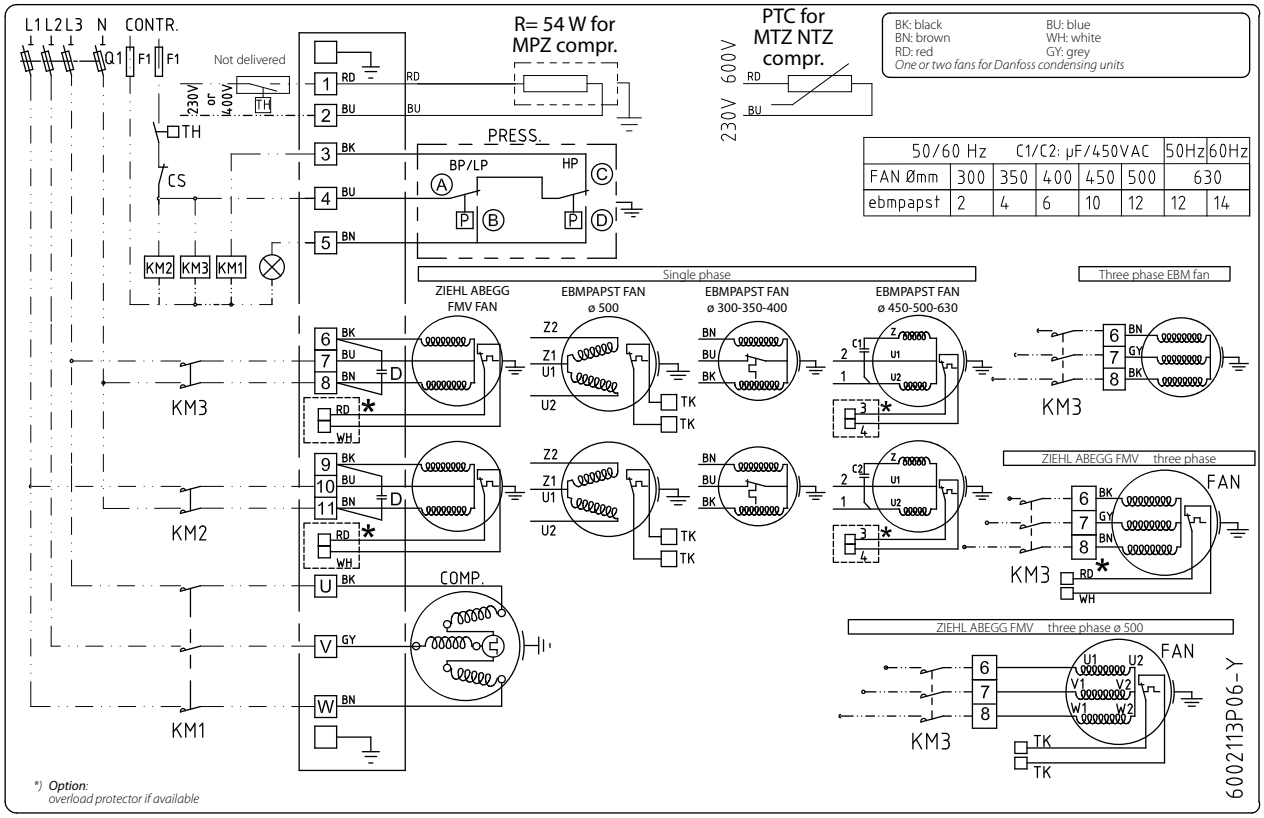
2



BK: black BU: blue
BN: brown WH: white
RD: red GY: grey
One or two fans for Danfoss condensing units

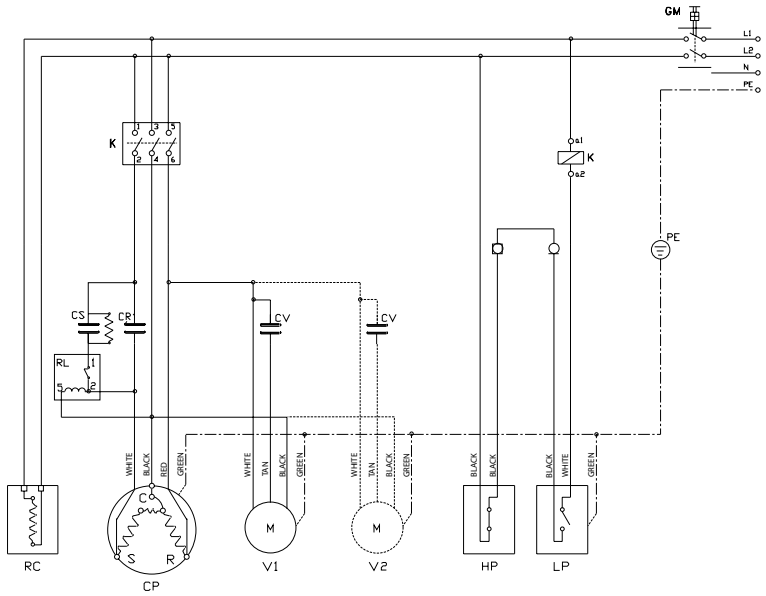
Wiring diagram

3



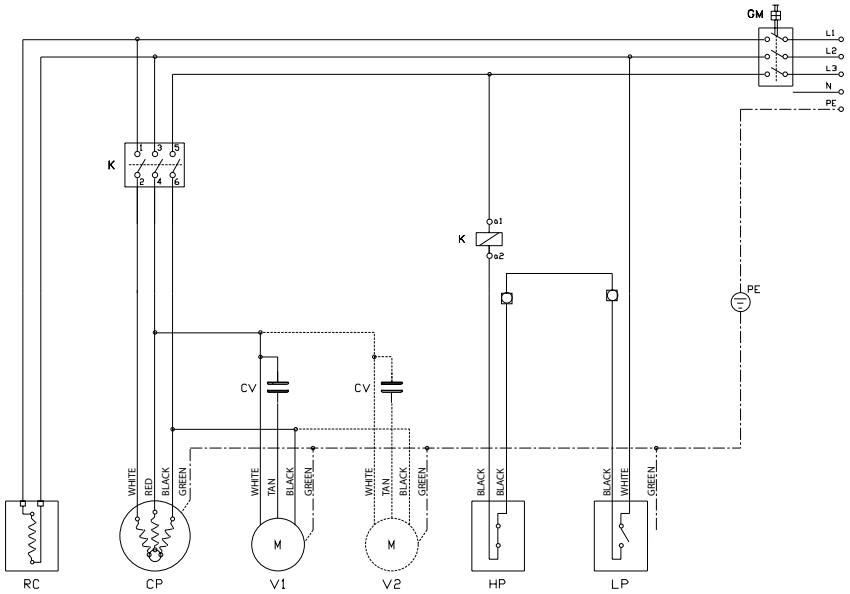
Wiring diagram - ASEAN

Electrical code N - 230 V/1-ph/60 Hz - Units equipped with reciprocating hermetic and scroll compressors



Legend	
CP	Compressor
CR	Run capacitor
CS	Starting capacitor
CV	Fan capacitor
GM	Motor protection
K	Contactor
HP	High-pressure switch
LP	Low-pressure switch
RC	Crankcase heater
RL	Relay
V	Fan

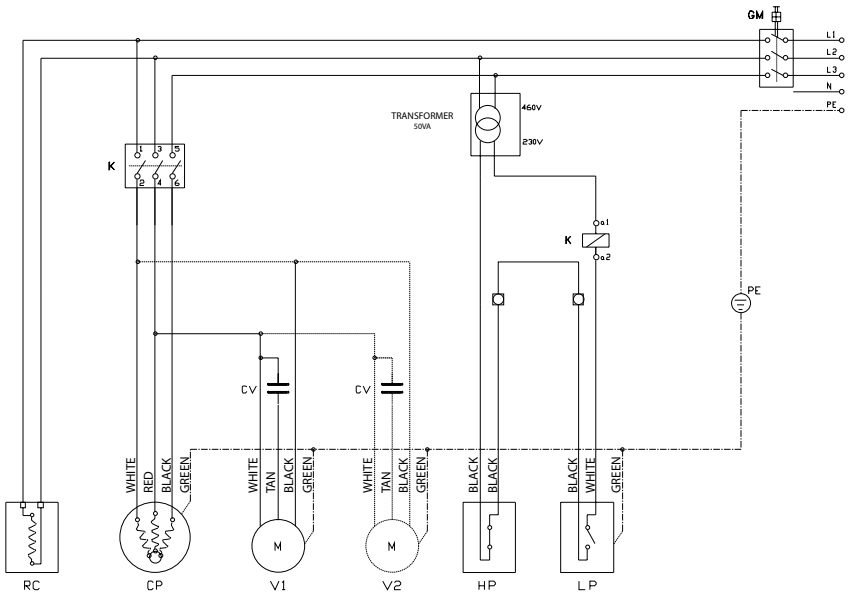
Electrical code Q - 230 V/3-ph/60 Hz - Units equipped with reciprocating hermetic compressors



Legend	
CP	Compressor
CV	Fan capacitor
GH	Motor protection
K	Contactor
HP	High-pressure switch
LP	Low-pressure switch
RC	Crankcase heater
V1-V2	Fan

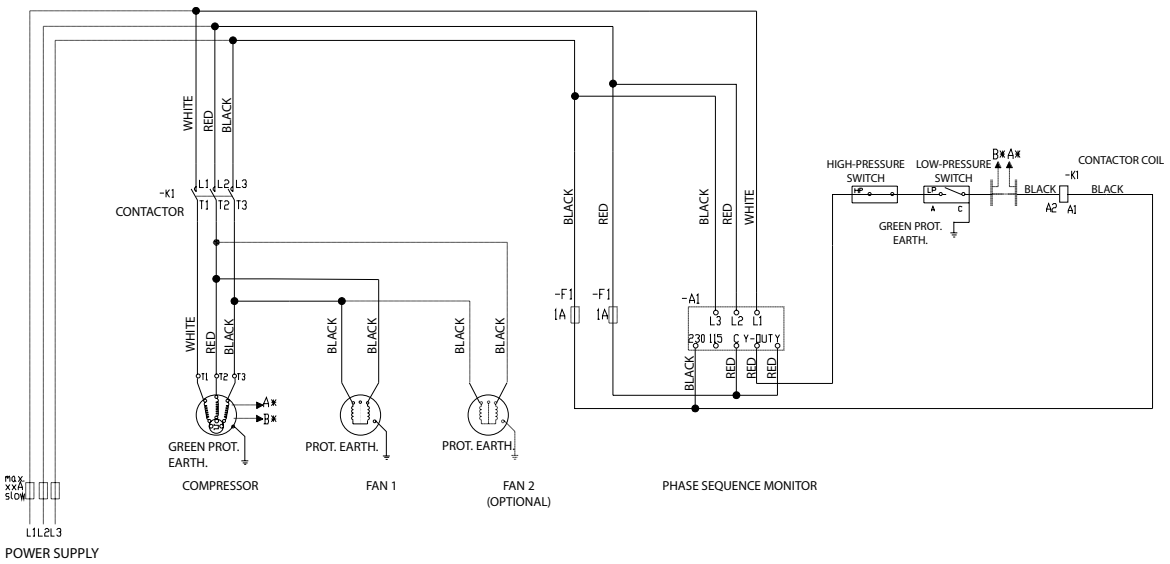
Wiring diagram - ASEAN

Electrical code R - 460 V/3-ph/60 Hz - Units equipped with reciprocating hermetic compressors



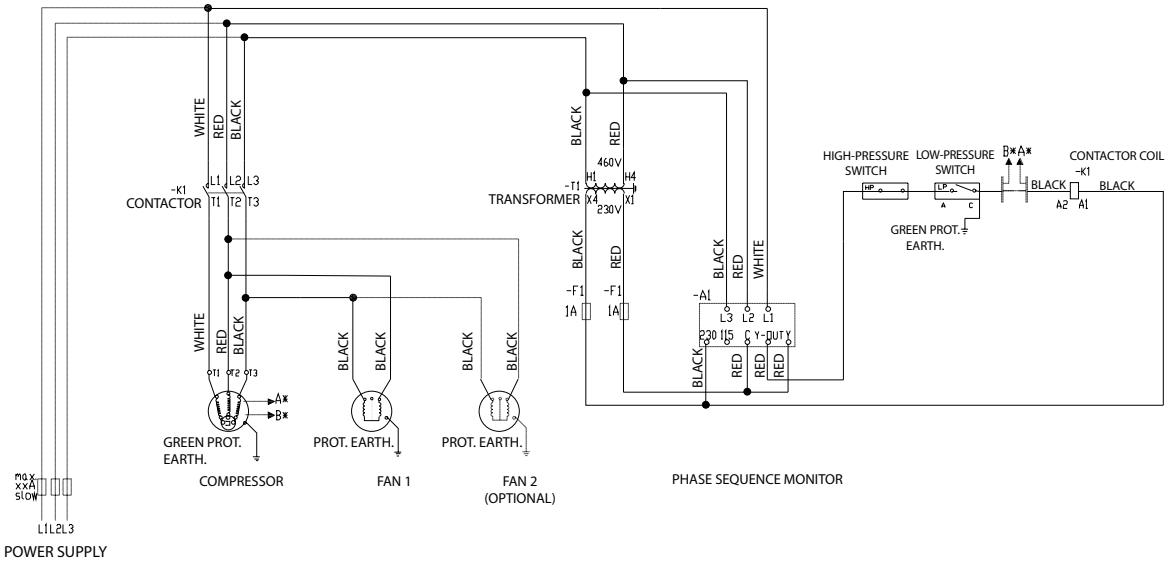
Legend	
CP	Compressor
CV	Fan capacitor
GM	Motor protection
K	Contactor
HP	High-pressure switch
LP	Low-pressure switch
RC	Crankcase heater
V1-V2	Fan

Electrical code Q - 230 V/3-ph/60 Hz - Units equipped with scroll compressors



Wiring diagram - ASEAN

Electrical code R - 460 V/3-ph/60 Hz - Units equipped with scroll compressors



Quick Selection Notes:

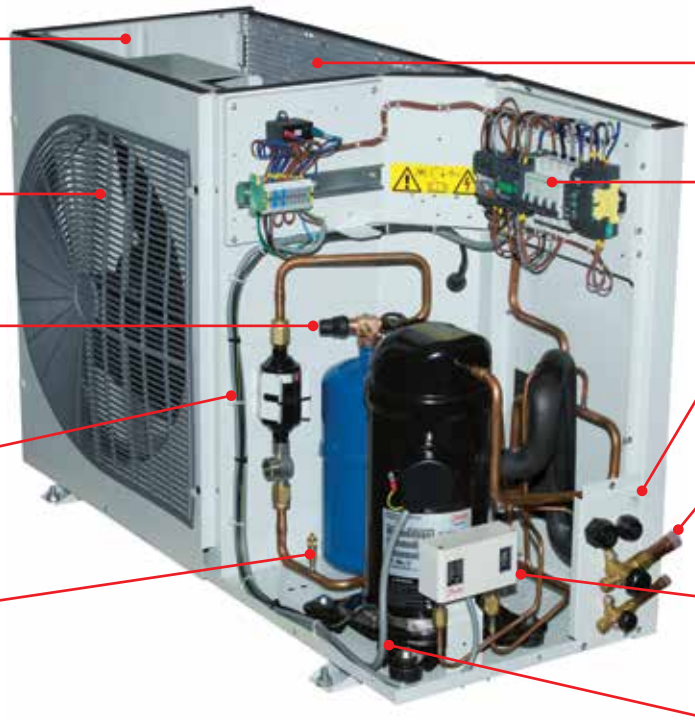
Optyma™ **Slim Pack - The cost effective outdoor solution**

Optyma™ **Slim Pack** is the cost effective packaged condensing unit with a new condenser technology - Micro Channel Heat Exchanger. Danfoss has developed Optyma™ **Slim Pack** to meet all customers' needs in MBP and LBP applications.

Reliability, compactness and low cost make the Danfoss Optyma™ **Slim Pack** condensing unit an optimal cooling solution for refrigeration. Dedicated outdoor condensing unit for cold, fermentation and storage rooms in all kinds of convenience stores or restaurants.



Features
Optyma™ **Slim Pack**



Resistance to corrosion of the heat exchanger and housing prolongs the lifetime of the unit

Accessible fan and condenser for easy maintenance

Receiver with shut-off valve makes servicing easier

Filter drier and sight glass protect the unit from moisture, acids and solid particles. Flare connections simplify maintenance

Thanks to Schrader valve the unit is prepared for using different types of fan control

Micro-channel heat exchanger is light and easy to clean

Accessible pre-wired electrical junction panel enables easy servicing

Quick connections accelerate installation: just mount, braze and plug

Accessible service ports on service valves (suction and liquid)

Dual KP17WB pressure control for enhanced safety

Crankcase heater protects the compressor when operating under cold weather conditions

Facts

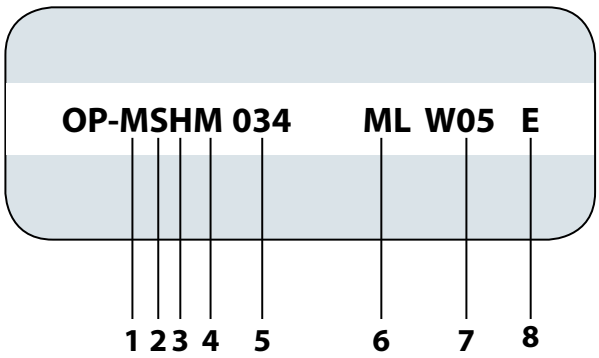
Applications:
- Mini-markets / supermarkets
- Restaurants
- Wine cellars
- Fish markets
- Butchers' shops
- Bakeries
- Laboratories
- Florists
- Petrol stations
- Industrial processes
- Milk cooling
- Dairy and general food storage
- Cold rooms
- Freezers

- The Optyma™ **Slim Pack** can be located even in residential areas. Smart compressor design. These unit presents low acoustic levels improving comfort and reducing surrounding impact.
- We provide the units with highly reliable scroll and reciprocating compressors, micro channel heat exchangers and all needed components which are pre-assembled, integrated and factory tested.
- Danfoss Optyma™ **Slim Pack** is designed for Outdoor & Indoor conditions using corrosion resistant microchannel heat exchangers and housing. The galvanized, painted and salt spray tested housing is used to ensure long lifetime.
- Optyma™ **Slim Pack** Condensing units meet Ecodesign 2016 targets and Energy related Product (ErP) directive applicable for fan motors. In addition, Optyma™ **Slim Pack** Condensing units are qualified with Low GWP refrigerants reducing environental impact.
- System designed to perfectly fit into a compact and light housing. The Optyma™ **Slim Pack** weights up to 87 kg, which makes it the lightest solution in the market
- With quick connections of suction and liquid lines and service ports outside Optyma™ **Slim Pack** is among the fastest and easiest to install. Easy to clean MCHE saves your time and efforts, ensuring longer lifetime and optimized efficiency
- Danfoss Optyma™ **Slim Pack** extends your possibilities with models for low and medium temperatures.

Nomenclature

Designation system for the Optyma™ Slim Pack range

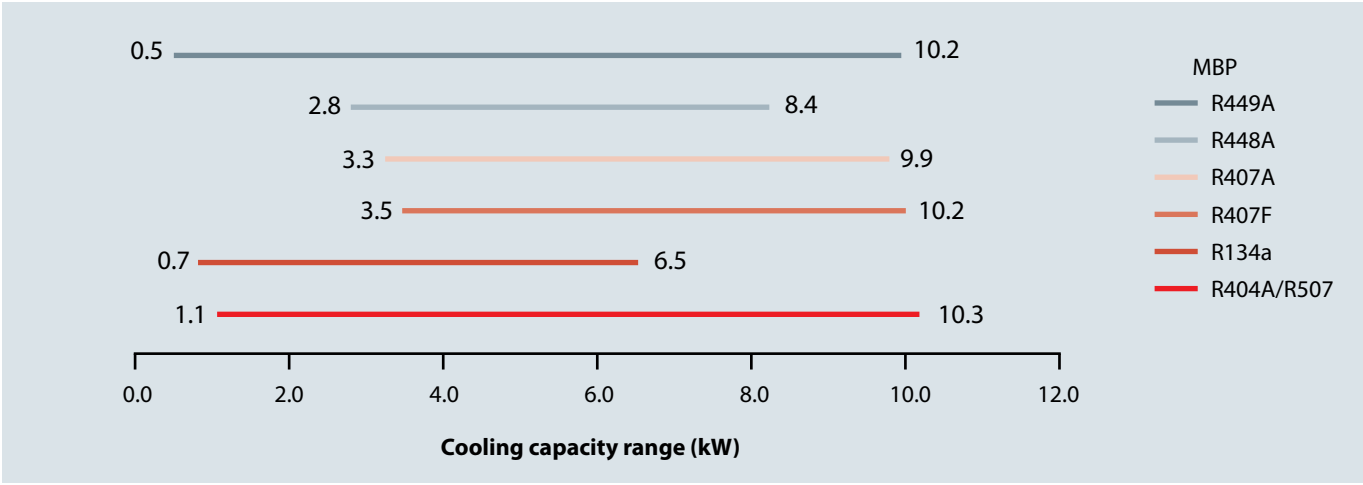
(additional program frequency etc.: please contact your local wholesaler)

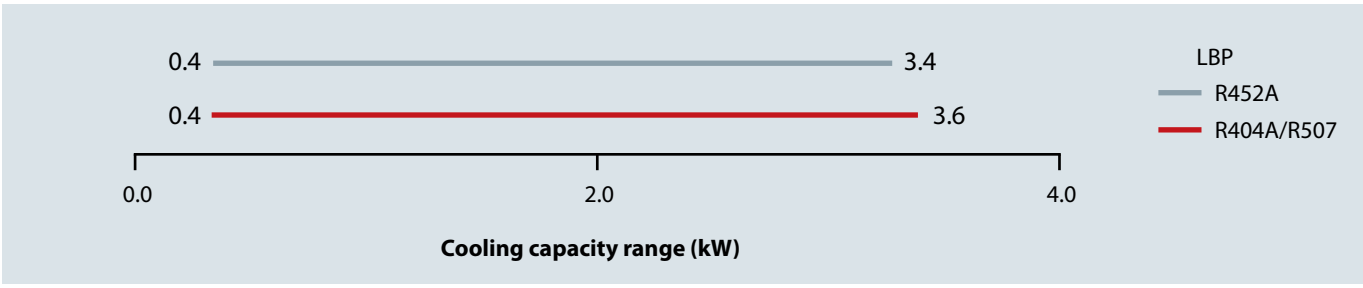


Number	Title	Description
1	Application	M = MBP L = LBP
2	Family	S = Optyma™ **Slim Pack**
3	Refrigerant	Q= R452A/R404A/507 ; G=R134a ; H = R404A/R507 Z= R404A/507/R134a/R407A/R407F/R452A/R448A/R449A X = R404A/507/R134a/R407A/R407F/R448A/R449A Y = R404A/507/R449A
4	Condenser	M = Micro channel heat exchanger
5	Displacement	Displacement in cm^3
6	Compressor platform	AJ = CAJ, TAJ (Reciprocating) FH = FH, TFH (Reciprocating) NF = NF (Reciprocating) NT = NTZ (Reciprocating) SC = SC (Reciprocating) MP = MPT (Reciprocating) MY = MLY (Reciprocating) MX = MX (Reciprocating) ML = MLZ (Scroll) LL = LLZ (Scroll)
7	Version	W05 Standard Optyma™ **Slim Pack**
8	Voltage code	G = 230 V-1ph Comp & Fan E = 400 V-3ph Comp & 230 V-1ph Fan

Capacity & Operating range

Optyma™ Slim Pack - COOLING CAPACITY AND OPERATING RANGE RANGE [kW]





MBP *Rated conditions, Saturated suction temperature -10 °C. Ambiant air temperature 32 °C. Superheat 10 K. SubCooling 0K*
LBP *Rated conditions, Saturated suction temperature -35 °C. Ambiant air temperature 32 °C. Superheat 10 K. SubCooling 0K*

Condensing Unit Limits
Ambiant Temp [°C] Up to 43 °C

T Evaporation [°C]	**Min**	**Max**
LBP R404A	*-40*	*-10*
LBP R452A	*-40*	*-10*
MBP R134a	*-15*	*15*
MBP R404A	*-20*	*10*
MBP R449A	*-25*	*8*
MBP R448A	*-25*	*8*
MBP R407F	*-20*	*10*
MBP R407A	*-20*	*10*

Limits depends on the selected unit

Performance data R404A/R507 LBP

Performance with **SH = 10 K & SC = 0 K**

Code number	Model number	Electrical code [1]	T_{amb} [°C]	Cooling capacity Q [kW] T_e -40 °C	-35 °C	-30 °C	-25 °C	-20 °C	-15 °C	-10 °C	P [kW] -25 °C	COP [2]	EcoDesign [3] Q [kW]	P [kW]	COP_A	SEPR	Sound power level dB(A)	Sound pressure level 10 m dB(A)
114X7081	OP-LSHM015SCW05G	G	27	0.34	0.46	0.59	0.76	0.95	1.17	1.42	–	–	–	–	–	–	–	–
			32	0.30	0.40	0.53	0.68	0.86	1.07	1.30	0.61	1.13	0.454	0.49	0.93	–	63	32
			38	0.24	0.34	0.46	0.60	0.76	0.95	1.16	–	–	–	–	–	–	–	–
			43	0.20	0.29	0.40	0.52	0.67	0.84	1.04	–	–	–	–	–	–	–	–
114X7106	OP-LSQM014MPW05G	G	27	–	0.49	0.64	0.80	0.98	1.17	1.38	–	–	–	–	–	–	–	–
			32	–	0.44	0.58	0.73	0.89	1.07	1.26	0.57	1.26	0.500	0.49	1.03	–	60	29
			38	–	0.38	0.50	0.63	0.78	0.95	1.13	–	–	–	–	–	–	–	–
			43	–	0.34	0.44	0.56	0.69	0.84	1.01	–	–	–	–	–	–	–	–
114X7107	OP-LSQM018MPW05G	G	27	–	0.54	0.71	0.90	1.12	1.35	1.59	–	–	–	–	–	–	–	–
			32	–	0.48	0.64	0.82	1.01	1.23	1.46	0.62	1.33	0.540	0.50	1.07	–	60	29
			38	–	0.41	0.55	0.71	0.89	1.09	1.31	–	–	–	–	–	–	–	–
			43	–	0.36	0.48	0.63	0.79	0.97	1.17	–	–	–	–	–	–	–	–
114X7082	OP-LSHM018SCW05G	G	27	0.41	0.55	0.72	0.91	1.14	1.40	1.70	–	–	–	–	–	–	–	–
			32	0.36	0.49	0.64	0.82	1.04	1.28	1.56	0.72	1.15	0.550	0.57	0.96	–	63	32
			38	0.30	0.41	0.55	0.72	0.91	1.13	1.39	–	–	–	–	–	–	–	–
			43	0.24	0.35	0.48	0.63	0.80	1.01	1.24	–	–	–	–	–	–	–	–
114X7085	OP-LSQM026AJW05G	G	27	0.53	0.73	0.98	1.27	1.61	1.99	2.43	–	–	–	–	–	–	–	–
			32	0.45	0.64	0.87	1.14	1.45	1.81	2.22	0.91	1.26	0.723	0.72	1.01		67	36
			38	0.37	0.54	0.75	0.99	1.27	1.59	1.96	–	–	–	–	–	–	–	–
			43	–	0.46	0.64	0.86	1.11	1.40	1.74	–	–	–	–	–	–	–	–
114X7086	OP-LSQM034AJW05G	G	27	0.69	0.93	1.23	1.59	2.00	2.48	3.02	–	–	–	–	–	–	–	–
			32	0.60	0.83	1.10	1.43	1.81	2.25	2.75	1.21	1.18	0.929	0.95	0.98		68	37
			38	0.50	0.70	0.95	1.24	1.58	1.98	2.43	–	–	–	–	–	–	–	–
			43	–	0.60	0.82	1.08	1.39	1.75	2.16	–	–	–	–	–	–	–	–
114X7087	OP-LSQM048NTW05G	G	27	0.78	1.13	1.57	2.08	2.68	3.35	4.10	–	–	–	–	–	–	–	–
			32	0.65	0.98	1.38	1.85	2.40	3.02	3.71	1.44	1.28	1.104	1.10	1.01		71	40
			38	0.50	0.80	1.15	1.58	2.06	2.61	3.23	–	–	–	–	–	–	–	–
			43	0.38	0.65	0.97	1.35	1.78	–	–	–	–	–	–	–	–	–	–
114X7088	OP-LSQM048NTW05E	E	27	0.78	1.14	1.57	2.07	2.64	3.29	4.01	–	–	–	–	–	–	–	–
			32	0.67	1.00	1.39	1.85	2.37	2.96	3.61	1.43	1.29	1.126	1.00	1.13		71	40
			38	0.54	0.83	1.18	1.58	2.04	2.57	3.15	–	–	–	–	–	–	–	–
			43	–	0.69	1.00	1.36	1.77	–	–	–	–	–	–	–	–	–	–

LBP

This table continues in the next page

[1]) G - Compressor 230V/1~/50Hz, fan 230V/1~/50Hz
E - Compressor 400V/3~/50Hz, fan 230V/1~/50Hz
[2]) Nominal conditions, Saturated suction temperature -25 °C. Ambient air temperature 32 °C. Superheat 10 K.
[3]) Rated conditions, Saturated suction temperature -35 °C. Ambient air temperature 32 °C. Return Gas Temperature 20 °C

SEPR, Seasonal Energy Performance Ratio
Q [kW], Cooling Capacity
P [kW], Power Input

For more information related to EcoDesign compliance, please refer to Coolselector®
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EcoDesign 2016

Performance data R404A/R507 LBP

Performance with **SH = 10 K & SC = 0 K**

Code number	Model number	Electrical code [1]	T_{amb} [°C]	Cooling capacity Q [kW] T_e -40 °C	-35 °C	-30 °C	-25 °C	-20 °C	-15 °C	-10 °C	P [kW] -25 °C	COP [2]	EcoDesign [3] Q [kW]	P [kW]	COP_A	SEPR	Sound power level dB(A)	Sound pressure level 10 m dB(A)
114X7096	OP-LSQM074FHW05E	E	27	1.18	1.67	2.25	2.93	3.69	4.54	5.47	–	–	–	–	–	–	–	–
			32	0.99	1.43	1.97	2.59	3.29	4.07	4.93	2.09	1.24	1.620	1.51	1.07	–	75	44
			38	0.78	1.17	1.65	2.20	2.83	3.53	4.30	–	–	–	–	–	–	–	–
			43	0.62	0.97	1.39	1.89	2.45	3.09	3.79	–	–	–	–	–	–	–	–
114X7095	OP-LSQM074FHW05G	G	27	1.18	1.66	2.23	2.89	3.63	4.46	5.36	–	–	–	–	–	–	–	–
			32	0.98	1.44	1.97	2.58	3.27	4.03	4.88	2.25	1.15	1.627	1.66	0.98	–	75	44
			38	0.76	1.17	1.65	2.21	2.83	3.53	4.29	–	–	–	–	–	–	–	–
			43	0.57	0.95	1.40	1.90	2.47	3.10	3.80	–	–	–	–	–	–	–	–
114X7089	OP-LSQM068NTW05G	G	27	1.33	1.79	2.35	2.99	3.73	4.55	5.44	–	–	–	–	–	–	–	–
			32	1.19	1.61	2.11	2.69	3.36	4.10	4.91	2.18	1.23	1.826	1.73	1.06	–	71	40
			38	1.02	1.39	1.83	2.34	2.92	3.56	4.27	–	–	–	–	–	–	–	–
			43	0.87	1.20	1.59	2.04	2.55	–	–	–	–	–	–	–	–	–	–
114X7090	OP-LSQM068NTW05E	E	27	1.36	1.86	2.44	3.11	3.85	4.67	5.56	–	–	–	–	–	–	–	–
			32	1.17	1.63	2.16	2.77	3.45	4.20	5.02	2.13	1.30	1.845	1.61	1.14	–	71	40
			38	0.97	1.37	1.85	2.39	2.99	3.66	4.39	–	–	–	–	–	–	–	–
			43	0.81	1.18	1.60	2.08	2.62	–	–	–	–	–	–	–	–	–	–
114X7091	OP-LSQM067LLW05E	E	27	2.21	2.82	3.55	4.39	5.36	6.48	7.73	–	–	–	–	–	–	–	–
			32	2.02	2.60	3.28	4.06	4.97	6.00	7.16	2.87	1.41	2.942	2.48	1.19	1.65	71	40
			38	1.79	2.32	2.93	3.65	4.46	5.39	6.45	–	–	–	–	–	–	–	–
			43	1.59	2.07	2.63	3.28	4.02	4.87	5.83	–	–	–	–	–	–	–	–
114X7092	OP-LSQM084LLW05E	E	27	2.65	3.37	4.24	5.26	6.44	7.80	9.32	–	–	–	–	–	–	–	–
			32	2.44	3.11	3.91	4.85	5.94	7.18	8.58	3.43	1.41	3.528	2.91	1.21	1.68	73	42
			38	2.17	2.78	3.49	4.33	5.30	6.41	7.67	–	–	–	–	–	–	–	–
			43	1.93	2.48	3.13	3.88	4.75	5.75	6.88	–	–	–	–	–	–	–	–
114X7075	OP-LSQM098LLW05E	E	27	3.09	3.92	4.91	6.08	7.42	8.94	10.65	–	–	–	–	–	–	–	–
			32	2.84	3.61	4.52	5.59	6.82	8.22	9.79	3.91	1.43	4.103	3.30	1.24	1.72	74	43
			38	2.52	3.22	4.03	4.99	6.08	7.32	8.72	–	–	–	–	–	–	–	–
			43	2.24	2.87	3.61	4.46	5.44	6.55	7.80	–	–	–	–	–	–	–	–

LBP

[1]) G - Compressor 230V/1~/50Hz, fan 230V/1~/50Hz
E - Compressor 400V/3~/50Hz, fan 230V/1~/50Hz
[2]) Nominal conditions, Saturated suction temperature -25 °C. Ambient air temperature 32 °C. Superheat 10 K.
[3]) Rated conditions, Saturated suction temperature -35 °C. Ambient air temperature 32 °C. Return Gas Temperature 20 °C

SEPR, Seasonal Energy Performance Ratio
Q [kW], Cooling Capacity
P [kW], Power Input

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EcoDesign 2016

Performance data R452A LBP

Performance with **SH = 10 K & SC = 0 K**

Code number	Model number	Electrical code [1]	T_{amb} [°C]	Cooling capacity Q [kW]							P [kW]	COP [2]	EcoDesign [3]				Sound power level dB(A)	Sound pressure level 10 m dB(A)
				T_e									Q [kW]	P [kW]	COP_A	SEPR		
				-40 °C	-35 °C	-30 °C	-25 °C	-20 °C	-15 °C	-10 °C	-25 °C							
114X7106	OP-LSQM014MPW05G	G	27	–	0.45	0.58	0.72	0.88	1.04	1.22	–	–	–	–	–	–	–	–
			32	–	0.41	0.53	0.66	0.80	0.95	1.12	0.53	1.24	0.451	0.44	1.02	–	60	32
			38	–	0.35	0.46	0.57	0.70	0.84	0.99	–	–	–	–	–	–	–	–
			43	–	0.31	0.40	0.51	0.62	0.75	0.89	–	–	–	–	–	–	–	–
114X7107	OP-LSQM018MPW05G	G	27	–	0.48	0.64	0.82	1.02	1.24	1.48	–	–	–	–	–	–	–	–
			32	–	0.43	0.58	0.74	0.93	1.13	1.35	0.57	1.31	0.476	0.46	1.03	–	60	32
			38	–	0.37	0.50	0.65	0.82	1.00	1.21	–	–	–	–	–	–	–	–
			43	–	0.32	0.44	0.57	0.72	0.89	1.08	–	–	–	–	–	–	–	–
114X7085	OP-LSQM026AJW05G	G	27	0.43	0.61	0.84	1.12	1.45	1.84	2.29	–	–	–	–	–	–	–	–
			32	0.37	0.54	0.75	1.01	1.32	1.68	2.11	0.86	1.18	0.598	0.67	0.89	–	67	36
			38	–	0.46	0.65	0.88	1.16	1.49	1.88	–	–	–	–	–	–	–	–
			43	–	0.39	0.56	0.78	1.03	1.34	1.69	–	–	–	–	–	–	–	–
114X7086	OP-LSQM034AJW05G	G	27	0.55	0.78	1.06	1.40	1.81	2.29	2.85	–	–	–	–	–	–	–	–
			32	0.49	0.70	0.95	1.27	1.65	2.10	2.62	1.14	1.12	0.770	0.90	0.86	–	68	37
			38	–	0.59	0.83	1.11	1.46	1.87	2.35	–	–	–	–	–	–	–	–
			43	–	0.51	0.72	0.98	1.30	1.68	2.12	–	–	–	–	–	–	–	–
114X7087	OP-LSQM048NTW05G	G	27	0.76	1.11	1.54	2.06	2.66	3.36	4.14	–	–	–	–	–	–	–	–
			32	0.64	0.96	1.36	1.83	2.38	3.02	3.74	1.25	1.46	1.064	0.92	1.16		71	40
			38	0.51	0.80	1.15	1.57	2.06	2.64	3.29	–	–	–	–	–	–	–	–
			43	0.41	0.67	0.98	1.36	1.81	2.33	2.93	–	–	–	–	–	–	–	–
114X7088	OP-LSQM048NTW05E	E	27	0.81	1.16	1.59	2.10	2.69	3.36	4.11	–	–	–	–	–	–	–	–
			32	0.68	1.00	1.40	1.86	2.41	3.03	3.72	1.25	1.49	1.110	0.92	1.21		71	40
			38	0.54	0.83	1.18	1.60	2.08	2.64	3.28	–	–	–	–	–	–	–	–
			43	0.42	0.69	1.00	1.38	1.82	2.33	2.91	–	–	–	–	–	–	–	–
114X7095	OP-LSQM074FHW05G	G	27	0.96	1.41	1.95	2.59	3.34	4.20	5.17	–	–	–	–	–	–	–	–
			32	0.81	1.23	1.73	2.33	3.03	3.84	4.76	2.11	1.11	1.36	1.56	0.88	–	75	44
			38	–	1.01	1.47	2.02	2.66	3.41	4.25	–	–	–	–	–	–	–	–
			43	–	0.83	1.25	1.76	2.35	3.04	3.82	–	–	–	–	–	–	–	–

LBP

[1]) G - Compressor 230V/1~/50Hz, fan 230V/1~/50Hz
E - Compressor 400V/3~/50Hz, fan 230V/1~/50Hz
[2]) Nominal conditions, Saturated suction temperature -25 °C. Ambient air temperature 32 °C. Superheat 10 K.
[3]) Rated conditions, Saturated suction temperature -35 °C. Ambient air temperature 32 °C. Return Gas Temperature 20 °C

SEPR, Seasonal Energy Performance Ratio
Q [kW], Cooling Capacity
P [kW], Power Input

This table continues in the next page

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EcoDesign 2016

Performance data R452A LBP

Performance with **SH = 10 K & SC = 0 K**

Code number	Model number	Electrical code [1]	T_{amb} [°C]	Cooling capacity Q [kW]							P [kW]	COP [2]	EcoDesign [3]				Sound power level dB(A)	Sound pressure level 10 m dB(A)
				T_e									Q [kW]	P [kW]	COP_A	SEPR		
				-40 °C	-35 °C	-30 °C	-25 °C	-20 °C	-15 °C	-10 °C	-25 °C							
114X7096	OP-LSQM074FHW05E	E	27	0.96	1.42	1.97	2.63	3.41	4.29	5.29	–	–	–	–	–	–	–	–
			32	0.81	1.22	1.73	2.34	3.06	3.88	4.81	–	–	–	–	–	–	–	–
			38	–	1.01	1.46	2.01	2.66	3.41	4.26	–	–	–	–	–	–	–	–
			43	–	0.84	1.25	1.74	2.34	3.02	3.81	–	–	–	–	–	–	–	–
114X7090	OP-LSQM068NTW05E	E	27	1.32	1.82	2.42	3.11	3.88	4.73	5.64	–	–	–	–	–	–	–	–
			32	1.15	1.62	2.16	2.80	3.50	4.28	5.11	1.83	1.53	1.796	1.37	1.31	–	71	40
			38	0.95	1.37	1.85	2.42	3.04	3.73	4.47	–	–	–	–	–	–	–	–
			43	0.79	1.16	1.60	2.10	2.66	3.27	3.92	–	–	–	–	–	–	–	–
114X7089	OP-LSQM068NTW05G	G	27	1.39	1.88	2.46	3.13	3.89	4.73	5.66	–	–	–	–	–	–	–	–
			32	1.18	1.64	2.17	2.79	3.49	4.28	5.14	2.11	1.33	1.820	1.65	1.11	–	71	40
			38	0.94	1.35	1.84	2.40	3.03	3.74	4.52	–	–	–	–	–	–	–	–
			43	0.75	1.13	1.57	2.08	2.65	3.30	4.02	–	–	–	–	–	–	–	–
114X7091	OP-LSQM067LLW05E	E	27	1.95	2.53	3.23	4.08	5.08	6.25	7.59	–	–	–	–	–	–	–	–
			32	1.82	2.35	2.99	3.78	4.71	5.80	7.06	2.63	1.44	2.607	2.16	1.21	1.67	71	40
			38	1.66	2.13	2.71	3.42	4.26	5.25	6.40	–	–	–	–	–	–	–	–
			43	1.54	1.96	2.48	3.11	3.87	4.78	5.84	–	–	–	–	–	–	–	–
114X7092	OP-LSQM084LLW05E	E	27	2.45	3.12	3.91	4.85	5.95	7.21	8.65	–	–	–	–	–	–	–	–
			32	2.27	2.89	3.63	4.50	5.52	6.70	8.05	3.25	1.39	3.214	2.68	1.20	1.66	73	42
			38	2.04	2.60	3.26	4.06	4.98	6.06	7.30	–	–	–	–	–	–	–	–
			43	1.84	2.35	2.95	3.67	4.51	5.50	6.64	–	–	–	–	–	–	–	–
114X7075	OP-LSQM098LLW05E	E	27	2.87	3.65	4.58	5.66	6.92	8.36	9.99	–	–	–	–	–	–	–	–
			32	2.65	3.38	4.24	5.25	6.42	7.76	9.28	3.81	1.38	3.770	3.12	1.21	1.68	74	43
			38	2.37	3.03	3.81	4.72	5.78	7.00	8.39	–	–	–	–	–	–	–	–
			43	2.14	2.73	3.43	4.26	5.22	6.34	7.61	–	–	–	–	–	–	–	–

LBP

(1) G - *Compressor 230V/1~/50Hz, fan 230V/1~/50Hz*
E - *Compressor 400V/3~/50Hz, fan 230V/1~/50Hz*

(2) *Nominal conditions, Saturated suction temperature -25 °C. Ambient air temperature 32 °C. Superheat 10 K.*

(3) *Rated conditions, Saturated suction temperature -35 °C. Ambient air temperature 32 °C. Return Gas Temperature 20 °C*

SEPR, Seasonal Energy Performance Ratio
Q [kW], Cooling Capacity
P [kW], Power Input

For more information related to EcoDesign compliance, please refer to Coolselector®
coolselector.danfoss.com or contact Danfoss

EcoDesign 2016

Performance data R134a MBP

Performance with **SH = 10 K & SC = 0 K**

Code number	Model number	Electrical code [1]	T_{amb} [°C]	Cooling capacity Q [kW]							P [kW]	COP [2]	EcoDesign [3]				Sound power level dB(A)	Sound pressure level 10 m dB(A)
				T_e									Q [kW]	P [kW]	COP_A	SEPR		
				-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	15 °C	-10 °C							
114X7099	OP-MSGM012SCW05G	G	27	0.57	0.72	0.89	1.10	1.34	1.60	1.91	–	–	–	–	–	–	–	–
			32	0.52	0.66	0.83	1.03	1.26	1.52	1.81	0.38	1.76	0.678	0.38	1.79	–	62	31
			38	0.46	0.60	0.76	0.94	1.16	1.41	1.69	–	–	–	–	–	–	–	–
			43	0.41	0.54	0.69	0.87	1.08	1.32	1.59	–	–	–	–	–	–	–	–
114X7100	OP-MSGM015SCW05G	G	27	0.60	0.77	0.98	1.22	1.50	1.82	2.19	–	–	–	–	–	–	–	–
			32	0.57	0.74	0.93	1.16	1.43	1.73	2.07	0.44	1.67	0.755	0.44	1.71	–	63	32
			38	0.53	0.69	0.87	1.08	1.33	1.61	1.92	–	–	–	–	–	–	–	–
			43	0.49	0.64	0.81	1.01	1.24	1.50	1.79	–	–	–	–	–	–	–	–
114X7101	OP-MSGM018SCW05G	G	27	0.81	1.00	1.22	1.48	1.77	2.10	2.46	–	–	–	–	–	–	–	–
			32	0.72	0.90	1.12	1.37	1.65	1.97	2.33	0.54	1.66	0.924	0.54	1.70	–	63	32
			38	0.63	0.81	1.02	1.26	1.53	1.84	2.19	–	–	–	–	–	–	–	–
			43	0.58	0.75	0.95	1.17	1.44	1.74	2.08	–	–	–	–	–	–	–	–
114X7102	OP-MSGM021SCW05G	G	27	0.93	1.17	1.44	1.75	2.08	2.46	2.86	–	–	–	–	–	–	–	–
			32	0.85	1.08	1.34	1.64	1.97	2.33	2.73	0.58	1.85	1.108	0.59	1.89	–	63	32
			38	0.77	0.99	1.23	1.52	1.83	2.18	2.57	–	–	–	–	–	–	–	–
			43	0.70	0.91	1.14	1.41	1.71	2.05	2.43	–	–	–	–	–	–	–	–
114X7103	OP-MSGM026AJW05G	G	27	1.09	1.42	1.80	2.25	2.77	3.36	4.02	–	–	–	–	–	–	–	–
			32	1.00	1.30	1.67	2.09	2.58	3.13	3.75	0.73	1.80	1.334	0.73	1.84	–	62	31
			38	0.88	1.17	1.50	1.90	2.34	2.86	3.43	–	–	–	–	–	–	–	–
			43	0.78	1.05	1.37	1.73	2.15	2.63	3.17	–	–	–	–	–	–	–	–
114X7104	OP-MSGM033AJW05G	G	27	1.42	1.83	2.29	2.83	3.43	4.11	4.86	–	–	–	–	–	–	–	–
			32	1.31	1.69	2.13	2.64	3.21	3.85	4.56	0.84	2.02	1.730	0.84	2.07	–	67	36
			38	1.18	1.53	1.94	2.41	2.94	3.53	4.19	–	–	–	–	–	–	–	–
			43	1.06	1.39	1.77	2.21	2.71	3.26	3.88	–	–	–	–	–	–	–	–
114X7062	OP-MSXM034MLW05E	E	27	1.82	2.29	2.84	3.48	4.21	5.03	5.94	–	–	–	–	–	–	–	–
			32	1.72	2.17	2.69	3.30	4.00	4.79	5.67	0.98	2.22	2.223	0.98	2.27		69	38
			38	1.60	2.02	2.51	3.09	3.74	4.49	5.33	–	–	–	–	–	–	–	–
			43	1.50	1.89	2.36	2.90	3.52	4.23	5.03	–	–	–	–	–	–	–	–
114X7061	OP-MSXM034MLW05G	G	27	1.83	2.33	2.89	3.53	4.24	5.03	5.91	–	–	–	–	–	–	–	–
			32	1.72	2.20	2.74	3.35	4.04	4.81	5.67	1.03	2.14	2.251	1.03	2.19	–	69	38
			38	1.59	2.03	2.55	3.13	3.79	4.53	5.36	–	–	–	–	–	–	–	–
			43	1.48	1.90	2.38	2.93	3.56	4.28	5.08	–	–	–	–	–	–	–	–
114X7064	OP-MSXM046MLW05E	E	27	2.47	3.08	3.80	4.63	5.58	6.64	7.81	–	–	–	–	–	–	–	–
			32	2.33	2.91	3.60	4.39	5.30	6.31	7.43	1.29	2.25	2.986	1.30	2.30		69	38
			38	2.16	2.70	3.34	4.09	4.94	5.90	6.95	–	–	–	–	–	–	–	–
			43	2.01	2.52	3.13	3.83	4.64	5.54	6.54	–	–	–	–	–	–	–	–

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This table continues in the next page

[1]) G - Compressor 230V/1~/50Hz, fan 230V/1~/50Hz
E - Compressor 400V/3~/50Hz, fan 230V/1~/50Hz
[2]) Nominal conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Superheat 10 K.
[3]) Rated conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Return Gas Temperature 20 °C

SEPR, Seasonal Energy Performance Ratio
Q [kW], Cooling Capacity
P [kW], Power Input

For more information related to EcoDesign compliance, please refer to Coolselector®
coolselector.danfoss.com or contact Danfoss

EcoDesign 2016

Performance data R134a MBP

Performance with **SH = 10 K & SC = 0 K**

Code number	Model number	Electrical code [1]	T_{amb} [°C]	Cooling capacity Q [kW]							P [kW]	COP [2]	EcoDesign [3]				Sound power level dB(A)	Sound pressure level 10 m dB(A)
				T_e									Q [kW]	P [kW]	COP_A	SEPR		
				-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	15 °C	-10 °C							
114X7063	OP-MSXM046MLW05G	G	27	2.45	3.10	3.83	4.66	5.59	6.62	7.76	–	–	–	–	–	–	–	–
			32	2.31	2.92	3.62	4.42	5.31	6.31	7.41	1.46	2.00	2.996	1.46	2.05	–	69	38
			38	2.13	2.70	3.35	4.10	4.96	5.91	6.97	–	–	–	–	–	–	–	–
			43	2.00	2.51	3.12	3.83	4.64	5.55	6.57	–	–	–	–	–	–	–	–
114X7066	OP-MSXM057MLW05E	E	27	2.97	3.73	4.60	5.59	6.71	7.95	9.31	–	–	–	–	–	–	–	–
			32	2.80	3.52	4.35	5.29	6.36	7.54	8.84	1.60	2.20	3.614	1.61	2.25		69	38
			38	2.58	3.26	4.03	4.92	5.92	7.03	8.25	–	–	–	–	–	–	–	–
			43	2.40	3.04	3.77	4.60	5.54	6.59	7.75	–	–	–	–	–	–	–	–
114X7065	OP-MSXM057MLW05G	G	27	2.97	3.74	4.62	5.61	6.71	7.92	9.26	–	–	–	–	–	–	–	–
			32	2.79	3.52	4.35	5.30	6.35	7.52	8.81	1.92	1.83	3.618	1.93	1.88	–	69	38
			38	2.59	3.25	4.02	4.90	5.90	7.01	8.24	–	–	–	–	–	–	–	–
			43	2.43	3.03	3.74	4.56	5.50	6.56	7.73	–	–	–	–	–	–	–	–
114X7068	OP-MSXM068MLW05E	E	27	3.69	4.63	5.74	7.02	8.47	10.10	11.92	–	–	–	–	–	–	–	–
			32	3.48	4.38	5.44	6.66	8.05	9.61	11.36	1.89	2.31	4.493	1.90	2.37		70	39
			38	3.24	4.08	5.07	6.21	7.52	9.01	10.66	–	–	–	–	–	–	–	–
			43	3.04	3.82	4.75	5.83	7.07	8.48	10.05	–	–	–	–	–	–	–	–
114X7067	OP-MSXM068MLW05G	G	27	3.79	4.66	5.75	7.03	8.47	10.03	11.69	–	–	–	–	–	–	–	–
			32	3.64	4.43	5.45	6.67	8.06	9.58	11.21	2.18	2.03	4.540	2.18	2.08	–	70	39
			38	3.48	4.15	5.07	6.21	7.53	9.00	10.59	–	–	–	–	–	–	–	–
			43	3.36	3.92	4.75	5.82	7.07	8.49	10.03	–	–	–	–	–	–	–	–
114X7070	OP-MSXM080MLW05E	E	27	4.28	5.39	6.67	8.13	9.78	11.63	13.67	–	–	–	–	–	–	–	–
			32	4.03	5.09	6.31	7.70	9.28	11.05	13.00	2.30	2.21	5.220	2.30	2.26	3.43	70	39
			38	3.72	4.71	5.86	7.18	8.66	10.33	12.17	–	–	–	–	–	–	–	–
			43	3.45	4.40	5.48	6.72	8.13	9.71	11.46	–	–	–	–	–	–	–	–
114X7069	OP-MSXM080MLW05G	G	27	4.25	5.47	6.79	8.23	9.82	11.58	13.52	–	–	–	–	–	–	–	–
			32	3.95	5.14	6.41	7.80	9.33	11.03	12.89	2.43	2.11	5.271	2.44	2.16	3.03	70	39
			38	3.57	4.70	5.93	7.25	8.72	10.33	12.11	–	–	–	–	–	–	–	–
			43	3.23	4.33	5.50	6.78	8.18	9.72	11.43	–	–	–	–	–	–	–	–
114X7071	OP-MSXM099MLW05E	E	27	5.26	6.57	8.12	9.89	11.87	14.03	16.35	–	–	–	–	–	–	–	–
			32	4.95	6.19	7.66	9.35	11.24	13.31	15.54	2.68	2.31	6.358	2.69	2.36	3.67	70	39
			38	4.58	5.72	7.09	8.67	10.45	12.40	14.51	–	–	–	–	–	–	–	–
			43	4.27	5.32	6.60	8.09	9.76	11.61	13.61	–	–	–	–	–	–	–	–
114X7072	OP-MSXM108MLW05E	E	27	5.56	6.93	8.55	10.38	12.42	14.65	17.06	–	–	–	–	–	–	–	–
			32	5.22	6.52	8.06	9.81	11.75	13.89	16.19	2.91	2.24	6.707	2.91	2.30	3.58	70	39
			38	4.81	6.02	7.45	9.09	10.92	12.93	15.11	–	–	–	–	–	–	–	–
			43	4.47	5.60	6.94	8.48	10.21	12.11	14.17	–	–	–	–	–	–	–	–

MBP

[1]) G - Compressor 230V/1~/50Hz, fan 230V/1~/50Hz
E - Compressor 400V/3~/50Hz, fan 230V/1~/50Hz
[2]) Nominal conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Superheat 10 K.
[3]) Rated conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Return Gas Temperature 20 °C

SEPR, Seasonal Energy Performance Ratio
Q [kW], Cooling Capacity
P [kW], Power Input

For more information related to EcoDesign compliance, please refer to Coolselector®
coolselector.danfoss.com or contact Danfoss

EcoDesign 2016

Performance data R404A/R507 MBP

Performance with **SH = 10 K & SC = 0 K**

Code number	Model number	Electrical code [1]	T_{amb} [°C]	Cooling capacity Q [kW] T_e -20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	P [kW] -10 °C	COP [2]	EcoDesign [3] Q [kW]	P [kW]	COP_A	SEPR	Sound power level dB(A)	Sound pressure level 10 m dB(A)
114X7108	OP-MSYM009MYW05G	G	27	–	0.81	1.01	1.22	1.44	1.68	–	–	–	–	–	–	–	–	–
			32	–	0.74	0.91	1.11	1.32	1.55	–	0.48	1.9	0.960	0.48	1.99	–	63	32
			38	–	0.64	0.80	0.98	1.17	1.38	–	–	–	–	–	–	–	–	–
			43	–	0.57	0.71	0.87	1.05	1.24	–	–	–	–	–	–	–	–	–
114X7077	OP-MSHM010SCW05G	G	27	0.66	0.83	1.03	1.26	1.53	1.83	–	–	–	–	–	–	–	–	–
			32	0.60	0.76	0.94	1.15	1.40	1.67	–	0.54	1.73	0.984	0.54	1.81	–	62	31
			38	0.53	0.67	0.83	1.02	1.24	1.49	–	–	–	–	–	–	–	–	–
			43	–	0.59	0.74	0.91	1.11	–	–	–	–	–	–	–	–	–	–
114X7078	OP-MSHM012SCW05G	G	27	0.80	1.00	1.23	1.50	1.80	2.14	–	–	–	–	–	–	–	–	–
			32	0.73	0.91	1.12	1.37	1.65	1.97	–	0.64	1.75	1.173	0.64	1.83		62	31
			38	0.64	0.80	0.99	1.21	1.46	1.75	–	–	–	–	–	–	–	–	–
			43	–	0.71	0.88	1.08	1.31	–	–	–	–	–	–	–	–	–	–
114X7109	OP-MSYM012MPW05G	G	27	–	1.12	1.37	1.63	1.91	2.21	–	–	–	–	–	–	–	–	–
			32	–	1.01	1.24	1.49	1.75	2.03	–	0.65	1.92	1.300	0.65	2.01		65	34
			38	–	0.88	1.09	1.31	1.56	1.82	–	–	–	–	–	–	–	–	–
			43	–	0.78	0.96	1.17	1.39	1.64	–	–	–	–	–	–	–	–	–
114X7110	OP-MSYM014MPW05G	G	27	–	1.13	1.40	1.69	2.00	2.34	–	–	–	–	–	–	–	–	–
			32	–	1.03	1.28	1.55	1.84	2.16	–	0.79	1.61	1.340	0.80	1.69	–	60	29
			38	–	0.91	1.13	1.38	1.65	1.95	–	–	–	–	–	–	–	–	–
			43	–	0.81	1.01	1.24	1.49	1.78	–	–	–	–	–	–	–	–	–
114X7079	OP-MSHM015SCW05G	G	27	0.97	1.21	1.47	1.78	2.14	2.53	–	–	–	–	–	–	–	–	–
			32	0.88	1.10	1.35	1.64	1.97	2.33	–	0.82	1.65	1.415	0.82	1.73	–	63	32
			38	0.77	0.97	1.19	1.46	1.76	2.09	–	–	–	–	–	–	–	–	–
			43	–	0.86	1.06	1.30	1.58	–	–	–	–	–	–	–	–	–	–
114X7080	OP-MSHM018SCW05G	G	27	1.12	1.38	1.69	2.04	2.43	2.88	–	–	–	–	–	–	–	–	–
			32	1.02	1.26	1.54	1.87	2.24	2.65	–	0.90	1.72	1.623	0.90	1.81	–	63	32
			38	0.89	1.11	1.37	1.66	2.00	2.37	–	–	–	–	–	–	–	–	–
			43	–	0.98	1.22	1.48	1.79	–	–	–	–	–	–	–	–	–	–
114X7111	OP-MSYM018AJW05G	G	27	1.18	1.48	1.82	2.21	2.65	3.15	3.69	–	–	–	–	–	–	–	–
			32	1.08	1.35	1.67	2.02	2.43	2.88	3.38	0.90	1.85	1.746	0.90	1.93		64	39
			38	–	–	1.48	1.80	2.16	2.56	3.00	–	–	–	–	–	–	–	–
			43	–	–	1.32	1.61	1.93	2.29	2.69	–	–	–	–	–	–	–	–
114X7097	OP-MSYM024AJW05G	G	27	–	1.82	2.29	2.82	3.42	4.08	–	–	–	–	–	–	–	–	–
			32	–	1.64	2.07	2.56	3.11	3.72	–	1.04	1.98	2.168	1.05	2.07	–	64	33
			38	–	1.42	1.80	2.24	2.74	3.29	–	–	–	–	–	–	–	–	–
			43	–	1.23	1.59	1.98	2.43	2.93	–	–	–	–	–	–	–	–	–
114X7093	OP-MSYM026AJW05E	E	27	1.60	2.03	2.52	3.08	3.70	4.39	5.14	–	–	–	–	–	–	–	–
			32	1.42	1.82	2.28	2.80	3.38	4.02	4.72	1.23	1.86	2.398	1.23	1.95		67	36
			38	1.20	1.58	2.00	2.47	2.99	3.56	4.20	–	–	–	–	–	–	–	–
			43	–	1.37	1.75	2.18	2.66	3.18	3.76	–	–	–	–	–	–	–	–
114X7083	OP-MSYM026AJW05G	G	27	1.63	2.04	2.52	3.06	3.67	4.36	5.10	–	–	–	–	–	–	–	–
			32	1.46	1.84	2.29	2.79	3.35	3.98	4.68	1.17	1.95	2.399	1.17	2.05	–	67	36
			38	1.26	1.61	2.01	2.46	2.97	3.53	4.16	–	–	–	–	–	–	–	–
			43	–	1.41	1.78	2.18	2.64	3.16	3.73	–	–	–	–	–	–	–	–
114X7094	OP-MSYM034AJW05E	E	27	2.02	2.53	3.10	3.75	4.46	5.24	6.09	–	–	–	–	–	–	–	–
			32	1.81	2.29	2.82	3.42	4.08	4.80	5.58	1.57	1.80	2.970	1.57	1.89	–	68	37
			38	1.56	2.00	2.48	3.02	3.62	4.26	4.97	–	–	–	–	–	–	–	–
			43	–	1.75	2.20	2.69	3.23	3.82	4.46	–	–	–	–	–	–	–	–

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This table continues in the next page

[1]) G - Compressor 230V/1~/50Hz, fan 230V/1~/50Hz
E - Compressor 400V/3~/50Hz, fan 230V/1~/50Hz
[2]) Nominal conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Superheat 10 K.
[3]) Rated conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Return Gas Temperature 20 °C

SEPR, Seasonal Energy Performance Ratio
Q [kW], Cooling Capacity
P [kW], Power Input

For more information related to EcoDesign compliance, please refer to Coolselector®
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EcoDesign 2016

Performance data R404A/R507 MBP

Performance with **SH = 10 K & SC = 0 K**

Code number	Model number	Electrical code [1]	T_{amb} [°C]	Cooling capacity Q [kW] T_e -20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	P [kW] -10 °C	COP [2]	EcoDesign [3] Q [kW]	P [kW]	COP_A	SEPR	Sound power level dB(A)	Sound pressure level 10 m dB(A)
114X7084	OP-MSYM034AJW05G	G	27	2.02	2.55	3.15	3.82	4.56	5.38	6.26	–	–	–	–	–	–	–	–
			32	1.80	2.30	2.86	3.48	4.17	4.92	5.73	1.65	1.74	3.008	1.65	1.82		68	37
			38	1.54	2.00	2.51	3.06	3.68	4.35	5.09	–	–	–	–	–	–	–	–
			43	–	1.75	2.21	2.72	3.27	3.88	4.54	–	–	–	–	–	–	–	–
114X7062	OP-MSXM034MLW05E	E	27	2.50	3.08	3.73	4.46	5.27	6.16	7.12	–	–	–	–	–	–	–	–
			32	2.25	2.79	3.40	4.07	4.82	5.64	6.53	1.68	2.02	3.580	1.69	2.11	–	69	38
			38	1.93	2.42	2.97	3.58	4.26	5.00	5.81	–	–	–	–	–	–	–	–
			43	1.63	2.09	2.60	3.16	3.77	4.45	5.20	–	–	–	–	–	–	–	–
114X7061	OP-MSXM034MLW05G	G	27	2.59	3.15	3.78	4.50	5.29	6.16	7.12	–	–	–	–	–	–	–	–
			32	2.37	2.89	3.48	4.14	4.88	5.70	6.61	1.75	1.99	3.669	1.76	2.08	–	69	38
			38	2.10	2.57	3.10	3.71	4.38	5.14	5.98	–	–	–	–	–	–	–	–
			43	1.87	2.29	2.78	3.33	3.96	4.66	5.45	–	–	–	–	–	–	–	–
114X7064	OP-MSXM046MLW05E	E	27	3.40	4.12	4.93	5.82	6.81	7.91	9.10	–	–	–	–	–	–	–	–
			32	3.11	3.77	4.51	5.34	6.26	7.27	8.39	2.32	1.94	4.778	2.35	2.03		69	38
			38	2.73	3.33	3.99	4.73	5.56	6.48	7.51	–	–	–	–	–	–	–	–
			43	2.39	2.93	3.53	4.20	4.95	5.80	6.75	–	–	–	–	–	–	–	–
114X7063	OP-MSXM046MLW05G	G	27	3.45	4.18	5.00	5.92	6.92	8.02	9.20	–	–	–	–	–	–	–	–
			32	3.15	3.82	4.58	5.42	6.35	7.37	8.48	2.41	1.90	4.848	2.44	1.99	–	69	38
			38	2.76	3.36	4.04	4.80	5.64	6.57	7.59	–	–	–	–	–	–	–	–
			43	2.42	2.96	3.57	4.26	5.02	5.87	6.82	–	–	–	–	–	–	–	–
114X7065	OP-MSXM057MLW05G	G	27	3.97	4.81	5.74	6.78	7.91	9.14	10.47	–	–	–	–	–	–	–	–
			32	3.62	4.38	5.24	6.19	7.23	8.37	9.61	3.24	1.62	5.571	3.29	1.69	2.90	69	38
			38	3.18	3.86	4.61	5.46	6.40	7.42	8.55	–	–	–	–	–	–	–	–
			43	2.79	3.40	4.07	4.83	5.67	6.61	7.65	–	–	–	–	–	–	–	–
114X7066	OP-MSXM057MLW05E	E	27	3.98	4.81	5.75	6.79	7.93	9.16	10.49	–	–	–	–	–	–	–	–
			32	3.63	4.39	5.25	6.20	7.25	8.40	9.64	3.12	1.68	5.580	3.16	1.76	3.01	69	38
			38	3.19	3.87	4.63	5.48	6.42	7.45	8.59	–	–	–	–	–	–	–	–
			43	2.81	3.41	4.09	4.86	5.70	6.65	7.69	–	–	–	–	–	–	–	–
114X7068	OP-MSXM068MLW05E	E	27	5.27	6.44	7.78	9.30	11.00	12.88	14.95	–	–	–	–	–	–	–	–
			32	4.83	5.93	7.18	8.59	10.18	11.95	13.91	3.25	2.20	7.566	3.28	2.31	3.73	70	39
			38	4.28	5.28	6.42	7.71	9.17	10.80	12.62	–	–	–	–	–	–	–	–
			43	3.81	4.72	5.76	6.95	8.29	9.81	11.51	–	–	–	–	–	–	–	–
114X7067	OP-MSXM068MLW05G	G	27	5.27	6.45	7.79	9.30	11.00	12.88	14.94	–	–	–	–	–	–	–	–
			32	4.83	5.93	7.18	8.59	10.18	11.95	13.90	3.33	2.16	7.568	3.35	2.26	3.66	70	39
			38	4.28	5.28	6.42	7.71	9.17	10.79	12.61	–	–	–	–	–	–	–	–
			43	3.81	4.71	5.76	6.94	8.28	9.80	11.49	–	–	–	–	–	–	–	–
114X7069	OP-MSXM080MLW05G	G	27	6.07	7.47	9.04	10.77	12.63	14.63	16.73	–	–	–	–	–	–	–	–
			32	5.50	6.81	8.27	9.89	11.65	13.54	15.54	4.00	2.07	8.735	4.03	2.17	3.33	70	39
			38	4.83	5.99	7.32	8.80	10.42	12.16	14.04	–	–	–	–	–	–	–	–
			43	4.27	5.31	6.51	7.86	9.35	10.98	12.74	–	–	–	–	–	–	–	–
114X7070	OP-MSXM080MLW05E	E	27	6.24	7.57	9.08	10.78	12.66	14.73	16.97	–	–	–	–	–	–	–	–
			32	5.71	6.95	8.35	9.93	11.68	13.61	15.72	3.82	2.19	8.822	3.86	2.29	3.71	70	39
			38	5.03	6.15	7.41	8.84	10.43	12.20	14.14	–	–	–	–	–	–	–	–
			43	4.42	5.43	6.58	7.88	9.34	10.96	12.75	–	–	–	–	–	–	–	–
114X7071	OP-MSXM099MLW05E	E	27	7.29	8.83	10.55	12.47	14.58	16.87	19.36	–	–	–	–	–	–	–	–
			32	6.64	8.06	9.65	11.42	13.38	15.52	17.85	4.94	1.95	10.216	5.00	2.04	3.37	70	39
			38	5.82	7.08	8.51	10.11	11.88	13.84	15.99	–	–	–	–	–	–	–	–
			43	5.10	6.23	7.51	8.96	10.58	12.38	14.39	–	–	–	–	–	–	–	–
114X7072	OP-MSXM108MLW05E	E	27	7.86	9.49	11.30	13.31	15.52	17.94	20.58	–	–	–	–	–	–	–	–
			32	7.15	8.65	10.32	12.17	14.21	16.46	18.93	5.41	1.91	10.943	5.48	2.00	3.31	70	39
			38	6.25	7.60	9.09	10.74	12.58	14.62	16.89	–	–	–	–	–	–	–	–
			43	5.46	6.67	8.01	9.50	11.17	13.04	15.14	–	–	–	–	–	–	–	–

MBP

[1]) G - Compressor 230V/1~/50Hz, fan 230V/1~/50Hz
E - Compressor 400V/3~/50Hz, fan 230V/1~/50Hz
[2]) Nominal conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Superheat 10 K.
[3]) Rated conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Return Gas Temperature 20 °C

SEPR, Seasonal Energy Performance Ratio
Q [kW], Cooling Capacity
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EcoDesign 2016

Performance data R449A MBP

Performance with **SH = 10 K & SC = 0 K**

Code number	Model number	Electrical code [1]	T_{amb} [°C]	Cooling capacity Q [kW]							P [kW]	COP [2]	EcoDesign [3]				Sound power level dB(A)	Sound pressure level 10 m dB(A)
				T_e									Q [kW]	P [kW]	COP_A	SEPR		
				-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	-10 °C							
114X7108	OP-MSYM009MYW05G	G	27	–	0.49	0.58	0.74	0.96	1.24	–	–	–	–	–	–	–	–	–
			32	–	0.45	0.53	0.67	0.88	1.14	–	0.33	1.59	0.535	0.33	1.61	–	62	31
			38	–	0.40	0.46	0.59	0.78	1.03	–	–	–	–	–	–	–	–	–
			43	–	0.36	0.41	0.52	0.70	0.93	–	–	–	–	–	–	–	–	–
114X7109	OP-MSYM012MPW05G	G	27	–	0.68	0.82	1.02	1.30	1.65	–	–	–	–	–	–	–	–	–
			32		0.62	0.74	0.93	1.19	1.52		0.44	1.68	0.750	0.44	1.70	–	65	34
			38	–	0.55	0.65	0.82	1.06	1.37	–	–	–	–	–	–	–	–	–
			43	–	0.50	0.57	0.72	0.95	1.24	–	–	–	–	–	–	–	–	–
114X7110	OP-MSYM014MPW05G	G	27	–	1.00	1.27	1.57	1.90	2.25	–	–	–	–	–	–	–	–	–
			32	–	0.92	1.18	1.46	1.76	2.10	–	0.71	1.64	1.195	0.72	1.67	–	60	29
			38	–	0.83	1.06	1.32	1.60	1.91	–	–	–	–	–	–	–	–	–
			43	–	0.76	0.96	1.20	1.46	1.76	–	–	–	–	–	–	–	–	–
114X7111	OP-MSYM018AJW05G	G	27	0.93	1.24	1.60	2.03	2.54	3.13	3.81	–	–	–	–	–	–	–	–
			32	0.86	1.14	1.47	1.88	2.35	2.90	3.55	0.78	1.89	1.496	0.78	1.92	–	64	39
			38	–	1.02	1.33	1.69	2.13	2.64	3.23	–	–	–	–	–	–	–	–
			43	–	0.92	1.20	1.54	1.94	2.42	2.97	–	–	–	–	–	–	–	–
114X7097	OP-MSYM024AJW05G	G	27	1.16	1.56	2.03	2.59	3.24	3.99	4.84	–	–	–	–	–	–	–	–
			32	1.04	1.41	1.86	2.38	2.98	3.68	4.48	0.90	2.06	1.885	0.90	2.09	–	64	33
			38	–	1.25	1.65	2.13	2.68	3.32	4.05	–	–	–	–	–	–	–	–
			43	–	1.11	1.48	1.92	2.43	3.03	3.71	–	–	–	–	–	–	–	–
114X7083	OP-MSYM026AJW05G	G	27	1.33	1.74	2.24	2.82	3.49	4.27	5.15	–	–	–	–	–	–	–	–
			32	1.21	1.60	2.06	2.60	3.23	3.95	4.78	1.01	2.04	2.090	1.01	2.08	–	67	36
			38	–	1.42	1.84	2.34	2.91	3.58	4.35	–	–	–	–	–	–	–	–
			43	–	1.28	1.67	2.12	2.66	3.28	3.99	–	–	–	–	–	–	–	–
114X7093	OP-MSYM026AJW05E	E	27	1.30	1.74	2.24	2.83	3.52	4.30	5.19	–	–	–	–	–	–	–	–
			32	1.17	1.58	2.06	2.61	3.25	3.99	4.83	1.06	1.95	2.092	1.06	1.98	–	67	36
			38	–	1.39	1.83	2.34	2.94	3.62	4.40	–	–	–	–	–	–	–	–
			43	–	1.24	1.65	2.12	2.67	3.31	4.04	–	–	–	–	–	–	–	–
114X7094	OP-MSYM034AJW05E	E	27	1.66	2.18	2.78	3.47	4.27	5.18	6.19	–	–	–	–	–	–	–	–
			32	1.51	2.00	2.56	3.21	3.96	4.81	5.77	1.34	1.90	2.606	1.35	1.94	–	68	37
			38	–	1.78	2.30	2.90	3.59	4.38	5.26	–	–	–	–	–	–	–	–
			43	–	1.60	2.09	2.64	3.29	4.02	4.85	–	–	–	–	–	–	–	–
114X7094	OP-MSYM034AJW05E	E	27	1.66	2.18	2.78	3.47	4.27	5.18	6.19	–	–	–	–	–	–	–	–
			32	1.51	2.00	2.56	3.21	3.96	4.81	5.77	1.34	1.90	2.606	1.35	1.94	–	68	37
			38	–	1.78	2.30	2.90	3.59	4.38	5.26	–	–	–	–	–	–	–	–
			43	–	1.60	2.09	2.64	3.29	4.02	4.85	–	–	–	–	–	–	–	–
114X7084	OP-MSYM034AJW05G	G	27	1.66	2.20	2.82	3.55	4.38	5.32	6.38	–	–	–	–	–	–	–	–
			32	1.51	2.01	2.60	3.27	4.05	4.94	5.93	1.41	1.84	2.643	1.41	1.87	–	68	37
			38	–	1.79	2.33	2.95	3.66	4.48	5.40	–	–	–	–	–	–	–	–
			43	–	1.60	2.10	2.67	3.34	4.09	4.95	–	–	–	–	–	–	–	–
114X7062	OP-MSXM034MLW05E	E	27	2.38	2.95	3.61	4.36	5.21	6.16	7.21	–	–	–	–	–	–	–	–
			32	2.20	2.74	3.37	4.08	4.88	5.78	6.78	1.63	2.07	3.432	1.63	2.10	–	69	38
			38	1.97	2.48	3.05	3.71	4.46	5.30	6.24	–	–	–	–	–	–	–	–
			43	–	2.24	2.78	3.39	4.09	4.88	5.77	–	–	–	–	–	–	–	–

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This table continues in the next page

[1]) G - Compressor 230V/1~/50Hz, fan 230V/1~/50Hz
E - Compressor 400V/3~/50Hz, fan 230V/1~/50Hz
[2]) Nominal conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Superheat 10 K.
[3]) Rated conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Return Gas Temperature 20 °C

SEPR, Seasonal Energy Performance Ratio
Q [kW], Cooling Capacity
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EcoDesign 2016

Performance data R449A MBP

Performance with **SH = 10 K & SC = 0 K**

Code number	Model number	Electrical code [1]	T_{amb} [°C]	Cooling capacity Q [kW]							P [kW]	COP [2]	EcoDesign [3]				Sound power level dB(A)	Sound pressure level 10 m dB(A)
				T_e									Q [kW]	P [kW]	COP_A	SEPR		
				-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	-10 °C							
114X7061	OP-MSXM034MLW05G	G	27	2.37	2.94	3.61	4.37	5.22	6.17	7.22	–	–	–	–	–	–	–	–
			32	2.20	2.75	3.37	4.09	4.89	5.80	6.80	1.59	2.13	3.439	1.59	2.16	–	69	38
			38	2.00	2.50	3.08	3.74	4.49	5.33	6.26	–	–	–	–	–	–	–	–
			43	–	2.29	2.83	3.44	4.14	4.93	5.81	–	–	–	–	–	–	–	–
114X7064	OP-MSXM046MLW05E	E	27	3.15	3.90	4.74	5.70	6.76	7.93	9.22	–	–	–	–	–	–	–	–
			32	2.90	3.60	4.40	5.29	6.29	7.40	8.61	2.26	1.95	4.494	2.27	1.98	–	69	38
			38	2.59	3.23	3.96	4.79	5.71	6.73	7.86	–	–	–	–	–	–	–	–
			43	–	2.92	3.59	4.35	5.20	6.15	7.21	–	–	–	–	–	–	–	–
114X7063	OP-MSXM046MLW05G	G	27	3.15	3.91	4.76	5.73	6.81	8.01	9.32	–	–	–	–	–	–	–	–
			32	2.92	3.63	4.43	5.34	6.36	7.49	8.73	2.37	1.87	4.529	2.38	1.90		69	38
			38	2.64	3.28	4.02	4.85	5.79	6.84	8.00	–	–	–	–	–	–	–	–
			43	–	2.99	3.66	4.43	5.30	6.28	7.37	–	–	–	–	–	–	–	–
114X7066	OP-MSXM057MLW05E	E	27	3.77	4.67	5.67	6.77	7.98	9.30	10.71	–	–	–	–	–	–	–	–
			32	3.43	4.27	5.21	6.25	7.38	8.61	9.95	2.97	1.75	5.339	2.99	1.78	3.07	69	38
			38	3.00	3.78	4.64	5.59	6.63	7.76	8.99	–	–	–	–	–	–	–	–
			43	–	3.35	4.14	5.01	5.97	7.02	8.16	–	–	–	–	–	–	–	–
114X7065	OP-MSXM057MLW05G	G	27	3.82	4.71	5.72	6.84	8.07	9.41	10.87	–	–	–	–	–	–	–	–
			32	3.52	4.35	5.28	6.32	7.47	8.72	10.08	3.12	1.69	5.409	3.14	1.72	2.86	69	38
			38	3.14	3.88	4.72	5.66	6.71	7.85	9.10	–	–	–	–	–	–	–	–
			43	–	3.49	4.24	5.09	6.04	7.09	8.25	–	–	–	–	–	–	–	–
114X7067	OP-MSXM068MLW05G	G	27	4.88	6.06	7.41	8.94	10.67	12.60	14.75	–	–	–	–	–	–	–	–
			32	4.52	5.63	6.90	8.36	9.99	11.83	13.87	3.16	2.19	7.037	3.17	2.22	3.45	70	39
			38	4.07	5.10	6.28	7.62	9.15	10.87	12.78	–	–	–	–	–	–	–	–
			43	–	4.64	5.74	6.99	8.42	10.03	11.84	–	–	–	–	–	–	–	–
114X7068	OP-MSXM068MLW05E	E	27	4.93	6.10	7.44	8.96	10.68	12.61	14.75	–	–	–	–	–	–	–	–
			32	4.56	5.66	6.93	8.37	10.00	11.84	13.87	3.03	2.29	7.060	3.03	2.33	3.63	70	39
			38	4.09	5.11	6.28	7.62	9.14	10.86	12.77	–	–	–	–	–	–	–	–
			43	–	4.63	5.72	6.97	8.39	10.00	11.80	–	–	–	–	–	–	–	–
114X7069	OP-MSXM080MLW05G	G	27	5.64	6.98	8.49	10.19	12.10	14.21	16.51	–	–	–	–	–	–	–	–
			32	5.26	6.52	7.94	9.55	11.34	13.33	15.51	3.82	2.08	8.108	3.84	2.11	3.22	70	39
			38	4.78	5.94	7.26	8.73	10.39	12.22	14.25	–	–	–	–	–	–	–	–
			43	–	5.44	6.65	8.02	9.56	11.27	13.16	–	–	–	–	–	–	–	–
114X7070	OP-MSXM080MLW05E	E	27	5.75	7.09	8.61	10.34	12.27	14.41	16.77	–	–	–	–	–	–	–	–
			32	5.32	6.58	8.01	9.64	11.46	13.49	15.72	3.56	2.25	8.175	3.57	2.29	3.68	70	39
			38	4.77	5.94	7.26	8.76	10.45	12.33	14.42	–	–	–	–	–	–	–	–
			43	–	5.38	6.61	8.00	9.57	11.34	13.30	–	–	–	–	–	–	–	–
114X7071	OP-MSXM099MLW05E	E	27	6.85	8.48	10.33	12.39	14.67	17.17	19.88	–	–	–	–	–	–	–	–
			32	6.33	7.86	9.58	11.51	13.65	15.99	18.54	4.67	2.05	9.800	4.69	2.09	3.46	70	39
			38	5.68	7.08	8.65	10.41	12.36	14.51	16.86	–	–	–	–	–	–	–	–
			43	–	6.40	7.83	9.44	11.24	13.22	15.41	–	–	–	–	–	–	–	–
114X7072	OP-MSXM108MLW05E	E	27	7.34	9.05	10.98	13.14	15.53	18.15	20.99	–	–	–	–	–	–	–	–
			32	6.76	8.36	10.17	12.19	14.43	16.89	19.57	5.27	1.93	10.403	5.30	1.96	3.31	70	39
			38	6.03	7.50	9.15	10.99	13.05	15.32	17.80	–	–	–	–	–	–	–	–
			43	–	6.75	8.26	9.96	11.85	13.96	16.28	–	–	–	–	–	–	–	–

MBP

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[2]) Nominal conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Superheat 10 K.
[3]) Rated conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Return Gas Temperature 20 °C

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				T_e									Q [kW]	P [kW]	COP_A	SEPR		
				-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	-10 °C							
114X7062	OP-MSXM034MLW05E	E	27	2.38	2.96	3.62	4.37	5.22	6.16	7.21	–	–	–	–	–	–	–	–
			32	2.21	2.75	3.37	4.08	4.88	5.78	6.78	1.63	2.07	3.432	1.63	2.10	–	69	38
			38	1.98	2.48	3.06	3.72	4.46	5.30	6.24	–	–	–	–	–	–	–	–
			43	–	2.25	2.78	3.40	4.10	4.89	5.77	–	–	–	–	–	–	–	–
114X7061	OP-MSXM034MLW05G	G	27	2.37	2.95	3.61	4.37	5.22	6.17	7.22	–	–	–	–	–	–	–	–
			32	2.21	2.75	3.38	4.09	4.90	5.80	6.80	1.59	2.13	3.439	1.59	2.16	–	69	38
			38	2.00	2.51	3.09	3.74	4.49	5.33	6.26	–	–	–	–	–	–	–	–
			43	–	2.30	2.83	3.45	4.14	4.93	5.81	–	–	–	–	–	–	–	–
114X7064	OP-MSXM046MLW05E	E	27	3.16	3.90	4.75	5.70	6.77	7.94	9.22	–	–	–	–	–	–	–	–
			32	2.91	3.61	4.40	5.30	6.30	7.40	8.61	2.26	1.95	4.494	2.27	1.98		69	38
			38	2.60	3.24	3.97	4.79	5.71	6.73	7.86	–	–	–	–	–	–	–	–
			43	–	2.92	3.59	4.35	5.20	6.15	7.21	–	–	–	–	–	–	–	–
114X7063	OP-MSXM046MLW05G	G	27	3.16	3.91	4.77	5.74	6.82	8.01	9.32	–	–	–	–	–	–	–	–
			32	2.93	3.63	4.44	5.34	6.36	7.49	8.73	2.37	1.87	4.529	2.38	1.90	–	69	38
			38	2.64	3.29	4.02	4.86	5.80	6.84	8.00	–	–	–	–	–	–	–	–
			43	–	3.00	3.67	4.44	5.31	6.28	7.37	–	–	–	–	–	–	–	–
114X7066	OP-MSXM057MLW05E	E	27	3.77	4.67	5.68	6.78	7.99	9.30	10.71	–	–	–	–	–	–	–	–
			32	3.44	4.28	5.22	6.25	7.39	8.62	9.95	2.97	1.76	5.339	2.99	1.78	3.07	69	38
			38	3.01	3.79	4.65	5.59	6.63	7.76	8.99	–	–	–	–	–	–	–	–
			43	–	3.36	4.15	5.02	5.98	7.02	8.16	–	–	–	–	–	–	–	–
114X7065	OP-MSXM057MLW05G	G	27	3.83	4.72	5.72	6.84	8.08	9.42	10.87	–	–	–	–	–	–	–	–
			32	3.53	4.35	5.29	6.33	7.47	8.73	10.08	3.12	1.69	5.409	3.14	1.72	2.86	69	38
			38	3.15	3.89	4.73	5.67	6.71	7.86	9.10	–	–	–	–	–	–	–	–
			43	–	3.49	4.25	5.10	6.05	7.10	8.25	–	–	–	–	–	–	–	–
114X7067	OP-MSXM068MLW05G	G	27	4.89	6.07	7.42	8.95	10.68	12.61	14.75	–	–	–	–	–	–	–	–
			32	4.53	5.64	6.91	8.36	10.00	11.84	13.87	3.16	2.19	7.037	3.17	2.22	3.45	70	39
			38	4.08	5.11	6.29	7.63	9.16	10.87	12.78	–	–	–	–	–	–	–	–
			43	–	4.65	5.75	7.00	8.43	10.04	11.84	–	–	–	–	–	–	–	–
114X7068	OP-MSXM068MLW05E	E	27	4.94	6.11	7.45	8.97	10.69	12.62	14.75	–	–	–	–	–	–	–	–
			32	4.57	5.67	6.94	8.38	10.01	11.84	13.87	3.03	2.29	7.060	3.03	2.33	3.63	70	39
			38	4.10	5.12	6.29	7.63	9.15	10.86	12.77	–	–	–	–	–	–	–	–
			43	–	4.64	5.73	6.98	8.40	10.00	11.80	–	–	–	–	–	–	–	–
114X7069	OP-MSXM080MLW05G	G	27	5.65	6.99	8.50	10.21	12.11	14.21	16.51	–	–	–	–	–	–	–	–
			32	5.27	6.53	7.96	9.56	11.35	13.33	15.51	3.83	2.08	8.108	3.84	2.11	3.22	70	39
			38	4.79	5.95	7.27	8.74	10.40	12.23	14.25	–	–	–	–	–	–	–	–
			43	–	5.45	6.67	8.03	9.56	11.27	13.17	–	–	–	–	–	–	–	–
114X7070	OP-MSXM080MLW05E	E	27	5.77	7.10	8.63	10.35	12.28	14.42	16.77	–	–	–	–	–	–	–	–
			32	5.33	6.59	8.02	9.65	11.47	13.49	15.72	3.56	2.26	8.175	3.57	2.29	3.68	70	39
			38	4.79	5.95	7.27	8.77	10.46	12.34	14.42	–	–	–	–	–	–	–	–
			43	–	5.40	6.62	8.01	9.58	11.34	13.30	–	–	–	–	–	–	–	–
114X7071	OP-MSXM099MLW05E	E	27	6.86	8.50	10.34	12.40	14.68	17.18	19.88	–	–	–	–	–	–	–	–
			32	6.34	7.88	9.60	11.52	13.66	15.99	18.54	4.67	2.06	9.800	4.69	2.09	3.46	70	39
			38	5.69	7.09	8.66	10.42	12.37	14.51	16.86	–	–	–	–	–	–	–	–
			43	–	6.41	7.85	9.46	11.25	13.23	15.41	–	–	–	–	–	–	–	–
114X7072	OP-MSXM108MLW05E	E	27	7.36	9.07	11.00	13.15	15.54	18.16	20.99	–	–	–	–	–	–	–	–
			32	6.77	8.38	10.18	12.20	14.44	16.90	19.57	5.27	1.93	10.403	5.30	1.96	3.31	70	39
			38	6.05	7.51	9.16	11.01	13.06	15.33	17.80	–	–	–	–	–	–	–	–
			43	–	6.76	8.27	9.97	11.87	13.96	16.28	–	–	–	–	–	–	–	–

MBP

[1]) G - Compressor 230V/1~/50Hz, fan 230V/1~/50Hz
E - Compressor 400V/3~/50Hz, fan 230V/1~/50Hz
[2]) Nominal conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Superheat 10 K.
[3]) Rated conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Return Gas Temperature 20 °C

SEPR, Seasonal Energy Performance Ratio
Q [kW], Cooling Capacity
P [kW], Power Input

For more information related to EcoDesign compliance, please refer to Coolselector®
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Performance data R407F MBP

Performance with **SH = 10 K & SC = 0 K**

Code number	Model number	Electrical code [1]	T_{amb} [°C]	Cooling capacity Q [kW]							P [kW]	COP [2]	EcoDesign [3]				Sound power level dB(A)	Sound pressure level 10 m dB(A)
				T_e									Q [kW]	P [kW]	COP_A	SEPR		
				-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	-10 °C							
114X7062	OP-MSXM034MLW05E	E	27	2.45	3.06	3.77	4.59	5.52	6.57	7.75	–	–	–	–	–	–	–	–
			32	2.26	2.84	3.51	4.28	5.17	6.17	7.29	1.62	2.16	3.540	1.62	2.18	–	69	38
			38	–	2.56	3.18	3.90	4.73	5.67	–	–	–	–	–	–	–	–	–
			43	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
114X7061	OP-MSXM034MLW05G	G	27	2.51	3.13	3.86	4.69	5.65	6.72	7.91	–	–	–	–	–	–	–	–
			32	2.32	2.90	3.59	4.38	5.29	6.31	7.45	1.66	2.16	3.621	1.66	2.18	–	69	38
			38	–	2.61	3.25	3.99	4.83	5.79	–	–	–	–	–	–	–	–	–
			43	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
114X7064	OP-MSXM046MLW05E	E	27	3.08	3.84	4.71	5.67	6.74	7.90	9.15	–	–	–	–	–	–	–	–
			32	2.83	3.55	4.37	5.27	6.28	7.37	8.54	2.55	1.71	4.425	2.56	1.73	–	69	38
			38	–	3.18	3.93	4.77	5.69	6.70	–	–	–	–	–	–	–	–	–
			43	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
114X7063	OP-MSXM046MLW05G	G	27	3.13	3.91	4.79	5.76	6.84	8.01	9.27	–	–	–	–	–	–	–	–
			32	2.88	3.61	4.44	5.36	6.37	7.47	8.66	2.61	1.70	4.497	2.62	1.72	–	69	38
			38	–	3.23	3.99	4.84	5.77	6.79	–	–	–	–	–	–	–	–	–
			43	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
114X7066	OP-MSXM057MLW05E	E	27	3.75	4.68	5.73	6.90	8.19	9.60	11.11	–	–	–	–	–	–	–	–
			32	3.45	4.32	5.31	6.41	7.63	8.95	10.37	3.03	1.75	5.384	3.05	1.77	2.91	69	38
			38	–	3.87	4.78	5.80	6.92	8.14	–	–	–	–	–	–	–	–	–
			43	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
114X7065	OP-MSXM057MLW05G	G	27	3.86	4.82	5.89	7.09	8.41	9.84	11.38	–	–	–	–	–	–	–	–
			32	3.55	4.45	5.46	6.59	7.83	9.17	10.62	3.14	1.74	5.538	3.15	1.76	2.91	69	38
			38	–	3.98	4.91	5.95	7.09	8.33	–	–	–	–	–	–	–	–	–
			43	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
114X7067	OP-MSXM068MLW05G	G	27	4.95	6.08	7.40	8.91	10.62	12.53	14.63	–	–	–	–	–	–	–	–
			32	4.65	5.70	6.93	8.34	9.95	11.75	13.74	3.45	2.01	7.006	3.46	2.03	3.27	70	39
			38	–	5.26	6.37	7.66	9.14	10.81	–	–	–	–	–	–	–	–	–
			43	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
114X7068	OP-MSXM068MLW05E	E	27	4.99	6.13	7.46	8.98	10.70	12.63	14.74	–	–	–	–	–	–	–	–
			32	4.69	5.75	6.99	8.41	10.03	11.85	13.85	3.31	2.11	7.063	3.32	2.13	3.42	70	39
			38	–	5.30	6.43	7.73	9.22	10.90	–	–	–	–	–	–	–	–	–
			43	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
114X7069	OP-MSXM080MLW05G	G	27	5.79	7.14	8.71	10.53	12.59	14.90	17.47	–	–	–	–	–	–	–	–
			32	5.45	6.69	8.16	9.87	11.81	14.00	16.43	3.98	2.05	8.246	3.98	2.07	3.35	70	39
			38	–	6.18	7.51	9.07	10.87	12.90	–	–	–	–	–	–	–	–	–
			43	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
114X7070	OP-MSXM080MLW05E	E	27	5.81	7.15	8.73	10.55	12.62	14.94	17.51	–	–	–	–	–	–	–	–
			32	5.46	6.71	8.19	9.89	11.84	14.04	16.48	3.79	2.16	8.267	3.80	2.18	3.52	70	39
			38	–	6.20	7.54	9.10	10.90	12.94	–	–	–	–	–	–	–	–	–
			43	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
114X7071	OP-MSXM099MLW05E	E	27	6.87	8.62	10.60	12.83	15.31	18.06	21.06	–	–	–	–	–	–	–	–
			32	6.24	7.90	9.78	11.89	14.25	16.86	19.72	5.01	1.95	9.892	5.03	1.97	3.23	70	39
			38	–	7.01	8.76	10.73	12.94	15.38	–	–	–	–	–	–	–	–	–
			43	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
114X7072	OP-MSXM108MLW05E	E	27	7.19	9.01	11.07	13.38	15.96	18.79	21.88	–	–	–	–	–	–	–	–
			32	6.52	8.24	10.20	12.39	14.83	17.52	20.45	5.55	1.84	10.322	5.57	1.85	3.07	70	39
			38	–	7.29	9.11	11.15	13.43	15.94	–	–	–	–	–	–	–	–	–
			43	–	6.19	7.84	9.71	11.81	–	–	–	–	–	–	–	–	–	–

MBP

[1]) G - Compressor 230V/1~/50Hz, fan 230V/1~/50Hz
E - Compressor 400V/3~/50Hz, fan 230V/1~/50Hz
[2]) Nominal conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Superheat 10 K.
[3]) Rated conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Return Gas Temperature 20 °C

SEPR, Seasonal Energy Performance Ratio
Q [kW], Cooling Capacity
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EcoDesign 2016

Performance data R407A MBP

Performance with **SH = 10 K & SC = 0 K**

Code number	Model number	Electrical code [1]	T_{amb} [°C]	Cooling capacity Q [kW]							P [kW]	COP [2]	EcoDesign [3]				Sound power level dB(A)	Sound pressure level 10 m dB(A)
				T_e									Q [kW]	P [kW]	COP_A	SEPR		
				-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	-10 °C							
114X7062	OP-MSXM034MLW05E	E	27	2.31	2.89	3.57	4.35	5.25	6.27	7.40	–	–	–	–	–	–	–	–
			32	2.12	2.67	3.31	4.06	4.91	5.87	6.95	1.52	2.18	3.374	1.52	2.22	–	69	38
			38	1.89	2.40	2.99	3.68	4.47	5.38	–	–	–	–	–	–	–	–	–
			43	–	2.16	2.71	3.35	4.10	–	–	–	–	–	–	–	–	–	–
114X7061	OP-MSXM034MLW05G	G	27	2.34	2.92	3.61	4.41	5.31	6.34	7.48	–	–	–	–	–	–	–	–
			32	2.15	2.70	3.35	4.10	4.97	5.94	7.03	1.54	2.17	3.415	1.55	2.21	–	69	38
			38	1.92	2.42	3.02	3.72	4.53	5.44	6.46	–	–	–	–	–	–	–	–
			43		2.18	2.74	3.39	4.14	–	–	–	–	–	–	–	–	–	–
114X7064	OP-MSXM046MLW05E	E	27	2.87	3.60	4.42	5.34	6.36	7.48	8.69	–	–	–	–	–	–	–	–
			32	2.63	3.32	4.09	4.96	5.92	6.97	8.10	2.33	1.75	4.185	2.35	1.78	–	69	38
			38	2.34	2.96	3.68	4.47	5.36	6.33	7.37	–	–	–	–	–	–	–	–
			43	–	2.66	3.32	4.05	4.87	–	–	–	–	–	–	–	–	–	–
114X7063	OP-MSXM046MLW05G	G	27	2.92	3.66	4.49	5.42	6.46	7.59	–	–	–	–	–	–	–	–	–
			32	2.68	3.37	4.16	5.03	6.00	7.07	8.22	2.38	1.74	4.254	2.40	1.77	–	69	38
			38	2.37	3.01	3.73	4.54	5.43	6.41	7.47	–	–	–	–	–	–	–	–
			43	–	2.70	3.36	4.11	4.94	–	–	–	–	–	–	–	–	–	–
114X7066	OP-MSXM057MLW05E	E	27	3.55	4.44	5.44	6.57	7.83	9.19	10.67	–	–	–	–	–	–	–	–
			32	3.25	4.09	5.04	6.10	7.28	8.56	9.95	2.82	1.79	5.157	2.83	1.82	2.95	69	38
			38	2.88	3.65	4.53	5.50	6.58	7.77	9.04	–	–	–	–	–	–	–	–
			43	–	3.27	4.08	4.98	5.98	–	–	–	–	–	–	–	–	–	–
114X7065	OP-MSXM057MLW05G	G	27	3.61	4.51	5.53	6.68	7.94	9.33	10.82	–	–	–	–	–	–	–	–
			32	3.30	4.16	5.12	6.19	7.38	8.68	10.08	2.86	1.79	5.240	2.88	1.82	2.95	69	38
			38	2.93	3.71	4.60	5.59	6.68	7.87	9.16	–	–	–	–	–	–	–	–
			43	–	3.32	4.14	5.05	6.06	–	–	–	–	–	–	–	–	–	–
114X7067	OP-MSXM068MLW05G	G	27	4.60	5.67	6.93	8.39	10.03	11.87	13.91	–	–	–	–	–	–	–	–
			32	4.31	5.30	6.47	7.83	9.37	11.11	13.03	3.19	2.03	6.607	3.20	2.07	3.31	70	39
			38	3.97	4.86	5.92	7.15	8.57	10.17	11.96	–	–	–	–	–	–	–	–
			43	–	4.50	5.46	6.59	7.90	–	–	–	–	–	–	–	–	–	–
114X7068	OP-MSXM068MLW05E	E	27	4.64	5.72	6.99	8.45	10.11	11.96	14.01	–	–	–	–	–	–	–	–
			32	4.34	5.34	6.52	7.89	9.45	11.19	13.13	3.06	2.13	6.660	3.07	2.17	3.47	70	39
			38	4.00	4.90	5.97	7.22	8.65	10.26	12.06	–	–	–	–	–	–	–	–
			43	–	4.54	5.51	6.66	7.98	–	–	–	–	–	–	–	–	–	–
114X7069	OP-MSXM080MLW05G	G	27	5.38	6.66	8.16	9.90	11.89	14.12	16.60	–	–	–	–	–	–	–	–
			32	5.04	6.22	7.62	9.25	11.12	13.22	15.56	3.68	2.07	7.774	3.69	2.11	3.40	70	39
			38	4.65	5.71	6.98	8.47	10.18	12.13	14.31	–	–	–	–	–	–	–	–
			43	–	5.29	6.45	7.81	9.40	–	–	–	–	–	–	–	–	–	–
114X7070	OP-MSXM080MLW05E	E	27	5.44	6.73	8.25	10.01	12.02	14.27	16.77	–	–	–	–	–	–	–	–
			32	5.10	6.29	7.71	9.36	11.24	13.37	15.74	3.42	2.25	7.862	3.43	2.29	3.68	70	39
			38	4.70	5.78	7.06	8.57	10.31	12.28	14.48	–	–	–	–	–	–	–	–
			43	–	5.36	6.53	7.91	9.52	–	–	–	–	–	–	–	–	–	–
114X7071	OP-MSXM099MLW05E	E	27	6.41	8.07	9.96	12.10	14.49	17.14	20.04	–	–	–	–	–	–	–	–
			32	5.81	7.37	9.16	11.18	13.45	15.96	18.72	4.61	1.99	9.357	4.63	2.02	3.31	70	39
			38	5.06	6.51	8.18	10.06	12.17	14.51	17.09	–	–	–	–	–	–	–	–
			43	–	5.78	7.33	9.09	11.07	–	–	–	–	–	–	–	–	–	–
114X7072	OP-MSXM108MLW05E	E	27	6.94	8.71	10.74	13.02	15.56	18.37	21.42	–	–	–	–	–	–	–	–
			32	6.27	7.95	9.86	12.02	14.42	17.08	19.97	5.18	1.90	10.082	5.21	1.94	3.19	70	39
			38	5.44	7.00	8.78	10.78	13.02	15.49	18.19	–	–	–	–	–	–	–	–
			43	–	6.19	7.84	9.71	11.81	–	–	–	–	–	–	–	–	–	–

MBP

[1]) G - Compressor 230V/1~/50Hz, fan 230V/1~/50Hz
E - Compressor 400V/3~/50Hz, fan 230V/1~/50Hz
[2]) Nominal conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Superheat 10 K.
[3]) Rated conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Return Gas Temperature 20 °C

SEPR, Seasonal Energy Performance Ratio
Q [kW], Cooling Capacity
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EcoDesign 2016

Technical data

Application	Code number	Model number	Compressor Model	Electrical code [1]	Refrigerant (2)	Condenser Coil			Fan		Receiver	Dimensions						Weight	
						Type	Airflow	Internal Volume	Number	Blade ø	Volume	Figure	Height	Width	Depth	Suction line	Liquid Line	Gross	Net
							(m^2/h)	(dm^3)		(mm)	(L)		mm	mm	mm	inch	inch	Kg	Kg
LBP	114X7075	OP-LSQM098LLW05E	LLZ018T4	E	Q	G7	5,200	1.8	1	500	6.2	B3	825	1105	464	3/4"	1/2"	97.0	78.0
LBP	114X7081	OP-LSHM015SCW05G	SC15CLX.2	G	H	A7	2,200	0.4	1	365	1.3	B1	530	910	364	3/8"	3/8"	66.5	53.0
LBP	114X7082	OP-LSHM018SCW05G	SC18CLX.2	G	H	A7	2,200	0.4	1	365	1.3	B1	530	910	364	3/8"	3/8"	66.5	53.0
LBP	114X7085	OP-LSQM026AJW05G	CAJ2446Z	G	Q	D7	3,300	0.6	1	450	3.4	B2	690	1087	464	1/2"	1/2"	76.7	61.5
LBP	114X7086	OP-LSQM034AJW05G	CAJ2464Z	G	Q	D7	3,300	0.6	1	450	3.4	B2	690	1087	464	1/2"	1/2"	76.7	61.5
LBP	114X7087	OP-LSQM048NTW05G	NTZ048-5	G	Q	D7	3,300	0.6	1	450	3.4	B2	690	1087	464	5/8"	1/2"	77.0	62.0
LBP	114X7088	OP-LSQM048NTW05E	NTZ048-4	E	Q	D7	3,300	0.6	1	450	3.4	B2	690	1087	464	5/8"	1/2"	77.0	62.0
LBP	114X7089	OP-LSQM068NTW05G	NTZ068-5	G	Q	D7	3,300	0.6	1	450	3.4	B2	690	1087	464	5/8"	1/2"	79.0	64.0
LBP	114X7090	OP-LSQM068NTW05E	NTZ068-4	E	Q	D7	3,300	0.6	1	450	3.4	B2	690	1087	464	5/8"	1/2"	80.0	65.0
LBP	114X7091	OP-LSQM067LLW05E	LLZ013T4	E	Q	G7	5,200	1.8	1	500	6.2	B3	825	1105	464	3/4"	1/2"	97.0	78.0
LBP	114X7092	OP-LSQM084LLW05E	LLZ015T4	E	Q	G7	5,200	1.8	1	500	6.2	B3	825	1105	464	3/4"	1/2"	97.0	78.0
LBP	114X7095	OP-LSQM074FHW05G	FH2511Z	G	Q	D7	3,300	0.6	1	450	3.4	B2	690	1087	464	5/8"	1/2"	92.0	77.0
LBP	114X7096	OP-LSQM074FHW05E	TFH2511Z	E	Q	D7	3,300	0.6	1	450	3.4	B2	690	1087	464	5/8"	1/2"	88.0	73.0
LBP	114X7106	OP-LSQM014MPW05G	MPT14LA	G	Q	A7	2,200	0.4	1	365	1.3	B1	530	910	364	3/8"	3/8"	64.4	50.9
LBP	114X7107	OP-LSQM018MPW05G	MPT16LA	G	Q	A7	2,200	0.4	1	365	1.3	B1	530	910	364	3/8"	3/8"	64.6	51.1
MBP	114X7061	OP-MSXM034MLW05G	MLZ015T5	G	X	D7	3,300	0.6	1	600	3.4	B2	690	1087	464	3/4"	1/2"	85.0	70.0
MBP	114X7062	OP-MSXM034MLW05E	MLZ015T4	E	X	D7	3,300	0.6	1	600	3.4	B2	690	1087	464	3/4"	1/2"	85.0	70.0
MBP	114X7063	OP-MSXM046MLW05G	MLZ021T5	G	X	D7	3,300	0.6	1	600	3.4	B2	690	1087	464	3/4"	1/2"	85.0	70.0
MBP	114X7064	OP-MSXM046MLW05E	MLZ021T4	E	X	D7	3,300	0.6	1	450	3.4	B2	690	1087	464	3/4"	1/2"	85.0	70.0
MBP	114X7065	OP-MSXM057MLW05G	MLZ026T5	G	X	D7	3,300	0.6	1	450	3.4	B2	690	1087	464	3/4"	1/2"	85.0	70.0
MBP	114X7066	OP-MSXM057MLW05E	MLZ026T4	E	X	D7	3,300	0.6	1	450	3.4	B2	690	1087	464	3/4"	1/2"	85.0	70.0
MBP	114X7067	OP-MSXM068MLW05G	MLZ030T5	G	X	G7	5,200	1.8	1	500	6.2	B3	825	1105	464	7/8"	1/2"	95.0	76.0
MBP	114X7068	OP-MSXM068MLW05E	MLZ030T4	E	X	G7	5,200	1.8	1	500	6.2	B3	825	1105	464	7/8"	1/2"	95.0	76.0
MBP	114X7069	OP-MSXM080MLW05G	MLZ038T5	G	X	G7	5,200	1.8	1	500	6.2	B3	825	1105	464	7/8"	1/2"	96.0	77.0
MBP	114X7070	OP-MSXM080MLW05E	MLZ038T4	E	X	G7	5,200	1.8	1	500	6.2	B3	825	1105	464	7/8"	1/2"	96.0	77.0
MBP	114X7071	OP-MSXM099MLW05E	MLZ045T4	E	X	G7	5,200	1.8	1	500	6.2	B3	825	1105	464	7/8"	1/2"	98.0	79.0
MBP	114X7072	OP-MSXM108MLW05E	MLZ048T4	E	X	G7	5,200	1.8	1	500	6.2	B3	825	1105	464	7/8"	1/2"	98.0	79.0
MBP	114X7077	OP-MSHM010SCW05G	SC10MLX	G	H	A7	2,200	0.4	1	365	1.3	B1	530	910	364	3/8"	3/8"	65.5	52.0
MBP	114X7078	OP-MSHM012SCW05G	SC12MLX	G	H	A7	2,200	0.4	1	365	1.3	B1	530	910	364	3/8"	3/8"	66.5	53.0
MBP	114X7079	OP-MSHM015SCW05G	SC15MLX	G	H	A7	2,200	0.4	1	365	1.3	B1	530	910	364	3/8"	3/8"	66.5	53.0
MBP	114X7080	OP-MSHM018SCW05G	SC18MLX	G	H	A7	2,200	0.4	1	365	1.3	B1	530	910	364	3/8"	3/8"	66.5	53.0
MBP	114X7083	OP-MSYM026AJW05G	CAJ4517Z	G	Y	D7	3,300	0.6	1	450	3.4	B2	690	1087	464	1/2"	1/2"	77.7	62.5
MBP	114X7084	OP-MSYM034AJW05G	CAJ4519Z	G	Y	D7	3,300	0.6	1	450	3.4	B2	690	1087	464	1/2"	1/2"	77.7	62.5
MBP	114X7093	OP-MSYM026AJW05E	TAJ4517Z	E	Y	D7	3,300	0.6	1	450	3.4	B2	690	1087	464	1/2"	1/2"	74.4	59.2
MBP	114X7094	OP-MSYM034AJW05E	TAJ4519Z	E	Y	D7	3,300	0.6	1	450	3.4	B2	690	1087	464	1/2"	1/2"	76.7	61.5
MBP	114X7097	OP-MSYM024AJW05G	CAJ9513Z	G	Y	D7	3,300	0.6	1	450	3.4	B2	690	1087	464	1/2"	1/2"	78.0	63.0
MBP	114X7099	OP-MSGM012SCW05G	SC12G	G	G	A7	2,200	0.4	1	365	1.3	B1	530	910	364	3/8"	3/8"	65.5	52.0
MBP	114X7100	OP-MSGM015SCW05G	SC15G	G	G	A7	2,200	0.4	1	365	1.3	B1	530	910	364	3/8"	3/8"	65.5	52.0
MBP	114X7101	OP-MSGM018SCW05G	SC18G	G	G	A7	2,200	0.4	1	365	1.3	B1	530	910	364	3/8"	3/8"	66.5	53.0
MBP	114X7102	OP-MSGM021SCW05G	SC21G	G	G	A7	2,200	0.4	1	365	1.3	B1	530	910	364	3/8"	3/8"	66.5	53.0
MBP	114X7103	OP-MSGM026AJW05G	CAJ4492Y	G	G	D7	3,300	0.6	1	450	3.4	B2	690	1087	464	3/8"	3/8"	78.0	62.5
MBP	114X7104	OP-MSGM033AJW05G	CAJ4511Y	G	G	D7	3,300	0.6	1	450	3.4	B2	690	1087	464	1/2"	1/2"	79.0	64.0
MBP	114X7108	OP-MSYM009MYW05G	MLY90RAb	G	Y	A7	2,200	0.4	1	365	1.3	B1	530	910	364	3/8"	3/8"	63.9	50.4
MBP	114X7109	OP-MSYM012MPW05G	MPT12RA	G	Y	A7	2,200	0.4	1	365	1.3	B1	530	910	364	3/8"	3/8"	64.3	50.8
MBP	114X7110	OP-MSYM014MPW05G	MPT14RA	G	Y	A7	2,200	0.4	1	365	1.3	B1	530	910	364	3/8"	3/8"	65.0	51.5
MBP	114X7111	OP-MSYM018AJW05G	CAJ9510Z	G	Y	D7	3300	0.6	1	450	3.4	B2	690	1087	464	1/2"	1/2"	77.0	62.0

[1]) G - Compressor 230V/1~/50Hz, fan 230V/1~/50Hz
E - Compressor 400V/3~/50Hz, fan 230V/1~/50Hz
[2]) G - R134a
X - R134a R404A R507 R407A R407F R449A R448A
Y - R404A R507 R449A
Q - R404A R507 R452A
H - R404A R507

Spareparts & accessories - LBP

Designation	LSQM098LL	LSHM015SC	LSHM018SC	LSQM026AJ	LSQM034AJ	LSQM048NT	LSQM048NT	LSQM068NT	LSQM068NT	LSQM067LL	LSQM084LL
Code Number	114X7075	114X7081	114X7082	114X7085	114X7086	114X7087	114X7088	114X7089	114X7090	114X7091	114X7092
Compressor Description	LLZ018T4	SC15CLX.2	SC18CLX.2	CAJ2446Z	CAJ2464Z	NTZ048-5	NTZ048-4	NTZ068-5	NTZ068-4	LLZ013T4	LLZ015T4
Oil	215PZ-POE46	–	–	RL32HA/HT	RL32HA/HT	175PZ-POE	175PZ-POE	175PZ-POE	175PZ-POE	215PZ-POE46	215PZ-POE46
Chassis	B3	B1	B1	B2	B2	B2	B2	B2	B2	B3	B3
Spare Parts											
Compressor single pack	121L9539	195B0399	195B0332	118U3992	118U3990	120F0228	120F0226	120F0232	120F0230	121L9535	121L9537
Condenser	118U3494	118U3492	118U3492	118U3493	118U3493	118U3493	118U3493	118U3493	118U3493	118U3494	118U3494
Dual pressure switch	060-539766	060-539766	060-539766	060-539766	060-539766	060-539766	060-539766	060-539766	060-539766	060-539766	060-539766
Fan assembly	118U3829	–	–	–	–	–	–	–	–	118U3829	118U3829
Fan blade	–	118U3480	118U3480	118U3481	118U3481	118U3481	118U3481	118U3481	118U3481	–	–
Fan capacitor	–	118U3296	118U3296	118U3297	118U3297	118U3297	118U3297	118U3297	118U3297	–	–
Fan cowl/grill	118U3485	118U3483	118U3483	118U3484	118U3484	118U3484	118U3484	118U3484	118U3484	118U3485	118U3485
Fan motor	118U3829	118U3477	118U3477	118U3823	118U3823	118U3823	118U3823	118U3823	118U3823	118U3829	118U3829
Filter drier	023Z5044	023Z5040	023Z5040	023Z5041	023Z5041	023Z5041	023Z5041	023Z5041	023Z5041	023Z5044	023Z5044
Liquid valve	118U3761	118U3414	118U3414	118U3761	118U3761	118U3761	118U3761	118U3761	118U3761	118U3761	118U3761
Receiver	118U3476	118U3474	118U3474	118U3475	118U3475	118U3475	118U3475	118U3475	118U3475	118U3476	118U3476
Sight glass	014L0173	014L0182	014L0182	014L0173	014L0173	014L0173	014L0173	014L0173	014L0173	014L0173	014L0173
Suction valve	118U3762	118U3414	118U3414	118U3761	118U3761	118U3764	118U3764	118U3764	118U3764	118U3762	118U3762
Electrical Spare Parts											
Crankcase heater	120Z5040	192H2096	192H2096	120Z0057	120Z0057	120Z0459	120Z0459	120Z0459	120Z0459	120Z5040	120Z5040
Contactor kit	118U3896	118U3893	118U3893	118U3893	118U3894	118U3894	118U3893	118U3895	118U3893	118U3896	118U3896
Main switch kit	118U3874	118U3975	118U3975	118U3976	118U3976	118U3976	118U3872	118U3869	118U3873	118U3873	118U3874
Overload relay	118U3878	118U3978	118U3978	118U3876	118U3877	118U3877	118U3978	118U3879	118U3876	118U3877	118U3878
Run capacitor	–	–	–	–	–	8173041	–	8173041	–	–	–
Sequence phase relay	118U3882	–	–	–	–	–	–	–	–	118U3882	118U3882
Starting capacitor	–	117U5017	117U5012	–	–	8173001	–	8173001	–	–	–
Starting relay	–	117U6019	117U6013	–	–	8173022	–	8173022	–	–	–
Electrical Characteristics											
Wiring Diagram	WD5	WD1	WD1	WD2	WD2	WD2	WD7	WD2	WD7	WD5	WD5
LRA Compressor [A]	90	19.6	23.5	29	40	37	16	53	25	62	88.5
MCC Compressor [A]	14.4	4.7	5.3	7.9	10	11	4.8	17	8.4	12	15
Max cont.power [kW]	6.2	0.95	1.07	1.4	1.87	2.19	2.28	3.62	3.57	4.59	5.49
MCC Fan [A]	0.97	0.32	0.32	0.47	0.47	0.47	0.47	0.47	0.47	0.97	0.97
Fan Power [W]	1x130	1x25	1x25	1x68	1x68	1x68	1x68	1x68	1x68	1x130	1x130
Min Fuse rating gL/gG (A)	20	10	10	10	16	16	10	25	16	16	20
Accessories (Not Premounted)											
Acoustic hood	120Z5052	–	–	–	–	120Z0575	120Z0575	120Z0575	120Z0575	120Z5052	120Z5052
FSC Male connection	061H3142	061H3142	061H3142	061H3142	061H3142	061H3142	061H3142	061H3142	061H3142	061H3142	061H3142
FSC Female connection	061H3140	061H3140	061H3140	061H3140	061H3140	061H3140	061H3140	061H3140	061H3140	061H3140	061H3140

MCC - *Max Continuous Current*
LRA - *Locked Rotor Amps*
FSC - *Fan Speed Controller*

Spareparts & accessories - LBP

Designation	LSQM074FH	LSQM074FH	LSQM014MP	LSQM018MP
Code Number	114X7095	114X7096	114X7106	114X7107
Compressor Description	FH2511Z	TFH2511Z	MPT14LA	MPT16LA
Oil	RL32HA/HT	RL32HA/HT	POE32	POE32
Chassis	B2	B2	B1	B1
Spare Parts				
Compressor single pack	118U3914	118U3915	123B2126	123B2127
Condenser	118U3493	118U3493	118U3492	118U3492
Dual pressure switch	060-539766	060-539766	060-539766	060-539766
Fan assembly	–	–	–	–
Fan blade	118U3481	118U3481	118U3480	118U3480
Fan capacitor	118U3297	118U3297	118U3296	118U3296
Fan cowl/grill	118U3484	118U3484	118U3483	118U3483
Fan motor	118U3823	118U3823	118U3477	118U3477
Filter drier	023Z5041	023Z5041	023Z5040	023Z5040
Liquid valve	118U3761	118U3761	118U3414	118U3414
Receiver	118U3475	118U3475	118U3474	118U3474
Sight glass	014L0173	014L0173	014L0182	014L0182
Suction valve	118U3764	118U3764	118U3414	118U3414
Electrical Spare Parts				
Crankcase heater	120Z0459	120Z0459	192H2096	192H2096
Contactor kit	118U3895	118U3893	118U3894	118U3894
Main switch kit	118U3870	118U3872	118U3975	118U3975
Overload relay	118U3880	118U3876	118U3978	118U3978
Run capacitor	–	–	–	–
Sequence phase relay	–	–	–	–
Starting capacitor	–	–	–	–
Starting relay	–	–	–	–
Electrical Characteristics				
Wiring Diagram	WD2	WD7	WD8	WD8
LRA Compressor [A]	81	28	16	19
MCC Compressor [A]	24	7.2	5	4
Max cont.power [kW]	3.45	3.34	0.78	0.89
MCC Fan [A]	0.47	0.47	0.32	0.32
Fan Power [W]	1x68	1x68	1x25	1x25
Min Fuse rating gL/gG (A)	32	10	10	10
Accessories (Not Premounted)				
Acoustic hood	–	–	–	–
FSC Male connection	061H3142	061H3142	061H3142	061H3142
FSC Female connection	061H3140	061H3140	061H3140	061H3140

MCC - *Max Continuous Current*
LRA - *Locked Rotor Amps*
FSC - *Fan Speed Controller*

Spareparts & accessories - MBP

Designation	MSXM034ML	MSXM034ML	MSXM046ML	MSXM046ML	MSXM057ML	MSXM057ML	MSXM068ML	MSXM068ML	MSXM080ML	MSXM080ML	MSXM099ML
Code Number	114X7061	114X7062	114X7063	114X7064	114X7065	114X7066	114X7067	114X7068	114X7069	114X7070	114X7071
Compressor Description	MLZ015T5	MLZ015T4	MLZ021T5	MLZ021T4	MLZ026T5	MLZ026T4	MLZ030T5	MLZ030T4	MLZ038T5	MLZ038T4	MLZ045T4
Oil	215PZ-POE46	215PZ-POE46	215PZ-POE46	215PZ-POE46	215PZ-POE46	215PZ-POE46	215PZ-POE46	215PZ-POE46	215PZ-POE46	215PZ-POE46	215PZ-POE46
Chassis	B2	B2	B2	B2	B2	B2	B3	B3	B3	B3	B3
Spare Parts											
Compressor single pack	121L8631	121L8629	121L8635	121L8633	121L8639	121L8637	121L8643	121L8641	121L8647	121L8645	121L8649
Condenser	118U3493	118U3493	118U3493	118U3493	118U3493	118U3493	118U3494	118U3494	118U3494	118U3494	118U3494
Dual pressure switch	060-539766	060-539766	060-539766	060-539766	060-539766	060-539766	060-539766	060-539766	060-539766	060-539766	060-539766
Fan assembly	–	–	–	–	–	–	118U3829	118U3829	118U3829	118U3829	118U3829
Fan blade	118U3481	118U3481	118U3481	118U3481	118U3481	118U3481	–	–	–	–	–
Fan capacitor	118U3297	118U3297	118U3297	118U3297	118U3297	118U3297	–	–	–	–	–
Fan cowl/grill	118U3484	118U3484	118U3484	118U3484	118U3484	118U3484	118U3485	118U3485	118U3485	118U3485	118U3485
Fan motor	118U3823	118U3823	118U3823	118U3823	118U3823	118U3823	118U3829	118U3829	118U3829	118U3829	118U3829
Filter drier	023Z5041	023Z5041	023Z5041	023Z5041	023Z5041	023Z5041	023Z5044	023Z5044	023Z5044	023Z5044	023Z5044
Liquid valve	118U3761	118U3761	118U3761	118U3761	118U3761	118U3761	118U3761	118U3761	118U3761	118U3761	118U3761
Receiver	118U3475	118U3475	118U3475	118U3475	118U3475	118U3475	118U3476	118U3476	118U3476	118U3476	118U3476
Sight glass	014L0173	014L0173	014L0173	014L0173	014L0173	014L0173	014L0173	014L0173	014L0173	014L0173	014L0173
Suction valve	118U3762	118U3762	118U3762	118U3762	118U3762	118U3762	118U3763	118U3763	118U3763	118U3763	118U3763
Electrical Spare Parts											
Crankcase heater	120Z5040	120Z5040	120Z5040	120Z5040	120Z5040	120Z5040	120Z5040	120Z5040	120Z5040	120Z5040	120Z5040
Contactor kit	118U3895	118U3893	118U3895	118U3867	118U3895	118U3867	118U3868	118U3896	118U3868	118U3896	118U3896
Main switch kit	118U3869	118U3872	118U3870	118U3873	118U3870	118U3873	118U3871	118U3873	118U3871	118U3874	118U3874
Overload relay	118U3879	118U3875	118U3880	118U3876	118U3880	118U3877	118U3880	118U3877	118U3881	118U3878	118U3878
Run capacitor	8173231	–	120Z0051	–	120Z0051	–	8173233	–	8173234	–	–
Sequence phase relay	118U3882	118U3882	118U3882	118U3882	118U3882	118U3882	118U3882	118U3882	118U3882	118U3882	118U3882
Starting capacitor	–	–	–	–	–	–	–	–	–	–	–
Starting relay	–	–	–	–	–	–	–	–	–	–	–
Electrical Characteristics											
Wiring Diagram	WD3	WD6	WD3	WD6	WD3	WD6	WD4	WD5	WD4	WD5	WD5
LRA Compressor [A]	60	30	97	45	97	45	127	60	130	70	82
MCC Compressor [A]	19	7	25	9.5	26	10	32	13	38	15	15
Max cont.power [kW]	2.53	2.73	3.38	3.33	4.42	4.14	4.89	4.88	5.77	5.78	7.01
MCC Fan [A]	0.47	0.47	0.47	0.47	0.47	0.47	0.97	0.97	0.97	0.97	0.97
Fan Power [W]	1x68	1x68	1x68	1x68	1x68	1x68	1x130	1x130	1x130	1x130	1x130
Min Fuse rating gL/gG (A)	25	10	32	16	32	16	40	16	40	20	20
Accessories (Not Premounted)											
Acoustic hood	120Z5043	120Z5043	120Z5043	120Z5043	120Z5043	120Z5043	120Z5044	120Z5044	120Z5044	120Z5044	120Z5044
FSC Male connection	061H3142	061H3142	061H3142	061H3142	061H3142	061H3142	061H3142	061H3142	061H3142	061H3142	061H3142
FSC Female connection	061H3140	061H3140	061H3140	061H3140	061H3140	061H3140	061H3140	061H3140	061H3140	061H3140	061H3140

MCC - *Max Continuous Current*
LRA - *Locked Rotor Amps*
FSC - *Fan Speed Controller*

Spareparts & accessories - MBP

Designation	MSXM108ML	MSHM010SC	MSHM012SC	MSHM015SC	MSHM018SC	MSYM026AJ	MSYM034AJ	MSYM026AJ	MSYM034AJ	MSYM024AJ	MSGM012SC
Code Number	114X7072	114X7077	114X7078	114X7079	114X7080	114X7083	114X7084	114X7093	114X7094	114X7097	114X7099
Compressor Description	MLZ048T4	SC10MLX	SC12MLX	SC15MLX	SC18MLX	CAJ4517Z	CAJ4519Z	TAJ4517Z	TAJ4519Z	CAJ9513Z	SC12G
Oil	215PZ-POE46	–	–	–	–	RL32HA/HT	RL32HA/HT	RL32HA/HT	RL32HA/HT	RL32HA/HT	–
Chassis	B3	B1	B1	B1	B1	B2	B2	B2	B2	B2	B1
Spare Parts											
Compressor single pack	121L8651	195B0345	195B0323	195B0391	195B0624	118U3993	118U3994	118U3991	118U3989	118U3995	195B0050
Condenser	118U3494	118U3492	118U3492	118U3492	118U3492	118U3493	118U3493	118U3493	118U3493	118U3493	118U3492
Dual pressure switch	060-539766	060-539766	060-539766	060-539766	060-539766	060-539766	060-539766	060-539766	060-539766	060-539766	060-539766
Fan assembly	118U3829	–	–	–	–	–	–	–	–	–	–
Fan blade	–	118U3480	118U3480	118U3480	118U3480	118U3481	118U3481	118U3481	118U3481	118U3481	118U3480
Fan capacitor	–	118U3296	118U3296	118U3296	118U3296	118U3297	118U3297	118U3297	118U3297	118U3297	118U3296
Fan cowl/grill	118U3485	118U3483	118U3483	118U3483	118U3483	118U3484	118U3484	118U3484	118U3484	118U3484	118U3483
Fan motor	118U3829	118U3477	118U3477	118U3477	118U3477	118U3823	118U3823	118U3823	118U3823	118U3823	118U3477
Filter drier	023Z5044	023Z5040	023Z5040	023Z5040	023Z5040	023Z5041	023Z5041	023Z5041	023Z5041	023Z5041	023Z5040
Liquid valve	118U3761	118U3414	118U3414	118U3414	118U3414	118U3761	118U3761	118U3761	118U3761	118U3761	118U3414
Receiver	118U3476	118U3474	118U3474	118U3474	118U3474	118U3475	118U3475	118U3475	118U3475	118U3475	118U3474
Sight glass	014L0173	014L0182	014L0182	014L0182	014L0182	014L0173	014L0173	014L0173	014L0173	014L0173	014L0182
Suction valve	118U3763	118U3414	118U3414	118U3414	118U3414	118U3761	118U3761	118U3761	118U3761	118U3761	118U3414
Electrical Spare Parts											
Crankcase heater	120Z5040	192H2096	192H2096	192H2096	192H2096	120Z0057	120Z0057	120Z0057	120Z0057	120Z0057	192H2096
Contactor kit	118U3896	118U3893	118U3893	118U3893	118U3893	118U3896	118U3896	118U3893	118U3893	118U3894	118U3893
Main switch kit	118U3874	118U3980	118U3975	118U3975	118U3975	118U3976	118U3976	118U3872	118U3872	118U3976	
Overload relay	118U3878	118U3978	118U3875	118U3875	118U3875	118U3877	118U3878	118U3978	118U3978	118U3877	118U3875
Run capacitor	–	–	–	–	117-7027	–	–	–	–	–	–
Sequence phase relay	118U3882	–	–	–		–	–	–	–	–	–
Starting capacitor	–	117U5017	117U5017	117U5012		–	–	–	–	–	117U5017
Starting relay	–	117U6011	117U6011	117U6013		–	–	–	–	–	117U6003
Electrical Characteristics											
Wiring Diagram	WD5	WD1	WD1	WD1	WD2	WD2	WD2	WD7	WD7	WD2	WD1
LRA Compressor [A]	87	18.4	23.4	23.5	23.6	38.5	45	18	22	33.5	12.4
MCC Compressor [A]	16	4.8	5.7	6.2	6.1	12.7	15.2	4	4.8	10.2	3.17
Max cont.power [kW]	7.55	0.78	0.93	1.17	1.28	2	2.74	2.09	2.7	1.75	0.812
MCC Fan [A]	0.97	0.32	0.32	0.32	0.32	0.47	0.47	0.47	0.47	0.47	0.32
Fan Power [W]	1x130	1x25	1x25	1x25	1x25	1x68	1x68	1x68	1x68	1x68	1x25
Min Fuse rating gL/gG (A)	20	10	10	10	10	16	16	10	10	16	10
Accessories (Not Premounted)											
Acoustic hood	120Z5044	–	–	–	–	–	–	–	–	–	–
FSC Male connection	061H3142	061H3142	061H3142	061H3142	061H3142	061H3142	061H3142	061H3142	061H3142	061H3142	061H3142
FSC Female connection	061H3140	061H3140	061H3140	061H3140	061H3140	061H3140	061H3140	061H3140	061H3140	061H3140	061H3140

MCC - *Max Continuous Current*
LRA - *Locked Rotor Amps*
FSC - *Fan Speed Controller*

Spareparts & accessories - MBP

Designation	MSGM015SC	MSGM018SC	MSGM021SC	MSGM026AJ	MSGM033AJ	MSYM009MY	MSYM012MP	MSYM014MP	MSYM018AJ
Code Number	114X7100	114X7101	114X7102	114X7103	114X7104	114X7108	114X7109	114X7110	114X7111
Compressor Description	SC15G	SC18G	SC21G	CAJ4492Y	CAJ4511Y	MLY90RAb	MPT12RA	MPT14RA	CAJ9510Z
Oil	–	–	–	RL32HA/HT	RL32HA/HT	POE32	POE32	POE32	RL32HA/HT
Chassis	B1	B1	B1	B2	B2	B1	B1	B1	B2
Spare Parts									
Compressor single pack	195B0053	195B0059	195B0636	118U3997	118U3996	123B2514	123B2518	123B2704	118U3988
Condenser	118U3492	118U3492	118U3492	118U3493	118U3493	118U3492	118U3492	118U3492	118U3493
Dual pressure switch	060-539766	060-539766	060-539766	060-539766	060-539766	060-539766	060-539766	060-539766	060-539766
Fan assembly	–	–	–	–	–	–	–	–	–
Fan blade	118U3480	118U3480	118U3480	118U3481	118U3481	118U3480	118U3480	118U3480	118U3481
Fan capacitor	118U3296	118U3296	118U3296	118U3297	118U3297	118U3296	118U3296	118U3296	118U3297
Fan cowl/grill	118U3483	118U3483	118U3483	118U3484	118U3484	118U3483	118U3483	118U3483	118U3484
Fan motor	118U3477	118U3477	118U3477	118U3823	118U3823	118U3477	118U3477	118U3477	118U3823
Filter drier	023Z5040	023Z5040	023Z5040	023Z5041	023Z5041	023Z5040	023Z5040	023Z5040	023Z5041
Liquid valve	118U3414	118U3414	118U3414	118U3761	118U3761	118U3414	118U3414	118U3414	118U3414
Receiver	118U3474	118U3474	118U3474	118U3475	118U3475	118U3474	118U3474	118U3474	118U3475
Sight glass	014L0182	014L0182	014L0182	014L0173	014L0173	014L0182	014L0182	014L0182	014L0173
Suction valve	118U3414	118U3414	118U3414	118U3764	118U3764	118U3414	118U3414	118U3414	118U3414
Electrical Spare Parts									
Crankcase heater	192H2096	192H2096	192H2096	120Z0459	120Z0459	192H2096	192H2096	192H2096	192H2096
Contactor kit	118U3893	118U3893	118U3893	118U3894	118U3894	118U3894	118U3894	118U3894	118U3894
Main switch kit	–	–	–	–	–	118U3980	118U3975	118U3975	118U3975
Overload relay	118U3875	118U3875	118U3875	118U3876	118U3876	118U3978	118U3876	118U3876	118U3876
Run capacitor	–	–	117-7029	–	–	–	–	–	–
Sequence phase relay	–	–		–	–	–	–	–	–
Starting capacitor	117U5017	117U5017		–	–	–	–	–	–
Starting relay	117U6005	117U6019		–	–	–	–	–	–
Electrical Characteristics									
Wiring Diagram	WD1	WD1	WD2	WD1	WD1	WD8	WD8	WD8	WD8
LRA Compressor [A]	14.8	18.6	21.8	28	30	17	18.5	21	30
MCC Compressor [A]	3.88	4.34	4.6	8.9	8.6	5.3	5.3	6.5	8
Max cont.power [kW]	0.819	0.945	0.936	1.43	1.69	0.62	0.84	1.03	1.3
MCC Fan [A]	0.32	0.32	0.32	0.47	0.47	0.32	0.32	0.32	0.47
Fan Power [W]	1x25	1x25	1x25	1x68	1x68	1x25	1x25	1x25	1x68
Min Fuse rating gL/gG (A)	10	10	10	16	16	10	10	10	10
Accessories (Not Premounted)									
Acoustic hood	–	–	–	–	–	–	–	–	–
FSC Male connection	061H3142	061H3142	061H3142	061H3142	061H3142	061H3142	061H3142	061H3142	061H3142
FSC Female connection	061H3140	061H3140	061H3140	061H3140	061H3140	061H3140	061H3140	061H3140	061H3140

MCC - *Max Continuous Current*
LRA - *Locked Rotor Amps*
FSC - *Fan Speed Controller*

Spareparts & accessories list

Component type	Component code	Component description	Additional informations
Acoustic Hood	120Z0575	ACOUSTIC HOOD COMP 1CYL	–
Acoustic Hood	120Z5043	ACCOUSTIC HOOD - SMALL FRAME	–
Acoustic Hood	120Z5044	Acoustic hood for Scroll MLZ compressor	–
Acoustic Hood	120Z5045	ACCOUSTIC HOOD, LARGE FRAME	–
Acoustic Hood	120Z5052	Sound Cover, LLZ013-018	–
Capacitor	8173001	CAPACITOR 100µF 330V+R	–
Capacitor	8173041	CAPACITOR 30µF 450V	–
Capacitor	117U5017	START CAPACITOR 80 mfd	–
Capacitor	117U5012	Start Capacitor 125 mF, 220V/50Hz	–
Compressor Single Pack	118U3751	TAJ4519Z - AJ1 range	Phased out & replaced by 118U3989 from SN: 054428CG3916
Compressor Single Pack	118U3769	CAJ2464Z - AJ1 range	Phased out & replaced by 118U3990 from SN: 054428CG3916
Compressor Single Pack	118U3770	TAJ4517Z - AJ1 range	Phased out & replaced by 118U3991 from SN: 054428CG3916
Compressor Single Pack	118U3779	CAJ2446Z - AJ1 range	Phased out & replaced by 118U3992 from SN: 054428CG3916
Compressor Single Pack	118U3810	CAJ4517Z - AJ1 range	Phased out & replaced by 118U3993 from SN: 054428CG3916
Compressor Single Pack	118U3811	CAJ4519Z - AJ1 range	Phased out & replaced by 118U3994 from SN: 054428CG3916
Compressor Single Pack	118U3912	CAJ9513Z - AJ1 range	Phased out & replaced by 118U3995 from SN: 054428CG3916
Compressor Single Pack	118U3914	FH2511Z	–
Compressor Single Pack	118U3915	TFH2511Z	–
Compressor Single Pack	118U3988	CAJ9510Z - AJ2 range	–
Compressor Single Pack	118U3989	TAJ4519Z - AJ2 range	–
Compressor Single Pack	118U3990	CAJ2464Z - AJ2 range	–
Compressor Single Pack	118U3991	TAJ4517Z - AJ2 range	–
Compressor Single Pack	118U3992	CAJ2446Z - AJ2 range	–
Compressor Single Pack	118U3993	CAJ4517Z - AJ2 range	–
Compressor Single Pack	118U3994	CAJ4519Z - AJ2 range	–
Compressor Single Pack	118U3995	CAJ9513Z - AJ2 range	–
Compressor Single Pack	118U3996	CAJ4511Y - AJ2 range	–
Compressor Single Pack	118U3997	CAJ4492Y - AJ2 range	–
Compressor Single Pack	120F0226	NTZ048-4LR1B	–
Compressor Single Pack	120F0228	NTZ048-5LR1B	–
Compressor Single Pack	120F0230	NTZ068-4LR1B	–
Compressor Single Pack	120F0232	NTZ068-5LR1B	–
Compressor Single Pack	121L8629	MLZ015T4LP9A	–
Compressor Single Pack	121L8631	MLZ015T5LP9A	–
Compressor Single Pack	121L8633	MLZ021T4LP9A	–
Compressor Single Pack	121L8635	MLZ021T5LP9A	–
Compressor Single Pack	121L8637	MLZ026T4LP9A	–
Compressor Single Pack	121L8639	MLZ026T5LP9A	–
Compressor Single Pack	121L8641	MLZ030T4LC9A	–
Compressor Single Pack	121L8643	MLZ030T5LC9A	–
Compressor Single Pack	121L8645	MLZ038T4LC9A	–
Compressor Single Pack	121L8647	MLZ038T5LC9A	–
Compressor Single Pack	121L8649	MLZ045T4LC9A	–
Compressor Single Pack	121L8651	MLZ048T4LC9A	–
Compressor Single Pack	121L9535	LLZ013T4LQ9A	–
Compressor Single Pack	121L9537	LLZ015T4LQ9A	–
Compressor Single Pack	121L9539	LLZ018T4LQ9A	–
Compressor Single Pack	123B2126	MPT14LA	–
Compressor Single Pack	123B2127	MPT16LA	–
Compressor Single Pack	123B2514	MLY90RAb	–
Compressor Single Pack	123B2518	MPT12RA	–
Compressor Single Pack	123B2704	MPT14RA	–
Compressor Single Pack	195B0050	SC12G	–
Compressor Single Pack	195B0053	SC15G	–
Compressor Single Pack	195B0059	SC18G	–
Compressor Single Pack	195B0323	SC12MLX	–
Compressor Single Pack	195B0332	SC18CLX.2	–
Compressor Single Pack	195B0345	SC10MLX	–
Compressor Single Pack	195B0391	SC15MLX	–
Compressor Single Pack	195B0399	SC15CLX.2	–
Compressor Single Pack	195B0624	SC18MLX	–
Compressor Single Pack	195B0636	SC21G	–

Spareparts & accessories list

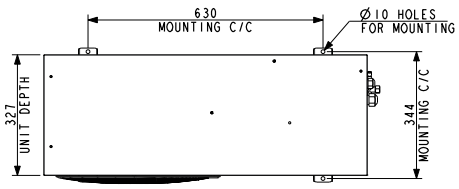
Component type	Component code	Component description	Additional informations
Condenser	118U3492	A7	–
Condenser	118U3493	D7	–
Condenser	118U3494	G7	–
Contactor kit	118U3867	KIT CONT, SCHNEIDER-LC1E2501M6	–
Contactor kit	118U3868	KIT CONT, SCHNEIDER-LC1E3801M6	–
Contactor kit	118U3893	KIT CONT, SCHNEIDER-LC1E0901M5	–
Contactor kit	118U3894	KIT CONT, SCHNEIDER-LC1E1201M5	–
Contactor kit	118U3895	KIT CONT, SCHNEIDER-LC1E3201M5	–
Contactor kit	118U3896	KIT CONT, SCHNEIDER-LC1E1801M5	–
Contactor kit	118U3898	KIT CONT, SCHNEIDER-LC1E3801M6	–
Crankcase heater	120Z0057	Belt type, 50 W, 230 V, CE mark, UL	–
Crankcase heater	120Z0459	PTC heater 27 W, CE mark, UL	–
Crankcase heater	120Z5040	Belt type, 70 W, 240 V, CE mark, UL	–
Crankcase heater	192H2096	Crankcase heater 55W * use 118U0051	–
Door Handle	118U3858	HANDLE, ABB-OHB2AJM,MSMN,OXS5X131	–
Dual pressure switch	060-539766	KP 17 WB	–
Fan assembly	118U3829	Fan assembly	–
Fan blade	118U3480	Fan blade	–
Fan blade	118U3481	Fan blade	–
Fan capacitor	118U3296	1,8 µF	–
Fan capacitor	118U3297	3,5 µF	–
Fan cowl/grill	118U3483	Ã¸ 356 mm	–
Fan cowl/grill	118U3484	Ã¸ 457 mm	–
Fan cowl/grill	118U3485	Ã¸ 609 mm	–
Fan motor (Capacitor not included)	118U3477	25 W	–
Fan motor (Capacitor not included)	118U3823	68 W	–
Fan speed control Female connection	061H3140	–	–
Fan speed control Male connection	061H3142	–	–
Filter drier	023Z5040	DML083	–
Filter drier	023Z5041	DML084	–
Filter drier	023Z5044	DML164	–
Liquid valve	118U3414	Brazed Service Valve 3/8"	–
Liquid valve	118U3761	Brazed Service Valve 1/2"	–
Main switch kit	118U3869	C60H2P25AC	–
Main switch kit	118U3870	C60H2P32AC	–
Main switch kit	118U3871	C60H2P40AC	–
Main switch kit	118U3872	C60H4P10AC	–
Main switch kit	118U3873	C60H4P16AC	–
Main switch kit	118U3874	C60H4P20AC	–
Main switch kit	118U3975	KIT CIRCUITBREAKER,C60H2P10A	–
Main switch kit	118U3976	KIT CIRCUITBREAKER,C60H2P16A	–
Main switch kit	118U3980	KIT CIRCUITBREAKER, SCHNEIDER-A9N2P06C	–
Oil	–	POE32 for Light Commercial (MLY / MPT)	–
Oil	–	RL32HA/HT for light Commercial (CAJ/FH/TAJ/TFH)	–
Oil	120Z0638	1 litre can of 175PZ - POE (NTZ Platform)	CU with a SN above 051220CG3016
Oil	120Z0639	2,5 litre can of 175PZ - POE (NTZ Platform)	CU with a SN above 051220CG3016
Oil	120Z0648	1 litre can of 215PZ - POE46 (MLZ & LLZ Platform)	CU with a SN above 051220CG3016
Overload relay	118U3875	KIT OL-RELAY, SCHNEIDER-LRE12+LAEB2	–
Overload relay	118U3876	KIT OL-RELAY, SCHNEIDER-LRE14+LAEB2	–
Overload relay	118U3877	KIT OL-RELAY, SCHNEIDER-LRE16+LAEB2	–
Overload relay	118U3878	KIT OL-RELAY, SCHNEIDER-LRE21+LAEB2	–
Overload relay	118U3879	KIT OL-RELAY, SCHNEIDER-LRE22+LAEB2	–
Overload relay	118U3880	KIT OL-RELAY, SCHNEIDER-LRE32+LAEB2	–
Overload relay	118U3881	KIT OL-RELAY, SCHNEIDER-LRE35+LAEB2	–
Overload relay	118U3978	KIT OL-RELAY, SCHNEIDER-LRE1	–
Receiver	118U3474	1,3 L	–
Receiver	118U3475	3,4 L	–
Receiver	118U3476	6,2 L	–
Relay	8173022	STARTING RELAY TYPE RVA6AMKL	–
Relay	117U6013	STARTING RELAY	–
Relay	117U6019	Starting Relay SC 50/60 Hz	–
Relay	117U6011	STARTING RELAY SC 220V/60Hz	–

Spareparts & accessories list

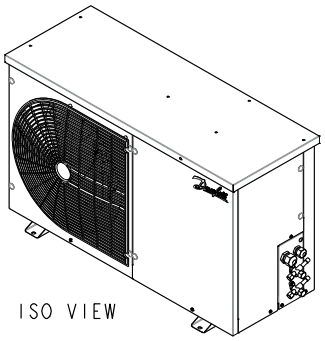
Component type	Component code	Component description	Additional informations
Relay	117-7027	SC-RELAY	–
Relay	117U6003	STARTING RELAY TL/SC 115V/50/60Hz	–
Relay	117U6005	STARTING RELAY SC 220V/50Hz	–
Relay	117-7029	SC-RELAY	–
Run capacitor	8173231	Run capacitor 440V, 40 µF	–
Run capacitor	8173233	Run capacitor 440V,50 µF	–
Run capacitor	8173234	Run capacitor 440V,55 µF	–
Run capacitor	120Z0051	Run capacitor 70 µF	–
Sequence phase relay	118U3882	SM500-MG73BF	–
Sight glass	014L0173	SGP 12 N	–
Sight glass	014L0182	SGP 10s N	–
Suction valve	118U3762	Brazed Service Valve 3/4"	–
Suction valve	118U3763	Brazed Service Valve 7/8"	–
Suction valve	118U3764	Brazed Service Valve 5/8"	–

Dimensions

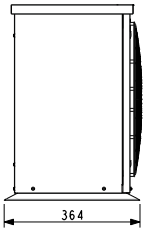
Housing B1



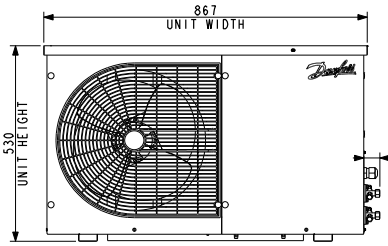
TOP VIEW



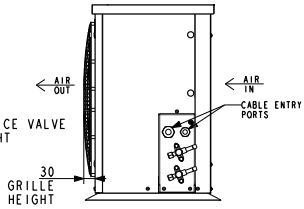
ISO VIEW



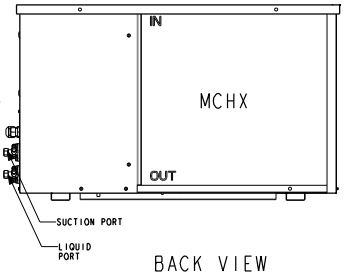
LH VIEW



FRONT VIEW

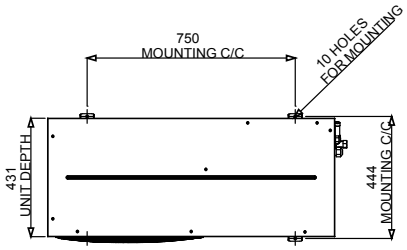


RH VIEW

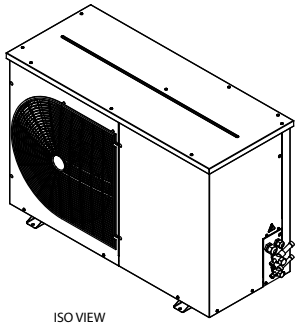


BACK VIEW

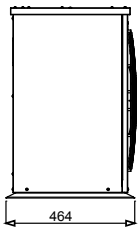
Housing B2



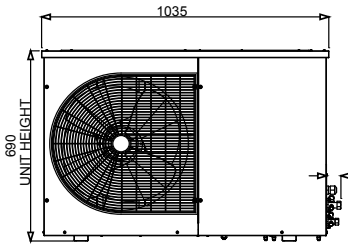
TOP VIEW



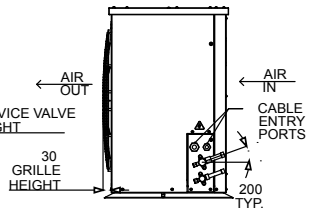
ISO VIEW



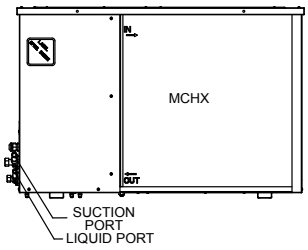
LH VIEW



FRONT VIEW



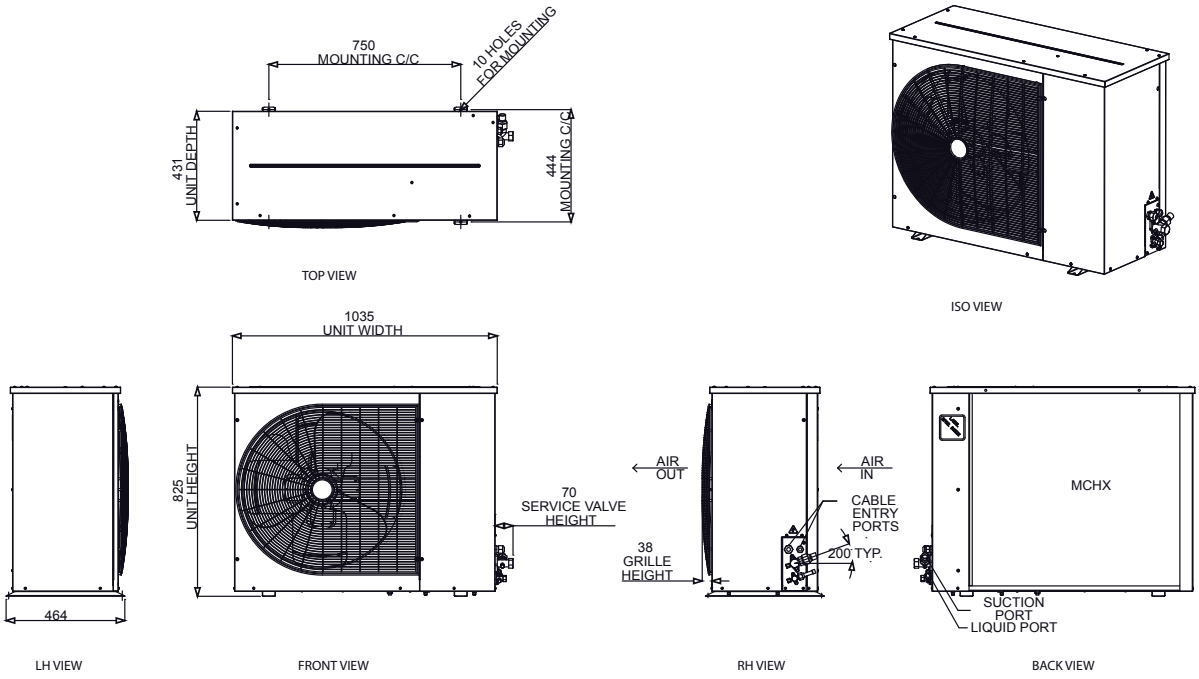
RH VIEW



BACK VIEW

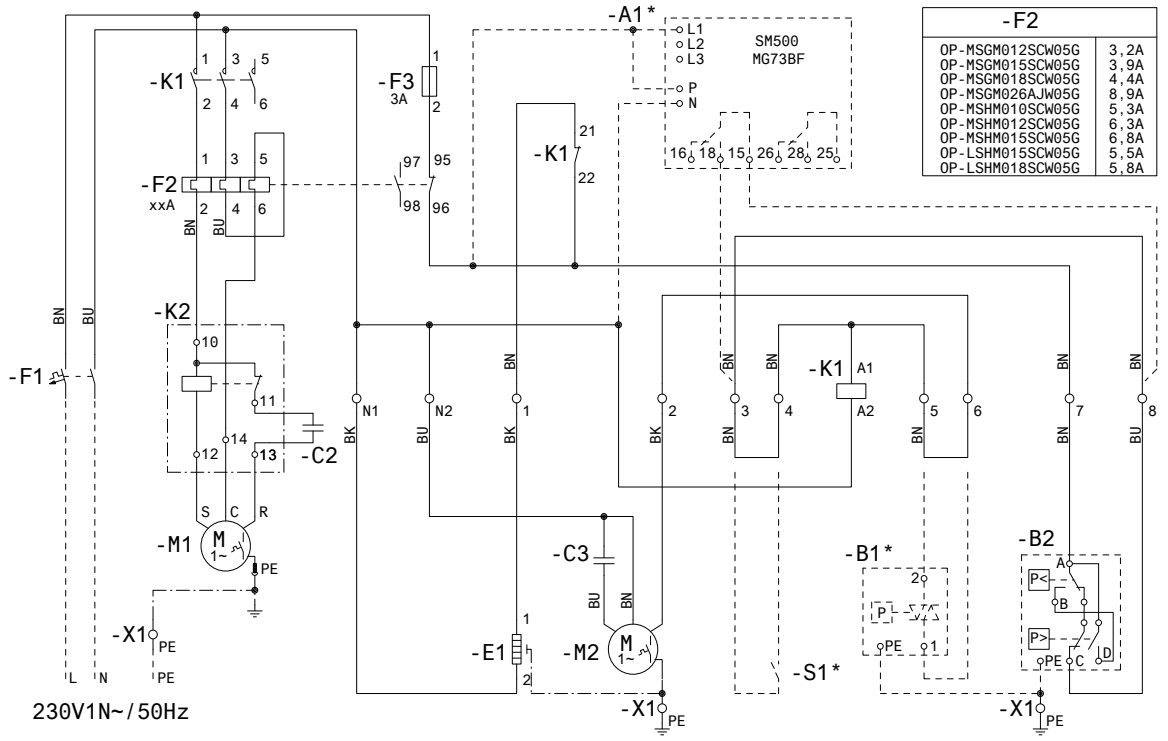
Dimensions

Housing B3



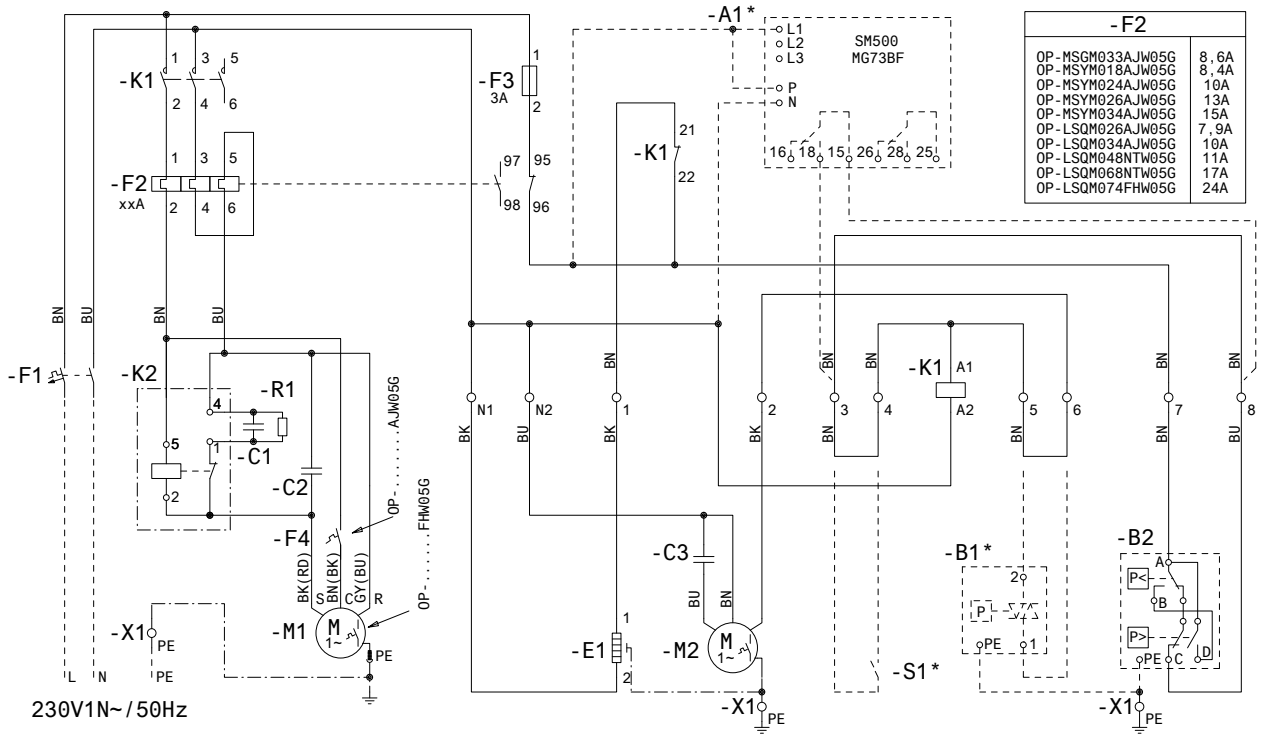
Wiring diagram

Code G : OP-MSHM010 - 012 - 015, OP-LSHM015 - 018, OP-MSGM012 - 015 - 018 - 026



WD 1

Code G : OP-LSQM026 - 034 - 048 - 068 - 074, OP-MSGM033, OP-MSHM018, OP-MSYM018 - 024 - 026 - 034



WD 2

Legend

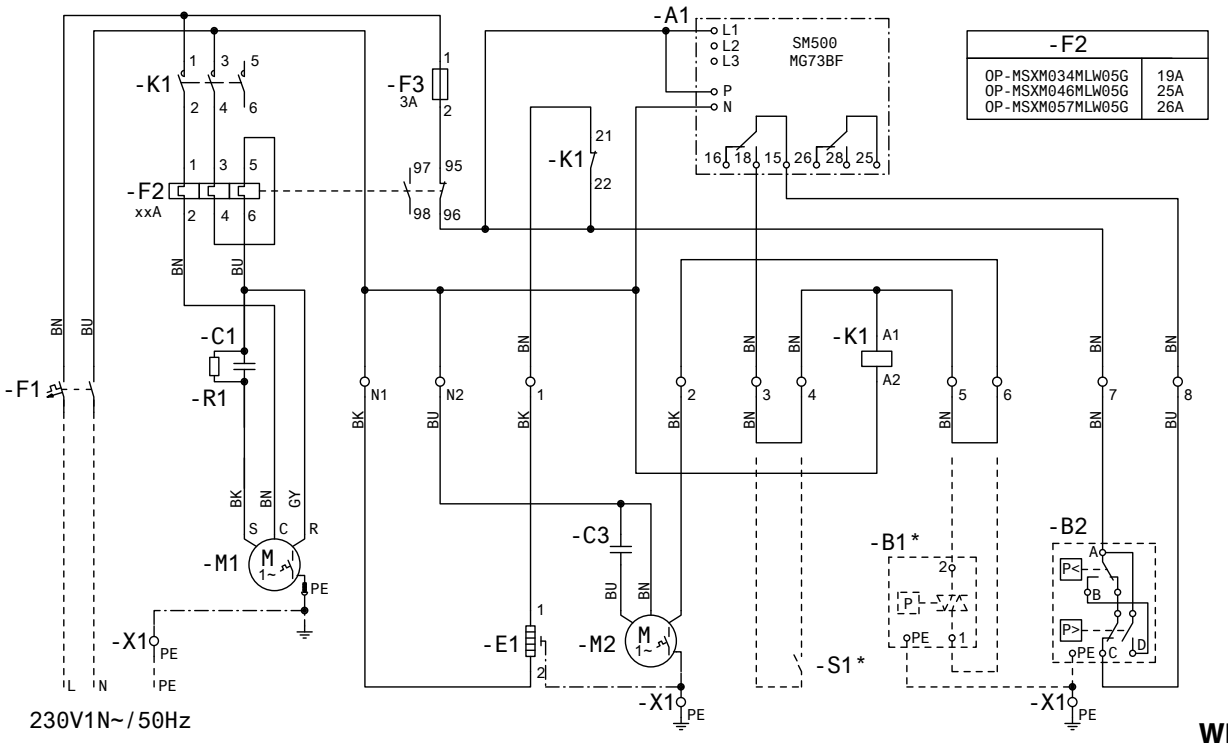
BK: *black*
BU: *blue*
BN: *brown*
GY: *grey*
RD: *red*
WH: *white*

A1*: *Voltage relay (option)*
B1*: *Fan speed controller (option)*
B2: *High and Low pressure switch*
C1: *Start capacitor compressor*
C2: ***№ 1:*** *Start capacitor compressor*
№ 2: *Run capacitor compressor*
C3: *Run capacitor fan*
E1: *Crankcase heater*
F1: *Main switch*
F2 : *Overload relay*
F3: *Fuse control circuit*

F4: *Compressor thermal protector*
M1: *Compressor*
M2: *Fan motor*
K1: *Contactor*
K2: *Start relay*
R1: *Bleeder resistor*
S1*: *Room thermostat (option)*
X1: *Terminals*
****)*** *Option (remove bridge)*

Wiring diagram

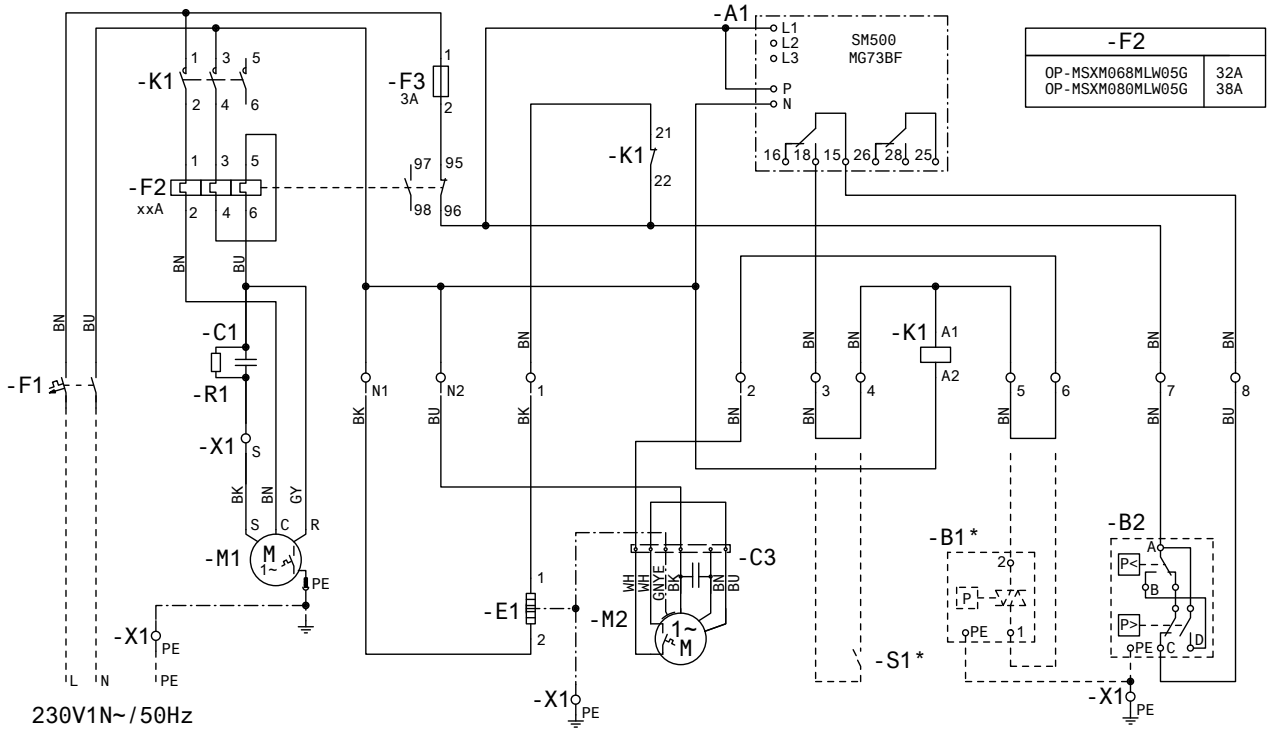
Code G : OP-MSXM034 - 046 - 057



-F2	
OP-MSXM034MLW05G	19A
OP-MSXM046MLW05G	25A
OP-MSXM057MLW05G	26A

WD 3

Code G : OP-MSXM068 - 080



-F2	
OP-MSXM068MLW05G	32A
OP-MSXM080MLW05G	38A

WD 4

Legend

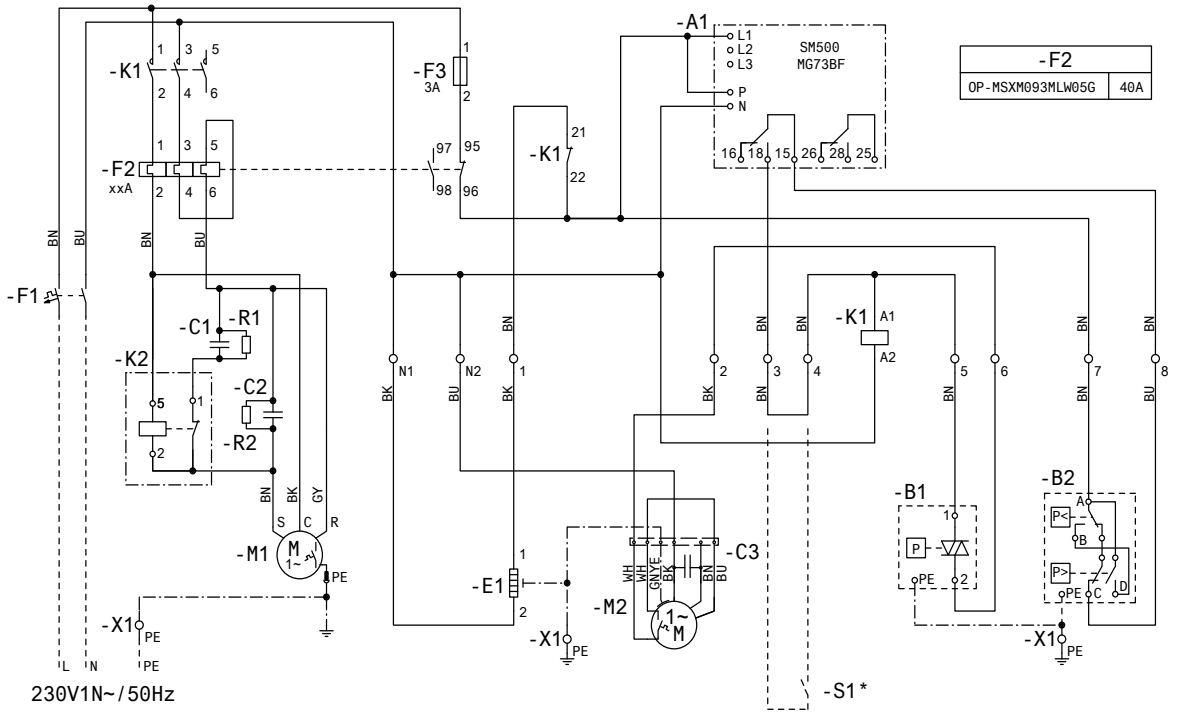
BK: *black*
BU: *blue*
BN: *brown*
GY: *grey*
RD: *red*
WH: *white*

A1: *Voltage relay*
B1*: *Fan speed controller (option)*
B2: *High and Low pressure switch*
C1: *Start capacitor compressor*
C3: *Run capacitor fan*
E1: *Crankcase heater*
F1: *Main switch*
F2 : *Overload relay*
F3: *Fuse control circuit*

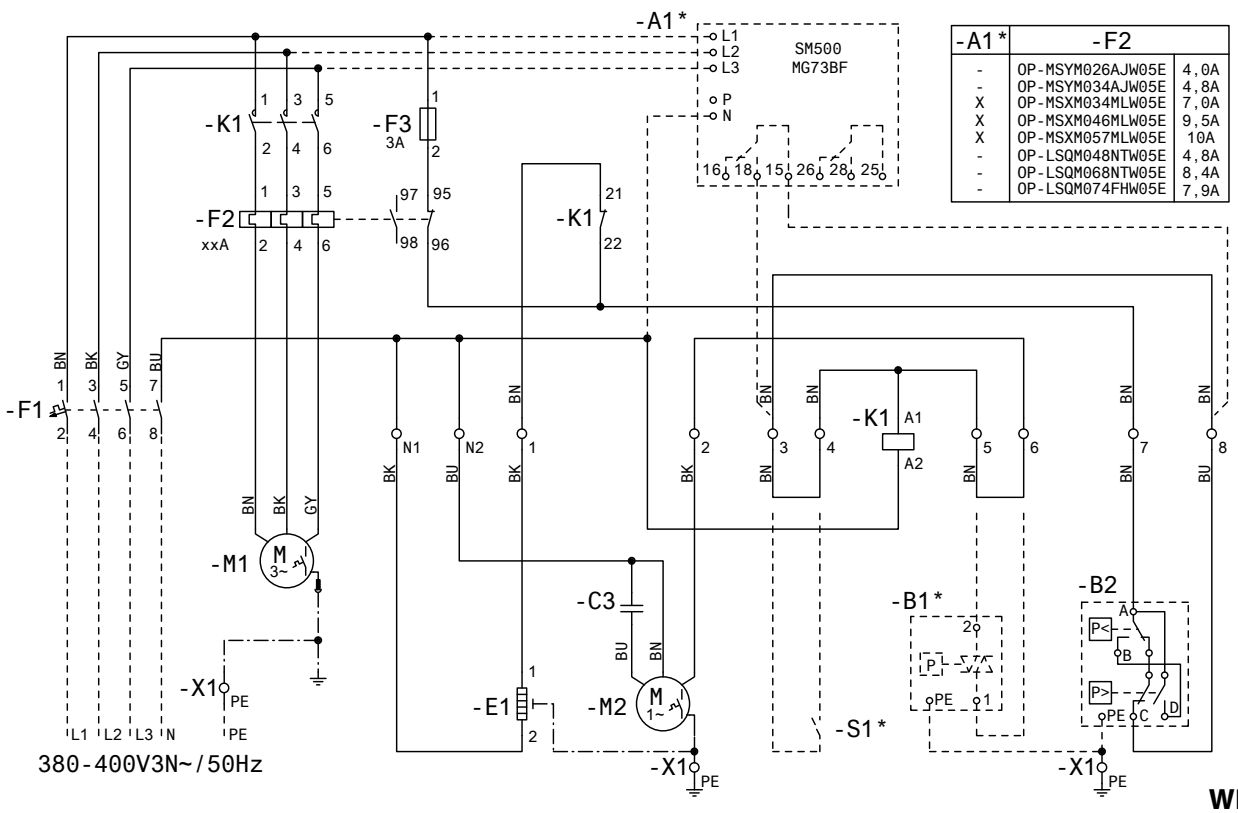
M1: *Compressor*
M2: *Fan motor*
K1: *Contactor*
K2: *Start relay*
R1: *Bleeder resistor*
S1*: *Room thermostat (option)*
X1: *Terminals*
****):*** *Option (remove bridge)*

Wiring diagram

Code G : OP-MSXM093



Code E : OP-LSQM048 - 068 - 074, OP-MSYM026 - 034, OP-MSXM034 - 046 - 057



Legend

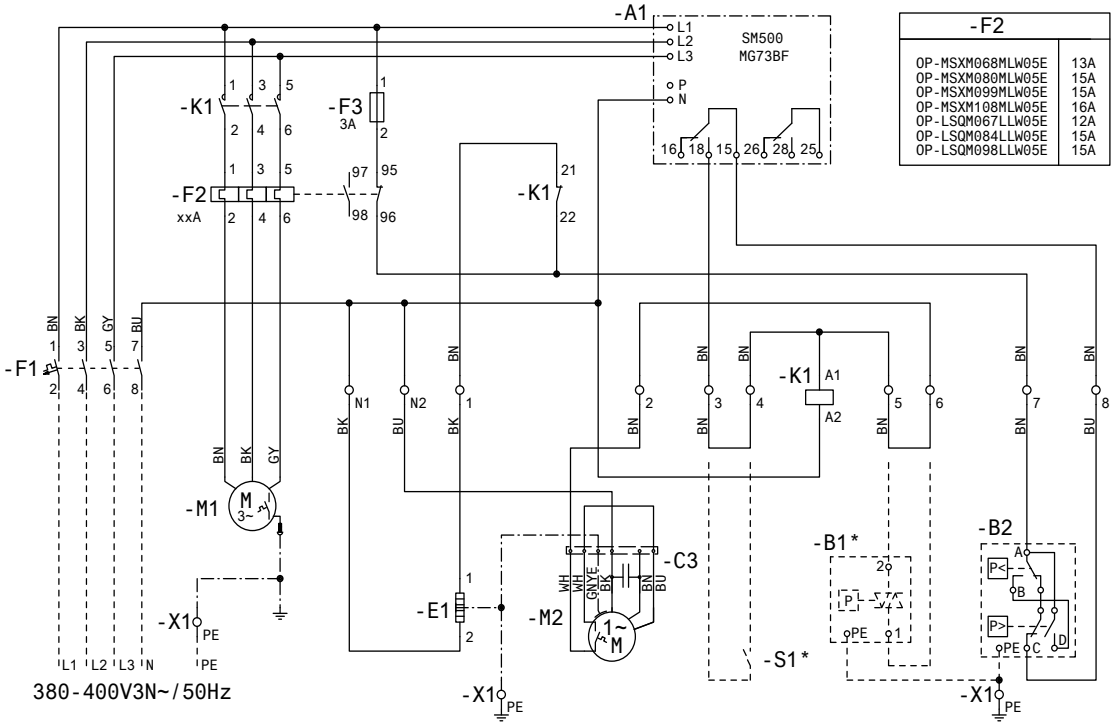
BK: *black*
BU: *blue*
BN: *brown*
GY: *grey*
RD: *red*
WH: *white*

A1*: *Voltage relay (option)*
B1*: *Fan speed controller (option)*
B2: *High and Low pressure switch*
C1: *Start capacitor compressor*
C2: *Run capacitor compressor*
C3: *Run capacitor fan*
E1: *Crankcase heater*
F1: *Main switch*
F2 : *Overload relay*
F3: *Fuse control circuit*

M1: *Compressor*
M2: *Fan motor*
K1: *Contactor*
K2: *Start relay*
R1, R2: *Bleeder resistor*
S1*: *Room thermostat (option)*
X1: *Terminals*
****)*** *Option (remove bridge)*

Wiring diagram

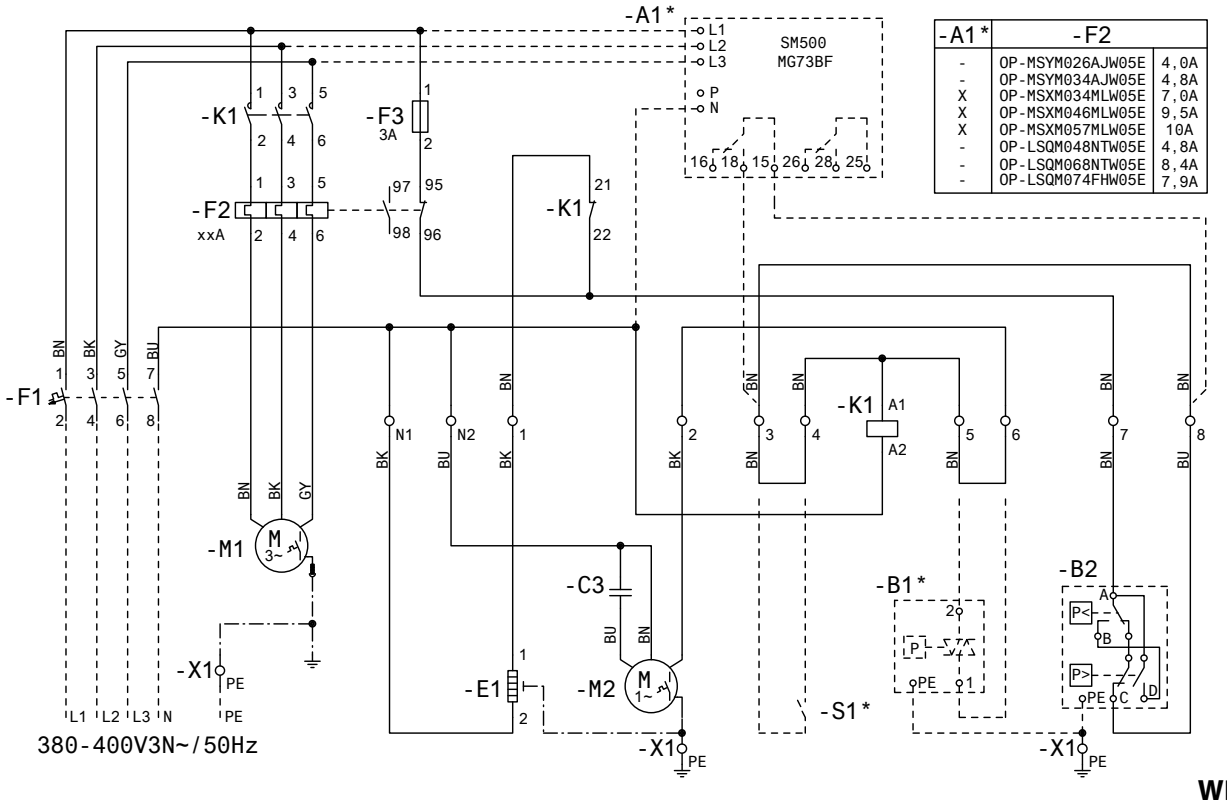
Code E : OP-MSXM068 - 080 - 099 - 108, OP-LSQM067 - 084 - 098



-F2	
OP-MSXM068MLW05E	13A
OP-MSXM080MLW05E	15A
OP-MSXM099MLW05E	15A
OP-MSXM108MLW05E	16A
OP-LSQM067LLW05E	12A
OP-LSQM084LLW05E	15A
OP-LSQM098LLW05E	15A

WD 7

Code E : OP-LSQM048 - 068 - 074, OP-MSYM026 - 034, OP-MSXM034 - 046 - 057



-A1*	-F2	
-	OP-MSYM026AJW05E	4,0A
-	OP-MSYM034AJW05E	4,8A
X	OP-MSXM034MLW05E	7,0A
X	OP-MSXM046MLW05E	9,5A
X	OP-MSXM057MLW05E	10A
-	OP-LSQM048NTW05E	4,8A
-	OP-LSQM068NTW05E	8,4A
-	OP-LSQM074FHW05E	7,9A

WD 8

Legend

BK: *black*
BU: *blue*
BN: *brown*
GY: *grey*
RD: *red*
WH: *white*

A1*: *Voltage relay (option)*
B1*: *Fan speed controller (option)*
B2: *High and Low pressure switch*
C1: *Start capacitor compressor*
C2: *Run capacitor compressor*
C3: *Run capacitor fan*
E1: *Crankcase heater*
F1: *Main switch*
F2 : *Overload relay*
F3: *Fuse control circuit*

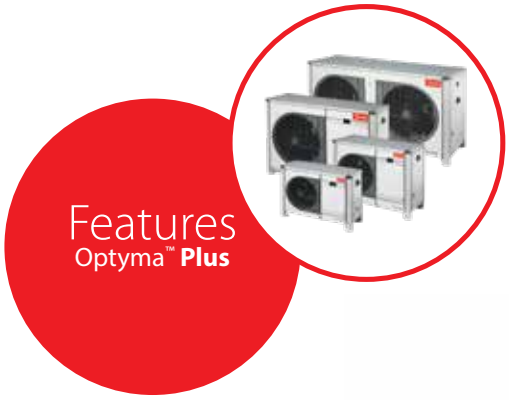
M1: *Compressor*
M2: *Fan motor*
K1: *Contactor*
K2: *Start relay*
R1, R2: *Bleeder resistor*
S1*: *Room thermostat (option)*
X1: *Terminals*
****)*** *Option (remove bridge)*

Quick Selection Notes:

Optyma™ **Plus** –
The low noise condensing units for quick installation

Optyma™ **Plus** is the premium condensing unit designed with Danfoss expertise.

The Optyma™ **Plus** further optimizes energy and acoustic performances and maintenance time. Extended range fits more applications for low and medium refrigeration.





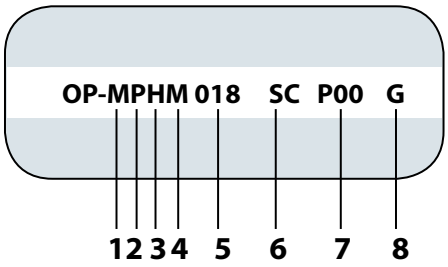
Facts

Applications:
- Food Retail
- Commercial Refrigeration
- Light Commercial Refrigeration
- Food Processing and Storage

- **Silent and outstanding performance**
  The Optyma™ **Plus** can be located even in residential areas. Smart compressor design, acoustic insulation and fan speed reduction during low capacity operation periods make the Optyma™ **Plus** the quietest solution today to respect your environment.
- **Increased efficiency and sustainable solutions**
  Optyma™ **Plus** Condening units range is compliant Ecodesign 2016 presenting high energetic efficiency solution improving payback and environmental impact. With the Optyma™ **Plus** substantial energy savings can be achieved thanks to the energy efficient components inside such as: optimized compressors, micro channel heat exchanger, high efficiency fan motors, fan speed and crank case heater control. You are going to reduce the energy consumption significantly and therefore, cut the energy bills.
- **Stock and logistics optimization**
  Multirefrigerant condensing units with optimized packaging cover a wide variety of applications and reduce your stock. Most of the Danfoss condensing units can be used with R404A/R507, R134a, R452A, R448A, R449A pick what best fits your application.
- **Increase business opportunity with complete range of condensing units**
  Danfoss Optyma™ **Plus** extend your possibilities with new models for low and medium temperatures. Your cooling capacity has almost no limits.
- **Effortless installation**
  Featuring a more compact design, reduced weight and simplified wiring, the Optyma™ **Plus** Plug & Play unit is among the fastest to install and easiest to service. All parameters are already set up, switch on the power, and the cooling process is up and running!
- **The highest standard and quality**
  We provide 100% factory tested units to our customers with premium quality. We at Danfoss do not accept any compromise regarding reliability of our products. The Optyma™ **Plus** includes all the best of our condensing units.
- **Environmental friendly** Optyma™ **Plus** Condensing units meet Ecodesign 2016 targets and Energy related Product (ErP) directive applicable for fan motors. In addition, Optyma™ **Plus** Condensing units are qualified with Low GWP refrigerant reducing environmental impact.

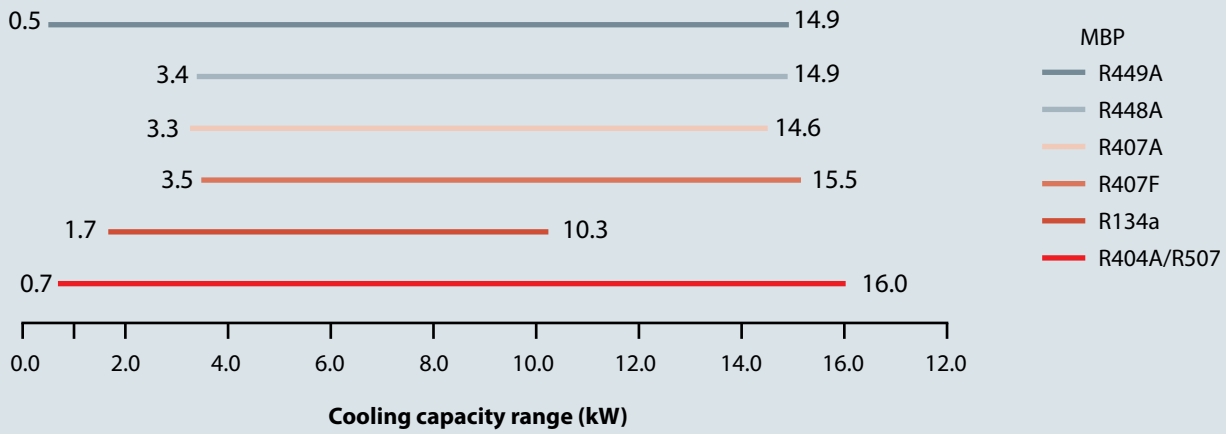
Nomenclature

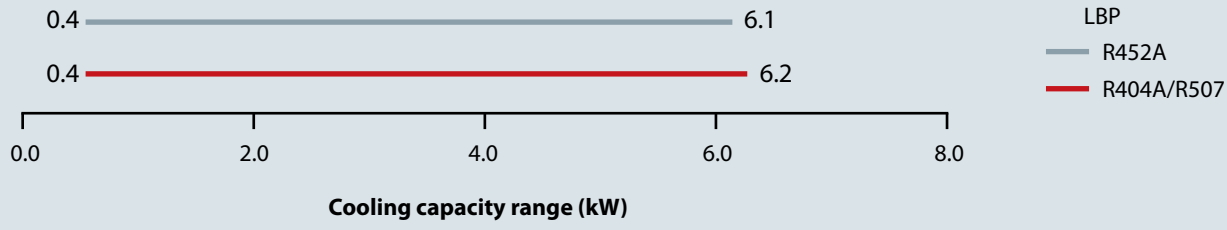
Designation system for the Optyma™ Plus program



Number	Title	Description
1	Application	L = LBP M = MBP
2	Family	P = Optyma™ **Plus**
3	Refrigerant	Q= R452A/R404A/507; G=R134a; H = R404A/R507 Z= R404A/507/R134a/R407A/R407F/R452A/R448A/R449A X = R404A/507/R134a/R407A/R407F/R448A/R449A Y = R404A/507/R449A
4	Condenser	Micro channel heat exchanger
5	Displacement	Displacement in cm^3
6	Compressor platform	AJ = CAJ, TAJ (Reciprocating) FH = FH, TFH (Reciprocating) NF = NF (Reciprocating) NT = NTZ (Reciprocating SC = SC (Reciprocating) MP = MPT (Reciprocating) MY = MLY (Reciprocating) MX = MX (Reciprocating) ML = MLZ (Scroll) LL = LLZ (Scroll)
7	Version	P00 Standard Optyma™ **Plus**
8	Electrical code	G = 230V-1ph Comp & Fan E = 400V-3ph Comp & 230V-1ph Fan

Optyma™ Plus - cooling capacity & operating range presentation [kW]





MBP *Rated conditions, Saturated suction temperature -10 °C. Ambiant air temperature 32 °C. Superheat 10 K. SubCooling 0K*
LBP *Rated conditions, Saturated suction temperature -35 °C. Ambiant air temperature 32 °C. Superheat 10 K. SubCooling 0K*

Condensing Unit Limits
Ambiant Temp [°C] *Up to 43 °C*

T Evaporation [°C]	***Min***	***Max***
LBP R404A	*-40*	*-10*
LBP R452A	*-40*	*-10*
MBP R134a	*-15*	*15*
MBP R404A	*-20*	*10*
MBP R449A	*-25*	*8*
MBP R448A	*-25*	*8*
MBP R407F	*-20*	*10*
MBP R407A	*-20*	*10*

Performance data R404A/R507 LBP

Performance with **SH = 10 K & SC = 0 K**

Code number	Model number	Electrical code [1]	T_{amb} [°C]	Cooling capacity Q [kW] T_e -40 °C	-35 °C	-30 °C	-25 °C	-20 °C	-15 °C	-10 °C	P [kW] -25 °C	COP [2]	EcoDesign [3] Q [kW]	P [kW]	COP_A	SEPR	Sound power level dB(A)	Sound pressure level 10 m dB(A)
114X3118	OP-LPQM017MPP00G	G	27	–	0.54	0.71	0.90	1.12	1.35	1.59	–	–	–	–	–	–	–	–
			32	–	0.48	0.64	0.82	1.01	1.23	1.46	0.62	1.33	0.54	0.50	1.07	–	60	29
			38	–	0.41	0.55	0.71	0.89	1.09	1.31	–	–	–	–	–	–	–	–
			43	–	0.36	0.48	0.63	0.79	0.97	1.17	–	–	–	–	–	–	–	–
114X3109	OP-LPHM018SCP00G	G	27	0.41	0.55	0.72	0.91	1.14	1.40	1.70	–	–	–	–	–	–	–	–
			32	0.36	0.49	0.64	0.82	1.04	1.28	1.56	0.72	1.15	0.55	0.57	0.96	–	60	29
			38	0.30	0.41	0.55	0.72	0.91	1.13	1.39	–	–	–	–	–	–	–	–
			43	0.24	0.35	0.48	0.63	0.80	1.01	1.24	–	–	–	–	–	–	–	–
114X3216	OP-LPQM026AJP00G	G	27	0.53	0.73	0.98	1.27	1.61	1.99	2.43	–	–	–	–	–	–	–	–
			32	0.45	0.64	0.87	1.14	1.45	1.81	2.22	0.91	1.26	0.72	0.72	1.01		67	36
			38	0.37	0.54	0.75	0.99	1.27	1.59	1.96	–	–	–	–	–	–	–	–
			43	–	0.46	0.64	0.86	1.11	1.40	1.74	–	–	–	–	–	–	–	–
114X3225	OP-LPQM048NTP00G	G	27	0.78	1.13	1.57	2.08	2.68	3.35	4.10	–	–	–	–	–	–	–	–
			32	0.65	0.98	1.38	1.85	2.40	3.02	3.71	1.44	1.28	1.10	1.10	1.01		69	38
			38	0.50	0.80	1.15	1.58	2.06	2.61	3.23	–	–	–	–	–	–	–	–
			43	0.38	0.65	0.97	1.35	1.78	–	–	–	–	–	–	–	–	–	–
114X3233	OP-LPQM048NTP00E	E	27	0.78	1.14	1.57	2.07	2.64	3.29	4.01	–	–	–	–	–	–	–	–
			32	0.67	1.00	1.39	1.85	2.37	2.96	3.61	1.43	1.29	1.13	1.00	1.13	–	69	38
			38	0.54	0.83	1.18	1.58	2.04	2.57	3.15	–	–	–	–	–	–	–	–
			43	0.43	0.69	1.00	1.36	1.77	–	–	–	–	–	–	–	–	–	–
114X3253	OP-LPQM074FHP00E	E	27	1.18	1.67	2.25	2.93	3.69	4.54	5.47	–	–	–	–	–	–	–	–
			32	0.99	1.43	1.97	2.59	3.29	4.07	4.93	2.09	1.24	1.62	1.51	1.07		69	38
			38	0.78	1.17	1.65	2.20	2.83	3.53	4.30	–	–	–	–	–	–	–	–
			43	0.62	0.97	1.39	1.89	2.45	3.09	3.79	–	–	–	–	–	–	–	–
114X3252	OP-LPQM074FHP00G	G	27	1.18	1.66	2.23	2.89	3.63	4.46	5.36	–	–	–	–	–	–	–	–
			32	0.98	1.44	1.97	2.58	3.27	4.03	4.88	2.25	1.15	1.63	1.66	0.98		69	38
			38	0.76	1.17	1.65	2.21	2.83	3.53	4.29	–	–	–	–	–	–	–	–
			43	0.57	0.95	1.40	1.90	2.47	3.10	3.80	–	–	–	–	–	–	–	–
114X3241	OP-LPQM068NTP00G	G	27	1.33	1.79	2.35	2.99	3.73	4.55	5.44	–	–	–	–	–	–	–	–
			32	1.19	1.61	2.11	2.69	3.36	4.10	4.91	2.18	1.23	1.83	1.73	1.06	–	70	39
			38	1.02	1.39	1.83	2.34	2.92	3.56	4.27	–	–	–	–	–	–	–	–
			43	0.87	1.20	1.59	2.04	2.55	–	–	–	–	–	–	–	–	–	–
114X3249	OP-LPQM068NTP00E	E	27	1.36	1.86	2.44	3.11	3.85	4.67	5.56	–	–	–	–	–	–	–	–
			32	1.17	1.63	2.16	2.77	3.45	4.20	5.02	2.13	1.30	1.85	1.61	1.14	–	70	39
			38	0.97	1.37	1.85	2.39	2.99	3.66	4.39	–	–	–	–	–	–	–	–
			43	0.81	1.18	1.60	2.08	2.62	–	–	–	–	–	–	–	–	–	–
114X3357	OP-LPQM096NTP00E	E	27	1.66	2.31	3.13	4.14	5.33	6.74	8.35	–	–	–	–	–	–	–	–
			32	1.43	2.03	2.78	3.70	4.81	6.11	7.60	2.72	1.36	2.28	1.99	1.15	1.52	72	41
			38	1.15	1.68	2.34	3.17	4.16	5.33	6.69	–	–	–	–	–	–	–	–
			43	0.91	1.38	1.98	2.72	3.61	–	–	–	–	–	–	–	–	–	–
114X3365	OP-LPQM136NTP00E	E	27	2.53	3.45	4.56	5.85	7.35	9.03	10.91	–	–	–	–	–	–	–	–
			32	2.20	3.04	4.06	5.25	6.62	8.17	9.90	4.23	1.24	3.44	3.13	1.10	1.59	73	42
			38	1.81	2.56	3.47	4.53	5.75	7.14	8.69	–	–	–	–	–	–	–	–
			43	1.49	2.17	2.98	3.93	5.03	–	–	–	–	–	–	–	–	–	–
114X3476	OP-LPQM215LLP00E	E	27	4.00	5.08	6.39	7.93	9.72	11.76	14.07	–	–	–	–	–	–	–	–
			32	3.68	4.69	5.89	7.31	8.96	10.84	12.96	5.00	1.46	5.31	4.26	1.25	1.71	78	47
			38	3.27	4.19	5.27	6.54	8.01	9.69	11.60	–	–	–	–	–	–	–	–
			43	2.92	3.75	4.73	5.87	7.19	8.70	10.42	–	–	–	–	–	–	–	–
114X3482	OP-LPQM271LLP00E	E	27	5.43	6.82	8.47	10.38	12.57	15.04	17.79	–	–	–	–	–	–	–	–
			32	4.95	6.24	7.75	9.50	11.49	13.74	16.24	6.79	1.40	7.11	5.79	1.23	1.81	78	47
			38	4.34	5.50	6.85	8.39	10.14	12.12	14.33	–	–	–	–	–	–	–	–
			43	3.78	4.84	6.04	7.41	8.97	10.72	12.68	–	–	–	–	–	–	–	–

LBP

[1]) G - Compressor 230V/1~/50Hz, fan 230V/1~/50Hz
E - Compressor 400V/3~/50Hz, fan 230V/1~/50Hz
[2]) Nominal conditions, Saturated suction temperature -25 °C. Ambient air temperature 32 °C. Superheat 10 K.
[3]) Rated conditions, Saturated suction temperature -35 °C. Ambient air temperature 32 °C. Return Gas Temperature 20 °C

SEPR, Seasonal Energy Performance Ratio
Q [kW], Cooling Capacity
P [kW], Power Input

For more information related to EcoDesign compliance, please refer to Coolselector® coolselector.danfoss.com or contact Danfoss

EcoDesign 2016

Performance data R452A LBP

Performance with **SH = 10 K & SC = 0 K**

Code number	Model number	Electrical code [1]	T_{amb} [°C]	Cooling capacity Q [kW] T_e -40 °C	-35 °C	-30 °C	-25 °C	-20 °C	-15 °C	-10 °C	P [kW] -25 °C	COP [2]	EcoDesign [3] Q [kW]	P [kW]	COP_A	SEPR	Sound power level dB(A)	Sound pressure level 10 m dB(A)
114X3118	OP-LPQM017MPP00G	G	27	–	0.48	0.64	0.82	1.02	1.24	1.48	–	–	–	–	–	–	–	–
			32	–	0.43	0.58	0.74	0.93	1.13	1.35	0.57	1.31	0.48	0.46	1.03	–	60	29
			38	–	0.37	0.50	0.65	0.82	1.00	1.21	–	–	–	–	–	–	–	–
			43	–	0.32	0.44	0.57	0.72	0.89	1.08	–	–	–	–	–	–	–	–
114X3216	OP-LPQM026AJP00G	G	27	0.43	0.61	0.84	1.12	1.45	1.84	2.29	–	–	–	–	–	–	–	–
			32	0.37	0.54	0.75	1.01	1.32	1.68	2.11	0.86	1.18	0.60	0.67	0.89	–	67	36
			38	–	0.46	0.65	0.88	1.16	1.49	1.88	–	–	–	–	–	–	–	–
			43	–	0.39	0.56	0.78	1.03	1.34	1.69	–	–	–	–	–	–	–	–
114X3225	OP-LPQM048NTP00G	G	27	0.76	1.11	1.54	2.06	2.66	3.36	4.14	–	–	–	–	–	–	–	–
			32	0.64	0.96	1.36	1.83	2.38	3.02	3.48	1.25	1.46	1.06	0.92	1.16		69	38
			38	0.51	0.80	1.15	1.57	2.06	2.64	3.29	–	–	–	–	–	–	–	–
			43	0.41	0.67	0.98	1.36	1.81	2.33	2.93	–	–	–	–	–	–	–	–
114X3233	OP-LPQM048NTP00E	E	27	0.81	1.16	1.59	2.10	2.68	3.36	4.11	–	–	–	–	–	–	–	–
			32	0.68	1.00	1.40	1.86	2.41	3.03	3.72	1.83	1.18	1.10	0.92	1.21	–	69	38
			38	0.54	0.83	1.18	1.60	2.08	2.64	3.27	–	–	–	–	–	–	–	–
			43	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
114X3241	OP-LPQM068NTP00G	G	27	1.39	1.88	2.46	3.13	3.89	4.73	5.66	–	–	–	–	–	–	–	–
			32	1.18	1.64	2.17	2.79	3.49	4.28	5.14	2.11	1.33	1.20	1.64	1.11	–	70	39
			38	0.94	1.36	1.84	2.40	3.03	3.74	4.52	–	–	–	–	–	–	–	–
			43	0.75	1.13	1.57	2.08	2.65	3.30	4.02	–	–	–	–	–	–	–	–
114X3252	OP-LPQM074FHP00G	G	27	0.96	1.41	1.95	2.59	3.34	4.20	5.17	–	–	–	–	–	–	–	–
			32	0.81	1.23	1.73	2.33	3.03	3.84	4.76	2.11	1.11	1.36	1.56	0.88		69	38
			38	–	1.01	1.47	2.02	2.66	3.41	4.25	–	–	–	–	–	–	–	–
			43	–	0.83	1.25	1.76	2.35	3.04	3.82	–	–	–	–	–	–	–	–
114X3253	OP-LPQM074FHP00E	E	27	0.96	1.42	1.97	2.63	3.41	4.29	5.29	–	–	–	–	–	–	–	–
			32	0.81	1.22	1.73	2.34	3.06	3.88	4.81	1.96	1.19	1.36	1.42	0.96	–	69	38
			38	–	1.01	1.46	2.01	2.66	3.41	4.26	–	–	–	–	–	–	–	–
			43	–	0.84	1.25	1.74	2.34	3.02	3.81	–	–	–	–	–	–	–	–
114X3249	OP-LPQM068NTP00E	E	27	1.32	1.82	2.42	3.11	3.88	4.73	5.64	–	–	–	–	–	–	–	–
			32	1.15	1.62	2.16	2.80	3.50	4.28	5.11	1.83	1.53	1.80	1.37	1.31	–	70	39
			38	0.95	1.36	1.86	2.42	3.05	3.73	4.47	–	–	–	–	–	–	–	–
			43	0.79	1.16	1.60	2.10	2.66	3.27	3.92	–	–	–	–	–	–	–	–
114X3357	OP-LPQM096NTP00E	E	27	1.71	2.39	3.24	4.26	5.47	6.86	8.47	–	–	–	–	–	–	–	–
			32	1.48	2.10	2.88	3.82	4.93	6.22	7.68	6.65	1.41	2.33	1.89	1.23	1.62	72	41
			38	1.23	1.67	2.45	3.29	4.29	5.45	6.78	–	–	–	–	–	–	–	–
			43	1.03	1.50	2.11	2.86	3.76	4.81	6.02	–	–	–	–	–	–	–	–
114X3365	OP-LPQM136NTP00E	E	27	2.67	3.61	4.76	6.10	7.65	9.39	11.31	–	–	–	–	–	–	–	–
			32	2.35	3.20	4.32	5.45	6.86	8.45	10.22	3.98	1.37	3.56	2.98	1.19	1.61	73	42
			38	2.00	2.74	3.64	4.71	5.96	7.37	8.95	–	–	–	–	–	–	–	–
			43	1.73	2.38	3.18	4.12	5.23	6.49	7.91	–	–	–	–	–	–	–	–
114X3476	OP-LPQM215LLP00E	E	27	3.62	4.6	5.78	7.17	8.79	10.65	12.78	–	–	–	–	–	–	–	–
			32	3.34	4.26	5.36	6.65	8.16	9.91	11.91	4.71	1.41	4.75	3.94	1.20	1.67	78	47
			38	3.00	3.84	4.83	6.00	7.38	8.97	10.81	–	–	–	–	–	–	–	–
			43	2.71	3.46	4.37	5.43	6.69	8.15	9.85	–	–	–	–	–	–	–	–
114X3482	OP-LPQM271LLP00E	E	27	5.18	6.57	8.21	10.12	12.32	14.82	17.64	–	–	–	–	–	–	–	–
			32	4.77	6.06	7.58	9.35	11.39	13.72	16.34	6.65	1.40	6.78	5.46	1.24	1.74	78	47
			38	4.27	5.43	6.79	8.38	10.22	12.32	14.70	–	–	–	–	–	–	–	–
			43	3.84	4.88	6.10	7.53	9.19	11.11	13.28	–	–	–	–	–	–	–	–

LBP

[1]) G - Compressor 230V/1~/50Hz, fan 230V/1~/50Hz
E - Compressor 400V/3~/50Hz, fan 230V/1~/50Hz
[2]) Nominal conditions, Saturated suction temperature -25 °C. Ambient air temperature 32 °C. Superheat 10 K.
[3]) Rated conditions, Saturated suction temperature -35 °C. Ambient air temperature 32 °C. Return Gas Temperature 20 °C

SEPR, Seasonal Energy Performance Ratio
Q [kW], Cooling Capacity
P [kW], Power Input

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EcoDesign 2016

Performance data R134a MBP

Performance with **SH = 10 K & SC = 0 K**

Code number	Model number	Electrical code [1]	T_{amb} [°C]	Cooling capacity Q [kW]							P [kW]	COP [2]	EcoDesign [3]				Sound power level dB(A)	Sound pressure level 10 m dB(A)
				T_e									Q [kW]	P [kW]	COP_A	SEPR		
				-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	15 °C	-10 °C							
114X4220	OP-MPGM033AJP00G	G	27	1.47	1.87	2.32	2.85	3.44	4.10	4.83	–	–	–	–	–	–	–	–
			32	1.35	1.73	2.17	2.66	3.22	3.85	4.55	0.84	2.05	1.77	0.84	2.10	–	67	36
			38	1.20	1.56	1.97	2.43	2.96	3.54	4.19	–	–	–	–	–	–	–	–
			43	1.08	1.42	1.80	2.24	2.73	3.28	3.89	–	–	–	–	–	–	–	–
114X4264	OP-MPXM034MLP00E	E	27	1.82	2.29	2.84	3.48	4.21	5.03	5.94	–	–	–	–	–	–	–	–
			32	1.72	2.17	2.69	3.30	4.00	4.79	5.67	0.98	2.22	2.22	0.98	2.27	–	68	37
			38	1.60	2.02	2.51	3.09	3.74	4.49	5.33	–	–	–	–	–	–	–	–
			43	1.50	1.89	2.36	2.90	3.52	4.23	5.03	–	–	–	–	–	–	–	–
114X4261	OP-MPXM034MLP00G	G	27	1.83	2.33	2.89	3.53	4.24	5.03	5.91	–	–	–	–	–	–	–	–
			32	1.72	2.20	2.74	3.35	4.04	4.81	5.67	1.03	2.14	2.25	1.03	2.19	–	68	37
			38	1.59	2.03	2.55	3.13	3.79	4.53	5.36	–	–	–	–	–	–	–	–
			43	1.48	1.90	2.38	2.93	3.56	4.28	5.08	–	–	–	–	–	–	–	–
114X4284	OP-MPXM046MLP00E	E	27	2.47	3.08	3.80	4.63	5.58	6.64	7.81	–	–	–	–	–	–	–	–
			32	2.33	2.91	3.60	4.39	5.30	6.31	7.43	1.29	2.25	2.99	1.30	2.30	–	68	37
			38	2.16	2.70	3.34	4.09	4.94	5.90	6.95	–	–	–	–	–	–	–	–
			43	2.01	2.52	3.13	3.83	4.64	5.54	6.54	–	–	–	–	–	–	–	–
114X4281	OP-MPXM046MLP00G	G	27	2.45	3.10	3.83	4.66	5.59	6.62	7.76	–	–	–	–	–	–	–	–
			32	2.31	2.92	3.62	4.42	5.31	6.31	7.41	1.46	2.00	3.00	1.46	2.05	–	68	37
			38	2.13	2.70	3.35	4.10	4.96	5.91	6.97	–	–	–	–	–	–	–	–
			43	2.00	2.51	3.12	3.83	4.64	5.55	6.57	–	–	–	–	–	–	–	–
114X4293	OP-MPXM057MLP00E	E	27	2.97	3.73	4.60	5.59	6.71	7.95	9.31	–	–	–	–	–	–	–	–
			32	2.80	3.52	4.35	5.29	6.36	7.54	8.84	1.60	2.20	3.61	1.61	2.25	–	68	37
			38	2.58	3.26	4.03	4.92	5.92	7.03	8.25	–	–	–	–	–	–	–	–
			43	2.40	3.04	3.77	4.60	5.54	6.59	7.75	–	–	–	–	–	–	–	–
114X4290	OP-MPXM057MLP00G	G	27	2.97	3.74	4.62	5.61	6.71	7.92	9.26	–	–	–	–	–	–	–	–
			32	2.79	3.52	4.35	5.30	6.35	7.52	8.81	1.92	1.83	3.62	1.93	1.88	–	68	37
			38	2.59	3.25	4.02	4.90	5.90	7.01	8.24	–	–	–	–	–	–	–	–
			43	2.43	3.03	3.74	4.56	5.50	6.56	7.73	–	–	–	–	–	–	–	–

MBP

[1]) G - Compressor 230V/1~/50Hz, fan 230V/1~/50Hz
E - Compressor 400V/3~/50Hz, fan 230V/1~/50Hz
[2]) Nominal conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Superheat 10 K.
[3]) Rated conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Return Gas Temperature 20 °C

SEPR, Seasonal Energy Performance Ratio
Q [kW], Cooling Capacity
P [kW], Power Input

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EcoDesign 2016

Performance data R134a MBP

Performance with **SH = 10 K & SC = 0 K**

Code number	Model number	Electrical code [1]	T_{amb} [°C]	Cooling capacity Q [kW] T_e -15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	15 °C	P [kW] -10 °C	COP [2]	EcoDesign [3] Q [kW]	P [kW]	COP_A	SEPR	Sound power level dB(A)	Sound pressure level 10 m dB(A)
114X4311	OP-MPXM068MLP00E	E	27	3.69	4.63	5.74	7.02	8.47	10.10	11.92	–	–	–	–	–	–	–	–
			32	3.48	4.38	5.44	6.66	8.05	9.61	11.36	1.89	2.31	4.49	1.90	2.37	–	69	38
			38	3.24	4.08	5.07	6.21	7.52	9.01	10.66	–	–	–	–	–	–	–	–
			43	3.04	3.82	4.75	5.83	7.07	8.48	10.05	–	–	–	–	–	–	–	–
114X4308	OP-MPXM068MLP00G	G	27	3.79	4.66	5.75	7.03	8.47	10.03	11.69	–	–	–	–	–	–	–	–
			32	3.64	4.43	5.45	6.67	8.06	9.58	11.21	2.18	2.03	4.54	2.18	2.08	–	69	38
			38	3.48	4.15	5.07	6.21	7.53	9.00	10.59	–	–	–	–	–	–	–	–
			43	3.36	3.92	4.75	5.82	7.07	8.49	10.03	–	–	–	–	–	–	–	–
114X4324	OP-MPXM080MLP00E	E	27	4.28	5.39	6.67	8.13	9.78	11.63	13.67	–	–	–	–	–	–	–	–
			32	4.03	5.09	6.31	7.70	9.28	11.05	13.00	2.30	2.21	5.22	2.31	2.26	3.43	69	38
			38	3.72	4.71	5.86	7.18	8.66	10.33	12.17	–	–	–	–	–	–	–	–
			43	3.45	4.40	5.48	6.72	8.13	9.71	11.46	–	–	–	–	–	–	–	–
114X4321	OP-MPXM080MLP00G	G	27	4.25	5.47	6.79	8.23	9.82	11.58	13.52	–	–	–	–	–	–	–	–
			32	3.95	5.14	6.41	7.80	9.33	11.03	12.89	2.43	2.11	5.27	2.44	2.16	3.03	69	38
			38	3.57	4.70	5.93	7.25	8.72	10.33	12.11	–	–	–	–	–	–	–	–
			43	3.23	4.33	5.50	6.78	8.18	9.72	11.43	–	–	–	–	–	–	–	–
114X4344	OP-MPXM108MLP00E	E	27	5.56	6.93	8.55	10.38	12.42	14.65	17.06	–	–	–	–	–	–	–	–
			32	5.22	6.52	8.06	9.81	11.75	13.89	16.19	2.91	2.24	6.71	2.92	2.30	3.58	75	44
			38	4.81	6.02	7.45	9.09	10.92	12.93	15.11	–	–	–	–	–	–	–	–
			43	4.47	5.60	6.94	8.48	10.21	12.11	14.17	–	–	–	–	–	–	–	–
114X4414	OP-MPXM125MLP00E	E	27	6.87	8.60	10.59	12.86	15.42	18.29	21.47	–	–	–	–	–	–	–	–
			32	6.44	8.10	10.02	12.19	14.65	17.39	20.43	3.59	2.26	8.31	3.60	2.31	3.52	77	46
			38	5.91	7.49	9.30	11.36	13.68	16.28	19.16	–	–	–	–	–	–	–	–
			43	5.46	6.97	8.69	10.65	12.86	15.33	18.07	–	–	–	–	–	–	–	–
114X4434	OP-MPXM162MLP00E	E	27	8.70	10.88	13.39	16.23	19.42	22.94	26.82	–	–	–	–	–	–	–	–
			32	8.17	10.25	12.64	15.35	18.40	21.78	25.51	4.67	2.20	10.52	4.68	2.25	3.46	77	46
			38	7.54	9.48	11.71	14.26	17.14	20.34	23.87	–	–	–	–	–	–	–	–
			43	7.03	8.83	10.93	13.33	16.05	19.09	22.45	–	–	–	–	–	–	–	–

MBP

[1]) G - Compressor 230V/1~/50Hz, fan 230V/1~/50Hz
E - Compressor 400V/3~/50Hz, fan 230V/1~/50Hz
[2]) Nominal conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Superheat 10 K.
[3]) Rated conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Return Gas Temperature 20 °C

SEPR, Seasonal Energy Performance Ratio
Q [kW], Cooling Capacity
P [kW], Power Input

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EcoDesign 2016

Performance data R404A/R507 MBP

Performance with **SH = 10 K & SC = 0 K**

Code number	Model number	Electrical code [1]	T_{amb} [°C]	Cooling capacity Q [kW] T_e -20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	P [kW] -10 °C	COP [2]	EcoDesign [3] Q [kW]	P [kW]	COP_A	SEPR	Sound power level dB(A)	Sound pressure level 10 m dB(A)
114X4101	OP-MPHM007SCP00G	G	27	–	0.63	0.77	0.94	1.13	1.35	–	–	–	–	–	–	–	–	–
			32	–	0.57	0.71	0.86	1.04	1.25	–	0.44	1.60	0.74	0.44	1.68	–	60	29
			38	–	0.51	0.63	0.77	0.94	1.12	–	–	–	–	–	–	–	–	–
			43	–	0.45	0.56	0.69	0.85	1.02	–	–	–	–	–	–	–	–	–
114X4119	OP-MPYM008MYP00G	G	27	–	0.76	0.94	1.13	1.35	1.57	–	–	–	–	–	–	–	–	–
			32	–	0.68	0.85	1.03	1.23	1.45	–	0.42	2.02	0.89	0.42	2.11	–	60	29
			38	–	0.60	0.74	0.91	1.09	1.29	–	–	–	–	–	–	–	–	–
			43	–	0.52	0.66	0.81	0.98	1.17	–	–	–	–	–	–	–	–	–
114X4120	OP-MPYM009MYP00G	G	27	–	0.81	1.01	1.22	1.44	1.68	–	–	–	–	–	–	–	–	–
			32	–	0.74	0.91	1.11	1.32	1.55	–	0.48	1.9	0.96	0.48	1.99	–	61	30
			38	–	0.64	0.80	0.98	1.17	1.38	–	–	–	–	–	–	–	–	–
			43	–	0.57	0.71	0.87	1.05	1.24	–	–	–	–	–	–	–	–	–
114X4102	OP-MPHM010SCP00G	G	27	0.66	0.83	1.03	1.26	1.53	1.83	–	–	–	–	–	–	–	–	–
			32	0.60	0.76	0.94	1.15	1.40	1.67	–	0.54	1.73	0.98	0.54	1.81	–	60	29
			38	0.53	0.67	0.83	1.02	1.24	1.49	–	–	–	–	–	–	–	–	–
			43	–	0.59	0.74	0.91	1.11	–	–	–	–	–	–	–	–	–	–
114X4104	OP-MPHM012SCP00G	G	27	0.80	1.00	1.23	1.50	1.80	2.14	–	–	–	–	–	–	–	–	–
			32	0.73	0.91	1.12	1.37	1.65	1.97	–	0.64	1.75	1.17	0.64	1.83	–	60	29
			38	0.64	0.80	0.99	1.21	1.46	1.75	–	–	–	–	–	–	–	–	–
			43	–	0.71	0.88	1.08	1.31	–	–	–	–	–	–	–	–	–	–
114X4121	OP-MPYM012MPP00G	G	27	–	1.12	1.37	1.63	1.91	2.21	–	–	–	–	–	–	–	–	–
			32		1.01	1.24	1.49	1.75	2.03		0.65	1.92	1.30	0.65	2.01	–	63	32
			38	–	0.88	1.09	1.31	1.56	1.82	–	–	–	–	–	–	–	–	–
			43	–	0.78	0.96	1.17	1.39	1.64	–	–	–	–	–	–	–	–	–
114X4122	OP-MPYM014MPP00G	G	27	–	1.13	1.40	1.69	2.00	2.34	–	–	–	–	–	–	–	–	–
			32	–	1.03	1.28	1.55	1.84	2.16	–	0.79	1.61	1.34	0.80	1.69	–	60	29
			38	–	0.91	1.13	1.38	1.65	1.95	–	–	–	–	–	–	–	–	–
			43	–	0.81	1.01	1.24	1.49	1.78	–	–	–	–	–	–	–	–	–
114X4105	OP-MPHM015SCP00G	G	27	0.97	1.21	1.47	1.78	2.14	2.53	–	–	–	–	–	–	–	–	–
			32	0.88	1.10	1.35	1.64	1.97	2.33	–	0.82	1.65	1.42	0.82	1.73	–	60	29
			38	0.77	0.97	1.19	1.46	1.76	2.09	–	–	–	–	–	–	–	–	–
			43	–	0.86	1.06	1.30	1.58	–	–	–	–	–	–	–	–	–	–
114X4109	OP-MPHM018SCP00G	G	27	1.14	1.40	1.71	2.07	2.47	2.92	–	–	–	–	–	–	–	–	–
			32	1.03	1.28	1.56	1.90	2.27	2.69	–	0.90	1.74	1.64	0.90	1.83	–	60	29
			38	0.90	1.13	1.39	1.69	2.03	2.42	–	–	–	–	–	–	–	–	–
			43	–	1.00	1.24	1.51	1.83	–	–	–	–	–	–	–	–	–	–
114X4230	OP-MPYM018AJP00G	G	27	1.18	1.48	1.82	2.21	2.65	3.15	3.69	–	–	–	–	–	–	–	–
			32	1.08	1.35	1.67	2.02	2.43	2.88	3.38	0.90	1.85	1.75	0.903	1.93	–	67	36
			38	–	–	1.48	1.80	2.16	2.56	3.00	–	–	–	–	–	–	–	–
			43	–	–	1.32	1.61	1.93	2.29	2.69	–	–	–	–	–	–	–	–

This table continues in the next page

MBP

[1]) G - Compressor 230V/1~/50Hz, fan 230V/1~/50Hz
E - Compressor 400V/3~/50Hz, fan 230V/1~/50Hz
[2]) Nominal conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Superheat 10 K.
[3]) Rated conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Return Gas Temperature 20 °C

SEPR, Seasonal Energy Performance Ratio
Q [kW], Cooling Capacity
P [kW], Power Input

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EcoDesign 2016

Performance data R404A/R507 MBP

Performance with **SH = 10 K & SC = 0 K**

Code number	Model number	Electrical code [1]	T_{amb} [°C]	Cooling capacity Q [kW] T_e -20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	P [kW] -10 °C	COP [2]	EcoDesign [3] Q [kW]	P [kW]	COP_A	SEPR	Sound power level dB(A)	Sound pressure level 10 m dB(A)
114X4200	OP-MPYM024AJP00G	G	27	–	1.82	2.29	2.82	3.42	4.08	–	–	–	–	–	–	–	–	–
			32	–	1.64	2.07	2.56	3.11	3.72	–	1.04	1.98	2.17	1.05	2.07	–	67	36
			38	–	1.42	1.80	2.24	2.74	3.29	–	–	–	–	–	–	–	–	–
			43	–	1.23	1.59	1.98	2.43	2.93	–	–	–	–	–	–	–	–	–
114X4212	OP-MPYM026AJP00G	G	27	1.63	2.04	2.52	3.06	3.67	4.36	5.10	–	–	–	–	–	–	–	–
			32	1.46	1.84	2.29	2.79	3.35	3.98	4.68	1.17	1.95	2.40	1.17	2.05	–	67	36
			38	1.26	1.61	2.01	2.46	2.97	3.53	4.16	–	–	–	–	–	–	–	–
			43	–	1.41	1.78	2.18	2.64	3.16	3.73	–	–	–	–	–	–	–	–
114X4213	OP-MPYM026AJP00E	E	27	1.60	2.03	2.52	3.08	3.70	4.39	5.14	–	–	–	–	–	–	–	–
			32	1.42	1.82	2.28	2.80	3.38	4.02	4.72	1.23	1.86	2.40	1.23	1.95	–	67	36
			38	1.20	1.58	2.00	2.47	2.99	3.56	4.20	–	–	–	–	–	–	–	–
			43	–	1.37	1.75	2.18	2.66	3.18	3.76	–	–	–	–	–	–	–	–
114X4227	OP-MPYM034AJP00E	E	27	2.02	2.53	3.10	3.75	4.46	5.24	6.09	–	–	–	–	–	–	–	–
			32	1.81	2.29	2.82	3.42	4.08	4.80	5.58	1.57	1.80	2.97	1.57	1.89	–	67	36
			38	1.56	2.00	2.48	3.02	3.62	4.26	4.97	–	–	–	–	–	–	–	–
			43	–	1.75	2.20	2.69	3.23	3.82	4.46	–	–	–	–	–	–	–	–
114X4226	OP-MPYM034AJP00G	G	27	2.02	2.55	3.15	3.82	4.56	5.38	6.26	–	–	–	–	–	–	–	–
			32	1.80	2.30	2.86	3.48	4.17	4.92	5.73	1.65	1.74	3.01	1.65	1.82	–	67	36
			38	1.54	2.00	2.51	3.06	3.68	4.35	5.09	–	–	–	–	–	–	–	–
			43	–	1.75	2.21	2.72	3.27	3.88	4.54	–	–	–	–	–	–	–	–
114X4264	OP-MPXM034MLP00E	E	27	2.50	3.08	3.73	4.46	5.27	6.16	7.12	–	–	–	–	–	–	–	–
			32	2.25	2.79	3.40	4.07	4.82	5.64	6.53	1.68	2.02	3.58	1.69	2.11	–	68	37
			38	1.93	2.42	2.97	3.58	4.26	5.00	5.81	–	–	–	–	–	–	–	–
			43	1.63	2.09	2.60	3.16	3.77	4.45	5.20	–	–	–	–	–	–	–	–
114X4261	OP-MPXM034MLP00G	G	27	2.59	3.15	3.78	4.50	5.29	6.16	7.12	–	–	–	–	–	–	–	–
			32	2.37	2.89	3.48	4.14	4.88	5.70	6.61	1.75	1.99	3.67	1.76	2.08	–	68	37
			38	2.10	2.57	3.10	3.71	4.38	5.14	5.98	–	–	–	–	–	–	–	–
			43	1.87	2.29	2.78	3.33	3.96	4.66	5.45	–	–	–	–	–	–	–	–
114X4284	OP-MPXM046MLP00E	E	27	3.40	4.12	4.93	5.82	6.81	7.91	9.10	–	–	–	–	–	–	–	–
			32	3.11	3.77	4.51	5.34	6.26	7.27	8.39	2.32	1.94	4.78	2.35	2.03	–	68	37
			38	2.73	3.33	3.99	4.73	5.56	6.48	7.51	–	–	–	–	–	–	–	–
			43	2.39	2.93	3.53	4.20	4.95	5.80	6.75	–	–	–	–	–	–	–	–
114X4281	OP-MPXM046MLP00G	G	27	3.45	4.18	5.00	5.92	6.92	8.02	9.20	–	–	–	–	–	–	–	–
			32	3.15	3.82	4.58	5.42	6.35	7.37	8.48	2.41	1.90	4.85	2.44	1.99	–	68	37
			38	2.76	3.36	4.04	4.80	5.64	6.57	7.59	–	–	–	–	–	–	–	–
			43	2.42	2.96	3.57	4.26	5.02	5.87	6.82	–	–	–	–	–	–	–	–

MBP

This table continues in the next page

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E - Compressor 400V/3~/50Hz, fan 230V/1~/50Hz
[2]) Nominal conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Superheat 10 K.
[3]) Rated conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Return Gas Temperature 20 °C

SEPR, Seasonal Energy Performance Ratio
Q [kW], Cooling Capacity
P [kW], Power Input

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EcoDesign 2016

Performance data R404A/R507 MBP

Performance with **SH = 10 K & SC = 0 K**

Code number	Model number	Electrical code [1]	T_{amb} [°C]	Cooling capacity Q [kW]							P [kW]	COP [2]	EcoDesign [3]				Sound power level dB(A)	Sound pressure level 10 m dB(A)
				T_e									Q [kW]	P [kW]	COP_A	SEPR		
				-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	-10 °C							
114X4290	OP-MPXM057MLP00G	G	27	3.97	4.81	5.74	6.78	7.91	9.14	10.47	–	–	–	–	–	–	–	–
			32	3.62	4.38	5.24	6.19	7.23	8.37	9.61	3.24	1.62	5.57	3.29	1.69	2.90	68	37
			38	3.18	3.86	4.61	5.46	6.40	7.42	8.55	–	–	–	–	–	–	–	–
			43	2.79	3.40	4.07	4.83	5.67	6.61	7.65	–	–	–	–	–	–	–	–
114X4293	OP-MPXM057MLP00E	E	27	3.98	4.81	5.75	6.79	7.93	9.16	10.49	–	–	–	–	–	–	–	–
			32	3.63	4.39	5.25	6.20	7.25	8.40	9.64	3.12	1.68	5.58	3.16	1.76	3.01	68	37
			38	3.19	3.87	4.63	5.48	6.42	7.45	8.59	–	–	–	–	–	–	–	–
			43	2.81	3.41	4.09	4.86	5.70	6.65	7.69	–	–	–	–	–	–	–	–
114X4308	OP-MPXM068MLP00G	G	27	5.27	6.45	7.79	9.30	11.00	12.88	14.94	–	–	–	–	–	–	–	–
			32	4.83	5.93	7.18	8.59	10.18	11.95	13.90	3.33	2.16	7.57	3.35	2.26	3.66	69	38
			38	4.28	5.28	6.42	7.71	9.17	10.79	12.61	–	–	–	–	–	–	–	–
			43	3.81	4.71	5.76	6.94	8.28	9.80	11.49	–	–	–	–	–	–	–	–
114X4311	OP-MPXM068MLP00E	E	27	5.27	6.44	7.78	9.30	11.00	12.88	14.95	–	–	–	–	–	–	–	–
			32	4.83	5.93	7.18	8.59	10.18	11.95	13.91	3.25	2.20	7.57	3.28	2.31	3.73	69	38
			38	4.28	5.28	6.42	7.71	9.17	10.80	12.62	–	–	–	–	–	–	–	–
			43	3.81	4.72	5.76	6.95	8.29	9.81	11.51	–	–	–	–	–	–	–	–
114X4321	OP-MPXM080MLP00G	G	27	6.07	7.47	9.04	10.77	12.63	14.63	16.73	–	–	–	–	–	–	–	–
			32	5.50	6.81	8.27	9.89	11.65	13.54	15.54	4.00	2.07	8.74	4.03	2.17	3.33	69	38
			38	4.83	5.99	7.32	8.80	10.42	12.16	14.04	–	–	–	–	–	–	–	–
			43	4.27	5.31	6.51	7.86	9.35	10.98	12.74	–	–	–	–	–	–	–	–
114X4324	OP-MPXM080MLP00E	E	27	6.24	7.57	9.08	10.78	12.66	14.73	16.97	–	–	–	–	–	–	–	–
			32	5.71	6.95	8.35	9.93	11.68	13.61	15.72	3.82	2.19	8.82	3.86	2.29	3.71	69	38
			38	5.03	6.15	7.41	8.84	10.43	12.20	14.14	–	–	–	–	–	–	–	–
			43	4.42	5.43	6.58	7.88	9.34	10.96	12.75	–	–	–	–	–	–	–	–
114X4344	OP-MPXM108MLP00E	E	27	7.86	9.49	11.30	13.31	15.52	17.94	20.58	–	–	–	–	–	–	–	–
			32	7.15	8.65	10.32	12.17	14.21	16.46	18.93	5.41	1.91	10.94	5.48	2.00	3.31	75	44
			38	6.25	7.60	9.09	10.74	12.58	14.62	16.89	–	–	–	–	–	–	–	–
			43	5.46	6.67	8.01	9.50	11.17	13.04	15.14	–	–	–	–	–	–	–	–
114X4414	OP-MPXM125MLP00E	E	27	9.41	11.58	14.00	16.68	19.61	22.80	26.23	–	–	–	–	–	–	–	–
			32	8.51	10.55	12.82	15.33	18.07	21.07	24.31	6.16	2.08	13.54	6.21	2.18	3.48	77	46
			38	7.39	9.26	11.33	13.63	16.15	18.91	21.91	–	–	–	–	–	–	–	–
			43	6.40	8.13	10.03	12.15	14.47	17.03	19.84	–	–	–	–	–	–	–	–
114X4434	OP-MPXM162MLP00E	E	27	12.52	15.01	17.72	20.69	23.93	27.47	31.32	–	–	–	–	–	–	–	–
			32	11.40	13.62	16.03	18.68	21.59	24.80	28.32	8.42	1.90	16.98	8.52	1.99	3.23	77	46
			38	10.03	11.88	13.91	16.16	18.66	21.46	24.59	–	–	–	–	–	–	–	–
			43	8.88	10.40	12.08	13.98	16.13	18.58	21.37	–	–	–	–	–	–	–	–

MBP

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E - Compressor 400V/3~/50Hz, fan 230V/1~/50Hz
[2]) Nominal conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Superheat 10 K.
[3]) Rated conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Return Gas Temperature 20 °C

SEPR, Seasonal Energy Performance Ratio
Q [kW], Cooling Capacity
P [kW], Power Input

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EcoDesign 2016

Performance data R449A MBP

Performance with **SH = 10 K & SC = 0 K**

Code number	Model number	Electrical code [1]	T_{amb} [°C]	Cooling capacity Q [kW] T_e -20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	P [kW] -10 °C	COP [2]	EcoDesign [3] Q [kW]	P [kW]	COP_A	SEPR	Sound power level dB(A)	Sound pressure level 10 m dB(A)
114X4119	OP-MPYM008MYP00G	G	27	–	0.45	0.54	0.68	0.89	1.15	–	–	–	–	–	–	–	–	–
			32	–	0.41	0.49	0.62	0.81	1.06	–	0.29	1.68	0.49	0.29	1.70	–	60	29
			38	–	0.37	0.42	0.54	0.72	0.96	–	–	–	–	–	–	–	–	–
			43	–	0.33	0.37	0.48	0.64	0.87	–	–	–	–	–	–	–	–	–
114X4120	OP-MPYM009MYP00G	G	27	–	0.49	0.58	0.74	0.96	1.24	–	–	–	–	–	–	–	–	–
			32		0.45	0.53	0.67	0.88	1.14		0.33	1.59	0.54	0.33	1.61		61	30
			38	–	0.40	0.46	0.59	0.78	1.03	–	–	–	–	–	–	–	–	–
			43	–	0.36	0.41	0.52	0.70	0.93	–	–	–	–	–	–	–	–	–
114X4121	OP-MPYM012MPP00G	G	27	–	0.68	0.82	1.02	1.30	1.65	–	–	–	–	–	–	–	–	–
			32	–	0.62	0.74	0.93	1.19	1.52	–	0.44	1.68	0.75	0.44	1.70	–	63	32
			38	–	0.55	0.65	0.82	1.06	1.37	–	–	–	–	–	–	–	–	–
			43	–	0.50	0.57	0.72	0.95	1.24	–	–	–	–	–	–	–	–	–
114X4122	OP-MPYM014MPP00G	G	27	–	1.00	1.27	1.57	1.90	2.25	–	–	–	–	–	–	–	–	–
			32	–	0.92	1.18	1.46	1.76	2.10	–	0.71	1.64	1.20	0.72	1.67	–	60	29
			38	–	0.83	1.06	1.32	1.60	1.91	–	–	–	–	–	–	–	–	–
			43	–	0.76	0.96	1.20	1.46	1.76	–	–	–	–	–	–	–	–	–
114X4230	OP-MPYM018AJP00G	G	27	0.93	1.24	1.60	2.03	2.54	3.13	3.81	–	–	–	–	–	–	–	–
			32	0.86	1.14	1.47	1.88	2.35	2.90	3.55	0.78	1.89	1.50	0.78	1.92	–	67	36
			38	–	1.02	1.33	1.69	2.13	2.64	3.23	–	–	–	–	–	–	–	–
			43	–	0.92	1.20	1.54	1.94	2.42	2.97	–	–	–	–	–	–	–	–
114X4200	OP-MPYM024AJP00G	G	27	1.16	1.56	2.03	2.59	3.24	3.99	4.84	–	–	–	–	–	–	–	–
			32	1.04	1.41	1.86	2.38	2.98	3.68	4.48	0.90	2.06	1.89	0.90	2.09	–	67	36
			38	–	1.25	1.65	2.13	2.68	3.32	4.05	–	–	–	–	–	–	–	–
			43	–	1.11	1.48	1.92	2.43	3.03	3.71	–	–	–	–	–	–	–	–
114X4212	OP-MPYM026AJP00G	G	27	1.33	1.74	2.24	2.82	3.49	4.27	5.15	–	–	–	–	–	–	–	–
			32	1.21	1.60	2.06	2.60	3.23	3.95	4.78	1.01	2.04	2.09	1.01	2.08	–	67	36
			38	–	1.42	1.84	2.34	2.91	3.58	4.35	–	–	–	–	–	–	–	–
			43	–	1.28	1.67	2.12	2.66	3.28	3.99	–	–	–	–	–	–	–	–
114X4213	OP-MPYM026AJP00E	E	27	1.30	1.74	2.24	2.83	3.52	4.30	5.19	–	–	–	–	–	–	–	–
			32	1.17	1.58	2.06	2.61	3.25	3.99	4.83	1.06	1.95	2.09	1.06	1.98	–	67	36
			38	–	1.39	1.83	2.34	2.94	3.62	4.40	–	–	–	–	–	–	–	–
			43	–	1.24	1.65	2.12	2.67	3.31	4.04	–	–	–	–	–	–	–	–

MBP

This table continues in the next page

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E - Compressor 400V/3~/50Hz, fan 230V/1~/50Hz
[2]) Nominal conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Superheat 10 K.
[3]) Rated conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Return Gas Temperature 20 °C

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Q [kW], Cooling Capacity
P [kW], Power Input

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EcoDesign 2016

Performance data R449A MBP

Performance with **SH = 10 K & SC = 0 K**

Code number	Model number	Electrical code [1]	T_{amb} [°C]	Cooling capacity Q [kW]							P [kW]	COP [2]	EcoDesign [3]				Sound power level dB(A)	Sound pressure level 10 m dB(A)
				T_e									Q [kW]	P [kW]	COP_A	SEPR		
				-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	-10 °C							
114X4227	OP-MPYM034AJP00E	E	27	1.66	2.18	2.78	3.47	4.27	5.18	6.19	–	–	–	–	–	–	–	–
			32	1.51	2.00	2.56	3.21	3.96	4.81	5.77	1.34	1.90	2.61	1.35	1.94	–	67	36
			38	–	1.78	2.30	2.90	3.59	4.38	5.26	–	–	–	–	–	–	–	–
			43	–	1.60	2.09	2.64	3.29	4.02	4.85	–	–	–	–	–	–	–	–
114X4226	OP-MPYM034AJP00G	G	27	1.66	2.20	2.82	3.55	4.38	5.32	6.38	–	–	–	–	–	–	–	–
			32	1.51	2.01	2.60	3.27	4.05	4.94	5.93	1.41	1.84	2.64	1.41	1.87	–	67	36
			38	–	1.79	2.33	2.95	3.66	4.48	5.40	–	–	–	–	–	–	–	–
			43	–	1.60	2.10	2.67	3.34	4.09	4.95	–	–	–	–	–	–	–	–
114X4264	OP-MPXM034MLP00E	E	27	2.38	2.95	3.61	4.36	5.21	6.16	7.21	–	–	–	–	–	–	–	–
			32	2.20	2.74	3.37	4.08	4.88	5.78	6.78	1.63	2.07	3.43	1.63	2.10		68	37
			38	1.97	2.48	3.05	3.71	4.46	5.30	6.24	–	–	–	–	–	–	–	–
			43	–	2.24	2.78	3.39	4.09	4.88	5.77	–	–	–	–	–	–	–	–
114X4261	OP-MPXM034MLP00G	G	27	2.37	2.94	3.61	4.37	5.22	6.17	7.22	–	–	–	–	–	–	–	–
			32	2.20	2.75	3.37	4.09	4.89	5.80	6.80	1.59	2.13	3.44	1.59	2.16	–	68	37
			38	2.00	2.50	3.08	3.74	4.49	5.33	6.26	–	–	–	–	–	–	–	–
			43	–	2.29	2.83	3.44	4.14	4.93	5.81	–	–	–	–	–	–	–	–
114X4284	OP-MPXM046MLP00E	E	27	3.15	3.90	4.74	5.70	6.76	7.93	9.22	–	–	–	–	–	–	–	–
			32	2.90	3.60	4.40	5.29	6.29	7.40	8.61	2.26	1.95	4.49	2.27	1.98	–	68	37
			38	2.59	3.23	3.96	4.79	5.71	6.73	7.86	–	–	–	–	–	–	–	–
			43	–	2.92	3.59	4.35	5.20	6.15	7.21	–	–	–	–	–	–	–	–
114X4281	OP-MPXM046MLP00G	G	27	3.15	3.91	4.76	5.73	6.81	8.01	9.32	–	–	–	–	–	–	–	–
			32	2.92	3.63	4.43	5.34	6.36	7.49	8.73	2.37	1.87	4.53	2.38	1.90	–	68	37
			38	2.64	3.28	4.02	4.85	5.79	6.84	8.00	–	–	–	–	–	–	–	–
			43	–	2.99	3.66	4.43	5.30	6.28	7.37	–	–	–	–	–	–	–	–
114X4293	OP-MPXM057MLP00E	E	27	3.77	4.67	5.67	6.77	7.98	9.30	10.71	–	–	–	–	–	–	–	–
			32	3.43	4.27	5.21	6.25	7.38	8.61	9.95	2.97	1.75	5.34	2.99	1.78	3.07	68	37
			38	3.00	3.78	4.64	5.59	6.63	7.76	8.99	–	–	–	–	–	–	–	–
			43	–	3.35	4.14	5.01	5.97	7.02	8.16	–	–	–	–	–	–	–	–
114X4290	OP-MPXM057MLP00G	G	27	3.82	4.71	5.72	6.84	8.07	9.41	10.87	–	–	–	–	–	–	–	–
			32	3.52	4.35	5.28	6.32	7.47	8.72	10.08	3.12	1.69	5.41	3.14	1.72	2.86	68	37
			38	3.14	3.88	4.72	5.66	6.71	7.85	9.10	–	–	–	–	–	–	–	–
			43	–	3.49	4.24	5.09	6.04	7.09	8.25	–	–	–	–	–	–	–	–

MBP

This table continues in the next page

[1]) G - Compressor 230V/1~/50Hz, fan 230V/1~/50Hz
E - Compressor 400V/3~/50Hz, fan 230V/1~/50Hz
[2]) Nominal conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Superheat 10 K.
[3]) Rated conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Return Gas Temperature 20 °C

SEPR, Seasonal Energy Performance Ratio
Q [kW], Cooling Capacity
P [kW], Power Input

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EcoDesign 2016

Performance data R449A MBP

Performance with **SH = 10 K & SC = 0 K**

Code number	Model number	Electrical code [1]	T_{amb} [°C]	Cooling capacity Q [kW]							P [kW]	COP [2]	EcoDesign [3]				Sound power level dB(A)	Sound pressure level 10 m dB(A)
				T_e									Q [kW]	P [kW]	COP_A	SEPR		
				-20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	-10 °C							
114X4308	OP-MPXM068MLP00G	G	27	4.88	6.06	7.41	8.94	10.67	12.60	14.75	–	–	–	–	–	–	–	–
			32	4.52	5.63	6.90	8.36	9.99	11.83	13.87	3.16	2.19	7.04	3.17	2.22	3.45	69	38
			38	4.07	5.10	6.28	7.62	9.15	10.87	12.78	–	–	–	–	–	–	–	–
			43	–	4.64	5.74	6.99	8.42	10.03	11.84	–	–	–	–	–	–	–	–
114X4311	OP-MPXM068MLP00E	E	27	4.93	6.10	7.44	8.96	10.68	12.61	14.75	–	–	–	–	–	–	–	–
			32	4.56	5.66	6.93	8.37	10.00	11.84	13.87	3.03	2.29	7.06	3.03	2.33	3.63	69	38
			38	4.09	5.11	6.28	7.62	9.14	10.86	12.77	–	–	–	–	–	–	–	–
			43	–	4.63	5.72	6.97	8.39	10.00	11.80	–	–	–	–	–	–	–	–
114X4321	OP-MPXM080MLP00G	G	27	5.64	6.98	8.49	10.19	12.10	14.21	16.51	–	–	–	–	–	–	–	–
			32	5.26	6.52	7.94	9.55	11.34	13.33	15.51	3.82	2.08	8.11	3.84	2.11	3.22	69	38
			38	4.78	5.94	7.26	8.73	10.39	12.22	14.25	–	–	–	–	–	–	–	–
			43	–	5.44	6.65	8.02	9.56	11.27	13.16	–	–	–	–	–	–	–	–
114X4324	OP-MPXM080MLP00E	E	27	5.75	7.09	8.61	10.34	12.27	14.41	16.77	–	–	–	–	–	–	–	–
			32	5.32	6.58	8.01	9.64	11.46	13.49	15.72	3.56	2.25	8.18	3.57	2.29	3.68	69	38
			38	4.77	5.94	7.26	8.76	10.45	12.33	14.42	–	–	–	–	–	–	–	–
			43	–	5.38	6.61	8.00	9.57	11.34	13.30	–	–	–	–	–	–	–	–
114X4344	OP-MPXM108MLP00E	E	27	7.34	9.05	10.98	13.14	15.53	18.15	20.99	–	–	–	–	–	–	–	–
			32	6.76	8.36	10.17	12.19	14.43	16.89	19.57	5.27	1.93	10.40	5.30	1.96	3.31	75	44
			38	6.03	7.50	9.15	10.99	13.05	15.32	17.80	–	–	–	–	–	–	–	–
			43	–	6.75	8.26	9.96	11.85	13.96	16.28	–	–	–	–	–	–	–	–
114X4414	OP-MPXM125MLP00E	E	27	8.92	11.03	13.43	16.15	19.21	22.60	26.32	–	–	–	–	–	–	–	–
			32	8.27	10.25	12.51	15.07	17.95	21.16	24.69	5.59	2.24	12.77	5.61	2.28	3.63	77	46
			38	7.46	9.28	11.35	13.72	16.38	19.35	22.65	–	–	–	–	–	–	–	–
			43	–	8.43	10.35	12.53	15.01	17.79	20.88	–	–	–	–	–	–	–	–
114X4434	OP-MPXM162MLP00E	E	27	10.56	13.19	16.18	19.55	23.29	27.40	31.89	–	–	–	–	–	–	–	–
			32	9.63	12.11	14.92	18.08	21.61	25.50	29.76	7.95	1.88	15.26	7.99	1.91	3.13	77	46
			38	8.47	10.75	13.33	16.24	19.50	23.12	27.09	–	–	–	–	–	–	–	–
			43	–	9.56	11.94	14.64	17.67	21.04	24.77	–	–	–	–	–	–	–	–

MBP

[1]) G - Compressor 230V/1~/50Hz, fan 230V/1~/50Hz
E - Compressor 400V/3~/50Hz, fan 230V/1~/50Hz
[2]) Nominal conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Superheat 10 K.
[3]) Rated conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Return Gas Temperature 20 °C

SEPR, Seasonal Energy Performance Ratio
Q [kW], Cooling Capacity
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EcoDesign 2016

Performance data R448A MBP

Performance with **SH = 10 K & SC = 0 K**

Code number	Model number	Electrical code [1]	T_{amb} [°C]	Cooling capacity Q [kW] T_e -20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	P [kW] -10 °C	COP [2]	EcoDesign [3] Q [kW]	P [kW]	COP_A	SEPR	Sound power level dB(A)	Sound pressure level 10 m dB(A)
114X4264	OP-MPXM034MLP00E	E	27	2.38	2.96	3.62	4.37	5.22	6.16	7.21	–	–	–	–	–	–	–	–
			32	2.21	2.75	3.37	4.08	4.88	5.78	6.78	1.63	2.07	3.43	1.63	2.10	–	68	37
			38	1.98	2.48	3.06	3.72	4.46	5.30	6.24	–	–	–	–	–	–	–	–
			43	–	2.25	2.78	3.40	4.10	4.89	5.77	–	–	–	–	–	–	–	–
114X4261	OP-MPXM034MLP00G	G	27	2.37	2.95	3.61	4.37	5.22	6.17	7.22	–	–	–	–	–	–	–	–
			32	2.21	2.75	3.38	4.09	4.90	5.80	6.80	1.59	2.13	3.44	1.59	2.16	–	68	37
			38	2.00	2.51	3.09	3.74	4.49	5.33	6.26	–	–	–	–	–	–	–	–
			43	–	2.30	2.83	3.45	4.14	4.93	5.81	–	–	–	–	–	–	–	–
114X4284	OP-MPXM046MLP00E	E	27	3.16	3.90	4.75	5.70	6.77	7.94	9.22	–	–	–	–	–	–	–	–
			32	2.91	3.61	4.40	5.30	6.30	7.40	8.61	2.26	1.95	4.49	2.27	1.98	–	68	37
			38	2.60	3.24	3.97	4.79	5.71	6.73	7.86	–	–	–	–	–	–	–	–
			43	–	2.92	3.59	4.35	5.20	6.15	7.21	–	–	–	–	–	–	–	–
114X4281	OP-MPXM046MLP00G	G	27	3.16	3.91	4.77	5.74	6.82	8.01	9.32	–	–	–	–	–	–	–	–
			32	2.93	3.63	4.44	5.34	6.36	7.49	8.73	2.37	1.87	4.53	2.38	1.90	–	68	37
			38	2.64	3.29	4.02	4.86	5.80	6.84	8.00	–	–	–	–	–	–	–	–
			43	–	3.00	3.67	4.44	5.31	6.28	7.37	–	–	–	–	–	–	–	–
114X4293	OP-MPXM057MLP00E	E	27	3.77	4.67	5.68	6.78	7.99	9.30	10.71	–	–	–	–	–	–	–	–
			32	3.44	4.28	5.22	6.25	7.39	8.62	9.95	2.97	1.76	5.34	2.99	1.78	3.07	68	37
			38	3.01	3.79	4.65	5.59	6.63	7.76	8.99	–	–	–	–	–	–	–	–
			43	–	3.36	4.15	5.02	5.98	7.02	8.16	–	–	–	–	–	–	–	–
114X4290	OP-MPXM057MLP00G	G	27	3.83	4.72	5.72	6.84	8.08	9.42	10.87	–	–	–	–	–	–	–	–
			32	3.53	4.35	5.29	6.33	7.47	8.73	10.08	3.12	1.69	5.41	3.14	1.72	2.86	68	37
			38	3.15	3.89	4.73	5.67	6.71	7.86	9.10	–	–	–	–	–	–	–	–
			43	–	3.49	4.25	5.10	6.05	7.10	8.25	–	–	–	–	–	–	–	–
114X4308	OP-MPXM068MLP00G	G	27	4.89	6.07	7.42	8.95	10.68	12.61	14.75	–	–	–	–	–	–	–	–
			32	4.53	5.64	6.91	8.36	10.00	11.84	13.87	3.16	2.19	7.04	3.17	2.22	3.45	69	38
			38	4.08	5.11	6.29	7.63	9.16	10.87	12.78	–	–	–	–	–	–	–	–
			43	–	4.65	5.75	7.00	8.43	10.04	11.84	–	–	–	–	–	–	–	–
114X4311	OP-MPXM068MLP00E	E	27	4.94	6.11	7.45	8.97	10.69	12.62	14.75	–	–	–	–	–	–	–	–
			32	4.57	5.67	6.94	8.38	10.01	11.84	13.87	3.03	2.29	7.06	3.03	2.33	3.63	69	38
			38	4.10	5.12	6.29	7.63	9.15	10.86	12.77	–	–	–	–	–	–	–	–
			43	–	4.64	5.73	6.98	8.40	10.00	11.80	–	–	–	–	–	–	–	–
114X4321	OP-MPXM080MLP00G	G	27	5.65	6.99	8.50	10.21	12.11	14.21	16.51	–	–	–	–	–	–	–	–
			32	5.27	6.53	7.96	9.56	11.35	13.33	15.51	3.82	2.08	8.11	3.84	2.11	3.22	69	38
			38	4.79	5.95	7.27	8.74	10.40	12.23	14.25	–	–	–	–	–	–	–	–
			43	–	5.45	6.67	8.03	9.56	11.27	13.16	–	–	–	–	–	–	–	–
114X4324	OP-MPXM080MLP00E	E	27	5.77	7.10	8.63	10.35	12.28	14.42	16.77	–	–	–	–	–	–	–	–
			32	5.33	6.59	8.02	9.65	11.47	13.49	15.72	3.56	2.26	8.18	3.57	2.29	3.68	69	38
			38	4.79	5.95	7.27	8.77	10.46	12.34	14.42	–	–	–	–	–	–	–	–
			43	–	5.40	6.62	8.01	9.58	11.34	13.30	–	–	–	–	–	–	–	–
114X4344	OP-MPXM108MLP00E	E	27	7.36	9.07	11.00	13.15	15.54	18.16	20.99	–	–	–	–	–	–	–	–
			32	6.77	8.38	10.18	12.20	14.44	16.90	19.57	5.27	1.93	10.40	5.30	1.96	3.31	75	44
			38	6.05	7.51	9.16	11.01	13.06	15.33	17.80	–	–	–	–	–	–	–	–
			43	–	6.76	8.27	9.97	11.87	13.96	16.28	–	–	–	–	–	–	–	–
114X4414	OP-MPXM125MLP00E	E	27	8.94	11.05	13.45	16.17	19.22	22.61	26.32	–	–	–	–	–	–	–	–
			32	8.29	10.27	12.53	15.09	17.97	21.17	24.69	5.59	2.24	12.77	5.61	2.28	3.63	77	46
			38	7.48	9.30	11.37	13.73	16.39	19.36	22.65	–	–	–	–	–	–	–	–
			43	–	8.45	10.37	12.55	15.02	17.79	20.88	–	–	–	–	–	–	–	–
114X4434	OP-MPXM162MLP00E	E	27	10.58	13.22	16.21	19.57	23.30	27.41	31.89	–	–	–	–	–	–	–	–
			32	9.65	12.13	14.94	18.10	21.63	25.51	29.76	7.95	1.88	15.26	7.99	1.91	3.13	77	46
			38	8.50	10.77	13.35	16.26	19.52	23.13	27.09	–	–	–	–	–	–	–	–
			43	–	9.59	11.97	14.66	17.68	21.05	24.77	–	–	–	–	–	–	–	–

MBP

[1]) G - Compressor 230V/1~/50Hz, fan 230V/1~/50Hz
E - Compressor 400V/3~/50Hz, fan 230V/1~/50Hz
[2]) Nominal conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Superheat 10 K.
[3]) Rated conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Return Gas Temperature 20 °C

SEPR, Seasonal Energy Performance Ratio
Q [kW], Cooling Capacity
P [kW], Power Input

For more information related to EcoDesign compliance, please refer to Coolselector® coolselector.danfoss.com or contact Danfoss

EcoDesign 2016

Performance data R407A MBP

Performance with **SH = 10 K & SC = 0 K**

Code number	Model number	Electrical code [1]	T_{amb} [°C]	Cooling capacity Q [kW] T_e -20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	P [kW] -10 °C	COP [2]	EcoDesign [3] Q [kW]	P [kW]	COP_A	SEPR	Sound power level dB(A)	Sound pressure level 10 m dB(A)
114X4264	OP-MPXM034MLP00E	E	27	2.31	2.89	3.57	4.35	5.25	6.27	7.40	–	–	–	–	–	–	–	–
			32	2.12	2.67	3.31	4.06	4.91	5.87	6.95	1.52	2.18	3.37	1.52	2.22	–	68	37
			38	1.89	2.40	2.99	3.68	4.47	5.38	6.39	–	–	–	–	–	–	–	–
			43	–	2.16	2.71	3.35	4.10	–	–	–	–	–	–	–	–	–	–
114X4261	OP-MPXM034MLP00G	G	27	2.34	2.92	3.61	4.41	5.31	6.34	7.48	–	–	–	–	–	–	–	–
			32	2.15	2.70	3.35	4.10	4.97	5.94	7.03	1.54	2.17	3.42	1.55	2.21	–	68	37
			38	1.92	2.42	3.02	3.72	4.53	5.44	6.46	–	–	–	–	–	–	–	–
			43	–	2.18	2.74	3.39	4.14	–	–	–	–	–	–	–	–	–	–
114X4284	OP-MPXM046MLP00E	E	27	2.87	3.60	4.42	5.34	6.36	7.48	8.69	–	–	–	–	–	–	–	–
			32	2.63	3.32	4.09	4.96	5.92	6.97	8.10	2.33	1.75	4.19	2.35	1.78	–	68	37
			38	2.34	2.96	3.68	4.47	5.36	6.33	7.37	–	–	–	–	–	–	–	–
			43	–	2.66	3.32	4.05	4.87	–	–	–	–	–	–	–	–	–	–
114X4281	OP-MPXM046MLP00G	G	27	2.92	3.66	4.49	5.42	6.46	7.59	8.81	–	–	–	–	–	–	–	–
			32	2.68	3.37	4.16	5.03	6.00	7.07	8.22	2.38	1.74	4.25	2.40	1.77	–	68	37
			38	2.37	3.01	3.73	4.54	5.43	6.41	7.47	–	–	–	–	–	–	–	–
			43	–	2.70	3.36	4.11	4.94	–	–	–	–	–	–	–	–	–	–
114X4293	OP-MPXM057MLP00E	E	27	3.55	4.44	5.44	6.57	7.83	9.19	10.67	–	–	–	–	–	–	–	–
			32	3.25	4.09	5.04	6.10	7.28	8.56	9.95	2.82	1.79	5.16	2.83	1.82	2.95	68	37
			38	2.88	3.65	4.53	5.50	6.58	7.77	9.04	–	–	–	–	–	–	–	–
			43	–	3.27	4.08	4.98	5.98	–	–	–	–	–	–	–	–	–	–
114X4290	OP-MPXM057MLP00G	G	27	3.61	4.51	5.53	6.68	7.94	9.33	10.82	–	–	–	–	–	–	–	–
			32	3.30	4.16	5.12	6.19	7.38	8.68	10.08	2.86	1.79	5.24	2.88	1.82	2.95	68	37
			38	2.93	3.71	4.60	5.59	6.68	7.87	9.16	–	–	–	–	–	–	–	–
			43	–	3.32	4.14	5.05	6.06	–	–	–	–	–	–	–	–	–	–
114X4308	OP-MPXM068MLP00G	G	27	4.60	5.67	6.93	8.39	10.03	11.87	13.91	–	–	–	–	–	–	–	–
			32	4.31	5.30	6.47	7.83	9.37	11.11	13.03	3.19	2.03	6.61	3.20	2.07	3.31	68	37
			38	3.97	4.86	5.92	7.15	8.57	10.17	11.96	–	–	–	–	–	–	–	–
			43	–	4.50	5.46	6.59	7.90	–	–	–	–	–	–	–	–	–	–
114X4311	OP-MPXM068MLP00E	E	27	4.64	5.72	6.99	8.45	10.11	11.96	14.01	–	–	–	–	–	–	–	–
			32	4.34	5.34	6.52	7.89	9.45	11.19	13.13	3.06	2.13	6.66	3.07	2.17	3.47	68	37
			38	4.00	4.90	5.97	7.22	8.65	10.26	12.06	–	–	–	–	–	–	–	–
			43	–	4.54	5.51	6.66	7.98	–	–	–	–	–	–	–	–	–	–
114X4321	OP-MPXM080MLP00G	G	27	5.38	6.66	8.16	9.90	11.89	14.12	16.60	–	–	–	–	–	–	–	–
			32	5.04	6.22	7.62	9.25	11.12	13.22	15.56	3.68	2.07	7.77	3.69	2.11	3.40	68	37
			38	4.65	5.71	6.98	8.47	10.18	12.13	14.31	–	–	–	–	–	–	–	–
			43	–	5.29	6.45	7.81	9.40	–	–	–	–	–	–	–	–	–	–
114X4324	OP-MPXM080MLP00E	E	27	5.44	6.73	8.25	10.01	12.02	14.27	16.77	–	–	–	–	–	–	–	–
			32	5.10	6.29	7.71	9.36	11.24	13.37	15.74	3.42	2.25	7.86	3.43	2.29	3.68	68	37
			38	4.70	5.78	7.06	8.57	10.31	12.28	14.48	–	–	–	–	–	–	–	–
			43	–	5.36	6.53	7.91	9.52	–	–	–	–	–	–	–	–	–	–
114X4344	OP-MPXM108MLP00E	E	27	6.94	8.71	10.74	13.02	15.56	18.37	21.42	–	–	–	–	–	–	–	–
			32	6.27	7.95	9.86	12.02	14.42	17.08	19.97	5.18	1.90	10.08	5.21	1.94	3.19	68	37
			38	5.44	7.00	8.78	10.78	13.02	15.49	18.19	–	–	–	–	–	–	–	–
			43	–	6.19	7.84	9.71	11.81	–	–	–	–	–	–	–	–	–	–
114X4414	OP-MPXM125MLP00E	E	27	8.30	10.39	12.78	15.50	18.55	21.93	25.65	–	–	–	–	–	–	–	–
			32	7.64	9.61	11.87	14.43	17.30	20.49	24.00	5.67	2.09	12.11	5.69	2.13	3.37	68	37
			38	6.82	8.65	10.74	13.10	15.76	18.72	21.97	–	–	–	–	–	–	–	–
			43	–	7.82	9.76	11.96	14.44	–	–	–	–	–	–	–	–	–	–
114X4434	OP-MPXM162MLP00E	E	27	10.16	12.83	15.87	19.29	23.09	27.26	31.79	–	–	–	–	–	–	–	–
			32	9.17	11.70	14.57	17.80	21.39	25.33	29.62	7.81	1.87	14.89	7.85	1.90	3.11	68	37
			38	7.96	10.30	12.96	15.95	19.28	22.94	26.94	–	–	–	–	–	–	–	–
			43	–	9.09	11.57	14.36	17.46	–	–	–	–	–	–	–	–	–	–

MBP

[1]) G - Compressor 230V/1~/50Hz, fan 230V/1~/50Hz
E - Compressor 400V/3~/50Hz, fan 230V/1~/50Hz
[2]) Nominal conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Superheat 10 K.
[3]) Rated conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Return Gas Temperature 20 °C

SEPR, Seasonal Energy Performance Ratio
Q [kW], Cooling Capacity
P [kW], Power Input

For more information related to EcoDesign compliance, please refer to Coolselector® coolselector.danfoss.com or contact Danfoss

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Performance data R407F MBP

Performance with **SH = 10 K & SC = 0 K**

Code number	Model number	Electrical code [1]	T_{amb} [°C]	Cooling capacity Q [kW] T_e -20 °C	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	P [kW] -10 °C	COP [2]	EcoDesign [3] Q [kW]	P [kW]	COP_A	SEPR	Sound power level dB(A)	Sound pressure level 10 m dB(A)
114X4264	OP-MPXM034MLP00E	E	27	2.45	3.06	3.77	4.59	5.52	6.57	7.75	–	–	–	–	–	–	–	–
			32	2.26	2.84	3.51	4.28	5.17	6.17	7.29	1.62	2.16	3.37	1.52	2.18	–	68	37
			38	–	2.56	3.18	3.90	4.73	5.67	–	–	–	–	–	–	–	–	–
			43	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
114X4261	OP-MPXM034MLP00G	G	27	2.51	3.13	3.86	4.69	5.65	6.72	7.91	–	–	–	–	–	–	–	–
			32	2.32	2.90	3.59	4.38	5.29	6.31	7.45	1.66	2.16	3.42	1.55	2.18	–	68	37
			38	–	2.61	3.25	3.99	4.83	5.79	–	–	–	–	–	–	–	–	–
			43	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
114X4284	OP-MPXM046MLP00E	E	27	3.08	3.84	4.71	5.67	6.74	7.90	9.15	–	–	–	–	–	–	–	–
			32	2.83	3.55	4.37	5.27	6.28	7.37	8.54	2.55	1.71	4.19	2.35	1.73	–	68	37
			38	–	3.18	3.93	4.77	5.69	6.70	–	–	–	–	–	–	–	–	–
			43	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
114X4281	OP-MPXM046MLP00G	G	27	3.13	3.91	4.79	5.76	6.84	8.01	9.27	–	–	–	–	–	–	–	–
			32	2.88	3.61	4.44	5.36	6.37	7.47	8.66	2.61	1.70	4.25	2.40	1.72	–	68	37
			38	–	3.23	3.99	4.84	5.77	6.79	–	–	–	–	–	–	–	–	–
			43	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
114X4293	OP-MPXM057MLP00E	E	27	3.75	4.68	5.73	6.90	8.19	9.60	11.11	–	–	–	–	–	–	–	–
			32	3.45	4.32	5.31	6.41	7.63	8.95	10.37	3.03	1.75	5.16	2.83	1.77	2.91	68	37
			38	–	3.87	4.78	5.80	6.92	8.14	–	–	–	–	–	–	–	–	–
			43	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
114X4290	OP-MPXM057MLP00G	G	27	3.86	4.82	5.89	7.09	8.41	9.84	11.38	–	–	–	–	–	–	–	–
			32	3.55	4.45	5.46	6.59	7.83	9.17	10.62	3.14	1.74	5.24	2.88	1.76	2.91	68	37
			38	–	3.98	4.91	5.95	7.09	8.33	–	–	–	–	–	–	–	–	–
			43	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
114X4308	OP-MPXM068MLP00G	G	27	4.95	6.08	7.40	8.91	10.62	12.53	14.63	–	–	–	–	–	–	–	–
			32	4.65	5.70	6.93	8.34	9.95	11.75	13.74	3.45	2.01	6.61	3.20	2.03	3.27	69	38
			38	–	5.26	6.37	7.66	9.14	10.81	–	–	–	–	–	–	–	–	–
			43	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
114X4311	OP-MPXM068MLP00E	E	27	4.99	6.13	7.46	8.98	10.70	12.63	14.74	–	–	–	–	–	–	–	–
			32	4.69	5.75	6.99	8.41	10.03	11.85	13.85	3.31	2.11	6.66	3.07	2.13	3.42	69	38
			38	–	5.30	6.43	7.73	9.22	10.90	–	–	–	–	–	–	–	–	–
			43	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
114X4321	OP-MPXM080MLP00G	G	27	5.79	7.14	8.71	10.53	12.59	14.90	17.47	–	–	–	–	–	–	–	–
			32	5.45	6.69	8.16	9.87	11.81	14.00	16.43	3.98	2.05	7.77	3.69	2.07	3.35	69	38
			38	–	6.18	7.51	9.07	10.87	12.90	–	–	–	–	–	–	–	–	–
			43	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
114X4324	OP-MPXM080MLP00E	E	27	5.81	7.15	8.73	10.55	12.62	14.94	17.51	–	–	–	–	–	–	–	–
			32	5.46	6.71	8.19	9.89	11.84	14.04	16.48	3.79	2.16	7.86	3.43	2.18	3.52	69	38
			38	–	6.20	7.54	9.10	10.90	12.94	–	–	–	–	–	–	–	–	–
			43	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
114X4344	OP-MPXM108MLP00E	E	27	7.19	9.01	11.07	13.38	15.96	18.79	21.88	–	–	–	–	–	–	–	–
			32	6.52	8.24	10.20	12.39	14.83	17.52	20.45	5.55	1.84	10.08	5.21	1.85	3.07	75	44
			38	–	7.29	9.11	11.15	13.43	15.94	–	–	–	–	–	–	–	–	–
			43	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
114X4414	OP-MPXM125MLP00E	E	27	8.99	11.21	13.74	16.60	19.79	23.32	27.18	–	–	–	–	–	–	–	–
			32	8.30	10.41	12.81	15.51	18.52	21.85	25.51	6.04	2.12	12.11	5.69	2.14	3.41	77	46
			38	–	9.42	11.64	14.14	16.94	20.03	–	–	–	–	–	–	–	–	–
			43	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
114X4434	OP-MPXM162MLP00E	E	27	10.81	13.62	16.79	20.34	24.28	28.58	33.22	–	–	–	–	–	–	–	–
			32	9.80	12.46	15.47	18.83	22.55	26.62	31.02	8.38	1.84	14.89	7.85	1.86	3.05	77	46
			38	–	11.01	13.80	16.92	20.38	24.17	–	–	–	–	–	–	–	–	–
			43	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

MBP

[1]) G - Compressor 230V/1~/50Hz, fan 230V/1~/50Hz
E - Compressor 400V/3~/50Hz, fan 230V/1~/50Hz
[2]) Nominal conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Superheat 10 K.
[3]) Rated conditions, Saturated suction temperature -10 °C. Ambient air temperature 32 °C. Return Gas Temperature 20 °C

SEPR, Seasonal Energy Performance Ratio
Q [kW], Cooling Capacity
P [kW], Power Input

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Technical Data

Application	Code number	Model number	Compressor Model	Electrical code [1]	Refrigerant [2]	Condenser Coil			Fan		Receiver	Dimensions						Weight	
						Type	Airflow	Internal Volume	Number	Blade ø	Volume	Figure	Height	Width	Depth	Suction line	Liquid Line	Gross	Net
							(m^2/h)	(dm^3)		(mm)	(L)		mm	mm	mm	inch	inch	Kg	Kg
LBP	114X3109	OP-LPHM018SCP00G	SC18CLX.2	G	H	A7	2,200	0.41	1	365	1.3	1	652	906	356	3/8"	3/8"	73	53
LBP	114X3118	OP-LPQM017MPP00G	MPT16LA	G	Q	A7	2,200	0.41	1	365	1.3	1	652	906	356	3/8"	3/8"	65	49
LBP	114X3216	OP-LPQM026AJP00G	CAJ2446Z	G	Q	D7	3,300	0.61	1	450	3.4	2	813	1055	430	1/2"	3/8"	97	80
LBP	114X3225	OP-LPQM048NTP00G	NTZ048-5	G	Q	D7	3,300	0.61	1	450	3.4	2	813	1055	430	5/8"	3/8"	102	80
LBP	114X3233	OP-LPQM048NTP00E	NTZ048-4	E	Q	D7	3,300	0.61	1	450	3.4	2	813	1055	430	5/8"	3/8"	102	80
LBP	114X3241	OP-LPQM068NTP00G	NTZ068-5	G	Q	D7	3,300	0.61	1	450	3.4	2	813	1055	430	5/8"	3/8"	102	80
LBP	114X3249	OP-LPQM068NTP00E	NTZ068-4	E	Q	D7	3,300	0.61	1	450	3.4	2	813	1055	430	5/8"	3/8"	102	80
LBP	114X3252	OP-LPQM074FHP00G	FH2511Z	G	Q	D7	3,300	0.61	1	450	3.4	2	813	1055	430	5/8"	3/8"	111	94
LBP	114X3253	OP-LPQM074FHP00E	TFH2511Z	E	Q	D7	3,300	0.61	1	450	3.4	2	813	1055	430	5/8"	3/8"	106	89
LBP	114X3357	OP-LPQM096NTP00E	NTZ096-4	E	Q	G7	5,200	1.69	1	500	6.2	3	967	1406	481	7/8"	1/2"	143	107
LBP	114X3365	OP-LPQM136NTP00E	NTZ136-4	E	Q	G7	5,200	1.69	1	500	6.2	3	967	1406	481	1 1/8"	1/2"	143	107
LBP	114X3476	OP-LPQM215LLP00E	LLZ024T4	E	Q	J7	9,500	2.03	2	500	10	4	966	1800	600	1 1/8"	3/4"	218	169
LBP	114X3482	OP-LPQM271LLP00E	LLZ034T4	E	Q	J7	9,500	2.03	2	500	10	4	966	1800	600	1 1/8"	3/4"	218	169
MBP	114X4101	OP-MPHM007SCP00G	NF7MLX	G	H	A7	2,200	0.41	1	365	1.3	1	652	906	356	3/8"	1/4"	73	52
MBP	114X4102	OP-MPHM010SCP00G	SC10MLX	G	H	A7	2,200	0.41	1	365	1.3	1	652	906	356	3/8"	1/4"	73	52
MBP	114X4104	OP-MPHM012SCP00G	SC12MLX	G	H	A7	2,200	0.41	1	365	1.3	1	652	906	356	3/8"	3/8"	73	52
MBP	114X4105	OP-MPHM015SCP00G	SC15MLX	G	H	A7	2,200	0.41	1	365	1.3	1	652	906	356	3/8"	3/8"	73	52
MBP	114X4109	OP-MPHM018SCP00G	SC18MLX	G	H	A7	2,200	0.41	1	365	1.3	1	652	906	356	3/8"	3/8"	73	52
MBP	114X4119	OP-MPYM008MYP00G	MLY80RAb	G	Y	A7	2,200	0.41	1	365	1.3	1	652	906	356	3/8"	1/4"	65	49
MBP	114X4120	OP-MPYM009MYP00G	MLY90RAb	G	Y	A7	2,200	0.41	1	365	1.3	1	652	906	356	3/8"	1/4"	65	49
MBP	114X4121	OP-MPYM012MPP00G	MPT12RA	G	Y	A7	2,200	0.41	1	365	1.3	1	652	906	356	3/8"	3/8"	65	49
MBP	114X4122	OP-MPYM014MPP00G	MPT14RA	G	Y	A7	2,200	0.41	1	365	1.3	1	652	906	356	3/8"	3/8"	65	49
MBP	114X4200	OP-MPYM024AJP00G	CAJ9513Z	G	Y	D7	3,300	0.61	1	450	3.4	2	813	1055	430	5/8"	3/8"	97	80
MBP	114X4212	OP-MPYM026AJP00G	CAJ4517Z	G	Y	D7	3,300	0.61	1	450	3.4	2	813	1055	430	5/8"	3/8"	97	80
MBP	114X4213	OP-MPYM026AJP00E	TAJ4517Z	E	Y	D7	3,300	0.61	1	450	3.4	2	813	1055	430	5/8"	3/8"	97	80
MBP	114X4220	OP-MPGM033AJP00G	CAJ4511Y	G	G	D7	3,300	0.61	1	450	3.4	2	813	1055	430	5/8"	3/8"	97	80
MBP	114X4226	OP-MPYM034AJP00G	CAJ4519Z	G	Y	D7	3,300	0.61	1	450	3.4	2	813	1055	430	5/8"	3/8"	97	80
MBP	114X4227	OP-MPYM034AJP00E	TAJ4519Z	E	Y	D7	3,300	0.61	1	450	3.4	2	813	1055	430	5/8"	3/8"	97	80
MBP	114X4230	OP-MPYM018AJP00G	CAJ9510Z	G	Y	D7	3,300	0.61	1	450	3.4	2	813	1055	430	5/8"	3/8"	97	80
MBP	114X4261	OP-MPXM034MLP00G	MLZ015T5	G	X	D7	3,300	0.61	1	450	3.4	2	813	1055	430	3/4"	1/2"	109	87
MBP	114X4264	OP-MPXM034MLP00E	MLZ015T4	E	X	D7	3,300	0.61	1	450	3.4	2	813	1055	430	3/4"	1/2"	109	87
MBP	114X4281	OP-MPXM046MLP00G	MLZ021T5	G	X	D7	3,300	0.61	1	450	3.4	2	813	1055	430	3/4"	1/2"	109	87
MBP	114X4284	OP-MPXM046MLP00E	MLZ021T4	E	X	D7	3,300	0.61	1	450	3.4	2	813	1055	430	3/4"	1/2"	109	87
MBP	114X4290	OP-MPXM057MLP00G	MLZ026T5	G	X	D7	3,300	0.61	1	450	3.4	2	813	1055	430	3/4"	1/2"	109	87
MBP	114X4293	OP-MPXM057MLP00E	MLZ026T4	E	X	D7	3,300	0.61	1	450	3.4	2	813	1055	430	3/4"	1/2"	109	87
MBP	114X4308	OP-MPXM068MLP00G	MLZ030T5	G	X	G7	5,200	1.69	1	500	6.2	3	967	1406	481	7/8"	5/8"	137	101
MBP	114X4311	OP-MPXM068MLP00E	MLZ030T4	E	X	G7	5,200	1.69	1	500	6.2	3	967	1406	481	7/8"	5/8"	137	101
MBP	114X4321	OP-MPXM080MLP00G	MLZ038T5	G	X	G7	5,200	1.69	1	500	6.2	3	967	1406	481	7/8"	5/8"	137	101
MBP	114X4324	OP-MPXM080MLP00E	MLZ038T4	E	X	G7	5,200	1.69	1	500	6.2	3	967	1406	481	7/8"	5/8"	137	101
MBP	114X4344	OP-MPXM108MLP00E	MLZ048T4	E	X	G7	5,200	1.69	1	500	6.2	3	967	1406	481	7/8"	5/8"	137	101
MBP	114X4414	OP-MPXM125MLP00E	MLZ058T4	E	X	J7	9,500	2.03	2	500	10	4	966	1800	600	1 1/8"	3/4"	218	169
MBP	114X4434	OP-MPXM162MLP00E	MLZ076T4	E	X	J7	9,500	2.03	2	500	10	4	966	1800	600	1 1/8"	3/4"	218	169

[1]) G - Compressor 230V/1~/50Hz, fan 230V/1~/50Hz
E - Compressor 400V/3~/50Hz, fan 230V/1~/50Hz
[2]) G - R134a
X - R134a R404A R507 R407A R407F R449A R448A
Y - R404A R507 R449A
Q - R404A R507 R452A
H - R404A R507

For more information related to EcoDesign compliance, please refer to Coolselector® coolselector.danfoss.com or contact Danfoss

EcoDesign 2016

Spareparts & accessories - LBP

Designation	LPHM018SC	LPQM017MP	LPQM026AJ	LPQM048NT	LPQM048NT	LPQM068NT	LPQM068NT	LPQM074FH
Code Number	114X3109	114X3118	114X3216	114X3225	114X3233	114X3241	114X3249	114X3252
Compressor Description	SC18CLX.2	MPT16LA	CAJ2446Z	NTZ048-5	NTZ048-4	NTZ068-5	NTZ068-4	FH2511Z
Oil	–	POE32	RL32HA/HT	175PZ-POE	175PZ-POE	175PZ-POE	175PZ-POE	RL32HA/HT
Chassis	H1	H1	H2	H2	H2	H2	H2	H2
Spare Parts								
Compressor single pack	195B0332	123B2127	118U3992	120F0228	120F0226	120F0232	120F0230	118U3914
Condenser	118U3492	118U3492	118U3493	118U3493	118U3493	118U3493	118U3493	118U3493
Discharge pressure sensor	118U3722	118U3722	118U3722	118U3722	118U3722	118U3722	118U3722	118U3722
Fan assembly	–	–	–	–	–	–	–	–
Fan blade	118U3480	118U3480	118U3481	118U3481	118U3481	118U3481	118U3481	118U3481
Fan capacitor	118U3296	118U3296	118U3297	118U3297	118U3297	118U3297	118U3297	118U3297
Fan cowl/grill	118U3483	118U3483	118U3484	118U3484	118U3484	118U3484	118U3484	118U3484
Fan motor	118U3477	118U3477	118U3823	118U3823	118U3823	118U3823	118U3823	118U3823
Filter drier	023Z5040	023Z5039	023Z5040	023Z5040	023Z5040	023Z5040	023Z5040	023Z5040
High-pressure switch	118U3718	118U3718	118U3718	118U3718	118U3718	118U3718	118U3718	118U3718
Liquid valve	009G7051	009G7051	009G7051	009G7051	009G7051	009G7051	009G7051	009G7051
Low-pressure switch	118U3720	118U3720	118U3720	118U3720	118U3720	118U3720	118U3720	118U3720
Receiver	118U3474	118U3474	118U3475	118U3475	118U3475	118U3475	118U3475	118U3475
Sight glass	014L0182	014L0181	014L0172	014L0172	014L0172	014L0172	014L0172	014L0172
Suction pressure sensor	118U3721	118U3721	118U3721	118U3721	118U3721	118U3721	118U3721	118U3721
Suction valve	009G7051	009G7051	009G7052	009G7053	009G7053	009G7053	009G7053	009G7053
Electrical Spare Parts								
Crankcase heater	120Z0057	120Z0057	120Z0057	120Z0459	120Z0459	120Z0459	120Z0459	120Z0459
Optyma™ Plus Controller	118U3465	118U3465	118U3465	118U3465	118U3465	118U3465	118U3465	118U3465
Discharge temperature sensor	084N2007	084N2007	084N2007	084N2007	084N2007	084N2007	084N2007	084N2007
Suction and ambient temp sensor	084N0003	084N0003	084N0003	084N0003	084N0003	084N0003	084N0003	084N0003
Contactor kit	118U3845	118U3845	118U3845	118U3846	118U3845	118U3848	118U3845	118U3845
Door handle	118U3858	118U3858	118U3858	118U3858	118U3858	118U3858	118U3858	118U3858
Main switch kit	118U3851	118U3853	118U3851	118U3852	118U3853	118U3854	118U3851	118U3853
Run capacitor	–	–	–	8173041	–	8173041	–	–
Starting capacitor	117U5012	–	–	8173001	–	8173001	–	–
Starting relay	117U6013	–	–	8173022	–	8173022	–	–
Electrical Characteristics								
Wiring Diagram	WD1	WD7	WD3	WD3	WD5	WD3	WD5	WD3
LRA Compressor [A]	23.5	19	29	37	16	53	25	81
MCC Compressor [A]	5.3	4	7.9	11	4.8	17	8.4	24
Max cont.power [kW]	1.07	0.89	1.31	2.19	2.28	3.62	3.57	3.45
MCC Fan [A]	0.32	0.32	0.47	0.47	0.47	0.47	0.47	0.47
Fan Power [W]	1x25	1x25	1x68	1x68	1x68	1x68	1x68	1x68
Min Fuse rating gL/gG (A)	16	10	16	20	10	25	16	32
Accessories (Not Premounted)								
Acoustic hood	–	–	–	120Z575	120Z575	120Z575	120Z575	–
Adap-Kool Accessories								
External Diplay & settings	084B8575	084B8575	084B8575	084B8575	084B8575	084B8575	084B8575	084B8575
Cable for EKA Displays 6 m	084B7299	084B7299	084B7299	084B7299	084B7299	084B7299	084B7299	084B7299
Mounting kit for EKA Display	084B8584	084B8584	084B8584	084B8584	084B8584	084B8584	084B8584	084B8584
MODBUS Communication Module	084B8571	084B8571	084B8571	084B8571	084B8571	084B8571	084B8571	084B8571
Lon-Bus Communication Module	084B8579	084B8579	084B8579	084B8579	084B8579	084B8579	084B8579	084B8579
Programming Key	084B8582	084B8582	084B8582	084B8582	084B8582	084B8582	084B8582	084B8582

MCA - *Minimum Circuit Ampacity*
MCC - *Max Continuous Current*
LRA - *Locked Rotor Amps*

Spareparts & accessories - LBP

Designation	LPQM074FH	LPQM096NT	LPQM136NT	LPQM215LL	LPQM271LL
Code Number	114X3253	114X3357	114X3365	114X3476	114X3482
Compressor Description	TFH2511Z	NTZ096-4	NTZ136-4	LLZ024T4	LLZ034T4
Oil	RL32HA/HT	175PZ-POE	175PZ-POE	215PZ-POE46	215PZ-POE46
Chassis	H2	H3	H3	H4	H4
Spare Parts					
Compressor single pack	118U3915	120F0234	120F0236	121L9541	121L9543
Condenser	118U3493	118U3494	118U3494	118U3717	118U3717
Discharge pressure sensor	118U3722	118U3722	118U3722	118U3722	118U3722
Fan assembly	–	118U3829	118U3829	118U3829	118U3829
Fan blade	118U3481	–	–	–	–
Fan capacitor	118U3297	–	–	–	–
Fan cowl/grill	118U3484	118U3485	118U3485	118U3485	118U3485
Fan motor	118U3823	–	–	–	–
Filter drier	023Z5040	023Z5044	023Z5044	023Z5046	023Z5046
High-pressure switch	118U3718	118U3718	118U3718	118U3718	118U3718
Liquid valve	009G7051	009G7052	009G7052	009G7054	009G7054
Low-pressure switch	118U3720	118U3720	118U3720	118U3720	118U3720
Receiver	118U3475	118U3476	118U3476	118U3716	118U3716
Sight glass	014L0172	014L0173	014L0173	014L0175	014L0175
Suction pressure sensor	118U3721	118U3721	118U3721	118U3721	118U3721
Suction valve	009G7053	009G7055	009G7056	009G7056	009G7056
Electrical Spare Parts					
Crankcase heater	120Z0459	120Z0459	120Z0459	120Z5040	120Z5040
Optyma™ Plus Controller	118U3465	118U3465	118U3465	118U3465	118U3465
Discharge temperature sensor	084N2007	084N2007	084N2007	084N2007	084N2007
Suction and ambient temp sensor	084N0003	084N0003	084N0003	084N0003	084N0003
Contactor kit	118U3845	118U3846	118U3847	118U3848	118U3848
Door handle	118U3858	118U3858	118U3858	118U3858	118U3858
Main switch kit	118U3853	118U3851	118U3852	118U3856	118U3856
Run capacitor	–	–	–	–	–
Starting capacitor	–	–	–	–	–
Starting relay	–	–	–	–	–
Electrical Characteristics					
Wiring Diagram	WD5	WD5	WD5	WD6	WD6
LRA Compressor [A]	28	32	51	95	150
MCC Compressor [A]	7.2	10.1	14.3	21	26
Max cont.power [kW]	3.34	4.53	6.87	7.96	11.1
MCC Fan [A]	0.47	0.97	0.97	2x0.97	2x0.97
Fan Power [W]	1x68	1x130	1x130	2x130	2x130
Min Fuse rating gL/gG (A)	16	16	20	32	40
Accessories (Not Premounted)					
Acoustic hood	–	120Z576	120Z576	120Z5053	120Z5055
Adap-Kool Accessories					
External Diplay & settings	084B8575	084B8575	084B8575	084B8575	084B8575
Cable for EKA Displays 6 m	084B7299	084B7299	084B7299	084B7299	084B7299
Mounting kit for EKA Display	084B8584	084B8584	084B8584	084B8584	084B8584
MODBUS Communication Module	084B8571	084B8571	084B8571	084B8571	084B8571
Lon-Bus Communication Module	084B8579	084B8579	084B8579	084B8579	084B8579
Programming Key	084B8582	084B8582	084B8582	084B8582	084B8582

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Spareparts & accessories - MBP

Designation	MPHM007SC	MPHM010SC	MPHM012SC	MPHM015SC	MPHM018SC	MPYM008MY	MPYM009MY	MPYM012MP	MPYM014MP	MPYM024AJ
Code Number	114X4101	114X4102	114X4104	114X4105	114X4109	114X4119	114X4120	114X4121	114X4122	114X4200
Compressor Description	NF7MLX	SC10MLX	SC12MLX	SC15MLX	SC18MLX	MLY80RAb	MLY90RAb	MPT12RA	MPT14RA	CAJ9513Z
Oil	–	–	–	–	–	POE32	POE32	POE32	POE32	RL32HA/HT
Chassis	H1	H1	H1	H1	H1	H1	H1	H1	H1	H2
Spare Parts										
Compressor single pack	195B0443	195B0345	195B0323	195B0391	195B0624	123B2510	123B2514	123B2518	123B2704	118U3995
Condenser	118U3492	118U3492	118U3492	118U3492	118U3492	118U3492	118U3492	118U3492	118U3492	118U3493
Discharge pressure sensor	118U3722	118U3722	118U3722	118U3722	118U3722	118U3722	118U3722	118U3722	118U3722	118U3722
Fan assembly	–	–	–	–	–	–	–	–	–	–
Fan blade	118U3480	118U3480	118U3480	118U3480	118U3480	118U3480	118U3480	118U3480	118U3480	118U3481
Fan capacitor	118U3296	118U3296	118U3296	118U3296	118U3296	118U3296	118U3296	118U3296	118U3296	118U3297
Fan cowl/grill	118U3483	118U3483	118U3483	118U3483	118U3483	118U3483	118U3483	118U3483	118U3483	118U3484
Fan motor	118U3477	118U3477	118U3477	118U3477	118U3477	118U3477	118U3477	118U3477	118U3477	118U3823
Filter drier	023Z5039	023Z5039	023Z5040	023Z5040	023Z5040	023Z5039	023Z5040	023Z5040	023Z5040	023Z5040
High-pressure switch	118U3718	118U3718	118U3718	118U3718	118U3718	118U3718	118U3718	118U3718	118U3718	118U3718
Liquid valve	009G7050	009G7050	009G7051	009G7051	009G7051	009G7050	009G7050	009G7051	009G7051	009G7051
Low-pressure switch	118U3720	118U3720	118U3720	118U3720	118U3720	118U3720	118U3720	118U3720	118U3720	118U3720
Receiver	118U3474	118U3474	118U3474	118U3474	118U3474	118U3474	118U3474	118U3474	118U3474	118U3475
Sight glass	014L0181	014L0181	014L0182	014L0182	014L0182	014L0181	014L0181	014L0181	014L0181	014L0172
Suction pressure sensor	118U3721	118U3721	118U3721	118U3721	118U3721	118U3721	118U3721	118U3721	118U3721	118U3721
Suction valve	009G7051	009G7051	009G7051	009G7051	009G7051	009G7051	009G7051	009G7051	009G7051	009G7053
Electrical Spare Parts										
Crankcase heater	120Z0057	120Z0057	120Z0057	120Z0057	120Z0057	120Z0057	120Z0057	120Z0057	120Z0057	120Z0057
Optyma™ Plus Controller	118U3465	118U3465	118U3465	118U3465	118U3465	118U3465	118U3465	118U3465	118U3465	118U3465
Discharge temperature sensor	084N2007	084N2007	084N2007	084N2007	084N2007	084N2007	084N2007	084N2007	084N2007	084N2007
Suction and ambient temp sensor	084N0003	084N0003	084N0003	084N0003	084N0003	084N0003	084N0003	084N0003	084N0003	084N0003
Contactor kit	118U3845	118U3845	118U3845	118U3845	118U3845	118U3845	118U3845	118U3845	118U3845	118U3845
Door handle	118U3858	118U3858	118U3858	118U3858	118U3858	118U3858	118U3858	118U3858	118U3858	118U3858
Main switch kit	118U3853	118U3853	118U3851	118U3851	118U3851	118U3853	118U3853	118U3853	118U3853	118U3851
Run capacitor	–	–	–	–	117-7027	–	–	–	–	–
Starting capacitor	117U5018	117U5017	117U5017	117U5012		–	–	–	–	–
Starting relay	117U4139	117U6011	117U6011	117U6013		–	–	–	–	–
Electrical Characteristics										
Wiring Diagram	WD1	WD1	WD1	WD1	WD3	WD7	WD7	WD7	WD7	WD3
LRA Compressor [A]	20	18.4	23.4	23.5	23.6	14	17	18.5	21	33.5
MCC Compressor [A]	3.6	4.8	5.7	6.2	6.1	4.9	5.3	5.3	6.5	10.2
Max cont.power [kW]	0.6	0.78	0.93	1.17	1.28	0.55	0.62	0.84	1.03	1.75
MCC Fan [A]	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.47
Fan Power [W]	1x25	1x25	1x25	1x25	1x25	1x25	1x25	1x25	1x25	1x68
Min Fuse rating gL/gG (A)	10	10	16	16	16	10	10	10	16	20
Accessories (Not Premounted)										
Acoustic hood	–	–	–	–	–	–	–	–	–	–
Adap-Kool Accessories										
External Diplay & settings	084B8575	084B8575	084B8575	084B8575	084B8575	084B8575	084B8575	084B8575	084B8575	084B8575
Cable for EKA Displays 6 m	084B7299	084B7299	084B7299	084B7299	084B7299	084B7299	084B7299	084B7299	084B7299	084B7299
Mounting kit for EKA Display	084B8584	084B8584	084B8584	084B8584	084B8584	084B8584	084B8584	084B8584	084B8584	084B8584
MODBUS Communication Module	084B8571	084B8571	084B8571	084B8571	084B8571	084B8571	084B8571	084B8571	084B8571	084B8571
Lon-Bus Communication Module	084B8579	084B8579	084B8579	084B8579	084B8579	084B8579	084B8579	084B8579	084B8579	084B8579
Programming Key	084B8582	084B8582	084B8582	084B8582	084B8582	084B8582	084B8582	084B8582	084B8582	084B8582

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Spareparts & accessories - MBP

Designation	MPYM026AJ	MPYM026AJ	MPGM033AJ	MPYM034AJ	MPYM034AJ	MPYM018AJ	MPXM034ML	MPXM034ML	MPXM046ML
Code Number	114X4212	114X4213	114X4220	114X4226	114X4227	114X4230	114X4261	114X4264	114X4281
Compressor Description	CAJ4517Z	TAJ4517Z	CAJ4511Y	CAJ4519Z	TAJ4519Z	CAJ9510Z	MLZ015T5	MLZ015T4	MLZ021T5
Oil	RL32HA/HT	RL32HA/HT	RL32HA/HT	RL32HA/HT	RL32HA/HT	RL32HA/HT	215PZ-POE46	215PZ-POE46	215PZ-POE46
Chassis	H2	H2	H2	H2	H2	H2	H2	H2	H2
Spare Parts									
Compressor single pack	118U3993	118U3991	118U3996	118U3994	118U3989	118U3988	121L8631	121L8629	121L8635
Condenser	118U3493	118U3493	118U3493	118U3493	118U3493	118U3493	118U3493	118U3493	118U3493
Discharge pressure sensor	118U3722	118U3722	118U3722	118U3722	118U3722	118U3722	118U3722	118U3722	118U3722
Fan assembly	–	–	–	–	–	–	–	–	–
Fan blade	118U3481	118U3481	118U3481	118U3481	118U3481	118U3481	118U3481	118U3481	118U3481
Fan capacitor	118U3297	118U3297	118U3297	118U3297	118U3297	118U3297	118U3297	118U3297	118U3297
Fan cowl/grill	118U3484	118U3484	118U3484	118U3484	118U3484	118U3484	118U3484	118U3484	118U3484
Fan motor	118U3823	118U3823	118U3823	118U3823	118U3823	118U3823	118U3823	118U3823	118U3823
Filter drier	023Z5040	023Z5040	023Z5041	023Z5040	023Z5040	023Z5041	023Z5041	023Z5041	023Z5041
High-pressure switch	118U3718	118U3718	118U3718	118U3718	118U3718	118U3718	118U3718	118U3718	118U3718
Liquid valve	009G7051	009G7051	009G7051	009G7051	009G7051	009G7051	009G7052	009G7052	009G7052
Low-pressure switch	118U3720	118U3720	118U3720	118U3720	118U3720	118U3720	118U3720	118U3720	118U3720
Receiver	118U3475	118U3475	118U3475	118U3475	118U3475	118U3475	118U3475	118U3475	118U3475
Sight glass	014L0172	014L0172	014L0172	014L0172	014L0172	014L0172	014L0173	014L0173	014L0173
Suction pressure sensor	118U3721	118U3721	118U3721	118U3721	118U3721	118U3721	118U3721	118U3721	118U3721
Suction valve	009G7053	009G7053	009G7053	009G7053	009G7053	009G7053	009G7054	009G7054	009G7054
Electrical Spare Parts									
Crankcase heater	120Z0057	120Z0057	118U0051	120Z0057	120Z0057	118U0051	120Z5040	120Z5040	120Z5040
Optyma™ Plus Controller	118U3465	118U3465	118U3465	118U3465	118U3465	118U3465	118U3465	118U3465	118U3465
Discharge temperature sensor	084N2007	084N2007	084N2007	084N2007	084N2007	084N2007	084N2007	084N2007	084N2007
Suction and ambient temp sensor	084N0003	084N0003	084N0003	084N0003	084N0003	084N0003	084N0003	084N0003	084N0003
Contactor kit	118U3846	118U3845	118U3845	118U3847	118U3847	118U3845	118U3848	118U3845	118U3848
Door handle	118U3858	118U3858	118U3858	118U3858	118U3858	118U3858	118U3858	118U3858	118U3858
Main switch kit	118U3851	118U3851	118U3851	118U3852	118U3852	118U3851	118U3854	118U3851	118U3856
Run capacitor	–	–	–	–	–	–	8173231	–	120Z0051
Starting capacitor	–	–	–	–	–	–	120Z0399	–	120Z0399
Starting relay	–	–	–	–	–	–	120Z0393	–	120Z0393
Electrical Characteristics									
Wiring Diagram	WD3	WD2	WD3	WD3	WD2	WD2	WD4	WD5	WD4
LRA Compressor [A]	38.5	18	30	45	30	30	60	30	97
MCC Compressor [A]	12.7	4	8.9	15.2	7	8	19	7	25
Max cont.power [kW]	1.96	2.05	1.5	2.7	2.73	1.3	2.53	2.73	3.38
MCC Fan [A]	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47
Fan Power [W]	1x68	1x68	1x68	1x68	1x68	1x68	1x68	1x68	1x68
Min Fuse rating gL/gG (A)	20	10	16	20	10	16	25	16	40
Accessories (Not Premounted)									
Acoustic hood	–	–	–	–	–	–	120Z5043	120Z5043	120Z5043
Adap-Kool Accessories									
External Diplay & settings	084B8575	084B8575	084B8575	084B8575	084B8575	084B8575	084B8575	084B8575	084B8575
Cable for EKA Displays 6 m	084B7299	084B7299	084B7299	084B7299	084B7299	084B7299	084B7299	084B7299	084B7299
Mounting kit for EKA Display	084B8584	084B8584	084B8584	084B8584	084B8584	084B8584	084B8584	084B8584	084B8584
MODBUS Communication Module	084B8571	084B8571	084B8571	084B8571	084B8571	084B8571	084B8571	084B8571	084B8571
Lon-Bus Communication Module	084B8579	084B8579	084B8579	084B8579	084B8579	084B8579	084B8579	084B8579	084B8579
Programming Key	084B8582	084B8582	084B8582	084B8582	084B8582	084B8582	084B8582	084B8582	084B8582

MCA - *Minimum Circuit Ampacity*
MCC - *Max Continuous Current*
LRA - *Locked Rotor Amps*

Spareparts & accessories - MBP

Designation	MPXM046ML	MPXM057ML	MPXM057ML	MPXM068ML	MPXM068ML	MPXM080ML	MPXM080ML	MPXM108ML	MPXM125ML	MPXM162ML
Code Number	114X4284	114X4290	114X4293	114X4308	114X4311	114X4321	114X4324	114X4344	114X4414	114X4434
Compressor Description	MLZ021T4	MLZ026T5	MLZ026T4	MLZ030T5	MLZ030T4	MLZ038T5	MLZ038T4	MLZ048T4	MLZ058T4	MLZ076T4
Oil	215PZ-POE46	215PZ-POE46	215PZ-POE46	215PZ-POE46	215PZ-POE46	215PZ-POE46	215PZ-POE46	215PZ-POE46	215PZ-POE46	215PZ-POE46
Chassis	H2	H2	H2	H3	H3	H3	H3	H3	H4	H4
Spare Parts										
Compressor single pack	121L8633	121L8639	121L8637	121L8643	121L8641	121L8647	121L8645	121L8651	121L8653	121L8655
Condenser	118U3493	118U3493	118U3493	118U3494	118U3494	118U3494	118U3494	118U3494	118U3717	118U3717
Discharge pressure sensor	118U3722	118U3722	118U3722	118U3722	118U3722	118U3722	118U3722	118U3722	118U3722	118U3722
Fan assembly	–	–	–	118U3829	118U3829	118U3829	118U3829	118U3829	118U3829	118U3829
Fan blade	118U3481	118U3481	118U3481	–	–	–	–	–	–	–
Fan capacitor	118U3297	118U3297	118U3297	–	–	–	–	–	–	–
Fan cowl/grill	118U3484	118U3484	118U3484	118U3485	118U3485	118U3485	118U3485	118U3485	118U3485	118U3485
Fan motor	118U3823	118U3823	118U3823	–	–	–	–	–	–	–
Filter drier	023Z5041	023Z5041	023Z5041	023Z5045	023Z5045	023Z5045	023Z5045	023Z5045	023Z5046	023Z5046
High-pressure switch	118U3718	118U3718	118U3718	118U3718	118U3718	118U3718	118U3718	118U3718	118U3718	118U3718
Liquid valve	009G7052	009G7052	009G7052	009G7053	009G7053	009G7053	009G7053	009G7053	009G7054	009G7054
Low-pressure switch	118U3720	118U3720	118U3720	118U3720	118U3720	118U3720	118U3720	118U3720	118U3720	118U3720
Receiver	118U3475	118U3475	118U3475	118U3476	118U3476	118U3476	118U3476	118U3476	118U3716	118U3716
Sight glass	014L0173	014L0173	014L0173	014L0174	014L0174	014L0174	014L0174	014L0174	014L0175	014L0175
Suction pressure sensor	118U3721	118U3721	118U3721	118U3721	118U3721	118U3721	118U3721	118U3721	118U3721	118U3721
Suction valve	009G7054	009G7054	009G7054	009G7055	009G7055	009G7055	009G7055	009G7055	009G7056	009G7056
Electrical Spare Parts										
Crankcase heater	120Z5040	120Z5040	120Z5040	120Z5040	120Z5040	120Z5040	120Z5040	120Z5040	120Z5040	120Z5040
Optyma™ Plus Controller	118U3465	118U3465	118U3465	118U3465	118U3465	118U3465	118U3465	118U3465	118U3465	118U3465
Discharge temperature sensor	084N2007	084N2007	084N2007	084N2007	084N2007	084N2007	084N2007	084N2007	084N2007	084N2007
Suction and ambient temp sensor	084N0003	084N0003	084N0003	084N0003	084N0003	084N0003	084N0003	084N0003	084N0003	084N0003
Contactor kit	118U3846	118U3849	118U3846	118U3849	118U3847	118U3850	118U3847	118U3848	118U3847	118U3848
Door handle	118U3858	118U3858	118U3858	118U3858	118U3858	118U3858	118U3858	118U3858	118U3858	118U3858
Main switch kit	118U3852	118U3856	118U3852	118U3857	118U3852	118U3857	118U3852	118U3854	118U3855	118U3856
Run capacitor	–	120Z0051	–	8173233	–	8173234	–	–	–	–
Starting capacitor	–	120Z0399	–	120Z0040	–	8173001	–	–	–	–
Starting relay	–	120Z0393	–	120Z0394	–	120Z0395	–	–	–	–
Electrical Characteristics										
Wiring Diagram	WD5	WD4	WD5	WD4	WD5	WD4	WD5	WD5	WD6	WD6
LRA Compressor [A]	45	97	45	127	60	130	70	87	95	140
MCC Compressor [A]	9.5	26	10	32	13	38	15	16	20	25
Max cont.power [kW]	3.33	4.42	4.14	4.89	4.88	5.77	5.78	7.55	9.39	11.41
MCC Fan [A]	0.47	0.47	0.47	0.97	0.97	0.47	0.97	0.97	2x0.97	2x0.97
Fan Power [W]	1x68	1x68	1x68	1x130	1x130	1x68	1x130	1x130	2x130	2x130
Min Fuse rating gL/gG (A)	20	40	20	50	20	50	20	25	32	40
Accessories (Not Premounted)										
Acoustic hood	120Z5043	120Z5043	120Z5043	120Z5044	120Z5044	120Z5044	120Z5044	120Z5044	120Z5045	120Z5045
Adap-Kool Accessories										
External Diplay & settings	084B8575	084B8575	084B8575	084B8575	084B8575	084B8575	084B8575	084B8575	084B8575	084B8575
Cable for EKA Displays 6 m	084B7299	084B7299	084B7299	084B7299	084B7299	084B7299	084B7299	084B7299	084B7299	084B7299
Mounting kit for EKA Display	084B8584	084B8584	084B8584	084B8584	084B8584	084B8584	084B8584	084B8584	084B8584	084B8584
MODBUS Communication Module	084B8571	084B8571	084B8571	084B8571	084B8571	084B8571	084B8571	084B8571	084B8571	084B8571
Lon-Bus Communication Module	084B8579	084B8579	084B8579	084B8579	084B8579	084B8579	084B8579	084B8579	084B8579	084B8579
Programming Key	084B8582	084B8582	084B8582	084B8582	084B8582	084B8582	084B8582	084B8582	084B8582	084B8582

MCA - *Minimum Circuit Ampacity*
MCC - *Max Continuous Current*
LRA - *Locked Rotor Amps*

Spareparts & accessories list

Component type	Component code	Component description	Additional informations
Acoustic Hood	120Z0575	ACOUSTIC HOOD COMP 1CYL	–
Acoustic Hood	120Z5043	ACCOUSTIC HOOD - SMALL FRAME	–
Acoustic Hood	120Z5044	Acoustic hood for Scroll MLZ compressor	–
Acoustic Hood	120Z5045	ACCOUSTIC HOOD, LARGE FRAME	–
Acoustic Hood	120Z5052	Sound Cover, LLZ013-018	–
Cable for EKA Displays 6 m	084B7299	EKA Accessory	–
Capacitor	8173001	CAPACITOR 100µF 330V+R	–
Capacitor	8173041	CAPACITOR 30µF 450V	–
Compressor Single Pack	118U3751	TAJ4519Z - AJ1 range	Phased out & replaced by 118U3989 from SN: 054428CG3916
Compressor Single Pack	118U3770	TAJ4517Z - AJ1 range	Phased out & replaced by 118U3991 from SN: 054428CG3916
Compressor Single Pack	118U3779	CAJ2446Z - AJ1 range	Phased out & replaced by 118U3992 from SN: 054428CG3916
Compressor Single Pack	118U3810	CAJ4517Z - AJ1 range	Phased out & replaced by 118U3993 from SN: 054428CG3916
Compressor Single Pack	118U3811	CAJ4519Z - AJ1 range	Phased out & replaced by 118U3994 from SN: 054428CG3916
Compressor Single Pack	118U3912	CAJ9513Z - AJ1 range	Phased out & replaced by 118U3995 from SN: 054428CG3916
Compressor Single Pack	118U3914	FH2511Z	–
Compressor Single Pack	118U3915	TFH2511Z	–
Compressor Single Pack	118U3988	CAJ9510Z - AJ2 range	–
Compressor Single Pack	118U3989	TAJ4519Z - AJ2 range	–
Compressor Single Pack	118U3991	TAJ4517Z - AJ2 range	–
Compressor Single Pack	118U3992	CAJ2446Z - AJ2 range	–
Compressor Single Pack	118U3993	CAJ4517Z - AJ2 range	–
Compressor Single Pack	118U3994	CAJ4519Z - AJ2 range	–
Compressor Single Pack	118U3995	CAJ9513Z - AJ2 range	–
Compressor Single Pack	118U3996	CAJ4511Y - AJ2 range	–
Compressor Single Pack	120F0226	NTZ048-4LR1B	–
Compressor Single Pack	120F0228	NTZ048-5LR1B	–
Compressor Single Pack	120F0230	NTZ068-4LR1B	–
Compressor Single Pack	120F0232	NTZ068-5LR1B	–
Compressor Single Pack	120F0234	NTZ096A4LR1B	–
Compressor Single Pack	120F0236	NTZ136A4LR1B	–
Compressor Single Pack	121L8629	MLZ015T4LP9A	–
Compressor Single Pack	121L8631	MLZ015T5LP9A	–
Compressor Single Pack	121L8633	MLZ021T4LP9A	–
Compressor Single Pack	121L8635	MLZ021T5LP9A	–
Compressor Single Pack	121L8637	MLZ026T4LP9A	–
Compressor Single Pack	121L8639	MLZ026T5LP9A	–
Compressor Single Pack	121L8641	MLZ030T4LC9A	–
Compressor Single Pack	121L8643	MLZ030T5LC9A	–
Compressor Single Pack	121L8645	MLZ038T4LC9A	–
Compressor Single Pack	121L8647	MLZ038T5LC9A	–
Compressor Single Pack	121L8651	MLZ048T4LC9A	–
Compressor Single Pack	121L8653	MLZ058T4LC9A	–
Compressor Single Pack	121L8655	MLZ076T4LC9A	–
Compressor Single Pack	121L9541	LLZ024T4LQ9A	–
Compressor Single Pack	121L9543	LLZ034T4LQ9A	–
Compressor Single Pack	123B2127	MPT16LA	–
Compressor Single Pack	123B2510	MLY80RAb	–
Compressor Single Pack	123B2514	MLY90RAb	–
Compressor Single Pack	123B2518	MPT12RA	–
Compressor Single Pack	123B2704	MPT14RA	–
Compressor Single Pack	195B0323	SC12MLX	–
Compressor Single Pack	195B0332	SC18CLX.2	–
Compressor Single Pack	195B0345	SC10MLX	–
Compressor Single Pack	195B0391	SC15MLX	–
Compressor Single Pack	195B0427	GS26CLX	CU phased out but spare part still available
Compressor Single Pack	195B0435	GS34MFX	CU phased out but spare part still available
Compressor Single Pack	195B0438	GS34MLX	CU phased out but spare part still available
Compressor Single Pack	195B0443	NF7MLX	–
Compressor Single Pack	195B0624	SC18MLX	–
Condenser	118U3492	A7	–
Condenser	118U3493	D7	–
Condenser	118U3494	G7	–

Spareparts & accessories list

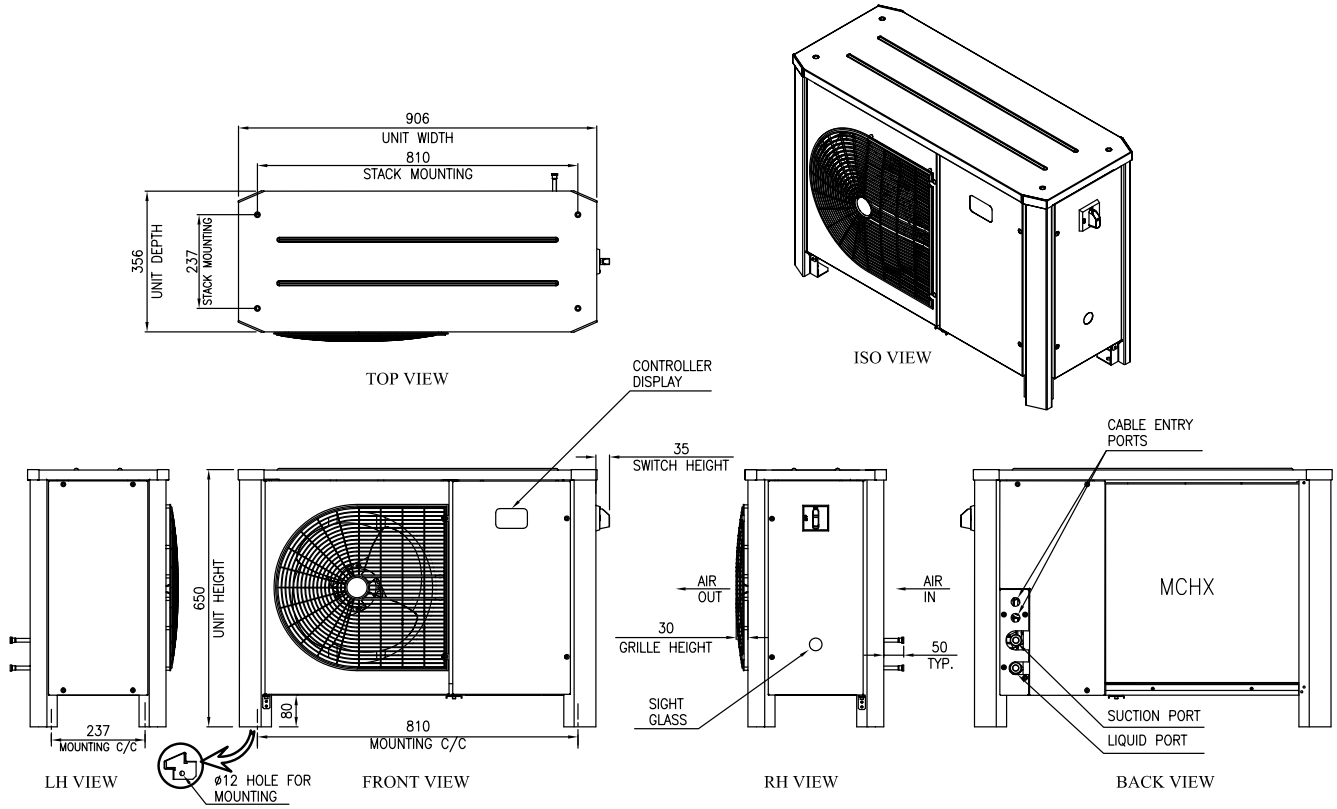
Component type	Component code	Component description	Additional informations
Condenser	118U3717	J7	–
Contactor kit	118U3845	A 9-30-01-80, DILM07-01, DILM09-01	–
Contactor kit	118U3846	A12-30-01-80, DILM12-01	–
Contactor kit	118U3847	A 16-30-01-80, DILM15-01	–
Contactor kit	118U3848	A 26-30-01-80, DILM17-01	–
Contactor kit	118U3849	A 30-30-01-80, DILM25-01	–
Contactor kit	118U3850	A 50-30-00-80, DILM32-01	–
Crankcase heater	120Z0057	Belt type, 50 W, 230 V, CE mark, UL	–
Crankcase heater	120Z0459	PTC heater 27 W, CE mark, UL	–
Crankcase heater	120Z5040	Belt type, 70 W, 240 V, CE mark, UL	–
Crankcase heater	118U0051	CRANKCASE HEATER 55W	192H2096 Phased out Use 118U0051
Discharge pressure sensor	118U3722	AKS 32R 0...32 bar	–
Discharge temperature sensor	084N2007	AKS21A	–
Door handle	118U3858	Door handle, ABB-OHB2AJM,MSMN,OXS5X131	–
External Diplay & settings	084B8575	EKA164B	–
Fan assembly	118U3829	Fan assembly	–
Fan blade	118U3480	Fan blade	–
Fan blade	118U3481	Fan blade	–
Fan capacitor	118U3296	1,8 µF	–
Fan capacitor	118U3297	3,5 µF	–
Fan cowl/grill	118U3483	Ã¸ 356 mm	–
Fan cowl/grill	118U3484	Ã¸ 457 mm	–
Fan cowl/grill	118U3485	Ã¸ 609 mm	–
Fan motor (Capacitor not included)	118U3477	25 W	–
Fan motor (Capacitor not included)	118U3823	68 W	–
Filter drier	023Z5039	DML082	–
Filter drier	023Z5040	DML083	–
Filter drier	023Z5041	DML084	–
Filter drier	023Z5044	DML164	–
Filter drier	023Z5045	DML165	–
Filter drier	023Z5046	DML 166	–
High-pressure switch	118U3718	ACB-2UB463W	–
Liquid valve	009G7050	GBC 6s Ball Valve M/25	–
Liquid valve	009G7051	GBC 10s	–
Liquid valve	009G7052	GBC 12s Ball Valve M/25	–
Liquid valve	009G7053	Liquid line valve	–
Liquid valve	009G7054	Suction line valve	–
Lon-Bus COM Module	084B8579	EKA175	–
Low-pressure switch	118U3720	ACB-2UA418W	–
Main switch kit	118U3855	MS132 - 25	–
Main switch kit	118U3856	MS132 - 32	–
Main switch kit	118U3857	MS450 - 40	–
MODBUS COM Module	084B8571	EKA178B	–
Mounting kit for EKA Display	084B8584	EKA Accessory	–
MPCB	118U3851	MPCB, ABB-MS116-10+HK1-12	–
MPCB	118U3852	MPCB, ABB-MS116-16+HK1-12	–
MPCB	118U3853	MPCB, ABB-MS116-6.3+HK1-12	–
MPCB	118U3854	MPCB, ABB-MS132-20+HK1-12	–
Oil	–	POE32 for Light Commercial (MLY / MPT)	–
Oil	–	RL32HA/HT for light Commercial (CAJ/FH/TAJ/TFH)	–
Oil	120Z0638	1 litre can of 175PZ - POE (NTZ Platform)	CU with a SN above 051220CG3016
Oil	120Z0639	2,5 litre can of 175PZ - POE (NTZ Platform)	CU with a SN above 051220CG3016
Oil	120Z0648	1 litre can of 215PZ - POE46 (MLZ & LLZ Platform)	CU with a SN above 051220CG3016
Optyma Plus Controller	118U3465	OP+ controller	–
Programming Key	084B8582	AKA183A	–
Receiver	118U3474	1,3 L	–
Receiver	118U3475	3,4 L	–
Receiver	118U3476	6,2 L	–
Receiver	118U3716	10 L	–
Run capacitor	7701035	PSC starting kit, 30 ÂµF, 15 ÂµF	–
Run capacitor	8173231	Run capacitor 440V, 40 µF	–
Run capacitor	8173233	Run capacitor 440V,50 µF	–

Spareparts & accessories list

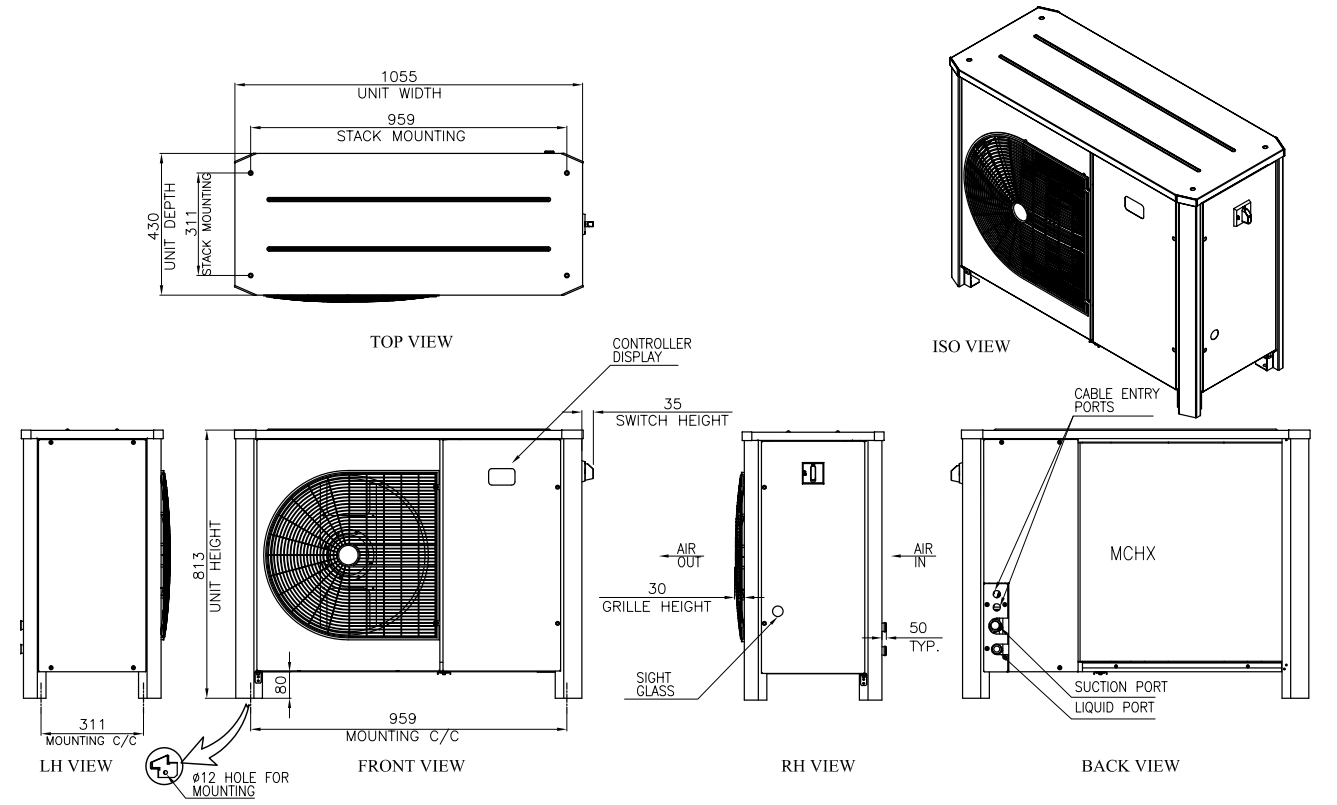
Component type	Component code	Component description	Additional informations
Run capacitor	8173234	Run capacitor 440V,55 µF	–
Run capacitor	120Z0051	Run capacitor 70 µF	–
Sight glass	014L0172	SGP 10 N	–
Sight glass	014L0173	SGP 12 N	–
Sight glass	014L0174	SGP 16 N	–
Sight glass	014L0175	SGP 19 N	–
Sight glass	014L0181	SGP 6s N	–
Sight glass	014L0182	SGP 10s N	–
Starting capacitor	117U5012	Start capacitor 125 µF, 220V - SC	–
Starting capacitor	117U5017	Start capacitor 80 µF, 220V - SC	–
Starting capacitor	117U5018	Start capacitor 125 µF, 220V - NF,NL	–
Starting capacitor	120Z0040	Start capacitor 161-193 µF	–
Starting capacitor	120Z0399	Start capacitor 145-175 µF	–
Starting relay	8173022	Starting relay type RVA-6AMKL/3ARR3J4A4	–
Starting relay	117U4139	RELAY ASSY. HST - "MRP56EN-6;117U2121	–
Starting relay	117U6011	Starting Relay SC	–
Starting relay	117U6013	Starting Relay	–
Starting relay	120Z0393	Starting relay type RVA9CKL/3ARR3J4A4	–
Starting relay	120Z0394	Starting relay type RVA3EKL/3ARR3J24P4	–
Starting relay	120Z0395	Starting relay type RVA4GKL/3ARR3J25S4	–
Relay	117-7027	SC-RELAY	–
Suc & Amb temp sensor	084N0003	AKS11	–
Suction pressure sensor	118U3721	AKS 32R -1...12 bar	–
Suction valve	009G7055	GBC 22s Ball Valve M/25	–
Suction valve	009G7056	GBC 28s Ball Valve M/5	–

Dimensions

Housing 1

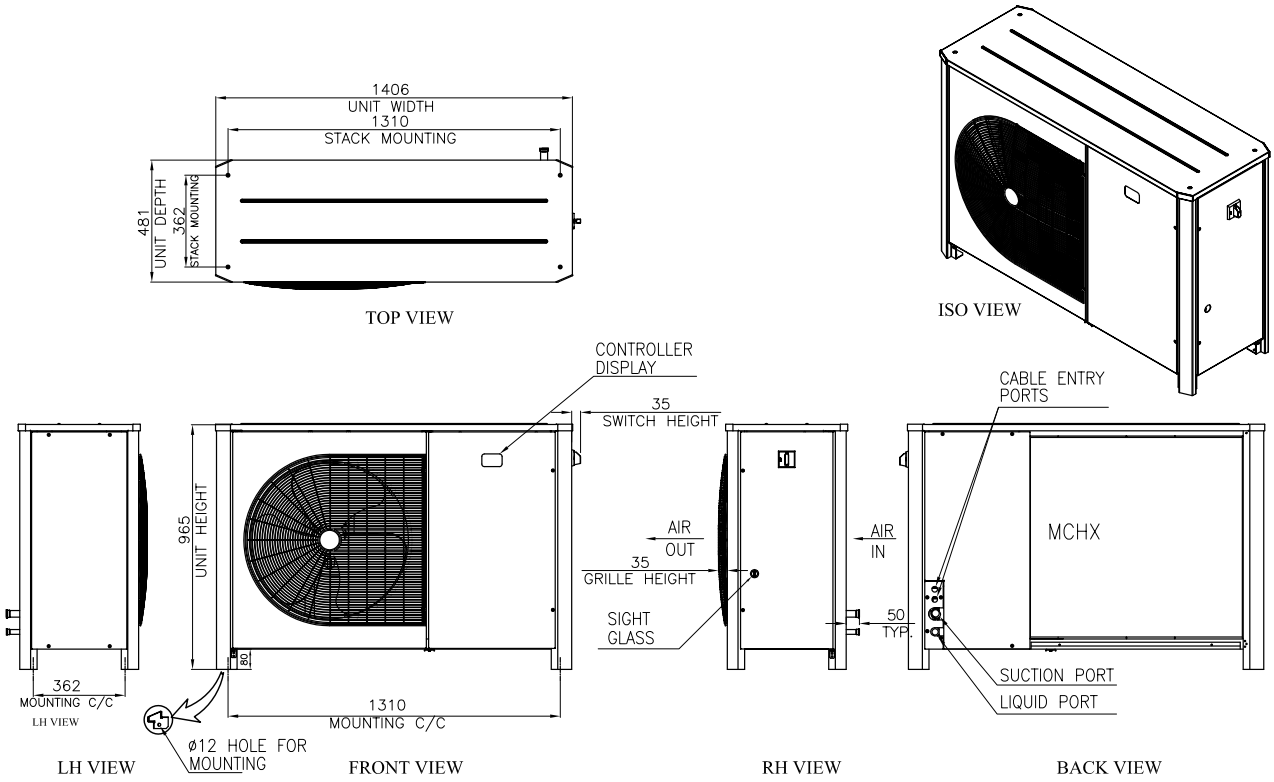


Housing 2

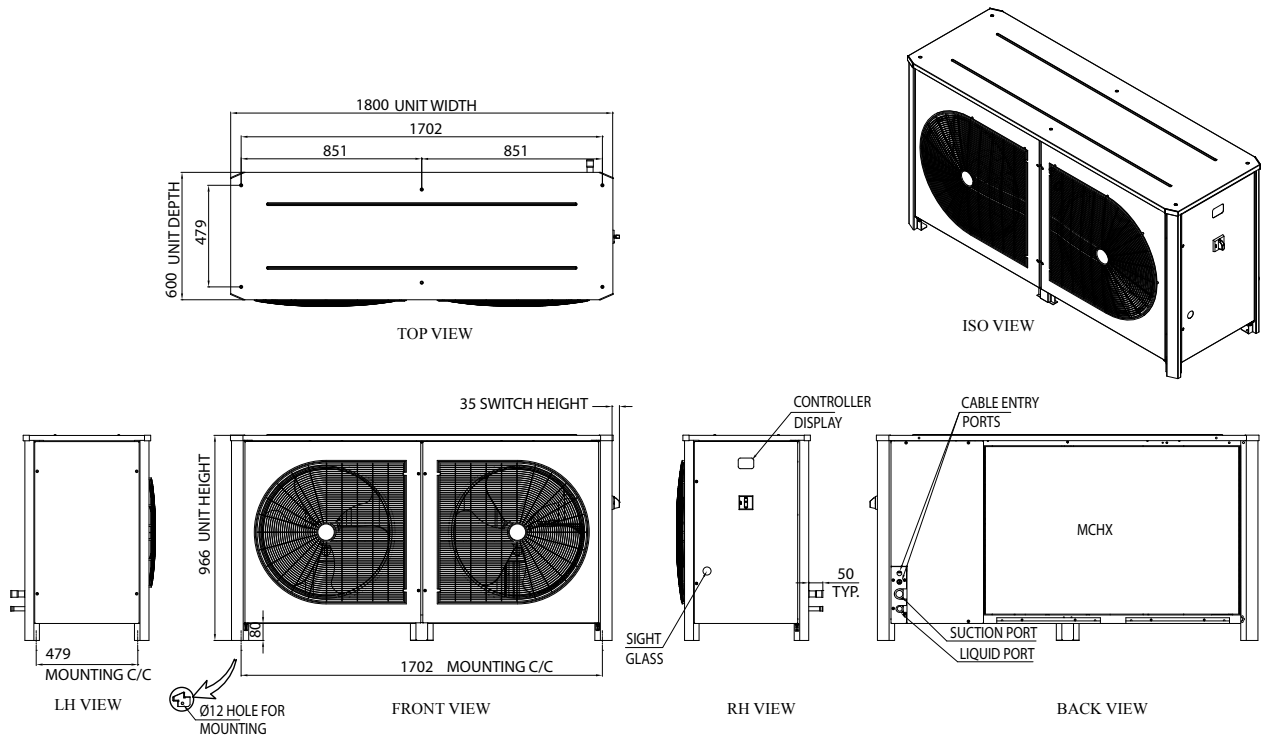


Dimensions

Housing 3

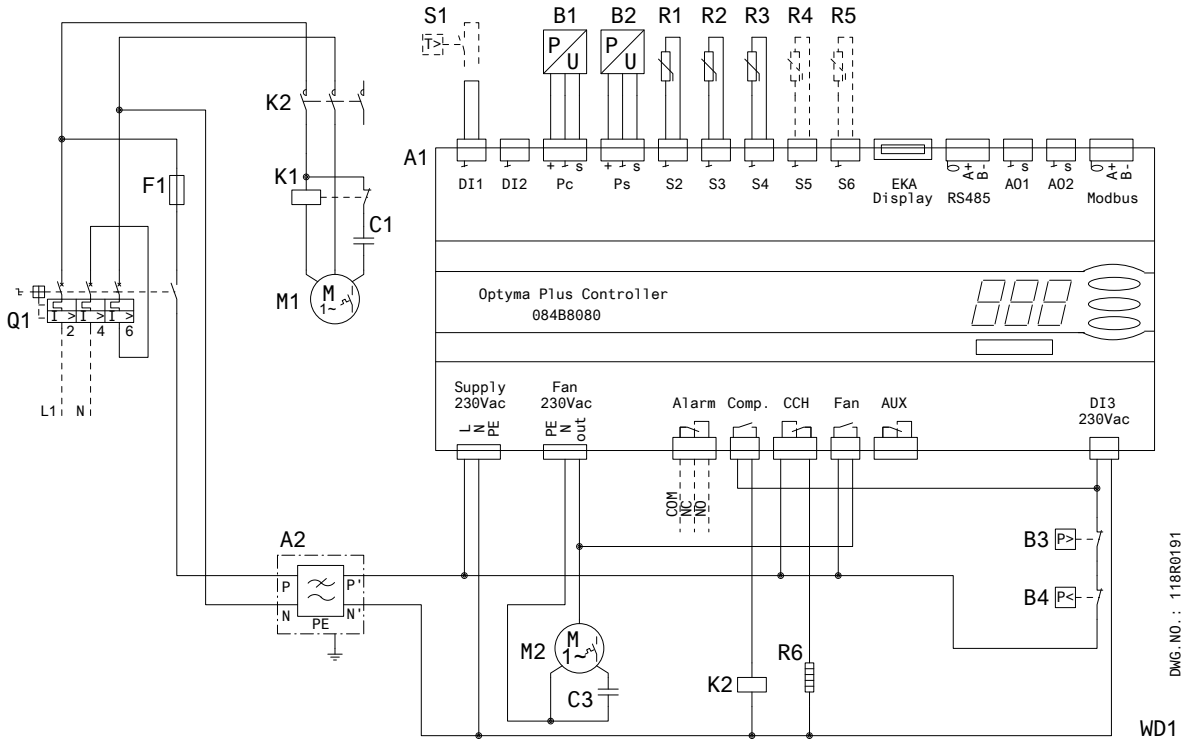


Housing 4



Electrical wiring diagrams

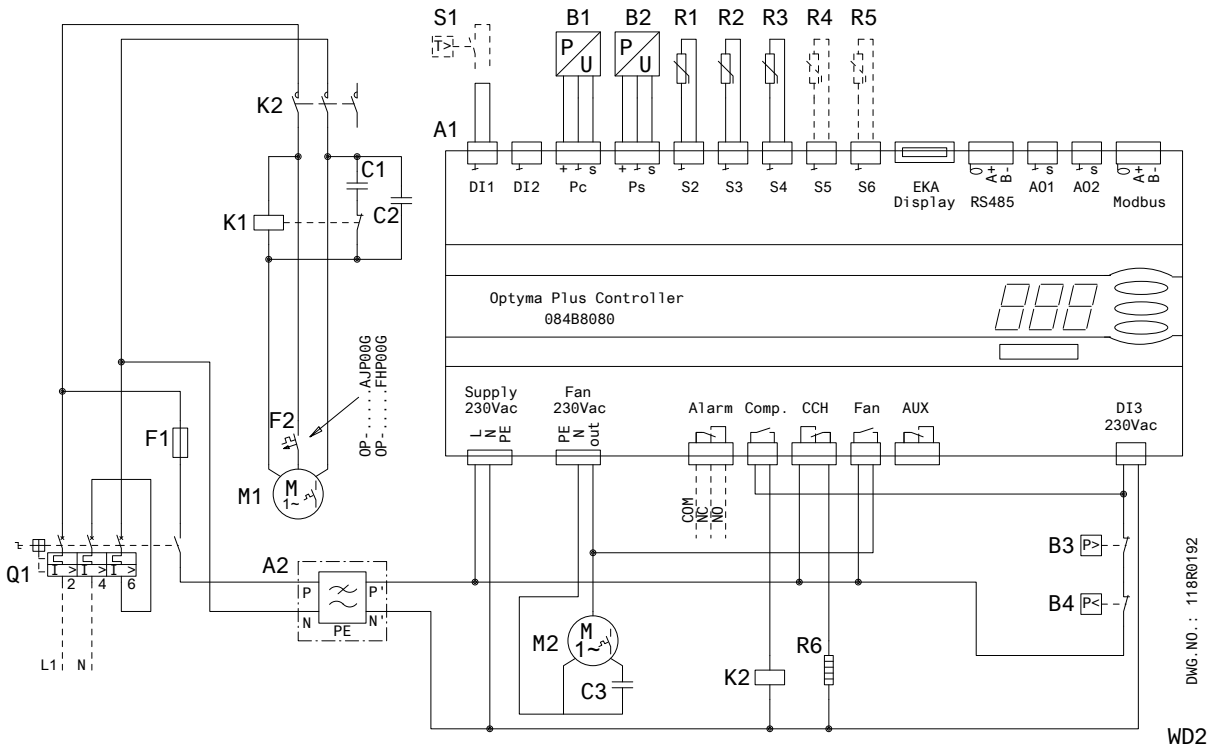
Code G : OP- LPHM018 & OP-MPHM007-010-012-015



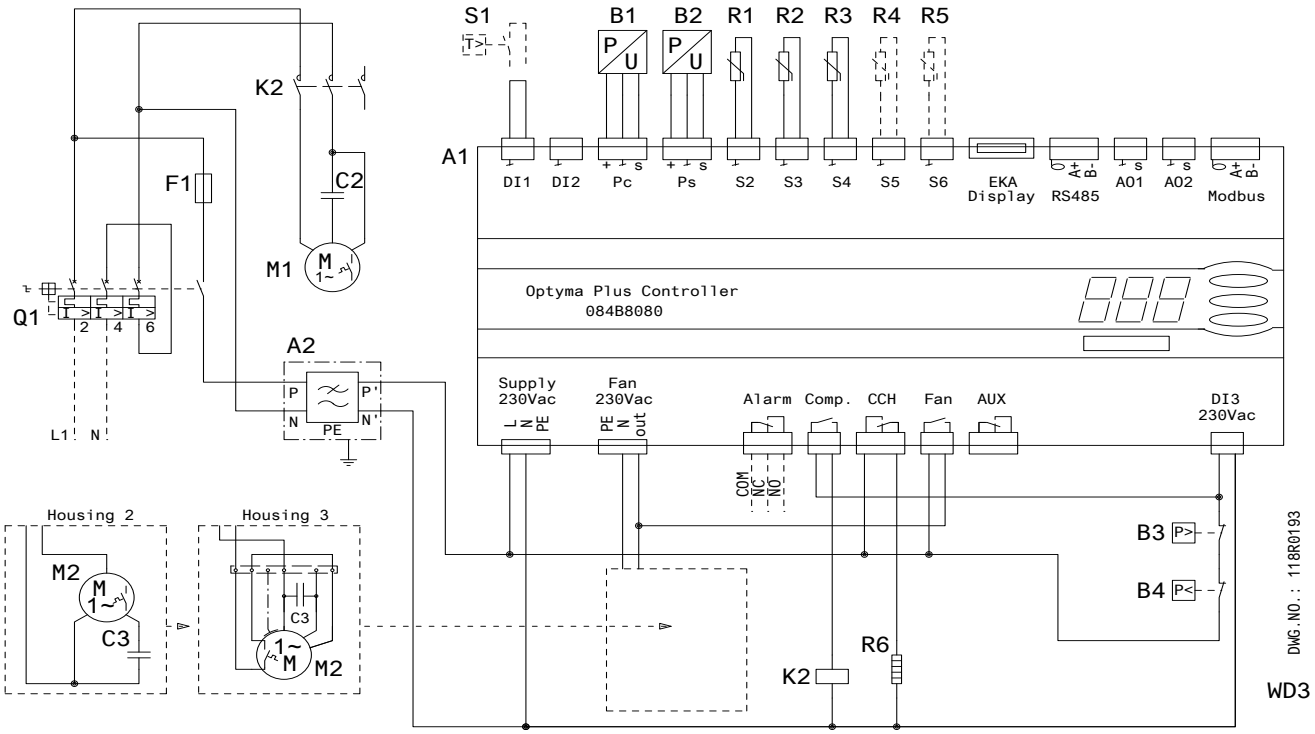
A1: *Optyma™* ***Plus*** *Controller*
A2: *EMI Filter*
B1: *Condensing Pressure Transducer*
B2: *Suction Pressure Transducer*
B3: *High Pressure Switch*
B4: *Low Pressure Switch*
C1: *Start Capacitor (Compressor)*
C3: *Run Capacitor (Fan)*
F1: *Fuse (Control Circuit)*
K1: *Start Relay*
K2: *Contactor*
M1: *Compressor*
M2: *Fan Motor*
Q1: *Main Switch*
R1: *Ambient Temp. Sensor*
R2: *Discharge Temp. Sensor*
R3: *Suction Temp. Sensor*
R4,R5: *Auxiliary Temp. Sensor (optional)*
R6: *Crankcase Heater*
S1: *Room Thermostat (optional)*
X1: *Terminal*
Supply: *Supply*
Fan: *Fan*
Alarm: *Alarm*
Comp.: *Compressor*
CCH: *Crankcase Heater*
Aux: *Auxiliary*

Electrical wiring diagrams

Code G : OP-LPQM026-048-068-074 & OP-MPHM018-026-034, OP-MPGM033-34 & OP-LPHM026, OP-MPYM018-024



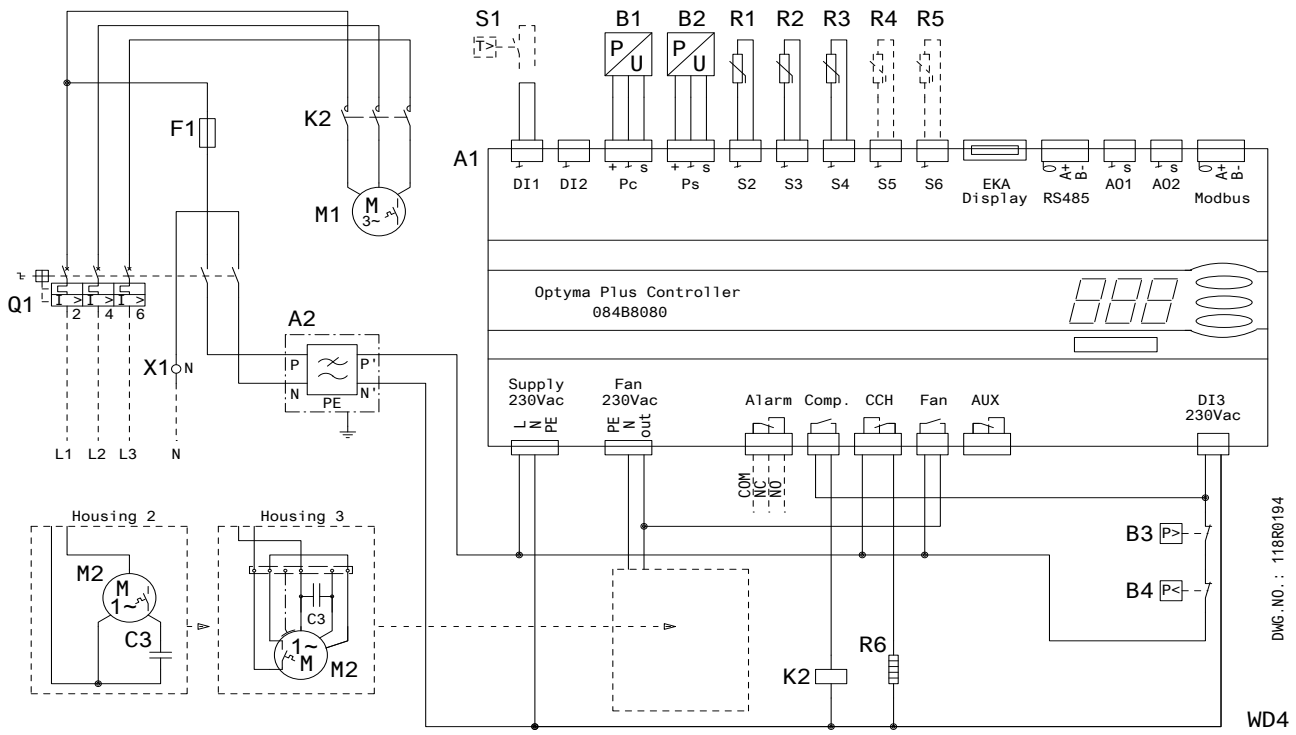
Code G : OP-MPXM034-046-057-068-080



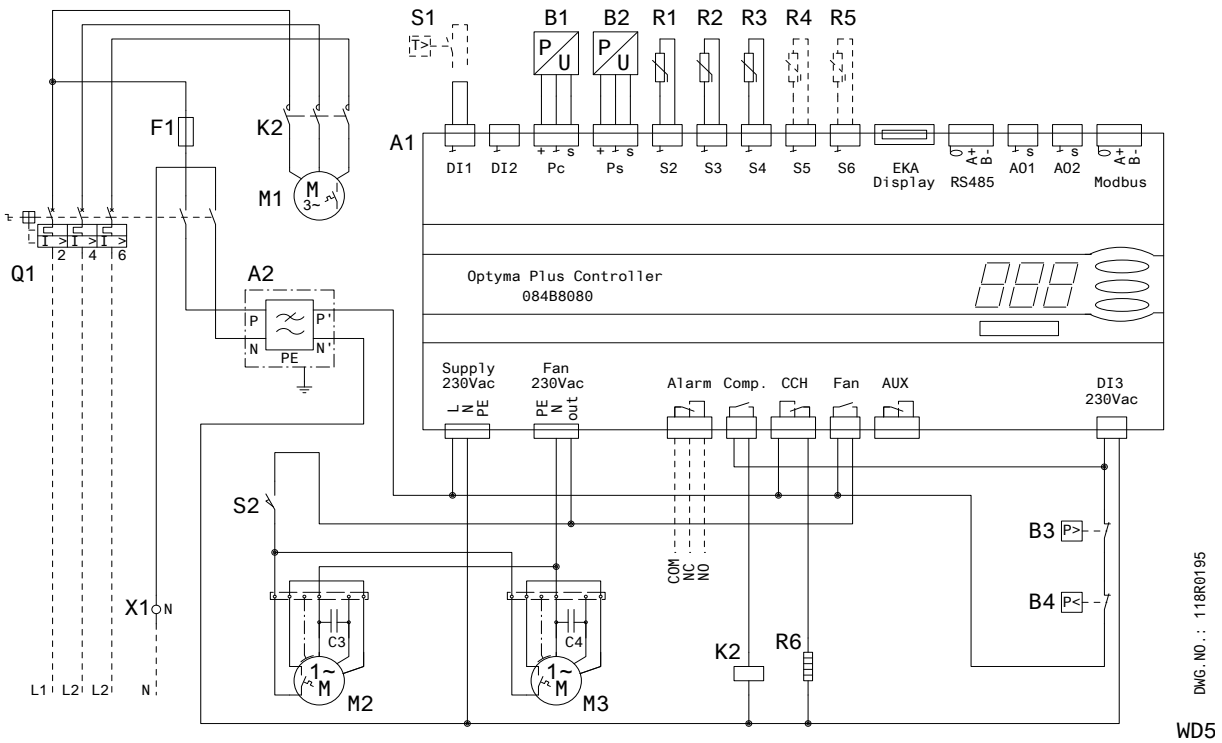
A1: *Optyma™* ***Plus*** *Controller*
A2: *EMI Filter*
B1: *Condensing Pressure Transducer*
B2: *Suction Pressure Transducer*
B3: *High Pressure Switch*
B4: *Low Pressure Switch*
C1: *Start Capacitor (Compressor)*
C2: *Run Capacitor (Compressor)*
C3: *Run Capacitor (Fan)*
F1: *Fuse (Control Circuit)*
F2: *Motor protector*
K1: *Start Relay*
K2: *Contactor*
M1: *Compressor*
M2: *Fan Motor*
Q1: *Main Switch*
R1: *Ambient Temp. Sensor*
R2: *Discharge Temp. Sensor*
R3: *Suction Temp. Sensor*
R4,R5: *Auxiliary Temp. Sensor (optional)*
R6: *Crankcase Heater*
S1: *Room Thermostat (optional)*
Supply: *Supply*
Fan: *Fan*
Alarm: *Alarm*
Comp.: *Compressor*
CCH: *Crankcase Heater*
Aux: *Auxiliary*

Electrical wiring diagrams

Code E : OP-LPQM048-068-074-096-136 & OP-MPXM034-046-057-068-080-108 & OP-MPYM026-034



Code E : OP-LPQM215-271 & OP-MPXM125-162



A1: *Optyma™* ***Plus*** *Controller*
A2: *EMI Filter*
B1: *Condensing Pressure Transducer*
B2: *Suction Pressure Transducer*
B3: *High Pressure Switch*
B4: *Low Pressure Switch*
C3: *Run Capacitor (Fan 1)*
C4: *Run Capacitor (Fan 2)*

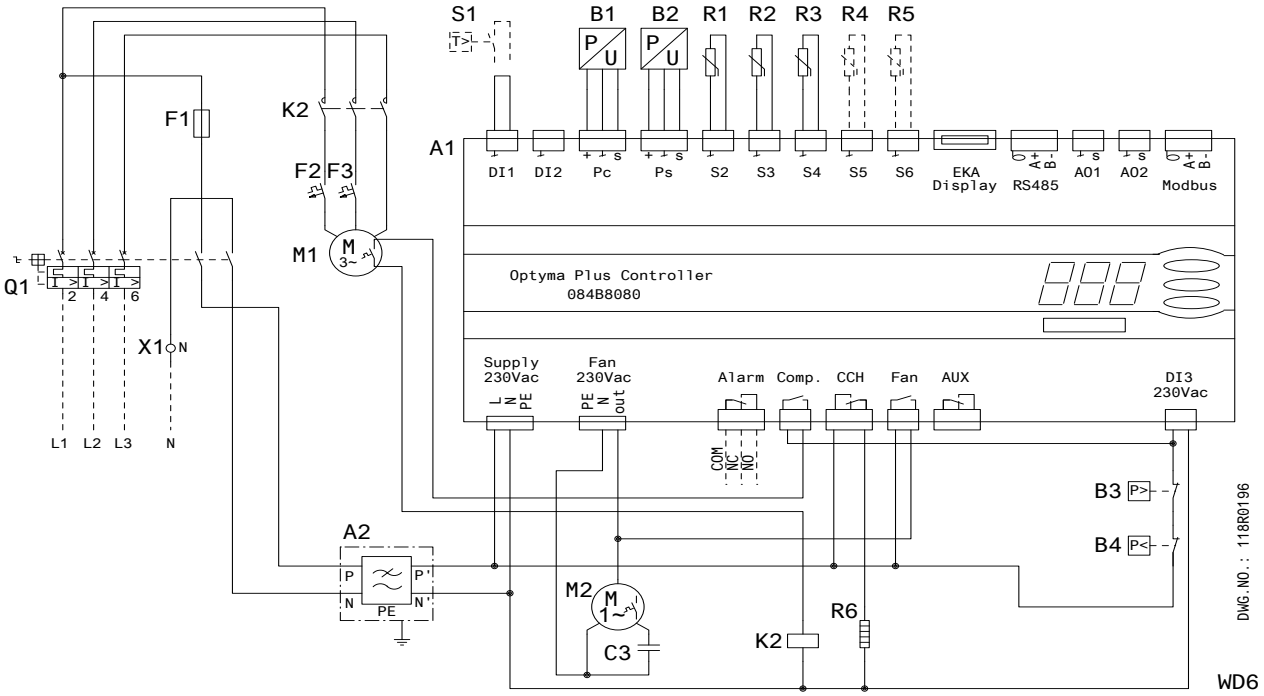
F1: *Fuse (Control Circuit)*
K2: *Contactor*
M1: *Compressor*
M2: *Fan Motor 1*
M3: *Fan Motor 2*
Q1: *Main Switch*
R1: *Ambient Temp. Sensor*
R2: *Discharge Temp. Sensor*

R3: *Suction Temp. Sensor*
R4,R5: *Auxiliary Temp. Sensor (optional)*
R6: *Crankcase Heater*
S1: *Room Thermostat (optional)*
S2: *Door Limit Switch*
X1: *Terminal*
Supply: *Supply*
Fan: *Fan*

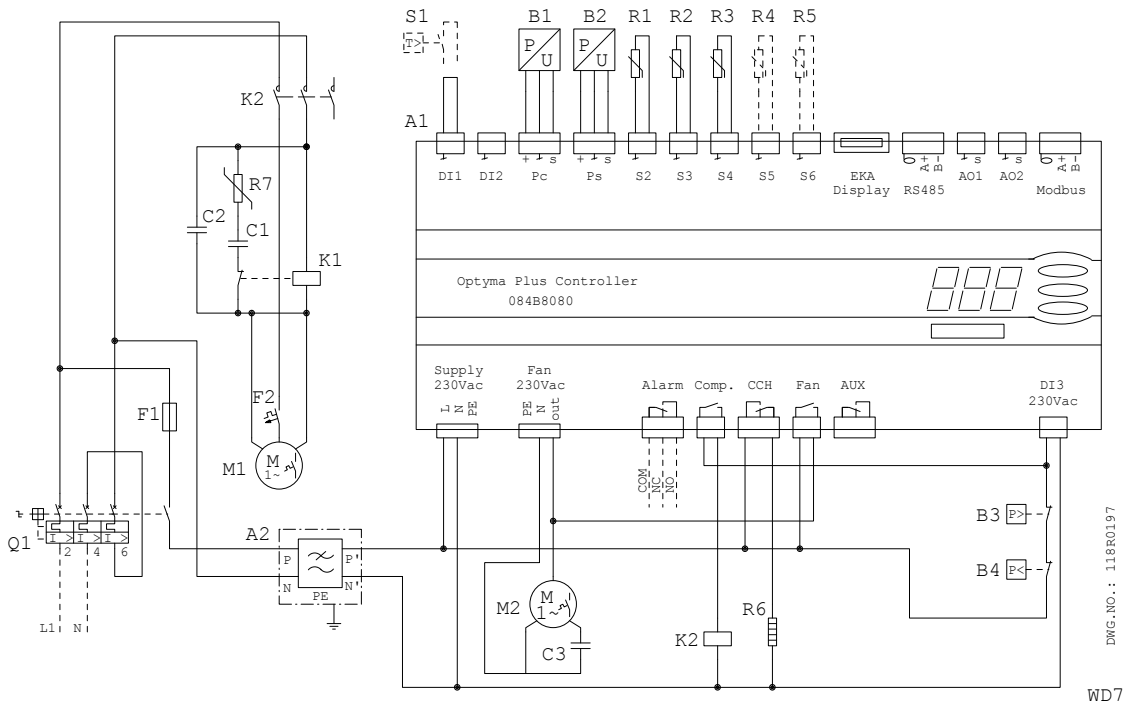
Alarm: *Alarm*
Comp.: *Compressor*
CCH: *Crankcase Heater*
Aux: *Auxiliary*

Electrical wiring diagrams

Code E : OP-MPYM026-034



Code G: OP-LPQM017 & OP-MPYM008-009-012-014

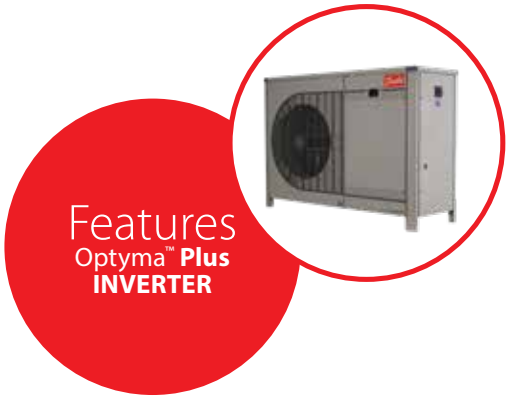


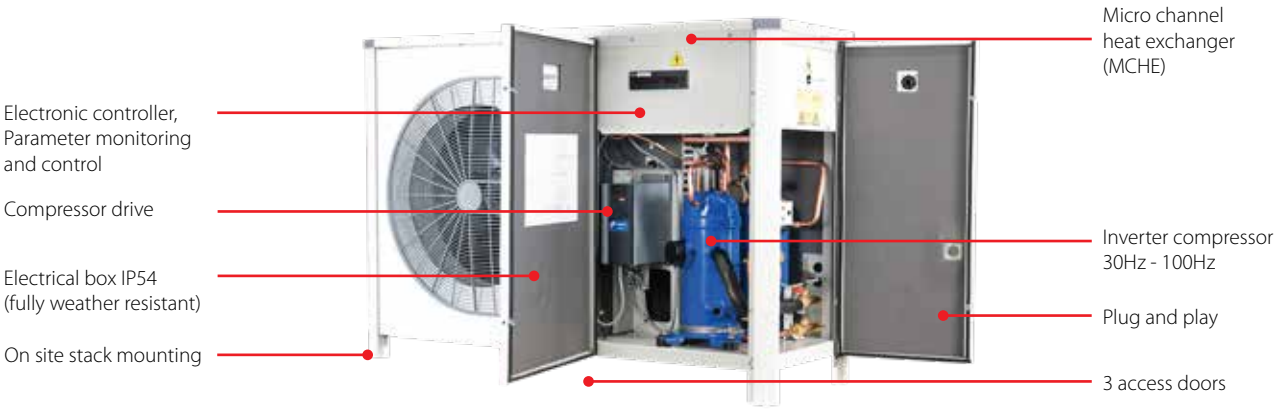
A1: *Optyma™* ***Plus*** *Controller*
A2: *EMI Filter*
B1: *Condensing Pressure Transducer*
B2: *Suction Pressure Transducer*
B3: *High Pressure Switch*
B4: *Low Pressure Switch*
C1: *Start Capacitor (Compressor)*
C2: *Run Capacitor (Compressor)*
C3: *Run Capacitor (Fan)*
F1: *Fuse (Control Circuit)*
F2,F3: *Motor protector*
K1: *Start Relay*
K2: *Contactor*
M1: *Compressor*
M2: *Fan Motor*
Q1: *Main Switch*
R1: *Ambient Temp. Sensor*
R2: *Discharge Temp. Sensor*
R3: *Suction Temp. Sensor*
R4,R5: *Auxiliary Temp. Sensor (optional)*
R6: *Crankcase Heater*
R7: *NTC Resistor*
S1: *Room Thermostat (optional)*
X1: *Terminal*
Supply: *Supply*
Fan: *Fan*
Alarm: *Alarm*
Comp.: *Compressor*
CCH: *Crankcase Heater*
Aux: *Auxiliary*

Optyma™ **Plus Inverter**
Capacity modulation in a simple and **adapative** package

Optyma™ **Plus INVERTER** combines our market leading expertise in condensing unit design with the unique benefits of stepless inverter scroll technology.

The result is 25% higher energy efficiency in an adaptive package, for medium and high temperature refrigeration applications in the range of 2kW to 9kW with R407A, R407F and R404A.





Facts

Unique Danfoss features
- Danfoss inverter scroll and drive tuned to work together for a wide range of refrigeration applications
- Danfoss micro-channel heat exchanger
- IDV* technology enhances part-load efficiency and allows less stress on components
- Danfoss proven condensing unit design
- Optyma™ **Plus Controller**

Plug-and-play variable speed technology
- One model suits several applications and model selection is easy and safe, especially in sensitive applications where the loads change rapidly
- The installation of an Optyma™ Plus INVERTER is as simple as a standard Optyma™ Plus. Preset parameters and Modbus communication makes start-up and maintenance of the condensing unit effortlessly quick and easy

High reliability for safe food preservation
- Accurate temperature and humidity control can be tailored to suit the requirements of different foods and beverages
- Improved food preservation and less waste of valuable products
- Electronic controller enables quick and accurate diagnostics
- Built-in compressor protection functions

**IDV: Intermediate Discharge Valves*

Technical data and ordering

Technical specifications

Unit	Condenser coil			Condenser fan	Receiver	Dimensions					Weight [kg]	
	Type	Air flow [m^3/h]	Internal volume [dm^3]	Fan blade Ø [mm]	volume [L] (without valve)	Depth D [mm]	Width W [mm]	Height H [mm]	Suction line [in]	Liquid line [in]	Gross	Net
OP-MPLM028 OP-MPPM028	G7	5200	1.62	1x500	6.2	481	1406	965	3/4	5/8	150	124
OP-MPLM035 OP-MPPM035	G7	5200	1.62	1x500	6.2	481	1406	965	3/4	5/8	151	125
OP-MPLM044 OP-MPPM044	G7	5200	1.62	1x500	6.2	481	1406	965	3/4	5/8	151	125

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

Technical data and ordering

Optyma™ Plus INVERTER, R407A

Model number	Code no.	Compressor	Compressor speed, rps	Amb. temp. [°C]	Cooling capacity Q [kW] Te [°C] -15	-10	-5	0	5	P [kW] -10	EcoDesign [2] COP [1]	Q [kW]	P [kW]	COP_A	SEPR	Sound powe level dB(A)	Sound pressure level 10 m dB(A)
OP-MPPM028VVLP01E	114X4302	VLZ028TGA	30	27	1435	1797	2227	2732	3320	–	–	–	–	–	–	72.8	41.8
				32	1345	1686	2092	2570	3128	899	1.88	–	–	–	–		
				38	–	1557	1934	2380	2902	–	–	–	–	–	–		
				43	–	–	–	–	–	–	–	–	–	–	–		
			50	27	2382	2994	3711	4543	5499	–	–	–	–	–	–	73.4	42.4
				32	2243	2829	3515	4310	5224	1333	2.12	–	–	–	–		
				38	–	2622	3267	4015	4876	–	–	–	–	–	–		
				43	–	2442	3050	3757	4571	–	–	–	–	–	–		
			75	27	3499	4412	5470	6686	8069	–	–	–	–	–	–	74	43
				32	3306	4177	5183	6339	7654	2005	2.08	–	–	–	–		
				38	–	3879	4821	5901	7131	–	–	–	–	–	–		
				43	–	3618	4503	5519	6676	–	–	–	–	–	–		
			100	27	4549	5740	7106	8660	10413	–	–	–	–	–	–	75.3	44.3
				32	4313	5438	6726	8192	9847	2830	1.92	5539	2834	1.95	3.49		
				38	–	5067	6261	7621	9158	–	–	–	–	–	–		
				43	–	4747	5864	7135	8575	–	–	–	–	–	–		
OP-MPPM035VVLP01E	114X4316	VLZ035TGA	30	27	1806	2259	2796	3426	4157	–	–	–	–	–	–	71.7	40.7
				32	1692	2119	2626	3223	3916	1057	2.00	–	–	–	–		
				38	–	1956	2427	2983	3632	–	–	–	–	–	–		
				43	–	–	–	–	–	–	–	–	–	–	–		
			50	27	2988	3751	4643	5674	6854	–	–	–	–	–	–	72.3	41.3
				32	2812	3542	4393	5378	6504	1599	2.22	–	–	–	–		
				38	–	3279	4079	5003	6061	–	–	–	–	–	–		
				43	–	3051	3803	4674	5674	–	–	–	–	–	–		
			75	27	4374	5503	6805	8291	9973	–	–	–	–	–	–	72.9	41.9
				32	4128	5203	6439	7849	9443	2445	2.13	–	–	–	–		
				38	–	4824	5977	7292	8779	–	–	–	–	–	–		
				43	–	4492	5573	6806	8201	–	–	–	–	–	–		
			100	27	5666	7124	8782	10652	12744	–	–	–	–	–	–	74.6	43.6
				32	5367	6741	8302	10064	12035	3488	1.93	6876	3494	1.97	3.63		
				38	–	6270	7715	9345	11172	–	–	–	–	–	–		
				43	–	5864	7212	8734	10442	–	–	–	–	–	–		
OP-MPPM044VVLP01E	114X4334	VLZ044TGA	30	27	2303	2877	3556	4350	5268	–	–	–	–	–	–	72.6	41.6
				32	2159	2699	3339	4091	4962	1278	2.11	–	–	–	–		
				38	–	2491	3085	3785	4600	–	–	–	–	–	–		
				43	–	–	–	–	–	–	–	–	–	–	–		
			50	27	3796	4757	5876	7163	8629	–	–	–	–	–	–	73.1	43.1
				32	3569	4487	5553	6779	8175	1974	2.27	–	–	–	–		
				38	–	4148	5146	6294	7602	–	–	–	–	–	–		
				43	–	3852	4790	5870	7101	–	–	–	–	–	–		
			75	27	5527	6933	8542	10363	12405	–	–	–	–	–	–	73.7	43.7
				32	5208	6543	8067	9790	11720	3073	2.13	–	–	–	–		
				38	–	6052	7468	9069	10862	–	–	–	–	–	–		
				43	–	5620	6944	8440	10117	–	–	–	–	–	–		
			100	27	7125	8914	10926	13170	15649	–	–	–	–	–	–	74.4	43.4
				32	6738	8421	10311	12419	14750	4434	1.90	8612	4446	1.94	3.71		
				38	–	7813	9557	11502	13656	–	–	–	–	–	–		
				43	–	7288	8911	10721	12728	–	–	–	–	–	–		

[1]) Nominal conditions, Evaporating temperature -10 °C. Ambient air temperature 32 °C. Superheat 1K.
[2]) Rated conditions, Evaporating temperature -10 °C. Ambient air temperature 32 °C. Return Gas Temperature 20 °C

SEPR: Seasonal Energy Performance Ratio
Q [W]: Cooling Capacity
P [W]: Power Input

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

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Technical data and ordering

Optyma™ **Plus INVERTER, R407F**

Model number	Code no.	Compressor	Compressor speed, rps	Amb. temp. [°C]	Cooling capacity Q [kW]					P [kW]	EcoDesign [2]					Sound powe level dB(A)	Sound pressure level 10 m dB(A)
					Te [°C]						COP [1]	Q [kW]	P [kW]	COP_A	SEPR		
					-15	-10	-5	0	5	-10							
OP-MPPM028VVLP01E	114X4302	VLZ028TGA	30	27	1534	1915	2363	2888	3496	–	–	–	–	–	–	71.7	40.7
				32	1447	1808	2234	2733	3313	945	1.91	–	–	–	–		
				38	–	1679	2078	2547	3092	–	–	–	–	–	–		
				43	–	–	–	–	–	–	–	–	–	–	–		
			50	27	2598	3258	4022	4900	5902	–	–	–	–	–	–	72.3	41.3
				32	2450	3083	3815	4655	5613	1410	2.19	–	–	–	–		
				38	–	2862	3555	4349	5254			–	–	–	–		
				43	–	2669	3328	4083	4943			–	–	–	–		
			75	27	3826	4792	5901	7163	8590			–	–	–	–	72.9	41.9
				32	3612	4539	5600	6806	8169	2121	2.14	–	–	–	–		
				38	–	4220	5223	6362	7647			–	–	–	–		
				43	–	3942	4895	5977	7197			–	–	–	–		
			100	27	4950	6174	7573	9158	10939			–	–	–	–	74.2	43.2
				32	4689	5857	7191	8703	10400	2977	1.97	5905	2979	1.98	3.58		
				38	–	5470	6724	8145	9742	–	–	–	–	–	–		
				43	–	5141	6327	7671	9182	–	–	–	–	–	–		
OP-MPPM035VVLP01E	114X4316	VLZ035TGA	30	27	1931	2408	2969	3623	4380	–	–	–	–	–	–	71.2	40.2
				32	1820	2272	2805	3428	4149	1115	2.04	–	–	–	–		
				38	–	2110	2609	3193	3871	–	–	–	–	–	–		
				43	–	–	–	–	–	–	–	–	–	–	–		
			50	27	3258	4080	5029	6116	7351	–	–	–	–	–	–	71.9	40.9
				32	3069	3858	4766	5804	6984	1698	2.27	–	–	–	–		
				38	–	3577	4435	5416	6529	–	–	–	–	–	–		
				43	–	3330	4147	5078	6135	–	–	–	–	–	–		
			75	27	4776	5970	7334	8878	10612	–	–	–	–	–	–	72.5	41.5
				32	4503	5648	6951	8425	10079	2594	2.18	–	–	–	–		
				38	–	5242	6472	7860	9417	–	–	–	–	–	–		
				43	–	4888	6055	7372	8847	–	–	–	–	–	–		
			100	27	6156	7655	9358	11274	13409	–	–	–	–	–	–	73.55	42.5
				32	5825	7254	8876	10699	12731	3679	1.97	7326	3682	1.99	3.71		
				38	–	6764	8286	9996	11902	–	–	–	–	–	–		
				43	–	6347	7783	9397	11198	–	–	–	–	–	–		
OP-MPPM044VVLP01E	114X4334	VLZ044TGA	30	27	2464	3068	3778	4603	5555	–	–	–	–	–	–	72	41
				32	2322	2895	3568	4354	5260	1353	2.14	–	–	–	–		
				38	–	2686	3316	4052	4903	–	–	–	–	–	–		
				43	–	–	–	–	–	–	–	–	–	–	–		
			50	27	4135	5170	6359	7714	9244	–	–	–	–	–	–	72.6	41.6
				32	3891	4882	6019	7311	8771	2105	2.32	–	–	–	–		
				38	–	4519	5591	6809	8184	–	–	–	–	–	–		
				43	–	4200	5218	6374	7677	–	–	–	–	–	–		
			75	27	6024	7510	9195	11089	13196	–	–	–	–	–	–	73.2	42.2
				32	5670	7092	8700	10503	12509	3271	2.17	–	–	–	–		
				38	–	6567	8080	9774	11658	–	–	–	–	–	–		
				43	–	6107	7540	9143	10924	–	–	–	–	–	–		
			100	27	7723	9567	11641	13951	16496	–	–	–	–	–	–	74	43
				32	7298	9052	11023	13215	15631	4694	1.93	9164	4701	1.95	3.78		
				38	–	8421	10265	12315	14574	–	–	–	–	–	–		
				43	–	7884	9618	11548	13675	–	–	–	–	–	–		

[1]) Nominal conditions, Evaporating temperature -10 °C. Ambient air temperature 32 °C. Superheat 1K.
[2]) Rated conditions, Evaporating temperature -10 °C. Ambient air temperature 32 °C. Return Gas Temperature 20 °C

SEPR: Seasonal Energy Performance Ratio
Q [W]: Cooling Capacity
P [W]: Power Input

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

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Technical data and ordering

Optyma™ Plus INVERTER, R404A

Model number	Code no.	Compressor	Compressor speed, rps	Amb. temp. [°C]	Cooling capacity Q [kW]					P [kW]	EcoDesign [2]					Sound powe level dB(A)	Sound pressure level 10 m dB(A)
					Te [°C]						COP [1]	Q [kW]	P [kW]	COP_A	SEPR		
					-15	-10	-5	0	5	-10							
OP-MPPM028VVLP01E	114X4302	VLZ028TGA	30	27	1597	1990	2446	2972	3573	–	–	–	–	–	–	71.2	40.2
				32	1484	1854	2284	2780	3349	1002	1.85	–	–	–	–		
				38	–	–	–	–	–	–	–	–	–	–	–		
				43	–	–	–	–	–	–	–	–	–	–	–		
			50	27	2700	3340	4080	4929	5894	–	–	–	–	–	–	71.9	40.9
				32	2505	3106	3802	4601	5510	1537	2.02	–	–	–	–		
				38	2266	2820	3168	4198	5039	–	–	–	–	–	–		
				43	2060	2574	3168	3853	4636	–	–	–	–	–	–		
			75	27	3994	4916	5976	7181	8542	–	–	–	–	–	–	72.5	41.5
				32	3707	4574	5569	6701	7981	2349	1.95	–	–	–	–		
				38	3354	4151	4633	6110	7290	–	–	–	–	–	–		
				43	3048	3785	4633	5600	6698	–	–	–	–	–	–		
			100	27	5202	6381	7724	9241	10939	–	–	–	–	–	–	73.7	42.7
				32	4832	5939	7198	8620	10214	3317	1.79	6250	3328	1.88	3.47		
				38	4368	5384	5965	7845	9310	–	–	–	–	–	–		
				43	3962	4899	5965	7171	8528	–	–	–	–	–	–		
OP-MPPM035VVLP01E	114X4316	VLZ035TGA	30	27	2027	2517	3085	3739	4485	–	–	–	–	–	–	73.1	42.1
				32	1878	2339	2875	3491	4196	1159	2.02	–	–	–	–		
				38	–	–	–	–	–	–	–	–	–	–	–		
				43	–	–	–	–	–	–	–	–	–	–	–		
			50	27	3402	4193	5108	6153	7338	–	–	–	–	–	–	73.8	42.8
				32	3158	3899	4755	5735	6846	1794	2.17	–	–	–	–		
				38	2854	3533	3937	5215	6236	–	–	–	–	–	–		
				43	2590	3215	3937	4766	5711	–	–	–	–	–	–		
			75	27	4962	6087	7381	8853	10511	–	–	–	–	–	–	74.4	43.4
				32	4610	5659	6866	8240	9790	2813	2.01	–	–	–	–		
				38	4169	5126	5672	7481	8899	–	–	–	–	–	–		
				43	3784	4662	5672	6826	8133	–	–	–	–	–	–		
			100	27	6354	7768	9389	11226	13287	–	–	–	–	–	–	75.4	44.4
				32	5901	7218	8727	10438	12360	4070	1.77	7614	4088	1.86	3.77		
				38	5331	6529	7183	9460	11214	–	–	–	–	–	–		
				43	4828	5926	7183	8614	10227	–	–	–	–	–	–		
OP-MPPM044VVLP01E	114X4334	VLZ044TGA	30	27	2620	3236	3949	4767	5698	–	–	–	–	–	–	73.1	42.1
				32	2426	3008	3681	4453	5334	1391	2.16	–	–	–	–		
				38	–	–	–	–	–	–	–	–	–	–	–		
				43	–	–	–	–	–	–	–	–	–	–	–		
			50	27	4322	5303	6426	7700	9134	–	–	–	–	–	–	73.9	42.9
				32	4012	4932	5987	7183	8532	2288	2.16	–	–	–	–		
				38	3623	4470	4964	6541	7784	–	–	–	–	–	–		
				43	3284	4067	4964	5985	7139	–	–	–	–	–	–		
			75	27	6267	7656	9231	10997	12960	–	–	–	–	–	–	74.5	43.5
				32	5812	7111	8583	10234	12070	3618	1.97	–	–	–	–		
				38	5243	6432	7078	9289	10972	–	–	–	–	–	–		
				43	4744	5839	7078	8472	10027	–	–	–	–	–	–		
			100	27	8008	9755	11715	13888	16273	–	–	–	–	–	–	75.5	44.5
				32	7406	9033	10856	12879	15102	5190	1.74	9560	5220	1.83	3.76		
				38	6648	8128	8852	11626	13651	–	–	–	–	–	–		
				43	5980	7335	8852	10539	12399	–	–	–	–	–	–		

[1]) Nominal conditions, Evaporating temperature -10 °C. Ambient air temperature 32 °C. Superheat 1K.
[2]) Rated conditions, Evaporating temperature -10 °C. Ambient air temperature 32 °C. Return Gas Temperature 20 °C

SEPR: Seasonal Energy Performance Ratio
Q [W]: Cooling Capacity
P [W]: Power Input

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

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Technical data and ordering

Optyma™ Plus INVERTER, R448A/R449A

Model number	Code no.	Compressor	Compressor speed, rps	Amb. temp. [°C]	Cooling capacity Q [kW] Te [°C] -15	-10	-5	0	5	P [kW] -10	EcoDesign [2] COP [1]	Q [kW]	P [kW]	COP_A	SEPR	Sound powe level dB(A)	Sound pressure level 10 m dB(A)
OP-MPPM028VVLP01E	114X4302	VLZ028TGA	30	27	1465	1839	2276	2783	3365	–	–	–	–	–	–	71.2	40.2
				32	1375	1732	2149	2633	3190	939	1.84	–	–	–	–		
				38	–	–	–	–	–	–	–	–	–	–	–		
				43	–	–	–	–	–	–	–	–	–	–	–		
			50	27	2494	3107	3816	4629	5553	–	–	–	–	–	–	71.9	40.9
				32	2346	2930	3605	4379	5259	1415	2.07	–	–	–	–		
				38	–	2706	3338	4064	4891	–	–	–	–	–	–		
				43	–	2510	3106	3790	4571	–	–	–	–	–	–		
			75	27	3656	4527	5536	6695	8013	–	–	–	–	–	–	72.5	41.5
				32	3443	4270	5226	6324	7573	2159	1.98	–	–	–	–		
				38	–	3949	4842	5866	7032	–	–	–	–	–	–		
				43	–	3670	4509	5472	6569	–	–	–	–	–	–		
			100	27	4686	5774	7041	8502	10171	–	–	–	–	–	–	73.7	42.7
				32	4421	5451	6648	8028	9605	3054	1.78	5548	3058	1.81	3.38		
				38	–	5056	6170	7454	8922	–	–	–	–	–	–		
				43	–	4713	5761	6967	8346	–	–	–	–	–	–		
OP-MPPM035VVLP01E	114X4316	VLZ035TGA	30	27	1836	2301	2845	3476	4201	–	–	–	–	–	–	73.1	42.1
				32	1722	2166	2684	3284	3974	1081	2	–	–	–	–		
				38	–	–	–	–	–	–	–	–	–	–	–		
				43	–	–	–	–	–	–	–	–	–	–	–		
			50	27	3091	3846	4713	5699	6812	–	–	–	–	–	–	73.8	42.8
				32	2896	3616	4442	5381	6441	1748	2.07	–	–	–	–		
				38	–	3327	4102	4983	5977	–	–	–	–	–	–		
				43	–	3076	3806	4637	5577	–	–	–	–	–	–		
			75	27	4505	5569	6792	8183	9752	–	–	–	–	–	–	74.4	43.4
				32	4227	5238	6396	7713	9200	2718	1.93	–	–	–	–		
				38	–	4827	5907	7136	8523	–	–	–	–	–	–		
				43	–	4472	5487	6641	7945	–	–	–	–	–	–		
			100	27	5773	7090	8615	10361	12338	–	–	–	–	–	–	75.4	44.4
				32	5439	6683	8119	9765	11631	3839	1.74	6814	3837	1.78	3.29		
				38	–	6185	7518	9045	10779	–	–	–	–	–	–		
				43	–	5757	7006	8436	10061	–	–	–	–	–	–		
OP-MPPM044VVLP01E	114X4334	VLZ044TGA	30	27	2364	2954	3637	4422	5317	–	–	–	–	–	–	73.1	42.1
				32	2213	2776	3429	4180	5037	1316	2.11	–	–	–	–		
				38	–	–	–	–	–	–	–	–	–	–	–		
				43	–	–	–	–	–	–	–	–	–	–	–		
			50	27	3894	4834	5915	7145	8532	–	–	–	–	–	–	73.9	42.9
				32	3650	4544	5570	6739	8058	2051	2.22	–	–	–	–		
				38	–	4185	5144	6238	7473	–	–	–	–	–	–		
				43	–	3876	4779	5808	6973	–	–	–	–	–	–		
			75	27	5674	7003	8510	10203	12087	–	–	–	–	–	–	74.5	43.5
				32	5308	6572	8003	9609	11397	3243	2.03	–	–	–	–		
				38	–	6034	7371	8873	10544	–	–	–	–	–	–		
				43	–	5566	6825	8237	9810	–	–	–	–	–	–		
			100	27	7289	8959	10828	12899	15173	–	–	–	–	–	–	75.5	44.5
				32	6786	8375	10149	12112	14265	4739	1.77	8558	4753	1.8	3.73		
				38	–	7634	9291	11123	13130	–	–	–	–	–	–		
				43	–	6982	8539	10260	12145	–	–	–	–	–	–		

[1]) Nominal conditions, Evaporating temperature -10 °C. Ambient air temperature 32 °C. Superheat 1K.
[2]) Rated conditions, Evaporating temperature -10 °C. Ambient air temperature 32 °C. Return Gas Temperature 20 °C

SEPR: Seasonal Energy Performance Ratio
Q [W]: Cooling Capacity
P [W]: Power Input

For more information and performance with other refrigerants, please refer to Coolselector ® 2 at coolselector.danfoss.com or contact Danfoss.

EcoDesign 2016

Technical data and ordering

Optyma™ Plus INVERTER - MBP

Electrical characteristics - 400 V / 3 Phases / 50 Hz

Unit	MCC compressor [A] 400V/3phase	Max cont. power consumption [kW]	MCC Fan [A] 230V/1 phase	Fan power output [W]	Fan power consumption [W]
OP-MPLM028 OP-MPPM028	8.1	3.98	0.96	1x130	1x220
OP-MPLM035 OP-MPPM035	9.8	4.94	0.96	1x130	1x220
OP-MPLM044 OP-MPPM044	12	6.33	0.96	1x130	1x220

Optyma™ Plus INVERTER - MBP

Spare parts

Unit	Compressor	Condenser	Fan assembly	Receiver	Filter	Sight glass	Liquid line valve	Suction line valve	High pressure transmitter	Low pressure transmitter	Suction and ambient temperature	Discharge temperature sensor	Fan grill
OP-MPLM028 OP-MPPM028	120G0162	118U3494	118U3829	118U3476	023Z5045	014F0174	009G7053	009G7054	118U3722	118U3721	084N0003	084N2007	118U3485
OP-MPLM035 OP-MPPM035	120G0159	118U3494	118U3829	118U3476	023Z5045	014F0174	009G7053	009G7054	118U3722	118U3721	084N0003	084N2007	118U3485
OP-MPLM044 OP-MPPM044	120G0156	118U3494	118U3829	118U3476	023Z5045	014F0174	009G7053	009G7054	118U3722	118U3721	084N0003	084N2007	118U3485

Unit	Controller *)	Main switch	Compressor contact	Door handle	Crankcase heater	High pressure switch	Low pressure switch	Acoustic hood	Compressor Drive	EMI filter (Drive)	EMI filter (Controller)	Compressor oil	Oil separator
OP-MPLM028 OP-MPPM028	118U3465	118U3852 118U3854	118U3847	118U3858	120Z5040	118U3718	118U3720	120Z5043	118U3973	118U3972	118U3974	120Z5034 120Z0648	118U3981
OP-MPLM035 OP-MPPM035	118U3465	118U3852 118U3854	118U3847	118U3858	120Z5040	118U3718	118U3720	120Z5043	118U3973	118U3972	118U3974	120Z5034 120Z0648	118U3981
OP-MPLM044 OP-MPPM044	118U3465	118U3852 118U3854	118U3847	118U3858	120Z5040	118U3718	118U3720	120Z5043	118U3973	118U3972	118U3974	120Z5034 120Z0648	118U3982

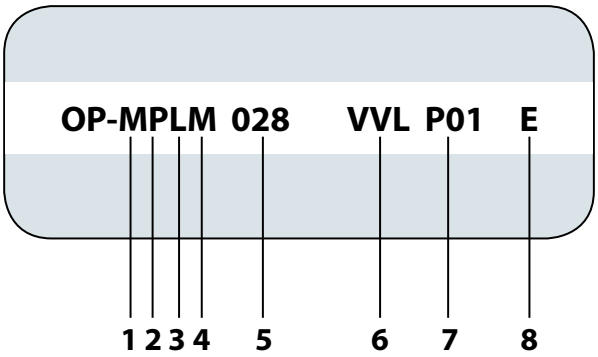
*) *For service replacement of controller in Optyma™ Plus INVERTER only new version of controller can be used: code number on the controller is **084B8080**.*

Unit	Top panel	Fan Panel	Back panel	Front panel	Access panel	Left side panel
OP-MPLM028 OP-MPPM028	118U5131	118U5132	118U5133	118U5134	118U5135	118U5165
OP-MPLM035 OP-MPPM035	118U5131	118U5132	118U5133	118U5134	118U5135	118U5165
OP-MPLM044 OP-MPPM044	118U5131	118U5132	118U5133	118U5134	118U5135	118U5165

*) *For service replacement of controller in Optyma™ Plus INVERTER only new version of controller can be used: code number on the controller is **084B8080**.*

Nomenclature

Designation system for the Optyma™ Plus INVERTER - MBP



Number	Title	Description
1	Application	M = MBP
2	Design	P = Packaged units
3	Refrigerant	L = R404A, R407A, R407F P = R404A, R407A, R407F, R448A, R449A
4	Condenser type	M = Standard with micro channel heat exchanger, Tambient max 43 °C
5	Displacement	028 = 28 cm^3/rev
6	Compressor platform	VVL = variable speed scroll VLZ compressor
7	Version	P01
8	Electrical code	E = Compressor 400 V/3 phase/50 Hz, fan 230 V/1 phase/ 50 Hz

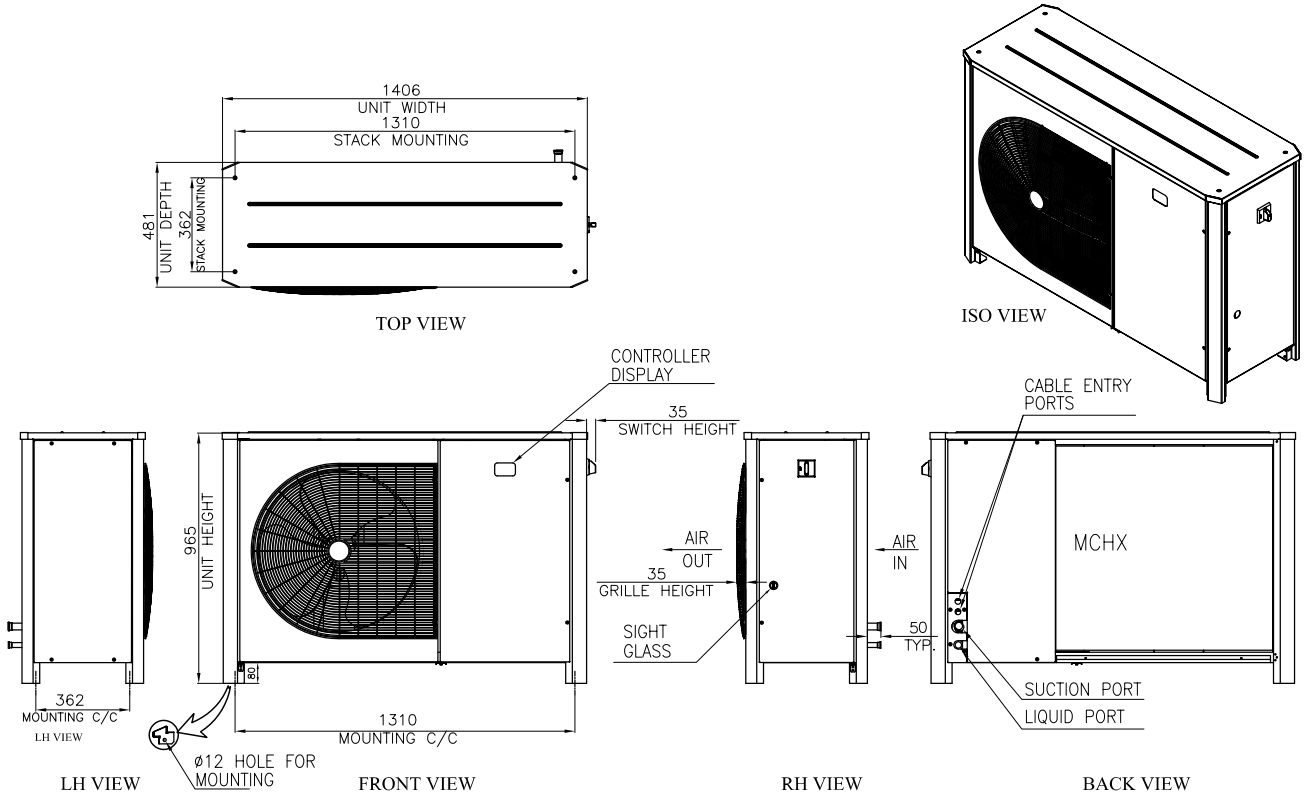
Optyma™ Plus INVERTER - cooling capacity range presentation [kW]



Condition: ***MBP***
Ambient temperature *32 °C*
Evaporating temperature *-10 °C*
Minimum at minimal speed 30Hz and maximum cooling capacity at maximal speed 100Hz

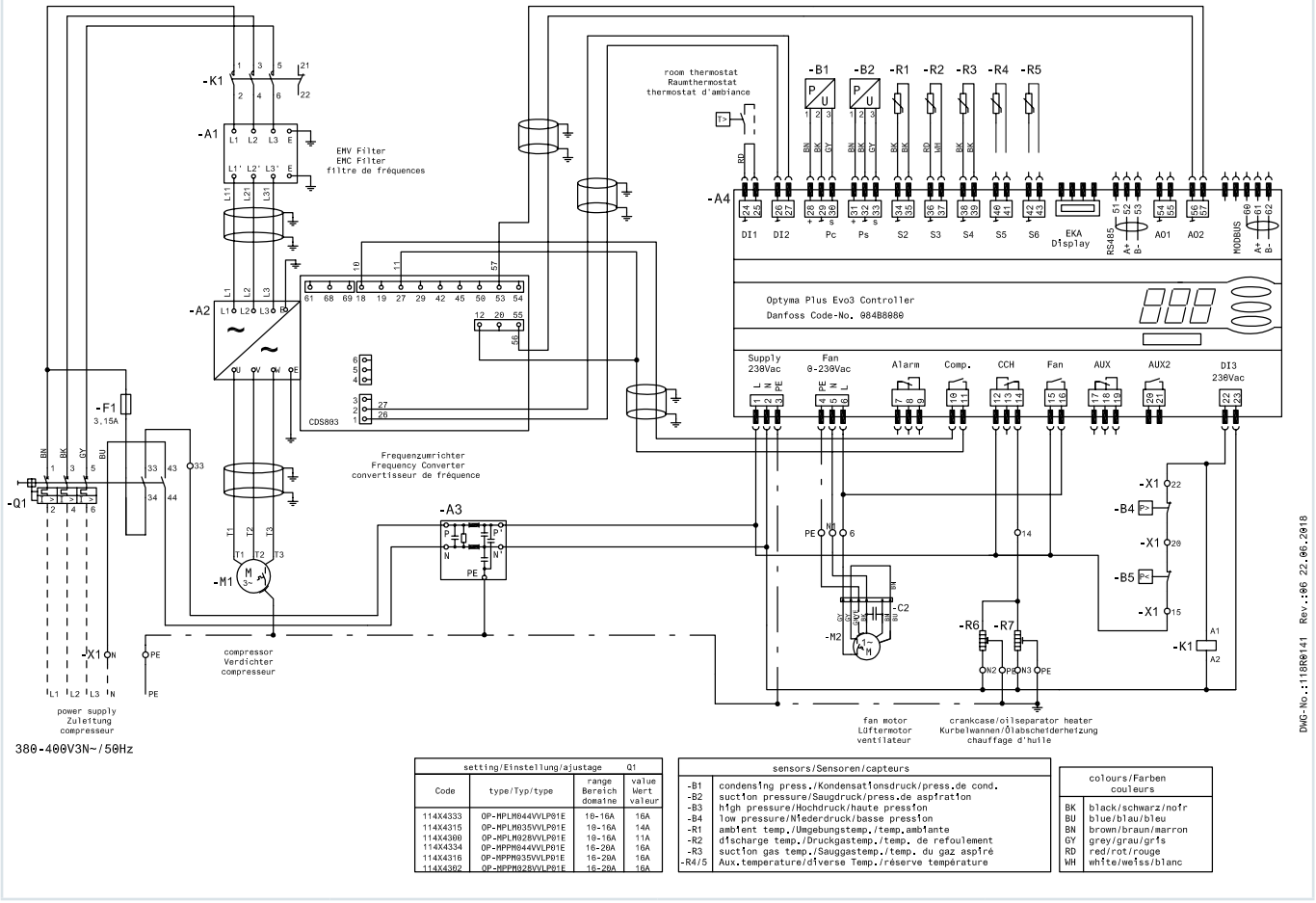
Dimensions

OP-MPLM028-035-044, OP-MPPM028-035-044



Electrical wiring diagrams

OP-MPLM028-035-044, OP-MPPM028-035-044



setting/Einstellung/ajustage Q1			
Code	type/Typ/type	range Bereich domaine	value Wert valeur
114X4333	OP-MPLM044VVLP01E	10-16A	16A
114X4315	OP-MPLM035VVLP01E	10-16A	14A
114X4300	OP-MPLM028VVLP01E	10-16A	11A
114X4334	OP-MPPM044VVLP01E	16-20A	16A
114X4316	OP-MPPM035VVLP01E	16-20A	16A
114X4302	OP-MPPM028VVLP01E	16-20A	16A

sensors/Sensoren/capteurs	
-B1	condensing press./Kondensationsdruck/press.de cond.
-B2	suction pressure/Saugdruck/press.de aspiration
-B3	high pressure/Hochdruck/haute pression
-B4	low pressure/Niederdruck/basse pression
-R1	ambient temp./Umgebungstemp./temp.ambiante
-R2	discharge temp./Druckgastemp./temp. de refoulement
-R3	suction gas temp./Sauggastemp./temp. du gaz aspiré
-R4/5	Aux.temperature/diverse Temp./réserve température

colours/Farben couleurs	
BK	black/schwarz/noir
BU	blue/blau/bleu
BN	brown/braun/marron
GY	grey/grau/gris
RD	red/rot/rouge
WH	white/weiss/blanc

A1: *EMC/RFI Filter (Compressor)*
B1: *Condensing Pressure Transducer*
C1: *Run Capacitor (Fan)*
M2: *Fan Motor*
R3: *Suction Temp. Sensor*
S1: *Room Thermostat (optional)*

A2: *Frequency Converter*
B2: *Suction Pressure Transducer*
F1: *Fuse (Control Circuit)*
Q1: *Main Switch*
R4,R5*: Auxiliary Temp. Sensor (optional)*
X1: *Terminal*

A3: *EMI Filter (Controls)*
B3: *High Pressure Switch*
K1: *Contactor*
R1: *Ambient Temp. Sensor*
R6: *Crankcase Heater*

A4: *Optyma™ Plus Controller*
B4: *Low Pressure Switch*
M1: *Compressor*
R2: *Discharge Temp. Sensor*
R7: *Oil Separator Heater*

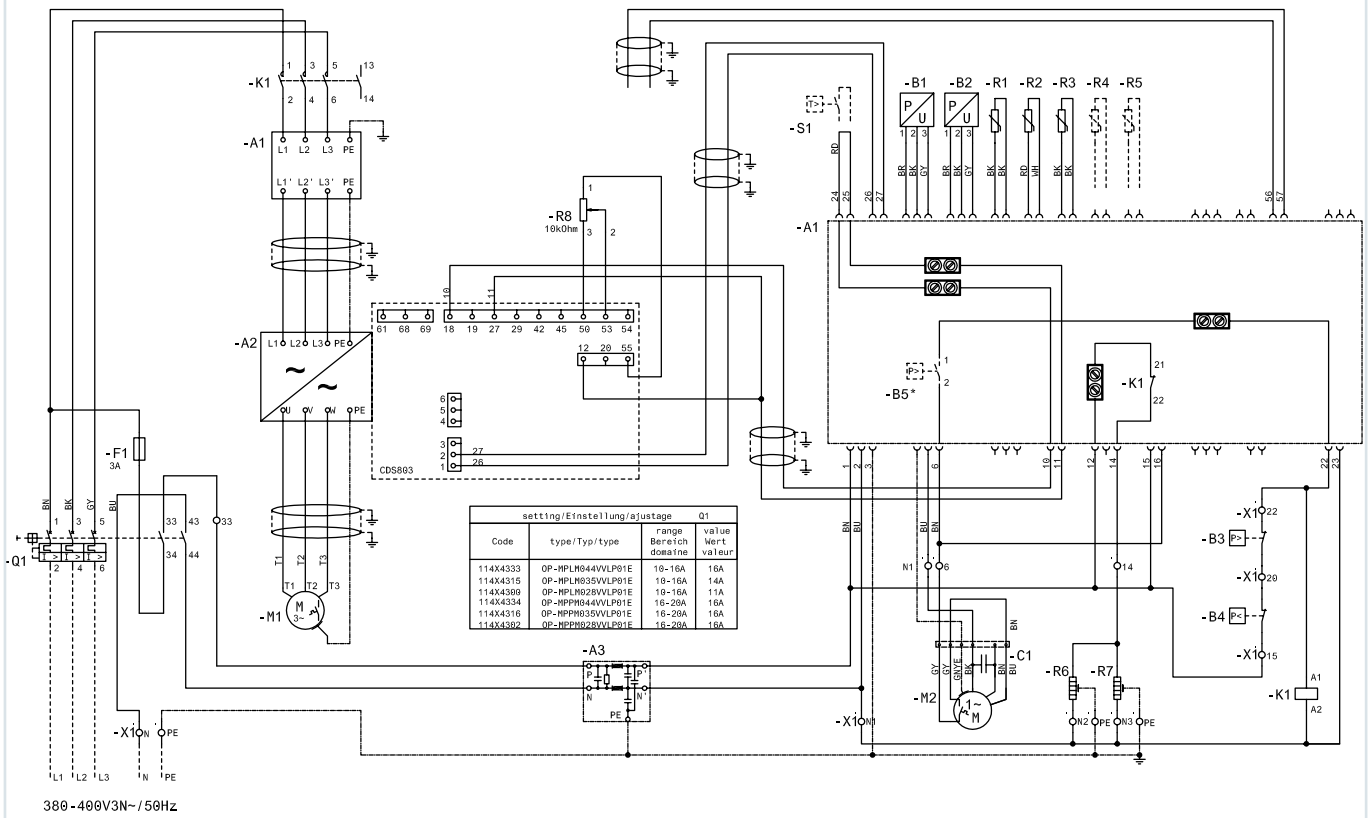
Comp.: *Compressor*

CCH: *Crankcase Heater*

Aux: *Auxiliary*

Electrical wiring diagrams

OP-MPLM028-035-044, OP-MPPM028-035-044- Emergency Wiring



A1: *EMC/RFI Filter (Compressor)*
B1: *Condensing Pressure Transducer*
B5*: *Fan Speed Controller / Pressure Switch*
M1: *Compressor*
R2: *Discharge Temp. Sensor*
R7: *Oil Separator Heater*

A2: *Frequency Converter*
B2: *Suction Pressure Transducer*
C1: *Run Capacitor (Fan)*
M2: *Fan Motor*
R3: *Suction Temp. Sensor*
R8: *Compressor Speed Potentiometer*

A3: *EMI Filter (Controls)*
B3: *High Pressure Switch*
F1: *Fuse (Control Circuit)*
Q1: *Main Switch*
R4,R5: *Auxiliary Temp. Sensor (optional)*
S1: *Room Thermostat (optional)*

A4: *Optyma™ Plus Controller*
B4: *Low Pressure Switch*
K1: *Contactor*
R1: *Ambient Temp. Sensor*
R6: *Crankcase Heater*
X1: *Terminal*

Comp.: *Compressor*

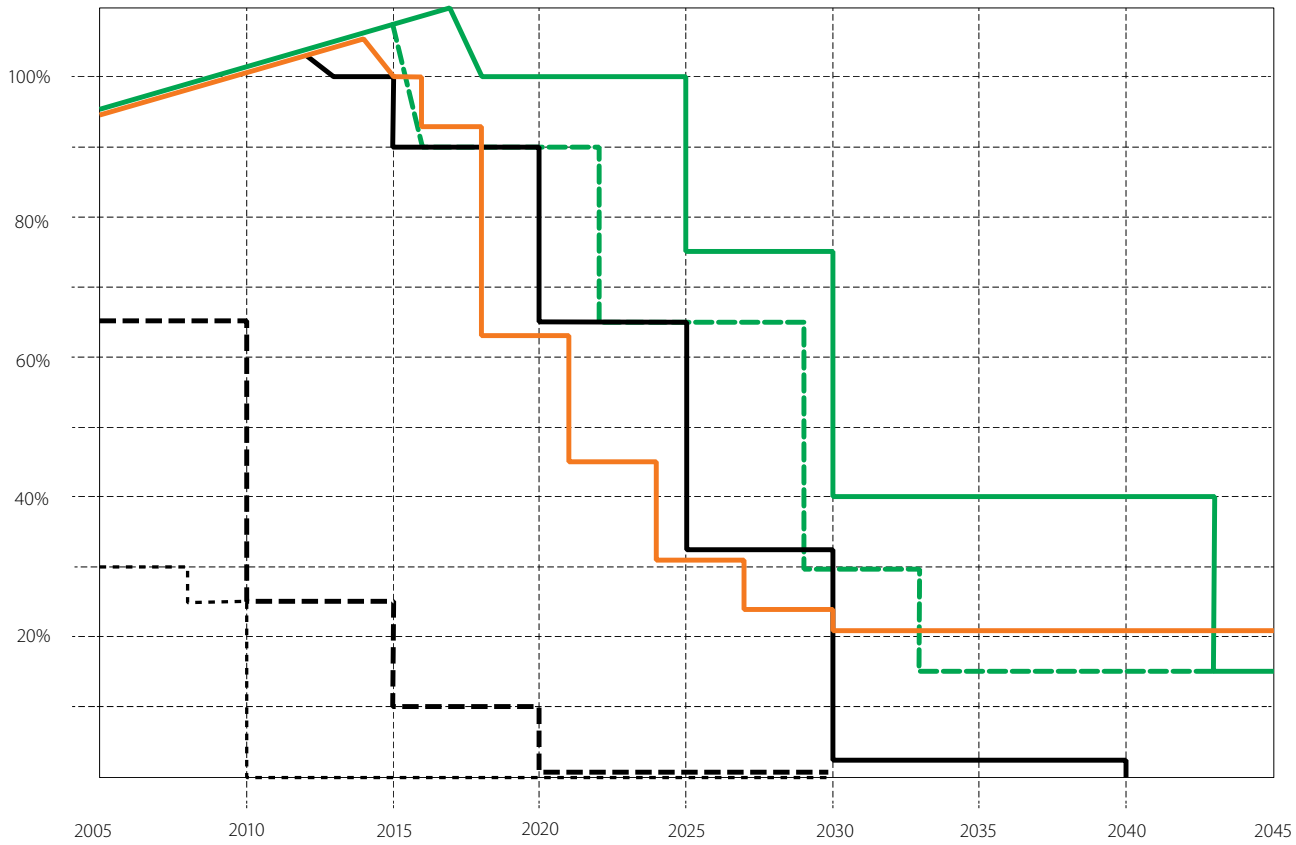
CCH: *Crankcase Heater*

Aux: *Auxiliary*

Quick Selection Notes:

Refrigerant control schedules

The graph below shows the phase-out of HCF refrigerants as agreed under the Montreal



HCFC Phase-out
US, other developed countries
EU regulations
Developing countries

HFC Phase-down (US Proposal)
US, other developed countries
Developing countries

HFC Phase-down (Proposal by EU Commission)
EU F-gas regulations

Perhaps the most effective mechanism of the F-gas regulation will be the GWP-based phase-down of HFC refrigerants.
The phase-down will effectively reduce the supply of high-GWP refrigerants to where demand cannot be met. In turn, this will lead to significantly higher prices on HFC refrigerants. The higher the GWP, the higher the price. Although transitional refrigerants such as R407A and R407F are not directly affected by refrigerant bans in the near term, prices will undoubtedly increase and may become prohibitive in most applications with more than a few kg charge.

Overview of refrigerant trends

Refrigerant	Application	Refrigeration												Air Conditioning						Heat Pumps					
		Domestic-Household refigeration			Light Commercial refrigeration			Commercial Racks and Condensing Units			Industrial Refrigeration			Residential A/C (including Reversible systems)			Commercial A/C			Residential and Commercial			Industrial		
	Watt	50 – 300			150 –5000			> 5.000			> 1.000.000			1.000 – 20.000			> 20.000								
	Region/ Year	2018	2022	2027	2018	2022	2027	2018	2022	2027	2018	2022	2027	2018	2022	2027	2018	2022	2027	2018	2022	2027	2018	2022	2027
CO_2 R744	NAM											*													
	Europe																								
	China												*												
	ROW												*												
NH_3 (2L) R717	NAM											*													
	Europe																								
	China												*												
	ROW												*												
HC	NAM																								
	Europe																								
	China																								
	ROW																								
HFC	NAM																								
	Europe																								
	China																								
	ROW																								
HFC/HFO below GWP 700	NAM																								
	Europe																								
	China																								
	ROW																								

Main refrigerant
Regular use
Limited use and only niche applications
Not applicable or unclear situation

**) Ammonia / CO_2 cascades will dominate industrial refrigeration*
Table 1: Global trends in refrigeration and air conditioning (Status in 2017)

Seen from a global perspective, the tendency of the industry is to move increasingly toward natural refrigerant solutions when it is technologically safe & economically feasible. Synthetic refrigerants are still likely to play an important role in both the refrigeration and air conditioning industries, where the trend is also moving toward new low-GWP substances that cause a minimal environmental impact.

CO_2 (R744)
- The CO_2's GWP value equal to 1
- Lends itself well to **food retail applications**, where the impact, in case of leaks, is minimal and where its thermodynamic properties make it the ideal media for heat recovery
- Transcritical CO_2 cycles reject a large proportion of the cycle heat at high temperatures which makes it suitable for heat pumps
- In **industrial refrigeration**, CO_2 provides a means to reduce the charge of Ammonia, increasing the efficiency and decreasing the footprint of freezing equipment
- In **transport refrigeration** and **electronics cooling**, CO_2 provides a non-flammable, environmentally benign solution

Ammonia (NH_3 - R717)
- GWP and ODP (Ozone Depletion Potential) equal to zero, cost (per kg) considerabl lower than the cost of HFCs
- Ammonia is one of the most **energy efficient** refrigerants in applications ranging from high to low temperatures. With the increasing focus on energy consumption, ammonia is a sustainable choice for the future
- Ammonia has better **heat transfer properties** than most of chemical refrigerants and therefore plant construction and operating costs will be lower

Hydrocarbons (R290, R600)
- Provides high energy-efficiency, good volumetric capacity and large operating envelopes compared to HFCs
- The flammability limits the use to small **systems** and **chillers** (e.g. **chillers for food retail systems** or for **comfort air conditioning** installed outside the building)
- Allows for very low evaporating temperatures without overheating the compressor when used in **heat pumps** (with HFCs you need to supplement with an electrical heating element for the really cold days or more expensive vapor / liquid injection cycles) **Medium GWP HFC / HFO blends**
- A transitional solution that can be used in retrofitting high-GWP HFC systems. Medium GWP solutions, <1500, and non-flammable are particularly indicated where indoor system charge can be an issue and alternative system architecture too expensive

Mildly flammable HFC & HFO
- The low GWP and low flammability makes these refrigerants suitable for **relatively large systems**
- Especially interesting for **air conditioning** where there is a lack of non-flammable (A1) natural alternatives

Danfoss and low-GWP refrigerants

Sustainable solutions are in the best interests of all stakeholders in our industry. Sustainability safeguards long-term investments and ensures compliance with Corporate Social Responsibility. Today, when talking about refrigerants and long-term sustainability, Danfoss considers three main parameters that must be aligned to accomplish a real sustainable balance: **affordability, safety, and environment**. In order to enable the market to achieve these CO_2 eq reduction targets, Danfoss is actively working on **solutions for alternative refrigerants** with a pragmatic approach, keeping system efficiency, costs and safety in mind.
The company offers **a wide range of products and solutions for low-GWP** synthetic and natural refrigerants for both refrigeration and air-conditioning applications.

For more product information, coolselector.danfoss.com

Main applications and refrigerant types

GWP values are decreasing due to phase downs and energy efficiency demands (MEPS) are increasing. HVAC-R professionals will focus on using components that allow for the lowest possible charge and on technologies with the best cost/performance ratio for a given refrigerant type. Choosing a refrigerant is no simple task; it depends on the timing of regional regulations as well as applied standards and building codes. In the last year, the situation has been further complicated by massive price increases and the decreased availability of fluorinated refrigerants.

Chillers:

Depending on their size and the compressor technology they use, chillers operate with low to high pressure refrigerants and are divided into two categories: low/medium (L/M) and medium/high (M/H) pressure.
L/M chillers transitioning from R123 can stay non-flammable using HCFO solutions like R1233zd (fig.1). But this refrigerant is banned in some countries because, while its ODP is negligible, it's still above zero. R134a applications have non-flammable, A1 solutions with GWP less than 640, such as HFO blends R513A and R450A. A2L classified refrigerants need to be accepted according to applied safety standards and building codes. GWP level can come very close to zero using the pure HFO R1234ze (fig.1). We expect industry professionals will adopt this ultra-low GWP refrigerant as a long-term solution for these kinds of systems.
For M/H pressure chillers, there is no ideal non-flammable alternative for incumbent refrigerants such as R410A. Instead, industry professionals must accept A2L or even A3 solutions like R290. A2L alternatives are in the 500 – 700 GWP range like R32/R452B/R454B.
Their use should be acceptable for systems installed outdoors or in machine rooms, but their placement must always follow local safety standards and building codes.

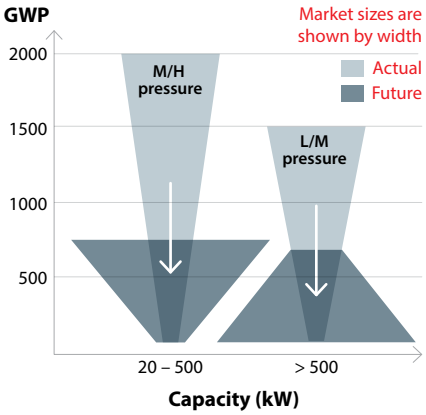


Figure 1: Market transition and GWP level per Chiller size. Most of the M/H Chillers will use refrigerants with a GWP around 750, and most L/M chillers will use ultra-low GWP refrigerants.

We foresee that the high density/pressure refrigerant choice will fall into two groups: the majority with a GWP around 500 – 750 and a smaller but still significant group applying A3 refrigerants like R290.
In the longer term, we may even experience lower GWP levels in the main market. It's dependent on refrigerant availability and cost. The F-gas phase-down has so far caused high GWP-related price increases.

VRF systems:

VRF systems use a relatively large amount of refrigerant per unit, compared to ducted systems, due to their decentralized evaporators and subsequent piping. Minimizing piping size requires medium to high density refrigerants where the only alternatives to R410A are A2L refrigerants such as R32 or R452B/R454B.
Innovative, alternative fluids are under constant development–water is an obvious choice and even CO_2 has been proposed.

Industrial Refrigeration:

From a glance, Industrial Refrigeration seems to be an easy sector regarding low GWP refrigerants, but we still see potential pitfalls as well as room for innovation. NH_3 (ammonia) has been the preferred refrigerant due to its excellent efficiency and it continues to be used as demands for sustainable refrigerants increase. However, safety concerns may potentially limit the success of NH_3 as it is toxic, necessitating comprehensive measures in order to be utilized safely. We have learned, as an industry, some important lessons such as avoiding large charges and careful planning the location of larger plants. This has led to find new, innovative ways to reduce charge sizes for example when combining NH_3 with CO_2: CO_2 takes on the role of thermal carrier and is circulated inside the larger storage facilities.

Commercial Refrigeration:

Commercial Refrigeration applications are very diverse regarding systems types and refrigerants used. It includes cold rooms, glass door merchandizers, and display and islands cabinets, either in centralized or plug-ins – hermetic or autonomous cooling circuits with condensing units. Commercial Refrigeration applications are grouped into three main categories.

1. Hermetically sealed applications today use various refrigerants with GWP up to 4000. They are suited for using low GWP refrigerants, which are safe due to their low charge amounts. Many of these systems already use hydrocarbons like R600a and R290 and the EU phasedown has required GWP values below 150 since 2016 (Fig. 2).

2. Condensing units have a refrigerant charge that is typically between 1 and 20 kg and safety on flammability is imperative as many of these systems can be accessed by the public. High GWP refrigerants like R404A have been used for many years, but new alternative A1- classified HFCs like R452A have a GWP of less than 60% of R404A . Nevertheless, the impact of higher compressor discharge temperatures on the operating envelope and the impact of refrigerant glide on cooling performance present new challenges. We believe that most of the market will quickly move to an average GWP level of around 1500, like R448A and R449A, before slowly seeking for more, lower -GWP solutions like CO_2, R290 (Hydrocarbons), or lower GWP HFO Blends (Fig. 2).

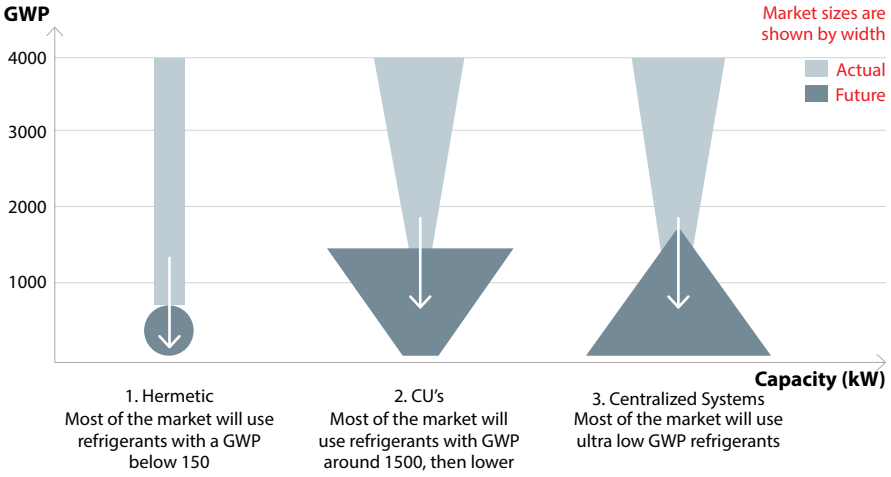


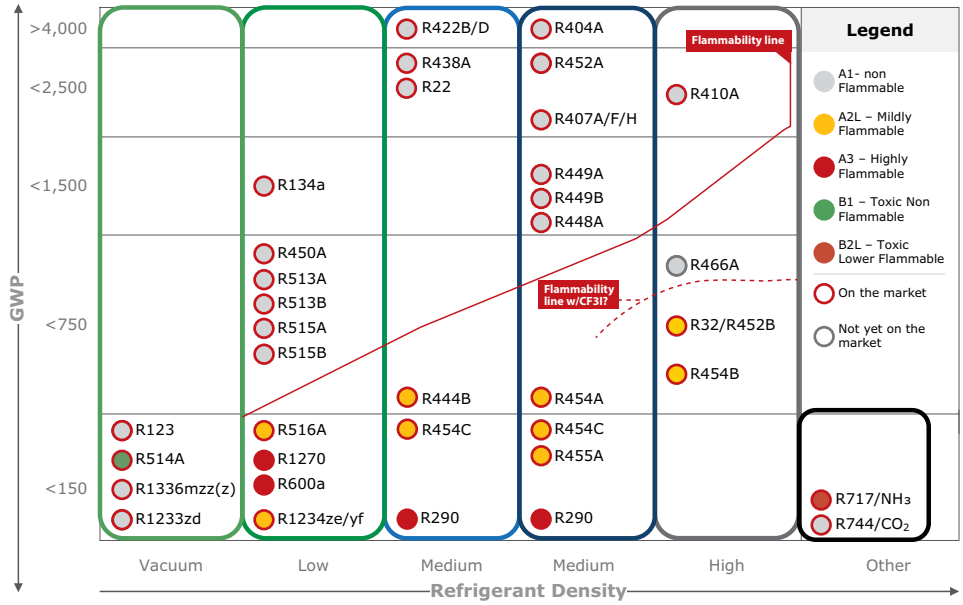
Figure 2: Market transition and GWP levels for Commercial Refrigeration applications

3. Centralized DX systems are by far the highest refrigerant-consuming application due to their large charge sizes and high leakage rates. In the EU phasedown, they are estimated to use more than 40% of the baseline amount of refrigerant recommended by the phasedown. During the last ten years, CO_2 has become a viable refrigerant and can be used in different system setups:

- Transcritical systems where CO_2 is used in all circuits (MT and LT). CO_2 transcritical systems have also been driving the development of integrated heating and cooling systems, linking the refrigerant choice to the type of system.
- Indirect systems where a chiller-like rack using HFCs, HCs, or NH_3 cools the CO_2 in a receiver, which is then circulated in the MT circuit, cooling the MT circuit. LT is also covered by CO_2 and condenses either directly to the chiller on top or the CO_2 MT circuit.
- Cascade systems where CO_2 is used only in the LT circuit and cascaded into the MT circuit which uses HFC. This type of system still uses around 80% of the HFC refrigerant used in a conventional system.

Geographical location affects the energy efficiency of any system due to outdoor ambient temperature. Transcritical CO_2 systems have been known to be extraordinary sensitive to outdoor temperatures. However, the latest developments with ejector technologies have seriously increased CO_2 system efficiency even in very warm climates, and we're now seeing a market breakthrough which will gain momentum in the coming years.

Main refrigerants at Play - A Complex Picture in Continuous Evolution



GWP versus Density (pressure) of the main refrigerant groups

Products for refrigerants with a GWP <2500

Refrigerants									
Product grouping	**Product**	**Product description**	**Pressure [bar]**	**R1233zd**	**R1234ze**	**R134a**	**R290, R600a**	**R32**	**R407A R407F**
Electronic controllers [1)]	AK-PC 7XX	Advanced pack controllers		●	●	●	●	●	●
	AK-PC 351/ 5XX	Standard pack controllers			●**)	●	●	●	●
	AK-CC 550/750	Case controller for electronic expansion valves			●**)	●	●	●	●
	AK-CC 250/350/450	Case controller for thermostatic expansion valves					●	●	●
	EKC 326a	CO_2 gas pressure controllers							
	MCX	Programmable controllers		●	●		●	●	●
	EIM 336	Electronic superheat controllers			●	●	●	●	●
	EKE 1A, EKE 1B, EKE 1C (1V)				●	●	●	●	●
	EKC 313	Cascade injection with CO_2		●	●		●	●	●
	EKC 315a	Superheat controllers		●	●		●	●	●
	EKC 361	Temperature controllers		●	●		●	●	●
	EKE 347	Liquid level controllers		●	●			●	●
	ERC IIx / ETC	For commercial refrigeration		●	●	●	●	●	●
Compressors for air conditioning	DSH / DCJ	Scrolls with IDVs for air conditioning						●*)	
	HLJ / HCJ+ / SH	Scrolls for air conditioning							
	PSH	Scrolls heating optimized							
	SZ	Scrolls for air conditioning							
	VZH	Inverter scrolls for air conditioning						●*)	
	TT, TG, VTT	Turbocor oil-free centrifugal compressors			●	●			
Compressors for refrigeration	MTZ	Maneurop reciprocating compressor for medium temp.				●			●
	NTZ	Maneurop reciprocating compressor for low temp.							
	MLZ	Scroll compressor for medium temperature				●			●
	LLZ	Scroll compressor for low temperature							
	PL/TL/DL/FR/NL/SC/GS/ B/U/L/P/X/S	Light Commercial AC Compressors for LBP/MBP				●	●		
	SLV, NLV, DLV, XV	Variable speed reciprocating compressor for LBP/MBP					●		
	BD	Light Commercial AC/DC compressors for mobile cooling				●	●		
Condensing units	Optyma™	Condensing Units for medium temperature refrigeration				●	●		●
	Optyma™	Condensing Units for low temperature refrigeration					●		
	Optyma™ **Slim Pack**, Optyma™ **Plus**	Condensing Units for medium temperature refrigeration				●			●
	Optyma™ **Slim Pack**, Optyma™ **Plus**	Condensing Units for low temperature refrigeration							
	Optyma™ **Plus INVERTER**	Condensing Units for medium temperature refrigeration							●
Electronic expansion valves	AKV	Electronic expansion valves	28 – 52			●			●[5)]
	AKVA	Electronic expansion valves	42						●
	AKVH	Electronic expansion valves	90			●			●
	ETS Colibri®	Electronic expansion valves	50		●	●	●	●	●
	ETS 12.5 - 400	Electronic expansion valves	45.5/34		●	●			●
Electronic Pressure & Temperature regulating Valves	CCM	Standstill capable electronic backpressure regulators	90			●			
	CCMT		140			●			
	CTM	Multi Ejector	140						
	CTR	3-Way Heat Reclaim Valve	140						
	KVS	Electronic suction modulating valves	45.5/34		●	●			●
	ICM	Industrial motorized regulating valves	52/65		●	●			●
	ICMTS	High pressure industrial motorized regulating valves	140					●	
Sensors & transmitters	AKS	Pressure sensors with 4 – 20 mA, volt., and ratiometric outputs	100	●	●	●	●	●	●
	AKS 4100	Liquid level sensors	100						●
	MBS 8200	Pressure sensors with 4 – 20 mA, and ratiometric outputs	160	●	●	●	●	●	●
	AKS Temperature	Sensors with Pt1000, Pt 1000 and thermistor elements		●	●	●	●	●	●
	GD	Gas detecting sensors			●		●		
	DST P100	Pressure Sensor with Ratiometric output and diagnostic capabilities	50	●	●	●	●	●	●
Heat exchangers	BPHE	Brazed Plate heat exchangers			●	●	●	●	●
	MPHE	Micro Plate heat exchangers			●	●	●	●	●
	MCHE	Micro Channel heat exchangers			●	●	●	●	●

[1)] Parameters for other refrigerants can be entered manually. please refer to refrigerant constants for ADAP-KOOL
●) Qualification in progress*
*●**) Only in the latest versions of the controller software*
*●***) except AKV20 with media temperature constantly below 0 °C*
[5)] only for solder version
[7)] Models and map restrictions might apply - Contact Danfoss
[8)] Can be defined by the user

Refrigerants																		
R407C	R410A	R422B	R422D	R444B	R448A	R449A	R449B	R450A	R452A	R452B	R454A	R454B	R454C	R455A	R513A	R744 (CO_2)	R717 (NH_3)	R1234YI
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For any refrigerants not listed and for the detailed information per product, please contact Danfoss or check in Coolselector: ***coolselector.danfoss.com***

Products for refrigerants with a GWP <2500

			Refrigerants						
Product grouping	**Product**	**Product description**	**Pressure [bar]**	**R1233zd**	**R1234ze**	**R134a**	**R290, R600a**	**R32**	**R407A R407F**
Thermostatic expansion valves	TU		45.5					●	
	TU	Stainless steel thermostatic expansion valves	34		●	●	●		●
	TC		45.5		●	●	●	●	●
	T2	Thermostatic expansion valves	34			●			●
	TD1		34			●	●		
	TG		46		●	●	●	●	●
	TE5-TE55		28			●			●
	TEA	Industrial thermostatic exp. valves							
Solenoid valves	EVR v2 [2]	Allround solenoid valves	32 – 45.2		●[6]	●	●[6]	●[6]	●
	EVRA/T	Solenoid valves	42			●			●
	EVRH	High pressure solenoid valves	45.2		●	●		●	●
	EVU	Semi-hermetic solenoid valves	70						●
	EVUL	Fully-hermetic solenoid valves	90				●	●	●
	ICLX	Flexline™ solenoid valves	52			●		●	●
Valve stations	ICF	Flexline™ valve stations	52/65			●			●
Mechanical pressure & temperature regulating valves	KVD	Receiver pressure regulators				●	●		●
	KVC	Capacity regulators				●	●		●
	KVL	Crankcase pressure regulators				●	●		●
	KVP	Evaporating pressure regulators				●	●		●
	KVR	Condensing pressure regulators				●	●		●
	CPCE	Hot gas bypass regulating valves				●	●		●
	CVC / CVP	Pilot valve for ICS	65			●			●
	ICS	Mechanical backpressure regulators	52/65		●	●	●	●	●
	REG-S	Flexline™ regulating valves	52			●	●	●	●
Switches	AKS 38	Electro-mechanical float switches	28		●			●	●
	KP	Pressure switches	46		●	●	●		●
	RT					●			●
	MP	Differential pressure switches				●	●	●	●
	RT					●			●
	ACB	Cartridge pressure controls	45		●	●	●	●	●
	CCB		165						
Water regulating valves	WVFX	Pressure operated water valves				●	●		●
	WVO					●	●		●
	WVS					●	●		●
Filters & driers	DCR	Receiver filter driers with replaceable solid cover	28/46	●	●	●			●
	DMC / DCC	Receiver filter driers	42	●	●	●	●	●	●
	DML / DCL	Liquid line filter driers	46	●	●	●	●	●	●
	DMB / DCB	Bi-flow filter driers	46	●	●	●	●[3]	●[3]	●
	DAS	Burn-out filter driers	35	●	●	●	●[3]	●[3]	●
	DMT	Filter driers for transcritical applications	140						
	DMSC	Filter drier for subcritical applications	52						
Check valves	NRV	Piston check valves	46		●	●	●[4]	●[4]	●
	NRVA		40			●	●	●	●
	CHV-X	Flexline™ check valves	52/65			●			●
	SCA-X	Flexline™ check & stop valves	52/65			●			●
Shut-off valves	GBC	Shut-off ball valves	45		●	●	●[4]	●[4]	●
	BML	Shut-off diaphragm valves	28		●	●	●[5]		
	SNV / SVA	Gauge valves / Flexline™ stop valves	52/65		●	●	●	●	●
Sight glasses	SG	Sight glasses for low pressures	35			●			●
	SGP	Sight glasses for high pressures	52		●	●	●[5]	●[5]	●

**) Qualification in progress*
[2]) New EVR: 45.2 bar
[3]) Filter Dryers with connection sizes below 25 mm - Qualification of the filter driers mentionned for R452B and R454B in progress - Qualification of DMSC/52 bar for CO_2 in progress
[4]) NRV with connection sizes below 22 mm / GBC with connection sizes below 25 mm
[5]) Only for solder version
[6]) EVR v2 2 to 22 with solder connection and without manual stem

Refrigerants																		
R407C	R410A	R422B	R422D	R444B	R448A	R449A	R449B	R450A	R452A	R452B	R454A	R454B	R454C	R455A	R513A	R744 (CO_2)	R717 (NH_3)	R1234YI
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For any refrigerants not listed and for the detailed information per product, please contact Danfoss or check in Coolselector: ***coolselector.danfoss.com***

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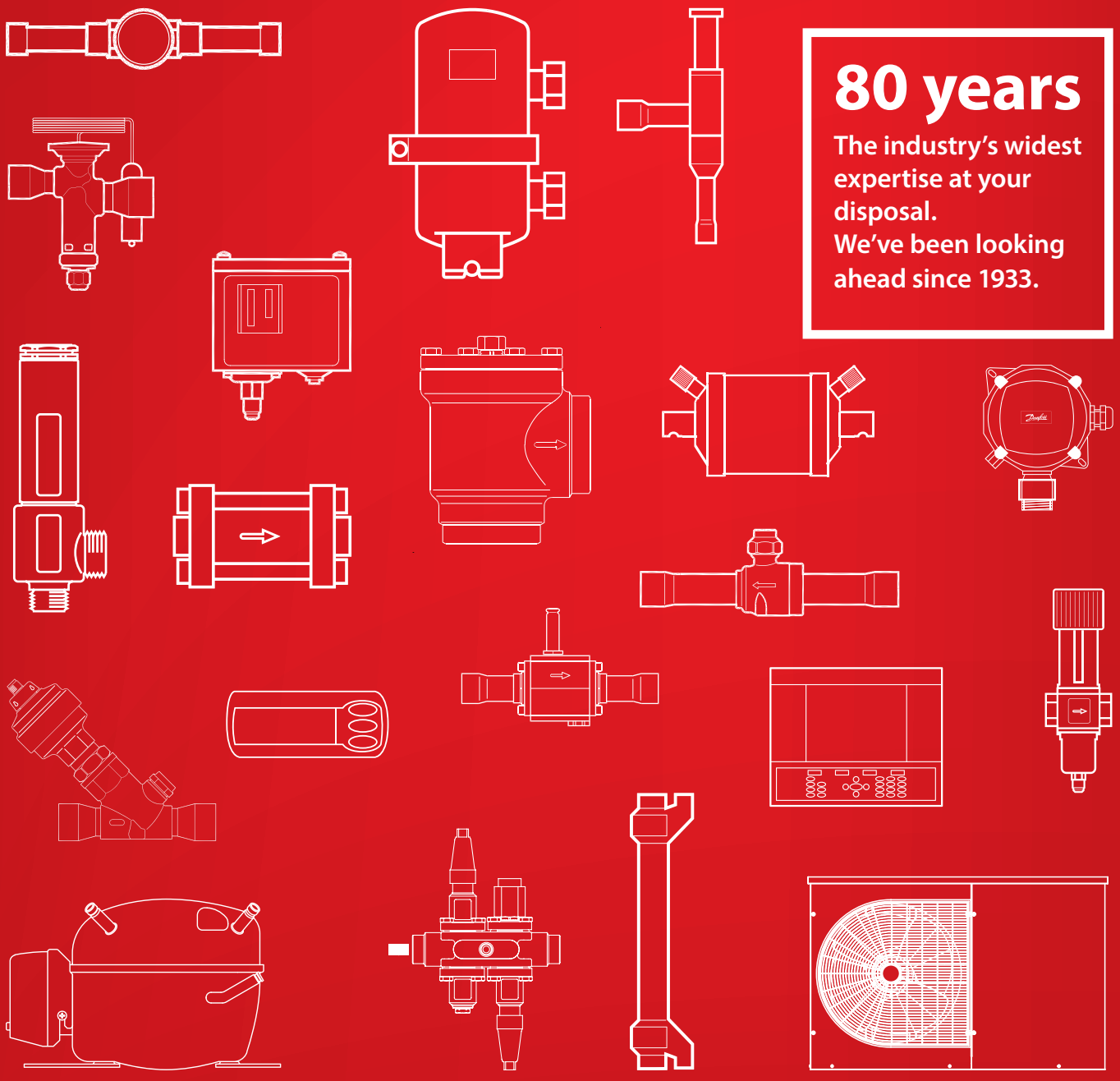
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