



Selection: Open-Type Reciprocating Compressors

Input Values

Compressor model	2T.2Y-K	Useful superheat	100%
Refrigerant	R404A	Motor speed	1450 /min
Reference temperature	Dew point temp.	Drive	Coupling (1:1)
Liq. subc. (in condenser)	0 K	Capacity control	100%
Suction gas temperature	20,00 °C		

Result

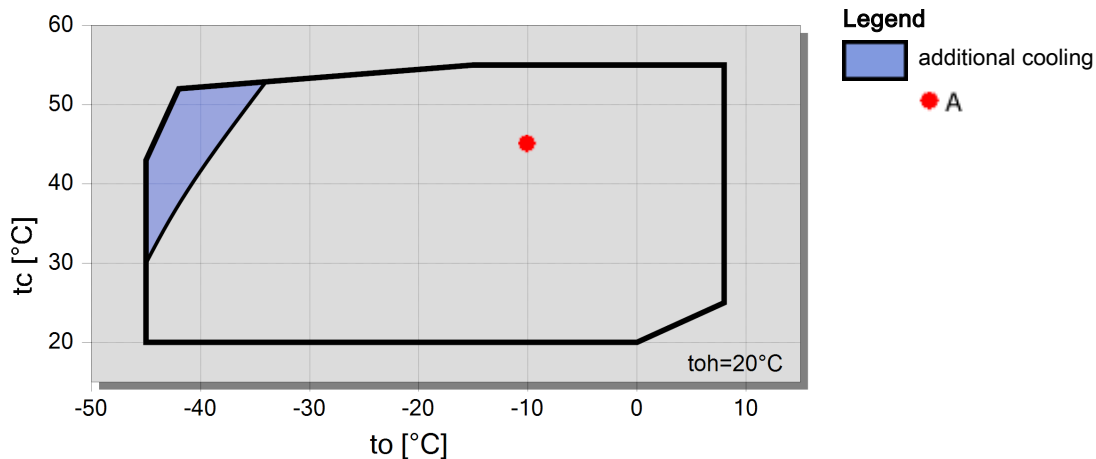
Q [W]	Cooling capacity	COP [-]	COP/EER
Q* [W]	Cooling capacity *	COP* [-]	COP/EER *
P [kW]	Power input	m [kg/h]	Mass flow
Qc [W]	Condenser capacity	n [/min]	Compr. speed

tc	to	0°C	-5°C	-10°C	-15°C	-20°C	-25°C	-30°C	-35°C
30°C	Q [W]	19061	15909	13177	10817	8786	7047	5567	4317
	Q* [W]	19061	15909	13177	10817	8786	7047	5567	4317
	P [kW]	4,11	3,99	3,80	3,55	3,27	2,97	2,67	2,39
	Qc [W]	23170	19897	16974	14368	12055	10017	8237	6704
	COP [-]	4,64	3,99	3,47	3,05	2,69	2,37	2,08	1,81
	COP* [-]	4,64	3,99	3,47	3,05	2,69	2,37	2,08	1,81
	m [kg/h]	485	400	328	267	215	171,6	134,9	104,1
	n [/min]	1450	1450	1450	1450	1450	1450	1450	1450
40°C	Q [W]	16528	13784	11395	9323	7532	5992	4676	3559
	Q* [W]	16528	13784	11395	9323	7532	5992	4676	3559
	P [kW]	4,66	4,42	4,13	3,80	3,47	3,14	2,83	2,55
	Qc [W]	21186	18200	15521	13127	11000	9128	7501	6113
	COP [-]	3,55	3,12	2,76	2,45	2,17	1,91	1,66	1,39
	COP* [-]	3,55	3,12	2,76	2,45	2,17	1,91	1,66	1,39
	m [kg/h]	474	390	319	259	207	163,8	127,1	96,3
	n [/min]	1450	1450	1450	1450	1450	1450	1450	1450
50°C	Q [W]	13884	11568	9541	7772	6235	4907	3765	2788
	Q* [W]	13884	11568	9541	7772	6235	4907	3765	2788
	P [kW]	5,19	4,86	4,50	4,12	3,76	3,42	3,13	2,90
	Qc [W]	19076	16425	14036	11897	9997	8332	6895	5685
	COP [-]	2,67	2,38	2,12	1,88	1,66	1,43	1,20	0,96
	COP* [-]	2,67	2,38	2,12	1,88	1,66	1,43	1,20	0,96
	m [kg/h]	462	379	309	249	197,9	154,5	117,8	86,8
	n [/min]	1450	1450	1450	1450	1450	1450	1450	1450

-- No calculation possible (see message in single point selection)

*According to EN12900 (20°C suction gas temp., 0K liquid subcooling)

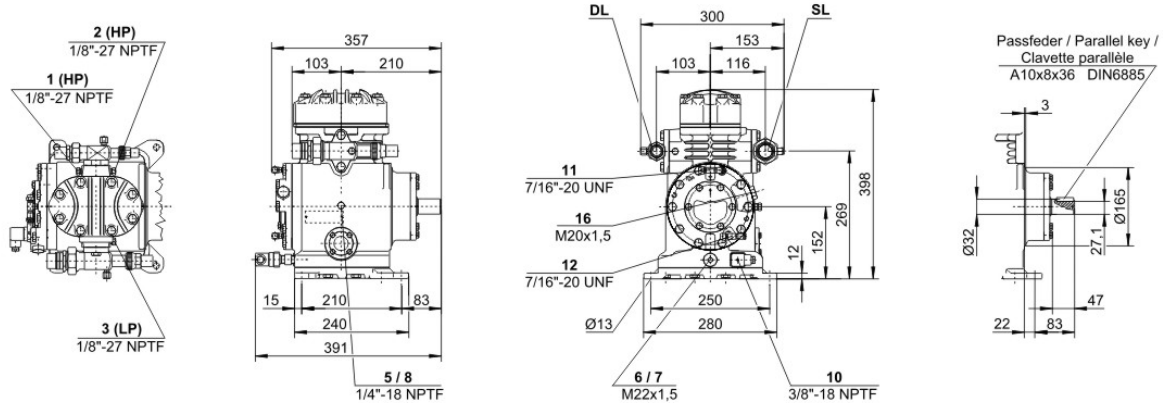
Application Limits Standard





Technical Data: 2T.2Y-K

Dimensions and Connections



Technical Data

Technical Data

Displacement (1450 RPM 50Hz)	19,68 m3/h
Displacement (1750 RPM 60Hz)	23,75 m3/h
No. of cylinder x bore x stroke	2 x 60 mm x 40 mm
Allowed speed range	750 .. 1750 1/min
Weight	52 kg
Max. pressure (LP/HP)	19 / 25 bar
Connection suction line	28 mm - 1 1/8"
Connection discharge line	22 mm - 7/8"
Oil type R134a/R407C/R404A/R507A/R407A/R407F	tc<55°C: BSE32 / tc>55°C: BSE55 (Option)
Oil type R22 (R12/R502)	B5.2 (Standard)

Extent of delivery (Standard)

Oil charge	1,75 dm3
Protective charge	Standard
Suction shut-off valve	Standard
Discharge shut-off valve	Standard

Available Options

Coupling (...K) w. A/C + medium	KK211 [<11kW] (Option)
Coupling (...K) w. low temp.	KK215 [<7.5kW] (Option)
Coupling housing	Option
Motor pulley (...S)	190, 210, 230, 250 mm (Option)
V-belts	2 x SPA (Option)
Discharge gas temperature sensor	Option (incl. INT69VS)
Start unloading	Option
Connection cooling water	R 1/2" (Option)
Additional fan	Option
Water-cooled cylinder heads	Option
Crankcase heater	70 W (Option)
Oil pressure monitoring	MP54 (Option)
Kit for marine application	Option



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Motor Selection

The required driving motor is selected for starting conditions at direct start as well as at star-delta- or PW-start with start unloading (bypass + check valve). The starting conditions refer to the following defined operation points resp. to the maximum application limit of the compressor. Should the evaporation- or the condensing temperature of the plant be higher at the start, an individual motor selection is necessary.

Evaporation temperature for motor selection				
	HH	H	M	L
R134a	+20 °C	+12,5 °C	-5 °C	-20 °C
R404A / R507A		+7,5 °C	-5 °C	-20 °C
R407F / R407A				
R22		+12,5 °C	-5 °C	-20 °C
NH ₃	+15 °C	+10 °C	-5 °C	

The stated motor data refer to IEC motors at which the pull-up torque does not fall below 90% of the max. torque. In addition the following starting torques (referring to direct starting torque) must be reached:

- * 2-cylinder compressors 220 %
- * 4-cylinder compressors 180 %
- * 6-cylinder compressors 160 %

Should the motor not fulfil these criteria, an individual selection is also necessary.

Condenser capacity

The condenser capacity can be calculated with or without heat rejection. This option can be set in the menu Program Options. The heat rejection is constantly 5% of the power consumption. The condensing capacity is to be found in the line cond.cap. (with HR) resp. cond.cap.

Legend of connection positions according to "Dimensions":

- 1 High pressure connection (HP)
- 2 Connection for discharge gas temperature sensor (HP) (for 4VE(S)-6Y .. 4NE(S)-20(Y) connection for CIC sensor as alternative)
- 3 Low pressure connection (LP)
- 4 CIC system: injection nozzle (LP)
- 4b Connection for CIC sensor
- 4c Connection for CIC sensor (MP / operation with liquid subcooler)
- 5 Oil fill plug
- 6 Oil drain
- 7 Oil filter (magnetic screw)
- 8 Oil return (oil separator)
- 8* Oil return with NH₃ and insoluble oil
- 9 Connection for oil and gas equalization (parallel operation)
- 9a Connection for gas equalization (parallel operation)
- 9b Connection for oil equalization (parallel operation)
- 10 Oil heater connection
- 11 Oil pressure connection +
- 12 Oil pressure connection -
- 13 Cooling water connection
- 14 Intermediate pressure connection (MP)
- 15 Liquid injection (operation without liquid subcooler and with thermostatic expansion valve)
- 16 Connection for oil monitoring (opto-electrical oil monitoring "OLC-K1" or differential oil pressure switch "Delta-PII")
- 17 Refrigerant inlet at liquid subcooler
- 18 Refrigerant outlet at liquid subcooler
- 19 Clamp space
- 20 Terminal plate
- 21 Maintenance connection for oil valve
- 22 Pressure relief valve to the atmosphere (discharge side)
- 23 Pressure relief valve to the atmosphere (suction side)
- SL Suction gas line



DL Discharge gas line

Dimensions can show tolerances according to EN ISO 13920-B.