



Selection: Open-Type Reciprocating Compressors

Input Values

Compressor model	6G.2Y-K	Useful superheat	7,00 K
Refrigerant	R404A	Motor speed	1450 /min
Reference temperature	Dew point temp.	Drive	Coupling (1:1)
Liq. subc. (in condenser)	0 K	Capacity control	100%
Suct. gas superheat	10,00 K		

Result

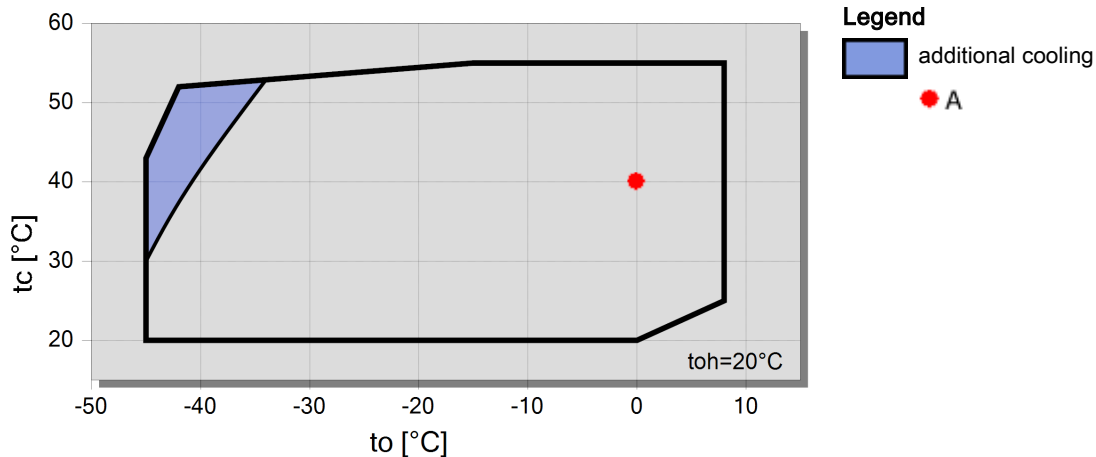
Q [W]	Cooling capacity	COP [-]	COP/EER
Q* [W]	Cooling capacity *	COP* [-]	COP/EER *
P [kW]	Power input	m [kg/h]	Mass flow
Qc [W]	Condenser capacity	n [/min]	Compr. speed

tc	to	5°C	0°C	-5°C	-10°C	-15°C	-20°C	-25°C	-30°C
30°C	Q [W]	145499	119819	97804	79044	63156	49795	38646	29425
	Q* [W]	147381	123227	102309	84219	68625	55243	43825	34150
	P [kW]	27,0	26,4	25,4	24,0	22,4	20,5	18,46	16,30
	Qc [W]	172547	146243	123204	103078	85540	70301	57105	45724
	COP [-]	5,26	4,43	3,77	3,22	2,76	2,37	2,05	1,77
	COP* [-]	5,45	4,66	4,03	3,50	3,07	2,69	2,37	2,10
	m [kg/h]	3891	3271	2728	2255	1845	1491	1187	929
	n [/min]	1450	1450	1450	1450	1450	1450	1450	1450
40°C	Q [W]	124981	102291	82903	66441	52556	40933	31287	23359
	Q* [W]	127247	106260	88018	72199	58534	46787	36754	28247
	P [kW]	31,3	29,9	28,2	26,3	24,2	21,9	19,57	17,12
	Qc [W]	156249	132189	111140	92769	76773	62883	50855	40478
	COP [-]	3,89	3,33	2,86	2,46	2,12	1,82	1,56	1,33
	COP* [-]	4,07	3,55	3,12	2,74	2,42	2,13	1,88	1,65
	m [kg/h]	3797	3182	2643	2174	1767	1416	1115	859
	n [/min]	1450	1450	1450	1450	1450	1450	1450	1450
50°C	Q [W]	103610	84094	67500	53493	41757	32006	23980	17444
	Q* [W]	106246	88606	73199	59788	48171	38167	29612	22356
	P [kW]	35,5	33,5	31,3	28,9	26,3	23,7	21,0	18,15
	Qc [W]	139113	117573	98760	82364	68096	55697	44931	35592
	COP [-]	2,83	2,44	2,09	1,80	1,54	1,31	1,11	0,93
	COP* [-]	2,99	2,65	2,34	2,07	1,83	1,61	1,41	1,23
	m [kg/h]	3690	3078	2544	2079	1676	1329	1032	780
	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 6G.2





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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.