



BITZER Output data

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### Selection: Open-Type Reciprocating Compressors

#### Input Values

Compressor model	6G.2Y-K	Useful superheat	100%
Refrigerant	R134a	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		

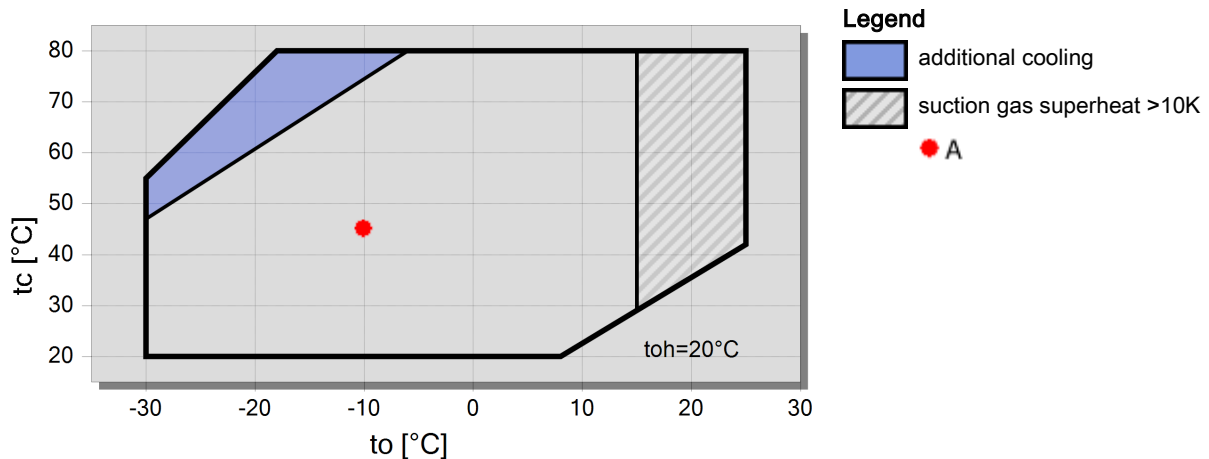
#### Result

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	10°C	5°C	0°C	-5°C	-10°C	-15°C	-20°C	-25°C
30°C	Q [W]	108402	89605	73431	59546	47664	37539	28953	21711
	Q* [W]	108402	89605	73431	59546	47664	37539	28953	21711
	P [kW]	16,35	15,61	14,78	13,88	12,91	11,88	10,78	9,62
	Qc [W]	124755	105211	88212	73427	60577	49416	39729	31327
	COP [ - ]	6,63	5,74	4,97	4,29	3,69	3,16	2,69	2,26
	COP* [ - ]	6,63	5,74	4,97	4,29	3,69	3,16	2,69	2,26
	m [kg/h]	2275	1864	1517	1223	974	764	587	439
	n [/min]	1450	1450	1450	1450	1450	1450	1450	1450
40°C	Q [W]	96900	79810	65095	52463	41662	32472	24698	18164
	Q* [W]	96900	79810	65095	52463	41662	32472	24698	18164
	P [kW]	18,69	17,69	16,59	15,41	14,13	12,78	11,36	9,86
	Qc [W]	115592	97499	81688	67869	55797	45255	36055	28026
	COP [ - ]	5,18	4,51	3,92	3,41	2,95	2,54	2,17	1,84
	COP* [ - ]	5,18	4,51	3,92	3,41	2,95	2,54	2,17	1,84
	m [kg/h]	2226	1816	1470	1177	929	721	546	400
	n [/min]	1450	1450	1450	1450	1450	1450	1450	1450
50°C	Q [W]	85372	70114	56967	45680	36036	27842	20928	15139
	Q* [W]	85372	70114	56967	45680	36036	27842	20928	15139
	P [kW]	21,1	19,83	18,44	16,93	15,32	13,61	11,80	9,91
	Qc [W]	106485	89946	75403	62610	51355	41450	32731	25047
	COP [ - ]	4,04	3,54	3,09	2,70	2,35	2,05	1,77	1,53
	COP* [ - ]	4,04	3,54	3,09	2,70	2,35	2,05	1,77	1,53
	m [kg/h]	2174	1767	1423	1133	888	683	511	368
	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







## Open-Type Reciprocating Compressors

### 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 <sub>3</sub>	+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 NH<sub>3</sub> 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.