



Selection: 2-stage Semi-hermetic Reciprocating Compressors

Input Values

Compressor model	S4N-8.2Y	Suction gas temperature	20,00 °C
Refrigerant	R404A	Useful superheat	100%
Reference temperature	Dew point temp.	Power supply	400V-3-50Hz
Operating mode	with sub cooler		

Result

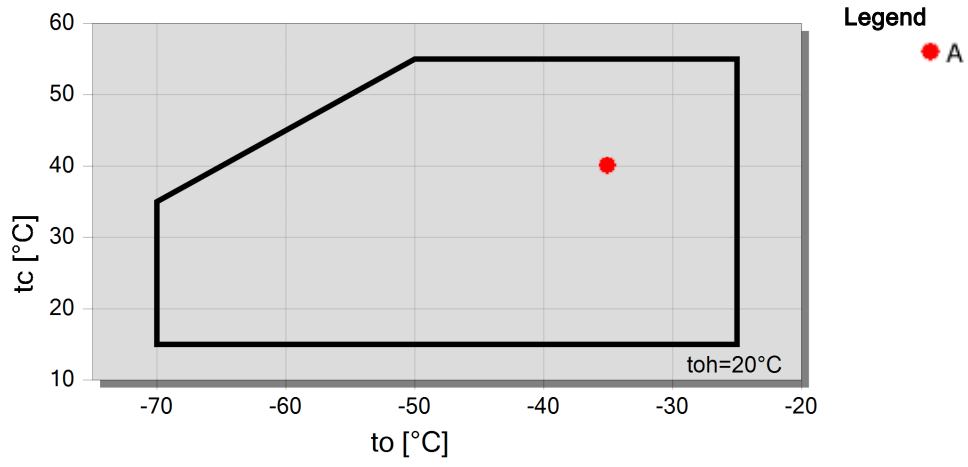
Q [W]	Cooling capacity	COP [-]	COP/EER
Q* [W]	Cooling capacity *	COP* [-]	COP/EER *
P [kW]	Power input	mLP [kg/h]	Mass flow LP
I [A]	Current	pm [bar(a)]	Intermed. pressure
Qc [W]	Condenser capacity		

tc	to	-25°C	-30°C	-35°C	-40°C	-45°C	-50°C	-55°C	-60°C
30°C	Q [W]	12983	10856	8978	7334	5906	4679	3633	2750
	Q* [W]	10293	8351	6710	5332	4182	3229	2447	1809
	P [kW]	6,42	6,00	5,55	5,07	4,56	4,06	3,55	3,06
	I [A]	10,88	10,28	9,64	8,98	8,31	7,65	7,04	6,48
	Qc [W]	19404	16860	14527	12400	10471	8735	7183	5807
	COP [-]	2,02	1,81	1,62	1,45	1,29	1,15	1,02	0,90
	COP* [-]	1,60	1,39	1,21	1,05	0,92	0,80	0,69	0,59
	mLP [kg/h]	251	202	161,9	128,2	100,3	77,2	58,4	43,1
	pm [bar(a)]	5,49	4,81	4,20	3,65	3,15	2,70	2,31	1,96
40°C	Q [W]	12496	10453	8647	7062	5683	4493	3475	2612
	Q* [W]	9087	7367	5914	4693	3674	2829	2133	1565
	P [kW]	7,31	6,78	6,22	5,65	5,07	4,48	3,89	3,31
	I [A]	12,16	11,39	10,60	9,79	8,98	8,19	7,44	6,76
	Qc [W]	19805	17232	14871	12713	10748	8968	7362	5921
	COP [-]	1,71	1,54	1,39	1,25	1,12	1,00	0,89	0,79
	COP* [-]	1,24	1,09	0,95	0,83	0,73	0,63	0,55	0,47
	mLP [kg/h]	248	200	160,0	126,5	98,7	75,8	57,0	41,8
	pm [bar(a)]	6,08	5,36	4,69	4,09	3,54	3,05	2,62	2,23
50°C	Q [W]	11983	10037	8308	6786	5456	4304	3315	--
	Q* [W]	7818	6338	5085	4031	3148	2416	1811	
	P [kW]	8,17	7,54	6,90	6,26	5,60	4,93	4,26	
	I [A]	13,42	12,50	11,57	10,64	9,72	8,80	7,91	
	Qc [W]	20154	17577	15211	13042	11056	9238	7571	
	COP [-]	1,47	1,33	1,20	1,08	0,97	0,87	0,78	
	COP* [-]	0,96	0,84	0,74	0,64	0,56	0,49	0,43	
	mLP [kg/h]	246	198,3	158,3	124,9	97,2	74,3	55,6	
	pm [bar(a)]	6,78	5,99	5,27	4,61	4,01	3,47	3,00	

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

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

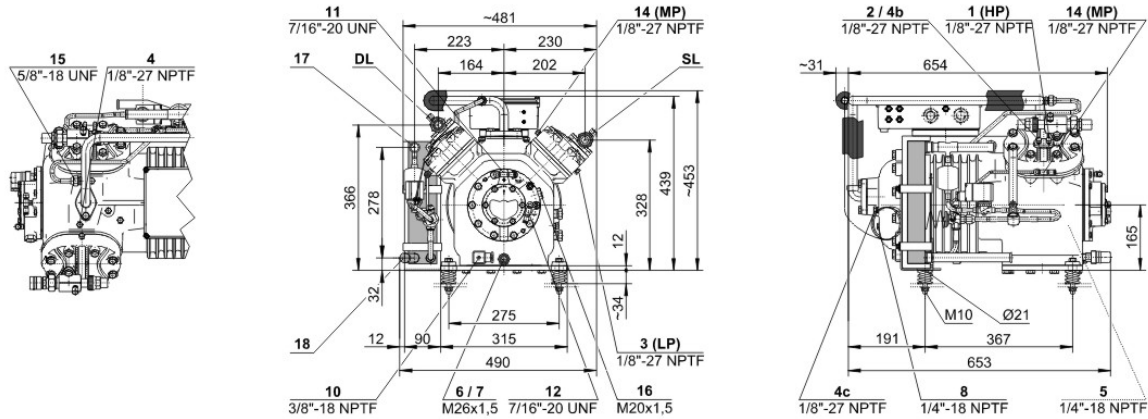
Application Limits





Technical Data: S4N-8.2Y

Dimensions and Connections



Technical Data

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Displacement (1450 RPM 50Hz)	28.00 / 17.90 m ³ /h
Displacement (1750 RPM 60Hz)	33.79 / 21.60 m ³ /h
No. of cylinder x bore LP/HP x stroke	4 x 60/ 48 mm x 57 mm
Weight	141 kg
Max. pressure (LP/MP/HP)	19 / 19 / 28 bar
Connection suction line	28 mm - 1 1/8"
Connection discharge line	22 mm - 7/8"
Oil type R404A/R507A	BSE32 (Standard)
Oil type R448A/R449A/R454C	BSE32 (Standard)
Oil type R22	B5.2 (Option)

Motor data

Motor voltage (more on request)	380-420V PW-3-50Hz
Max operating current	17.0 A
Winding ratio	50/50
Starting current (Rotor locked)	49.0 A Y / 81.0 A YY
Max. Power input	9,7 kW

Extent of delivery (Standard)

Motor protection	SE-B2 (Standard)
Enclosure class	IP54 (Standard), IP66 (Option)
Vibration dampers	Standard
TX valve for liquid injection	Standard
Sight glass	Standard
Filter Drier	Standard
Solenoid valve	Standard
Oil charge	3.00 dm ³

Available Options

Crankcase heater	100 W (Option)
Oil pressure monitoring	MP54 (Option), Delta P II (Option)
Oil service valve	Option
Discharge gas temperature sensor	Option
CIC (only for R22, instead of TX valve for LI)	Option
Liquid sub cooler (also mounted)	Option



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Note

For R22 / R407F / R448A / R449A applications the CIC-system can be used instead of a thermostatic post-injection valve.
For R404A / R507A applications the use of the CIC-system is not recommended.

Condensing capacity

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

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.