

SHGX56e/995-4 L

Engine: 380-420V Y/YY -3- 50Hz PW

Refrigerant: R404A, R507

Subject:

Performance data

Application: Refrigeration & AC

Refrigerant	R404A, R507	Compressor refrigeration capacity	19.50 kW
Reference temperature	Dew point	Evaporator refrigeration capacity	19.50 kW
Power supply	50 Hz, 400 V	Power consumption	15.30 kW ¹⁾
Supply frequency	50 Hz	Current draw (400 V)	24.80 A
Evaporating temperature	-25.0 °C	Coefficient of performance (COP/EER)	1.28
<i>Evaporating pressure (abs.)</i>	2.50 bar	Condensing capacity	32.70 kW
Condensing temperature	44.4 °C	Mass flow	0.208 kg/s
<i>Condensing pressure (abs.)</i>	20.16 bar	Discharge end temperature	77.1 °C ²⁾
Air inlet temperature	38.0 °C		
Suction gas superheat	10 K		
Subcooling (outside cond.)	0 K		
Usable superheat	100%		

Preliminary capacity data.

Certifications



Directive (EU) 2015/1095 (EcoDesign)

Condensing unit (with design key as of 076) complies with directive (EU) 2015/1095 for stated refrigerant.

- 1) Power consumption of condenser fans included.
- 2) The stated value of the discharge end temperature is a mere calculated value. Additional cooling and heat dissipation are not considered. Deviations (particularly in deep freezing applications) from the real measured discharge temperature during operation are possible.

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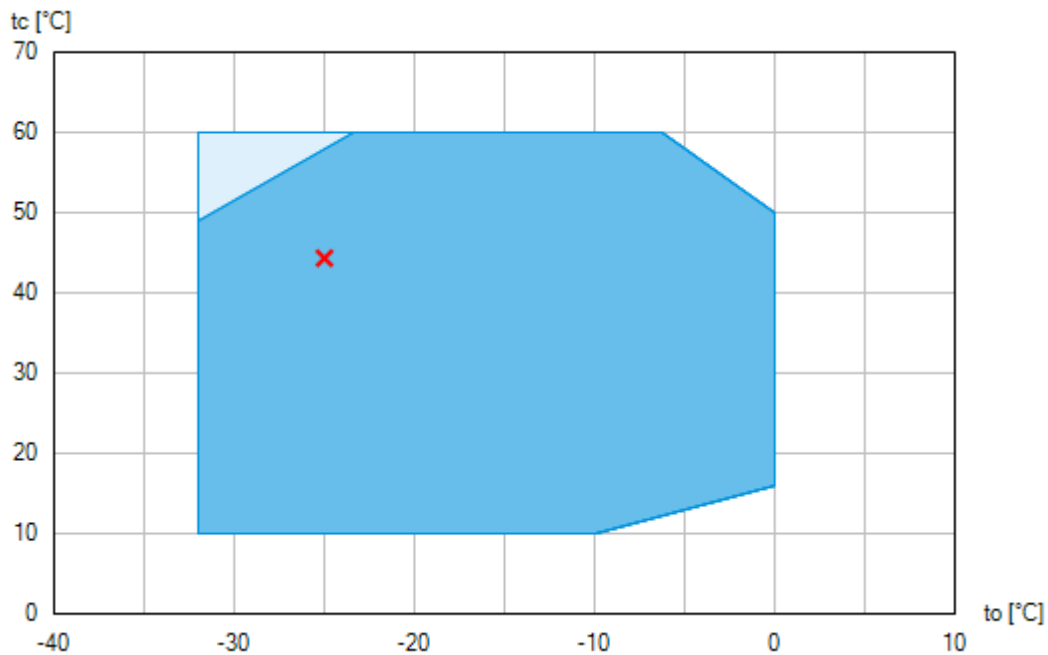
SHGX56e/995-4 L



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Subject:

Operating limits



-  Unlimited application range
-  Supplementary cooling or reduced suction gas temperature ($\Delta t_{oh} < 20K$)

Compressor operation is possible within the limits shown on the diagrams of application. Please note the coloured areas. Compressor application limits should not be chosen for design purposes or continuous operation. Axis values refer to dew point (saturated vapour line).

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Subject:

Technical data

Number of cylinders / Bore / Stroke	6 / 60 mm / 50 mm
Displacement 50/60 Hz (1450/1740 ¹ /min)	86,60 / 103,90 m ³ /h
Voltage ¹⁾	380-420V Y/YY -3- 50Hz PW
	440-480V Y/YY -3- 60Hz PW
Winding divided into	50% / 50%
Max. working current ²⁾	38.9 A
Max. power consumption ²⁾	23.2 kW
Starting current (rotor blocked) ²⁾	125.0 / 209.0 A
Motor protection	INT69 G
Protection terminal box	IP 66
Weight	341 kg
Frequency range ³⁾	25 - 70 Hz
Max. permissible overpressure (g) (LP/HP) ⁴⁾	19 / 28 bar
Connection suction line SV	54 mm - 2 1/8 "
Connection discharge line DV	28 mm - 1 1/8 "
Connection liquid outlet line FLA	22 mm - 7/8 "
Connection liquid outlet line FLE	28 mm - 1 1/8 "
Lubrication	Oil pump
Oil type R134a, R404A, R407A/C/F, R448A, R449A, R450A, R513A	BOCKlub E55
Oil type R22	BOCKlub A46
Oil charge	3,2 Ltr.
Oil sump heater	230 V - 1 - 50/60 Hz, 160 W
Dimensions of unit Length / Width / Height	1250 / 890 / 1606 mm
Number fan motors	4
Voltage	230 V - 1 - 50/60 Hz
Max. working current 50/60 Hz	4 x 2,60 / 3,50 A
Max. power consumption 50/60 Hz	4 x 550 / 800 W
Air flow 50/60 Hz	21200 / 25600 m ³ /h
Receiver content	23.00 Ltr.
Max. refrigerant charge R134a ⁵⁾	25,4 kg
R404A / R507 ⁵⁾	22,1 kg
R407C / R407F ⁵⁾	24,0 / 23,7 kg

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R22 ⁵⁾	15,3 kg
Volume condenser	19,3 Ltr.
Sound power level L_{WA} ⁶⁾	86 dB(A)
Sound pressure level L_{pA} ⁶⁾	69 dB(A) @ 1 m
	54 dB(A) @ 10 m

- 1) Tolerance ($\pm 10\%$) relates to the mean value of the voltage range. Other voltages and current types on request

All data are based on voltage rms values

PW = part winding, motors for part winding starting
(no start unloaders required)
Designs for Y/D on request
- 2) - The stated value for the max. power consumption is valid for the adjusted power supply.

- Starting current (rotor blocked):
 - Part winding (PW) motors: Winding 1 / Winding 1+2
 - Delta/Star (Δ/Y) motors: Δ / Y- Take account of the max. operating current / max. power consumption for designing motor contractors, feed lines, fuses and motor protection switches. Motor contractors: Consumption category AC3.
- 3) The maximum permissible working current of the compressor (I_{max}) must not be exceeded. Take account of the guidelines for use of frequency inverter (see compressor assembly instruction or selection software).
- 4) LP = Low pressure
HP = High pressure
- 5) With lique temperature at 20°C and 90 % capacity
- 6) Declared dual-number noise emission values are in accordance with ISO 4871. The corresponding uncertainty to the sound power level is $K_{WA} = 2,5$ dB and to the sound pressure level is $K_{pA} = 2,5$ dB. The values are valid for 50 Hz.
 - A-weighted sound power level L_{WA} (re 1 pW), in decibel. To determine the values, measurement methods of the ISO 3740 standard with accuracy class 2 or higher were used.
 - A-weighted sound pressure level L_{pA} (re 20 μ Pa), in decibel. The values are calculated from the sound power level in accordance with ISO 11203: $L_{pA} = L_{WA} - Q_2$ at a distance of $d = 1$ m or $d = 10$ m to the reference box.

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Engine: 380-420V Y/YY -3- 50Hz PW

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Subject:

Performance data table

Application: Refrigeration & AC

Reference temperature: Dew point

Supply frequency: 50 Hz

Voltage: 400 V

Suction gas superheat: 10 K

Subcooling (outside cond.): 0 K

tle [°C]		to [°C]									
		3.0	-2.0	-7.0	-12.0	-17.0	-22.0	-27.0	-32.0	-37.0	
10.0	Q [W]		74600	64300	54700	45700	37600	30300	23900		
	P [kW] ¹⁾		19.90	18.30	16.80	15.40	14.10	12.90	11.80		
	I [A]		31.10	28.70	26.70	24.90	23.40	22.00	20.70		
	tc [°C]		32.31	29.33	26.55	23.98	21.64	19.53	17.65		
15.0	Q [W]		69700	60000	50900	42500	34900	28000	22000		
	P [kW] ¹⁾		21.00	19.20	17.50	16.00	14.50	13.20	11.90		
	I [A]		32.60	30.00	27.70	25.70	23.90	22.30	20.80		
	tc [°C]		36.18	33.32	30.65	28.18	25.92	23.88	22.07		
20.0	Q [W]		64800	55700	47200	39300	32200	25800	20100		
	P [kW] ¹⁾		22.00	20.10	18.30	16.60	15.00	13.50	12.00		
	I [A]		34.10	31.30	28.70	26.50	24.50	22.60	21.00		
	tc [°C]		40.04	37.29	34.73	32.36	30.19	28.23	26.47		
25.0	Q [W]		60000	51400	43400	36100	29400	23500	18200		
	P [kW] ¹⁾		23.00	21.00	19.00	17.20	15.50	13.80	12.20		
	I [A]		35.60	32.50	29.80	27.30	25.00	23.00	21.10		
	tc [°C]		43.86	41.24	38.79	36.53	34.45	32.56	30.86		
30.0	Q [W]		55100	47100	39700	32900	26700	21200	16400		
	P [kW] ¹⁾		23.90	21.80	19.70	17.80	15.90	14.10	12.30		
	I [A]		37.00	33.70	30.80	28.10	25.60	23.30	21.30		
	tc [°C]		47.66	45.16	42.83	40.67	38.68	36.87	35.23		
35.0	Q [W]		50200	42800	36000	29700	24000	19000	14500		
	P [kW] ¹⁾		24.80	22.60	20.40	18.30	16.30	14.30	12.40		
	I [A]		38.30	34.90	31.70	28.80	26.10	23.60	21.40		
	tc [°C]		51.42	49.05	46.83	44.77	42.88	41.15	39.57		
40.0	Q [W]			38600	32300	26600	21400	16800	12700		
	P [kW] ¹⁾			23.20	20.90	18.70	16.60	14.50	12.40		
	I [A]			35.90	32.50	29.40	26.50	23.80	21.40		
	tc [°C]			52.90	50.80	48.85	47.05	45.40	43.89		
45.0	Q [W]			34300	28600	23400	18800	14600	10900		
	P [kW] ¹⁾			23.70	21.40	19.00	16.80	14.50	12.30		
	I [A]			36.70	33.10	29.80	26.70	23.90	21.30		
	tc [°C]			56.71	54.73	52.88	51.18	49.61	48.16		
50.0	Q [W]				25000	20400	16200	12500	9160		
	P [kW] ¹⁾				21.70	19.20	16.80	14.40	12.00		
	I [A]				33.50	30.00	26.80	23.70	21.00		
	tc [°C]				58.61	56.88	55.27	53.78	52.39		
55.0	Q [W]						13700	10400	7510		
	P [kW] ¹⁾						16.60	14.10	11.60		
	I [A]						26.60	23.40	20.50		
	tc [°C]						59.30	57.90	56.58		
60.0	Q [W]										
	P [kW] ¹⁾										
	I [A]										
	tc [°C]										

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Subject:

Preliminary capacity data.



Supplementary cooling or reduced suction gas temperature ($\Delta t_{oh} < 20K$)

t_o Evaporating temperature

t_{le} Air inlet temperature

t_c Condensing temperature

Q Compressor refrigeration capacity

P Power consumption

I Current draw

1) Power consumption of condenser fans included.

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Subject:

Scope of supply

Rear bearing flange prepared for oil differential pressure sensor DELTA-P II

HG or HGX semi-hermetic motor compressor (Extent of delivery see compressor) installed with rubber anti-vibration pads on liquid receiver. The liquid receivers with sight glass and Rotalock shut-off valve with brazing connection. Tank is provided (appropriate pressure appliance guideline)

Oil pump

Air-cooled finned tube condenser with 4 ventilators:

- Ventilators 230 V - 1 - 50/60 Hz, with bimetal winding protection, phase control for speed adjustment (regulator not included in scope of supplies)
- With piping on discharge and liquid side. Service charge

4 rubber plates enclosed for installation of the condensing unit

Accessories

Oil pressure safety switch MP54 230 V - 1 - 50/60 Hz, IP20

Oil differential pressure sensor DELTA-P II 220-240 V - 1 - 50/60 Hz

High pressure limiter + High pressure safety cut-out ¹⁾

Low pressure controller ¹⁾

Safety valve for receiver ¹⁾

Oil separator incl. mounting

Larger liquid receiver with 35 l volume

Further accessory parts see compressor

¹⁾ Mounted

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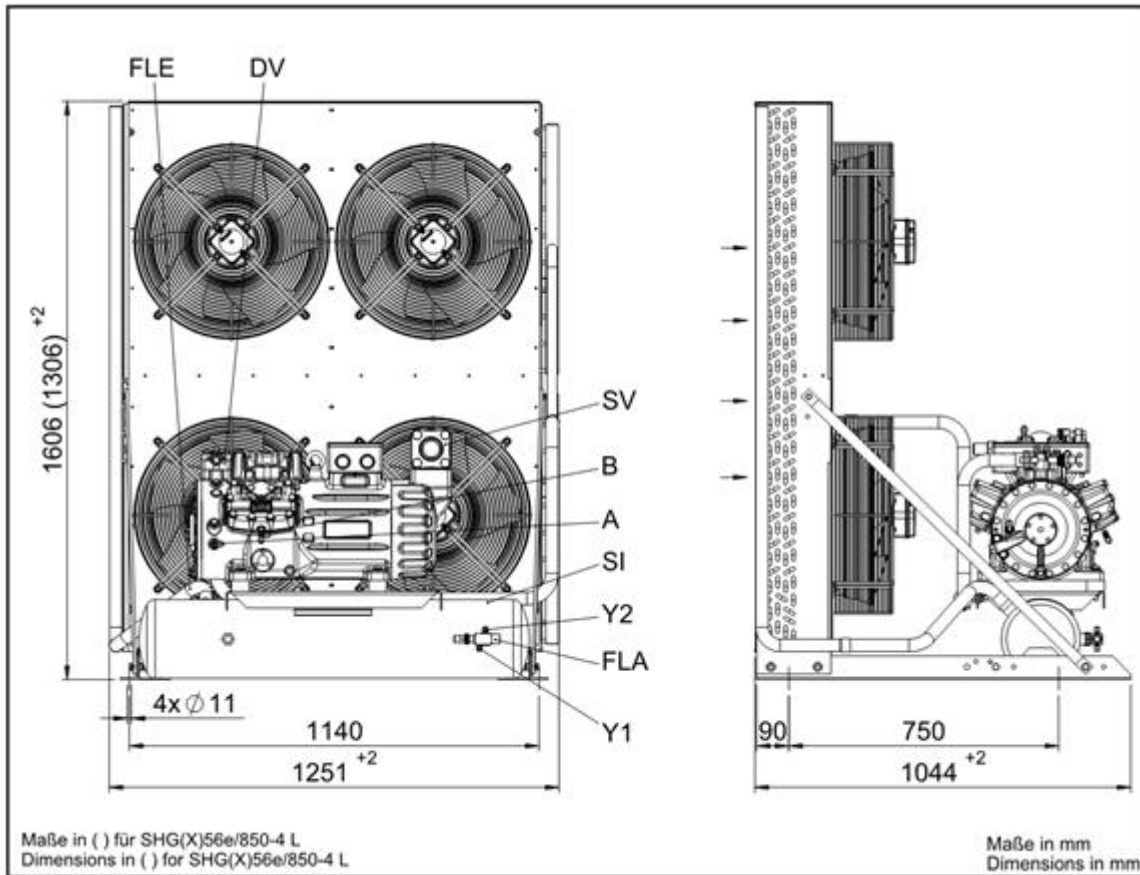
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Subject:

Dimensions and connections



SV	Suction line valve, tube \varnothing ¹⁾	54 mm - 2 1/8 "
DV	Discharge line valve, tube \varnothing ¹⁾	28 mm - 1 1/8 "
A	Connection suction side, not lockable	7/16" UNF
B	Connection discharge side, not lockable	7/16" UNF
FLA	Liquid outlet, tube \varnothing ¹⁾	22 mm - 7/8 "
FLE	Liquid inlet, tube \varnothing ¹⁾	28 mm - 1 1/8 "
SI	Connection safety valve	1/2 " NPTF
Y1	Connection liquid side, lockable	7/16" UNF
Y2	Connection liquid side, not lockable	7/16" UNF

1) Brazing connection

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Subject:

BOCK colour the world
of tomorrow

Product photo



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