SHGX56e/1155-4 SL

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

Refrigerant: R404A, R507

Subject:

Performance data

Application: Refrigeration & AC

Refrigerant	R404A, R507		Compressor refrigeration capacity	42.40 kW
Reference temperature	Dew point		Evaporator refrigeration capacity	42.40 kW
Power supply	50 Hz, 400 V		Power consumption	25.80 kW [1]
Supply frequency	50 Hz		Current draw (400 V)	46.00 A
Evaporating temperature	-10.0 °C		Coefficient of performance (COP/EER)	1.65
Evaporating pressure (abs.)	*4.34 bar*		Condensing capacity	66.10 kW
Condensing temperature	50.0 °C		Mass flow	0.457 kg/s
Condensing pressure (abs.)	*22.96 bar*		Discharge end temperature	78.1 °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

ecodesign
EU Directive 2015/1095
NON-RELEVANT

Not affected by (EU) 2015/1095

No ecodesign requirements are laid down for this condensing unit with the selected refrigerant in accordance with Regulation (EU) 2015/1095 and is therefore not affected by this regulation.

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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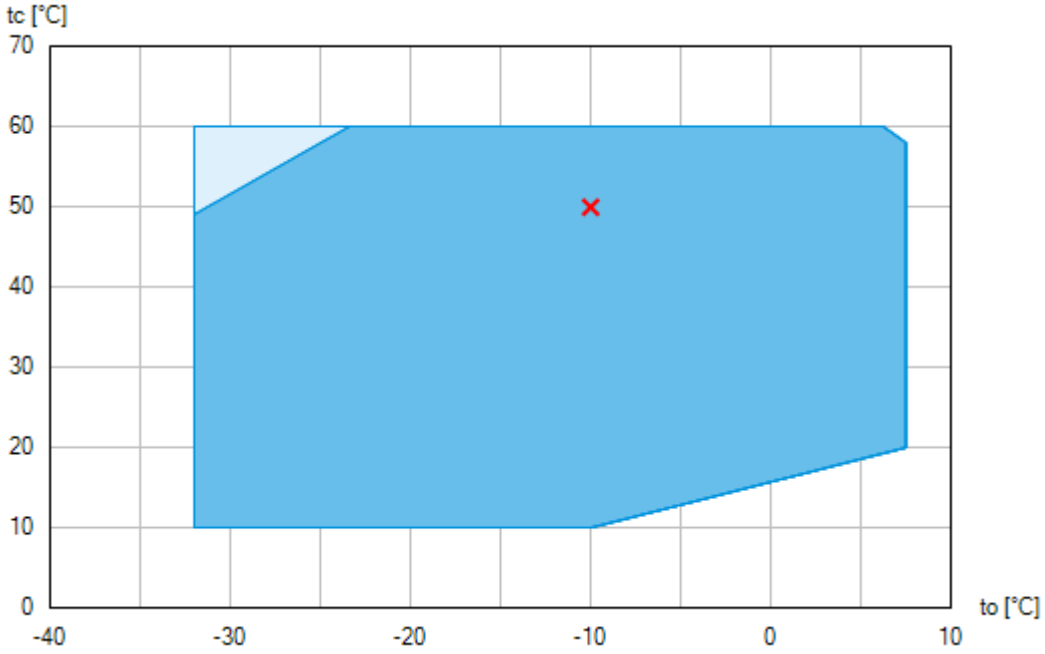
Operating limits



Unlimited application range

Supplementary cooling or reduced suction gas temperature (Δtoh<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).

Technical data

Number of cylinders / Bore / Stroke	6 / 70 mm / 50 mm
Displacement 50/60 Hz (1450/1740 ¹/min)	100,40 / 120,50 m³/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)]	58.3 A
Max. power consumption [2)]	33.3 kW
Starting current (rotor blocked) [2)]	196.0 / 335.0 A
Motor protection	INT69 G
Protection terminal box	IP 66
Weight	407 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	35 mm - 1 3/8 "
Connection liqiud outlet line FLA	22 mm - 7/8 "
Connection liqiud outlet line FLE	35 mm - 1 3/8 "
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	20000 / 24500 m³/h
Receiver content	35.00 Ltr.
Max. refrigerant charge R134a [5)]	38,6 kg
R404A / R507 [5)]	33,6 / 33,8 kg
R407C / R407F [5)]	36,5 / 35,9 kg

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R22 [5]	38,1 kg
Volume condenser	27,08 Ltr.
Sound power level L_{WA} [6]	88 dB(A)
Sound pressure level L_{pA} [6]	71 dB(A) @ 1 m
	56 dB(A) @ 10 m

1) Tolerance (± 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 (Imax) 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 liquide 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 µPa), 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 = 1m or d = 10 m to the reference box.

SHGX56e/1155-4 SL

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

Refrigerant: R404A, R507

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]										
		8.0	3.0	-2.0	-7.0	-12.0	-17.0	-22.0	-27.0	-32.0	-37.0
10.0	Q [W] P [kW] 1) I [A] tc [°C]		99600 24.50 44.50 35.02	86600 22.80 42.60 31.82	74500 21.10 40.90 28.83	63300 19.60 39.40 26.06	53100 18.10 37.90 23.51	43900 16.60 36.60 21.18	35700 15.10 35.40 19.08	28500 13.70 34.30 17.20	
15.0	Q [W] P [kW] 1) I [A] tc [°C]		93200 26.30 46.60 38.91	81000 24.40 44.40 35.84	69500 22.50 42.40 32.96	59000 20.80 40.50 30.30	49400 19.10 38.90 27.85	40700 17.40 37.40 25.61	33000 15.80 36.00 23.58	26300 14.10 34.70 21.77	
20.0	Q [W] P [kW] 1) I [A] tc [°C]		86900 28.00 48.60 42.75	75300 25.80 46.00 39.79	64600 23.80 43.70 37.04	54700 21.80 41.60 34.48	45700 19.90 39.70 32.13	37600 18.10 38.00 29.98	30400 16.30 36.40 28.04	24100 14.50 34.90 26.28	
25.0	Q [W] P [kW] 1) I [A] tc [°C]		80600 29.50 50.50 46.53	69700 27.10 47.60 43.70	59700 24.90 45.00 41.05	50400 22.80 42.60 38.61	42000 20.70 40.40 36.36	34500 18.60 38.50 34.30	27800 16.70 36.70 32.43	21900 14.70 35.10 30.74	
30.0	Q [W] P [kW] 1) I [A] tc [°C]		74400 30.80 52.20 50.27	64200 28.30 49.00 47.55	54800 25.90 46.10 45.02	46200 23.60 43.50 42.69	38400 21.30 41.10 40.54	31400 19.10 38.90 38.58	25200 17.00 37.00 36.78	19700 14.90 35.30 35.17	
35.0	Q [W] P [kW] 1) I [A] tc [°C]		68200 32.10 53.90 53.96	58600 29.40 50.40 51.36	49900 26.80 47.20 48.95	42000 24.30 44.30 46.72	34800 21.90 41.70 44.67	28400 19.50 39.30 42.80	22700 17.30 37.20 41.10	17600 15.10 35.40 39.56	
40.0	Q [W] P [kW] 1) I [A] tc [°C]		62000 33.30 55.50 57.61	53100 30.40 51.70 55.12	45100 27.70 48.20 52.83	37800 25.00 45.10 50.71	31200 22.40 42.20 48.77	25400 19.90 39.70 47.00	20200 17.50 37.50 45.38	15600 15.20 35.50 43.92	
45.0	Q [W] P [kW] 1) I [A] tc [°C]			47600 31.40 53.00 58.85	40200 28.50 49.20 56.67	33600 25.60 45.80 54.67	27700 22.90 42.70 52.84	22400 20.30 40.00 51.16	17700 17.80 37.70 49.63	13500 15.40 35.70 48.25	
50.0	Q [W] P [kW] 1) I [A] tc [°C]					29400 26.20 46.50 58.59	24100 23.40 43.30 56.87	19400 20.60 40.40 55.29	15200 18.00 37.90 53.86	11500 15.60 35.80 52.56	
55.0	Q [W] P [kW] 1) I [A] tc [°C]							16400 21.00 40.80 59.40	12800 18.30 38.20 58.07	9480 15.90 36.00 56.87	
60.0	Q [W] P [kW] 1) I [A] tc [°C]										

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VAP 11.12.0

Preliminary capacity data.

☐ Supplementary cooling or reduced suction gas temperature (Δtoh<20K)

to Evaporating temperature
tle Air inlet temperature
tc Condensing temperature
Q Compressor refrigeration capacity
P Power consumption
I Current draw

1) Power consumption of condenser fans included.

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 liquide 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 liquide 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)]

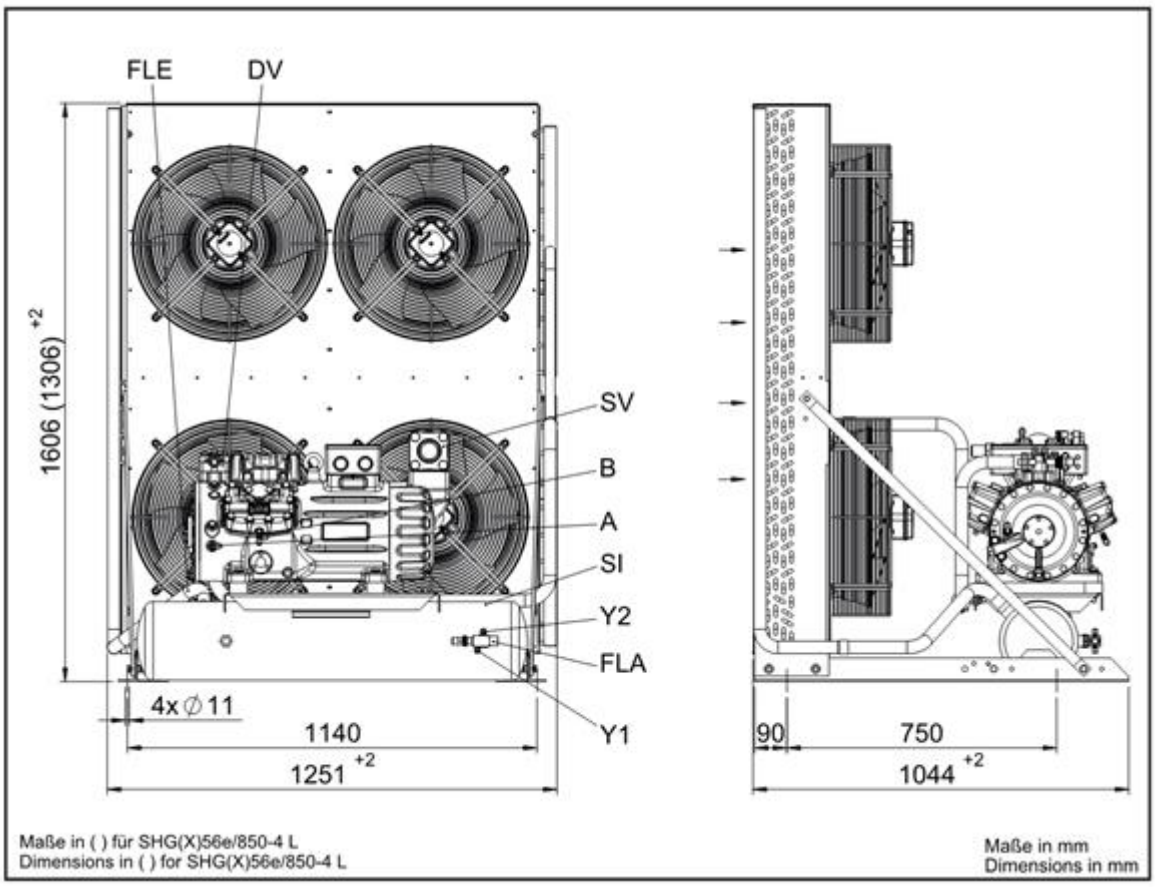
Safety valve for receiver [1)]

Oil separator incl. mounting

Further accessory parts see compressor

1) Mounted

Dimensions and connections



SV	Suction line valve, tube ø [1)]	54 mm - 2 1/8 "
DV	Discharge line valve, tube ø [1)]	35 mm - 1 3/8 "
A	Connection suction side, not lockable	7/16" UNF
B	Connection discharge side, not lockable	7/16" UNF
FLA	Liquid outlet, tube ø [1)]	22 mm - 7/8 "
FLE	Liquid inlet, tube ø [1)]	35 mm - 1 3/8 "
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

Product photo