SHGX56e/850-4 SL

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

Refrigerant: R404A, R507

Subject:

Performance data

Application: Refrigeration & AC

Refrigerant	R404A, R507		Compressor refrigeration capacity	32.80 kW
Reference temperature	Dew point		Evaporator refrigeration capacity	32.80 kW
Power supply	50 Hz, 400 V		Power consumption	18.50 kW [1]
Supply frequency	50 Hz		Current draw (400 V)	29.10 A
Evaporating temperature	-10.0 °C		Coefficient of performance (COP/EER)	1.77
Evaporating pressure (abs.)	*4.34 bar*		Condensing capacity	49.30 kW
Condensing temperature	48.4 °C		Mass flow	0.343 kg/s
Condensing pressure (abs.)	*22.16 bar*		Discharge end temperature	74.2 °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)

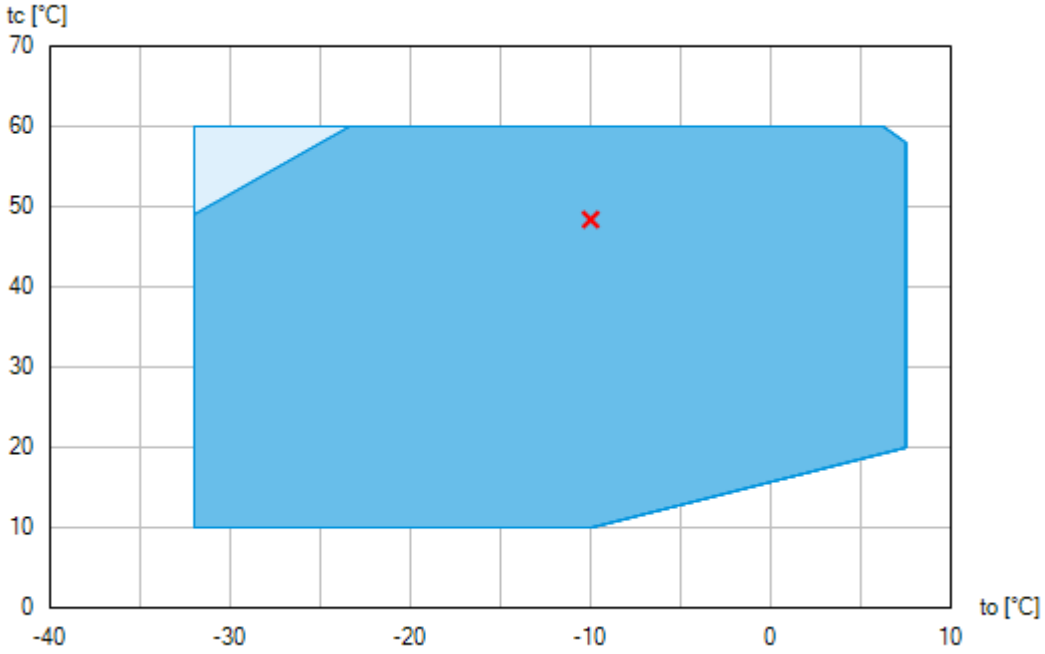
Condensing unit (with design key as of 076) complies with directive (EU) 2015/1095 for stated refrigerant.

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.

Subject to change without notice

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 / 60 mm / 50 mm
Displacement 50/60 Hz (1450/1740 ¹/min)	73,80 / 88,60 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]	39.4 A
Max. power consumption [2]	23.5 kW
Starting current (rotor blocked) [2]	125.0 / 209.0 A
Motor protection	INT69 G
Protection terminal box	IP 66
Weight	386 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 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	21200 / 25600 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

Subject to change without notice

R22 [5]	38,1 kg
Volume condenser	27,08 Ltr.
Sound power level L_{WA} [6]	84 dB(A)
Sound pressure level L_{pA} [6]	68 dB(A) @ 1 m
	53 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/850-4 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]		77000 16.80 26.80 32.12	66600 15.90 25.50 29.29	57000 14.90 24.30 26.66	48100 14.00 23.20 24.23	40200 13.00 22.10 22.01	33000 12.10 21.00 20.00	26700 11.10 20.00 18.20	21300 10.20 19.00 16.60	
15.0	Q [W] P [kW] 1) I [A] tc [°C]		72200 18.20 28.70 36.11	62400 17.10 27.10 33.38	53300 16.00 25.70 30.85	45000 14.90 24.30 28.51	37500 13.80 23.00 26.38	30700 12.70 21.70 24.44	24800 11.60 20.50 22.70	19700 10.50 19.30 21.14	
20.0	Q [W] P [kW] 1) I [A] tc [°C]		67500 19.50 30.40 40.06	58200 18.20 28.60 37.43	49600 16.90 26.90 34.99	41800 15.70 25.30 32.75	34700 14.40 23.80 30.69	28500 13.20 22.30 28.83	22900 12.00 20.90 27.15	18100 10.80 19.60 25.65	
25.0	Q [W] P [kW] 1) I [A] tc [°C]		62800 20.60 32.00 43.97	54000 19.20 30.00 41.43	46000 17.70 28.00 39.09	38600 16.40 26.20 36.94	32100 15.00 24.40 34.97	26200 13.60 22.80 33.19	21000 12.30 21.20 31.57	16500 10.90 19.80 30.12	
30.0	Q [W] P [kW] 1) I [A] tc [°C]		58000 21.70 33.60 47.83	49800 20.10 31.20 45.40	42300 18.50 29.00 43.16	35500 17.00 27.00 41.10	29400 15.50 25.00 39.22	23900 14.00 23.20 37.51	19100 12.50 21.50 35.96	14900 11.10 19.90 34.57	
35.0	Q [W] P [kW] 1) I [A] tc [°C]		53300 22.70 35.00 51.66	45600 20.90 32.40 49.33	38600 19.20 30.00 47.19	32300 17.50 27.70 45.22	26700 15.90 25.60 43.43	21700 14.30 23.60 41.80	17200 12.70 21.70 40.32	13400 11.20 20.10 38.99	
40.0	Q [W] P [kW] 1) I [A] tc [°C]		48600 23.60 36.40 55.45	41500 21.70 33.60 53.23	35000 19.80 30.90 51.18	29200 18.00 28.40 49.32	24000 16.30 26.10 47.61	19400 14.60 23.90 46.06	15400 12.90 21.90 44.66	11800 11.30 20.20 43.40	
45.0	Q [W] P [kW] 1) I [A] tc [°C]		43900 24.40 37.70 59.22	37300 22.40 34.60 57.09	31300 20.40 31.70 55.15	26000 18.50 29.00 53.39	21300 16.60 26.50 51.77	17200 14.80 24.20 50.31	13500 13.10 22.20 48.98	10300 11.40 20.30 47.79	
50.0	Q [W] P [kW] 1) I [A] tc [°C]				27700 21.00 32.60 59.09	22900 18.90 29.70 57.43	18600 17.00 27.00 55.91	14900 15.10 24.60 54.53	11700 13.30 22.40 53.29	8730 11.60 20.40 52.17	
55.0	Q [W] P [kW] 1) I [A] tc [°C]						16000 17.30 27.50 60.03	12700 15.30 24.90 58.75	9770 13.50 22.60 57.59	7240 11.70 20.60 56.55	
60.0	Q [W] P [kW] 1) I [A] tc [°C]										

Subject to change without notice

To: From: 02.09.2022

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)]

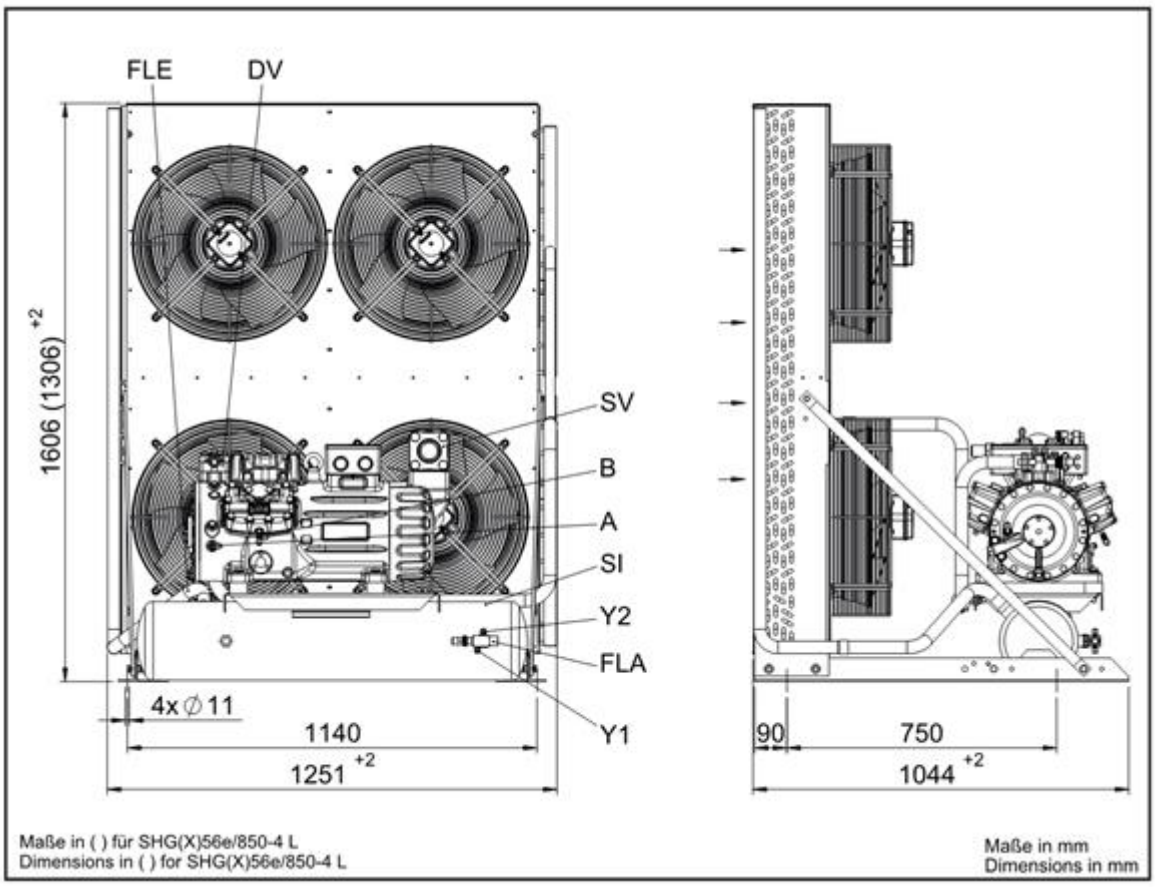
Safety valve for receiver [1)]

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)]	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 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