

15.06.2022

SHGZX7/1860-4 L R448A/449A

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

Refrigerant: R449A

Subject:

Performance data

Application: Refrigeration & AC

Refrigerant	R449A	Compressor refrigeration capacity	21.10 kW
Reference temperature	Dew point	Evaporator refrigeration capacity	21.10 kW
Power supply	50 Hz, 400 V	Power consumption	20.90 kW ¹⁾
Supply frequency	50 Hz	Current draw (400 V)	38.80 A
Evaporating temperature	-40.0 °C	Coefficient of performance (COP/EER)	1.01
<i>Evaporating pressure (abs.)</i>	<i>1.01 bar</i>	Condensing capacity	39.90 kW
Condensing temperature	46.2 °C	Mass flow (LP)	0.115 kg/s
<i>Condensing pressure (abs.)</i>	<i>19.32 bar</i>	Temperature at intermediate cooler outlet	1.07 °C
Air inlet temperature	38.0 °C		
Suction gas superheat	10 K		
Usable superheat	100%		

Certifications



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.

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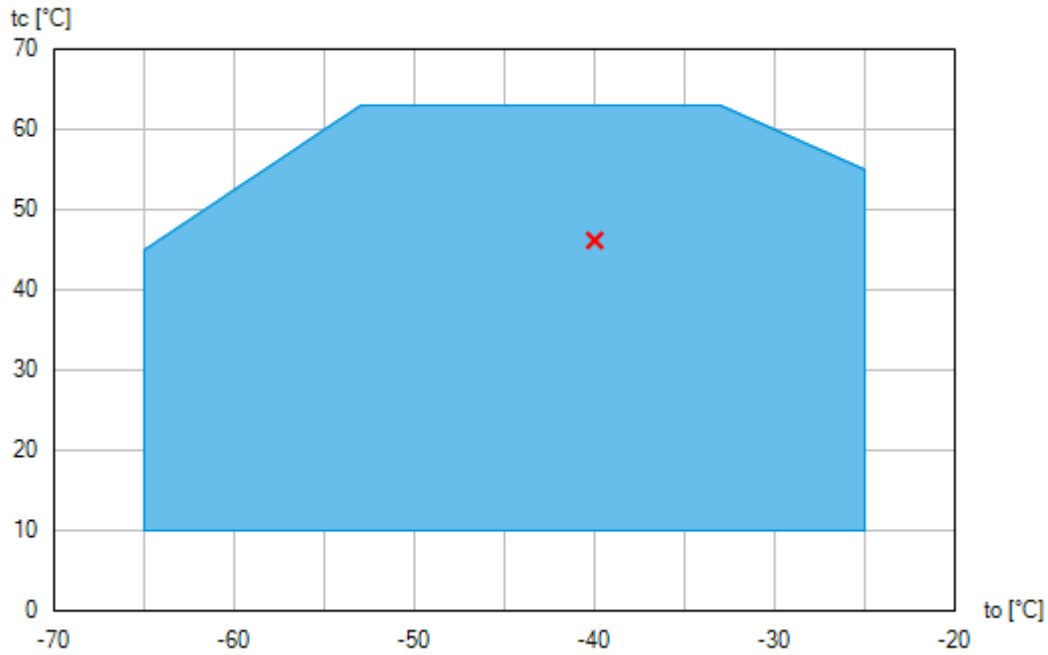
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Operating limits



Unlimited application range

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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Refrigerant: R449A

Subject:

Technical data

Number of cylinders / Bore / Stroke	6 / 70 mm / 70 mm
Displacement LP/HP 50 Hz (1450 1/min) ¹⁾	107,60 / 53,80 m ³ /h
Voltage ²⁾	380-420V Y/YY -3- 50Hz PW
Winding divided into	50% / 50%
Max. working current ³⁾	55.0 A
Max. power consumption ³⁾	30.0 kW
Starting current (rotor blocked) ³⁾	175.0 / 269.0 A
Motor protection	MP10
Protection terminal box	IP 65
Weight	487 kg
Max. permissible overpressure (LP/MP/HP) ¹⁾	19 / 19 / 28 bar
Connection suction line SV	54 mm - 2 1/8 "
Connection discharge line DV	35 mm - 1 3/8 "
Connection liquid outlet line FLA	22 mm - 7/8 "
Connection liquid outlet line FLE	28 mm - 1 1/8 "
Lubrication	Oil pump
Oil type R404A, R410A, R448A/R449A	BOCKlub E55
Oil charge	4,5 Ltr.
Oil sump heater	230 V - 1 - 50 Hz, 140 W
Dimensions Length / Width / Height	1300 / 1090 / 1610 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 m ³ /h
Receiver content	35.00 Ltr.
R448A / R449A ⁴⁾	35,1 / 35,2 kg

1) LP = Low pressure
MP = Middle pressure
HP = High pressure

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- 2) 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

- 3) - 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.

- 4) With liquid temperature at 20°C and 90 % capacity

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Refrigerant: R449A

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.): -- K

tle [°C]		to [°C]									
		-30.0	-35.0	-40.0	-45.0	-50.0	-55.0	-60.0	-65.0	-70.0	
30.0	Q [W]	32700	27100	22000	17300	13200	9840	7350	5810		
	P [kW] ¹⁾	24.30	21.90	19.50	17.30	15.30	13.50	11.90	10.70		
	I [A]	43.40	40.10	37.00	34.30	32.00	29.90	28.30	27.00		
	tc [°C]	41.82	40.15	38.57	37.13	35.86	34.79	33.94	33.36		
35.0	Q [W]	31600	26400	21400	16900	13000	9740	7330	5830		
	P [kW] ¹⁾	25.40	22.80	20.40	18.00	15.90	14.00	12.30	11.00		
	I [A]	44.90	41.40	38.10	35.30	32.70	30.50	28.70	27.30		
	tc [°C]	46.52	44.89	43.35	41.94	40.68	39.61	38.76	38.17		
40.0	Q [W]	30600	25600	20800	16500	12800	9630	7300	5860		
	P [kW] ¹⁾	26.40	23.80	21.20	18.80	16.60	14.60	12.80	11.30		
	I [A]	46.30	42.70	39.30	36.20	33.50	31.20	29.20	27.60		
	tc [°C]	51.16	49.58	48.08	46.69	45.45	44.39	43.54	42.93		
45.0	Q [W]	29500	24700	20200	16100	12500	9510	7290			
	P [kW] ¹⁾	27.40	24.70	22.10	19.60	17.30	15.10	13.30			
	I [A]	47.80	44.00	40.40	37.20	34.30	31.80	29.70			
	tc [°C]	55.74	54.21	52.74	51.38	50.17	49.12	48.28			
50.0	Q [W]		23800	19500	15700	12200	9380				
	P [kW] ¹⁾		25.70	23.00	20.40	18.00	15.80				
	I [A]		45.30	41.60	38.20	35.20	32.50				
	tc [°C]		58.77	57.35	56.03	54.83	53.80				

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.

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Scope of supply

Semi-hermetic motor compressor HGZ(X) (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 sump heater 230 V - 1 - 50/60 Hz, 140 W

Thermal protection thermostat per cylinder cover ¹⁾

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

Oil service valve

High pressure safety limiter + controller/ +low pressure controller ¹⁾

Safety valve for receiver ¹⁾

Oil separator incl. mounting

Special voltage and/or frequency (on request)

¹⁾ Mounted

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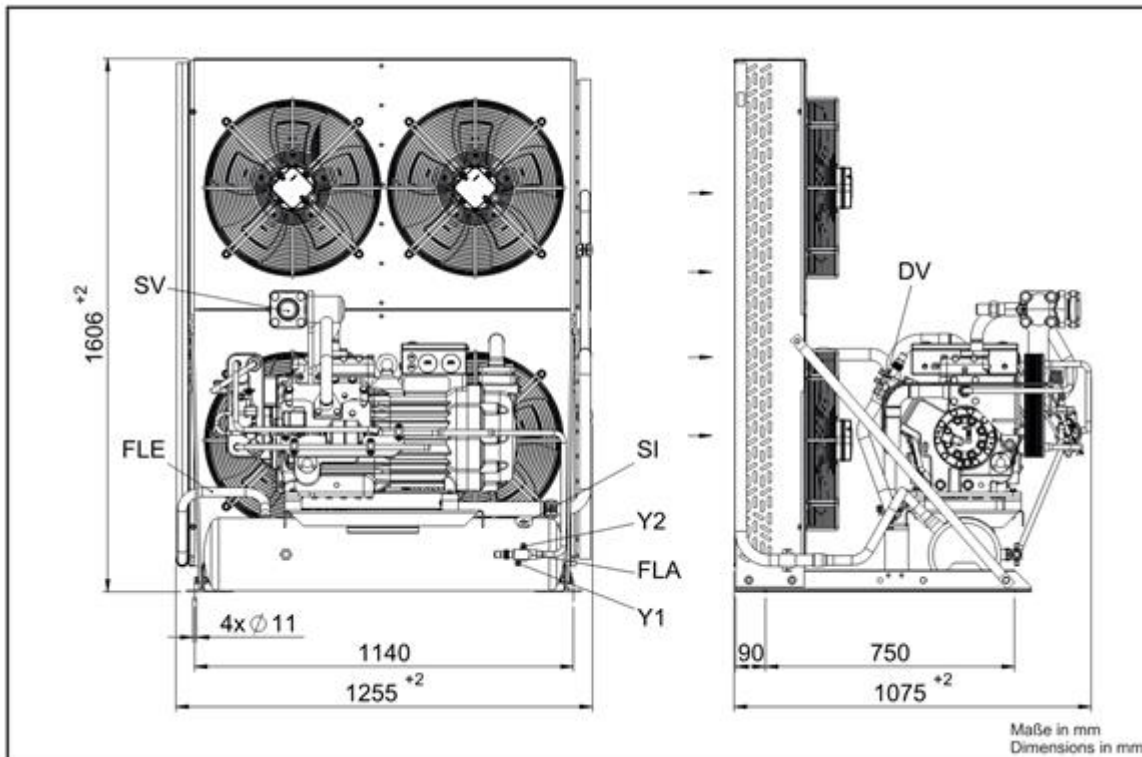
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Subject:

Dimensions and connections



SV	Suction line valve, tube \varnothing ¹⁾	54 mm - 2 1/8 "
DV	Discharge line valve, tube \varnothing ¹⁾	35 mm - 1 3/8 "
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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BOCK colour the world
of tomorrow

Product photo



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