HGX12P/60-4 S

Engine: 220-240V Δ / 380-420V Y -3- 50Hz

Refrigerant: R134a

Subject:

Performance data

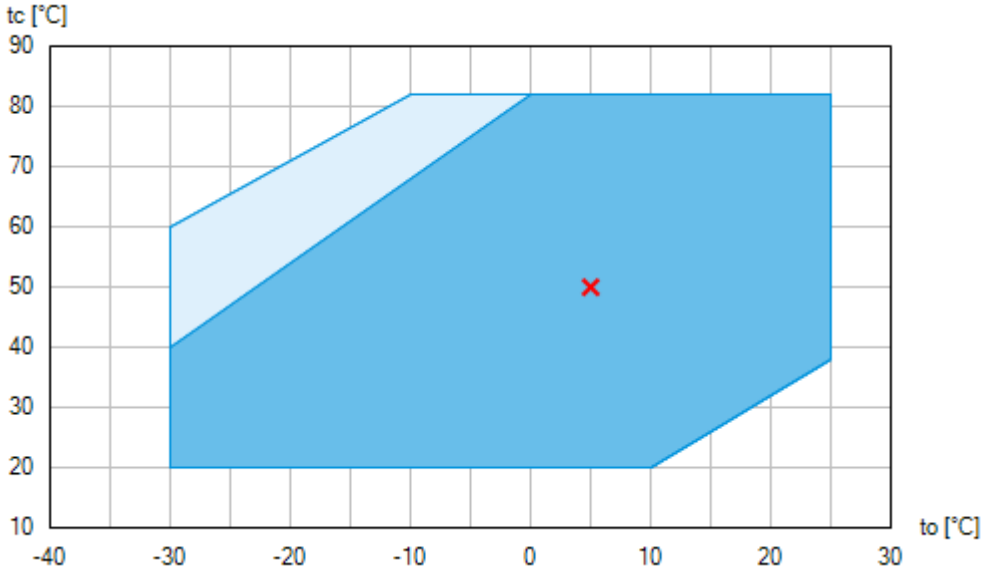
Application: Refrigeration & AC

Refrigerant	R134a		Compressor refrigeration capacity	2.70 kW
Reference temperature	DewPoint		Evaporator refrigeration capacity	2.70 kW
Power supply	50 Hz, 400 V		Power consumption	0.91 kW
Supply frequency	50 Hz		Current draw (400 V)	2.18 A
Evaporating temperature	5.0 °C		Coefficient of performance (COP/EER)	2.96
Evaporating pressure (abs.)	*3.50 bar*		Condensing capacity	3.62 kW
Condensing temperature	50.0 °C		Mass flow	0.019 kg/s
Condensing pressure (abs.)	*13.17 bar*		Discharge end temperature	84.0 °C [1)]
Suction gas temperature	20 °C			
Subcooling (outside cond.)	0 K			
Usable superheat	100%			

1) 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).

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Technical data

Number of cylinders / Bore / Stroke	2 / 34 mm / 34 mm
Displacement 50/60 Hz (1450/1740 ¹/min)	5,40 / 6,40 m³/h
Voltage [1)]	220-240V Δ / 380-420V Y -3- 50Hz
	265-290V Δ / 440-480V Y -3- 60Hz
Max. working current [2)]	6.8 / 3.9 A
Max. power consumption [2)]	2.2 kW
Starting current (rotor blocked) [2)]	40.0 / 23.0 A
Motor protection	INT69 G
Protection terminal box	IP 66
Weight	48 kg
Frequency range [3)]	30 -70 Hz
Max. permissible overpressure (g) (LP/HP) [4)]	19 / 28 bar
Connection suction line SV	16 mm - 5/8 "
Connection discharge line DV	12 mm - 1/2 "
Lubrication	Oil pump
Oil type R134a, R404A, R407A/C/F, R448A, R449A, R450A, R513A	BOCKlub E55
Oil type R22	BOCKlub A46
Oil charge	0,8 Ltr.
Dimensions Length / Width / Height	412 / 223 / 280 mm
Sound power level L_{WA} [5)]	67 db(A) @ -35/+40 °C
	66 db(A) @ -10/+45 °C
	65 db(A) @ +5/+50 °C
Sound pressure level L_{pA} [5)]	55 db(A) @ -35/+40 °C
	54 db(A) @ -10/+45 °C
	53 db(A) @ +5/+50 °C

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

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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) 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 with the refrigerant R404A at the standard rating points according to EN 12900.
   - 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 to the reference box.

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Performance data table

Application: Refrigeration & AC
Reference temperature: DewPoint
Supply frequency: 50 Hz
Voltage: 400 V
Suction gas temperature: 20 °C
Subcooling (outside cond.): 0 K

tc [°C]		to [°C]									
		10.0	**5.0**	**0.0**	**-5.0**	**-10.0**	**-15.0**	**-20.0**	**-25.0**	**-30.0**	
30.0	Q [W] P [kW] I [A]	4490 0.71 1.96	3700 0.71 1.95	3010 0.68 1.93	2420 0.65 1.89	1910 0.60 1.85	1480 0.54 1.81	1130 0.49 1.76	836 0.44 1.73	605 0.40 1.70	
35.0	Q [W] P [kW] I [A]	4180 0.78 2.03	3440 0.76 2.01	2800 0.73 1.97	2240 0.68 1.93	1770 0.63 1.88	1370 0.57 1.83	1030 0.51 1.78	753 0.47 1.74	531 0.43 1.72	
40.0	Q [W] P [kW] I [A]	3880 0.84 2.10	3190 0.81 2.07	2590 0.77 2.02	2070 0.71 1.96	1630 0.65 1.90	1250 0.59 1.85	932 0.54 1.80	670 0.49 1.76	456 0.45 1.73	
45.0	Q [W] P [kW] I [A]	3580 0.91 2.17	2940 0.86 2.12	2390 0.81 2.06	1900 0.74 1.99	1490 0.68 1.93	1140 0.61 1.87	836 0.55 1.81	587 0.51 1.77	379 0.48 1.75	
50.0	Q [W] P [kW] I [A]	3300 0.97 2.25	2700 0.91 2.18	2190 0.85 2.10	1740 0.77 2.02	1350 0.70 1.95	1030 0.63 1.88	742 0.57 1.83	505 0.52 1.79	302 0.49 1.76	
55.0	Q [W] P [kW] I [A]	3020 1.02 2.32	2470 0.96 2.23	1990 0.88 2.14	1580 0.80 2.05	1220 0.72 1.97	913 0.65 1.90	649 0.58 1.84	422 0.54 1.80	224 0.51 1.78	
60.0	Q [W] P [kW] I [A]	2740 1.08 2.39	2240 1.00 2.28	1800 0.91 2.18	1420 0.82 2.07	1100 0.74 1.98	806 0.66 1.91	558 0.59 1.85	341 0.55 1.81	146 0.52 1.79	
65.0	Q [W] P [kW] I [A]	2480 1.13 2.46	2020 1.03 2.33	1620 0.94 2.21	1270 0.84 2.09	967 0.75 1.99	702 0.66 1.91	469 0.60 1.85	259 0.55 1.81		
70.0	Q [W] P [kW] I [A]	2220 1.17 2.52	1810 1.06 2.37	1450 0.96 2.23	1130 0.85 2.11	847 0.75 2.00	602 0.66 1.91	381 0.60 1.85			

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

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

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Scope of supply

Semi-hermetic two cylinder reciprocating compressor with drive motor
Single-section compressor housing with hermetically integrated electric motor

Winding protection with PTC resistor sensors and electronic trigger unit INT69 G
115-230 V AC, 50/60 Hz, IP00

Oil pump

Possibility for connection of oil pressure safety switch MP55

Possibility of connection of oil level controllers ESK, Traxoil, AC+R or CARLY [1)]

Oil charge:
HG: **BOCK**lub A46
HGX: **BOCK**lub E55

Sight glass

Suction and discharge line valve

Inert gas charge

Accessories

Oil sump heater
110-240 V - 1 - 50/60 Hz, 50-120 W, IP66
PTC heater self-regulating

Oil pressure safety switch MP55 230 V - 1 - 50/60 Hz, IP20 [2)]

Thermal protection thermostat per cylinder cover [3)]

Additional fan
230 V AC - 1 - 50 Hz, 72 W, IP44
230 V AC - 1 - 60 Hz, 68 W

2)

4 anti-vibration pads enclosed

Special voltage and/or frequency (on request)

1) Only with additional adapter possible

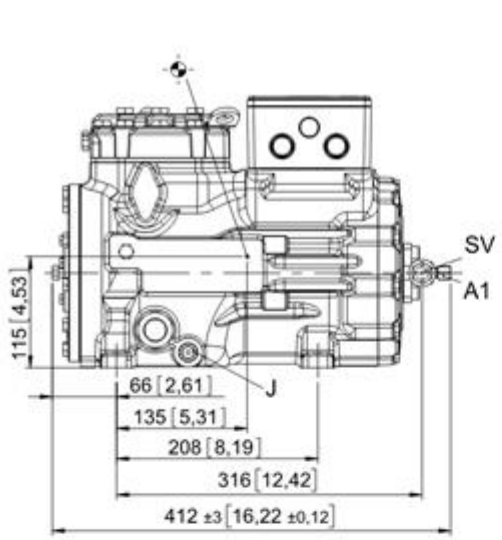
2) Enclosure

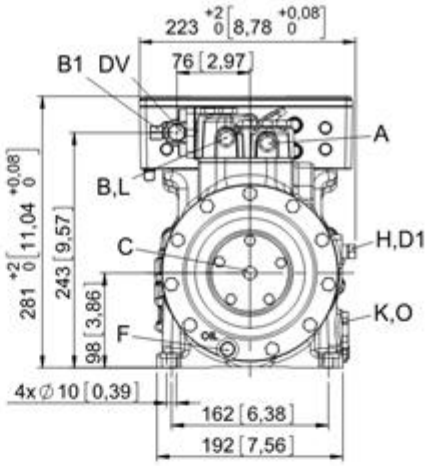
3) Mounted

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Dimensions and connections

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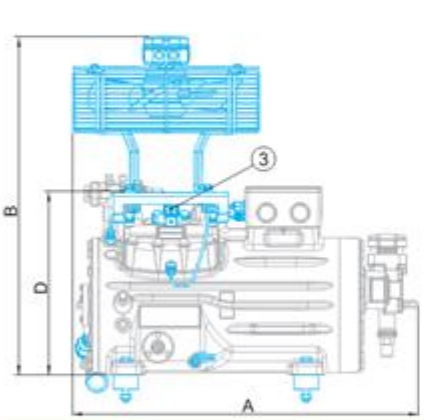


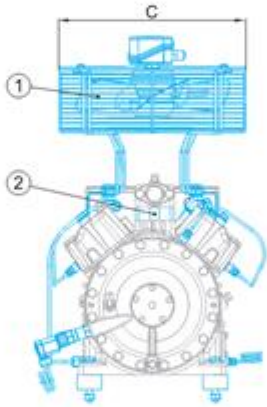
Änderungen vorbehalten
Subject to change without notice

Maße in mm [Zoll]
Dimensions in mm [inch]

Massenschwerpunkt
Center of gravity

Maße Zubehör / Dimensions Accessories



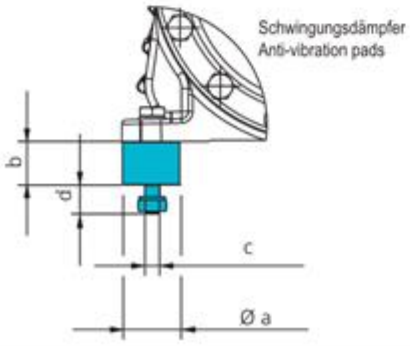


① Zusatzlüfter
Additional fan

② Zwischenadapter für Druckabsperrventil
Intermediate adapter for discharge line valve

③ Leistungsregler
Capacity regulator

Typ / Type	A mm / inch	B mm / inch	C mm / inch	D mm / inch
HG12P	ca. 460 / 18	ca. 500 / 20	ca. 315 / 12	–
HG22e	ca. 525 / 21	ca. 610 / 24		–
HG34e	ca. 580 / 23	ca. 640 / 25	ca. 380 / 15	–
HG44e	ca. 710 / 28	ca. 685 / 27	ca. 380 / 15	ca. 368 / 14
HG56e	–	ca. 710 / 28	ca. 380 / 15	–
HG66e	ca. 820 / 32	ca. 800 / 31	ca. 380 / 15	–



Schwingungsdämpfer
Anti-vibration pads

Typ / Type	Øa mm / inch	b mm / inch	c mm / inch	d mm / inch
HG12P	30 / 1.2	30 / 1.2	M8	20 / 0.8
HG22e	40 / 1.6	30 / 1.2	M10	20 / 0.8
HG34e	40 / 1.6	30 / 1.2	M10	20 / 0.8
HG44e	50 / 2.0	30 / 12	M12	25 / 1.0
HG56e	50 / 2.0	30 / 1.2	M12	25 / 1.0
HG66e	50 / 20	30 / 1.2	M12	25 / 1.0
HG88e	70 / 2.8	45 / 1.8	M12	37 / 1.5

Subject to change without notice

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SV	Suction line valve, tube ø [1)]	16 mm - 5/8 "
DV	Discharge line valve, tube ø [1)]	12 mm - 1/2 "
A	Connection suction side, not lockable	1/8 " NPTF
A1	Connection suction side, lockable	7/16 " UNF
B	Connection discharge side, not lockable	1/8 " NPTF
B1	Connection discharge side, lockable	7/16 " UNF
C	Connection oil pressure safety switch OIL	1/8 " NPTF
D1	Connection oil return from oil separator	1/4 " NPTF
F	Oil drain	M 8
H	Oil charge plug	1/4 " NPTF
J	Connection oil sump heater	3/8 " NPTF
K	Sight glass	1 1/8 " - 18 UNEF
L	Connection thermal protection thermostat	1/8 " NPTF
O	Connection oil level regulator	1 1/8 " - 18 UNEF

1) Brazing connection

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Product photo



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