

BOCK® HGX22e/125-4

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

Refrigerant: R513A



Subject:

Performance data

Application: Refrigeration & AC

Refrigerant	R513A	Compressor refrigeration capacity	3.05 kW
Reference temperature	Dew point	Evaporator refrigeration capacity	3.05 kW
Power supply	50 Hz, 400 V	Power consumption	1.47 kW
Supply frequency	50 Hz	Current draw (400 V)	3.63 A
Evaporating temperature	-10.0 °C	Coefficient of performance (COP/EER)	2.07
<i>Evaporating pressure (abs.)</i>	<i>2.23 bar</i>	Condensing capacity	4.53 kW
Condensing temperature	45.0 °C	Mass flow	0.026 kg/s
<i>Condensing pressure (abs.)</i>	<i>12.17 bar</i>	Discharge end temperature	73.9 °C ¹⁾
Suction gas superheat	8 K		
Subcooling (outside cond.)	0 K		
Usable superheat	100%		

Preliminary capacity data.

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- 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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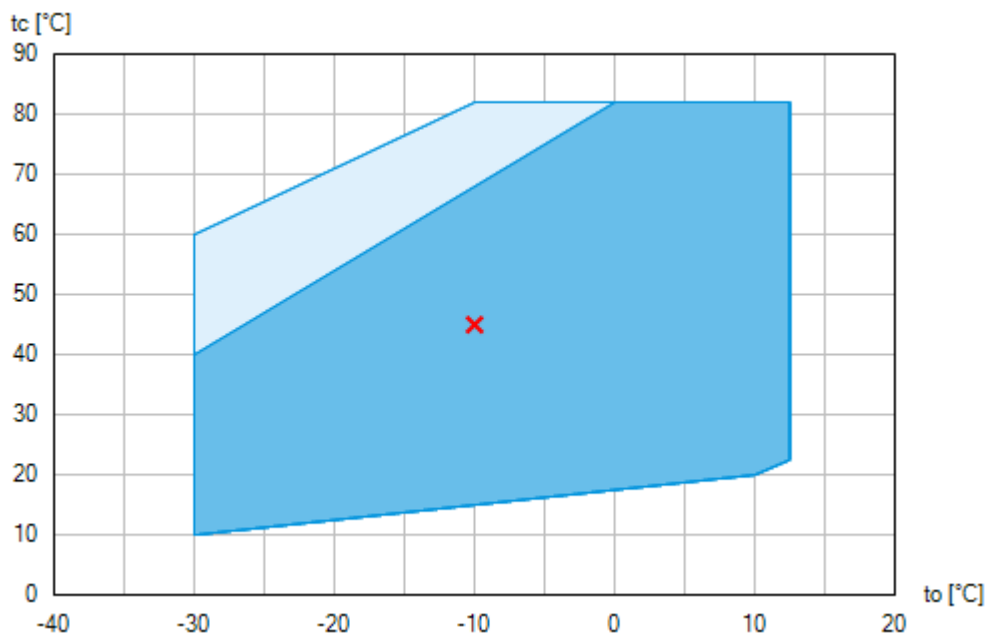
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Subject:

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	2 / 45 mm / 40 mm
Displacement 50/60 Hz (1450/1740 ¹ /min)	11,10 / 13,30 m ³ /h
Voltage ¹⁾	220-240V Δ / 380-420V Y -3- 50Hz
	265-290V Δ / 440-480V Y -3- 60Hz
Max. working current ²⁾	9.3 / 5.4 A
Max. power consumption ²⁾	3.0 kW
Starting current (rotor blocked) ²⁾	69.0 / 40.0 A
Motor protection	INT69 G
Protection terminal box	IP 66
Weight	73 kg
Frequency range ³⁾	30 -70 Hz
Max. permissible overpressure (g) (LP/HP) ⁴⁾	19 / 28 bar
Connection suction line SV	22 mm - 7/8 "
Connection discharge line DV	16 mm - 5/8 "
Lubrication	Oil pump
Oil type R134a, R404A, R407A/C/F, R448A, R449A, R450A, R513A	BOCKlub E55
Oil type R22	BOCKlub A46
Oil charge	1,1 Ltr.
Dimensions Length / Width / Height	468 / 240 / 315 mm
Sound power level L _{WA} ⁵⁾	68 dB(A) @ -35 °C / +40 °C
	67 dB(A) @ -10 °C / +45 °C
Sound pressure level L _{pA} ⁵⁾	56 dB(A) @ -35 °C / +40 °C
	55 dB(A) @ -10 °C / +45 °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

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).

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Subject:

- 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 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 to the reference box.

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

Refrigerant: R513A



Subject:

Performance data table

Application: Refrigeration & AC

Reference temperature: Dew point

Supply frequency: 50 Hz

Voltage: 400 V

Suction gas superheat: 8 K

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	-35.0
10.0	Q [W]									1690	
	P [kW]									0.79	
	I [A]									3.13	
15.0	Q [W]					4920	3820	2900	2150	1560	
	P [kW]					1.08	1.05	0.99	0.91	0.81	
	I [A]					3.32	3.30	3.26	3.20	3.14	
20.0	Q [W]	10700	8870	7280	5870	4640	3580	2700	1980	1430	
	P [kW]	0.95	1.09	1.17	1.20	1.17	1.12	1.03	0.93	0.82	
	I [A]	3.23	3.33	3.38	3.40	3.39	3.34	3.28	3.22	3.15	
25.0	Q [W]	10100	8390	6860	5510	4340	3330	2490	1810	1290	
	P [kW]	1.17	1.27	1.32	1.30	1.25	1.17	1.06	0.95	0.83	
	I [A]	3.39	3.47	3.50	3.49	3.45	3.38	3.31	3.23	3.15	
30.0	Q [W]	9520	7890	6430	5140	4020	3070	2280	1640	1150	
	P [kW]	1.38	1.44	1.44	1.40	1.32	1.22	1.09	0.96	0.83	
	I [A]	3.56	3.61	3.61	3.57	3.50	3.42	3.33	3.24	3.16	
35.0	Q [W]	8930	7370	5980	4760	3700	2800	2060	1460	1010	
	P [kW]	1.58	1.59	1.56	1.49	1.38	1.25	1.11	0.97	0.84	
	I [A]	3.73	3.74	3.71	3.65	3.55	3.45	3.34	3.24	3.16	
40.0	Q [W]	8330	6850	5530	4370	3380	2540	1840	1290	877.00	
	P [kW]	1.75	1.73	1.66	1.56	1.43	1.28	1.13	0.98	0.84	
	I [A]	3.90	3.88	3.81	3.71	3.60	3.47	3.35	3.25	3.16	
45.0	Q [W]	7710	6310	5060	3980	3050	2270	1630	1130	754.00	
	P [kW]	1.91	1.85	1.75	1.62	1.47	1.31	1.14	0.98	0.84	
	I [A]	4.06	4.00	3.90	3.77	3.63	3.49	3.36	3.25	3.16	
50.0	Q [W]	7090	5760	4590	3580	2720	2010	1430	971.00	641.00	
	P [kW]	2.05	1.96	1.83	1.68	1.51	1.33	1.15	0.99	0.84	
	I [A]	4.22	4.12	3.98	3.83	3.66	3.51	3.37	3.25	3.16	
55.0	Q [W]	6450	5210	4120	3190	2400	1750	1230	826.00	541.00	
	P [kW]	2.17	2.05	1.90	1.72	1.53	1.34	1.15	0.99	0.84	
	I [A]	4.36	4.22	4.05	3.87	3.69	3.52	3.37	3.25	3.16	
60.0	Q [W]	5810	4650	3650	2800	2080	1500	1040	694.00	456.00	
	P [kW]	2.28	2.13	1.95	1.76	1.55	1.35	1.15	0.99	0.84	
	I [A]	4.49	4.31	4.11	3.90	3.70	3.52	3.37	3.25	3.16	
65.0	Q [W]	5160	4100	3190	2420	1780	1270	867.00	579.00		
	P [kW]	2.38	2.20	2.00	1.78	1.56	1.35	1.15	0.99		
	I [A]	4.61	4.39	4.16	3.93	3.72	3.53	3.37	3.25		
70.0	Q [W]	4520	3550	2730	2040	1490	1050	712.00			
	P [kW]	2.46	2.26	2.03	1.80	1.57	1.35	1.15			
	I [A]	4.71	4.46	4.20	3.95	3.72	3.53	3.37			
75.0	Q [W]	3880	3010	2280	1680	1210	838.00				
	P [kW]	2.53	2.30	2.06	1.81	1.57	1.35				
	I [A]	4.80	4.51	4.23	3.96	3.73	3.53				

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80.0	Q [W]	3250	2470	1840	1340	940.00					
	P [kW]	2.59	2.34	2.08	1.82	1.57					
	I [A]	4.87	4.56	4.25	3.97	3.72					

Preliminary capacity data.



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

- t_o* Evaporating temperature
- t_c* Condensing temperature
- Q* Compressor refrigeration capacity
- P* Power consumption
- I* Current draw

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BOCK® HGX22e/125-4

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

Refrigerant: R513A



Subject:

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⁾

USB converter for INT69 G Diagnose ²⁾

INT69 G Diagnose 115-230 V AC, 50/60 Hz, IP00 (INT69 G not applicable)

Thermal protection thermostat per cylinder cover ³⁾

Hot gas temperature sensor (Pt1000, for external evaluation) ³⁾

Thermal protection thermostat per cylinder cover

Additional fan

230 V AC - 1 - 50 Hz, 97 W, IP44

230 V AC - 1 - 60 Hz, 128 W ²⁾

4 anti-vibration pads enclosed

Special voltage and/or frequency (on request)

1) Only with additional adapter possible

2) Enclosure

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3) Mounted

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Subject:

Dimensions and connections

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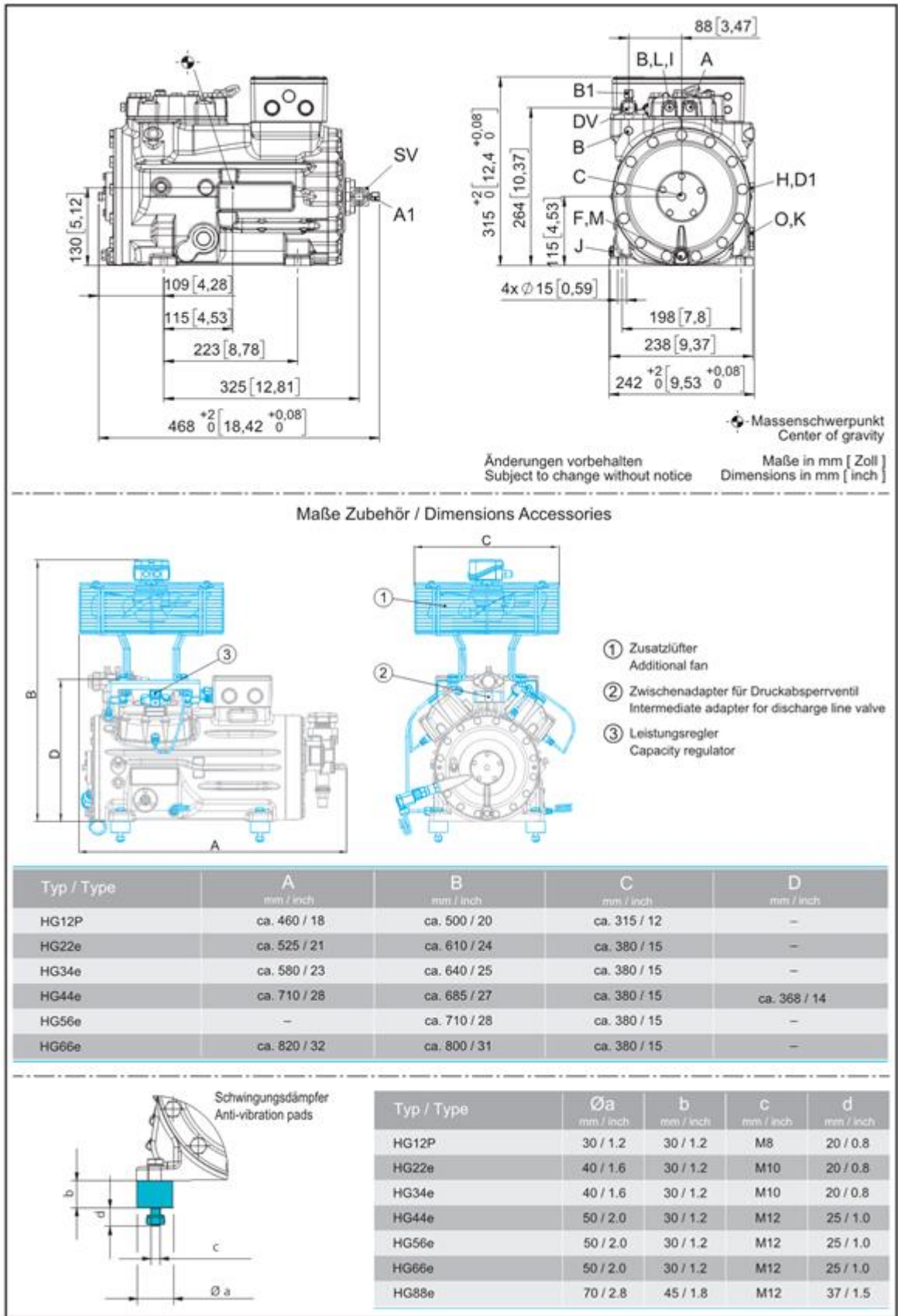
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**Subject:**

SV	Suction line valve, tube \varnothing ¹⁾	22 mm - 7/8 "
DV	Discharge line valve, tube \varnothing ¹⁾	16 mm - 5/8 "
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 12 x 1.5
H	Oil charge plug	1/4 " NPTF
I	Connection hot gas temperature sensor	1/8 " 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
M	Oil strainer	M 12 x 1.5
O	Connection oil level regulator	1 1/8 " - 18 UNEF

1) Brazing connection

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Product photo



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