

HA22e/125-4

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

Refrigerant: R22

Subject: Предварительный расчет

Performance data

Application: Refrigeration & AC

Refrigerant	R22	Compressor refrigeration capacity	1.60 kW
Reference temperature	Dew point	Evaporator refrigeration capacity	1.60 kW
Power supply	50 Hz, 400 V	Power consumption	1.27 kW
Supply frequency	50 Hz	Current draw (400 V)	3.46 A
Evaporating temperature	-35.0 °C	Coefficient of performance (COP/EER)	1.26
Evaporating pressure (abs.)	1.32 bar	Condensing capacity	2.68 kW
Condensing temperature	40.0 °C	Mass flow	0.009 kg/s
Condensing pressure (abs.)	15.33 bar	Discharge end temperature	131.1 °C ¹⁾
Suction gas temperature	20 °C		
Subcooling (outside cond.)	0 K		
Usable superheat	100%		

Preliminary capacity data.

- 1) The information about the discharge end temperature is a purely calculated value. Among other things, the heat dissipation of the compressor is not taken into account. In reality, the deviations from the actually measured discharge end temperature can vary depending on e.g. the ambient temperature, superheat, etc. The displayed discharge end temperature is limited to a minimum value of 60°C, which is indicated by a preceding "<" sign.

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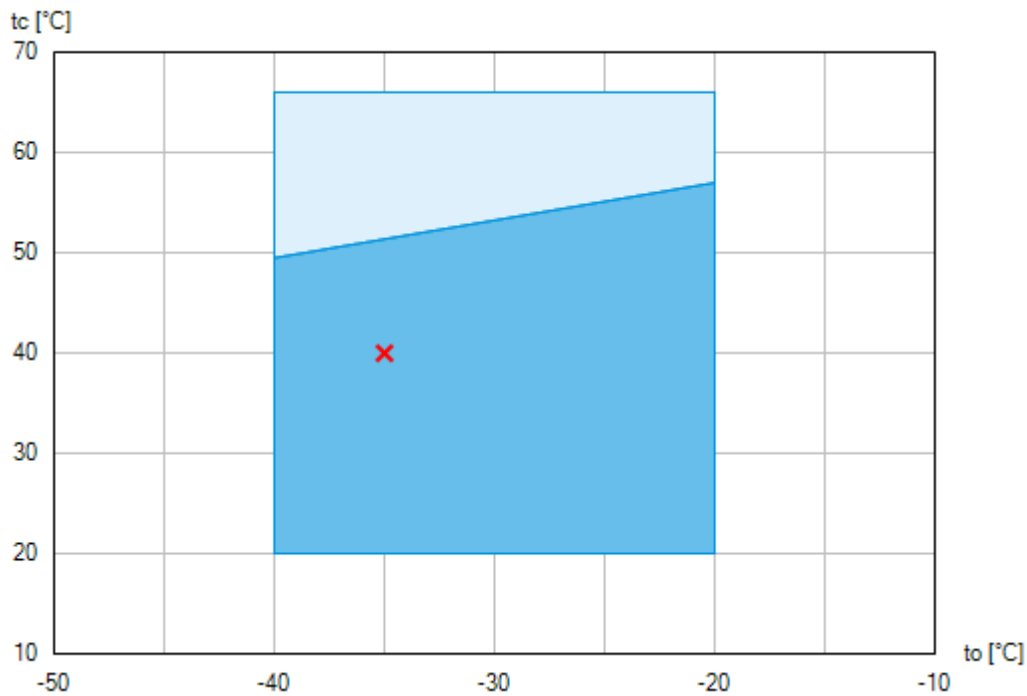
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Operating limits



-  Unlimited application range
-  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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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⁾	8.1 / 4.7 A
Max. power consumption ²⁾	2.4 kW
Starting current (rotor blocked) ²⁾	69.0 / 40.0 A
Motor protection	INT69 G
Protection terminal box / HA-fan	IP 66 / IP 44
Voltage HA-fan	230 V - 1 - 50/60 Hz, 38 W
Weight	75 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	1,1 Ltr.
Dimensions Length / Width / Height	524 / 303 / 315 mm

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).

4) LP = Low pressure
HP = High pressure

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Performance data table

Application: Refrigeration & AC

Reference temperature: Dew point

Supply frequency: 50 Hz

Voltage: 400 V

Suction gas temperature: 20 °C

Subcooling (outside cond.): 0 K

tc [°C]		to [°C]											
		-20.0	-25.0	-30.0	-35.0	-40.0	-45.0						
20.0	Q [W]	4860	3860	3010	2290	1690							
	P [kW]	1.57	1.47	1.35	1.22	1.09							
	I [A]	3.72	3.63	3.53	3.42	3.32							
25.0	Q [W]	4560	3610	2800	2110	1540							
	P [kW]	1.66	1.53	1.39	1.24	1.09							
	I [A]	3.80	3.69	3.56	3.44	3.33							
30.0	Q [W]	4270	3360	2590	1930	1390							
	P [kW]	1.73	1.58	1.42	1.26	1.09							
	I [A]	3.88	3.74	3.59	3.45	3.33							
35.0	Q [W]	3990	3120	2390	1760	1240							
	P [kW]	1.80	1.63	1.45	1.27	1.09							
	I [A]	3.95	3.78	3.61	3.46	3.32							
40.0	Q [W]	3710	2890	2190	1600	1100							
	P [kW]	1.86	1.67	1.47	1.27	1.07							
	I [A]	4.01	3.82	3.63	3.46	3.31							
45.0	Q [W]	3440	2660	2000	1440	964							
	P [kW]	1.92	1.70	1.48	1.26	1.05							
	I [A]	4.07	3.85	3.64	3.46	3.30							
50.0	Q [W]	3180	2440	1820	1290	836							
	P [kW]	1.96	1.73	1.49	1.25	1.03							
	I [A]	4.12	3.87	3.65	3.45	3.28							
55.0	Q [W]	2920	2230	1640	1140	713							
	P [kW]	2.00	1.74	1.49	1.24	1.00							
	I [A]	4.16	3.89	3.65	3.44	3.26							

Preliminary capacity data.



Reduced suction gas temperature ($\Delta t_{oh} < 20K$)

- 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

Motor is cooled by an integrated ventilator with air deflection hood.
230 V - 1 - 50/60 Hz, 38 W, 0,17 A

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:

HA: **BOCK**lub A46

HAX: **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⁾

Thermal protection thermostat per cylinder cover ³⁾

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

DP-Modbus Gateway 115-230 V AC, 50/60 Hz, IP00 including adapter cable ²⁾

Modbus-LAN Gateway 230 V AC, 50/60 Hz, IP00 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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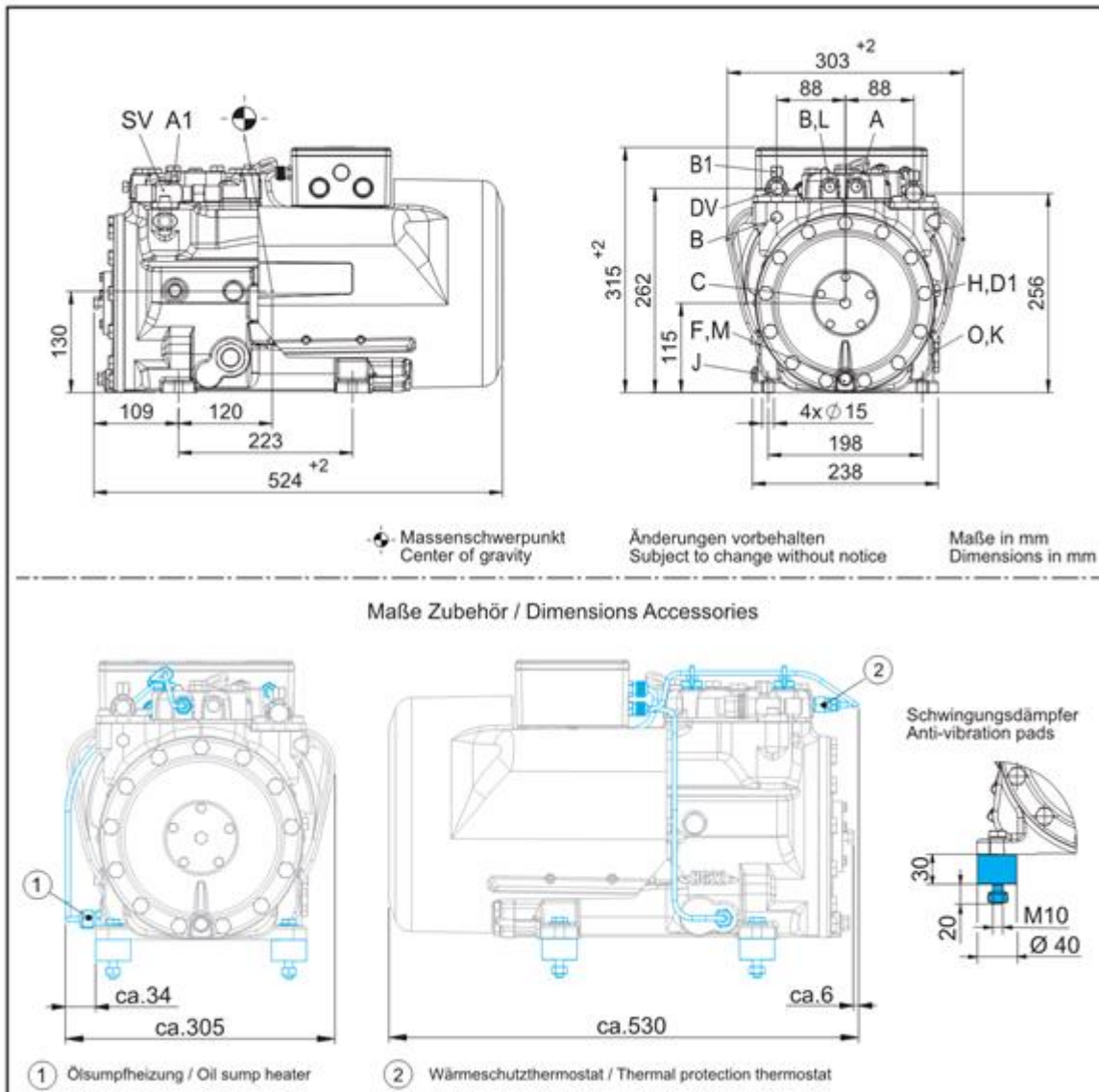
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Dimensions and connections



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SV	Suction line valve, tube \varnothing ¹⁾	16 mm - 5/8 "
DV	Discharge line valve, tube \varnothing 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 12 x 1.5
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
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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