



Subject:

Performance data

Application: Refrigeration & AC

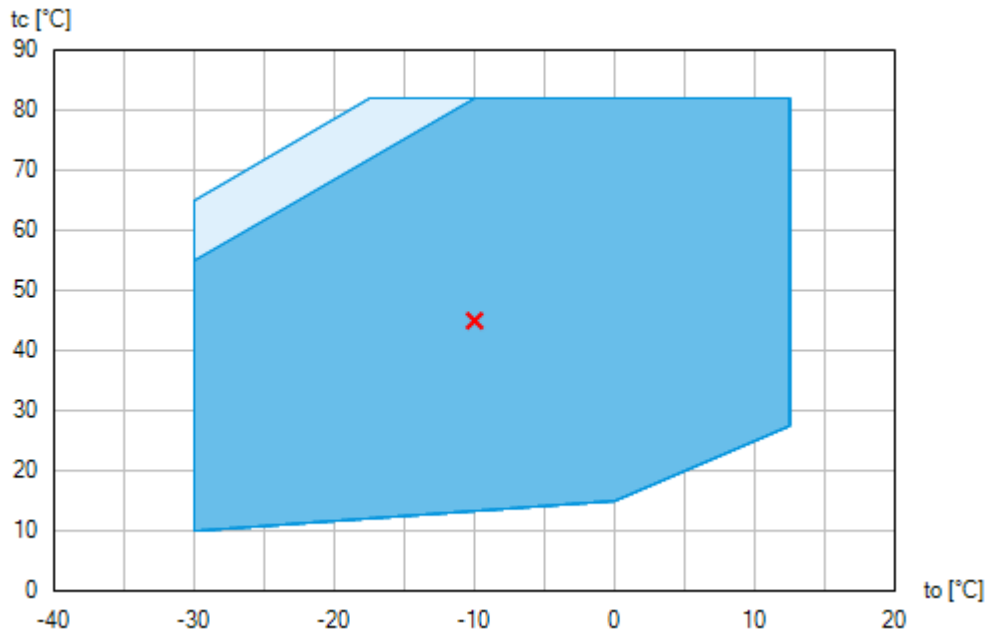
Refrigerant	R513A	Compressor refrigeration capacity	46.30 kW
Reference temperature	Dew point	Evaporator refrigeration capacity	46.30 kW
Power supply	50 Hz, 400 V	Power consumption	19.20 kW
Supply frequency	50 Hz	Current draw (400 V)	41.10 A
Evaporating temperature	-10.0 °C	Coefficient of performance (COP/EER)	2.40
<i>Evaporating pressure (abs.)</i>	<i>2.23 bar</i>	Condensing capacity	65.50 kW
Condensing temperature	45.0 °C	Mass flow	0.395 kg/s
<i>Condensing pressure (abs.)</i>	<i>12.17 bar</i>	Discharge end temperature	66.2 °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.

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).



Subject:

Technical data

Number of cylinders / Bore / Stroke	6 / 80 mm / 58 mm
Displacement 50/60 Hz (1450/1740 ¹ /min)	152,2 / 182,6 m ³ /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⁾	71.9 A
Max. power consumption ²⁾	42.4 kW
Starting current (rotor blocked) ²⁾	196.0 / 335.0 A
Motor protection	INT69 G
Protection terminal box	IP 66
Weight	280 kg
Frequency range ³⁾	25 - 60 Hz
Max. permissible overpressure (g) (LP/HP) ⁴⁾	19 / 28 bar
Connection suction line SV	54 mm - 2 1/8 "
Connection discharge line DV	42 mm - 1 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	4,4 Ltr.
Oil sump heater	230 V - 1 - 50/60 Hz, 160 W
Dimensions Length / Width / Height	810 / 557 / 467 mm
Sound power level L _{WA} ⁵⁾	88 dB(A) @ -35 °C / +40 °C
	83 dB(A) @ -10 °C / +45 °C
Sound pressure level L _{pA} ⁵⁾	75 dB(A) @ -35 °C / +40 °C
	70 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

PW = part winding, motors for part winding starting
 (no start unloaders required)
 Designs for Y/D on request

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Subject:

- 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
- 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.



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] P [kW] I [A]									28500 9.77 33.10	
15.0	Q [W] P [kW] I [A]			110000 14.30 36.50	89500 14.20 36.40	72000 13.70 36.00	57100 13.00 35.40	44700 12.10 34.70	34500 11.00 34.00	26400 9.99 33.20	
20.0	Q [W] P [kW] I [A]		127000 16.00 37.90	105000 16.00 38.00	85100 15.60 37.60	68200 14.80 36.90	53800 13.80 36.10	41800 12.60 35.20	32000 11.40 34.20	24200 10.20 33.40	
25.0	Q [W] P [kW] I [A]	146000 17.80 39.70	121000 17.90 39.80	99200 17.60 39.50	80400 16.90 38.80	64200 15.80 37.80	50400 14.60 36.70	38900 13.20 35.60	29500 11.80 34.50	21900 10.40 33.50	
30.0	Q [W] P [kW] I [A]	138000 20.10 42.00	114000 19.80 41.70	93300 19.20 41.00	75300 18.10 40.00	59900 16.80 38.70	46800 15.30 37.30	35800 13.70 36.00	26800 12.10 34.70	19700 10.50 33.60	
35.0	Q [W] P [kW] I [A]	130000 22.30 44.40	107000 21.70 43.70	87200 20.60 42.60	70100 19.30 41.10	55400 17.70 39.60	43000 15.90 37.90	32700 14.10 36.30	24200 12.30 34.90	17500 10.70 33.70	
40.0	Q [W] P [kW] I [A]	121000 24.40 46.80	99600 23.40 45.60	80900 22.00 44.10	64700 20.40 42.30	50900 18.50 40.40	39200 16.50 38.50	29500 14.50 36.70	21700 12.60 35.10	15400 10.70 33.80	
45.0	Q [W] P [kW] I [A]	113000 26.30 49.20	92100 25.00 47.50	74400 23.30 45.50	59200 21.30 43.30	46300 19.20 41.10	35400 17.00 38.90	26500 14.80 36.90	19200 12.70 35.20	13500 10.80 33.80	
50.0	Q [W] P [kW] I [A]	104000 28.20 51.50	84300 26.50 49.30	67800 24.50 46.90	53600 22.20 44.30	41600 19.80 41.70	31700 17.40 39.30	23500 15.00 37.10	16900 12.80 35.20	11700 10.70 33.70	
55.0	Q [W] P [kW] I [A]	94400 29.90 53.70	76500 27.80 51.10	61100 25.50 48.10	48000 23.00 45.20	37100 20.40 42.30	28000 17.70 39.60	20600 15.10 37.20	14800 12.70 35.20	10200 10.60 33.60	
60.0	Q [W] P [kW] I [A]	85100 31.40 55.80	68500 29.00 52.60	54400 26.40 49.20	42500 23.60 45.90	32600 20.70 42.70	24500 17.90 39.80	18000 15.20 37.20	12800 12.60 35.10	8840 10.30 33.50	
65.0	Q [W] P [kW] I [A]	75800 32.80 57.70	60500 30.10 54.00	47700 27.10 50.20	37000 24.10 46.50	28200 21.00 43.00	21100 17.90 39.80	15500 15.00 37.10	11200 12.40 34.90	7840 10.00 33.20	
70.0	Q [W] P [kW] I [A]	66400 34.00 59.40	52600 31.00 55.20	41100 27.70 50.90	31600 24.40 46.80	24000 21.10 43.10	18000 17.90 39.70	13300 14.80 36.90	9720 12.00 34.70		
75.0	Q [W] P [kW] I [A]	57100 35.00 60.90	44700 31.70 56.20	34600 28.20 51.50	26500 24.60 47.00	20100 21.00 43.00	15100 17.60 39.50	11400 14.40 36.60			

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80.0	Q [W]	47800	36900	28300	21500	16300	12500				
	P [kW]	35.90	32.20	28.40	24.60	20.80	17.20				
	I [A]	62.10	56.90	51.80	47.00	42.80	39.10				

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

Subject:

Scope of supply

Semi-hermetic six-cylinder reciprocating compressor with drive motor for part winding start
Single-section compressor housing with hermetically integrated electric motor

Rear bearing flange prepared for oil differential pressure sensor DELTA-P II

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

Oil pump

Possibility of connection of oil level controllers ESK, AC+R or CARLY

Possibility of connection of oil level controllers Traxoil ¹⁾

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

Sight glass

Internal safety valve

Suction and discharge line valve

Inert gas charge

Accessories

Capacity regulator 110 V - 1 - 50/60 Hz, IP65
1-2 capacity regulator = 66/33% residual capacity ²⁾

Capacity regulator 230 V - 1 - 50/60 Hz, IP65
1-2 capacity regulator = 66/33% residual capacity ²⁾

Cylinder cover prepared for capacity regulator ³⁾

Oil sump heater 230 V - 1 - 50/60 Hz, 160 W ³⁾

USB converter for INT69 G Diagnose ⁴⁾

Oil service valve

INT69 G Diagnose 115-230 V AC, 50/60 Hz, IP00 (INT69 G not applicable) ³⁾

Oil pressure safety switch MP54 230 V - 1 - 50/60 Hz, IP20 ⁴⁾

INT69 GTML Diagnose 115-230 V AC, 50/60 Hz, IP00, including oil differential pressure sensor INT250G,
thermal protection thermostat per cylinder covers, (INT69 G not applicable) ⁴⁾

Thermal protection thermostat per cylinder cover ³⁾

Oil differential pressure sensor DELTA-P II 220-240 V - 1 - 50/60 Hz ⁴⁾

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Subject:

Connection piece suction and discharge valve in welding design

Oil temperature sensor (Pt1000, for external evaluation) 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 ⁴⁾

Step protection ⁴⁾

Injection nozzle for liquid injection ⁴⁾

4 anti-vibration pads enclosed

Special voltage and/or frequency (on request)

-
- 1) Only with additional adapter possible
 - 2) Capacity regulator premounted, control unit enclosed
 - 3) Mounted
 - 4) Enclosure

BOCK® HGX66e/1750-4
Engine: 380-420V Y/YY -3- 50Hz PW
Refrigerant: R513A



Subject:

Dimensions and connections

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To:

From:

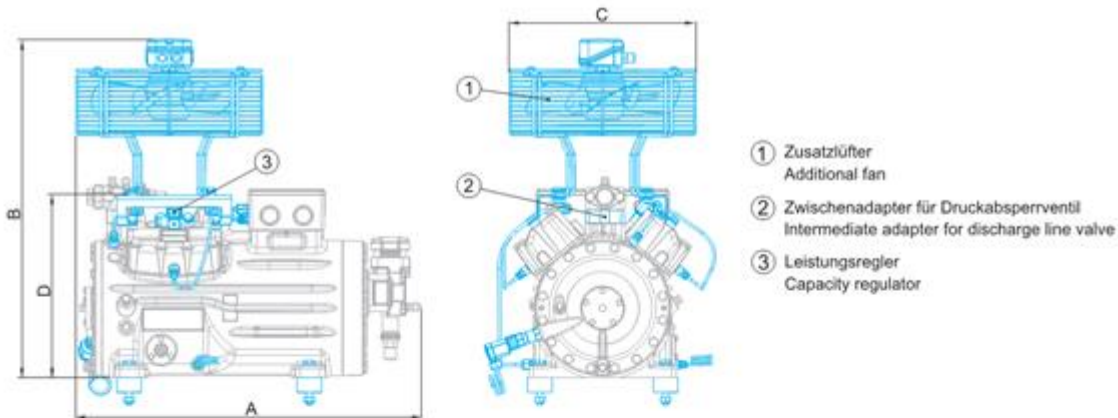
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Subject:

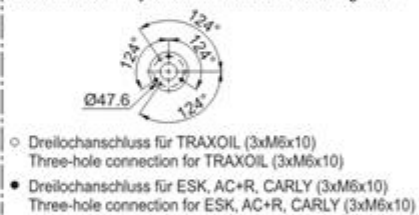


Maße Zubehör / Dimensions Accessories



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	ca. 380 / 15	-
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	-

Ansicht X: Anschlussmöglichkeit für Ölspiegelregulator
 View X: Possibility of connection of oil level regulator



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 / 1.2	M12	25 / 1.0
HG56e	50 / 2.0	30 / 1.2	M12	25 / 1.0
HG66e	50 / 2.0	30 / 1.2	M12	25 / 1.0
HG88e	70 / 2.8	45 / 1.8	M12	37 / 1.5

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Subject:

SV	Suction line valve, tube \varnothing ¹⁾	54 mm - 2 1/8 "
DV	Discharge line valve, tube \varnothing ¹⁾	42 mm - 1 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
D	Connection oil pressure safety switch LP	7/16 " UNF
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	3 x M 6
L	Connection thermal protection thermostat	1/8 " NPTF
M	Oil strainer	M 12 x 1.5
O	Connection oil level regulator	3 x M 6
ÖV	Connection oil service valve	1/4 " NPTF
P	Connection oil differential pressure sensor	M 20 x 1.5
Q	Connection oil temperature sensor	1/8" NPTF
W	Connection for refrigerant injection	2 x 1/8" NPTF

1) Brazing connection

BOCK® HGX66e/1750-4
Engine: 380-420V Y/YY -3- 50Hz PW
Refrigerant: R513A



Subject:

Product photo



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