

HGX56e/850-4 S

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

Refrigerant: R404A, R507

Subject:

Performance data

Application: Refrigeration & AC

Refrigerant	R404A, R507	Compressor refrigeration capacity	38.10 kW
Reference temperature	Dew point	Evaporator refrigeration capacity	38.10 kW
Power supply	50 Hz, 400 V	Power consumption	16.00 kW
Supply frequency	50 Hz	Current draw (400 V)	28.40 A
Evaporating temperature	-10.0 °C	Coefficient of performance (COP/EER)	2.38
<i>Evaporating pressure (abs.)</i>	<i>4.34 bar</i>	Condensing capacity	54.20 kW
Condensing temperature	45.0 °C	Mass flow	0.317 kg/s
<i>Condensing pressure (abs.)</i>	<i>20.47 bar</i>	Discharge end temperature	89.7 °C ¹⁾
Suction gas temperature	20 °C		
Subcooling (outside cond.)	0 K		
Usable superheat	100%		

Preliminary capacity data.

- 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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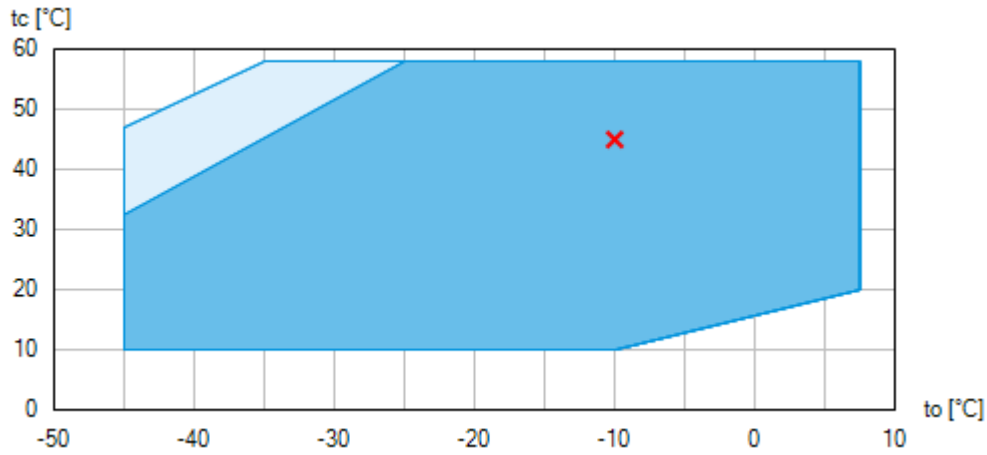
HGX56e/850-4 S



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

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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	6 / 60 mm / 50 mm
Displacement 50/60 Hz (1450/1740 1/min)	73,80 / 88,60 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⁾	39.4 A
Max. power consumption ²⁾	23.5 kW
Starting current (rotor blocked) ²⁾	125.0 / 209.0 A
Motor protection	INT69 G
Protection terminal box	IP 66
Weight	211 kg
Frequency range ³⁾	25 - 70 Hz
Max. permissible overpressure (g) (LP/HP) ⁴⁾	19 / 28 bar
Connection suction line SV	54 mm - 2 1/8 "
Connection discharge line DV	35 mm - 1 3/8 "
Lubrication	Oil pump
Oil type R134a, R404A, R407A/C/F, R448A, R449A, R450A, R513A	BOCKlub E55
Oil type R22	BOCKlub A46
Oil charge	3,2 Ltr.
Oil sump heater	230 V - 1 - 50/60 Hz, 160 W
Dimensions Length / Width / Height	740 / 436 / 429 mm
Sound power level L _{WA} ⁵⁾	83 db(A) @ -35/+40 °C
	79 db(A) @ -10/+45 °C
	77 db(A) @ +5/+50 °C
Sound pressure level L _{pA} ⁵⁾	69 db(A) @ -35/+40 °C
	66 db(A) @ -10/+45 °C
	64 db(A) @ +5/+50 °C

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- 1) 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
- 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.

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Subject:

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]									
		0.0	-5.0	-10.0	-15.0	-20.0	-25.0	-30.0	-35.0	-40.0	-45.0
10.0	Q [W]			64300	52700	42800	34400	27200	21200	16300	12200
	P [kW]			7.75	8.20	8.32	8.14	7.71	7.08	6.30	5.41
	I [A]			18.60	19.00	19.10	19.00	18.50	17.90	17.20	16.40
15.0	Q [W]		73200	60700	49700	40300	32300	25500	19800	15000	11100
	P [kW]		8.99	9.47	9.60	9.42	8.98	8.32	7.50	6.56	5.55
	I [A]		19.90	20.40	20.50	20.30	19.80	19.10	18.30	17.40	16.50
20.0	Q [W]	82600	68900	57000	46700	37800	30200	23700	18300	13700	9870
	P [kW]	10.30	10.80	10.90	10.70	10.30	9.65	8.79	7.80	6.72	5.61
	I [A]	21.30	21.90	22.10	21.80	21.30	20.60	19.60	18.60	17.60	16.50
25.0	Q [W]	77400	64600	53300	43600	35200	28000	22000	16800	12500	8740
	P [kW]	12.30	12.40	12.20	11.80	11.10	10.20	9.15	8.01	6.82	5.62
	I [A]	23.70	23.80	23.60	23.00	22.20	21.20	20.00	18.80	17.70	16.50
30.0	Q [W]	72300	60200	49600	40500	32600	25900	20200	15300	11200	7630
	P [kW]	14.10	13.90	13.40	12.60	11.70	10.60	9.42	8.15	6.86	5.61
	I [A]	25.90	25.60	25.00	24.10	22.90	21.70	20.30	19.00	17.70	16.50
35.0	Q [W]	67000	55700	45800	37300	30000	23700	18400	13900	9930	6530
	P [kW]	15.60	15.10	14.40	13.40	12.20	10.90	9.63	8.25	6.89	5.60
	I [A]	28.00	27.30	26.30	25.00	23.60	22.10	20.50	19.10	17.70	16.50
40.0	Q [W]	61700	51200	42000	34100	27300	21600	16600	12400	8690	5440
	P [kW]	17.10	16.20	15.20	14.00	12.70	11.20	9.80	8.33	6.92	5.61
	I [A]	29.90	28.80	27.40	25.80	24.10	22.40	20.70	19.20	17.70	16.50
45.0	Q [W]	56300	46600	38100	30900	24700	19400	14800	10900	7450	4380
	P [kW]	18.30	17.30	16.00	14.60	13.00	11.50	9.95	8.42	6.97	5.67
	I [A]	31.70	30.20	28.40	26.50	24.60	22.70	20.90	19.20	17.80	16.60
50.0	Q [W]	50900	41900	34200	27600	22000	17100	13000	9400	6230	
	P [kW]	19.50	18.20	16.70	15.10	13.40	11.70	10.10	8.54	7.08	
	I [A]	33.40	31.50	29.40	27.20	25.00	23.00	21.10	19.40	17.90	
55.0	Q [W]	45400	37200	30200	24300	19200	14900	11200	7910		
	P [kW]	20.60	19.00	17.30	15.50	13.80	12.00	10.30	8.71		
	I [A]	35.00	32.70	30.30	27.80	25.50	23.30	21.30	19.60		

Preliminary capacity data.



Supplementary cooling or 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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Subject:

Scope of supply

Semi-hermetic six-cylinder reciprocating compressor with drive motor
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⁾

Possibility for connection of oil pressure safety switch MP54

Oil charge:

HG: **BOCK**lub A46

HGX: **BOCK**lub E55

Sight glass

Pressure relief valve

Suction and discharge line valve

Inert gas charge

Accessories

(Digital) capacity regulator DCR14 230 V - 1 - 50/60 Hz, IP65
possible equipment see Capacity regulator 09900-DGbF

Cylinder cover prepared for digital capacity regulator

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

USB converter for INT69 G Diagnose ²⁾

Oil temperature sensor (Pt1000, for external evaluation)

Thermal protection thermostat per cylinder cover

Oil pressure safety switch MP54 230 V - 1 - 50/60 Hz, IP20 ²⁾

Oil differential pressure sensor DELTA-P II 220-240 V - 1 - 50/60 Hz ²⁾

Connection piece suction and discharge valve in welding design

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⁾

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

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Subject:

Modbus-LAN Gateway 230 V AC, 50/60 Hz, IP00 ²⁾

Additional fan

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

230 V AC - 1 - 60 Hz, 128 W ²⁾

Injection nozzle for liquid injection 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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Subject:

Dimensions and connections

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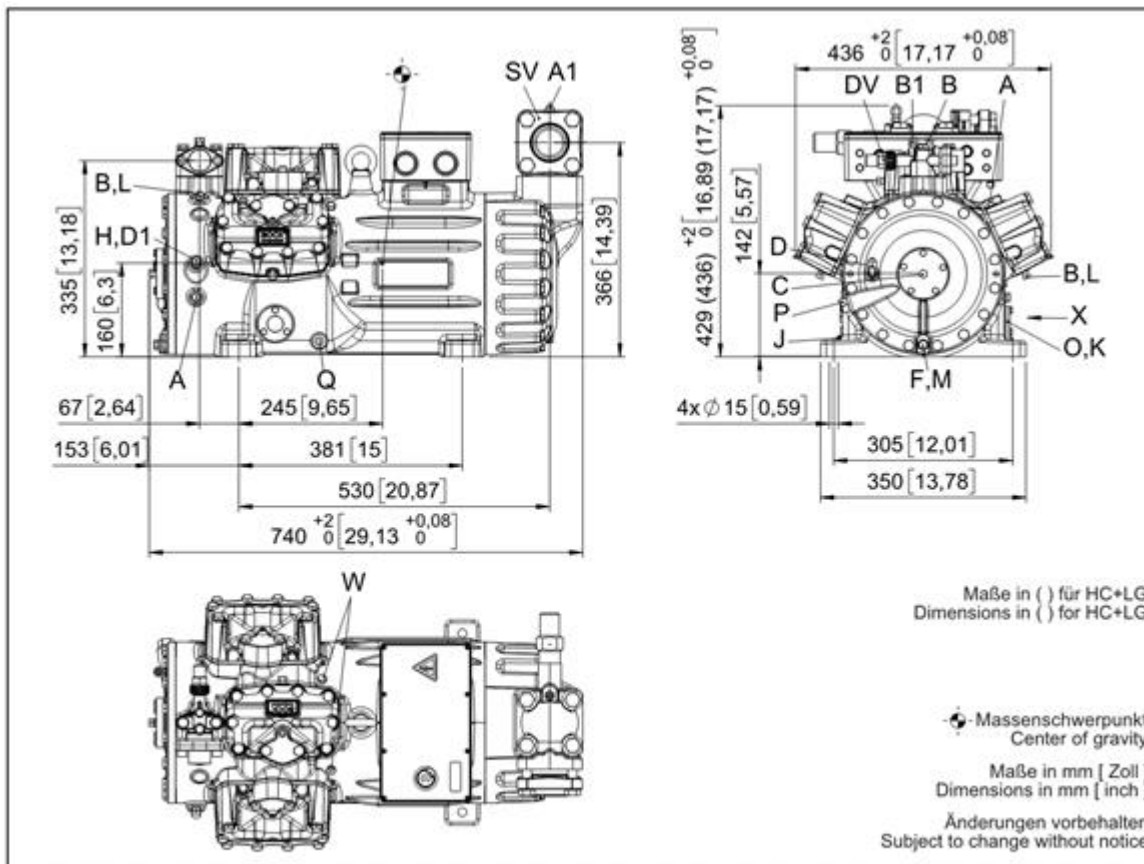
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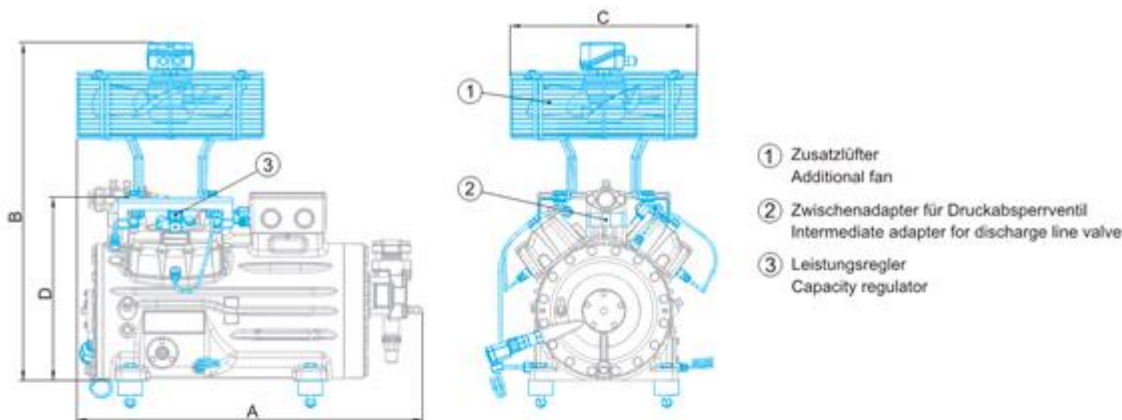
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Refrigerant: R404A, R507

Subject:



Maße Zubehör / Dimensions Accessories

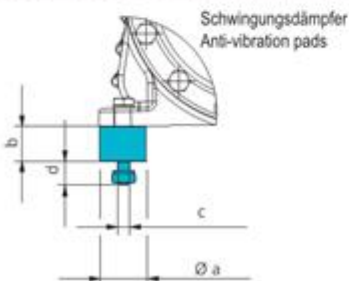


Typ / Type	A mm / inch	B mm / inch	C mm / inch	D mm / inch
HG12P	ca. 460 / 18	ca. 500 / 20	ca. 315 / 12	-
HG22e	ca. 525 / 21	ca. 610 / 24	ca. 380 / 15	-
HG34e	ca. 580 / 23	ca. 640 / 25	ca. 380 / 15	-
HG44e	ca. 710 / 28	ca. 685 / 27	ca. 380 / 15	368 / 14
HG56e	-	ca. 710 / 28	ca. 380 / 15	-
HG66e	ca. 820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

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



- Dreilochanschluss für TRAXOIL (3xM6x10)
Three-hole connection for TRAXOIL (3xM6x10)
- Dreilochanschluss für ESK, AC+R, CARLY (3xM6x10)
Three-hole connection for ESK, AC+R, CARLY (3xM6x10)



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⁾	35 mm - 1 3/8 "
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
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
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

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Subject:

BOCK colour the world
of tomorrow

Product photo



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