

# HGX6/1240-4 R134a

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

Refrigerant: R134a

Subject:

## Performance data

### Application: Refrigeration & AC

Refrigerant	R134a	Compressor refrigeration capacity	58.00 kW
Reference temperature	Dew point	Evaporator refrigeration capacity	58.00 kW
Power supply	50 Hz, 400 V	Power consumption	18.80 kW
Supply frequency	50 Hz	Current draw (400 V)	34.70 A
Evaporating temperature	5.0 °C	Coefficient of performance (COP/EER)	3.08
<i>Evaporating pressure (abs.)</i>	<i>3.50 bar</i>	Condensing capacity	76.90 kW
Condensing temperature	50.0 °C	Mass flow	0.406 kg/s
<i>Condensing pressure (abs.)</i>	<i>13.17 bar</i>	Discharge end temperature	82.2 °C <sup>1)</sup>
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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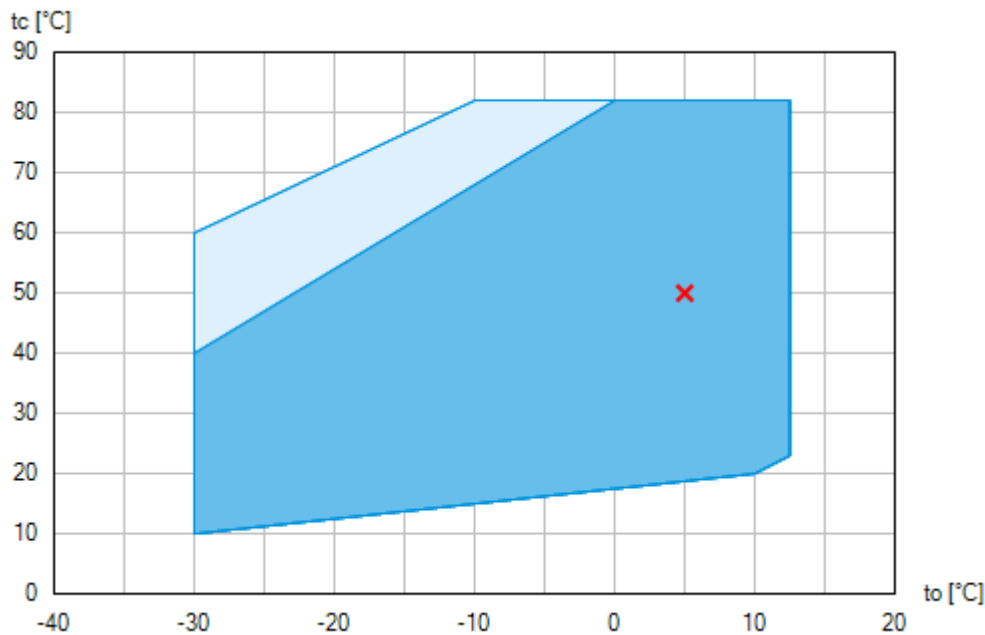
# HGX6/1240-4 R134a



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## 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.

Restrictions to the operating limits may occur when using the Bock EFC (Electronic-Frequency-Control).

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## Technical data

Number of cylinders / Bore / Stroke	4 / 75 mm / 70 mm
Displacement 50/60 Hz (1450/1740 1/min)	107,60 / 129,10 m <sup>3</sup> /h
Voltage <sup>1)</sup>	380-420V Y/YY -3- 50Hz PW
	440-480V Y/YY -3- 60Hz PW
Winding divided into	66% / 33%
Max. working current <sup>2)</sup>	48.0 A
Max. power consumption <sup>2)</sup>	28.2 kW
Starting current (rotor blocked) <sup>2)</sup>	156.0 / 193.0 A
Motor protection	MP10
Protection terminal box	IP 65
Weight	222 kg
Max. permissible overpressure (g) (LP/HP) <sup>3)</sup>	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	BOCKlub E55
Oil charge	3,6 Ltr.
Oil sump heater	230 V - 1 - 50/60 Hz, 140 W
Dimensions Length / Width / Height	850 / 455 / 405 mm

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 ( $\Delta/Y$ ) motors:  $\Delta / Y$

- 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) 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]								
		10.0	5.0	0.0	-5.0	-10.0	-15.0	-20.0	-25.0	-30.0
30.0	Q [W]	93400	77000	62800	50500	40000	31300	24000	18100	13500
	P [kW]	15.70	14.80	13.80	12.70	11.60	10.50	9.35	8.18	6.99
	I [A]	30.20	28.80	27.40	26.00	24.50	23.10	21.70	20.30	19.00
35.0	Q [W]	87500	72200	58800	47300	37500	29300	22400	16900	12500
	P [kW]	16.90	15.80	14.60	13.50	12.20	11.00	9.72	8.42	7.12
	I [A]	31.80	30.20	28.60	27.00	25.30	23.70	22.10	20.60	19.20
40.0	Q [W]	81700	67400	54900	44100	35000	27300	20900	15600	11400
	P [kW]	18.00	16.80	15.50	14.20	12.80	11.40	10.00	8.61	7.18
	I [A]	33.50	31.70	29.80	28.00	26.10	24.30	22.50	20.80	19.20
45.0	Q [W]	76000	62700	51000	41000	32500	25300	19300	14400	10300
	P [kW]	19.20	17.80	16.40	14.90	13.40	11.80	10.20	8.72	7.15
	I [A]	35.30	33.20	31.10	28.90	26.80	24.80	22.80	21.00	19.20
50.0	Q [W]	70500	58000	47300	38000	30100	23400	17700	13100	9120
	P [kW]	20.30	18.80	17.20	15.50	13.80	12.10	10.40	8.75	7.02
	I [A]	37.00	34.70	32.30	29.90	27.50	25.20	23.10	21.00	19.10
55.0	Q [W]	65000	53500	43500	34900	27600	21400	16100	11700	7920
	P [kW]	21.50	19.70	17.90	16.10	14.30	12.40	10.50	8.68	6.79
	I [A]	38.80	36.10	33.40	30.70	28.10	25.60	23.20	20.90	18.80
60.0	Q [W]	59500	49000	39800	31900	25200	19400	14500	10300	6660
	P [kW]	22.60	20.60	18.70	16.70	14.60	12.60	10.50	8.50	6.44
	I [A]	40.50	37.50	34.50	31.50	28.60	25.80	23.20	20.70	18.50
65.0	Q [W]	54200	44500	36200	29000	22800	17500	12900	8860	
	P [kW]	23.60	21.50	19.30	17.10	14.90	12.70	10.40	8.20	
	I [A]	42.20	38.80	35.50	32.20	29.00	25.90	23.00	20.40	
70.0	Q [W]	48900	40100	32500	26000	20300	15400	11200		
	P [kW]	24.60	22.30	19.90	17.50	15.10	12.60	10.20		
	I [A]	43.80	40.10	36.40	32.70	29.20	25.90	22.70		

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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### Scope of supply

Semi-hermetic four-cylinder reciprocating compressor with drive motor  
Motor unit flanged onto the compressor housing

Oil pump

Winding protection with PTC resistor sensors and electronic trigger unit MP 10

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

Oil pump cover with screw-in option for oil differential pressure sensor DELTA-P II

Possibility of connection of oil level controllers Traxoil <sup>1)</sup>

Oil charge:

**BOCK**lub E55

Sight glass

Pressure relief valve

Suction and discharge line valve

Inert gas charge

4 anti-vibration pads enclosed

### Accessories

Start unloader by means of a ESS (Electronic Soft Start), 400 V - 3 - 50/60 Hz, IP20 (Connection clamps IP00) for installation in switch cabinet <sup>2)</sup>

Oil sump heater 230 V - 1 - 50/60 Hz, 140 W

Thermal protection thermostat per cylinder cover <sup>3)</sup>

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

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

Oil service valve

Connection piece suction and discharge valve in welding design

Intermediate adapter for discharge line valve

Special voltage and/or frequency (on request)

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1) Only with additional adapter possible

2) Enclosure

3) Mounted

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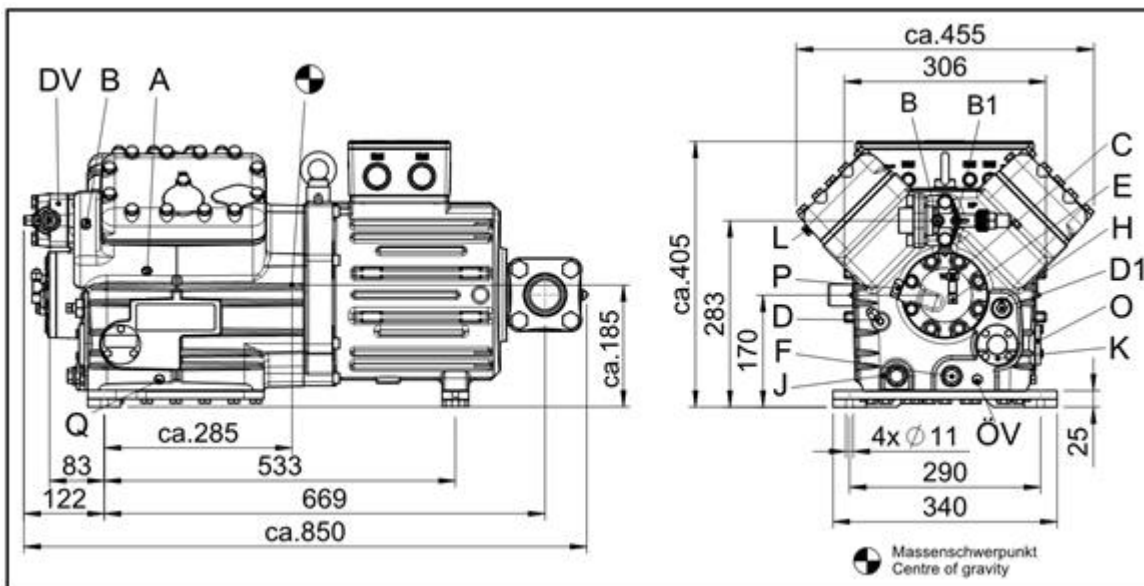
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## Dimensions and connections



SV	Suction line valve, tube $\varnothing$ <sup>1)</sup>	54 mm - 2 1/8 "
DV	Discharge line valve, tube $\varnothing$ <sup>1)</sup>	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	7/16 " UNF
D	Connection oil pressure safety switch LP	7/16 " UNF
D1	Connection oil return from oil separator	1/4 " NPTF
E	Connection oil pressure gauge	7/16 " UNF
F	Oil drain	M 22 x 1.5
H	Oil charge plug	M 22 x 1.5
J	Connection oil sump heater	M 22 x 1.5
K	Sight glass	-
L	Connection thermal protection thermostat	1/8 " NPTF
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

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1) Brazing connection

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### Product photo



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