

# HGX6/1240-4 S

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

Refrigerant: R134a

Subject:

## Performance data

### Application: Refrigeration & AC

Refrigerant	R134a	Compressor refrigeration capacity	50.00 kW
Reference temperature	Dew point	Evaporator refrigeration capacity	50.00 kW
Power supply	50 Hz, 400 V	Power consumption	16.40 kW
Supply frequency	50 Hz	Current draw (400 V)	31.10 A
Evaporating temperature	5.0 °C	Coefficient of performance (COP/EER)	3.04
<i>Evaporating pressure (abs.)</i>	<i>3.50 bar</i>	Condensing capacity	66.40 kW
Condensing temperature	50.0 °C	Mass flow	0.349 kg/s
<i>Condensing pressure (abs.)</i>	<i>13.17 bar</i>	Discharge end temperature	82.8 °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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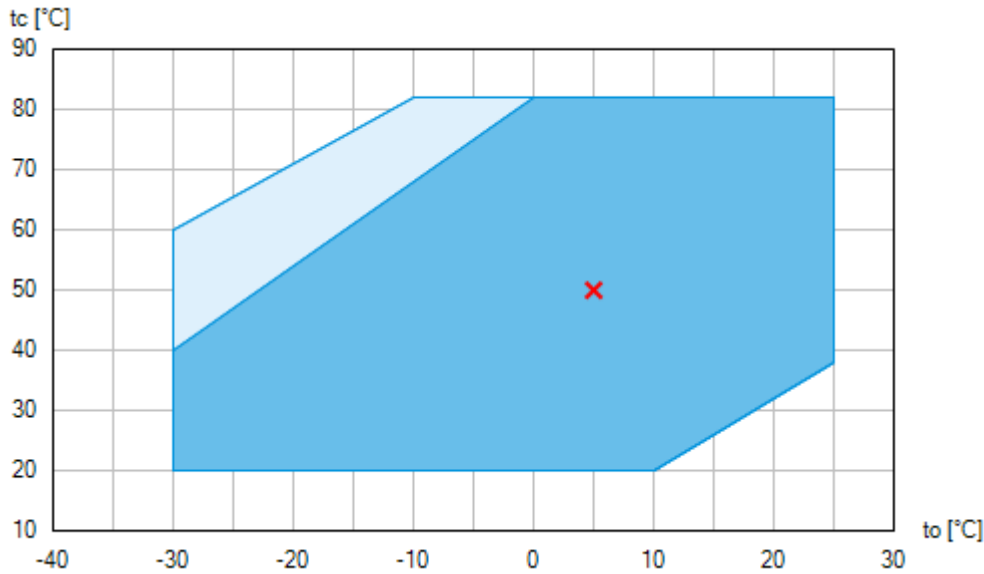
# HGX6/1240-4 S



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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.

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## Technical data

Number of cylinders / Bore / Stroke	4 / 70 mm / 70 mm
Displacement 50/60 Hz (1450/1740 <sup>1</sup> /min)	93,70 / 112,40 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>	59.0 A
Max. power consumption <sup>2)</sup>	33.7 kW
Starting current (rotor blocked) <sup>2)</sup>	156.0 / 193.0 A
Motor protection	MP10
Protection terminal box	IP 65
Weight	223 kg
Max. permissible pressure (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, R404A, R407A/C/F, R448A, R449A, R450A, R513A	FUCHS Reniso Triton SE 55
Oil type R22	FUCHS Reniso SP 46
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 fuses, supply lines and safety devices. Fuse: Consumption category AC3.

3) LP = Low pressure  
HP = High pressure

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# HGX6/1240-4 S

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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]	78200	64700	52900	42700	33900	26400	20100	14700	10200
	P [kW]	14.30	13.30	12.40	11.50	10.70	9.89	9.03	8.14	7.19
	I [A]	28.20	26.80	25.60	24.40	23.40	22.30	21.30	20.30	19.20
35.0	Q [W]	74400	61500	50300	40600	32200	25100	19000	13900	9510
	P [kW]	15.20	14.10	13.10	12.10	11.10	10.20	9.23	8.22	7.15
	I [A]	29.40	27.90	26.50	25.10	23.90	22.70	21.60	20.40	19.20
40.0	Q [W]	70200	58000	47400	38200	30300	23600	17900	13000	8860
	P [kW]	16.10	14.90	13.70	12.60	11.50	10.40	9.35	8.21	7.01
	I [A]	30.70	28.90	27.30	25.80	24.40	23.00	21.70	20.40	19.10
45.0	Q [W]	65600	54200	44200	35600	28300	22000	16700	12100	8240
	P [kW]	17.00	15.60	14.30	13.10	11.80	10.60	9.41	8.12	6.77
	I [A]	32.00	30.00	28.20	26.50	24.80	23.30	21.80	20.30	18.80
50.0	Q [W]	60600	50000	40700	32800	26000	20200	15300	11200	7620
	P [kW]	17.90	16.40	14.90	13.50	12.10	10.80	9.40	7.95	6.45
	I [A]	33.30	31.10	29.00	27.10	25.20	23.50	21.80	20.10	18.50
55.0	Q [W]	55200	45400	36900	29600	23500	18300	13900	10200	6970
	P [kW]	18.80	17.10	15.50	14.00	12.40	10.90	9.33	7.71	6.03
	I [A]	34.70	32.20	29.90	27.70	25.60	23.60	21.70	19.80	18.00
60.0	Q [W]	49300	40300	32700	26200	20700	16100	12300	9020	6270
	P [kW]	19.80	17.90	16.10	14.40	12.60	10.90	9.19	7.39	5.53
	I [A]	36.10	33.30	30.70	28.20	25.90	23.60	21.50	19.50	17.50
65.0	Q [W]	42900	34900	28100	22400	17700	13800	10500	7780	
	P [kW]	20.70	18.70	16.70	14.80	12.80	10.90	9.00	7.00	
	I [A]	37.60	34.50	31.60	28.80	26.10	23.60	21.30	19.10	
70.0	Q [W]	36000	29000	23100	18300	14300	11100	8500		
	P [kW]	21.70	19.50	17.30	15.10	13.00	10.90	8.75		
	I [A]	39.20	35.70	32.40	29.30	26.40	23.60	21.00		

 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

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

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

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

Possibility for connection of oil pressure safety switch MP54

Oil charge:

HG: FUCHS Reniso SP 46

HGX: FUCHS Reniso Triton SE 55

Sight glass

Prepared for capacity regulator (1 cylinder cover)

Pressure relief valve

Suction and discharge line valve

Inert gas charge

4 anti-vibration pads enclosed

### Accessories

Start unloader 230 V - 1 - 50/60 Hz, IP65, less check valve,  
including thermal protection thermostat (posistor tracer)

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>

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

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

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

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

Connection piece suction and discharge valve in welding design

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Water-cooled cylinder covers

GEA Bock Compressor Management BCM2000 including oil pressure control, oil temperature control (NTC), thermal protection thermostat per cylinder covers

#### Additional fan

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

230 V AC - 1 - 60 Hz, 128 W <sup>2)</sup>

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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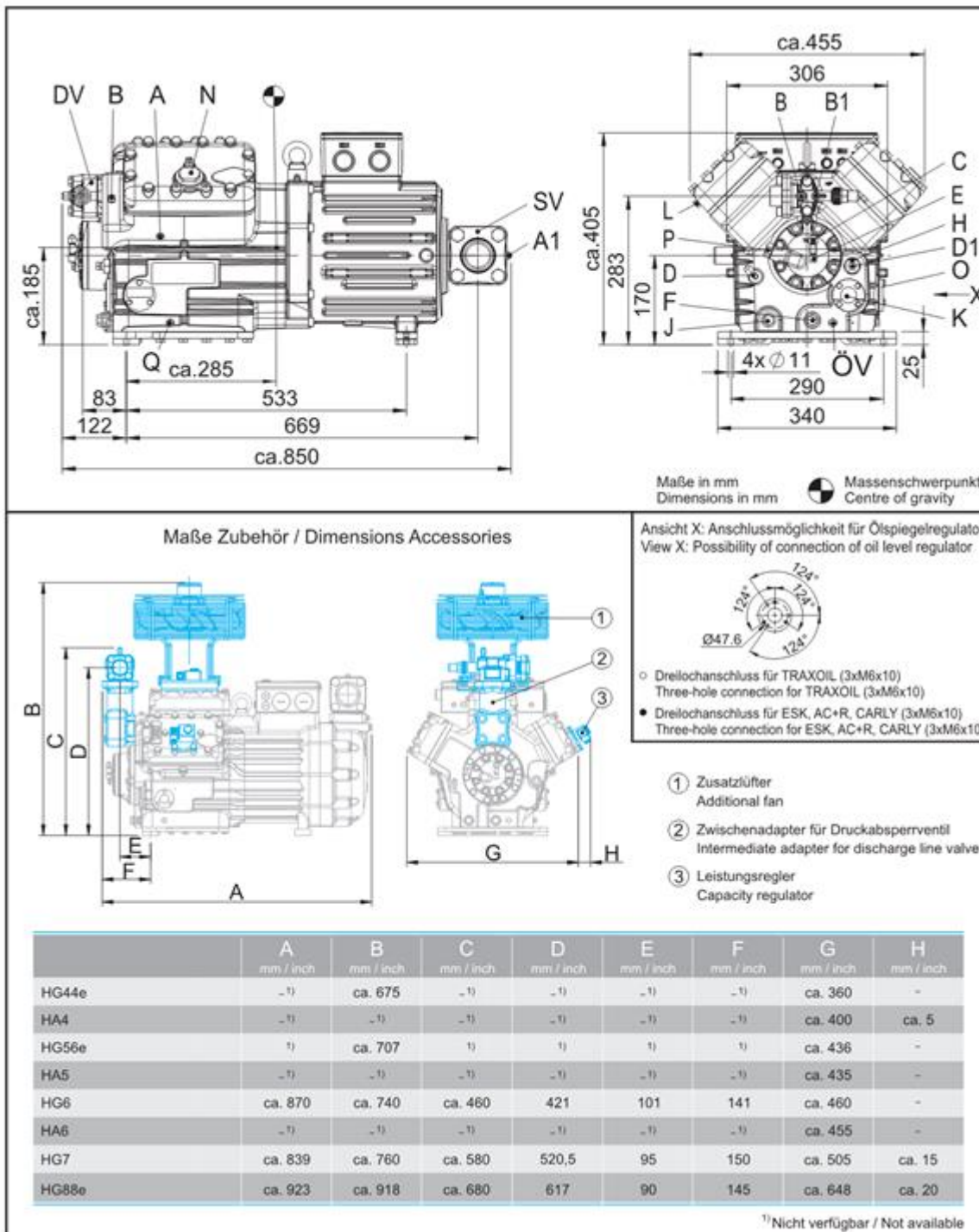
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## Dimensions and connections



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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
N	Connection capacity regulator	M 45 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

1) Brazing connection

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### Product photo



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