

HGX46/280-4 S CO2 T

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

Refrigerant: R744

Subject: Предварительный расчет

Performance data

Application: Refrigeration & AC

Refrigerant	R744	Compressor refrigeration capacity	77.10 kW
Reference temperature	Dew point	Evaporator refrigeration capacity	77.10 kW
Supply frequency	50 Hz	Power consumption	29.40 kW
Power supply	50 Hz, 400 V	Current draw (400 V)	53.10 A
Evaporating temperature	0.1 °C	Coefficient of performance (COP/EER)	2.62
<i>Evaporating pressure (abs.)</i>	<i>34.94 bar</i>	Gas cooler heat rejection	107.00 kW
High pressure (abs.)	90.00 bar	Mass flow	0.520 kg/s
Gas cooler outlet temperature	35.0 °C	Discharge end temperature	93.1 °C ¹⁾
Suction gas superheat	10 K		
Subcooling (outside cond.)	-- 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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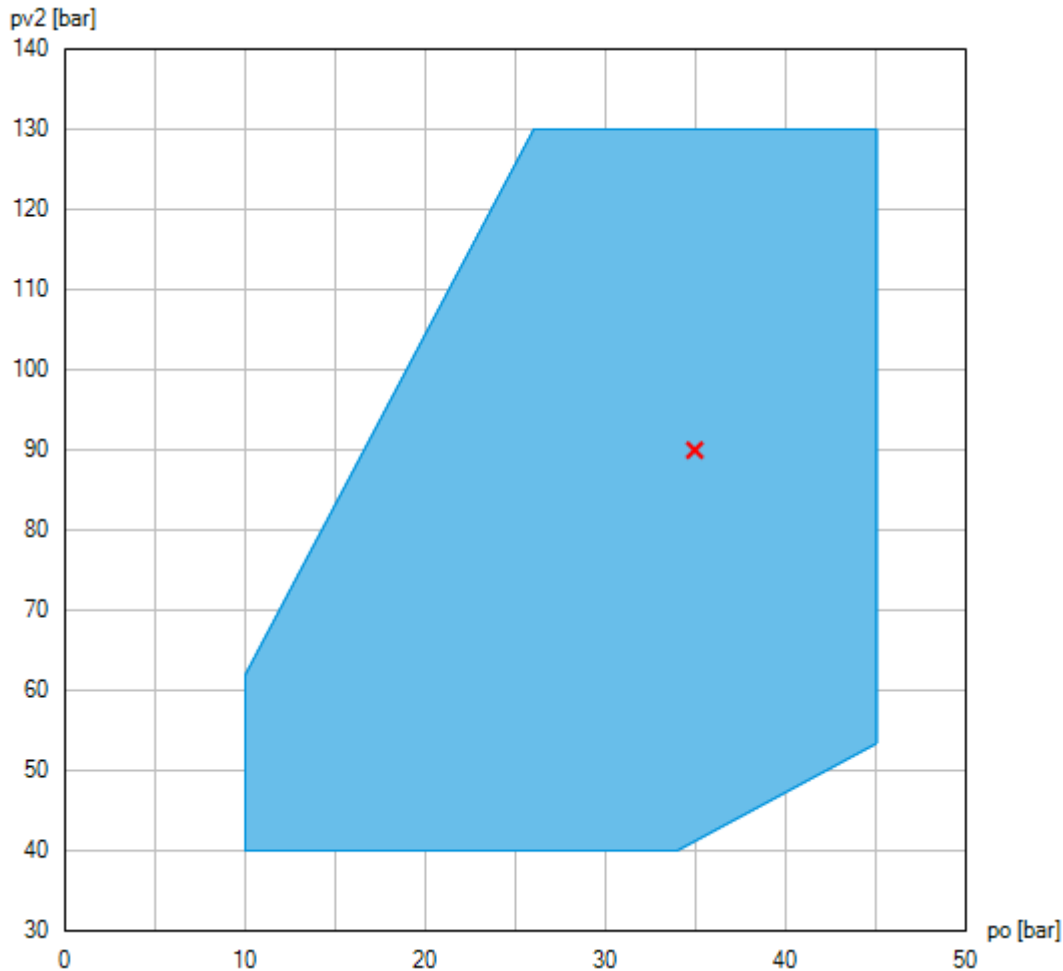
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Operating limits



 Unlimited application range (compressor with DCR22 CO2 flexxCO2NTROL permitted - range preliminary)

Compressor operation is possible within the limits shown on the diagrams of application. Compressor application limits should not be chosen for design purposes or continuous operation.

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Technical data

Number of cylinders / Bore / Stroke	6 / 36 mm / 46 mm
Displacement 50/60 Hz (1450/1740 1/min)	24,40 / 29,30 m³/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)	73.0 A
Max. power consumption 2)	43.1 kW
Starting current (rotor blocked) 2)	196.0 / 335.0 A
Motor protection	INT69 G
Protection terminal box	IP 65
Weight	240 kg
Frequency range 3)	20 - 70 Hz
Max. permissible overpressure (g) (LP/HP) 4)	100 / 150 bar
Connection suction line SV	28 mm - 1 1/8 "
Connection discharge line DV	22 mm - 7/8 "
Lubrication	Oil pump
Oil type R744	BOCKlub E85
Oil charge	2,6 Ltr.
Dimensions Length / Width / Height	774 / 466 / 403 mm
Sound power level L _{WA} 5)	82 dB(A) @ -10 °C / 15 °C / 10 K
	80 dB(A) @ -10 °C / 90 bar / 10 K
	81 dB(A) @ +5 °C / 100 bar / 10 K
Sound pressure level L _{pA} 5)	68 dB(A) @ -10 °C / 15 °C / 10 K
	67 dB(A) @ -10 °C / 90 bar / 10 K
	68 dB(A) @ +5 °C / 100 bar / 10 K

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.

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- 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 R744 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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Performance data table

Application: Refrigeration & AC

Supply frequency: 50 Hz

Voltage: 400 V

Suction gas superheat: 10 K

Subcooling (outside cond.): -- K

Subcritical

tc [°C]		to [°C]									
		5.0	0.0	-5.0	-10.0	-15.0	-20.0	-25.0	-30.0	-35.0	-40.0
10.0	Q [W]		128000	110000	92300	77500	64500	53100	43300	34800	27500
	P [kW]		10.30	12.30	13.70	14.70	15.30	15.50	15.40	14.90	14.20
	I [A]		33.50	34.90	36.00	36.80	37.30	37.50	37.40	37.00	36.40
15.0	Q [W]	138000	119000	101000	84900	71200	59100	48600	39500	31600	24900
	P [kW]	11.30	13.40	15.10	16.20	16.90	17.20	17.20	16.80	16.10	15.20
	I [A]	34.20	35.80	37.10	38.20	38.80	39.10	39.10	38.70	38.10	37.30
20.0	Q [W]	126000	108000	91300	77000	64400	53400	43800	35500	28400	22200
	P [kW]	14.80	16.60	17.90	18.70	19.10	19.10	18.80	18.20	17.30	16.10
	I [A]	36.90	38.50	39.70	40.60	41.00	41.00	40.70	40.10	39.20	38.10
25.0	Q [W]	111000	95100	80900	68100	56900	47100	38500	31200	24800	
	P [kW]	18.40	19.80	20.70	21.20	21.30	21.00	20.40	19.50	18.40	
	I [A]	40.20	41.70	42.70	43.20	43.30	43.00	42.40	41.40	40.20	
30.0	Q [W]	90200	77300	65700	55400	46200	38100	31100	25100		
	P [kW]	22.00	23.00	23.60	23.70	23.50	22.90	22.00	20.80		
	I [A]	44.00	45.20	45.90	46.00	45.80	45.10	44.10	42.80		

Transcritical

tga [°C]		to [°C]									
		5.0	0.0	-5.0	-10.0	-15.0	-20.0	-25.0	-30.0	-35.0	-40.0
30	pV2 [bar]	75	75	75	75	75	75	75	75		
	Q [W]	97900	83700	71000	59700	49800	41100	33600	27100		
	P [kW]	23.20	24.10	24.60	24.60	24.20	23.50	22.50	21.30		
	I [A]	45.40	46.50	47.00	47.00	46.60	45.80	44.70	43.20		
35	pV2 [bar]	85	90	90	90	90	90	90	80		
	Q [W]	85000	76900	65200	54800	45600	37600	30600	16300		
	P [kW]	27.30	29.40	29.20	28.70	27.70	26.50	25.00	22.00		
	I [A]	50.30	53.10	52.90	52.10	50.90	49.40	47.50	44.00		
40	pV2 [bar]	100	100	105	105	105	100	90			
	Q [W]	79500	68000	59500	50000	41600	33200	21500			
	P [kW]	32.70	32.50	33.30	32.20	30.80	28.30	25.00			
	I [A]	57.60	57.40	58.40	56.90	55.00	51.60	47.50			
45	pV2 [bar]	115	115	115	120	115	100				
	Q [W]	73000	62400	52900	45400	36900	24600				
	P [kW]	37.60	36.90	35.80	35.50	32.70	28.30				
	I [A]	64.70	63.60	62.10	61.60	57.60	51.60				
50	pV2 [bar]	130	130	130	130	115	100				
	Q [W]	66500	56900	48200	40400	29900	15900				
	P [kW]	42.30	41.10	39.60	37.80	32.70	28.30				
	I [A]	71.80	70.00	67.70	64.90	57.60	51.60				

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Optimal high pressure is outside of the operating limits. Performance data are indicated at maximal possible high pressure.

t_o Evaporating temperature
t_c Condensing temperature
t_{ga} Gas cooler outlet temperature
p_{V2} High pressure (abs.)
Q Compressor refrigeration capacity
P Power consumption
I Current draw

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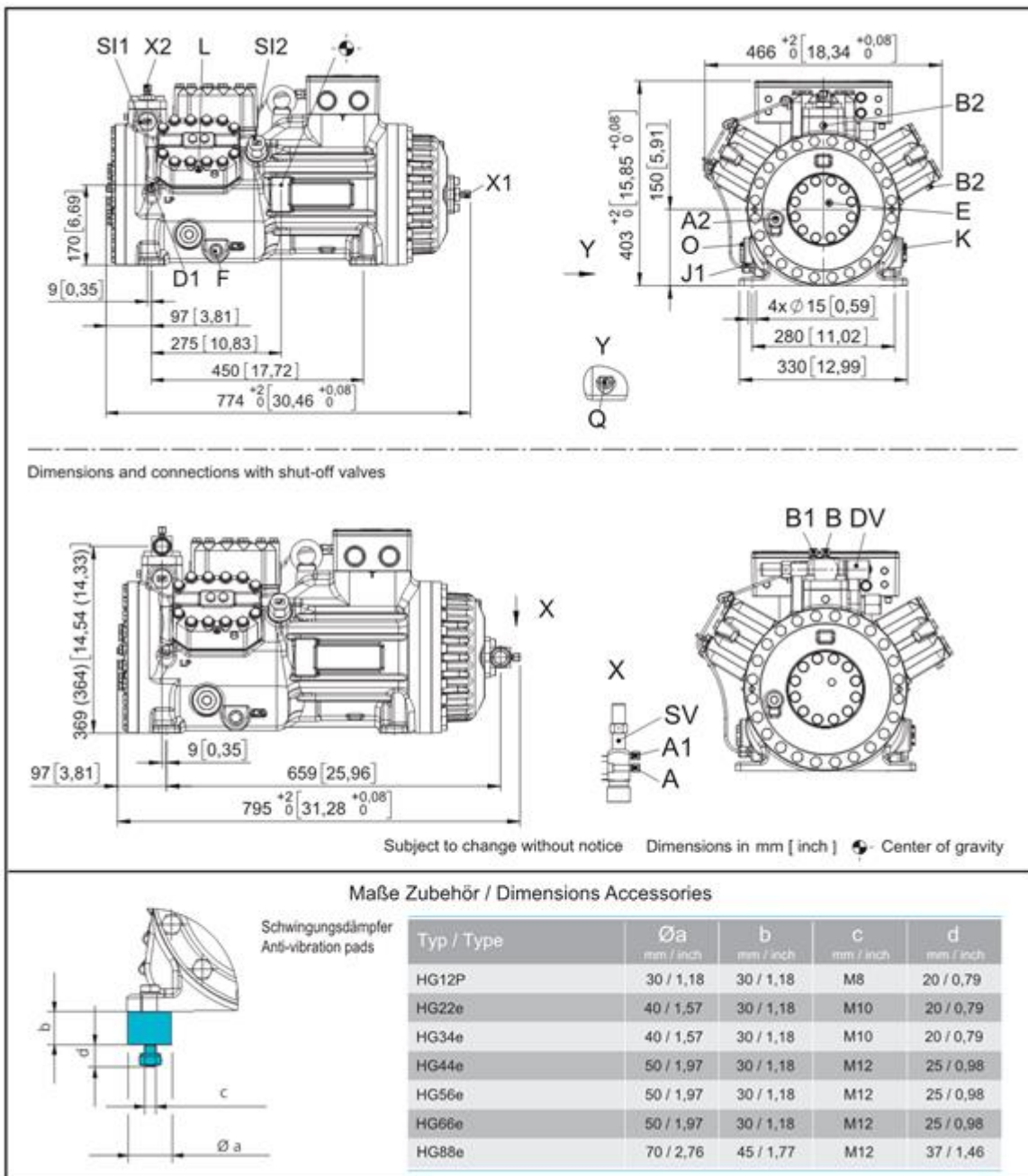
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Dimensions and connections



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SV	Suction connection, tube \varnothing ¹⁾	28 mm - 1 1/8 "
DV	Discharge connection, tube \varnothing ¹⁾	22 mm - 7/8 "
A	Connection suction side, not lockable	7/16" UNF
A1	Connection suction side, lockable	7/16" UNF
A2	Connection suction side, not lockable	1/8" NPTF
B	Connection discharge side, not lockable	7/16" UNF
B1	Connection discharge side, lockable	7/16" UNF
B2	Connection discharge side, not lockable	1/8" NPTF
D1	Connection oil return from oil separator	1/4" NPTF
E	Connection oil pressure gauge	1/8" NPTF
F	Oil drain	M22x1,5
J1	Oil sump heater	3/8" NPTF
K	Sight glass	1 1/8 " - 18 UNEF
L	Connection thermal protection thermostat ²⁾	1/8" NPTF
O	Connection oil level regulator	1 1/8 " - 18 UNEF
Q	Connection oil temperature sensor	1/8" NPTF
SI1	Decompression valve HP	M24x1,5
SI2	Decompression valve LP	M22x1,5
X1	Connection for schrader valve, suction side	7/16" UNF
X2	Connection for schrader valve, discharge side	7/16" UNF

1) Solder/ Welding connection, cutting ring

2) No connection discharge side

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Product photo

Picture similar and/or with accessories.



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