

HGX46/345-4 ML 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	94.40 kW
Reference temperature	Dew point	Evaporator refrigeration capacity	94.40 kW
Supply frequency	50 Hz	Power consumption	36.50 kW
Power supply	50 Hz, 400 V	Current draw (400 V)	63.00 A
Evaporating temperature	0.1 °C	Coefficient of performance (COP/EER)	2.59
Evaporating pressure (abs.)	34.94 bar	Gas cooler heat rejection	131.00 kW
High pressure (abs.)	90.00 bar	Mass flow	0.636 kg/s
Gas cooler outlet temperature	35.0 °C	Discharge end temperature	93.7 °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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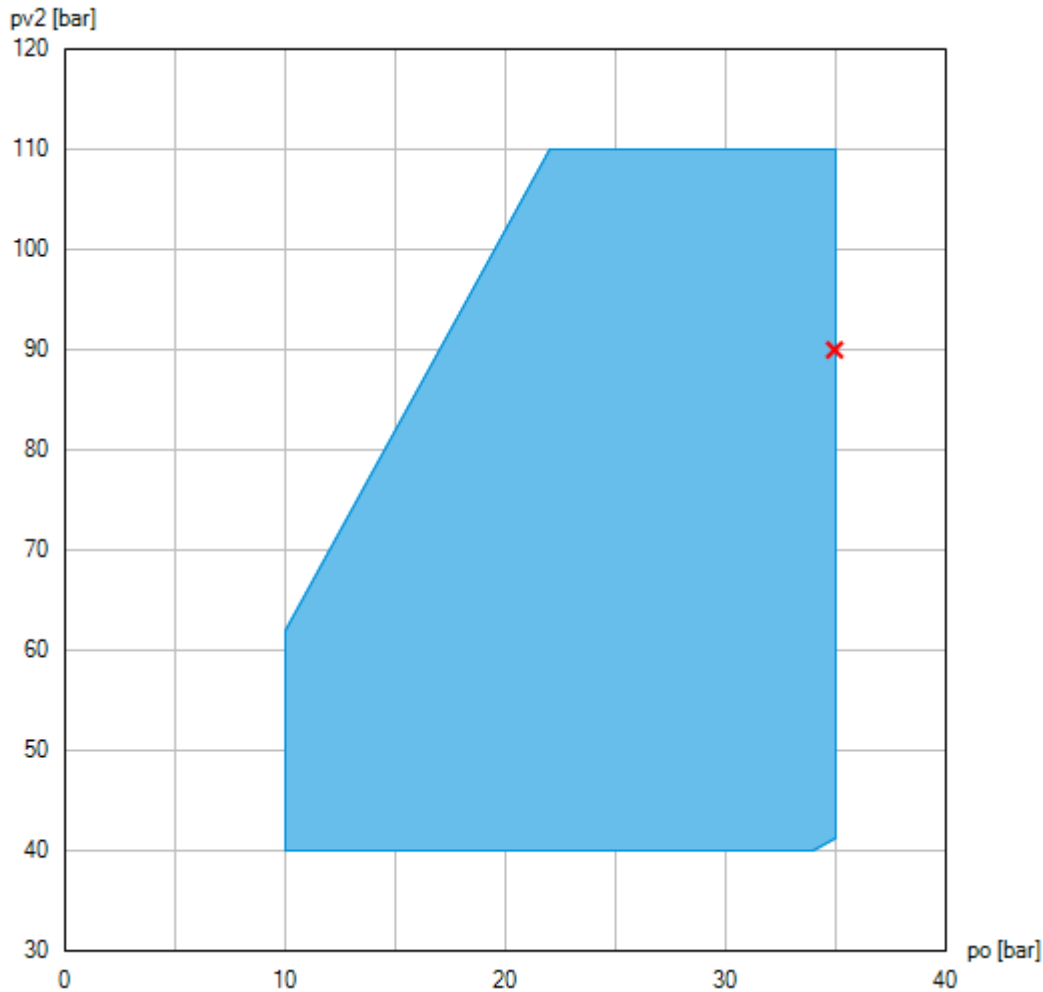
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Operating limits



 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 / 40 mm / 46 mm
Displacement 50/60 Hz (1450/1740 ¹ /min)	30,20 / 36,20 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⁾	74.4 A
Max. power consumption ²⁾	44.0 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	35 mm - 1 3/8 "
Connection discharge line DV	28 mm - 1 1/8 "
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⁾	86 dB(A) @ -10 °C / 15 °C / 10 K
	84 dB(A) @ -10 °C / 90 bar / 10 K
Sound pressure level L _{pA} ⁵⁾	73 dB(A) @ -10 °C / 15 °C / 10 K
	70 dB(A) @ -10 °C / 90 bar / 10 K

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

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).

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- 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]									
		0.0	-5.0	-10.0	-15.0	-20.0	-25.0	-30.0	-35.0	-40.0	
10.0	Q [W]	158000	135000	114000	95500	79500	65600	53500	43100	34300	
	P [kW]	12.80	15.10	16.90	18.10	18.70	18.90	18.70	18.10	17.20	
	I [A]	35.30	37.20	38.80	39.90	40.60	40.80	40.60	40.00	39.10	
15.0	Q [W]	146000	124000	105000	87700	72900	60000	48900	39300	31100	
	P [kW]	16.70	18.70	20.00	20.80	21.20	21.00	20.50	19.60	18.40	
	I [A]	38.70	40.50	41.90	42.80	43.10	43.00	42.40	41.50	40.20	
20.0	Q [W]	132000	113000	94800	79400	65900	54200	44000	35300	27900	
	P [kW]	20.70	22.20	23.20	23.60	23.60	23.10	22.20	21.00	19.50	
	I [A]	42.60	44.30	45.40	45.90	45.80	45.30	44.30	43.00	41.40	
25.0	Q [W]	117000	99400	83900	70200	58200	47700	38700	31000		
	P [kW]	24.70	25.70	26.30	26.30	25.90	25.10	23.90	22.40		
	I [A]	47.10	48.50	49.10	49.20	48.70	47.60	46.20	44.50		
30.0	Q [W]	94800	80700	68100	56900	47100	38600	31200			
	P [kW]	28.60	29.30	29.40	29.00	28.20	27.00	25.50			
	I [A]	52.10	53.00	53.10	52.60	51.60	50.10	48.20			

Transcritical

tga [°C]		to [°C]									
		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			
	Q [W]	103000	87300	73600	61500	50900	41700	33700			
	P [kW]	30.00	30.50	30.50	30.00	29.00	27.70	26.10			
	I [A]	53.90	54.60	54.50	53.90	52.60	50.90	48.80			
35	pV2 [bar]	90	90	90	90	90	85				
	Q [W]	94100	79900	67300	56200	46400	36000				
	P [kW]	36.50	36.20	35.50	34.30	32.80	29.90				
	I [A]	63.00	62.70	61.60	59.90	57.70	53.70				
40	pV2 [bar]	100	105	105	105	100	85				
	Q [W]	83000	72700	61100	51000	40800	18100				
	P [kW]	40.30	41.30	40.00	38.30	35.10	29.90				
	I [A]	68.80	70.30	68.30	65.70	61.00	53.70				
45	pV2 [bar]	110	110	110	110	100					
	Q [W]	73300	62200	52400	43600	30300					
	P [kW]	44.00	42.90	41.50	39.60	35.10					
	I [A]	74.50	72.80	70.50	67.70	61.00					
50	pV2 [bar]	110	110	110	110	100					
	Q [W]	55900	47600	40100	33500	19500					
	P [kW]	44.00	42.90	41.50	39.60	35.10					
	I [A]	74.50	72.80	70.50	67.70	61.00					

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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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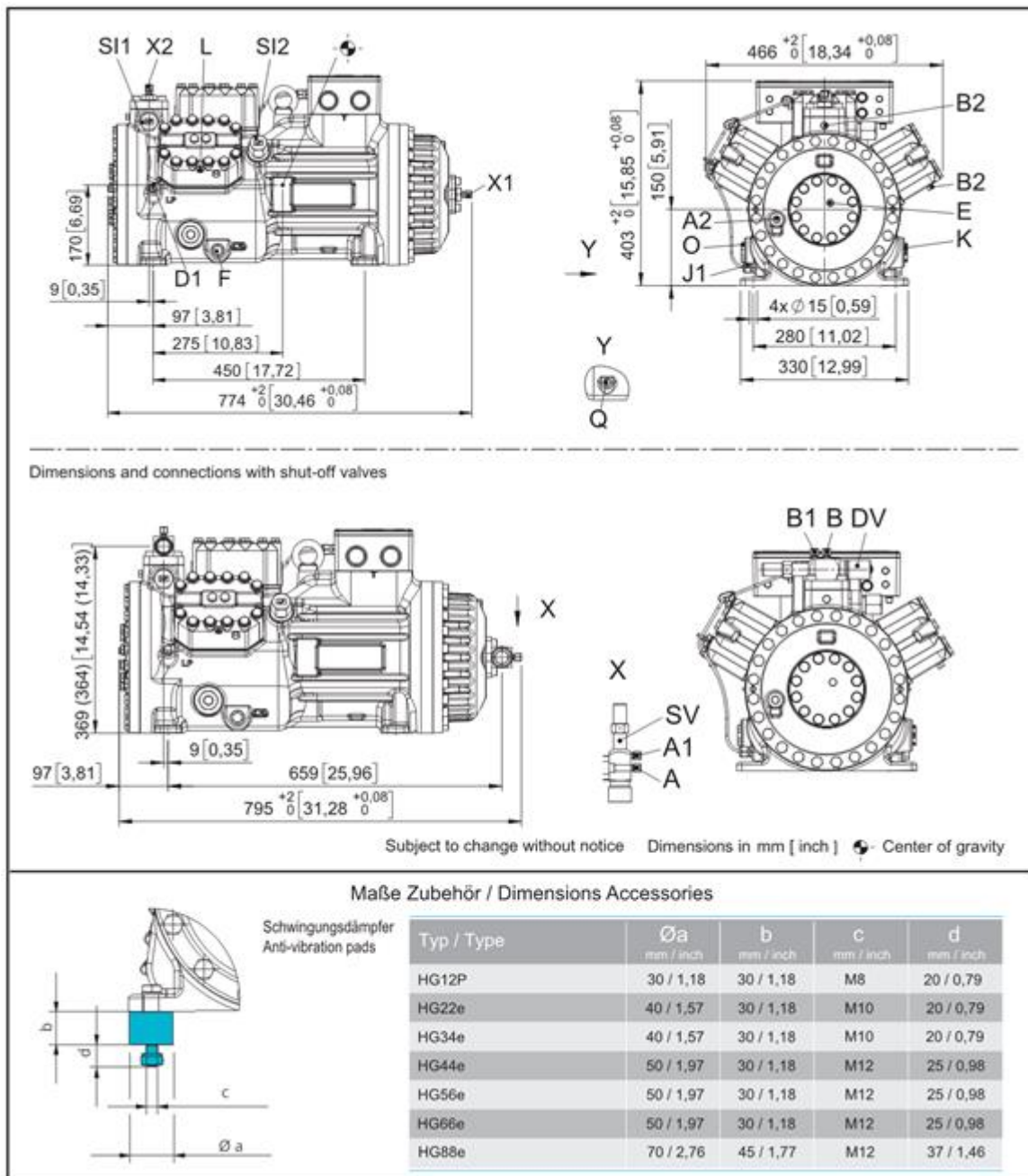
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Dimensions and connections



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SV	Suction connection, tube \varnothing ¹⁾	35 mm - 1 3/8 "
DV	Discharge connection, tube \varnothing ¹⁾	28 mm - 1 1/8 "
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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