HGX46/280-4 ML CO2 T

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

Refrigerant: R744

Subject: Предварительный расчет

BOCK colour the world of tomorrow

Performance data

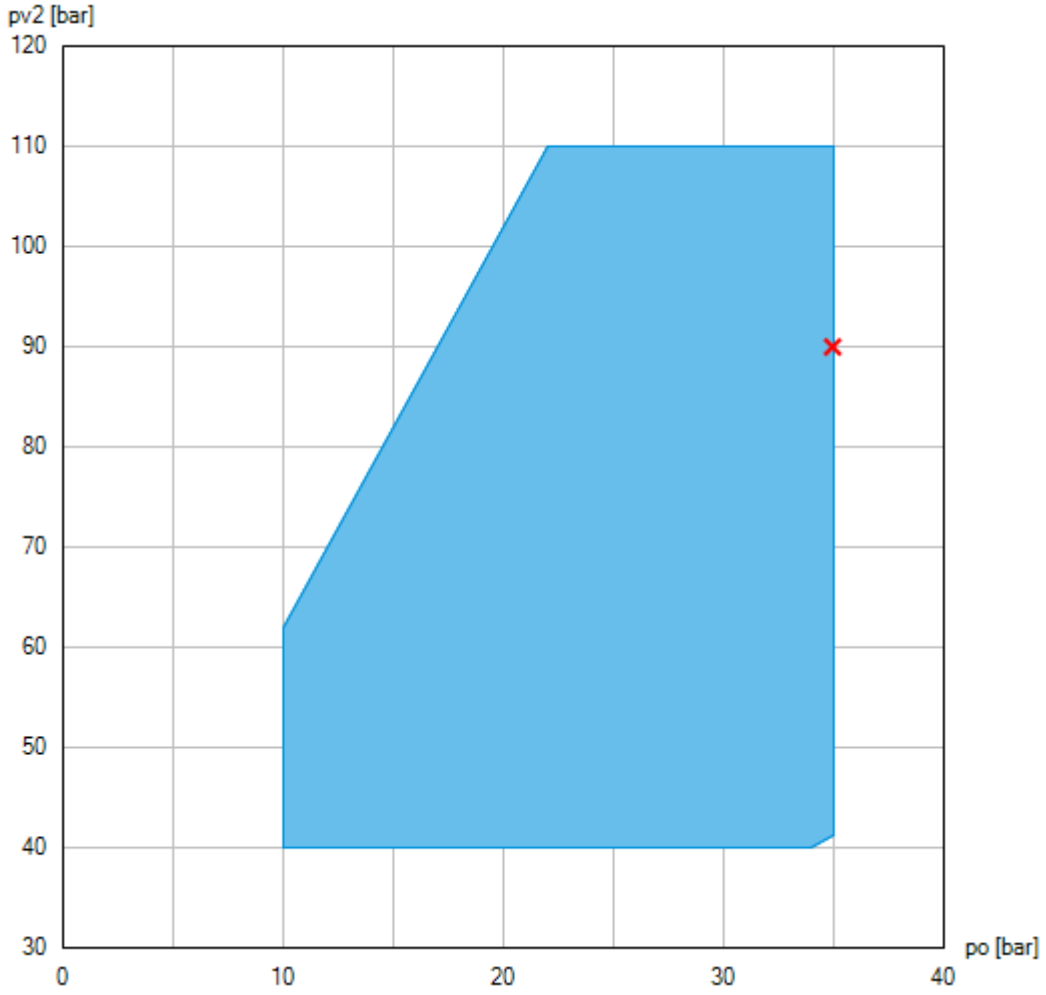
Application: Refrigeration & AC

Refrigerant	R744		Compressor refrigeration capacity	76.50 kW
Reference temperature	Dew point		Evaporator refrigeration capacity	76.50 kW
Supply frequency	50 Hz		Power consumption	29.40 kW
Power supply	50 Hz, 400 V		Current draw (400 V)	50.10 A
Evaporating temperature	0.1 °C		Coefficient of performance (COP/EER)	2.60
Evaporating pressure (abs.)	*34.94 bar*		Gas cooler heat rejection	106.00 kW
High pressure (abs.)	90.00 bar		Mass flow	0.515 kg/s
Gas cooler outlet temperature	35.0 °C		Discharge end temperature	93.5 °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.

Subject to change without notice

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.

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]	59.3 A
Max. power consumption [2]	35.5 kW
Starting current (rotor blocked) [2]	170.0 / 275.0 A
Motor protection	INT69 G
Protection terminal box	IP 65
Weight	235 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
Sound pressure level L_{pA} [5]	68 dB(A) @ -10 °C / 15 °C / 10 K
	67 dB(A) @ -10 °C / 90 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.

3) The maximum permissible working current of the compressor (Imax) 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 µPa), 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 = 1m to the reference box.

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] P [kW] I [A]	128000 10.00 26.40	109000 12.00 28.30	92100 13.50 29.80	77400 14.50 30.80	64400 15.20 31.50	53100 15.40 31.70	43200 15.20 31.60	34700 14.80 31.10	27400 14.00 30.30
15.0	Q [W] P [kW] I [A]	118000 13.20 29.50	101000 14.90 31.20	84800 16.10 32.50	71100 16.80 33.40	59100 17.20 33.70	48500 17.10 33.70	39400 16.70 33.20	31500 16.00 32.40	24800 15.00 31.40
20.0	Q [W] P [kW] I [A]	107000 16.50 33.00	91000 17.80 34.50	76900 18.70 35.50	64400 19.10 36.00	53400 19.10 36.10	43800 18.80 35.70	35400 18.10 34.90	28300 17.20 33.70	22200 16.00 32.40
25.0	Q [W] P [kW] I [A]	94600 19.80 36.80	80600 20.70 38.10	68000 21.30 38.70	56900 21.40 38.90	47000 21.10 38.50	38500 20.50 37.70	31100 19.50 36.50	24700 18.30 35.10	
30.0	Q [W] P [kW] I [A]	76800 23.00 41.00	65400 23.60 41.80	55200 23.80 42.10	46100 23.60 41.80	38100 23.00 41.00	31100 22.10 39.80	25100 20.90 38.20		

Transcritical

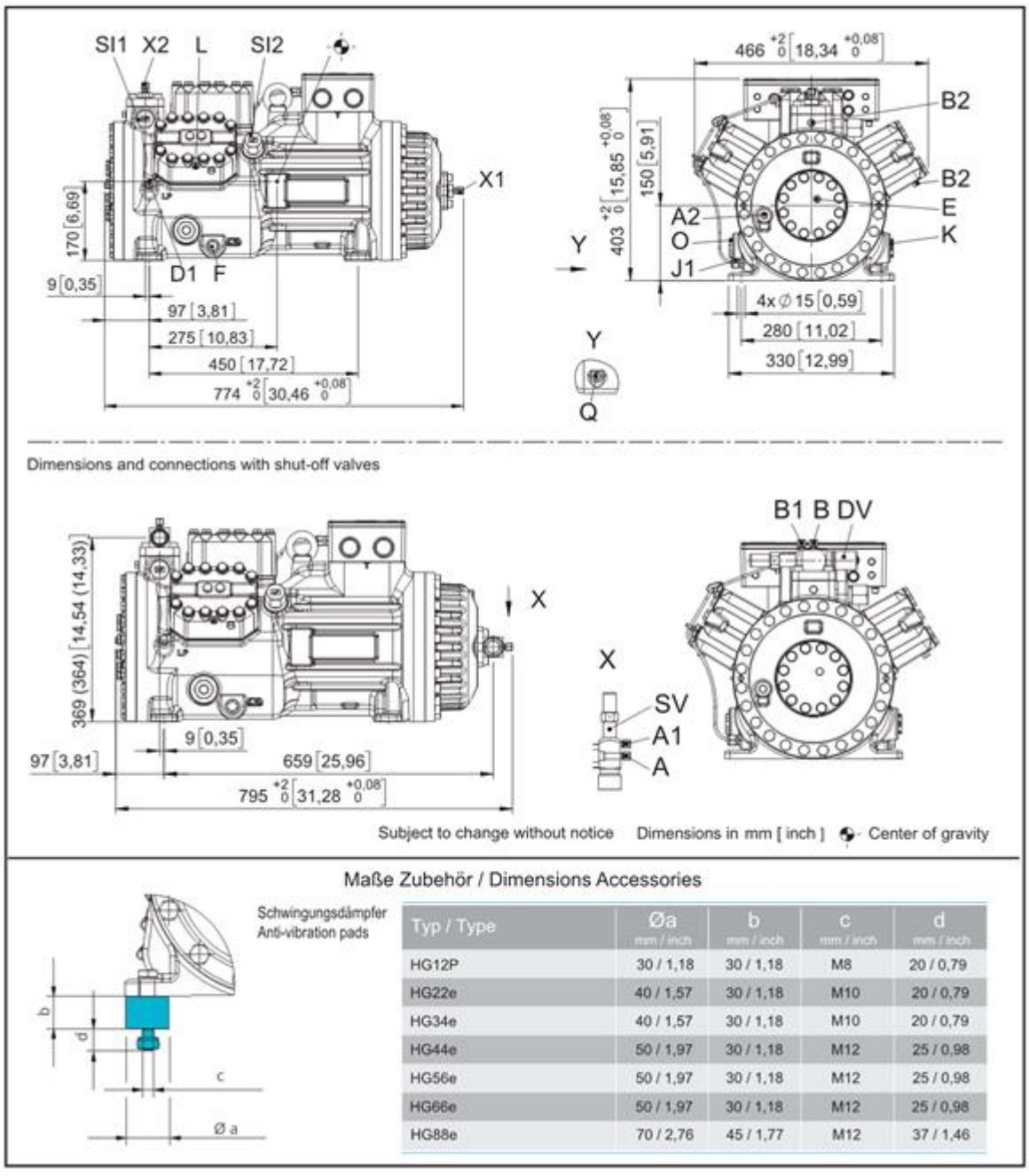
tga [°C]	to [°C]									
		0.0	**-5.0**	**-10.0**	**-15.0**	**-20.0**	**-25.0**	**-30.0**	**-35.0**	**-40.0**
30	pV2 [bar] Q [W] P [kW] I [A]	75 83200 24.10 42.50	75 70800 24.60 43.20	75 59700 24.70 43.30	75 49800 24.30 42.80	75 41000 23.60 41.90	75 33500 22.60 40.50	75 27000 21.30 38.80		
35	pV2 [bar] Q [W] P [kW] I [A]	90 76200 29.40 50.10	90 64800 29.30 49.90	90 54500 28.80 49.10	90 45400 27.90 47.80	90 37400 26.70 46.10	85 29000 24.40 42.80			
40	pV2 [bar] Q [W] P [kW] I [A]	100 67300 32.60 54.80	105 59000 33.40 56.10	105 49500 32.40 54.60	105 41200 31.10 52.50	100 33000 28.50 48.80	85 14500 24.40 42.80			
45	pV2 [bar] Q [W] P [kW] I [A]	110 59500 35.50 59.40	110 50500 34.70 58.20	110 42500 33.60 56.40	110 35300 32.10 54.10	100 24500 28.50 48.80				
50	pV2 [bar] Q [W] P [kW] I [A]	110 45400 35.50 59.40	110 38700 34.70 58.20	110 32500 33.60 56.40	110 27100 32.10 54.10	100 15800 28.50 48.80				

Subject to change without notice

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

to	Evaporating temperature
tc	Condensing temperature
tga	Gas cooler outlet temperature
pV2	High pressure (abs.)
Q	Compressor refrigeration capacity
P	Power consumption
I	Current draw

Dimensions and connections



Maße Zubehör / Dimensions Accessories

Schwingungsdämpfer
Anti-vibration pads

Typ / Type	Øa mm / inch	b mm / inch	c mm / inch	d mm / inch
HG12P	30 / 1,18	30 / 1,18	M8	20 / 0,79
HG22e	40 / 1,57	30 / 1,18	M10	20 / 0,79
HG34e	40 / 1,57	30 / 1,18	M10	20 / 0,79
HG44e	50 / 1,97	30 / 1,18	M12	25 / 0,98
HG56e	50 / 1,97	30 / 1,18	M12	25 / 0,98
HG66e	50 / 1,97	30 / 1,18	M12	25 / 0,98
HG88e	70 / 2,76	45 / 1,77	M12	37 / 1,46

SV	Suction connection, tube ø [1)]	28 mm - 1 1/8 "
DV	Discharge connection, tube ø [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

Product photo

Picture similar and/or with accessories.