

Subject:

Performance data

Application: Refrigeration & AC

Refrigerant	R134a	Compressor refrigeration capacity	51.10 kW
Reference temperature	Dew point	Evaporator refrigeration capacity	51.10 kW
Speed	1450 1/min	Drive power	15.00 kW
Evaporating temperature	5.0 °C	Torque	99.20 Nm
<i>Evaporating pressure (abs.)</i>	<i>3.50 bar</i>	Coefficient of performance (COP/EER)	3.40
Condensing temperature	50.0 °C	Condensing capacity	66.20 kW
<i>Condensing pressure (abs.)</i>	<i>13.17 bar</i>	Mass flow	0.357 kg/s
Suction gas temperature	20 °C	Discharge end temperature	78.4 °C ¹⁾
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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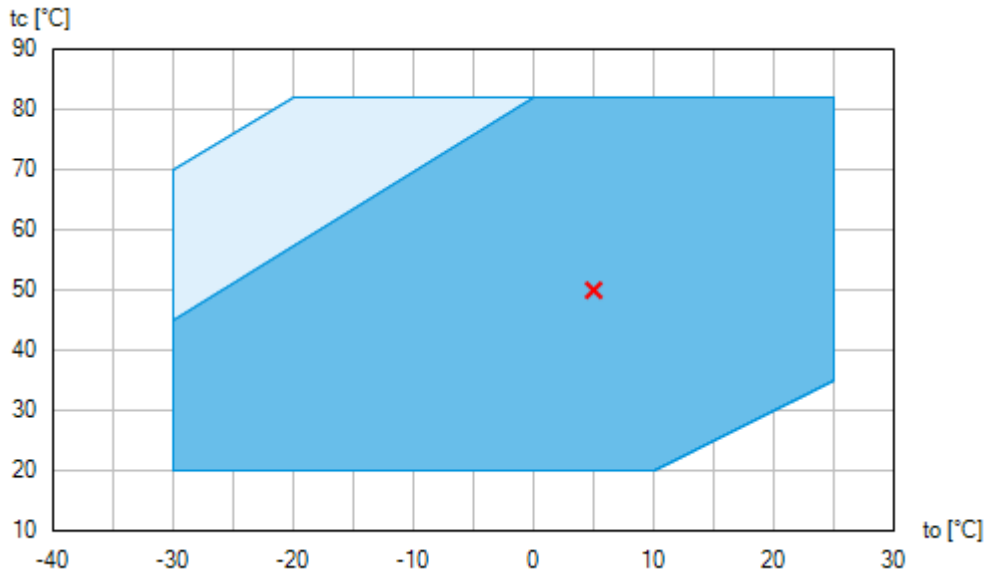
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Subject:

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. Axis values refer to dew point (saturated vapour line).

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Subject:

Technical data

Number of cylinders / Bore / Stroke	4 / 80 mm / 58 mm
Displacement (1450/1740 1/min)	101,40 / 121,70 m ³ /h
Mass moment of inertia	0,0282 kgm ²
Weight	149 kg
Permissible range of rotation speeds	700 - 1800 1/min
Max. permissible overpressure (g) (LP/HP) ¹⁾	19 / 28 bar
Connection suction line SV	54 mm - 2 1/8 "
Connection discharge line DV	42 mm - 1 5/8 "
Lubrication	Oil pump
Oil type R134a, R404A, R407A/C/F, R448A, R449A, R450A, R513A	BOCKlub E55
Oil type R22	BOCKlub A46
Oil charge	3,8 Ltr.
Oil sump heater	230 V - 1 - 50/60 Hz, 140 W
Oil service valve	7/16" UNF
Dimensions Length / Width / Height	530 / 415 / 510 mm

1) LP = Low pressure
HP = High pressure

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Subject:

Performance data table

Application: Refrigeration & AC
Reference temperature: Dew point
Speed: 1450 1/min
Suction gas temperature: 20 °C
Subcooling (outside cond.): 0 K

tc [°C]		to [°C]									
		15.0	10.0	5.0	0.0	-5.0	-10.0	-15.0	-20.0	-25.0	-30.0
30.0	Q [W]	96800	80700	66600	54500	44100	35200	27800	21500	16300	11900
	P [kW]	8.94	9.76	10.10	10.00	9.75	9.16	8.40	7.53	6.64	5.78
35.0	Q [W]	91700	76200	62900	51300	41400	33000	25900	19900	14900	10700
	P [kW]	10.90	11.40	11.40	11.10	10.60	9.84	8.93	7.95	6.99	6.10
40.0	Q [W]	86400	71700	59000	48000	38700	30700	24000	18300	13500	9430
	P [kW]	12.80	12.90	12.70	12.20	11.40	10.40	9.43	8.36	7.34	6.43
45.0	Q [W]	81000	67100	55100	44700	35900	28400	22000	16700	12100	8190
	P [kW]	14.60	14.40	13.90	13.10	12.10	11.00	9.91	8.76	7.69	6.78
50.0	Q [W]	75600	62500	51100	41400	33000	26000	20000	15000	10700	6930
	P [kW]	16.20	15.80	15.00	14.00	12.80	11.60	10.30	9.13	8.04	7.14
55.0	Q [W]	70200	57800	47100	38000	30200	23600	18000	13300	9220	5680
	P [kW]	17.80	17.00	16.00	14.80	13.50	12.10	10.70	9.49	8.38	7.51
60.0	Q [W]	64700	53000	43100	34500	27300	21200	16000	11600	7780	4440
	P [kW]	19.20	18.20	16.90	15.50	14.00	12.50	11.10	9.82	8.71	7.88
65.0	Q [W]	59100	48300	39000	31100	24400	18800	14000	9890	6370	3210
	P [kW]	20.50	19.20	17.70	16.20	14.50	12.90	11.40	10.10	9.04	8.26
70.0	Q [W]	53600	43500	34900	27600	21500	16300	12000	8220	4970	2010
	P [kW]	21.70	20.10	18.50	16.70	14.90	13.30	11.70	10.40	9.34	8.63

Supplementary cooling or reduced suction gas temperature ($\Delta t_{oh} < 20K$)

to Evaporating temperature
tc Condensing temperature
Q Compressor refrigeration capacity
P Drive power

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Subject:

Scope of supply

Open piston compressor
with suction and pressure shutoff valves

Oil pump

Four cylinder, cylinder arrangement in V

Seat front bearing flange

Shaft seal with piece of tube for controlled oil collection

Possibility of connection of oil level controllers ESK, AC+R or CARLY ¹⁾

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

Oil charge:

F: **BOCK**lub A46

FX: **BOCK**lub E55

Sight glass

Pressure relief valve

Inert gas charge

Accessories

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

Flywheel:

Outer diameter: 322 [mm]

V-belt profile: SPB DIN 7753

Number of grooves: 5

Weight: 17.6 [kg] ²⁾

Shaft coupling for direct drive (enclosure) ³⁾

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

Oil service valve

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

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

Thermal protection thermostat (bimetal tracer)

Two additional sight glasses (both sides)

Elevated base plate: additional 2.5 Ltr. oil charge and 8 kg additional weight

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FX14/1166
Refrigerant: R134a

Subject:

- 1) Only with additional adapter possible
- 2) Enclosure
- 3) Please state motor \varnothing and feather key groove dimensions when ordering shafts

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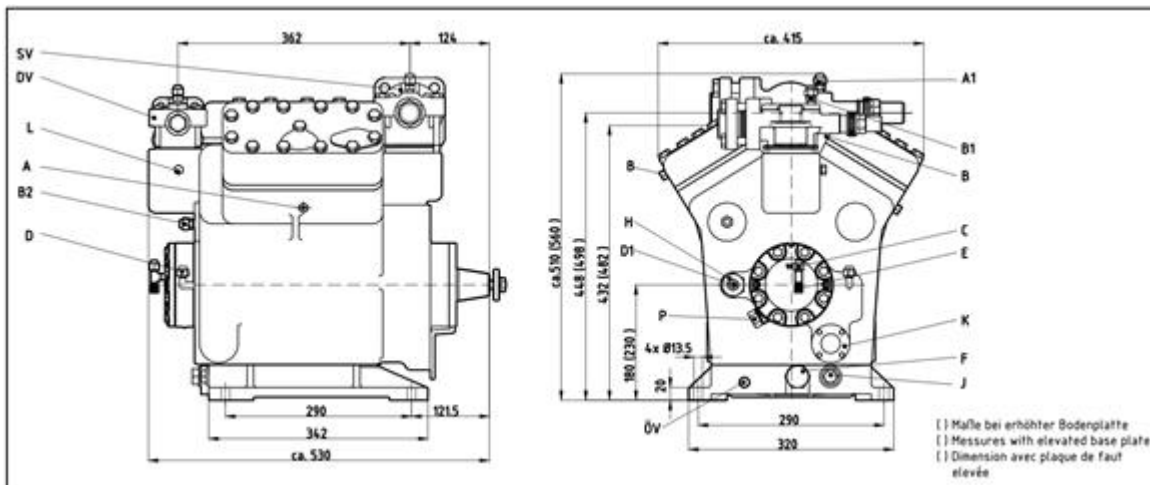
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Dimensions and connections



SV	Suction line valve, tube \varnothing ¹⁾	54 mm - 2 1/8 "
DV	Discharge line valve, tube \varnothing ¹⁾	42 mm - 1 5/8 "
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
B2	Connection discharge side, not 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	5/8 " UNF
E	Connection oil pressure gauge	7/16 " UNF
F	Oil drain plug	M 26 x 1.5
H	Oil charge plug	M 22 x 1.5
J1	Oil sump heater	M 22 x 1.5
K	Sight glass	-
L	Connection thermal protection thermostat	1/8 " NPTF
ÖV	Connection oil service valve	7/16 " UNF
P	Connection oil differential pressure sensor	M 20 x 1.5

1) Brazing connection

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FX14/1166
Refrigerant: R134a

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Product photo



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