HGX7/1620-4 S

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

Refrigerant: R134a

Subject:

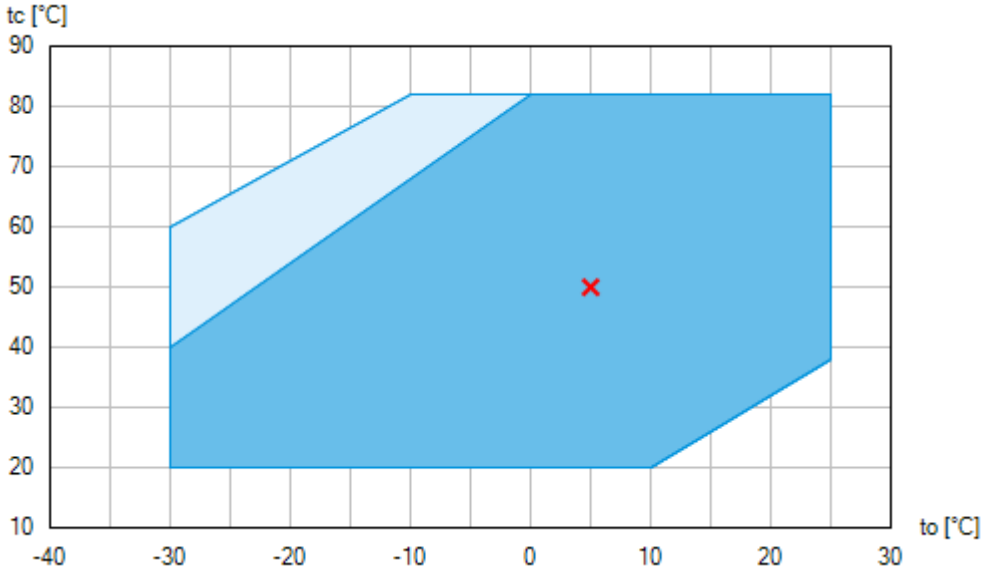
Performance data

Application: Refrigeration & AC

Refrigerant	R134a		Compressor refrigeration capacity	71.00 kW
Reference temperature	Dew point		Evaporator refrigeration capacity	71.00 kW
Power supply	50 Hz, 400 V		Power consumption	23.30 kW
Supply frequency	50 Hz		Current draw (400 V)	47.30 A
Evaporating temperature	5.0 °C		Coefficient of performance (COP/EER)	3.04
Evaporating pressure (abs.)	*3.50 bar*		Condensing capacity	94.40 kW
Condensing temperature	50.0 °C		Mass flow	0.497 kg/s
Condensing pressure (abs.)	*13.17 bar*		Discharge end temperature	82.8 °C [1)]
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.

Operating limits



Unlimited application range

Supplementary cooling or reduced suction gas temperature (Δtoh<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.

Technical data

Number of cylinders / Bore / Stroke	6 / 70 mm / 70 mm
Displacement 50/60 Hz (1450/1740 ¹/min)	140,60 / 168,70 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)]	83.0 A
Max. power consumption [2)]	47.4 kW
Starting current (rotor blocked) [2)]	268.0 / 373.0 A
Motor protection	MP10
Protection terminal box	IP 65
Weight	299 kg
Max. permissible pressure (LP/HP) [3)]	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	FUCHS Reniso Triton SE 55
Oil type R22	FUCHS Reniso SP 46
Oil charge	4,5 Ltr.
Oil sump heater	230 V - 1 - 50/60 Hz, 140 W
Dimensions Length / Width / Height	830 / 510 / 500 mm

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

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 (Δ/Y) motors: Δ / 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

HGX7/1620-4 S

Engine: 380-420V Y/YY -3- 50Hz PW
Refrigerant: R134a
Subject:

BOCK colour the world of tomorrow

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] P [kW] I [A]	111000 16.70 40.60	91700 16.80 40.70	75200 16.40 40.40	61000 15.60 39.70	48900 14.60 38.80	38700 13.30 37.70	30000 11.80 36.60	22800 10.40 35.50	16800 9.03 34.40
35.0	Q [W] P [kW] I [A]	105000 18.80 42.60	86700 18.50 42.40	70900 17.80 41.70	57400 16.80 40.80	45900 15.50 39.60	36100 14.00 38.30	27900 12.40 37.00	21000 10.80 35.80	15300 9.38 34.70
40.0	Q [W] P [kW] I [A]	98800 20.80 44.70	81500 20.20 44.10	66600 19.20 43.10	53700 17.90 41.80	42800 16.30 40.40	33600 14.70 38.90	25800 12.90 37.40	19200 11.20 36.10	13700 9.72 34.90
45.0	Q [W] P [kW] I [A]	92700 22.80 46.70	76300 21.80 45.70	62200 20.50 44.30	50000 18.90 42.80	39700 17.20 41.10	31000 15.30 39.40	23600 13.40 37.80	17400 11.60 36.40	12100 10.00 35.20
50.0	Q [W] P [kW] I [A]	86600 24.60 48.70	71000 23.30 47.30	57700 21.70 45.60	46300 19.90 43.70	36600 17.90 41.80	28400 15.90 39.90	21400 13.90 38.20	15600 12.00 36.70	10500 10.30 35.40
55.0	Q [W] P [kW] I [A]	80400 26.30 50.70	65700 24.70 48.90	53200 22.90 46.80	42400 20.80 44.60	33400 18.60 42.40	25700 16.40 40.40	19300 14.30 38.50	13800 12.30 36.90	8950 10.60 35.60
60.0	Q [W] P [kW] I [A]	74100 27.90 52.60	60300 26.00 50.30	48600 23.90 47.90	38600 21.60 45.40	30200 19.20 43.00	23100 16.90 40.80	17100 14.60 38.80	11900 12.60 37.10	7410 10.80 35.80
65.0	Q [W] P [kW] I [A]	67700 29.30 54.40	54900 27.20 51.70	44000 24.80 48.90	34700 22.20 46.10	26900 19.70 43.50	20400 17.20 41.10	14900 14.90 39.10	10100 12.80 37.30	
70.0	Q [W] P [kW] I [A]	61300 30.60 56.10	49400 28.20 52.90	39300 25.50 49.80	30800 22.80 46.70	23700 20.10 43.90	17700 17.50 41.40	12700 15.10 39.20		

☐ Supplementary cooling or reduced suction gas temperature (Δtoh<20K)

to Evaporating temperature
tc Condensing temperature
Q Compressor refrigeration capacity
P Power consumption
I Current draw

Subject to change without notice

To: From: 01.03.2021

VAP 11.7.0

Scope of supply

Semi-hermetic six-cylinder reciprocating compressor with drive motor
Single-section compressor housing with hermetically integrated electric motor

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 [1)]

Possibility for connection of oil pressure safety switch MP54

Oil charge:
HG: FUCHS Reniso SP 46
HGX: FUCHS Reniso Triton SE 55

Two sight glasses

Prepared for capacity regulator (2 cylinder covers)

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 [2)]

Capacity regulator 230 V - 1 - 50/60 Hz, IP65
1-2 capacity regulator = 66/33% 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 [2)]

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

Oil service valve

Thermal protection thermostat per cylinder cover [3)]

Connection piece suction and discharge valve in welding design

Water-cooled cylinder covers

Additional fan
230 V AC - 1 - 50 Hz, 97 W, IP44
230 V AC - 1 - 60 Hz, 128 W [2)]

Intermediate adapter for discharge line valve [2)]

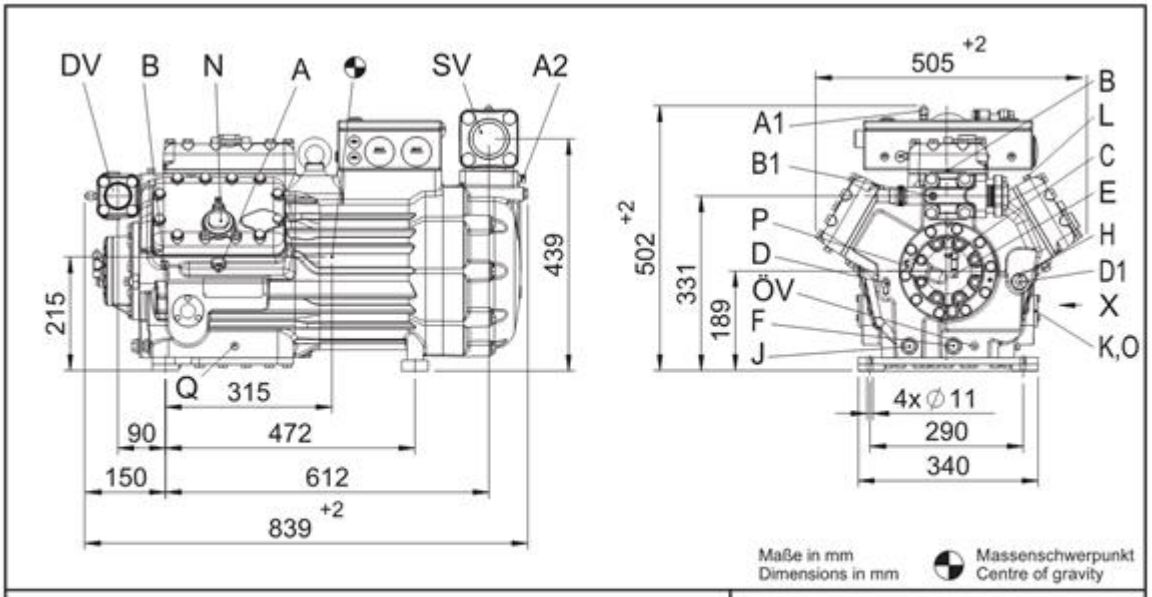
Special voltage and/or frequency (on request)

1) Only with additional adapter possible

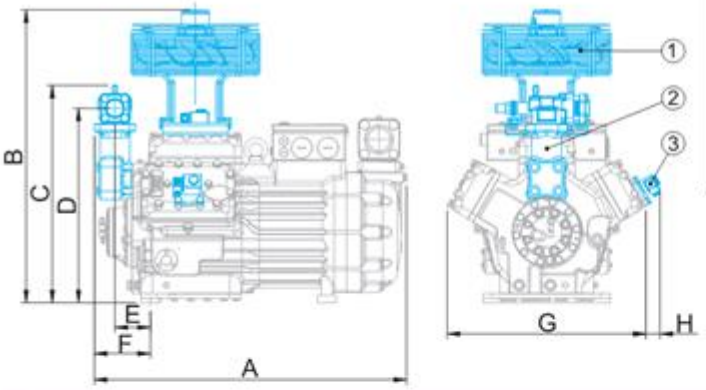
2) Enclosure

3) Mounted

Dimensions and connections



Maße Zubehör / Dimensions Accessories



Ansicht X: Anschlussmöglichkeit für Ölspiegelregulator
View X: Possibility of connection of oil level regulator

○ Dreilochanschluss für TRAXOIL (3xM6x10)
Three-hole connection for TRAXOIL (3xM6x10)
● Dreilochanschluss für ESK, AC+R, CARLY (3xM6x10)
Three-hole connection for ESK, AC+R, CARLY (3xM6x10)

① Zusatzlüfter
Additional fan
② Zwischenadapter für Druckabsperrventil
Intermediate adapter for discharge line valve
③ Leistungsregler
Capacity regulator

	A mm / inch	B mm / inch	C mm / inch	D mm / inch	E mm / inch	F mm / inch	G mm / inch	H mm / inch
HG44e	-[1]	ca. 675	-[1]	-[1]	-[1]	-[1]	ca. 360	-
HA4	-[1]	-[1]	-[1]	-[1]	-[1]	-[1]	ca. 400	ca. 5
HG56e	[1]	ca. 707	[1]	[1]	[1]	[1]	ca. 436	-
HA5	-[1]	-[1]	-[1]	-[1]	-[1]	-[1]	ca. 435	-
HG6	ca. 870	ca. 740	ca. 460	421	101	141	ca. 460	-
HA6	-[1]	-[1]	-[1]	-[1]	-[1]	-[1]	ca. 455	-
HG7	ca. 839	ca. 760	ca. 580	520,5	95	150	ca. 505	ca. 15
HG88e	ca. 923	ca. 918	ca. 680	617	90	145	ca. 648	ca. 20

[1] Nicht verfügbar / Not available

SV	Suction line valve, tube ø [1)]	54 mm - 2 1/8 "
DV	Discharge line valve, tube ø [1)]	42 mm - 1 5/8 "
A	Connection suction side, not lockable	1/8 " NPTF
A1	Connection suction side, lockable	7/16 " UNF
A2	Connection suction side, not lockable	1/4 " NPTF
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
J1	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

Product photo