

HGX7/2110-4 S

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

Refrigerant: R404A, R507

Subject:

GEA Commercial Compressors



Performance data

Application: Refrigeration & AC

Refrigerant	R404A, R507	Compressor refrigeration capacity	160.00 kW
Reference temperature	Dew point	Evaporator refrigeration capacity	160.00 kW
Power supply	50 Hz, 400 V	Power consumption	52.50 kW
Supply frequency	50 Hz	Current draw (400 V)	95.80 A
Evaporating temperature	5.0 °C	Coefficient of performance (COP/EER)	3.05
Evaporating pressure (abs.)	7.06 bar	Condensing capacity	213.00 kW
Condensing temperature	40.0 °C	Mass flow	1.295 kg/s
Condensing pressure (abs.)	18.17 bar	Discharge end temperature	74.2 °C ¹⁾
Suction gas temperature	20 °C		
Subcooling (outside cond.)	0 K		
Usable superheat	100%		

Certifications



ASERCOM certified performance data

The performance data of compressors bearing this label has been certified to the strict requirements of ASERCOM.

ASERCOM is the Association of European Refrigeration Compressors and Controls Manufacturers. Information about the Association and the constantly updated overview of certified GEA compressors can be found at www.asercom.org.

This certification is based on EN 12900. This signifies: 20 °C suction gas temperature without liquid subcooling at 50 Hz power supply frequency.

- 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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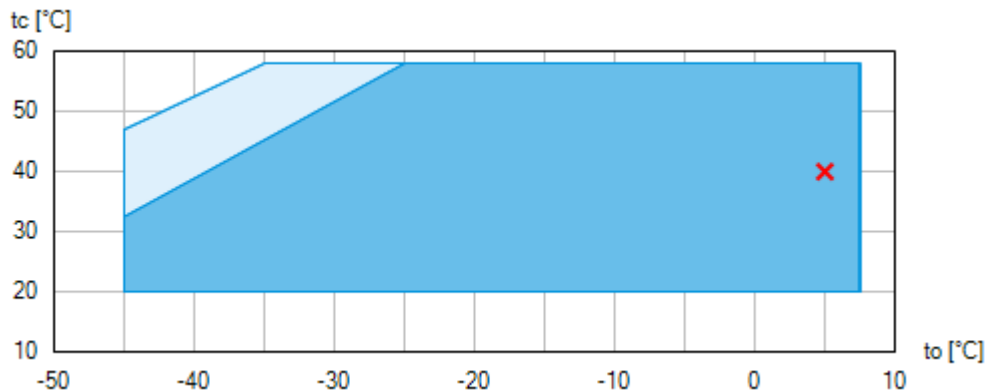
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Subject:

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	6 / 80 mm / 70 mm
Displacement 50/60 Hz (1450/1740 ¹ /min)	183,60 / 220,40 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⁾	119.0 A
Max. power consumption ²⁾	65.6 kW
Starting current (rotor blocked) ²⁾	344.0 / 500.0 A
Motor protection	MP10
Protection terminal box	IP 65
Weight	297 kg
Max. permissible pressure (LP/HP) ³⁾	19 / 28 bar
Connection suction line SV	64 mm - 2 5/8 "
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 ($\pm 10\%$) relates to the mean value of the voltage range. Other voltages and current types on request

All data are based on voltage rms values

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

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Subject:

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]		187000	158000	132000	110000	89500	72300	57600	44900	
	P [kW]		45.40	43.20	40.60	37.90	34.90	31.80	28.60	25.30	
	I [A]		85.60	82.60	79.30	76.00	72.60	69.20	66.00	62.80	
35.0	Q [W]		174000	147000	123000	102000	83100	67100	53300	41400	
	P [kW]		49.00	46.30	43.30	40.10	36.80	33.30	29.70	26.00	
	I [A]		90.70	86.80	82.80	78.70	74.70	70.70	67.00	63.50	
40.0	Q [W]		160000	135000	113000	93600	76600	61800	48900	37700	
	P [kW]		52.50	49.30	45.80	42.20	38.40	34.50	30.50	26.50	
	I [A]		95.80	91.00	86.20	81.30	76.60	72.10	67.90	64.00	
45.0	Q [W]		147000	124000	104000	85500	69900	56300	44400	34000	
	P [kW]		55.70	52.00	48.10	44.10	39.90	35.60	31.30	26.90	
	I [A]		101.00	95.20	89.40	83.80	78.40	73.30	68.60	64.30	
50.0	Q [W]		133000	112000	93500	77300	63100	50600	39700	30000	
	P [kW]		58.70	54.60	50.20	45.80	41.20	36.50	31.80	27.00	
	I [A]		106.00	99.10	92.50	86.10	80.00	74.30	69.20	64.50	
55.0	Q [W]		120000	101000	83500	68900	56100	44800	34800	25900	
	P [kW]		61.50	56.90	52.10	47.20	42.20	37.20	32.10	27.00	
	I [A]		111.00	103.00	95.30	88.10	81.30	75.10	69.50	64.40	



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

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

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Subject:

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)

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⁾

Water-cooled cylinder covers

Connection piece suction and discharge valve in welding design

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Subject:

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

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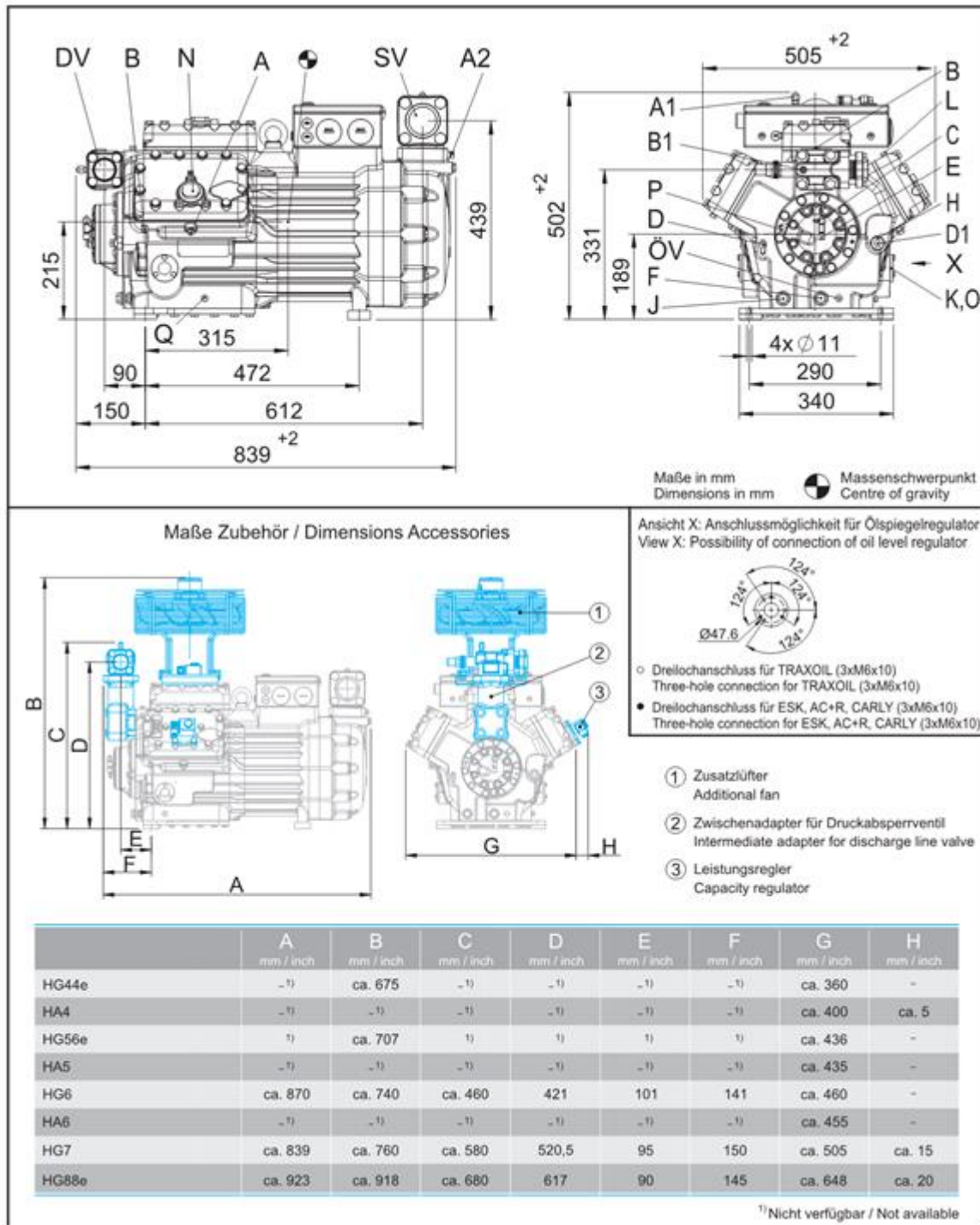
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Dimensions and connections



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SV	Suction line valve, tube ø ¹⁾	64 mm - 2 5/8 "
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
J	Connection 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

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Product photo



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