



## Selection: Semi-hermetic Reciprocating Compressors

### Input Values

Compressor model	(6J-22.2Y)	Suction gas temperature	20,00 °C
Mode	Refrigeration and Air conditioning	Operating mode	Auto
Refrigerant	R404A	Power supply	400V-3-50Hz
Reference temperature	Dew point temp.	Capacity control	100%
Liq. subc. (in condenser)	0 K	Useful superheat	100%

### Result

Q [W]	Cooling capacity	COP [ - ]	COP/EER
Qu* [W]	Evaporator capacity	m [kg/h]	Mass flow
P [kW]	Power input	Op.	Operating mode
I [A]	Current	th [°C]	Discharge gas temp. w/o cooling
Qc [W]	Condenser capacity		

tc	to	5°C	-5°C	-15°C	-25°C	-35°C	-45°C	-55°C	-65°C
30°C	Q [W]	--	74300	50160	32216	19144	9881	--	--
	Qu* [W]		74300	50160	32216	19144	9881		
	P [kW]		19,74	17,32	14,28	10,84	7,22		
	I [A]		33,9	30,3	26,0	21,6	17,60		
	Qc [W]		94039	67482	46499	29987	17098		
	COP [ - ]		3,76	2,90	2,26	1,77	1,37		
	m [kg/h]		1867	1237	784	462	237		
	Op.		Standard	Standard	Standard	Standard	Standard		
	th [°C]		70,5	84,2	99,9	118,6	0		
	40°C	Q [W]	--	63854	42806	27102	15641	7516	--
Qu* [W]			63854	42806	27102	15641	7516		
P [kW]			22,9	19,43	15,45	11,20	6,88		
I [A]			38,8	33,5	27,7	22,0	17,28		
Qc [W]			86772	62238	42554	26837	14398		
COP [ - ]			2,79	2,20	1,75	1,40	1,09		
m [kg/h]			1808	1187	741	423	202		
Op.			Standard	Standard	Standard	Standard	Standard		
th [°C]			81,8	95,8	111,9	131,1	0		
50°C		Q [W]	--	--	35395	22020	12271	--	--
	Qu* [W]			35395	22020	12271			
	P [kW]			21,3	16,34	11,26			
	I [A]			36,3	28,9	22,1			
	Qc [W]			56673	38361	23528			
	COP [ - ]			1,66	1,35	1,09			
	m [kg/h]			1134	693	382			
	Op.			Standard	Standard	Standard			
	th [°C]			107,6	124,1	0			

-- No calculation possible (see message in single point selection)

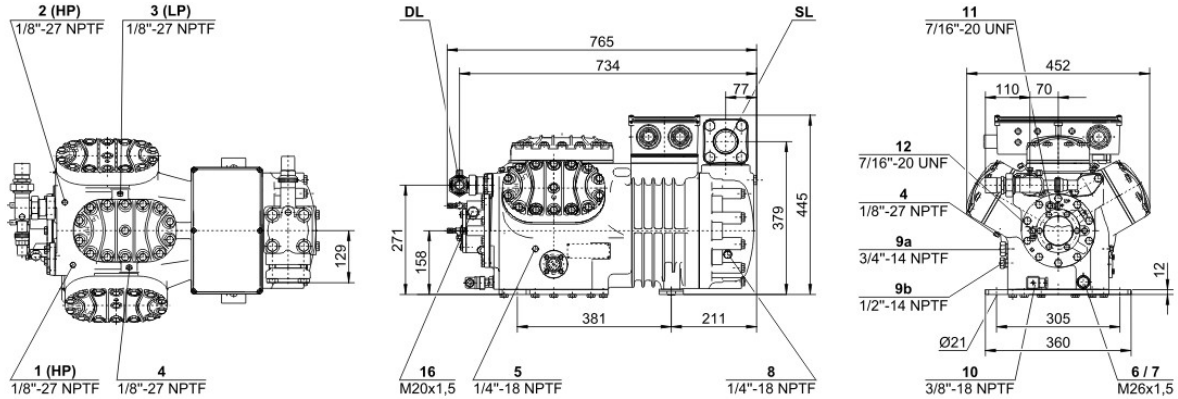
\*According to EN12900 (20°C suction gas temp., 0K liquid subcooling)

## Application Limits 100% 6J-22.2



## Technical Data: (6J-22.2Y)

### Dimensions and Connections



### Technical Data

#### Technical Data

Displacement (1450 RPM 50Hz)	95,3 m <sup>3</sup> /h
Displacement (1750 RPM 60Hz)	115,02 m <sup>3</sup> /h
No. of cylinder x bore x stroke	6 x 65 mm x 55 mm
Weight	213 kg
Max. pressure (LP/HP)	19 / 28 bar
Connection suction line	54 mm - 2 1/8"
Connection discharge line	35 mm - 1 3/8"
Connection cooling water	R 3/4"
Oil type R134a/R407C/R404A/R507A/R407A/R407F	tc<55°C: BSE32   tc>55°C: BSE55 (Option)
Oil type R22 (R12/R502)	B5.2 (Standard)
Oil type R290/R1270	SHC226E (Standard)

#### Motor data

Motor voltage (more on request)	380-420V PW-3-50Hz
Max operating current	39.0 A
Winding ratio	50/50
Starting current (Rotor locked)	116.0 A Y / 193.0 A YY
Max. Power input	24,8 kW

#### Extent of delivery (Standard)

Motor protection	SE-B2
Enclosure class	IP54 (Standard), IP66 (Option)
Vibration dampers	Standard
Oil charge	4,75 dm <sup>3</sup>

#### Available Options

Connection suction line	Option
Discharge shut-off valve	Option
Discharge gas temperature sensor	Option
Start unloading	Option
Capacity control	100-66-33% (Option)
Additional fan	Option
Water-cooled cylinder heads	Option
CIC System	Option
Oil service valve	Option
Crankcase heater	140 W (Option)
Oil pressure monitoring	MP54 (Option), Delta-PII (Option, not for R290/R1270)

#### Sound measurement

Sound power level (-10°C / 45°C)	79,5 dB(A) @ 50Hz
Sound power level (-35°C / 40°C)	86,0 dB(A) @ 50Hz
Sound pressure level @ 1m (-10°C / 45°C)	71,5 dB(A) @ 50Hz

# HGX7/2110-4 S

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

Refrigerant: R404A, R507

GEA Commercial Compressors



**Subject:**

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## 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
<i>Evaporating pressure (abs.)</i>	<i>7.06 bar</i>	Condensing capacity	213.00 kW
Condensing temperature	40.0 °C	Mass flow	1.295 kg/s
<i>Condensing pressure (abs.)</i>	<i>18.17 bar</i>	Discharge end temperature	74.2 °C <sup>1)</sup>
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](http://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.

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- 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

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# HGX7/2110-4 S

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

Refrigerant: R404A, R507

GEA Commercial Compressors



## Subject:

## Technical data

Number of cylinders / Bore / Stroke	6 / 80 mm / 70 mm
Displacement 50/60 Hz (1450/1740 <sup>1</sup> /min)	183,60 / 220,40 m <sup>3</sup> /h
Voltage <sup>1)</sup>	380-420V Y/YY -3- 50Hz PW
	440-480V Y/YY -3- 60Hz PW
Winding divided into	50% / 50%
Max. working current <sup>2)</sup>	119.0 A
Max. power consumption <sup>2)</sup>	65.6 kW
Starting current (rotor blocked) <sup>2)</sup>	344.0 / 500.0 A
Motor protection	MP10
Protection terminal box	IP 65
Weight	297 kg
Max. permissible pressure (LP/HP) <sup>3)</sup>	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 ( $\Delta/Y$ ) motors:  $\Delta / Y$

- 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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# HGX7/2110-4 S

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

Refrigerant: R404A, R507

GEA Commercial Compressors



**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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