

ENGINEERING
TOMORROW



Danfoss BOCK® compressors | Semi-hermetic compressors

Danfoss BOCK® Semi-hermetic compressors

Single- and two-stage reciprocating BOCK® compressors (HG/HA)



Highest

energy efficiency
and robust design

bock.danfoss.com

BOCK®



HG semi-hermetic compressors

1

HA semi-hermetic compressors

2

HGZ two-stage semi-hermetic compressors

3



ASERCOM Certification

Based on the requirements of the EU Ecodesign Directive and the corresponding regulation.

ASERCOM, the association of European manufacturers of components for refrigeration and air conditioning, addresses scientific and technical challenges, promotes performance and safety standards, supports better environmental protection, and serves the refrigeration and air conditioning industry and its customers. ASERCOM's compressors certification program

enables an objective performance comparison of the wide range of products on the market. Many of the BOCK compressors are certified. An overview can be found here:

<https://www.asercom.org/list-of-certified-compressors/>

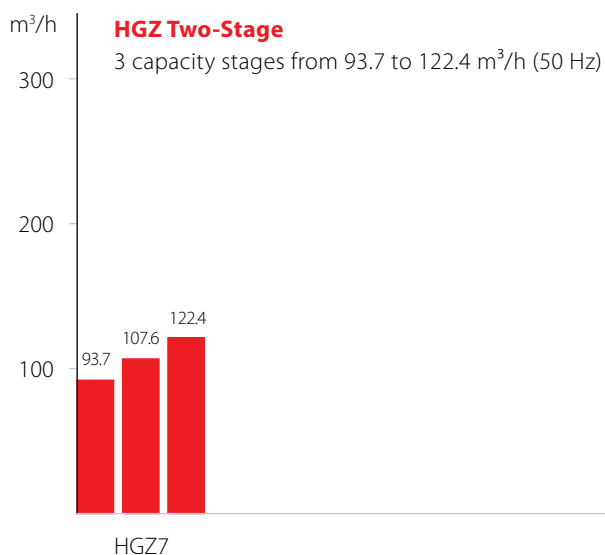
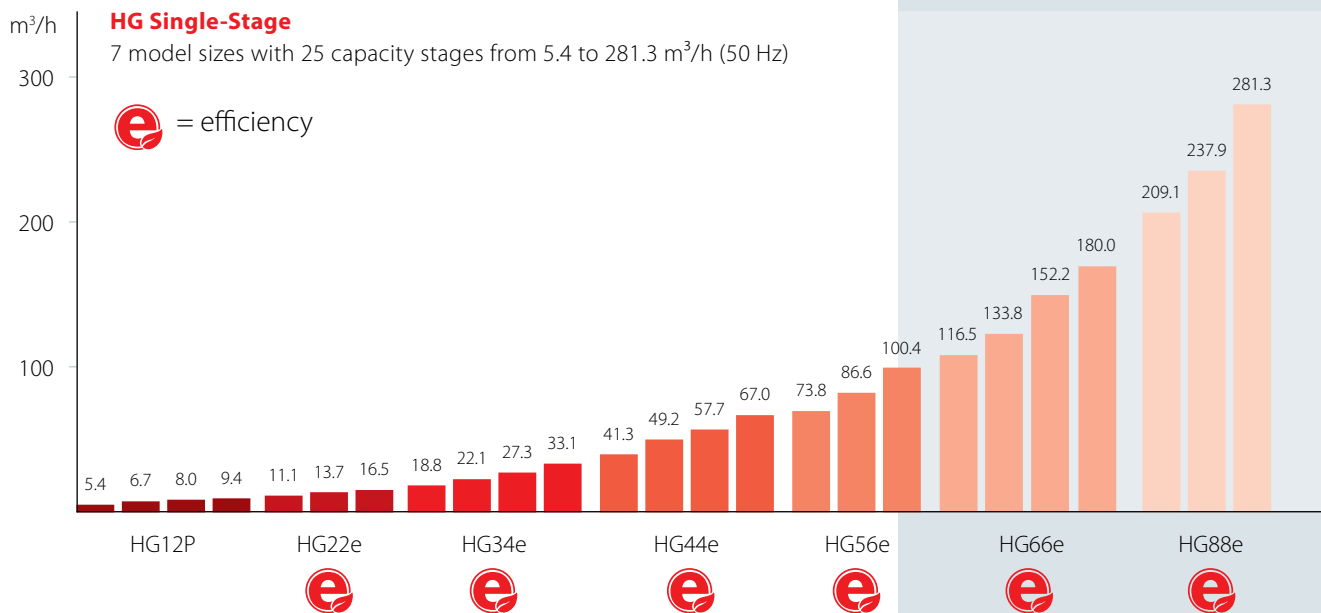
Overview

HG (gas-cooled)

The Danfoss BOCK® HG range of semi-hermetic compressors offers traditional suction-gas-cooled compressor technology. These compressors are state-of-the-art, excelling in ease of running, simple maintenance, high efficiency, and reliability.



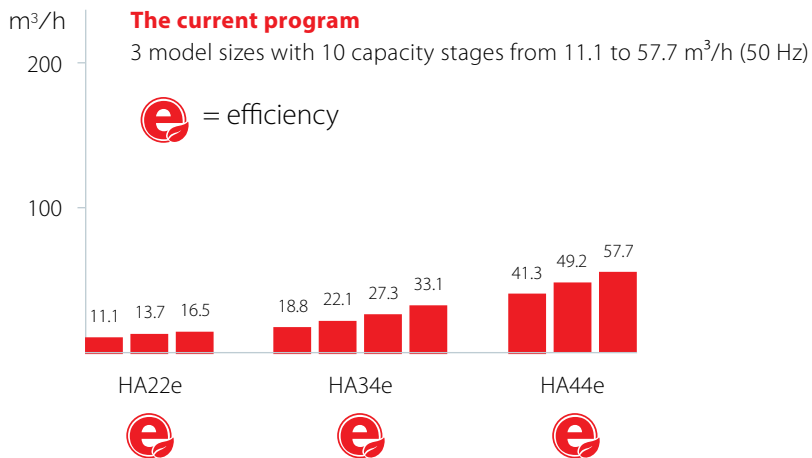
HG66e



HGZ7

HA (air-cooled)

The Danfoss BOCK® HA range of semi-hermetic compressors has been specially engineered for low temperature applications. While gas-cooled compressors can reach their temperature limit due to heat-up of the suction gas by the drive motor, the unique Danfoss BOCK® HA principle prevents this: Drive motor and cylinder heads are air-cooled via a compact ventilation unit, and the suction gas is fed directly to the compressor without passing through the motor. HA compressors are suitable as standard for conventional or chlorine-free HFC refrigerants and are particularly offered for the refrigerants R404A, R507, R407A, R407F, R448A, R449A, R22.



Improved **HG/HA Series**

For new advancements in efficiency, BOCK® has now updated its entire semi-hermetic compressor range. The new models, marked with the letter "e" (= efficiency), all offer decisive mechanical improvements, a more compact design and easier-to-use connections.

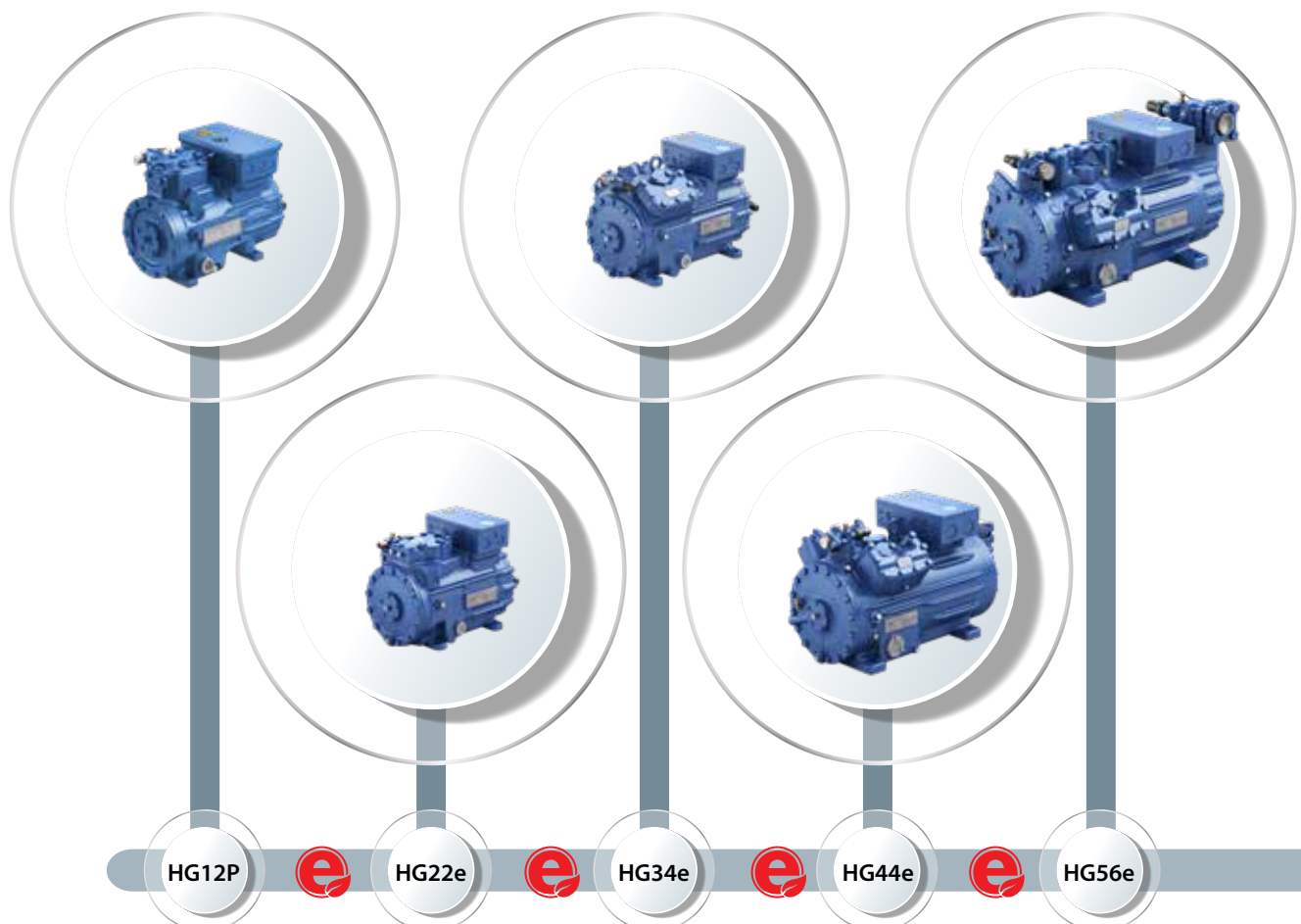
The entire range of gas-cooled commercial Danfoss BOCK® compressors is now available in the new, optimized design.

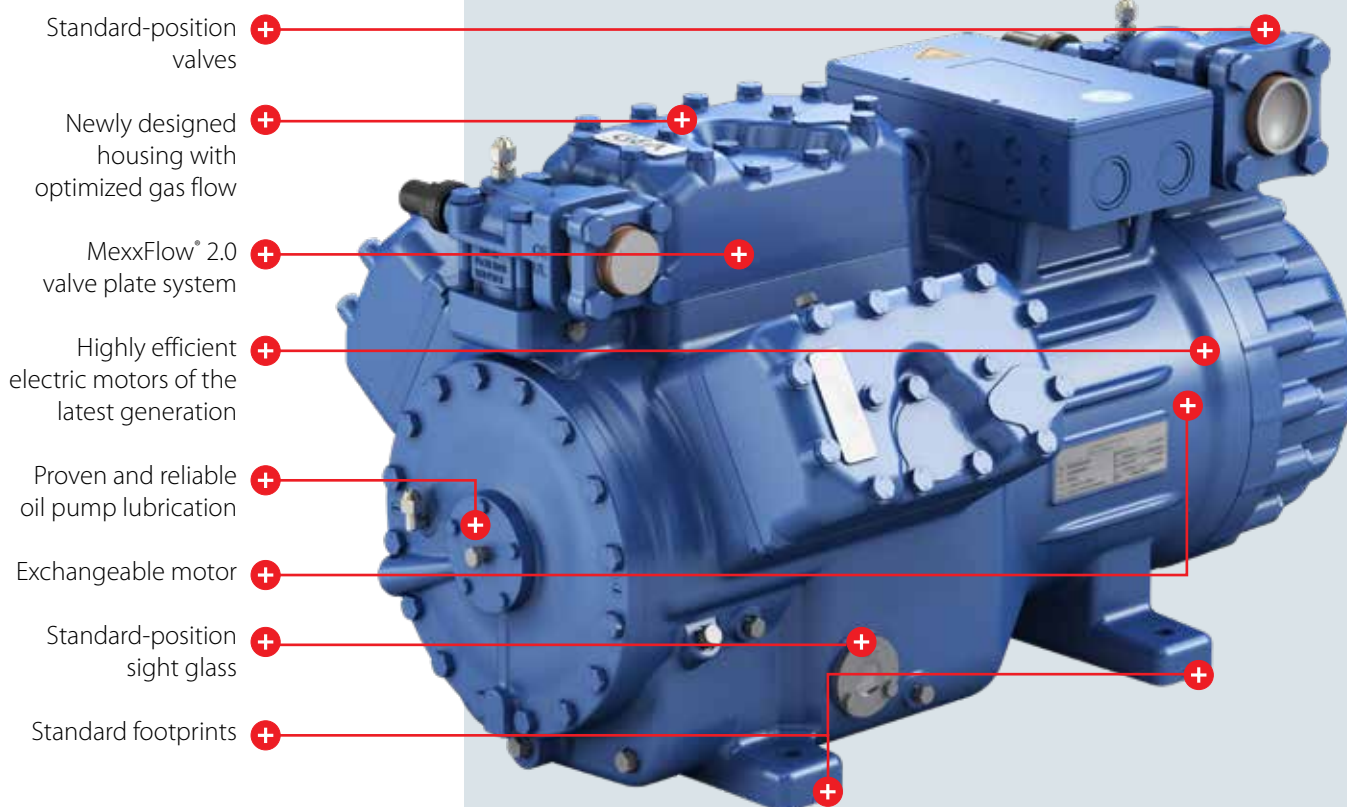
In addition to their uses in the fields of refrigeration, air conditioning and heat pumps, the new compressors are ideally suited for refrigeration in supermarkets. They offer improved efficiency over their predecessors, greater displacement stages, a more compact structural design, and a new configuration of connections.

To increase efficiency and reduce energy consumption, the new models profit from a new and advanced valve plate system, electrical motors from the latest generation, and enhanced gas flow.

The re-designed connections match the gas connections normally found in the sector, to ensure that no adaptation work is necessary when the user invests in a replacement compressor. The foot mountings of the new compressor likewise conform to sector standards.

 = efficiency





HG66e



HG88e



HA22e



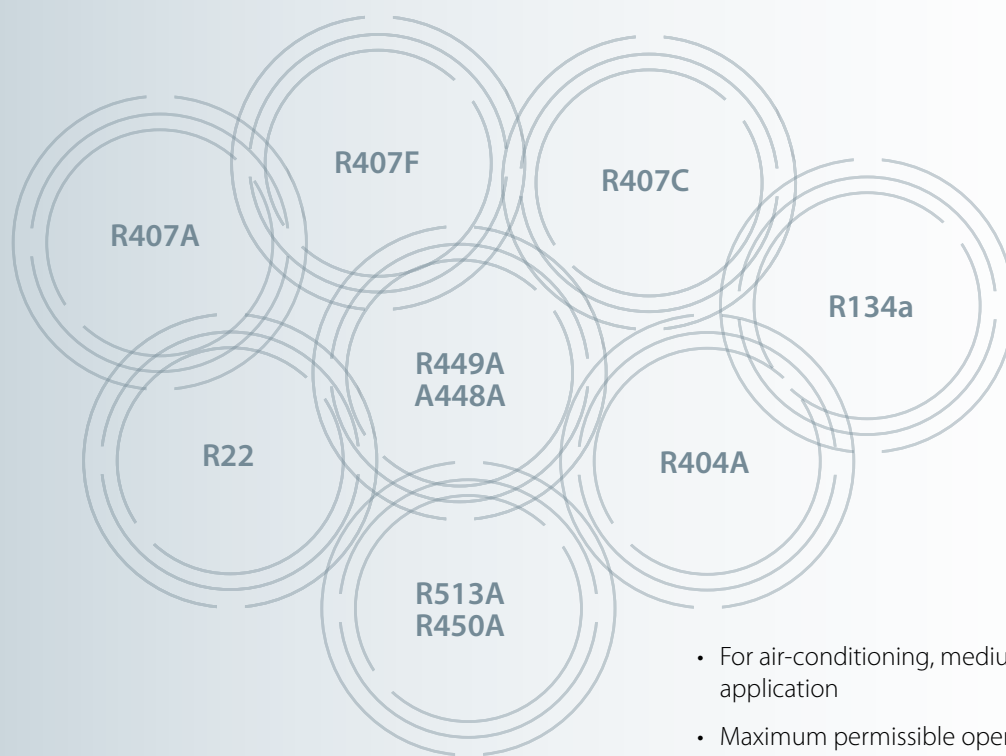
HA34e



HA44e

Unique **features** and **advantages**

One compressor design for all standard refrigerants

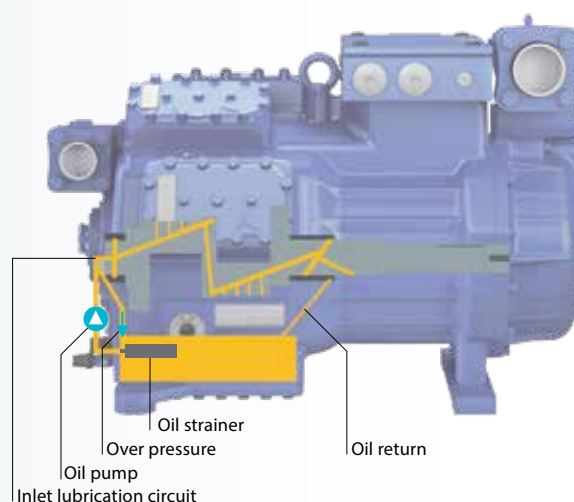


- For air-conditioning, medium and low-temperature application
- Maximum permissible operating pressure: 28 bar

Safe, reliable oil supply

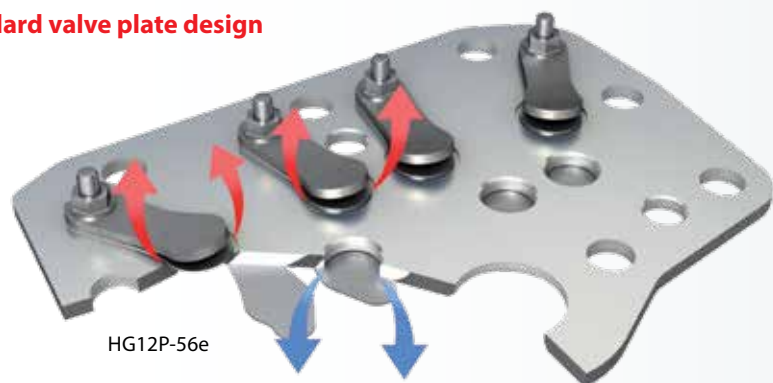


- All compressors with a conventional single circuit lubricating system
- All compressors with oil pump lubrication independent of direction of rotation
- Minimized oil carryover
- Service-friendly oil strainer



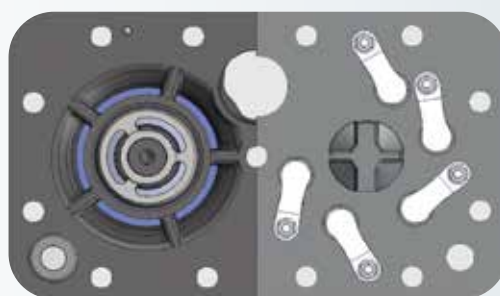
- Oil pump lubrication independent of direction of rotation
- Connection possibility for oil pressure monitoring
- Large-volume oil sump
- Coupling option for oil level regulator included as standard

Standard valve plate design



- Valves made of high-quality, impact-resistant spring steel
- Universally proven valve design with suction and discharge finger reed valves

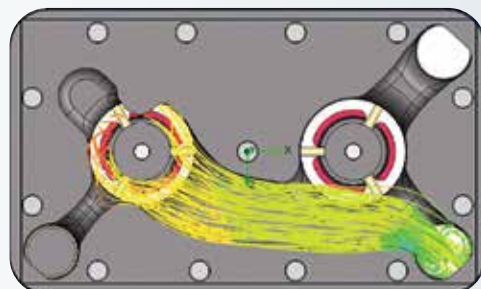
Valve plate innovation: mexxFlow®, only from Danfoss BOCK®



mexxFlow® vs. previous design



Previous cylinder cover – high pressure drops and turbulences

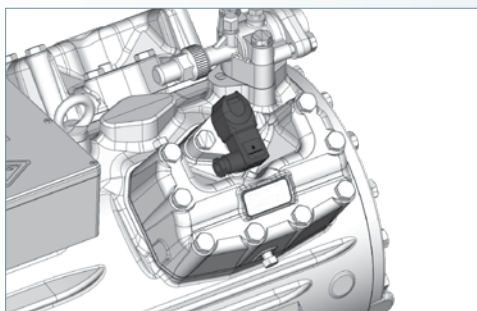
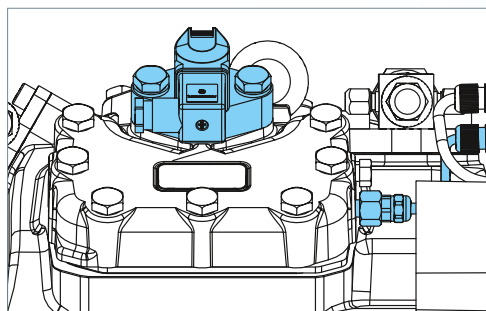


mexxFlow® – reduced pressure drops and improved gas flow

With the mexxFlow® system pressure losses can be minimized thanks to a flow-optimized double ring fin construction of the valve plate, in combination with a cylinder head that is specially adapted to the valve plate. Thus, the efficiency of the compressor is increased significantly.

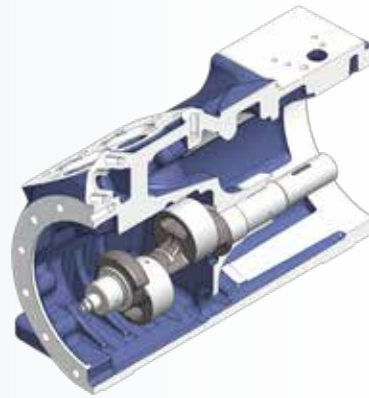
Digital capacity regulator DCR14 (HG34e | HG44e | HG56e | HA34e | HA44e)

- Digital control with the possibility of high switching frequency
- Almost infinite capacity regulation
- Economical alternative to a frequency converter



Reliable drive gear

Optimized drive gear with thrust washer, improving emergency-mode operation and resistance against damage in case of insufficient lubrication.



Wear-resistant durable driving gear



2- and 4-cylinder compressor
HG12P to HG34e

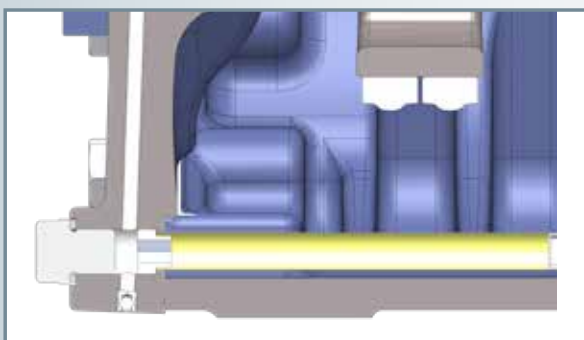
- Solid design of excentric shaft
- High durability due to low-friction sleeve bearings
- Low oil carryover due to aluminum pistons with double ring assembly



4-, 6- and 8-cylinder compressor
HG44e to HG88e

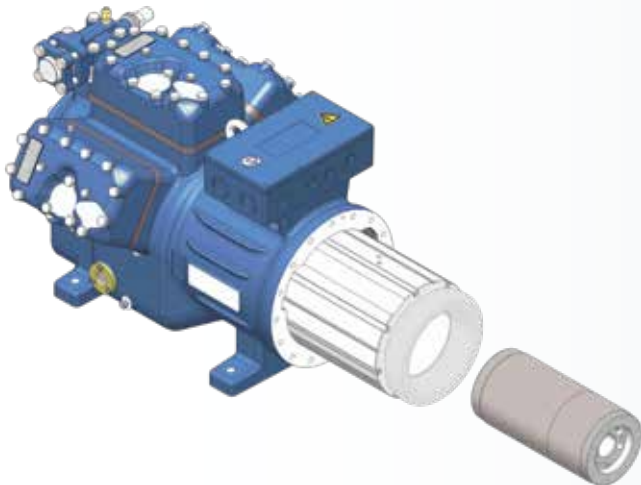
- Solid design of crankshaft
- High durability due to low-friction sleeve bearings
- Aluminum pistons with triple ring assembly, hard-chromium-plated sealing ring, HG44e and HG56e with double ring assembly
- Aluminum connecting rod with high-resistance piston bolt bearings, for HG44e and upwards
- Heavy-duty and robust, split-forged connecting rod

Easy-to-maintain strainer



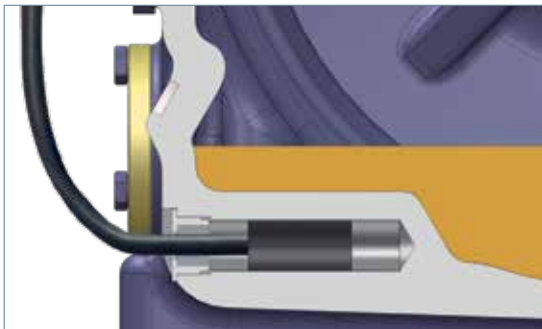
Easy-to-remove oil strainer for easier maintenance and increased availability.

Service-friendly design

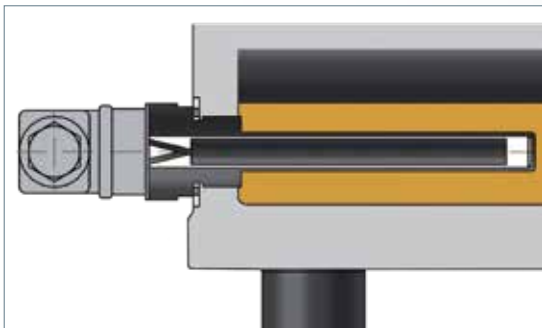


- Built-in motor, easy to replace due to slide fit (not press fit)

Oil sump heater

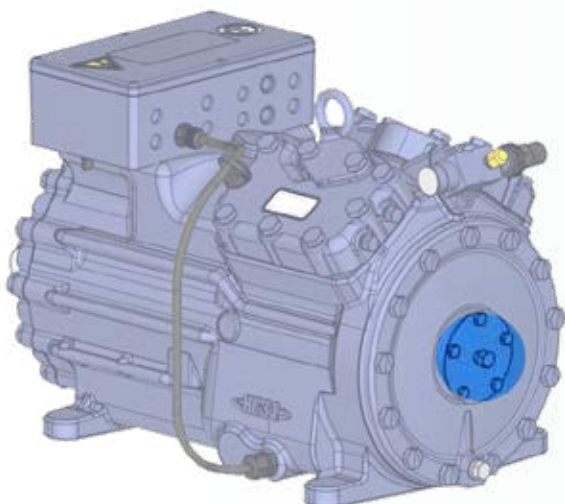


- PTC heater, self-regulating for HG12P up to HG34e
- Constant power for HG44e up to HG66e



- Standard in 8-cylinder compressors HG88e

Connection plug for oil monitoring with oil pressure safety switch MP55



- For HG12P up to HG34e compressors

Variable suction line valve position HG

1



4-cylinder

2

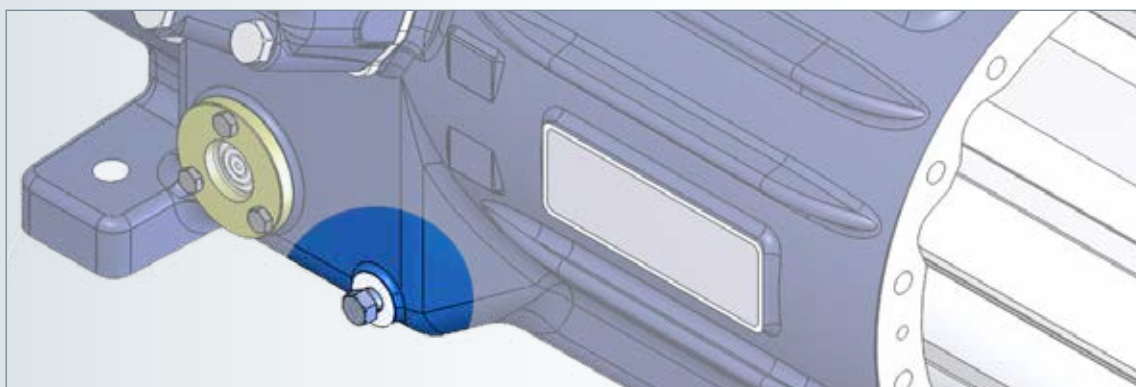


8-cylinder

- 1 Shut-off valve rotates 90°
- 2 Suction cover rotates 90°
- 1+2 Flexible position for suction line connection

	Shut-off valve rotation	Suction cover rotation
HG12P, HG22e, HG34e, HG44e	90°	–
HG56e	180°	90°
HG66e	180°	90°
HG88e	180°	90°

Connection facility oil temperature sensor



Available for HG44e – HG88e

Electronic motor protection INT69 G

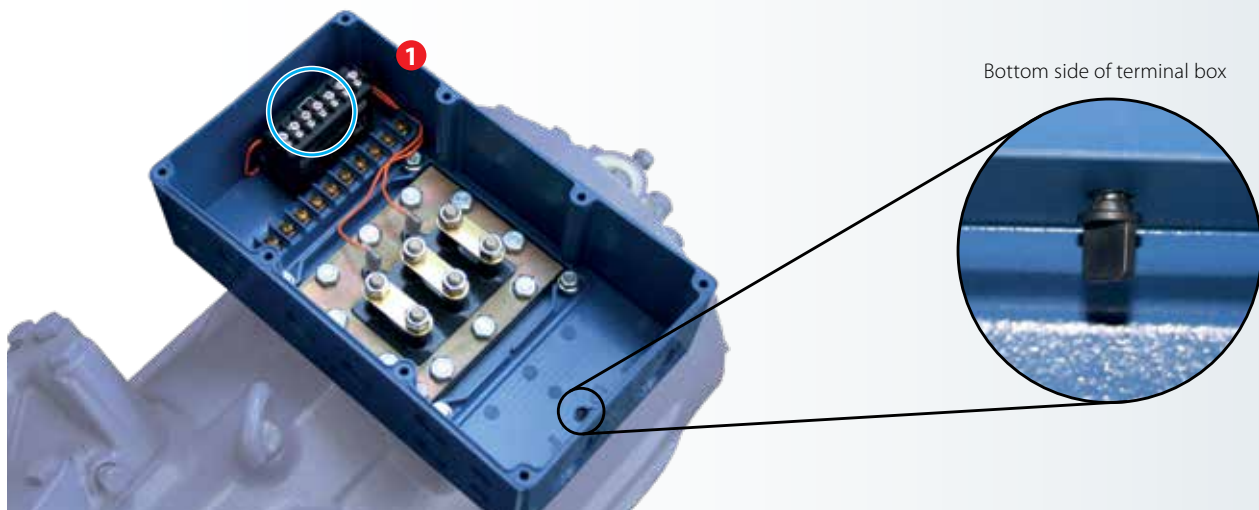


Temperature safety drive for the drive motor

The INT69 G also provides the usual functions, such as:

- Motor temperature monitoring
- Hot gas temperature monitoring
- Reconnection preventing device
- Reset function
- **1** PTC sensors
- Connection of up to nine PTC sensors possible

State-of-the-art terminal box



Bottom side of terminal box

- Easy electrical installation due to large internal volume
- Terminal board with cable entry points in glass seal model
- **1** Electrical motor protection INT69 G integrated
- High level of protection IP66
- HG12P to HG66e equipped with plug to drain condensed water from the terminal box under unfavorable circumstances (when in use, I_p protection is reduced)

BOCK® HG semi-hermetic compressors

HG12P – HG88e

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INT69 G Motor Protection	66

1

2

3



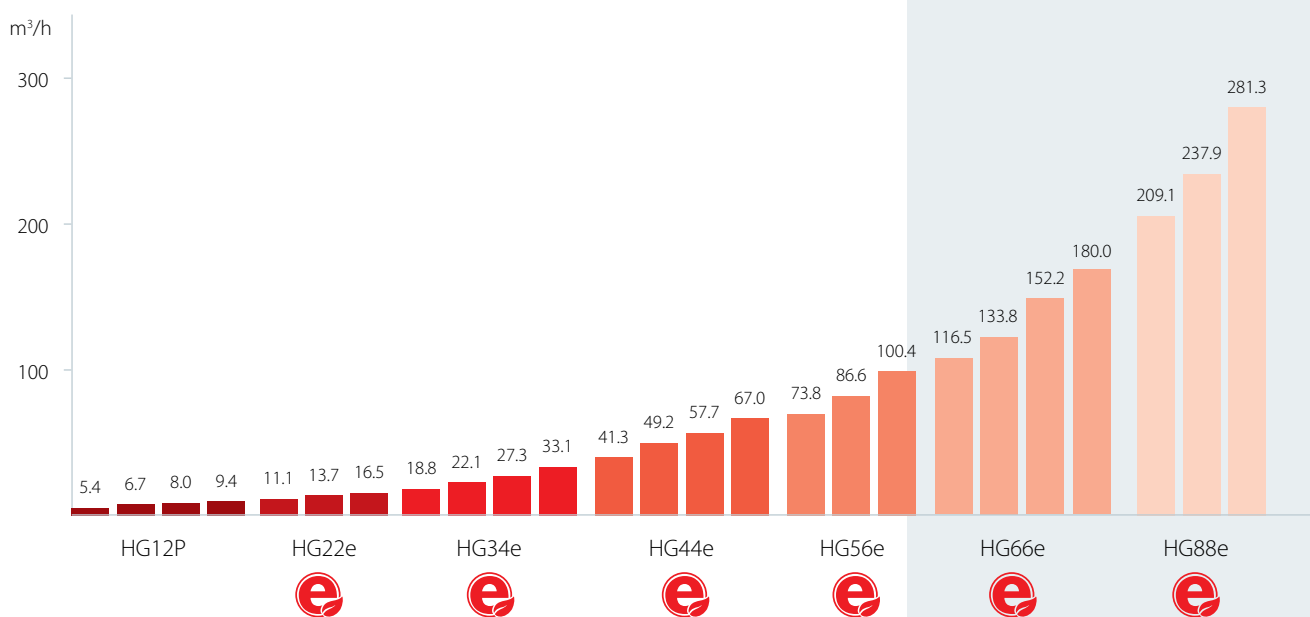
BOCK® HG semi-hermetic compressors

The Danfoss BOCK® HG (Hermetic Gas-cooled) range of single-stage, semi-hermetic compressors offers traditional suction-gas-cooled compressor technology. These compressors of the highest quality standard excel in their running comfort, easy maintenance, efficiency and reliability. They are suitable as standard for conventional or chlorine-free HFC refrigerants.

HG Single-Stage

7 model sizes with 25 capacity stages from 5.4 to 281.3 m³/h (50 Hz)

 = efficiency

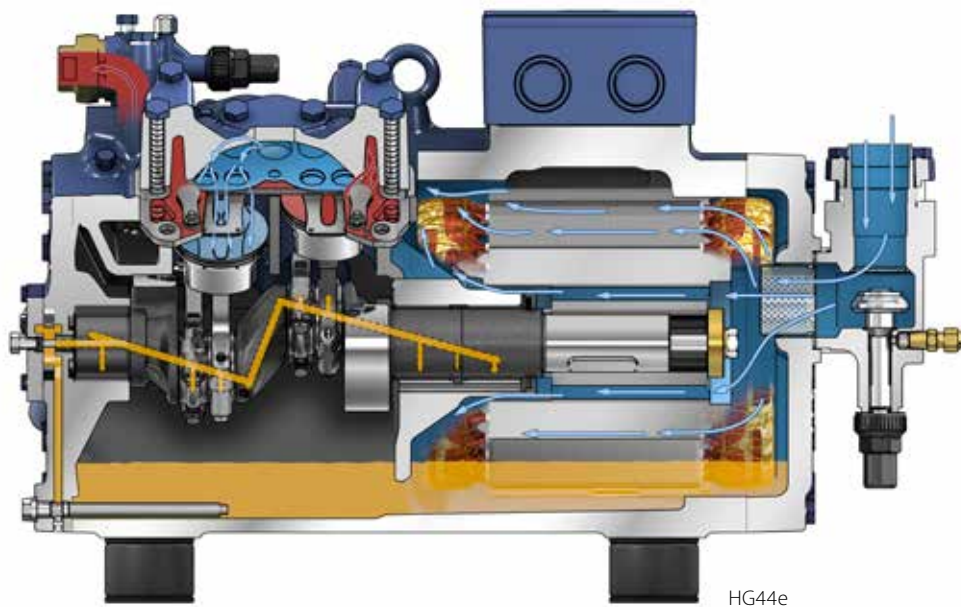


HG semi-hermetic compressors

At a glance

Special features:

- Outstanding running comfort
- Efficiency and reliability on the highest level of quality
- Service-friendly design, e.g. with replaceable drive motors
- Oil pump lubrication
- Electronic motor protection
- Suitable components for conventional or chlorine-free
- HFC refrigerants



HG44e

Type key

HGX66e / 2070 - 4S

- Motor variant ⁴⁾
- Number of poles
- Swept volume
- e-series ³⁾
- Number of cylinders
- Size
- Ester oil filling ²⁾
- Series ¹⁾

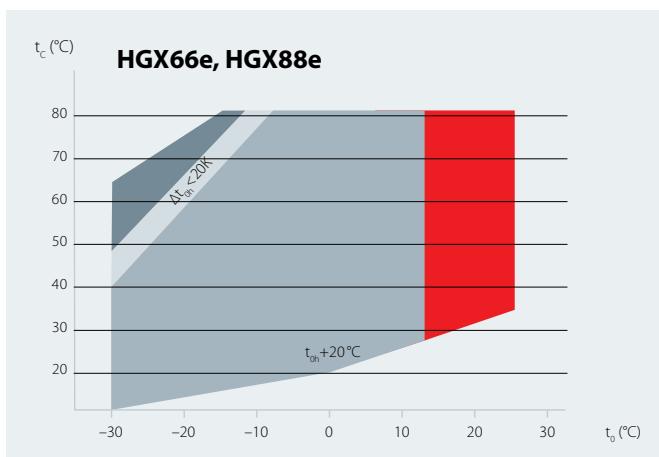
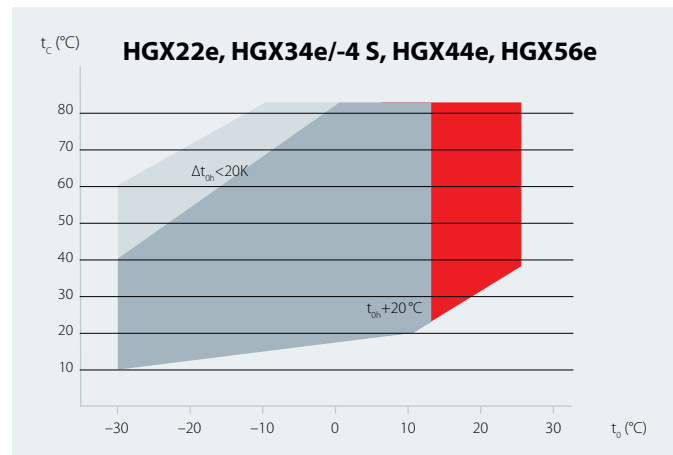
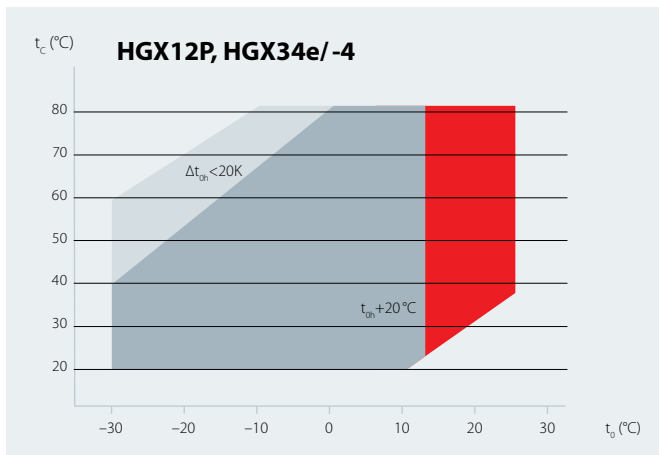
- ¹⁾ HG = Hermetic Gas-cooled (suction gas-cooled)
- ²⁾ X = Ester oil filling (HFC refrigerants e.g. R134a, R404A, R448A, R449A)
- ³⁾ = Additional declaration for e-series compressors
- ⁴⁾ S = More powerful motor e.g. air-conditioning applications

HG semi-hermetic compressors

Operating limits



R134a



t_o Evaporating temperature (°C)
 t_c Condensing temperature (°C)
 Δt_{oh} Suction gas superheat (K)
 t_{oh} Suction gas temperature (°C)

- Unlimited application range
- Supplementary cooling or reduced suction gas temperature ($\Delta t_{oh} < 20K$)
- Supplementary cooling and reduced suction gas temperature ($\Delta t_{oh} < 20K$)
- Motor version -S- (more powerful motor)

Max. permissible operating pressure (LP/HP) ¹⁾: 19/28 bar

¹⁾ LP = low pressure, HP = high pressure

NOTES!

Operating limits

Compressor operation is possible within the limits shown on the application diagrams. Please note the colored areas. Compressor application limits should not be chosen for design purposes or continuous operation.

Restrictions to operating limits may occur when using a frequency converter. For further explanations consult www.bock.de

Performance data

The performance data for R134a are based on European Standard EN 12900 50 Hz power supply frequency. This signifies: 20 °C suction gas temperature without liquid subcooling. This results in significant differences compared to specifications with liquid undercooling and/or suction-gas temperatures.

A comprehensive modification to 20 °C suction gas temperature will follow at a later date.

Conversion factor for 60 Hz = 1.2.
Performance data for other operating points, see BOCK VAP software (vap.bock.de).

ASERCOM certified performance data.



For compressors with this label, the performance data are certified according 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 BOCK compressors can be found at www.asercom.org and www.bock.de.

HG semi-hermetic compressors

Performance data



R134a | 50 Hz

Type			Cooling capacity Q _o [W]				Power consumption P _e [kW]							
			Evaporating temperature °C											
			12.5	10	7.5	5	0	-5	-10	-15	-20	-25	-30	
Cond. temp. °C														
HGX12P/60-4S	30	Q	4920	4490	4080	3700	3010	2420	1910	1480	1130	836	605	
		P	0.703	0.710	0.711	0.706	0.682	0.645	0.597	0.544	0.491	0.443	0.403	
	40	Q	4260	3880	3520	3190	2590	2070	1630	1250	932	670	456	
		P	0.851	0.843	0.830	0.813	0.768	0.713	0.653	0.592	0.535	0.487	0.453	
	50	Q	3630	3300	2990	2700	2190	1740	1350	1030	742	505	302	
		P	0.991	0.968	0.942	0.912	0.846	0.774	0.701	0.631	0.571	0.523	0.494	
	60	Q	3020	2740	2480	2240	1800	1420	1100	806	558	341	146	
		P	1.11	1.08	1.04	0.999	0.910	0.821	0.735	0.657	0.593	0.546	0.521	
	70	Q	2450	2220	2010	1810	1450	1130	847	602	381	-	-	
		P	1.22	1.17	1.12	1.06	0.956	0.849	0.750	0.664	0.595	-	-	
	HGX12P/75-4	30	Q	6150	5610	5100	4620	3760	3020	2390	1850	1410	1050	756
			P	0.879	0.887	0.888	0.882	0.853	0.805	0.746	0.680	0.614	0.553	0.503
40		Q	5320	4850	4400	3980	3230	2590	2030	1560	1170	837	569	
		P	1.06	1.05	1.03	1.01	0.959	0.891	0.815	0.739	0.668	0.609	0.565	
50		Q	4530	4120	3730	3380	2730	2170	1690	1280	927	630	377	
		P	1.23	1.21	1.17	1.14	1.05	0.967	0.875	0.789	0.713	0.654	0.617	
60		Q	3780	3430	3100	2800	2250	1780	1370	1010	697	425	182	
		P	1.39	1.35	1.30	1.24	1.13	1.02	0.918	0.821	0.741	0.682	0.651	
70		Q	3070	2780	2510	2260	1800	1410	1060	751	476	-	-	
		P	1.53	1.46	1.40	1.33	1.19	1.06	0.937	0.829	0.743	-	-	
HGX12P/90-4		30	Q	7300	6670	6070	5520	4510	3630	2870	2230	1700	1260	912
			P	1.08	1.10	1.12	1.12	1.10	1.06	0.997	0.915	0.826	0.735	0.649
	40	Q	6380	5820	5290	4790	3890	3110	2440	1880	1410	1020	708	
		P	1.33	1.33	1.32	1.30	1.24	1.16	1.06	0.955	0.846	0.742	0.649	
	50	Q	5490	4990	4520	4080	3290	2610	2030	1540	1130	793	522	
		P	1.59	1.56	1.53	1.48	1.38	1.26	1.14	1.01	0.885	0.770	0.672	
	60	Q	4620	4180	3780	3400	2720	2140	1640	1230	876	592	359	
		P	1.82	1.77	1.71	1.65	1.51	1.35	1.20	1.05	0.914	0.790	0.690	
	70	Q	3780	3410	3060	2750	2180	1690	1280	937	653	-	-	
		P	2.00	1.93	1.84	1.76	1.58	1.40	1.22	1.05	0.903	-	-	
	HGX12P/110-4	30	Q	8620	7860	7150	6480	5280	4240	3350	2600	1980	1470	1060
			P	1.23	1.24	1.24	1.23	1.19	1.13	1.04	0.954	0.861	0.776	0.706
40		Q	7460	6790	6170	5580	4530	3620	2850	2190	1640	1180	798	
		P	1.49	1.47	1.45	1.42	1.34	1.24	1.14	1.03	0.938	0.854	0.793	
50		Q	6350	5770	5230	4730	3830	3040	2370	1790	1300	884	529	
		P	1.73	1.69	1.65	1.59	1.48	1.35	1.22	1.10	1.00	0.917	0.866	
60		Q	5290	4800	4350	3920	3160	2490	1920	1420	978	596	255	
		P	1.96	1.89	1.82	1.75	1.59	1.43	1.28	1.15	1.03	0.957	0.914	
70		Q	4300	3890	3520	3160	2530	1970	1490	1060	668	-	-	
		P	2.15	2.05	1.96	1.86	1.67	1.48	1.31	1.16	1.04	-	-	
HGX22e/125-4		30	Q	10200	9270	8440	7660	6220	4960	3860	2930	2160	1550	1090
			P	1.30	1.35	1.38	1.39	1.39	1.34	1.25	1.14	1.02	0.891	0.765
	40	Q	8990	8200	7450	6740	5440	4300	3310	2480	1790	1260	860	
		P	1.69	1.70	1.69	1.67	1.59	1.48	1.35	1.20	1.05	0.903	0.769	
	50	Q	7800	7090	6420	5780	4630	3620	2750	2020	1440	978	657	
		P	2.02	1.98	1.94	1.88	1.75	1.59	1.41	1.24	1.06	0.908	0.773	
	60	Q	6570	5950	5360	4810	3810	2940	2200	1590	1110	744	504	
		P	2.27	2.21	2.13	2.04	1.86	1.66	1.45	1.25	1.07	0.909	0.783	
	70	Q	5330	4800	4310	3840	3000	2280	1690	1200	829	-	-	
		P	2.48	2.38	2.27	2.16	1.93	1.70	1.47	1.25	1.06	-	-	
	HGX22e/160-4	30	Q	12800	11600	10600	9560	7780	6240	4920	3810	2870	2110	1490
			P	1.63	1.65	1.66	1.65	1.63	1.59	1.51	1.41	1.29	1.15	0.983
40		Q	11200	10200	9200	8330	6750	5390	4230	3240	2410	1730	1160	
		P	2.07	2.05	2.03	2.00	1.92	1.81	1.68	1.53	1.36	1.17	0.962	
50		Q	9640	8760	7930	7170	5780	4580	3560	2680	1940	1310	783	
		P	2.46	2.41	2.36	2.29	2.15	1.99	1.80	1.60	1.38	1.14	0.884	
60		Q	8230	7460	6730	6060	4840	3790	2880	2100	1430	844	335	
		P	2.80	2.72	2.63	2.54	2.33	2.11	1.87	1.61	1.34	1.04	0.744	
70		Q	6880	6210	5580	4990	3930	3000	2190	1490	862	-	-	
		P	3.09	2.97	2.85	2.72	2.45	2.17	1.87	1.56	1.23	-	-	
HGX22e/190-4		30	Q	15300	14000	12900	11700	9630	7800	6180	4790	3610	2640	1870
			P	2.04	2.06	2.06	2.05	2.00	1.92	1.80	1.65	1.48	1.29	1.09
	40	Q	13600	12500	11400	10400	8460	6810	5360	4110	3060	2200	1530	
		P	2.59	2.55	2.51	2.46	2.33	2.17	1.98	1.78	1.57	1.34	1.11	
	50	Q	11900	10800	9840	8940	7270	5800	4520	3430	2520	1790	1220	
		P	3.09	3.01	2.92	2.83	2.62	2.39	2.14	1.89	1.63	1.37	1.12	
	60	Q	10100	9160	8320	7520	6070	4800	3700	2770	2010	1410	959	
		P	3.54	3.41	3.28	3.14	2.86	2.56	2.26	1.96	1.66	1.37	1.10	
	70	Q	8280	7510	6790	6110	4880	3810	2900	2150	1540	-	-	
		P	3.91	3.74	3.57	3.39	3.03	2.68	2.32	1.97	1.64	-	-	

HG semi-hermetic compressors

Performance data



R134a | 50 Hz

Type			Cooling capacity Q _o [W]				Power consumption P _e [kW]						
			Evaporating temperature °C										
			12.5	10	7.5	5	0	-5	-10	-15	-20	-25	-30
Cond. temp. °C			17200 2.27	15700 2.30	14400 2.32	13000 2.31	10600 2.25	8450 2.14	6590 1.98	5000 1.80	3670 1.59	2610 1.38	1800 1.18
			15200 2.87	13800 2.84	12600 2.78	11400 2.72	9120 2.55	7190 2.34	5530 2.11	4120 1.87	2970 1.64	2060 1.42	1400 1.22
HGX34e/215-4	30	Q	13000 3.38	11800 3.27	10700 3.16	9540 3.03	7590 2.76	5890 2.47	4440 2.18	3240 1.90	2270 1.64	1540 1.42	1040 1.24
	40	Q	10800 3.79	9690 3.62	8690 3.45	7750 3.27	6070 2.90	4620 2.54	3400 2.20	2420 1.89	1660 1.61	1120 1.39	784 1.24
	50	P	8590 4.12	7680 3.89	6830 3.66	6040 3.43	4630 2.99	3440 2.56	2480 2.17	1730 1.84	1190 1.56	-	-
	60	P	20600 2.61	18800 2.67	17200 2.71	15600 2.71	12700 2.66	10100 2.53	7800 2.34	5890 2.12	4320 1.88	3080 1.63	2190 1.41
	70	P	18100 3.36	16500 3.35	15000 3.31	13600 3.25	11000 3.08	8660 2.84	6660 2.57	4960 2.27	3570 1.97	2490 1.68	1710 1.43
	80	P	15600 4.02	14200 3.93	12900 3.83	11600 3.71	9310 3.42	7280 3.08	5540 2.73	4070 2.36	2880 2.01	1960 1.68	1330 1.41
HGX34e/255-4 ¹⁾	30	Q	13100 4.56	11900 4.41	10700 4.24	9610 4.06	7640 3.66	5920 3.23	4450 2.80	3220 2.37	2240 1.96	1510 1.61	1030 1.32
	40	Q	10500 4.98	9430 4.77	8480 4.54	7590 4.30	5970 3.79	4570 3.28	3380 2.76	2410 2.28	1660 1.83	-	-
	50	P	25500 3.40	23300 3.43	21100 3.43	19200 3.40	15500 3.29	12400 3.11	9660 2.88	7390 2.61	5520 2.32	4040 2.02	2920 1.72
	60	P	22300 4.22	20300 4.17	18500 4.10	16700 4.01	13500 3.78	10700 3.49	8260 3.16	6260 2.80	4620 2.43	3320 2.07	2330 1.73
	70	P	19200 4.97	17400 4.85	15800 4.71	14200 4.55	11400 4.19	8950 3.79	6880 3.36	5140 2.91	3720 2.47	2600 2.04	1740 1.65
	80	P	16100 5.63	14600 5.44	13100 5.22	11800 5.00	9350 4.51	7280 4.00	5520 3.46	4050 2.93	2850 2.41	1900 1.92	1170 1.47
HGX34e/315-4 ¹⁾	30	Q	13100 6.18	11800 5.91	10600 5.62	9390 5.33	7380 4.71	5660 4.08	4200 3.44	3000 2.82	2010 2.22	-	-
	40	Q	30700 4.27	28100 4.28	25600 4.26	23200 4.22	19000 4.06	15300 3.83	12100 3.53	9310 3.20	7060 2.83	5250 2.46	3860 2.09
	50	Q	27000 5.26	24600 5.19	22400 5.09	20300 4.97	16600 4.67	13300 4.30	10400 3.89	8000 3.46	6020 3.00	4420 2.56	3180 2.13
	60	Q	23200 6.17	21200 6.01	19300 5.83	17400 5.63	14100 5.18	11300 4.69	8760 4.16	6670 3.62	4940 3.07	3540 2.55	2450 2.06
	70	Q	19600 6.97	17800 6.73	16100 6.46	14600 6.18	11700 5.59	9240 4.96	7130 4.31	5350 3.66	3860 3.02	2650 2.42	1690 1.86
	80	Q	16000 7.65	14500 7.31	13100 6.97	11800 6.60	9340 5.86	7290 5.09	5530 4.32	4040 3.56	2800 2.83	-	-
HGX34e/380-4 ¹⁾	30	Q	30700 4.27	28100 4.28	25600 4.26	23200 4.22	19000 4.06	15300 3.83	12100 3.53	9310 3.20	7060 2.83	5250 2.46	3860 2.09
	40	Q	27000 5.26	24600 5.19	22400 5.09	20300 4.97	16600 4.67	13300 4.30	10400 3.89	8000 3.46	6020 3.00	4420 2.56	3180 2.13
	50	Q	23200 6.17	21200 6.01	19300 5.83	17400 5.63	14100 5.18	11300 4.69	8760 4.16	6670 3.62	4940 3.07	3540 2.55	2450 2.06
	60	Q	19600 6.97	17800 6.73	16100 6.46	14600 6.18	11700 5.59	9240 4.96	7130 4.31	5350 3.66	3860 3.02	2650 2.42	1690 1.86
	70	Q	16000 7.65	14500 7.31	13100 6.97	11800 6.60	9340 5.86	7290 5.09	5530 4.32	4040 3.56	2800 2.83	-	-
	80	Q	13100 8.99	11800 8.65	10600 8.28	9390 7.90	7380 7.10	5660 6.26	4200 5.40	3000 4.52	2010 3.66	-	-
HGX44e/475-4	30	Q	39200 4.71	35700 4.75	32500 4.76	29500 4.74	24100 4.62	19400 4.41	15400 4.13	12100 3.79	9190 3.42	6850 3.03	4920 2.63
	40	Q	34500 5.95	31400 5.90	28600 5.82	25900 5.71	21100 5.43	16900 5.07	13400 4.65	10400 4.19	7790 3.70	5670 3.20	3890 2.72
	50	Q	29900 7.12	27200 6.97	24700 6.80	22300 6.61	18100 6.16	14400 5.64	11300 5.08	8660 4.49	6430 3.88	4520 3.27	2880 2.69
	60	Q	25400 8.16	23000 7.91	20800 7.65	18800 7.36	15100 6.74	12000 6.06	9280 5.35	7000 4.62	5040 3.89	3340 3.17	1840 2.49
	70	Q	20800 8.99	18800 8.65	16900 8.28	15200 7.90	12100 7.10	9450 6.26	7210 5.40	5280 4.52	3600 3.66	-	-
	80	Q	16600 9.75	14600 9.45	13100 9.13	11800 8.78	9340 8.03	7290 7.21	5530 6.35	4040 5.47	2800 4.59	-	-
HGX44e/565-4	30	Q	46600 5.58	42600 5.62	38700 5.64	35200 5.61	28800 5.47	23200 5.22	18500 4.88	14500 4.48	11100 4.03	8310 3.56	6010 3.09
	40	Q	41100 7.07	37500 7.01	34100 6.91	30900 6.79	25200 6.45	20300 6.01	16100 5.51	12500 4.95	9480 4.37	6950 3.78	4820 3.19
	50	Q	35700 8.49	32500 8.31	29500 8.10	26700 7.87	21700 7.33	17400 6.71	13700 6.03	10600 5.31	7890 4.58	5610 3.86	3640 3.17
	60	Q	30400 9.75	27600 9.45	25000 9.13	22600 8.78	18200 8.03	14500 7.21	11400 6.35	8620 5.47	6280 4.59	4240 3.74	2410 2.92
	70	Q	25000 10.7	22600 10.3	20400 9.90	18400 9.44	14700 8.47	11600 7.45	8910 6.41	6610 5.36	4590 4.32	-	-
	80	Q	20800 12.8	18800 12.3	16900 11.7	15200 11.1	12100 9.90	9450 8.64	7210 7.38	5280 6.14	3600 4.95	-	-
HGX44e/665-4 ¹⁾	30	Q	55700 6.61	50900 6.71	46400 6.76	42100 6.76	34400 6.62	27700 6.33	21900 5.92	17000 5.40	12900 4.82	9520 4.20	6880 3.57
	40	Q	49200 8.52	44900 8.45	40800 8.34	37000 8.18	30100 7.76	24100 7.21	18900 6.57	14600 5.86	10900 5.11	7930 4.35	5580 3.61
	50	Q	42600 10.2	38800 10.0	35200 9.73	31800 9.42	25700 8.72	20400 7.92	15900 7.06	12100 6.16	8940 5.26	6360 4.37	4310 3.54
	60	Q	36000 11.6	32700 11.3	29500 10.8	26600 10.4	21300 9.45	16800 8.42	13000 7.35	9700 6.27	7030 5.22	4850 4.22	3110 3.30
	70	Q	29400 12.8	26500 12.3	23900 11.7	21400 11.1	17000 9.90	13200 8.64	10100 7.38	7380 6.14	5200 4.95	-	-
	80	Q	25000 12.8	22600 12.3	20400 11.7	18400 11.1	14700 9.90	11600 8.64	8910 7.38	6610 6.14	4590 4.95	-	-

Relating to 20 °C suction gas temperature
without liquid subcooling

Supplementary cooling or
reduced suction gas temperature

¹⁾ Asercom certified

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HG semi-hermetic compressors

Performance data



R134a | 50 Hz

Type			Cooling capacity QO [W]				Power consumption Pe [kW]						
			Evaporating temperature °C										
			12.5	10	7.5	5	0	-5	-10	-15	-20	-25	-30
HGX44e/770-4	30	Q	63600	58000	52800	47900	39100	31600	25100	19700	15100	11300	8100
		P	7.62	7.68	7.70	7.67	7.48	7.14	6.69	6.14	5.54	4.90	4.25
	40	Q	56000	51100	46400	42100	34200	27500	21800	16900	12800	9360	6460
		P	9.63	9.54	9.42	9.24	8.79	8.21	7.53	6.78	5.99	5.19	4.40
	50	Q	48700	44200	40100	36300	29500	23600	18600	14300	10700	7510	4830
		P	11.5	11.2	11.0	10.7	9.97	9.14	8.23	7.26	6.28	5.30	4.35
HHGX56e/850-4	30	Q	41300	37500	33900	30600	24700	19600	15300	11600	8390	5630	3160
		P	13.2	12.8	12.3	11.9	10.9	9.82	8.66	7.48	6.29	5.13	4.02
	40	Q	34000	30700	27700	24900	19900	15600	12000	8810	6070	-	-
		P	14.5	13.9	13.4	12.7	11.5	10.1	8.74	7.32	5.93	-	-
	50	Q	71500	65200	59400	53900	43900	35300	28000	21700	16500	12300	8870
		P	8.74	8.80	8.79	8.74	8.49	8.08	7.52	6.86	6.11	5.30	4.45
HGX56e/995-4	30	Q	62900	57400	52200	47300	38500	30900	24300	18800	14200	10400	7330
		P	11.1	10.9	10.8	10.5	9.99	9.27	8.43	7.50	6.51	5.48	4.45
	40	Q	54500	49600	45000	40700	33000	26400	20700	15900	11900	8470	5720
		P	13.2	12.9	12.5	12.1	11.2	10.2	9.11	7.93	6.71	5.47	4.26
	50	Q	46000	41800	37900	34200	27600	21900	17100	13000	9440	6520	4060
		P	15.1	14.6	14.1	13.5	12.3	10.9	9.57	8.13	6.68	5.24	3.85
HGX56e/1155-4	30	Q	37600	34100	30800	27700	22200	17500	13400	9960	7050	-	-
		P	16.7	16.0	15.3	14.6	13.0	11.4	9.77	8.09	6.41	-	-
	40	Q	82900	75700	68900	62500	51000	41000	32400	25100	19000	14000	10100
		P	10.1	10.1	10.1	10.1	9.81	9.29	8.62	7.81	6.92	5.98	5.03
	50	Q	73100	66600	60600	54900	44700	35800	28100	21600	16200	11700	8050
		P	12.7	12.6	12.4	12.1	11.4	10.6	9.60	8.51	7.36	6.20	5.05
HGX56e/1340-4	30	Q	63200	57600	52300	47300	38300	30500	23900	18100	13300	9260	5930
		P	15.2	14.8	14.4	13.9	12.9	11.6	10.3	8.98	7.58	6.19	4.85
	40	Q	53300	48500	43900	39700	32000	25300	19500	14600	10400	6770	3720
		P	17.4	16.8	16.1	15.5	14.0	12.4	10.8	9.16	7.49	5.88	4.35
	50	Q	43500	39400	35600	32000	25600	20000	15200	11000	7380	-	-
		P	19.1	18.3	17.5	16.6	14.7	12.8	10.9	8.94	7.02	-	-
HGX56e/1540-4	30	Q	94600	86200	78400	71100	57800	46400	36600	28400	21600	16000	11700
		P	13.0	12.9	12.8	12.6	12.0	11.2	10.3	9.31	8.24	7.16	6.12
	40	Q	83600	76200	69200	62600	50800	40700	32000	24700	18600	13600	9550
		P	15.9	15.6	15.3	14.9	13.9	12.8	11.5	10.2	8.85	7.51	6.24
	50	Q	72600	66000	59900	54100	43800	34900	27300	20800	15500	11000	7340
		P	18.7	18.2	17.6	17.0	15.6	14.1	12.5	10.8	9.21	7.60	6.08
HGX66e/1750-4	30	Q	61500	55800	50500	45500	36700	29000	22500	17000	12300	8370	5090
		P	21.3	20.5	19.7	18.9	17.1	15.1	13.2	11.1	9.20	7.29	5.50
	40	Q	50400	45600	41100	37000	29500	23200	17700	13100	9130	-	-
		P	23.5	22.5	21.4	20.3	18.1	15.7	13.3	11.0	8.69	-	-
	50	Q	109000	99700	91100	82900	68000	54900	43600	33900	25800	19100	13800
		P	14.0	14.2	14.2	14.1	13.6	12.9	12.0	10.8	9.66	8.40	7.16
HGX66e/1950-4	30	Q	97000	88700	80800	73400	59900	48000	37800	29100	21800	15800	11100
		P	17.7	17.5	17.2	16.8	15.8	14.5	13.1	11.6	10.1	8.65	7.22
	40	Q	84400	76900	69900	63300	51300	40800	31800	24200	17900	12700	-
		P	20.9	20.4	19.7	19.0	17.5	15.8	14.0	12.1	10.3	8.62	-
	50	Q	71300	64800	58600	52900	42500	33500	25900	19500	14200	-	-
		P	23.6	22.8	21.8	20.8	18.8	16.6	14.4	12.3	10.2	-	-
HGX66e/2150-4	30	Q	57900	52400	47200	42400	33800	26400	20200	15100	-	-	-
		P	25.8	24.6	23.4	22.1	19.6	17.0	14.4	12.0	-	-	-
	40	Q	125000	115000	105000	95200	78200	63300	50400	39300	30000	22300	16200
		P	16.1	16.2	16.3	16.2	15.7	14.9	13.8	12.5	11.1	9.74	8.33
	50	Q	112000	102000	92900	84400	69000	55500	43900	33900	25500	18700	13200
		P	20.4	20.2	19.8	19.4	18.2	16.8	15.2	13.5	11.8	10.1	8.50
HGX66e/2350-4	30	Q	97000	88500	80500	73000	59300	47400	37100	28400	21100	15200	-
		P	24.2	23.6	22.9	22.1	20.3	18.3	16.3	14.2	12.1	10.2	-
	40	Q	82100	74700	67700	61200	49300	39100	30400	23000	16900	-	-
		P	27.5	26.4	25.4	24.3	21.9	19.4	16.9	14.5	12.1	-	-
	50	Q	66900	60600	54700	49200	39400	31000	23900	18100	-	-	-
		P	30.1	28.7	27.3	25.9	23.0	20.0	17.1	14.3	-	-	-
HGX66e/2550-4	30	Q	143000	131000	120000	109000	89400	72400	57600	44900	34300	25600	18600
		P	18.4	18.6	18.6	18.5	17.9	17.0	15.8	14.4	12.8	11.2	9.67
	40	Q	128000	117000	107000	96600	79000	63600	50200	38800	29300	21400	15200
		P	23.3	23.0	22.6	22.1	20.8	19.2	17.5	15.5	13.6	11.7	9.89
	50	Q	111000	102000	92200	83600	67900	54300	42500	32600	24200	17400	-
		P	27.6	26.9	26.1	25.2	23.2	21.0	18.7	16.3	14.0	11.8	-
HGX66e/2750-4	30	Q	94100	85600	77600	70100	56600	44900	34900	26500	19500	-	-
		P	31.3	30.2	29.0	27.7	25.1	22.3	19.4	16.7	14.0	-	-
	40	Q	76700	69500	62800	56500	45200	35600	27500	20800	-	-	-
		P	34.3	32.8	31.2	29.6	26.3	23.0	19.7	16.5	-	-	-
	50	Q	66900	60600	54700	49200	39400	31000	23900	18100	-	-	-
		P	30.1	28.7	27.3	25.9	23.0	20.0	17.1	14.3	-	-	-

Relating to 20 °C suction gas temperature
without liquid subcooling

Supplementary cooling or
reduced suction gas temperature

Asercom certified

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HG semi-hermetic compressors

Performance data



R134a | 50 Hz

Type			Cooling capacity Q _o [W]				Power consumption P _e [kW]						
			Evaporating temperature °C										
			12.5	10	7.5	5	0	-5	-10	-15	-20	-25	-30
HGX66e/2070-4	30	Q	168000	154000	141000	129000	106000	85300	67900	53000	40500	30200	22000
		P	21.7	21.9	21.9	21.8	21.1	20.0	18.6	16.9	15.0	13.1	11.2
	40	Q	150000	137000	125000	114000	93000	74900	59200	45800	34500	25300	17900
		P	27.6	27.2	26.7	26.1	24.6	22.7	20.6	18.3	15.9	13.7	11.5
	50	Q	131000	120000	109000	98300	79900	63900	50100	38400	28600	20600	-
		P	32.8	31.9	30.9	29.9	27.5	24.8	22.0	19.2	16.4	13.8	-
HGX88e/2400-4	60	Q	111000	101000	91100	82400	66500	52800	41100	31200	23000	-	-
		P	37.3	35.9	34.4	32.9	29.7	26.3	22.9	19.6	16.5	-	-
	70	Q	89900	81500	73700	66300	53200	41900	32400	24600	-	-	-
		P	40.9	39.0	37.1	35.2	31.2	27.2	23.2	19.4	-	-	-
	30	Q	197000	181000	165000	151000	124000	99900	79500	62000	47400	35300	25700
		P	26.1	26.3	26.3	26.1	25.4	24.2	22.5	20.6	18.4	16.1	13.8
HGX88e/2735-4	40	Q	176000	161000	147000	134000	110000	87800	69400	53700	40500	29600	21000
		P	32.8	32.4	31.8	31.1	29.4	27.2	24.8	22.2	19.5	16.8	14.2
	50	Q	154000	141000	128000	116000	94000	75100	58900	45100	33600	24200	-
		P	38.8	37.8	36.7	35.4	32.7	29.7	26.5	23.3	20.1	17.0	-
	60	Q	131000	119000	108000	97100	78400	62200	48300	36700	27100	-	-
		P	44.0	42.4	40.7	38.9	35.3	31.5	27.6	23.8	20.2	-	-
HGX88e/3235-4	70	Q	107000	96400	87100	78400	62800	49400	38200	29000	-	-	-
		P	48.2	46.1	43.9	41.6	37.1	32.5	28.0	23.7	-	-	-
	30	Q	225000	206000	188000	171000	141000	114000	90500	70600	53900	40200	29300
		P	29.9	30.1	30.1	29.9	29.0	27.6	25.8	23.5	21.1	18.5	15.8
	40	Q	201000	184000	168000	152000	125000	100000	79000	61100	46100	33700	23900
		P	37.4	36.9	36.3	35.5	33.5	31.1	28.4	25.4	22.3	19.2	16.3
HGX88e/3235-4	50	Q	176000	160000	146000	132000	108000	85600	67100	51400	38200	27500	-
		P	44.1	43.0	41.7	40.3	37.3	33.9	30.3	26.7	23.0	19.5	-
	60	Q	149000	136000	123000	111000	89400	70900	55100	41800	30900	-	-
		P	49.8	48.1	46.2	44.3	40.2	35.9	31.5	27.2	23.1	-	-
	70	Q	122000	111000	99400	89400	71600	56300	43500	33000	-	-	-
		P	54.5	52.2	49.7	47.2	42.2	37.0	32.0	27.1	-	-	-
HGX88e/3235-4	30	Q	265000	243000	222000	202000	166000	135000	107000	83300	63500	47300	34400
		P	35.2	35.4	35.4	35.2	34.2	32.5	30.3	27.6	24.7	21.6	18.5
	40	Q	237000	217000	198000	180000	147000	118000	93200	72000	54200	39600	28000
		P	44.1	43.5	42.7	41.8	39.4	36.6	33.3	29.8	26.1	22.5	18.9
	50	Q	207000	189000	172000	156000	127000	101000	78900	60400	44900	32300	-
		P	52.0	50.6	49.1	47.5	43.8	39.8	35.6	31.2	26.9	22.7	-
HGX88e/3235-4	60	Q	176000	160000	145000	131000	106000	83400	64700	49100	36100	-	-
		P	58.7	56.6	54.4	52.1	47.2	42.1	37.0	31.8	26.9	-	-
	70	Q	144000	130000	117000	106000	84200	66200	51100	38600	-	-	-
		P	64.3	61.4	58.5	55.6	49.5	43.4	37.4	31.5	-	-	-

Relating to 20 °C suction gas temperature without liquid subcooling

Supplementary cooling or reduced suction gas temperature

¹⁾ Asercom certified

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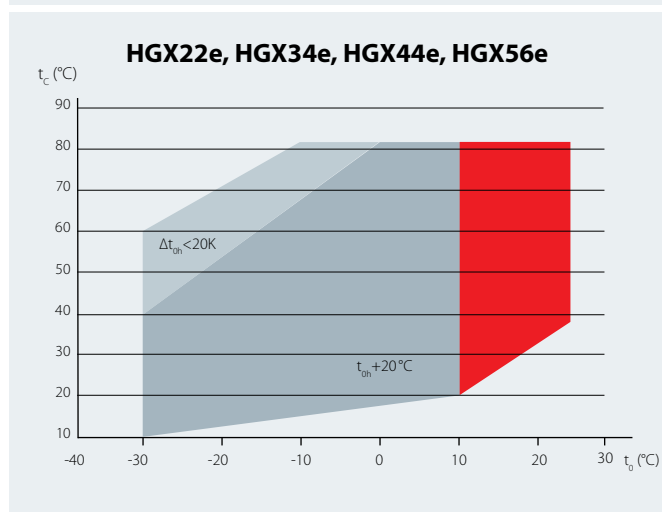
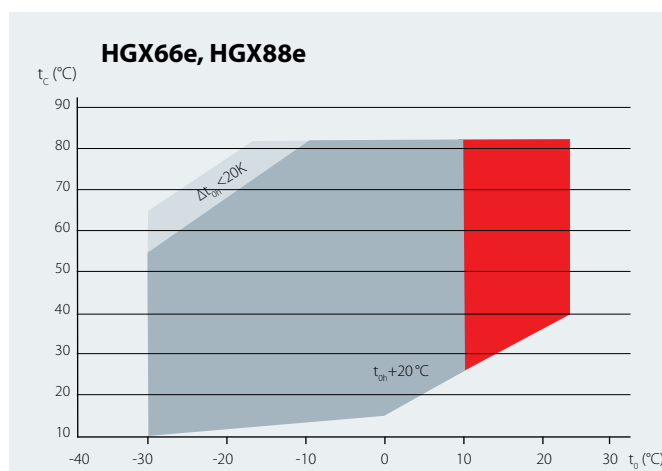
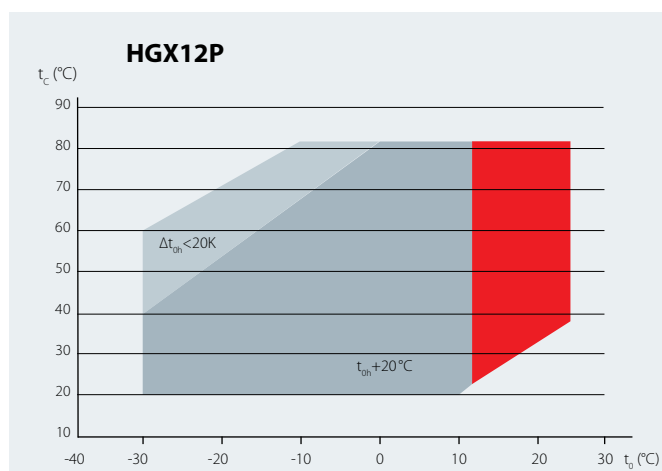


HG semi-hermetic compressors

Operating limits



R513A



t_o Evaporating temperature (°C)

t_c Condensing temperature (°C)

Δt_{oh} Suction gas superheat (K)

t_{oh} Suction gas temperature (°C)

● Unlimited application range

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

● Motor version -S- (more powerful motor)

Max. permissible operating pressure (LP/HP)¹⁾: 19/28 bar

¹⁾ LP = low pressure, HP = high pressure

NOTES!

Operating limits

Compressor operation is possible within the limits shown on the application diagrams. Please note the colored areas. Compressor application limits should not be chosen for design purposes or continuous operation.

Restrictions to operating limits may occur when using a frequency converter. For further explanations consult www.bock.de

Performance data

The performance data for R513A are based on European Standard EN 12900 with a 50 Hz power supply frequency. This signifies: 20 °C suction gas temperature without liquid subcooling.

This results in significant differences compared to specifications with liquid undercooling and/or suction-gas temperatures.

A comprehensive modification to 20 °C suction gas temperature will follow at a later date.

Conversion factor for 60 Hz = 1.2.

Performance data for other operating points, see BOCK VAP software (vap.bock.de).

HG semi-hermetic compressors

Performance data



R513A | 50 Hz

Type			Cooling capacity Q _o [W]				Power consumption P _e [kW]							
			Evaporating temperature °C											
			12.5	10	7.5	5	0	-5	-10	-15	-20	-25	-30	
Cond. temp. °C														
HGX12P/60-4 S	30	Q	5040	4610	4210	3830	3150	2550	2040	1600	1230	925	677	
	P	0.722	0.732	0.735	0.732	0.713	0.679	0.633	0.581	0.527	0.475	0.431		
	40	Q	4320	3950	3600	3270	2680	2170	1720	1340	1020	745	520	
		P	0.879	0.873	0.862	0.847	0.805	0.751	0.691	0.629	0.569	0.516	0.474	
	50	Q	3620	3310	3010	2730	2230	1800	1420	1090	809	570	365	
		P	1.02	1.00	0.981	0.953	0.888	0.816	0.741	0.668	0.603	0.548	0.508	
HGX12P/75-4 HGX12P/75-4 S	60	Q	2950	2690	2450	2220	1800	1440	1130	850	611	401	213	
		P	1.16	1.12	1.08	1.04	0.956	0.865	0.777	0.694	0.622	0.566	0.529	
	70	Q	2320	2110	1910	1730	1400	1110	849	625	424	-	-	
		P	1.27	1.22	1.17	1.11	1.00	0.895	0.792	0.699	0.622	-	-	
	30	Q	6280	5750	5260	4790	3930	3190	2550	2000	1540	1160	846	
		P	0.970	0.987	0.998	1.00	0.891	0.848	0.791	0.726	0.658	0.594	0.538	
HGX12P/90-4 HGX12P/90-4 S	40	Q	5500	5030	4590	4180	3350	2700	2150	1680	1270	931	650	
		P	1.19	1.18	1.18	1.16	1.00	0.939	0.864	0.786	0.711	0.645	0.592	
	50	Q	4690	4280	3890	3530	2790	2240	1770	1360	1010	712	456	
		P	1.39	1.37	1.34	1.31	1.10	1.01	0.926	0.835	0.753	0.684	0.635	
	60	Q	3840	3500	3170	2870	2250	1800	1410	1070	763	501	266	
		P	1.57	1.54	1.49	1.44	1.19	1.08	0.970	0.867	0.777	0.707	0.660	
HGX12P/110-4 HGX12P/110-4 S	70	Q	2990	2710	2440	2200	1740	1380	1060	780	529	-	-	
		P	1.75	1.69	1.63	1.57	1.25	1.11	0.990	0.874	0.777	-	-	
	30	Q	7550	6890	6270	5690	4710	3830	3060	2410	1860	1400	1030	
		P	1.15	1.17	1.19	1.19	1.14	1.10	1.04	0.963	0.874	0.780	0.689	
	40	Q	6570	5990	5440	4940	4030	3250	2580	2010	1530	1130	800	
		P	1.42	1.42	1.41	1.39	1.30	1.22	1.12	1.01	0.908	0.799	0.698	
HGX12P/125-4 HGX12P/125-4 S	50	Q	5590	5090	4620	4180	3370	2700	2130	1640	1230	880	600	
		P	1.67	1.65	1.62	1.58	1.45	1.34	1.21	1.08	0.953	0.831	0.723	
	60	Q	4600	4180	3790	3420	2730	2170	1690	1280	940	658	426	
		P	1.90	1.86	1.80	1.75	1.58	1.43	1.28	1.12	0.983	0.850	0.737	
	70	Q	3600	3260	2940	2650	2110	1660	1280	956	689	-	-	
		P	2.10	2.03	1.96	1.88	1.66	1.48	1.30	1.12	0.969	-	-	
HGX12P/160-4 HGX12P/160-4 S	30	Q	8820	8070	7370	6710	5510	4470	3570	2800	2160	1620	1190	
		P	1.26	1.28	1.28	1.28	1.25	1.18	1.10	1.01	0.923	0.833	0.755	
	40	Q	7560	6910	6300	5730	4690	3790	3010	2350	1780	1310	911	
		P	1.54	1.53	1.51	1.48	1.41	1.31	1.21	1.10	0.997	0.904	0.831	
	50	Q	6340	5790	5270	4780	3900	3140	2480	1910	1420	998	640	
		P	1.80	1.76	1.71	1.66	1.55	1.42	1.29	1.17	1.05	0.960	0.891	
HGX22e/125-4 HGX22e/125-4 S	60	Q	5170	4710	4280	3880	3150	2520	1970	1490	1070	702	373	
		P	2.03	1.97	1.90	1.82	1.67	1.51	1.36	1.21	1.09	0.991	0.926	
	70	Q	4050	3690	3340	3020	2440	1940	1490	1100	741	-	-	
		P	2.23	2.14	2.05	1.95	1.76	1.56	1.38	1.22	1.08	-	-	
	HGX22e/160-4 HGX22e/160-4 S	30	Q	10400	9540	8730	7970	6540	5280	4170	3210	2410	1750	1240
			P	1.31	1.37	1.41	1.43	1.44	1.40	1.32	1.22	1.09	0.964	0.832
40		Q	9130	8370	7640	6950	5670	4540	3550	2700	1990	1420	975	
		P	1.73	1.74	1.74	1.73	1.66	1.56	1.43	1.28	1.13	0.980	0.837	
50		Q	7810	7130	6490	5880	4760	3770	2920	2190	1580	1100	741	
		P	2.08	2.05	2.01	1.97	1.83	1.68	1.51	1.33	1.15	0.986	0.839	
HGX22e/190-4 HGX22e/190-4 S	60	Q	6440	5860	5310	4790	3840	3010	2290	1690	1210	825	558	
		P	2.36	2.30	2.23	2.15	1.95	1.76	1.55	1.35	1.15	0.986	0.843	
	70	Q	5060	4580	4130	3700	2920	2260	1700	1240	875	-	-	
		P	2.57	2.48	2.38	2.28	2.03	1.80	1.57	1.35	1.15	-	-	
	HGX22e/250-4 HGX22e/250-4 S	30	Q	13100	12000	11000	10100	8150	6600	5270	4130	3160	2360	1700
			P	1.71	1.75	1.77	1.79	1.71	1.66	1.59	1.50	1.38	1.24	1.07
40		Q	11500	10600	9600	8740	7010	5660	4490	3490	2640	1930	1340	
		P	2.17	2.16	2.15	2.12	2.00	1.90	1.78	1.63	1.46	1.27	1.07	
50		Q	9850	8990	8170	7400	5930	4750	3740	2870	2120	1490	944	
		P	2.56	2.51	2.46	2.40	2.25	2.09	1.91	1.71	1.49	1.26	1.00	
HGX22e/315-4 HGX22e/315-4 S	60	Q	8170	7420	6720	6050	4870	3860	2990	2230	1580	1010	505	
		P	2.89	2.80	2.71	2.61	2.44	2.22	1.99	1.73	1.47	1.18	0.888	
	70	Q	6490	5850	5260	4700	3830	2980	2230	1580	994	-	-	
		P	3.15	3.03	2.91	2.78	2.57	2.30	2.00	1.70	1.38	-	-	
	HGX22e/400-4 HGX22e/400-4 S	30	Q	15700	14500	13300	12200	10100	8230	6620	5200	3990	2970	2140
			P	2.11	2.13	2.14	2.14	2.10	2.02	1.90	1.76	1.59	1.41	1.21
40		Q	13700	12600	11600	10600	8760	7130	5690	4430	3360	2460	1740	
		P	2.64	2.62	2.59	2.55	2.45	2.29	2.11	1.91	1.69	1.47	1.24	
50		Q	11800	10800	9840	8980	7420	5990	4740	3660	2740	1980	1380	
		P	3.15	3.08	3.01	2.93	2.76	2.53	2.28	2.03	1.77	1.51	1.25	
HGX22e/500-4 HGX22e/500-4 S	60	Q	9740	8920	8150	7410	6070	4850	3800	2900	2140	1540	1070	
		P	3.61	3.50	3.38	3.25	3.01	2.72	2.41	2.11	1.81	1.52	1.23	
	70	Q	7780	7100	6460	5850	4710	3730	2880	2170	1600	-	-	
		P	4.00	3.84	3.68	3.51	3.20	2.84	2.49	2.14	1.80	-	-	

¹⁾ Asercom certified

Relating to 20 °C suction gas temperature
without liquid subcooling

Supplementary cooling or
reduced suction gas temperature

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HG semi-hermetic compressors

Performance data



R513A | 50 Hz

Type			Cooling capacity QO [W]				Power consumption Pe [kW]						
			Evaporating temperature °C										
			12.5	10	7.5	5	0	-5	-10	-15	-20	-25	-30
Cond. temp. °C													
HGX34e/215-4 HGX34e/215-4 S	30	Q	17600	16200	14800	13500	11100	8960	7080	5460	4080	2960	2070
		P	2.36	2.39	2.41	2.41	2.36	2.25	2.10	1.92	1.71	1.50	1.29
	40	Q	15400	14100	12800	11700	9470	7570	5900	4480	3290	2320	1590
		P	3.00	2.96	2.91	2.84	2.68	2.47	2.24	2.00	1.76	1.53	1.32
	50	Q	13000	11800	10800	9680	7790	6130	4700	3490	2500	1720	1160
		P	3.54	3.43	3.31	3.19	2.91	2.62	2.33	2.04	1.76	1.52	1.32
	60	Q	10600	9550	8610	7730	6120	4730	3550	2570	1800	1220	839
		P	3.98	3.81	3.63	3.45	3.08	2.71	2.36	2.03	1.73	1.49	1.30
	70	Q	8170	7340	6560	5830	4530	3420	2510	1790	1250	-	-
		P	4.33	4.10	3.87	3.64	3.18	2.75	2.34	1.98	1.67	-	-
HG34e/255-4 HGX34e/255-4 S	30	Q	21000	19300	17700	16200	13300	10700	8420	6470	4820	3490	2470
		P	2.69	2.77	2.81	2.83	2.79	2.67	2.50	2.28	2.03	1.78	1.53
	40	Q	18300	16800	15400	14000	11500	9140	7140	5420	3980	2820	1940
		P	3.48	3.47	3.45	3.40	3.24	3.01	2.74	2.45	2.14	1.84	1.56
	50	Q	15600	14200	13000	11800	9550	7590	5870	4400	3180	2210	1490
		P	4.16	4.09	3.99	3.88	3.60	3.28	2.92	2.55	2.18	1.84	1.53
	60	Q	12700	11600	10600	9520	7670	6040	4620	3420	2430	1670	1130
		P	4.73	4.59	4.43	4.25	3.86	3.44	3.01	2.57	2.15	1.77	1.44
	70	Q	9810	8920	8070	7260	5790	4500	3390	2480	1750	-	-
		P	5.17	4.96	4.74	4.51	4.01	3.50	2.99	2.49	2.02	-	-
HGX34e/315-4 HGX34e/315-4 S	30	Q	26200	23900	21900	19900	16300	13200	10400	8050	6110	4520	3280
		P	3.53	3.56	3.57	3.56	3.46	3.29	3.07	2.80	2.50	2.19	1.89
	40	Q	22700	20700	18900	17200	14000	11200	8810	6770	5080	3700	2620
		P	4.38	4.34	4.28	4.20	3.98	3.69	3.37	3.01	2.64	2.26	1.90
	50	Q	19200	17500	15900	14400	11700	9290	7240	5500	4060	2890	1970
		P	5.16	5.05	4.92	4.77	4.42	4.02	3.59	3.15	2.69	2.25	1.83
	60	Q	15800	14300	13000	11700	9390	7410	5710	4270	3080	2110	1350
		P	5.85	5.66	5.46	5.24	4.76	4.25	3.72	3.18	2.65	2.14	1.67
	70	Q	12400	11200	10100	9020	7170	5580	4220	3090	2150	-	-
		P	6.41	6.15	5.88	5.59	4.99	4.36	3.73	3.10	2.48	-	-
HGX34e/380-4 HGX34e/380-4 S	30	Q	31400	28800	26400	24100	19900	16200	12900	10100	7760	5840	4320
		P	4.44	4.46	4.45	4.42	4.28	4.06	3.77	3.44	3.07	2.69	2.31
	40	Q	27300	25100	22900	20900	17200	13900	11100	8610	6560	4880	3540
		P	5.47	5.41	5.32	5.21	4.92	4.56	4.16	3.72	3.26	2.80	2.35
	50	Q	23200	21200	19400	17600	14400	11600	9170	7090	5340	3890	2730
		P	6.42	6.27	6.09	5.90	5.46	4.98	4.45	3.90	3.35	2.81	2.29
	60	Q	19100	17500	15900	14400	11700	9350	7320	5580	4120	2910	1930
		P	7.25	7.01	6.76	6.48	5.90	5.28	4.63	3.97	3.32	2.70	2.12
	70	Q	15100	13700	12400	11200	9020	7140	5510	4120	2940	-	-
		P	7.95	7.62	7.28	6.93	6.20	5.44	4.67	3.90	3.16	-	-
HGX44e/475-4 HGX44e/475-4 S	30	Q	40400	37000	33800	30800	25200	20500	16500	13000	10100	7610	5570
		P	4.97	5.03	5.05	5.04	4.86	4.66	4.39	4.06	3.68	3.28	2.87
	40	Q	35300	32300	29400	26800	21800	17700	14200	11100	8490	6310	4470
		P	6.24	6.20	6.14	6.04	5.71	5.36	4.95	4.49	4.00	3.49	2.98
	50	Q	30200	27500	25100	22800	18500	14900	11900	9180	6950	5040	3390
		P	7.42	7.29	7.14	6.96	6.47	5.97	5.41	4.82	4.20	3.59	2.98
	60	Q	25100	22800	20700	18700	15100	12100	9500	7290	5400	3760	2320
		P	8.46	8.23	7.99	7.72	7.08	6.41	5.71	4.98	4.24	3.51	2.80
	70	Q	19900	18000	16300	14700	11700	9230	7150	5370	3820	-	-
		P	9.28	8.96	8.62	8.27	7.46	6.64	5.78	4.91	4.04	-	-
HGX44e/565-4 HGX44e/565-4 S	30	Q	48200	44100	40300	36700	30100	24500	19700	15600	12200	9220	6800
		P	5.90	5.96	5.99	5.97	5.76	5.52	5.20	4.80	4.35	3.87	3.37
	40	Q	42200	38600	35200	32000	26100	21200	17000	13400	10400	7710	5520
		P	7.41	7.36	7.28	7.17	6.79	6.37	5.87	5.32	4.73	4.12	3.51
	50	Q	36200	33000	30100	27300	22200	17900	14300	11200	8510	6230	4260
		P	8.81	8.66	8.47	8.26	7.70	7.10	6.43	5.71	4.98	4.23	3.51
	60	Q	30100	27400	24900	22600	18200	14700	11600	8950	6700	4730	2980
		P	10.0	9.78	9.48	9.16	8.44	7.64	6.79	5.91	5.02	4.14	3.29
	70	Q	24000	21800	19700	17800	14200	11300	8810	6690	4830	-	-
		P	11.0	10.6	10.2	9.81	8.91	7.91	6.87	5.82	4.78	-	-
HGX44e/665-4 HGX44e/665-4 S	30	Q	56200	51500	47000	42800	36000	29300	23400	18400	14200	10700	7760
		P	6.87	6.94	6.97	6.96	6.69	6.29	5.78	5.21	4.58	3.93	3.37
	40	Q	49100	44800	40900	37200	31200	25200	20100	15700	11900	8800	6300
		P	8.66	8.60	8.50	8.37	8.17	7.63	7.00	6.29	5.54	4.77	4.00
	50	Q	41900	38200	34800	31600	26300	21100	16700	12900	9670	7030	4890
		P	10.3	10.1	9.91	9.66	9.18	8.40	7.55	6.65	5.73	4.82	3.95
	60	Q	34700	31600	28600	25900	21400	17000	13300	10200	7490	5330	3570
		P	11.7	11.4	11.1	10.7	9.96	8.94	7.88	6.79	5.73	4.69	3.73
	70	Q	27500	24900	22500	20200	16400	13000	9950	7480	5430	-	-
		P	12.9	12.4	12.0	11.5	10.4	9.21	7.94	6.69	5.48	-	-

¹⁾ Asercom certified

Relating to 20 °C suction gas temperature
without liquid subcooling

Supplementary cooling or
reduced suction gas temperature

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HG semi-hermetic compressors

Performance data



R513A | 50 Hz

Type			Cooling capacity QO [W]				Power consumption Pe [kW]						
			Evaporating temperature °C										
			12.5	10	7.5	5	0	-5	-10	-15	-20	-25	-30
Cond. temp. °C													
HGX44e/770-4 HGX44e/770-4 S	30	Q	65200	59700	54600	49700	41000	33400	26800	21200	16500	12500	9160
		P	7.93	8.01	8.04	8.03	7.86	7.55	7.11	6.57	5.96	5.31	4.64
	40	Q	57000	52100	47500	43300	35500	28800	23100	18200	14000	10400	7400
		P	10.0	9.95	9.83	9.68	9.24	8.68	8.02	7.27	6.47	5.65	4.83
	50	Q	48800	44500	40500	36800	30100	24300	19400	15100	11500	8350	5680
		P	11.9	11.7	11.4	11.1	10.4	9.66	8.76	7.80	6.81	5.81	4.82
HGX56e/850-4 HGX56e/850-4 S	60	Q	40500	36900	33500	30300	24700	19800	15700	12100	8970	6300	3940
		P	13.6	13.2	12.8	12.4	11.4	10.3	9.24	8.06	6.87	5.68	4.53
	70	Q	32200	29200	26400	23800	19200	15300	11900	8940	6420	-	-
		P	15.0	14.4	13.9	13.3	12.0	10.7	9.36	7.95	6.55	-	-
	30	Q	73600	67400	61600	56200	46100	37400	30000	23600	18200	13700	10100
		P	9.23	9.29	9.30	9.26	8.96	8.57	8.03	7.37	6.62	5.80	4.94
HGX56e/995-4 HGX56e/995-4 S	40	Q	64200	58800	53600	48800	39900	32400	25800	20200	15500	11600	8310
		P	11.6	11.5	11.3	11.1	10.5	9.83	9.00	8.08	7.09	6.05	5.00
	50	Q	54800	50000	45600	41400	33700	27200	21600	16900	12800	9360	6530
		P	13.7	13.4	13.1	12.7	11.8	10.8	9.76	8.58	7.35	6.11	4.87
	60	Q	45300	41300	37500	34000	27600	22100	17500	13500	10100	7170	4750
		P	15.6	15.2	14.7	14.1	12.9	11.6	10.2	8.85	7.40	5.95	4.53
HGX56e/1155-4 HGX56e/1155-4 S	70	Q	35800	32500	29500	26600	21400	17000	13300	10100	7350	-	-
		P	17.3	16.6	15.9	15.2	13.8	12.2	10.5	8.89	7.21	-	-
	30	Q	85100	78000	71300	65000	53500	43400	34700	27200	20900	15700	11500
		P	10.5	10.6	10.6	10.6	10.3	9.86	9.20	8.40	7.51	6.56	5.57
	40	Q	74300	68100	62200	56600	46400	37500	29900	23300	17700	13100	9200
		P	13.3	13.2	13.0	12.7	12.0	11.2	10.2	9.18	8.03	6.84	5.66
HGX56e/1340-4 HGX56e/1340-4 S	50	Q	63400	58000	52800	48000	39200	31600	25000	19300	14500	10400	6940
		P	15.8	15.5	15.1	14.6	13.6	12.4	11.1	9.73	8.32	6.90	5.51
	60	Q	52400	47800	43500	39400	31900	25600	20000	15300	11200	7660	4660
		P	18.0	17.5	16.9	16.2	14.8	13.2	11.6	9.98	8.30	6.65	5.07
	70	Q	41300	37600	34000	30700	24700	19600	15100	11300	7910	-	-
		P	19.8	19.1	18.2	17.4	15.6	13.7	11.8	9.84	7.91	-	-
HGX56e/1540-4 HGX56e/1540-4 S	30	Q	98000	89700	81900	74500	60700	49200	39300	30800	23700	17900	13200
		P	13.8	13.8	13.7	13.5	12.7	11.9	11.0	10.0	8.95	7.83	6.72
	40	Q	85900	78500	71600	65100	52800	42700	34000	26500	20300	15100	10800
		P	16.8	16.5	16.2	15.8	14.7	13.6	12.3	11.0	9.65	8.26	6.91
	50	Q	73500	67100	61100	55500	44800	36100	28600	22200	16700	12200	8410
		P	19.5	19.1	18.5	18.0	16.5	15.0	13.4	11.7	10.1	8.43	6.83
HGX66e/1750-4 HGX66e/1750-4 S	60	Q	61000	55500	50400	45700	36700	29400	23100	17700	13200	9280	6030
		P	22.1	21.4	20.6	19.8	18.0	16.1	14.2	12.1	10.1	8.21	6.34
	70	Q	48300	43900	39700	35800	28500	22600	17600	13300	9600	-	-
		P	24.2	23.3	22.3	21.3	19.1	16.8	14.5	12.1	9.76	-	-
	30	Q	116000	106000	96700	88100	72200	58700	47000	36900	28500	21500	15800
		P	15.4	15.5	15.4	15.3	14.6	13.7	12.7	11.5	10.3	9.06	7.85
HGX66e/1540-4 HGX66e/1540-4 S	40	Q	102000	93100	84900	77200	62900	50800	40300	31400	23800	17600	12500
		P	18.9	18.6	18.3	17.8	16.7	15.4	13.9	12.4	10.8	9.33	7.90
	50	Q	87200	79600	72400	65600	53000	42500	33400	25700	19300	14000	9660
		P	21.9	21.4	20.8	20.1	18.4	16.7	14.9	13.0	11.1	9.36	7.74
	60	Q	72100	65500	59300	53600	42900	34100	26600	20400	15200	11000	7580
		P	24.5	23.7	22.8	21.9	19.8	17.6	15.4	13.2	11.0	9.09	7.29
HGX66e/1340-4 HGX66e/1340-4 S	70	Q	56500	51100	46100	41500	32900	26000	20300	15600	11800	8800	-
		P	26.6	25.5	24.4	23.2	20.7	18.1	15.5	13.0	10.6	8.45	-
	30	Q	133000	122000	111000	102000	83100	67600	54300	42800	33100	25100	18600
		P	17.6	17.7	17.6	17.5	16.8	15.8	14.7	13.3	11.9	10.5	9.13
	40	Q	117000	107000	97700	88900	72500	58700	46700	36500	27800	20700	14900
		P	21.7	21.4	21.0	20.5	19.3	17.8	16.1	14.4	12.6	10.9	9.29
HGX66e/1155-4 HGX66e/1155-4 S	50	Q	101000	91600	83400	75700	61300	49200	38900	30100	22700	16600	11700
		P	25.3	24.7	24.0	23.2	21.4	19.4	17.3	15.2	13.0	11.0	9.22
	60	Q	83100	75600	68500	62000	49800	39700	31200	24000	18000	13200	9310
		P	28.4	27.5	26.5	25.4	23.1	20.6	18.1	15.5	13.1	10.8	8.85
	70	Q	65300	59200	53400	48100	38400	30500	23900	18500	14200	10800	-
		P	30.9	29.7	28.4	27.1	24.2	21.3	18.3	15.5	12.8	10.3	-
HGX66e/770-4 HGX66e/770-4 S	30	Q	151000	138000	126000	115000	95000	77300	62000	48900	37900	28700	21300
		P	20.2	20.3	20.2	20.0	19.2	18.1	16.8	15.3	13.7	12.1	10.5
	40	Q	133000	122000	111000	101000	82900	67100	53500	41800	31900	23700	17100
		P	24.8	24.5	24.1	23.5	22.0	20.4	18.5	16.5	14.5	12.6	10.7
	50	Q	114000	104000	94700	86000	70200	56400	44600	34500	26100	19100	13500
		P	29.0	28.3	27.5	26.6	24.5	22.2	19.8	17.4	15.0	12.8	10.7
HGX66e/550-4 HGX66e/550-4 S	60	Q	94300	85800	77900	70500	57100	45600	35800	27600	20800	15200	10800
		P	32.6	31.5	30.4	29.1	26.4	23.6	20.7	17.9	15.2	12.6	10.3
	70	Q	74200	67200	60800	54800	44000	35000	27500	21300	16400	12500	-
		P	35.5	34.0	32.6	31.0	27.7	24.4	21.1	17.9	14.8	12.0	-

¹⁾ Asercom certified

Relating to 20 °C suction gas temperature
without liquid subcooling

Supplementary cooling or
reduced suction gas temperature

vap.bock.de



HG semi-hermetic compressors

Performance data



R513A | 50 Hz

Type			Cooling capacity QO [W]				Power consumption Pe [kW]						
			Evaporating temperature °C										
			12.5	10	7.5	5	0	-5	-10	-15	-20	-25	-30
Cond. temp. °C													
HGX66e/2070-4 HGX66e/2070-4 S	30	Q	177000	163000	149000	136000	112000	91100	73100	57700	44700	33900	25100
		P	23.8	23.9	23.8	23.6	22.6	21.3	19.8	18.0	16.1	14.1	12.3
	40	Q	157000	143000	131000	119000	97600	79100	63000	49200	37600	28000	20200
		P	29.3	29.0	28.4	27.8	26.0	24.0	21.8	19.4	17.0	14.7	12.6
	50	Q	134000	123000	112000	102000	82500	66400	52500	40700	30800	22600	15900
		P	34.3	33.5	32.5	31.5	29.0	26.3	23.4	20.5	17.7	15.0	12.5
	60	Q	111000	101000	91500	82800	67100	53600	42200	32500	24500	18000	12800
		P	38.6	37.3	36.0	34.5	31.3	27.9	24.5	21.1	17.8	14.8	12.1
	70	Q	87100	78900	71400	64300	51700	41200	32400	25100	19300	14700	-
		P	42.1	40.4	38.6	36.8	32.9	28.9	24.9	21.0	17.4	14.0	-
HGX88e/2400-4 HGX88e/2400-4 S	30	Q	209000	192000	175000	160000	131000	107000	85600	67500	52300	39600	29400
		P	28.9	28.9	28.8	28.6	27.1	25.7	23.9	21.8	19.6	17.3	15.1
	40	Q	185000	169000	155000	141000	115000	92800	73900	57700	44100	32900	23700
		P	35.1	34.7	34.1	33.4	31.0	28.8	26.2	23.5	20.8	18.1	15.5
	50	Q	159000	145000	132000	120000	97100	78100	61700	47800	36100	26500	18800
		P	40.7	39.8	38.7	37.5	34.4	31.4	28.1	24.8	21.5	18.4	15.5
	60	Q	132000	120000	109000	98400	79100	63200	49600	38300	28900	21200	15200
		P	45.5	44.1	42.6	41.0	37.1	33.3	29.4	25.5	21.8	18.2	15.0
	70	Q	104000	94100	85000	76600	61100	48600	38200	29700	22800	17500	-
		P	49.4	47.5	45.6	43.6	39.1	34.5	29.9	25.5	21.3	17.4	-
HGX88e/2735-4 HGX88e/2735-4 S	30	Q	237000	218000	199000	182000	150000	122000	97500	76900	59500	45100	33500
		P	32.6	32.6	32.5	32.2	30.9	29.3	27.3	25.0	22.5	19.9	17.3
	40	Q	210000	192000	176000	160000	131000	106000	84200	65800	50300	37400	27000
		P	39.7	39.2	38.5	37.7	35.4	32.8	30.0	26.9	23.8	20.7	17.7
	50	Q	181000	165000	150000	137000	111000	89000	70300	54500	41200	30200	21400
		P	46.1	45.0	43.8	42.4	39.2	35.8	32.1	28.4	24.7	21.1	17.7
	60	Q	150000	137000	124000	112000	90200	72000	56600	43600	32900	24200	17300
		P	51.6	50.0	48.2	46.4	42.2	38.0	33.6	29.2	24.9	20.9	17.2
	70	Q	118000	107000	96500	86900	69700	55400	43500	33800	26000	19900	-
		P	56.1	53.9	51.7	49.4	44.4	39.3	34.2	29.2	24.4	19.9	-
HGX88e/3235-4 HGX88e/3235-4 S	30	Q	280000	257000	235000	215000	177000	144000	116000	90700	70100	53100	39300
		P	38.4	38.5	38.4	38.0	36.4	34.5	32.1	29.3	26.3	23.3	20.2
	40	Q	248000	227000	207000	189000	155000	125000	99200	77500	59100	43900	31600
		P	46.8	46.2	45.4	44.4	41.6	38.6	35.2	31.6	27.9	24.2	20.7
	50	Q	213000	195000	177000	161000	131000	105000	82800	64000	48300	35400	25000
		P	54.3	53.0	51.5	49.9	46.1	42.0	37.7	33.3	28.8	24.6	20.6
	60	Q	177000	161000	146000	132000	107000	84700	66500	51100	38500	28200	20100
		P	60.7	58.8	56.7	54.5	49.7	44.6	39.3	34.1	29.0	24.2	19.9
	70	Q	139000	126000	114000	103000	82000	65100	51000	39600	30400	23200	-
		P	65.9	63.4	60.7	57.9	52.1	46.1	40.0	34.0	28.3	23.0	-

¹⁾ Asercom certified

Relating to 20 °C suction gas temperature
without liquid subcooling



Supplementary cooling or
reduced suction gas temperature

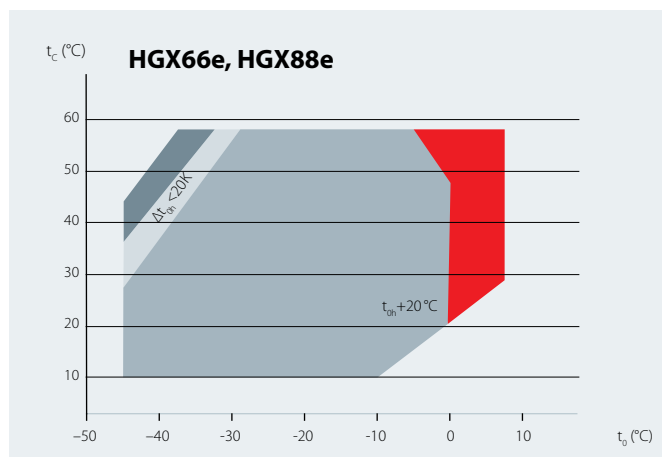
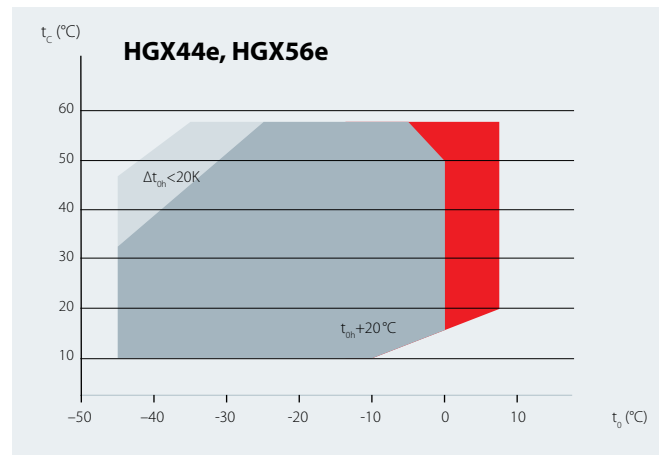
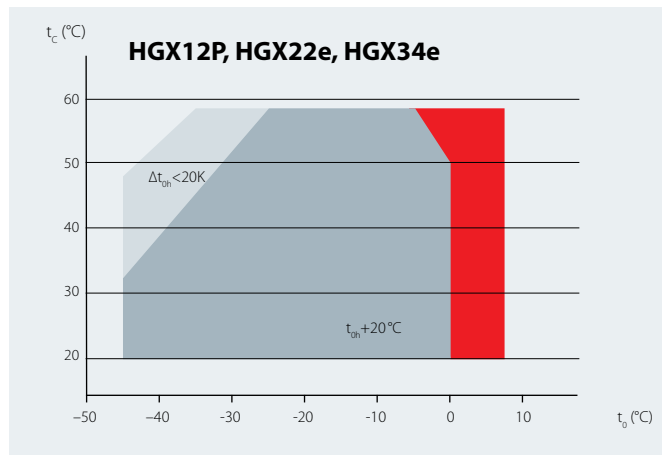


HG semi-hermetic compressors

Operating limits



R404A / R507



t_o Evaporating temperature (°C)
 t_c Condensing temperature (°C)
 Δt_{oh} Suction gas superheat (K)
 t_{oh} Suction gas temperature (°C)

- Unlimited application range
- Supplementary cooling or reduced suction gas temperature ($\Delta t_{oh} < 20K$)
- Supplementary cooling and reduced suction gas temperature ($\Delta t_{oh} < 20K$)
- Motor version -S- (more powerful motor)

Max. permissible operating pressure (LP/HP)¹⁾: 19/28 bar

¹⁾ LP = low pressure, HP = high pressure

NOTES!

Operating limits

Compressor operation is possible within the limits shown on the application diagrams. Please note the colored areas. Compressor application limits should not be chosen for design purposes or continuous operation.

Restrictions to operating limits may occur when using a frequency converter. For further explanations consult www.bock.de.

Performance data

The performance data for R404A/R507 are based on European Standard EN 12900 with a 50 Hz power supply frequency. This signifies: 20°C suction gas temperature without liquid subcooling.

This leads to significant differences compared to systems with liquid subcooling and/or other suction gas temperatures.

Performance data were compiled for R404A and R507. The base values are the data for R404A.

Conversion factor for 60 Hz = 1.2.
 Performance data for other operating points, see BOCK VAP software (vap.bock.de).

ASERCOM certified performance data.



For compressors with this label, the performance data are certified according 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 BOCK compressors can be found at www.asercom.org and www.bock.de.

HG semi-hermetic compressors

Performance data



R404A / R507

Type			Cooling capacity Q ₀ [W]				Power consumption P _e [kW]							
			Evaporating temperature °C											
			7.5	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
HGX12P/60-4 S 1)	30	Q	6540	5990	5000	4110	3340	2670	2100	1610	1210	879	617	415
		P	1.20	1.21	1.22	1.20	1.15	1.08	1.00	0.908	0.810	0.712	0.618	0.533
	40	Q	5540	5070	4200	3430	2770	2200	1710	1300	959	685	466	296
		P	1.48	1.47	1.43	1.36	1.27	1.17	1.06	0.945	0.827	0.713	0.609	0.519
	50	Q	4540	4130	3400	2750	2200	1730	1330	994	722	503	330	-
		P	1.72	1.68	1.59	1.49	1.36	1.23	1.09	0.959	0.825	0.700	0.589	-
HGX12P/75-4 1) HGX12P/75-4 S 1)	30	Q	8160	7500	6290	5230	4290	3470	2770	2170	1670	1250	911	648
		P	1.52	1.54	1.55	1.50	1.44	1.36	1.26	1.15	1.03	0.908	0.789	0.680
	40	Q	6940	6360	5310	4420	3610	2910	2300	1790	1370	1020	734	513
		P	1.90	1.89	1.83	1.72	1.62	1.50	1.36	1.22	1.08	0.939	0.807	0.689
	50	Q	5730	5240	4350	3640	2950	2360	1860	1440	1090	805	577	-
		P	2.21	2.16	2.05	1.92	1.77	1.62	1.45	1.28	1.12	0.963	0.821	-
HGX12P/90-4 1) HGX12P/90-4 S 1)	30	Q	9740	8950	7510	6090	5000	4060	3240	2530	1940	1450	1050	731
		P	1.85	1.86	1.85	1.77	1.68	1.57	1.45	1.32	1.17	1.03	0.888	0.745
	40	Q	8290	7600	6350	5150	4210	3390	2680	2080	1580	1160	818	550
		P	2.27	2.24	2.17	2.02	1.87	1.72	1.55	1.38	1.21	1.04	0.876	0.719
	50	Q	6870	6280	5220	4220	3420	2730	2140	1640	1230	886	611	-
		P	2.66	2.60	2.46	2.25	2.05	1.85	1.64	1.44	1.23	1.04	0.857	-
HGX12P/110-4 1) HGX12P/110-4 S 1)	30	Q	11300	10400	8700	7220	5970	4870	3920	3100	2400	1820	1340	947
		P	2.16	2.17	2.15	2.15	2.04	1.91	1.76	1.59	1.41	1.22	1.05	0.883
	40	Q	9590	8800	7370	6130	5040	4100	3280	2570	1980	1480	1070	728
		P	2.64	2.61	2.52	2.47	2.29	2.10	1.89	1.67	1.45	1.24	1.05	0.877
	50	Q	7880	7220	6010	5020	4100	3310	2620	2040	1550	1150	804	-
		P	3.12	3.05	2.88	2.73	2.49	2.24	1.98	1.73	1.48	1.25	1.05	-
HGX22e/125-4 HGX22e/125-4 S 1)	30	Q	13400	12400	10500	8790	7250	5870	4650	3590	2680	1920	1320	857
		P	2.18	2.22	2.26	2.24	2.16	2.03	1.88	1.69	1.49	1.28	1.07	0.878
	40	Q	11600	10700	8970	7460	6090	4880	3820	2900	2120	1490	992	640
		P	2.77	2.75	2.68	2.58	2.41	2.22	2.00	1.76	1.52	1.28	1.06	0.853
	50	Q	9650	8860	7390	6080	4910	3880	2990	2230	1610	1110	749	-
		P	3.26	3.20	3.03	2.84	2.60	2.34	2.07	1.80	1.53	1.27	1.03	-
HHGX22e/160-4 HGX22e/160-4 S 1)	30	Q	17000	15700	13200	10900	8980	7320	5850	4560	3450	2510	1750	1170
		P	2.70	2.75	2.78	2.73	2.62	2.47	2.29	2.07	1.84	1.59	1.34	1.08
	40	Q	14600	13400	11200	9170	7540	6090	4810	3700	2750	1960	1330	851
		P	3.42	3.40	3.31	3.17	2.96	2.72	2.47	2.19	1.91	1.62	1.34	1.07
	50	Q	12100	11100	9150	7480	6090	4860	3790	2860	2090	1460	972	-
		P	4.01	3.93	3.73	3.51	3.22	2.90	2.58	2.25	1.92	1.60	1.30	-
HGX22e/190-4 HGX22e/190-4 S 1)	30	Q	20800	19200	16100	13300	11000	8920	7140	5620	4330	3240	2350	1620
		P	3.47	3.49	3.47	3.41	3.26	3.07	2.84	2.57	2.29	2.00	1.70	1.41
	40	Q	17800	16300	13700	11300	9200	7450	5940	4640	3540	2620	1860	1230
		P	4.29	4.24	4.09	3.93	3.68	3.39	3.08	2.74	2.39	2.03	1.68	1.35
	50	Q	14800	13500	11300	9150	7460	6000	4750	3680	2780	2020	1390	-
		P	5.04	4.92	4.65	4.40	4.06	3.68	3.27	2.85	2.43	2.01	1.61	-
HGX34e/215-4 1) HGX34e/215-4 S 1)	30	Q	23900	21900	18200	14600	11900	9470	7390	5610	4120	2900	1940	1220
		P	3.83	3.85	3.84	3.70	3.52	3.26	2.94	2.58	2.21	1.84	1.49	1.18
	40	Q	20200	18500	15300	12200	9840	7770	5990	4480	3230	2220	1430	851
		P	4.72	4.65	4.48	4.26	3.94	3.56	3.14	2.70	2.27	1.85	1.47	1.15
	50	Q	16500	15000	12200	9770	7800	6090	4630	3420	2420	1630	1040	-
		P	5.48	5.33	4.99	4.67	4.23	3.75	3.25	2.74	2.26	1.81	1.42	-
HGX34e/255-4 1) HGX34e/255-4 S 1)	30	Q	28000	25700	21500	17200	14200	11500	9120	7080	5350	3900	2730	1820
		P	4.57	4.61	4.59	4.44	4.23	3.95	3.61	3.22	2.81	2.39	1.97	1.58
	40	Q	23800	21800	18100	14500	11800	9460	7430	5680	4210	3010	2050	1320
		P	5.64	5.58	5.38	5.14	4.76	4.33	3.86	3.37	2.87	2.38	1.92	1.50
	50	Q	19500	17700	14600	11700	9410	7450	5760	4330	3150	2200	1480	-
		P	6.55	6.40	6.02	5.68	5.15	4.58	4.00	3.41	2.84	2.30	1.80	-
HGX34e/315-4 1) HGX34e/315-4 S 1)	30	Q	33800	31000	26000	21300	17600	14300	11400	8840	6700	4930	3490	2370
		P	5.86	5.82	5.67	5.47	5.20	4.85	4.43	3.98	3.49	2.99	2.49	2.01
	40	Q	28700	26300	22000	17900	14700	11900	9350	7220	5400	3880	2650	1690
		P	7.05	6.92	6.59	6.29	5.83	5.32	4.76	4.18	3.58	2.98	2.40	1.86
	50	Q	23500	21500	17800	14500	11800	9430	7370	5600	4100	2840	1820	-
		P	8.13	7.90	7.39	6.97	6.34	5.67	4.96	4.25	3.54	2.85	2.20	-

Asercom certified

Relating to 20 °C suction gas temperature
without liquid subcoolingMotor version -S-
(more powerful motor)Supplementary cooling or
reduced suction gas temperature

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HG semi-hermetic compressors

Performance data



R404A/R507 | 50 Hz

Type			Cooling capacity QO [W]				Power consumption Pe [kW]							
			Evaporating temperature °C											
			7.5	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
HGX34e/380-4 HGX34e/380-4 S	30	Q	40900	37600	31700	25800	21200	17300	13800	10900	8300	6200	4490	3120
		P	7.20	7.15	6.98	6.84	6.45	5.98	5.46	4.88	4.28	3.67	3.05	2.45
	40	Q	34600	31800	26700	21600	17700	14300	11400	8850	6730	4960	3510	2340
		P	8.75	8.59	8.18	7.84	7.25	6.59	5.90	5.18	4.45	3.72	3.00	2.33
	50	Q	28400	26000	21800	17600	14300	11500	9030	6960	5210	3760	2550	-
		P	10.1	9.86	9.23	8.73	7.92	7.08	6.22	5.34	4.47	3.62	2.81	-
HGX44e/475-4 HGX44e/475-4 S	30	Q	52500	48300	40200	33500	27500	22400	18000	14300	11100	8340	6060	4110
		P	7.73	7.85	7.91	7.80	7.52	7.10	6.57	5.94	5.26	4.54	3.81	3.11
	40	Q	45200	41400	34200	28300	23200	18800	15000	11800	9010	6670	4650	2870
		P	9.97	9.90	9.62	9.16	8.57	7.88	7.12	6.31	5.47	4.64	3.84	3.11
	50	Q	37600	34300	28100	23100	18800	15100	12000	9260	6970	5000	3270	-
		P	11.8	11.5	11.0	10.2	9.41	8.49	7.55	6.59	5.65	4.76	3.94	-
HGX44e/565-4 HGX44e/565-4 S	30	Q	62700	57700	47800	39800	32800	26800	21600	17200	13400	10200	7470	5140
		P	9.18	9.32	9.45	9.31	8.97	8.47	7.82	7.07	6.24	5.38	4.51	3.66
	40	Q	54000	49600	40700	33700	27700	22500	18100	14300	11100	8230	5820	3680
		P	11.8	11.7	11.5	10.9	10.2	9.42	8.49	7.51	6.50	5.50	4.55	3.67
	50	Q	45100	41200	33400	27500	22500	18200	14500	11400	8620	6270	4180	-
		P	14.0	13.7	13.2	12.3	11.2	10.1	9.01	7.85	6.72	5.64	4.66	-
HGX44e/665-4 HGX44e/665-4 S	30	Q	73100	67100	56000	46500	38300	31100	25000	19800	15300	11600	8340	5630
		P	10.7	10.9	11.0	10.9	10.5	9.94	9.19	8.32	7.36	6.35	5.33	4.34
	40	Q	62700	57400	47500	39300	32200	26000	20800	16300	12500	9160	6360	3910
		P	13.9	13.8	13.4	12.8	12.0	11.0	9.97	8.83	7.66	6.49	5.37	4.34
	50	Q	52000	47500	38900	32000	26000	20900	16500	12800	9570	6840	4440	-
		P	16.5	16.1	15.4	14.3	13.1	11.8	10.5	9.22	7.91	6.66	5.51	-
HGX44e/770-4 HGX44e/770-4 S	30	Q	84600	77800	65300	54300	44700	36500	29400	23300	18100	13800	10100	6840
		P	12.4	12.6	12.8	12.6	12.1	11.5	10.6	9.62	8.51	7.34	6.16	5.02
	40	Q	72600	66500	55600	46100	37800	30700	24500	19300	14900	11100	7750	4860
		P	16.1	16.0	15.5	14.8	13.8	12.7	11.5	10.2	8.86	7.51	6.22	5.02
	50	Q	60300	55100	45700	37600	30700	24700	19600	15300	11600	8360	5530	-
		P	19.2	18.8	17.8	16.5	15.2	13.7	12.2	10.6	9.15	7.70	6.37	-
HGX56e/850-4 HGX56e/850-4 S	30	Q	93700	86100	71800	59800	49300	40200	32400	25800	20100	15300	11200	7710
		P	13.7	13.9	14.1	13.9	13.4	12.6	11.7	10.6	9.38	8.08	6.77	5.49
	40	Q	80500	73800	61100	50600	41600	33800	27200	21400	16600	12400	8720	5520
		P	17.7	17.6	17.1	16.3	15.3	14.0	12.7	11.2	9.76	8.27	6.83	5.50
	50	Q	67000	61200	50100	41300	33800	27300	21800	17000	13000	9410	6280	-
		P	21.1	20.6	19.6	18.3	16.8	15.1	13.4	11.7	10.0	8.48	7.00	-
HGX56e/995-4 HGX56e/995-4 S	30	Q	111000	102000	85000	70800	58300	47400	38000	29800	22900	17100	12200	8120
		P	18.6	18.3	17.6	16.7	15.8	14.6	13.4	12.1	10.7	9.21	7.61	5.94
	40	Q	94300	86600	72100	59800	49000	39600	31500	24500	18500	13400	9110	5480
		P	22.0	21.5	20.4	19.2	17.8	16.3	14.7	12.9	11.1	9.23	7.23	5.15
	50	Q	78000	71400	59000	48600	39500	31700	24900	19100	14100	9800	6130	-
		P	25.3	24.6	23.1	21.4	19.6	17.6	15.5	13.4	11.1	8.75	6.30	-
HGX56e/1155-4 HGX56e/1155-4 S	30	Q	127000	117000	97500	81100	66800	54500	43900	34800	27100	20600	15000	10300
		P	19.4	19.7	20.0	19.7	19.0	17.9	16.6	15.0	13.2	11.4	9.59	7.80
	40	Q	109000	99900	83000	68800	56400	45800	36700	28900	22200	16600	11700	7280
		P	25.1	24.9	24.4	23.2	21.7	19.9	18.0	15.9	13.8	11.7	9.68	7.80
	50	Q	90600	82800	68200	56200	45800	36900	29300	22900	17300	12500	8270	-
		P	29.9	29.2	27.9	26.0	23.8	21.5	19.1	16.6	14.2	12.0	9.91	-
HGX66e/1340-4 HGX66e/1340-4 S	30	Q	150000	138000	115000	95700	78800	64100	51300	40400	31000	23100	16500	11000
		P	25.0	24.9	24.2	23.2	21.9	20.3	18.5	16.5	14.4	12.3	10.3	8.30
	40	Q	129000	118000	97900	81200	66600	53800	42800	33400	25400	18500	12700	-
		P	30.3	29.7	28.4	26.6	24.5	22.3	19.9	17.4	14.9	12.5	10.1	-
	50	Q	106000	97000	79900	65900	53700	43100	34100	26400	19800	14200	-	-
		P	34.9	33.9	31.8	29.3	26.6	23.8	20.9	17.9	15.0	12.2	-	-
HGX66e/1540-4 HGX66e/1540-4 S	30	Q	172000	158000	132000	110000	90700	73900	59400	46900	36200	27100	19500	13200
		P	28.8	28.6	28.0	26.9	25.4	23.5	21.5	19.2	16.9	14.5	12.1	9.87
	40	Q	148000	136000	113000	93400	76800	62300	49700	39000	29800	21900	15300	-
		P	35.1	34.4	32.9	30.9	28.6	26.0	23.3	20.4	17.6	14.7	12.0	-
	50	Q	122000	112000	91900	75900	62100	50100	39800	31000	23400	17000	-	-
		P	40.5	39.4	37.1	34.2	31.1	27.9	24.5	21.1	17.8	14.6	-	-

¹⁾ Asercom certified

Relating to 20 °C suction gas temperature
without liquid subcooling

Supplementary cooling or
reduced suction gas temperature

Motor version -S-
(more powerful motor)

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HG semi-hermetic compressors

Performance data



R404A/R507 | 50 Hz

Type			Cooling capacity QO [W]				Power consumption Pe [kW]								
			Evaporating temperature °C												
			7.5	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45	
HGX66e/1750-4 HGX66e/1750-4 S	30	Q	195000	180000	151000	126000	104000	84700	68000	53700	41500	31100	22400	15200	
		P	32.9	32.8	31.9	30.7	28.9	26.9	24.5	22.0	19.3	16.6	14.0	11.4	
	40	Q	167000	154000	129000	107000	88000	71400	57100	44800	34200	25200	17600	-	
		P	40.1	39.4	37.6	35.3	32.6	29.7	26.6	23.4	20.2	17.0	13.9	-	
	50	Q	138000	127000	106000	87000	71200	57500	45700	35600	27000	19600	-	-	
		P	46.3	45.1	42.3	39.1	35.6	31.9	28.1	24.3	20.5	16.9	-	-	
HGX66e/2070-4 HGX66e/2070-4 S	30	Q	229000	211000	177000	148000	122000	99600	80000	63200	48900	36700	26500	17900	
		P	39.1	38.9	38.0	36.4	34.4	31.9	29.1	26.0	22.8	19.6	16.4	13.4	
	40	Q	196000	180000	151000	126000	104000	83800	67100	52700	40300	29800	20800	-	
		P	47.8	46.9	44.8	42.0	38.8	35.3	31.6	27.7	23.8	20.0	16.4	-	
	50	Q	162000	148000	123000	102000	83400	67400	53700	41900	31800	23100	-	-	
		P	55.4	53.8	50.6	46.7	42.4	37.9	33.3	28.7	24.2	19.9	-	-	
HGX88e/2400-4 HGX88e/2400-4 S	30	Q	272000	251000	209000	175000	144000	118000	94200	74300	57400	43100	31100	21100	
		P	46.0	45.8	44.8	43.0	40.6	37.8	34.6	31.1	27.4	23.7	20.1	16.6	
	40	Q	235000	216000	179000	149000	122000	99000	79100	62000	47400	35100	24500	-	
		P	55.6	54.6	52.7	49.5	45.8	41.8	37.5	33.1	28.6	24.3	20.1	-	
	50	Q	194000	178000	147000	121000	98900	79800	63400	49400	37500	27300	-	-	
		P	63.9	62.2	59.4	54.9	50.0	44.8	39.6	34.3	29.2	24.2	-	-	
HGX88e/2735-4 HGX88e/2735-4 S	30	Q	309000	284000	239000	199000	164000	134000	108000	84700	65400	49100	35400	24000	
		P	52.2	51.9	50.7	48.7	46.1	42.9	39.3	35.5	31.4	27.2	23.0	19.0	
	40	Q	266000	244000	204000	170000	140000	113000	90200	70700	54100	39900	27900	-	
		P	63.3	62.1	59.5	55.9	51.8	47.4	42.6	37.7	32.7	27.8	23.0	-	
	50	Q	220000	202000	168000	139000	113000	91100	72400	56400	42700	31100	-	-	
		P	73.1	71.0	67.0	61.9	56.5	50.8	44.9	39.1	33.3	27.7	-	-	
HGX88e/3235-4 HGX88e/3235-4 S	30	Q	365000	336000	282000	235000	194000	158000	127000	99800	77000	57700	41500	28100	
		P	61.5	61.1	59.8	57.5	54.3	50.6	46.3	41.6	36.8	31.8	26.9	22.1	
	40	Q	314000	288000	241000	200000	165000	133000	107000	83200	63500	46800	32600	-	
		P	74.5	73.1	70.2	66.0	61.1	55.7	50.1	44.2	38.3	32.4	26.8	-	
	50	Q	260000	238000	198000	163000	133000	108000	85100	66200	50100	36400	-	-	
		P	85.9	83.5	79.1	73.0	66.5	59.7	52.7	45.8	38.9	32.2	-	-	

¹⁾ Asercom certified

Relating to 20 °C suction gas temperature
without liquid subcooling



Motor version -S-
(more powerful motor)



Supplementary cooling or
reduced suction gas temperature

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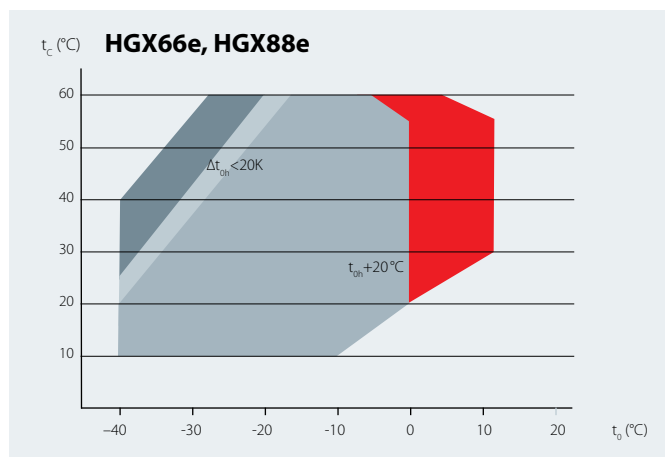
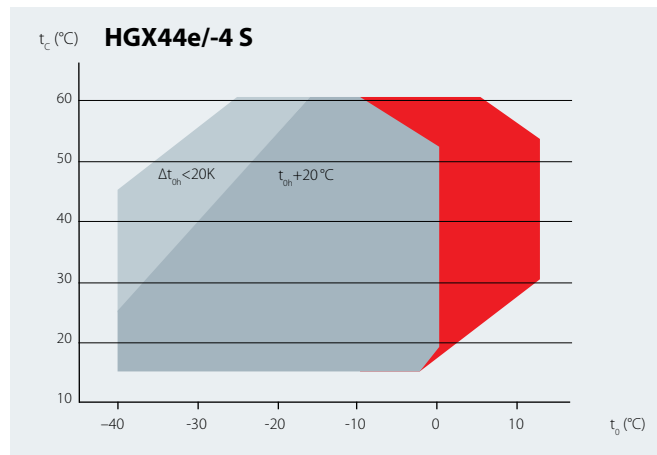
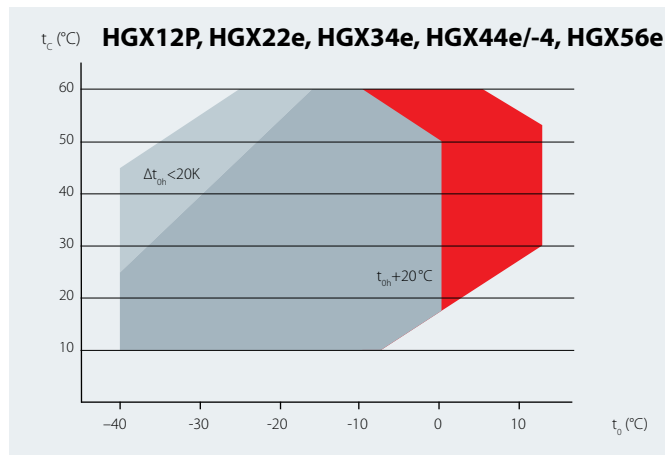


HG semi-hermetic compressors

Operating limits



R448A/449A



t_o Evaporating temperature (°C)

t_c Condensing temperature (°C)

Δt_{oh} Suction gas superheat (K)

t_{oh} Suction gas temperature (°C)

● Unlimited application range

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

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

● Motor version -S- (more powerful motor)

Max. permissible operating pressure (LP/HP)¹⁾: 19/28 bar

¹⁾ LP = low pressure, HP = high pressure

NOTES!

Operating limits

Compressor operation is possible within the limits shown on the application diagrams. Please note the colored areas. Compressor application limits should not be chosen for design purposes or continuous operation.

Restrictions to the operating limits may occur when using a frequency converter.

Performance data

The performance data for R448A and R449A are based on European Standard EN 12900 50 Hz power supply frequency. This signifies: 20°C suction gas temperature without liquid subcooling.

Evaporation and condensing temperatures are based on the dew point values (saturated vapour conditions).

Conversion factor for 60 Hz = 1.2

Performance data for other operating points, see BOCK VAP software (vap.bock.de).

ASERCOM certified performance data



For compressors with this label, the performance data are certified according 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 BOCK compressors can be found at www.asercom.org and www.bock.de.

HG semi-hermetic compressors

Performance data



R448A

Type		Cond. temp. °C	Cooling capacity QO [W]				Power consumption Pe [kW]									
			Evaporating temperature °C													
			12.5	10	7.5	5	0	-5	-10	-15	-20	-25	-30	-35	-40	
HGX12P/60-4 S	30	Q P	7620 1.12	6970 1.14	6360 1.15	5790 1.15	4760 1.13	3870 1.09	3110 1.03	2460 0.957	1920 0.871	1470 0.780	1100 0.687	790 0.597	543 0.515	
		Q P	6730 1.42	6140 1.41	5590 1.40	5070 1.37	4140 1.32	3350 1.24	2670 1.14	2100 1.04	1630 0.931	1230 0.817	907 0.705	644 0.600	428 0.507	
	40	Q P	5850 1.74	5320 1.71	4820 1.67	4360 1.62	3540 1.52	2830 1.40	2240 1.27	1740 1.13	1330 0.988	988 0.847	712 0.712	487 0.588	-	
		Q P	9480 1.38	8680 1.40	7920 1.41	7220 1.42	5940 1.40	4840 1.35	3900 1.28	3090 1.18	2420 1.07	1860 0.962	1400 0.845	1020 0.732	703 0.629	
	50	Q P	8380 1.76	7640 1.75	6960 1.74	6320 1.71	5180 1.65	4190 1.55	3350 1.43	2650 1.30	2060 1.16	1570 1.01	1170 0.875	835 0.743	563 0.626	
		Q P	7290 2.18	6630 2.14	6020 2.09	5450 2.03	4420 1.92	3550 1.76	2820 1.60	2200 1.42	1690 1.24	1270 1.06	924 0.893	641 0.737	-	
HGX12P/75-4 HGX12P/75-4 S	30	Q P	11300 1.67	10400 1.70	9430 1.71	8590 1.72	7070 1.67	5760 1.60	4650 1.51	3700 1.40	2900 1.27	2230 1.13	1680 0.997	1230 0.861	857 0.736	
		Q P	9960 2.13	9090 2.13	8280 2.11	7530 2.08	6160 1.96	5000 1.85	4010 1.70	3170 1.55	2470 1.38	1890 1.20	1410 1.03	1020 0.881	694 0.739	
	40	Q P	8670 2.64	7890 2.60	7160 2.54	6490 2.47	5270 2.29	4240 2.11	3370 1.91	2640 1.70	2040 1.48	1540 1.27	1130 1.06	789 0.880	-	
		Q P	13200 1.96	12100 1.99	11100 2.01	10100 2.02	8280 1.96	6750 1.89	5450 1.78	4340 1.65	3410 1.49	2630 1.33	1990 1.16	1460 1.00	1020 0.857	
	50	Q P	11700 2.52	10700 2.51	9680 2.48	8800 2.45	7210 2.32	5850 2.18	4700 2.01	3720 1.82	2910 1.62	2230 1.42	1670 1.22	1210 1.03	828 0.865	
		Q P	10200 3.14	9200 3.08	8360 3.01	7570 2.93	6150 2.71	4960 2.50	3950 2.26	3100 2.01	2400 1.75	1820 1.50	1340 1.26	942 1.03	-	
HGX22e/125-4 HGX22e/125-4 S	30	Q P	16600 2.00	15200 2.06	13800 2.10	12600 2.12	10300 2.12	8330 2.06	6680 1.96	5290 1.82	4130 1.66	3160 1.48	2370 1.30	1710 1.12	1170 0.958	
		Q P	14500 2.64	13200 2.65	12000 2.63	10900 2.60	8870 2.51	7170 2.37	5730 2.19	4510 1.99	3500 1.78	2660 1.56	1950 1.35	1370 1.15	853 0.987	
	40	Q P	12400 3.22	11200 3.16	10200 3.10	9180 3.02	7470 2.83	6010 2.61	4770 2.37	3730 2.11	2870 1.85	2150 1.60	1540 1.37	1010 1.16	-	
		Q P	20300 2.94	18600 2.90	17000 2.85	15400 2.79	12600 2.62	10200 2.54	8180 2.41	6480 2.23	5060 2.03	3880 1.80	2900 1.57	2100 1.35	1440 1.15	
	50	Q P	17700 3.65	16100 3.55	14700 3.45	13400 3.35	10900 3.11	8760 2.92	7000 2.70	5520 2.45	4290 2.18	3260 1.90	2400 1.64	1670 1.39	1050 1.18	
		Q P	15200 4.34	13800 4.19	12600 4.04	11400 3.88	9110 3.52	7330 3.24	5820 2.93	4560 2.60	3510 2.27	2630 1.96	1880 1.66	1230 1.40	-	
HHGX22e/160-4 HGX22e/160-4 S	30	Q P	24500 3.57	22400 3.51	20500 3.45	18700 3.39	15400 3.35	12700 3.14	10300 2.93	8260 2.70	6570 2.47	5170 2.23	3980 1.98	2980 1.72	2110 1.44	
		Q P	21300 4.45	19500 4.33	17800 4.22	16200 4.09	13400 3.95	11000 3.64	8890 3.33	7140 3.03	5670 2.72	4430 2.41	3380 2.10	2460 1.79	1630 1.47	
	40	Q P	18300 5.33	16700 5.14	15200 4.96	13900 4.77	11500 4.51	9300 4.09	7510 3.68	6010 3.29	4740 2.90	3660 2.52	2730 2.14	1880 1.78	-	
		Q P	20300 3.48	18600 3.49	17000 3.48	15400 3.45	12600 3.36	10200 3.19	8180 2.96	6480 2.70	5060 2.42	3880 2.13	2900 1.84	2100 1.57	1440 1.34	
	50	Q P	17700 4.58	16100 4.48	14700 4.37	13400 4.24	10900 4.01	8760 3.67	7000 3.30	5520 2.93	4290 2.55	3260 2.19	2400 1.86	1670 1.57	1050 1.33	
		Q P	15200 5.59	13800 5.38	12600 5.17	11400 4.95	9110 4.57	7330 4.08	5820 3.58	4560 3.10	3510 2.64	2630 2.21	1880 1.85	1230 1.54	-	
HGX22e/190-4 HGX22e/190-4 S	30	Q P	32200 3.59	29600 3.72	27100 3.80	24700 3.86	20000 3.92	16400 3.82	13200 3.63	10400 3.36	7970 3.03	5960 2.67	4300 2.29	2950 1.92	1880 1.58	
		Q P	27900 4.83	25600 4.85	23400 4.84	21300 4.80	17200 4.73	14000 4.46	11200 4.11	8720 3.70	6660 3.26	4930 2.79	3490 2.33	2310 1.89	1370 1.50	
	40	Q P	23300 5.95	21300 5.87	19400 5.76	17600 5.63	14100 5.43	11400 4.99	9040 4.49	7040 3.94	5350 3.38	3930 2.81	2750 2.27	1790 1.77	-	
		Q P	20300 3.59	18600 3.59	17000 3.58	15400 3.54	12600 3.42	10200 3.25	8180 2.99	6480 2.72	5060 2.45	3880 2.17	2900 1.89	2100 1.60	1440 1.28	
	50	Q P	17700 4.58	16100 4.48	14700 4.37	13400 4.24	10900 4.01	8760 3.67	7000 3.30	5520 2.93	4290 2.55	3260 2.19	2400 1.86	1670 1.57	1050 1.33	
		Q P	15200 5.59	13800 5.38	12600 5.17	11400 4.95	9110 4.57	7330 4.08	5820 3.58	4560 3.10	3510 2.64	2630 2.21	1880 1.85	1230 1.54	-	
HGX34e/215-4 HGX34e/215-4 S	30	Q P	41100 4.84	37500 4.90	34100 4.92	30900 4.92	25000 4.75	20200 4.58	16200 4.33	12800 4.00	9840 3.62	7440 3.20	5470 2.76	3850 2.31	2510 1.87	
		Q P	35700 6.23	32500 6.18	29500 6.11	26700 6.01	21500 5.67	17300 5.33	13800 4.91	10800 4.43	8230 3.91	6140 3.37	4410 2.82	2960 2.27	1720 1.74	
	40	Q P	30300 7.55	27400 7.40	24800 7.22	22400 7.03	17900 6.50	14300 5.98	11300 5.39	8770 4.76	6660 4.09	4910 3.42	3430 2.74	2170 2.09	-	
		Q P	20300 3.59	18600 3.59	17000 3.58	15400 3.54	12600 3.42	10200 3.25	8180 2.99	6480 2.72	5060 2.45	3880 2.17	2900 1.89	2100 1.60	1440 1.28	
	50	Q P	17700 4.58	16100 4.48	14700 4.37	13400 4.24	10900 4.01	8760 3.67	7000 3.30	5520 2.93	4290 2.55	3260 2.19	2400 1.86	1670 1.57	1050 1.33	
		Q P	15200 5.59	13800 5.38	12600 5.17	11400 4.95	9110 4.57	7330 4.08	5820 3.58	4560 3.10	3510 2.64	2630 2.21	1880 1.85	1230 1.54	-	
HGX34e/255-4 HGX34e/255-4 S	30	Q P	51100 5.84	47500 5.90	44100 5.92	40900 5.92	33000 5.75	27200 5.58	22200 5.33	17800 5.00	13800 4.62	10400 4.20	7900 3.78	5900 3.23	4100 2.71	2710 2.19
		Q P	43700 6.23	40500 6.18	37500 6.11	34700 6.01	28500 5.67	23300 5.33	18800 4.91	14800 4.43	11300 3.91	8600 3.37	6400 2.82	4700 2.27	3100 1.74	
	40	Q P	35700 7.55	32500 7.40	29500 7.22	26700 7.03	21500 6.50	17300 5.98	13800 5.39	10800 4.76	8230 4.09	6140 3.42	4410 2.74	2960 2.09	1720 2.09	
		Q P	30300 6.23	27400 6.18	24800 6.11	22400 6.01	17900 5.67	14300 5.33	11300 4.91	8770 4.43	6660 3.91	4910 3.37	3430 2.82	2170 2.27	-	
	50	Q P	20300 5.59	18600 5.38	17000 5.17	15400 4.95	12600 4.57	10200 4.08	8180 3.58	6480 3.10	5060 2.64	3880 2.21	2900 1.85	2100 1.54	1440 1.28	
		Q P	17700 4.58	16100 4.48	14700 4.37	13400 4.24	10900 4.01	8760 3.67	7000 3.30	5520 2.93	4290 2.55	3260 2.19	2400 1.86	1670 1.57	1050 1.33	
HGX34e/315-4 HGX34e/315-4 S	30	Q P	61100 6.84	57500 6.90	54100 6.92	50900 6.92	41000 6.75	33200 6.58	27200 6.33	22200 6.00	17800 5.62	13800 5.20	10400 4.78	7900 4.23	5900 3.71	4100 3.29
		Q P	51100 7.23	47500 7.18	44100 7.11	40900 7.01	33000 6.67	27200 6.33	22200 5.91	17800 5.43	13800 4.91	10400 4.37	7900 3.82	5900 3.27	4100 2.74	
	40	Q P	43700 8.55	40500 8.40	37500 8.22	34700 8.03	28500 7.50	23300 6.98	18800 6.39	14800 5.76	11300 5.09	8600 4.42	6400 3.74	4700 3.09	3100 2.59	
		Q P	35700 7.55	32500 7.40	29500 7.22	26700 7.03	21500 6.50	17300 5.98	13800 5.39	10800 4.76	8230 4.09	6140 3.42	4410 2.74	2960 2.09	1720 2.09	
	50	Q P	30300 6.23	27400 6.18	24800 6.11	22400 6.01	17900 5.67	14300 5.33	11300 4.91	8770 4.43	6660 3.91	4910 3.37	3430 2.82	2170 2.27	-	
		Q P	20300 5.59	18600 5.38	17000 5.17	15400 4.95	12600 4.57	10200 4.08	8180 3.58	6480 3.10	5060 2.64	3880 2.21	2900 1.85	2100 1.54	1440 1.28	

1) Asercom certified

Relating to 20 °C suction gas temperature
without liquid subcoolingMotor version -S-
(more powerful motor)Supplementary cooling or
reduced suction gas temperature

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HG semi-hermetic compressors

Performance data



R448A

Type				Cooling capacity QO [W]				Power consumption Pe [kW]								
				Evaporating temperature °C												
				12.5	10	7.5	5	0	-5	-10	-15	-20	-25	-30	-35	-40
HGX34e/380-4 HGX34e/380-4 S	30	Q	48800	44600	40600	37000	30000	24500	19800	15700	12300	9440	7070	5090	3430	
		P	6.17	6.20	6.20	6.17	5.95	5.71	5.38	4.97	4.50	3.98	3.44	2.88	2.33	
	40	Q	42400	38700	35200	32000	25800	21000	16900	13400	10400	7890	5790	3990	2420	
		P	7.82	7.74	7.62	7.48	7.06	6.62	6.09	5.50	4.87	4.20	3.52	2.85	2.19	
	50	Q	35900	32600	29600	26900	21600	17500	14000	11100	8530	6410	4590	2990	-	
		P	9.40	9.19	8.96	8.70	8.08	7.42	6.69	5.92	5.11	4.28	3.46	2.65	-	
HGX44e/475-4 HGX44e/475-4 S	30	Q	61800	56500	51700	47100	38600	31500	25400	20200	15800	12200	9150	6660	4620	
		P	7.17	7.30	7.37	7.39	7.26	7.00	6.62	6.12	5.54	4.89	4.21	3.53	2.85	
	40	Q	54300	49600	45200	41100	33500	27300	21900	17300	13500	10300	7590	5340	3430	
		P	9.44	9.40	9.30	9.17	8.77	8.23	7.58	6.84	6.05	5.21	4.37	3.55	2.76	
	50	Q	46700	42500	38700	35100	28400	22900	18200	14300	11000	8150	5790	3760	-	
		P	11.5	11.3	11.0	10.7	10.0	9.25	8.33	7.34	6.32	5.28	4.26	3.28	-	
HGX44e/565-4 HGX44e/565-4 S	30	Q	73700	67500	61700	56200	45900	37500	30300	24200	19000	14700	11200	8160	5710	
		P	8.52	8.66	8.75	8.77	8.65	8.35	7.88	7.28	6.58	5.80	4.99	4.16	3.36	
	40	Q	64900	59300	54100	49200	40000	32600	26200	20900	16300	12500	9300	6620	4320	
		P	11.2	11.1	11.0	10.8	10.4	9.83	9.04	8.15	7.19	6.19	5.18	4.19	3.25	
	50	Q	55900	51000	46400	42100	33800	27400	21900	17300	13400	10100	7190	4750	-	
		P	13.7	13.4	13.1	12.7	12.1	11.0	9.95	8.75	7.52	6.27	5.04	3.87	-	
HGX44e/665-4 HGX44e/665-4 S 1)	30	Q	87000	79500	72600	66000	53700	43800	35300	28100	22000	16900	12700	9210	6350	
		P	9.92	10.1	10.2	10.2	10.1	9.81	9.26	8.57	7.75	6.85	5.90	4.93	3.99	
	40	Q	76200	69500	63300	57500	46600	37900	30400	24000	18700	14200	10500	7330	4670	
		P	13.0	13.0	12.9	12.7	12.2	11.5	10.6	9.58	8.47	7.30	6.12	4.96	3.86	
	50	Q	65400	59500	54000	48800	39300	31700	25200	19800	15100	11300	7930	5120	-	
		P	16.0	15.7	15.3	14.9	14.1	12.9	11.6	10.2	8.84	7.39	5.97	4.59	-	
HGX44e/770-4 HGX44e/770-4 S	30	Q	99500	91100	83200	75900	62600	51100	41300	32900	25800	19900	15100	11000	7650	
		P	11.5	11.7	11.8	11.8	11.7	11.3	10.7	9.91	8.96	7.92	6.82	5.71	4.61	
	40	Q	87300	79800	72800	66300	54500	44300	35600	28300	22100	16900	12600	8860	5760	
		P	15.3	15.2	15.0	14.8	14.1	13.3	12.2	11.0	9.79	8.44	7.08	5.74	4.46	
	50	Q	75100	68400	62200	56500	46200	37300	29800	23400	18000	13500	9620	6320	-	
		P	18.8	18.4	18.0	17.4	16.3	14.9	13.4	11.8	10.2	8.55	6.90	5.31	-	
HGX56e/850-4 HGX56e/850-4 S	30	Q	110000	101000	92100	83900	69000	56300	45500	36300	28600	22100	16700	12300	8560	
		P	12.7	12.9	13.0	13.1	12.9	12.5	11.8	10.9	9.87	8.72	7.49	6.25	5.04	
	40	Q	96600	88400	80600	73400	60000	48900	39400	31300	24500	18800	14000	9920	6480	
		P	16.8	16.7	16.5	16.3	15.6	14.7	13.5	12.2	10.7	9.29	7.78	6.29	4.87	
	50	Q	83100	75800	69000	62600	50800	41200	32900	25900	20000	15100	10800	7130	-	
		P	20.6	20.2	19.7	19.1	18.0	16.5	14.8	13.1	11.2	9.41	7.58	5.82	-	
HGX56e/995-4 HGX56e/995-4 S	30	Q	129000	119000	108000	98500	81100	66400	53800	43000	33900	26200	19800	14400	9760	
		P	15.6	15.8	15.9	15.9	15.6	15.0	14.1	13.1	11.8	10.5	9.08	7.60	6.11	
	40	Q	113000	104000	94300	86000	70500	57600	46600	37100	29100	22300	16500	11400	6880	
		P	20.3	20.1	19.9	19.5	18.7	17.5	16.1	14.6	12.9	11.1	9.34	7.50	5.70	
	50	Q	96900	88500	80700	73300	59800	48700	39200	31000	24000	18000	12700	7940	-	
		P	24.6	24.2	23.6	22.9	21.5	19.8	17.8	15.8	13.6	11.4	9.22	7.01	-	
HGX56e/1155-4 HGX56e/1155-4 S	30	Q	150000	137000	125000	114000	93500	76400	61600	49100	38600	29800	22500	16500	11500	
		P	18.0	18.3	18.5	18.5	18.3	17.7	16.7	15.4	13.9	12.3	10.6	8.88	7.17	
	40	Q	132000	120000	110000	99500	81300	66200	53200	42300	33000	25200	18800	13300	8620	
		P	23.8	23.7	23.4	23.1	22.2	20.8	19.2	17.3	15.3	13.1	11.0	8.93	6.93	
	50	Q	113000	103000	93500	84800	68900	55700	44400	34900	26900	20200	14400	9460	-	
		P	29.2	28.6	27.9	27.2	25.6	23.4	21.1	18.5	15.9	13.3	10.7	8.26	-	
HGX66e/1340-4 HGX66e/1340-4 S	30	Q	160000	146000	133000	123000	109000	88300	71200	56700	44500	34200	25600	18400	-	
		P	22.8	22.6	22.4	22.4	21.6	20.5	19.2	17.6	15.8	14.0	12.1	10.1	-	
	40	Q	140000	128000	116000	116000	94100	76500	61400	48700	37900	28800	21100	-	-	
		P	27.9	27.4	26.8	26.8	25.3	23.6	21.6	19.4	17.1	14.8	12.4	-	-	
	50	Q	120000	109000	98600	98600	79700	64400	51400	40400	31000	23100	-	-	-	
		P	32.6	31.7	30.8	30.8	28.7	26.2	23.6	20.8	17.9	14.9	-	-	-	
HGX66e/1540-4 HGX66e/1540-4 S	30	Q	183000	167000	152000	98500	125000	102000	82100	65500	51600	39800	30000	21700	-	
		P	26.2	26.1	25.8	15.9	25.0	23.7	22.2	20.4	18.4	16.3	14.1	11.9	-	
	40	Q	161000	146000	133000	86000	109000	88100	71000	56400	44100	33700	24900	-	-	
		P	32.2	31.6	31.0	19.5	29.4	27.4	25.1	22.6	20.0	17.3	14.6	-	-	
	50	Q	138000	125000	114000	73300	91800	74400	59600	47000	36400	27300	-	-	-	
		P	37.9	36.9	35.8	22.9	33.4	30.6	27.5	24.3	21.0	17.7	-	-	-	

¹⁾ Asercom certified

Relating to 20 °C suction gas temperature without liquid subcooling

Motor version -S- (more powerful motor)

Supplementary cooling or reduced suction gas temperature

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HG semi-hermetic compressors

Performance data



R448A

Type		Cond. temp. °C	Cooling capacity QO [W]				Power consumption Pe [kW]									
			Evaporating temperature °C													
			12.5	10	7.5	5	0	-5	-10	-15	-20	-25	-30	-35	-40	
HGX66e/1750-4 HGX66e/1750-4 S		30	Q	207000	189000	173000	98500	143000	117000	94000	75100	59100	45700	34400	24900	-
			P	30.0	29.8	29.5	15.9	28.5	27.1	25.3	23.3	21.1	18.7	16.2	13.7	-
		40	Q	182000	166000	151000	86000	124000	101000	81300	64700	50600	38700	28600	-	-
			P	36.8	36.2	35.4	19.5	33.5	31.3	28.7	25.9	22.9	19.9	16.8	-	-
		50	Q	156000	142000	129000	73300	106000	85200	68300	54000	41800	31400	-	-	-
			P	43.3	42.2	40.9	22.9	38.1	34.9	31.5	27.9	24.1	20.3	-	-	-
HGX66e/2070-4 HGX66e/2070-4 S		30	Q	244000	223000	203000	98500	167000	137000	111000	88300	69600	53800	40600	29400	-
			P	35.5	35.3	35.0	15.9	33.8	32.1	30.0	27.6	24.9	22.0	19.1	16.1	-
		40	Q	213000	195000	177000	86000	146000	119000	95500	76100	59600	45600	33700	-	-
			P	43.8	43.0	42.1	19.5	39.9	37.2	34.1	30.7	27.1	23.4	19.8	-	-
		50	Q	183000	166000	151000	73300	123000	99900	80200	63400	49200	37000	-	-	-
			P	51.7	50.3	48.7	22.9	45.5	41.6	37.5	33.1	28.5	24.0	-	-	-
HGX88e/2400-4 HGX88e/2400-4 S		30	Q	289000	264000	241000	98500	197000	161000	130000	104000	81700	63200	47600	34500	-
			P	42.0	41.8	41.4	15.9	39.9	38.0	35.6	32.9	29.8	26.5	23.1	19.7	-
		40	Q	255000	232000	211000	86000	172000	140000	113000	89600	70100	53600	39600	-	-
			P	51.1	50.3	49.3	19.5	47.0	43.9	40.3	36.5	32.4	28.2	24.0	-	-
		50	Q	219000	199000	181000	73300	146000	119000	94800	74900	58000	43600	-	-	-
			P	59.8	58.3	56.7	22.9	53.6	49.1	44.3	39.2	34.1	28.9	-	-	-
HGX88e/2735-4 HGX88e/2735-4 S		30	Q	328000	300000	273000	98500	225000	184000	149000	119000	93100	72000	54200	39300	-
			P	47.5	47.2	46.8	15.9	45.3	43.2	40.5	37.4	34.0	30.3	26.5	22.6	-
		40	Q	289000	263000	240000	86000	196000	160000	129000	103000	79900	61100	45100	-	-
			P	58.1	57.1	55.9	19.5	53.2	49.7	45.7	41.4	36.9	32.2	27.4	-	-
		50	Q	248000	226000	205000	73300	167000	136000	109000	85400	66100	49700	-	-	-
			P	68.3	66.5	64.6	22.9	60.5	55.5	50.2	44.6	38.8	33.0	-	-	-
HGX88e/3235-4 HGX88e/3235-4 S		30	Q	387000	354000	323000	98500	265000	217000	175000	140000	110000	84700	63800	46100	-
			P	55.9	55.6	55.1	15.9	53.4	50.9	47.7	44.0	39.9	35.5	31.0	26.4	-
		40	Q	341000	311000	283000	86000	232000	189000	152000	121000	94000	71800	53000	-	-
			P	68.4	67.2	65.8	19.5	62.7	58.6	53.9	48.7	43.3	37.7	32.1	-	-
		50	Q	293000	267000	242000	73300	197000	160000	128000	101000	77700	58300	-	-	-
			P	80.3	78.2	75.9	22.9	71.3	65.4	59.0	52.4	45.5	38.6	-	-	-



R449A

HGX12P/60-4 S	30	Q	7580	6940	6330	5760	4740	3860	3100	2460	1920	1470	1100	790	544
		P	1.12	1.13	1.14	1.14	1.13	1.08	1.02	0.955	0.870	0.779	0.686	0.597	0.515
	40	Q	6690	6100	5550	5040	4120	3330	2660	2090	1620	1230	905	644	429
		P	1.41	1.40	1.39	1.37	1.31	1.23	1.14	1.03	0.928	0.815	0.704	0.600	0.507
	50	Q	5810	5280	4790	4330	3510	2820	2230	1730	1320	985	711	487	-
		P	1.73	1.70	1.66	1.61	1.51	1.39	1.26	1.12	0.985	0.845	0.712	0.588	-
HGX12P/75-4 HGX12P/75-4 S	30	Q	9430	8630	7880	7180	5920	4820	3880	3080	2410	1850	1390	1020	703
		P	1.38	1.40	1.41	1.41	1.40	1.35	1.27	1.18	1.07	0.960	0.844	0.732	0.629
	40	Q	8320	7600	6920	6290	5150	4170	3340	2640	2050	1560	1170	834	564
		P	1.75	1.74	1.73	1.70	1.64	1.54	1.42	1.29	1.15	1.01	0.874	0.743	0.626
	50	Q	7240	6580	5970	5410	4390	3530	2800	2190	1680	1270	922	641	-
		P	2.16	2.13	2.08	2.02	1.91	1.76	1.59	1.41	1.23	1.06	0.892	0.736	-
HGX12P/90-4 HGX12P/90-4 S	30	Q	11300	10300	9380	8550	7040	5740	4630	3680	2890	2230	1680	1230	857
		P	1.67	1.69	1.71	1.71	1.66	1.60	1.51	1.40	1.27	1.13	0.995	0.860	0.736
	40	Q	9890	9030	8230	7480	6130	4970	3990	3160	2460	1880	1410	1020	694
		P	2.12	2.12	2.10	2.07	1.95	1.84	1.70	1.54	1.37	1.20	1.03	0.880	0.739
	50	Q	8600	7830	7110	6440	5230	4210	3350	2630	2030	1530	1130	789	-
		P	2.63	2.58	2.53	2.46	2.28	2.10	1.90	1.69	1.48	1.27	1.06	0.879	-
HGX12P/110-4 HGX12P/110-4 S	30	Q	13200	12100	11000	10000	8240	6730	5430	4320	3400	2620	1980	1460	1020
		P	1.95	1.99	2.00	2.01	1.95	1.88	1.78	1.64	1.49	1.33	1.16	1.00	0.857
	40	Q	11600	10600	9620	8750	7170	5820	4670	3710	2900	2220	1670	1210	829
		P	2.51	2.50	2.47	2.44	2.31	2.17	2.00	1.82	1.62	1.41	1.22	1.03	0.864
	50	Q	10100	9130	8300	7520	6110	4930	3930	3090	2390	1810	1340	942	-
		P	3.12	3.06	2.99	2.91	2.70	2.49	2.25	2.00	1.75	1.50	1.25	1.03	-
HGX22e/125-4 HGX22e/125-4 S	30	Q	16500	15100	13800	12500	10300	8300	6650	5270	4110	3150	2360	1710	1170
		P	1.99	2.05	2.09	2.11	2.11	2.06	1.95	1.81	1.65	1.47	1.29	1.11	0.956
	40	Q	14400	13100	11900	10800	8820	7130	5700	4490	3480	2640	1950	1360	850
		P	2.63	2.63	2.62	2.59	2.50	2.36	2.18	1.98	1.77	1.55	1.34	1.15	0.984
	50	Q	12300	11100	10100	9110	7420	5960	4740	3710	2850	2130	1530	1010	-
		P	3.20	3.14	3.08	3.00	2.82	2.60	2.36	2.10	1.85	1.60	1.36	1.16	-

HG semi-hermetic compressors

Operating limits



R449A

Type			Cond. temp. °C		Cooling capacity QO [W]				Power consumption Pe [kW]								
					Evaporating temperature °C												
					12.5	10	7.5	5	0	-5	-10	-15	-20	-25	-30	-35	-40
HGX22e/160-4 HGX22e/160-4 S			30	Q	20200	18500	16900	15400	12600	10200	8150	6450	5040	3860	2900	2100	1440
				P	2.92	2.88	2.83	2.78	2.61	2.53	2.40	2.23	2.02	1.80	1.57	1.35	1.14
			40	Q	17600	16000	14600	13300	10800	8710	6960	5490	4260	3240	2390	1670	1040
				P	3.63	3.53	3.44	3.34	3.09	2.91	2.69	2.44	2.17	1.90	1.63	1.39	1.18
			50	Q	15000	13700	12500	11400	9040	7270	5780	4530	3490	2610	1870	1230	
				P	4.31	4.16	4.01	3.86	3.50	3.22	2.91	2.59	2.26	1.95	1.66	1.40	
HGX22e/190-4 HGX22e/190-4 S			30	Q	24400	22300	20400	18600	15400	12600	10300	8220	6550	5150	3970	2970	2110
				P	3.55	3.50	3.44	3.37	3.33	3.13	2.91	2.69	2.46	2.22	1.97	1.71	1.44
			40	Q	21200	19400	17700	16100	13400	10900	8840	7110	5650	4410	3360	2450	1630
				P	4.43	4.31	4.19	4.07	3.93	3.63	3.32	3.01	2.71	2.40	2.09	1.78	1.47
			50	Q	18200	16600	15100	13800	11400	9230	7460	5970	4710	3640	2710	1870	
				P	5.29	5.11	4.93	4.74	4.49	4.07	3.67	3.27	2.88	2.51	2.13	1.77	
HGX34e/215-4 HGX34e/215-4 S			30	Q	27400	25100	22800	20800	16800	13600	10800	8460	6470	4820	3460	2360	1500
				P	3.46	3.47	3.46	3.44	3.35	3.18	2.95	2.69	2.41	2.12	1.84	1.57	1.34
			40	Q	24000	21800	19800	17900	14300	11500	9010	6940	5210	3790	2640	1730	1030
				P	4.56	4.46	4.35	4.22	3.99	3.65	3.29	2.91	2.54	2.18	1.85	1.56	1.33
			50	Q	20400	18500	16700	15000	11800	9320	7230	5480	4050	2900	2000	1310	
				P	5.55	5.35	5.14	4.92	4.55	4.06	3.56	3.08	2.62	2.21	1.84	1.54	
HGX34e/255-4 HGX34e/255-4 S			30	Q	32100	29400	26900	24600	19900	16300	13100	10300	7940	5940	4280	2940	1870
				P	3.57	3.70	3.79	3.84	3.90	3.81	3.61	3.35	3.02	2.66	2.28	1.91	1.57
			40	Q	27800	25400	23200	21100	17100	13900	11100	8670	6630	4900	3470	2300	1360
				P	4.81	4.83	4.82	4.78	4.71	4.44	4.09	3.69	3.24	2.78	2.32	1.89	1.50
			50	Q	23100	21100	19200	17500	14000	11300	8980	7000	5310	3900	2740	1790	
				P	5.92	5.84	5.73	5.60	5.40	4.96	4.46	3.92	3.36	2.80	2.26	1.76	
HGX34e/315-4 HGX34e/315-4 S			30	Q	40900	37300	33900	30800	24900	20100	16100	12700	9800	7420	5460	3840	2510
				P	4.81	4.87	4.90	4.90	4.73	4.56	4.31	3.99	3.61	3.19	2.75	2.31	1.87
			40	Q	35500	32300	29300	26500	21300	17200	13700	10700	8190	6120	4390	2940	1710
				P	6.19	6.15	6.08	5.98	5.64	5.30	4.89	4.41	3.90	3.36	2.81	2.26	1.73
			50	Q	30000	27200	24600	22200	17800	14200	11300	8710	6620	4880	3410	2160	
				P	7.50	7.35	7.18	6.99	6.47	5.95	5.36	4.74	4.08	3.40	2.73	2.08	
HGX34e/380-4 HGX34e/380-4 S			30	Q	48500	44300	40400	36800	29900	24400	19700	15700	12300	9410	7050	5080	3420
				P	6.14	6.17	6.17	6.14	5.92	5.69	5.36	4.95	4.48	3.97	3.43	2.88	2.33
			40	Q	42100	38400	35000	31800	25700	20900	16800	13300	10400	7860	5760	3970	2410
				P	7.78	7.70	7.58	7.44	7.03	6.59	6.06	5.48	4.85	4.19	3.51	2.84	2.18
			50	Q	35600	32400	29400	26600	21400	17400	13900	11000	8480	6370	4560	2980	
				P	9.35	9.14	8.91	8.65	8.04	7.38	6.66	5.89	5.09	4.27	3.45	2.64	
HGX44e/475-4 HGX44e/475-4 S			30	Q	61400	56200	51400	46800	38400	31300	25300	20100	15800	12200	9120	6650	4610
				P	7.14	7.26	7.33	7.36	7.22	6.98	6.59	6.10	5.52	4.88	4.20	3.52	2.85
			40	Q	53900	49300	44900	40900	33300	27100	21800	17300	13400	10300	7550	5320	3420
				P	9.39	9.35	9.26	9.12	8.73	8.19	7.55	6.81	6.02	5.20	4.36	3.54	2.75
			50	Q	46300	42200	38400	34800	28100	22700	18100	14200	10900	8100	5760	3750	
				P	11.4	11.2	11.0	10.7	10.0	9.21	8.29	7.31	6.29	5.26	4.25	3.27	
HGX44e/565-4 HGX44e/565-4 S			30	Q	73300	67100	61300	55900	45700	37400	30200	24100	19000	14700	11100	8140	5700
				P	8.47	8.62	8.71	8.73	8.61	8.31	7.85	7.25	6.55	5.78	4.97	4.15	3.35
			40	Q	64400	58900	53700	48900	39700	32400	26100	20700	16200	12500	9260	6590	4300
				P	11.1	11.1	10.9	10.8	10.4	9.79	9.01	8.12	7.16	6.17	5.16	4.17	3.24
			50	Q	55500	50600	46000	41800	33600	27200	21800	17200	13300	9950	7150	4730	
				P	13.6	13.3	13.0	12.7	12.0	11.0	9.91	8.72	7.48	6.24	5.02	3.86	
HGX44e/665-4 HGX44e/665-4 S 1)			30	Q	85400	78200	71400	65100	53500	43600	35200	28000	21900	16900	12700	9180	6340
				P	9.91	10.0	10.1	10.2	10.1	9.77	9.23	8.54	7.72	6.83	5.88	4.92	3.98
			40	Q	74900	68400	62400	56700	46300	37600	30200	23900	18600	14200	10500	7310	4660
				P	13.0	13.0	12.8	12.7	12.2	11.4	10.5	9.54	8.43	7.28	6.10	4.95	3.85
			50	Q	64200	58500	53200	48200	39000	31500	25100	19600	15100	11200	7890	5090	
				P	16.0	15.7	15.3	14.9	14.0	12.8	11.6	10.2	8.81	7.37	5.95	4.58	
HGX44e/770-4 HGX44e/770-4 S			30	Q	98900	90600	82800	75500	62300	50900	41100	32700	25700	19900	15000	11000	7640
				P	11.4	11.6	11.8	11.8	11.6	11.2	10.6	9.87	8.93	7.90	6.80	5.69	4.60
			40	Q	86800	79300	72300	65800	54100	44100	35400	28100	22000	16800	12500	8830	5740
				P	15.2	15.1	14.9	14.7	14.1	13.2	12.2	11.0	9.75	8.41	7.06	5.72	4.45
			50	Q	74500	67900	61800	56000	45800	37000	29600	23200	17900	13400	9570	6290	
				P	18.7	18.3	17.9	17.4	16.2	14.8	13.4	11.8	10.1	8.52	6.88	5.30	

¹⁾ Asercom certified

Relating to 20 °C suction gas temperature
without liquid subcooling

Motor version -S-
(more powerful motor)

Supplementary cooling or
reduced suction gas temperature

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HG semi-hermetic compressors

Performance data



R449A | 50Hz

Type		Cond. temp. °C	Cooling capacity QO [W]				Power consumption Pe [kW]								
			Evaporating temperature °C												
			12.5	10	7.5	5	0	-5	-10	-15	-20	-25	-30	-35	-40
HGX56e/850-4 HGX56e/850-4 S	30	Q	110000	101000	91600	83500	68600	56100	45300	36200	28500	22000	16700	12300	8550
		P	12.6	12.8	13.0	13.0	12.8	12.4	11.7	10.8	9.84	8.69	7.47	6.23	5.03
	40	Q	96000	87800	80100	72900	59600	48600	39200	31100	24400	18700	13900	9880	6450
		P	16.7	16.6	16.4	16.2	15.5	14.6	13.4	12.1	10.7	9.26	7.75	6.27	4.86
	50	Q	82500	75200	68400	62100	50400	40900	32700	25800	19900	15000	10800	7100	
		P	20.5	20.1	19.6	19.0	17.9	16.4	14.8	13.0	11.2	9.38	7.56	5.80	
HGX56e/995-4 HGX56e/995-4 S	30	Q	129000	118000	108000	98000	80700	66100	53500	42800	33800	26200	19800	14400	9740
		P	15.6	15.7	15.8	15.8	15.5	14.9	14.1	13.0	11.8	10.4	9.06	7.58	6.10
	40	Q	113000	103000	93700	85400	70100	57300	46300	36900	29000	22200	16400	11400	6860
		P	20.2	20.0	19.8	19.4	18.6	17.4	16.1	14.5	12.9	11.1	9.31	7.48	5.68
	50	Q	96100	87800	80000	72800	59400	48400	38900	30800	23900	17900	12600	7900	
		P	24.5	24.0	23.5	22.8	21.4	19.7	17.8	15.7	13.6	11.4	9.19	6.99	
HGX56e/1155-4 HGX56e/1155-4 S	30	Q	149000	136000	125000	114000	93100	76000	61400	48900	38500	29700	22400	16400	11500
		P	17.9	18.2	18.4	18.5	18.3	17.6	16.6	15.4	13.9	12.3	10.5	8.85	7.15
	40	Q	131000	120000	109000	98800	80900	65800	52900	42000	32800	25100	18700	13300	8590
		P	23.7	23.5	23.3	23.0	22.1	20.7	19.1	17.2	15.2	13.1	11.0	8.90	6.91
	50	Q	112000	102000	92800	84200	68400	55300	44100	34700	26700	20000	14400	9420	
		P	29.0	28.5	27.8	27.0	25.4	23.3	21.0	18.5	15.9	13.2	10.7	8.23	
HGX66e/1340-4 HGX66e/1340-4 S	30	Q	159000	145000	132000	114000	108000	87900	71000	56500	44400	34200	25600	18400	
		P	22.7	22.6	22.3	18.5	21.5	20.5	19.1	17.5	15.8	14.0	12.0	10.1	
	40	Q	139000	127000	115000	98800	93600	76100	61100	48500	37700	28700	21000		
		P	27.7	27.2	26.7	23.0	25.2	23.5	21.5	19.4	17.1	14.7	12.3		
	50	Q	119000	108000	97900	84200	79200	64000	51100	40200	30900	23000			
		P	32.5	31.6	30.6	27.0	28.5	26.1	23.5	20.7	17.8	14.9			
HGX66e/1540-4 HGX66e/1540-4 S	30	Q	182000	166000	152000	114000	124000	102000	81800	65300	51400	39700	30000	21700	
		P	26.1	26.0	25.7	18.5	24.9	23.7	22.1	20.3	18.4	16.2	14.1	11.9	
	40	Q	160000	146000	133000	98800	108000	87700	70600	56200	43900	33600	24800		
		P	32.1	31.5	30.8	23.0	29.3	27.3	25.0	22.6	20.0	17.3	14.5		
	50	Q	137000	124000	113000	84200	91200	73900	59200	46800	36200	27200			
		P	37.7	36.7	35.6	27.0	33.3	30.5	27.4	24.3	21.0	17.6			
HGX66e/1750-4 HGX66e/1750-4 S	30	Q	206000	189000	172000	114000	142000	116000	93600	74800	58900	45600	34400	24900	
		P	29.9	29.7	29.4	18.5	28.4	27.0	25.3	23.3	21.0	18.6	16.2	13.7	
	40	Q	181000	165000	150000	98800	124000	101000	81000	64400	50400	38600	28500		
		P	36.7	36.0	35.3	23.0	33.4	31.1	28.6	25.8	22.9	19.8	16.8		
	50	Q	155000	141000	128000	84200	105000	84700	68000	53700	41600	31300			
		P	43.1	42.0	40.7	27.0	38.0	34.8	31.4	27.8	24.1	20.3			
HGX66e/2070-4 HGX66e/2070-4 S	30	Q	242000	222000	202000	114000	167000	136000	111000	88000	69400	53700	40500	29400	
		P	35.3	35.2	34.8	18.5	33.7	32.0	29.9	27.5	24.8	22.0	19.0	16.1	
	40	Q	212000	194000	176000	98800	145000	118000	95100	75800	59400	45500	33600		
		P	43.6	42.8	41.9	23.0	39.7	37.0	33.9	30.6	27.0	23.4	19.7		
	50	Q	181000	165000	150000	84200	123000	99300	79700	63100	49000	36900			
		P	51.4	50.0	48.5	27.0	45.3	41.5	37.3	33.0	28.5	24.0			
HGX88e/2400-4 HGX88e/2400-4 S	30	Q	287000	263000	239000	114000	196000	160000	130000	104000	81500	63000	47500	34500	
		P	41.8	41.6	41.2	18.5	39.7	37.9	35.5	32.8	29.7	26.5	23.1	19.7	
	40	Q	253000	231000	210000	98800	171000	140000	113000	89200	69800	53500	39600		
		P	50.9	50.1	49.1	23.0	46.8	43.7	40.2	36.3	32.3	28.1	23.9		
	50	Q	218000	198000	180000	84200	146000	118000	94300	74500	57800	43500			
		P	59.6	58.0	56.4	27.0	53.3	48.9	44.1	39.1	34.0	28.8			
HGX88e/2735-4 HGX88e/2735-4 S	30	Q	326000	298000	272000	114000	224000	183000	148000	118000	92900	71800	54100	39300	
		P	47.3	47.1	46.6	18.5	45.1	43.0	40.4	37.3	33.9	30.2	26.4	22.6	
	40	Q	287000	262000	238000	98800	195000	159000	128000	102000	79600	60900	45100		
		P	57.9	56.9	55.7	23.0	53.0	49.5	45.6	41.3	36.8	32.1	27.4		
	50	Q	247000	224000	204000	84200	166000	135000	108000	85000	65800	49600			
		P	68.0	66.2	64.3	27.0	60.2	55.3	50.0	44.4	38.7	32.9			
HGX88e/3235-4 HGX88e/3235-4 S	30	Q	385000	352000	321000	114000	264000	216000	175000	139000	110000	84500	63700	46100	
		P	55.7	55.4	54.9	18.5	53.2	50.7	47.6	43.9	39.8	35.5	30.9	26.4	
	40	Q	339000	309000	281000	98800	230000	188000	151000	120000	93700	71600	52900		
		P	68.1	66.9	65.6	23.0	62.5	58.4	53.7	48.6	43.2	37.6	32.0		
	50	Q	291000	265000	240000	84200	196000	159000	127000	100000	77400	58100			
		P	79.9	77.8	75.5	27.0	71.0	65.1	58.8	52.2	45.4	38.5			

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Relating to 20 °C suction gas temperature
without liquid subcoolingMotor version -S-
(more powerful motor)Supplementary cooling or
reduced suction gas temperature

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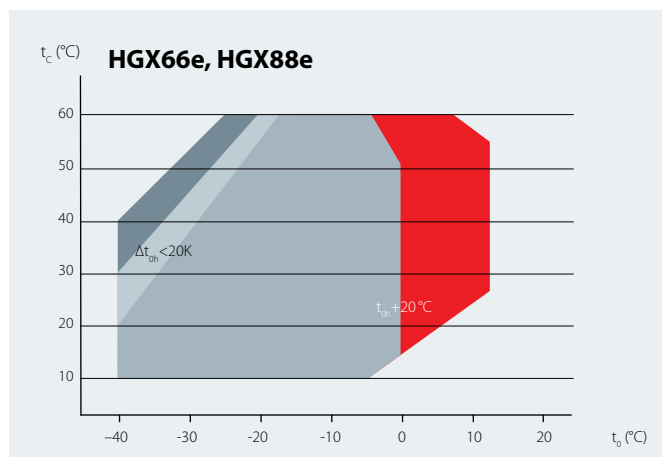
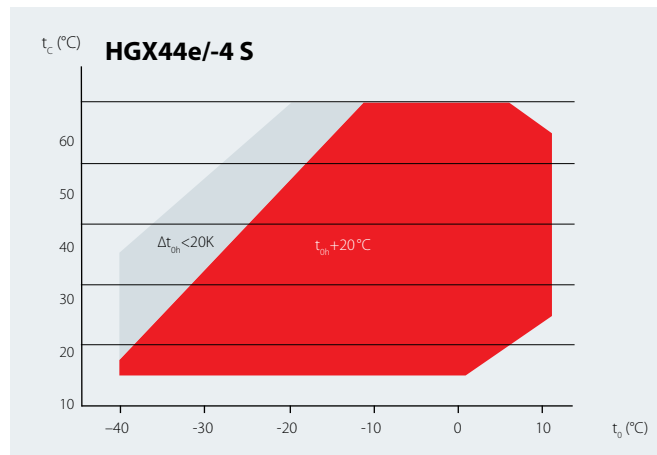
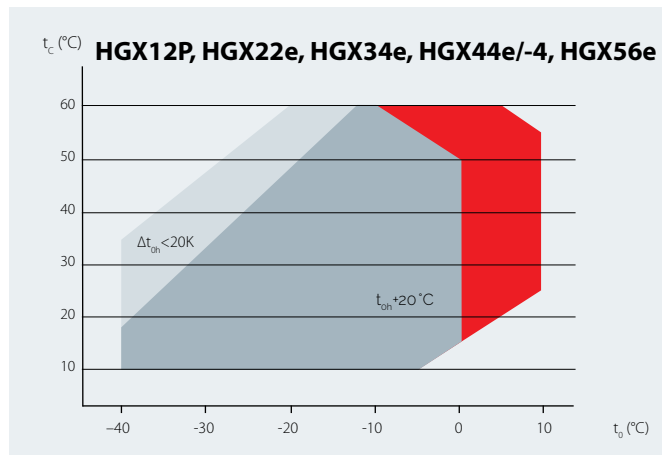


HG semi-hermetic compressors

Operating limits



R407A



- t_o Evaporating temperature (°C)
- t_c Condensing temperature (°C)
- Δt_{oh} Suction gas superheat (K)
- t_{oh} Suction gas temperature (°C)
- Unlimited application range
- Supplementary cooling or reduced suction gas temperature ($\Delta t_{oh} < 20K$)
- Supplementary cooling and reduced suction gas temperature ($\Delta t_{oh} < 20K$)
- Motor version -S- (more powerful motor)

Max. permissible operating pressure (LP/HP)¹⁾: 19/28 bar

¹⁾ LP = low pressure, HP = high pressure

NOTES!

Operating limits

Compressor operation is possible within the limits shown on the application diagrams. Please note the colored areas. Compressor application limits should not be chosen for design purposes or continuous operation.

Restrictions to the operating limits may occur when using a frequency converter.

Performance data

The performance data for R407A are based on European Standard EN 12900 50 Hz power supply frequency. This signifies: 20°C suction gas temperature without liquid subcooling. Evaporation and condensing temperatures are based on the dew point values (saturated vapour conditions).

Conversion factor for 60 Hz = 1.2

Performance data for other operating points, see BOCK VAP software (vap.bock.de).

ASERCOM certified performance data.



For compressors with this label, the performance data are certified according 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 BOCK compressors can be found at www.asercom.org and www.bock.de.

HG semi-hermetic compressors

Performance data



R407A | 50 Hz

Type	Cond. temp. °C		Cooling capacity Q ₀ [W]				Power consumption P _e [kW]							
			Evaporating temperature °C											
			10	7,5	5	0	-5	-10	-15	-20	-25	-30	-35	-40
HGX12P/60-4 S	30	Q	6820	6230	5680	4690	3810	3060	2420	1870	1430	1060	770	553
		P	1.05	1.07	1.08	1.08	1.04	0.993	0.921	0.839	0.753	0.669	0.593	0.532
	40	Q	5900	5390	4900	4030	3260	2610	2050	1580	1200	884	639	-
		P	1.32	1.32	1.30	1.25	1.18	1.09	0.996	0.892	0.791	0.697	0.618	-
	50	Q	5030	4570	4150	3390	2730	2170	1690	1300	968	-	-	-
		P	1.57	1.54	1.50	1.40	1.29	1.17	1.05	0.927	0.811	-	-	-
HGX12P/75-4 HGX12P/75-4 S	30	Q	8490	7760	7080	5850	4770	3830	3040	2360	1800	1350	989	715
		P	1.30	1.33	1.34	1.34	1.30	1.23	1.14	1.03	0.928	0.823	0.728	0.653
	40	Q	7350	6710	6120	5030	4090	3270	2580	2010	1530	1140	828	-
		P	1.64	1.64	1.62	1.57	1.47	1.36	1.24	1.11	0.983	0.866	0.768	-
	50	Q	6260	5710	5180	4240	3430	2730	2140	1650	1250	-	-	-
		P	1.96	1.92	1.87	1.77	1.63	1.48	1.32	1.16	1.01	-	-	-
HGX12P/90-4 HGX12P/90-4 S	30	Q	10100	9240	8430	6960	5680	4570	3630	2830	2170	1630	1200	872
		P	1.57	1.60	1.62	1.59	1.54	1.46	1.35	1.22	1.09	0.970	0.856	0.764
	40	Q	8740	7990	7280	5990	4870	3910	3100	2410	1840	1380	1010	-
		P	1.99	1.98	1.96	1.86	1.76	1.62	1.47	1.32	1.17	1.02	0.909	-
	50	Q	7450	6790	6170	5050	4090	3270	2580	1990	1510	-	-	-
		P	2.38	2.34	2.28	2.11	1.95	1.77	1.58	1.39	1.21	-	-	-
HGX12P/110-4 HGX12P/110-4 S	30	Q	11900	10900	9870	8150	6660	5360	4260	3330	2550	1920	1420	1040
		P	1.84	1.88	1.90	1.87	1.81	1.71	1.58	1.44	1.28	1.13	1.00	0.893
	40	Q	10300	9340	8510	7000	5710	4590	3640	2840	2170	1630	1200	-
		P	2.35	2.34	2.31	2.20	2.07	1.92	1.74	1.55	1.37	1.21	1.07	-
	50	Q	8690	7930	7210	5910	4790	3840	3030	2350	1790	-	-	-
		P	2.83	2.77	2.70	2.50	2.31	2.09	1.86	1.64	1.43	-	-	-
HGX22e/125-4 HGX22e/125-4 S	30	Q	15200	13800	12600	10200	8240	6580	5180	4000	3030	2220	1570	1030
		P	2.06	2.08	2.09	2.08	2.01	1.90	1.77	1.62	1.46	1.29	1.13	0.992
	40	Q	13300	12000	10900	8810	7090	5630	4400	3370	2520	1830	1250	-
		P	2.60	2.57	2.53	2.43	2.29	2.12	1.93	1.74	1.55	1.37	1.20	-
	50	Q	11300	10200	9170	7410	5920	4660	3620	2750	2040	-	-	-
		P	3.08	3.01	2.93	2.74	2.53	2.30	2.07	1.84	1.63	-	-	-
HHGX22e/160-4 HGX22e/160-4 S	30	Q	19300	17500	15900	12600	10200	8120	6450	5060	3920	2960	2130	1360
		P	2.72	2.69	2.66	2.58	2.43	2.30	2.16	2.02	1.87	1.69	1.48	1.22
	40	Q	17000	15400	13900	11100	8860	7060	5580	4350	3310	2400	1580	-
		P	3.30	3.23	3.15	3.00	2.79	2.60	2.41	2.21	1.99	1.75	1.48	-
	50	Q	14700	13200	11900	9540	7630	6050	4720	3600	2630	-	-	-
		P	3.86	3.74	3.61	3.40	3.13	2.88	2.62	2.35	2.06	-	-	-
HGX22e/190-4 HGX22e/190-4 S	30	Q	22500	20500	18600	15300	12600	10200	8100	6400	4970	3760	2750	1870
		P	3.48	3.40	3.32	3.26	3.04	2.82	2.62	2.41	2.20	1.98	1.75	1.49
	40	Q	19600	17800	16200	13400	10900	8760	6980	5490	4240	3180	2270	-
		P	4.23	4.10	3.96	3.81	3.50	3.21	2.94	2.67	2.40	2.13	1.86	-
	50	Q	16800	15300	13900	11400	9190	7370	5850	4570	3510	-	-	-
		P	5.00	4.80	4.61	4.35	3.95	3.57	3.22	2.89	2.56	-	-	-
HGX34e/215-4 HGX34e/215-4 S	30	Q	24600	22400	20400	16500	13300	10600	8200	6230	4590	3270	2220	1430
		P	3.47	3.47	3.44	3.34	3.17	2.94	2.67	2.38	2.08	1.79	1.53	1.31
	40	Q	21500	19500	17600	14100	11300	8800	6740	5020	3620	2500	1640	-
		P	4.47	4.36	4.23	3.99	3.64	3.27	2.88	2.50	2.13	1.80	1.52	-
	50	Q	18200	16400	14800	11700	9170	7070	5310	3880	2730	-	-	-
		P	5.37	5.15	4.93	4.55	4.04	3.53	3.03	2.56	2.14	-	-	-
HGX34e/255-4 HGX34e/255-4 S	30	Q	28900	26500	24100	19600	16000	12800	9990	7640	5670	4050	2760	1790
		P	3.72	3.81	3.86	3.91	3.81	3.60	3.32	2.97	2.60	2.22	1.85	1.53
	40	Q	25000	22800	20800	16800	13600	10900	8440	6400	4690	3290	2180	-
		P	4.86	4.85	4.81	4.73	4.44	4.08	3.65	3.19	2.71	2.25	1.82	-
	50	Q	20900	19000	17300	13900	11200	8820	6810	5110	3700	-	-	-
		P	5.89	5.78	5.64	5.42	4.96	4.43	3.87	3.28	2.71	-	-	-
HGX34e/315-4 HGX34e/315-4 S	30	Q	36600	33300	30200	24400	19700	15700	12300	9450	7100	5180	3630	2400
		P	4.89	4.92	4.92	4.74	4.56	4.29	3.95	3.56	3.13	2.68	2.23	1.80
	40	Q	31700	28800	26100	21000	16900	13400	10400	7920	5870	4180	2790	-
		P	6.19	6.12	6.02	5.67	5.30	4.87	4.37	3.84	3.28	2.72	2.17	-
	50	Q	26800	24300	21900	17600	14000	11000	8480	6370	4620	-	-	-
		P	7.41	7.23	7.03	6.50	5.94	5.33	4.67	3.98	3.29	-	-	-

¹) Asercom certified

Relating to 20 °C suction gas temperature
without liquid subcoolingMotor version -S-
(more powerful motor)Supplementary cooling or
reduced suction gas temperature

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HG semi-hermetic compressors

Performance data



R407A | 50 Hz

Type			Cooling capacity QO [W]				Power consumption Pe [kW]								
			Evaporating temperature °C												
			10	7,5	5	0	-5	-10	-15	-20	-25	-30	-35	-40	
HGX34e/380-4 HGX34e/380-4 S	30	Q	43800	39900	36200	29300	23900	19200	15200	11900	9030	6720	4830	3290	
		P	6.24	6.23	6.19	5.93	5.68	5.33	4.91	4.42	3.89	3.34	2.79	2.25	
	40	Q	37900	34500	31300	25300	20500	16500	13000	10100	7560	5510	3790	-	
		P	7.77	7.64	7.49	7.05	6.59	6.04	5.43	4.77	4.09	3.40	2.72	-	
	50	Q	32000	29100	26300	21200	17200	13700	10700	8180	6060	-	-	-	
		P	9.22	8.97	8.70	8.08	7.38	6.62	5.81	4.97	4.12	-	-	-	
HGX44e/475-4 HGX44e/475-4 S	30	Q	56800	51900	47300	38700	31500	25300	20000	15600	11900	8840	6390	4420	
		P	7.37	7.47	7.51	7.40	7.15	6.75	6.22	5.61	4.95	4.26	3.57	2.92	
	40	Q	49700	45300	41200	33500	27100	21700	17100	13200	9960	7310	5130	-	
		P	9.41	9.35	9.23	8.86	8.33	7.67	6.91	6.09	5.24	4.39	3.57	-	
	50	Q	42500	38600	35000	28300	22800	18100	14100	10800	8040	-	-	-	
		P	11.2	11.0	10.7	10.1	9.34	8.41	7.42	6.39	5.35	-	-	-	
HGX44e/565-4 HGX44e/565-4 S	30	Q	67800	61900	56400	46000	37500	30200	24000	18800	14400	10800	7830	5480	
		P	8.75	8.87	8.92	8.84	8.53	8.04	7.41	6.67	5.87	5.04	4.22	3.44	
	40	Q	59400	54200	49300	39900	32400	26000	20600	16000	12200	8970	6380	-	
		P	11.1	11.1	10.9	10.6	9.95	9.15	8.24	7.25	6.22	5.20	4.22	-	
	50	Q	51000	46300	42000	33700	27300	21800	17100	13200	9890	-	-	-	
		P	13.4	13.1	12.8	12.1	11.1	10.0	8.85	7.60	6.35	-	-	-	
HGX44e/665-4 HGX44e/665-4 S 1)	30	Q	79000	72100	65700	53800	43800	35200	27800	21600	16500	12300	8820	6070	
		P	10.2	10.3	10.4	10.3	10.0	9.45	8.71	7.86	6.93	5.96	5.00	4.09	
	40	Q	69000	62900	57100	46500	37700	30100	23700	18300	13800	10100	7030	-	
		P	13.1	13.0	12.8	12.4	11.6	10.7	9.68	8.53	7.34	6.15	5.00	-	
	50	Q	58900	53500	48500	39200	31500	25000	19500	14900	11100	-	-	-	
		P	15.7	15.4	15.0	14.2	13.0	11.7	10.3	8.94	7.49	-	-	-	
HGX44e/770-4 HGX44e/770-4 S	30	Q	91500	83600	76200	62700	51100	41100	32600	25400	19500	14600	10600	7340	
		P	11.8	12.0	12.0	11.9	11.5	10.9	10.0	9.09	8.01	6.89	5.78	4.73	
	40	Q	80000	72900	66300	54400	44100	35300	27900	21600	16400	12100	8530	-	
		P	15.2	15.1	14.9	14.3	13.4	12.4	11.1	9.86	8.49	7.11	5.78	-	
	50	Q	68400	62200	56400	46000	37100	29500	23100	17800	13300	-	-	-	
		P	18.3	18.0	17.5	16.4	15.1	13.6	12.0	10.3	8.66	-	-	-	
HGX56e/850-4 HGX56e/850-4 S	30	Q	99300	90700	82500	69100	56300	45400	36000	28100	21600	16200	11800	8220	
		P	13.0	13.2	13.2	13.2	12.7	12.0	11.1	10.0	8.82	7.57	6.33	5.16	
	40	Q	86800	79000	71800	59900	48700	39000	30900	24000	18200	13500	9570	-	
		P	16.7	16.6	16.4	15.8	14.8	13.7	12.3	10.8	9.35	7.82	6.34	-	
	50	Q	74300	67500	61100	50700	40900	32700	25700	19800	14900	-	-	-	
		P	20.1	19.7	19.2	18.1	16.6	15.0	13.2	11.4	9.54	-	-	-	
HGX56e/995-4 HGX56e/995-4 S	30	Q	116000	106000	96400	79600	65300	52900	42200	33100	25500	19000	13600	9140	
		P	15.6	15.6	15.6	15.2	14.6	13.8	12.7	11.5	10.2	8.81	7.32	5.81	
	40	Q	103000	93500	85300	70000	57100	45900	36400	28300	21400	15600	10700	-	
		P	19.9	19.6	19.2	18.3	17.1	15.7	14.2	12.5	10.7	8.90	7.02	-	
	50	Q	88600	80700	73300	59700	48300	38500	30100	23100	17100	-	-	-	
		P	23.8	23.2	22.5	21.0	19.2	17.3	15.2	13.0	10.8	-	-	-	
HGX56e/1155-4 HGX56e/1155-4 S	30	Q	138000	126000	115000	93400	75800	60800	48000	37300	28400	21100	15200	10500	
		P	18.6	18.9	19.0	18.8	18.2	17.2	15.9	14.4	12.7	11.1	9.43	7.86	
	40	Q	121000	110000	99300	80800	65400	52200	41000	31600	23900	17500	12200	-	
		P	23.9	23.7	23.4	22.6	21.2	19.6	17.7	15.7	13.6	11.5	9.61	-	
	50	Q	103000	93400	84500	68300	54900	43500	33900	25900	19200	-	-	-	
		P	28.7	28.1	27.4	25.9	23.9	21.6	19.1	16.6	14.1	-	-	-	
HGX66e/1340-4 HGX66e/1340-4 S	30	Q	156000	142000	129000	105000	85200	68400	54200	42300	32400	24100	17200	11200	
		P	22.3	22.2	22.0	21.2	20.1	18.8	17.3	15.5	13.6	11.7	9.77	7.81	
	40	Q	136000	124000	113000	90900	73600	58900	46500	36000	27200	19700	-	-	
		P	27.6	27.0	26.4	25.0	23.2	21.2	19.0	16.7	14.3	11.9	-	-	
	50	Q	117000	106000	95500	76900	61900	49300	38600	29500	21700	-	-	-	
		P	32.4	31.5	30.5	28.3	25.8	23.1	20.3	17.3	14.4	-	-	-	
HGX66e/1540-4 HGX66e/1540-4 S	30	Q	179000	163000	148000	121000	97900	78800	62600	49100	37700	28300	20300	13400	
		P	25.7	25.5	25.3	24.5	23.3	21.8	20.0	18.0	15.9	13.7	11.4	9.24	
	40	Q	156000	142000	129000	105000	84800	68000	53900	42000	31900	23300	-	-	
		P	31.9	31.3	30.6	29.0	27.0	24.7	22.2	19.5	16.8	14.0	-	-	
	50	Q	134000	122000	110000	88600	71600	57200	44900	34600	25700	-	-	-	
		P	37.7	36.6	35.4	33.0	30.2	27.1	23.8	20.4	17.0	-	-	-	

¹⁾ Asercom certified

Relating to 20 °C suction gas temperature
without liquid subcooling

Motor version -S-
(more powerful motor)

Supplementary cooling or
reduced suction gas temperature

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HG semi-hermetic compressors

Performance data



R407A | 50 Hz

Type		Cond. temp. °C		Cooling capacity QO [W]				Power consumption Pe [kW]							
				Evaporating temperature °C											
				10	7,5	5	0	-5	-10	-15	-20	-25	-30	-35	-40
HGX66e/1750-4 HGX66e/1750-4 S		30	Q	203000	185000	168000	138000	113000	90200	71700	56200	43300	32400	23300	15400
			P	29.4	29.2	28.9	27.9	26.6	24.9	22.9	20.6	18.2	15.7	13.2	10.7
		40	Q	177000	161000	147000	120000	97100	78000	61800	48200	36700	26800	-	-
			P	36.4	35.8	35.0	33.1	30.8	28.2	25.4	22.4	19.3	16.1	-	-
		50	Q	152000	138000	125000	102000	82000	65600	51600	39800	29600	-	-	-
			P	43.0	41.8	40.5	37.7	34.4	30.9	27.3	23.4	19.6	-	-	-
HGX66e/2070-4 HGX66e/2070-4 S		30	Q	239000	218000	198000	162000	132000	107000	84400	66200	51000	38200	27500	18200
			P	34.8	34.6	34.3	33.1	31.5	29.5	27.0	24.4	21.5	18.5	15.5	12.5
		40	Q	208000	189000	172000	141000	114000	91600	72700	56700	43200	31600	-	-
			P	43.3	42.5	41.5	39.4	36.6	33.5	30.1	26.5	22.8	19.0	-	-
		50	Q	178000	161000	146000	119000	96100	77000	60700	46800	34800	-	-	-
			P	51.3	49.9	48.3	45.0	41.0	36.8	32.3	27.7	23.1	-	-	-
HGX88e/2400-4 HGX88e/2400-4 S		30	Q	283000	258000	234000	191000	155000	125000	99200	77800	59900	44900	32300	21400
			P	41.2	41.0	40.6	39.1	37.3	35.0	32.2	29.2	25.9	22.5	19.0	15.5
		40	Q	248000	226000	205000	166000	135000	108000	85600	66700	50800	37200	-	-
			P	50.6	49.7	48.7	46.4	43.2	39.6	35.8	31.7	27.4	23.1	-	-
		50	Q	213000	194000	175000	141000	114000	91000	71600	55200	41100	-	-	-
			P	59.5	57.9	56.2	52.9	48.4	43.5	38.4	33.2	27.9	-	-	-
HGX88e/2735-4 HGX88e/2735-4 S		30	Q	321000	293000	266000	218000	177000	143000	114000	88600	68200	51100	36700	24300
			P	46.6	46.4	45.9	44.4	42.4	39.8	36.7	33.3	29.6	25.7	21.7	17.7
		40	Q	281000	256000	232000	190000	154000	124000	97600	76100	57900	42400	-	-
			P	57.5	56.5	55.3	52.5	49.0	45.0	40.7	36.1	31.3	26.4	-	-
		50	Q	242000	219000	199000	161000	131000	104000	81700	62900	46800	-	-	-
			P	67.9	66.0	64.0	59.8	54.7	49.3	43.6	37.8	31.8	-	-	-
HGX88e/3235-4 HGX88e/3235-4 S		30	Q	379000	346000	314000	257000	209000	168000	134000	105000	80300	60100	43100	28500
			P	54.9	54.6	54.1	52.4	49.9	46.9	43.2	39.1	34.7	30.1	25.4	20.7
		40	Q	332000	302000	274000	224000	181000	146000	115000	89500	68000	49700	-	-
			P	67.7	66.5	65.1	61.9	57.7	53.0	47.8	42.3	36.7	30.9	-	-
		50	Q	285000	259000	234000	190000	154000	123000	96100	73900	54900	-	-	-
			P	79.8	77.6	75.2	70.5	64.5	58.0	51.2	44.3	37.2	-	-	-

¹) Asercom certified

Relating to 20 °C suction gas temperature
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(more powerful motor)Supplementary cooling or
reduced suction gas temperature

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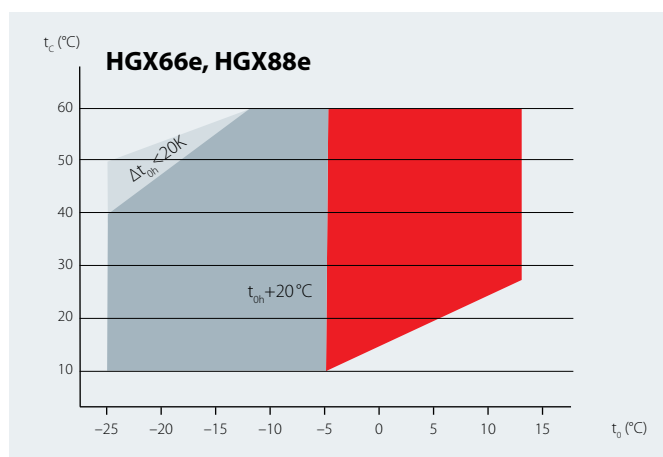
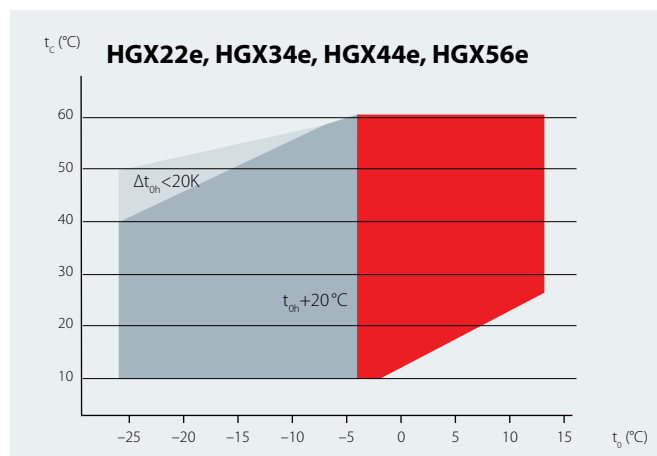
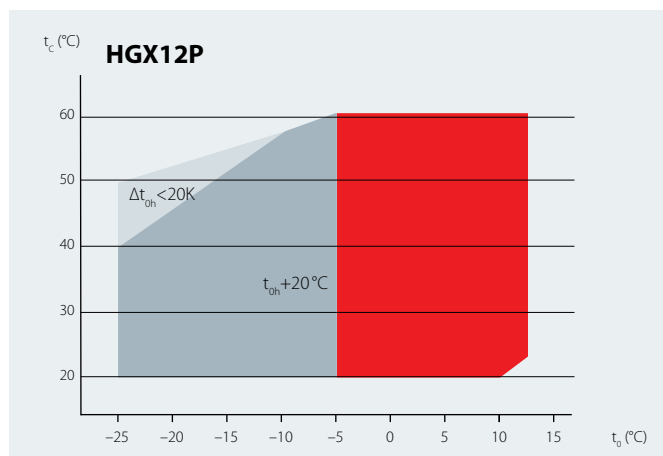


HG semi-hermetic compressors

Operating limits



R407C



t_o Evaporating temperature (°C)

t_c Condensing temperature (°C)

Δt_{oh} Suction gas superheat (K)

t_{oh} Suction gas temperature (°C)

● Unlimited application range

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

● Motor version -S- (more powerful motor)

Max. permissible operating pressure (LP/HP)¹⁾: 19/28 bar

¹⁾ LP = low pressure, HP = high pressure

NOTES!

Operating limits

Compressor operation is possible within the limits shown on the application diagrams. Please note the colored areas. Compressor application limits should not be chosen for design purposes or continuous operation.

Restrictions to operating limits may occur when using a frequency converter. For further explanations consult www.bock.de.

Performance data

The performance data for R407C are based on European Standard EN 12900 50 Hz power supply frequency. This signifies: 20°C suction gas temperature without liquid subcooling. Evaporation and condensing temperatures are based on the dew point values (saturated vapour conditions). A comprehensive modification to 20°C suction gas temperature will follow at a later date.

This results in significant differences compared to specifications with liquid undercooling and/or suction-gas temperatures.

Conversion factor for 60 Hz = 1.2.
Performance data for other operating points, see BOCK VAP software (vap.bock.de).

HG semi-hermetic compressors

Performance data



R407C | 50Hz

Type		Cond. temp. °C		Cooling capacity QO [W]				Power consumption Pe [kW]					
				Evaporating temperature °C									
				12.5	10	7.5	5	0	-5	-10	-15	-20	-25
HGX12P/60-4 S		30	Q	6780	6180	5610	5080	4140	3330	2650	2080	1610	1230
			P	0.88	0.90	0.92	0.92	0.91	0.88	0.82	0.76	0.69	0.62
		40	Q	5870	5340	4840	4380	3560	2860	2270	1780	1360	1020
			P	1.16	1.16	1.15	1.13	1.08	1.01	0.92	0.83	0.74	0.66
		50	Q	5010	4550	4120	3720	3020	2420	1920	1490	1130	827
			P	1.41	1.39	1.35	1.31	1.22	1.12	1.00	0.90	0.79	0.69
HGX12P/75-4 HGX12P/75-4 S		30	Q	8740	7960	7230	6550	5340	4300	3420	2680	2080	1580
			P	1.12	1.16	1.18	1.18	1.17	1.13	1.06	0.98	0.89	0.79
		40	Q	7560	6880	6240	5650	4590	3690	2920	2290	1760	1320
			P	1.50	1.49	1.48	1.46	1.39	1.30	1.19	1.07	0.96	0.84
		50	Q	6450	5860	5310	4800	3890	3120	2470	1920	1460	1070
			P	1.82	1.79	1.74	1.69	1.58	1.44	1.29	1.15	1.01	0.89
HGX12P/90-4 HGX12P/90-4 S		30	Q	10500	9490	8620	7810	6360	5120	4080	3200	2480	1890
			P	1.34	1.38	1.40	1.41	1.40	1.34	1.26	1.16	1.05	0.95
		40	Q	9020	8200	7440	6730	5470	4400	3490	2730	2090	1570
			P	1.79	1.78	1.77	1.74	1.66	1.55	1.42	1.28	1.13	1.00
		50	Q	7690	6990	6330	5720	4640	3720	2940	2290	1740	1280
			P	2.17	2.13	2.08	2.02	1.88	1.72	1.55	1.37	1.21	1.06
HGX12P/110-4 HGX12P/110-4 S		30	Q	12300	11200	10200	9180	7480	6020	4790	3760	2910	2220
			P	1.58	1.62	1.65	1.66	1.64	1.58	1.48	1.37	1.24	1.11
		40	Q	10600	9640	8750	7910	6430	5170	4100	3200	2460	1850
			P	2.10	2.10	2.08	2.05	1.95	1.82	1.67	1.50	1.33	1.18
		50	Q	9040	8210	7440	6730	5460	4370	3460	2690	2040	1500
			P	2.56	2.51	2.45	2.38	2.21	2.02	1.82	1.61	1.42	1.25
HGX22e/125-4 HGX22e/125-4 S		30	Q	14400	13100	11900	10800	8790	7070	5630	4420	3420	2600
			P	1.78	1.82	1.85	1.87	1.85	1.78	1.67	1.53	1.39	1.25
		40	Q	12500	11400	10300	9300	7560	6060	4800	3760	2890	2160
			P	2.36	2.35	2.33	2.30	2.19	2.04	1.87	1.68	1.5	1.32
		50	Q	10700	9640	8740	7910	6410	5120	4050	3150	2400	1760
			P	2.87	2.81	2.75	2.67	2.48	2.27	2.04	1.81	1.59	1.40
HHGX22e/160-4 HGX22e/160-4 S		30	Q	17600	16000	14500	13200	10700	8730	6950	5470	4240	3230
			P	2.18	2.24	2.28	2.30	2.27	2.30	2.16	1.99	1.79	1.61
		40	Q	15200	13800	12500	11300	9180	7500	5950	4650	3580	2680
			P	2.90	2.90	2.87	2.83	2.69	2.64	2.42	2.18	1.94	1.72
		50	Q	12900	11700	10700	9590	7780	6350	5020	3900	2970	2180
			P	3.53	3.46	3.38	3.28	3.05	2.93	2.64	2.34	2.06	1.81
HGX22e/190-4 HGX22e/190-4 S		30	Q	21800	19900	18100	16400	13300	10800	8550	6700	5180	3960
			P	2.67	2.74	2.79	2.81	2.78	2.83	2.65	2.44	2.20	1.98
		40	Q	18900	17200	15600	14100	11500	9220	7310	5710	4390	3290
			P	3.54	3.54	3.51	3.46	3.29	3.25	2.97	2.68	2.38	2.10
		50	Q	16100	14600	13300	12000	9700	7790	6170	4810	3650	2670
			P	4.31	4.23	4.13	4.01	3.73	3.60	3.24	2.87	2.53	2.22
HGX34e/215-4 HGX34e/215-4 S		30	Q	25600	23300	21100	19100	15600	12200	9720	7650	5910	4480
			P	3.45	3.49	3.50	3.48	3.39	3.16	2.94	2.67	2.38	2.09
		40	Q	22400	20300	18400	16600	13400	10400	8190	6410	4920	3700
			P	4.38	4.33	4.26	4.17	3.94	3.60	3.25	2.89	2.52	2.17
		50	Q	19100	17300	15600	14100	11300	8590	6820	5330	4100	3100
			P	5.19	5.06	4.91	4.75	4.39	3.98	3.54	3.09	2.66	2.27
HGX34e/255-4 HGX34e/255-4 S		30	Q	29600	27000	24600	22300	18300	14500	11500	9040	7030	5300
			P	4.30	4.30	4.28	4.23	4.08	3.84	3.54	3.20	2.85	2.48
		40	Q	26000	23600	21500	19500	15800	12300	9730	7660	5940	4430
			P	5.33	5.24	5.13	5.00	4.71	4.38	3.94	3.50	3.06	2.63
		50	Q	22200	20200	18300	16500	13400	10200	8080	6420	5050	3820
			P	6.25	6.08	5.89	5.69	5.25	4.83	4.29	3.76	3.26	2.79
HGX34e/315-4 HGX34e/315-4 S		30	Q	35900	32700	29800	27000	22100	17600	14100	11100	8590	6550
			P	4.95	5.00	5.01	4.99	4.86	4.69	4.34	3.96	3.55	3.11
		40	Q	31300	28500	25900	23500	19200	15100	12000	9420	7260	5500
			P	6.32	6.25	6.16	6.04	5.72	5.33	4.85	4.33	3.80	3.27
		50	Q	26800	24300	22100	20000	16200	12800	10200	7910	6060	4550
			P	7.63	7.45	7.24	7.02	6.50	5.87	5.25	4.63	3.99	3.37

¹⁾ Asercom certified

Relating to 20 °C suction gas temperature
without liquid subcooling

Motor version -S-
(more powerful motor)

Supplementary cooling or
reduced suction gas temperature

vap.bock.de



HG semi-hermetic compressors

Performance data



R407C | 50Hz

Type			Cooling capacity QO [W]				Power consumption Pe [kW]					
			Evaporating temperature °C									
			12.5	10	7.5	5	0	-5	-10	-15	-20	-25
HGX34e/380-4 HGX34e/380-4 S	30	Q	43500	39600	36000	32700	26700	21600	17500	13900	10900	8310
		P	6.40	6.35	6.27	6.17	5.93	5.84	5.38	4.91	4.42	3.90
	40	Q	38000	34600	31400	28400	23200	18700	15100	12000	9320	7140
		P	7.95	7.78	7.59	7.39	6.94	6.71	6.08	5.45	4.82	4.18
	50	Q	32200	29300	26500	24000	19600	15800	12800	10100	7900	6070
		P	9.52	9.23	8.92	8.60	7.93	7.49	6.69	5.91	5.13	4.36
HGX44e/475-4 HGX44e/475-4 S	30	Q	56600	51700	47100	42800	35200	28500	22900	18100	14100	10700
		P	7.20	7.25	7.25	7.21	7.03	6.66	6.24	5.73	5.18	4.59
	40	Q	50200	45800	41700	37800	30900	24900	19900	15600	12000	8850
		P	9.13	9.03	8.89	8.72	8.28	7.69	7.05	6.35	5.61	4.87
	50	Q	43600	39700	36000	32600	26500	21200	16800	13100	9850	7100
		P	10.80	10.50	10.30	10.00	9.33	8.54	7.69	6.80	5.90	5.02
HGX44e/565-4 HGX44e/565-4 S	30	Q	67400	61600	56200	51100	42000	33900	27300	21700	17000	12900
		P	8.54	8.60	8.61	8.56	8.34	7.93	7.42	6.81	6.14	5.44
	40	Q	60000	54700	49800	45200	37000	29700	23800	18700	14500	10800
		P	10.80	10.70	10.50	10.30	9.83	9.18	8.40	7.55	6.67	5.78
	50	Q	52200	47500	43100	39000	31800	25300	20100	15700	12000	8650
		P	12.80	12.50	12.20	11.80	11.00	10.20	9.18	8.10	7.01	5.95
HGX44e/665-4 HGX44e/665-4 S 1)	30	Q	78700	71900	65500	59600	48900	40000	32200	25500	19800	15000
		P	10.00	10.00	10.00	10.00	9.76	9.23	8.65	7.95	7.17	6.36
	40	Q	69800	63600	57900	52500	42900	34900	27900	21900	16800	12400
		P	12.70	12.50	12.30	12.10	11.50	10.60	9.77	8.80	7.78	6.75
	50	Q	60600	55100	49900	45200	36700	29700	23500	18300	13800	9890
		P	15.10	14.70	14.40	13.90	13.00	11.80	10.60	9.43	8.18	6.96
HGX44e/770-4 HGX44e/770-4 S	30	Q	92000	84000	76600	69600	57100	46300	37100	29300	22700	17000
		P	11.60	11.70	11.70	11.60	11.30	10.80	10.00	9.22	8.26	7.23
	40	Q	81400	74200	67400	61200	49900	40300	32000	25000	19000	13900
		P	14.80	14.70	14.40	14.10	13.30	12.40	11.30	10.00	8.82	7.51
	50	Q	70400	64000	58000	52400	42500	34000	26800	20600	15400	10800
		P	17.60	17.20	16.70	16.20	15.00	13.60	12.10	10.60	9.06	7.49
HGX56e/850-4 HGX56e/850-4 S	30	Q	101000	92000	83900	76300	62800	50900	41000	32600	25400	19300
		P	12.7	12.8	12.8	12.7	12.4	11.8	11.1	10.2	9.23	8.17
	40	Q	89400	81500	74200	67400	55200	44500	35700	28100	21700	16100
		P	16.2	16.0	15.8	15.4	14.7	13.7	12.5	11.3	10.0	8.68
	50	Q	77600	70600	64100	58100	47300	38000	30200	23600	18000	13000
		P	19.3	18.8	18.3	17.8	16.5	15.2	13.7	12.1	10.5	8.93
HGX56e/995-4 HGX56e/995-4 S	30	Q	121000	111000	101000	91500	75400	61200	49300	39100	30500	23200
		P	14.3	14.5	14.6	14.6	14.4	13.8	13.0	11.9	10.7	9.45
	40	Q	107000	96900	88300	80300	65900	53300	42700	33600	25900	19400
		P	18.8	18.7	18.5	18.2	17.3	16.2	14.8	13.3	11.6	10.0
	50	Q	92100	83900	76400	69300	56700	45600	36300	28400	21600	15800
		P	23.1	22.6	22.0	21.4	19.9	18.2	16.3	14.3	12.2	10.2
HGX56e/1155-4 HGX56e/1155-4 S	30	Q	139000	127000	115000	105000	85600	69200	55500	43800	33900	25400
		P	18.2	18.3	18.3	18.2	17.7	16.9	15.7	14.4	12.8	11.2
	40	Q	123000	112000	102000	91800	74900	60100	47800	37300	28400	20700
		P	23.1	22.9	22.5	22.0	20.8	19.4	17.6	15.7	13.7	11.7
	50	Q	106000	96100	87100	78700	63800	50800	40000	30800	23000	16100
		P	27.4	26.8	26.0	25.2	23.4	21.3	19.0	16.6	14.1	11.6
HGX66e/1340-4 HGX66e/1340-4 S	30	Q	164000	149000	136000	123000	101000	80800	64600	51000	39500	29900
		P	21.3	21.1	20.9	20.6	19.8	18.8	17.6	16.1	14.5	12.6
	40	Q	144000	131000	119000	108000	87800	70300	56000	43900	33700	25100
		P	26.4	25.9	25.4	24.8	23.4	21.7	19.9	17.9	15.6	13.2
	50	Q	124000	113000	102000	92200	74900	59600	47300	36800	27900	20300
		P	31.3	30.5	29.6	28.6	26.5	24.2	21.7	19.0	16.1	13.1
HGX66e/1540-4 HGX66e/1540-4 S	30	Q	187000	171000	156000	141000	116000	92900	74500	59000	45900	34800
		P	24.4	24.3	24.0	23.7	22.8	21.7	20.3	18.7	16.8	14.7
	40	Q	165000	150000	137000	124000	102000	81000	64800	51000	39300	29400
		P	30.5	29.9	29.3	28.6	27.0	25.2	23.1	20.8	18.3	15.5
	50	Q	142000	129000	118000	107000	86400	69000	54900	43000	32800	24000
		P	36.3	35.3	34.3	33.2	30.8	28.2	25.4	22.3	19.0	15.5

¹⁾ Asercom certified

Relating to 20 °C suction gas temperature
without liquid subcooling

Motor version -S-
(more powerful motor)

Supplementary cooling or
reduced suction gas temperature

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HG semi-hermetic compressors

Performance data



R407C | 50Hz

Type		Cond. temp. °C		Cooling capacity QO [W]				Power consumption Pe [kW]					
				Evaporating temperature °C									
				12.5	10	7.5	5	0	-5	-10	-15	-20	-25
HGX66e/1750-4 HGX66e/1750-4 S		30	Q	212000	194000	177000	160000	132000	107000	85300	67500	52500	39900
			P	28.0	27.8	27.5	27.1	26.2	24.8	23.2	21.4	19.3	16.9
		40	Q	187000	171000	155000	141000	115000	92800	74200	58500	45100	33800
			P	34.9	34.2	33.5	32.7	31.0	28.8	26.4	23.8	21.0	17.8
		50	Q	161000	147000	133000	121000	98100	79100	63000	49400	37700	27600
			P	41.5	40.4	39.2	38.0	35.3	32.3	29.0	25.5	21.8	17.8
HGX66e/2070-4 HGX66e/2070-4 S		30	Q	250000	228000	208000	189000	155000	126000	101000	79500	61900	47100
			P	33.1	32.8	32.5	32.0	30.9	29.3	27.5	25.3	22.8	19.9
		40	Q	220000	200000	182000	165000	135000	109000	87300	68800	53200	39800
			P	41.4	40.6	39.8	38.8	36.7	34.2	31.3	28.2	24.8	21.0
		50	Q	189000	172000	156000	142000	116000	92800	74000	58100	44400	32500
			P	49.5	48.1	46.7	45.2	41.9	38.4	34.4	30.2	25.7	21.0
HGX88e/2400-4 HGX88e/2400-4 S		30	Q	296000	270000	246000	223000	183000	147000	118000	93300	72600	55200
			P	39.3	39.0	38.6	38.1	36.9	34.8	32.7	30.2	27.3	24.1
		40	Q	261000	238000	217000	196000	161000	129000	103000	81000	62500	46800
			P	48.5	47.7	46.7	45.7	43.3	40.4	37.2	33.6	29.6	25.4
		50	Q	226000	206000	187000	169000	138000	110000	87400	68500	52300	38400
			P	57.5	56.0	54.4	52.7	49.1	45.3	40.8	36.0	30.9	25.5
HGX88e/2735-4 HGX88e/2735-4 S		30	Q	336000	306000	279000	253000	208000	168000	135000	107000	82700	62900
			P	44.4	44.1	43.6	43.1	41.7	39.6	37.3	34.5	31.2	27.5
		40	Q	296000	270000	246000	223000	182000	147000	118000	92300	71200	53300
			P	55.1	54.1	53.0	51.8	49.1	45.9	42.3	38.2	33.8	29.1
		50	Q	257000	233000	212000	192000	156000	126000	99700	78100	59600	43700
			P	65.5	63.8	61.9	60.0	55.8	51.3	46.3	40.9	35.2	29.2
HGX88e/3235-4 HGX88e/3235-4 S		30	Q	396000	362000	329000	299000	245000	198000	159000	126000	97500	74000
			P	52.3	51.9	51.4	50.8	49.1	46.7	43.9	40.5	36.7	32.3
		40	Q	350000	319000	290000	263000	215000	173000	139000	109000	83800	62700
			P	64.9	63.7	62.4	61.0	57.8	54.0	49.7	44.9	39.7	34.0
		50	Q	303000	275000	250000	226000	184000	148000	118000	91800	70000	51300
			P	77.1	75.0	72.8	70.5	65.6	60.4	54.4	48.0	41.2	34.1

¹⁾ Asercom certified

Relating to 20 °C suction gas temperature
without liquid subcooling



Motor version -S-
(more powerful motor)



Supplementary cooling or
reduced suction gas temperature

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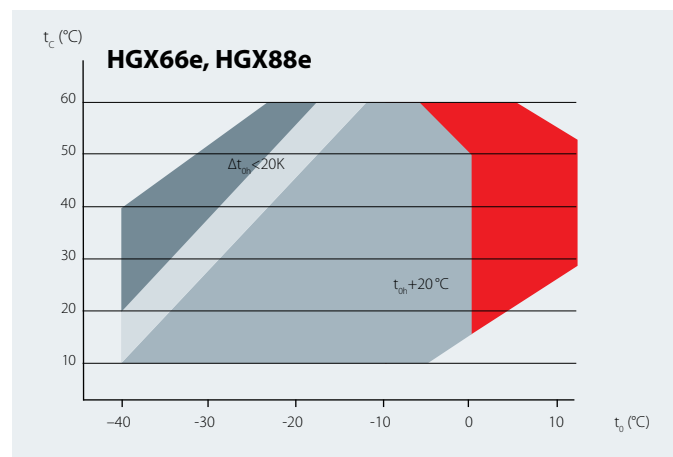
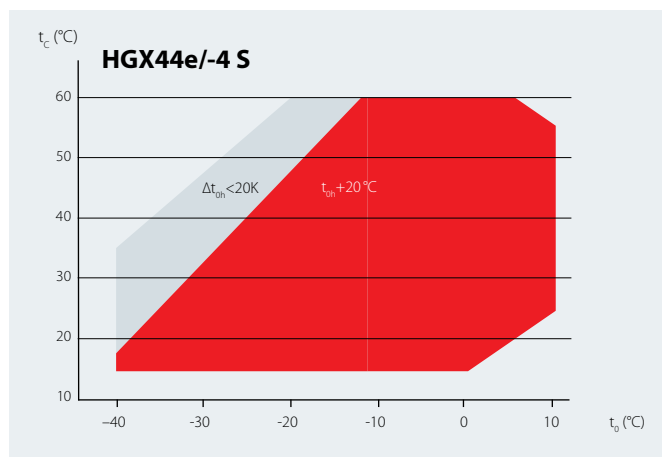
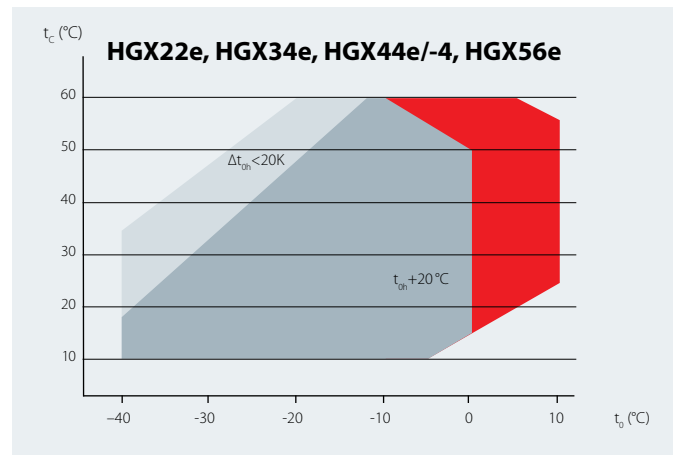
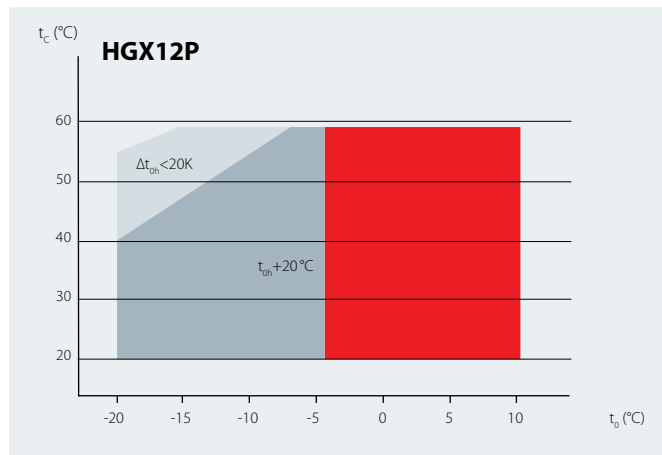


HG semi-hermetic compressors

Operating limits



R407F



t_o Evaporating temperature (°C)
 t_c Condensing temperature (°C)
 Δt_{oh} Suction gas superheat (K)
 t_{oh} Suction gas temperature (°C)

● Unlimited application range
 ● Supplementary cooling or reduced suction gas temperature ($\Delta t_{oh} < 20K$)
 ● Supplementary cooling and reduced suction gas temperature ($\Delta t_{oh} < 20K$)
 ● Motor version -S- (more powerful motor)
 Max. permissible operating pressure (LP/HP)¹⁾: 19/28 bar
¹⁾ LP = low pressure, HP = high pressure

NOTES!

Operating limits

Compressor operation is possible within the limits shown on the application diagrams. Please note the colored areas. Compressor application limits should not be chosen for design purposes or continuous operation.

Restrictions to operating limits may occur when using a frequency converter.
 For further explanations consult www.bock.de.

Performance data

The performance data for R407F are based on European Standard EN 12900 with a 50 Hz power supply frequency. This signifies: 20°C suction gas temperature without liquid subcooling.
 Evaporation and condensing temperatures are based on the dew point values (saturated vapour conditions).

Conversion factor for 60 Hz = 1.2
 Performance data for other operating points, see BOCK VAP software (vap.bock.de).

ASERCOM certified performance data.



For compressors with this label, the performance data are certified according 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 BOCK compressors can be found at www.asercom.org and www.bock.de.

HG semi-hermetic compressors

Performance data



R407F | 50Hz

Type	Cond. temp. °C		Cooling capacity Q ₀ [W]				Power consumption P _e [kW]							
			Evaporating temperature °C											
			10	7,5	5	0	-5	-10	-15	-20	-25	-30	-35	-40
HGX12P/60-4 S	30	Q	7240	6570	5950	4840	3890	3080	2410	1850	-	-	-	-
		P	1.10	1.13	1.15	1.15	1.12	1.06	0.982	0.894	-	-	-	-
	40	Q	6290	5700	5150	4180	3340	2640	2040	1540	-	-	-	-
		P	1.41	1.42	1.40	1.36	1.27	1.17	1.06	0.948	-	-	-	-
	50	Q	5300	4800	4330	3490	2780	2170	1660	1220	-	-	-	-
		P	1.67	1.64	1.60	1.51	1.38	1.24	1.10	0.963	-	-	-	-
HGX12P/75-4 HGX12P/75-4 S	30	Q	9010	8200	7440	6090	4950	3960	3130	2430	-	-	-	-
		P	1.39	1.43	1.46	1.46	1.40	1.33	1.23	1.12	-	-	-	-
	40	Q	7850	7140	6470	5290	4310	3440	2690	2070	-	-	-	-
		P	1.82	1.82	1.80	1.74	1.62	1.49	1.36	1.21	-	-	-	-
	50	Q	6670	6060	5490	4480	3670	2910	2260	1720	-	-	-	-
		P	2.15	2.11	2.06	1.94	1.78	1.61	1.44	1.27	-	-	-	-
HGX12P/90-4 HGX12P/90-4 S	30	Q	10800	9780	8880	7270	5760	4620	3650	2840	-	-	-	-
		P	1.71	1.74	1.76	1.75	1.66	1.55	1.43	1.29	-	-	-	-
	40	Q	9380	8530	7740	6320	5020	4000	3140	2400	-	-	-	-
		P	2.18	2.17	2.14	2.06	1.89	1.73	1.55	1.38	-	-	-	-
	50	Q	7990	7260	6580	5370	4270	3370	2620	1980	-	-	-	-
		P	2.60	2.55	2.48	2.32	2.09	1.87	1.65	1.44	-	-	-	-
HGX12P/110-4 HGX12P/110-4 S	30	Q	12500	11300	10300	8420	6830	5510	4390	3440	-	-	-	-
		P	2.01	2.04	2.06	2.03	2.01	1.88	1.73	1.57	-	-	-	-
	40	Q	10900	9860	8960	7330	5970	4800	3790	2940	-	-	-	-
		P	2.54	2.52	2.50	2.40	2.31	2.11	1.89	1.68	-	-	-	-
	50	Q	9160	8330	7560	6180	5070	4040	3170	2430	-	-	-	-
		P	3.04	2.98	2.91	2.72	2.54	2.27	2.00	1.74	-	-	-	-
HGX22e/125-4 HGX22e/125-4 S	30	Q	15400	14100	12800	10600	8560	6860	5410	4190	3180	2350	1690	1160
		P	2.25	2.26	2.26	2.22	2.14	2.03	1.89	1.74	1.57	1.39	1.22	1.05
	40	Q	13600	12400	11200	9180	7420	5910	4630	3560	2670	1940	1360	-
		P	2.81	2.77	2.72	2.60	2.44	2.26	2.07	1.87	1.66	1.46	1.27	-
	50	Q	11700	10600	9580	7800	6260	4950	3840	2920	2160	-	-	-
		P	3.35	3.25	3.16	2.94	2.71	2.47	2.22	1.97	1.73	-	-	-
HHGX22e/160-4 HGX22e/160-4 S	30	Q	19600	17900	16300	13100	10600	8470	6740	5300	4110	3120	2280	1520
		P	2.98	2.93	2.88	2.77	2.61	2.46	2.32	2.17	2.01	1.81	1.58	1.30
	40	Q	17500	15900	14400	11600	9300	7440	5890	4580	3490	2540	1690	-
		P	3.59	3.49	3.39	3.22	2.99	2.79	2.58	2.37	2.14	1.87	1.57	-
	50	Q	15300	13800	12500	10200	8140	6460	5040	3820	2770	-	-	-
		P	4.20	4.05	3.90	3.67	3.37	3.09	2.80	2.51	2.19	-	-	-
HGX22e/190-4 HGX22e/190-4 S	30	Q	22700	20800	19000	15800	13000	10600	8450	6680	5200	3960	2940	2100
		P	3.85	3.73	3.62	3.52	3.27	3.04	2.82	2.60	2.38	2.14	1.88	1.59
	40	Q	20000	18300	16700	13900	11400	9180	7330	5770	4460	3370	2450	-
		P	4.64	4.46	4.30	4.12	3.77	3.46	3.16	2.87	2.58	2.29	1.98	-
	50	Q	17400	15900	14500	11900	9680	7790	6180	4830	3700	-	-	-
		P	5.47	5.24	5.02	4.72	4.27	3.85	3.46	3.09	2.72	-	-	-
HGX34e/215-4 HGX34e/215-4 S	30	Q	25900	23600	21400	17200	13900	11100	8570	6520	4820	3430	2320	1450
		P	3.62	3.61	3.57	3.48	3.29	3.05	2.77	2.47	2.17	1.88	1.61	1.38
	40	Q	22700	20600	18600	14800	11800	9230	7080	5290	3840	2680	1770	-
		P	4.70	4.57	4.43	4.18	3.81	3.41	3.01	2.62	2.24	1.91	1.63	-
	50	Q	19400	17500	15700	12300	9650	7460	5650	4180	3020	-	-	-
		P	5.68	5.45	5.20	4.80	4.26	3.72	3.20	2.72	2.29	-	-	-
HGX34e/255-4 HGX34e/255-4 S	30	Q	30300	27700	25200	20500	16700	13400	10500	8020	5970	4280	2910	1820
		P	3.83	3.92	3.98	4.05	3.94	3.73	3.44	3.10	2.72	2.33	1.96	1.61
	40	Q	26300	24000	21800	17600	14300	11400	8860	6760	5000	3540	2360	-
		P	5.05	5.04	4.99	4.92	4.62	4.25	3.81	3.34	2.86	2.39	1.94	-
	50	Q	22000	20000	18100	14500	11700	9230	7190	5470	4050	-	-	-
		P	6.15	6.03	5.88	5.67	5.19	4.65	4.07	3.47	2.89	-	-	-
HGX34e/315-4 HGX34e/315-4 S	30	Q	38500	34900	31700	25600	20600	16400	12900	9900	7460	5450	3800	2430
		P	5.04	5.07	5.07	4.91	4.72	4.45	4.11	3.71	3.27	2.82	2.36	1.91
	40	Q	33500	30400	27500	22100	17700	14000	11000	8350	6230	4470	3000	-
		P	6.44	6.36	6.25	5.90	5.52	5.07	4.57	4.02	3.46	2.89	2.32	-
	50	Q	28500	25700	23200	18500	14800	11600	8990	6840	5070	-	-	-
		P	7.76	7.57	7.35	6.80	6.23	5.59	4.92	4.22	3.51	-	-	-

¹) Asercom certified

Relating to 20 °C suction gas temperature
without liquid subcoolingMotor version -S-
(more powerful motor)Supplementary cooling or
reduced suction gas temperature

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HG semi-hermetic compressors

Performance data



R407F | 50Hz

Type	Cond. temp. °C		Cooling capacity Q ₀ [W]				Power consumption P _e [kW]							
			Evaporating temperature °C											
			10	7,5	5	0	-5	-10	-15	-20	-25	-30	-35	-40
HGX34e/380-4 HGX34e/380-4 S	30	Q	45700	41600	37800	30700	25000	20100	15900	12400	9460	7040	5030	3320
		P	6.39	6.39	6.36	6.15	5.88	5.53	5.09	4.60	4.07	3.51	2.94	2.38
	40	Q	39900	36200	32900	26500	21500	17200	13600	10600	8000	5870	4050	
		P	8.05	7.93	7.77	7.34	6.85	6.29	5.67	5.00	4.31	3.61	2.92	
	50	Q	33800	30700	27800	22300	18000	14400	11300	8760	6630			
		P	9.65	9.39	9.10	8.45	7.73	6.94	6.11	5.26	4.40			
HGX44e/475-4 HGX44e/475-4 S	30	Q	58200	53100	48400	39600	32300	26000	20600	16100	12400	9210	6640	4520
		P	7.56	7.67	7.73	7.62	7.37	6.98	6.45	5.84	5.15	4.43	3.71	3.00
	40	Q	51000	46500	42400	34500	28100	22600	17900	13900	10500	7620	5210	
		P	9.81	9.74	9.63	9.22	8.67	7.99	7.21	6.36	5.46	4.55	3.65	
	50	Q	43900	40000	36300	29400	23900	19100	15000	11500	8460			
		P	11.8	11.6	11.3	10.6	9.78	8.81	7.76	6.67	5.55			
HGX44e/565-4 HGX44e/565-4 S	30	Q	69400	63400	57800	47100	38500	31000	24700	19400	14900	11200	8120	5600
		P	9.05	9.18	9.24	9.13	8.84	8.36	7.73	6.99	6.16	5.30	4.42	3.57
	40	Q	61000	55700	50700	41100	33500	27000	21500	16700	12800	9330	6460	
		P	11.7	11.6	11.5	11.1	10.4	9.61	8.66	7.63	6.54	5.44	4.36	
	50	Q	52600	47900	43600	35100	28600	22900	18100	14000	10400			
		P	14.1	13.8	13.5	12.8	11.8	10.6	9.35	8.02	6.66			
HGX44e/665-4 HGX44e/665-4 S 1)	30	Q	81800	74700	68000	55700	45400	36500	29000	22600	17300	12900	9260	6270
		P	10.5	10.6	10.7	10.6	10.2	9.72	9.00	8.15	7.20	6.20	5.18	4.19
	40	Q	71600	65300	59400	48500	39400	31600	25000	19400	14700	10700	7220	
		P	13.6	13.5	13.4	12.8	12.0	11.1	10.0	8.88	7.63	6.36	5.11	
	50	Q	61600	56000	50900	41300	33400	26700	20900	16000	11800			
		P	16.5	16.2	15.8	14.8	13.6	12.3	10.8	9.33	7.78			
HGX44e/770-4 HGX44e/770-4 S	30	Q	93600	85500	77900	64300	52400	42200	33600	26300	20200	15100	10900	7350
		P	12.1	12.3	12.4	12.3	11.9	11.3	10.4	9.50	8.42	7.29	6.16	5.08
	40	Q	82000	74900	68200	56100	45700	36700	29100	22600	17100	12500	8480	
		P	15.8	15.7	15.5	14.9	14.0	12.9	11.7	10.3	8.99	7.58	6.20	
	50	Q	70500	64300	58400	47900	38900	31100	24400	18700	13900			
		P	19.2	18.8	18.3	17.2	15.8	14.3	12.7	11.0	9.27			
HGX56e/850-4 HGX56e/850-4 S	30	Q	104000	94600	86300	70700	57800	46600	37100	29100	22400	16800	12200	8390
		P	13.5	13.7	13.8	13.6	13.2	12.5	11.6	10.4	9.26	7.96	6.64	5.36
	40	Q	90800	82900	75500	61800	50400	40600	32200	25100	19100	14100	9680	
		P	17.5	17.4	17.2	16.5	15.5	14.3	12.9	11.4	9.82	8.18	6.55	
	50	Q	78100	71200	64700	52700	42900	34400	27200	21000	15600			
		P	21.3	20.8	20.3	19.1	17.5	15.8	13.9	12.0	10.0			
HGX56e/995-4 HGX56e/995-4 S	30	Q	122000	112000	102000	83700	68600	55500	44200	34600	26600	19800	14100	9420
		P	16.5	16.5	16.4	16.0	15.4	14.5	13.4	12.1	10.7	9.23	7.65	6.04
	40	Q	108000	98400	89700	73600	60000	48200	38100	29600	22300	16200	11000	
		P	20.9	20.6	20.2	19.3	18.0	16.6	15.0	13.2	11.3	9.38	7.36	
	50	Q	93700	85400	77600	63100	51100	40700	31900	24300	17900			
		P	25.1	24.4	23.8	22.2	20.4	18.4	16.2	13.9	11.4			
HGX56e/1155-4 HGX56e/1155-4 S	30	Q	141000	129000	117000	96000	78300	63100	50200	39300	30100	22500	16300	11100
		P	18.9	19.2	19.3	19.2	18.6	17.6	16.3	14.8	13.1	11.3	9.59	7.89
	40	Q	124000	113000	103000	83800	68200	54900	43500	33800	25600	18700	12700	
		P	24.6	24.4	24.1	23.4	22.0	20.3	18.3	16.2	14.0	11.8	9.65	
	50	Q	106000	96600	87800	71500	58000	46400	36500	28000	20700			
		P	29.8	29.2	28.5	27.0	24.9	22.5	19.9	17.2	14.4			
HGX66e/1340-4 HGX66e/1340-4 S	30	Q	164000	149000	136000	111000	89600	71900	56900	44300	33800	25000		
		P	23.1	23.0	22.8	22.1	21.0	19.6	17.9	16.1	14.2	12.2		
	40	Q	144000	131000	119000	96300	78000	62400	49100	38000	28700			
		P	29.0	28.5	27.8	26.3	24.4	22.3	19.9	17.5	15.0			
	50	Q	124000	113000	102000	82200	66200	52600	41100	31500				
		P	34.5	33.4	32.3	30.0	27.3	24.4	21.4	18.3				
HGX66e/1540-4 HGX66e/1540-4 S	30	Q	187000	171000	156000	127000	103000	82900	65800	51400	39300	29300		
		P	26.6	26.5	26.3	25.5	24.3	22.7	20.8	18.7	16.5	14.2		
	40	Q	165000	150000	137000	111000	89800	72000	57000	44300	33600			
		P	33.6	32.9	32.2	30.5	28.3	25.9	23.3	20.5	17.6			
	50	Q	143000	130000	118000	94600	76400	61000	47900	36900				
		P	40.1	38.9	37.6	35.0	31.9	28.6	25.1	21.6				

¹⁾ Asercom certified

Relating to 20 °C suction gas temperature
without liquid subcooling

Motor version -S-
(more powerful motor)

Supplementary cooling or
reduced suction gas temperature

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HG semi-hermetic compressors

Performance data



R407F | 50Hz

Type	Cond. temp. °C		Cooling capacity QO [W]				Power consumption Pe [kW]							
			Evaporating temperature °C											
			10	7,5	5	0	-5	-10	-15	-20	-25	-30	-35	-40
HGX66e/1750-4 HGX66e/1750-4 S	30	Q	212000	194000	177000	145000	118000	94900	75300	58900	45100	33600		
		P	30.5	30.4	30.1	29.1	27.7	25.9	23.8	21.4	18.9	16.4		
	40	Q	187000	171000	155000	127000	103000	82600	65300	50800	38600			
		P	38.3	37.6	36.8	34.8	32.3	29.6	26.6	23.5	20.2			
	50	Q	162000	147000	133000	109000	87600	69900	55000	42400				
		P	45.8	44.4	43.0	40.0	36.4	32.7	28.8	24.8				
HGX66e/2070-4 HGX66e/2070-4 S	30	Q	250000	228000	207000	171000	139000	112000	88700	69300	53100	39700		
		P	36.1	36.0	35.7	34.5	32.8	30.7	28.1	25.3	22.3	19.3		
	40	Q	219000	200000	182000	149000	121000	97000	76800	59800	45400			
		P	45.6	44.8	43.8	41.4	38.5	35.1	31.5	27.7	23.9			
	50	Q	189000	172000	156000	127000	103000	82000	64600	49900				
		P	54.7	53.1	51.3	47.8	43.5	38.9	34.2	29.3				
HGX88e/2400-4 HGX88e/2400-4 S	30	Q	296000	270000	246000	201000	163000	132000	105000	81400	62400	46500		
		P	42.7	42.5	42.2	40.8	38.9	36.4	33.5	30.3	26.9	23.3		
	40	Q	262000	239000	217000	176000	143000	115000	90500	70400	53400			
		P	53.2	52.3	51.1	48.8	45.4	41.6	37.4	33.1	28.7			
	50	Q	227000	207000	187000	151000	122000	97100	76300	58800				
		P	63.2	61.4	59.5	56.1	51.2	45.9	40.5	35.0				
HGX88e/2735-4 HGX88e/2735-4 S	30	Q	336000	307000	279000	230000	187000	150000	119000	93000	71200	53100		
		P	48.3	48.1	47.7	46.3	44.2	41.5	38.3	34.7	30.9	26.9		
	40	Q	297000	271000	246000	202000	164000	131000	104000	80400	61000			
		P	60.5	59.4	58.1	55.0	51.4	47.2	42.7	37.9	33.0			
	50	Q	258000	234000	212000	173000	140000	112000	87300	67200				
		P	72.2	70.1	67.9	63.0	57.7	52.0	46.1	40.0				
HGX88e/3235-4 HGX88e/3235-4 S	30	Q	397000	362000	330000	270000	220000	177000	140000	110000	83700	62300		
		P	56.9	56.7	56.2	54.5	52.0	48.7	44.9	40.6	36.0	31.3		
	40	Q	351000	320000	290000	237000	192000	154000	122000	94400	71600			
		P	71.3	69.9	68.4	65.1	60.6	55.5	50.0	44.3	38.4			
	50	Q	304000	276000	250000	203000	164000	131000	103000	78800				
		P	84.9	82.4	79.8	74.7	68.2	61.2	54.0	46.7				

¹) Asercom certified

Relating to 20 °C suction gas temperature
without liquid subcooling
 Motor version -S-
(more powerful motor)

 Supplementary cooling or
reduced suction gas temperature

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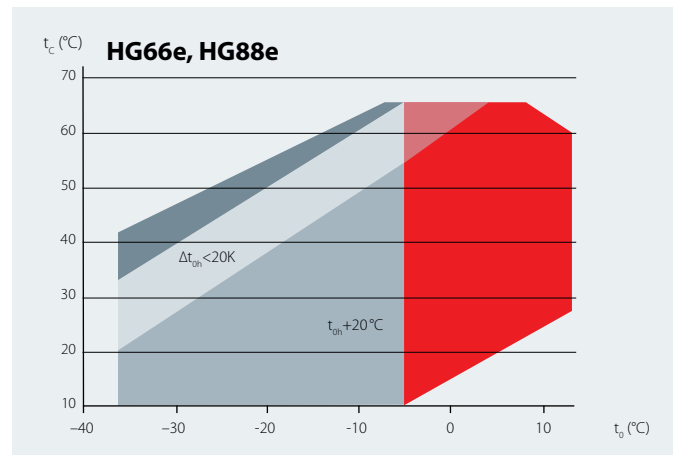
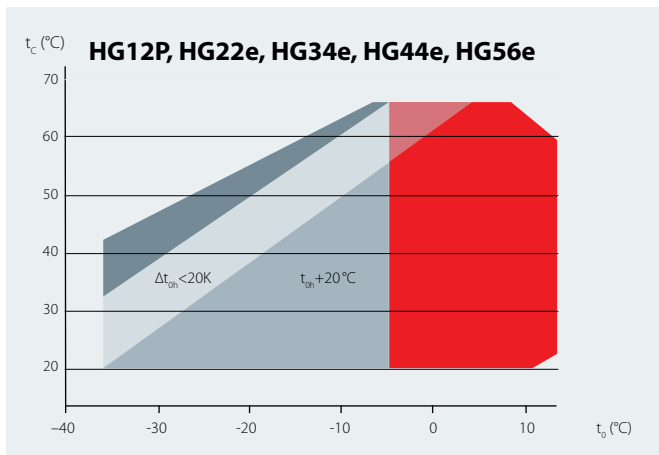


HG semi-hermetic compressors

Operating limits



R22



t_o Evaporating temperature (°C)
 t_c Condensing temperature (°C)
 Δt_{oh} Suction gas superheat (K)
 t_{oh} Suction gas temperature (°C)

- Unlimited application range
- Supplementary cooling or reduced suction gas temperature ($\Delta t_{oh} < 20K$)
- Supplementary cooling and reduced suction gas temperature ($\Delta t_{oh} < 20K$)
- Motor version -S- (more powerful motor)

Max. permissible operating pressure (LP/HP) ¹⁾: 19/28 bar

¹⁾ LP = low pressure, HP = high pressure

NOTES!

Operating limits

Compressor operation is possible within the limits shown on the application diagrams. Please note the colored areas. Compressor application limits should not be chosen for design purposes or continuous operation.

Restrictions to operating limits may occur when using a frequency converter.
 For further explanations consult www.bock.de.

Performance data

The performance data for R22 are based on European Standard EN 12900 with a 50 Hz power supply frequency. This signifies: 20 °C suction gas temperature without liquid subcooling.

This results in significant differences compared to specifications with liquid undercooling and/or suction-gas temperatures.
 A comprehensive modification to 20 °C suction gas temperature will follow at a later date.

Conversion factor for 60 Hz = 1.2.

Performance data for other operating points, see BOCK VAP software (vap.bock.de).

HG semi-hermetic compressors

Performance data



R22 | 50Hz

Type	Cond. temp. °C		Cooling capacity Q ₀ [W]				Power consumption P _e [kW]							
			Evaporating temperature °C											
			12.5	10	7.5	5	0	-5	-10	-15	-20	-25	-30	-35
HG12P/60-4 S 1)	30	Q	7120	6530	5980	5460	4520	3710	3000	2390	1870	1430	1040	708
		P	0.889	0.911	0.927	0.936	0.939	0.921	0.886	0.837	0.776	0.707	0.632	0.553
	40	Q	6290	5760	5270	4800	3960	3230	2600	2050	1570	1160		
		P	1.19	1.19	1.18	1.17	1.13	1.08	1.01	0.936	0.849	0.758		
	50	Q	5500	5030	4590	4170	3430	2780	2210	1720	1290			
		P	1.46	1.44	1.41	1.38	1.30	1.21	1.12	1.01	0.906			
HG12P/75-4 1) HGX12P/75-4 S 1)	30	Q	8890	8150	7460	6820	5650	4630	3750	2990	2340	1780	1300	885
		P	1.11	1.13	1.15	1.17	1.17	1.15	1.10	1.04	0.970	0.883	0.789	0.691
	40	Q	7860	7200	6580	6000	4950	4040	3240	2560	1970	1450		
		P	1.49	1.49	1.48	1.46	1.42	1.35	1.26	1.16	1.06	0.947		
	50	Q	6870	6280	5730	5210	4280	3470	2760	2150				
		P	1.83	1.80	1.76	1.72	1.63	1.52	1.40	1.26				
HG12P/90-4 1) HGX12P/90-4 S 1)	30	Q	10600	9720	8900	8130	6740	5520	4470	3570	2790	2120	1550	1060
		P	1.32	1.35	1.38	1.39	1.39	1.37	1.32	1.24	1.15	1.05	0.941	0.825
	40	Q	9380	8590	7850	7160	5900	4810	3870	3050	2340	1730		
		P	1.78	1.77	1.76	1.75	1.69	1.61	1.51	1.39	1.26	1.12		
	50	Q	8190	7490	6830	6220	5100	4140	3290	2560				
		P	2.18	2.15	2.10	2.06	1.94	1.81	1.66	1.51				
HG12P/110-4 1) HGX12P/110-4 S 1)	30	Q	12500	11500	10500	9560	7920	6490	5260	4190	3280	2500	1820	1240
		P	1.55	1.59	1.62	1.64	1.64	1.61	1.55	1.46	1.36	1.23	1.10	0.970
	40	Q	11100	10100	9230	8410	6940	5660	4550	3590	2750	2030		
		P	2.09	2.09	2.08	2.05	1.99	1.89	1.77	1.63	1.48	1.32		
	50	Q	9630	8800	8030	7310	6000	4860	3870	3010				
		P	2.57	2.52	2.48	2.42	2.29	2.13	1.96	1.77				
HG22e/125-4 HGX22e/125-4 S 1)	30	Q	15700	14400	13200	12000	9930	8150	6630	5340	4250	3340	2580	1960
		P	1.94	1.97	1.99	2.00	1.98	1.91	1.82	1.69	1.55	1.40	1.25	1.09
	40	Q	13800	12700	11600	10600	8740	7170	5840	4700	3730	2900		
		P	2.54	2.53	2.50	2.47	2.37	2.24	2.08	1.90	1.72	1.52		
	50	Q	12000	11000	10000	9120	7540	6170	5010	4010				
		P	3.11	3.06	2.99	2.91	2.73	2.53	2.31	2.07				
HHG22e/160-4 HGX22e/160-4 S 1)	30	Q	19400	17800	16300	14900	12300	10100	8190	6590	5240	4120	3190	2420
		P	2.40	2.44	2.46	2.47	2.44	2.36	2.24	2.09	1.92	1.73	1.54	1.35
	40	Q	17100	15600	14300	13100	10800	8860	7200	5790	4590	3580		
		P	3.13	3.12	3.09	3.05	2.93	2.77	2.57	2.35	2.11	1.88		
	50	Q	14800	13500	12400	11300	9300	7620	6180	4940				
		P	3.84	3.77	3.69	3.60	3.38	3.13	2.85	2.55				
HG22e/190-4 HGX22e/190-4 S 1)	30	Q	23400	21400	19600	17900	14800	12200	9850	7920	6300	4950	3840	2910
		P	2.90	2.94	2.97	2.98	2.94	2.84	2.70	2.52	2.31	2.09	1.86	1.63
	40	Q	20600	18900	17200	15700	13000	10700	8680	6980	5540	4320		
		P	3.78	3.76	3.72	3.67	3.52	3.32	3.09	2.83	2.55	2.27		
	50	Q	17800	16300	14900	13600	11200	9200	7450	5960				
		P	4.63	4.54	4.44	4.33	4.06	3.76	3.43	3.08				
HG34e/215-4 1) HGX34e/215-4 S 1)	30	Q	26500	24300	22200	20300	16800	13900	11300	9010	7160	5620	4360	3310
		P	3.30	3.35	3.38	3.39	3.35	3.25	3.08	2.88	2.64	2.38	2.12	1.86
	40	Q	23300	21400	19600	17900	14800	12200	9870	7930	6290	4910		
		P	4.31	4.29	4.25	4.19	4.02	3.80	3.53	3.23	2.91	2.58		
	50	Q	20200	18500	17000	15500	12800	10500	8480	6780				
		P	5.29	5.19	5.07	4.94	4.64	4.29	3.91	3.51				
HG34e/255-4 1) HGX34e/255-4 S 1)	30	Q	31200	28600	26200	23900	19800	16300	13200	10600	8440	6630	5130	3890
		P	3.87	3.94	3.98	3.99	3.94	3.82	3.62	3.37	3.10	2.80	2.49	2.19
	40	Q	27400	25100	23000	21000	17400	14300	11600	9330	7410	5780		
		P	5.06	5.04	4.99	4.92	4.72	4.46	4.14	3.79	3.42	3.03		
	50	Q	23700	21800	19900	18200	15000	12300	9970	7970				
		P	6.21	6.09	5.96	5.80	5.45	5.04	4.59	4.12				
HG34e/315-4 1) HGX34e/315-4 S 1)	30	Q	38500	35300	32300	29500	24500	20100	16400	13200	10500	8200	6340	4800
		P	4.79	4.87	4.92	4.93	4.87	4.71	4.49	4.19	3.83	3.45	3.07	2.70
	40	Q	33900	31100	28500	26000	21600	17700	14400	11600	9160	7140		
		P	6.26	6.23	6.17	6.09	5.84	5.51	5.13	4.69	4.22	3.74		
	50	Q	29400	26900	24600	22500	18600	15200	12400	9850				
		P	7.67	7.53	7.37	7.18	6.74	6.23	5.69	5.10				

1) Asercom certified

Relating to 20 °C suction gas temperature
without liquid subcoolingMotor version -S-
(more powerful motor)Supplementary cooling or
reduced suction gas temperature

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HG semi-hermetic compressors

Performance data



R22 | 50Hz

Type			Cooling capacity QO [W]				Power consumption Pe [kW]								
			Evaporating temperature °C												
			12.5	10	7.5	5	0	-5	-10	-15	-20	-25	-30	-35	
HG34e/380-4 HGX34e/380-4 S	30	Q	46700	42800	39100	35700	29600	24300	19800	16000	12700	9950	7690	5830	
		P	5.82	5.92	5.97	5.99	5.91	5.72	5.43	5.06	4.64	4.19	3.73	3.29	
	40	Q	41000	37600	34400	31400	26100	21400	17400	14000	11200	8650			
		P	7.60	7.56	7.49	7.39	7.08	6.68	6.21	5.68	5.12	4.54			
	50	Q	35500	32500	29800	27200	22500	18500	15000	12000					
		P	9.31	9.14	8.93	8.70	8.16	7.56	6.89	6.18					
HG44e/475-4 HGX44e/475-4 S	30	Q	58200	53600	49100	45000	37500	30800	25100	20300	16100	12500	9390	6730	
		P	7.16	7.27	7.34	7.36	7.29	7.02	6.68	6.25	5.73	5.16	4.55	3.93	
	40	Q	52700	48300	44300	40500	33600	27400	22200	17800	14000	10700			
		P	9.17	9.15	9.08	8.97	8.66	8.19	7.63	6.99	6.29	5.54			
	50	Q	47000	43100	39300	35900	29600	24000	19300	15300					
		P	11.0	10.8	10.6	10.4	9.90	9.24	8.46	7.62					
HG44e/565-4 HGX44e/565-4 S	30	Q	69400	63900	58600	53700	44800	36700	30000	24300	19300	15100	11400	8180	
		P	8.50	8.64	8.71	8.74	8.65	8.37	7.96	7.43	6.81	6.12	5.39	4.64	
	40	Q	62900	57700	52900	48400	40200	32600	26600	21300	16800	12900			
		P	10.8	10.8	10.7	10.6	10.2	9.79	9.11	8.33	7.48	6.58			
	50	Q	56300	51500	47100	43000	35500	28600	23200	18400					
		P	13.1	12.9	12.6	12.4	11.7	11.0	10.1	9.10					
HG44e/665-4 HGX44e/665-4 S	30	Q	81000	74500	68300	62600	52100	43300	35300	28500	22600	17500	13200	9410	
		P	9.95	10.1	10.1	10.2	10.1	9.73	9.26	8.66	7.94	7.15	6.30	5.44	
	40	Q	73100	67100	61500	56200	46600	38400	31200	24900	19600	14900			
		P	12.7	12.7	12.6	12.5	12.0	11.3	10.5	9.69	8.71	7.68			
	50	Q	65200	59700	54600	49700	41000	33600	27000	21400					
		P	15.4	15.2	14.9	14.5	13.8	12.8	11.7	10.5					
HG44e/770-4 HGX44e/770-4 S	30	Q	93900	86300	79200	72600	60500	50000	40900	33000	26200	20400	15400	11100	
		P	11.5	11.7	11.8	11.8	11.7	11.3	10.8	10.1	9.28	8.35	7.36	6.36	
	40	Q	84700	77800	71300	65200	54100	44500	36200	29000	22800	17500			
		P	14.8	14.8	14.6	14.5	13.9	13.2	12.3	11.3	10.1	8.97			
	50	Q	75600	69300	63300	57800	47700	39000	31500	25000					
		P	17.9	17.7	17.3	16.9	16.0	14.9	13.6	12.3					
HG56e/850-4 HGX56e/850-4 S	30	Q	104000	95400	87600	80200	66900	55000	45000	36400	29000	22600	17100	12300	
		P	12.7	12.9	13.0	13.0	12.9	12.5	11.9	11.1	10.2	9.19	8.10	6.97	
	40	Q	93700	86000	78800	72100	59900	49000	39900	32000	25200	19400			
		P	16.3	16.2	16.1	15.9	15.3	14.6	13.6	12.4	11.2	9.88			
	50	Q	83700	76600	70100	64000	52900	43000	34800	27600					
		P	19.6	19.4	19.0	18.6	17.6	16.5	15.1	13.6					
HG56e/995-4 HGX56e/995-4 S	30	Q	122000	112000	103000	93700	78000	64700	52800	42600	33800	26200	19700	14100	
		P	14.9	15.1	15.2	15.3	15.1	14.5	13.8	12.9	11.8	10.6	9.42	8.14	
	40	Q	110000	101000	91900	84000	69700	57400	46600	37300	29200	22300			
		P	19.1	19.1	18.9	18.7	18.0	16.9	15.7	14.4	13.0	11.4			
	50	Q	97500	89300	81600	74400	61300	50200	40400	32000					
		P	23.1	22.8	22.4	21.9	20.7	19.0	17.4	15.7					
HG56e/1155-4 HGX56e/1155-4 S	30	Q	141000	130000	119000	109000	90700	74700	61000	49300	39200	30500	23100	16600	
		P	18.0	18.2	18.4	18.5	18.3	17.7	16.9	15.8	14.4	13.0	11.4	9.89	
	40	Q	128000	117000	107000	97800	81200	66500	54000	43300	34100	26100			
		P	23.1	23.0	22.9	22.6	21.8	20.7	19.3	17.7	15.9	14.0			
	50	Q	114000	105000	95100	86800	71700	58300	47000	37300					
		P	27.9	27.5	27.0	26.4	24.9	23.4	21.4	19.3					
HG66e/1340-4 HGX66e/1340-4 S	30	Q	168000	155000	142000	131000	109000	89400	73100	59000	46800	36400	27700	20400	
		P	21.4	21.6	21.7	21.6	21.2	20.3	19.2	17.8	16.2	14.4	12.6	10.8	
	40	Q	152000	140000	128000	118000	97600	79700	64800	51900	40900	31400			
		P	27.4	27.1	26.8	26.3	25.1	23.5	21.7	19.7	17.5	15.3			
	50	Q	135000	124000	114000	104000	85600	69500	56100	44600					
		P	32.8	32.1	31.3	30.4	28.4	26.2	23.8	21.2					
HG66e/1540-4 HGX66e/1540-4 S	30	Q	192000	177000	163000	150000	126000	103000	84200	68100	54200	42300	32300	24000	
		P	24.6	24.8	24.9	24.9	24.4	23.5	22.2	20.6	18.8	16.8	14.7	12.6	
	40	Q	174000	160000	147000	135000	113000	91800	74800	60200	47500	36700			
		P	31.7	31.4	30.9	30.4	29.0	27.3	25.2	22.9	20.5	17.9			
	50	Q	155000	142000	130000	119000	98600	80200	65000	51900					
		P	38.1	37.3	36.3	35.3	33.1	30.6	27.8	24.8					

¹⁾ Asercom certified

Relating to 20 °C suction gas temperature without liquid subcooling

Motor version -S- (more powerful motor)

Supplementary cooling or reduced suction gas temperature

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HG semi-hermetic compressors

Performance data



R22 | 50Hz

Type		Cond. temp. °C	Cooling capacity QO [W]				Power consumption Pe [kW]								
			Evaporating temperature °C												
			12.5	10	7.5	5	0	-5	-10	-15	-20	-25	-30	-35	
HG66e/1750-4 HGX66e/1750-4 S		30	Q	218000	201000	185000	170000	142000	118000	96400	78000	62100	48500	37100	27500
			P	28.2	28.4	28.5	28.5	27.9	26.8	25.4	23.6	21.5	19.3	16.9	14.5
		40	Q	197000	182000	167000	153000	128000	7106000	85800	69000	54500	42200		
			P	36.2	35.8	35.4	34.8	33.2	31.2	28.8	26.2	23.5	20.6		
		50	Q	175000	161000	148000	135000	112000	91900	74600	59600				
			P	43.5	42.6	41.6	40.4	37.8	34.9	31.7	28.4				
HG66e/2070-4 HGX66e/2070-4 S		30	Q	256000	236000	217000	200000	167000	139000	114000	91700	73100	57100	43700	32400
			P	33.3	33.6	33.7	33.7	33.0	31.8	30.0	27.9	25.4	22.7	19.9	17.1
		40	Q	231000	213000	196000	180000	150000	124000	101000	81100	64200	49700		
			P	43.0	42.6	42.0	41.3	39.4	37.1	34.2	31.1	27.8	24.3		
		50	Q	205000	189000	173000	158000	132000	108000	87500	70000				
			P	51.9	50.8	49.5	48.1	45.0	41.6	37.8	33.7				
HG88e/2400-4 HGX88e/2400-4 S		30	Q	304000	280000	258000	237000	198000	163000	134000	108000	85900	67200	51400	38100
			P	39.6	39.9	40.0	40.0	39.3	37.6	35.7	33.2	30.4	27.3	24.1	20.8
		40	Q	276000	254000	233000	214000	179000	146000	119000	95500	75500	58500		
			P	50.3	49.9	49.2	48.4	46.3	43.8	40.6	37.0	33.1	29.2		
		50	Q	246000	226000	207000	190000	157000	128000	104000	82700				
			P	60.1	58.9	57.5	56.0	52.6	49.1	44.7	40.0				
HG88e/2735-4 HGX88e/2735-4 S		30	Q	345000	318000	292000	269000	225000	186000	152000	123000	97900	76500	58500	43400
			P	44.7	45.1	45.3	45.2	44.4	42.8	40.6	37.8	34.7	31.2	27.5	23.8
		40	Q	313000	288000	265000	243000	202000	167000	136000	109000	86100	66600		
			P	57.2	56.6	55.9	55.0	52.6	49.6	46.0	42.0	37.7	33.3		
		50	Q	279000	256000	235000	215000	179000	146000	119000	94300				
			P	68.6	67.2	65.5	63.8	59.8	55.5	50.6	45.4				
HG88e/3235-4 HGX88e/3235-4 S		30	Q	407000	376000	346000	317000	266000	219000	180000	145000	116000	90100	68800	51000
			P	52.7	53.1	53.3	53.2	52.3	50.4	47.8	44.5	40.7	36.6	32.3	27.9
		40	Q	370000	340000	313000	286000	239000	196000	160000	129000	102000	78300		
			P	67.3	66.7	65.8	64.7	61.8	58.4	54.1	49.4	44.3	39.0		
		50	Q	329000	303000	277000	254000	210000	172000	140000	111000				
			P	80.7	79.0	77.1	75.0	70.3	65.4	59.5	53.3				

¹⁾ Asercom certified

Relating to 20 °C suction gas temperature
without liquid subcooling

 Motor version -S-
(more powerful motor)

 Supplementary cooling or
reduced suction gas temperature



HG semi-hermetic compressors

Technical data



HG

Type	Number of cylinders	Displacement		Electrical data						Weight	Connections 5)				Oil charge	Frequency range	
				Voltage 1)	Max. Working current 2)		Max. Power consumption 2)	Starting current (rotor locked)			Dis-charge line DV		Suction line SV				
		m3/h			A			kW									A
		50 Hz 1450 rpm	60 Hz 1,740 rpm		Δ	Y				Δ	Y		mm	inch	mm	inch	Ltr.
HG12P/60-4 S	2	5.40	6.40	3)	6.8	3.9	2.2	40	23	48.0	12	1/2	16	5/8	0.8	30-70	
HG12P/75-4	2	6.70	8.10	3)	7.1	4.1	2.3	40	23	48.0	12	1/2	16	5/8	0.8	30-70	
HG12P/75-4 S	2	6.70	8.10	3)	8.0	4.6	2.6	43	25	49.0	12	1/2	16	5/8	0.8	30-70	
HG12P/90-4	2	8.00	9.60	3)	8.5	4.9	2.8	43	25	49.0	12	1/2	16	5/8	0.8	30-70	
HG12P/90-4 S	2	8.00	9.60	3)	9.1	5.3	3.0	45	26	49.0	12	1/2	16	5/8	0.8	30-70	
HG12P/110-4	2	9.40	11.30	3)	9.2	5.3	3.1	43	25	49.0	12	1/2	16	5/8	0.8	30-70	
HG12P/110-4 S	2	9.40	11.30	3)	10.6	6.1	3.6	45	26	49.0	12	1/2	16	5/8	0.8	30-70	
HG22e/125-4	2	11.10	13.30	3)	9.3	5.4	3.0	69	40	74.0	16	5/8	22	7/8	1.1	30-70	
HG22e/125-4 S	2	11.10	13.30	3)	10.8	6.2	3.6	69	40	74.0	16	5/8	22	7/8	1.1	30-70	
HG22e/160-4	2	13.70	16.40	3)	11.1	6.4	3.7	69	40	74.0	16	5/8	22	7/8	1.1	30-70	
HG22e/160-4 S	2	13.70	16.40	3)	13.1	7.6	4.4	87	50	76.0	16	5/8	22	7/8	1.1	30-70	
HG22e/190-4	2	16.50	19.80	3)	13.8	8.0	4.8	69	40	74.0	16	5/8	22	7/8	1.1	30-70	
HG22e/190-4 S	2	16.50	19.80	3)	16.2	9.4	5.6	87	50	75.0	16	5/8	22	7/8	1.1	30-70	
HG34e/215-4	4	18.80	22.60	3)	14.0	8.1	4.8	87	50	92.0	22	7/8	28	1 1/8	1.3	25-70	
HG34e/215-4 S	4	18.80	22.60	3)	18.3	10.5	6.0	132	76	97.0	22	7/8	28	1 1/8	1.3	25-70	
HG34e/255-4	4	22.10	26.60	3)	17.0	9.8	6.0	87	50	92.0	22	7/8	28	1 1/8	1.3	25-70	
HG34e/255-4 S	4	22.10	26.60	3)	21.1	12.2	7.2	132	76	96.0	22	7/8	28	1 1/8	1.3	25-70	
HG34e/315-4	4	27.30	32.80	3)	21.1	12.2	7.4	111	64	94.0	22	7/8	28	1 1/8	1.3	25-70	
HG34e/315-4 S	4	27.30	32.80	3)	25.5	14.7	8.9	132	76	97.0	22	7/8	28	1 1/8	1.3	25-70	
HG34e/380-4	4	33.10	39.70	3)	26.1	15.1	9.3	111	64	93.0	22	7/8	28	1 1/8	1.3	25-70	
HG34e/380-4 S	4	33.10	39.70	3)	31.2	18.0	11.1	132	76	96.0	22	7/8	28	1 1/8	1.3	25-70	
PW 1+2* PW1/PW1+2*																	
HG44e/475-4	4	41.30	49.60	4)	19.0		11.0		83	109	164.0	28	1 1/8	35	1 3/8	2.7	25-70
HG44e/475-4 S	4	41.30	49.60	4)	23.0		13.1		115	150	168.0	28	1 1/8	35	1 3/8	2.7	25-70
HG44e/565-4	4	49.20	59.00	4)	22.0		13.2		83	109	164.0	28	1 1/8	35	1 3/8	2.7	25-70
HG44e/565-4 S	4	49.20	59.00	4)	26.0		15.6		133	171	170.0	28	1 1/8	42	1 5/8	2.7	25-70
HG44e/665-4	4	57.70	69.20	4)	26.0		15.4		115	150	171.0	28	1 1/8	42	1 5/8	2.7	25-70
HG44e/665-4 S	4	57.70	69.20	4)	30.0		18.3		133	171	168.0	28	1 1/8	42	1 5/8	2.7	25-70
HG44e/770-4	4	67.00	80.40	4)	30.0		17.8		133	171	168.0	28	1 1/8	42	1 5/8	2.7	25-70
HG44e/770-4 S	4	67.00	80.40	4)	35.0		21.4		133	171	168.0	28	1 1/8	42	1 5/8	2.7	25-70
HG56e/850-4	6	73.80	88.60	4)	32.6		19.7		133	171	194.3	35	1 3/8	54	2 1/8	3.2	25-70
HG56e/850-4 S	6	73.80	88.60	4)	39.4		23.5		162	210	211.1	35	1 3/8	54	2 1/8	3.2	25-70
HG56e/995-4	6	86.60	103.90	4)	38.9		23.2		162	210	194.3	35	1 3/8	54	2 1/8	3.2	25-70
HG56e/995-4 S	6	86.60	103.90	4)	46.4		27.7		189	246	211.3	35	1 3/8	54	2 1/8	3.2	25-70
HG56e/1155-4	6	100.40	120.50	4)	46.9		28.0		189	246	211.8	35	1 3/8	54	2 1/8	3.2	25-70
HG56e/1155-4 S	6	100.40	120.50	4)	58.3		33.3		253	330	220.6	35	1 3/8	54	2 1/8	3.2	25-70

*PW = Part Winding, motors for part winding start

1 = first part winding

2 = second part winding

HG semi-hermetic compressors

Technical data



HG

Type	Number of cylinders	Displacement		Electrical data					Weight	Connections 5)				Oil charge	Frequency range		
		50 Hz/60Hz (1450/1,740 rpm)		Voltage 1)	Max. Working current 2)	Max. Power consump- tion 2)	Starting current (rotor locked)	Dischar- ge line DV		Suction line SV							
		m3/h										A	kW			A	kg
		50 Hz 1450 rpm	60 Hz 1,740 rpm									Δ	Y		Δ	Y	
HG66e/1340-4	6	116.50	139.80	4)	53.7		31.9		170	275	282.0	42	1 5/8	54	2 1/8	4.4	25–60
HG66e/1340-4 S	6	116.50	139.80	4)	65.3		38.1		196	335	287.0	42	1 5/8	54	2 1/8	4.4	25–60
HG66e/1540-4	6	133.80	160.50	4)	62.1		37.2		170	275	280.0	42	1 5/8	54	2 1/8	4.4	25–60
HG66e/1540-4 S	6	133.80	160.50	4)	75.0		44.4		196	335	285.0	42	1 5/8	54	2 1/8	4.4	25–60
HG66e/1750-4	6	152.20	182.60	4)	71.9		42.4		196	335	280.0	42	1 5/8	54	2 1/8	4.4	25–60
HG66e/1750-4 S	6	152.20	182.60	4)	86.8		50.7		222	361	282.0	42	1 5/8	54	2 1/8	4.4	25–60
HG66e/2070-4	6	180.00	216.00	4)	85.1		50.7		196	335	276.0	42	1 5/8	64	2 1/8	4.4	25–60
HG66e/2070-4 S	6	180.00	216.00	4)	103.0		60.7		222	361	278.0	42	1 5/8	64	2 1/8	4.4	25–60
HG88e/2400-4	8	209.10	250.90	4)	101.0		59.5		298	438	452.0	54	2 1/8	76	3 1/8	9.6	25–60
HG88e/2400-4 S	8	209.10	250.90	4)	120.0		69.8		447	657	452.0	54	2 1/8	76	3 1/8	9.6	25–60
HG88e/2735-4	8	237.90	285.50	4)	116.0		67.1		386	567	455.0	54	2 1/8	76	3 1/8	9.6	25–60
HG88e/2735-4 S	8	237.90	285.50	4)	136.0		80.0		447	657	464.0	54	2 1/8	76	3 1/8	9.6	25–60
HG88e/3235-4	8	281.30	337.60	4)	135.0		79.2		447	657	459.0	54	2 1/8	76	3 1/8	9.6	25–60
HG88e/3235-4 S	8	281.30	337.60	4)	162.0		93.9		538	791	467.0	54	2 1/8	76	3 1/8	9.6	25–60

*PW = Part Winding, motors for part winding start

1 = first part winding

2 = second part winding

Explanations

- 1) Tolerance ($\pm 10\%$) relates to the mean value of the voltage range. Other voltages and current types on request
- 2) • The specifications for max. power consumption apply for 50 Hz operation. For 60 Hz operation, the specifications have to be multiplied by the factor 1.2. The max. working current remains unchanged
• Take account of the max. operating current / max. power consumption when designing contactors, leads and fuses.
Switches: Service category AC3
- 3) 220–240 V Δ / 380–420 V Y - 3 - 50 Hz,
265–290 V Δ / 440–480 V Y - 3 - 60 Hz
- 4) PW = Part Winding, motors for part winding start (no start unloaders required)
 - Winding ratios:
HG44e, HG56e, HG66e, HG88e = 50% / 50%
 - Designs for Y/ Δ on request
- 5) For soldering connections

Oil sump heater 110-240 V - 1 - 50 / 60 Hz (option)

- HG12P, HG22e, HG34e: 50–120 W
- PTC heater, self-regulating, installation in housing bore

Oil sump heater 230 V - 1 - 50 / 60 Hz (option)

- HG44e, HG56e, HG66e: 160 W, installation in housing bore
- HG88e: 200 W, installation in immersion sleeve
- Permanently set version

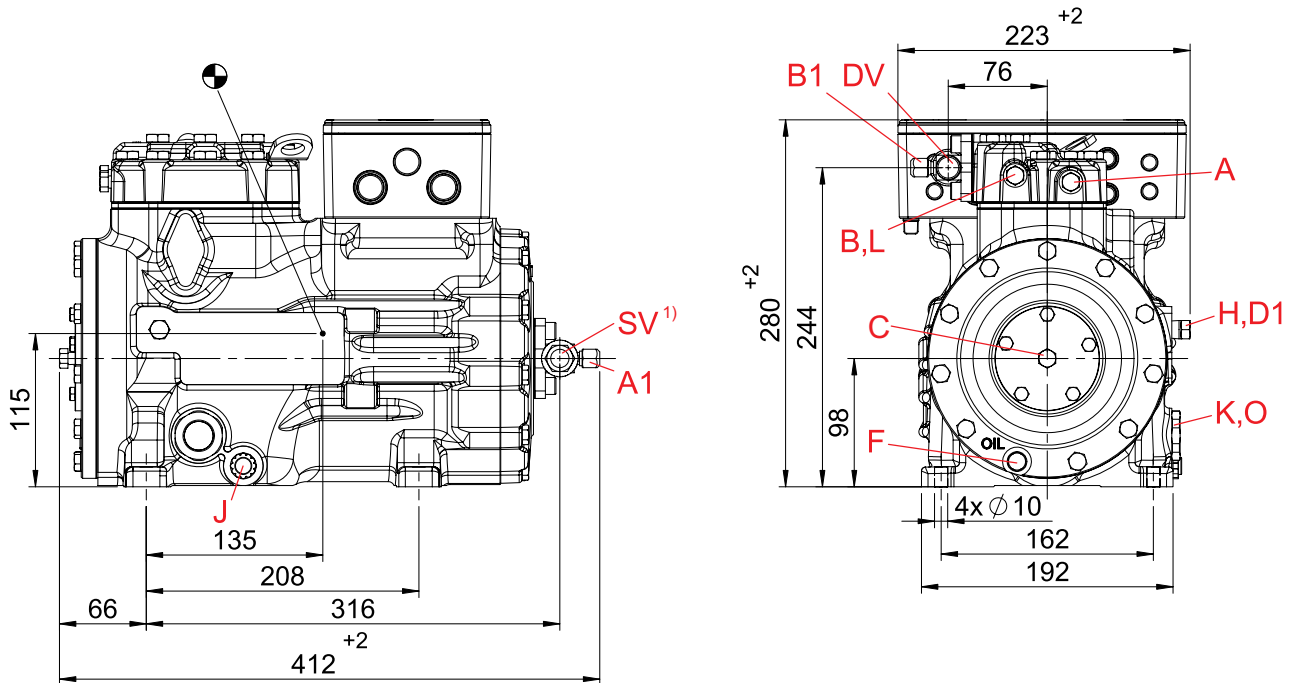
HG semi-hermetic compressors

Dimensions and connections



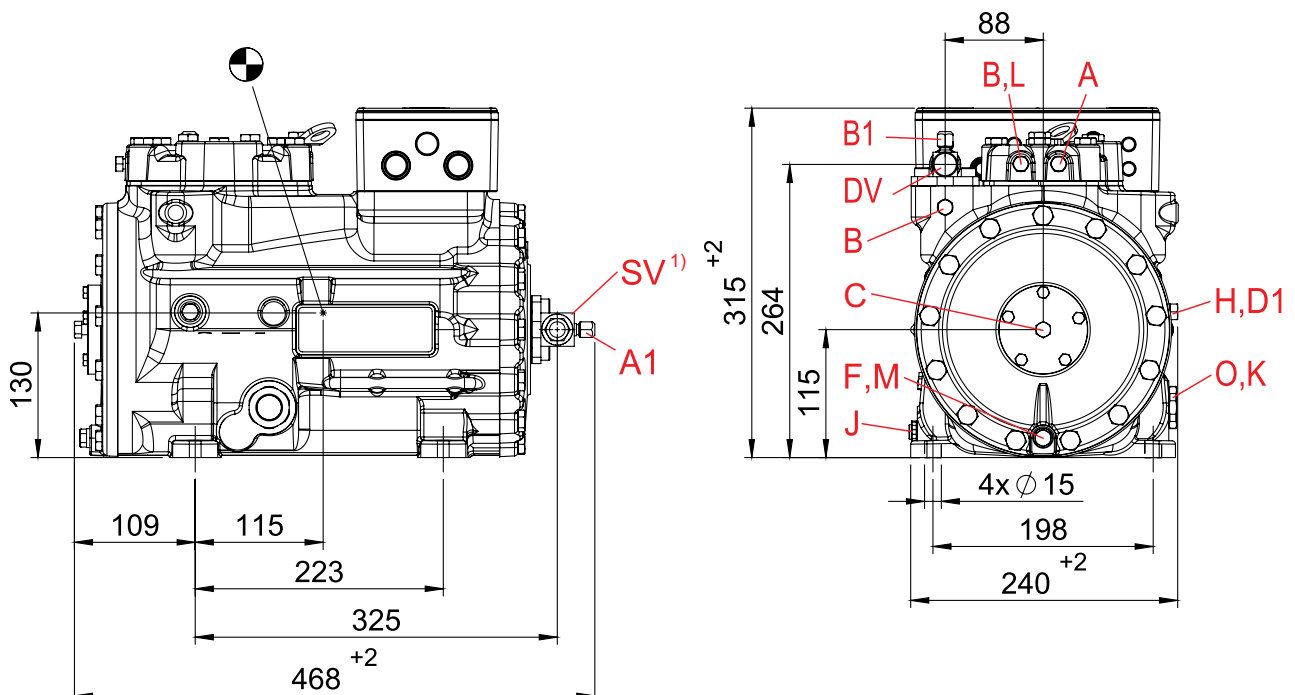
HG12P

» HG12P/60-4 S » HG12P/75-4 » HG12P/75-4 S
HG12P/90-4 » HG12P/90-4 S » HG12P/110-4 » HG12P/110-4 S



HG22e

» HG22e/125-4 » HG22e/125-4 S » HG22e/160-4 » HG22e/160-4 S
HG22e/190-4 » HG22e/190-4 S



Dimensions in mm | Center of gravity | ¹⁾ SV 90° rotatable

Connections see page 62
Dimensions for anti-vibration pad see page 59

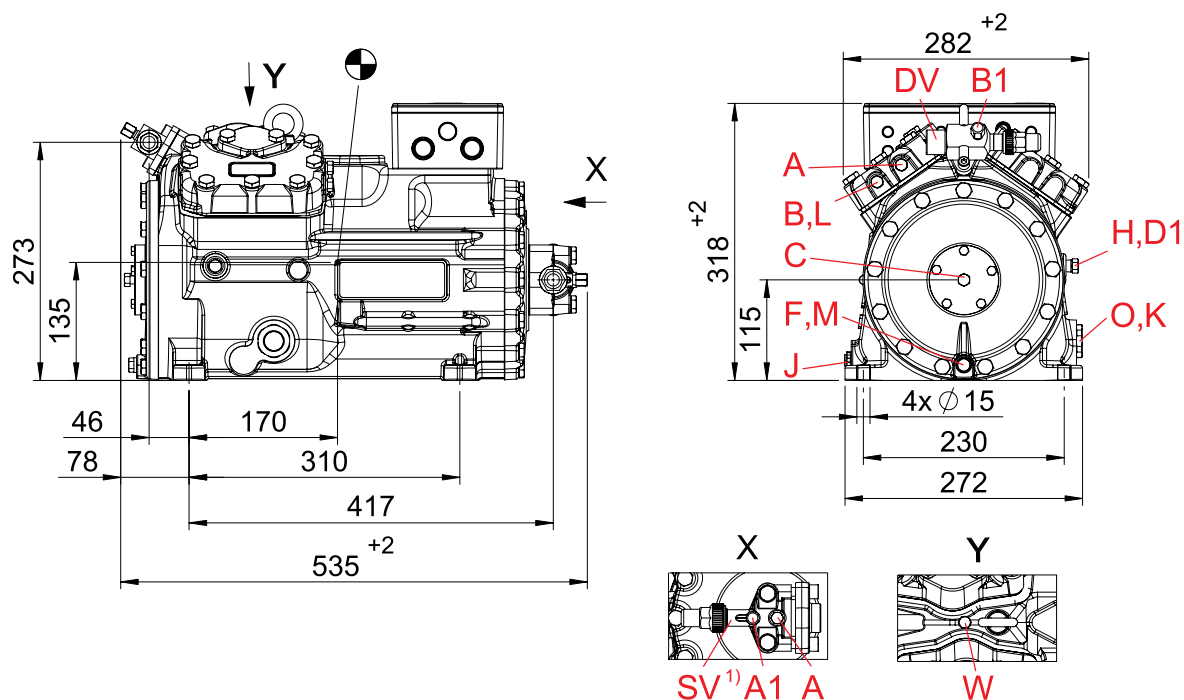
HG semi-hermetic compressors

Dimensions and connections



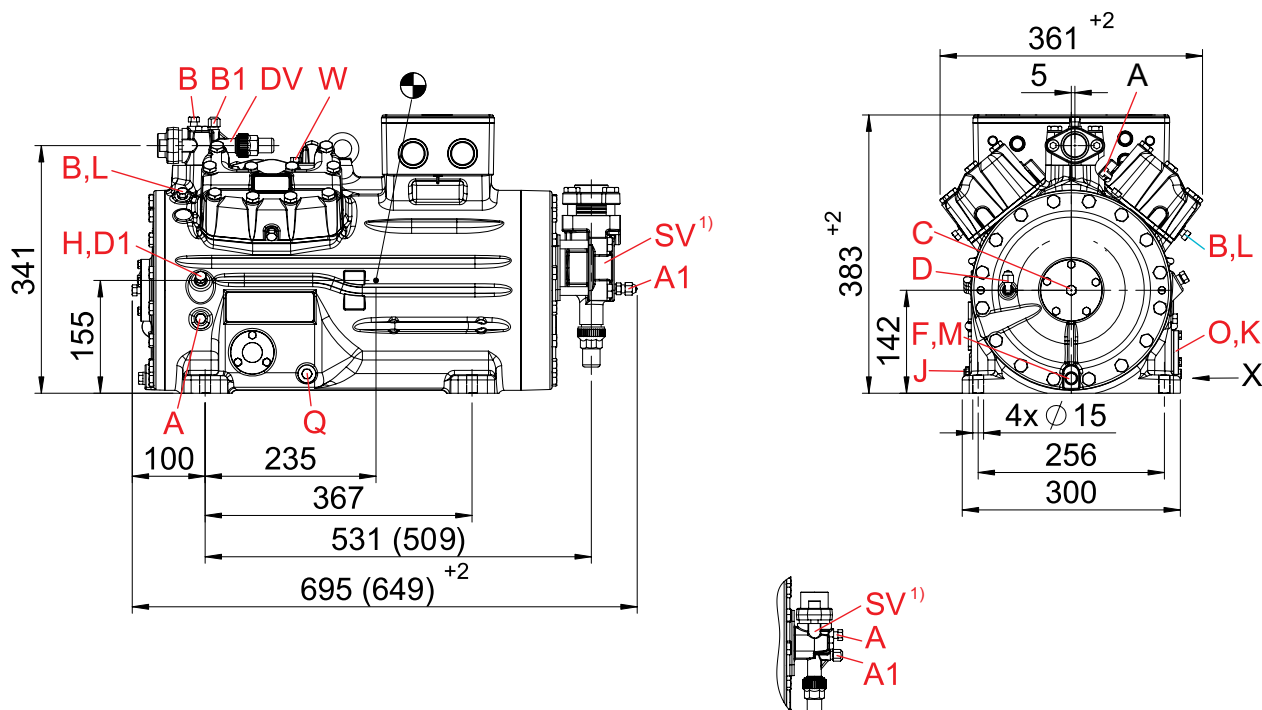
HG34e

» HG34e/215-4 » HG34e/215-4 S » HG34e/255-4 » HG34e/255-4 S
HG34e/315-4 » HG34e/315-4 S » HG34e/380-4 » HG34e/380-4 S



HG44e

» HG44e/475-4 » HG44e/475-4 S » HG44e/565-4 » HG44e/565-4 S
HG44e/665-4 » HG44e/665-4 S



Dimensions in mm | Center of gravity | ¹⁾ SV 90° rotatable

Connections see page 62
Dimensions for anti-vibration pad see page 59
Dimensions in () are for the HG(X)44e/475 (S) + 565

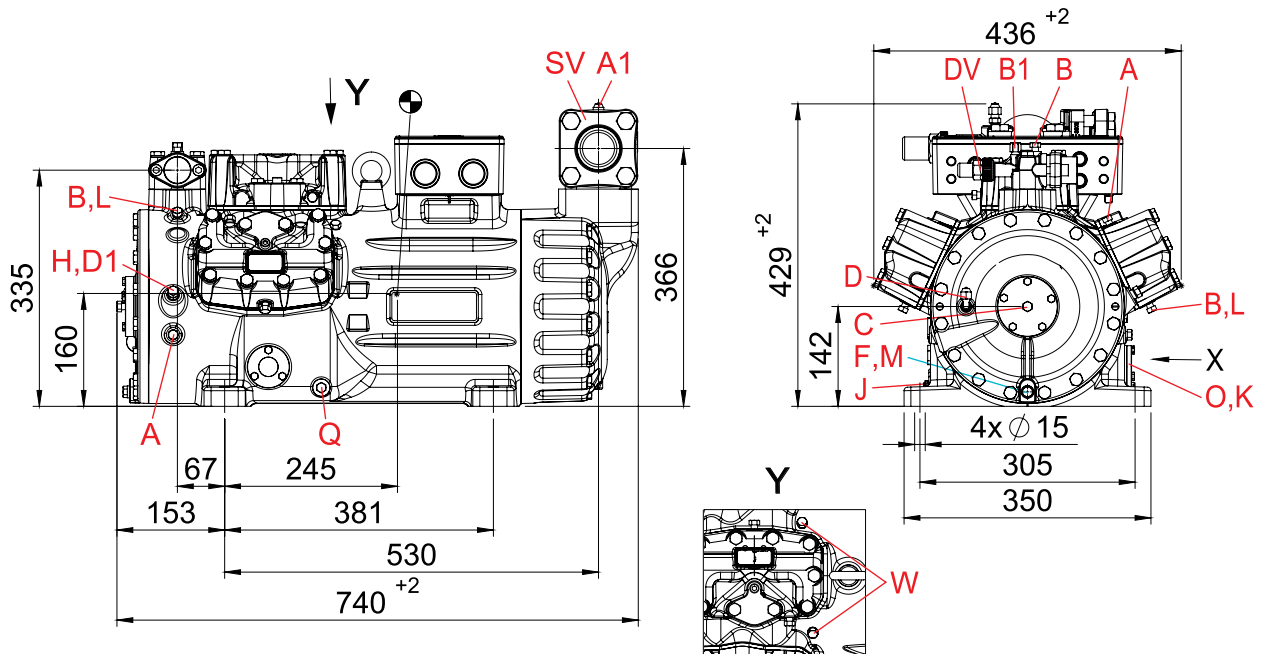
HG semi-hermetic compressors

Dimensions and connections



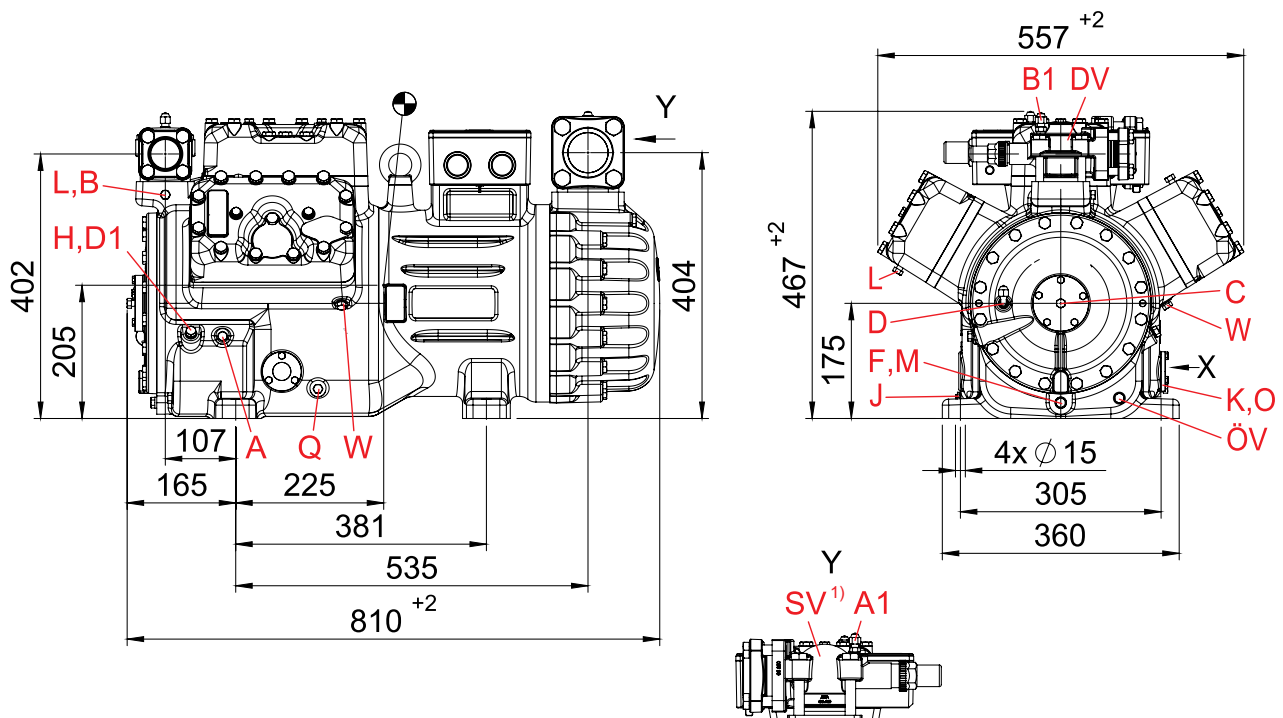
HG56e

» HG56e/850-4 » HG56e/850-4 S » HG56e/995-4
HG56e/995-4 S » HG56e/1155-4 » HG56e/1155-4 S



HG66e

» HG66e/1340-4 » HG66e/1340-4 S » HG66e/1540-4 » HG66e/1540-4 S
HG66e/1750-4 » HG66e/1750-4 S » HG66e/2070-4 » HG66e/2070-4 S



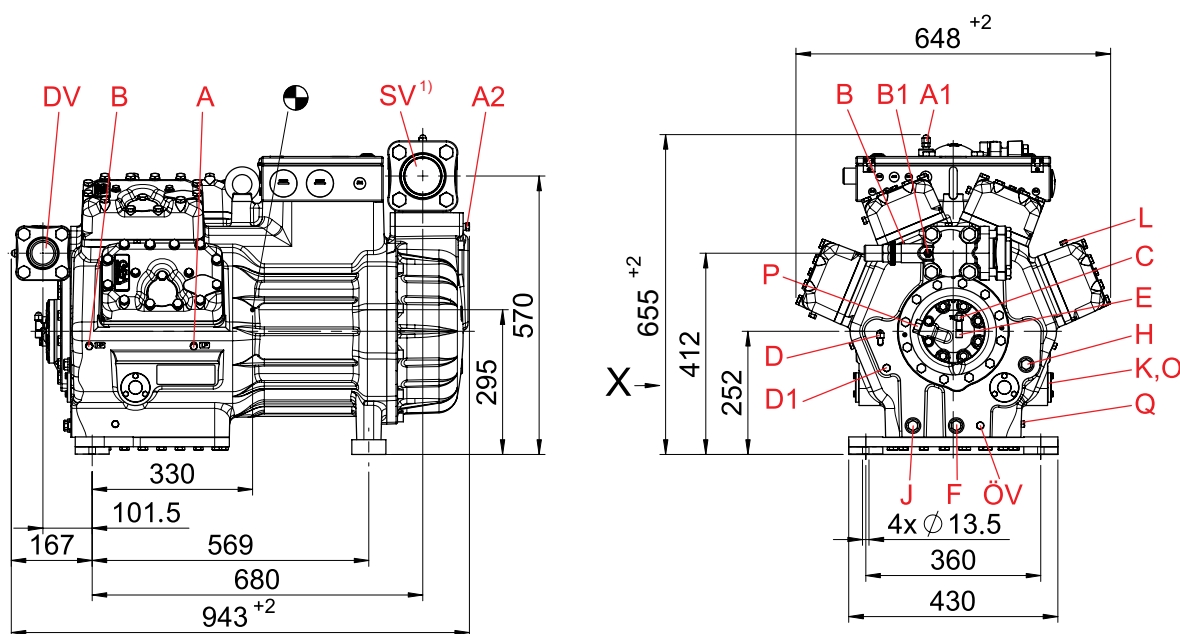
Dimensions in mm | Center of gravity | ¹⁾ SV 90° rotatable

Connections see page 62
Dimensions for anti-vibration pad see page 59

HG semi-hermetic compressors

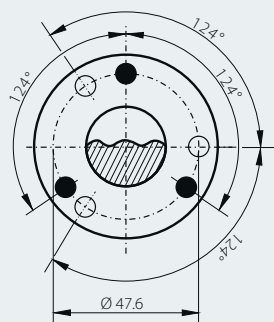
Dimensions and connections


HG88e

 » HG88e/2400-4 » HG88e/2400-4 S » HG88e/2735-4
 HG88e/2735-4 S » HG88e/3235-4 » HG88e/3235-4 S

 Dimensions in mm | Center of gravity | ¹⁾ SV 90° rotatable

 Connections see page 62
 Dimensions for anti-vibration pad see page 59

View X



Dimensions in mm

Possibility to connect to oil level regulator

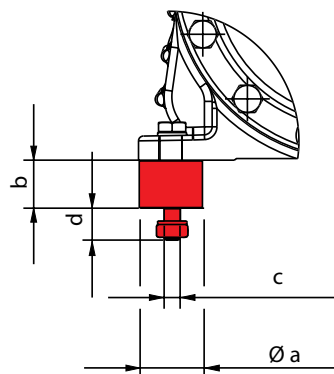
HG44e, HG56e, HG66e, HG88e

- Three-hole connection for oil level regulator of brands ESK, AC+R, CARLY (3 x M6 x 10 deep)
- Three-hole connection for oil level regulator of brand TRAXOIL (3 x M6 x 10 deep)

Dimensions for anti-vibration pad

Type	Ø a	b	c	d
HG12P	30	30	M8	20
HG22e	40	30	M10	20
HG34e	40	30	M10	20
HG44e	50	30	M12	25
HG56e	50	30	M12	25
HG66e	50	30	M12	25
HG88e	70	45	M12	37

Dimensions in mm



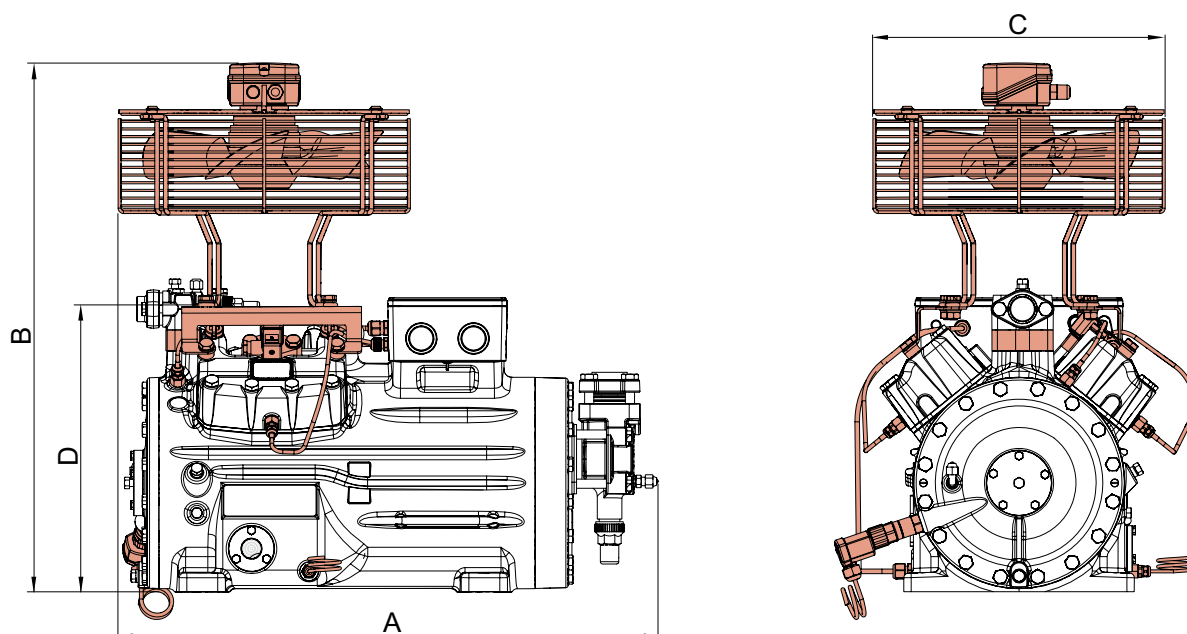
HG semi-hermetic compressors

Dimensions and connections



HG12P | HG22e | HG34e | HG44e | HG56e

Dimensions with accessories



Type	A	B	C	D
HG12P	ca. 460	ca. 500	ca. 315	–
HG22e	ca. 525	ca. 610	ca. 380	–
HG34e	ca. 580	ca. 640	ca. 380	–
HG44e	ca. 710	ca. 685	ca. 380	368
HG56e	–	ca. 710	ca. 380	–

Dimensions in mm

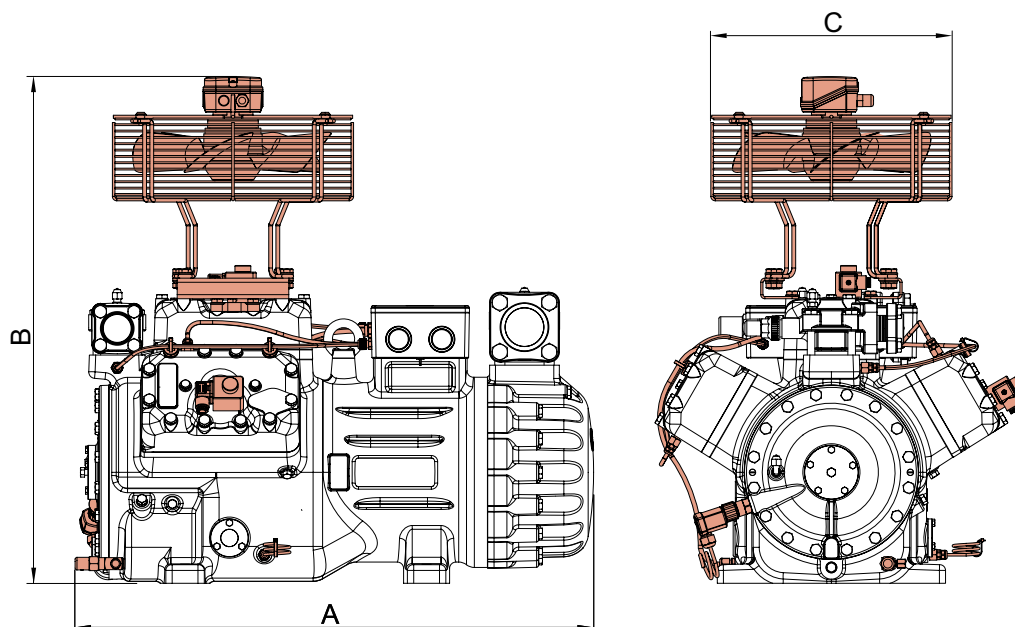
HG semi-hermetic compressors

Dimensions and connections



HG66e

Dimensions with accessories



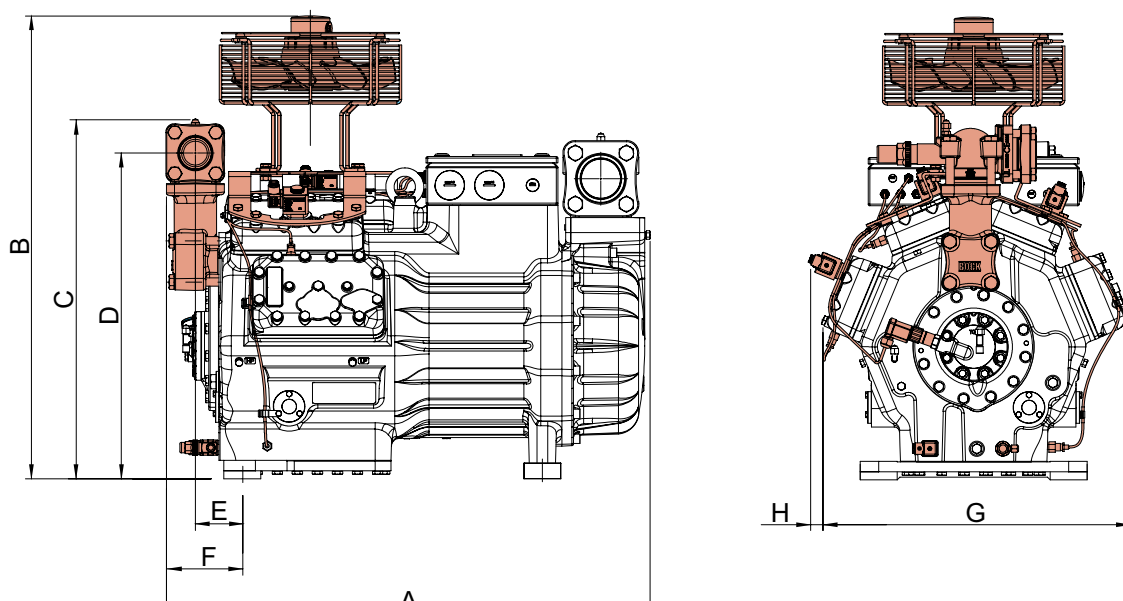
Type	A	B	C
HG66e	ca. 820	ca. 800	ca. 380

Dimensions in mm



HG88e

Dimensions with accessories



Type	A	B	C	D	E	F	G	H
HG88e	ca. 920	ca. 880	ca. 680	617	90	145	ca. 610	ca. 20

Dimensions in mm

HG semi-hermetic compressors

Dimensions and connections



	Connections	HG12P	HG22e	HG34e	HG44e	HG56e	HG66e	HG88e
SV	Suction line	Please refer to technical data page 56						
DV	Discharge line							
A	Connection suction side, not lockable	1/8" NPTF	1/8" NPTF	1/8" NPTF	1/8" NPTF	1/8" NPTF	1/8" NPTF	1/8" NPTF
A1	Connection suction side, lockable	7/16" UNF	7/16" UNF	7/16" UNF	7/16" UNF	7/16" UNF	7/16" UNF	7/16" UNF
A2	Connection suction side, not lockable	-	-	-	-	-	-	1/4" NPTF
B	Connection discharge side, not lockable	1/8" NPTF	1/8" NPTF	1/8" NPTF	1/8" NPTF	1/8" NPTF	1/8" NPTF	1/8" NPTF
B1	Connection discharge side, lockable	7/16" UNF	7/16" UNF	7/16" UNF	7/16" UNF	7/16" UNF	7/16" UNF	7/16" UNF
C	Connection oil pressure safety switch HP	1/8" NPTF	1/8" NPTF	1/8" NPTF	1/8" NPTF	1/8" NPTF	1/8" NPTF	7/16" UNF
D	Connection oil pressure safety switch LP	-	-	-	7/16" UNF	7/16" UNF	7/16" UNF	7/16" UNF
D1	Connection oil return from oil separator	1/4" NPTF	1/4" NPTF	1/4" NPTF	1/4" NPTF	1/4" NPTF	1/4" NPTF	1/4" NPTF
F	Oil drain plug	M8	M12 x 1.5	M12 x 1.5	M12 x 1.5	M12 x 1.5	M12 x 1.5	M22 x 1.5
H	Oil charge plug	1/4" NPTF	1/4" NPTF	1/4" NPTF	1/4" NPTF	1/4" NPTF	1/4" NPTF	M22 x 1.5
J	Connection oil sump heater	3/8" NPTF	3/8" NPTF	3/8" NPTF	3/8" NPTF	3/8" NPTF	3/8" NPTF	M22 x 1.5
K	Sight glass	1 1/8" - 18 UNEF	1 1/8" - 18 UNEF	1 1/8" - 18 UNEF	3 hole M6	3 hole M6	3 hole M6	3 hole M6
L	Connection thermal protection thermostat	1/8" NPTF	1/8" NPTF	1/8" NPTF	1/8" NPTF	1/8" NPTF	1/8" NPTF	1/8" NPTF
M	Oil strainer	-	M12 x 1.5	M12 x 1.5	M12 x 1.5	M12 x 1.5	M12 x 1.5	M22 x 1.5
O	Connection oil level regulator	1 1/8" - 18 UNEF	1 1/8" - 18 UNEF	1 1/8" - 18 UNEF	1)	1)	1)	1)
ÖV	Connection oil service valve	-	-	-	-	-	1/4" NPTF	1/4" NPTF
P	Connection oil pressure differential sensor	-	-	-	-	-	-	M20 x 1.5
Q	Connection oil temperature sensor	-	-	-	1/8" NPTF	1/8" NPTF	1/8" NPTF	1/8" NPTF
W	Connection for refrigerant injection	-	-	1/8" NPTF	1/8" NPTF	2 1/8" NPTF	2 1/8" NPTF	-

1) Dimensions see view X page 59

HG semi-hermetic compressors

Scope of supply and accessories



	HG12P	HG22e	HG34e	HG44e	HG56e	HG66e	HG88e
Semi-hermetic two-cylinder reciprocating compressor with drive motor for direct start 220–240 V Δ / 380–420 V Y - 3 - 50 Hz 265–290 V Δ / 440–480 V Y - 3 - 60 Hz	●	●	–	–	–	–	–
Semi-hermetic four-cylinder reciprocating compressor with drive motor for direct start 220–240 V Δ / 380–420 V Y - 3 - 50 Hz 265–290 V Δ / 440–480 V Y - 3 - 60 Hz	–	–	●	–	–	–	–
Semi-hermetic four-cylinder reciprocating compressor with drive motor for part winding start (50/50) 380–420 V Y/Y - 3 - 50 Hz 440–480 V Y/Y - 3 - 60 Hz	–	–	–	●	–	–	–
LSemi-hermetic six-cylinder reciprocating compressor with drive motor for part winding start (50/50) 380–420 V Y/Y - 3 - 50 Hz 440–480 V Y/Y - 3 - 60 Hz	–	–	–	–	●	●	–
Semi-hermetic eight-cylinder reciprocating compressor with drive motor for part winding start (50/50) 380–420 V Y/Y - 3 - 50 Hz 440–480 V Y/Y - 3 - 60 Hz	–	–	–	–	–	–	●
Special voltage and/or frequency	○ ³⁾	○ ³⁾	○ ³⁾	○ ³⁾	○ ³⁾	○ ³⁾	○ ³⁾
Winding protection with PTC resistor sensors with electronic triggering unit INT69 G (230 V)	●	●	●	●	●	●	●
1 Thermal protection PTC	○ ²⁾	○ ²⁾	○ ²⁾	○ ²⁾	○ ²⁾	○ ²⁾	○ ²⁾
2 Hot gas temperature sensor Pt1000	–	–	–	○	○	○	○
Oil pump	●	●	●	●	●	●	●
Oil charge: HG: BOCKlub A46, HGX: BOCKlub E55	●	●	●	●	●	●	●
Inert gas charge	●	●	●	●	●	●	●
4 anti-vibration pads	○ ¹⁾	○ ¹⁾	○ ¹⁾	○ ¹⁾	○ ¹⁾	○ ¹⁾	○ ¹⁾
Internal safety valve	–	–	–	●	●	●	●
Suction and discharge line valve	●	●	●	●	●	●	●
Sight glasses	One	●	●	●	●	●	–
Three	–	–	–	–	–	–	●
3 Oil sump heater	110–240 V - 1 - 50/60 Hz, 50–120 W, PTC heater, self-regulating	○ ²⁾	○ ²⁾	○ ²⁾	–	–	–
220–240 V - 1 - 50/60 Hz, 160 W	–	–	–	○ ²⁾	○ ²⁾	○ ²⁾	–
220–240 V - 1 - 50/60 Hz, 200 W	–	–	–	–	–	–	○ ²⁾
Rear bearing flange prepared for oil differential pressure sensor	–	–	–	● ²⁾	● ²⁾	● ²⁾	● ²⁾
4 Oil differential pressure sensor DELTA-P II 220–240 V - 1 - 50/60 Hz	–	–	–	○ ¹⁾	○ ¹⁾	○ ¹⁾	○ ¹⁾
5 Oil pressure safety switch	230 V - 1 - 50/60 Hz, IP20 MP54	–	–	○ ¹⁾	○ ¹⁾	○ ¹⁾	○ ¹⁾
230 V - 1 - 50/60 Hz, IP20 MP55	○ ¹⁾	○ ¹⁾	○ ¹⁾	–	–	–	–
6 Oil service valve	–	–	–	–	–	○ ²⁾	○ ²⁾
7 Capacity regulator	1 capacity regulator = 50 % residual capacity	–	–	○ ²⁾	–	–	–
1–2 capacity regulators = 66/33 % residual capacity	–	–	–	–	○ ²⁾	○ ²⁾	–
1–3 capacity regulators = 75/50/25 % residual capacity	–	–	–	–	–	–	○ ²⁾

¹⁾ Enclosed ²⁾ Mounted ³⁾ On request
⁴⁾ Only possible with additional adapter

● Scope of supply (standard)
 ○ Available accessories

HG semi-hermetic compressors

Scope of supply and accessories



		HG12P	HG22e	HG34e	HG44e	HG56e	HG66e	HG88e
7 Prepared for capacity regulator	1 cylinder cover	—	—	○ ²⁾	○ ²⁾	○ ²⁾	○ ²⁾	○ ²⁾
	2 cylinder covers	—	—	—	—	○ ²⁾	○ ²⁾	○ ²⁾
	3 cylinder covers	—	—	—	—	—	—	○ ²⁾
8 Oil temperature sensor		—	—	—	○ ²⁾	○ ²⁾	○ ²⁾	○ ²⁾
9 Connection piece suction and discharge valve in welded construction		—	—	—	○ ³⁾	○ ³⁾	○ ³⁾	○ ³⁾
10 Additional fan 230 V - 1 - 50 Hz, 97 W, IP44, 230 V - 1 - 60 Hz, 128 W, Voltage range ± 10 %		○ ¹⁾	○ ¹⁾	○ ¹⁾	○ ¹⁾	○ ¹⁾	○ ¹⁾	○ ¹⁾
11 Intermediate flange for discharge line valve on right or left, seen from oil pump		—	—	—	○ ¹⁾	—	—	—
12 INT69 G Diagnose 115 / 230 V Ac, 50 / 60 Hz, IP00 (INT69 G not applicable)		—	○ ¹⁾	○ ¹⁾	○ ¹⁾	○ ¹⁾	○ ¹⁾	—
13 INT69 GTML Diagnose 115 / 230 V Ac, 50 / 60 Hz, IP00, incl. oil differential pressure sensor INT250, thermal protection thermostat (PTC) per cylinder cover (INT69 G not applicable)		—	—	—	—	—	—	○ ²⁾
14 DP – modbus gateway 115 / 230 V Ac, 50 / 60 Hz, IP00 incl. adapter cable		—	○ ¹⁾	○ ¹⁾	○ ¹⁾	○ ¹⁾	○ ¹⁾	○ ¹⁾
15 Modbus – LAN gateway 230 V Ac, 50 / 60 Hz, IP00		—	○ ¹⁾	○ ¹⁾	○ ¹⁾	○ ¹⁾	○ ¹⁾	○ ¹⁾
16 USB converter for INT69 G Diagnose and INT69 GTML Diagnose		—	○ ¹⁾	○ ¹⁾	○ ¹⁾	○ ¹⁾	○ ¹⁾	○ ¹⁾
Connection for oil level regulator of brands ESK, AC+ R or CARLY		● ⁴⁾	● ⁴⁾	● ⁴⁾	●	●	●	●
Connection for oil level regulator of brand Traxoil		● ⁴⁾	● ⁴⁾	● ⁴⁾	● ⁴⁾	● ⁴⁾	● ⁴⁾	● ⁴⁾

¹⁾ Enclosed ²⁾ Mounted ³⁾ On request
⁴⁾ Only possible with additional adapter

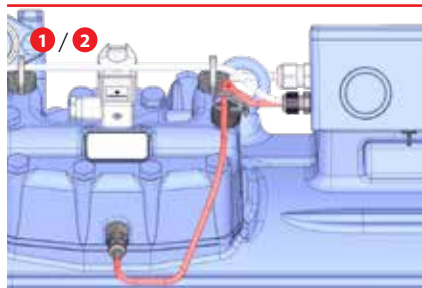
● Scope of supply (standard)
○ Available accessories

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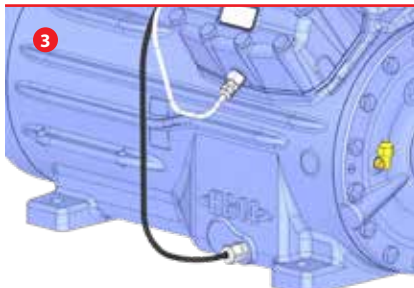
HG semi-hermetic compressors

Accessories

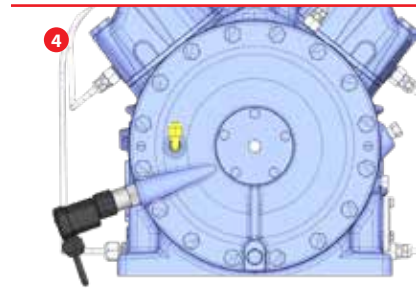
**Thermal protection thermostat/
Hot gas temperature sensor**



Oil sump heater



Oil differential pressure sensor



Oil pressure safety switch



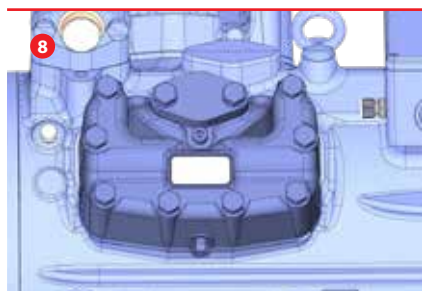
Oil service valve



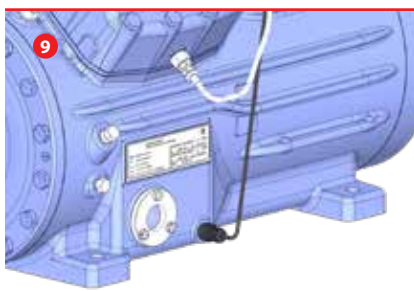
Capacity regulator



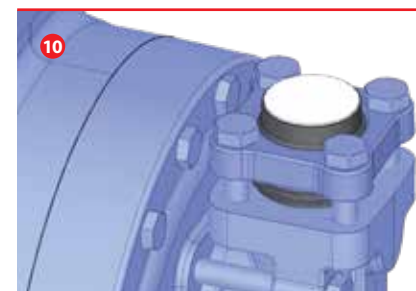
Prepared for capacity regulator



Oil temperature sensor



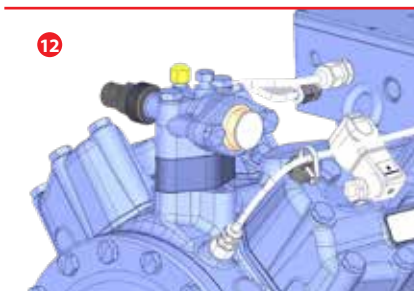
**Connection piece in welded
construction**



Additional fan



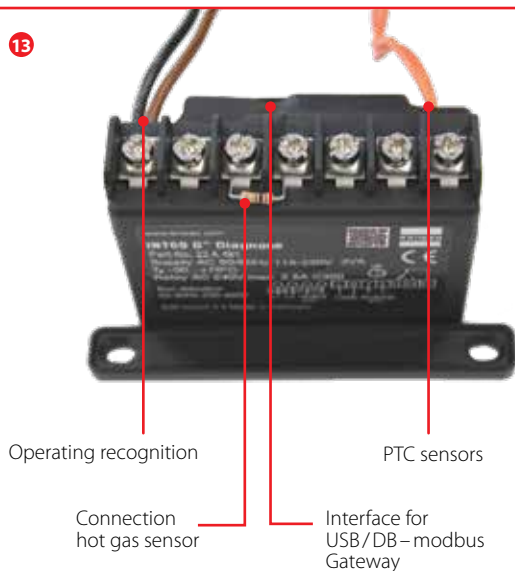
**Intermediate flange for discharge
line valve**



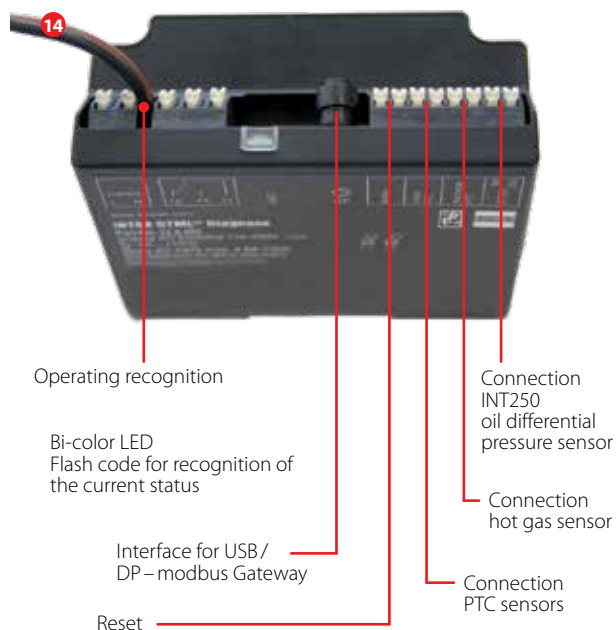
HG semi-hermetic compressors

Accessories

INT69 G Diagnose



INT69 GTML Diagnose



DP-modbus Gateway



Modbus-LAN Gateway



USB converter



INT69 G Motor Protection

Technical Data

Unit designation	INT69 G (Standard)	INT69 G Diagnose	INT69 GTML Diagnose
Connection voltage	AC 115 – 230 V - 1- 50/60 Hz ± 10% 3 VA	AC 115 – 230 V - 1- 50/60 Hz ± 10% 3 VA	AC 115 – 230 V - 1- 50/60 Hz ± 10% 3 VA
Relay	AC 240 V, 2,5 A, C300	AC 240 V, 2,5 A, C300	AC 240 V, 2,5 A, C300
Dimensions L/W/H	53 × 33 × 68 mm	50 × 33 × 68 mm	87 × 40 × 81.5 mm

HG semi-hermetic compressors

Accessories

INT69 G Diagnose Unit Motor Protection

Read facility via INTelligence diagnosis software

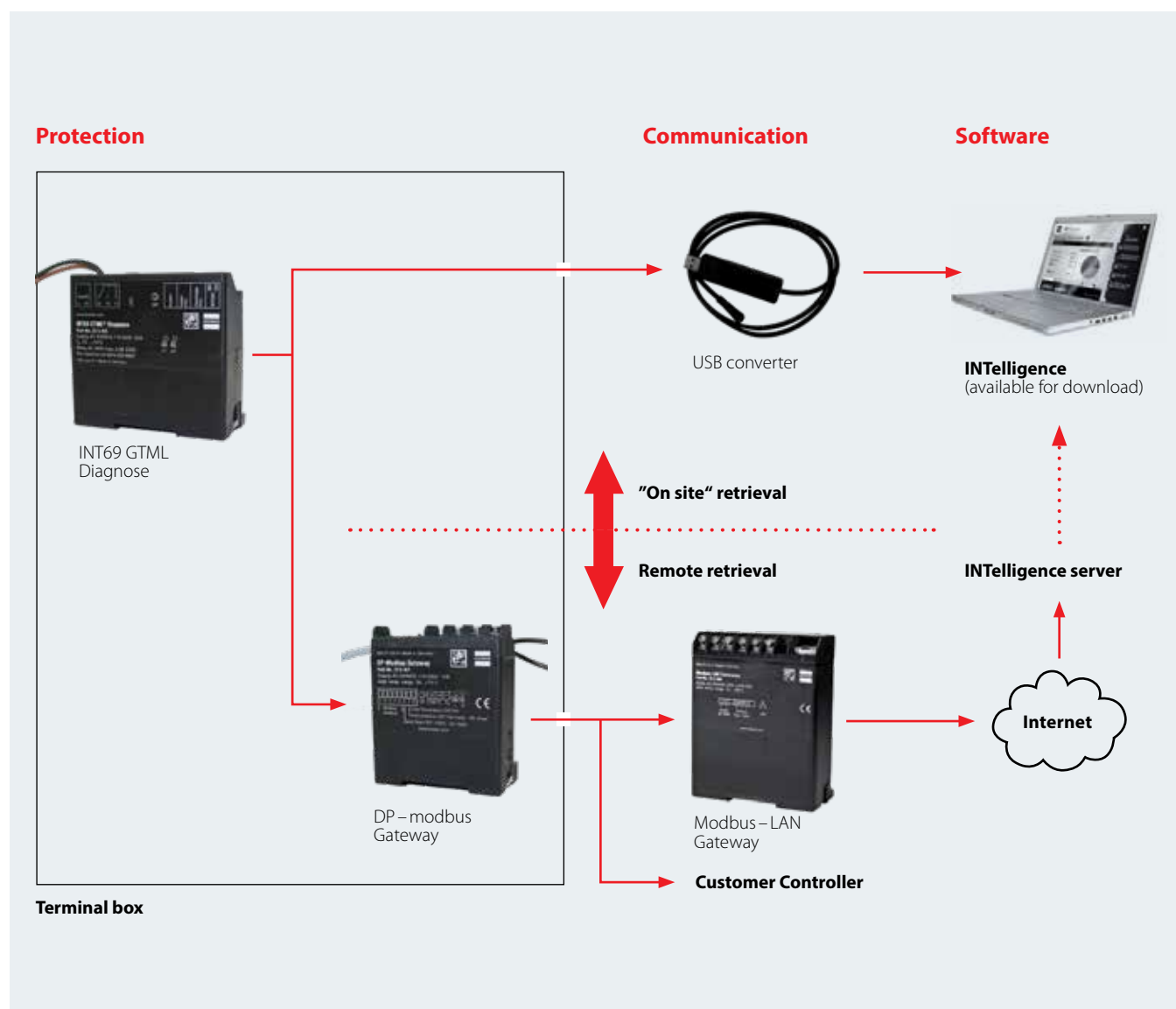
With the INTelligence software, valuable information can be obtained on the status of the compressor and the system. The diagnosis function includes the plausibility checks of the logic sequences, all important operation and error values of the compressor, and it provides clear visualization. Crucial evaluation parameters can be configured individually. This allows for a quick analysis and an efficient system management.

Advantages:

- Simple operation
- Immediate diagnosis and precise problem solving
- Specially adaptable to the user's needs

If required, data can be retrieved directly at each compressor via USB port. A modbus interface is available for integration into a network.

The data is sent periodically via the DP – modbus gateway and the modbus – LAN gateway to a server and can be retrieved remotely by the INTelligence diagnosis software. The INTelligence diagnosis software can be downloaded for free at www.kriwan.com.



BOCK® HA semi-hermetic compressors

HA22e – HA44e

At a glance	70
Operating limits and performance data	74
Technical data	86
Dimensions and connections	87
Scope of supply & accessories	92

1

2

3



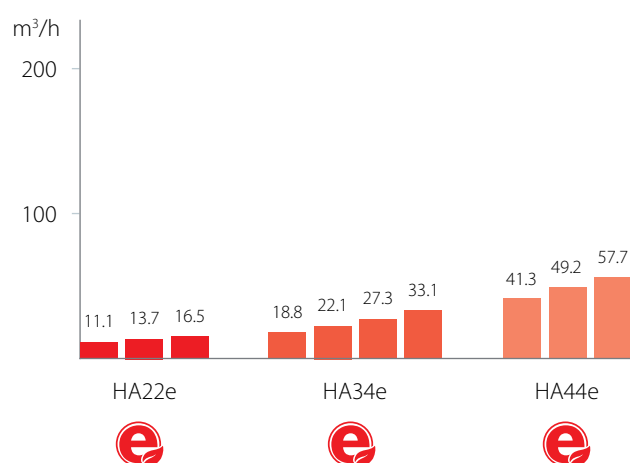
BOCK® HA semi-hermetic compressors

The “HA principle” of air-cooled compressors, specially developed by BOCK®, is the most efficient semi-hermetic solution for low-temperature applications. It employs a direct-suction compressor combined with an air-cooled drive motor.

The current programm

3 model sizes with 10 capacity stages from 11.1 to 57.7 m³/h (50 Hz)

 = efficiency



HA44e

HA semi-hermetic compressors

At a glance

Low-temperature applications place greater demands on compressors. This applies particularly to suction-gas-cooled semi-hermetic compressors.

Within low-temperature applications the refrigerant mass flow is smaller and is heated up disproportionately by the drive motor. This has the following effects on the operation of the compressor.

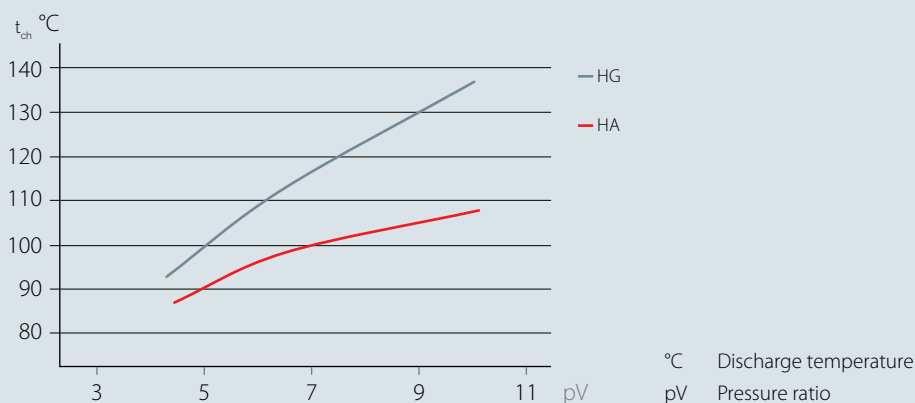
- The volumetric efficiency is reduced due to the decreasing specific density
- The discharge temperature and oil temperature are higher. This means that the oil ages more quickly and the lubrication properties deteriorate

This particularly affects refrigerants with a high isentropic exponent, such as the new HFO/HFC blends with lower GWP, which are envisaged as transitional R404A replacement refrigerants.

For these refrigerants in low-temperature applications with suction-gas-cooled semi-hermetic compressors it is important that special technical measures are envisaged for reduction of the discharge temperature!

The suction gas in BOCK air-cooled HA compressors is not heated additionally, but rather fed directly into the cylinders without diversions via the motor. A compact ventilation unit is integrated to cool the motor and provide air flow for the cylinder heads, partially cooling them as well. This solution reduces the discharge temperature, increasing capacity and extending the range of applications.

HA vs. HG R449A discharge temperature



Type key

HA X44e / 465 - 4

- HA: Series ¹⁾
- X: Ester oil filling ²⁾
- 4: Number of cylinders
- 4: Size
- e: Additional marker for e-series compressors ³⁾
- 465: Swept volume
- 4: Number of poles

¹⁾ HA = Hermetic Air-Cooled (low temperature application)

²⁾ X = Ester oil filling
(HFC refrigerants e.g. R134a, R404A, R507, R407C)

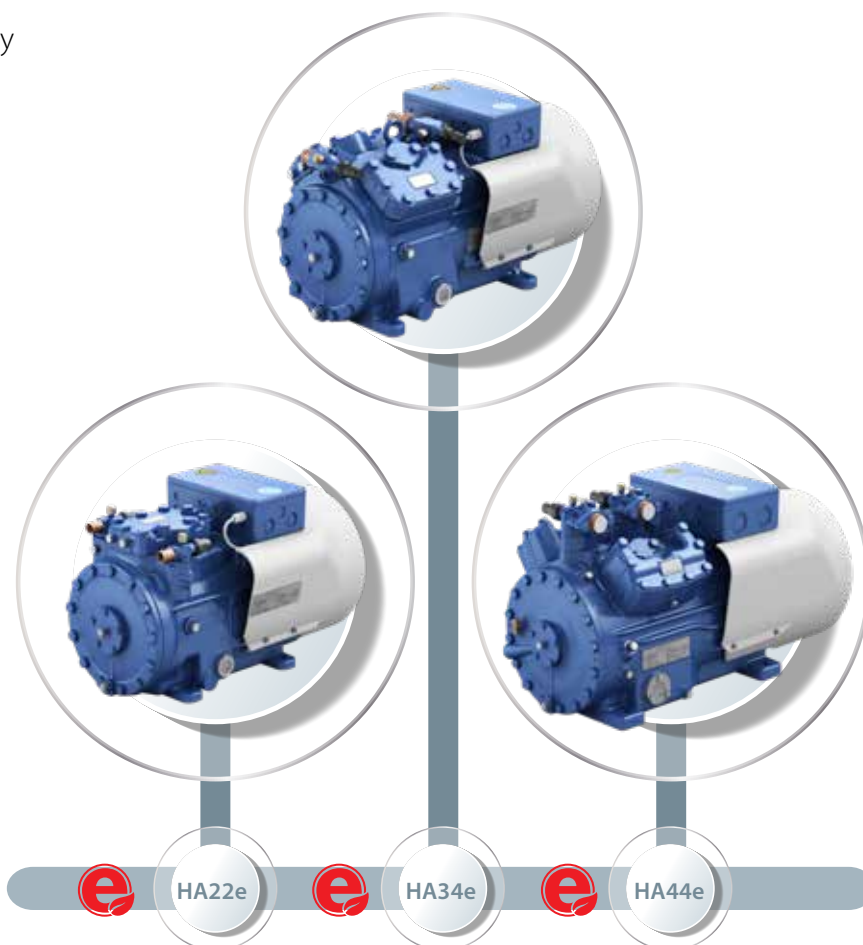
³⁾ e = Additional marker for e-series compressors

P = Additional marker for Pluscom compressors

HA semi-hermetic compressors

Overview

 = efficiency



Newly designed housing
with optimized gas flow

External fan
for motor cooling

Improved valve
plate system

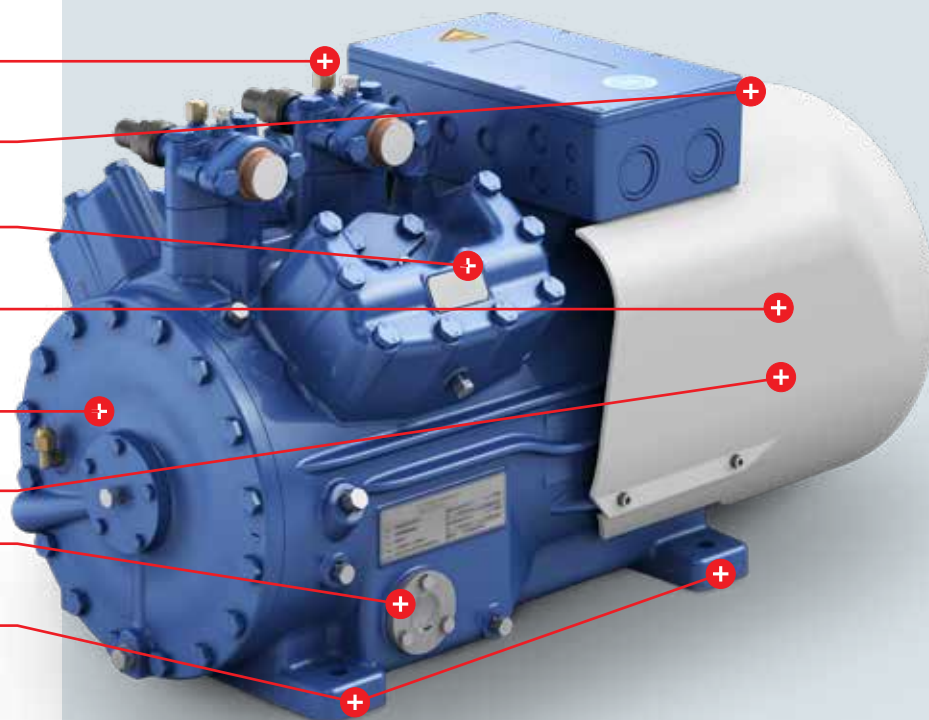
Highly efficient electric
motors of the latest
generation

Proven and reliable
oil pump lubrication

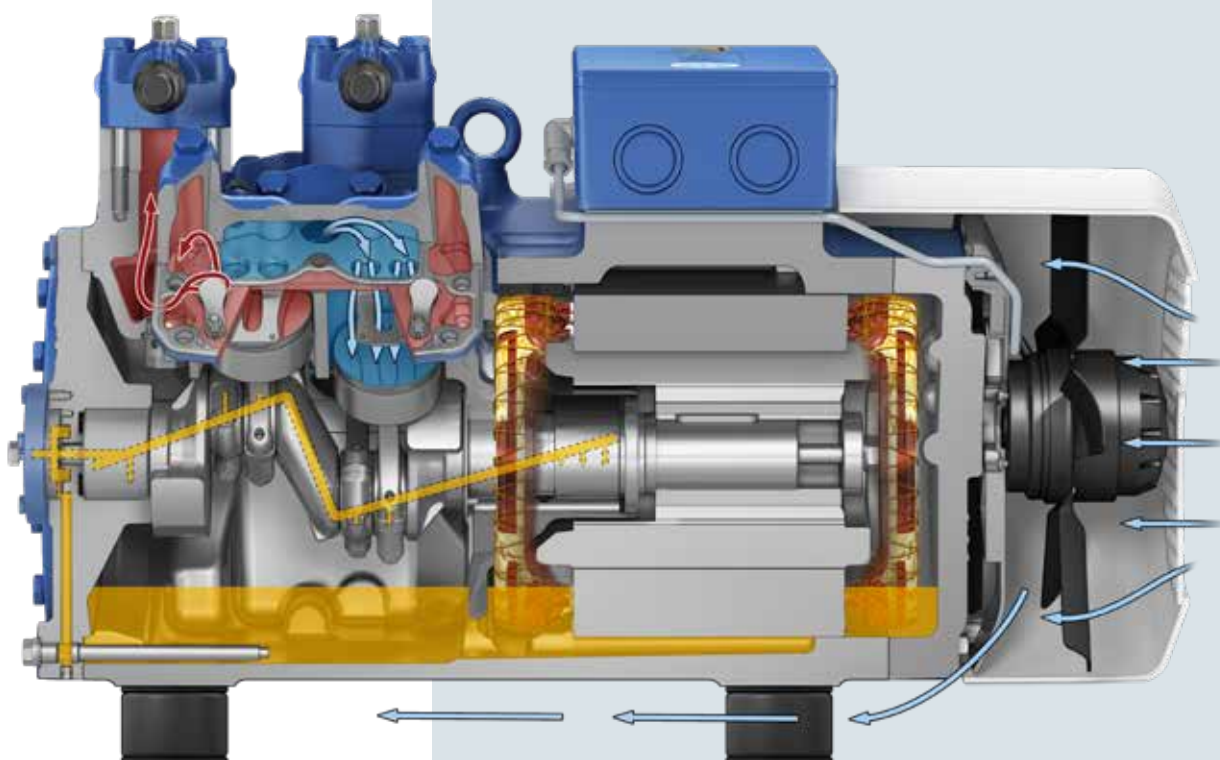
Exchangeable motor

Standard-position
sight glass

Standard footprint



HA44e sectional drawing

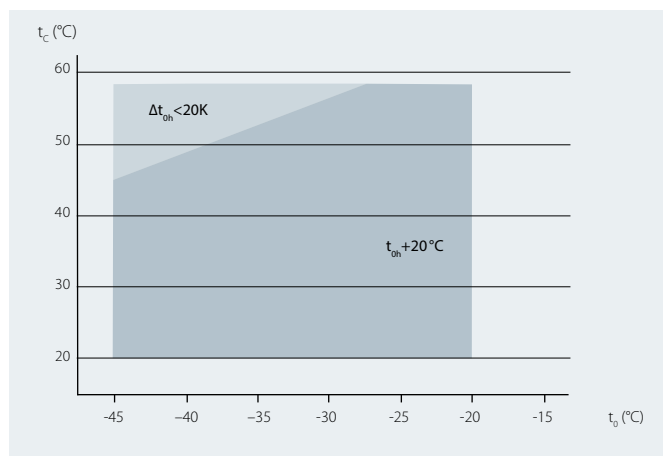


HA semi-hermetic compressors

Operating limits



R404A/R507



t_o Evaporating temperature (°C)
 t_c Condensing temperature (°C)
 Δt_{oh} Suction gas superheat (K)
 t_{oh} Suction gas temperature (°C)

- Unlimited application range
- Reduced suction gas temperature

Max. permissible operating pressure (LP/HP) ¹⁾: 19/28 bar

¹⁾ LP = low pressure, HP = high pressure

NOTES!

Operating limits

Compressor operation is possible within the limits shown on the application diagrams. Please note the colored areas. Compressor application limits should not be chosen for design purposes or continuous operation.

Restrictions to operating limits may occur when using a frequency converter. For further explanations consult www.bock.de.

Performance data

The performance data for R404A/R507 are based on European Standard EN 12900 with a 50 Hz power supply frequency.

This signifies: 20 °C suction gas temperature without liquid subcooling.

This leads to significant differences compared to systems with liquid subcooling and/or other suction gas temperatures.

Performance data were compiled for R404A and R507. The base values are the data for R404A.

Conversion factor for 60 Hz = 1.2

Performance data for other operating points, see BOCK® VAP software (vap.bock.de).

HA semi-hermetic compressors

Performance data



R404A/R507 | 50Hz

Type	Cond. temp. °C		Cooling capacity QO [W]				Power consumption Pe [kW]	
			Evaporating temperature °C					
			-20	-25	-30	-35	-40	-45
HAX22e/125-4	30	Q P	4730 1.91	3800 1.71	2990 1.51	2300 1.31	1720 1.13	1250 0.94
	40	Q P	3960 2.09	3160 1.84	2470 1.60	1880 1.37	1390 1.14	978 0.92
	50	Q P	3220 2.21	2540 1.92	1960 1.64	1460 1.36	1040 1.09	690 0.83
HAX22e/160-4	30	Q P	5840 2.36	4690 2.11	3690 1.86	2830 1.62	2120 1.39	1540 1.16
	40	Q P	4890 2.58	3900 2.27	3050 1.97	2320 1.69	1710 1.41	1210 1.13
	50	Q P	3970 2.73	3140 2.37	2420 2.02	1800 1.68	1290 1.35	851 1.03
HAX22e/190-4	30	Q P	7070 2.86	5670 2.55	4460 2.25	3430 1.96	2570 1.68	1870 1.41
	40	Q P	5920 3.12	4720 2.75	3690 2.39	2810 2.04	2070 1.70	1460 1.37
	50	Q P	4800 3.31	3800 2.87	2930 2.45	2180 2.04	1550 1.64	1030 1.24
HAX34e/215-4	30	Q P	8050 3.26	6450 2.90	5080 2.57	3900 2.24	2920 1.92	2130 1.60
	40	Q P	6740 3.55	5380 3.13	4200 2.72	3200 2.33	2350 1.94	1670 1.56
	50	Q P	5470 3.77	4320 3.27	3330 2.79	2480 2.32	1770 1.86	1180 1.41
HAX34e/255-4	30	Q P	9460 3.83	7590 3.42	5970 3.02	4590 2.63	3440 2.26	2500 1.88
	40	Q P	7920 4.18	6320 3.68	4940 3.20	3760 2.74	2770 2.28	1960 1.84
	50	Q P	6430 4.43	5080 3.84	3920 3.28	2920 2.73	2080 2.19	1380 1.66
HAX34e/315-4	30	Q P	11700 4.73	9370 4.22	7370 3.73	5660 3.25	4240 2.79	3080 2.33
	40	Q P	9780 5.16	7800 4.54	6090 3.95	4640 3.38	3420 2.82	2420 2.27
	50	Q P	7930 5.47	6270 4.75	4830 4.05	3600 3.37	2570 2.71	1710 2.06
HAX34e/380-4	30	Q P	14200 5.50	11400 4.96	8910 4.39	6850 3.81	5130 3.22	3730 2.65
	40	Q P	11900 5.95	9440 5.28	7370 4.58	5610 3.86	4130 3.16	2920 2.74
	50	Q P	9600 6.25	7590 5.43	5850 4.59	4360 3.74	3100 3.28	2060 2.07
HAX44e/475-4	30	Q P	18700 6.64	15100 6.01	11900 5.35	9100 4.66	6800 3.95	4890 3.24
	40	Q P	15700 7.13	12600 6.32	9760 5.47	7430 4.62	5450 3.76	3810 2.91
	50	Q P	12900 7.44	10200 6.43	7830 5.41	5880 4.39	4230 3.38	2850 2.40
HAX44e/565-4	30	Q P	21900 8.08	17600 7.36	13900 6.58	10800 5.77	8040 4.93	5800 4.09
	40	Q P	18400 8.73	14700 7.79	11500 6.82	8770 5.83	6470 4.83	4530 3.84
	50	Q P	15100 9.17	11900 8.02	9230 6.85	6950 5.68	5020 4.52	3400 3.39
HAX44e/665-4	30	Q P	25000 9.33	20200 8.43	16000 7.49	12400 6.52	9310 5.53	6750 4.55
	40	Q P	21100 10.10	16900 8.97	13300 7.79	10200 6.60	7480 5.42	5270 4.27
	50	Q P	17200 10.70	13700 9.29	10600 7.87	8010 6.47	5810 5.10	3960 3.78

Relating to 20 °C suction gas temperature
without liquid subcooling

Reduced suction
gas temperature

¹⁾ Asercom certified

vap.bock.de

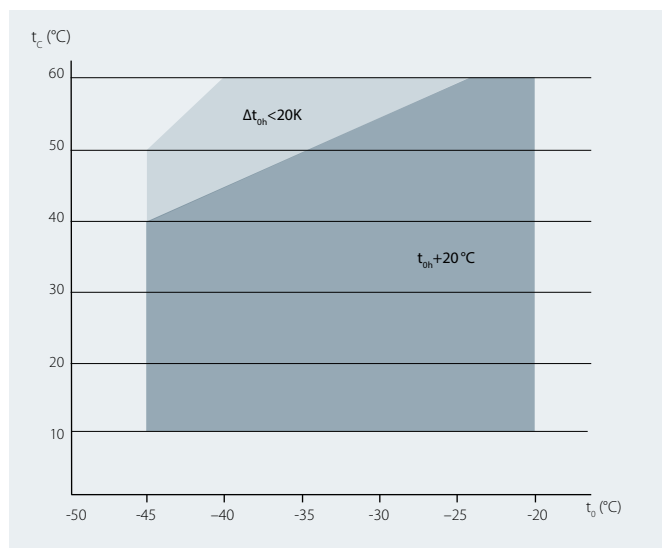


HA semi-hermetic compressors

Operating limits



R448A



t_o Evaporating temperature (°C)
 t_c Condensing temperature (°C)
 Δt_{oh} Suction gas superheat (K)
 t_{oh} Suction gas temperature (°C)

- Unlimited application range
- Reduced suction gas temperature

Max. permissible operating pressure (LP/HP) ¹⁾: 19/28 bar

¹⁾ LP = low pressure, HP = high pressure

NOTES!

Operating limits

Compressor operation is possible within the limits shown on the application diagrams. Please note the colored areas. Compressor application limits should not be chosen for design purposes or continuous operation.

Restrictions to operating limits may occur when using a frequency converter. For further explanations consult www.bock.de.

Performance data

The performance data for R448A are based on European Standard EN 12900 with a 50 Hz power supply frequency. This signifies: 20°C suction gas temperature without liquid subcooling.

Evaporation and condensing temperatures are based on the dew point values (saturated vapour conditions).

Conversion factor for 60 Hz = 1.2

Performance data for other operating points, see BOCK VAP software (vap.bock.de).

HA semi-hermetic compressors

Performance data



R448A | 50Hz

Type	Cond. temp. °C		Cooling capacity QO [W]			Power consumption Pe [kW]		
			Evaporating temperature °C					
			-20	-25	-30	-35	-40	
HAX22e/125-4	30	Q	4190	3250	2450	1780	1230	
		P	1.70	1.53	1.36	1.18	1.00	
	40	Q	3530	2700	2000	1410	915	
		P	1.81	1.59	1.38	1.16	0.96	
	50	Q	2910	2190	1570	1060	631	
		P	1.87	1.62	1.36	1.12	0.88	
HAX22e/160-4	30	Q	5220	4030	3020	2170	1470	
		P	2.03	1.83	1.62	1.39	1.17	
	40	Q	4420	3350	2450	1700	1070	
		P	2.17	1.90	1.64	1.37	1.10	
	50	Q	3640	2700	1910	1250	691	
		P	2.25	1.93	1.61	1.30	1.00	
HAX22e/190-4	30	Q	6310	4940	3780	2810	2010	
		P	2.48	2.23	1.97	1.71	1.45	
	40	Q	5440	4210	3170	2300	1570	
		P	2.67	2.35	2.03	1.71	1.40	
	50	Q	4570	3470	2550	1780	1140	
		P	2.80	2.41	2.03	1.66	1.30	
HAX34e/215-4	30	Q	6790	5230	3920	2810	1900	
		P	2.59	2.32	2.03	1.74	1.44	
	40	Q	5690	4300	3120	2130	1310	
		P	2.78	2.41	2.04	1.67	1.31	
	50	Q	4600	3370	2330	1460	731	
		P	2.87	2.41	1.96	1.52	1.10	
HAX34e/255-4	30	Q	8250	6410	4850	3540	2460	
		P	3.16	2.81	2.45	2.08	1.72	
	40	Q	6980	5340	3960	2800	1840	
		P	3.39	2.94	2.49	2.05	1.62	
	50	Q	5740	4310	3100	2090	1240	
		P	3.54	2.99	2.46	1.94	1.45	
HAX34e/315-4	30	Q	10400	8020	6020	4370	3010	
		P	3.86	3.44	3.00	2.55	2.12	
	40	Q	8790	6670	4890	3410	2220	
		P	4.16	3.60	3.05	2.51	1.99	
	50	Q	7190	5320	3770	2490	1460	
		P	4.34	3.66	3.00	2.36	1.77	
HAX34e/380-4	30	Q	12700	9820	7430	5430	3780	
		P	4.76	4.23	3.69	3.14	2.60	
	40	Q	10800	8220	6070	4260	2770	
		P	5.17	4.50	3.82	3.15	2.50	
	50	Q	8860	6600	4690	3090	1760	
		P	5.44	4.62	3.80	3.01	2.26	
HAX44e/475-4	30	Q	16300	12600	9480	6890	4750	
		P	5.79	5.18	4.54	3.87	3.21	
	40	Q	13900	10600	7750	5420	3490	
		P	6.21	5.41	4.60	3.78	2.98	
	50	Q	11500	8500	6040	3970	2250	
		P	6.47	5.48	4.49	3.52	2.58	
HAX44e/565-4	30	Q	20200	15700	11900	8740	6130	
		P	7.06	6.33	5.57	4.78	3.99	
	40	Q	17400	13400	9920	7070	4710	
		P	7.63	6.70	5.74	4.78	3.84	
	50	Q	14600	11000	7950	5420	3310	
		P	8.02	6.88	5.74	4.61	3.53	
HAX44e/665-4	30	Q	22800	17800	13600	9960	7030	
		P	8.06	7.19	6.27	5.34	4.42	
	40	Q	19700	15100	11300	8100	5450	
		P	8.76	7.63	6.49	5.36	4.26	
	50	Q	16500	12500	9090	6270	3910	
		P	9.27	7.88	6.52	5.19	3.93	

Relating to 20 °C suction gas temperature
without liquid subcooling

Reduced suction
gas temperature

¹ Asercom certified

vap.bock.de

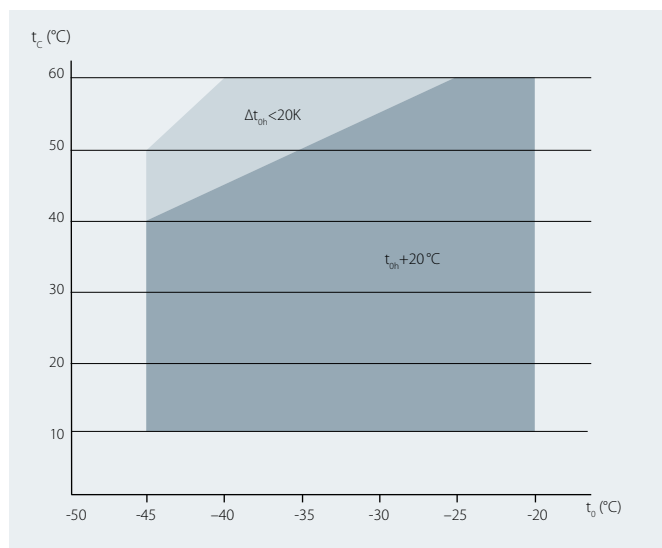


HA semi-hermetic compressors

Operating limits



R449A



t_o Evaporating temperature (°C)
 t_c Condensing temperature (°C)
 Δt_{oh} Suction gas superheat (K)
 t_{oh} Suction gas temperature (°C)

- Unlimited application range
- Reduced suction gas temperature

Max. permissible operating pressure (LP/HP) ¹⁾: 19/28 bar

¹⁾ LP = low pressure, HP = high pressure

NOTES!

Operating limits

Compressor operation is possible within the limits shown on the application diagrams. Please note the colored areas. Compressor application limits should not be chosen for design purposes or continuous operation.

Restrictions to operating limits may occur when using a frequency converter. For further explanations consult www.bock.de.

Performance data

The performance data for R449A are based on European Standard EN 12900 with a 50 Hz power supply frequency. This signifies: 20°C suction gas temperature without liquid subcooling.

Evaporation and condensing temperatures are based on the dew point values (saturated vapour conditions).

Conversion factor for 60 Hz = 1.2

Performance data for other operating points, see BOCK VAP software (vap.bock.de).

HA semi-hermetic compressors

Performance data



R449A | 50Hz

Type	Cond. temp. °C		Cooling capacity QO [W]			Power consumption Pe [kW]		
			Evaporating temperature °C					
			-20	-25	-30	-35	-40	
HAX22e/125-4	30	Q	4170	3240	2440	1780	1230	
		P	1.69	1.53	1.35	1.18	1.00	
	40	Q	3520	2690	1990	1400	912	
		P	1.80	1.59	1.37	1.16	0.96	
	50	Q	2890	2170	1570	1060	628	
		P	1.87	1.61	1.36	1.11	0.88	
HAX22e/160-4	30	Q	5200	4010	3010	2160	1470	
		P	2.03	1.83	1.61	1.39	1.17	
	40	Q	4400	3340	2440	1690	1070	
		P	2.16	1.90	1.63	1.36	1.10	
	50	Q	3620	2680	1900	1240	688	
		P	2.24	1.92	1.60	1.29	1.00	
HAX22e/190-4	30	Q	6280	4920	3770	2800	2010	
		P	2.47	2.22	1.96	1.70	1.44	
	40	Q	5420	4190	3150	2290	1570	
		P	2.66	2.34	2.02	1.70	1.40	
	50	Q	4540	3450	2540	1770	1130	
		P	2.79	2.40	2.02	1.65	1.30	
HAX34e/215-4	30	Q	6760	5220	3900	2810	1900	
		P	2.59	2.31	2.03	1.74	1.44	
	40	Q	5670	4280	3110	2130	1310	
		P	2.76	2.40	2.03	1.67	1.31	
	50	Q	4580	3350	2320	1450	728	
		P	2.86	2.40	1.96	1.52	1.10	
HAX34e/255-4	30	Q	8220	6390	4830	3530	2460	
		P	3.15	2.80	2.44	2.08	1.72	
	40	Q	6940	5320	3940	2790	1830	
		P	3.37	2.93	2.48	2.04	1.62	
	50	Q	5700	4280	3080	2080	1240	
		P	3.52	2.98	2.45	1.94	1.45	
HAX34e/315-4	30	Q	10400	7990	6010	4360	3010	
		P	3.85	3.42	2.99	2.55	2.11	
	40	Q	8740	6640	4870	3400	2210	
		P	4.14	3.59	3.04	2.50	1.99	
	50	Q	7150	5290	3750	2480	1450	
		P	4.32	3.65	2.99	2.36	1.77	
HAX34e/380-4	30	Q	12600	9790	7410	5420	3770	
		P	4.74	4.22	3.68	3.14	2.60	
	40	Q	10800	8180	6040	4250	2760	
		P	5.15	4.48	3.81	3.14	2.49	
	50	Q	8800	6560	4660	3070	1750	
		P	5.42	4.60	3.79	3.00	2.25	
HAX44e/475-4	30	Q	16200	12600	9450	6870	4740	
		P	5.77	5.16	4.52	3.86	3.20	
	40	Q	13800	10500	7720	5400	3480	
		P	6.19	5.39	4.58	3.77	2.97	
	50	Q	11400	8450	6000	3950	2240	
		P	6.44	5.46	4.47	3.51	2.58	
HAX44e/565-4	30	Q	20100	15700	11900	8720	6120	
		P	7.03	6.31	5.55	4.77	3.98	
	40	Q	17300	13300	9880	7050	4690	
		P	7.60	6.67	5.72	4.77	3.83	
	50	Q	14500	11000	7910	5390	3290	
		P	7.99	6.85	5.72	4.60	3.52	
HAX44e/665-4	30	Q	22700	17700	13500	9940	7020	
		P	8.04	7.16	6.26	5.33	4.41	
	40	Q	19600	15100	11300	8070	5430	
		P	8.73	7.60	6.47	5.34	4.25	
	50	Q	16400	12400	9040	6240	3890	
		P	9.23	7.85	6.49	5.18	3.92	

Relating to 20 °C suction gas temperature
without liquid subcooling

Reduced suction
gas temperature

¹ Asercom certified

vap.bock.de

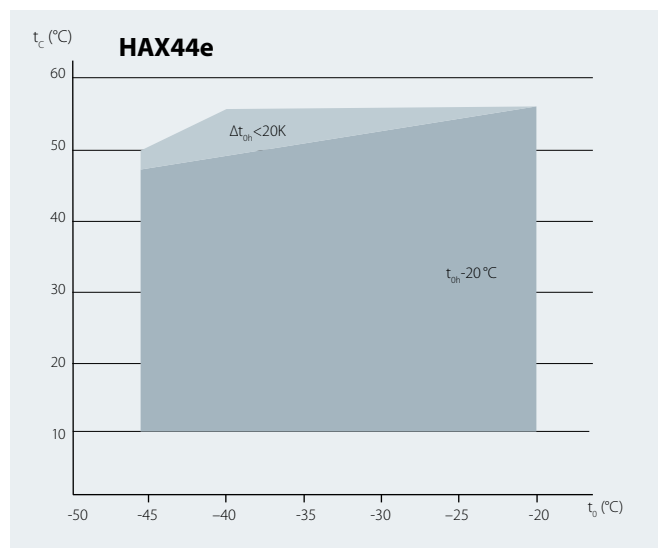
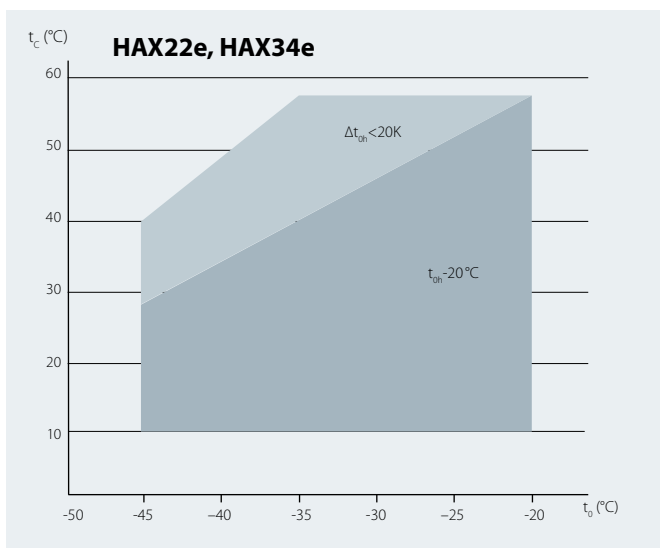


HA semi-hermetic compressors

Operating limits



R407A



t_o Evaporating temperature (°C)
 t_c Condensing temperature (°C)
 Δt_{oh} Suction gas superheat (K)
 t_{oh} Suction gas temperature (°C)

- Unlimited application range
- Reduced suction gas temperature

Max. permissible operating pressure (LP/HP) ¹⁾: 19/28 bar

¹⁾ LP = low pressure, HP = high pressure

NOTES!

Operating limits

Compressor operation is possible within the limits shown on the application diagrams. Please note the colored areas. Compressor application limits should not be chosen for design purposes or continuous operation.

Restrictions to operating limits may occur when using a frequency converter. For further explanations consult www.bock.de.

Performance data

The performance data for R407A are based on European Standard EN 12900 with a 50 Hz power supply frequency. This signifies: 20°C suction gas temperature without liquid subcooling.

Evaporation and condensing temperatures are based on the dew point values (saturated vapour conditions).

Conversion factor for 60 Hz = 1.2

Performance data for other operating points, see BOCK VAP software (vap.bock.de).

HA semi-hermetic compressors

Performance data



R407A | 50Hz

Type	Cond. temp. °C		Cooling capacity QO [W]			Power consumption Pe [kW]		
			Evaporating temperature °C					
			-20	-25	-30	-35	-40	
HAX22e/125-4	30	Q	4090	3120	2330	1680	1140	
		P	1.65	1.48	1.30	1.12	0.95	
	40	Q	3460	2600	1900	1310	804	
		P	1.76	1.53	1.30	1.08	0.88	
	50	Q	2830	2070	1450	923	454	
		P	1.81	1.53	1.26	1.00	0.77	
HAX22e/160-4	30	Q	5110	3890	2870	2030	1350	
		P	1.98	1.77	1.54	1.32	1.10	
	40	Q	4330	3230	2310	1550	920	
		P	2.10	1.82	1.54	1.27	1.00	
	50	Q	3530	2550	1730	1060	503	
		P	2.16	1.82	1.48	1.15	0.84	
HAX22e/190-4	30	Q	6160	4750	3610	2670	1880	
		P	2.41	2.15	1.88	1.62	1.36	
	40	Q	5330	4060	3020	2150	1400	
		P	2.59	2.25	1.92	1.59	1.29	
	50	Q	4440	3310	2370	1560	844	
		P	2.70	2.28	1.87	1.48	1.12	
HAX34e/215-4	30	Q	6700	5120	3790	2680	1770	
		P	2.51	2.25	1.97	1.68	1.39	
	40	Q	5630	4200	3000	2000	1170	
		P	2.69	2.33	1.97	1.60	1.24	
	50	Q	4540	3260	2200	1310	561	
		P	2.78	2.32	1.87	1.42	1.00	
HAX34e/255-4	30	Q	8160	6290	4710	3390	2310	
		P	3.05	2.71	2.37	2.01	1.66	
	40	Q	6920	5240	3820	2640	1660	
		P	3.28	2.85	2.40	1.96	1.54	
	50	Q	5680	4190	2940	1900	1030	
		P	3.43	2.89	2.35	1.83	1.33	
HAX34e/315-4	30	Q	10300	7850	5850	4180	2810	
		P	3.76	3.33	2.88	2.42	1.97	
	40	Q	8630	6500	4710	3220	1990	
		P	4.04	3.48	2.91	2.35	1.80	
	50	Q	7060	5180	3600	2280	1200	
		P	4.21	3.51	2.83	2.16	1.52	
HAX34e/380-4	30	Q	12500	9590	7220	5230	3540	
		P	4.64	4.10	3.55	2.98	2.42	
	40	Q	10600	8010	5870	4060	2480	
		P	5.03	4.35	3.65	2.95	2.26	
	50	Q	8690	6420	4500	2860	1390	
		P	5.28	4.44	3.60	2.76	1.95	
HAX44e/475-4	30	Q	15800	12200	9080	6510	4400	
		P	5.69	5.08	4.44	3.78	3.11	
	40	Q	13400	10100	7350	5050	3160	
		P	6.08	5.28	4.46	3.64	2.84	
	50	Q	11000	8090	5650	3620	1940	
		P	6.30	5.31	4.32	3.35	2.41	
HAX44e/565-4	30	Q	19600	15200	11400	8280	5710	
		P	6.94	6.22	5.45	4.66	3.88	
	40	Q	16800	12800	9430	6630	4310	
		P	7.48	6.54	5.58	4.63	3.69	
	50	Q	14100	10500	7490	5000	2940	
		P	7.83	6.69	5.54	4.42	3.34	
HAX44e/665-4	30	Q	22200	17200	13000	9450	6560	
		P	7.93	7.05	6.14	5.21	4.29	
	40	Q	19000	14600	10800	7600	5000	
		P	8.58	7.44	6.30	5.18	4.09	
	50	Q	15900	11900	8570	5800	3490	
		P	9.03	7.65	6.29	4.97	3.72	

Relating to 20 °C suction gas temperature
without liquid subcooling

Reduced suction
gas temperature

¹ Asercom certified

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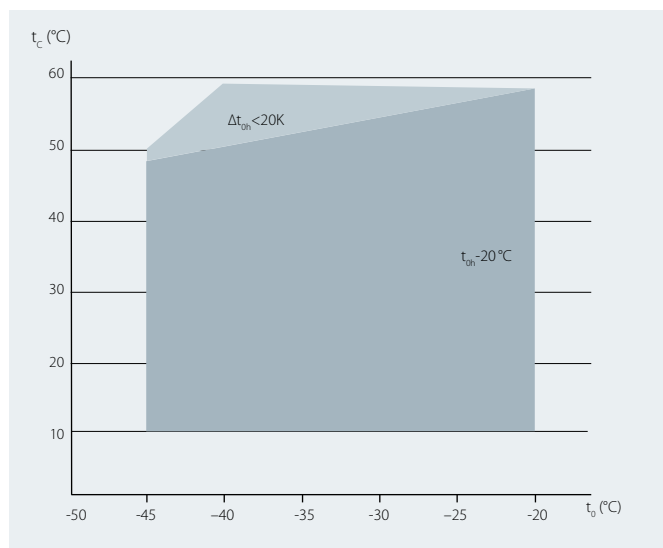


HA semi-hermetic compressors

Operating limits



R407F



t_o Evaporating temperature (°C)
 t_c Condensing temperature (°C)
 Δt_{oh} Suction gas superheat (K)
 t_{oh} Suction gas temperature (°C)

- Unlimited application range
- Reduced suction gas temperature

Max. permissible operating pressure (LP/HP) ¹⁾: 19/28 bar

¹⁾ LP = low pressure, HP = high pressure

NOTES!

Operating limits

Compressor operation is possible within the limits shown on the application diagrams. Please note the colored areas. Compressor application limits should not be chosen for design purposes or continuous operation.

Restrictions to operating limits may occur when using a frequency converter. For further explanations consult www.bock.de.

Performance data

The performance data for R407F are based on European Standard EN 12900 with a 50 Hz power supply frequency. This signifies: 20°C suction gas temperature without liquid subcooling.

Evaporation and condensing temperatures are based on the dew point values (saturated vapour conditions).

Conversion factor for 60 Hz = 1.2

Performance data for other operating points, see BOCK VAP software (vap.bock.de).

HA semi-hermetic compressors

Performance data



R407F | 50Hz

Type	Cond. temp. °C		Cooling capacity QO [W]			Power consumption Pe [kW]		
			Evaporating temperature °C					
			-20	-25	-30	-35	-40	
HAX22e/125-4	30	Q	4300	3270	2420	1730	1190	
		P	1.72	1.54	1.35	1.17	1.00	
	40	Q	3670	2740	1990	1380	912	
		P	1.84	1.60	1.37	1.15	0.96	
	50	Q	3030	2220	1570	1060	669	
		P	1.90	1.62	1.35	1.11	0.90	
HAX22e/160-4	30	Q	5370	4060	2980	2110	1420	
		P	2.06	1.84	1.61	1.38	1.17	
	40	Q	4590	3400	2440	1660	1060	
		P	2.20	1.91	1.62	1.36	1.11	
	50	Q	3790	2750	1900	1230	722	
		P	2.28	1.93	1.59	1.29	1.02	
HAX22e/190-4	30	Q	6490	4990	3750	2740	1960	
		P	2.52	2.24	1.96	1.70	1.45	
	40	Q	5660	4280	3160	2260	1580	
		P	2.72	2.36	2.02	1.70	1.41	
	50	Q	4770	3540	2550	1780	1210	
		P	2.84	2.41	2.01	1.65	1.33	
HAX34e/215-4	30	Q	7030	5370	3970	2820	1910	
		P	2.67	2.37	2.06	1.75	1.45	
	40	Q	5930	4440	3180	2150	1330	
		P	2.86	2.47	2.07	1.68	1.32	
	50	Q	4800	3480	2360	1450	726	
		P	2.94	2.45	1.97	1.51	1.09	
HAX34e/255-4	30	Q	8540	6570	4920	3560	2480	
		P	3.25	2.87	2.48	2.09	1.73	
	40	Q	7270	5510	4040	2840	1880	
		P	3.49	3.00	2.52	2.06	1.64	
	50	Q	6000	4450	3170	2120	1290	
		P	3.63	3.05	2.48	1.94	1.46	
HAX34e/315-4	30	Q	10800	8160	6000	4240	2860	
		P	4.03	3.53	3.03	2.54	2.09	
	40	Q	9110	6770	4860	3320	2120	
		P	4.33	3.69	3.07	2.49	1.97	
	50	Q	7460	5410	3760	2450	1450	
		P	4.50	3.73	3.01	2.35	1.78	
HAX34e/380-4	30	Q	13100	9990	7400	5280	3580	
		P	4.97	4.36	3.74	3.14	2.57	
	40	Q	11200	8350	6030	4140	2630	
		P	5.38	4.61	3.85	3.13	2.47	
	50	Q	9190	6700	4650	3010	1720	
		P	5.64	4.71	3.82	3.00	2.25	
HAX44e/475-4	30	Q	17000	13000	9640	6910	4670	
		P	5.99	5.34	4.65	3.95	3.25	
	40	Q	14500	11000	7980	5560	3570	
		P	6.42	5.59	4.75	3.93	3.13	
	50	Q	11900	8800	6260	4170	2460	
		P	6.68	5.67	4.69	3.75	2.87	
HAX44e/565-4	30	Q	21100	16200	12100	8770	6050	
		P	7.30	6.52	5.72	4.89	4.05	
	40	Q	18200	13900	10300	7270	4850	
		P	7.88	6.91	5.94	4.99	4.06	
	50	Q	15200	11400	8270	5730	3640	
		P	8.28	7.13	6.01	4.94	3.94	
HAX44e/665-4	30	Q	23900	18300	13800	10100	6950	
		P	8.35	7.42	6.45	5.47	4.49	
	40	Q	20600	15700	11700	8350	5620	
		P	9.07	7.90	6.73	5.60	4.53	
	50	Q	17200	13000	9480	6650	4310	
		P	9.59	8.19	6.86	5.60	4.45	

Relating to 20 °C suction gas temperature
without liquid subcooling

Reduced suction
gas temperature

Asercom certified

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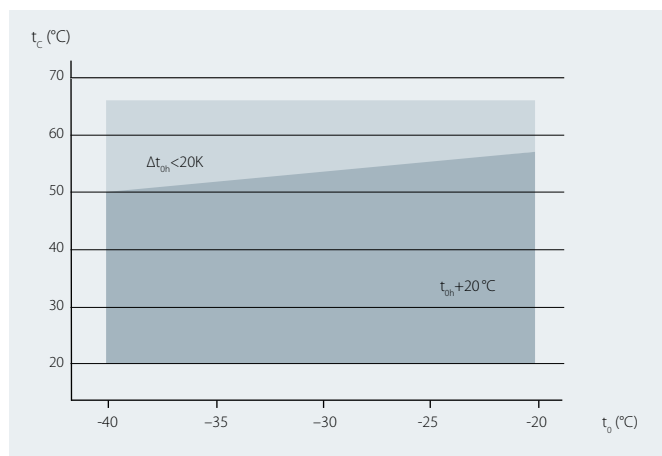


HA semi-hermetic compressors

Operating limits



R22



t_o Evaporating temperature (°C)
 t_c Condensing temperature (°C)
 Δt_{oh} Suction gas superheat (K)
 t_{oh} Suction gas temperature (°C)

- Unlimited application range
- Reduced suction gas temperature

Max. permissible operating pressure (LP/HP) ¹⁾: 19/28 bar

¹⁾ LP = low pressure, HP = high pressure

NOTES!

Operating limits

Compressor operation is possible within the limits shown on the application diagrams. Please note the colored areas. Compressor application limits should not be chosen for design purposes or continuous operation.

Restrictions to operating limits may occur when using a frequency converter. For further explanations consult www.bock.de.

Performance data

The performance data for R22 are based on European Standard EN 12900 with a 50 Hz power supply frequency. This signifies: 20°C suction gas temperature without liquid subcooling.

Evaporation and condensing temperatures are based on the dew point values (saturated vapour conditions).

Conversion factor for 60 Hz = 1.2

Performance data for other operating points, see BOCK VAP software (vap.bock.de).

HA semi-hermetic compressors

Performance data



R22 | 50Hz

Type	Cond. temp. °C		Cooling capacity QO [W]			Power consumption Pe [kW]		
			Evaporating temperature °C					
			-20	-25	-30	-35	-40	
HA22e/125-4	30	Q	4270	3360	2590	1930	1390	
		P	1.73	1.58	1.42	1.26	1.09	
	40	Q	3710	2890	2190	1600	1100	
		P	1.86	1.67	1.47	1.27	1.07	
	50	Q	3180	2440	1820	1290	836	
		P	1.96	1.73	1.49	1.25	1.03	
HA22e/160-4	30	Q	5330	4180	3200	2370	1680	
		P	2.07	1.89	1.70	1.50	1.29	
	40	Q	4650	3600	2700	1950	1310	
		P	2.23	2.00	1.75	1.50	1.26	
	50	Q	3980	3040	2230	1540	960	
		P	2.35	2.06	1.77	1.48	1.19	
HA22e/190-4	30	Q	6400	5080	3960	3010	2230	
		P	2.52	2.29	2.06	1.82	1.57	
	40	Q	5670	4460	3430	2560	1840	
		P	2.74	2.45	2.15	1.86	1.57	
	50	Q	4950	3840	2910	2120	1450	
		P	2.92	2.56	2.21	1.86	1.52	
HA34e/215-4	30	Q	6950	5450	4180	3100	2200	
		P	2.65	2.41	2.15	1.89	1.62	
	40	Q	6030	4660	3490	2500	1670	
		P	2.87	2.55	2.22	1.88	1.54	
	50	Q	5110	3870	2800	1900	1140	
		P	3.04	2.63	2.21	1.80	1.41	
HA34e/255-4	30	Q	8420	6640	5130	3850	2780	
		P	3.22	2.90	2.58	2.24	1.91	
	40	Q	7340	5720	4350	3190	2220	
		P	3.49	3.09	2.68	2.27	1.86	
	50	Q	6290	4840	3600	2560	1680	
		P	3.71	3.21	2.72	2.23	1.77	
HA34e/315-4	30	Q	10600	8310	6380	4750	3410	
		P	3.92	3.55	3.15	2.75	2.35	
	40	Q	9240	7150	5390	3910	2690	
		P	4.29	3.79	3.28	2.78	2.29	
	50	Q	7890	6010	4420	3090	1990	
		P	4.56	3.94	3.32	2.73	2.16	
HA34e/380-4	30	Q	12900	10200	7830	5880	4250	
		P	4.82	4.35	3.86	3.36	2.85	
	40	Q	11300	8780	6650	4850	3350	
		P	5.31	4.70	4.08	3.45	2.84	
	50	Q	9670	7400	5460	3820	2430	
		P	5.68	4.92	4.17	3.43	2.71	
HA44e/475-4	30	Q	16600	13100	10100	7510	5390	
		P	5.88	5.35	4.77	4.17	3.56	
	40	Q	14600	11300	8550	6220	4270	
		P	6.40	5.69	4.95	4.19	3.44	
	50	Q	12600	9580	7070	4940	3150	
		P	6.79	5.89	4.98	4.08	3.19	
HA44e/565-4	30	Q	20500	16200	12500	9420	6850	
		P	7.15	6.51	5.82	5.10	4.37	
	40	Q	18100	14200	10900	7970	5590	
		P	7.83	6.98	6.11	5.23	4.34	
	50	Q	15800	12200	9120	6520	4330	
		P	8.35	7.31	6.26	5.21	4.18	
HA44e/665-4	30	Q	23200	18400	14300	10800	7850	
		P	8.17	7.39	6.57	5.72	4.86	
	40	Q	20500	16100	12300	9120	6450	
		P	8.99	7.97	6.92	5.87	4.84	
	50	Q	17900	13900	10500	7520	5070	
		P	9.65	8.38	7.12	5.88	4.68	

Relating to 20 °C suction gas temperature
without liquid subcooling

Reduced suction
gas temperature

¹ Asercom certified

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HA semi-hermetic compressors

Technical data



HA

Type	Number of cylinders	Displacement		Electrical data						Weight	Connections 5)				Oil charge	Frequency range
				Voltage 1)	Max. Working current 2)		Max. Power consumption 2)	Starting current (rotor locked)			Discharge line DV		Suction line SV			
		m3/h														
		50 Hz 1450 rpm	60 Hz 1,740 rpm		Δ	Y	Δ	Y	mm	inch	mm	inch	Ltr.	Hz		
HA22e/125-4	2	11.10	13.30	3)	8.1	4.7	2.4	69	40	75.5	12	1/2	16	5/8	1.1	30–70
HA22e/160-4	2	13.70	16.40	3)	9.6	5.5	2.9	87	50	77.5	12	1/2	16	5/8	1.1	30–70
HA22e/190-4	2	16.50	19.80	3)	10.9	6.3	3.5	87	50	76.5	12	1/2	16	5/8	1.1	30–70
HA34e/215-4	4	18.80	22.60	3)	12.1	7.0	4.0	87	50	94.0	16	5/8	22	7/8	1.3	25–70
HA34e/255-4	4	22.10	26.60	3)	13.8	8.0	4.7	87	50	93.5	16	5/8	22	7/8	1.3	25–70
HA34e/315-4	4	27.30	32.80	3)	17.1	9.9	5.8	111	64	96.5	16	5/8	22	7/8	1.3	25–70
HA34e/380-4	4	33.10	39.70	3)	19.4	11.2	6.4	132	76	96.0	16	5/8	22	7/8	1.3	25–70
					PW 1+2*		PW1/PW1+2*									
HA44e/475-4	4	41.30	49.60	4)	15.2		7.6	87	149	174.0	28	1 1/8	35	1 3/8	2.7	25–70
HA44e/565-4	4	49.20	59.00	4)	18.3		9.4	101	174	178.5	28	1 1/8	35	1 3/8	2.7	25–70
HA44e/665-4	4	57.70	69.30	4)	20.3		11.0	101	174	173.5	28	1 1/8	35	1 3/8	2.7	25–70

*PW = Part Winding, motors for part winding start 1 = first part winding 2 = second part winding

Explanations

- 1) Tolerance ($\pm 10\%$) relates to the mean value of the voltage range. Other voltages and current types on request.
- 2) • The specifications for max. power consumption apply for 50 Hz operation. For 60 Hz operation, the specifications have to be multiplied by the factor 1.2. The max. working current remains unchanged.
• Take account of the max. operating current / max. power consumption when designing contactors, leads and fuses.
Switches: Service category AC3
- 3) 220–240 V Δ / 380–420 V Y - 3 - 50 Hz,
265–290 V Δ / 440–480 V Y - 3 - 60 Hz
- 4) PW = Part Winding, motors for part winding start (no start unloaders required)
 - Winding ratios: HA44e = 50 % / 50 %
 - Designs for Y/ Δ on request
- 5) For soldering connections

Oil sump heater 110-240 V - 1 - 50/60 Hz (option)

- HA22e, HA34e: 50–120 W
- PTC heater, self-regulating, installation in housing bore

Oil sump heater 230 V - 1 - 50/60 Hz (option)

- HA44e: 160 W
- Permanently set version, installation in immersion sleeve

Fan motors for the HA version 230 V - 1 - 50/60 Hz

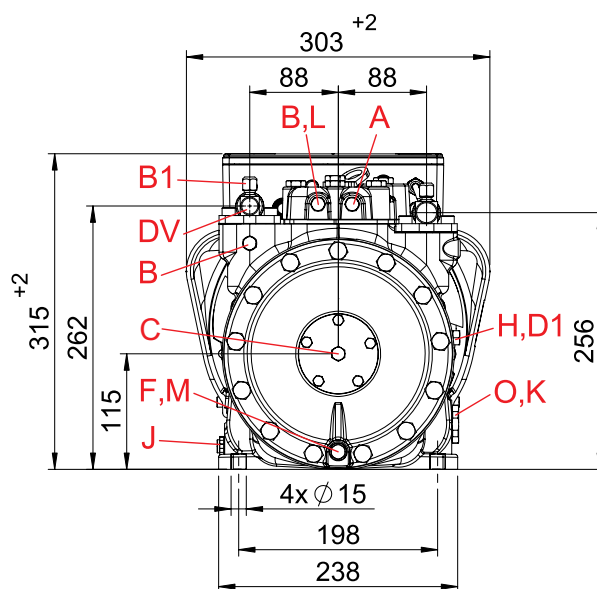
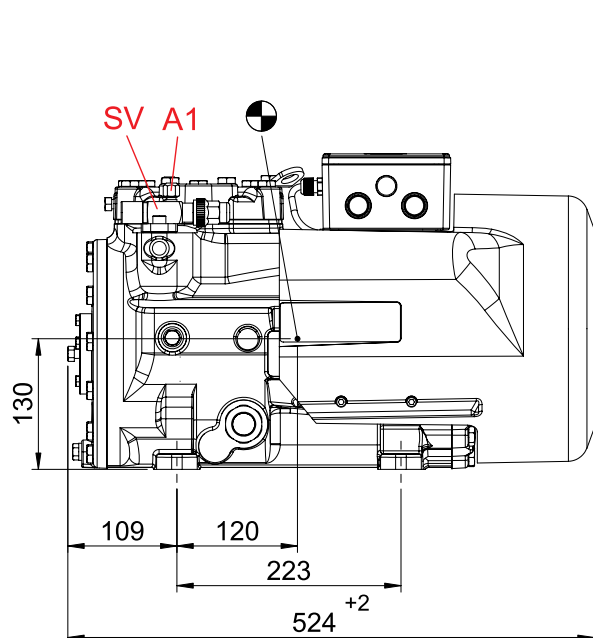
- HA22e, HA34e: 38 W / 0.17 A
- HA44e: 140 W / 0.71 A

HA semi-hermetic compressors

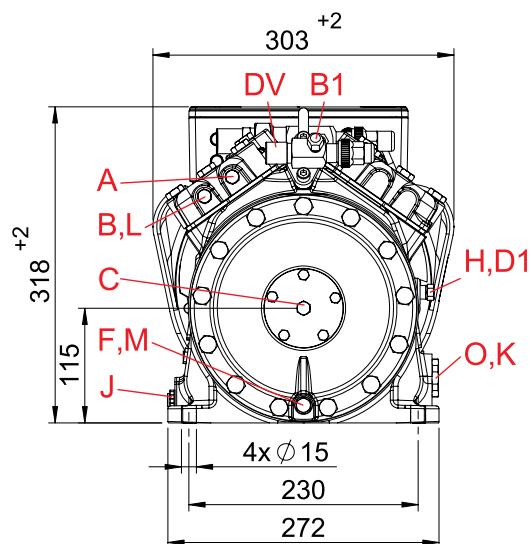
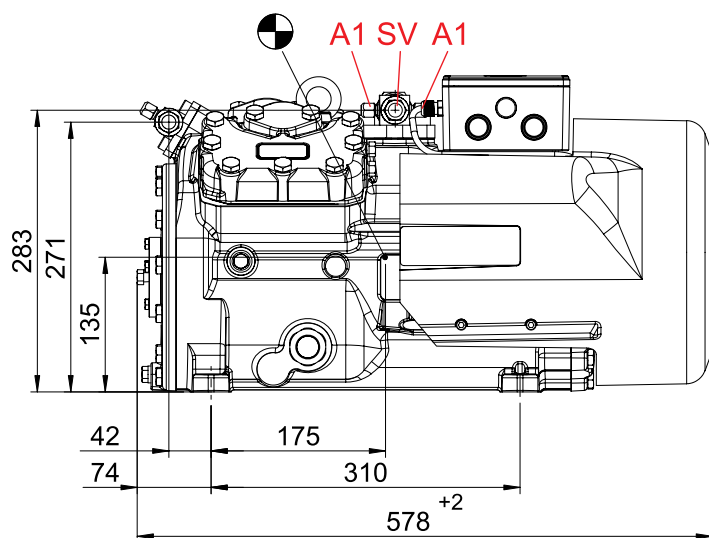
Dimensions and connections



» HA22e/125-4 » HA22e/160-4 » HA22e/190-4



» HA34e/215-4 » HA34e/255-4 » HA34e/315-4 » HA34e/380-4



Dimensions in mm
 Center of gravity

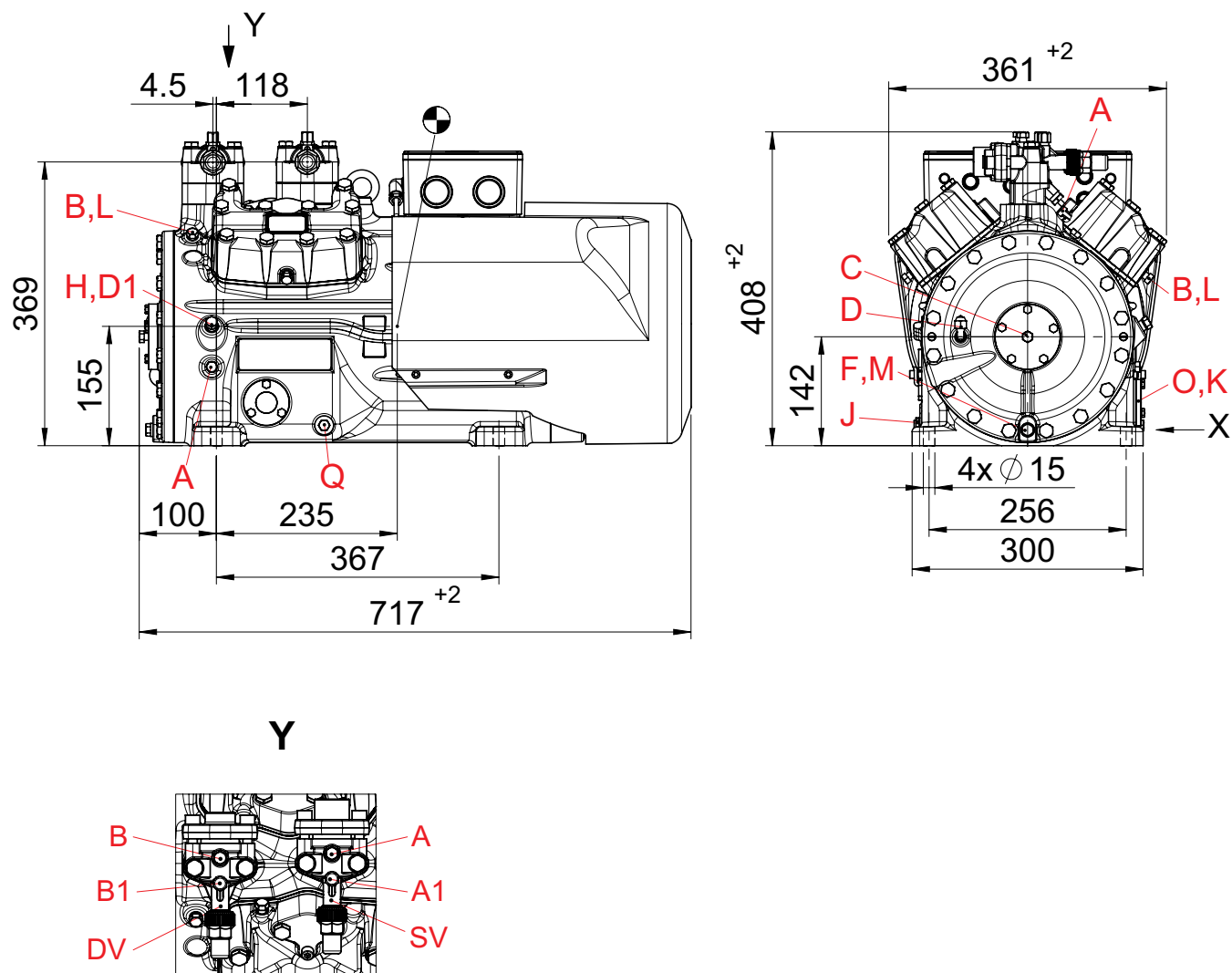
Connections see page 91
 Dimensions for anti-vibration pad see page 89
 Dimensions for view X see page 89

HA semi-hermetic compressors

Dimensions and connections



HA44e » HA44e/475-4 » HA44e/565-4 » HA44e/665-4



Dimensions in mm

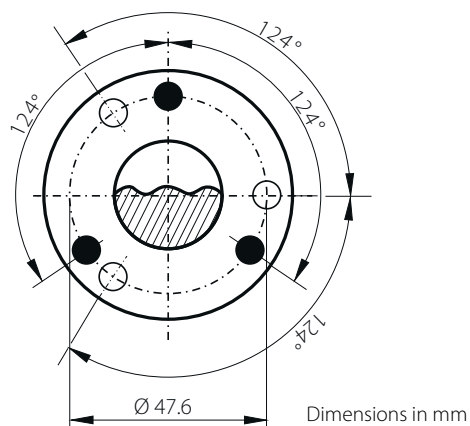
● Center of gravity

Connections see page 91
 Dimensions for anti-vibration pad see page 89
 Dimensions for view X see page 89

HA semi-hermetic compressors

Dimensions and connections

View X



Possibility to connect to oil level regulator

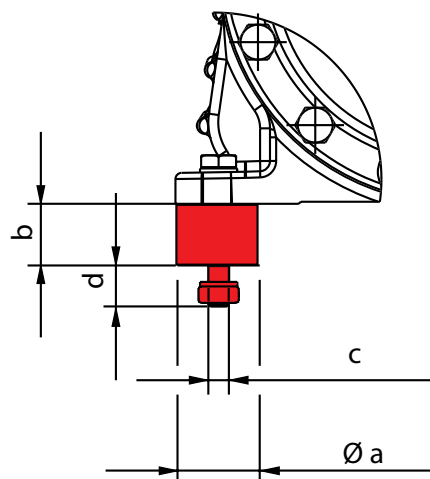
HA44e

- Three-hole connection for oil level regulator of brands ESK, AC+R, CARLY (3 x M6 x 10 deep)
- Three-hole connection for oil level regulator of brand TRAXOIL (3 x M6 x 10 deep)

Dimensions for anti-vibration pad

Type	Ø a	b	c	d
HA22e	40	30	M10	20
HA34e	40	30	M10	20
HA44e	50	30	M12	25

Dimensions in mm



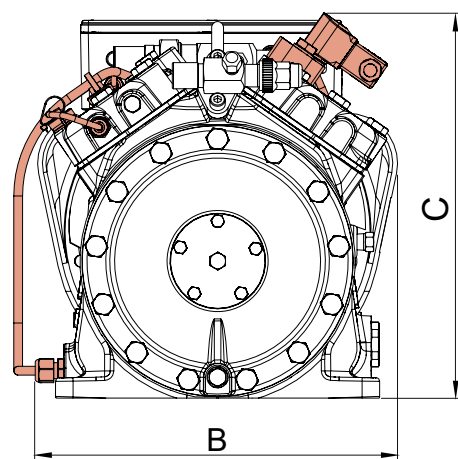
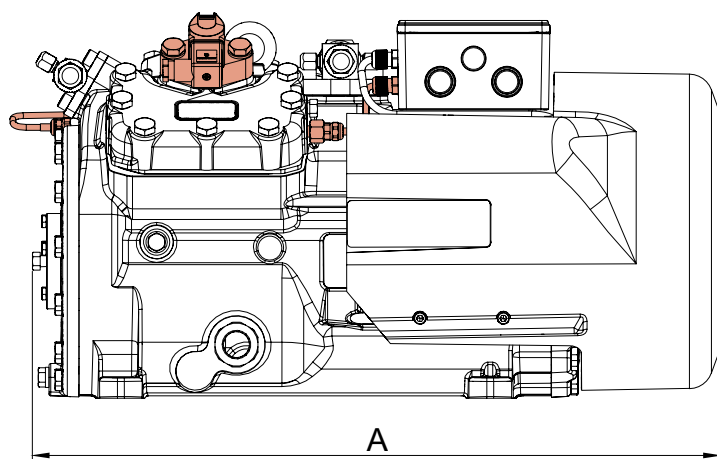
HA semi-hermetic compressors

Dimensions and connections



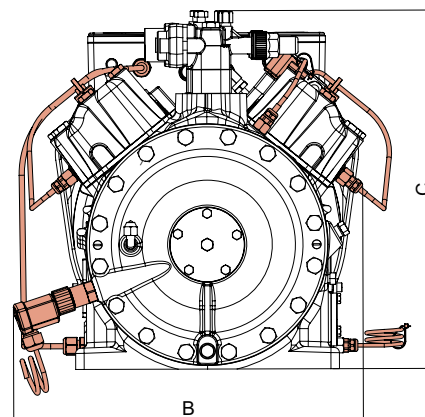
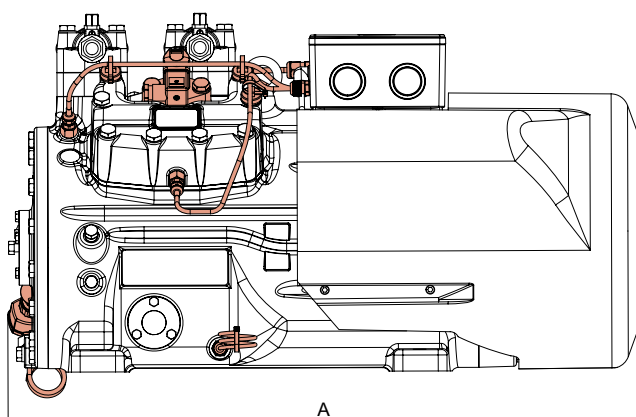
HA22e | HA34e

Dimensions with accessories



HA44e

Dimensions with accessories



Type	A	B	C
HA22e	ca. 525	ca. 305	ca. 315
HA34e	ca. 600	ca. 305	ca. 325
HA44e	ca. 720	ca. 400	ca. 410

Dimensions in mm

HA semi-hermetic compressors

Connections



HA22e | HA34e | HA44e

	Connections	HA22e	HA34e	HA44e
SV	Suction line	Please refer to technical data page 88		
DV	Discharge line			
A	Connection suction side, not lockable	1/8" NPTF	1/8" NPTF	1/8" NPTF
A1	Connection suction side, lockable	7/16" UNF	7/16" UNF	7/16" UNF
B	Connection discharge side, not lockable	1/8" NPTF	1/8" NPTF	1/8" NPTF
B1	Connection discharge side, lockable	7/16" UNF	7/16" UNF	7/16" UNF
C	Connection oil pressure safety switch HP	1/8" NPTF	1/8" NPTF	1/8" NPTF
D	Connection oil pressure safety switch LP	-	-	7/16" UNF
D1	Connection oil return from oil separator	1/4" NPTF	1/4" NPTF	1/4" NPTF
F	Oil drain plug	M12 x 1.5	M12 x 1.5	M12 x 1.5
H	Oil charge plug	1/4" NPTF	1/4" NPTF	1/4" NPTF
J	Connection oil sump heater	3/8" NPTF	3/8" NPTF	3/8" NPTF
K	Sight glass	1 1/8" - 18 UNEF	1 1/8" - 18 *UNEF	3 hole M6
L	Connection thermal protection thermostat	1/8" NPTF	1/8" NPTF	1/8" NPTF
M	Oil strainer	M12 x 1.5	M12 x 1.5	M12 x 1.5
O	Connection oil level regulator	1 1/8" - 18 UNEF	1 1/8" - 18 UNEF	3 hole M6
Q	Connection oil temperature sensor	-	-	1/8" NPTF

HA semi-hermetic compressors

Scope of supply and accessories



		HA22e	HA34e	HA44e
Semi-hermetic two-cylinder reciprocating compressor with drive motor for direct start 220 – 240 V Δ / 380 – 420 V Y - 3 - 50 Hz 265 – 290 V Δ / 440 – 480 V Y - 3 - 60 Hz		●	–	–
Semi-hermetic four-cylinder reciprocating compressor with drive motor for direct start 220 – 240 V Δ / 380 – 420 V Y - 3 - 50 Hz 265 – 290 V Δ / 440 – 480 V Y - 3 - 60 Hz		–	●	–
Semi-hermetic four-cylinder reciprocating compressor with drive motor for part winding start (50/50) 380 – 420 V Y/YY - 3 - 50 Hz 440 – 480 V Y/YY - 3 - 60 Hz		–	–	●
Special voltage and/or frequency		○ ³⁾	○ ³⁾	○ ³⁾
Motor is cooled by an integrated fan with air deflection hood 230 V - 1 - 50/60 Hz, IP44 38 W, 0.17		●	●	–
Motor is cooled by an integrated fan with air deflection hood 230 V - 1 - 50/60 Hz, IP44 140 W, 0.71 A		–	–	●
Winding protection with PTC resistor sensors with electronic triggering unit INT69 G		●	●	●
1 Thermal protection PTC		○ ²⁾	○ ²⁾	○ ²⁾
2 Hot gas temperature sensor		–	–	○
Oil pump		●	●	●
Oil charge: HA: BOCKlub A46; HAX: BOCKlub E55		●	●	●
Inert gas charge		●	●	●
4 anti-vibration pads		○ ¹⁾	○ ¹⁾	○ ¹⁾
Internal safety valve		–	–	●
Suction and discharge line valve		●	●	●
Sight glasses		●	●	●
3 Oil sump heater	110 – 240 V - 1 - 50/60 Hz, 50–120 W, PTC heater, self-regulating	○ ²⁾	○ ²⁾	–
	220 – 240 V - 1 - 50/60 Hz, 160 W	–	–	○ ²⁾
Rear bearing flange prepared for oil differential pressure sensor		–	–	● ²⁾
4 Oil differential pressure sensor DELTA-P II 220 – 240 V - 1 - 50/60 Hz		–	–	○ ¹⁾
5 Oil pressure safety switch	230 V - 1 - 50/60 Hz, IP20 MP54	–	–	○ ¹⁾
	230 V - 1 - 50/60 Hz, IP20 MP55	○ ¹⁾	○ ¹⁾	–
7 Capacity regulator 230 V - 1 - 50/60 Hz, IP65 1 capacity regulator = 50% residual capacity		–	○ ²⁾	○ ²⁾

HA semi-hermetic compressors

Scope of supply and accessories



	HA22e	HA34e	HA44e
8 Prepared for capacity regulator (1 cylinder cover)	—	○ ²⁾	○ ²⁾
9 Oil temperature sensor	—	—	○ ²⁾
12 Intermediate flange for discharge line valve on right or left, seen from oil pump	—	—	○ ¹⁾
13 INT69 G Diagnose 115 / 230 V Ac, 50 / 60 Hz, IP00 (INT69 G not applicable)	○ ²⁾	○ ²⁾	○ ²⁾
14 DP – modbus gateway 115 / 230 V Ac, 50 / 60 Hz, IP00 incl. adapter cable	○ ¹⁾	○ ¹⁾	○ ¹⁾
15 Modbus – LAN gateway 230 V Ac, 50 / 60 Hz, IP00	○ ¹⁾	○ ¹⁾	○ ¹⁾
16 USB converter for INT69 G Diagnose and INT69 GTML Diagnose	○ ¹⁾	○ ¹⁾	○ ¹⁾
Connection for oil level regulator of brands ESK, AC+ R or CARLY	○ ⁴⁾	○ ⁴⁾	○
Connection for oil level regulator of brand Traxoil	● ⁴⁾	● ⁴⁾	● ⁴⁾

¹⁾ Enclosed ²⁾ Mounted ³⁾ On request
⁴⁾ Only possible with additional adapter

● Scope of supply (standard)
○ Available accessories



● Pictures see page 67/68

BOCK® HGZ semi-hermetic compressors

HGZ7 two-stage

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Operating limits and performance data	98
Technical data	102
Dimensions and connections	102
Scope of supply & accessories	105

1

2

3



BOCK® HGZ two-stage semi-hermetic compressors

A two-stage variant based on the Bock® HG semi-hermetic 6-cylinder range is available for extended use in the domain of deep-freezing.

The two stage system consists of:

- Liquid subcooler
- Re-injection valve
- Solenoid valve
- Sight glass
- Filter drier

Special features:

- 6-cylinder design
- LP/HP stage ratio 2:1
- 2-stage operation with liquid subcooler
- Re-injection valve adapted to refrigerant and application
- Extremely reliable and economic compressor design

For more information on the HG7 basic compressor see chapter "Single-stage semi-hermetic BOCK® compressors".

Type	Displacement (50 Hz) LP	Displacement (50 Hz) HP
HGZ7/1620-4 R448A/R449A HGZX7/1620-4 R404A/R507 HGZX7/1620-4 R410A HGZ7/1620-4 R22	93.70 m³/h	46.90 m³/h
HGZ7/1860-4 R448A/R449A HGZX7/1860-4 R404A/R507 HGZX7/1860-4 R410A HGZ7/1860-4 R22	107.60 m³/h	53.80 m³/h
HGZ7/2110-4 R448A/R449A HGZX7/2110-4 R404A/R507 HGZX7/2110-4 R410A HGZ7/2110-4 R22	122.40 m³/h	61.20 m³/h

The two possible designs of the HGZ7

Design version: everything enclosed separately

Medium-pressure mixed line mounted on the compressor. Insulated, liquid subcooler, expansion valve, solenoid valve, sight glass, filter drier, everything enclosed separately for individual, external mounting.



Design version: mounted directly to the compressor

Liquid subcooler, expansion valve, solenoid valve, sight glass, filter dryer mounted directly to the compressor, lined and insulated.

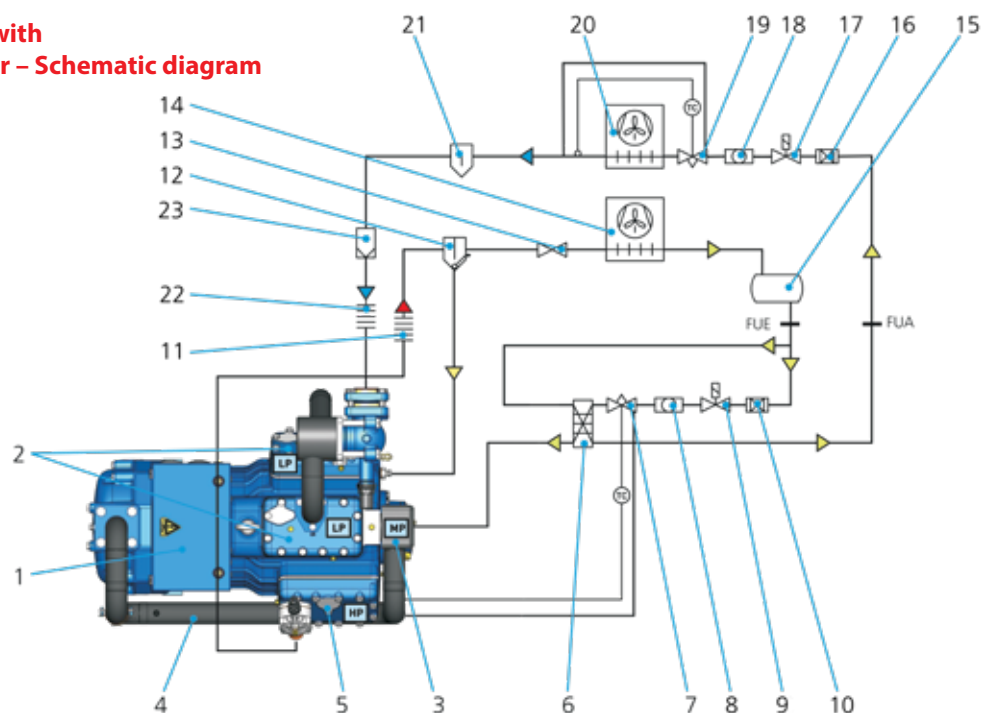


Image similar

BOCK® HGZ two-stage semi-hermetic compressors

Special features

Refrigeration circuit with two-stage compressor – Schematic diagram



Explanations

- | | | |
|-------------------------------------|-------------------------------------|------------------------------------|
| 1) Compressor | 11) Vibration damper, pressure line | 21) Liquid separator |
| 2) Cylinder LP-stage | 12) Oil separator | 22) Vibration damper, suction line |
| 3) Intermediate pressure chamber MP | 13) Non-return valve | 23) Filter suction line |
| 4) Intermediate pressure line MP | 14) Condenser | |
| 5) Cylinder HP-stage | 15) Refrigerant receiver | |
| 6) Subcooler* | 16) Filter drier | LP = Low pressure |
| 7) Re-injection valve* | 17) Solenoid valve | MP = Medium pressure |
| 8) Sight glass* | 18) Sight glass | HP = High pressure |
| 9) Solenoid valve* | 19) Expansion valve (evaporator) | FUE = Liquid subcooler, inlet |
| 10) Filter drier* | 20) Evaporator | FUA = Liquid subcooler, outlet |

* Components for subcooling system not supplied as standard

Type key

HGZ X 7 / 2110 - 4 R404A

- Refrigerant ³⁾
- Number of poles
- Swept volume
- Size
- Ester oil filling ²⁾
- Series ¹⁾

- ¹⁾ HGZ = Hermetic Gas-Cooled (suction-gas-cooled), two-stage
- ²⁾ X = Ester oil filling (HFC refrigerants R404A, R410A)
- ³⁾ e = Possible refrigerants are R404A, R410A, R22, R448A, R449A

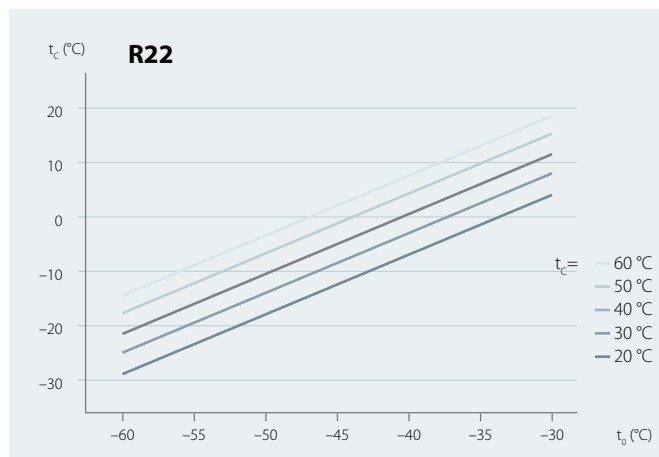
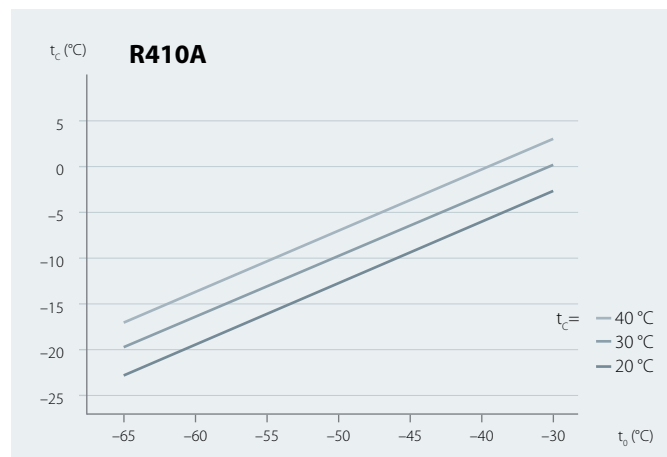
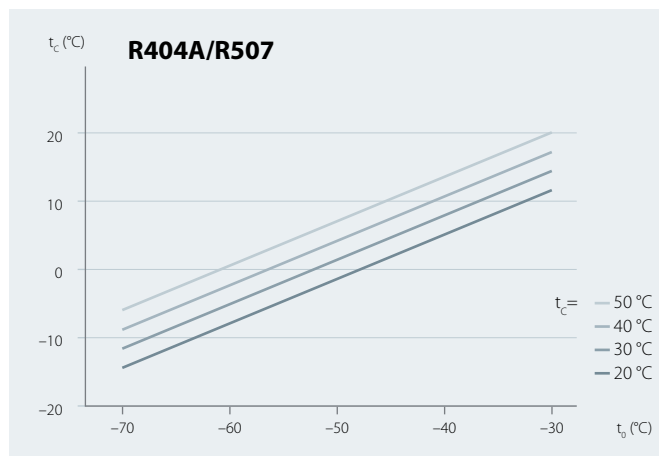
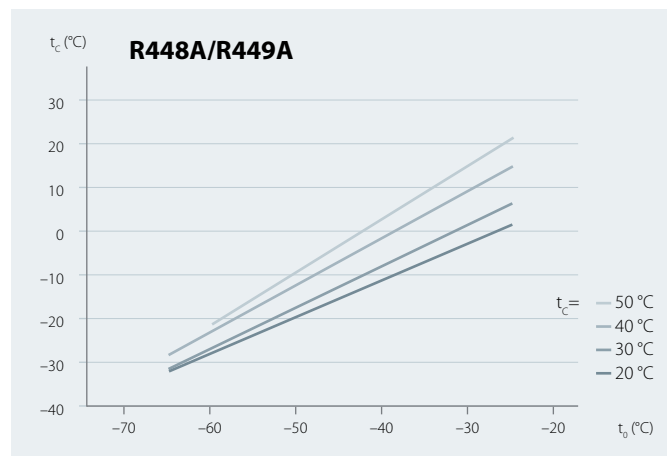
HGZ two-stage semi-hermetic compressors

Operating limits

Subcooling temperature

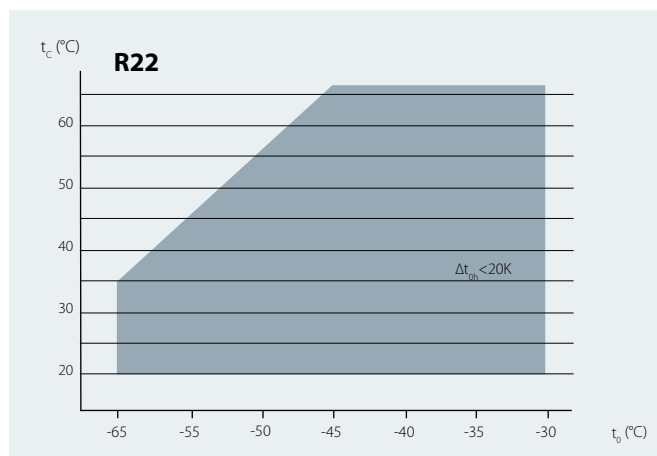
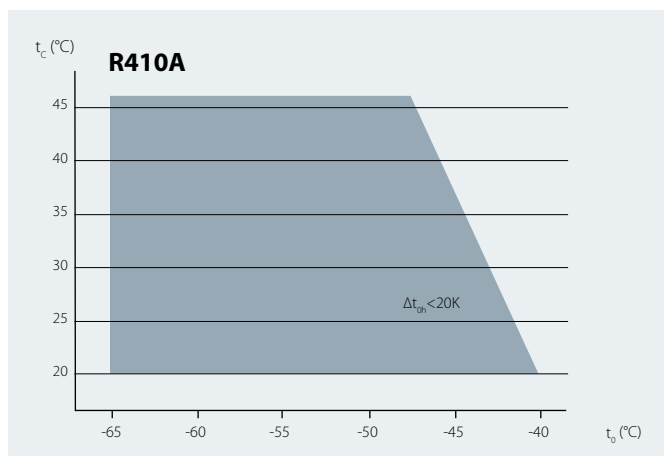
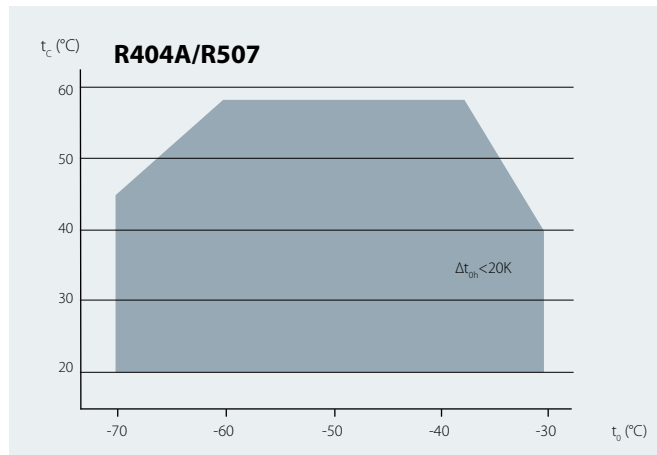
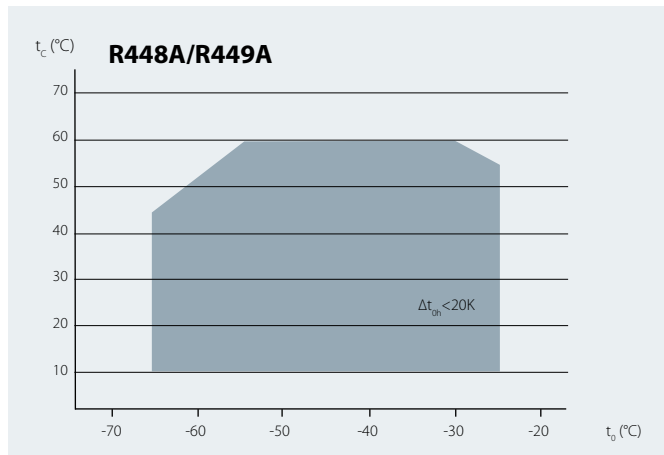
Defined with the help of the diagram by approximately calculating the subcooling temperature arising in the relevant operating conditions (t_o/t_c).

Subcooling temperature calculation diagram for the intermediate cooler outlet



HGZ two-stage semi-hermetic compressors

Operating limits



t_o Evaporating temperature (°C)
 t_c Condensing temperature (°C)
 Δt_{oh} Suction gas superheat (K)
 t_{oh} Suction gas temperature (°C)

● Unlimited application range

Max. permissible operating pressure (LP/HP) ¹⁾: 19/28 bar

¹⁾ LP = low pressure, HP = high pressure

NOTES!

Operating limits

Compressor operation is possible within the limits shown on the application diagrams. Please note the colored areas. Compressor application limits should not be chosen for design purposes or continuous operation.

Performance data

The stated performance values are based on 10 K suction gas superheat with liquid subcooling, operating at 50 Hz.

Performance data were compiled for R404A and R507. The base values are the data for R404A.

Conversion factor für 60 Hz = 1.2
 Performance data for other operating points, see BOCK VAP software (vap.bock.de).

HGZ two-stage semi-hermetic compressors

Performance data



R448A | 50Hz

Type	Cond. temp. °C		Cooling capacity QO [W]			Power consumption Pe [kW]				
			Evaporating temperature °C							
			-30	-35	-40	-45	-50	-55	-60	
HGZX7/1620-4	30	Q	30500	25000	19900	15500	11700	8650	6420	
		P	17.10	15.50	13.90	12.30	10.80	9.51	8.32	
	40	Q	28900	23700	19000	14900	11400	8460	6360	
		P	19.10	17.20	15.40	13.60	12.00	10.40	9.06	
	50	Q	27000	22300	18000	14200	10900	8260	6330	
		P	21.00	19.00	17.00	15.10	13.20	11.50	9.95	
HGZX7/1860-4	30	Q	35100	28700	22900	17800	13500	9930	7370	
		P	19.70	17.80	15.90	14.10	12.40	10.90	9.56	
	40	Q	33100	27200	21800	17100	13000	9720	7300	
		P	21.90	19.80	17.70	15.70	13.80	12.00	10.40	
	50	Q	31000	25600	20600	16300	12500	9480	7270	
		P	24.20	21.80	19.60	17.30	15.20	13.20	11.40	
HGZX7/2110-4	30	Q	39900	32600	26000	20200	15300	11300	8380	
		P	22.40	20.20	18.10	16.10	14.10	12.40	10.80	
	40	Q	37700	31000	24800	19400	14800	11100	8310	
		P	24.90	22.50	20.20	17.80	15.60	13.60	11.80	
	50	Q	35200	29100	23500	18500	14200	10800	8260	
		P	27.50	24.90	22.30	19.70	17.30	15.00	13.00	



R449A | 50Hz

Type	Cond. temp. °C		Cooling capacity QO [W]			Power consumption Pe [kW]				
			Evaporating temperature °C							
			-30	-35	-40	-45	-50	-55	-60	
HGZX7/1620-4	30	Q	30500	24900	19900	15500	11700	8660	6430	
		P	17.00	15.40	13.80	12.30	10.80	9.49	8.31	
	40	Q	28800	23700	19000	14900	11400	8470	6370	
		P	19.00	17.20	15.40	13.60	11.90	10.40	9.05	
	50	Q	26900	22200	17900	14100	10900	8260	6340	
		P	20.90	18.90	17.00	15.00	13.20	11.50	9.93	
HGZX7/1860-4	30	Q	35000	28600	22900	17800	13500	9950	7390	
		P	19.60	17.70	15.90	14.10	12.40	10.90	9.55	
	40	Q	33000	27200	21800	17100	13000	9730	7320	
		P	21.80	19.70	17.60	15.60	13.70	11.90	10.30	
	50	Q	30800	25500	20600	16200	12500	9490	7280	
		P	24.00	21.80	19.50	17.30	15.10	13.20	11.40	
HGZX7/2110-4	30	Q	39800	32500	26000	20200	15300	11400	8400	
		P	22.30	20.20	18.10	16.00	14.10	12.40	10.80	
	40	Q	37600	30900	24800	19400	14800	11100	8330	
		P	24.80	22.40	20.10	17.80	15.60	13.60	11.80	
	50	Q	35100	29000	23400	18500	14200	10800	8280	
		P	27.40	24.80	22.20	19.60	17.20	15.00	12.90	



R404A/R507 | 50Hz

Type	Cond. temp. °C		Cooling capacity QO [W]			Power consumption Pe [kW]					
			Evaporating temperature °C								
			-30	-35	-40	-45	-50	-55	-60	-65	-70
HGZX7/1620-4	30	Q	34869	28471	23098	18628	14936	11899	9394	7296	5482
		P	21.17	19.41	17.63	15.84	14.05	12.31	10.61	8.99	7.46
	40	Q	33437	27315	22181	17910	14380	11467	9047	6997	5192
		P	23.42	21.42	19.40	17.39	15.41	13.48	11.61	9.84	8.17
	50	Q	-	25860	20950	16866	13484	10680	8332	6315	-
		P	-	23.49	21.24	19.02	16.84	14.72	12.68	10.75	-
HGZX7/1860-4	30	Q	40042	32694	26525	21391	17152	13665	10787	8378	6294
		P	24.31	22.29	20.24	18.18	16.14	14.13	12.19	10.32	8.56
	40	Q	38397	31367	25471	20567	16514	13169	10390	8035	5962
		P	26.90	24.60	22.28	19.97	17.70	15.48	13.34	11.30	9.38
	50	Q	-	29696	24057	19367	15484	12265	9568	7252	-
		P	-	26.98	24.39	21.84	19.33	16.90	14.56	12.35	-
HGZX7/2110-4	30	Q	45550	37191	30173	24334	19511	15544	12271	9530	7160
		P	27.66	25.36	23.03	20.69	18.36	16.08	13.86	11.74	9.74
	40	Q	43679	35681	28974	23396	18785	14980	11819	9140	6782
		P	30.60	27.98	25.34	22.72	20.13	17.61	15.17	12.85	10.67
	50	Q	-	33780	27366	22031	17614	13952	10884	8249	-
		P	-	30.69	27.75	24.84	21.99	19.23	16.57	14.04	-

HGZ two-stage semi-hermetic compressors

Performance data



R410A | 50Hz

Type	Cond. temp. °C		Cooling capacity QO [W]			Power consumption Pe [kW]	
			Evaporating temperature °C				
			-45	-50	-55	-60	-65
HGZX7/1620-4	30	Q	25354	19967	15285	11396	8385
		P	22.89	20.80	18.67	16.43	14.00
	50	Q	-	19131	14630	10868	7930
		P	-	22.87	20.63	18.25	15.68
HGZX7/1860-4	30	Q	29182	22859	17530	13136	9614
		P	26.28	23.89	21.44	18.87	16.08
	50	Q	-	21959	16774	12508	9101
		P	-	26.26	23.68	20.96	18.00
HGZX7/2110-4	30	Q	33195	26003	19941	14943	10937
		P	29.90	27.17	24.39	21.46	18.29
	50	Q	-	24980	19082	14229	10352
		P	-	29.87	26.94	23.84	20.48



R22 | 50Hz

Type			Cond. temp. °C		Cooling capacity Q0 [W]			Power consumption Pe [kW]			
					Evaporating temperature °C						
					-30	-35	-40	-45	-50	-55	-60
HGZ7/1620-4			30	Q	29711	24214	19448	15365	11921	9070	6765
				P	18.26	16.81	15.40	14.03	12.70	11.41	10.16
			40	Q	29059	23630	18930	14914	11537	8753	-
				P	20.23	18.52	16.86	15.23	13.64	12.10	-
			50	Q	28355	22992	18360	14411	11100	-	-
				P	22.30	20.33	18.41	16.53	14.69	-	-
HGZ7/1860-4			30	Q	27598	22302	17736	13854	-	-	-
				P	24.47	22.25	20.07	17.93	-	-	-
			40	Q	30088	27881	22408	17669	13664	10393	7855
				P	20.97	19.31	17.69	16.11	14.58	13.10	11.67
			50	Q	33296	27181	21800	17153	13240	10061	-
				P	23.23	21.27	19.36	17.49	15.67	13.89	-
HGZ7/2110-4			30	Q	32434	26411	21122	16567	12746	-	-
				P	25.60	23.35	21.14	18.98	16.68	-	-
			40	Q	31503	25572	20375	15912	-	-	-
				P	28.09	25.54	23.04	20.59	-	-	-
			50	Q	38811	31632	25406	20072	15573	11848	8837
				P	23.86	21.96	20.12	18.33	16.59	14.91	13.27
HGZ7/2110-4			40	Q	37960	30868	24729	19483	15071	11433	-
				P	26.43	24.20	22.02	19.89	17.82	15.80	-
			50	Q	37040	30035	23984	18825	14500	-	-
				P	29.13	26.56	24.05	21.59	19.18	-	-
			60	Q	36050	29133	23169	18097	-	-	-
				P	31.96	29.06	26.21	23.42	-	-	-

* Performance data 50 Hz relative to 10 K suction gas superheat with liquid subcooling

† Asercom certified

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Two-stage compressors

*PW = Part Winding, motors for part winding start | 1 = first part winding | 2 = second part winding | ** LP = low pressure | HP = high pressure

Permanently set version, installation in immersion sleeve

- 1) Tolerance ($\pm 10\%$) relates to the mean value of the voltage range. Other voltages and current types on request.
- 2)
 - The specifications for max. power consumption apply for 50 Hz operation. For 60 Hz operation, the specifications have to be multiplied by the factor 1.2. The max. working current remains unchanged.
 - Take account of the max. operating current / max. power consumption when designing contactors, leads and fuses.

Switches: Service category AC3

- 3) 380–420 V Y/YY - 3 - 50 Hz PW
440–480 V Y/YY - 3 - 60 Hz PW
PW = Part Winding, motors for part winding start (no start unloaders required)
Winding ratios: 50% / 50%

Type	Ø a	b	c	d
HGZ7	50	30	M10	25

Technical drawing of a mechanical assembly. The drawing shows a red rectangular block with a red cylindrical component attached to its bottom. A horizontal line with arrows at both ends is labeled $\varnothing a$. A vertical line with arrows at both ends is labeled c . A vertical line with arrows at both ends is labeled b . A vertical line with arrows at both ends is labeled d .

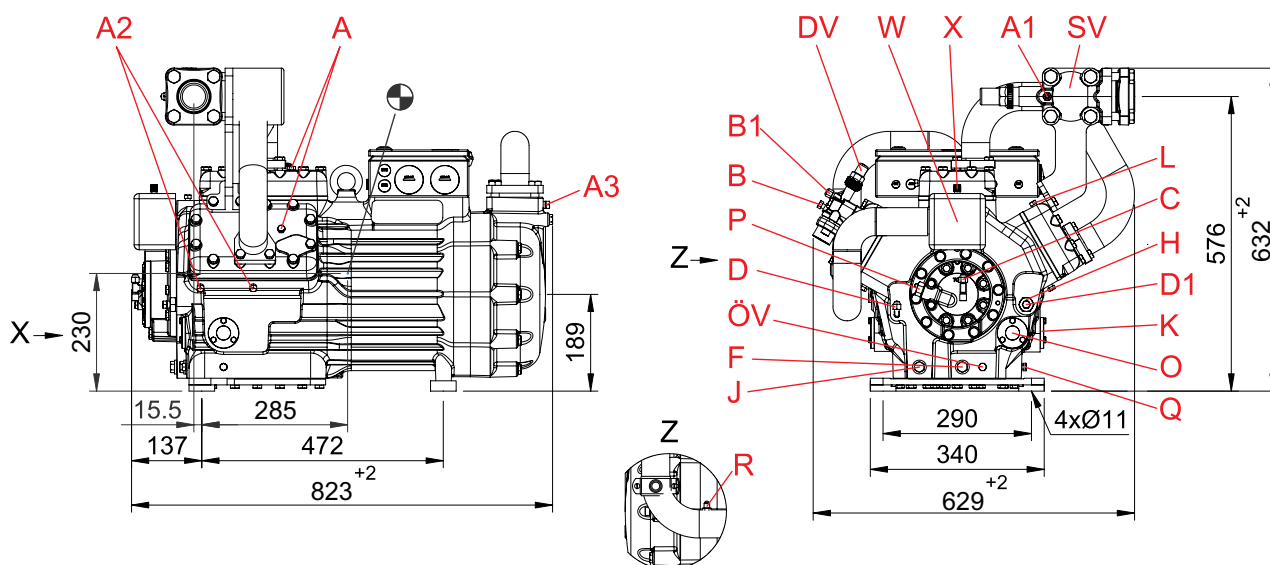
HGZ two-stage semi-hermetic compressors

Dimensions and connections



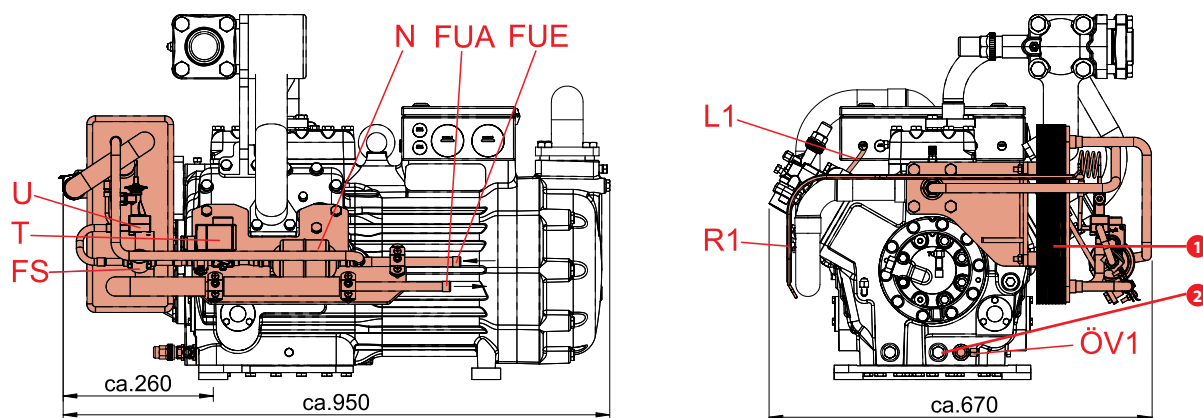
HGZ7-series

Liquid subcooler with accessories supplied separately



HGZ7 - Option

Liquid subcooler with accessories supplied separately

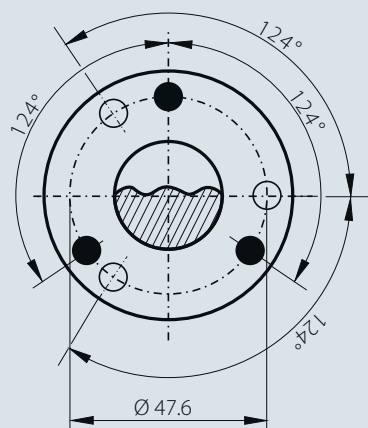


1 Liquid subcooler with accessories 2 Oil service valve

Dimensions in mm
 Center of gravity

Connections see page 109
 Rigid fixing without anti-vibration pad
 Dimensions for view X see below

View X



Possibility to connect to oil level regulator

HGZ7

- Three-hole connection for oil level regulator of brands ESK, AC+R, CARLY (3 x M6 x 10 deep)
- Three-hole connection for oil level regulator of brand TRAXOIL (3 x M6 x 10 deep)

HGZ two-stage semi-hermetic compressors

Dimensions and connections



	Connections – Series	HGZ7
SV	Suction line	Ø 54 mm 2 1/8"
DV	Discharge line	Ø 35 mm 1 3/8"
A	Connection suction side, not lockable	1/8" NPTF
A1	Connection suction side, lockable	7/16" UNF
A2	Connection suction side, not lockable	1/8" NPTF
A3	Connection intermediate pressure, 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 HP	7/16" UNF
D	Connection oil pressure safety switch LP	7/16" UNF
D1	Connection oil return from oil separator	1/4" NPTF
F	Oil drain plug	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	3 hole M6
L	Connection thermal protection thermostat	1/8" NPTF
O	Connection oil level regulator	1)
ÖV	Connection oil service valve	1/4" NPTF
P	Connection oil pressure differential sensor	M 20 x 1.5
Q	Connection oil temperature sensor	1/8" NPTF
R	Connection equalizer for injection valve	7/16" UNF
W	Connection for refrigerant injection	M 22 x 1.5
X	Connection for Schrader valve for intermediate pressure manometer	7/16" UNF

1) Dimensions see view X page 103

	Connections – Option	HGZ7
FUE	Liquid subcooler	Ø 16 mm 5/8"
FUA	Liquid subcooler	Ø 16 mm 5/8"
FS	Sight glass liquid subcooler	Ø 12 mm
L1	Thermal protection thermostat	1/8" NPTF
N	Filter drier	Ø 12 mm
ÖV1	Oil service valve	7/16" UNF
R1	Equalizer for injection valve	Ø 6 mm
T	Solenoid valve	Ø 12 mm
U	Re-injection valve – dependent on refrigerant	Ø 12 mm

HGZ two-stage semi-hermetic compressors

Scope of supply and accessories



		HGZ7
Semi-hermetic six-cylinder reciprocating compressor with drive motor for part winding start 380–420 VY/YY - 3 - 50 Hz 440–480 VY/YY - 3 - 60 Hz Single-section compressor housing with hermetically integrated electric motor		●
Special voltage and/or frequency		○ ³⁾
Cylinder design in W form, LP/HP stage ratio 2:1		●
1 Intermediate pressure line mounted and insulated		●
2 Winding protection with PTC sensors and MP10 electronic motor protection		●
Oil pump		●
3 Oil pump cover with screw connection for oil differential pressure sensor DELTA-P II		●
4 Direct connection possibility for oil level regulators ESK, AC+R or CARLY		●
Direct connection possibility for oil level regulators Traxoil		● ⁴⁾
Oil charge	HGZ: BOCKlub A46	●
	HGZX: BOCKlub E55	●
5 Two sight glasses		●
Internal safety valve		●
6 Suction line Shut-off valve		●
7 Discharge line Shut-off valve		●
Inert gas charge		●
4 anti-vibration pads		○
8 Liquid subcooler, re-injection valve, solenoid valve 230 V - 1 - 50/60 Hz, sight glass, filter drier, supplied separately for individual, external installation. Assembly is mandatory for the function of the compressor.		○ ¹⁾
9 Liquid subcooler, re-injection valve, solenoid valve 230 V - 1 - 50/60 Hz, sight glass, filter drier, directly mounted onto the compressor, fully assembled and insulated with pipes ready for connection.		○ ²⁾
10 Oil sump heater 220–240 V - 1 - 50/60 Hz, 140 W		○ ²⁾
11 Thermal protection thermostat (PTC sensor) 230 V - 1 - 50/60 Hz		○ ²⁾
12 Oil pressure safety switch MP 54, 230 V - 1 - 50/60 Hz, IP20		○ ¹⁾
13 Oil differential pressure sensor DELTA-P II, 220–240 V - 1 - 50/60 Hz		○ ¹⁾
14 Oil service valve		○ ²⁾
15 Oil temperature sensor		○ ²⁾

¹⁾ Enclosed ²⁾ Mounted ³⁾ On request
⁴⁾ Only possible with additional adapter

● Scope of supply (standard)
 ○ Available accessories



HGZ two-stage semi-hermetic compressors

Accessories

Intermediate pressure line



Winding protection



Oil pump cover



Direct connection possibility



Sight glasses



Suction line shut-off valve



Discharge line shut-off valve



Components enclosed separately



Components mounted directly



HGZ two-stage semi-hermetic compressors

Accessories

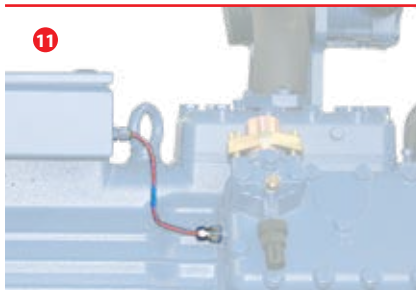
Oil sump heater

10



Thermal protection thermostat

11



Oil pressure safety switch

12



Oil differential pressure sensor

13



Oil service valve

14



Oil temperature sensor

15





Danfoss BOCK®

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