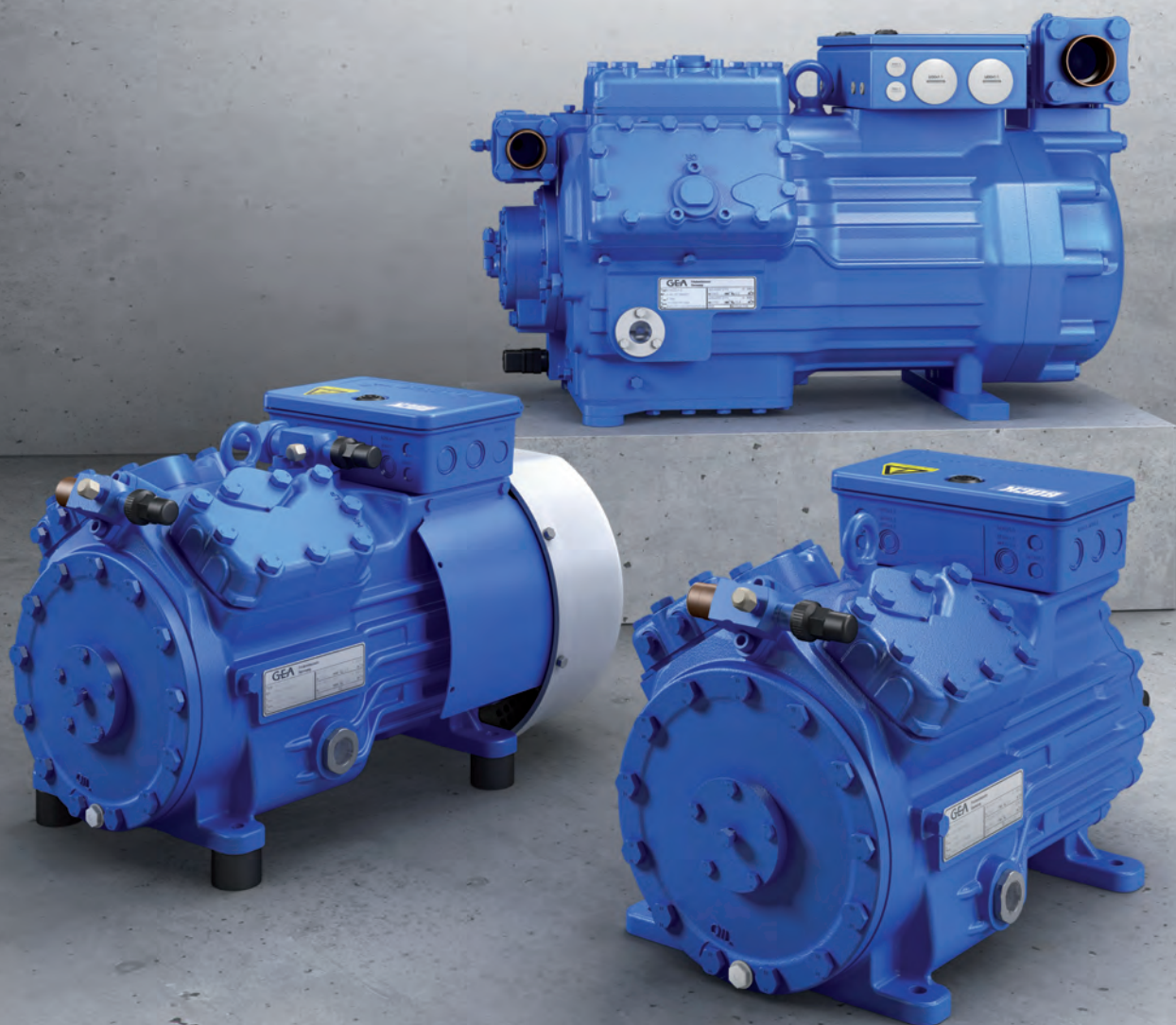




Semi-hermetic Bock Compressors

Single-stage and Two-stage Reciprocating Compressors HG (HA)

° In touch with our customers

GEA Refrigeration Technologies: Your partner for low temperatures

GEA Refrigeration Technologies, part of the internationally active GEA Group, is a synonym for industrial refrigeration technology. Since the end of the 19th century, it has been our business to cool processes and products, and to control the temperature of goods in transport. You will find our solutions in the food and beverage sector; in the petrochemical, chemical, and pharmaceutical industries; on fishing ships; in natural gas liquefaction; in infrastructure facilities; and in ice factories. We are also at the top with know-how when it comes to refrigeration at leisure facilities. After all, we have been excited about refrigeration for decades now. As a result, our staff enthusiastically goes about its development and production projects – to include preventive and remedial maintenance of your refrigeration systems.

This enthusiasm is highly apparent in the daily work of all companies in our Segment. Whether it's complete systems or individual valves: we have the experience in every section of our company to optimally design, manufacture, and install refrigeration systems. And to take full advantage of this experience, we not only carry out development in our own company: we also manufacture, assemble, and test the core components. A chain is, after all, only as strong as its weakest link: and this also applies equally well to refrigeration technology, cooling processes, and cooling chains.

This makes it all the more important that you have a partner – in GEA Refrigeration Technologies – that has learned to master refrigeration from A to Z. And all of this since 1896, when Willem Grasso founded his refrigeration division. From this history of GEA Refrigeration Technologies, you will profit in the form of technical expertise and top sector know-how.

But we all live in the present and think about the future. We ponder a future in which more and more processes need energy around the world, and fewer natural resources are available. As a result, we have taken it as our goal to create solutions that are not only long-life and cost-effective, but also energy-saving and environment-protecting. We feel obligated to sustainability in many respects. Our objective is to produce longlife and material-saving products over the long run – as well as products that use environmentally benign refrigerants. And we aim to produce efficiently. But our responsibility does not end at the factory gate. As a result, we take great pains to ensure that our systems are energy-efficient and that they protect the climate. With GEA Refrigeration Technologies, you can also count on optimal economy: saving energy indeed means reducing money spent for energy. At the same time, you protect the environment. Thanks to our refrigeration technology, your processes will run more economically and more ecologically. To maintain our standard of living and to assure quality of life for future generations as well.

Our claim of combining economy with saving natural resources is reflected in all components of our company, such as the following: compressors, chillers, heat pumps, ice machines, fittings and valves, control systems, and many, many more. You can find proof of the above throughout the world. Our international corporate network – and above all our reference projects – are spread all over the globe.



Characteristics semi-hermetic Bock compressors	I	1
Single-stage semi-hermetic Bock compressors	I	2
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Disclaimer

This brochure has been produced for you with the greatest of care. Nevertheless it is not possible to rule out mistakes completely. In such cases we cannot assume any liability. The contents correspond to the status on going to print. Deviations cannot be ruled out because of the ongoing development process for our products.

The details are provided as unbinding general information and cannot substitute detailed, individual consultation. Reprints even only of excerpts only allowed with the explicit approval of GEA Bock GmbH. © GEA Bock GmbH 2012



GEA Bock - More than a compressor

Over 75 years ago, when the refrigeration and air-conditioning industry was still in its infancy, our company's founder, Wilhelm Bock, had a vision: he wanted to build first-class and reliable refrigeration machines. In the following decades Bock developed into one of the world's leading manufacturers of refrigeration and air-conditioning compressors.

Today, GEA Bock offers as part of GEA Refrigeration Technologies the right compressor for all fields of commercial-, industrial-, rail-, bus- and transport refrigeration.

That GEA Bock places the highest demands on compressors for energy efficiency shows our EFC system. For many years we offer with the EFC system a solution to reduce the energy consumption by 25 %.

In this brochure we present you our current program of single-stage and two-stage semi-hermetic Bock compressors.

Be inspired. By our new products, our established product series and the entire passion that goes into each of our products.



Semi-hermetic compressors HG (HA)

The Bock HG (Hermetic Gas-cooled) range of semi-hermetic compressors offers traditional suction gas-cooled compressor state of the art technology. These compressors of the highest quality standard excel in their running comfort, easy maintenance, efficiency and reliability. Suitable as standard for conventional or chlorine-free HFC refrigerants.

The HA (Hermetic Air-cooled) range, specially engineered by GEA Bock, is available for deep-freezing applications, in particular for use with the refrigerants R22 and R404A.

- ° Single-stage
- ° CO₂ compressors subcritical
- ° CO₂ compressors transcritical
- ° R134a compressors
- ° R407C compressors
- ° R410A compressors
- ° ATEX compressors
- ° HC compressors
- ° Aluminium compressors
- ° 2-pole compressors
- ° Two-stage compressors
- ° Duplex compressors
- ° Compressor units with receiver
- ° Condenser units air-cooled



Vehicle compressors FK

Bock vehicle compressors of the FK range are the result of many years of experience in the domain of mobile cooling systems.

The unsurpassed light, compact, robust design and wide r.p.m. range are only some of the outstanding features of this unique product range of two, four and six cylinder compressors.

A wide variety of designs can be tailored to suit individual requirements.

The so-called K version is a special innovation with a unique valve plate system for maximum requirements in bus and coach air-conditioning systems.

- ° Compressors for bus and train air-conditioning
- ° Compressors for transport refrigeration and other applications



Open type compressors F

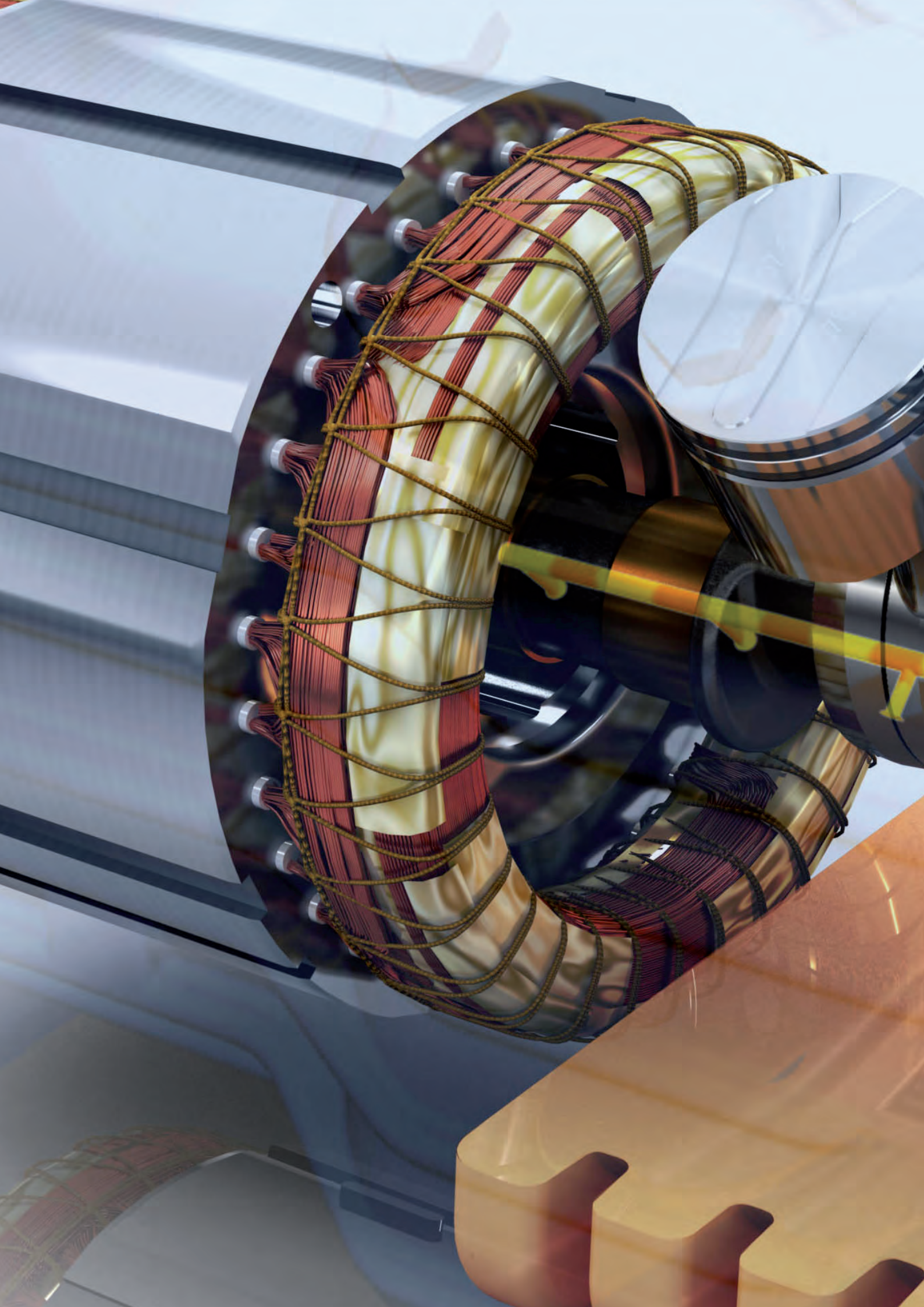
The F model series provides modern open type compressors for separate drive systems (using V belts or direct couplings). Load transfer through a V pair.

Virtually all drive capacity requirements can be met.

Very compact compressor design, robust and easy to handle. Oil pump lubrication as standard.

- ° Single-stage compressors
- ° NH₃ compressors
- ° Compressor units for direct drive
- ° NH₃ Compressor units for direct drive







The difference is in the detail - Characteristics of semi-hermetic Bock compressors

Special features

8

Forward looking compressor models

14

Universal

- e.g. R134a, R404A, R507, R407C, R22
- One compressor design for all standard refrigerants.
- For air-conditioning applications, normal refrigeration and deep-freezing
- Maximum allowed operating pressure (HP): 28 bar

High refrigeration capacity combined with minimum power requirement

- Optimized gas flow
- Efficient service valves
- Minimum clearance volume
- Powerful economic drive motors

Wide range of applications without additional cooling

Deep-freezing range with R404A, R507 also available with suction gas cooling (HG version)

Stable valve plate design

- Universally proven valve design with intake and discharge finger reed valves clamped on one side
- Valve made of high quality impact-resistant spring steel

Replaceable motors

The compressors can be repaired in the field as the drive motor can be exchanged.

Economic capacity control

- Cylinder cover incorporating a connection for capacity control
- Possible control stages:
 - 4 cylinder: 50 %
 - 6 cylinder: 33 % / 66 %
 - 8 cylinder: 25 % / 50 % / 75 %
- Continuously variable speed control (25 - 70 Hz) using an external frequency converter EFC/EFCE. See separate brochure "Bock semi-hermetic compressors - Electronic Controls".

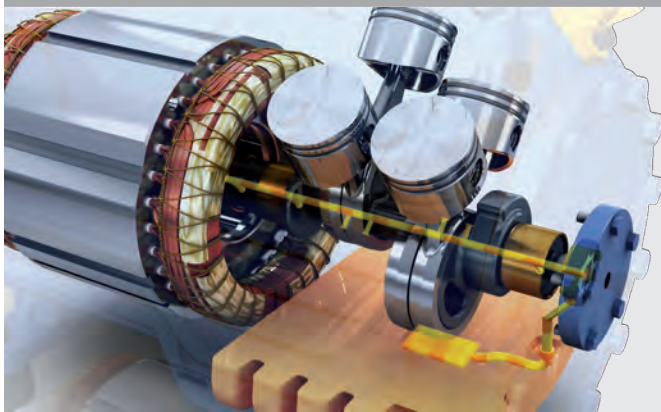
Minimum space requirement

Particularly low installation height and width

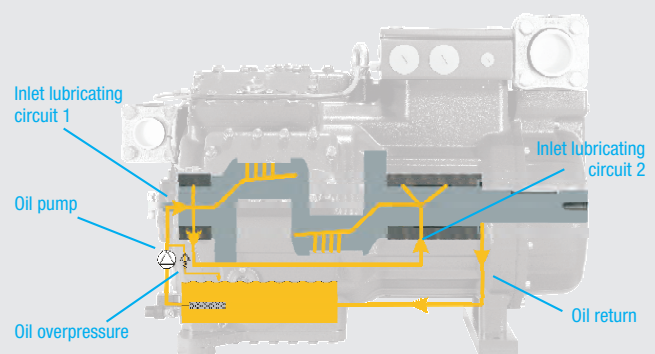
Quiet and low vibration

- Generously dimensioned crank mechanism
- Optimized mass balance
- Large volume pressure section for pulsation absorption
- 4 cylinder design from as little as 19 m³/h

Safe, reliable oil supply



- 4 and 6 cylinder with a conventional single circuit lubricating system
- Lubricating system incorporating an oil pump
- Large volume oil sump

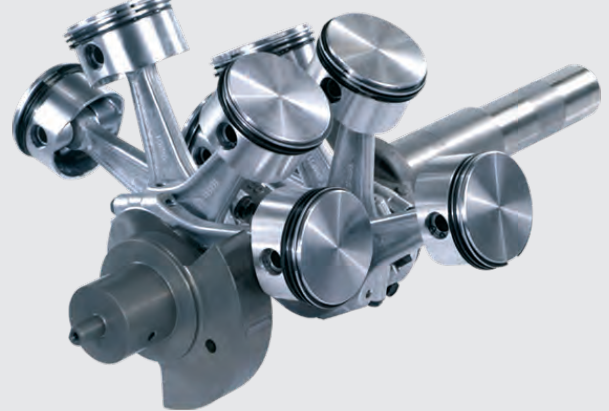


- 8 cylinder compressor with a dual circuit lubricating system (two oil circuits), each of the two main bearings supplied as the first lubrication point
- Oil pump lubrication independent of direction of rotation
- Connection possibility for oil pressure monitoring Δp -oil differential pressure sensor
- Large volume oil sump
- Direct coupling option for oil level regulator as standard

Wear-resistant durable driving gear



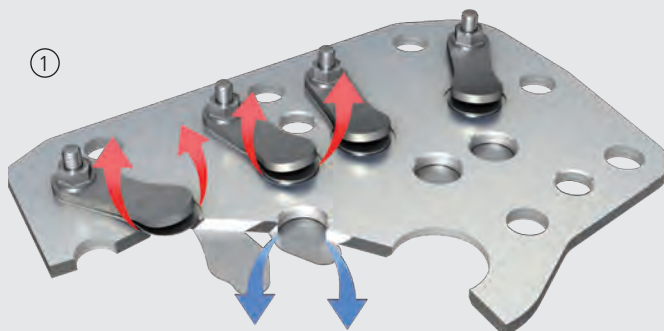
- 2 and 4 cylinder compressor HG(HA)12 to HG(HA)34
- Solid construction and design
- Low friction sleeve bearings
- Aluminium pistons with two ring assembly



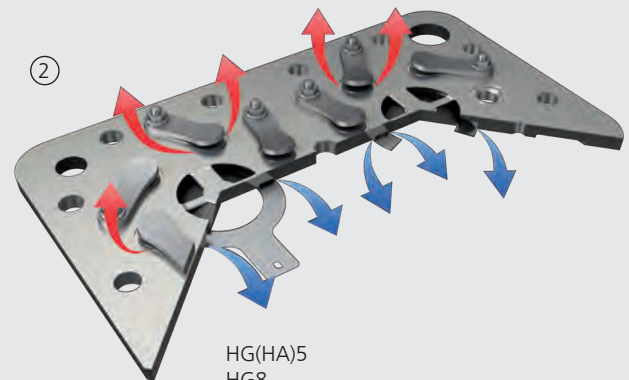
- 4 and 6 and 8 cylinder compressor HG(HA)4 to HG8
- Solid construction and design
- Surface-hardened crankshaft
- Low friction sleeve bearings
- Aluminium pistons with triple ring assembly, hard-chromium plated sealing ring, HG(HA)4 with double ring assembly
- Aluminium connecting rod with high resistance piston bolt bearings starting HG(HA)5

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Solid construction and design



HG(HA)12-34
HG(HA)4



HG(HA)5
HG8

- Valve made of high quality impact-resistant spring steel
- Concentric reed valve on the suction side (2) finger reed valve (1)

Variable suction line valve position (HG)

4 cylinder

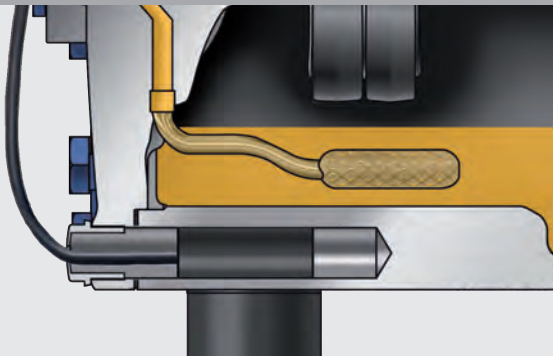


8 cylinder

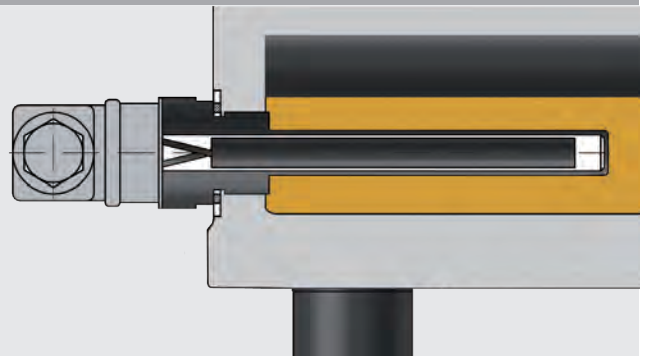


- Shutoff valve rotates through 90° (2 and 4 cylinder) suction cover rotates through 90° (8 cylinder)
- Flexible location for suction line connection

Oil sump heater

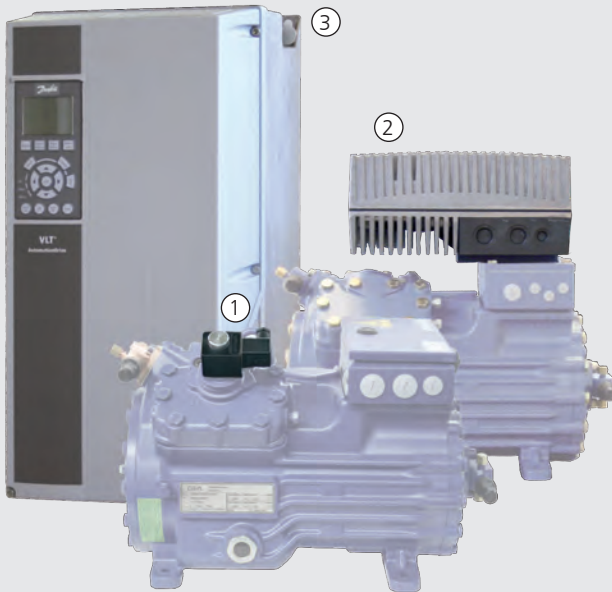


- Optional in 2 and 4 cylinder compressors HG(HA)12 up to HG(HA)34
- PTC heater, self-regulating
- Replacement without opening the refrigeration circuit



- Standard in 4 and 6 and 8 cylinder compressors HG(HA)4 up to HG8
- Immersion case design
- Replacement possible without opening the refrigerating circuit

Economic capacity control (option)



Via capacity regulator ①

Cylinder cover incorporating a connection for capacity control

Possible control stages:

4 cylinder: 50 %,

6 cylinder: 33 % / 66 %,

8 cylinder: 25 % / 50 % / 75 %

Via frequency converter

Continuously variable speed control using the Bock EFC / EFCe (Electronic Frequency Control)

- Up to 25% less power consumption

- EFC ② Continuously variable speed control directly mounted on the compressor HG(HA)12 to HG(HA)34

- EFCe ③ Continuously variable speed control for individual set-up HG4 to HG8, HA on request

- Further information see separate brochure

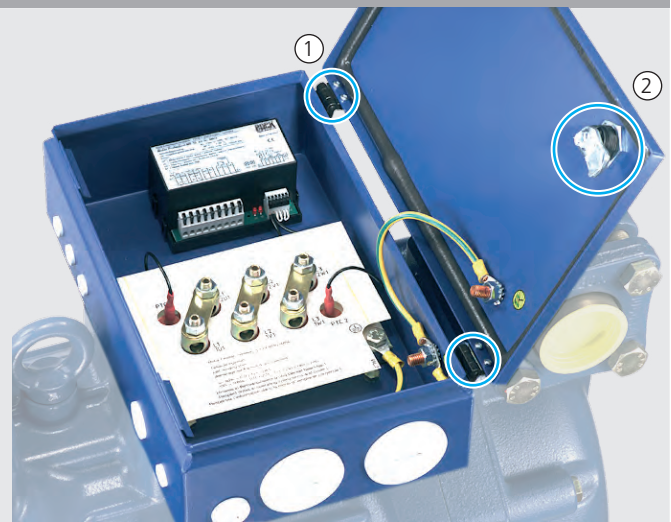
"Bock semi-hermetic compressors - Electronic Controls".

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Electric switch box

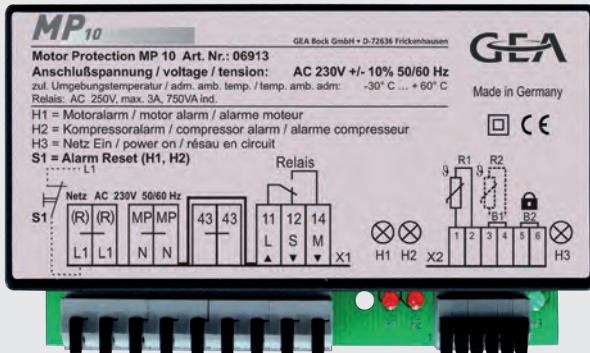


- Robust aluminium construction
- Easy electrical installation due to large internal volume
- Terminal block with cables in glass seal model
- Hinged and removable lifting cover ① with a single quick fastener ②
- Terminal strip for add-on components
- Protection system: IP66



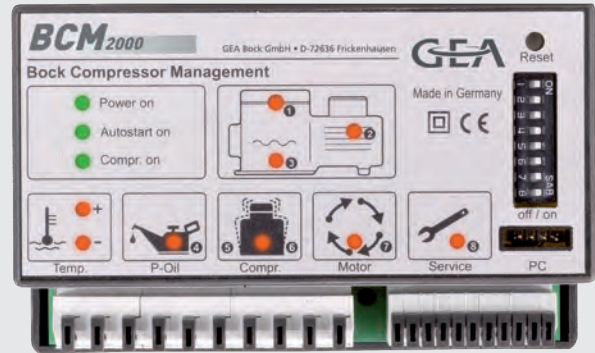
- Easy electrical installation due to large internal volume
- Terminal block with cables in glass seal model
- Hinged lifting cover with a single quick fastener (6 cylinder), ①
- Cover with simple snap closure (8 cylinder) ②
- Insulation between terminal studs
- Inspection window for compressor monitoring (8 cylinder)
- Protection system: 4 cylinder IP65; 6 and 8 cylinder IP54

Bock MP10 Electronic Motor Protection



- Standard with all 2, 4 and 6 cylinder compressors
- Temperature monitoring with PTC sensors and optical status indicators
- Discharge gas temperature sensor (option)
- Further information see separate brochure "Bock semi-hermetic compressors - Electronic Controls".

Bock Compressor Management BCM2000



- Innovative and advanced compressor management system
- Standard with 8 cylinder compressors (optional for 4- and 6 cylinder compressors)
- Further information see separate brochure "Bock semi-hermetic compressors - Electronic Controls".

Start unloader with the Bock ESS (option)



(Electronic Soft Start)

- Optional for HG22 and HG34
- Continuous compressor start-up to nominal speed
- No need for conventional start unloaders
- IP20 unit for installation in switch cabinet (supplied loose)
- Further information see separate brochure "Bock semi-hermetic compressors - Electronic Controls".

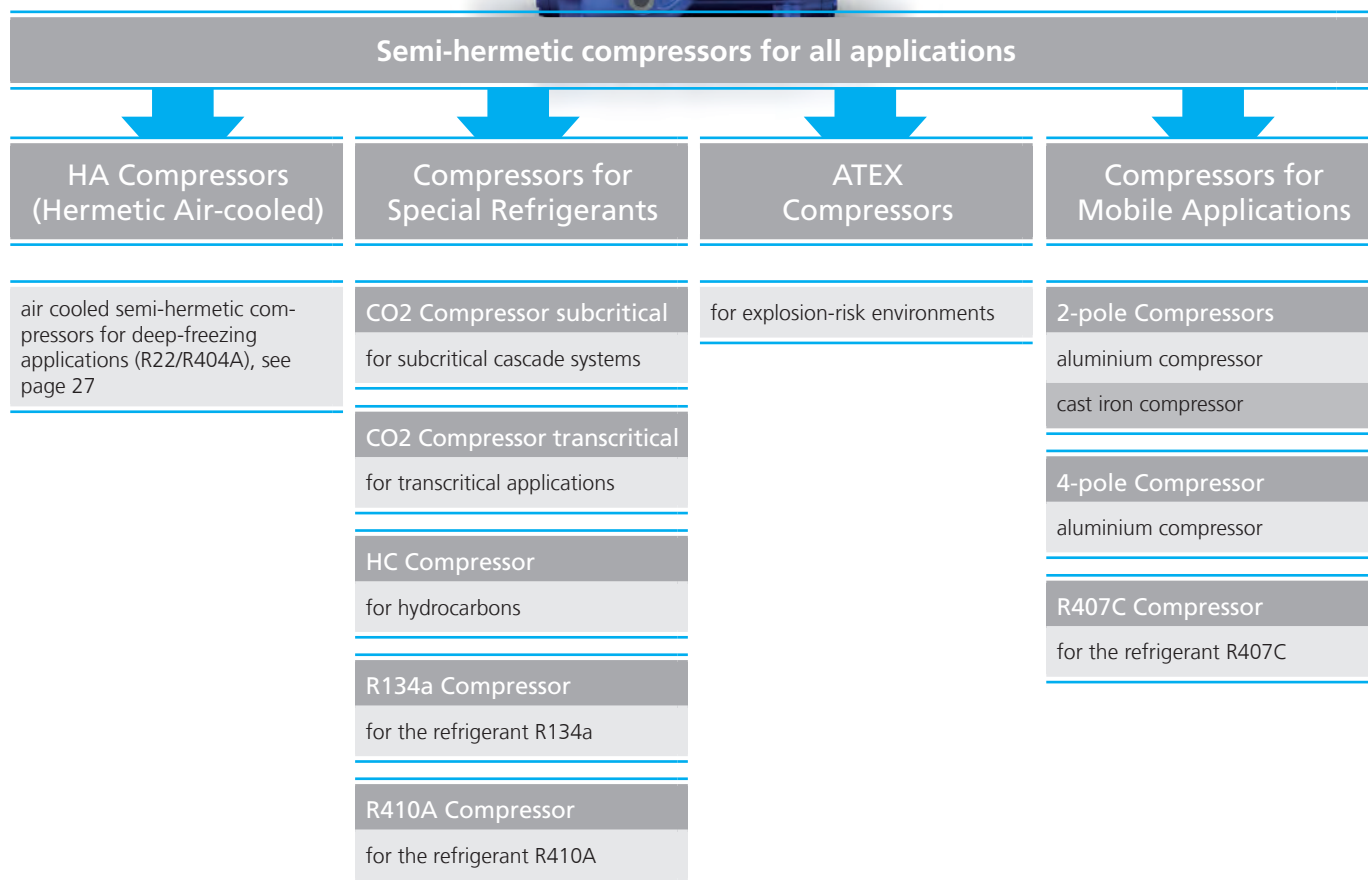
Single phase AC operation with Bock ESP (option)



(Electronic Single Phase)

- Standard three phase AC compressor can be used on a single phase supply
- No start-up or operating condensers or relays required
- Unit designed for installation in switch cabinet
- Further information see separate brochure "Bock semi-hermetic compressors - Electronic Controls".

Bock offers a choice of interesting compressor versions in the established semi-hermetic range for current market trends such as alternative refrigerants, deep-freezing or EX protection.



Available versions	HG12	HG22	HG34	HG4	HG5	HG6	HG7	HG8
HA compressors	●	●	●	●	●	●		
CO ₂ compressors subcritical	●	●	●	●				
CO ₂ compressors transcritical			●					
HC compressors	●	●	●	●	●	●	●	●
R134a compressors				●	●	●	●	
R410A compressors	●	●	●	●				
ATEX compressors	●	●	●	●	●	●		
2-pole compressors aluminium			●					
2-pole compressors cast iron			●					
4-pole compressors aluminium		●	●					
R407C compressors			●					

HA System Hermetic Air-cooled

Semi-hermetic air-cooled compressors for deep-freezing (R22/R404A)

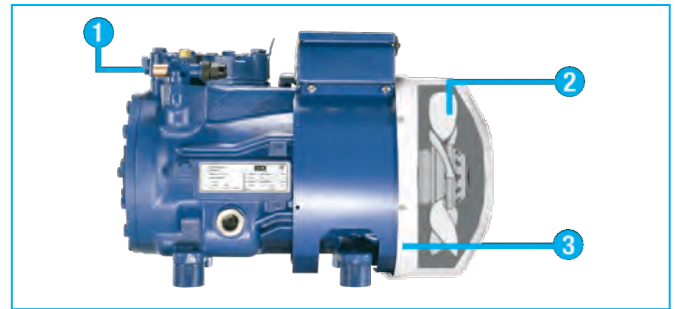
Available for all 2 and 4 cylinder versions.

Increasingly high specifications are being set for all suction gascooled semi-hermetic compressors for deep-freezing applications.

Compressors rapidly reach their temperature limits due to the rise in temperature of the suction gas caused by the drive motor. The refrigeration capacity also diminishes. But not in Bock HA compressors.

The unique "Bock HA principle" prevents this. The drive motor is air-cooled and compressor suction is direct. The suction gas is not heated by the motor, but is fed directly to the compressor without being diverted through the motor. The motor is cooled by a compact integrated ventilation unit. Its precise airflow cools not only the motor but also the compressor and especially the cylinder heads.

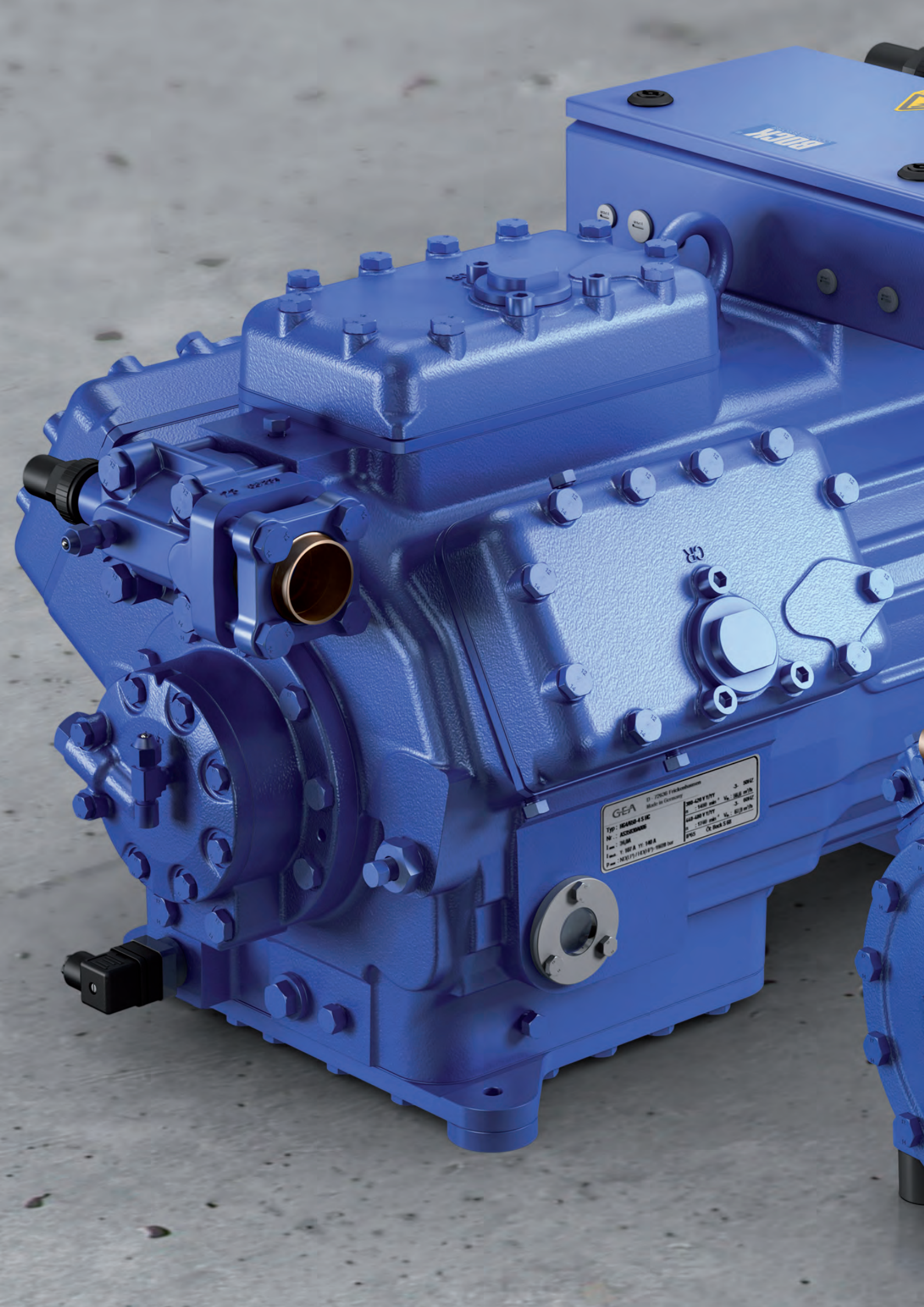
A semi-hermetic compressor with the advantages of an open type.



- ① Suction gas is fed directly into the compressor
- ② The motor is cooled by an integrated ventilation unit
- ③ Cool air is directed over the motor through an air duct hood

This results in a reduced discharge gas temperature and therefore an extended range of applications combined with improved capacity (deep-freezing - e.g. R22, R404A). In addition, the compressor is separate from the motor, which is a particular advantage in the event of a motor burn-out.







Single-stage semi-hermetic Bock compressors

At a glance	18
Special features	19
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Technical data	42
Dimensions and connections	44
Scope of supply and accessories	55

The Bock semi-hermetic compressor program provides a full performance range of innovative and modern compressor designs in 2, 4, 6 and 8 cylinder constructions. The ideal solution for any kind of application.

HG (Hermetic Gas-cooled)

Conventional suction gas-cooled compressor design

HA (Hermetic Air-cooled)

Special Bock design for deep-freezing (R22/R404A) with an air-cooled motor and direct suction at the cylinder.

All the compressors display the same particularly remarkable features:

- Outstanding running comfort
- High efficiency and reliability to the highest quality standard
- Easy maintenance, e.g. interchangeable motors
- Oil pump lubrication
- Bock MP10 electronic motor protection, especially easy to operate with LED status indicators
- Suitable for conventional and chlorine-free HFC refrigerants

Available versions:

The Bock semi-hermetic program provides the following product variants:

- Single-stage HG (HA) compressors
- Two-stage HGZ compressors
- Duplex DHG (DHA) compressors
- SHG (SHA) compressor units with receiver
- SHG (SHA) condenser units air-cooled

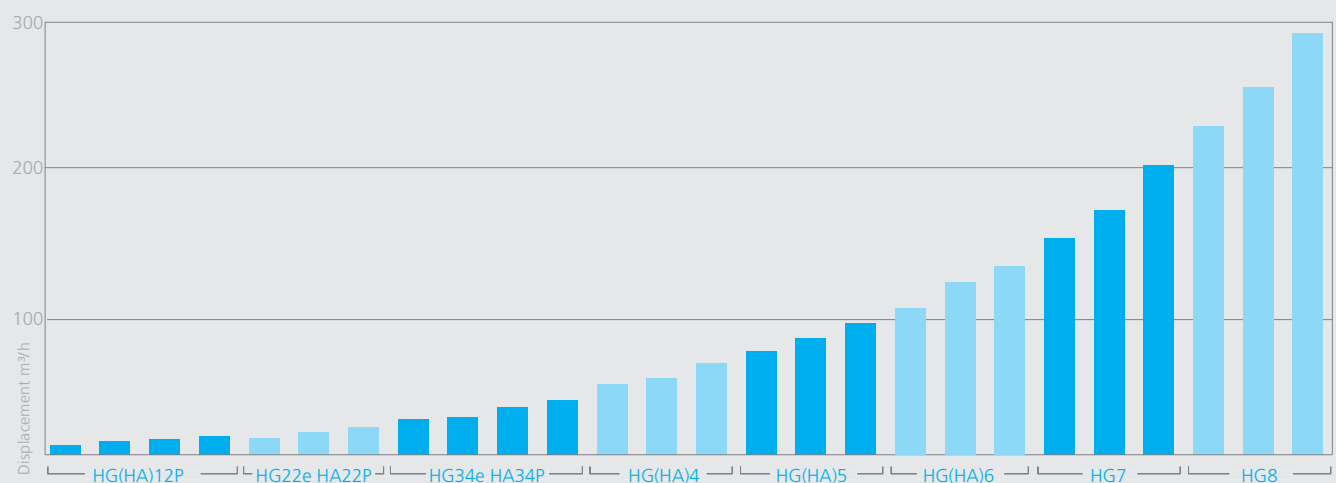
Forward looking compressor models

Bock offers a choice of interesting compressor versions in the established semi-hermetic range for current market trends such as alternative refrigerants, deep-freezing or EX protection.

- **HA (Hermetic Air-cooled)**, air-cooled compressors for deep-freezing applications
- **CO₂** Compressors (subcritical), for subcritical cascade systems
- **CO₂** Compressors (transcritical), for transcritical CO₂ applications
- **R410A** Compressors, for the refrigerant R410A
- **ATEX (ATmospheres EXplosibles)**, for explosion-risk environments

The current program

...8 model sizes with 26 capacity stages from 5,4 to 279,8 m³/h (50 Hz)

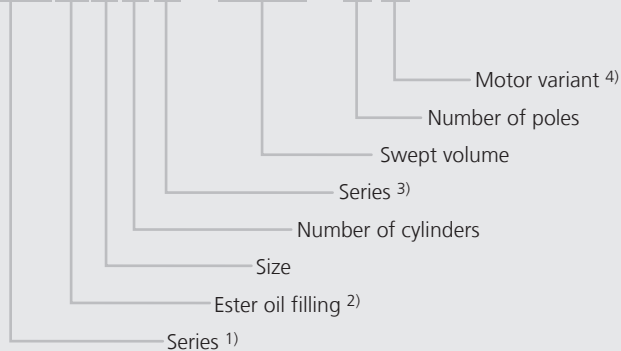




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Type key

HGX34e / 215 - 4S



1) HG = Hermetic Gas-Cooled (suction gas-cooled)

HA = Hermetic Air-Cooled (for deep-freezing)

2) X = Ester oil filling

(HFC refrigerants e.g. R134a, R404A, R507, R407C)

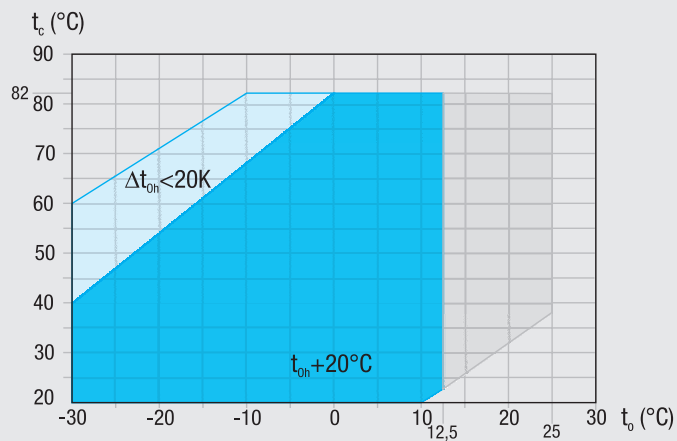
3) e = Additional declaration for e-series compressors

P = Additional declaration for Pluscom compressors

4) S = More powerful motor e.g. air-conditioning applications

R134a Operating limits

HGX12P / HGX22e / HGX34e
HGX4 / HGX5 / HGX6 / HGX7 / HGX8



- Unlimited application range
- Supplementary cooling or reduced suction gas temperature
- Motor version -S- (more powerful motor)

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

¹⁾ LP = low pressure HP = high pressure

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

R134a Notes

Operating limits

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

Restrictions to the operating limits may occur when using the Bock EFC (Electronic Frequency Control). Further explanation see separate brochure "Bock semi-hermetic compressors - Electronic Controls".

Performance data

The performance data for R134a are based on ISO-DIS 9309 (DIN 8928) with a **50 Hz power supply frequency**. This signifies:

25 °C suction gas temperature without liquid subcooling.

For Pluscom compressors and HGX8/2470-4 operating at **50 Hz** already comply with EN 12900. 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 GEA Bock software.

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.

R134a			Performance data											50 Hz
Type	Cond. temp. °C		Cooling capacity $\dot{Q}_o$ [W]							Power consumption P_e [kW]				
			Evaporating temperature °C											
			12,5	10	7,5	5	0	-5	-10	-15	-20	-25	-30	
HGX12P/60-4 S	30	Q	4920	4486	4078	3697	3009	2415	1908	1480	1125	836	605	
		P	0,70	0,71	0,71	0,71	0,68	0,65	0,60	0,54	0,49	0,44	0,40	
	40	Q	4254	3874	3518	3185	2585	2066	1622	1246	931	670	455	
		P	0,85	0,84	0,83	0,81	0,77	0,71	0,65	0,59	0,54	0,49	0,45	
	50	Q	3620	3292	2985	2698	2181	1734	1349	1021	742	504	302	
		P	0,99	0,97	0,94	0,91	0,85	0,77	0,70	0,63	0,57	0,52	0,49	
HGX12P/75-4	30	Q	6147	5604	5095	4619	3760	3017	2383	1849	1405	1044	756	
		P	0,88	0,89	0,89	0,88	0,85	0,81	0,75	0,68	0,61	0,55	0,50	
	40	Q	5315	4840	4395	3979	3229	2581	2027	1557	1163	837	569	
		P	1,06	1,05	1,04	1,02	0,96	0,89	0,82	0,74	0,67	0,61	0,57	
	50	Q	4523	4113	3729	3371	2725	2166	1686	1276	927	630	377	
		P	1,24	1,21	1,18	1,14	1,06	0,97	0,88	0,79	0,71	0,65	0,62	
HGX12P/90-4	30	Q	7295	6663	6069	5511	4501	3623	2869	2229	1696	1259	911	
		P	1,09	1,11	1,12	1,13	1,11	1,06	1,00	0,92	0,83	0,74	0,65	
	40	Q	6377	5811	5280	4782	3883	3104	2437	1872	1402	1016	707	
		P	1,34	1,34	1,32	1,30	1,24	1,16	1,06	0,96	0,85	0,74	0,65	
	50	Q	5481	4981	4513	4075	3286	2606	2025	1535	1127	792	521	
		P	1,60	1,57	1,53	1,49	1,39	1,27	1,14	1,01	0,89	0,77	0,67	
HGX12P/110-4	30	Q	8619	7858	7145	6477	5272	4231	3342	2593	1971	1464	1060	
		P	1,23	1,24	1,25	1,24	1,20	1,13	1,05	0,95	0,86	0,78	0,71	
	40	Q	7453	6787	6163	5580	4528	3619	2842	2183	1631	1173	797	
		P	1,49	1,48	1,45	1,42	1,35	1,25	1,14	1,04	0,94	0,85	0,79	
	50	Q	6342	5767	5229	4726	3820	3037	2364	1789	1299	883	528	
		P	1,74	1,70	1,65	1,60	1,48	1,36	1,23	1,11	1,00	0,92	0,87	
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	
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	
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	
HGX22e/190-4	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			

Relating to 20 °C suction gas temperature,
without liquid subcooling

Supplementary cooling or
reduced suction gas temp.

R134a			Performance data											50 Hz
Type		Cond. temp. °C	Cooling capacity $\dot{Q}_o$ [W]								Power consumption P_e [kW]			
			Evaporating temperature °C											
			12,5	10	7,5	5	0	-5	-10	-15	-20	-25	-30	
HGX34e/215-4	30	Q	17200	15700	14400	13000	10600	8450	6590	5000	3670	2610	1800	
		P	2,27	2,30	2,32	2,31	2,25	2,14	1,98	1,80	1,59	1,38	1,18	
	40	Q	15200	13800	12600	11400	9120	7190	5530	4120	2970	2060	1400	
		P	2,87	2,84	2,78	2,72	2,55	2,34	2,11	1,87	1,64	1,42	1,22	
	50	Q	13000	11800	10700	9540	7590	5890	4440	3240	2270	1540	1040	
	P	3,38	3,27	3,16	3,03	2,76	2,47	2,18	1,90	1,64	1,42	1,24		
	60	Q	10800	9690	8690	7750	6070	4620	3400	2420	1660	1120	784	
	P	3,79	3,62	3,45	3,27	2,90	2,54	2,20	1,89	1,61	1,39	1,24		
	70	Q	8590	7680	6830	6040	4630	3440	2480	1730	1190			
	P	4,12	3,89	3,66	3,43	2,99	2,56	2,17	1,84	1,56				
HGX34e/255-4 ¹⁾	30	Q	20600	18800	17200	15600	12700	10100	7800	5890	4320	3080	2190	
		P	2,61	2,67	2,71	2,71	2,66	2,53	2,34	2,12	1,88	1,63	1,41	
	40	Q	18100	16500	15000	13600	11000	8660	6660	4960	3570	2490	1710	
		P	3,36	3,35	3,31	3,25	3,08	2,84	2,57	2,27	1,97	1,68	1,43	
	50	Q	15600	14200	12900	11600	9310	7280	5540	4070	2880	1960	1330	
	P	4,02	3,93	3,83	3,71	3,42	3,08	2,73	2,36	2,01	1,68	1,41		
	60	Q	13100	11900	10700	9610	7640	5920	4450	3220	2240	1510	1030	
	P	4,56	4,41	4,24	4,06	3,66	3,23	2,80	2,37	1,96	1,61	1,32		
	70	Q	10500	9430	8480	7590	5970	4570	3380	2410	1660			
	P	4,98	4,77	4,54	4,30	3,79	3,28	2,76	2,28	1,83				
HGX34e/315-4 ¹⁾	30	Q	25500	23300	21100	19200	15500	12400	9660	7390	5520	4040	2920	
		P	3,40	3,43	3,43	3,40	3,29	3,11	2,88	2,61	2,32	2,02	1,72	
	40	Q	22300	20300	18500	16700	13500	10700	8260	6260	4620	3320	2330	
		P	4,22	4,17	4,10	4,01	3,78	3,49	3,16	2,80	2,43	2,07	1,73	
	50	Q	19200	17400	15800	14200	11400	8950	6880	5140	3720	2600	1740	
	P	4,97	4,85	4,71	4,55	4,19	3,79	3,36	2,91	2,47	2,04	1,65		
	60	Q	16100	14600	13100	11800	9350	7280	5520	4050	2850	1900	1170	
	P	5,63	5,44	5,22	5,00	4,51	4,00	3,46	2,93	2,41	1,92	1,47		
	70	Q	13100	11800	10600	9390	7380	5660	4200	3000	2010			
	P	6,18	5,91	5,62	5,33	4,71	4,08	3,44	2,82	2,22				
HGX34e/380-4 ¹⁾	30	Q	30700	28100	25600	23200	19000	15300	12100	9310	7060	5250	3860	
		P	4,27	4,28	4,26	4,22	4,06	3,83	3,53	3,20	2,83	2,46	2,09	
	40	Q	27000	24600	22400	20300	16600	13300	10400	8000	6020	4420	3180	
		P	5,26	5,19	5,09	4,97	4,67	4,30	3,89	3,46	3,00	2,56	2,13	
	50	Q	23200	21200	19300	17400	14100	11300	8760	6670	4940	3540	2450	
	P	6,17	6,01	5,83	5,63	5,18	4,69	4,16	3,62	3,07	2,55	2,06		
	60	Q	19600	17800	16100	14600	11700	9240	7130	5350	3860	2650	1690	
	P	6,97	6,73	6,46	6,18	5,59	4,96	4,31	3,66	3,02	2,42	1,86		
	70	Q	16000	14500	13100	11800	9340	7290	5530	4040	2800			
	P	7,65	7,31	6,97	6,60	5,86	5,09	4,32	3,56	2,83				
HGX4/465-4	30	Q	36844	33673	30698	27910	22866	18484	14705	11472	8725	6406	4458	
		P	6,44	6,21	5,98	5,77	5,37	4,98	4,62	4,26	3,89	3,50	3,10	
	40	Q	33160	30273	27568	25038	20475	16524	13128	10228	7765	5682	3920	
		P	7,25	6,97	6,70	6,44	5,94	5,46	4,98	4,52	4,04	3,54	3,02	
	50	Q	28823	26257	23862	21629	17623	14181	11244	8754	6653	4882	3383	
	P	8,09	7,75	7,42	7,10	6,48	5,87	5,28	4,68	4,07	3,44	2,78		
	60	Q	23760	21555	19507	17610	14239	11382	8981	6979	5316	3934	2775	
	P	8,96	8,55	8,15	7,76	6,99	6,24	5,50	4,75	3,98	3,19	2,37		
	70	Q	17901	16094	14433	12910	10249	8055	6268	4829	3682			
	P	9,85	9,37	8,89	8,42	7,49	6,57	5,65	4,73	3,79				
HGX4/555-4	30	Q	43847	40074	36533	33215	27212	21997	17501	13652	10383	7624	5305	
		P	7,66	7,39	7,12	6,87	6,38	5,93	5,50	5,06	4,63	4,17	3,69	
	40	Q	39463	36027	32808	29798	24367	19665	15624	12172	9241	6762	4665	
		P	8,63	8,30	7,98	7,66	7,07	6,49	5,93	5,37	4,80	4,21	3,59	
	50	Q	34302	31248	28398	25741	20973	16876	13381	10418	7917	5810	4026	
	P	9,63	9,23	8,83	8,45	7,71	6,99	6,28	5,57	4,84	4,09	3,30		
	60	Q	28277	25652	23215	20958	16945	13545	10688	8305	6326	4682	3302	
	P	10,66	10,17	9,70	9,23	8,32	7,43	6,54	5,65	4,74	3,80	2,82		
	70	Q	21303	19153	17176	15363	12198	9586	7459	5747	4382			
	P	11,73	11,15	10,58	10,02	8,91	7,82	6,72	5,63	4,51				
HGX4/650-4	30	Q	51459	47031	42875	38981	31937	25816	20539	16023	12186	8948	6226	
		P	8,99	8,67	8,36	8,06	7,49	6,96	6,45	5,94	5,43	4,90	4,33	
	40	Q	46314	42282	38504	34971	28597	23079	18336	14285	10846	7936	5474	
		P	10,13	9,74	9,36	8,99	8,29	7,62	6,96	6,31	5,64	4,95	4,22	
	50	Q	40257	36673	33328	30209	24614	19806	15704	12227	9292	6818	4724	
	P	11,30	10,83	10,37	9,92	9,05	8,20	7,37	6,53	5,68	4,80	3,88		
	60	Q	33186	30106	27246	24596	19887	15897	12544	9747	7424	5494	3876	
	P	12,51	11,94	11,38	10,84	9,77	8,72	7,68	6,63	5,56	4,46	3,31		
	70	Q	25002	22478	20158	18031	14315	11250	8754	6745	5142			
	P	13,76	13,08	12,41	11,75	10,45	9,17	7,89	6,60	5,29				

Relating to 25 °C suction gas temperature
(HGX34e to 20 °C suction gas temperature)
without liquid subcooling

¹⁾ Compressors are
ASERCOM certified



 Supplementary cooling or
reduced suction gas temp.

R134a			Performance data										50 Hz	
Type		Cond. temp. °C	Cooling capacity $\dot{Q}_o$ [W]						Power consumption P_e [kW]					
			Evaporating temperature °C											
			12,5	10	7,5	5	0	-5	-10	-15	-20	-25	-30	
HGX5/725-4	30	Q P	57279 10,01	52351 9,65	47725 9,30	43390 8,97	35549 8,34	28736 7,75	22862 7,18	17835 6,62	13564 6,04	9960 5,45	6930 4,81	
	40	Q P	51552 11,27	47064 10,84	42859 10,42	38926 10,01	31832 9,23	25690 8,48	20410 7,75	15901 7,02	12072 6,28	8834 5,51	6094 4,69	
	50	Q P	44810 12,58	40821 12,05	37097 11,54	33626 11,04	27398 10,07	22047 9,13	17481 8,20	13610 7,27	10343 6,32	7589 5,34	5259 4,31	
	60	Q P	36939 13,92	33511 13,29	30327 12,67	27378 12,06	22136 10,87	17695 9,71	13963 8,55	10849 7,38	8264 6,19	6116 4,97	4314 3,69	
	70	Q P	27829 15,32	25020 14,56	22438 13,82	20070 13,08	15934 11,64	12523 10,21	9744 8,78	7508 7,35	5724 5,89			
HGX5/830-4	30	Q P	65754 11,49	60097 11,08	54786 10,68	49810 10,30	40808 9,58	32988 8,90	26244 8,24	20474 7,59	15571 6,94	11433 6,25	7956 5,53	
	40	Q P	59180 12,94	54028 12,44	49200 11,96	44686 11,49	36541 10,60	29491 9,74	23430 8,90	18254 8,06	13859 7,21	10141 6,32	6995 5,39	
	50	Q P	51440 14,44	46861 13,83	42586 13,25	38601 12,67	31452 11,56	25309 10,48	20067 9,42	15623 8,35	11873 7,26	8712 6,13	6037 4,95	
	60	Q P	42405 15,98	38469 15,26	34814 14,55	31429 13,85	25412 12,48	20313 11,14	16029 9,81	12455 8,47	9487 7,11	7021 5,70	4952 4,24	
	70	Q P	31947 17,59	28722 16,72	25758 15,86	23040 15,02	18292 13,36	14376 11,72	11186 10,08	8619 8,44	6571 6,76			
HGX5/945-4	30	Q P	74814 13,08	68376 12,60	62334 12,15	56673 11,71	46431 10,89	37533 10,12	29860 9,38	23294 8,64	17717 7,89	13009 7,12	9052 6,29	
	40	Q P	67334 14,73	61471 14,16	55979 13,61	50842 13,08	41576 12,06	33554 11,08	26658 10,12	20768 9,17	15768 8,20	11538 7,19	7959 6,13	
	50	Q P	58527 16,43	53317 15,74	48453 15,07	43920 14,42	35785 13,16	28796 11,93	22832 10,71	17776 9,50	13509 8,26	9913 6,98	6869 5,64	
	60	Q P	48247 18,19	43769 17,36	39611 16,55	35759 15,76	28913 14,20	23112 12,68	18237 11,16	14171 9,64	10794 8,09	7988 6,49	5635 4,82	
	70	Q P	36349 20,01	32680 19,02	29306 18,05	26214 17,09	20812 15,20	16356 13,33	12727 11,47	9807 9,60	7476 7,69			
HGX6/1080-4	30	Q P	85736 14,90	78334 14,37	71386 13,87	64875 13,39	53098 12,46	42867 11,59	34049 10,74	26509 9,90	20114 9,04	14729 8,14	10219 7,19	
	40	Q P	77231 16,80	70507 16,16	64206 15,53	58310 14,93	47666 13,77	38441 12,65	30501 11,56	23712 10,47	17939 9,36	13049 8,22	8906 7,01	
	50	Q P	67028 18,77	61090 17,98	55541 17,21	50366 16,46	41068 15,01	33062 13,59	26213 12,20	20387 10,82	15449 9,41	11267 7,96	7704 6,46	
	60	Q P	54908 20,84	49861 19,87	45172 18,93	40824 18,01	33086 16,20	26510 14,44	20965 12,70	16315 10,96	12425 9,20	9163 7,40	6393 5,54	
	70	Q P	40651 23,02	36602 21,85	32879 20,71	29464 19,59	23497 17,38	18566 15,22	14537 13,08	11275 10,93	8647 8,77			
HGX6/1240-4	30	Q P	98422 17,10	89924 16,50	81948 15,92	74474 15,37	60954 14,31	49209 13,31	39087 12,33	30432 11,36	23090 10,38	16908 9,35	11731 8,25	
	40	Q P	88658 19,29	80940 18,55	73706 17,83	66937 17,14	54718 15,81	44128 14,52	35014 13,27	27220 12,02	20593 10,75	14979 9,43	10224 8,05	
	50	Q P	76946 21,55	70129 20,64	63759 19,76	57818 18,90	47145 17,23	37954 15,61	30091 14,01	23403 12,42	17735 10,80	12934 9,14	8844 7,41	
	60	Q P	63033 23,92	57239 22,81	51856 21,73	46865 20,67	37981 18,60	30433 16,58	24067 14,58	18729 12,58	14264 10,56	10519 8,50	7339 6,36	
	70	Q P	46666 26,42	42017 25,09	37743 23,77	33824 22,48	26974 19,95	21313 17,47	16688 15,01	12944 12,55	9926 10,06			
HGX6/1410-4	30	Q P	111982 19,46	102314 18,77	93239 18,11	84735 17,48	69352 16,28	55989 15,14	44472 14,03	34624 12,93	26271 11,81	19237 10,63	13347 9,39	
	40	Q P	100873 21,95	92091 21,10	83861 20,29	76160 19,50	62257 17,98	50208 16,53	39838 15,10	30970 13,68	23431 12,23	17043 10,73	11632 9,16	
	50	Q P	87547 24,52	79791 23,49	72544 22,48	65784 21,50	53640 19,60	43183 17,76	34237 15,94	26628 14,13	20179 12,29	14716 10,40	10062 8,43	
	60	Q P	71717 27,22	65125 25,96	59000 24,73	53322 23,52	43214 21,16	34626 18,86	27383 16,59	21309 14,32	16229 12,02	11968 9,67	8350 7,23	
	70	Q P	53096 30,06	47807 28,54	42943 27,05	38484 25,58	30690 22,70	24250 19,88	18987 17,08	14727 14,28	11294 11,45			
HGX7/1620-4	30	Q P	121493 16,46	110976 16,72	101143 16,84	91966 16,83	75469 16,46	61262 15,69	49126 14,61	38837 13,32	30174 11,90	22916 10,44	16842 9,03	
	40	Q P	108919 21,03	99297 20,91	90317 20,66	81950 20,30	66947 19,29	54067 17,97	43088 16,41	33788 14,72	25945 12,99	19339 11,29	13748 9,73	
	50	Q P	95988 25,19	87281 24,70	79173 24,11	71637 23,42	58168 21,82	46654 19,98	36872 17,99	28600 15,95	21618 13,94	15703 12,05	10634 10,37	
	60	Q P	82743 28,86	74970 28,03	67755 27,11	61069 26,12	49175 23,97	39066 21,65	30521 19,28	23318 16,92	17235 14,68	12052 12,64	7545 10,89	
	70	Q P	69228 31,98	62411 30,82	56108 29,60	50292 28,32	40012 25,66	31348 22,92	24080 20,19	17985 17,56	12842 15,13			

Relating to 25 °C suction gas temperature,
without liquid subcooling

Supplementary cooling or
reduced suction gas temp.

R134a													Performance data													50 Hz		
Type		Cond. temp. °C		Cooling capacity $\dot{Q}_o$ [W]										Power consumption P_e [kW]														
				Evaporating temperature °C																								
		12,5	10	7,5	5	0	-5	-10	-15	-20	-25	-30																
HGX7/1860-4	30	Q	139469	127396	116108	105573	86635	70327	56394	44583	34639	26307	19334															
		P	18,89	19,20	19,34	19,32	18,90	18,01	16,78	15,29	13,66	11,98	10,37															
	40	Q	125034	113989	103680	94075	76853	62067	49463	38787	29784	22201	15782															
		P	24,14	24,00	23,72	23,31	22,15	20,62	18,84	16,90	14,91	12,96	11,17															
	50	Q	110190	100194	90887	82236	66775	53557	42327	32832	24817	18027	12208															
		P	28,92	28,36	27,68	26,89	25,05	22,94	20,65	18,31	16,00	13,83	11,91															
HGX7/2110-4	30	Q	158685	144949	132106	120119	98571	80016	64164	50725	39411	29932	21997															
		P	21,49	21,84	22,00	21,99	21,50	20,49	19,09	17,40	15,54	13,64	11,80															
	40	Q	142261	129694	117965	107037	87442	70618	56278	44131	33888	25259	17956															
		P	27,47	27,31	26,99	26,52	25,20	23,47	21,44	19,23	16,96	14,75	12,71															
	50	Q	125371	113999	103409	93566	75975	60936	48159	37356	28236	20510	13890															
		P	32,90	32,26	31,49	30,59	28,50	26,10	23,50	20,83	18,20	15,74	13,55															
HGX8/2470-4	30	Q	180980	165373	150688	136898	111894	90139	71410	55486	42145	31167	22328															
		P	28,60	28,57	28,38	28,02	26,89	25,25	23,21	20,85	18,25	15,51	12,72															
	40	Q	162981	148715	135302	122715	99905	80064	62970	48402	36137	25955	17633															
		P	36,03	35,34	34,51	33,54	31,25	28,57	25,58	22,37	19,02	15,64	12,30															
	50	Q	143344	130506	118452	107152	86709	68954	53667	40626	29610	20396	12762															
		P	42,17	40,85	39,41	37,87	34,51	30,85	26,99	23,01	18,99	15,03	11,22															
HGX8/2830-4	30	Q	122458	111134	100523	90598	72692	57197	43889	32547	22950	14877	8104															
		P	47,04	45,14	43,14	41,06	36,70	32,14	27,48	22,80	18,19	13,73	9,53															
	40	Q	100710	90986	81905	73439	58244	45179	34022	24552	16547																	
		P	50,70	48,24	45,72	43,14	37,86	32,48	27,09	21,79	16,65																	
	50	Q	210768	192307	174998	158801	129576	104304	82654	64297	48905	36146	25692															
		P	35,60	35,08	34,39	33,54	31,42	28,87	26,05	23,09	20,14	17,35	14,88															
HGX8/3220-4	30	Q	189115	172156	156289	141473	114827	91890	72331	55821	42031	30631	21293															
		P	41,56	40,50	39,29	37,95	34,95	31,67	28,23	24,80	21,51	18,52	15,96															
	40	Q	166558	151192	136858	123512	99626	79203	61916	47433	35427	25566	17523															
		P	47,26	45,66	43,95	42,14	38,31	34,32	30,32	26,45	22,86	19,69	17,10															
	50	Q	143108	129426	116713	104929	83982	66256	51419	39145	29102	20961	14394															
		P	52,79	50,68	48,49	46,23	41,61	36,96	32,42	28,16	24,30	21,00	18,41															
HGX8/3220-4	30	Q	118776	106867	95867	85734	67907	53056	40852	30965	23067																	
		P	58,28	55,68	53,02	50,34	44,96	39,69	34,66	30,03	25,95																	
	40	Q	239807	218802	199109	180680	147429	118675	94042	73156	55642	41126	29232															
		P	40,50	39,92	39,13	38,16	35,75	32,85	29,63	26,27	22,92	19,75	16,93															
	50	Q	215170	195875	177822	160965	130648	104550	82296	63512	47822	34852	24226															
		P	47,29	46,08	44,70	43,17	39,77	36,03	32,12	28,22	24,47	21,07	18,16															
HGX8/3220-4	30	Q	189506	172023	155713	140530	113352	90116	70446	53969	40308	29089	19937															
		P	53,77	51,95	50,00	47,94	43,59	39,05	34,50	30,09	26,01	22,41	19,46															
	40	Q	162825	147258	132794	119386	95553	75384	58504	44538	33111	23849	16377															
		P	60,06	57,66	55,17	52,60	47,34	42,05	36,89	32,04	27,65	23,90	20,95															
	50	Q	135141	121591	109075	97546	77263	60366	46481	35232	26245																	
		P	66,32	63,35	60,33	57,28	51,16	45,15	39,44	34,17	29,53																	

Relating to 25 °C suction gas temperature
(HGX8/2470-4 to 20 °C suction gas temperature)
without liquid subcooling

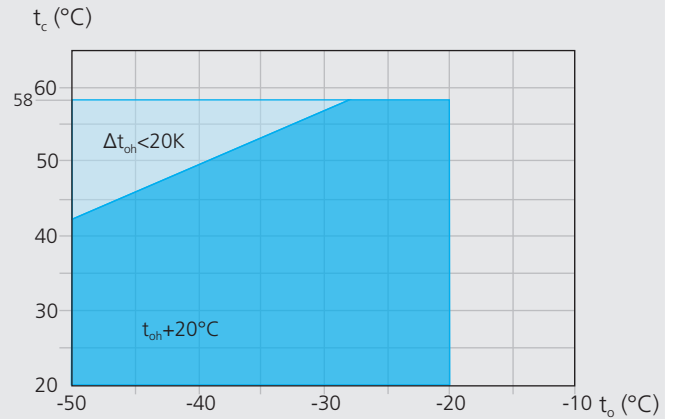
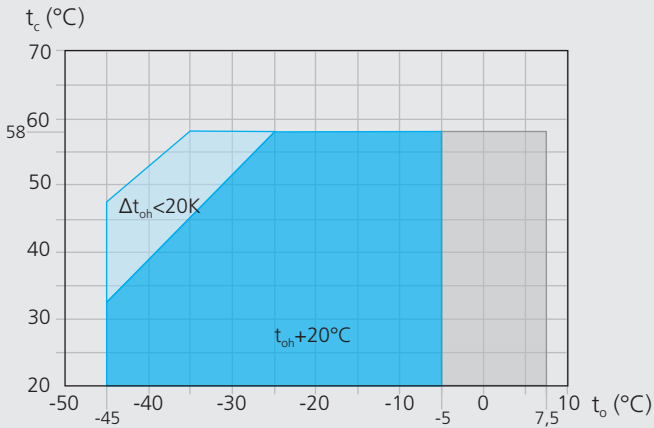
Supplementary cooling or
reduced suction gas temp.

R404A/R507 Operating limits

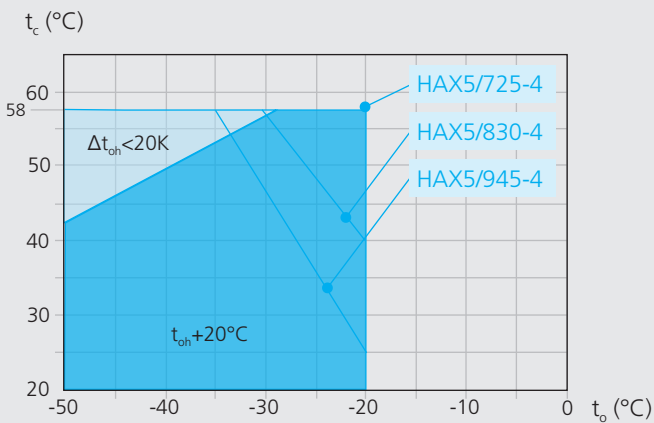
HGX12P / HGX22e / HGX34e /

HGX4 / HGX5 / HGX6^① / HGX7 / HGX8^②

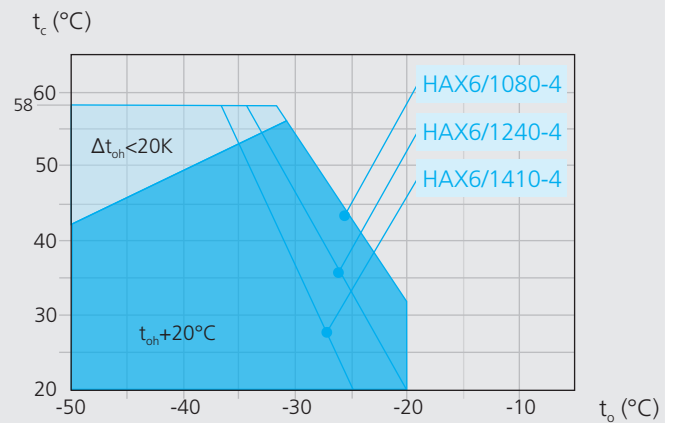
HAX12P / HAX22P / HAX34P / HAX4



HAX5



HAX6



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

^① LP = low pressure HP = high pressure

① HGX6/1410-45

Max. evaporating temperature
 $t_o = 2\text{ °C}$

HGX6/1410-4

Max. evaporating temperature
 $t_o = -7\text{ °C}$

② HGX8/2830-4

Max. evaporating temperature
 $t_o = 0\text{ °C}$

- Unlimited application range
- HG Supplementary cooling or reduced suction gas temperature
- HA reduced suction gas temperature
- Motor version -S- (more powerful motor)

t_o Evaporating temperature (°C)

t_c Condensing temperature (°C)

Δt_{oh} Suction gas superheat (K)

t_{oh} Suction gas temperature (°C)

R404A/R507 Notes

Operating limits

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

Restrictions to the operating limits may occur when using the Bock EFC (Electronic Frequency Control).

Further explanation see separate brochure "Bock semi-hermetic compressors - Electronic Controls".

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 GEA Bock software.

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.

R404A/R507			Performance data											50 Hz	
Type	Cond. temp. °C		Cooling capacity $\dot{Q}_o$ [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 P	6535 1,20	5989 1,22	4990 1,23	4108 1,20	3336 1,15	2667 1,08	2094 1,00	1610 0,91	1207 0,81	878 0,71	616 0,62	414 0,53	
	40	Q P	5537 1,49	5060 1,48	4191 1,43	3428 1,37	2764 1,28	2193 1,18	1706 1,06	1297 0,95	959 0,83	684 0,71	465 0,61	296 0,52	
	50	Q P	4535 1,72	4128 1,69	3390 1,60	2748 1,49	2195 1,37	1723 1,24	1324 1,10	993 0,96	722 0,83	503 0,70	329 0,59		
HAX12P/60-4	30	Q P								2327 1,04	1851 0,95	1442 0,86	1097 0,75	809 0,66	573 0,56
	40	Q P								1956 1,12	1538 1,00	1182 0,88	883 0,76	635 0,65	435 0,54
	50	Q P								1582 1,18	1223 1,04	921 0,89	670 0,75	465 0,62	301 0,51
HGX12P/75-4 ¹⁾ HGX12P/75-4 S ¹⁾	30	Q P	8160 1,52	7498 1,54	6284 1,55	5227 1,50	4288 1,45	3469 1,37	2764 1,26	2164 1,15	1661 1,03	1246 0,91	911 0,79	648 0,68	
	40	Q P	6934 1,91	6357 1,89	5304 1,83	4419 1,73	3606 1,63	2902 1,50	2299 1,37	1789 1,23	1364 1,08	1015 0,94	734 0,81	513 0,69	
	50	Q P	5729 2,21	5238 2,17	4345 2,05	3632 1,92	2945 1,78	2355 1,62	1855 1,45	1435 1,29	1087 1,12	804 0,96	577 0,82		
HAX12P/75-4	30	Q P								2888 1,29	2296 1,18	1789 1,06	1361 0,94	1004 0,81	711 0,70
	40	Q P								2427 1,39	1908 1,25	1466 1,10	1095 0,95	788 0,80	540 0,67
	50	Q P								1962 1,46	1517 1,29	1143 1,11	831 0,93	577 0,77	374 0,63
HGX12P/90-4 ¹⁾ HGX12P/90-4 S ¹⁾	30	Q P	9738 1,85	8948 1,86	7500 1,86	6085 1,78	5000 1,69	4052 1,58	3231 1,46	2529 1,32	1937 1,18	1446 1,03	1047 0,89	730 0,75	
	40	Q P	8288 2,27	7600 2,25	6344 2,17	5145 2,02	4202 1,88	3381 1,72	2676 1,56	2075 1,39	1571 1,21	1155 1,04	817 0,88	549 0,72	
	50	Q P	6863 2,66	6276 2,60	5212 2,46	4219 2,25	3418 2,06	2727 1,85	2137 1,65	1640 1,44	1226 1,24	886 1,04	611 0,86		
HAX12P/90-4	30	Q P								3407 1,56	2698 1,43	2089 1,29	1574 1,15	1146 1,00	796 0,86
	40	Q P								2853 1,67	2229 1,50	1699 1,33	1254 1,15	889 0,98	596 0,82
	50	Q P								2287 1,75	1752 1,54	1303 1,33	932 1,13	633 0,93	399 0,76
HGX12P/110-4 ¹⁾ HGX12P/110-4 S ¹⁾	30	Q P	11247 2,17	10345 2,18	8691 2,16	7218 2,15	5966 2,05	4868 1,92	3914 1,76	3094 1,59	2397 1,41	1814 1,23	1334 1,05	946 0,88	
	40	Q P	9581 2,65	8796 2,62	7361 2,53	6125 2,47	5039 2,30	4091 2,10	3270 1,89	2567 1,68	1972 1,46	1473 1,25	1062 1,05	728 0,88	
	50	Q P	7877 3,12	7211 3,05	6000 2,89	5010 2,74	4095 2,50	3301 2,25	2619 1,99	2039 1,73	1549 1,49	1141 1,26	803 1,05		
HAX12P/110-4	30	Q P								4092 1,78	3265 1,63	2558 1,46	1960 1,28	1461 1,11	1051 0,94
	40	Q P								3451 1,94	2726 1,74	2109 1,52	1590 1,30	1159 1,10	806 0,92
	50	Q P								2809 2,05	2189 1,80	1664 1,55	1227 1,30	866 1,07	572 0,88
HGX22e/125-4 HGX22e/125-4 S	30	Q P	13400 2,19	12400 2,23	10500 2,26	8790 2,24	7250 2,16	5870 2,03	4650 1,88	3590 1,69	2680 1,49	1920 1,28	1320 1,07	857 0,878	
	40	Q P	11600 2,77	10700 2,75	8970 2,68	7460 2,58	6090 2,41	4880 2,22	3820 2,00	2900 1,76	2120 1,52	1490 1,28	992 1,06	640 0,853	
	50	Q P	9650 3,26	8860 3,19	7390 3,03	6080 2,84	4910 2,60	3880 2,34	2990 2,07	2230 1,80	1610 1,53	1110 1,27	749 1,03		
HAX22P/125-4	30	Q P								4728 1,92	3791 1,71	2981 1,51	2291 1,32	1715 1,13	1247 0,94
	40	Q P								3959 2,09	3158 1,84	2466 1,60	1876 1,37	1382 1,14	977 0,92
	50	Q P								3211 2,22	2538 1,92	1956 1,64	1458 1,37	1037 1,10	689 0,83
HGX22e/160-4 HGX22e/160-4 S	30	Q P	16900 2,71	15600 2,75	13200 2,78	10900 2,73	8980 2,62	7320 2,47	5850 2,29	4560 2,07	3450 1,84	2510 1,59	1750 1,34	1170 1,08	
	40	Q P	14500 3,42	13400 3,40	11200 3,30	9170 3,17	7540 2,96	6090 2,72	4810 2,47	3700 2,19	2750 1,91	1960 1,62	1330 1,34	851 1,07	
	50	Q P	12100 4,02	11100 3,94	9150 3,73	7480 3,51	6090 3,22	4860 2,90	3790 2,58	2860 2,25	2090 1,92	1460 1,60	971 1,30		
HAX22P/160-4	30	Q P								5837 2,37	4680 2,11	3680 1,87	2828 1,63	2118 1,40	1540 1,17
	40	Q P								4888 2,58	3899 2,27	3044 1,98	2316 1,69	1706 1,41	1207 1,14
	50	Q P								3964 2,74	3134 2,38	2414 2,03	1799 1,69	1281 1,36	851 1,03

Relating to 20 °C suction gas temp.
without liquid subcooling

¹⁾ Compressors (R404A)
are ASERCOM certified



Motor version -S-
(more powerful motor)

Supplementary cooling or
reduced suction gas temp.

R404A/R507			Performance data											50 Hz	
Type	Cond. temp. °C		Cooling capacity $\dot{Q}_o$ [W]								Power consumption P_e [kW]				
			Evaporating temperature °C												
			7,5	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45	
HGX22e/190-4 HGX22e/190-4 S	30	Q P	20800 3,46	19200 3,48	16100 3,46	13300 3,41	11000 3,26	8920 3,07	7140 2,84	5620 2,57	4330 2,29	3240 2,00	2350 1,70	1620 1,41	
	40	Q P	17800 4,28	16400 4,23	13700 4,09	11300 3,93	9200 3,68	7450 3,39	5940 3,08	4640 2,74	3540 2,39	2620 2,03	1860 1,68	1230 1,35	
	50	Q P	14800 5,04	13600 4,93	11300 4,66	9150 4,40	7460 4,06	6000 3,68	4750 3,27	3680 2,85	2780 2,43	2020 2,01	1390 1,61		
HAX22P/190-4	30	Q P							7063 2,87	5663 2,55	4453 2,26	3422 1,97	2562 1,69	1863 1,41	
	40	Q P							5915 3,12	4718 2,75	3684 2,39	2802 2,05	2064 1,71	1460 1,37	
	50	Q P							4797 3,31	3792 2,88	2922 2,45	2177 2,04	1550 1,64	1030 1,25	
HGX34e/215-4 ¹⁾ HGX34e/215-4 S ¹⁾	30	Q P	23900 3,83	21900 3,85	18200 3,84	14600 3,70	11900 3,52	9470 3,26	7390 2,94	5610 2,58	4120 2,21	2900 1,84	1940 1,49	1220 1,18	
	40	Q P	20200 4,72	18500 4,65	15300 4,48	12200 4,26	9840 3,94	7770 3,56	5990 3,14	4480 2,70	3230 2,27	2220 1,85	1430 1,47	851 1,15	
	50	Q P	16500 5,48	15000 5,33	12200 4,99	9770 4,67	7800 4,23	6090 3,75	4630 3,25	3420 2,74	2420 2,26	1630 1,81	1040 1,42		
HAX34P/215-4	30	Q P							8042 3,26	6449 2,91	5071 2,57	3897 2,24	2918 1,92	2122 1,61	
	40	Q P							6735 3,56	5372 3,13	4194 2,73	3190 2,33	2350 1,95	1662 1,57	
	50	Q P							5462 3,77	4317 3,27	3327 2,79	2479 2,33	1765 1,87	1172 1,42	
HGX34e/255-4 ¹⁾ HGX34e/255-4 S ¹⁾	30	Q P	28000 4,57	25700 4,61	21500 4,59	17200 4,44	14200 4,23	11500 3,95	9120 3,61	7080 3,22	5350 2,81	3900 2,39	2730 1,97	1820 1,58	
	40	Q P	23800 5,64	21800 5,58	18100 5,38	14500 5,14	11800 4,76	9460 4,33	7430 3,86	5680 3,37	4210 2,87	3010 2,38	2050 1,92	1320 1,50	
	50	Q P	19500 6,55	17700 6,40	14600 6,02	11700 5,68	9410 5,15	7450 4,58	5760 4,00	4330 3,41	3150 2,84	2200 2,30	1480 1,80		
HAX34P/255-4	30	Q P							9456 3,84	7582 3,42	5962 3,02	4582 2,64	3430 2,26	2495 1,89	
	40	Q P							7919 4,18	6317 3,68	4932 3,20	3751 2,74	2763 2,29	1955 1,84	
	50	Q P							6422 4,44	5076 3,85	3911 3,28	2915 2,73	2075 2,20	1379 1,67	
HGX34e/315-4 ¹⁾ HGX34e/315-4 S ¹⁾	30	Q P	33800 5,86	31000 5,82	26000 5,67	21300 5,47	17600 5,20	14300 4,85	11400 4,43	8840 3,98	6700 3,49	4930 2,99	3490 2,49	2370 2,01	
	40	Q P	28700 7,05	26300 6,92	22000 6,59	17900 6,29	14700 5,83	11900 5,32	9350 4,76	7220 4,18	5400 3,58	3880 2,98	2650 2,40	1690 1,86	
	50	Q P	23500 8,13	21500 7,90	17800 7,39	14500 6,97	11800 6,34	9430 5,67	7370 4,96	5600 4,25	4100 3,54	2840 2,85	1820 2,20		
HAX34P/315-4	30	Q P							11674 4,74	9361 4,22	7360 3,73	5657 3,26	4235 2,79	3080 2,33	
	40	Q P							9776 5,16	7798 4,55	6088 3,96	4631 3,38	3411 2,82	2413 2,27	
	50	Q P							7929 5,48	6267 4,75	4829 4,05	3599 3,38	2562 2,71	1702 2,06	
HGX34e/380-4 ¹⁾ HGX34e/380-4 S ¹⁾	30	Q P	40900 7,20	37600 7,15	31700 6,98	25800 6,84	21200 6,45	17300 5,98	13800 5,46	10900 4,88	8300 4,28	6200 3,67	4490 3,05	3120 2,45	
	40	Q P	34600 8,75	31800 8,59	26700 8,18	21600 7,84	17700 7,25	14300 6,59	11400 5,90	8850 5,18	6730 4,45	4960 3,72	3510 3,00	2340 2,33	
	50	Q P	28400 10,10	26000 9,86	21800 9,23	17600 8,73	14300 7,92	11500 7,08	9030 6,22	6960 5,34	5210 4,47	3760 3,62	2550 2,81		
HAX34P/380-4	30	Q P							14125 5,73	11327 5,11	8906 4,51	6845 3,94	5125 3,38	3726 2,82	
	40	Q P							11829 6,25	9436 5,50	7367 4,79	5604 4,09	4128 3,42	2920 2,75	
	50	Q P							9594 6,63	7583 5,75	5843 4,91	4355 4,09	3100 3,28	2059 2,49	
HGX4/465-4 ¹⁾ HGX4/465-4 S ¹⁾	30	Q P	49311 9,55	45325 9,44	38018 9,13	31142 8,81	25587 8,32	20747 7,71	16575 7,01	13020 6,24	10035 5,45	7569 4,66	5576 3,91	4005 3,21	
	40	Q P	42248 11,33	38764 11,08	32400 10,52	26283 10,08	21490 9,31	17340 8,45	13783 7,53	10770 6,58	8253 5,64	6183 4,73	4511 3,88	3187 3,13	
	50	Q P	34849 12,97	31886 12,59	26502 11,76	21559 11,12	17526 10,09	14061 9,00	11117 7,89	8643 6,78	6592 5,71	4913 4,70	3560 3,79		
HAX4/465-4	30	Q P							18696 7,76	15000 6,86	11814 6,00	9094 5,17	6798 4,35	4884 3,56	
	40	Q P							15696 8,32	12501 7,27	9756 6,26	7420 5,29	5449 4,36	3802 3,46	
	50	Q P							12819 8,76	10124 7,56	7822 6,42	5870 5,33	4225 4,29	2845 3,30	

Relating to 20 °C suction gas temp.
without liquid subcooling

¹⁾ Compressors (R404A)
are ASERCOM certified



Motor version -S-
(more powerful motor)

Supplementary cooling or
reduced suction gas temp.

R404A/R507			Performance data											50 Hz		
Type	Cond. temp. °C		Cooling capacity $\dot{Q}_o$ [W]								Power consumption P_e [kW]					
			Evaporating temperature °C													
			7,5	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45		
HGX4/555-4 ¹⁾ HGX4/555-4 S ¹⁾	30	Q P	59014 11,52	54222 11,34	45450 10,89	37853 10,34	31129 9,72	25259 8,99	20184 8,19	15848 7,34	12194 6,47	9164 5,59	6702 4,73	4751 3,93		
	40	Q P	50452 13,64	46260 13,29	38616 12,51	32112 11,84	26279 10,88	21212 9,86	16857 8,81	13155 7,74	10050 6,69	7484 5,67	5401 4,72	3743 3,85		
	50	Q P	41937 15,53	38348 15,01	31838 13,93	26484 13,14	21544 11,87	17286 10,58	13653 9,30	10589 8,04	8036 6,83	5938 5,70	4236 4,66			
HAX4/555-4	30	Q P							21842 8,84	17569 7,84	13875 6,87	10713 5,93	8037 5,01	5799 4,12		
	40	Q P							18374 9,46	14675 8,27	11488 7,14	8766 6,04	6461 4,99	4528 3,98		
	50	Q P							15013 9,95	11894 8,60	9220 7,31	6944 6,08	5018 4,90	3396 3,78		
HGX4/650-4 ¹⁾ HGX4/650-4 S ¹⁾	30	Q P	70903 14,57	65224 14,19	54821 13,41	44444 12,51	36811 11,70	30119 10,80	24302 9,84	19297 8,84	15039 7,82	11465 6,80	8510 5,80	6110 4,85		
	40	Q P	60855 16,80	55879 16,29	46795 15,22	37928 14,30	31232 13,15	25384 11,94	20322 10,70	15982 9,45	12298 8,21	9208 7,01	6647 5,86	4550 4,79		
	50	Q P	50791 19,05	46523 18,38	38768 17,02	31303 15,79	25565 14,31	20586 12,81	16302 11,31	12650 9,83	9564 8,39	6980 7,02	4835 5,73			
HAX4/650-4	30	Q P							24978 9,71	20136 8,62	15945 7,57	12352 6,54	9304 5,55	6747 4,57		
	40	Q P							21012 10,39	16819 9,10	13202 7,86	10107 6,67	7480 5,53	5268 4,42		
	50	Q P							17167 10,93	13632 9,46	10596 8,05	8006 6,71	5809 5,43	3951 4,20		
HGX5/725-4 ¹⁾ HGX5/725-4 S ¹⁾	30	Q P	76254 13,31	70105 13,28	58815 13,03	48024 12,99	39230 12,20	31558 11,23	24934 10,13	19288 8,94	14546 7,70	10636 6,47	7486 5,28	5024 4,19		
	40	Q P	64689 16,28	59328 16,01	49517 15,29	40164 14,87	32541 13,61	25933 12,22	20266 10,76	15468 9,25	11467 7,76	8191 6,32	5568 4,98	3525 3,78		
	50	Q P	53354 19,02	48782 18,49	40450 17,29	32498 16,31	26053 14,61	20515 12,84	15811 11,04	11869 9,26	8617 7,55	5982 5,94	3892 4,48			
HAX5/725-4	30	Q P							26886 10,67	21437 9,42	16746 8,19	12756 7,01	9409 5,86	6644 4,75		
	40	Q P							22619 11,41	17905 9,93	13864 8,51	10437 7,15	7565 5,84	5189 4,60		
	50	Q P							18487 12,01	14513 10,33	11125 8,72	8265 7,19	5874 5,74	3892 4,37		
HGX5/830-4 ¹⁾ HGX5/830-4 S ¹⁾	30	Q P	86623 15,69	79925 15,61	67508 15,23	54430 14,69	44830 13,90	36400 12,93	29056 11,80	22717 10,55	17300 9,21	12722 7,82	8900 6,41	5752 5,01		
	40	Q P	74069 19,30	68151 18,89	57216 17,91	45580 16,93	37311 15,69	30078 14,28	23798 12,75	18389 11,13	13769 9,45	9854 7,74	6561 6,04	3809 4,38		
	50	Q P	61445 22,39	56332 21,68	46927 20,13	37034 18,88	30091 17,17	24051 15,33	18831 13,38	14348 11,38	10520 9,34	7263 7,30	4496 5,29			
HAX5/830-4	30	Q P							30392 12,06	24266 10,65	19003 9,29	14530 7,96	10772 6,67	7655 5,43		
	40	Q P							25602 12,90	20281 11,24	15733 9,65	11882 8,12	8654 6,65	5976 5,25		
	50	Q P									12641 9,88	9414 8,16	6718 6,53	4480 4,99		
HGX5/945-4 ¹⁾ HGX5/945-4 S ¹⁾	30	Q P	99975 18,52	91955 18,31	77277 17,73	63293 17,40	52168 16,27	42473 15,04	34090 13,74	26900 12,35	20783 10,90	15620 9,38	11291 7,80	7678 6,18		
	40	Q P	84751 22,17	77834 21,71	65213 20,66	52881 19,84	43552 18,30	35430 16,69	28395 14,99	22327 13,23	17107 11,40	12617 9,52	8737 7,59	5347 5,61		
	50	Q P	69440 25,81	63623 25,08	53056 23,50	42757 22,12	35145 20,15	28515 18,09	22748 15,97	17723 13,78	13321 11,54	9424 9,25	5912 6,91			
HAX5/945-4	30	Q P									27994 12,27	21989 10,72	16866 9,21	12548 7,74	8959 6,32	
	40	Q P										18205 11,13	13799 9,39	10088 7,71	6997 6,11	
	50	Q P											10929 9,44	7834 7,57	5248 5,81	
HGX5/1080-4 ¹⁾ HGX5/1080-4 S ¹⁾	30	Q P	113675 22,05	104548 21,89	87811 21,27	72501 20,82	59869 19,21	48801 17,56	39180 15,88	30889 14,16	23810 12,40	17826 10,60	12819 8,76	8672 6,86		
	40	Q P	96893 26,74	88944 26,17	74420 24,80	61734 23,74	50695 21,61	41062 19,46	32716 17,30	25541 15,13	19419 12,94	14233 10,72	9866 8,49	6200 6,22		
	50	Q P	80355 30,79	73583 29,85	61270 27,79	51086 26,12	41654 23,48	33468 20,85	26411 18,23	20366 15,62	15214 13,01	10840 10,40	7125 7,78			
HAX5/1080-4	30	Q P									41973 16,66	33574 14,73	26360 12,86	20224 11,05	15061 9,29	10763 7,58
	40	Q P										28072 15,55	21828 13,36	16539 11,27	12098 9,26	8401 7,33
	50	Q P											17547 13,68	13107 11,32	9392 9,09	6297 6,97

Relating to 20 °C suction gas temp.
without liquid subcooling

¹⁾ Compressors (R404A)
are ASERCOM certified



Motor version -S-
(more powerful motor)

Supplementary cooling or
reduced suction gas temp.

R404A/R507			Performance data											50 Hz	
Type	Cond. temp. °C		Cooling capacity $\dot{Q}_0$ [W]										Power consumption P_e [kW]		
			Evaporating temperature °C												
			7,5	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45	
HGX6/1240-4 ¹⁾ HGX6/1240-4 S ¹⁾	30	Q P	133368 27,78	122554 27,28	102765 26,04	83399 23,70	68935 22,26	56229 20,54	45169 18,62	35643 16,56	27538 14,43	20744 12,29	15146 10,21	10634 8,25	
	40	Q P	113720 33,36	104299 32,38	87122 30,24	71042 27,42	58440 25,14	47422 22,68	37874 20,13	29684 17,53	22741 14,97	16931 12,49	12143 10,17	8265 8,08	
	50	Q P	94323 38,27	86295 36,83	71734 33,86	58323 30,45	47668 27,41	38420 24,30	30468 21,19	23698 18,14	17998 15,22	13257 12,49	9362 10,02		
HAX6/1240-4	30	Q P									38742 17,00	30407 14,83	23329 12,74	17378 10,72	12423 8,75
	40	Q P										25193 15,43	19081 13,01	13958 10,69	9695 8,48
	50	Q P											15126 13,08	10835 10,49	7265 8,05
HGX6/1410-4 ¹⁾ HGX6/1410-4 S ¹⁾	30	Q P			112574 28,95	94071 27,60	76961 26,50	63138 24,11	51088 21,69	40671 19,26	31748 16,84	24176 14,43	17817 12,06	12528 9,73	
	40	Q P			96228 33,76	80122 31,54	65316 30,24	53413 26,98	43056 23,78	34104 20,67	26417 17,65	19854 14,74	14276 11,96	9540 9,32	
	50	Q P			79925 37,91	66235 34,88	53148 33,29	43254 29,21	34677 25,29	27278 21,54	20915 17,98	15450 14,63	10739 11,49		
HAX6/1410-4	30	Q P										33768 16,48	25918 14,13	19311 11,86	13807 9,68
	40	Q P											21163 14,43	15482 11,83	10756 9,36
	50	Q P											16757 14,53	12003 11,62	8054 8,90
HGX7/1620-4 ¹⁾ HGX7/1620-4 S ¹⁾	30	Q P	163130 32,39	150297 32,05	126636 30,98	106031 30,00	87518 28,31	71107 26,22	56728 23,83	44306 21,24	33770 18,56	25047 15,88	18065 13,30	12751 10,93	
	40	Q P	139724 38,16	128531 37,38	107945 35,48	89756 34,27	73736 31,69	59585 28,79	47232 25,68	36603 22,46	27628 19,22	20232 16,08	14343 13,12	9890 10,45	
	50	Q P	115792 43,47	106272 42,23	88826 39,46	73671 37,57	60144 34,13	48254 30,47	37928 26,68	29093 22,85	21678 19,10	15609 15,52	10816 12,22		
HGX7/1860-4 ¹⁾ HGX7/1860-4 S ¹⁾	30	Q P	184191 37,41	169853 37,14	143432 36,15	119116 35,68	98208 32,91	79858 30,00	63906 27,00	50195 23,95	38563 20,89	28854 17,88	20907 14,95	14563 12,15	
	40	Q P	157436 45,37	144933 44,40	121960 42,11	100333 39,79	82508 36,14	66907 32,43	53368 28,71	41734 25,02	31846 21,40	23543 17,91	16668 14,59	11061 11,48	
	50	Q P	130989 51,97	120333 50,38	100832 46,93	82100 43,28	67304 38,81	54394 34,37	43213 29,99	33601 25,73	25399 21,63	18448 17,73	12589 14,08		
HGX7/2110-4 ¹⁾ HGX7/2110-4 S ¹⁾	30	Q P	201969 46,49	186202 45,47	157288 43,22	130628 40,64	108549 37,84	89073 34,82	72027 31,63	57236 28,33	44527 24,95	33724 21,53	24655 18,14	17144 14,81	
	40	Q P	173523 54,03	159904 52,52	134971 49,31	112651 45,59	93282 41,96	76227 38,14	61312 34,18	48362 30,13	37205 26,03	27665 21,92	19568 17,87	12741 13,90	
	50	Q P	144329 60,77	132872 58,78	111953 54,63	93475 49,93	77007 45,43	62564 40,76	49972 35,99	39055 31,14	29641 26,28	21555 21,44	14623 16,68		
HGX7/2470-4 ¹⁾ HGX7/2470-4 S ¹⁾	30	Q P	254335 53,08	233623 52,10	195759 49,73	157695 47,03	130257 43,16	106132 39,21	85092 35,21	66910 31,15	51360 27,05	38215 22,90	27249 18,73	18235 14,53	
	40	Q P	216832 62,30	198811 60,54	165981 56,70	135212 52,81	111218 47,88	90157 42,92	71803 37,94	55931 32,95	42312 27,94	30721 22,94	20931 17,95	12715 12,98	
	50	Q P	179905 70,32	164564 67,83	136749 62,61	111576 57,36	91145 51,37	73270 45,38	57724 39,41	44281 33,47	32715 27,56	22799 21,69	14305 15,87		
HGX8/2830-4 ¹⁾ HGX8/2830-4 S ¹⁾	30	Q P	280334 58,49	258363 57,89	218657 57,29	182105 54,05	149962 50,41	121929 46,43	97702 42,19	76982 37,75	59466 33,17	44852 28,54	32841 23,91	23130 19,37	
	40	Q P	240502 70,92	221237 69,19	187179 66,01	155251 61,11	127305 55,95	103039 50,60	82152 45,12	64342 39,59	49308 34,06	36749 28,62	26363 23,33	17849 18,26	
	50	Q P	200747 81,06	184227 78,33	155772 73,50	128523 67,07	104826 60,51	84382 53,90	66888 47,31	52043 40,80	39545 34,45	29094 28,32	20387 22,48		
HGX8/3220-4 ¹⁾ HGX8/3220-4 S ¹⁾	30	Q P	299972 66,91	277577 66,12	236052 63,90	199764 63,87	165297 59,10	135207 54,07	109154 48,87	86797 43,59	67796 38,29	51812 33,07	38503 28,00	27530 23,17	
	40	Q P	260037 81,79	240407 79,73	204062 75,15	170917 71,84	141015 65,49	114985 59,02	92486 52,53	73180 46,09	56724 39,78	42781 33,68	31008 27,88	21066 22,45	
	50	Q P	217197 93,49	200466 90,33	169563 83,69	141839 78,71	116555 70,87	94639 63,06	75750 55,36	59548 47,84	45693 40,60	33845 33,72	23663 27,26		

Relating to 20 °C suction gas temp.
without liquid subcooling

¹⁾ Compressors (R404A)
are ASERCOM certified

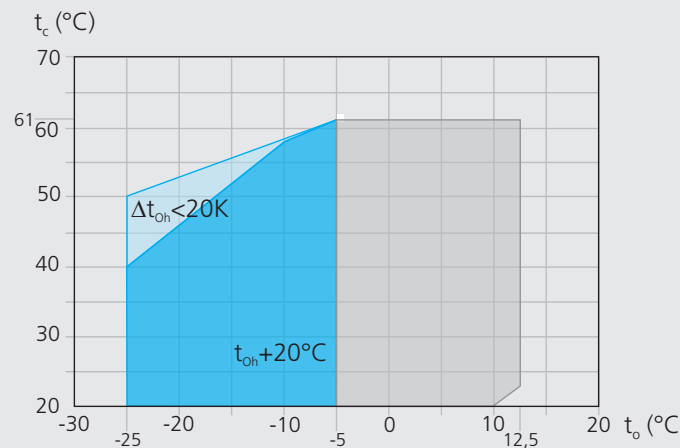


Motor version -S-
(more powerful motor)

Supplementary cooling or
reduced suction gas temp.

R407C Operating limits

HGX12P / HGX22e / HGX34e
HGX4 / HGX5 / HGX6 / HGX7 / HGX8^①



- Unlimited application range
- Supplementary cooling or reduced suction gas temperature
- Motor version -S- (more powerful motor)

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

① HGX8/2470-4 - HGX8/2830-4 - HGX8/3220-4
 Max. evaporating temperature $t_o = 0^\circ\text{C}$

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

¹⁾ LP = low pressure HP = high pressure

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R407C Notes

Operating limits

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

Restrictions to the operating limits may occur when using the Bock EFC (Electronic Frequency Control). Further explanation see separate brochure "Bock semi-hermetic compressors - Electronic Controls".

Performance data

The performance data for R407C are based on ISO-DIS 9309 (DIN 8928) with a **50 Hz power supply frequency**.

This signifies: **25 °C suction gas temperature without liquid subcooling**. EN 12900 is already valid for Pluscom compressors, HGX4 and HGX8/2470-4 **operating at 50 Hz. 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 GEA Bock software.

R407C			Performance data									50 Hz	
Type	Cond. temp. °C		Cooling capacity $\dot{Q}_o$ [W]						Power consumption P_e [kW]				
			Evaporating temperature °C										
			12,5	10	7,5	5	0	-5	-10	-15	-20	-25	
HGX12P/60-4 S	30	Q P	6778 0,88	6172 0,90	5606 0,92	5079 0,92	4136 0,91	3330 0,88	2648 0,82	2078 0,76	1608 0,69	1225 0,62	
	40	Q P	5863 1,16	5332 1,16	4837 1,15	4377 1,14	3556 1,08	2856 1,01	2265 0,92	1770 0,83	1359 0,74	1018 0,66	
	50	Q P	5001 1,42	4542 1,39	4115 1,36	3720 1,32	3016 1,23	2417 1,12	1911 1,01	1486 0,90	1129 0,79	826 0,69	
HGX12P/75-4 HGX12P/75-4 S	30	Q P	8736 1,13	7954 1,16	7225 1,18	6546 1,19	5330 1,18	4291 1,13	3413 1,06	2679 0,98	2072 0,89	1578 0,79	
	40	Q P	7557 1,50	6872 1,50	6234 1,49	5641 1,46	4583 1,39	3681 1,30	2919 1,19	2281 1,07	1751 0,96	1312 0,84	
	50	Q P	6446 1,83	5854 1,79	5304 1,75	4794 1,70	3887 1,58	3115 1,44	2463 1,30	1915 1,15	1455 1,01	1065 0,89	
HGX12P/90-4 HGX12P/90-4 S	30	Q P	10419 1,35	9487 1,38	8617 1,41	7807 1,42	6357 1,40	5118 1,35	4071 1,27	3195 1,17	2472 1,06	1882 0,95	
	40	Q P	9013 1,79	8196 1,79	7435 1,77	6728 1,75	5466 1,66	4390 1,55	3482 1,42	2721 1,28	2088 1,14	1565 1,01	
	50	Q P	7688 2,18	6982 2,14	6326 2,09	5718 2,03	4636 1,89	3715 1,72	2938 1,55	2284 1,38	1735 1,21	1270 1,06	
HGX12P/110-4 HGX12P/110-4 S	30	Q P	12250 1,58	11154 1,63	10131 1,65	9179 1,67	7474 1,65	6017 1,59	4786 1,49	3756 1,37	2906 1,24	2213 1,11	
	40	Q P	10596 2,11	9635 2,10	8741 2,08	7910 2,05	6426 1,96	5161 1,83	4093 1,67	3199 1,51	2455 1,34	1840 1,18	
	50	Q P	9038 2,56	8208 2,51	7437 2,45	6723 2,38	5450 2,22	4368 2,03	3454 1,82	2686 1,62	2040 1,42	1493 1,25	
HGX22e/125-4 HGX22e/125-4 S	30	Q P	14400 1,78	13100 1,82	11900 1,85	10800 1,87	8790 1,85	7070 1,78	5630 1,67	4420 1,53	3420 1,39	2600 1,25	
	40	Q P	12500 2,36	11400 2,35	10300 2,33	9300 2,30	7560 2,19	6060 2,04	4800 1,87	3760 1,68	2890 1,5	2160 1,32	
	50	Q P	10700 2,87	9640 2,81	8740 2,75	7910 2,67	6410 2,48	5120 2,27	4050 2,04	3150 1,81	2400 1,59	1760 1,40	
HGX22e/160-4 HGX22e/160-4 S	30	Q P	17600 2,18	16000 2,24	14500 2,28	13200 2,30	10700 2,27	8730 2,30	6950 2,16	5470 1,99	4240 1,79	3230 1,61	
	40	Q P	15200 2,90	13800 2,90	12500 2,87	11300 2,83	9180 2,69	7500 2,64	5950 2,42	4650 2,18	3580 1,94	2680 1,72	
	50	Q P	12900 3,53	11700 3,46	10700 3,38	9590 3,28	7780 3,05	6350 2,93	5020 2,64	3900 2,34	2970 2,06	2180 1,81	
HGX22e/190-4 HGX22e/190-4 S	30	Q P	21800 2,67	19900 2,74	18100 2,79	16400 2,81	13300 2,78	10800 2,83	8550 2,65	6700 2,44	5180 2,20	3960 1,98	
	40	Q P	18900 3,54	17200 3,54	15600 3,51	14100 3,46	11500 3,29	9220 3,25	7310 2,97	5710 2,68	4390 2,38	3290 2,10	
	50	Q P	16100 4,31	14600 4,23	13300 4,13	12000 4,01	9700 3,73	7790 3,60	6170 3,24	4810 2,87	3650 2,53	2670 2,22	
HGX34e/215-4 HGX34e/215-4 S	30	Q P	25600 3,45	23300 3,49	21100 3,50	19100 3,48	15600 3,39	12200 3,16	9720 2,94	7650 2,67	5910 2,38	4480 2,09	
	40	Q P	22400 4,38	20300 4,33	18400 4,26	16600 4,17	13400 3,94	10400 3,60	8190 3,25	6410 2,89	4920 2,52	3700 2,17	
	50	Q P	19100 5,19	17300 5,06	15600 4,91	14100 4,75	11300 4,39	8590 3,98	6820 3,54	5330 3,09	4100 2,66	3100 2,27	
HGX34e/255-4 HGX34e/255-4 S	30	Q P	29600 4,30	27000 4,30	24600 4,28	22300 4,23	18300 4,08	14500 3,84	11500 3,54	9040 3,20	7030 2,85	5300 2,48	
	40	Q P	26000 5,33	23600 5,24	21500 5,13	19500 5,00	15800 4,71	12300 4,38	9730 3,94	7660 3,50	5940 3,06	4430 2,63	
	50	Q P	22200 6,25	20200 6,08	18300 5,89	16500 5,69	13400 5,25	10200 4,83	8080 4,29	6420 3,76	5050 3,26	3820 2,79	
HGX34e/315-4 HGX34e/315-4 S	30	Q P	35900 4,95	32700 5,00	29800 5,01	27000 4,99	22100 4,86	17600 4,69	14100 4,34	11100 3,96	8590 3,55	6550 3,11	
	40	Q P	31300 6,32	28500 6,25	25900 6,16	23500 6,04	19200 5,72	15100 5,33	12000 4,85	9420 4,33	7260 3,80	5500 3,27	
	50	Q P	26800 7,63	24300 7,45	22100 7,24	20000 7,02	16200 6,50	12800 5,87	10200 5,25	7910 4,63	6060 3,99	4550 3,37	
HGX34e/380-4 HGX34e/380-4 S	30	Q P	43500 6,40	39600 6,35	36000 6,27	32700 6,17	26700 5,93	21600 5,84	17500 5,38	13900 4,91	10900 4,42	8310 3,90	
	40	Q P	38000 7,95	34600 7,78	31400 7,59	28400 7,39	23200 6,94	18700 6,71	15100 6,08	12000 5,45	9320 4,82	7140 4,18	
	50	Q P	32200 9,52	29300 9,23	26500 8,92	24000 8,60	19600 7,93	15800 7,49	12800 6,69	10100 5,91	7900 5,13	6070 4,36	

Relating to 20 °C suction gas temperature,
without liquid subcooling

Motor version -S-
(more powerful motor)

Supplementary cooling or
reduced suction gas temp.

R407C			Performance data									50 Hz	
Type	Cond. temp. °C		Cooling capacity $\dot{Q}_o$ [W]						Power consumption P_e [kW]				
			Evaporating temperature °C										
			12,5	10	7,5	5	0	-5	-10	-15	-20	-25	
HGX4/465-4 HGX4/465-4 S	30	Q P	52241 7,84	47689 7,76	43438 7,67	39475 7,56	32358 7,31	27293 7,08	21900 6,58	17313 6,02	13459 5,42	10267 4,78	
	40	Q P	45881 9,73	41827 9,55	38049 9,36	34532 9,16	28226 8,69	23704 8,14	18952 7,40	14925 6,63	11550 5,84	8752 5,03	
	50	Q P	39635 11,44	36073 11,16	32759 10,86	29681 10,55	24173 9,85	20139 9,12	16049 8,14	12600 7,16	9721 6,17	7338 5,19	
HGX4/555-4 HGX4/555-4 S	30	Q P	62010 9,36	56703 9,30	51739 9,22	47101 9,12	38751 8,84	31207 8,53	25091 7,92	19907 7,29	15531 6,62	11833 5,87	
	40	Q P	54852 11,45	50089 11,27	45636 11,07	41481 10,84	34003 10,31	27316 9,88	21859 9,02	17204 8,13	13225 7,19	9795 6,18	
	50	Q P	47717 13,51	43491 13,20	39547 12,86	35869 12,49	29256 11,67	23377 11,13	18539 9,97	14373 8,78	10752 7,52	7550 6,17	
HGX4/650-4 HGX4/650-4 S	30	Q P	73505 11,85	67118 11,66	61158 11,45	55607 11,22	45658 10,68	36887 10,03	29718 9,28	23650 8,56	18538 7,80	14235 6,95	
	40	Q P	64535 14,25	58930 13,95	53705 13,62	48840 13,26	40118 12,48	32465 11,59	26041 10,60	20581 9,60	15939 8,54	11970 7,35	
	50	Q P	55792 16,75	50933 16,31	46405 15,84	42188 15,34	34616 14,26	27833 13,13	22140 11,79	17274 10,42	13090 8,96	9442 7,34	
HGX5/725-4 HGX5/725-4 S	30	Q P	82066 12,72	75111 12,43	68581 12,13	62458 11,81	51370 11,13	41718 10,38	33371 9,57	26199 8,68	20072 7,72	14859 6,69	
	40	Q P	73653 15,09	67297 14,67	61341 14,23	55769 13,79	45715 12,86	37005 11,88	29506 10,85	23091 9,75	17627 8,60	12986 7,39	
	50	Q P	64721 17,35	58974 16,80	53605 16,24	48597 15,67	39600 14,50	31854 13,30	25228 12,06	19592 10,77	14817 9,44	10770 8,06	
HGX5/830-4 HGX5/830-4 S	30	Q P	94208 14,60	86225 14,27	78728 13,92	71699 13,56	58971 12,78	47891 11,92	38309 10,99	30076 9,97	23042 8,87	17057 7,68	
	40	Q P	84551 17,32	77254 16,84	70417 16,34	64021 15,83	52480 14,76	42480 13,64	33872 12,45	26507 11,20	20235 9,88	14907 8,48	
	50	Q P	74298 19,92	67700 19,28	61536 18,64	55787 17,99	45459 16,65	36567 15,27	28961 13,84	22491 12,37	17009 10,84	12364 9,25	
HGX5/945-4 HGX5/945-4 S	30	Q P	107188 16,61	98104 16,23	89575 15,84	81578 15,43	67096 14,54	54489 13,56	43587 12,50	34219 11,34	26216 10,09	19407 8,74	
	40	Q P	96200 19,71	87898 19,16	80118 18,59	72842 18,01	59710 16,80	48332 15,52	38539 14,17	30159 12,74	23023 11,24	16961 9,65	
	50	Q P	84534 22,66	77027 21,94	70014 21,21	63473 20,46	51722 18,94	41605 17,37	32951 15,75	25590 14,07	19352 12,33	14068 10,53	
HGX6/1080-4 HGX6/1080-4 S	30	Q P	122447 18,97	112071 18,55	102327 18,10	93191 17,62	76648 16,61	62246 15,49	49792 14,28	39091 12,96	29948 11,53	22170 9,98	
	40	Q P	109895 22,51	100411 21,88	91524 21,24	83211 20,57	68210 19,19	55213 17,72	44025 16,18	34453 14,55	26301 12,84	19376 11,02	
	50	Q P	96568 25,89	87993 25,06	79981 24,23	72509 23,38	59085 21,64	47528 19,85	37642 17,99	29233 16,08	22107 14,09	16070 12,03	
HGX6/1240-4 HGX6/1240-4 S	30	Q P	140564 21,78	128652 21,29	117467 20,77	106980 20,23	87989 19,06	71456 17,79	57159 16,39	44875 14,88	34379 13,23	25450 11,46	
	40	Q P	25450 11,46	115267 25,12	105066 24,38	95523 23,61	78303 22,02	63382 20,35	50539 18,58	39550 16,71	30193 14,74	22243 12,65	
	50	Q P	110857 29,72	101013 28,77	91815 27,81	83238 26,84	67828 24,84	54560 22,78	43211 20,66	33558 18,45	2538 16,17	18448 13,81	
HGX6/1410-4 HGX6/1410-4 S	30	Q P	159931 24,78	146378 24,22	133651 23,64	121719 23,02	100112 21,69	81301 20,24	65035 18,65	51058 16,92	39116 15,05	28957 13,03	
	40	Q P	143537 29,40	131149 28,58	119452 27,74	108684 26,87	89091 25,06	72115 23,15	57503 21,14	45000 19,01	34352 16,77	25307 14,4	
	50	Q P	126130 33,81	114930 32,73	104466 31,64	94706 30,53	77173 28,26	62077 25,92	49165 23,50	38182 21,00	28875 18,40	20990 15,71	
HGX7/1620-4 HGX7/1620-4 S	30	Q P	176654 28,74	161203 28,45	146809 28,06	133424 27,56	109484 26,30	88991 24,73	71553 22,92	56778 20,92	44276 18,79	33654 16,61	
	40	Q P	156630 35,77	142783 34,91	129901 33,96	117934 32,93	96552 30,69	78246 28,23	62623 25,62	49292 22,93	37862 20,21	27940 17,53	
	50	Q P	136448 42,12	124231 40,70	112886 39,22	102364 37,69	83592 34,51	67524 31,21	53768 27,86	41933 24,53	31626 21,26	22457 18,13	
HGX7/1860-4 HGX7/1860-4 S	30	Q P	202792 32,99	185054 32,66	168531 32,21	153166 31,64	125683 30,19	102158 28,39	82139 26,31	65179 24,01	50827 21,57	38633 19,07	
	40	Q P	179805 41,07	163909 40,07	149121 38,98	135384 37,81	110838 35,23	89823 32,40	71888 29,41	56585 26,32	43464 23,20	32074 20,13	
	50	Q P	156636 48,35	142612 46,72	129589 45,03	117510 43,27	95960 39,61	77515 35,83	61724 31,99	48137 28,15	36305 24,41	25779 20,82	

Relating to 25 °C suction gas temperature
(HGX4 to 20 °C suction gas temperature)
without liquid subcooling

Motor version -S-
(more powerful motor)

Supplementary cooling or
reduced suction gas temp.

R407C			Performance data										50 Hz
Type	Cond. temp. °C		Cooling capacity $\dot{Q}_0$ [W]					Power consumption P_e [kW]					
			Evaporating temperature °C										
			12,5	10	7,5	5	0	-5	-10	-15	-20	-25	
HGX7/2110-4 HGX7/2110-4 S	30	Q P	230732 37,54	210551 37,16	191751 36,65	174268 36,00	143000 34,35	116233 32,30	93456 29,93	74159 27,32	57829 24,55	43956 21,70	
	40	Q P	204578 46,72	186492 45,59	169666 44,35	154036 43,01	126109 40,08	102198 36,87	81793 33,47	64381 29,95	49452 26,40	36493 22,90	
	50	Q P	178217 55,02	162261 53,16	147443 51,23	133700 49,23	109182 45,07	88195 40,77	70228 36,39	54769 32,03	41308 27,77	29331 23,68	
HGX8/2470-4 HGX8/2470-4 S	30	Q P	281120 43,67	256346 43,36	233240 42,85	211728 42,16	175261 39,54	141490 37,85	112409 35,09	87616 31,54	66706 27,51	49275 23,29	
	40	Q P	244845 54,20	223034 52,96	202726 51,56	183847 50,03	151167 46,56	121619 42,94	96256 38,60	74674 33,81	56469 28,88	41236 24,12	
	50	Q P	210247 63,42	191369 61,32	173829 59,12	157552 56,81	128012 51,78	102759 46,66	81184 41,16	62885 35,56	47456 30,17	34493 25,27	
HGX8/2830-4 HGX8/2830-4 S	30	Q P	322714 50,13	294275 49,77	267750 49,19	243056 48,40	198814 46,25	160865 43,45	128526 40,11	101113 36,36	77942 32,32	58329 28,11	
	40	Q P	281072 62,22	256034 60,80	232721 59,19	211049 57,43	172284 53,48	139053 49,08	110674 44,34	86463 39,38	65736 34,33	47808 29,31	
	50	Q P	241355 72,80	219683 70,39	199548 67,86	180864 65,22	147505 59,66	118923 53,84	94435 47,87	73356 41,89	55002 36,02	38691 30,37	
HGX8/3220-4 HGX8/3220-4 S	30	Q P	367177 57,03	334819 56,63	304640 55,97	276543 55,07	226206 52,62	183029 49,43	146234 45,64	115044 41,37	88680 36,77	66365 31,99	
	40	Q P	319797 70,80	291310 69,17	264785 67,35	240127 65,34	196021 60,85	158212 55,84	125923 50,45	98376 44,81	74793 39,06	54395 33,35	
	50	Q P	274608 82,83	249951 80,09	227041 77,21	205783 74,20	167828 67,88	135308 61,25	107446 54,47	83462 47,67	62580 40,98	44022 34,55	

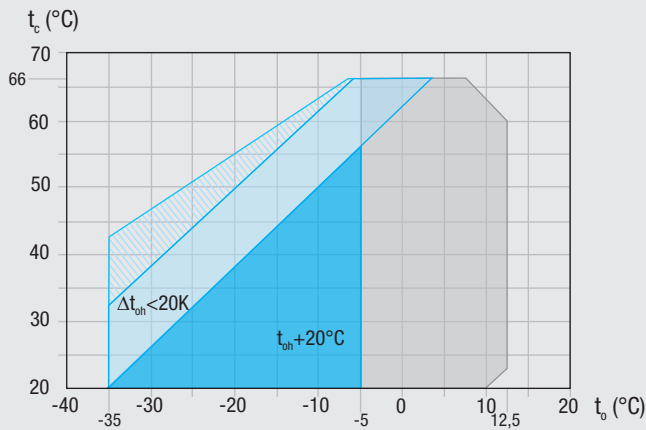
Relating to 25 °C suction gas temperature
(HGX8/2470-4 to 20 °C suction gas temperature)
without liquid subcooling

 Motor version -S-
(more powerful motor)

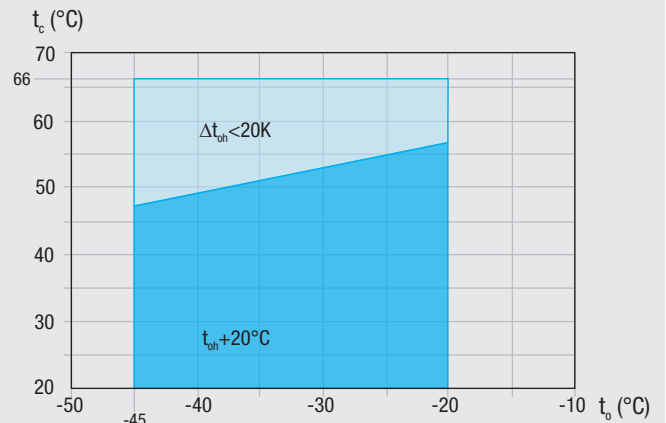
 Supplementary cooling or
reduced suction gas temp.

R22 Operating limits

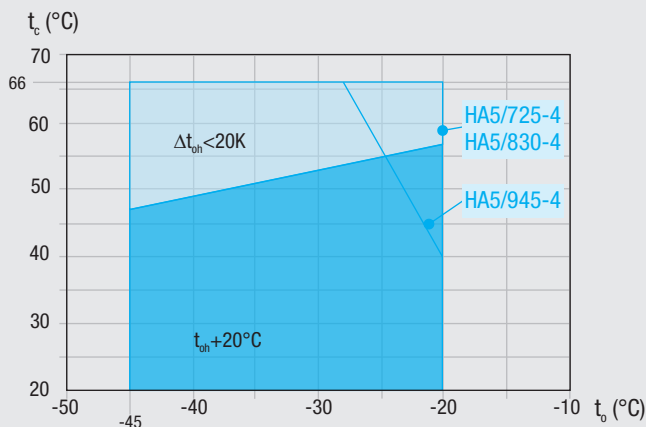
HG12P / HG22e / HG34e /
HG4 / HG5 / HG6^① / HG7 / HG8^②



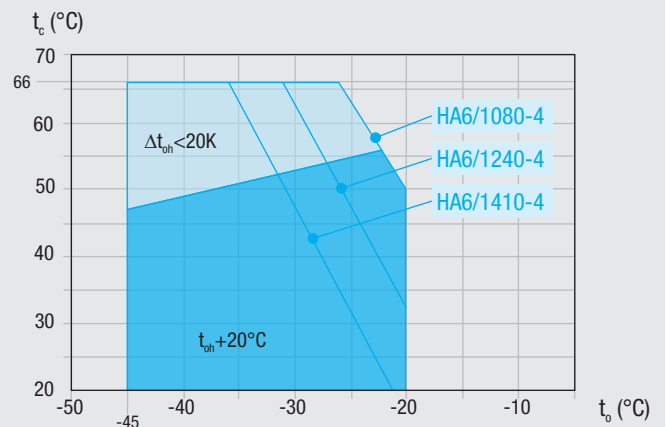
HA12P / HA22P / HA34P / HA4



HA5



HA6



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

¹⁾ LP = low pressure HP = high pressure

① HG7 „Motor version -S-“
in the evaporation range of $t_o = 5\text{ °C}$ bis $12,5\text{ °C}$
limited condensing temperature up to $t_c = 50\text{ °C}$

② HG8/2830-4
max. evaporating temperature $t_o = 0\text{ °C}$
HG8/2470-4 S
in the evaporation range of $t_o = 7\text{ °C}$ bis $12,5\text{ °C}$
limited condensing temperature up to $t_c = 55\text{ °C}$
HG8/3220-4 S
max. evaporating temperature $t_o = 5\text{ °C}$

- Unlimited application range
- HG Supplementary cooling or red. suction gas temp.
-HA reduced suction gas temperature
- Supplementary cooling and reduced suction gas temperature
- Motor version -S- (more powerful motor)

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

R22 Notes

Operating limits

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

Restrictions to the operating limits may occur when using the Bock EFC (Electronic Frequency Control). Further explanation see separate brochure "Bock semi-hermetic compressors - Electronic Controls".

Performance data

The performance data for R22 are based on ISO-DIS 9309 (DIN 8928) with a **50 Hz power supply frequency**.

This signifies: **25 °C suction gas temperature without liquid subcooling**. EN 12900 is already valid for Pluscom compressors and HG8/2470-4 **operating at 50 Hz**. 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 GEA Bock software.

R22			Performance data											50 Hz		
Type	Cond. temp. °C		Cooling capacity $\dot{Q}_o$ [W]										Power consumption P_e [kW]			
			Evaporating temperature °C													
			12,5	10	7,5	5	0	-5	-10	-15	-20	-25	-30	-35	-45	
HG12P/60-4 S	30	Q P	7110 0,89	6523 0,91	5971 0,93	5454 0,94	4518 0,94	3703 0,92	2997 0,89	2390 0,84	1868 0,78	1422 0,71	1039 0,63	708 0,55		
	40	Q P	6288 1,20	5759 1,19	5263 1,19	4799 1,18	3958 1,14	3227 1,08	2593 1,01	2044 0,94	1570 0,85	1158 0,76	798 0,66	477 0,57		
	50	Q P	5494 1,47	5023 1,44	4581 1,42	4168 1,38	3422 1,31	2772 1,22	2207 1,12	1716 1,02	1287 0,91	909 0,80				
HA12P/60-4	30	Q P									1824 0,72	1407 0,63	1054 0,53	758 0,43	512 0,33	
	40	Q P									1599 0,79	1237 0,68	930 0,57	672 0,46	456 0,35	
	50	Q P									1437 0,84	1127 0,73	865 0,62	643 0,51	455 0,40	
HG12P/75-4 HG12P/75-4 S	30	Q P	8883 1,11	8149 1,14	7460 1,16	6814 1,17	5645 1,17	4626 1,15	3745 1,11	2985 1,05	2334 0,97	1776 0,88	1298 0,79	884 0,69		
	40	Q P	7856 1,49	7195 1,49	6575 1,48	5995 1,47	4945 1,42	4031 1,35	3239 1,27	2554 1,17	1961 1,06	1447 0,95	997 0,83	596 0,71		
	50	Q P	6864 1,83	6275 1,80	5723 1,77	5207 1,73	4275 1,63	3463 1,52	2758 1,40	2144 1,27	1608 1,13	1135 0,99				
HA12P/75-4	30	Q P									2265 0,90	1748 0,78	1310 0,66	942 0,53	637 0,41	
	40	Q P									1986 0,99	1536 0,85	1156 0,72	836 0,58	568 0,44	
	50	Q P									1785 1,05	1400 0,91	1075 0,78	800 0,64	567 0,51	
HG12P/90-4 HG12P/90-4 S	30	Q P	10595 1,32	9719 1,36	8897 1,38	8127 1,40	6732 1,40	5518 1,37	4466 1,32	3561 1,25	2784 1,16	2119 1,05	1548 0,94	1054 0,83		
	40	Q P	9370 1,78	8582 1,78	7842 1,77	7150 1,75	5898 1,69	4808 1,61	3863 1,51	3046 1,39	2339 1,27	1726 1,13	1189 0,99	711 0,85		
	50	Q P	8186 2,19	7484 2,15	6826 2,11	6211 2,06	5098 1,95	4130 1,82	3289 1,67	2557 1,51	1918 1,35	1354 1,19				
HA12P/90-4	30	Q P									2702 1,06	2084 0,92	1562 0,77	1123 0,62	758 0,47	
	40	Q P									2369 1,16	1832 1,00	1378 0,84	996 0,67	676 0,51	
	50	Q P									2129 1,22	1669 1,06	1281 0,90	953 0,74	674 0,58	
HG12P/110-4 HG12P/110-4 S	30	Q P	12456 1,56	11427 1,60	10460 1,62	9555 1,64	7915 1,65	6487 1,61	5251 1,55	4186 1,47	3273 1,36	2491 1,24	1820 1,11	1240 0,97		
	40	Q P	11016 2,10	10089 2,09	9220 2,08	8406 2,06	6934 1,99	5653 1,90	4542 1,78	3581 1,64	2750 1,49	2029 1,33	1398 1,16	836 1,00		
	50	Q P	9625 2,57	8799 2,53	8025 2,48	7302 2,42	5994 2,29	4856 2,14	3867 1,96	3007 1,78	2255 1,59	1592 1,39				
HA12P/110-4	30	Q P									3175 1,25	2449 1,09	1835 0,92	1320 0,74	891 0,57	
	40	Q P									2783 1,38	2153 1,19	1619 1,00	1170 0,81	794 0,62	
	50	Q P									2501 1,46	1961 1,27	1505 1,08	1119 0,89	792 0,70	
HG22e/125-4 HG22e/125-4 S	30	Q P	15700 1,94	14400 1,97	13200 1,99	12000 2,00	9930 1,98	8150 1,91	6630 1,82	5340 1,69	4250 1,55	3340 1,40	2580 1,25	1960 1,09		
	40	Q P	13800 2,54	12700 2,53	11600 2,50	10600 2,47	8740 2,37	7170 2,24	5840 2,08	4700 1,90	3730 1,72	2900 1,52	2200 1,33	1600 1,15		
	50	Q P	12000 3,11	11000 3,06	10000 2,99	9120 2,91	7540 2,73	6170 2,53	5010 2,31	4010 2,07	3150 1,83	2400 1,59				
HA22P/125-4	30	Q P									3866 1,53	2983 1,33	2235 1,12	1607 0,91	1085 0,69	
	40	Q P									3390 1,68	2621 1,45	1972 1,22	1425 0,98	967 0,75	
	50	Q P									3046 1,78	2389 1,55	1833 1,32	1363 1,09	965 0,86	
HG22e/160-4 HG22e/160-4 S	30	Q P	19400 2,40	17800 2,44	16300 2,46	14900 2,47	12300 2,44	10100 2,36	8190 2,24	6590 2,09	5240 1,92	4120 1,73	3190 1,54	2420 1,35		
	40	Q P	17100 3,13	15600 3,12	14300 3,09	13100 3,05	10800 2,93	8860 2,77	7200 2,57	5790 2,35	4590 2,11	3580 1,88	2720 1,64	1980 1,42		
	50	Q P	14800 3,84	13500 3,77	12400 3,69	11300 3,60	9300 3,38	7620 3,13	6180 2,85	4940 2,55	3880 2,26	2960 1,96				

HG Supplementary cooling or red. suction gas temp.
HA reduced suction gas temp.

Relating to 20 °C suction gas temperature,
without liquid subcooling

Motor version -S-
(more powerful motor)

Supplementary cooling and
red. suction gas temp.

R22			Performance data												50 Hz	
Type	Cond. temp. °C		Cooling capacity $\dot{Q}_o$ [W]								Power consumption P_e [kW]					
			Evaporating temperature °C													
			12,5	10	7,5	5	0	-5	-10	-15	-20	-25	-30	-35	-45	
HA22P/160-4	30	Q P									4773 1,89	3682 1,64	2759 1,38	1984 1,12	1340 0,86	
	40	Q P									4185 2,07	3236 1,79	2434 1,50	1760 1,21	1194 0,93	
	50	Q P									3761 2,20	2949 1,91	2262 1,63	1683 1,34	1191 1,06	
HG22e/190-4	30	Q P	23400 2,90	21400 2,94	19600 2,97	17900 2,98	14800 2,94	12200 2,84	9850 2,70	7920 2,52	6300 2,31	4950 2,09	3840 1,86	2910 1,63		
HG22e/190-4 S	40	Q P	20600 3,78	18900 3,76	17200 3,72	15700 3,67	13000 3,52	10700 3,32	8680 3,09	6980 2,83	5540 2,55	4320 2,27	3280 1,99	2380 1,72		
	50	Q P	17800 4,63	16300 4,54	14900 4,44	13600 4,33	11200 4,06	9200 3,76	7450 3,43	5960 3,08	4670 2,72	3560 2,37				
HA22P/190-4	30	Q P									5775 2,28	4456 1,98	3338 1,67	2401 1,35	1621 1,04	
	40	Q P									5064 2,51	3916 2,17	2945 1,82	2129 1,47	1445 1,12	
	50	Q P									4550 2,66	3568 2,31	2738 1,97	2036 1,62	1441 1,28	
HG34e/215-4	30	Q P	26500 3,30	24300 3,35	22200 3,38	20300 3,39	16800 3,35	13900 3,25	11300 3,08	9010 2,88	7160 2,64	5620 2,38	4360 2,12	3310 1,86		
HG34e/215-4 S	40	Q P	23300 4,31	21400 4,29	19600 4,25	17900 4,19	14800 4,02	12200 3,80	9870 3,53	7930 3,23	6290 2,91	4910 2,58	3730 2,26	2710 1,96		
	50	Q P	20200 5,29	18500 5,19	17000 5,07	15500 4,94	12800 4,64	10500 4,29	8480 3,91	6780 3,51	5330 3,11	4060 2,71				
HA34P/215-4	30	Q P									6576 2,60	5074 2,25	3801 1,90	2734 1,54	1846 1,18	
	40	Q P									5766 2,86	4459 2,47	3354 2,07	2425 1,67	1646 1,28	
	50	Q P									5181 3,02	4063 2,63	3117 2,24	2318 1,85	1641 1,46	
HG34e/255-4	30	Q P	31200 3,87	28600 3,94	26200 3,98	23900 3,99	19800 3,94	16300 3,82	13200 3,62	10600 3,37	8440 3,10	6630 2,80	5130 2,49	3890 2,19		
HG34e/255-4 S	40	Q P	27400 5,06	25100 5,04	23000 4,99	21000 4,92	17400 4,72	14300 4,46	11600 4,14	9330 3,79	7410 3,42	5780 3,03	4390 2,66	3200 2,29		
	50	Q P	23700 6,21	21800 6,09	19900 5,96	18200 5,80	15000 5,45	12300 5,04	9970 4,59	7970 4,12	6260 3,64	4770 3,17				
HA34P/255-4	30	Q P									7732 3,06	5965 2,65	4469 2,23	3214 1,81	2170 1,39	
	40	Q P									6779 3,36	5243 2,90	3943 2,44	2851 1,97	1935 1,50	
	50	Q P									6092 3,56	4777 3,10	3665 2,63	2726 2,17	1930 1,71	
HG34e/315-4	30	Q P	38500 4,79	35300 4,87	32300 4,92	29500 4,93	24500 4,87	20100 4,71	16400 4,49	13200 4,19	10500 3,83	8200 3,45	6340 3,07	4800 2,70		
HG34e/315-4 S	40	Q P	33900 6,26	31100 6,23	28500 6,17	26000 6,09	21600 5,84	17700 5,51	14400 5,13	11600 4,69	9160 4,22	7140 3,74	5420 3,27	3940 2,84		
	50	Q P	29400 7,67	26900 7,53	24600 7,37	22500 7,18	18600 6,74	15200 6,23	12400 5,69	9850 5,10	7730 4,50	5890 3,91				
HA34P/315-4	30	Q P									9546 3,77	7365 3,27	5518 2,76	3969 2,24	2679 1,71	
	40	Q P									8369 4,15	6473 3,58	4868 3,01	3519 2,43	2389 1,85	
	50	Q P									7521 4,39	5898 3,82	4525 3,25	3365 2,68	2382 2,12	
HG34e/380-4	30	Q P	46700 5,82	42800 5,92	39100 5,97	35700 5,99	29600 5,91	24300 5,72	19800 5,43	16000 5,06	12700 4,64	9950 4,19	7690 3,73	5830 3,29		
HG34e/380-4 S	40	Q P	41000 7,60	37600 7,56	34400 7,49	31400 7,39	26100 7,08	21400 6,68	17400 6,21	14000 5,68	11200 5,12	8650 4,54	6560 3,98	4780 3,45		
	50	Q P	35500 9,31	32500 9,14	29800 8,93	27200 8,70	22500 8,16	18500 7,56	15000 6,89	12000 6,18	9360 5,46	7120 4,75				
HA34P/380-4	30	Q P									11550 4,57	8911 3,96	6677 3,34	4802 2,71	3242 2,07	
	40	Q P									10127 5,02	7832 4,33	5891 3,64	4259 2,94	2890 2,24	
	50	Q P									9101 5,31	7136 4,62	5475 3,93	4072 3,24	2882 2,56	

Relating to 20 °C suction gas temperature,
without liquid subcooling

 HG Supplementary cooling or red. suction gas temp.
HA reduced suction gas temp.

 Motor version -S-
(more powerful motor)

 Supplementary cooling and
red. suction gas temp.

R22			Performance data												50 Hz	
Type	Cond. temp. °C		Cooling capacity $\dot{Q}_o$ [W]										Power consumption P_e [kW]			
			Evaporating temperature °C													
			12,5	10	7,5	5	0	-5	-10	-15	-20	-25	-30	-35	-45	
HG4/465-4 HG4/465-4 S	30	Q P	56368 6,99	52042 6,93	47946 6,86	44073 6,80	36965 6,64	30657 6,46	25090 6,24	20203 5,98	15935 5,66	12226 5,28	9016 4,83	6244 4,29		
	40	Q P	51425 8,92	47427 8,77	43647 8,61	40077 8,45	33537 8,11	27748 7,74	22649 7,33	18178 6,88	14277 6,37	10884 5,80	7939 5,15	5382 4,42		
	50	Q P	45657 10,92	42026 10,66	38601 10,39	35374 10,11	29481 9,55	24288 8,96	19734 8,33	15759 7,66	12303 6,92	9304 6,13				
HG4/465-4 S	30	Q P									16459 5,74	12893 5,32	9840 4,83	7251 4,26	5074 3,58	
	40	Q P									14621 6,58	11365 5,98	8586 5,29	6234 4,51	4256 3,61	
	50	Q P									12490 7,24	9599 6,42	7148 5,50	5086 4,48	3362 3,32	
HG4/555-4 HG4/555-4 S	30	Q P	67083 8,32	61934 8,25	57059 8,17	52450 8,09	43991 7,90	36485 7,69	29859 7,43	24043 7,11	18964 6,74	14550 6,28	10730 5,74	7431 5,11		
	40	Q P	61200 10,62	56442 10,43	51943 10,25	47695 10,05	39912 9,65	33023 9,21	26954 8,72	21634 8,18	16991 7,58	12953 6,90	9449 6,13	6405 5,27		
	50	Q P	54335 13,00	50015 12,68	45939 12,36	42098 12,04	35085 11,37	28905 10,67	23485 9,92	18755 9,11	14641 8,24	11072 7,29				
HA4/555-4	30	Q P									19587 6,83	15343 6,33	11711 5,75	8630 5,07	6039 4,26	
	40	Q P									17400 7,83	13525 7,12	10218 6,30	7419 5,36	5065 4,29	
	50	Q P									14864 8,61	11423 7,64	8507 6,55	6053 5,33	4001 3,95	
HG4/650-4 HG4/465-4 S	30	Q P	78729 9,77	72686 9,68	66965 9,59	61556 9,49	51628 9,28	42819 9,02	35043 8,72	28217 8,35	22256 7,90	17076 7,37	12593 6,74	8721 6,00		
	40	Q P	71825 12,46	66241 12,25	60961 12,03	55975 11,80	46842 11,32	38756 10,81	31633 10,24	25390 9,60	19941 8,89	15202 8,09	11089 7,19	7518 6,18		
	50	Q P	63768 15,25	58698 14,88	53914 14,51	49406 14,13	41176 13,34	33923 12,52	27562 11,64	22011 10,69	17183 9,67	12995 8,56				
HA4/650-4	30	Q P									22988 8,01	18007 7,43	13744 6,75	10128 5,95	7087 5,00	
	40	Q P									20421 9,19	15873 8,35	11993 7,39	8707 6,30	5944 5,04	
	50	Q P									17445 10,11	13407 8,97	9984 7,69	7104 6,25	4696 4,63	
HG5/725-4 HG5/725-4 S	30	Q P	87633 10,87	80907 10,77	74539 10,67	68518 10,56	57467 10,33	47662 10,04	39007 9,70	31409 9,29	24774 8,80	19008 8,21	14017 7,50	9708 6,68		
	40	Q P	79948 13,87	73733 13,63	67856 13,39	62306 13,13	52139 12,60	43139 12,03	35211 11,39	28261 10,69	22196 9,90	16921 9,01	12343 8,01	8368 6,88		
	50	Q P	70981 16,98	65337 16,57	60012 16,15	54994 15,72	45833 14,85	37759 13,93	30680 12,95	24500 11,90	19126 10,76	14464 9,52				
HA5/725-4	30	Q P									25631 8,94	20086 8,29	15342 7,52	11316 6,62	7926 5,56	
	40	Q P									22752 10,25	17689 9,31	13371 8,24	9718 7,01	6646 5,61	
	50	Q P									19423 11,27	14921 9,99	11112 8,57	7912 6,97	5239 5,18	
HG5/830-4 HG5/830-4 S	30	Q P	100599 12,48	92878 12,37	85568 12,25	78656 12,13	65970 11,85	54713 11,53	44778 11,14	36056 10,67	28439 10,10	21820 9,42	16091 8,61	11144 7,66		
	40	Q P	91777 15,93	84642 15,65	77896 15,37	71525 15,08	59854 14,47	49522 13,81	40421 13,08	32443 12,27	25480 11,36	19425 10,34	14169 9,19	9606 7,90		
	50	Q P	81483 19,49	75004 19,02	68891 18,54	63131 18,05	52614 17,05	43346 15,99	35219 14,87	28125 13,66	21956 12,36	16605 10,93				
HA5/830-4	30	Q P									29343 10,24	22994 9,49	17562 8,61	12953 7,58	9072 6,37	
	40	Q P									26046 11,73	20248 10,66	15306 9,43	11124 8,03	7609 6,42	
	50	Q P									22234 12,90	17080 11,44	12720 9,81	9059 7,98	6003 5,92	
HG5/945-4 HG5/945-4 S	30	Q P	114460 14,20	105675 14,07	97357 13,94	89493 13,80	75059 13,49	62252 13,12	50947 12,67	41024 12,14	32358 11,49	24827 10,72	18308 9,80	12679 8,72		
	40	Q P	104422 18,12	96304 17,80	88628 17,48	81379 17,15	68100 16,46	56345 15,71	45990 14,88	36912 13,96	28991 12,93	22101 11,77	16122 10,46	10929 8,98		
	50	Q P	92709 22,17	85338 21,64	78383 21,09	71829 20,54	59863 19,40	49318 18,20	40072 16,92	32000 15,55	24981 14,06	18892 12,44				

HG Supplementary cooling or red. suction gas temp.

HA reduced suction gas temp.

Relating to 20 °C suction gas temperature,
without liquid subcoolingMotor version -S-
(more powerful motor)Supplementary cooling and
red. suction gas temp.

R22			Performance data												50 Hz	
Type	Cond. temp. °C		Cooling capacity $\dot{Q}_0$ [W]									Power consumption P_e [kW]				
			Evaporating temperature °C													
			12,5	10	7,5	5	0	-5	-10	-15	-20	-25	-30	-35	-45	
HA5/945-4	30	Q P										33374 11,64	26174 10,78	20007 9,78	14774 8,61	10374 7,24
	40	Q P										29594 13,35	22995 12,14	17376 10,75	12635 9,15	8674 7,32
	50	Q P											19387 13,04	14394 11,20	10227 9,12	6786 6,77
HG6/1080-4 HG6/1080-4 S	30	Q P	129363 18,28	119434 18,00	110034 17,72	101145 17,43	84833 16,80	70357 16,10	57581 15,29	46365 14,33	36571 13,22	28059 11,91	20692 10,38	14330 8,61		
	40	Q P	118019 22,56	108844 22,15	100169 21,72	91976 21,28	76968 20,33	63681 19,27	51978 18,07	41719 16,71	32765 15,16	24979 13,38	18221 11,36	12352 9,06		
	50	Q P	104781 26,66	96450 26,07	88589 25,47	81182 24,83	67658 23,49	55740 22,00	45289 20,35	36167 18,51	28234 16,44	21352 14,13				
HA6/1080-4	30	Q P										37747 12,65	29595 11,26	22620 9,89	16702 8,49	11720 7,05
	40	Q P										33470 14,58	26012 12,95	19664 11,30	14306 9,62	9816 7,86
	50	Q P										28580 16,24	21920 14,31	16301 12,36	11605 10,34	7710 8,23
HG6/1240-4 HG6/1240-4 S	30	Q P	148504 20,98	137106 20,66	126315 20,34	116111 20,01	97384 19,29	80768 18,48	66101 17,55	53225 16,45	41982 15,17	32211 13,67	23754 11,92	16451 9,88		
	40	Q P	135481 25,90	124948 25,43	114989 24,94	105584 24,43	88356 23,34	73103 22,12	59668 20,75	47891 19,18	37613 17,40	28675 15,36	20917 13,04	14180 10,40		
	50	Q P	120284 30,61	110720 29,93	101696 29,23	93193 28,51	77669 26,96	63987 25,26	51990 23,36	41518 21,25	32411 18,88	24511 16,22				
HA6/1240-4	30	Q P										43328 14,52	33978 12,92	25970 11,35	19174 9,75	13463 8,10
	40	Q P										38417 16,74	29848 14,87	22551 12,98	16399 11,05	11262 9,03
	50	Q P										32848 18,64	25165 16,44	18685 14,20	13281 11,89	8824 9,46
HG6/1410-4 HG6/1410-4 S	30	Q P	168964 23,87	155996 23,51	143718 23,14	132108 22,77	110802 21,95	91895 21,03	75208 19,96	60559 18,72	47766 17,26	36649 15,56	27026 13,56	18717 11,24		
	40	Q P	154147 29,47	142163 28,93	130832 28,37	120131 27,80	100529 26,55	83176 25,17	67889 23,61	54490 21,83	42796 19,80	32626 17,48	23799 14,84	16134 11,83		
	50	Q P	136857 34,82	125975 34,06	115708 33,26	106033 32,44	88370 30,67	72803 28,73	59153 26,58	47238 24,17	36877 21,48	27889 18,46				
HA6/1410-4	30	Q P											38625 14,69	29529 12,90	21803 11,08	15324 9,20
	40	Q P												25605 14,77	18595 12,57	12767 10,28
	50	Q P													15015 13,54	9929 10,78
HG7/1620-4 HG7/1620-4 S	30	Q P	178802 23,29	164852 24,07	151711 24,65	139349 25,03	116850 25,25	97132 24,85	79968 23,94	65133 22,64	52401 21,04	41547 19,26	32345 17,42	24570 15,60		
	40	Q P	163682 31,23	150728 31,46	138537 31,51	127084 31,39	106272 30,68	88068 29,46	72246 27,83	58580 25,89	46844 23,77	36813 21,56	28261 19,38	20963 17,34		
	50	Q P	148020 38,75	136086 38,45	124873 37,98	114354 37,37	95282 35,77	78644 33,74	64215 31,41	51770 28,87	41082 26,24	31926 23,62				
HG7/1860-4 HG7/1860-4 S	30	Q P	205257 26,74	189244 27,64	174158 28,29	159966 28,73	134139 28,98	111504 28,53	91800 27,49	74770 25,99	60154 24,16	47694 22,11	37131 19,99	28205 17,91		
	40	Q P	187901 35,85	173029 36,12	159035 36,17	145887 36,03	121996 35,22	101099 33,82	82935 31,94	67247 29,72	53775 27,28	42259 24,75	32442 22,25	24065 19,90		
	50	Q P	169921 44,49	156221 44,14	143350 43,60	131274 42,90	109380 41,06	90280 38,73	73717 36,05	59429 33,14	47160 30,12	36649 27,12				
HG7/2110-4 HG7/2110-4 S	30	Q P	233537 30,42	215317 31,44	198153 32,19	182006 32,69	152621 32,98	126866 32,46	104448 31,27	85072 29,57	68442 27,48	54266 25,16	42247 22,75	32091 20,38		
	40	Q P	213789 40,79	196869 41,09	180947 41,16	165987 41,00	138805 40,08	115028 38,48	94362 36,35	76512 33,82	61184 31,04	48082 28,16	36912 25,31	27380 22,64		
	50	Q P	193332 50,62	177745 50,22	163100 49,61	149360 48,81	124450 46,72	102719 44,07	83873 41,02	67618 37,70	53658 34,27	41699 30,85				

 HG Supplementary cooling or red. suction gas temp.
 HA reduced suction gas temp.

Relating to 25 °C suction gas temperature,
without liquid subcooling

 Motor version -S-
(more powerful motor)

 Supplementary cooling and
red. suction gas temp.

R22			Performance data												50 Hz	
Type	Cond. temp. °C		Cooling capacity $\dot{Q}_0$ [W]										Power consumption P_e [kW]			
			Evaporating temperature °C													
			12,5	10	7,5	5	0	-5	-10	-15	-20	-25	-30	-35	-45	
HG8/2470-4 HG8/2470-4 S	30	Q P	267888 43,56	247010 44,15	227287 44,42	208683 44,40	174692 43,54	149961 39,66	120514 37,55	95716 34,65	75087 31,16	58148 27,25	44418 23,10	33420 18,90		
	40	Q P	243384 58,85	224002 58,09	205721 57,09	188504 55,85	157123 52,76	130966 45,79	105250 42,21	83688 38,05	65798 33,48	51101 28,69	39119 23,85	29370 19,15		
	50	Q P	217933 72,17	200057 70,15	183226 67,95	167405 65,58	138654 60,43	113466 50,69	91260 45,82	72709 40,56	57336 35,09	44660 29,58				
HG8/2830-4 HG8/2830-4 S	30	Q P	307524 50,00	283557 50,68	260916 51,00	239559 50,97	200540 49,99	166175 47,94	136141 45,03	110115 41,45	87775 37,41	68795 33,11	52854 28,75	39628 24,54		
	40	Q P	279395 67,55	257146 66,69	236159 65,53	216394 64,11	180371 60,56	148752 56,25	121215 51,37	97435 46,13	77090 40,73	59855 35,37	45409 30,24	33426 25,55		
	50	Q P	250178 82,84	229657 80,53	210336 78,00	192175 75,28	159170 69,37	130319 62,99	105299 56,34	83786 49,63	65458 43,05	49990 36,81				
HG8/3220-4 HG8/3220-4 S	30	Q P					272565 57,99	228170 56,87	189070 54,54	154898 51,23	125287 47,16	99868 42,57	78274 37,68	60136 32,72	45087 27,92	
	40	Q P					246209 72,94	205222 68,91	169247 64,00	137916 58,45	110859 52,49	87711 46,34	68102 40,24	51665 34,41	38032 29,07	
	50	Q P					218652 85,66	181100 78,92	148274 71,66	119807 64,10	95330 56,46	74477 48,98	56878 41,89			

Relating to 25 °C suction gas temperature
(HG8/2470-4 to 20 °C suction gas temperature)
without liquid subcooling

 HG Supplementary cooling or red. suction gas temp.
HA reduced suction gas temp.

 Motor version -S-
(more powerful motor)

 Supplementary cooling and
red. suction gas temp.

1
2
3
4

HG	Number of cylinders	Displacement 50 / 60 Hz (1450/1740 rpm)	Electrical data				Weight	Connections ⑥		Oil charge
			Voltage	Max. working current	Max. power consumption	Starting current (rotor locked)		Discharge line DV	Suction line SV	
			①	②	②					
				A	kW	A		mm l inch	mm l inch	
Type		m³/h		Δ / Y		Δ / Y	kg			Ltr.
HG12P/60-4 S	2	5,40 / 6,40	③	6,8 / 3,9	2,2	40 / 23	48,0	12 l 1/2	16 l 5/8	0,8
HG12P/75-4	2	6,70 / 8,10	③	7,1 / 4,1	2,3	40 / 23	48,0	12 l 1/2	16 l 5/8	0,8
HG12P/75-4 S	2	6,70 / 8,10	③	8,0 / 4,6	2,6	43 / 25	49,0	12 l 1/2	16 l 5/8	0,8
HG12P/90-4	2	8,00 / 9,60	③	8,5 / 4,9	2,8	43 / 25	49,0	12 l 1/2	16 l 5/8	0,8
HG12P/90-4 S	2	8,00 / 9,60	③	8,8 / 5,1	2,9	45 / 26	49,0	12 l 1/2	16 l 5/8	0,8
HG12P/110-4	2	9,40 / 11,30	③	9,2 / 5,3	3,1	43 / 25	49,0	12 l 1/2	16 l 5/8	0,8
HG12P/110-4 S	2	9,40 / 11,30	③	10,6 / 6,1	3,6	45 / 26	49,0	12 l 1/2	16 l 5/8	0,8
HG22e/125-4	2	11,10 / 13,30	③	9,3 / 5,4	3,0	69 / 40	74,0	16 l 5/8	22 l 7/8	1,0
HG22e/125-4 S	2	11,10 / 13,30	③	10,8 / 6,2	3,6	69 / 40	74,0	16 l 5/8	22 l 7/8	1,0
HG22e/160-4	2	13,70 / 16,40	③	11,1 / 6,4	3,7	69 / 40	74,0	16 l 5/8	22 l 7/8	1,0
HG22e/160-4 S	2	13,70 / 16,40	③	13,1 / 7,6	4,4	87 / 50	76,0	16 l 5/8	22 l 7/8	1,0
HG22e/190-4	2	16,50 / 19,80	③	13,8 / 8,0	4,8	69 / 40	74,0	16 l 5/8	22 l 7/8	1,0
HG22e/190-4 S	2	16,50 / 19,80	③	16,2 / 9,4	5,6	87 / 50	75,0	16 l 5/8	22 l 7/8	1,0
HG34e/215-4	4	18,80 / 22,60	③	14,0 / 8,1	4,8	87 / 50	92,0	22 l 7/8	28 l 1 1/8	1,3
HG34e/215-4 S	4	18,80 / 22,60	③	18,3 / 10,5	6,0	132 / 76	97,0	22 l 7/8	28 l 1 1/8	1,3
HG34e/255-4	4	22,10 / 26,60	③	17,0 / 9,8	6,0	87 / 50	91,0	22 l 7/8	28 l 1 1/8	1,3
HG34e/255-4 S	4	22,10 / 26,60	③	21,1 / 12,2	7,2	132 / 76	96,0	22 l 7/8	28 l 1 1/8	1,3
HG34e/315-4	4	27,30 / 32,80	③	21,1 / 12,2	7,4	111 / 64	94,0	22 l 7/8	28 l 1 1/8	1,3
HG34e/315-4 S	4	27,30 / 32,80	③	25,5 / 14,7	8,9	132 / 76	97,0	22 l 7/8	28 l 1 1/8	1,3
HG34e/380-4	4	33,10 / 39,70	③	26,1 / 15,1	9,3	111 / 64	93,0	22 l 7/8	28 l 1 1/8	1,3
HG34e/380-4 S	4	33,10 / 39,70	③	31,2 / 18,0	11,1	132 / 76	96,0	22 l 7/8	28 l 1 1/8	1,3
				*PW 1+2		*PW1 / PW 1+2				
HG4/465-4	4	40,50 / 48,60	④	18	11,0	57 / 75	148	28 / 1 1/8	35 / 1 3/8	2,7
HG4/465-4 S	4	40,50 / 48,60	④	27	13,0	82 / 107	151	28 / 1 1/8	35 / 1 3/8	2,7
HG4/555-4	4	48,20 / 57,80	④	27	12,9	82 / 107	150	28 / 1 1/8	35 / 1 3/8	2,7
HG4/555-4 S	4	48,20 / 57,80	④	34	15,2	107 / 140	153	28 / 1 1/8	35 / 1 3/8	2,7
HG4/650-4	4	56,60 / 67,90	④	27	15,7	82 / 107	152	28 / 1 1/8	42 / 1 5/8	2,7
HG4/650-4 S	4	56,60 / 67,90	④	34	18,4	107 / 140	155	28 / 1 1/8	42 / 1 5/8	2,7
HG5/725-4	4	62,90 / 75,50	④	33	16,5	82 / 107	198	28 / 1 1/8	42 / 1 5/8	3,6
HG5/725-4 S	4	62,90 / 75,50	④	37	19,4	107 / 140	201	28 / 1 1/8	42 / 1 5/8	3,6
HG5/830-4	4	72,20 / 86,70	④	33	18,9	82 / 107	197	28 / 1 1/8	42 / 1 5/8	3,6
HG5/830-4 S	4	72,20 / 86,70	④	49	22,3	126 / 160	203	28 / 1 1/8	42 / 1 5/8	3,6
HG5/945-4	4	82,20 / 98,60	④	37	22,6	107 / 140	201	35 / 1 3/8	54 / 2 1/8	3,6
HG5/945-4 S	4	82,20 / 98,60	④	49	28,6	126 / 160	205	35 / 1 3/8	54 / 2 1/8	3,6
HG6/1080-4	4	93,70 / 112,40	④	47	26,3	149 / 189	218	35 / 1 3/8	54 / 2 1/8	3,6
HG6/1080-4 S	4	93,70 / 112,40	④	57	31,0	172 / 212	223	35 / 1 3/8	54 / 2 1/8	3,6
HG6/1240-4	4	107,60 / 129,10	④	57	30,5	172 / 212	222	35 / 1 3/8	54 / 2 1/8	3,6
HG6/1240-4 S	4	107,60 / 129,10	④	71	36,0	204 / 250	224	35 / 1 3/8	54 / 2 1/8	3,6
HG6/1410-4	4	122,40 / 146,90	④	57	35,6	172 / 212	219	35 / 1 3/8	54 / 2 1/8	3,6
HG6/1410-4 S	4	122,40 / 146,90	④	71	42,6	204 / 250	222	35 / 1 3/8	54 / 2 1/8	3,6
HG7/1620-4	6	140,60 / 168,80	⑤	76	38,7	223 / 340	278	42 / 1 5/8	54 / 2 1/8	4,5
HG7/1620-4 S	6	140,60 / 168,80	⑤	83	46,3	268 / 373	299	42 / 1 5/8	54 / 2 1/8	4,5
HG7/1860-4	6	161,40 / 193,70	⑤	83	44,6	268 / 373	296	42 / 1 5/8	54 / 2 1/8	4,5
HG7/1860-4 S	6	161,40 / 193,70	⑤	98	53,3	343 / 494	292	42 / 1 5/8	54 / 2 1/8	4,5
HG7/2110-4	6	183,60 / 220,30	⑤	98	51,2	343 / 494	289	42 / 1 5/8	64 / 2 5/8	4,5
HG7/2110-4 S	6	183,60 / 220,30	⑤	115	60,5	344 / 500	297	42 / 1 5/8	64 / 2 5/8	4,5
HG8/2470-4	8	214,30 / 257,10	⑤	102	60,0	274 / 301	432	54 / 2 1/8	76 / 3 1/8	9,0
HG8/2470-4 S	8	214,30 / 257,10	⑤	155	72,5	475 / 551	432	54 / 2 1/8	76 / 3 1/8	9,0
HG8/2830-4	8	245,90 / 295,10	⑤	155	77,5	475 / 551	429	54 / 2 1/8	76 / 3 1/8	9,0
HG8/2830-4 S	8	245,90 / 295,10	⑤	170	84,5	520 / 605	449	54 / 2 1/8	76 / 3 1/8	9,0
HG8/3220-4	8	279,80 / 335,80	⑤	155	78,3	475 / 551	423	54 / 2 1/8	76 / 3 1/8	9,0
HG8/3220-4 S	8	279,80 / 335,80	⑤	170	94,2	520 / 605	443	54 / 2 1/8	76 / 3 1/8	9,0

HA Type	Number of cylinders	Displacement 50 / 60 Hz (1450/1740 rpm) m³/h	Electrical data				Weight kg	Connections ⑥		Oil charge Ltr.
			Voltage	Max. working current	Max. power consumption	Starting current (rotor locked)		Discharge line DV	Suction line SV	
			①	②	②	②		mm l inch	mm l inch	
				A	kW	A				
				Δ / Y		Δ / Y				
HA12P/60-4	2	5,40 / 6,40	③	5,5 / 3,2	1,7	40 / 23	52,0	12 l 1/2	12 l 1/2	0,8
HA12P/75-4	2	6,70 / 8,10	③	5,9 / 3,4	1,8	40 / 23	53,0	12 l 1/2	12 l 1/2	0,8
HA12P/90-4	2	8,00 / 9,60	③	6,6 / 3,8	2,0	43 / 25	53,0	12 l 1/2	12 l 1/2	0,8
HA12P/110-4	2	9,40 / 11,30	③	6,9 / 4,0	2,2	43 / 25	53,0	12 l 1/2	12 l 1/2	0,8
HA22P/125-4	2	11,10 / 13,30	③	7,1 / 4,1	3,0	69 / 40	80,0	12 l 1/2	16 l 5/8	1,0
HA22P/160-4	2	13,70 / 16,40	③	8,2 / 4,8	4,0	87 / 50	82,0	12 l 1/2	16 l 5/8	1,0
HA22P/190-4	2	16,50 / 19,80	③	9,0 / 5,2	4,0	87 / 50	81,0	12 l 1/2	16 l 5/8	1,0
HA34P/215-4	4	18,80 / 22,60	③	10,9 / 6,3	3,7	87 / 50	98,0	16 l 5/8	22 l 7/8	1,3
HA34P/255-4	4	22,10 / 26,60	③	12,5 / 7,2	4,3	87 / 50	98,0	16 l 5/8	22 l 7/8	1,3
HA34P/315-4	4	27,30 / 32,80	③	16,2 / 9,4	5,3	132 / 76	100,0	16 l 5/8	22 l 7/8	1,3
HA34P/380-4	4	33,10 / 39,70	③	18,9 / 11,0	6,4	132 / 76	100,0	16 l 5/8	22 l 7/8	1,3
				*PW 1+2		*PW1 / PW 1+2				
HA4/465-4	4	40,50 / 48,60	④	21	11,2	82 / 107	155,0	28 / 1 1/8	35 / 1 3/8	2,7
HA4/555-4	4	48,20 / 57,80	④	26	13,3	107 / 140	157,0	28 / 1 1/8	35 / 1 3/8	2,7
HA4/650-4	4	56,60 / 67,90	④	26	15,6	107 / 140	156,0	28 / 1 1/8	35 / 1 3/8	2,7
HA5/725-4	4	62,90 / 75,50	④	26	12,5	107 / 140	204,0	28 / 1 1/8	42 / 1 5/8	3,6
HA5/830-4	4	72,20 / 86,70	④	26	12,8	126 / 160	207,0	28 / 1 1/8	42 / 1 5/8	3,6
HA5/945-4	4	82,20 / 98,60	④	26	12,9	126 / 160	205,0	28 / 1 1/8	42 / 1 5/8	3,6
HA6/1080-4	4	93,70 / 112,40	④	31	15,8	172 / 212	223,0	28 / 1 1/8	42 / 1 5/8	3,6
HA6/1240-4	4	107,60 / 129,10	④	31	15,9	172 / 212	221,0	28 / 1 1/8	42 / 1 5/8	3,6
HA6/1410-4	4	122,40 / 146,90	④	31	16,2	172 / 212	219,0	28 / 1 1/8	42 / 1 5/8	3,6

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

Oil sump heater 110-240 V - 1 - 50/60 Hz (option)
HG(HA)12, HG(HA)22, HG(HA)34: 50-120 W
PTC heater, self-regulating, installation in housing bore

Oil sump heater 230 V - 1 - 50/60 Hz (standard)
- HG(HA)4: 80 W
- HG(HA)5, HG(HA)6, HG7: 140 W
- HG8: 200 W
Permanently set version, installation in immersion sleeve

Fan motors for the HA version 230 V - 1 - 50/60 Hz
- HA12P: 40 W / 0,3 A
- HA22P, HA34P: 72 W / 0,53 A
- HA4, HA5, HA6: 140 W / 0,71 A

Explanations:

- ① Tolerance (± 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 50Hz operation. For 60Hz 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
- ④ 380-420 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: HG(HA)4, HG(HA)5, HG(HA)6 = 66% / 33%
- Designs for Y/Δ on request
- ⑤ 380-420 V Δ / YYY - 3 - 50 Hz PW
440-480 V Δ / YYY - 3 - 60 Hz PW
PW = Part Winding, motors for part winding start (no start unloaders required)
- Winding ratios: HG7, HG8 = 60% / 40%
- Designs for Y/Δ on request
- ⑥ For soldering connections

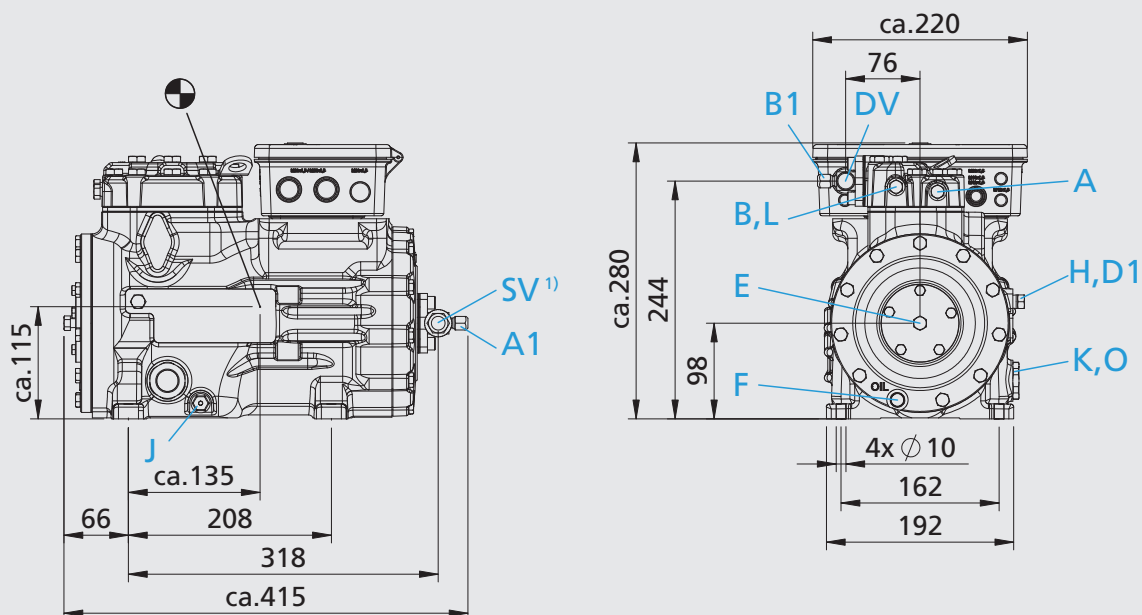
HG12P

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

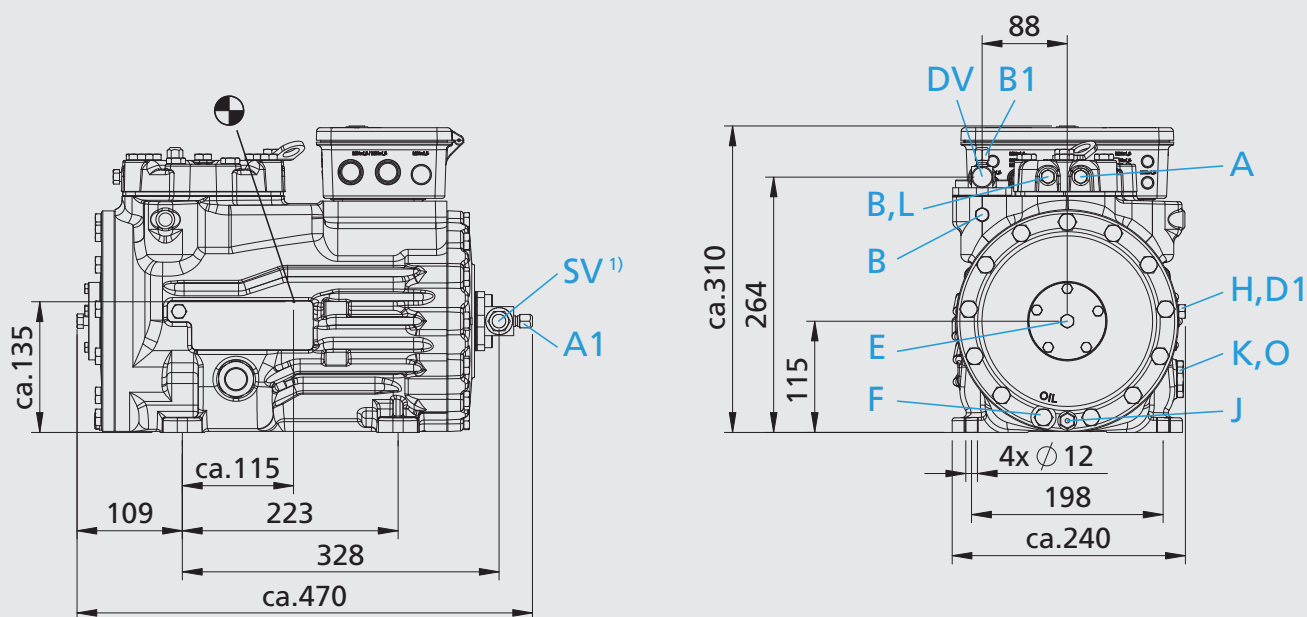


HG22e

HG22e/125-4
HG22e/125-4 S

HG22e/160-4
HG22e/160-4 S

HG22e/190-4
HG22e/190-4 S



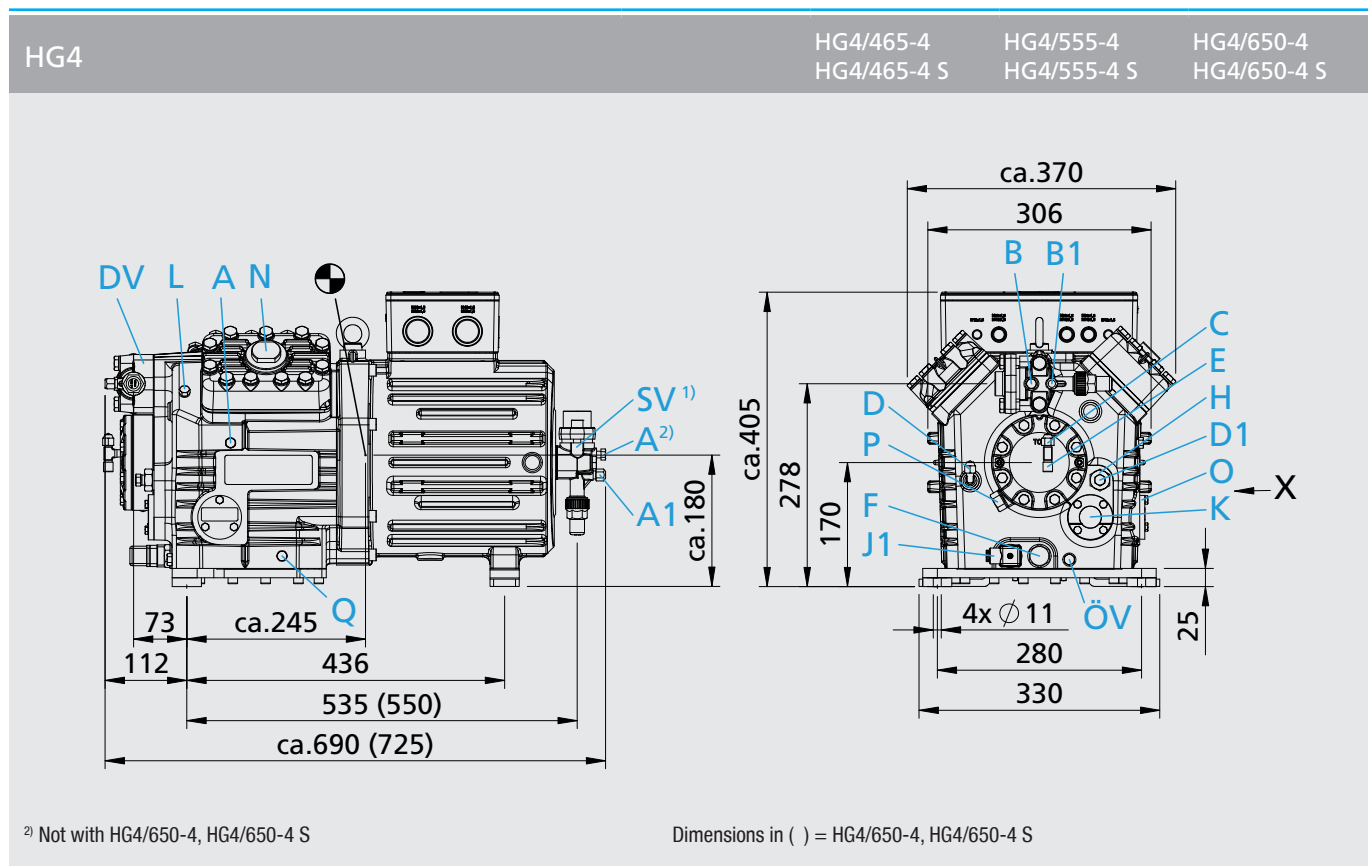
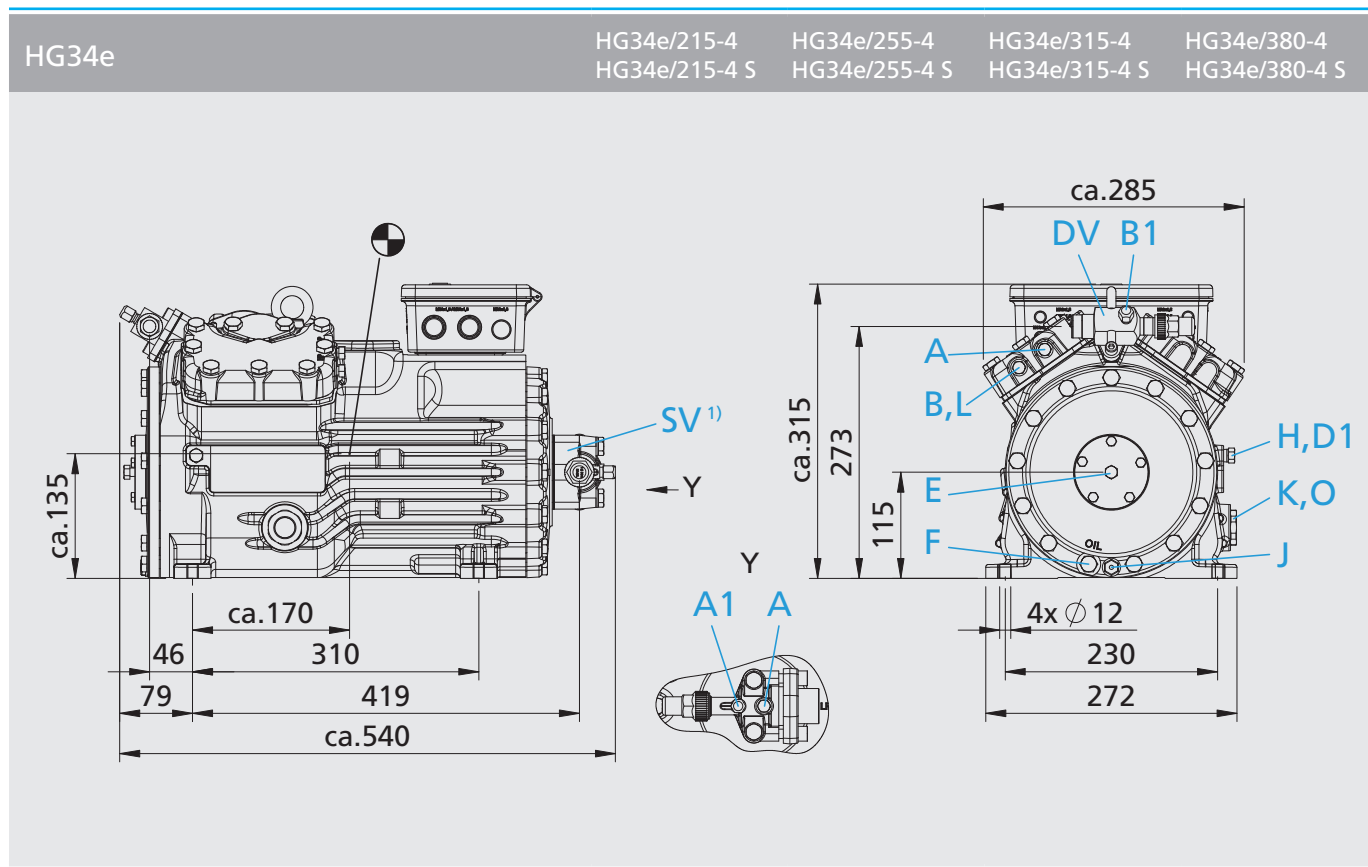
Dimensions in mm

¹⁾ SV 90° rotatable

☉ Centre of gravity

- Connections see page 54

- Dimensions for anti-vibration pad see page 51



Dimensions in mm
¹⁾ SV 90° rotatable
 ☉ Centre of gravity

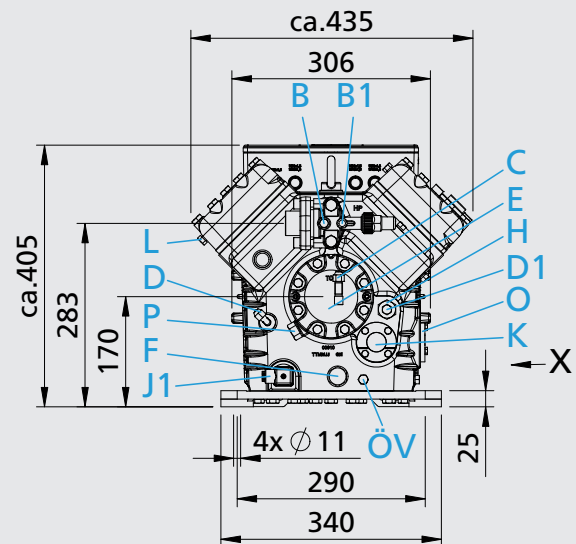
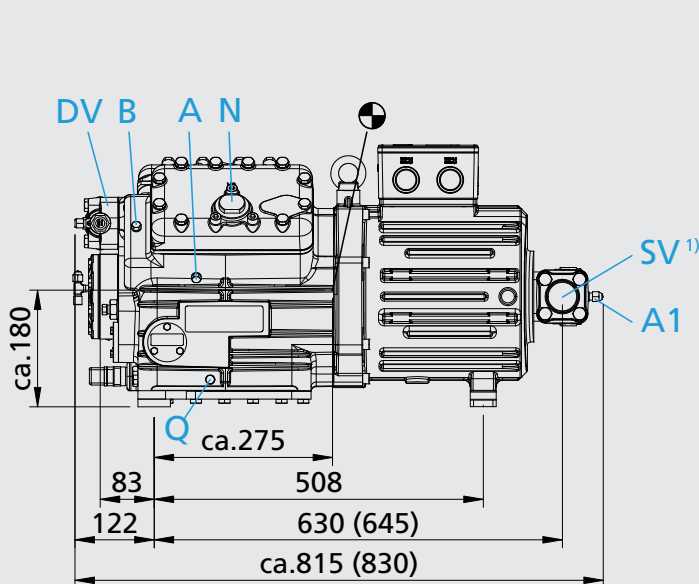
- Connections see page 54
 - Dimensions for anti-vibration pad see page 51
 - Dimensions for view X see page 51

HG5

HG5/725-4
HG5/725-4 S

HG5/830-4
HG5/830-4 S

HG5/945-4
HG5/945-4 S



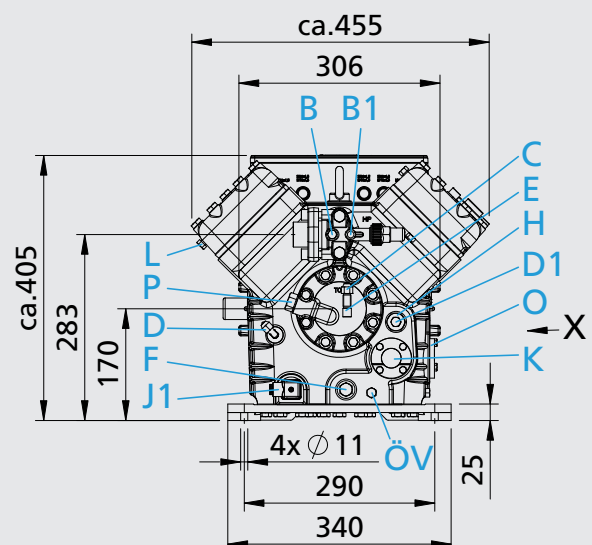
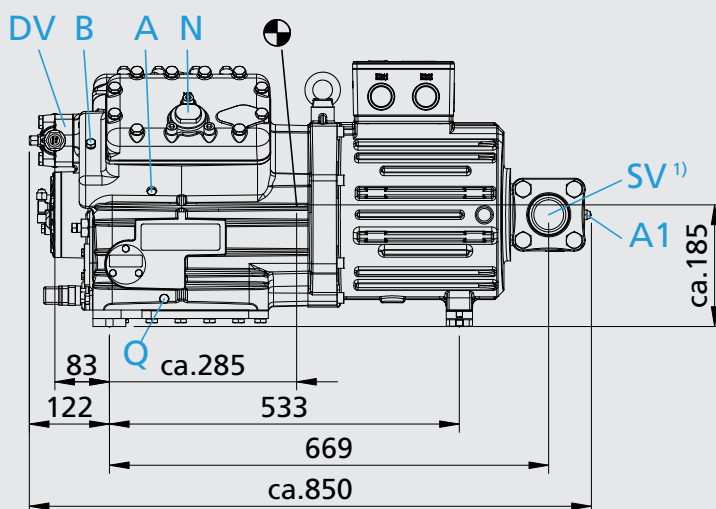
Dimensions in () = HG5/945-4, HG5/945-4 S

HG6

HG6/1080-4
HG6/1080-4 S

HG6/1240-4
HG6/1240-4 S

HG6/1410-4
HG6/1410-4 S



Dimensions in mm

¹⁾ SV 90° rotatable

☉ Centre of gravity

- Connections see page 54

- Dimensions for anti-vibration pad see page 51

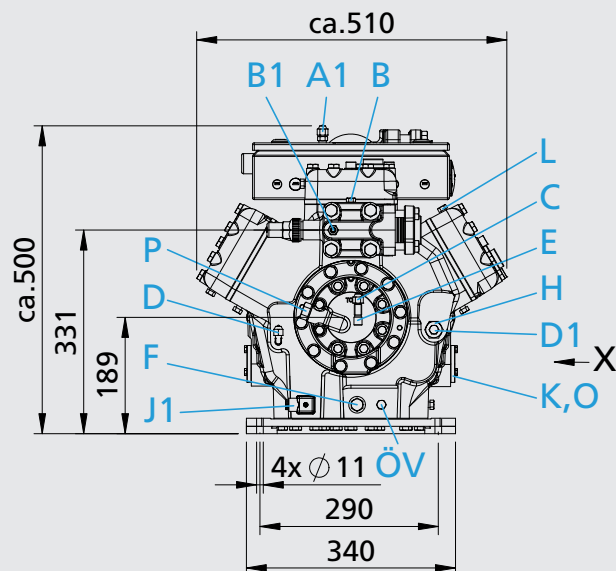
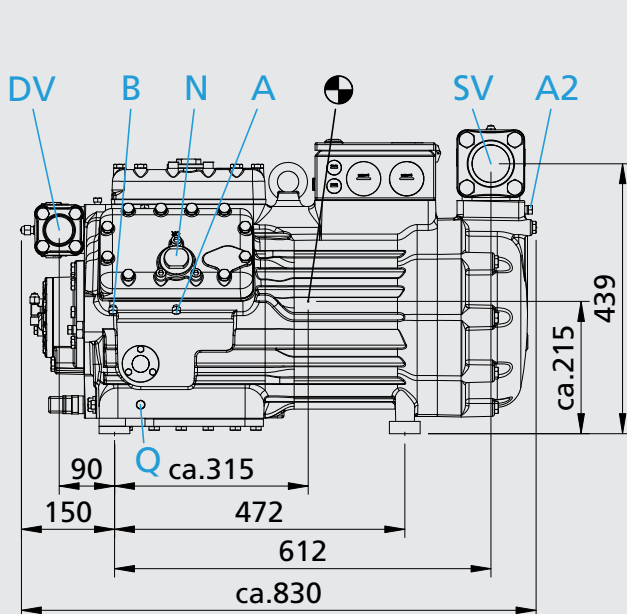
- Dimensions for view X see page 51

HG7

HG7/1620-4
HG7/1620-4 S

HG7/1860-4
HG7/1860-4 S

HG7/2110-4
HG7/2110-4 S



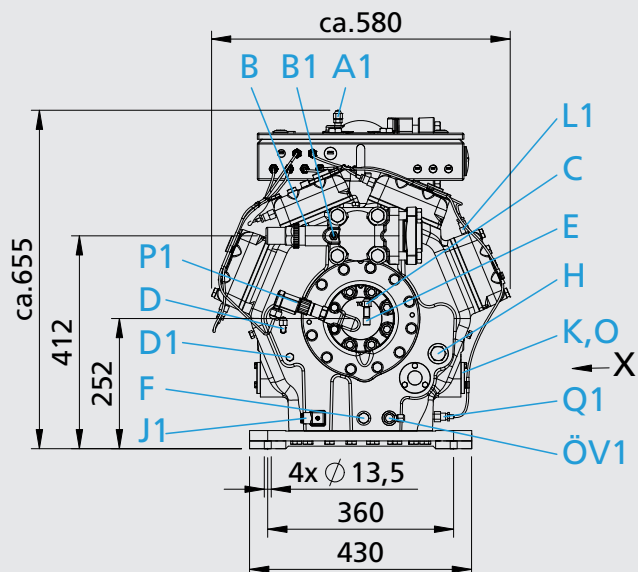
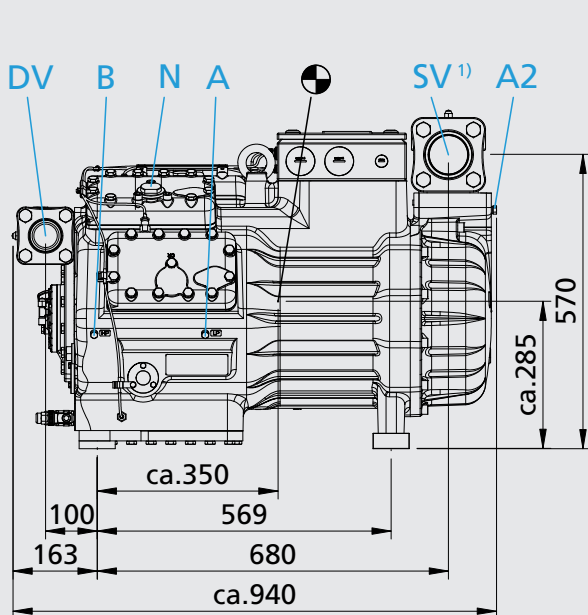
1
2
3
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HG8

HG8/2470-4
HG8/2470-4 S

HG8/2830-4
HG8/2830-4 S

HG8/3220-4
HG8/3220-4 S



Dimensions in mm

¹⁾ Suction cover 90° rotatable

☉ Centre of gravity

- Connections see page 54

- Dimensions for anti-vibration pad see page 51

- Dimensions for view X see page 51

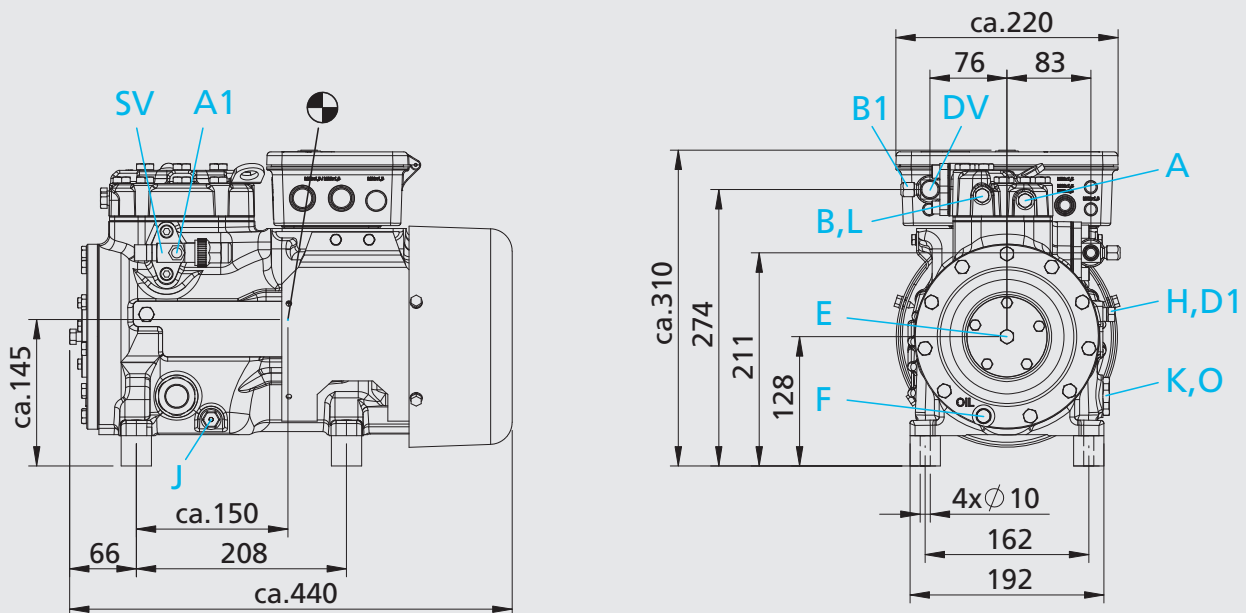
HA12P

HA12P/60-4

HA12P/75-4

HA12P/90-4

HA12P/110-4

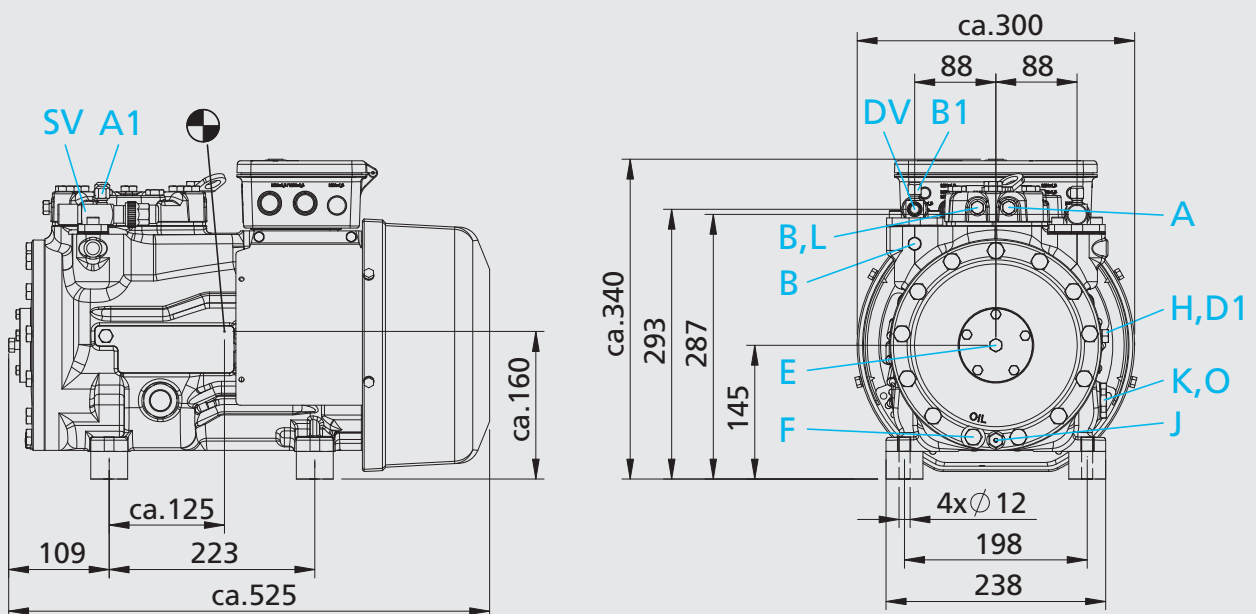


HA22P

HA22P/125-4

HA22P/160-4

HA22P/190-4



Dimensions in mm
 ● Centre of gravity

- Connections see page 54
 - Dimensions for anti-vibration pad see page 51
 - Dimensions for view X see page 51

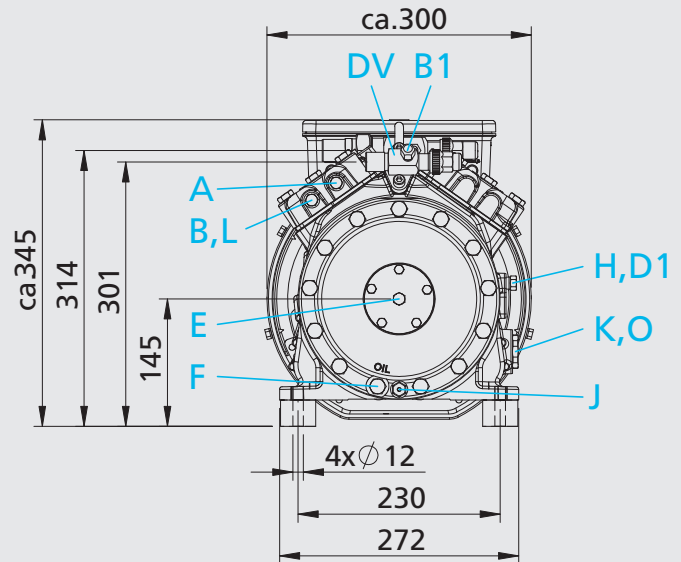
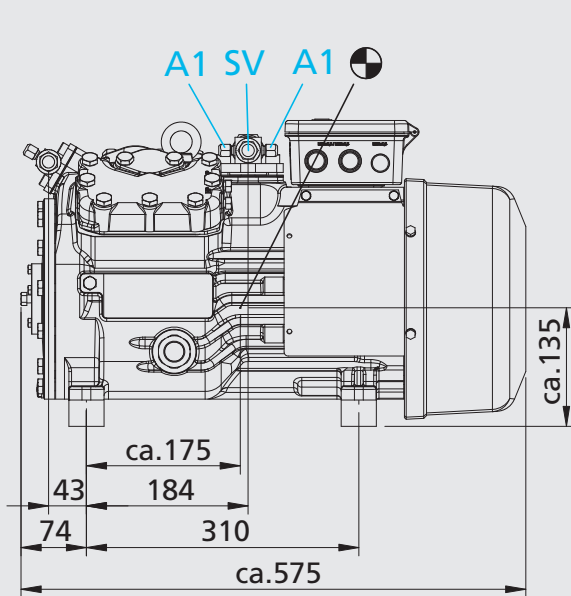
HA34P

HA34P/215-4

HA34P/255-4

HA34P/315-4

HA34P/380-4

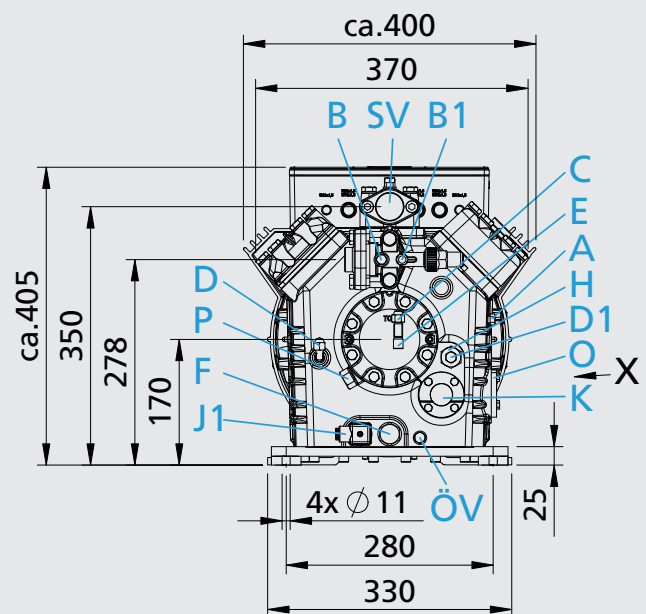
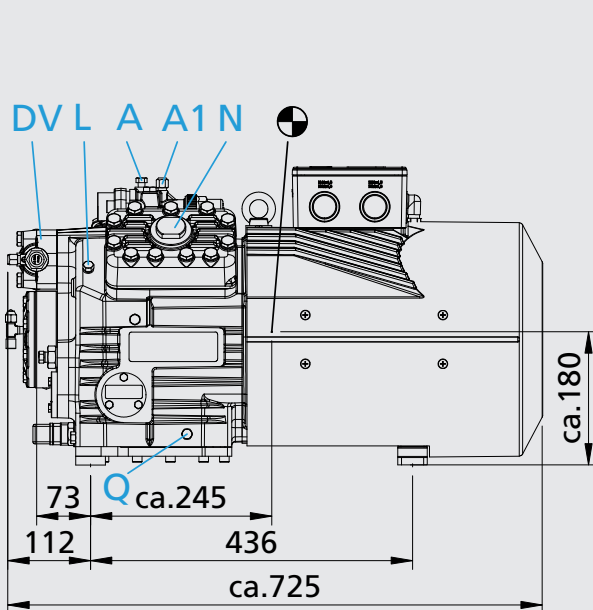


HA4

HA4/465-4

HA4/555-4

HA4/650-4



Dimensions in mm
 ● Centre of gravity

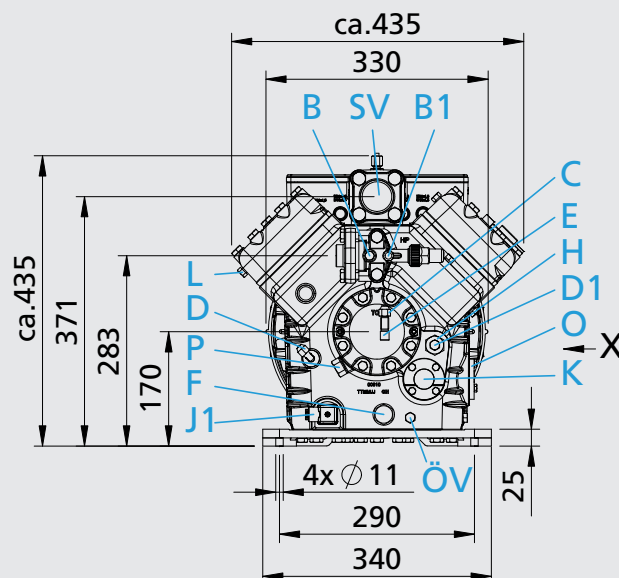
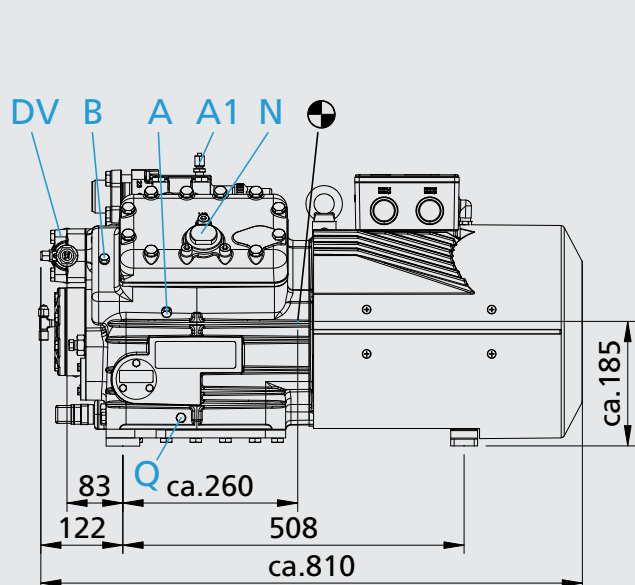
- Connections see page 54
 - Dimensions for anti-vibration pad see page 51
 - Dimensions for view X see page 51

HA5

HA5/725-4

HA5/830-4

HA5/945-4

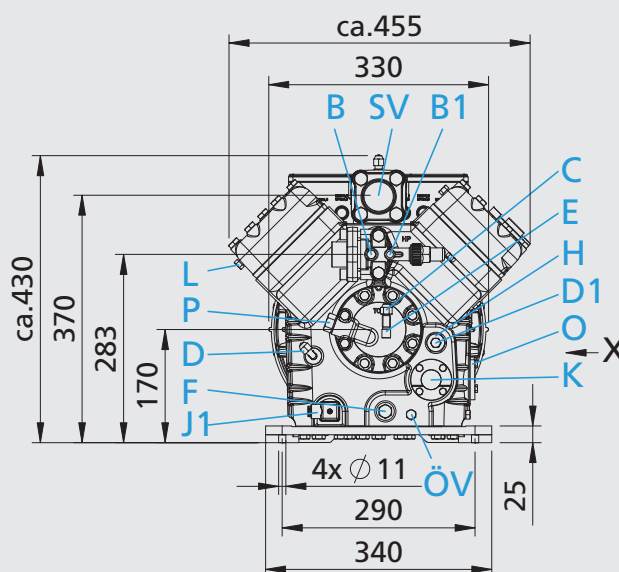
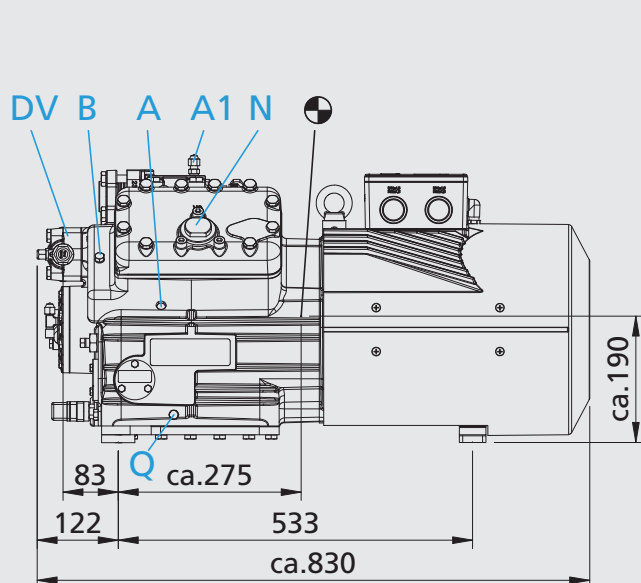


HA6

HA6/1080-4

HA6/1240-4

HA6/1410-4



Dimensions in mm
● Centre of gravity

- Connections see page 54
- Dimensions for anti-vibration pad see page 51
- Dimensions for view X see page 51

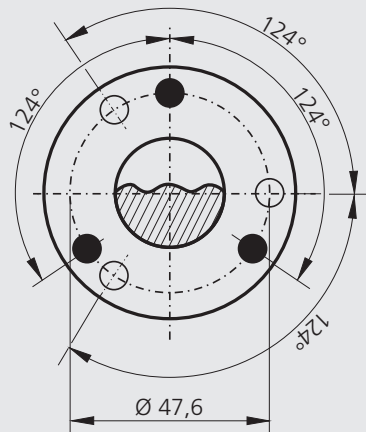
View X

Possibility to connect to oil level regulator

HG4, HG5, HG6, HG7, HG8

HA4, HA5, HA6

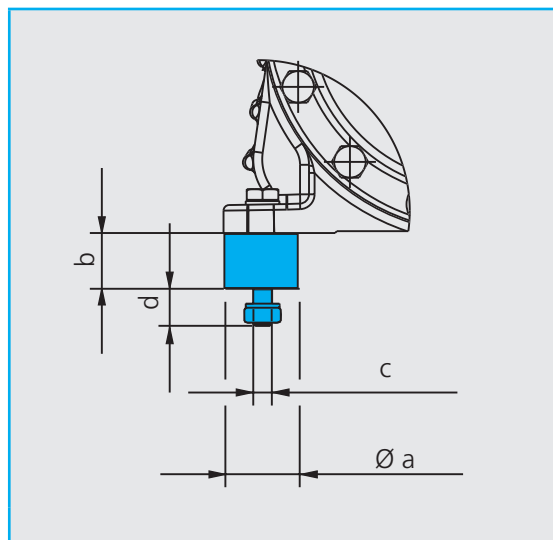
- Three-hole connection for oil level regulator make ESK, AC+R, CARLY (3x M6, 10 deep)
- Three-hole connection for oil level regulator make TRAXOIL (3 x M6 x 10 deep)



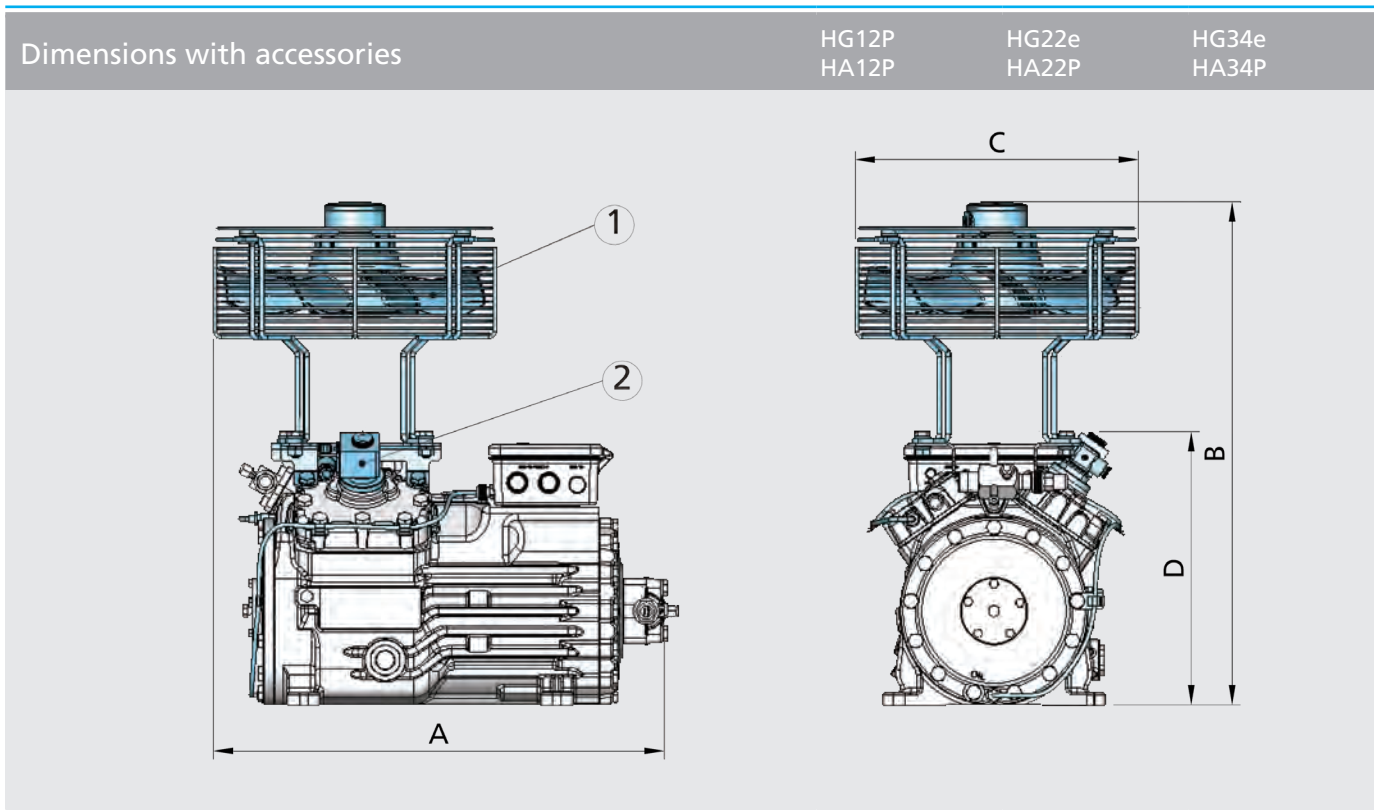
Dimensions in mm

Dimensions for anti-vibration pad

Type	Ø a mm	b mm	c mm	d mm
HG12P, HA12P	30	30	M8	20
HG22e, HA22P	40	30	M10	20
HG34e, HA34P	40	30	M10	20
HG4, HA4	40	30	M10	20
HG5, HA5	50	30	M10	25
HG6, HA6	50	30	M10	25
HG7	50	30	M10	25
HG8	70	45	M12	37

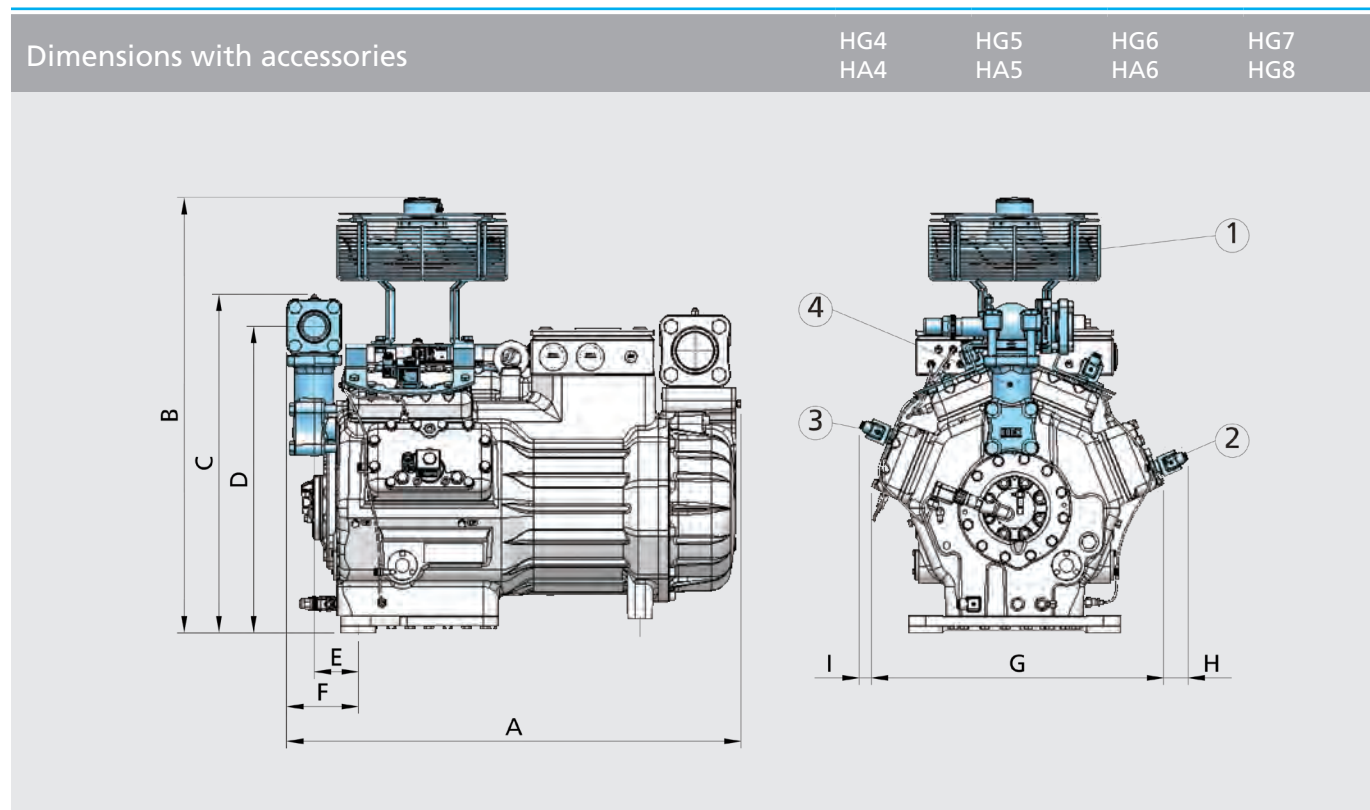


1
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① Additional fan ② Capacity regulator

Type	A mm	B mm	C mm	D mm
HG12P	ca. 460	ca. 500	ca. 315	-
HA12P	-	-	-	-
HG22e	ca. 515	ca. 595	ca. 350	-
HA22P	-	-	-	-
HG34e	ca. 570	ca. 620	ca. 350	ca. 340
HA34P	-	-	-	ca. 370



- ① Additional fan ② Capacity regulator ③ Start unloader ④ Intermediate adapter for discharge line valve

Type	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm
HG4/465, HG4/555	ca. 705	ca. 680	ca. 455	416	91	131	ca. 375	ca. 20	ca. 20
HG4/650	ca. 740	ca. 680	ca. 455	416	91	131	ca. 375	ca. 20	ca. 20
HA4	-	-	-	-	-	-	ca. 400	ca. 5	ca. 5
HG5/725, HG5/830	ca. 835	ca. 730	ca. 465	422	101	141	ca. 440	ca. 30	-
HG5/945	ca. 850	ca. 730	ca. 465	422	101	141	ca. 440	ca. 30	-
HA5	-	-	-	-	-	-	ca. 435	ca. 30	-
HG6	ca. 870	ca. 740	ca. 460	421	101	141	ca. 460	ca. 30	-
HA6	-	-	-	-	-	-	ca. 455	ca. 30	-
HG7	ca. 830	ca. 760	ca. 580	520,5	95	150	ca. 510	ca. 45	ca. 15
HG8	ca. 920	ca. 880	ca. 680	617	90	145	ca. 580	ca. 50	ca. 20

Connections	HG12P HA12P	HG22e HA22P	HG34e HA34P	HG4 HA4	HG5 HA5	HG6 HA6	HG7	HG8
SV Suction line DV Discharge line	please refer to Technical data page 42							
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	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	7/16" UNF
A2 Connection suction side, not lockable	-	-	-	-	-	-	1/4" NPTF	1/4" NPTF
B 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	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	7/16" UNF
C Connection oil pressure safety switch OIL	-	-	-	7/16" UNF	7/16" UNF	7/16" UNF	7/16" UNF	7/16" UNF
D Connection oil pressure safety switch LP	-	-	-	7/16" UNF	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	1/4" NPTF
E Connection oil pressure gauge	1/8" NPTF	1/8" NPTF	1/8" NPTF	7/16" UNF	7/16" UNF	7/16" UNF	7/16" UNF	7/16" UNF
F Oil drain	M 8	M 10	M 10	M 22 x 1,5	M 22 x 1,5	M 22 x 1,5	M 22 x 1,5	M 22 x 1,5
H Oil charge plug	1/4" NPTF	1/4" NPTF	1/4" NPTF	M 22 x 1,5	M 22 x 1,5	M 22 x 1,5	M 22 x 1,5	M 33 x 2
J Connection oil sump heater	Ø 15 mm ¹⁾	Ø 15 mm ¹⁾	Ø 15 mm ¹⁾	-	-	-	-	-
J1 Oil sump heater	-	-	-	M 22 x 1,5	M 22 x 1,5	M 22 x 1,5	M 22 x 1,5	M 22 x 1,5
K Sight glass	1 1/8" - 18 UNEF	1 1/8" - 18 UNEF	1 1/8" - 18 UNEF	4 hole M 6	4 hole M 6	4 hole M 6	3 hole M 6	3 hole M 6
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	-
L1 Thermal protection thermostat	-	-	-	-	-	-	-	1/8" NPTF
N Connection capacity controller	-	-	-	M 48 x 1,5	M 45 x 1,5	M 45 x 1,5	M 45 x 1,5	M 45 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	①
ÖV Connection oil service valve	-	-	-	1/4" NPTF	1/4" NPTF	1/4" NPTF	1/4" NPTF	-
ÖV1 Oil service valve	-	-	-	-	-	-	-	7/16" UNF
P Connection oil pressure differential sensor	-	-	-	M 20 x 1,5	M 20 x 1,5	M 20 x 1,5	M 20 x 1,5	-
P1 Oil pressure differential sensor	-	-	-	-	-	-	-	M 20 x 1,5
Q Connection oil temperature sensor	-	-	-	1/8" NPTF	1/8" NPTF	1/8" NPTF	1/8" NPTF	-
Q1 Oil temperature sensor	-	-	-	-	-	-	-	1/8" NPTF

¹⁾ = Possibility of connection of oil sump heater

① Dimensions see view X page 51

Scope of supply HG	HG12P	HG22e	HG34e	HG4	HG5	HG6	HG7	HG8
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 Single-section compressor housing with hermetically integrated electric motor	●	●						
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 Single-section compressor housing with hermetically integrated electric motor			●					
Semi-hermetic four cylinder reciprocating compressor with drive motor for part winding start 380-420 V Y/Y - 3 - 50 Hz 440-480 V Y/Y - 3 - 60 Hz Motor unit flanged onto the compressor housing				●	●	●		
Semi-hermetic six cylinder reciprocating compressor with drive motor for part winding start 380-420 V Δ / YYY - 3 - 50 Hz 440-480 V Δ / YYY - 3 - 60 Hz Single-section compressor housing with hermetically integrated electric motor							●	
Semi-hermetic eight cylinder reciprocating compressor with drive motor for part winding start 380-420 V Δ / YYY - 3 - 50 Hz 440-480 V Δ / YYY - 3 - 60 Hz Single-section compressor housing with hermetically integrated electric motor								●
Winding protection with PTC resistor sensors and electronic triggering unit Bock MP10	●	●	●	●	●	●	●	
Winding protection with PTC sensors, readily wired and connected with Bock Compressor Management BCM2000								●
Individual protection of the cylinder heads with thermal protection thermostats, readily wired and connected with Bock Compressor Management BCM2000								●
Oil temperature sensor in the oil sump, readily wired and connected with Bock Compressor Management BCM2000								●
Oil differential pressure sensor (Δp-switch Kriwan make), ready wired and connected with Bock Compressor Management BCM2000								●
Oil pump cover with screwed connection for differential oil pressure sensor (Δp-switch Kriwan make)				●	●	●	●	
Possibility to connect to oil level controllers makes ESK, AC+R or CARLY	● ¹⁾	● ¹⁾	● ¹⁾	●	●	●	●	●
Possibility to connect to oil level controllers make Traxoil	● ¹⁾	● ¹⁾	● ¹⁾	● ¹⁾	● ¹⁾	● ¹⁾	● ¹⁾	● ¹⁾
Oil sump heater 230 V - 1 - 50/60 Hz, 80 W				●				
Oil sump heater 230 V - 1 - 50/60 Hz, 140 W					●	●	●	
Oil sump heater 230 V - 1 - 50/60 Hz, 200 W								●
Oil service valve								●
Oil charge: HG: FUCHS Reniso SP 46 HGX: FUCHS Reniso Triton SE 55	●	●	●	●	●	●	●	●
Sight glass	●	●	●	●	●	●		
Two sight glasses							●	
Three sight glasses								●
Prepared for capacity regulator (1 cylinder cover)				●	●	●		
Prepared for capacity regulator (2 cylinder covers)							●	
Prepared for capacity regulator (3 cylinder covers)								●
Decompression valve				●	●	●	●	●
Suction and discharge line valve	●	●	●	●	●	●	●	●
Inert gas charge	●	●	●	●	●	●	●	●
4 anti-vibration pads enclosed	●	●	●	●	●	●	●	●

1) Only possible with additional adapter

Scope of supply HA	HA12P	HA22P	HA34P	HA4	HA5	HA6
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 Single-section compressor housing with hermetically integrated electric motor	●	●				
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 Single-section compressor housing with hermetically integrated electric motor			●			
Semi-hermetic four cylinder reciprocating compressor with drive motor for part winding start 380-420 V Y/YY - 3 - 50 Hz 440-480 V Y/YY - 3 - 60 Hz Motor unit flanged onto the compressor housing				●	●	●
Motor is cooled by an integrated fan with air deflection hood 230 V - 1 - 50/60 Hz, 40 W, 0,3 A, IP44	●					
Motor is cooled by an integrated fan with air deflection hood 230 V - 1 - 50/60 Hz, 72 W, 0,53 A, IP44		●	●			
Motor is cooled by an integrated fan with air deflection hood 230 V - 1 - 50/60 Hz, 140 W, 0,71 A, IP44				●	●	●
Winding protection with PTC resistor sensors and electronic motor protection unit Bock MP10	●	●	●	●	●	●
Oil pump cover with screwed connection for differential oil pressure sensor (Δp-switch Kriwan make)				●	●	●
Possibility to connect to oil level controllers makes ESK, AC+R or CARLY	● ¹⁾	● ¹⁾	● ¹⁾	●	●	●
Possibility to connect to oil level controllers make Traxoil	● ¹⁾	● ¹⁾	● ¹⁾	● ¹⁾	● ¹⁾	● ¹⁾
Oil sump heater 230 V - 1 - 50/60 Hz, 80 W				●		
Oil sump heater 230 V - 1 - 50/60 Hz, 140 W					●	●
Oil charge: HA: FUCHS Reniso SP 46 HAX: FUCHS Reniso Triton SE 55	●	●	●	●	●	●
Sight glass	●	●	●	●	●	●
Prepared for capacity regulator (1 cylinder cover)				●	●	●
Decompression valve				●	●	●
Suction and discharge line valve	●	●	●	●	●	●
Inert gas charge	●	●	●	●	●	●
4 anti-vibration pads enclosed	●	●	●	●	●	●

¹⁾ Only possible with additional adapter

Accessories HG + HA	HG12P HA12P	HG22e HA22P	HG34e HA34P	HG4 HA4	HG5 HA5	HG6 HA6	HG7	HG8
① Start unloader 230 V - 1 - 50/60 Hz, IP65, without check valve, including thermal protection thermostat (PTC sensor)				●	●	●	●	
Start unloader 230 V - 1 - 50/60 Hz, IP65, without check valve								●
② Start unloader by means of a Bock-ESS (Electronic Soft Start) IP20 (Connection clamps IP00) for installation in switch cabinet		●	●	●	●	●	● ²⁾	
③ Capacity regulator 230 V - 1 - 50/60 Hz, IP65 1 Capacity regulator = 50% residual capacity			●	●	●	●		
Capacity regulator 230 V - 1 - 50/60 Hz, IP65 1-2 Capacity regulator = 66/33% residual capacity							●	
Capacity regulator 230 V - 1 - 50/60 Hz, IP65 1-3 Capacity regulator = 75/50/25% residual capacity								●
④ Continuously variable speed control by means of a Bock EFC (Electronic Frequency Control), compactly built onto compressor and connected ready-to-operate HG12P: IP65 HG22P/HG34e: IP54	●	●	●					
⑤ Continuously variable speed control by means of a Bock EFCe (Electronic Frequency Control for individual installation) IP54				● ¹⁾	● ¹⁾	● ¹⁾	●	●
⑥ Bock ESP (Electronic Single Phase) phase converter from single to three phase AC for installation in switch cabinet, IP20	●							
⑦ Cylinder cover prepared for capacity regulator			●					
⑧ Oil sump heater 110-240 V - 1 - 50/60 Hz, 50-120 W, IP66 PTC heater self-regulating	●	●	●					
⑨ Oil pressure safety switch MP 54 230 V - 1 - 50/60 Hz, IP20 incl. mounting				●	●	●	●	
⑩ Oil differential pressure sensor (Δp -switch Kriwan make) 220-240 V - 1 - 50/60 Hz				●	●	●	●	
⑪ Oil service valve				●	●	●	●	
⑫ Thermal protection thermostat (PTC sensor) IP67	●	●	●	●	●	●	●	
⑬ Bock Compressor Management BCM2000 including oil pressure control ⑩, oil temperature control (NTC) ⑭, thermal protection thermostat (PTC) per cylinder cover ⑫				●	●	●	●	
⑮ Water-cooled cylinder covers				●	●	●	●	●
Sea water resistant water-cooled cylinder covers				●	●	●	●	●
⑯ Additional fan 220-240 V - 1 - 50/60 Hz, 72/68 W, IP44 enclosed	● ¹⁾							
Additional fan 230 V Δ / 400 V Y - 3 - 50 Hz, 120 W, 230-265 V Δ / 400-460 V Y - 3 - 60 Hz, 190 W, IP54 enclosed		● ^{1) 3)}	● ^{1) 3)}	● ^{1) 3)}	● ^{1) 3)}	● ^{1) 3)}	● ³⁾	● ³⁾
⑰ Connection piece suction and discharge valve in welded construction								●
⑱ Intermediate adapter for discharge line valve				● ¹⁾	● ¹⁾	● ¹⁾	●	●
Special voltage and/or frequency (on request)	●	●	●	●	●	●	●	●

¹⁾ Only available for HG compressors

²⁾ Not available HG7/2110-4 S

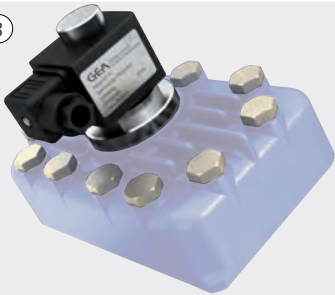
³⁾ Voltage range $\pm 10\%$

Pictures of accessories see page 58-59

1
2
3
4

Start unloader / Capacity regula-

① ③



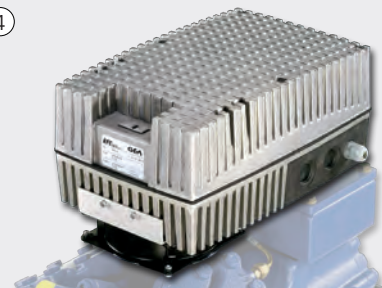
ESS Electronic Soft Start

②



EFC Electronic Frequency Control

④



EFCe Electronic Frequency Control external

⑤



ESP Electronic Single Phase

⑥



Prepared for capacity regulator

⑦



Oil sump heater

⑧



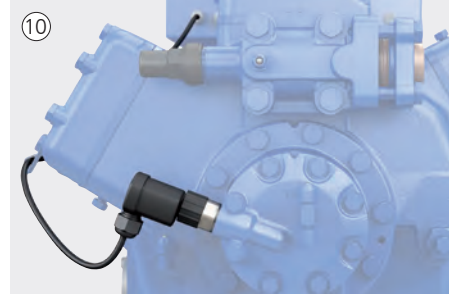
Oil pressure safety switch

⑨



Oil differential pressure sensor

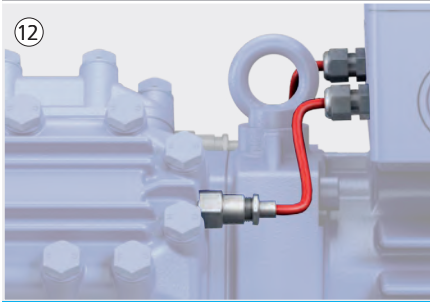
⑩



Oil service valve



Thermal protection thermostat



BCM2000 Bock Compressor Management



Oil temperature control



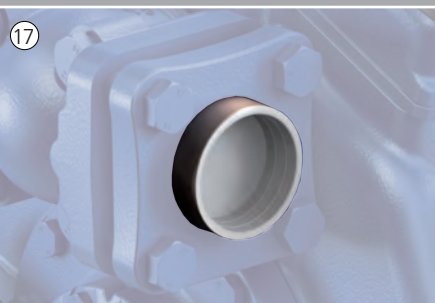
Water-cooled cylinder covers



Additional fan



Connection piece in welded construction



Intermediate adapter for discharge line valve



1
2
3
4





Two-stage semi-hermetic Bock compressors

At a glance	62
Special features	63
Operating limits and performance data	64
Technical data	68
Dimensions and connections	69
Scope of supply and accessories	72

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
- Reinjection valve
- Solenoid valve
- Sight glass
- Filter drier

Available models

for refrigerants R404A, R410A, R507, R22

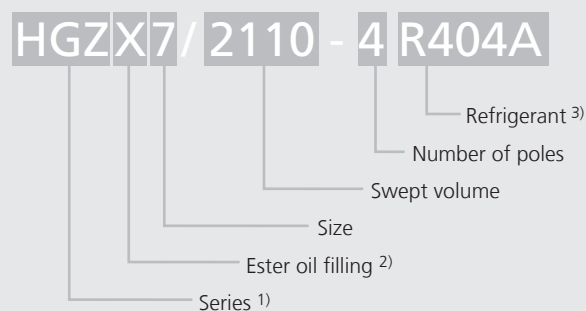
Type	Displacement (50 Hz) LP / HP
HGZX7/1620-4 R404A/R507	93,70 m³/h / 46,90 m³/h
HGZX7/1620-4 R410A	
HGZ7/1620-4 R22	
HGZX7/1860-4 R404A/R507	107,60 m³/h / 53,80 m³/h
HGZX7/1860-4 R410A	
HGZ7/1860-4 R22	
HGZX7/2110-4 R404A/R507	122,40 m³/h / 61,20 m³/h
HGZX7/2110-4 R410A	
HGZ7/2110-4 R22	

Special features:

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

Further information on the HG7 basic compressor see chapter "Single-stage semi-hermetic Bock compressors" from page 18.

Type key



¹⁾ HGZ = Hermetic Gas-Cooled (suction gas-cooled), two-stage

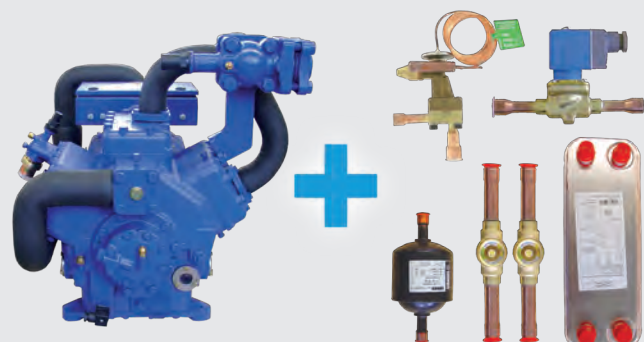
²⁾ X = Ester oil filling (HFC refrigerants R404A, R410A)

³⁾ Possible refrigerants are R404A, R410A, R22

The two possible designs of the HGZ7:

Standard

Medium-pressure mixed line mounted on the compressor and insulated, liquid subcooler, expansion valve, solenoid valve, two sight glasses, filter drier everything enclosed separately for individual, external mounting

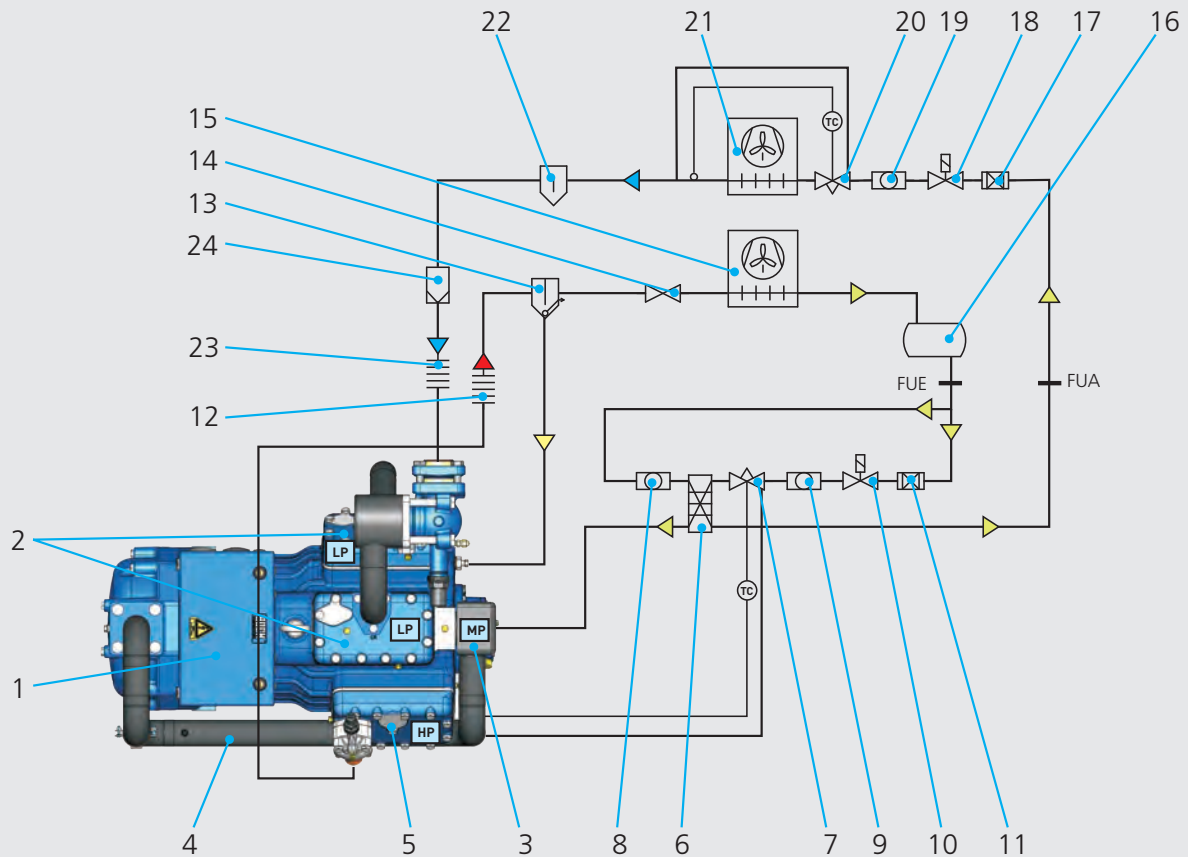


Option

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



Refrigeration circuit and two-stage compressor
Schematic diagram



Explanations

- 1 Compressor
- 2 Cylinder LP-stage
- 3 Intermediate pressure chamber MP
- 4 Intermediate pressure line MP
- 5 Cylinder HP-stage
- 6 Subcooler*
- 7 Reinjection valve*
- 8 Sight glass 1*
- 9 Sight glass 2*
- 10 Solenoid valve*
- 11 Filter drier*
- 12 Vibration damper, pressure line
- 13 Oil separator
- 14 Non-return valve
- 15 Condenser
- 16 Refrigerant receiver

- 17 Filter drier
- 18 Solenoid valve
- 19 Sight glass
- 20 Expansion valve (evaporator)
- 21 Evaporator
- 22 Liquid separator
- 23 Vibration damper, suction line
- 24 Filter suction line

LP = Low pressure

MP = Medium pressure

HP = High pressure

FUE = Liquid subcooler, inlet

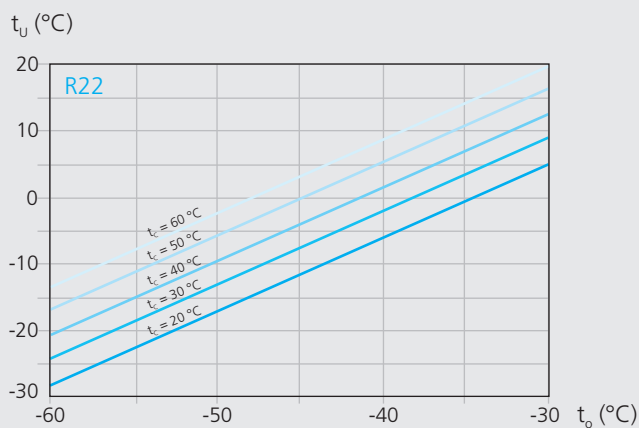
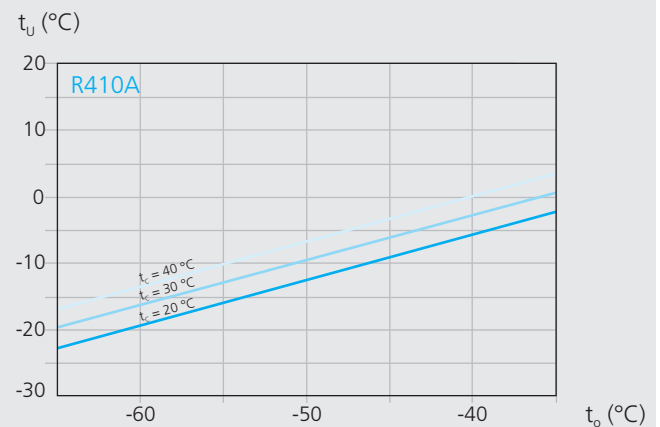
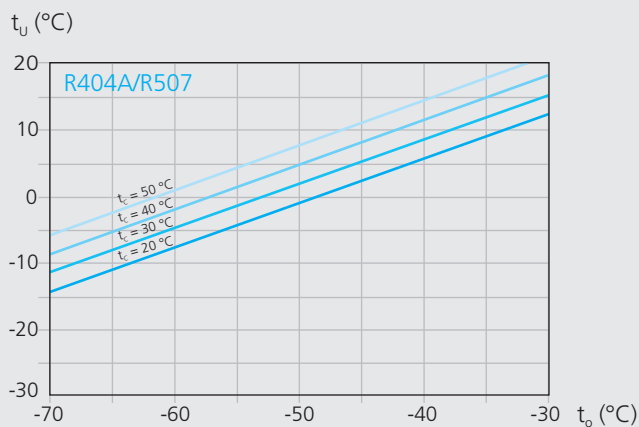
FUA = Liquid subcooler, outlet

* Components for subcooling system as standard

Subcooling temperature

The design of the expansion valve on the compressor can be defined with the help of the diagram by approximately calculating the subcooling temperature arising in the relevant operating conditions (t_o/t_c).

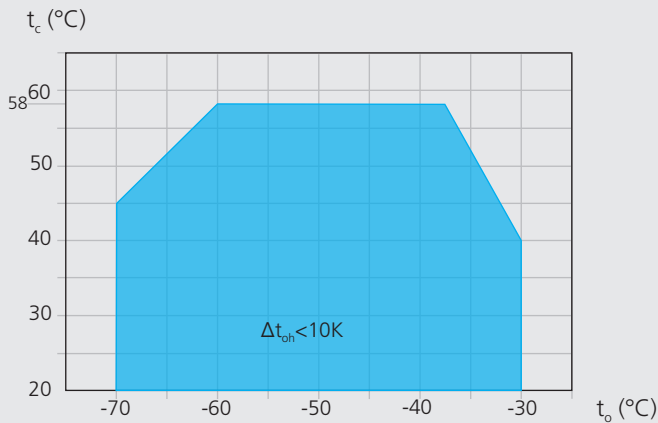
Subcooling temperature calculation diagram for the intermediate cooler outlet



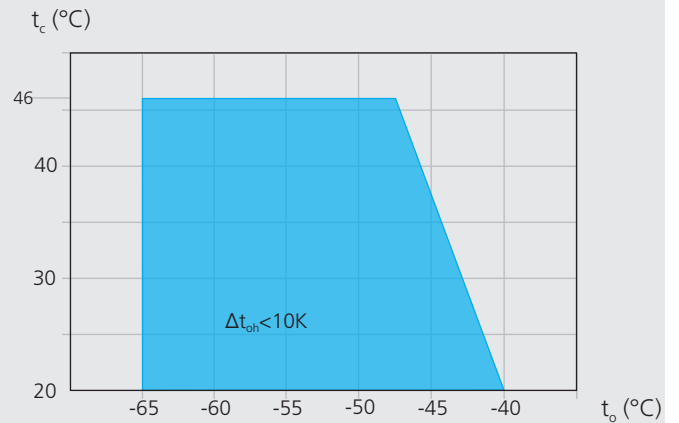
t_u = Subcooling temperature at the intermediate cooler outlet (FUA)
 t_o = Evaporation temperature

Operating limits

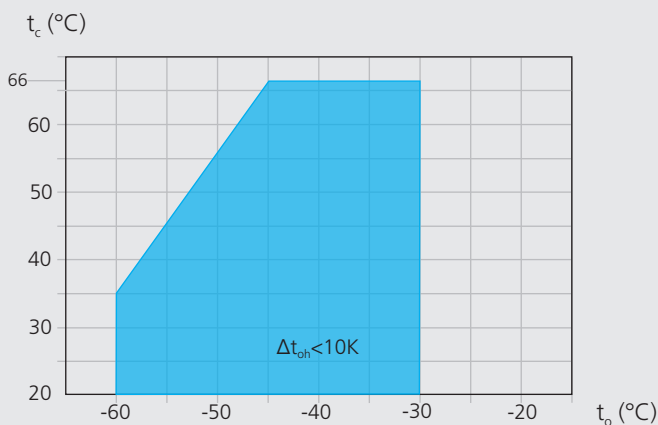
R404A/R507



R410A



R22



Application range

t_o Evaporating temperature (°C)

t_c Condensing temperature (°C)

Δt_{oh} Suction gas superheat (K)

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

¹⁾ LP = low pressure MP = medium pressure HP = high pressure

Notes

Operating limits

Compressor operation is possible within the limits shown on the application diagrams. Please note the coloured 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 GEA Bock software

R404A/R507			Performance data								50 Hz
Type	Cond. temp. °C		Cooling capacity $\dot{Q}_0$ [W]						Power consumption P_e [kW]		
			Evaporating temperature °C								
			-30	-35	-40	-45	-50	-55	-60	-65	-70
HGZX7/1620-4	30	Q P	34869 21,17	28471 19,41	23098 17,63	18628 15,84	14936 14,05	11899 12,31	9394 10,61	7296 8,99	5482 7,46
	40	Q P	33437 23,42	27315 21,42	22181 19,40	17910 17,39	14380 15,41	11467 13,48	9047 11,61	6997 9,84	5192 8,17
	50	Q P		25860 23,49	20950 21,24	16866 19,02	13484 16,84	10680 14,72	8332 12,68	6315 10,75	
HGZX7/1860-4	30	Q P	40042 24,31	32694 22,29	26525 20,24	21391 18,18	17152 16,14	13665 14,13	10787 12,19	8378 10,32	6294 8,56
	40	Q P	38397 26,90	31367 24,60	25471 22,28	20567 19,97	16514 17,70	13169 15,48	10390 13,34	8035 11,30	5962 9,38
	50	Q P		29696 26,98	24057 24,39	19367 21,84	15484 19,33	12265 16,90	9568 14,56	7252 12,35	
HGZX7/2110-4	30	Q P	45550 27,66	37191 25,36	30173 23,03	24334 20,69	19511 18,36	15544 16,08	12271 13,86	9530 11,74	7160 9,74
	40	Q P	43679 30,60	35681 27,98	28974 25,34	23396 22,72	18785 20,13	14980 17,61	11819 15,17	9140 12,85	6782 10,67
	50	Q P		33780 30,69	27366 27,75	22031 24,84	17614 21,99	13952 19,23	10884 16,57	8249 14,04	

R410A			Performance data						50 Hz
Type	Cond. temp. °C		Cooling capacity $\dot{Q}_o$ [W]				Power consumption P_e [kW]		
			Evaporating temperature °C						
			-35	-40	-45	-50	-55	-60	-65
HGZX7/1620-4	30	Q P			25354 22,89	19967 20,80	15285 18,67	11396 16,43	8385 14,00
	50	Q P				19131 22,87	14630 20,63	10868 18,25	7930 15,68
HGZX7/1860-4	30	Q P			29182 26,28	22859 23,89	17530 21,44	13136 18,87	9614 16,08
	50	Q P				21959 26,26	16774 23,68	12508 20,96	9101 18,00
HGZX7/2110-4	30	Q P			33195 29,90	26003 27,17	19941 24,39	14943 21,46	10937 18,29
	50	Q P				24980 29,87	19082 26,94	14229 23,84	10352 20,48

R22		Performance data						50 Hz
Type	Cond. temp. °C	Cooling capacity $\dot{Q}_0$ [W]				Power consumption P_e [kW]		
		Evaporating temperature °C						
		-30	-35	-40	-45	-50	-55	-60
HGZ7/1620-4	30	Q 29711 18,26	24214 16,81	19448 15,40	15365 14,03	11921 12,70	9070 11,41	6765 10,16
	40	Q 29059 20,23	23630 18,52	18930 16,86	14914 15,23	11537 13,64	8753 12,10	
	50	Q 28355 22,30	22992 20,33	18360 18,41	14411 16,53	11100 14,69		
	60	Q 27598 24,47	22302 22,25	17736 20,07	13854 17,93			
HGZ7/1860-4	30	Q 30088 20,97	27881 19,31	22408 17,69	17669 16,11	13664 14,58	10393 13,10	7855 11,67
	40	Q 33296 23,23	27181 21,27	21800 19,36	17153 17,49	13240 15,67	10061 13,89	
	50	Q 32434 25,60	26411 23,35	21122 21,14	16567 18,98	12746 16,68		
	60	Q 31503 28,09	25572 25,54	20375 23,04	15912 20,59			
HGZ7/2110-4	30	Q 38811 23,86	31632 21,96	25406 20,12	20072 18,33	15573 16,59	11848 14,91	8837 13,27
	40	Q 37960 26,43	30868 24,20	24729 22,02	19483 19,89	15071 17,82	11433 15,80	
	50	Q 37040 29,13	30035 26,56	23984 24,05	18825 21,59	14500 19,18		
	60	Q 36050 31,96	29133 29,06	23169 26,21	18097 23,42			

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

HGZ Type	Number of cylinders	Displacement		Voltage ①	Electrical data			Weight kg	Oil charge Ltr.
		50 Hz (1450/1740 rpm)	60 Hz (1450/1740 rpm)		Max. working current ②	Max. power consump- tion ②	Starting current (rotor locked) ②		
		m³/h	m³/h		A	kW	A		
					* PW 1+2		* PW1 / PW 1+2		
HGZX7/1620-4 R404A HGZX7/1620-4 R410A HGZ7/1620-4 R22	6	93,70 / 46,90	112,50 / 56,20	③	50	27,0	185 / 278	294	4,5
HGZX7/1860-4 R404A HGZX7/1860-4 R410A HGZ7/1860-4 R22	6	107,60 / 53,80	129,10 / 64,60	③	55	30,0	185 / 278	291	4,5
HGZX7/2110-4 R404A HGZX7/2110-4 R410A HGZ7/2110-4 R22	6	122,40 / 61,20	146,90 / 73,50	③	65	36,0	191 / 286	289	4,5

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

LP = low pressure

HP = high pressure

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

Permanently set version, installation in immersion sleeve

Explanations:

① Tolerance ($\pm 10\%$) relates to the mean value of the voltage range. Other voltages and current types on request.

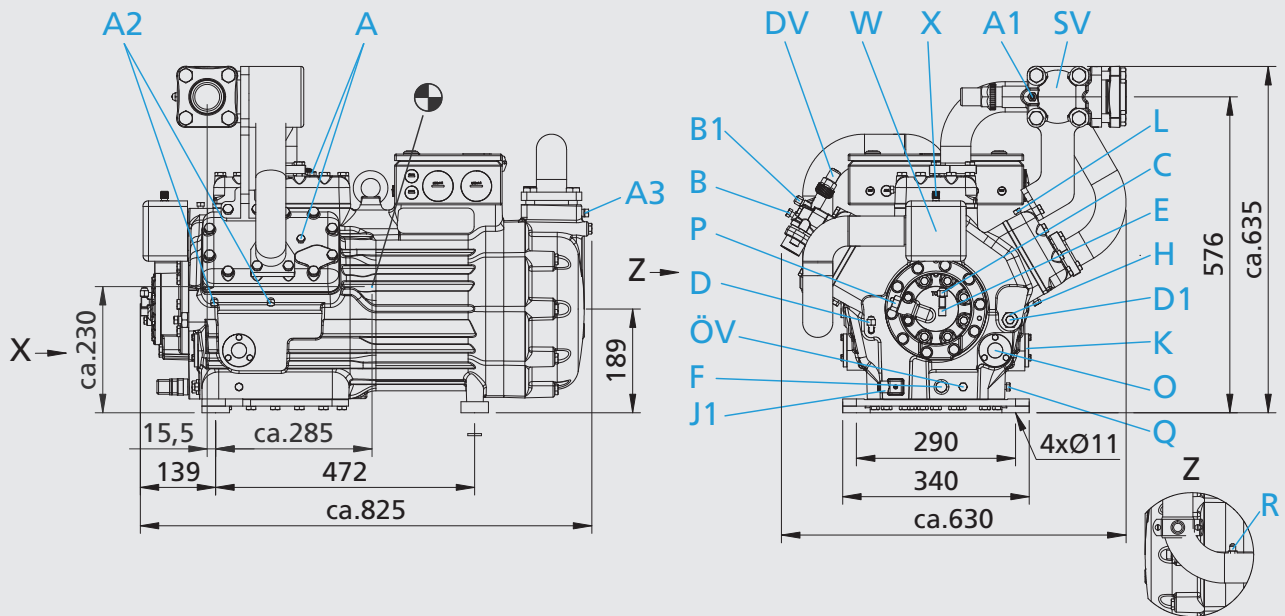
② - The specifications for max. power consumption apply for 50 Hz operation. For 60 Hz operation, the specifications have to be multiplied by the factor 1.2. The max. working current remains unchanged.

- Take account of the max. operating current / max. power consumption when designing contactors, leads and fuses. Switches: Service category AC3

③ 380-420 V Δ / YYY - 3 - 50 Hz PW
440-480 V Δ / YYY - 3 - 60 Hz PW
PW = Part Winding, motors for part winding start
(no start unloaders required)
Winding ratios: 60% / 40%

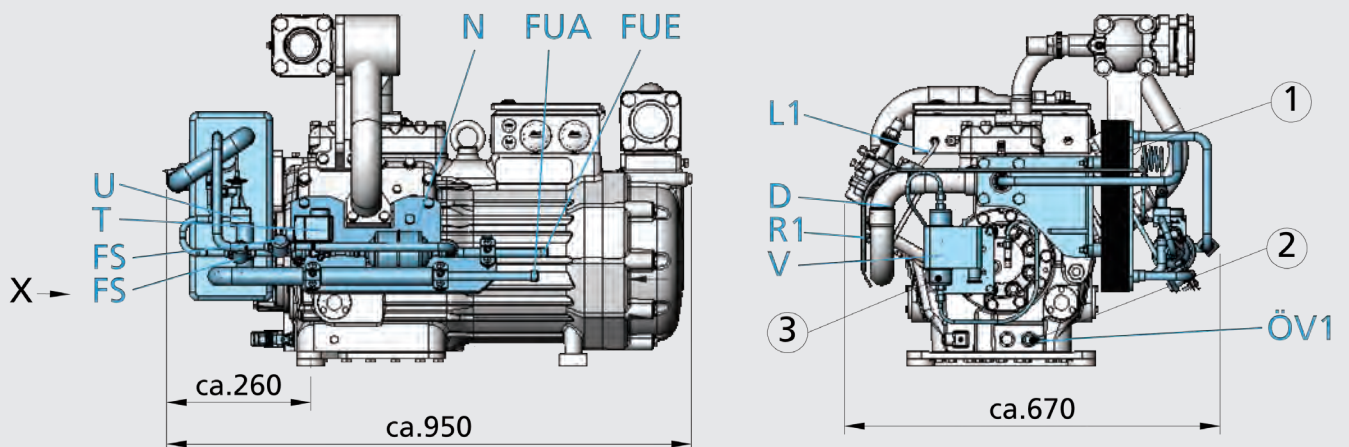
HGZ7 - Standard

Liquid subcooler with accessories supplied separately



HGZ7 - Option

Liquid subcooler with complete accessories directly mounted onto the compressor



① Liquid subcooler with accessories

② Oil service valve

③ Oil pressure safety switch

Dimensions and connections

Connections		
DV	Discharge line	Ø 35 mm / 1 3/8" "
SV	Suction line	Ø 54 mm / 2 1/8" "
FUE	Liquid subcooler ON	Ø 16 mm - 5/8" "
FUA	Liquid subcooler OFF	Ø 16 mm - 5/8" "
A	Connection suction side, not lockable	1/8" " NPTF
A1	Connection suction side, lockable	7/16" " UNF
A2	Connection intermediate pressure, 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 OIL	7/16" " UNF
D	Connection oil pressure safety switch LP	7/16" " UNF
D1	Connection oil return from oil separator	1/4" " NPTF
E	Connection oil pressure gauge	7/16" " UNF
F	Oil drain	M 22 x 1,5
FS	Sight glass Liquid line	Ø 12 mm
H	Oil charge plug	M 22 x 1,5

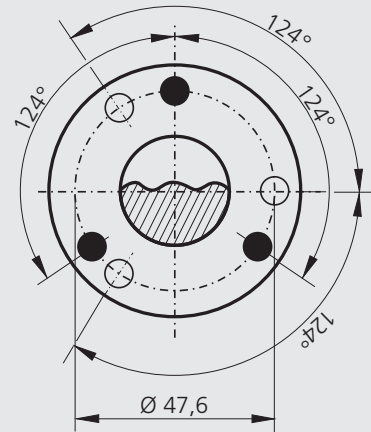
Connections		
J1	Oil sump heater	M 22 x 1,5
K	Sight glass	3 hole M 6
L	Connection thermal protection thermostat	1/8" " NPTF
L1	Thermal protection thermostat	1/8" " NPTF
N	Filter drier	Ø 12 mm
O	Connection oil level regulator	①
ÖV	Connection oil service valve	1/4" " NPTF ¹⁾
ÖV1	Oil service valve	7/16" " UNF
P	Connection oil pressure differential sensor	M 20 x 1,5
Q	Connection oil temperature sensor	1/8" " NPTF ¹⁾
R	Connection equalizer for injection valve	7/16" " UNF
R1	Equalizer for injection valve	Ø 6 mm
T	Solenoid valve	Ø 12 mm
U	Reinjection valve - dependent on refrigerant	Ø 12 mm
V	Oil pressure safety switch MP 54	-
W	Connection refrigerant injection	M 22 x 1,5
X	Connection for Schrader valve for intermediate pressure manometer	7/16" " UNF

① Dimensions see view X see page 71

View X

Possibility to connect to oil level regulator

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



Dimensions in mm

1

2

3

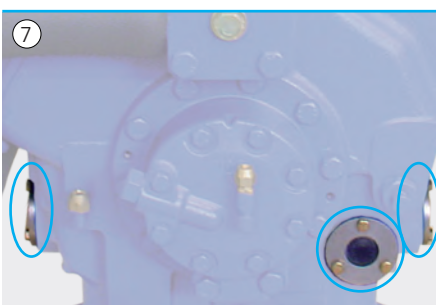
4

Scope of supply

Semi-hermetic six cylinder reciprocating compressor with drive motor for part winding start
380-420 V Δ YYY - 3 - 50 Hz
440-480 V Δ YYY - 3 - 60 Hz
Single-section compressor housing with hermetically integrated electric motor

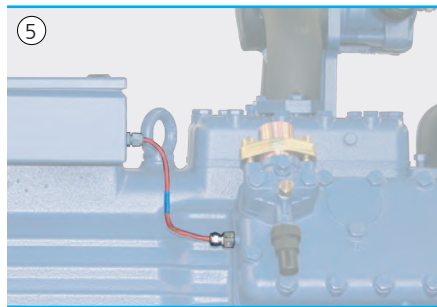
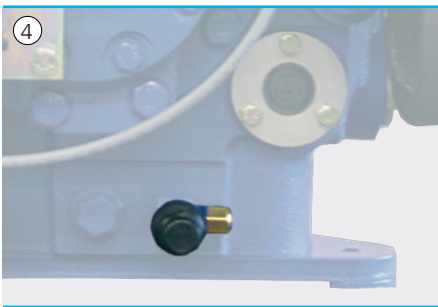
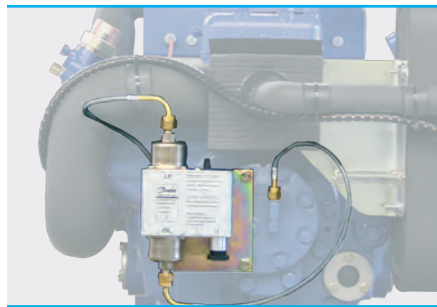
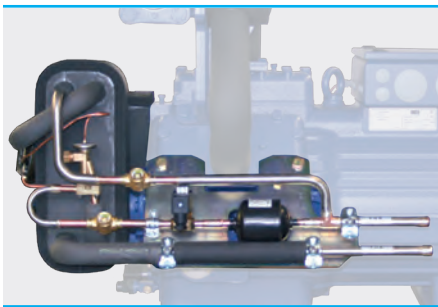
Cylinder design in W form, LP/HP stage ratio 2:1

- ① Intermediate pressure line mounted and insulated
- ② Liquid subcooler, reinjection valve, solenoid valve, two sight glasses, filter drier. Supplied separately for individual, external installation
- ③ Winding protection with PTC sensors and Bock MP10 electronic motor protection
- ④ Oil pump cover with screw connection for oil differential pressure sensor (Δp switch Kriwan make)
- ⑤ Direct connection possibility for oil level regulators ESK, AC+R or CARLY
- ⑥ Oil sump heater 230 V - 1 - 50/60 Hz, 140 W
Permanently set version, installation in immersion sleeve
- Oil charge:
HGZ: FUCHS Reniso SP 46
HGZX: FUCHS Reniso Triton SE 55
- ⑦ Three sight glasses
Decompression valve
- ⑧ Suction and
⑨ discharge line shut off valve
- Inert gas charge

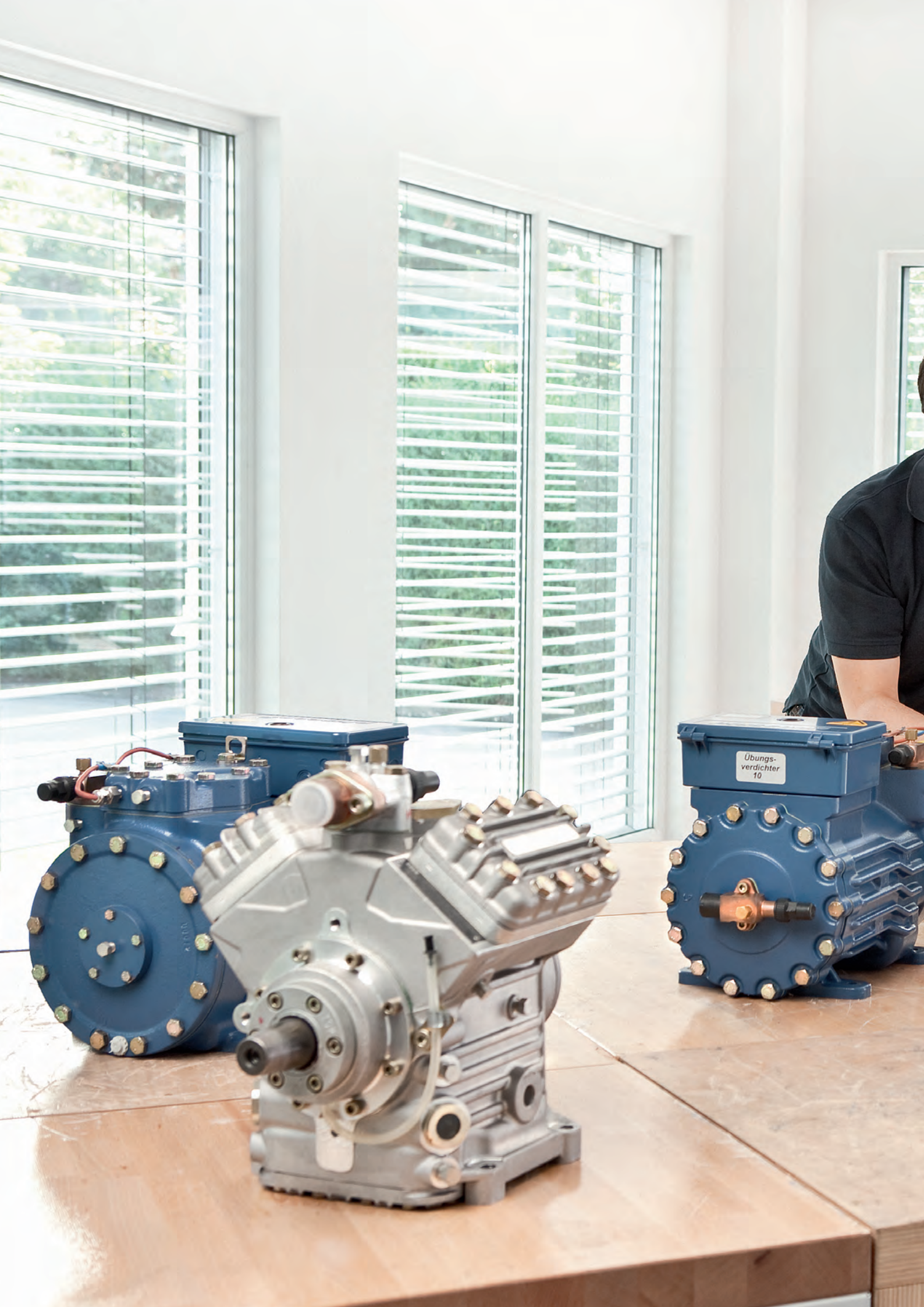


Accessories

- ① Liquid subcooler, reinjection valve, solenoid valve, two sight glasses, filter drier, directly mounted onto the compressor, fully assembled and insulated with pipes ready for connection
- ② Oil pressure safety switch MP 54 230 V - 1 - 50/60 Hz, IP20, including installation
- ③ Oil differential pressure sensor (Δp -switch Kriwan make) 220-240 V - 1 - 50/60 Hz
- ④ Oil service valve
- ⑤ Thermal protection thermostat (PTC sensor) IP67
- ⑥ Bock Compressor Management BCM2000 including oil pressure control, oil temperature control (NTC), thermal protection thermostat (PTC) on HD side



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Service - Made by GEA Bock

Training and workshops
GEA Bock on the Internet
Quality by GEA Bock

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Because you're never done learning - GEA Bock training and workshops on compressors

Many years ago, GEA Bock intensified its commitment in the area of customer training.

And so we offer a comprehensive array of attractive training events, from two-day practitioners' workshops in Frickenhausen to afterwork workshops throughout Germany. Regardless of the type of training you are interested in.

Three things are characteristic of all GEA Bock training:

- The captivating way that the training director Peter Spies carries out the events
- The strong practice orientation of the training events, and
- The fact that all training events from, GEA Bock are offered as a free service

Current training dates can be found online at www.bock.de

Overview of training events offered:

- GEA Bock Practitioners' Workshop
- Training tailored to your individual needs
- Training for your entire staff
- Training on your premises

For additional questions or advice, please contact our training director:

Peter Spies

Telephone +49 70 22 / 94 54-157

Fax +49 70 22 / 94 54-137

Email: Peter.Spies@geagroup.com



Worldwide, Up-to-Date, Comprehensive -
GEA Bock on the Internet - www.bock.de

Products

- Comprehensive product brochure
- Data on all products
- Dimensions and exploded views
- Spare parts lists

Sales network

- Contact persons in over 60 countries
- Direct link to your trading partner

Company

- Current company information
- Company film
- Subsidiaries
- History
- References

News

- Company news
- Product news
- Current dates

Toolbocks - The Refrigeration App

- Power Converter
- Length Converter
- Pressure Converter
- Converter Tube Diameter
- Refrigerant Calculator
- Location Finder
- Error Analysis/Troubleshooter

Wordbock - Translation Tool

- Available as an app and
- As an online version on www.bock.de

Know-how

- Error analysis tool
- VAP software
- Comprehensive information



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After Sale Service

GEA Bock offers you individual, personal consultation and assistance after the purchase as well.

As a customer, GEA Bock always has competent contact people available to you for technical questions.

Outside our business hours, you can reach us on our free hotline: 00 800 / 800 000 88
from Monday to Saturday, 8:00 a.m. to 9:00 p.m.

Quality by GEA Bock - The benchmark in cooling and air-conditioning

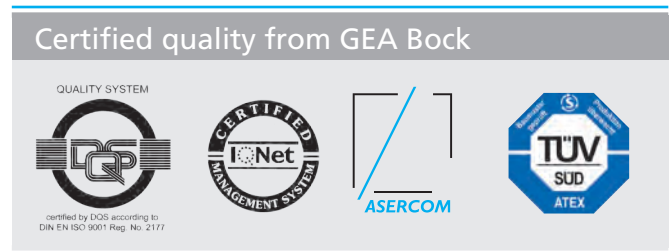
The name GEA Bock stands worldwide for compressor technology with the highest level of quality.

The goal of quality leadership in all product areas has always been at the centre of our company philosophy in our over 75-year history.

Today, permanent optimisation of quality, not just on the product but in all areas, is the core of GEA Bock's company strategy.

GEA Bock meets the requirements of DIN EN ISO 9001:2008, certified through DQS, as well as numerous additional European and globally recognised standards.

In addition, GEA Bock maintains a system of internal company standards, which go well beyond public regulations in many points.





Excellence

Passion

Integrity

Responsibility

GEA-versity

GEA Group is a global mechanical engineering company with multi-billion euro sales and operations in more than 50 countries. Founded in 1881, the company is one of the largest providers of innovative equipment and process technology. GEA Group is listed in the STOXX Europe 600 Index.



GEA Refrigeration Technologies

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