



# BOCK Semi-hermetic Compressors

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

# BOCK

colour the world  
of tomorrow



- HG semi-hermetic compressors
- HA semi-hermetic compressors
- HGZ two-stage semi-hermetic compressors

1

2

3



#### ASERCOM Certification

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

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

program enables an objective performance comparison of the wide range of products on the market..

**Many of the BOCK compressors are certified.**

**An overview can be found here:**

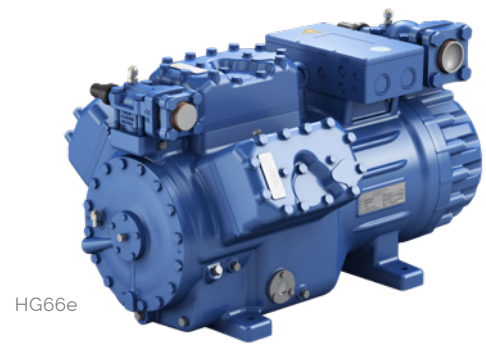
**<https://www.asercom.org/list-of-certified-compressors/>**



# Overview

## HG (gas-cooled)

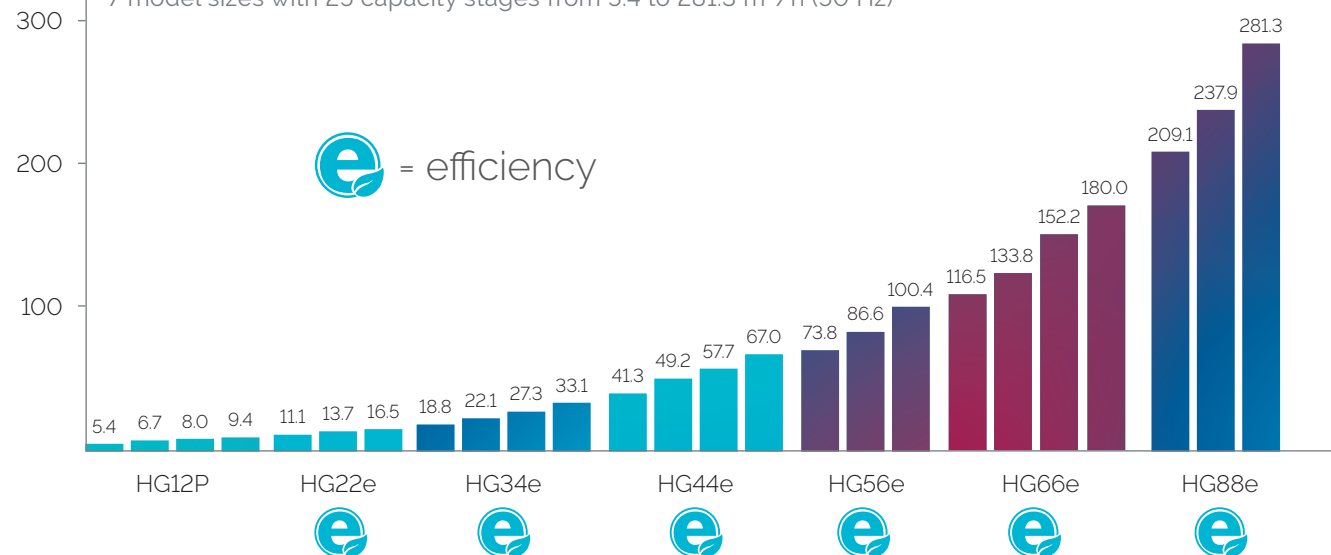
The BOCK HG range of semi-hermetic compressors offers traditional suction-gas-cooled compressor technology. These compressors are state-of-the-art, excelling in ease of running, simple maintenance, high efficiency, and reliability.



HG66e

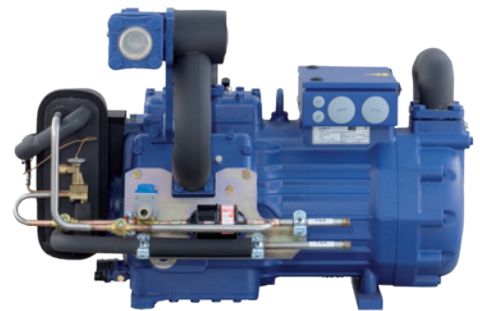
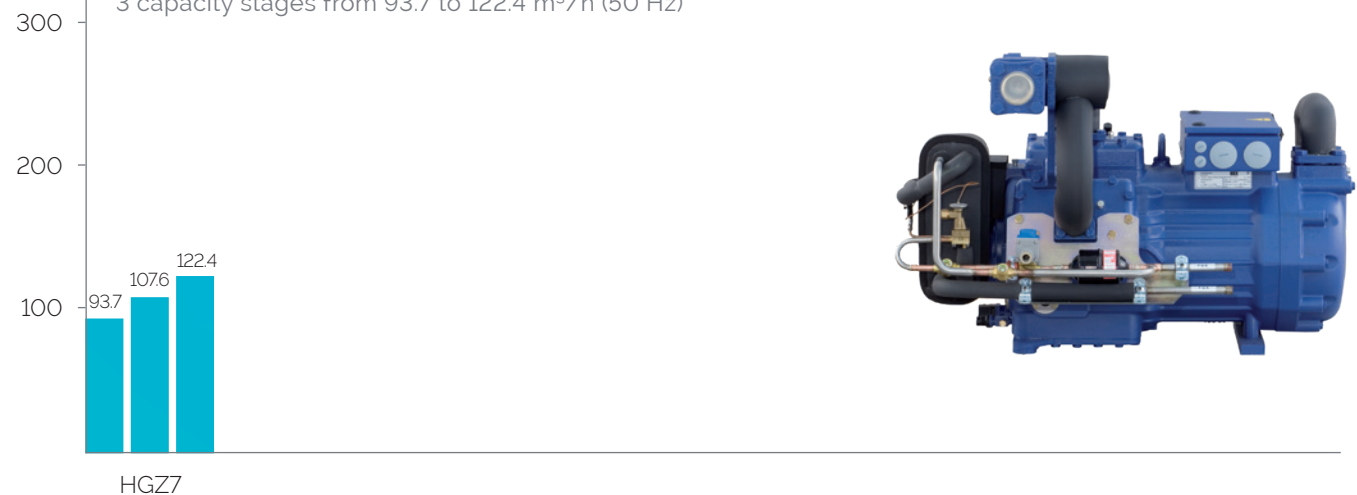
## HG Single-Stage

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



## HGZ Two-Stage

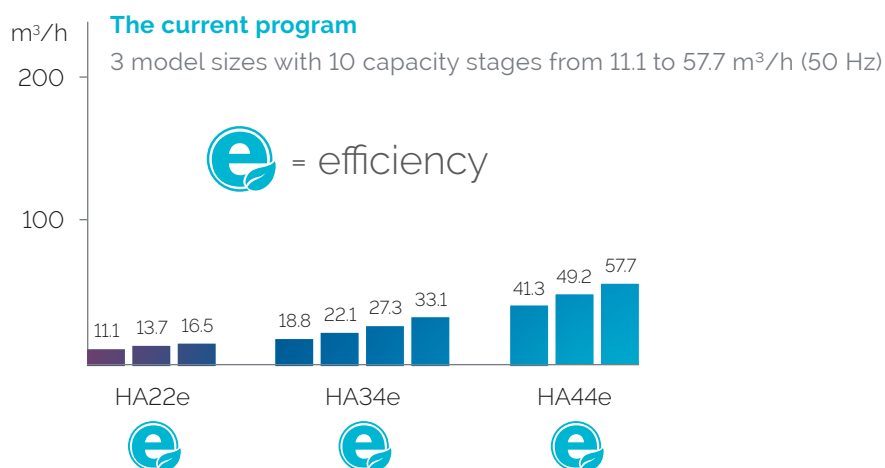
3 capacity stages from 93.7 to 122.4 m³/h (50 Hz)





### HA (air-cooled)

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



# Improved HG/HA Series

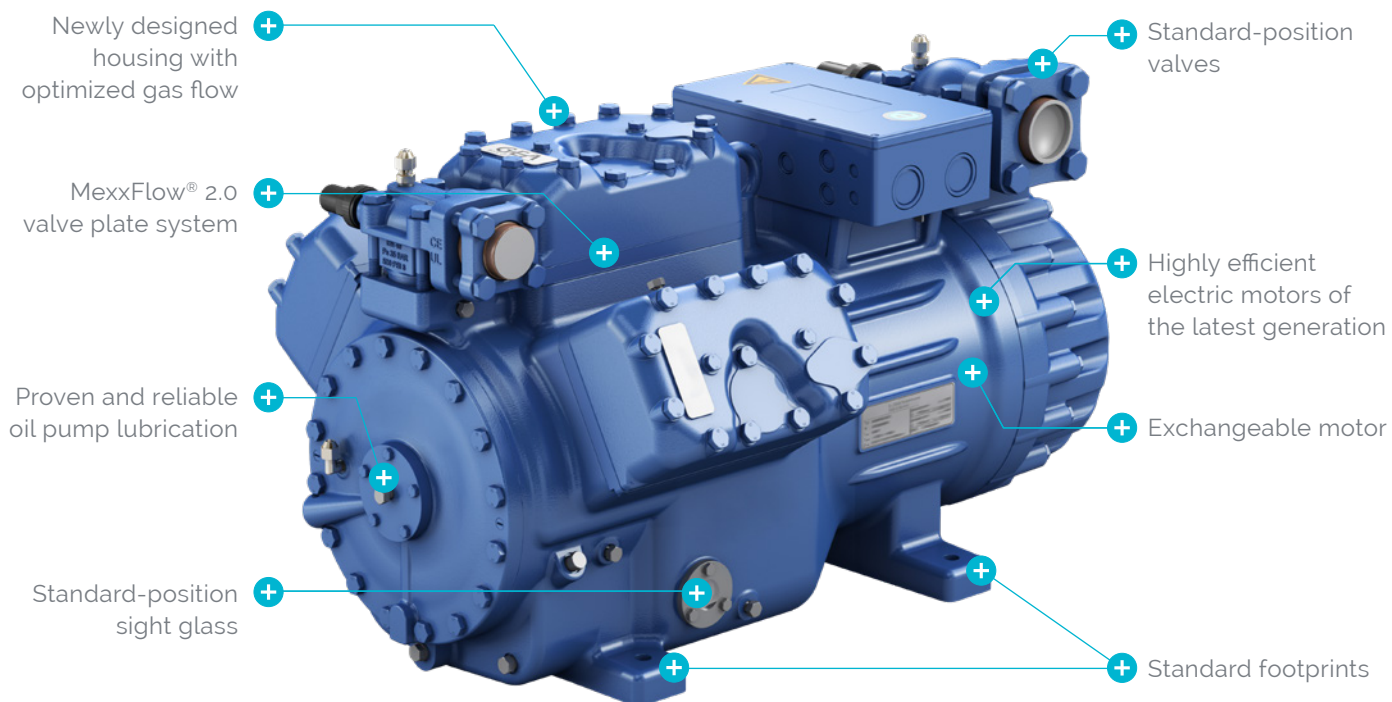
For new advancements in efficiency, BOCK has now updated its entire semi-hermetic compressor range. The new models, marked with the letter "e" (= efficiency), all offer decisive mechanical improvements, a more compact design and easier-to-use connections.

The entire range of gas-cooled commercial BOCK compressors is now available in the new, optimized design. In addition to their uses in the fields of refrigeration and air-conditioning, the new compressors are ideally suited for refrigeration in supermarkets. They offer improved efficiency over their predecessors, greater displacement stages, a more compact structural design, and a new configuration of connections.

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

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





HG66e

HG88e

HA22e

HA34e

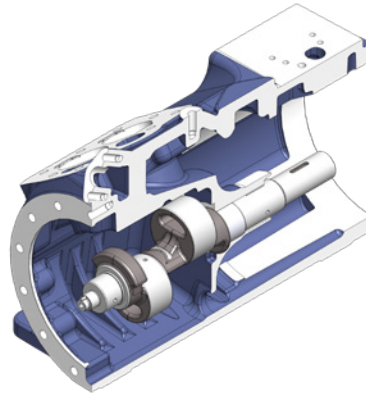
HA44



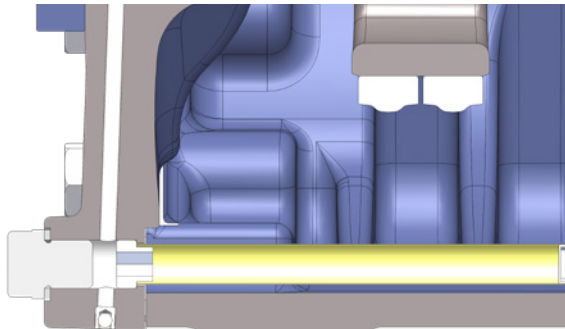
# Improved technology

## Optimized drive gear

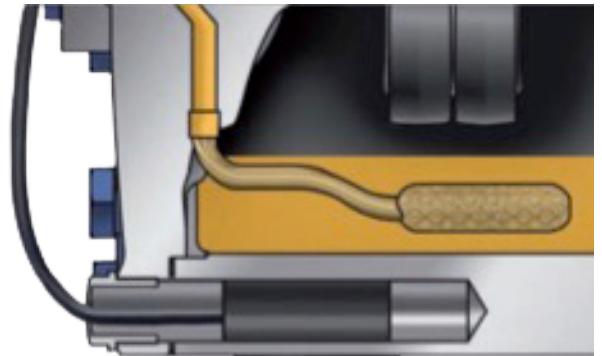
- Optimized drive gear with thrust washer, improving emergency-mode operation and resistance against damage in case of insufficient lubrication



## New, easy-to-maintain strainer

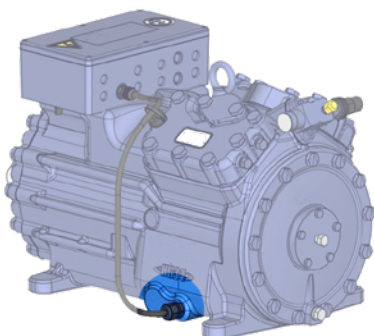


- New, easy-to-remove oil strainer for easier maintenance and increased availability

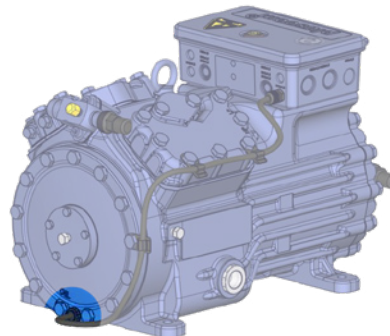


- Former version

## Optimized fastening of oil sump heater

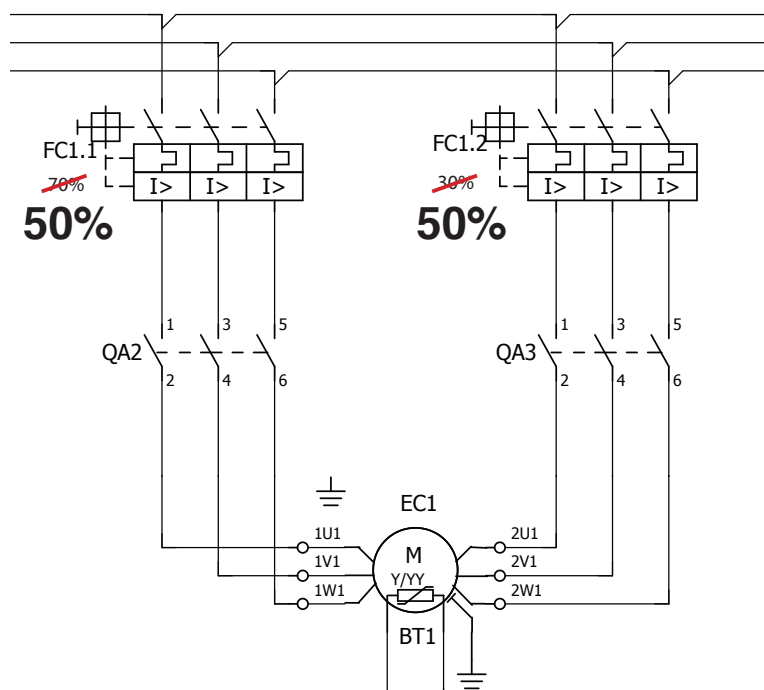


- New, optimized fastening of oil sump heater



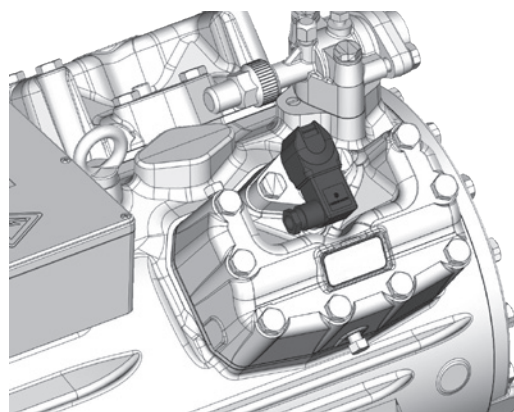
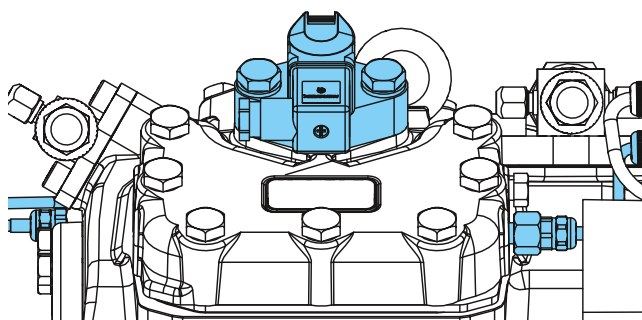
- Former version

## 50 / 50 winding sectioning



- HG44e, HG56e, HG66e & HG88e  
state-of-the-art 50/50 performance

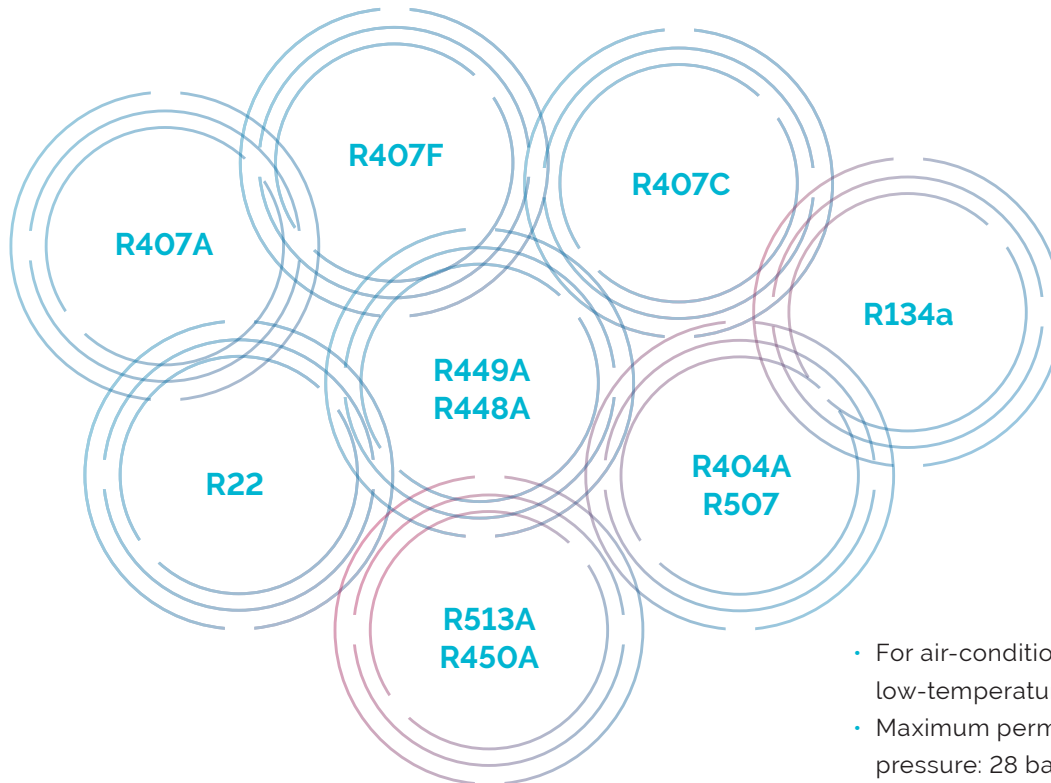
## Digital Capacity Regulator DCR14 (HG34e / HG44e / HG56e / HA34e / HA44e)



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

# Unique features and advantages

One compressor design for all standard refrigerants

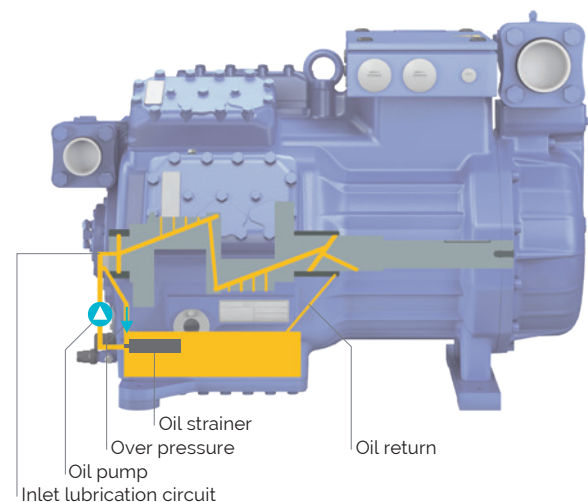


- For air-conditioning, medium and low-temperature application
- Maximum permissible operating pressure: 28 bar

Safe, reliable oil supply

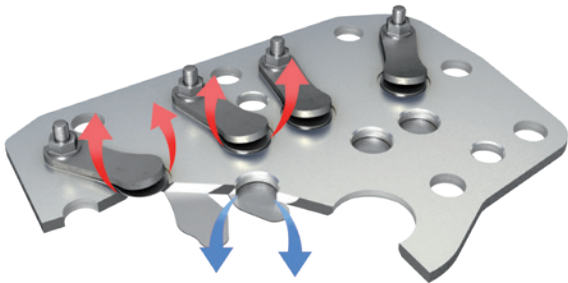


- All compressors with a conventional single circuit lubricating system
- All compressors with oil pump lubrication independent of direction of rotation
- Minimized oil carryover
- Service-friendly oil strainer



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

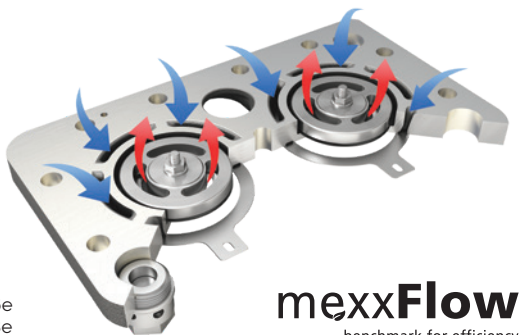
### Standard valve plate design



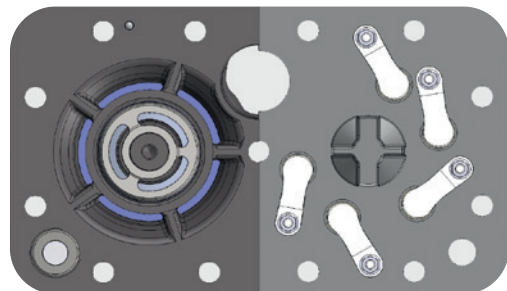
HG12P-56e

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

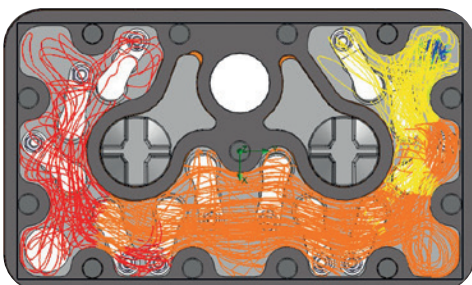
### Valve plate innovation: mexxFlow®, only from BOCK



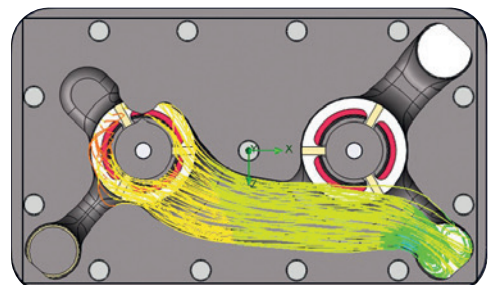
HG66e  
HG88e



mexxFlow® vs. previous design



Previous cylinder cover – high pressure drops and turbulences

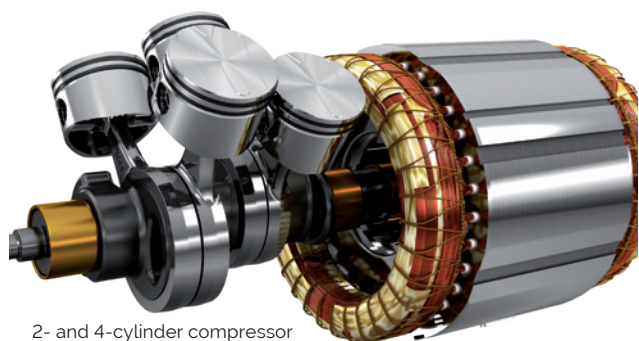


mexxFlow® – reduced pressure drops and improved gas flow

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

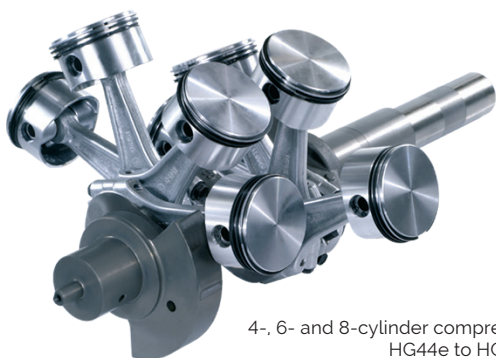


## Wear-resistant durable driving gear



2- and 4-cylinder compressor  
HG12P to HG34e

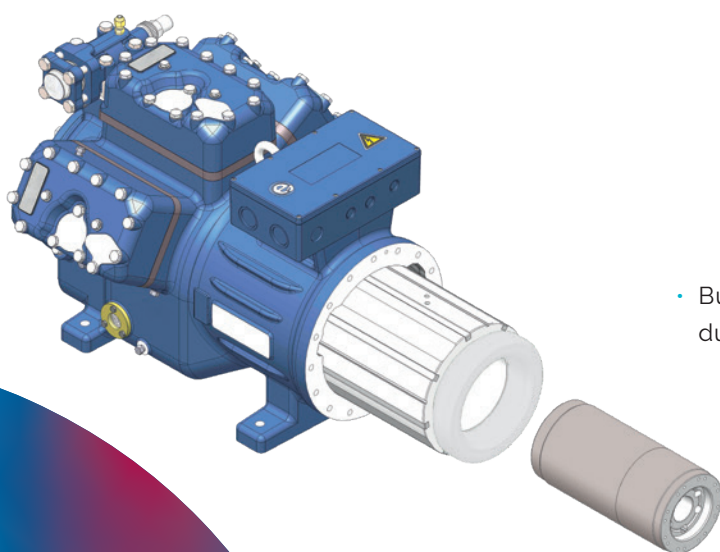
- Solid design of eccentric shaft
- High durability due to low-friction sleeve bearings
- Low oil carryover due to aluminum pistons with double ring assembly



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

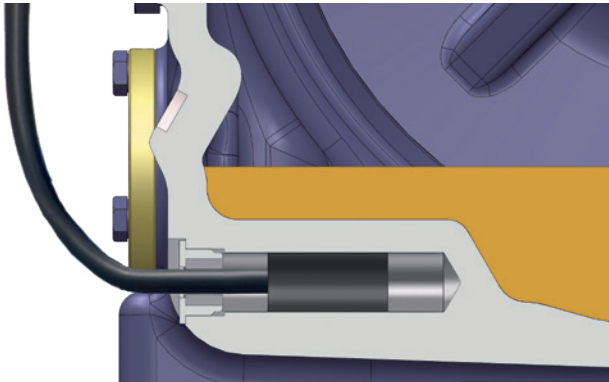
- Solid design of crankshaft
- High durability due to low-friction sleeve bearings
- Aluminum pistons with triple ring assembly, hard-chromium-plated sealing ring, HG44e and HG56e with double ring assembly
- Aluminum connecting rod with high-resistance piston bolt bearings, for HG44e and upwards
- Heavy-duty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

## Service-friendly design

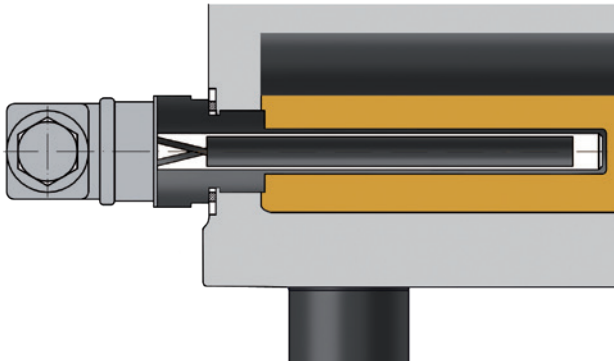


- Built-in motor, easy to replace due to slide fit (not press fit)

## Oil sump heater

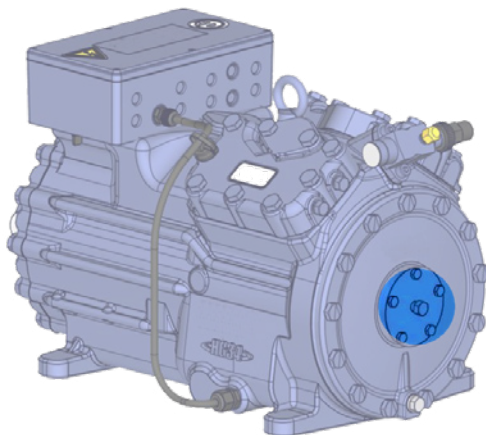


- PTC heater, self-regulating for HG12P up to HG34e
- Constant power for HG44e up to HG66e



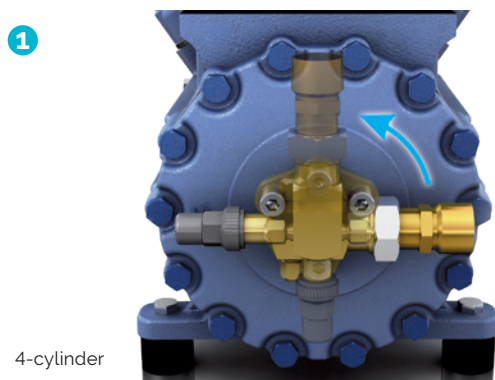
- Standard in 8-cylinder compressors HG88e

## Connection plug for oil monitoring with oil pressure safety switch MP55



- For HG12P up to HG34e compressors

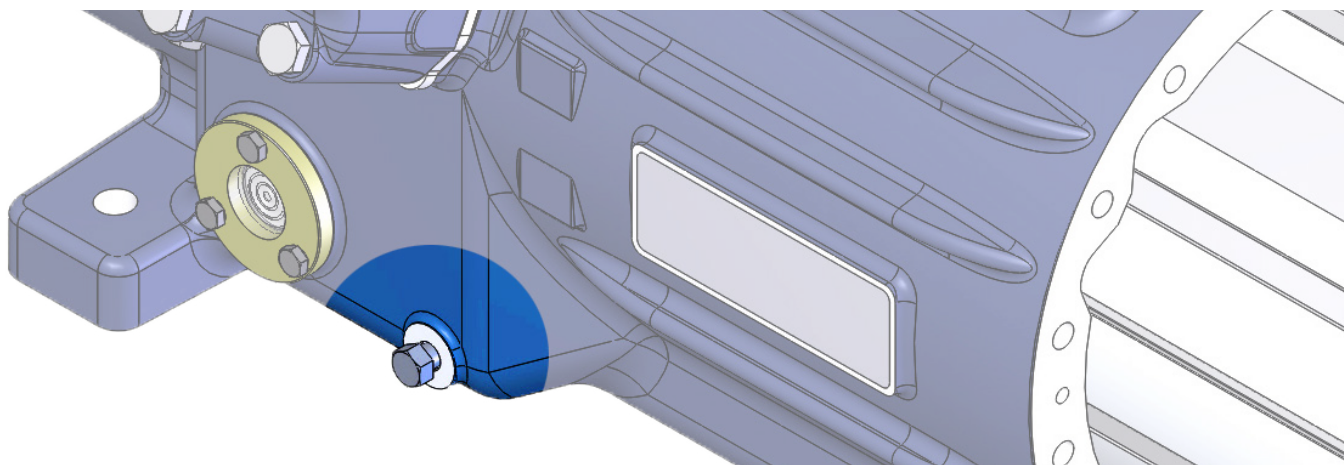
## Variable suction line valve position HG



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

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

## Connection facility oil temperature sensor



- Available for HG44e – HG88e

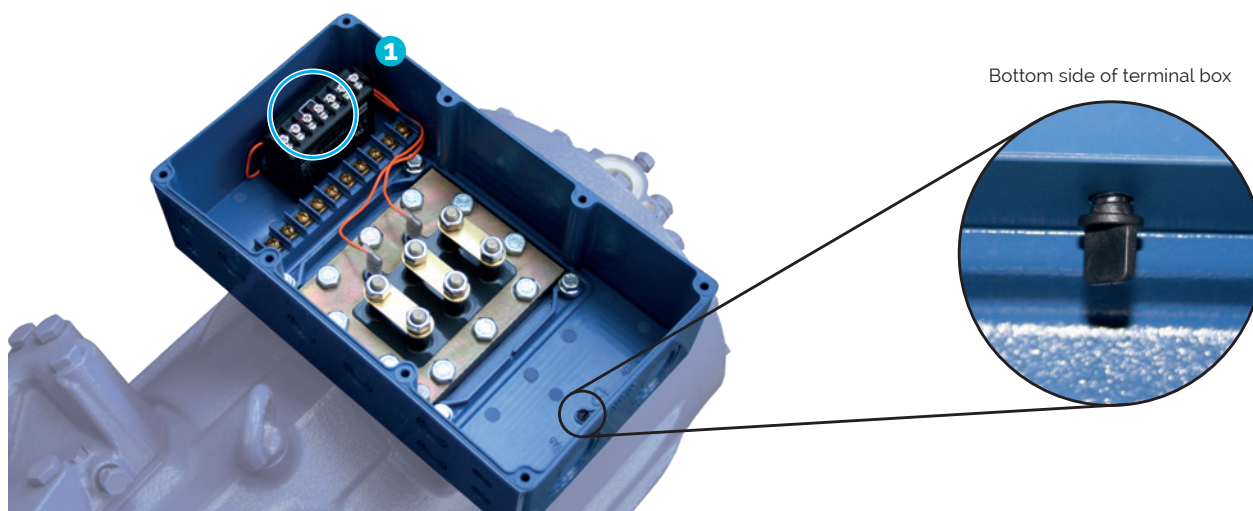
## Electronic motor protection INT69 G



Temperature safety drive for the drive motor

- The INT69 G also provides the usual functions, such as:
- Motor temperature monitoring
- Hot gas temperature monitoring
- Reconnection preventing device
- Reset function
- **1** PTC sensors
- Connection of up to nine PTC sensors possible

## State-of-the-art terminal box



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





# Bock HG semi-hermetic compressors

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- 68** INT69 G Motor Protection

## Bock HG12P – HG88e



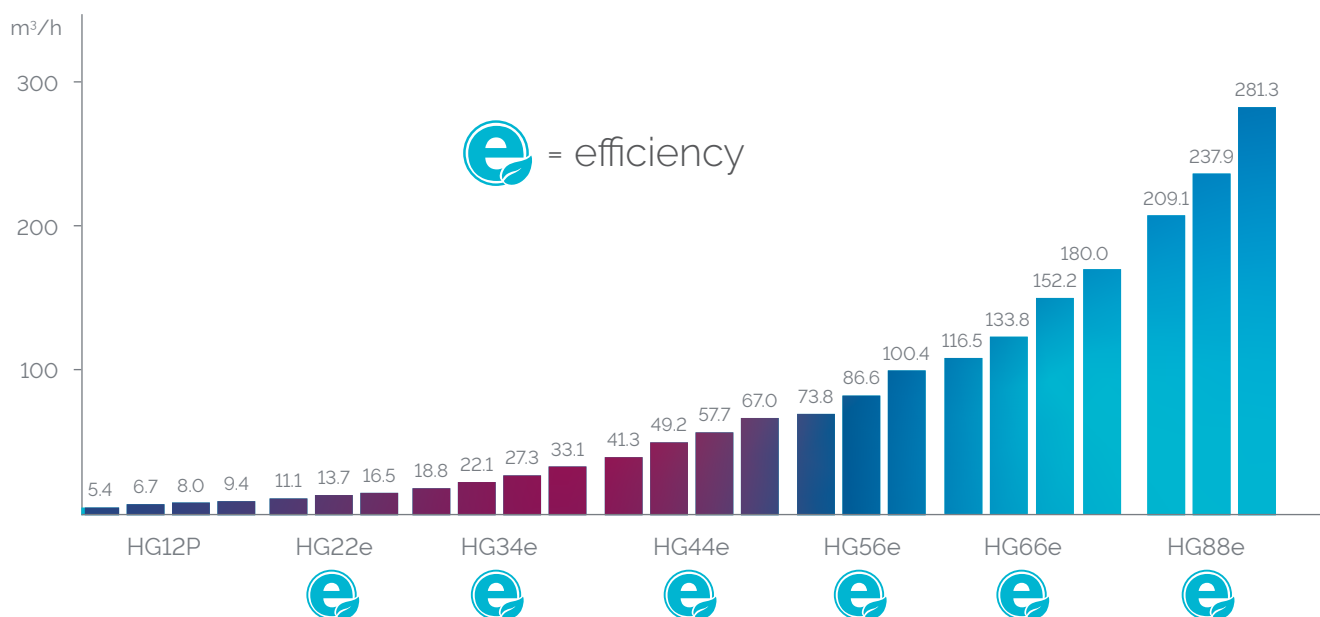
# Bock HG

## semi-hermetic compressors

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

### HG Single-Stage

7 model sizes with 25 capacity stages from 5.4 to 281.3 m<sup>3</sup>/h (50 Hz)

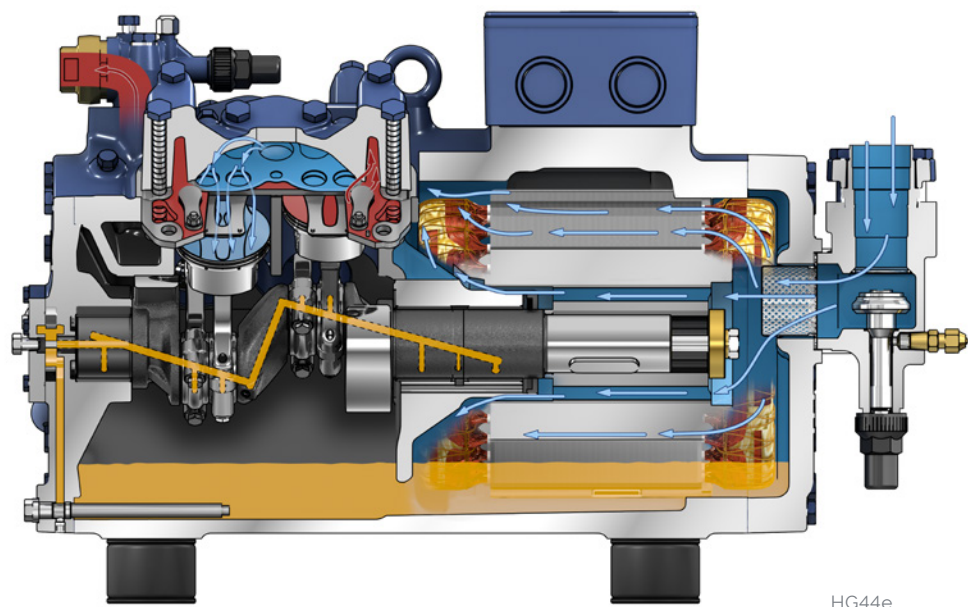


# HG semi-hermetic compressors

## At a glance

### Special features:

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



### Type key

**HGX66e / 2070 - 4S**

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

<sup>1)</sup> HG = Hermetic Gas-cooled (suction gas-cooled)

<sup>2)</sup> X = Ester oil filling (HFC refrigerants e.g. R134a, R404A, R448A, R449A)

<sup>3)</sup> = Additional declaration for e-series compressors

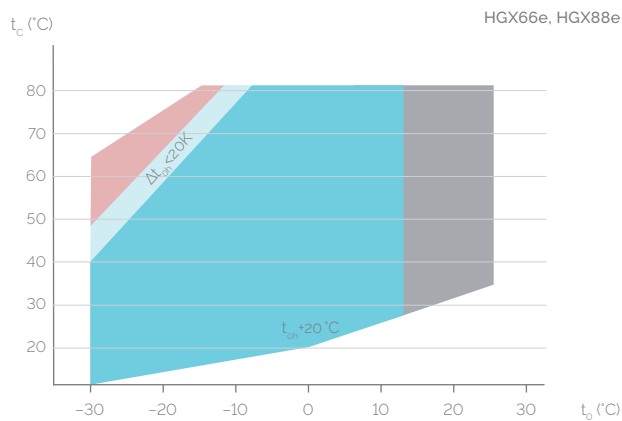
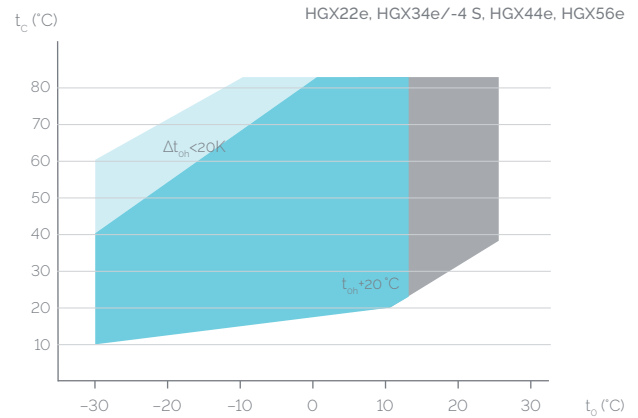
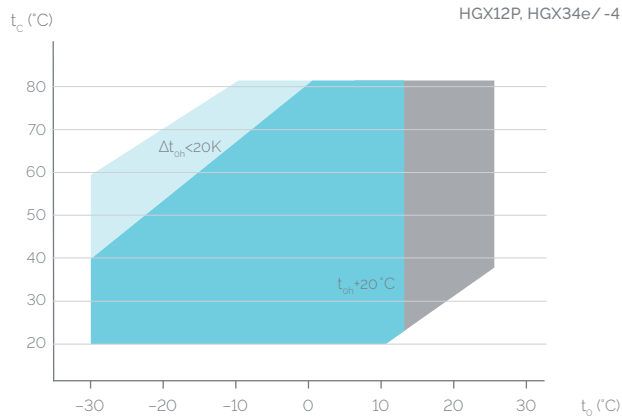
<sup>4)</sup> S = More powerful motor e.g. air-conditioning applications



# HG semi-hermetic compressors

## Operating limits

### R134a



- $t_o$  Evaporating temperature (°C)
- $t_c$  Condensing temperature (°C)
- $\Delta t_{oh}$  Suction gas superheat (K)
- $t_{oh}$  Suction gas temperature (°C)

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

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

<sup>1)</sup> LP = low pressure, HP = high pressure

## Notes

### Operating limits

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

Restrictions to operating limits may occur when using a frequency converter. For further explanations consult [www.bock.de](http://www.bock.de)

### Performance data

The performance data for R134a are based on European Standard EN 12900 50 Hz power supply frequency.

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

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

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

Conversion factor for 60 Hz = 1.2

Performance data for other operating points, see BOCK VAP software ([vap.bock.de](http://vap.bock.de)).

ASERCOM certified performance data



For compressors with this label, the performance data are certified according to the strict requirements of ASERCOM.

ASERCOM is the Association of European Refrigeration Compressors and Controls Manufacturers. Information about the Association and the constantly updated overview of certified BOCK compressors can be found at [www.asercom.org](http://www.asercom.org) and [www.bock.de](http://www.bock.de).

# HG semi-hermetic compressors

## Performance data

### R134a | 50 Hz

| Type              |    |      | Cooling capacity $\dot{Q}_0$ [kW] |       |       |       |       |       |       | Power consumption $P_e$ [kW] |       |       |       |
|-------------------|----|------|-----------------------------------|-------|-------|-------|-------|-------|-------|------------------------------|-------|-------|-------|
|                   |    |      | Evaporating temperature °C        |       |       |       |       |       |       |                              |       |       |       |
|                   |    |      |                                   |       |       |       |       |       |       |                              |       |       |       |
| Cond.<br>temp. °C |    | 12.5 | 10                                | 7.5   | 5     | 0     | -5    | -10   | -15   | -20                          | -25   | -30   |       |
| HGX12P/60-4S      | 30 | Q    | 4920                              | 4490  | 4080  | 3700  | 3010  | 2420  | 1910  | 1480                         | 1130  | 836   | 605   |
|                   |    | P    | 0.703                             | 0.710 | 0.711 | 0.706 | 0.682 | 0.645 | 0.597 | 0.544                        | 0.491 | 0.443 | 0.403 |
|                   | 40 | Q    | 4260                              | 3880  | 3520  | 3190  | 2590  | 2070  | 1630  | 1250                         | 932   | 670   | 456   |
|                   |    | P    | 0.851                             | 0.843 | 0.830 | 0.813 | 0.768 | 0.713 | 0.653 | 0.592                        | 0.535 | 0.487 | 0.453 |
|                   | 50 | Q    | 3630                              | 3300  | 2990  | 2700  | 2190  | 1740  | 1350  | 1030                         | 742   | 505   | 302   |
|                   |    | P    | 0.991                             | 0.968 | 0.942 | 0.912 | 0.846 | 0.774 | 0.701 | 0.631                        | 0.571 | 0.523 | 0.494 |
| HGX12P/75-4       | 60 | Q    | 3020                              | 2740  | 2480  | 2240  | 1800  | 1420  | 1100  | 806                          | 558   | 341   | 146   |
|                   |    | P    | 1.11                              | 1.08  | 1.04  | 0.999 | 0.910 | 0.821 | 0.735 | 0.657                        | 0.593 | 0.546 | 0.521 |
|                   | 70 | Q    | 2450                              | 2220  | 2010  | 1810  | 1450  | 1130  | 847   | 602                          | 381   | -     | -     |
|                   |    | P    | 1.22                              | 1.17  | 1.12  | 1.06  | 0.956 | 0.849 | 0.750 | 0.664                        | 0.595 | -     | -     |
|                   | 30 | Q    | 6150                              | 5610  | 5100  | 4620  | 3760  | 3020  | 2390  | 1850                         | 1410  | 1050  | 756   |
|                   |    | P    | 0.879                             | 0.887 | 0.888 | 0.882 | 0.853 | 0.805 | 0.746 | 0.680                        | 0.614 | 0.553 | 0.503 |
| HGX12P/90-4       | 40 | Q    | 5320                              | 4850  | 4400  | 3980  | 3230  | 2590  | 2030  | 1560                         | 1170  | 837   | 569   |
|                   |    | P    | 1.06                              | 1.05  | 1.03  | 1.01  | 0.959 | 0.891 | 0.815 | 0.739                        | 0.668 | 0.609 | 0.565 |
|                   | 50 | Q    | 4530                              | 4120  | 3730  | 3380  | 2730  | 2170  | 1690  | 1280                         | 927   | 630   | 377   |
|                   |    | P    | 1.23                              | 1.21  | 1.17  | 1.14  | 1.05  | 0.967 | 0.875 | 0.789                        | 0.713 | 0.654 | 0.617 |
|                   | 60 | Q    | 3780                              | 3430  | 3100  | 2800  | 2250  | 1780  | 1370  | 1010                         | 697   | 425   | 182   |
|                   |    | P    | 1.39                              | 1.35  | 1.30  | 1.24  | 1.13  | 1.02  | 0.918 | 0.821                        | 0.741 | 0.682 | 0.651 |
| HGX12P/110-4      | 70 | Q    | 3070                              | 2780  | 2510  | 2260  | 1800  | 1410  | 1060  | 751                          | 476   | -     | -     |
|                   |    | P    | 1.53                              | 1.46  | 1.40  | 1.33  | 1.19  | 1.06  | 0.937 | 0.829                        | 0.743 | -     | -     |
|                   | 30 | Q    | 7300                              | 6670  | 6070  | 5520  | 4510  | 3630  | 2870  | 2230                         | 1700  | 1260  | 912   |
|                   |    | P    | 1.08                              | 1.10  | 1.12  | 1.12  | 1.10  | 1.06  | 0.997 | 0.915                        | 0.826 | 0.735 | 0.649 |
|                   | 40 | Q    | 6380                              | 5820  | 5290  | 4790  | 3890  | 3110  | 2440  | 1880                         | 1410  | 1020  | 708   |
|                   |    | P    | 1.33                              | 1.33  | 1.32  | 1.30  | 1.24  | 1.16  | 1.06  | 0.955                        | 0.846 | 0.742 | 0.649 |
| HGX12P/125-4      | 50 | Q    | 5490                              | 4990  | 4520  | 4080  | 3290  | 2610  | 2030  | 1540                         | 1130  | 793   | 522   |
|                   |    | P    | 1.59                              | 1.56  | 1.53  | 1.48  | 1.38  | 1.26  | 1.14  | 1.01                         | 0.885 | 0.770 | 0.672 |
|                   | 60 | Q    | 4620                              | 4180  | 3780  | 3400  | 2720  | 2140  | 1640  | 1230                         | 876   | 592   | 359   |
|                   |    | P    | 1.82                              | 1.77  | 1.71  | 1.65  | 1.51  | 1.35  | 1.20  | 1.05                         | 0.914 | 0.790 | 0.690 |
|                   | 70 | Q    | 3780                              | 3410  | 3060  | 2750  | 2180  | 1690  | 1280  | 937                          | 653   | -     | -     |
|                   |    | P    | 2.00                              | 1.93  | 1.84  | 1.76  | 1.58  | 1.40  | 1.22  | 1.05                         | 0.903 | -     | -     |
| HGX12P/160-4      | 30 | Q    | 8620                              | 7860  | 7150  | 6480  | 5280  | 4240  | 3350  | 2600                         | 1980  | 1470  | 1060  |
|                   |    | P    | 1.23                              | 1.24  | 1.24  | 1.23  | 1.19  | 1.13  | 1.04  | 0.954                        | 0.861 | 0.776 | 0.706 |
|                   | 40 | Q    | 7460                              | 6790  | 6170  | 5580  | 4530  | 3620  | 2850  | 2190                         | 1640  | 1180  | 798   |
|                   |    | P    | 1.49                              | 1.47  | 1.45  | 1.42  | 1.34  | 1.24  | 1.14  | 1.03                         | 0.938 | 0.854 | 0.793 |
|                   | 50 | Q    | 6350                              | 5770  | 5230  | 4730  | 3830  | 3040  | 2370  | 1790                         | 1300  | 884   | 529   |
|                   |    | P    | 1.73                              | 1.69  | 1.65  | 1.59  | 1.48  | 1.35  | 1.22  | 1.10                         | 1.00  | 0.917 | 0.866 |
| HGX22e/125-4      | 60 | Q    | 5290                              | 4800  | 4350  | 3920  | 3160  | 2490  | 1920  | 1420                         | 978   | 596   | 255   |
|                   |    | P    | 1.96                              | 1.89  | 1.82  | 1.75  | 1.59  | 1.43  | 1.28  | 1.15                         | 1.03  | 0.957 | 0.914 |
|                   | 70 | Q    | 4300                              | 3890  | 3520  | 3160  | 2530  | 1970  | 1490  | 1060                         | 668   | -     | -     |
|                   |    | P    | 2.15                              | 2.05  | 1.96  | 1.86  | 1.67  | 1.48  | 1.31  | 1.16                         | 1.04  | -     | -     |
|                   | 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 |
| HGX22e/160-4      | 40 | Q    | 8990                              | 8200  | 7450  | 6740  | 5440  | 4300  | 3310  | 2480                         | 1790  | 1260  | 860   |
|                   |    | P    | 1.69                              | 1.70  | 1.69  | 1.67  | 1.59  | 1.48  | 1.35  | 1.20                         | 1.05  | 0.903 | 0.769 |
|                   | 50 | Q    | 7800                              | 7090  | 6420  | 5780  | 4630  | 3620  | 2750  | 2020                         | 1440  | 978   | 657   |
|                   |    | P    | 2.02                              | 1.98  | 1.94  | 1.88  | 1.75  | 1.59  | 1.41  | 1.24                         | 1.06  | 0.908 | 0.773 |
|                   | 60 | Q    | 6570                              | 5950  | 5360  | 4810  | 3810  | 2940  | 2200  | 1590                         | 1110  | 744   | 504   |
|                   |    | P    | 2.27                              | 2.21  | 2.13  | 2.04  | 1.86  | 1.66  | 1.45  | 1.25                         | 1.07  | 0.909 | 0.783 |
| HGX22e/190-4      | 70 | Q    | 5330                              | 4800  | 4310  | 3840  | 3000  | 2280  | 1690  | 1200                         | 829   | -     | -     |
|                   |    | P    | 2.48                              | 2.38  | 2.27  | 2.16  | 1.93  | 1.70  | 1.47  | 1.25                         | 1.06  | -     | -     |
|                   | 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 |
| HGX22e/250-4      | 50 | Q    | 9640                              | 8760  | 7930  | 7170  | 5780  | 4580  | 3560  | 2680                         | 1940  | 1310  | 783   |
|                   |    | P    | 2.46                              | 2.41  | 2.36  | 2.29  | 2.15  | 1.99  | 1.80  | 1.60                         | 1.38  | 1.14  | 0.884 |
|                   | 60 | Q    | 8230                              | 7460  | 6730  | 6060  | 4840  | 3790  | 2880  | 2100                         | 1430  | 844   | 335   |
|                   |    | P    | 2.80                              | 2.72  | 2.63  | 2.54  | 2.33  | 2.11  | 1.87  | 1.61                         | 1.34  | 1.04  | 0.744 |
|                   | 70 | Q    | 6880                              | 6210  | 5580  | 4990  | 3930  | 3000  | 2190  | 1490                         | 862   | -     | -     |
|                   |    | P    | 3.09                              | 2.97  | 2.85  | 2.72  | 2.45  | 2.17  | 1.87  | 1.56                         | 1.23  | -     | -     |
| HGX22e/315-4      | 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/355-4      | 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 temperature

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# HG semi-hermetic compressors

## Performance data

### R134a | 50 Hz

| Type                        |    |      | Cooling capacity Q <sub>0</sub> [kW] |       |       |       |       |       |       | Power consumption P <sub>e</sub> [kW] |       |      |      |
|-----------------------------|----|------|--------------------------------------|-------|-------|-------|-------|-------|-------|---------------------------------------|-------|------|------|
|                             |    |      | Evaporating temperature °C           |       |       |       |       |       |       |                                       |       |      |      |
|                             |    |      |                                      |       |       |       |       |       |       |                                       |       |      |      |
| Cond.<br>temp. °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 |
| HGX34e/255-4 <sup>1)</sup>  | 30 | 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 |
|                             | 40 | 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  | -    | -    |
|                             | 50 | 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 |
| HGX34e/315-4 <sup>1)</sup>  | 30 | 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 |
|                             | 40 | 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 |
|                             | 50 | 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 |
| HGX34e/380-4 <sup>1)</sup>  | 30 | 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  | -    | -    |
|                             | 40 | 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 |
|                             | 50 | 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 |
| HGX34e/475-4                | 30 | 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 |
|                             | 40 | 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 |
|                             | 50 | 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/565-4                | 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 |
| HGX34e/665-4 <sup>1)</sup>  | 30 | 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 |
|                             | 40 | 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  | -    | -    |
|                             | 50 | Q    | 39200                                | 35700 | 32500 | 29500 | 24100 | 19400 | 15400 | 12100                                 | 9190  | 6850 | 4920 |
|                             |    | P    | 4.71                                 | 4.75  | 4.76  | 4.74  | 4.62  | 4.41  | 4.13  | 3.79                                  | 3.42  | 3.03 | 2.63 |
| HGX44e/745-4                | 30 | Q    | 34500                                | 31400 | 28600 | 25900 | 21100 | 16900 | 13400 | 10400                                 | 7790  | 5670 | 3890 |
|                             |    | P    | 5.95                                 | 5.90  | 5.82  | 5.71  | 5.43  | 5.07  | 4.65  | 4.19                                  | 3.70  | 3.20 | 2.72 |
|                             | 40 | Q    | 29900                                | 27200 | 24700 | 22300 | 18100 | 14400 | 11300 | 8660                                  | 6430  | 4520 | 2880 |
|                             |    | P    | 7.12                                 | 6.97  | 6.80  | 6.61  | 6.16  | 5.64  | 5.08  | 4.49                                  | 3.88  | 3.27 | 2.69 |
|                             | 50 | Q    | 25400                                | 23000 | 20800 | 18800 | 15100 | 12000 | 9280  | 7000                                  | 5040  | 3340 | 1840 |
|                             |    | P    | 8.16                                 | 7.91  | 7.65  | 7.36  | 6.74  | 6.06  | 5.35  | 4.62                                  | 3.89  | 3.17 | 2.49 |
| HGX44e/845-4                | 30 | Q    | 20800                                | 18800 | 16900 | 15200 | 12100 | 9450  | 7210  | 5280                                  | 3600  | -    | -    |
|                             |    | P    | 8.99                                 | 8.65  | 8.28  | 7.90  | 7.10  | 6.26  | 5.40  | 4.52                                  | 3.66  | -    | -    |
|                             | 40 | Q    | 46600                                | 42600 | 38700 | 35200 | 28800 | 23200 | 18500 | 14500                                 | 11100 | 8310 | 6010 |
|                             |    | P    | 5.58                                 | 5.62  | 5.64  | 5.61  | 5.47  | 5.22  | 4.88  | 4.48                                  | 4.03  | 3.56 | 3.09 |
|                             | 50 | Q    | 41100                                | 37500 | 34100 | 30900 | 25200 | 20300 | 16100 | 12500                                 | 9480  | 6950 | 4820 |
|                             |    | P    | 7.07                                 | 7.01  | 6.91  | 6.79  | 6.45  | 6.01  | 5.51  | 4.95                                  | 4.37  | 3.78 | 3.19 |
| HGX44e/945-4                | 30 | Q    | 35700                                | 32500 | 29500 | 26700 | 21700 | 17400 | 13700 | 10600                                 | 7890  | 5610 | 3640 |
|                             |    | P    | 8.49                                 | 8.31  | 8.10  | 7.87  | 7.33  | 6.71  | 6.03  | 5.31                                  | 4.58  | 3.86 | 3.17 |
|                             | 40 | Q    | 30400                                | 27600 | 25000 | 22600 | 18200 | 14500 | 11400 | 8620                                  | 6280  | 4240 | 2410 |
|                             |    | P    | 9.75                                 | 9.45  | 9.13  | 8.78  | 8.03  | 7.21  | 6.35  | 5.47                                  | 4.59  | 3.74 | 2.92 |
|                             | 50 | Q    | 25000                                | 22600 | 20400 | 18400 | 14700 | 11600 | 8910  | 6610                                  | 4590  | -    | -    |
|                             |    | P    | 10.7                                 | 10.3  | 9.90  | 9.44  | 8.47  | 7.45  | 6.41  | 5.36                                  | 4.32  | -    | -    |
| HGX44e/1045-4 <sup>1)</sup> | 30 | Q    | 55700                                | 50900 | 46400 | 42100 | 34400 | 27700 | 21900 | 17000                                 | 12900 | 9520 | 6880 |
|                             |    | P    | 6.61                                 | 6.71  | 6.76  | 6.76  | 6.62  | 6.33  | 5.92  | 5.40                                  | 4.82  | 4.20 | 3.57 |
|                             | 40 | Q    | 49200                                | 44900 | 40800 | 37000 | 30100 | 24100 | 18900 | 14600                                 | 10900 | 7930 | 5580 |
|                             |    | P    | 8.52                                 | 8.45  | 8.34  | 8.18  | 7.76  | 7.21  | 6.57  | 5.86                                  | 5.11  | 4.35 | 3.61 |
|                             | 50 | Q    | 42600                                | 38800 | 35200 | 31800 | 25700 | 20400 | 15900 | 12100                                 | 8940  | 6360 | 4310 |
|                             |    | P    | 10.2                                 | 10.0  | 9.73  | 9.42  | 8.72  | 7.92  | 7.06  | 6.16                                  | 5.26  | 4.37 | 3.54 |
| HGX44e/1145-4 <sup>1)</sup> | 30 | Q    | 36000                                | 32700 | 29500 | 26600 | 21300 | 16800 | 13000 | 9700                                  | 7030  | 4850 | 3110 |
|                             |    | P    | 11.6                                 | 11.3  | 10.8  | 10.4  | 9.45  | 8.42  | 7.35  | 6.27                                  | 5.22  | 4.22 | 3.30 |
|                             | 40 | Q    | 29400                                | 26500 | 23900 | 21400 | 17000 | 13200 | 10100 | 7380                                  | 5200  | -    | -    |
|                             |    | P    | 12.8                                 | 12.3  | 11.7  | 11.1  | 9.90  | 8.64  | 7.38  | 6.14                                  | 4.95  | -    | -    |

Relating to 20 °C suction gas temperature without liquid subcooling

Supplementary cooling or reduced suction gas temperature

<sup>1)</sup> ASERCOM certified

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# HG semi-hermetic compressors

## Performance data

### R134a | 50 Hz

| Type          |    | Cooling capacity $\dot{Q}_0$ [kW] |        |        |        |        |       |       |       |       |       | Power consumption $P_e$ [kW] |       |
|---------------|----|-----------------------------------|--------|--------|--------|--------|-------|-------|-------|-------|-------|------------------------------|-------|
|               |    | Evaporating temperature °C        |        |        |        |        |       |       |       |       |       |                              |       |
|               |    | Cond. temp. °C                    | 12.5   | 10     | 7.5    | 5      | 0     | -5    | -10   | -15   | -20   | -25                          | -30   |
| HGX44e/770-4  | 30 | Q                                 | 63600  | 58000  | 52800  | 47900  | 39100 | 31600 | 25100 | 19700 | 15100 | 11300                        | 8100  |
|               |    | P                                 | 7.62   | 7.68   | 7.70   | 7.67   | 7.48  | 7.14  | 6.69  | 6.14  | 5.54  | 4.90                         | 4.25  |
|               | 40 | Q                                 | 56000  | 51100  | 46400  | 42100  | 34200 | 27500 | 21800 | 16900 | 12800 | 9360                         | 6460  |
|               |    | P                                 | 9.63   | 9.54   | 9.42   | 9.24   | 8.79  | 8.21  | 7.53  | 6.78  | 5.99  | 5.19                         | 4.40  |
|               | 50 | Q                                 | 48700  | 44200  | 40100  | 36300  | 29500 | 23600 | 18600 | 14300 | 10700 | 7510                         | 4830  |
|               |    | P                                 | 11.5   | 11.2   | 11.0   | 10.7   | 9.97  | 9.14  | 8.23  | 7.26  | 6.28  | 5.30                         | 4.35  |
| HHGX56e/850-4 | 30 | Q                                 | 41300  | 37500  | 33900  | 30600  | 24700 | 19600 | 15300 | 11600 | 8390  | 5630                         | 3160  |
|               |    | P                                 | 13.2   | 12.8   | 12.3   | 11.9   | 10.9  | 9.82  | 8.66  | 7.48  | 6.29  | 5.13                         | 4.02  |
|               | 40 | Q                                 | 34000  | 30700  | 27700  | 24900  | 19900 | 15600 | 12000 | 8810  | 6070  | -                            | -     |
|               |    | P                                 | 14.5   | 13.9   | 13.4   | 12.7   | 11.5  | 10.1  | 8.74  | 7.32  | 5.93  | -                            | -     |
|               | 50 | Q                                 | 71500  | 65200  | 59400  | 53900  | 43900 | 35300 | 28000 | 21700 | 16500 | 12300                        | 8870  |
|               |    | P                                 | 8.74   | 8.80   | 8.79   | 8.74   | 8.49  | 8.08  | 7.52  | 6.86  | 6.11  | 5.30                         | 4.45  |
| HGX56e/995-4  | 30 | Q                                 | 62900  | 57400  | 52200  | 47300  | 38500 | 30900 | 24300 | 18800 | 14200 | 10400                        | 7330  |
|               |    | P                                 | 11.1   | 10.9   | 10.8   | 10.5   | 9.99  | 9.27  | 8.43  | 7.50  | 6.51  | 5.48                         | 4.45  |
|               | 40 | Q                                 | 54500  | 49600  | 45000  | 40700  | 33000 | 26400 | 20700 | 15900 | 11900 | 8470                         | 5720  |
|               |    | P                                 | 13.2   | 12.9   | 12.5   | 12.1   | 11.2  | 10.2  | 9.11  | 7.93  | 6.71  | 5.47                         | 4.26  |
|               | 50 | Q                                 | 46000  | 41800  | 37900  | 34200  | 27600 | 21900 | 17100 | 13000 | 9440  | 6520                         | 4060  |
|               |    | P                                 | 15.1   | 14.6   | 14.1   | 13.5   | 12.3  | 10.9  | 9.57  | 8.13  | 6.68  | 5.24                         | 3.85  |
| HGX56e/1155-4 | 30 | Q                                 | 37600  | 34100  | 30800  | 27700  | 22200 | 17500 | 13400 | 9960  | 7050  | -                            | -     |
|               |    | P                                 | 16.7   | 16.0   | 15.3   | 14.6   | 13.0  | 11.4  | 9.77  | 8.09  | 6.41  | -                            | -     |
|               | 40 | Q                                 | 82900  | 75700  | 68900  | 62500  | 51000 | 41000 | 32400 | 25100 | 19000 | 14000                        | 10100 |
|               |    | P                                 | 10.1   | 10.1   | 10.1   | 10.1   | 9.81  | 9.29  | 8.62  | 7.81  | 6.92  | 5.98                         | 5.03  |
|               | 50 | Q                                 | 73100  | 66600  | 60600  | 54900  | 44700 | 35800 | 28100 | 21600 | 16200 | 11700                        | 8050  |
|               |    | P                                 | 12.7   | 12.6   | 12.4   | 12.1   | 11.4  | 10.6  | 9.60  | 8.51  | 7.36  | 6.20                         | 5.05  |
| HGX56e/1340-4 | 30 | Q                                 | 63200  | 57600  | 52300  | 47300  | 38300 | 30500 | 23900 | 18100 | 13300 | 9260                         | 5930  |
|               |    | P                                 | 15.2   | 14.8   | 14.4   | 13.9   | 12.9  | 11.6  | 10.3  | 8.98  | 7.58  | 6.19                         | 4.85  |
|               | 40 | Q                                 | 53300  | 48500  | 43900  | 39700  | 32000 | 25300 | 19500 | 14600 | 10400 | 6770                         | 3720  |
|               |    | P                                 | 17.4   | 16.8   | 16.1   | 15.5   | 14.0  | 12.4  | 10.8  | 9.16  | 7.49  | 5.88                         | 4.35  |
|               | 50 | Q                                 | 43500  | 39400  | 35600  | 32000  | 25600 | 20000 | 15200 | 11000 | 7380  | -                            | -     |
|               |    | P                                 | 19.1   | 18.3   | 17.5   | 16.6   | 14.7  | 12.8  | 10.9  | 8.94  | 7.02  | -                            | -     |
| HGX66e/1540-4 | 30 | Q                                 | 94600  | 86200  | 78400  | 71100  | 57800 | 46400 | 36600 | 28400 | 21600 | 16000                        | 11700 |
|               |    | P                                 | 13.0   | 12.9   | 12.8   | 12.6   | 12.0  | 11.2  | 10.3  | 9.31  | 8.24  | 7.16                         | 6.12  |
|               | 40 | Q                                 | 83600  | 76200  | 69200  | 62600  | 50800 | 40700 | 32000 | 24700 | 18600 | 13600                        | 9550  |
|               |    | P                                 | 15.9   | 15.6   | 15.3   | 14.9   | 13.9  | 12.8  | 11.5  | 10.2  | 8.85  | 7.51                         | 6.24  |
|               | 50 | Q                                 | 72600  | 66000  | 59900  | 54100  | 43800 | 34900 | 27300 | 20800 | 15500 | 11000                        | 7340  |
|               |    | P                                 | 18.7   | 18.2   | 17.6   | 17.0   | 15.6  | 14.1  | 12.5  | 10.8  | 9.21  | 7.60                         | 6.08  |
| HGX66e/1750-4 | 30 | Q                                 | 61500  | 55800  | 50500  | 45500  | 36700 | 29000 | 22500 | 17000 | 12300 | 8370                         | 5090  |
|               |    | P                                 | 21.3   | 20.5   | 19.7   | 18.9   | 17.1  | 15.1  | 13.2  | 11.1  | 9.20  | 7.29                         | 5.50  |
|               | 40 | Q                                 | 50400  | 45600  | 41100  | 37000  | 29500 | 23200 | 17700 | 13100 | 9130  | -                            | -     |
|               |    | P                                 | 23.5   | 22.5   | 21.4   | 20.3   | 18.1  | 15.7  | 13.3  | 11.0  | 8.69  | -                            | -     |
|               | 50 | Q                                 | 109000 | 99700  | 91100  | 82900  | 68000 | 54900 | 43600 | 33900 | 25800 | 19100                        | 13800 |
|               |    | P                                 | 14.0   | 14.2   | 14.2   | 14.1   | 13.6  | 12.9  | 12.0  | 10.8  | 9.66  | 8.40                         | 7.16  |
| HGX66e/1340-4 | 30 | Q                                 | 97000  | 88700  | 80800  | 73400  | 59900 | 48000 | 37800 | 29100 | 21800 | 15800                        | 11100 |
|               |    | P                                 | 17.7   | 17.5   | 17.2   | 16.8   | 15.8  | 14.5  | 13.1  | 11.6  | 10.1  | 8.65                         | 7.22  |
|               | 40 | Q                                 | 84400  | 76900  | 69900  | 63300  | 51300 | 40800 | 31800 | 24200 | 17900 | 12700                        | -     |
|               |    | P                                 | 20.9   | 20.4   | 19.7   | 19.0   | 17.5  | 15.8  | 14.0  | 12.1  | 10.3  | 8.62                         | -     |
|               | 50 | Q                                 | 71300  | 64800  | 58600  | 52900  | 42500 | 33500 | 25900 | 19500 | 14200 | -                            | -     |
|               |    | P                                 | 23.6   | 22.8   | 21.8   | 20.8   | 18.8  | 16.6  | 14.4  | 12.3  | 10.2  | -                            | -     |
| HGX66e/1540-4 | 30 | Q                                 | 57900  | 52400  | 47200  | 42400  | 33800 | 26400 | 20200 | 15100 | -     | -                            | -     |
|               |    | P                                 | 25.8   | 24.6   | 23.4   | 22.1   | 19.6  | 17.0  | 14.4  | 12.0  | -     | -                            | -     |
|               | 40 | Q                                 | 125000 | 115000 | 105000 | 95200  | 78200 | 63300 | 50400 | 39300 | 30000 | 22300                        | 16200 |
|               |    | P                                 | 16.1   | 16.2   | 16.3   | 16.2   | 15.7  | 14.9  | 13.8  | 12.5  | 11.1  | 9.74                         | 8.33  |
|               | 50 | Q                                 | 112000 | 102000 | 92900  | 84400  | 69000 | 55500 | 43900 | 33900 | 25500 | 18700                        | 13200 |
|               |    | P                                 | 20.4   | 20.2   | 19.8   | 19.4   | 18.2  | 16.8  | 15.2  | 13.5  | 11.8  | 10.1                         | 8.50  |
| HGX66e/1750-4 | 30 | Q                                 | 97000  | 88500  | 80500  | 73000  | 59300 | 47400 | 37100 | 28400 | 21100 | 15200                        | -     |
|               |    | P                                 | 24.2   | 23.6   | 22.9   | 22.1   | 20.3  | 18.3  | 16.3  | 14.2  | 12.1  | 10.2                         | -     |
|               | 40 | Q                                 | 82100  | 74700  | 67700  | 61200  | 49300 | 39100 | 30400 | 23000 | 16900 | -                            | -     |
|               |    | P                                 | 27.5   | 26.4   | 25.4   | 24.3   | 21.9  | 19.4  | 16.9  | 14.5  | 12.1  | -                            | -     |
|               | 50 | Q                                 | 66900  | 60600  | 54700  | 49200  | 39400 | 31000 | 23900 | 18100 | -     | -                            | -     |
|               |    | P                                 | 30.1   | 28.7   | 27.3   | 25.9   | 23.0  | 20.0  | 17.1  | 14.3  | -     | -                            | -     |
| HGX66e/1540-4 | 30 | Q                                 | 143000 | 131000 | 120000 | 109000 | 89400 | 72400 | 57600 | 44900 | 34300 | 25600                        | 18600 |
|               |    | P                                 | 18.4   | 18.6   | 18.6   | 18.5   | 17.9  | 17.0  | 15.8  | 14.4  | 12.8  | 11.2                         | 9.67  |
|               | 40 | Q                                 | 128000 | 117000 | 107000 | 96600  | 79000 | 63600 | 50200 | 38800 | 29300 | 21400                        | 15200 |
|               |    | P                                 | 23.3   | 23.0   | 22.6   | 22.1   | 20.8  | 19.2  | 17.5  | 15.5  | 13.6  | 11.7                         | 9.89  |
|               | 50 | Q                                 | 111000 | 102000 | 92200  | 83600  | 67900 | 54300 | 42500 | 32600 | 24200 | 17400                        | -     |
|               |    | P                                 | 27.6   | 26.9   | 26.1   | 25.2   | 23.2  | 21.0  | 18.7  | 16.3  | 14.0  | 11.8                         | -     |
| HGX66e/1750-4 | 30 | Q                                 | 94100  | 85600  | 77600  | 70100  | 56600 | 44900 | 34900 | 26500 | 19500 | -                            | -     |
|               |    | P                                 | 31.3   | 30.2   | 29.0   | 27.7   | 25.1  | 22.3  | 19.4  | 16.7  | 14.0  | -                            | -     |
|               | 40 | Q                                 | 76700  | 69500  | 62800  | 56500  | 45200 | 35600 | 27500 | 20800 | -     | -                            | -     |
|               |    | P                                 | 34.3   | 32.8   | 31.2   | 29.6   | 26.3  | 23.0  | 19.7  | 16.5  | -     | -                            | -     |

Relating to 20 °C suction gas temperature  
without liquid subcooling

Supplementary cooling or  
reduced suction gas temperature

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# HG semi-hermetic compressors

## Performance data

### R134a | 50 Hz

| Type                                                                                                                                                                                                                                   |    |   | Cooling capacity $\dot{Q}_0$ [W] |        |        |        |        |        |        |       |       |       | Power consumption $P_e$ [kW] |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|---|----------------------------------|--------|--------|--------|--------|--------|--------|-------|-------|-------|------------------------------|--|
|                                                                                                                                                                                                                                        |    |   | Evaporating temperature °C       |        |        |        |        |        |        |       |       |       |                              |  |
|                                                                                                                                                                                                                                        |    |   |                                  |        |        |        |        |        |        |       |       |       |                              |  |
| Cond.                                                                                                                                                                                                                                  |    |   | 12.5                             | 10     | 7.5    | 5      | 0      | -5     | -10    | -15   | -20   | -25   | -30                          |  |
| HGX66e/2070-4                                                                                                                                                                                                                          | 30 | Q | 168000                           | 154000 | 141000 | 129000 | 106000 | 85300  | 67900  | 53000 | 40500 | 30200 | 22000                        |  |
|                                                                                                                                                                                                                                        |    | P | 217                              | 219    | 219    | 218    | 211    | 20.0   | 18.6   | 16.9  | 15.0  | 13.1  | 11.2                         |  |
|                                                                                                                                                                                                                                        | 40 | Q | 150000                           | 137000 | 125000 | 114000 | 93000  | 74900  | 59200  | 45800 | 34500 | 25300 | 17900                        |  |
|                                                                                                                                                                                                                                        |    | P | 27.6                             | 27.2   | 26.7   | 26.1   | 24.6   | 22.7   | 20.6   | 18.3  | 15.9  | 13.7  | 11.5                         |  |
|                                                                                                                                                                                                                                        | 50 | Q | 131000                           | 120000 | 109000 | 98300  | 79900  | 63900  | 50100  | 38400 | 28600 | 20600 | -                            |  |
|                                                                                                                                                                                                                                        |    | P | 32.8                             | 31.9   | 30.9   | 29.9   | 27.5   | 24.8   | 22.0   | 19.2  | 16.4  | 13.8  | -                            |  |
| HGX88e/2400-4 <td rowspan="2">60</td> <td>Q</td> <td>111000</td> <td>101000</td> <td>91100</td> <td>82400</td> <td>66500</td> <td>52800</td> <td>41100</td> <td>31200</td> <td>23000</td> <td>-</td> <td>-</td> <td></td>              | 60 | Q | 111000                           | 101000 | 91100  | 82400  | 66500  | 52800  | 41100  | 31200 | 23000 | -     | -                            |  |
|                                                                                                                                                                                                                                        |    | P | 37.3                             | 35.9   | 34.4   | 32.9   | 29.7   | 26.3   | 22.9   | 19.6  | 16.5  | -     | -                            |  |
|                                                                                                                                                                                                                                        | 70 | Q | 89900                            | 81500  | 73700  | 66300  | 53200  | 41900  | 32400  | 24600 | -     | -     | -                            |  |
|                                                                                                                                                                                                                                        |    | P | 40.9                             | 39.0   | 37.1   | 35.2   | 31.2   | 27.2   | 23.2   | 19.4  | -     | -     | -                            |  |
|                                                                                                                                                                                                                                        | 30 | Q | 197000                           | 181000 | 165000 | 151000 | 124000 | 99900  | 79500  | 62000 | 47400 | 35300 | 25700                        |  |
|                                                                                                                                                                                                                                        |    | P | 26.1                             | 26.3   | 26.3   | 26.1   | 25.4   | 24.2   | 22.5   | 20.6  | 18.4  | 16.1  | 13.8                         |  |
| HGX88e/2735-4 <td rowspan="2">40</td> <td>Q</td> <td>176000</td> <td>161000</td> <td>147000</td> <td>134000</td> <td>110000</td> <td>87800</td> <td>69400</td> <td>53700</td> <td>40500</td> <td>29600</td> <td>21000</td> <td></td>   | 40 | Q | 176000                           | 161000 | 147000 | 134000 | 110000 | 87800  | 69400  | 53700 | 40500 | 29600 | 21000                        |  |
|                                                                                                                                                                                                                                        |    | P | 32.8                             | 32.4   | 31.8   | 31.1   | 29.4   | 27.2   | 24.8   | 22.2  | 19.5  | 16.8  | 14.2                         |  |
|                                                                                                                                                                                                                                        | 50 | Q | 154000                           | 141000 | 128000 | 116000 | 94000  | 75100  | 58900  | 45100 | 33600 | 24200 | -                            |  |
|                                                                                                                                                                                                                                        |    | P | 38.8                             | 37.8   | 36.7   | 35.4   | 32.7   | 29.7   | 26.5   | 23.3  | 20.1  | 17.0  | -                            |  |
|                                                                                                                                                                                                                                        | 60 | Q | 131000                           | 119000 | 108000 | 97100  | 78400  | 62200  | 48300  | 36700 | 27100 | -     | -                            |  |
|                                                                                                                                                                                                                                        |    | P | 44.0                             | 42.4   | 40.7   | 38.9   | 35.3   | 31.5   | 27.6   | 23.8  | 20.2  | -     | -                            |  |
| HGX88e/3235-4 <td rowspan="2">70</td> <td>Q</td> <td>107000</td> <td>96400</td> <td>87100</td> <td>78400</td> <td>62800</td> <td>49400</td> <td>38200</td> <td>29000</td> <td>-</td> <td>-</td> <td>-</td> <td></td>                   | 70 | Q | 107000                           | 96400  | 87100  | 78400  | 62800  | 49400  | 38200  | 29000 | -     | -     | -                            |  |
|                                                                                                                                                                                                                                        |    | P | 48.2                             | 46.1   | 43.9   | 41.6   | 37.1   | 32.5   | 28.0   | 23.7  | -     | -     | -                            |  |
|                                                                                                                                                                                                                                        | 30 | Q | 225000                           | 206000 | 188000 | 171000 | 141000 | 114000 | 90500  | 70600 | 53900 | 40200 | 29300                        |  |
|                                                                                                                                                                                                                                        |    | P | 29.9                             | 30.1   | 30.1   | 29.9   | 29.0   | 27.6   | 25.8   | 23.5  | 21.1  | 18.5  | 15.8                         |  |
|                                                                                                                                                                                                                                        | 40 | Q | 201000                           | 184000 | 168000 | 152000 | 125000 | 100000 | 79000  | 61100 | 46100 | 33700 | 23900                        |  |
|                                                                                                                                                                                                                                        |    | P | 37.4                             | 36.9   | 36.3   | 35.5   | 33.5   | 31.1   | 28.4   | 25.4  | 22.3  | 19.2  | 16.3                         |  |
| HGX88e/3235-4 <td rowspan="2">50</td> <td>Q</td> <td>176000</td> <td>160000</td> <td>146000</td> <td>132000</td> <td>108000</td> <td>85600</td> <td>67100</td> <td>51400</td> <td>38200</td> <td>27500</td> <td>-</td> <td></td>       | 50 | Q | 176000                           | 160000 | 146000 | 132000 | 108000 | 85600  | 67100  | 51400 | 38200 | 27500 | -                            |  |
|                                                                                                                                                                                                                                        |    | P | 44.1                             | 43.0   | 41.7   | 40.3   | 37.3   | 33.9   | 30.3   | 26.7  | 23.0  | 19.5  | -                            |  |
|                                                                                                                                                                                                                                        | 60 | Q | 149000                           | 136000 | 123000 | 111000 | 89400  | 70900  | 55100  | 41800 | 30900 | -     | -                            |  |
|                                                                                                                                                                                                                                        |    | P | 49.8                             | 48.1   | 46.2   | 44.3   | 40.2   | 35.9   | 31.5   | 27.2  | 23.1  | -     | -                            |  |
|                                                                                                                                                                                                                                        | 70 | Q | 122000                           | 111000 | 99400  | 89400  | 71600  | 56300  | 43500  | 33000 | -     | -     | -                            |  |
|                                                                                                                                                                                                                                        |    | P | 54.5                             | 52.2   | 49.7   | 47.2   | 42.2   | 37.0   | 32.0   | 27.1  | -     | -     | -                            |  |
| HGX88e/3235-4 <td rowspan="2">30</td> <td>Q</td> <td>265000</td> <td>243000</td> <td>222000</td> <td>202000</td> <td>166000</td> <td>135000</td> <td>107000</td> <td>83300</td> <td>63500</td> <td>47300</td> <td>34400</td> <td></td> | 30 | Q | 265000                           | 243000 | 222000 | 202000 | 166000 | 135000 | 107000 | 83300 | 63500 | 47300 | 34400                        |  |
|                                                                                                                                                                                                                                        |    | P | 35.2                             | 35.4   | 35.4   | 35.2   | 34.2   | 32.5   | 30.3   | 27.6  | 24.7  | 21.6  | 18.5                         |  |
|                                                                                                                                                                                                                                        | 40 | Q | 237000                           | 217000 | 198000 | 180000 | 147000 | 118000 | 93200  | 72000 | 54200 | 39600 | 28000                        |  |
|                                                                                                                                                                                                                                        |    | P | 44.1                             | 43.5   | 42.7   | 41.8   | 39.4   | 36.6   | 33.3   | 29.8  | 26.1  | 22.5  | 18.9                         |  |
|                                                                                                                                                                                                                                        | 50 | Q | 207000                           | 189000 | 172000 | 156000 | 127000 | 101000 | 78900  | 60400 | 44900 | 32300 | -                            |  |
|                                                                                                                                                                                                                                        |    | P | 52.0                             | 50.6   | 49.1   | 47.5   | 43.8   | 39.8   | 35.6   | 31.2  | 26.9  | 22.7  | -                            |  |
| HGX88e/3235-4 <td rowspan="2">60</td> <td>Q</td> <td>176000</td> <td>160000</td> <td>145000</td> <td>131000</td> <td>106000</td> <td>83400</td> <td>64700</td> <td>49100</td> <td>36100</td> <td>-</td> <td>-</td> <td></td>           | 60 | Q | 176000                           | 160000 | 145000 | 131000 | 106000 | 83400  | 64700  | 49100 | 36100 | -     | -                            |  |
|                                                                                                                                                                                                                                        |    | P | 58.7                             | 56.6   | 54.4   | 52.1   | 47.2   | 42.1   | 37.0   | 31.8  | 26.9  | -     | -                            |  |
|                                                                                                                                                                                                                                        | 70 | Q | 144000                           | 130000 | 117000 | 106000 | 84200  | 66200  | 51100  | 38600 | -     | -     | -                            |  |
|                                                                                                                                                                                                                                        |    | P | 64.3                             | 61.4   | 58.5   | 55.6   | 49.5   | 43.4   | 37.4   | 31.5  | -     | -     | -                            |  |

Relating to 20 °C suction gas temperature  
without liquid subcooling

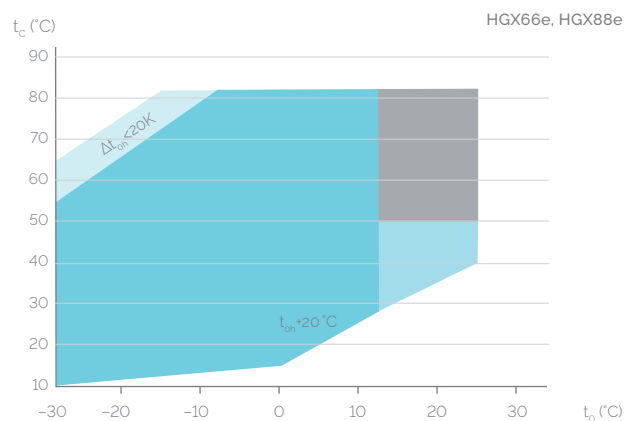
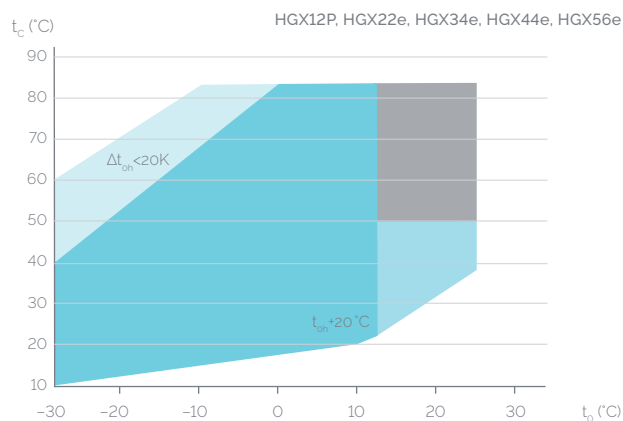
 Supplementary cooling or  
reduced suction gas temperature

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# HG semi-hermetic compressors

## Operating limits

### R513A



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

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

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

<sup>1)</sup> LP = low pressure, HP = high pressure

## Notes

### Operating limits

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

Restrictions to operating limits may occur when using a frequency converter. For further explanations consult [www.bock.de](http://www.bock.de)

### Performance data

The performance data for R513A are based on European Standard EN 12900 with a 50 Hz power supply frequency.

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

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

Conversion factor for 60 Hz = 1.2

Performance data for other operating points, see BOCK VAP software ([vap.bock.de](http://vap.bock.de)).

# HG semi-hermetic compressors

## Performance data

### R513A | 50 Hz

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

Relating to 20 °C suction gas temperature  
without liquid subcooling

Motor version -S-  
(more powerful motor)

Supplementary cooling or  
reduced suction gas temperature

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# HG semi-hermetic compressors

## Performance data

### R513A | 50 Hz

| Type                            |    | Cooling capacity $Q_0$ [kW] |       |       |       |       |       |       |       |       |       | Power consumption $P_e$ [kW] |      |
|---------------------------------|----|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------------------------------|------|
|                                 |    | Evaporating temperature °C  |       |       |       |       |       |       |       |       |       |                              |      |
|                                 |    | Cond. temp. °C              | 12.5  | 10    | 7.5   | 5     | 0     | -5    | -10   | -15   | -20   | -25                          | -30  |
| HGX34e/215-4<br>HGX34e/215-4 S  | 30 | Q                           | 17600 | 16200 | 14800 | 13500 | 11100 | 8960  | 7080  | 5460  | 4080  | 2960                         | 2070 |
|                                 |    | P                           | 2.36  | 2.39  | 2.41  | 2.41  | 2.36  | 2.25  | 2.10  | 1.92  | 1.71  | 1.50                         | 1.29 |
|                                 | 40 | Q                           | 15400 | 14100 | 12800 | 11700 | 9470  | 7570  | 5900  | 4480  | 3290  | 2320                         | 1590 |
|                                 |    | P                           | 3.00  | 2.96  | 2.91  | 2.84  | 2.68  | 2.47  | 2.24  | 2.00  | 1.76  | 1.53                         | 1.32 |
|                                 | 50 | Q                           | 13000 | 11800 | 10800 | 9680  | 7790  | 6130  | 4700  | 3490  | 2500  | 1720                         | 1160 |
|                                 |    | P                           | 3.54  | 3.43  | 3.31  | 3.19  | 2.91  | 2.62  | 2.33  | 2.04  | 1.76  | 1.52                         | 1.32 |
| HG34e/255-4<br>HGX34e/255-4 S   | 30 | Q                           | 21000 | 19300 | 17700 | 16200 | 13300 | 10700 | 8420  | 6470  | 4820  | 3490                         | 2470 |
|                                 |    | P                           | 2.69  | 2.77  | 2.81  | 2.83  | 2.79  | 2.67  | 2.50  | 2.28  | 2.03  | 1.78                         | 1.53 |
|                                 | 40 | Q                           | 18300 | 16800 | 15400 | 14000 | 11500 | 9140  | 7140  | 5420  | 3980  | 2820                         | 1940 |
|                                 |    | P                           | 3.48  | 3.47  | 3.45  | 3.40  | 3.24  | 3.01  | 2.74  | 2.45  | 2.14  | 1.84                         | 1.56 |
|                                 | 50 | Q                           | 15600 | 14200 | 13000 | 11800 | 9550  | 7590  | 5870  | 4400  | 3180  | 2210                         | 1490 |
|                                 |    | P                           | 4.16  | 4.09  | 3.99  | 3.88  | 3.60  | 3.28  | 2.92  | 2.55  | 2.18  | 1.84                         | 1.53 |
| HG34e/315-4<br>HGX34e/315-4 S   | 30 | Q                           | 12700 | 11600 | 10600 | 9520  | 7670  | 6040  | 4620  | 3420  | 2430  | 1670                         | 1130 |
|                                 |    | P                           | 4.73  | 4.59  | 4.43  | 4.25  | 3.86  | 3.44  | 3.01  | 2.57  | 2.15  | 1.77                         | 1.44 |
|                                 | 40 | Q                           | 9810  | 8920  | 8070  | 7260  | 5790  | 4500  | 3390  | 2480  | 1750  | -                            | -    |
|                                 |    | P                           | 5.17  | 4.96  | 4.74  | 4.51  | 4.01  | 3.50  | 2.99  | 2.49  | 2.02  | -                            | -    |
|                                 | 50 | Q                           | 26200 | 23900 | 21900 | 19900 | 16300 | 13200 | 10400 | 8050  | 6110  | 4520                         | 3280 |
|                                 |    | P                           | 3.53  | 3.56  | 3.57  | 3.56  | 3.46  | 3.29  | 3.07  | 2.80  | 2.50  | 2.19                         | 1.89 |
| HG34e/380-4<br>HGX34e/380-4 S   | 30 | Q                           | 22700 | 20700 | 18900 | 17200 | 14000 | 11200 | 8810  | 6770  | 5080  | 3700                         | 2620 |
|                                 |    | P                           | 4.38  | 4.34  | 4.28  | 4.20  | 3.98  | 3.69  | 3.37  | 3.01  | 2.64  | 2.26                         | 1.90 |
|                                 | 40 | Q                           | 19200 | 17500 | 15900 | 14400 | 11700 | 9290  | 7240  | 5500  | 4060  | 2890                         | 1970 |
|                                 |    | P                           | 5.16  | 5.05  | 4.92  | 4.77  | 4.42  | 4.02  | 3.59  | 3.15  | 2.69  | 2.25                         | 1.83 |
|                                 | 50 | Q                           | 15800 | 14300 | 13000 | 11700 | 9390  | 7410  | 5710  | 4270  | 3080  | 2110                         | 1350 |
|                                 |    | P                           | 5.85  | 5.66  | 5.46  | 5.24  | 4.76  | 4.25  | 3.72  | 3.18  | 2.65  | 2.14                         | 1.67 |
| HG34e/475-4<br>HGX44e/475-4 S   | 30 | Q                           | 12400 | 11200 | 10100 | 9020  | 7170  | 5580  | 4220  | 3090  | 2150  | -                            | -    |
|                                 |    | P                           | 6.41  | 6.15  | 5.88  | 5.59  | 4.99  | 4.36  | 3.73  | 3.10  | 2.48  | -                            | -    |
|                                 | 40 | Q                           | 31400 | 28800 | 26400 | 24100 | 19900 | 16200 | 12900 | 10100 | 7760  | 5840                         | 4320 |
|                                 |    | P                           | 4.44  | 4.46  | 4.45  | 4.42  | 4.28  | 4.06  | 3.77  | 3.44  | 3.07  | 2.69                         | 2.31 |
|                                 | 50 | Q                           | 27300 | 25100 | 22900 | 20900 | 17200 | 13900 | 11100 | 8610  | 6560  | 4880                         | 3540 |
|                                 |    | P                           | 5.47  | 5.41  | 5.32  | 5.21  | 4.92  | 4.56  | 4.16  | 3.72  | 3.26  | 2.80                         | 2.35 |
| HG34e/565-4<br>HGX44e/565-4 S   | 30 | Q                           | 23200 | 21200 | 19400 | 17600 | 14400 | 11600 | 9170  | 7090  | 5340  | 3890                         | 2730 |
|                                 |    | P                           | 6.42  | 6.27  | 6.09  | 5.90  | 5.46  | 4.98  | 4.45  | 3.90  | 3.35  | 2.81                         | 2.29 |
|                                 | 40 | Q                           | 19100 | 17500 | 15900 | 14400 | 11700 | 9350  | 7320  | 5580  | 4120  | 2910                         | 1930 |
|                                 |    | P                           | 7.25  | 7.01  | 6.76  | 6.48  | 5.90  | 5.28  | 4.63  | 3.97  | 3.32  | 2.70                         | 2.12 |
|                                 | 50 | Q                           | 15100 | 13700 | 12400 | 11200 | 9020  | 7140  | 5510  | 4120  | 2940  | -                            | -    |
|                                 |    | P                           | 7.95  | 7.62  | 7.28  | 6.93  | 6.20  | 5.44  | 4.67  | 3.90  | 3.16  | -                            | -    |
| HG34e/665-4<br>HGX44e/665-4 S   | 30 | Q                           | 40400 | 37000 | 33800 | 30800 | 25200 | 20500 | 16500 | 13000 | 10100 | 7610                         | 5570 |
|                                 |    | P                           | 4.97  | 5.03  | 5.05  | 5.04  | 4.86  | 4.66  | 4.39  | 4.06  | 3.68  | 3.28                         | 2.87 |
|                                 | 40 | Q                           | 35300 | 32300 | 29400 | 26800 | 21800 | 17700 | 14200 | 11100 | 8490  | 6310                         | 4470 |
|                                 |    | P                           | 6.24  | 6.20  | 6.14  | 6.04  | 5.71  | 5.36  | 4.95  | 4.49  | 4.00  | 3.49                         | 2.98 |
|                                 | 50 | Q                           | 30200 | 27500 | 25100 | 22800 | 18500 | 14900 | 11900 | 9180  | 6950  | 5040                         | 3390 |
|                                 |    | P                           | 7.42  | 7.29  | 7.14  | 6.96  | 6.47  | 5.97  | 5.41  | 4.82  | 4.20  | 3.59                         | 2.98 |
| HG34e/765-4<br>HGX44e/765-4 S   | 30 | Q                           | 25100 | 22800 | 20700 | 18700 | 15100 | 12100 | 9500  | 7290  | 5400  | 3760                         | 2320 |
|                                 |    | P                           | 8.46  | 8.23  | 7.99  | 7.72  | 7.08  | 6.41  | 5.71  | 4.98  | 4.24  | 3.51                         | 2.80 |
|                                 | 40 | Q                           | 19900 | 18000 | 16300 | 14700 | 11700 | 9230  | 7150  | 5370  | 3820  | -                            | -    |
|                                 |    | P                           | 9.28  | 8.96  | 8.62  | 8.27  | 7.46  | 6.64  | 5.78  | 4.91  | 4.04  | -                            | -    |
|                                 | 50 | Q                           | 48200 | 44100 | 40300 | 36700 | 30100 | 24500 | 19700 | 15600 | 12200 | 9220                         | 6800 |
|                                 |    | P                           | 5.90  | 5.96  | 5.99  | 5.97  | 5.76  | 5.52  | 5.20  | 4.80  | 4.35  | 3.87                         | 3.37 |
| HG34e/865-4<br>HGX44e/865-4 S   | 30 | Q                           | 42200 | 38600 | 35200 | 32000 | 26100 | 21200 | 17000 | 13400 | 10400 | 7710                         | 5520 |
|                                 |    | P                           | 7.41  | 7.36  | 7.28  | 7.17  | 6.79  | 6.37  | 5.87  | 5.32  | 4.73  | 4.12                         | 3.51 |
|                                 | 40 | Q                           | 36200 | 33000 | 30100 | 27300 | 22200 | 17900 | 14300 | 11200 | 8510  | 6230                         | 4260 |
|                                 |    | P                           | 8.81  | 8.66  | 8.47  | 8.26  | 7.70  | 7.10  | 6.43  | 5.71  | 4.98  | 4.23                         | 3.51 |
|                                 | 50 | Q                           | 30100 | 27400 | 24900 | 22600 | 18200 | 14700 | 11600 | 8950  | 6700  | 4730                         | 2980 |
|                                 |    | P                           | 10.0  | 9.78  | 9.48  | 9.16  | 8.44  | 7.64  | 6.79  | 5.91  | 5.02  | 4.14                         | 3.29 |
| HG34e/965-4<br>HGX44e/965-4 S   | 30 | Q                           | 24000 | 21800 | 19700 | 17800 | 14200 | 11300 | 8810  | 6690  | 4830  | -                            | -    |
|                                 |    | P                           | 11.0  | 10.6  | 10.2  | 9.81  | 8.91  | 7.91  | 6.87  | 5.82  | 4.78  | -                            | -    |
|                                 | 40 | Q                           | 56200 | 51500 | 47000 | 42800 | 36000 | 29300 | 23400 | 18400 | 14200 | 10700                        | 7760 |
|                                 |    | P                           | 6.87  | 6.94  | 6.97  | 6.96  | 6.96  | 6.69  | 6.29  | 5.78  | 5.21  | 4.58                         | 3.93 |
|                                 | 50 | Q                           | 49100 | 44800 | 40900 | 37200 | 31200 | 25200 | 20100 | 15700 | 11900 | 8800                         | 6300 |
|                                 |    | P                           | 8.66  | 8.60  | 8.50  | 8.37  | 8.17  | 7.63  | 7.00  | 6.29  | 5.54  | 4.77                         | 4.00 |
| HG34e/1065-4<br>HGX44e/1065-4 S | 30 | Q                           | 41900 | 38200 | 34800 | 31600 | 26300 | 21100 | 16700 | 12900 | 9670  | 7030                         | 4890 |
|                                 |    | P                           | 10.3  | 10.1  | 9.91  | 9.66  | 9.18  | 8.40  | 7.55  | 6.65  | 5.73  | 4.82                         | 3.95 |
|                                 | 40 | Q                           | 34700 | 31600 | 28600 | 25900 | 21400 | 17000 | 13300 | 10200 | 7490  | 5330                         | 3570 |
|                                 |    | P                           | 11.7  | 11.4  | 11.1  | 10.7  | 9.96  | 8.94  | 7.88  | 6.79  | 5.73  | 4.69                         | 3.73 |
|                                 | 50 | Q                           | 27500 | 24900 | 22500 | 20200 | 16400 | 13000 | 9950  | 7480  | 5430  | -                            | -    |
|                                 |    | P                           | 12.9  | 12.4  | 12.0  | 11.5  | 10.4  | 9.21  | 7.94  | 6.69  | 5.48  | -                            | -    |

Relating to 20 °C suction gas temperature  
without liquid subcooling

Motor version -S-  
(more powerful motor)

Supplementary cooling or  
reduced suction gas temperature

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# HG semi-hermetic compressors

## Performance data

### R513A | 50 Hz

| Type                             |    | Cooling capacity $Q_0$ [kW] |        |        |        |        |       |       |       |       |       |       | Power consumption $P_e$ [kW] |  |
|----------------------------------|----|-----------------------------|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|------------------------------|--|
|                                  |    | Evaporating temperature °C  |        |        |        |        |       |       |       |       |       |       |                              |  |
|                                  |    | Cond. temp. °C              | 12.5   | 10     | 7.5    | 5      | 0     | -5    | -10   | -15   | -20   | -25   | -30                          |  |
| HGX44e/770-4<br>HGX44e/770-4 S   | 30 | Q                           | 65200  | 59700  | 54600  | 49700  | 41000 | 33400 | 26800 | 21200 | 16500 | 12500 | 9160                         |  |
|                                  |    | P                           | 793    | 8.01   | 8.04   | 8.03   | 7.86  | 7.55  | 7.11  | 6.57  | 5.96  | 5.31  | 4.64                         |  |
|                                  | 40 | Q                           | 57000  | 52100  | 47500  | 43300  | 35500 | 28800 | 23100 | 18200 | 14000 | 10400 | 7400                         |  |
|                                  |    | P                           | 10.0   | 9.95   | 9.83   | 9.68   | 9.24  | 8.68  | 8.02  | 7.27  | 6.47  | 5.65  | 4.83                         |  |
|                                  | 50 | Q                           | 48800  | 44500  | 40500  | 36800  | 30100 | 24300 | 19400 | 15100 | 11500 | 8350  | 5680                         |  |
|                                  |    | P                           | 11.9   | 11.7   | 11.4   | 11.1   | 10.4  | 9.66  | 8.76  | 7.80  | 6.81  | 5.81  | 4.82                         |  |
| HGX56e/850-4<br>HGX56e/850-4 S   | 30 | Q                           | 40500  | 36900  | 33500  | 30300  | 24700 | 19800 | 15700 | 12100 | 8970  | 6300  | 3940                         |  |
|                                  |    | P                           | 13.6   | 13.2   | 12.8   | 12.4   | 11.4  | 10.3  | 9.24  | 8.06  | 6.87  | 5.68  | 4.53                         |  |
|                                  | 40 | Q                           | 32200  | 29200  | 26400  | 23800  | 19200 | 15300 | 11900 | 8940  | 6420  | -     | -                            |  |
|                                  |    | P                           | 15.0   | 14.4   | 13.9   | 13.3   | 12.0  | 10.7  | 9.36  | 7.95  | 6.55  | -     | -                            |  |
|                                  | 50 | Q                           | 73600  | 67400  | 61600  | 56200  | 46100 | 37400 | 30000 | 23600 | 18200 | 13700 | 10100                        |  |
|                                  |    | P                           | 9.23   | 9.29   | 9.30   | 9.26   | 8.96  | 8.57  | 8.03  | 7.37  | 6.62  | 5.80  | 4.94                         |  |
| HGX56e/995-4<br>HGX56e/995-4 S   | 30 | Q                           | 64200  | 58800  | 53600  | 48800  | 39900 | 32400 | 25800 | 20200 | 15500 | 11600 | 8310                         |  |
|                                  |    | P                           | 11.6   | 11.5   | 11.3   | 11.1   | 10.5  | 9.83  | 9.00  | 8.08  | 7.09  | 6.05  | 5.00                         |  |
|                                  | 40 | Q                           | 54800  | 50000  | 45600  | 41400  | 33700 | 27200 | 21600 | 16900 | 12800 | 9360  | 6530                         |  |
|                                  |    | P                           | 13.7   | 13.4   | 13.1   | 12.7   | 11.8  | 10.8  | 9.76  | 8.58  | 7.35  | 6.11  | 4.87                         |  |
|                                  | 50 | Q                           | 45300  | 41300  | 37500  | 34000  | 27600 | 22100 | 17500 | 13500 | 10100 | 7170  | 4750                         |  |
|                                  |    | P                           | 15.6   | 15.2   | 14.7   | 14.1   | 12.9  | 11.6  | 10.2  | 8.85  | 7.40  | 5.95  | 4.53                         |  |
| HGX56e/1155-4<br>HGX56e/1155-4 S | 30 | Q                           | 35800  | 32500  | 29500  | 26600  | 21400 | 17000 | 13300 | 10100 | 7350  | -     | -                            |  |
|                                  |    | P                           | 17.3   | 16.6   | 15.9   | 15.2   | 13.8  | 12.2  | 10.5  | 8.89  | 7.21  | -     | -                            |  |
|                                  | 40 | Q                           | 85100  | 78000  | 71300  | 65000  | 53500 | 43400 | 34700 | 27200 | 20900 | 15700 | 11500                        |  |
|                                  |    | P                           | 10.5   | 10.6   | 10.6   | 10.6   | 10.3  | 9.86  | 9.20  | 8.40  | 7.51  | 6.56  | 5.57                         |  |
|                                  | 50 | Q                           | 74300  | 68100  | 62200  | 56600  | 46400 | 37500 | 29900 | 23300 | 17700 | 13100 | 9200                         |  |
|                                  |    | P                           | 13.3   | 13.2   | 13.0   | 12.7   | 12.0  | 11.2  | 10.2  | 9.18  | 8.03  | 6.84  | 5.66                         |  |
| HGX56e/1340-4<br>HGX56e/1340-4 S | 30 | Q                           | 63400  | 58000  | 52800  | 48000  | 39200 | 31600 | 25000 | 19300 | 14500 | 10400 | 6940                         |  |
|                                  |    | P                           | 15.8   | 15.5   | 15.1   | 14.6   | 13.6  | 12.4  | 11.1  | 9.73  | 8.32  | 6.90  | 5.51                         |  |
|                                  | 40 | Q                           | 52400  | 47800  | 43500  | 39400  | 31900 | 25600 | 20000 | 15300 | 11200 | 7660  | 4660                         |  |
|                                  |    | P                           | 18.0   | 17.5   | 16.9   | 16.2   | 14.8  | 13.2  | 11.6  | 9.98  | 8.30  | 6.65  | 5.07                         |  |
|                                  | 50 | Q                           | 41300  | 37600  | 34000  | 30700  | 24700 | 19600 | 15100 | 11300 | 7910  | -     | -                            |  |
|                                  |    | P                           | 19.8   | 19.1   | 18.2   | 17.4   | 15.6  | 13.7  | 11.8  | 9.84  | 7.91  | -     | -                            |  |
| HGX66e/1540-4<br>HGX66e/1540-4 S | 30 | Q                           | 98000  | 89700  | 81900  | 74500  | 60700 | 49200 | 39300 | 30800 | 23700 | 17900 | 13200                        |  |
|                                  |    | P                           | 13.8   | 13.8   | 13.7   | 13.5   | 12.7  | 11.9  | 11.0  | 10.0  | 8.95  | 7.83  | 6.72                         |  |
|                                  | 40 | Q                           | 85900  | 78500  | 71600  | 65100  | 52800 | 42700 | 34000 | 26500 | 20300 | 15100 | 10800                        |  |
|                                  |    | P                           | 16.8   | 16.5   | 16.2   | 15.8   | 14.7  | 13.6  | 12.3  | 11.0  | 9.65  | 8.26  | 6.91                         |  |
|                                  | 50 | Q                           | 73500  | 67100  | 61100  | 55500  | 44800 | 36100 | 28600 | 22200 | 16700 | 12200 | 8410                         |  |
|                                  |    | P                           | 19.5   | 19.1   | 18.5   | 18.0   | 16.5  | 15.0  | 13.4  | 11.7  | 10.1  | 8.43  | 6.83                         |  |
| HGX66e/1750-4<br>HGX66e/1750-4 S | 30 | Q                           | 61000  | 55500  | 50400  | 45700  | 36700 | 29400 | 23100 | 17700 | 13200 | 9280  | 6030                         |  |
|                                  |    | P                           | 22.1   | 21.4   | 20.6   | 19.8   | 18.0  | 16.1  | 14.2  | 12.1  | 10.1  | 8.21  | 6.34                         |  |
|                                  | 40 | Q                           | 48300  | 43900  | 39700  | 35800  | 28500 | 22600 | 17600 | 13300 | 9600  | -     | -                            |  |
|                                  |    | P                           | 24.2   | 23.3   | 22.3   | 21.3   | 19.1  | 16.8  | 14.5  | 12.1  | 9.76  | -     | -                            |  |
|                                  | 50 | Q                           | 116000 | 106000 | 96700  | 88100  | 72200 | 58700 | 47000 | 36900 | 28500 | 21500 | 15800                        |  |
|                                  |    | P                           | 15.4   | 15.5   | 15.4   | 15.3   | 14.6  | 13.7  | 12.7  | 11.5  | 10.3  | 9.06  | 7.85                         |  |
| HGX66e/1950-4<br>HGX66e/1950-4 S | 30 | Q                           | 102000 | 93100  | 84900  | 77200  | 62900 | 50800 | 40300 | 31400 | 23800 | 17600 | 12500                        |  |
|                                  |    | P                           | 18.9   | 18.6   | 18.3   | 17.8   | 16.7  | 15.4  | 13.9  | 12.4  | 10.8  | 9.33  | 7.90                         |  |
|                                  | 40 | Q                           | 87200  | 79600  | 72400  | 65600  | 53000 | 42500 | 33400 | 25700 | 19300 | 14000 | 9660                         |  |
|                                  |    | P                           | 21.9   | 21.4   | 20.8   | 20.1   | 18.4  | 16.7  | 14.9  | 13.0  | 11.1  | 9.36  | 7.74                         |  |
|                                  | 50 | Q                           | 72100  | 65500  | 59300  | 53600  | 42900 | 34100 | 26600 | 20400 | 15200 | 11000 | 7580                         |  |
|                                  |    | P                           | 24.5   | 23.7   | 22.8   | 21.9   | 19.8  | 17.6  | 15.4  | 13.2  | 11.0  | 9.09  | 7.29                         |  |
| HGX66e/2150-4<br>HGX66e/2150-4 S | 30 | Q                           | 56500  | 51100  | 46100  | 41500  | 32900 | 26000 | 20300 | 15600 | 11800 | 8800  | -                            |  |
|                                  |    | P                           | 26.6   | 25.5   | 24.4   | 23.2   | 20.7  | 18.1  | 15.5  | 13.0  | 10.6  | 8.45  | -                            |  |
|                                  | 40 | Q                           | 133000 | 122000 | 111000 | 102000 | 83100 | 67600 | 54300 | 42800 | 33100 | 25100 | 18600                        |  |
|                                  |    | P                           | 17.6   | 17.7   | 17.6   | 17.5   | 16.8  | 15.8  | 14.7  | 13.3  | 11.9  | 10.5  | 9.13                         |  |
|                                  | 50 | Q                           | 117000 | 107000 | 97700  | 88900  | 72500 | 58700 | 46700 | 36500 | 27800 | 20700 | 14900                        |  |
|                                  |    | P                           | 21.7   | 21.4   | 21.0   | 20.5   | 19.3  | 17.8  | 16.1  | 14.4  | 12.6  | 10.9  | 9.29                         |  |
| HGX66e/2350-4<br>HGX66e/2350-4 S | 30 | Q                           | 101000 | 91600  | 83400  | 75700  | 61300 | 49200 | 38900 | 30100 | 22700 | 16600 | 11700                        |  |
|                                  |    | P                           | 25.3   | 24.7   | 24.0   | 23.2   | 21.4  | 19.4  | 17.3  | 15.2  | 13.0  | 11.0  | 9.22                         |  |
|                                  | 40 | Q                           | 83100  | 75600  | 68500  | 62000  | 49800 | 39700 | 31200 | 24000 | 18000 | 13200 | 9310                         |  |
|                                  |    | P                           | 28.4   | 27.5   | 26.5   | 25.4   | 23.1  | 20.6  | 18.1  | 15.5  | 13.1  | 10.8  | 8.85                         |  |
|                                  | 50 | Q                           | 65300  | 59200  | 53400  | 48100  | 38400 | 30500 | 23900 | 18500 | 14200 | 10800 | -                            |  |
|                                  |    | P                           | 30.9   | 29.7   | 28.4   | 27.1   | 24.2  | 21.3  | 18.3  | 15.5  | 12.8  | 10.3  | -                            |  |
| HGX66e/2550-4<br>HGX66e/2550-4 S | 30 | Q                           | 151000 | 138000 | 126000 | 115000 | 95000 | 77300 | 62000 | 48900 | 37900 | 28700 | 21300                        |  |
|                                  |    | P                           | 20.2   | 20.3   | 20.2   | 20.0   | 19.2  | 18.1  | 16.8  | 15.3  | 13.7  | 12.1  | 10.5                         |  |
|                                  | 40 | Q                           | 133000 | 122000 | 111000 | 101000 | 82900 | 67100 | 53500 | 41800 | 31900 | 23700 | 17100                        |  |
|                                  |    | P                           | 24.8   | 24.5   | 24.1   | 23.5   | 22.0  | 20.4  | 18.5  | 16.5  | 14.5  | 12.6  | 10.7                         |  |
|                                  | 50 | Q                           | 114000 | 104000 | 94700  | 86000  | 70200 | 56400 | 44600 | 34500 | 26100 | 19100 | 13500                        |  |
|                                  |    | P                           | 29.0   | 28.3   | 27.5   | 26.6   | 24.5  | 22.2  | 19.8  | 17.4  | 15.0  | 12.8  | 10.7                         |  |
| HGX66e/2750-4<br>HGX66e/2750-4 S | 30 | Q                           | 94300  | 85800  | 77900  | 70500  | 57100 | 45600 | 35800 | 27600 | 20800 | 15200 | 10800                        |  |
|                                  |    | P                           | 32.6   | 31.5   | 30.4   | 29.1   | 26.4  | 23.6  | 20.7  | 17.9  | 15.2  | 12.6  | 10.3                         |  |
|                                  | 40 | Q                           | 74200  | 67200  | 60800  | 54800  | 44000 | 35000 | 27500 | 21300 | 16400 | 12500 | -                            |  |
|                                  |    | P                           | 35.5   | 34.0   | 32.6   | 31.0   | 27.7  | 24.4  | 21.1  | 17.9  | 14.8  | 12.0  | -                            |  |

Relating to 20 °C suction gas temperature  
without liquid subcooling

Motor version -S-  
(more powerful motor)

Supplementary cooling or  
reduced suction gas temperature

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# HG semi-hermetic compressors

## Performance data

### R513A | 50 Hz

| Type                             |    |   | Cooling capacity $Q_o$ [kW] |        |        |        |        |        |        |       | Power consumption $P_e$ [kW] |       |       |     |
|----------------------------------|----|---|-----------------------------|--------|--------|--------|--------|--------|--------|-------|------------------------------|-------|-------|-----|
|                                  |    |   | Evaporating temperature °C  |        |        |        |        |        |        |       |                              |       |       |     |
|                                  |    |   | Cond.<br>temp. °C           | 12.5   | 10     | 7.5    | 5      | 0      | -5     | -10   | -15                          | -20   | -25   | -30 |
| HGX66e/2070-4<br>HGX66e/2070-4 S | 30 | Q | 177000                      | 163000 | 149000 | 136000 | 112000 | 91100  | 73100  | 57700 | 44700                        | 33900 | 25100 |     |
|                                  |    | P | 238                         | 239    | 238    | 236    | 226    | 213    | 198    | 180   | 161                          | 141   | 123   |     |
|                                  | 40 | Q | 157000                      | 143000 | 131000 | 119000 | 97600  | 79100  | 63000  | 49200 | 37600                        | 28000 | 20200 |     |
|                                  |    | P | 293                         | 290    | 284    | 278    | 260    | 240    | 218    | 194   | 170                          | 147   | 126   |     |
|                                  | 50 | Q | 134000                      | 123000 | 112000 | 102000 | 82500  | 66400  | 52500  | 40700 | 30800                        | 22600 | 15900 |     |
|                                  |    | P | 343                         | 335    | 325    | 315    | 290    | 263    | 234    | 205   | 177                          | 150   | 125   |     |
| HGX88e/2400-4<br>HGX88e/2400-4 S | 60 | Q | 111000                      | 101000 | 91500  | 82800  | 67100  | 53600  | 42200  | 32500 | 24500                        | 18000 | 12800 |     |
|                                  |    | P | 386                         | 373    | 360    | 345    | 313    | 279    | 245    | 211   | 178                          | 148   | 121   |     |
|                                  | 70 | Q | 87100                       | 78900  | 71400  | 64300  | 51700  | 41200  | 32400  | 25100 | 19300                        | 14700 | -     |     |
|                                  |    | P | 421                         | 404    | 386    | 368    | 329    | 289    | 249    | 210   | 174                          | 140   | -     |     |
|                                  | 30 | Q | 209000                      | 192000 | 175000 | 160000 | 131000 | 107000 | 85600  | 67500 | 52300                        | 39600 | 29400 |     |
|                                  |    | P | 289                         | 289    | 288    | 286    | 271    | 257    | 239    | 218   | 196                          | 173   | 151   |     |
| HGX88e/2735-4<br>HGX88e/2735-4 S | 40 | Q | 185000                      | 169000 | 155000 | 141000 | 115000 | 92800  | 73900  | 57700 | 44100                        | 32900 | 23700 |     |
|                                  |    | P | 351                         | 347    | 341    | 334    | 310    | 288    | 262    | 235   | 208                          | 181   | 155   |     |
|                                  | 50 | Q | 159000                      | 145000 | 132000 | 120000 | 97100  | 78100  | 61700  | 47800 | 36100                        | 26500 | 18800 |     |
|                                  |    | P | 407                         | 398    | 387    | 375    | 344    | 314    | 281    | 248   | 215                          | 184   | 155   |     |
|                                  | 60 | Q | 132000                      | 120000 | 109000 | 98400  | 79100  | 63200  | 49600  | 38300 | 28900                        | 21200 | 15200 |     |
|                                  |    | P | 455                         | 441    | 426    | 410    | 371    | 333    | 294    | 255   | 218                          | 182   | 150   |     |
| HGX88e/3235-4<br>HGX88e/3235-4 S | 70 | Q | 104000                      | 94100  | 85000  | 76600  | 61100  | 48600  | 38200  | 29700 | 22800                        | 17500 | -     |     |
|                                  |    | P | 494                         | 475    | 456    | 436    | 391    | 345    | 299    | 255   | 213                          | 174   | -     |     |
|                                  | 30 | Q | 237000                      | 218000 | 199000 | 182000 | 150000 | 122000 | 97500  | 76900 | 59500                        | 45100 | 33500 |     |
|                                  |    | P | 326                         | 326    | 325    | 322    | 309    | 293    | 273    | 250   | 225                          | 199   | 173   |     |
|                                  | 40 | Q | 210000                      | 192000 | 176000 | 160000 | 131000 | 106000 | 84200  | 65800 | 50300                        | 37400 | 27000 |     |
|                                  |    | P | 397                         | 392    | 385    | 377    | 354    | 328    | 300    | 269   | 238                          | 207   | 177   |     |
| HGX88e/3235-4<br>HGX88e/3235-4 S | 50 | Q | 181000                      | 165000 | 150000 | 137000 | 111000 | 89000  | 70300  | 54500 | 41200                        | 30200 | 21400 |     |
|                                  |    | P | 461                         | 450    | 438    | 424    | 392    | 358    | 321    | 284   | 247                          | 211   | 177   |     |
|                                  | 60 | Q | 150000                      | 137000 | 124000 | 112000 | 90200  | 72000  | 56600  | 43600 | 32900                        | 24200 | 17300 |     |
|                                  |    | P | 516                         | 500    | 482    | 464    | 422    | 380    | 336    | 292   | 249                          | 209   | 172   |     |
|                                  | 70 | Q | 118000                      | 107000 | 96500  | 86900  | 69700  | 55400  | 43500  | 33800 | 26000                        | 19900 | -     |     |
|                                  |    | P | 561                         | 539    | 517    | 494    | 444    | 393    | 342    | 292   | 244                          | 199   | -     |     |
| HGX88e/3235-4<br>HGX88e/3235-4 S | 30 | Q | 280000                      | 257000 | 235000 | 215000 | 177000 | 144000 | 116000 | 90700 | 70100                        | 53100 | 39300 |     |
|                                  |    | P | 384                         | 385    | 384    | 380    | 364    | 345    | 321    | 293   | 263                          | 233   | 202   |     |
|                                  | 40 | Q | 248000                      | 227000 | 207000 | 189000 | 155000 | 125000 | 99200  | 77500 | 59100                        | 43900 | 31600 |     |
|                                  |    | P | 468                         | 462    | 454    | 444    | 416    | 386    | 352    | 316   | 279                          | 242   | 207   |     |
|                                  | 50 | Q | 213000                      | 195000 | 177000 | 161000 | 131000 | 105000 | 82800  | 64000 | 48300                        | 35400 | 25000 |     |
|                                  |    | P | 543                         | 530    | 515    | 499    | 461    | 420    | 377    | 333   | 288                          | 246   | 206   |     |
| HGX88e/3235-4<br>HGX88e/3235-4 S | 60 | Q | 177000                      | 161000 | 146000 | 132000 | 107000 | 84700  | 66500  | 51100 | 38500                        | 28200 | 20100 |     |
|                                  |    | P | 607                         | 588    | 567    | 545    | 497    | 446    | 393    | 341   | 290                          | 242   | 199   |     |
|                                  | 70 | Q | 139000                      | 126000 | 114000 | 103000 | 82000  | 65100  | 51000  | 39600 | 30400                        | 23200 | -     |     |
|                                  |    | P | 659                         | 634    | 607    | 579    | 521    | 461    | 400    | 340   | 283                          | 230   | -     |     |

Relating to 20 °C suction gas temperature  
without liquid subcooling

 Motor version -S-  
(more powerful motor)

 Supplementary cooling or  
reduced suction gas temperature

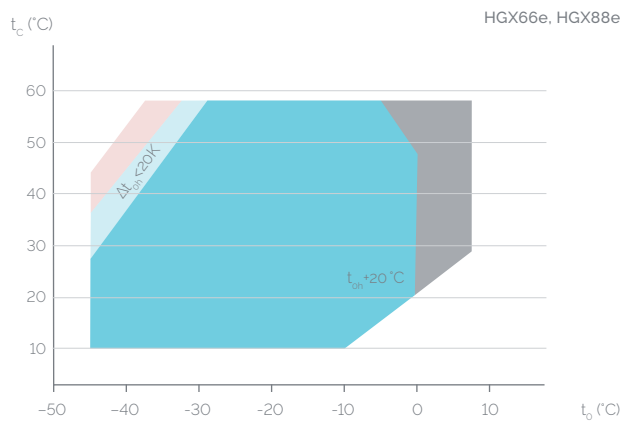
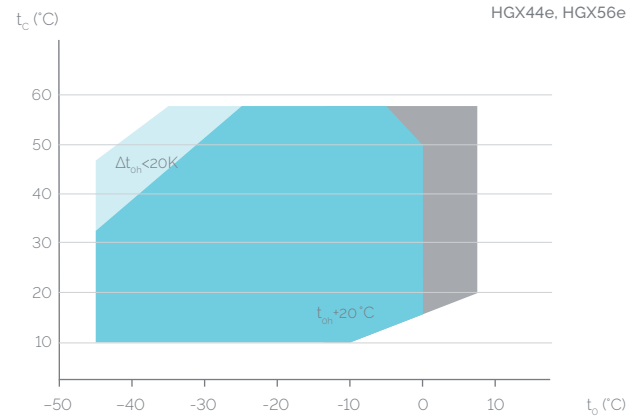
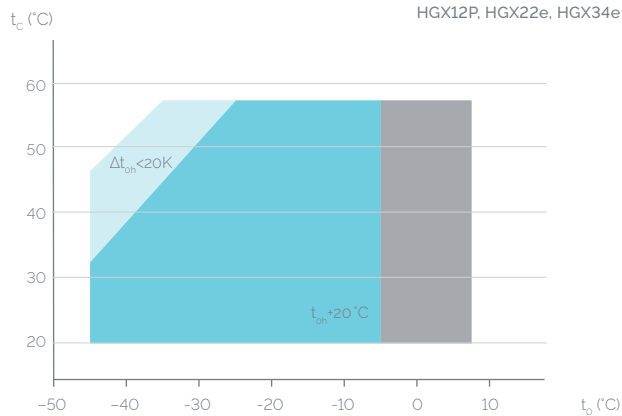
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# HG semi-hermetic compressors

## Operating limits

### R404A/R507



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

Max. permissible operating pressure (LP/HP) <sup>1)</sup>: 19/28 bar  
<sup>1)</sup> LP = low pressure, HP = high pressure

## Notes

### Operating limits

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

Restrictions to operating limits may occur when using a frequency converter. For further explanations consult [www.bock.de](http://www.bock.de).

### Performance data

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

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

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

Conversion factor for 60 Hz = 1.2

Performance data for other operating points, see BOCK VAP software ([vap.bock.de](http://vap.bock.de)).

ASERCOM certified performance data



For compressors with this label, the performance data are certified according to the strict requirements of ASERCOM.

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# HG semi-hermetic compressors

## Performance data

### R404A/R507 | 50 Hz

| Type                         |                               |     | Cooling capacity Q <sub>0</sub> [kW] |               |               |               |               |               |               |               | Power consumption P <sub>e</sub> [kW] |               |               |              |              |
|------------------------------|-------------------------------|-----|--------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------------------------------|---------------|---------------|--------------|--------------|
|                              |                               |     | Evaporating temperature °C           |               |               |               |               |               |               |               |                                       |               |               |              |              |
|                              |                               |     |                                      |               |               |               |               |               |               |               |                                       |               |               |              |              |
| Cond.<br>temp. °C            |                               | 7.5 | 5                                    | 0             | -5            | -10           | -15           | -20           | -25           | -30           | -35                                   | -40           | -45           |              |              |
| HGX12P/60-4 S <sup>1)</sup>  | 30                            | Q P | 6540<br>120                          | 5990<br>121   | 5000<br>122   | 4110<br>120   | 3340<br>115   | 2670<br>108   | 2100<br>100   | 1610<br>0.908 | 1210<br>0.810                         | 879<br>0.712  | 617<br>0.618  | 415<br>0.533 |              |
|                              |                               | Q P | 5540<br>148                          | 5070<br>147   | 4200<br>143   | 3430<br>136   | 2770<br>127   | 2200<br>117   | 1710<br>106   | 1300<br>0.945 | 959<br>0.827                          | 685<br>0.713  | 466<br>0.609  | 296<br>0.519 |              |
|                              | 40                            | Q P | 4540<br>172                          | 4130<br>168   | 3400<br>159   | 2750<br>149   | 2200<br>136   | 1730<br>123   | 1330<br>109   | 994<br>0.959  | 722<br>0.825                          | 503<br>0.700  | 330<br>0.589  | -<br>-       |              |
|                              |                               | Q P | 8160<br>152                          | 7500<br>154   | 6290<br>155   | 5230<br>150   | 4290<br>144   | 3470<br>136   | 2770<br>126   | 2170<br>115   | 1670<br>103                           | 1250<br>0.908 | 911<br>0.789  | 648<br>0.680 |              |
|                              | HGX12P/75-4 S <sup>1)</sup>   | 30  | Q P                                  | 6940<br>190   | 6360<br>189   | 5310<br>183   | 4420<br>172   | 3610<br>162   | 2910<br>150   | 2300<br>136   | 1790<br>122                           | 1370<br>108   | 1020<br>0.939 | 734<br>0.807 | 513<br>0.689 |
|                              |                               | 40  | Q P                                  | 5730<br>2.21  | 5240<br>2.16  | 4350<br>2.05  | 3640<br>1.92  | 2950<br>1.77  | 2360<br>1.62  | 1860<br>1.45  | 1440<br>1.28                          | 1090<br>1.12  | 805<br>0.963  | 577<br>0.821 | -            |
| HGX12P/90-4 S <sup>1)</sup>  | 30                            | Q P | 9740<br>185                          | 8950<br>186   | 7510<br>185   | 6090<br>177   | 5000<br>168   | 4060<br>157   | 3240<br>145   | 2530<br>132   | 1940<br>117                           | 1450<br>1.03  | 1050<br>0.888 | 731<br>0.745 |              |
|                              |                               | Q P | 8290<br>2.27                         | 7600<br>2.24  | 6350<br>2.17  | 5150<br>2.02  | 4210<br>1.87  | 3390<br>1.72  | 2680<br>1.55  | 2080<br>1.38  | 1580<br>1.21                          | 1160<br>1.04  | 818<br>0.876  | 550<br>0.719 |              |
|                              | 40                            | Q P | 6870<br>2.66                         | 6280<br>2.60  | 5220<br>2.46  | 4220<br>2.25  | 3420<br>2.05  | 2730<br>1.85  | 2140<br>1.64  | 1640<br>1.44  | 1230<br>1.23                          | 886<br>1.04   | 611<br>0.857  | -<br>-       |              |
|                              |                               | Q P | 11300<br>2.16                        | 10400<br>2.17 | 8700<br>2.15  | 7220<br>2.15  | 5970<br>2.04  | 4870<br>1.91  | 3920<br>1.76  | 3100<br>1.59  | 2400<br>1.41                          | 1820<br>1.22  | 1340<br>1.05  | 947<br>0.883 |              |
|                              | HGX12P/110-4 S <sup>1)</sup>  | 30  | Q P                                  | 9590<br>2.64  | 8800<br>2.61  | 7370<br>2.52  | 6130<br>2.47  | 5040<br>2.29  | 4100<br>2.10  | 3280<br>1.89  | 2570<br>1.67                          | 1980<br>1.45  | 1480<br>1.24  | 1070<br>1.05 | 728<br>0.877 |
|                              |                               | 40  | Q P                                  | 7880<br>3.12  | 7220<br>3.05  | 6010<br>2.88  | 5020<br>2.73  | 4100<br>2.49  | 3310<br>2.24  | 2620<br>1.98  | 2040<br>1.73                          | 1550<br>1.48  | 1150<br>1.25  | 804<br>1.05  | -<br>-       |
| HGX22e/125-4 S <sup>1)</sup> | 30                            | Q P | 13400<br>2.18                        | 12400<br>2.22 | 10500<br>2.26 | 8790<br>2.24  | 7250<br>2.16  | 5870<br>2.03  | 4650<br>1.88  | 3590<br>1.69  | 2680<br>1.49                          | 1920<br>1.28  | 1320<br>1.07  | 857<br>0.878 |              |
|                              |                               | Q P | 11600<br>2.77                        | 10700<br>2.75 | 8970<br>2.68  | 7460<br>2.58  | 6090<br>2.41  | 4880<br>2.22  | 3820<br>2.00  | 2900<br>1.76  | 2120<br>1.52                          | 1490<br>1.28  | 992<br>1.06   | 640<br>0.853 |              |
|                              | 40                            | Q P | 9650<br>3.26                         | 8860<br>3.20  | 7390<br>3.03  | 6080<br>2.84  | 4910<br>2.60  | 3880<br>2.34  | 2990<br>2.07  | 2230<br>1.80  | 1610<br>1.53                          | 1110<br>1.27  | 749<br>1.03   | -<br>-       |              |
|                              |                               | Q P | 17000<br>2.70                        | 15700<br>2.75 | 13200<br>2.78 | 10900<br>2.73 | 8980<br>2.62  | 7320<br>2.47  | 5850<br>2.29  | 4560<br>2.07  | 3450<br>1.84                          | 2510<br>1.59  | 1750<br>1.34  | 1170<br>1.08 |              |
|                              | HHGX22e/160-4 S <sup>1)</sup> | 30  | Q P                                  | 14600<br>3.42 | 13400<br>3.40 | 11200<br>3.31 | 9170<br>3.17  | 7540<br>2.96  | 6090<br>2.72  | 4810<br>2.47  | 3700<br>2.19                          | 2750<br>1.91  | 1960<br>1.62  | 1330<br>1.34 | 851<br>1.07  |
|                              |                               | 40  | Q P                                  | 12100<br>4.01 | 11100<br>3.93 | 9150<br>3.73  | 7480<br>3.51  | 6090<br>3.22  | 4860<br>2.90  | 3790<br>2.58  | 2860<br>2.25                          | 2090<br>1.92  | 1460<br>1.60  | 972<br>1.30  | -<br>-       |
| HGX22e/190-4 S <sup>1)</sup> | 30                            | Q P | 20800<br>3.47                        | 19200<br>3.49 | 16100<br>3.47 | 13300<br>3.41 | 11000<br>3.26 | 8920<br>3.07  | 7140<br>2.84  | 5620<br>2.57  | 4330<br>2.29                          | 3240<br>2.00  | 2350<br>1.70  | 1620<br>1.41 |              |
|                              |                               | Q P | 17800<br>4.29                        | 16300<br>4.24 | 13700<br>4.09 | 11300<br>3.93 | 9200<br>3.68  | 7450<br>3.39  | 5940<br>3.08  | 4640<br>2.74  | 3540<br>2.39                          | 2620<br>2.03  | 1860<br>1.68  | 1230<br>1.35 |              |
|                              | 40                            | Q P | 14800<br>5.04                        | 13500<br>4.92 | 11300<br>4.65 | 9150<br>4.40  | 7460<br>4.06  | 6000<br>3.68  | 4750<br>3.27  | 3680<br>2.85  | 2780<br>2.43                          | 2020<br>2.01  | 1390<br>1.61  | -<br>-       |              |
|                              |                               | Q P | 23900<br>3.83                        | 21900<br>3.85 | 18200<br>3.84 | 14600<br>3.70 | 11900<br>3.52 | 9470<br>3.26  | 7390<br>2.94  | 5610<br>2.58  | 4120<br>2.21                          | 2900<br>1.84  | 1940<br>1.49  | 1220<br>1.18 |              |
|                              | HGX34e/215-4 S <sup>1)</sup>  | 30  | Q P                                  | 20200<br>4.72 | 18500<br>4.65 | 15300<br>4.48 | 12200<br>4.26 | 9840<br>3.94  | 7770<br>3.56  | 5990<br>3.14  | 4480<br>2.70                          | 3230<br>2.27  | 2220<br>1.85  | 1430<br>1.47 | 851<br>1.15  |
|                              |                               | 40  | Q P                                  | 16500<br>5.48 | 15000<br>5.33 | 12200<br>4.99 | 9770<br>4.67  | 7800<br>4.23  | 6090<br>3.75  | 4630<br>3.25  | 3420<br>2.74                          | 2420<br>2.26  | 1630<br>1.81  | 1040<br>1.42 | -<br>-       |
| HGX34e/255-4 S <sup>1)</sup> | 30                            | Q P | 28000<br>4.57                        | 25700<br>4.61 | 21500<br>4.59 | 17200<br>4.44 | 14200<br>4.23 | 11500<br>3.95 | 9120<br>3.61  | 7080<br>3.22  | 5350<br>2.81                          | 3900<br>2.39  | 2730<br>1.97  | 1820<br>1.58 |              |
|                              |                               | Q P | 23800<br>5.64                        | 21800<br>5.58 | 18100<br>5.38 | 14500<br>5.14 | 11800<br>4.76 | 9460<br>4.33  | 7430<br>3.86  | 5680<br>3.37  | 4210<br>2.87                          | 3010<br>2.38  | 2050<br>1.92  | 1320<br>1.50 |              |
|                              | 40                            | Q P | 19500<br>6.55                        | 17700<br>6.40 | 14600<br>6.02 | 11700<br>5.68 | 9410<br>5.15  | 7450<br>4.58  | 5760<br>4.00  | 4330<br>3.41  | 3150<br>2.84                          | 2200<br>2.30  | 1480<br>1.80  | -<br>-       |              |
|                              |                               | Q P | 33800<br>5.86                        | 31000<br>5.82 | 26000<br>5.67 | 21300<br>5.47 | 17600<br>5.20 | 14300<br>4.85 | 11400<br>4.43 | 8840<br>3.98  | 6700<br>3.49                          | 4930<br>2.99  | 3490<br>2.49  | 2370<br>2.01 |              |
|                              | HGX34e/315-4 S <sup>1)</sup>  | 30  | Q P                                  | 28700<br>7.05 | 26300<br>6.92 | 22000<br>6.59 | 17900<br>6.29 | 14700<br>5.83 | 11900<br>5.32 | 9350<br>4.76  | 7220<br>4.18                          | 5400<br>3.58  | 3880<br>2.98  | 2650<br>2.40 | 1690<br>1.86 |
|                              |                               | 40  | Q P                                  | 23500<br>8.13 | 21500<br>7.90 | 17800<br>7.39 | 14500<br>6.97 | 11800<br>6.34 | 9430<br>5.67  | 7370<br>4.96  | 5600<br>4.25                          | 4100<br>3.54  | 2840<br>2.85  | 1820<br>2.20 | -<br>-       |

<sup>1)</sup> ASERCOM certified

Relating to 20 °C suction gas temperature without liquid subcooling

Motor version -S-  
(more powerful motor)

Supplementary cooling or  
reduced suction gas temperature

vap.bock.de



# HG semi-hermetic compressors

## Performance data

### R404A/R507 | 50 Hz

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

Relating to 20 °C suction gas temperature  
without liquid subcooling

Motor version -S-  
(more powerful motor)

Supplementary cooling or  
reduced suction gas temperature

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# HG semi-hermetic compressors

## Performance data

### R404A/R507 | 50 Hz

| Type                             |    | Cooling capacity $Q_o$ [kW] |        |        |        |        |        |        |        |       |       |       | Power consumption $P_e$ [kW] |       |
|----------------------------------|----|-----------------------------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|------------------------------|-------|
|                                  |    | Evaporating temperature °C  |        |        |        |        |        |        |        |       |       |       |                              |       |
|                                  |    | Cond. temp. °C              | 7.5    | 5      | 0      | -5     | -10    | -15    | -20    | -25   | -30   | -35   | -40                          | -45   |
| HGX66e/1750-4<br>HGX66e/1750-4 S | 30 | Q                           | 195000 | 180000 | 151000 | 126000 | 104000 | 84700  | 68000  | 53700 | 41500 | 31100 | 22400                        | 15200 |
|                                  |    | P                           | 32.9   | 32.8   | 31.9   | 30.7   | 28.9   | 26.9   | 24.5   | 22.0  | 19.3  | 16.6  | 14.0                         | 11.4  |
|                                  | 40 | Q                           | 167000 | 154000 | 129000 | 107000 | 88000  | 71400  | 57100  | 44800 | 34200 | 25200 | 17600                        | -     |
| HGX66e/2070-4<br>HGX66e/2070-4 S | 30 | Q                           | 196000 | 180000 | 151000 | 126000 | 104000 | 83800  | 67100  | 52700 | 40300 | 29800 | 20800                        | -     |
|                                  |    | P                           | 47.8   | 46.9   | 44.8   | 42.0   | 38.8   | 35.3   | 31.6   | 27.7  | 23.8  | 20.0  | 16.4                         | -     |
|                                  | 40 | Q                           | 162000 | 148000 | 123000 | 102000 | 83400  | 67400  | 53700  | 41900 | 31800 | 23100 | -                            | -     |
| HGX88e/2400-4<br>HGX88e/2400-4 S | 30 | Q                           | 272000 | 251000 | 209000 | 175000 | 144000 | 118000 | 94200  | 74300 | 57400 | 43100 | 31100                        | 21100 |
|                                  |    | P                           | 46.0   | 45.8   | 44.8   | 43.0   | 40.6   | 37.8   | 34.6   | 31.1  | 27.4  | 23.7  | 20.1                         | 16.6  |
|                                  | 40 | Q                           | 235000 | 216000 | 179000 | 149000 | 122000 | 99000  | 79100  | 62000 | 47400 | 35100 | 24500                        | -     |
| HGX88e/2735-4<br>HGX88e/2735-4 S | 30 | Q                           | 309000 | 284000 | 239000 | 199000 | 164000 | 134000 | 108000 | 84700 | 65400 | 49100 | 35400                        | 24000 |
|                                  |    | P                           | 52.2   | 51.9   | 50.7   | 48.7   | 46.1   | 42.9   | 39.3   | 35.5  | 31.4  | 27.2  | 23.0                         | 19.0  |
|                                  | 40 | Q                           | 266000 | 244000 | 204000 | 170000 | 140000 | 113000 | 90200  | 70700 | 54100 | 39900 | 27900                        | -     |
| HGX88e/3235-4<br>HGX88e/3235-4 S | 30 | Q                           | 365000 | 336000 | 282000 | 235000 | 194000 | 158000 | 127000 | 99800 | 77000 | 57700 | 41500                        | 28100 |
|                                  |    | P                           | 61.5   | 61.1   | 59.8   | 57.5   | 54.3   | 50.6   | 46.3   | 41.6  | 36.8  | 31.8  | 26.9                         | 22.1  |
|                                  | 40 | Q                           | 314000 | 288000 | 241000 | 200000 | 165000 | 133000 | 107000 | 83200 | 63500 | 46800 | 32600                        | -     |
| HGX88e/3235-4 S                  | 30 | Q                           | 314000 | 288000 | 241000 | 200000 | 165000 | 133000 | 107000 | 83200 | 63500 | 46800 | 32600                        | -     |
|                                  |    | P                           | 74.5   | 73.1   | 70.2   | 66.0   | 61.1   | 55.7   | 50.1   | 44.2  | 38.3  | 32.4  | 26.8                         | -     |
|                                  | 50 | Q                           | 260000 | 238000 | 198000 | 163000 | 133000 | 108000 | 85100  | 66200 | 50100 | 36400 | -                            | -     |
|                                  |    | P                           | 85.9   | 83.5   | 79.1   | 73.0   | 66.5   | 59.7   | 52.7   | 45.8  | 38.9  | 32.2  | -                            | -     |

Relating to 20 °C suction gas temperature  
without liquid subcooling

 Motor version -S-  
(more powerful motor)

 Supplementary cooling or  
reduced suction gas temperature

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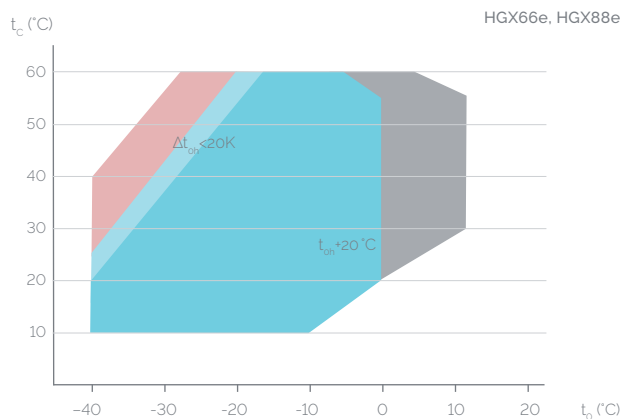
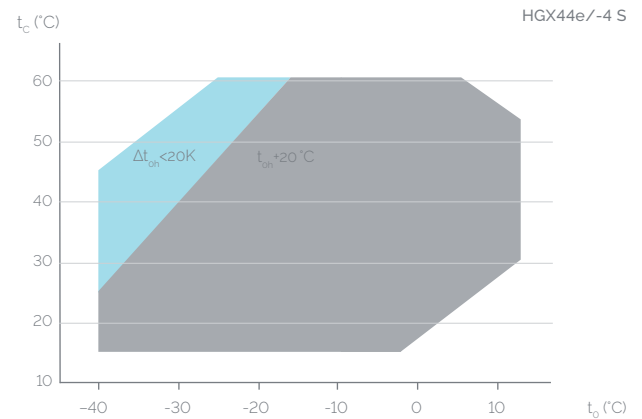
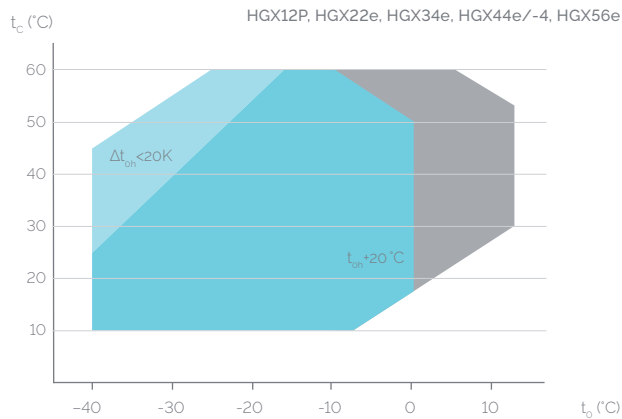




# HG semi-hermetic compressors

## Operating limits

### R448A/R449A



- $t_o$  Evaporating temperature (°C)
- $t_c$  Condensing temperature (°C)
- $\Delta t_{oh}$  Suction gas superheat (K)
- $t_{oh}$  Suction gas temperature (°C)

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

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

<sup>1)</sup> LP = low pressure, HP = high pressure

## Notes

### Operating limits

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

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

### Performance data

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

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

Conversion factor for 60 Hz = 1.2

Performance data for other operating points, see BOCK VAP software ([vap.bock.de](http://vap.bock.de)).

ASERCOM certified performance data



For compressors with this label, the performance data are certified according to the strict requirements of ASERCOM.

ASERCOM is the Association of European Refrigeration Compressors and Controls Manufacturers. Information about the Association and the constantly updated overview of certified BOCK compressors can be found at [www.asercom.org](http://www.asercom.org) and [www.bock.de](http://www.bock.de).

# HG semi-hermetic compressors

## Performance data

### R448A | 50 Hz

| Type              |                |      | Cooling capacity $\dot{Q}_0$ [kW] |              |              |              |              |              |              |               |               | Power consumption $P_e$ [kW] |               |               |               |              |
|-------------------|----------------|------|-----------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|---------------|------------------------------|---------------|---------------|---------------|--------------|
|                   |                |      | Evaporating temperature °C        |              |              |              |              |              |              |               |               |                              |               |               |               |              |
|                   |                |      |                                   |              |              |              |              |              |              |               |               |                              |               |               |               |              |
| Cond.<br>temp. °C |                | 12.5 | 10                                | 7.5          | 5            | 0            | -5           | -10          | -15          | -20           | -25           | -30                          | -35           | -40           |               |              |
| HGX12P/60-4 S     | 30             | Q P  | 7620<br>112                       | 6970<br>114  | 6360<br>115  | 5790<br>115  | 4760<br>113  | 3870<br>109  | 3110<br>103  | 2460<br>0.957 | 1920<br>0.871 | 1470<br>0.780                | 1100<br>0.687 | 790<br>0.597  | 543<br>0.515  |              |
|                   |                | Q P  | 6730<br>142                       | 6140<br>141  | 5590<br>140  | 5070<br>137  | 4140<br>132  | 3350<br>124  | 2670<br>114  | 2100<br>104   | 1630<br>0.931 | 1230<br>0.817                | 907<br>0.705  | 644<br>0.600  | 428<br>0.507  |              |
|                   | 40             | Q P  | 5850<br>174                       | 5320<br>171  | 4820<br>167  | 4360<br>162  | 3540<br>152  | 2830<br>140  | 2240<br>127  | 1740<br>113   | 1330<br>0.988 | 988<br>0.847                 | 712<br>0.712  | 487<br>0.588  | -<br>-        |              |
|                   |                | Q P  | 9480<br>138                       | 8680<br>140  | 7920<br>141  | 7220<br>142  | 5940<br>140  | 4840<br>135  | 3900<br>128  | 3090<br>118   | 2420<br>107   | 1860<br>0.962                | 1400<br>0.845 | 1020<br>0.732 | 703<br>0.629  |              |
|                   | HGX12P/75-4 S  | 30   | Q P                               | 8380<br>176  | 7640<br>175  | 6960<br>174  | 6320<br>171  | 5180<br>165  | 4190<br>155  | 3350<br>143   | 2650<br>130   | 2060<br>116                  | 1570<br>101   | 1170<br>0.875 | 835<br>0.743  | 563<br>0.626 |
|                   |                | 40   | Q P                               | 7290<br>218  | 6630<br>214  | 6020<br>209  | 5450<br>203  | 4420<br>192  | 3550<br>176  | 2820<br>160   | 2200<br>142   | 1690<br>124                  | 1270<br>106   | 924<br>0.893  | 641<br>0.737  | -<br>-       |
| HGX12P/90-4 S     | 30             | Q P  | 11300<br>167                      | 10400<br>170 | 9430<br>171  | 8590<br>172  | 7070<br>167  | 5760<br>160  | 4650<br>151  | 3700<br>140   | 2900<br>127   | 2230<br>113                  | 1680<br>0.997 | 1230<br>0.861 | 857<br>0.736  |              |
|                   |                | Q P  | 9960<br>213                       | 9090<br>213  | 8280<br>211  | 7530<br>208  | 6160<br>196  | 5000<br>185  | 4010<br>170  | 3170<br>155   | 2470<br>138   | 1890<br>120                  | 1410<br>103   | 1020<br>0.881 | 694<br>0.739  |              |
|                   | 40             | Q P  | 8670<br>264                       | 7890<br>260  | 7160<br>254  | 6490<br>247  | 5270<br>229  | 4240<br>211  | 3370<br>191  | 2640<br>170   | 2040<br>148   | 1540<br>127                  | 1130<br>106   | 789<br>0.880  | -<br>-        |              |
|                   |                | Q P  | 13200<br>196                      | 12100<br>199 | 11100<br>201 | 10100<br>202 | 8280<br>196  | 6750<br>189  | 5450<br>178  | 4340<br>165   | 3410<br>149   | 2630<br>133                  | 1990<br>116   | 1460<br>100   | 1020<br>0.857 |              |
|                   | HGX12P/110-4 S | 30   | Q P                               | 11700<br>252 | 10700<br>251 | 9680<br>248  | 8800<br>245  | 7210<br>232  | 5850<br>218  | 4700<br>201   | 3720<br>182   | 2910<br>162                  | 2230<br>142   | 1670<br>122   | 1210<br>103   | 828<br>0.865 |
|                   |                | 40   | Q P                               | 10200<br>314 | 9200<br>308  | 8360<br>301  | 7570<br>293  | 6150<br>271  | 4960<br>250  | 3950<br>226   | 3100<br>201   | 2400<br>175                  | 1820<br>150   | 1340<br>126   | 942<br>103    | -<br>-       |
| HGX22e/125-4 S    | 30             | Q P  | 16600<br>200                      | 15200<br>206 | 13800<br>210 | 12600<br>212 | 10300<br>212 | 8330<br>206  | 6680<br>196  | 5290<br>182   | 4130<br>166   | 3160<br>148                  | 2370<br>130   | 1710<br>112   | 1170<br>0.958 |              |
|                   |                | Q P  | 14500<br>264                      | 13200<br>265 | 12000<br>263 | 10900<br>260 | 8870<br>251  | 7170<br>237  | 5730<br>219  | 4510<br>199   | 3500<br>178   | 2660<br>156                  | 1950<br>135   | 1370<br>115   | 853<br>0.987  |              |
|                   | 40             | Q P  | 12400<br>322                      | 11200<br>316 | 10200<br>310 | 9180<br>302  | 7470<br>283  | 6010<br>261  | 4770<br>237  | 3730<br>211   | 2870<br>185   | 2150<br>160                  | 1540<br>137   | 1010<br>116   | -<br>-        |              |
|                   |                | Q P  | 20300<br>294                      | 18600<br>290 | 17000<br>285 | 15400<br>279 | 12600<br>262 | 10200<br>254 | 8180<br>241  | 6480<br>223   | 5060<br>203   | 3880<br>180                  | 2900<br>157   | 2100<br>135   | 1440<br>115   |              |
|                   | HGX22e/160-4 S | 30   | Q P                               | 17700<br>365 | 16100<br>355 | 14700<br>345 | 13400<br>335 | 10900<br>311 | 8760<br>292  | 7000<br>270   | 5520<br>245   | 4290<br>218                  | 3260<br>190   | 2400<br>164   | 1670<br>139   | 1050<br>118  |
|                   |                | 40   | Q P                               | 15200<br>434 | 13800<br>419 | 12600<br>404 | 11400<br>388 | 9110<br>352  | 7330<br>324  | 5820<br>293   | 4560<br>260   | 3510<br>227                  | 2630<br>196   | 1880<br>166   | 1230<br>140   | -<br>-       |
| HGX22e/190-4 S    | 30             | Q P  | 24500<br>357                      | 22400<br>351 | 20500<br>345 | 18700<br>339 | 15400<br>335 | 12700<br>314 | 10300<br>293 | 8260<br>270   | 6570<br>247   | 5170<br>223                  | 3980<br>198   | 2980<br>172   | 2110<br>144   |              |
|                   |                | Q P  | 21300<br>445                      | 19500<br>433 | 17800<br>422 | 16200<br>409 | 13400<br>395 | 11000<br>364 | 8890<br>333  | 7140<br>303   | 5670<br>272   | 4430<br>241                  | 3380<br>210   | 2460<br>179   | 1630<br>147   |              |
|                   | 40             | Q P  | 18300<br>533                      | 16700<br>514 | 15200<br>496 | 13900<br>477 | 11500<br>451 | 9300<br>409  | 7510<br>368  | 6010<br>329   | 4740<br>290   | 3660<br>252                  | 2730<br>214   | 1880<br>178   | -<br>-        |              |
|                   |                | Q P  | 27600<br>348                      | 25200<br>349 | 23000<br>348 | 20900<br>345 | 16800<br>336 | 13700<br>319 | 10900<br>296 | 8490<br>270   | 6500<br>242   | 4830<br>213                  | 3470<br>184   | 2370<br>157   | 1500<br>134   |              |
|                   | HGX34e/215-4 S | 30   | Q P                               | 24200<br>458 | 22000<br>448 | 20000<br>437 | 18100<br>424 | 14400<br>401 | 11600<br>367 | 9060<br>330   | 6980<br>293   | 5240<br>255                  | 3810<br>219   | 2650<br>186   | 1740<br>157   | 1030<br>133  |
|                   |                | 40   | Q P                               | 20600<br>559 | 18600<br>538 | 16800<br>517 | 15100<br>495 | 11900<br>457 | 9380<br>408  | 7280<br>358   | 5520<br>310   | 4080<br>264                  | 2920<br>221   | 2010<br>185   | 1320<br>154   | -<br>-       |
| HGX34e/255-4 S    | 30             | Q P  | 32200<br>359                      | 29600<br>372 | 27100<br>380 | 24700<br>386 | 20000<br>392 | 16400<br>382 | 13200<br>363 | 10400<br>336  | 7970<br>303   | 5960<br>267                  | 4300<br>229   | 2950<br>192   | 1880<br>158   |              |
|                   |                | Q P  | 27900<br>483                      | 25600<br>485 | 23400<br>484 | 21300<br>480 | 17200<br>473 | 14000<br>446 | 11200<br>411 | 8720<br>370   | 6660<br>326   | 4930<br>279                  | 3490<br>233   | 2310<br>189   | 1370<br>150   |              |
|                   | 40             | Q P  | 23300<br>595                      | 21300<br>587 | 19400<br>576 | 17600<br>563 | 14100<br>543 | 11400<br>499 | 9040<br>449  | 7040<br>394   | 5350<br>338   | 3930<br>281                  | 2750<br>227   | 1790<br>177   | -<br>-        |              |
|                   |                | Q P  | 41100<br>484                      | 37500<br>490 | 34100<br>492 | 30900<br>492 | 25000<br>475 | 20200<br>458 | 16200<br>433 | 12800<br>400  | 9840<br>362   | 7440<br>320                  | 5470<br>276   | 3850<br>231   | 2510<br>187   |              |
|                   | HGX34e/315-4 S | 30   | Q P                               | 35700<br>623 | 32500<br>618 | 29500<br>611 | 26700<br>601 | 21500<br>567 | 17300<br>533 | 13800<br>491  | 10800<br>443  | 8230<br>391                  | 6140<br>337   | 4410<br>282   | 2960<br>227   | 1720<br>174  |
|                   |                | 40   | Q P                               | 30300<br>755 | 27400<br>740 | 24800<br>722 | 22400<br>703 | 17900<br>650 | 14300<br>598 | 11300<br>539  | 8770<br>476   | 6660<br>409                  | 4910<br>342   | 3430<br>274   | 2170<br>209   | -<br>-       |

Relating to 20 °C suction gas temperature  
without liquid subcooling

Motor version -S-  
(more powerful motor)

Supplementary cooling or  
reduced suction gas temperature

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# HG semi-hermetic compressors

## Performance data

### R448A | 50 Hz

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

<sup>1)</sup> ASERCOM certified

Relating to 20 °C suction gas temperature without liquid subcooling

Motor version -S- (more powerful motor)

Supplementary cooling or reduced suction gas temperature

vap.bock.de



# HG semi-hermetic compressors

## Performance data

### R448A | 50 Hz

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

### R449A | 50 Hz

|                                |    |   |       |       |       |       |       |      |      |       |       |       |       |       |       |
|--------------------------------|----|---|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|-------|-------|
| HGX12P/60-4 S                  | 30 | Q | 7580  | 6940  | 6330  | 5760  | 4740  | 3860 | 3100 | 2460  | 1920  | 1470  | 1100  | 790   | 544   |
|                                |    | P | 112   | 113   | 114   | 114   | 113   | 108  | 102  | 0.955 | 0.870 | 0.779 | 0.686 | 0.597 | 0.515 |
|                                | 40 | Q | 6690  | 6100  | 5550  | 5040  | 4120  | 3330 | 2660 | 2090  | 1620  | 1230  | 905   | 644   | 429   |
|                                |    | P | 141   | 140   | 139   | 137   | 131   | 123  | 114  | 103   | 0.928 | 0.815 | 0.704 | 0.600 | 0.507 |
|                                | 50 | Q | 5810  | 5280  | 4790  | 4330  | 3510  | 2820 | 2230 | 1730  | 1320  | 985   | 711   | 487   | -     |
|                                |    | P | 173   | 170   | 166   | 161   | 151   | 139  | 126  | 112   | 0.985 | 0.845 | 0.712 | 0.588 | -     |
| HGX12P/75-4<br>HGX12P/75-4 S   | 30 | Q | 9430  | 8630  | 7880  | 7180  | 5920  | 4820 | 3880 | 3080  | 2410  | 1850  | 1390  | 1020  | 703   |
|                                |    | P | 138   | 140   | 141   | 141   | 140   | 135  | 127  | 118   | 107   | 0.960 | 0.844 | 0.732 | 0.629 |
|                                | 40 | Q | 8320  | 7600  | 6920  | 6290  | 5150  | 4170 | 3340 | 2640  | 2050  | 1560  | 1170  | 834   | 564   |
|                                |    | P | 175   | 174   | 173   | 170   | 164   | 154  | 142  | 129   | 115   | 101   | 0.874 | 0.743 | 0.626 |
|                                | 50 | Q | 7240  | 6580  | 5970  | 5410  | 4390  | 3530 | 2800 | 2190  | 1680  | 1270  | 922   | 641   | -     |
|                                |    | P | 216   | 213   | 208   | 202   | 191   | 176  | 159  | 141   | 123   | 106   | 0.892 | 0.736 | -     |
| HGX12P/90-4<br>HGX12P/90-4 S   | 30 | Q | 11300 | 10300 | 9380  | 8550  | 7040  | 5740 | 4630 | 3680  | 2890  | 2230  | 1680  | 1230  | 857   |
|                                |    | P | 167   | 169   | 171   | 171   | 166   | 160  | 151  | 140   | 127   | 113   | 0.995 | 0.860 | 0.736 |
|                                | 40 | Q | 9890  | 9030  | 8230  | 7480  | 6130  | 4970 | 3990 | 3160  | 2460  | 1880  | 1410  | 1020  | 694   |
|                                |    | P | 212   | 212   | 210   | 207   | 195   | 184  | 170  | 154   | 137   | 120   | 103   | 0.880 | 0.739 |
|                                | 50 | Q | 8600  | 7830  | 7110  | 6440  | 5230  | 4210 | 3350 | 2630  | 2030  | 1530  | 1130  | 789   | -     |
|                                |    | P | 263   | 258   | 253   | 246   | 228   | 210  | 190  | 169   | 148   | 127   | 106   | 0.879 | -     |
| HGX12P/110-4<br>HGX12P/110-4 S | 30 | Q | 13200 | 12100 | 11000 | 10000 | 8240  | 6730 | 5430 | 4320  | 3400  | 2620  | 1980  | 1460  | 1020  |
|                                |    | P | 195   | 199   | 200   | 201   | 195   | 188  | 178  | 164   | 149   | 133   | 116   | 100   | 0.857 |
|                                | 40 | Q | 11600 | 10600 | 9620  | 8750  | 7170  | 5820 | 4670 | 3710  | 2900  | 2220  | 1670  | 1210  | 829   |
|                                |    | P | 251   | 250   | 247   | 244   | 231   | 217  | 200  | 182   | 162   | 141   | 122   | 103   | 0.864 |
|                                | 50 | Q | 10100 | 9130  | 8300  | 7520  | 6110  | 4930 | 3930 | 3090  | 2390  | 1810  | 1340  | 942   | -     |
|                                |    | P | 312   | 306   | 299   | 291   | 270   | 249  | 225  | 200   | 175   | 150   | 125   | 103   | -     |
| HGX22e/125-4<br>HGX22e/125-4 S | 30 | Q | 16500 | 15100 | 13800 | 12500 | 10300 | 8300 | 6650 | 5270  | 4110  | 3150  | 2360  | 1710  | 1170  |
|                                |    | P | 199   | 205   | 209   | 211   | 211   | 206  | 195  | 181   | 165   | 147   | 129   | 111   | 0.956 |
|                                | 40 | Q | 14400 | 13100 | 11900 | 10800 | 8820  | 7130 | 5700 | 4490  | 3480  | 2640  | 1950  | 1360  | 850   |
|                                |    | P | 263   | 263   | 262   | 259   | 250   | 236  | 218  | 198   | 177   | 155   | 134   | 115   | 0.984 |
|                                | 50 | Q | 12300 | 11100 | 10100 | 9110  | 7420  | 5960 | 4740 | 3710  | 2850  | 2130  | 1530  | 1010  | -     |
|                                |    | P | 320   | 314   | 308   | 300   | 282   | 260  | 236  | 210   | 185   | 160   | 136   | 116   | -     |

# HG semi-hermetic compressors

## Performance data

### R449A | 50 Hz

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

<sup>1)</sup> ASERCOM certified

Relating to 20 °C suction gas temperature  
without liquid subcooling

 Motor version -S-  
(more powerful motor)

 Supplementary cooling or  
reduced suction gas temperature

vap.bock.de





# HG semi-hermetic compressors

## Performance data

| R449A   50 Hz                    |    |   |                                  |        |        |        |        |        |        |        |        |       |       |       |                              |     |
|----------------------------------|----|---|----------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|------------------------------|-----|
| Type                             |    |   | Cooling capacity $\dot{Q}_0$ [W] |        |        |        |        |        |        |        |        |       |       |       | Power consumption $P_e$ [kW] |     |
|                                  |    |   | Evaporating temperature °C       |        |        |        |        |        |        |        |        |       |       |       |                              |     |
|                                  |    |   | Cond.<br>temp. °C                | 12.5   | 10     | 7.5    | 5      | 0      | -5     | -10    | -15    | -20   | -25   | -30   | -35                          | -40 |
| HGX56e/850-4<br>HGX56e/850-4 S   | 30 | Q | 110000                           | 101000 | 91600  | 83500  | 68600  | 56100  | 45300  | 36200  | 28500  | 22000 | 16700 | 12300 | 8550                         |     |
|                                  |    | P | 12.6                             | 12.8   | 13.0   | 13.0   | 12.8   | 12.4   | 11.7   | 10.8   | 9.84   | 8.69  | 7.47  | 6.23  | 5.03                         |     |
|                                  | 40 | Q | 96000                            | 87800  | 80100  | 72900  | 59600  | 48600  | 39200  | 31100  | 24400  | 18700 | 13900 | 9880  | 6450                         |     |
|                                  |    | P | 16.7                             | 16.6   | 16.4   | 16.2   | 15.5   | 14.6   | 13.4   | 12.1   | 10.7   | 9.26  | 7.75  | 6.27  | 4.86                         |     |
|                                  | 50 | Q | 82500                            | 75200  | 68400  | 62100  | 50400  | 40900  | 32700  | 25800  | 19900  | 15000 | 10800 | 7100  |                              |     |
|                                  |    | P | 20.5                             | 20.1   | 19.6   | 19.0   | 17.9   | 16.4   | 14.8   | 13.0   | 11.2   | 9.38  | 7.56  | 5.80  |                              |     |
| HGX56e/995-4<br>HGX56e/995-4 S   | 30 | Q | 129000                           | 118000 | 108000 | 98000  | 80700  | 66100  | 53500  | 42800  | 33800  | 26200 | 19800 | 14400 | 9740                         |     |
|                                  |    | P | 15.6                             | 15.7   | 15.8   | 15.8   | 15.5   | 14.9   | 14.1   | 13.0   | 11.8   | 10.4  | 9.06  | 7.58  | 6.10                         |     |
|                                  | 40 | Q | 113000                           | 103000 | 93700  | 85400  | 70100  | 57300  | 46300  | 36900  | 29000  | 22200 | 16400 | 11400 | 6860                         |     |
|                                  |    | P | 20.2                             | 20.0   | 19.8   | 19.4   | 18.6   | 17.4   | 16.1   | 14.5   | 12.9   | 11.1  | 9.31  | 7.48  | 5.68                         |     |
|                                  | 50 | Q | 96100                            | 87800  | 80000  | 72800  | 59400  | 48400  | 38900  | 30800  | 23900  | 17900 | 12600 | 7900  |                              |     |
|                                  |    | P | 24.5                             | 24.0   | 23.5   | 22.8   | 21.4   | 19.7   | 17.8   | 15.7   | 13.6   | 11.4  | 9.19  | 6.99  |                              |     |
| HGX56e/1155-4<br>HGX56e/1155-4 S | 30 | Q | 149000                           | 136000 | 125000 | 114000 | 93100  | 76000  | 61400  | 48900  | 38500  | 29700 | 22400 | 16400 | 11500                        |     |
|                                  |    | P | 17.9                             | 18.2   | 18.4   | 18.5   | 18.3   | 17.6   | 16.6   | 15.4   | 13.9   | 12.3  | 10.5  | 8.85  | 7.15                         |     |
|                                  | 40 | Q | 131000                           | 120000 | 109000 | 98800  | 80900  | 65800  | 52900  | 42000  | 32800  | 25100 | 18700 | 13300 | 8590                         |     |
|                                  |    | P | 23.7                             | 23.5   | 23.3   | 23.0   | 22.1   | 20.7   | 19.1   | 17.2   | 15.2   | 13.1  | 11.0  | 8.90  | 6.91                         |     |
|                                  | 50 | Q | 112000                           | 102000 | 92800  | 84200  | 68400  | 55300  | 44100  | 34700  | 26700  | 20000 | 14400 | 9420  |                              |     |
|                                  |    | P | 29.0                             | 28.5   | 27.8   | 27.0   | 25.4   | 23.3   | 21.0   | 18.5   | 15.9   | 13.2  | 10.7  | 8.23  |                              |     |
| HGX66e/1340-4<br>HGX66e/1340-4 S | 30 | Q | 159000                           | 145000 | 132000 | 114000 | 108000 | 87900  | 71000  | 56500  | 44400  | 34200 | 25600 | 18400 |                              |     |
|                                  |    | P | 22.7                             | 22.6   | 22.3   | 18.5   | 21.5   | 20.5   | 19.1   | 17.5   | 15.8   | 14.0  | 12.0  | 10.1  |                              |     |
|                                  | 40 | Q | 139000                           | 127000 | 115000 | 98800  | 93600  | 76100  | 61100  | 48500  | 37700  | 28700 | 21000 |       |                              |     |
|                                  |    | P | 27.7                             | 27.2   | 26.7   | 23.0   | 25.2   | 23.5   | 21.5   | 19.4   | 17.1   | 14.7  | 12.3  |       |                              |     |
|                                  | 50 | Q | 119000                           | 108000 | 97900  | 84200  | 79200  | 64000  | 51100  | 40200  | 30900  | 23000 |       |       |                              |     |
|                                  |    | P | 32.5                             | 31.6   | 30.6   | 27.0   | 28.5   | 26.1   | 23.5   | 20.7   | 17.8   | 14.9  |       |       |                              |     |
| HGX66e/1540-4<br>HGX66e/1540-4 S | 30 | Q | 182000                           | 166000 | 152000 | 114000 | 124000 | 102000 | 81800  | 65300  | 51400  | 39700 | 30000 | 21700 |                              |     |
|                                  |    | P | 26.1                             | 26.0   | 25.7   | 18.5   | 24.9   | 23.7   | 22.1   | 20.3   | 18.4   | 16.2  | 14.1  | 11.9  |                              |     |
|                                  | 40 | Q | 160000                           | 146000 | 133000 | 98800  | 108000 | 87700  | 70600  | 56200  | 43900  | 33600 | 24800 |       |                              |     |
|                                  |    | P | 32.1                             | 31.5   | 30.8   | 23.0   | 29.3   | 27.3   | 25.0   | 22.6   | 20.0   | 17.3  | 14.5  |       |                              |     |
|                                  | 50 | Q | 137000                           | 124000 | 113000 | 84200  | 91200  | 73900  | 59200  | 46800  | 36200  | 27200 |       |       |                              |     |
|                                  |    | P | 37.7                             | 36.7   | 35.6   | 27.0   | 33.3   | 30.5   | 27.4   | 24.3   | 21.0   | 17.6  |       |       |                              |     |
| HGX66e/1750-4<br>HGX66e/1750-4 S | 30 | Q | 206000                           | 189000 | 172000 | 114000 | 142000 | 116000 | 93600  | 74800  | 58900  | 45600 | 34400 | 24900 |                              |     |
|                                  |    | P | 29.9                             | 29.7   | 29.4   | 18.5   | 28.4   | 27.0   | 25.3   | 23.3   | 21.0   | 18.6  | 16.2  | 13.7  |                              |     |
|                                  | 40 | Q | 181000                           | 165000 | 150000 | 98800  | 124000 | 101000 | 81000  | 64400  | 50400  | 38600 | 28500 |       |                              |     |
|                                  |    | P | 36.7                             | 36.0   | 35.3   | 23.0   | 33.4   | 31.1   | 28.6   | 25.8   | 22.9   | 19.8  | 16.8  |       |                              |     |
|                                  | 50 | Q | 155000                           | 141000 | 128000 | 84200  | 105000 | 84700  | 68000  | 53700  | 41600  | 31300 |       |       |                              |     |
|                                  |    | P | 43.1                             | 42.0   | 40.7   | 27.0   | 38.0   | 34.8   | 31.4   | 27.8   | 24.1   | 20.3  |       |       |                              |     |
| HGX66e/2070-4<br>HGX66e/2070-4 S | 30 | Q | 242000                           | 222000 | 202000 | 114000 | 167000 | 136000 | 111000 | 88000  | 69400  | 53700 | 40500 | 29400 |                              |     |
|                                  |    | P | 35.3                             | 35.2   | 34.8   | 18.5   | 33.7   | 32.0   | 29.9   | 27.5   | 24.8   | 22.0  | 19.0  | 16.1  |                              |     |
|                                  | 40 | Q | 212000                           | 194000 | 176000 | 98800  | 145000 | 118000 | 95100  | 75800  | 59400  | 45500 | 33600 |       |                              |     |
|                                  |    | P | 43.6                             | 42.8   | 41.9   | 23.0   | 39.7   | 37.0   | 33.9   | 30.6   | 27.0   | 23.4  | 19.7  |       |                              |     |
|                                  | 50 | Q | 181000                           | 165000 | 150000 | 84200  | 123000 | 99300  | 79700  | 63100  | 49000  | 36900 |       |       |                              |     |
|                                  |    | P | 51.4                             | 50.0   | 48.5   | 27.0   | 45.3   | 41.5   | 37.3   | 33.0   | 28.5   | 24.0  |       |       |                              |     |
| HGX88e/2400-4<br>HGX88e/2400-4 S | 30 | Q | 287000                           | 263000 | 239000 | 114000 | 196000 | 160000 | 130000 | 104000 | 81500  | 63000 | 47500 | 34500 |                              |     |
|                                  |    | P | 41.8                             | 41.6   | 41.2   | 18.5   | 39.7   | 37.9   | 35.5   | 32.8   | 29.7   | 26.5  | 23.1  | 19.7  |                              |     |
|                                  | 40 | Q | 253000                           | 231000 | 210000 | 98800  | 171000 | 140000 | 113000 | 89200  | 69800  | 53500 | 39600 |       |                              |     |
|                                  |    | P | 50.9                             | 50.1   | 49.1   | 23.0   | 46.8   | 43.7   | 40.2   | 36.3   | 32.3   | 28.1  | 23.9  |       |                              |     |
|                                  | 50 | Q | 218000                           | 198000 | 180000 | 84200  | 146000 | 118000 | 94300  | 74500  | 57800  | 43500 |       |       |                              |     |
|                                  |    | P | 59.6                             | 58.0   | 56.4   | 27.0   | 53.3   | 48.9   | 44.1   | 39.1   | 34.0   | 28.8  |       |       |                              |     |
| HGX88e/2735-4<br>HGX88e/2735-4 S | 30 | Q | 326000                           | 298000 | 272000 | 114000 | 224000 | 183000 | 148000 | 118000 | 92900  | 71800 | 54100 | 39300 |                              |     |
|                                  |    | P | 47.3                             | 47.1   | 46.6   | 18.5   | 45.1   | 43.0   | 40.4   | 37.3   | 33.9   | 30.2  | 26.4  | 22.6  |                              |     |
|                                  | 40 | Q | 287000                           | 262000 | 238000 | 98800  | 195000 | 159000 | 128000 | 102000 | 79600  | 60900 | 45100 |       |                              |     |
|                                  |    | P | 57.9                             | 56.9   | 55.7   | 23.0   | 53.0   | 49.5   | 45.6   | 41.3   | 36.8   | 32.1  | 27.4  |       |                              |     |
|                                  | 50 | Q | 247000                           | 224000 | 204000 | 84200  | 166000 | 135000 | 108000 | 85000  | 65800  | 49600 |       |       |                              |     |
|                                  |    | P | 68.0                             | 66.2   | 64.3   | 27.0   | 60.2   | 55.3   | 50.0   | 44.4   | 38.7   | 32.9  |       |       |                              |     |
| HGX88e/3235-4<br>HGX88e/3235-4 S | 30 | Q | 385000                           | 352000 | 321000 | 114000 | 264000 | 216000 | 175000 | 139000 | 110000 | 84500 | 63700 | 46100 |                              |     |
|                                  |    | P | 55.7                             | 55.4   | 54.9   | 18.5   | 53.2   | 50.7   | 47.6   | 43.9   | 39.8   | 35.5  | 30.9  | 26.4  |                              |     |
|                                  | 40 | Q | 339000                           | 309000 | 281000 | 98800  | 230000 | 188000 | 151000 | 120000 | 93700  | 71600 | 52900 |       |                              |     |
|                                  |    | P | 68.1                             | 66.9   | 65.6   | 23.0   | 62.5   | 58.4   | 53.7   | 48.6   | 43.2   | 37.6  | 32.0  |       |                              |     |
|                                  | 50 | Q | 291000                           | 265000 | 240000 | 84200  | 196000 | 159000 | 127000 | 100000 | 77400  | 58100 |       |       |                              |     |
|                                  |    | P | 79.9                             | 77.8   | 75.5   | 27.0   | 71.0   | 65.1   | 58.8   | 52.2   | 45.4   | 38.5  |       |       |                              |     |

Relating to 20 °C suction gas temperature  
without liquid subcooling

Motor version -S-  
(more powerful motor)

Supplementary cooling or  
reduced suction gas temperature

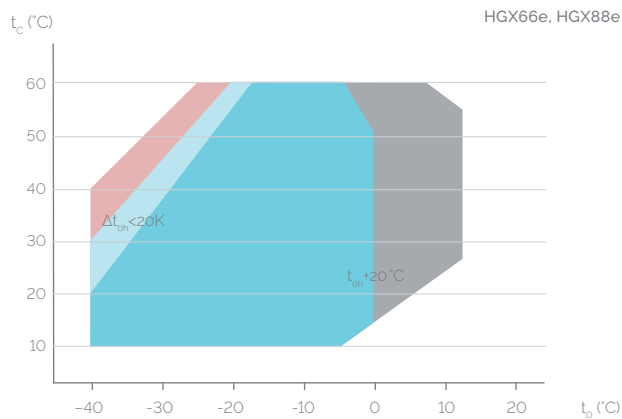
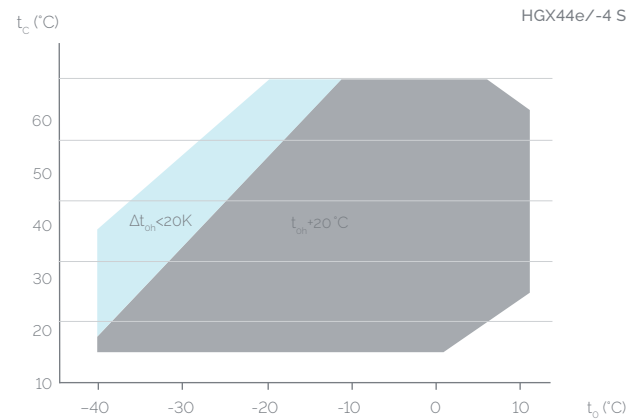
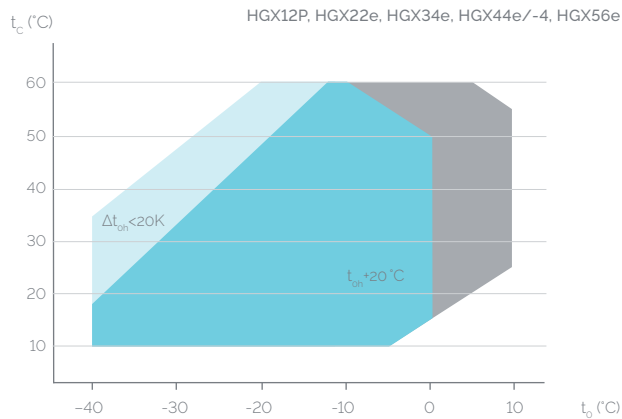
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# HG semi-hermetic compressors

## Operating limits

### R407A



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

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

<sup>1)</sup> LP = low pressure, HP = high pressure

## Notes

### Operating limits

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

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

### Performance data

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

Conversion factor for 60 Hz = 1.2

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

ASERCOM certified performance data



For compressors with this label, the performance data are certified according to the strict requirements of ASERCOM.

ASERCOM is the Association of European Refrigeration Compressors and Controls Manufacturers. Information about the Association and the constantly updated overview of certified BOCK compressors can be found at [www.asercom.org](http://www.asercom.org) and [www.bock.de](http://www.bock.de).

# HG semi-hermetic compressors

## Performance data

| R407A   50 Hz                  |    |     |                                      |              |              |              |              |               |               |                                       |               |               |               |               |
|--------------------------------|----|-----|--------------------------------------|--------------|--------------|--------------|--------------|---------------|---------------|---------------------------------------|---------------|---------------|---------------|---------------|
| Type                           |    |     | Cooling capacity Q <sub>o</sub> [kW] |              |              |              |              |               |               | Power consumption P <sub>e</sub> [kW] |               |               |               |               |
|                                |    |     | Evaporating temperature °C           |              |              |              |              |               |               |                                       |               |               |               |               |
|                                |    |     |                                      |              |              |              |              |               |               |                                       |               |               |               |               |
| Cond.<br>temp. °C              |    |     | 10                                   | 7,5          | 5            | 0            | -5           | -10           | -15           | -20                                   | -25           | -30           | -35           | -40           |
| HGX12P/60-4 S                  | 30 | Q P | 6820<br>105                          | 6230<br>107  | 5680<br>108  | 4690<br>108  | 3810<br>104  | 3060<br>0.993 | 2420<br>0.921 | 1870<br>0.839                         | 1430<br>0.753 | 1060<br>0.669 | 770<br>0.593  | 553<br>0.532  |
|                                |    | Q P | 5900<br>132                          | 5390<br>132  | 4900<br>130  | 4030<br>125  | 3260<br>118  | 2610<br>109   | 2050<br>0.996 | 1580<br>0.892                         | 1200<br>0.791 | 884<br>0.697  | 639<br>0.618  | -             |
|                                | 40 | Q P | 5030<br>157                          | 4570<br>154  | 4150<br>150  | 3390<br>140  | 2730<br>129  | 2170<br>117   | 1690<br>105   | 1300<br>0.927                         | 968<br>0.811  | -             | -             | -             |
|                                |    | Q P | 8490<br>130                          | 7760<br>133  | 7080<br>134  | 5850<br>134  | 4770<br>130  | 3830<br>123   | 3040<br>114   | 2360<br>103                           | 1800<br>0.928 | 1350<br>0.823 | 989<br>0.728  | 715<br>0.653  |
|                                | 50 | Q P | 7350<br>164                          | 6710<br>164  | 6120<br>162  | 5030<br>157  | 4090<br>147  | 3270<br>136   | 2580<br>124   | 2010<br>111                           | 1530<br>0.983 | 1140<br>0.866 | 828<br>0.768  | -             |
|                                |    | Q P | 6260<br>196                          | 5710<br>192  | 5180<br>187  | 4240<br>177  | 3430<br>163  | 2730<br>148   | 2140<br>132   | 1650<br>116                           | 1250<br>101   | -             | -             | -             |
| HGX12P/75-4<br>HGX12P/75-4 S   | 30 | Q P | 10100<br>157                         | 9240<br>160  | 8430<br>162  | 6960<br>159  | 5680<br>154  | 4570<br>146   | 3630<br>135   | 2830<br>122                           | 2170<br>109   | 1630<br>0.970 | 1200<br>0.856 | 872<br>0.764  |
|                                |    | Q P | 8740<br>199                          | 7990<br>198  | 7280<br>196  | 5990<br>186  | 4870<br>176  | 3910<br>162   | 3100<br>147   | 2410<br>132                           | 1840<br>117   | 1380<br>102   | 1010<br>0.909 | -             |
|                                | 40 | Q P | 7450<br>238                          | 6790<br>234  | 6170<br>228  | 5050<br>211  | 4090<br>195  | 3270<br>177   | 2580<br>158   | 1990<br>139                           | 1510<br>121   | -             | -             | -             |
|                                |    | Q P | 11900<br>184                         | 10900<br>188 | 9870<br>190  | 8150<br>187  | 6660<br>181  | 5360<br>171   | 4260<br>158   | 3330<br>144                           | 2550<br>128   | 1920<br>113   | 1420<br>100   | 1040<br>0.893 |
|                                | 50 | Q P | 10300<br>235                         | 9340<br>234  | 8510<br>231  | 7000<br>220  | 5710<br>207  | 4590<br>192   | 3640<br>174   | 2840<br>155                           | 2170<br>137   | 1630<br>121   | 1200<br>107   | -             |
|                                |    | Q P | 8690<br>283                          | 7930<br>277  | 7210<br>270  | 5910<br>250  | 4790<br>231  | 3840<br>209   | 3030<br>186   | 2350<br>164                           | 1790<br>143   | -             | -             | -             |
| HGX12P/90-4<br>HGX12P/90-4 S   | 30 | Q P | 15200<br>206                         | 13800<br>208 | 12600<br>209 | 10200<br>208 | 8240<br>201  | 6580<br>190   | 5180<br>177   | 4000<br>162                           | 3030<br>146   | 2220<br>129   | 1570<br>113   | 1030<br>0.992 |
|                                |    | Q P | 13300<br>260                         | 12000<br>257 | 10900<br>253 | 8810<br>243  | 7090<br>229  | 5630<br>212   | 4400<br>193   | 3370<br>174                           | 2520<br>155   | 1830<br>137   | 1250<br>120   | -             |
|                                | 40 | Q P | 11300<br>308                         | 10200<br>301 | 9170<br>293  | 7410<br>274  | 5920<br>253  | 4660<br>230   | 3620<br>207   | 2750<br>184                           | 2040<br>163   | -             | -             | -             |
|                                |    | Q P | 19300<br>272                         | 17500<br>269 | 15900<br>266 | 12600<br>258 | 10200<br>243 | 8120<br>230   | 6450<br>216   | 5060<br>202                           | 3920<br>187   | 2960<br>169   | 2130<br>148   | 1360<br>122   |
|                                | 50 | Q P | 17000<br>330                         | 15400<br>323 | 13900<br>315 | 11100<br>300 | 8860<br>279  | 7060<br>260   | 5580<br>241   | 4350<br>221                           | 3310<br>199   | 2400<br>175   | 1580<br>148   | -             |
|                                |    | Q P | 14700<br>386                         | 13200<br>374 | 11900<br>361 | 9540<br>340  | 7630<br>313  | 6050<br>288   | 4720<br>262   | 3600<br>235                           | 2630<br>206   | -             | -             | -             |
| HGX22e/125-4<br>HGX22e/125-4 S | 30 | Q P | 22500<br>348                         | 20500<br>340 | 18600<br>332 | 15300<br>326 | 12600<br>304 | 10200<br>282  | 8100<br>262   | 6400<br>241                           | 4970<br>220   | 3760<br>198   | 2750<br>175   | 1870<br>149   |
|                                |    | Q P | 19600<br>423                         | 17800<br>410 | 16200<br>396 | 13400<br>381 | 10900<br>350 | 8760<br>321   | 6980<br>294   | 5490<br>267                           | 4240<br>240   | 3180<br>213   | 2270<br>186   | -             |
|                                | 40 | Q P | 16800<br>500                         | 15300<br>480 | 13900<br>461 | 11400<br>435 | 9190<br>395  | 7370<br>357   | 5850<br>322   | 4570<br>289                           | 3510<br>256   | -             | -             | -             |
|                                |    | Q P | 24600<br>347                         | 22400<br>347 | 20400<br>344 | 16500<br>334 | 13300<br>317 | 10600<br>294  | 8200<br>267   | 6230<br>238                           | 4590<br>208   | 3270<br>179   | 2220<br>153   | 1430<br>131   |
|                                | 50 | Q P | 21500<br>447                         | 19500<br>436 | 17600<br>423 | 14100<br>399 | 11300<br>364 | 8800<br>327   | 6740<br>288   | 5020<br>250                           | 3620<br>213   | 2500<br>180   | 1640<br>152   | -             |
|                                |    | Q P | 18200<br>537                         | 16400<br>515 | 14800<br>493 | 11700<br>455 | 9170<br>404  | 7070<br>353   | 5310<br>303   | 3880<br>256                           | 2730<br>214   | -             | -             | -             |
| HGX34e/215-4<br>HGX34e/215-4 S | 30 | Q P | 28900<br>372                         | 26500<br>381 | 24100<br>386 | 19600<br>391 | 16000<br>381 | 12800<br>360  | 9990<br>332   | 7640<br>297                           | 5670<br>260   | 4050<br>222   | 2760<br>185   | 1790<br>153   |
|                                |    | Q P | 25000<br>486                         | 22800<br>485 | 20800<br>481 | 16800<br>473 | 13600<br>444 | 10900<br>408  | 8440<br>365   | 6400<br>319                           | 4690<br>271   | 3290<br>225   | 2180<br>182   | -             |
|                                | 40 | Q P | 20900<br>589                         | 19000<br>578 | 17300<br>564 | 13900<br>542 | 11200<br>496 | 8820<br>443   | 6810<br>387   | 5110<br>328                           | 3700<br>271   | -             | -             | -             |
|                                |    | Q P | 36600<br>489                         | 33300<br>492 | 30200<br>492 | 24400<br>474 | 19700<br>456 | 15700<br>429  | 12300<br>395  | 9450<br>356                           | 7100<br>313   | 5180<br>268   | 3630<br>223   | 2400<br>180   |
|                                | 50 | Q P | 31700<br>619                         | 28800<br>612 | 26100<br>602 | 21000<br>567 | 16900<br>530 | 13400<br>487  | 10400<br>437  | 7920<br>384                           | 5870<br>328   | 4180<br>272   | 2790<br>217   | -             |
|                                |    | Q P | 26800<br>741                         | 24300<br>723 | 21900<br>703 | 17600<br>650 | 14000<br>594 | 11000<br>533  | 8480<br>467   | 6370<br>398                           | 4620<br>329   | -             | -             | -             |

Relating to 20 °C suction gas temperature  
without liquid subcooling

Motor version -S-  
(more powerful motor)

Supplementary cooling or  
reduced suction gas temperature

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# HG semi-hermetic compressors

## Performance data

### R407A | 50 Hz

| Type                                         |    | Cooling capacity $\dot{Q}_0$ [kW] |        |        |        |        |       |       |       |       |       |       | Power consumption $P_e$ [kW] |       |
|----------------------------------------------|----|-----------------------------------|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|------------------------------|-------|
|                                              |    | Evaporating temperature °C        |        |        |        |        |       |       |       |       |       |       |                              |       |
|                                              |    | Cond. temp. °C                    | 10     | 7,5    | 5      | 0      | -5    | -10   | -15   | -20   | -25   | -30   | -35                          | -40   |
| HGX34e/380-4<br>HGX34e/380-4 S               | 30 | Q                                 | 43800  | 39900  | 36200  | 29300  | 23900 | 19200 | 15200 | 11900 | 9030  | 6720  | 4830                         | 3290  |
|                                              |    | P                                 | 6.24   | 6.23   | 6.19   | 5.93   | 5.68  | 5.33  | 4.91  | 4.42  | 3.89  | 3.34  | 2.79                         | 2.25  |
|                                              | 40 | Q                                 | 37900  | 34500  | 31300  | 25300  | 20500 | 16500 | 13000 | 10100 | 7560  | 5510  | 3790                         | -     |
|                                              |    | P                                 | 7.77   | 7.64   | 7.49   | 7.05   | 6.59  | 6.04  | 5.43  | 4.77  | 4.09  | 3.40  | 2.72                         | -     |
|                                              | 50 | Q                                 | 32000  | 29100  | 26300  | 21200  | 17200 | 13700 | 10700 | 8180  | 6060  | -     | -                            | -     |
|                                              |    | P                                 | 9.22   | 8.97   | 8.70   | 8.08   | 7.38  | 6.62  | 5.81  | 4.97  | 4.12  | -     | -                            | -     |
| HGX44e/475-4<br>HGX44e/475-4 S               | 30 | Q                                 | 56800  | 51900  | 47300  | 38700  | 31500 | 25300 | 20000 | 15600 | 11900 | 8840  | 6390                         | 4420  |
|                                              |    | P                                 | 7.37   | 7.47   | 7.51   | 7.40   | 7.15  | 6.75  | 6.22  | 5.61  | 4.95  | 4.26  | 3.57                         | 2.92  |
|                                              | 40 | Q                                 | 49700  | 45300  | 41200  | 33500  | 27100 | 21700 | 17100 | 13200 | 9960  | 7310  | 5130                         | -     |
|                                              |    | P                                 | 9.41   | 9.35   | 9.23   | 8.86   | 8.33  | 7.67  | 6.91  | 6.09  | 5.24  | 4.39  | 3.57                         | -     |
|                                              | 50 | Q                                 | 42500  | 38600  | 35000  | 28300  | 22800 | 18100 | 14100 | 10800 | 8040  | -     | -                            | -     |
|                                              |    | P                                 | 11.2   | 11.0   | 10.7   | 10.1   | 9.34  | 8.41  | 7.42  | 6.39  | 5.35  | -     | -                            | -     |
| HGX44e/565-4<br>HGX44e/565-4 S               | 30 | Q                                 | 67800  | 61900  | 56400  | 46000  | 37500 | 30200 | 24000 | 18800 | 14400 | 10800 | 7830                         | 5480  |
|                                              |    | P                                 | 8.75   | 8.87   | 8.92   | 8.84   | 8.53  | 8.04  | 7.41  | 6.67  | 5.87  | 5.04  | 4.22                         | 3.44  |
|                                              | 40 | Q                                 | 59400  | 54200  | 49300  | 39900  | 32400 | 26000 | 20600 | 16000 | 12200 | 8970  | 6380                         | -     |
|                                              |    | P                                 | 11.1   | 11.1   | 10.9   | 10.6   | 9.95  | 9.15  | 8.24  | 7.25  | 6.22  | 5.20  | 4.22                         | -     |
|                                              | 50 | Q                                 | 51000  | 46300  | 42000  | 33700  | 27300 | 21800 | 17100 | 13200 | 9890  | -     | -                            | -     |
|                                              |    | P                                 | 13.4   | 13.1   | 12.8   | 12.1   | 11.1  | 10.0  | 8.85  | 7.60  | 6.35  | -     | -                            | -     |
| HGX44e/665-4<br>HGX44e/665-4 S <sup>1)</sup> | 30 | Q                                 | 79000  | 72100  | 65700  | 53800  | 43800 | 35200 | 27800 | 21600 | 16500 | 12300 | 8820                         | 6070  |
|                                              |    | P                                 | 10.2   | 10.3   | 10.4   | 10.3   | 10.0  | 9.45  | 8.71  | 7.86  | 6.93  | 5.96  | 5.00                         | 4.09  |
|                                              | 40 | Q                                 | 69000  | 62900  | 57100  | 46500  | 37700 | 30100 | 23700 | 18300 | 13800 | 10100 | 7030                         | -     |
|                                              |    | P                                 | 13.1   | 13.0   | 12.8   | 12.4   | 11.6  | 10.7  | 9.68  | 8.53  | 7.34  | 6.15  | 5.00                         | -     |
|                                              | 50 | Q                                 | 58900  | 53500  | 48500  | 39200  | 31500 | 25000 | 19500 | 14900 | 11100 | -     | -                            | -     |
|                                              |    | P                                 | 15.7   | 15.4   | 15.0   | 14.2   | 13.0  | 11.7  | 10.3  | 8.94  | 7.49  | -     | -                            | -     |
| HGX44e/770-4<br>HGX44e/770-4 S               | 30 | Q                                 | 91500  | 83600  | 76200  | 62700  | 51100 | 41100 | 32600 | 25400 | 19500 | 14600 | 10600                        | 7340  |
|                                              |    | P                                 | 11.8   | 12.0   | 12.0   | 11.9   | 11.5  | 10.9  | 10.0  | 9.09  | 8.01  | 6.89  | 5.78                         | 4.73  |
|                                              | 40 | Q                                 | 80000  | 72900  | 66300  | 54400  | 44100 | 35300 | 27900 | 21600 | 16400 | 12100 | 8530                         | -     |
|                                              |    | P                                 | 15.2   | 15.1   | 14.9   | 14.3   | 13.4  | 12.4  | 11.1  | 9.86  | 8.49  | 7.11  | 5.78                         | -     |
|                                              | 50 | Q                                 | 68400  | 62200  | 56400  | 46000  | 37100 | 29500 | 23100 | 17800 | 13300 | -     | -                            | -     |
|                                              |    | P                                 | 18.3   | 18.0   | 17.5   | 16.4   | 15.1  | 13.6  | 12.0  | 10.3  | 8.66  | -     | -                            | -     |
| HGX56e/850-4<br>HGX56e/850-4 S               | 30 | Q                                 | 99300  | 90700  | 82500  | 69100  | 56300 | 45400 | 36000 | 28100 | 21600 | 16200 | 11800                        | 8220  |
|                                              |    | P                                 | 13.0   | 13.2   | 13.2   | 13.2   | 12.7  | 12.0  | 11.1  | 10.0  | 8.82  | 7.57  | 6.33                         | 5.16  |
|                                              | 40 | Q                                 | 86800  | 79000  | 71800  | 59900  | 48700 | 39000 | 30900 | 24000 | 18200 | 13500 | 9570                         | -     |
|                                              |    | P                                 | 16.7   | 16.6   | 16.4   | 15.8   | 14.8  | 13.7  | 12.3  | 10.8  | 9.35  | 7.82  | 6.34                         | -     |
|                                              | 50 | Q                                 | 74300  | 67500  | 61100  | 50700  | 40900 | 32700 | 25700 | 19800 | 14900 | -     | -                            | -     |
|                                              |    | P                                 | 20.1   | 19.7   | 19.2   | 18.1   | 16.6  | 15.0  | 13.2  | 11.4  | 9.54  | -     | -                            | -     |
| HGX56e/995-4<br>HGX56e/995-4 S               | 30 | Q                                 | 116000 | 106000 | 96400  | 79600  | 65300 | 52900 | 42200 | 33100 | 25500 | 19000 | 13600                        | 9140  |
|                                              |    | P                                 | 15.6   | 15.6   | 15.6   | 15.2   | 14.6  | 13.8  | 12.7  | 11.5  | 10.2  | 8.81  | 7.32                         | 5.81  |
|                                              | 40 | Q                                 | 103000 | 93500  | 85300  | 70000  | 57100 | 45900 | 36400 | 28300 | 21400 | 15600 | 10700                        | -     |
|                                              |    | P                                 | 19.9   | 19.6   | 19.2   | 18.3   | 17.1  | 15.7  | 14.2  | 12.5  | 10.7  | 8.90  | 7.02                         | -     |
|                                              | 50 | Q                                 | 88600  | 80700  | 73300  | 59700  | 48300 | 38500 | 30100 | 23100 | 17100 | -     | -                            | -     |
|                                              |    | P                                 | 23.8   | 23.2   | 22.5   | 21.0   | 19.2  | 17.3  | 15.2  | 13.0  | 10.8  | -     | -                            | -     |
| HGX56e/1155-4<br>HGX56e/1155-4 S             | 30 | Q                                 | 138000 | 126000 | 115000 | 93400  | 75800 | 60800 | 48000 | 37300 | 28400 | 21100 | 15200                        | 10500 |
|                                              |    | P                                 | 18.6   | 18.9   | 19.0   | 18.8   | 18.2  | 17.2  | 15.9  | 14.4  | 12.7  | 11.1  | 9.43                         | 7.86  |
|                                              | 40 | Q                                 | 121000 | 110000 | 99300  | 80800  | 65400 | 52200 | 41000 | 31600 | 23900 | 17500 | 12200                        | -     |
|                                              |    | P                                 | 23.9   | 23.7   | 23.4   | 22.6   | 21.2  | 19.6  | 17.7  | 15.7  | 13.6  | 11.5  | 9.61                         | -     |
|                                              | 50 | Q                                 | 103000 | 93400  | 84500  | 68300  | 54900 | 43500 | 33900 | 25900 | 19200 | -     | -                            | -     |
|                                              |    | P                                 | 28.7   | 28.1   | 27.4   | 25.9   | 23.9  | 21.6  | 19.1  | 16.6  | 14.1  | -     | -                            | -     |
| HGX66e/1340-4<br>HGX66e/1340-4 S             | 30 | Q                                 | 156000 | 142000 | 129000 | 105000 | 85200 | 68400 | 54200 | 42300 | 32400 | 24100 | 17200                        | 11200 |
|                                              |    | P                                 | 22.3   | 22.2   | 22.0   | 21.2   | 20.1  | 18.8  | 17.3  | 15.5  | 13.6  | 11.7  | 9.77                         | 7.81  |
|                                              | 40 | Q                                 | 136000 | 124000 | 113000 | 90900  | 73600 | 58900 | 46500 | 36000 | 27200 | 19700 | -                            | -     |
|                                              |    | P                                 | 27.6   | 27.0   | 26.4   | 25.0   | 23.2  | 21.2  | 19.0  | 16.7  | 14.3  | 11.9  | -                            | -     |
|                                              | 50 | Q                                 | 117000 | 106000 | 95500  | 76900  | 61900 | 49300 | 38600 | 29500 | 21700 | -     | -                            | -     |
|                                              |    | P                                 | 32.4   | 31.5   | 30.5   | 28.3   | 25.8  | 23.1  | 20.3  | 17.3  | 14.4  | -     | -                            | -     |
| HGX66e/1540-4<br>HGX66e/1540-4 S             | 30 | Q                                 | 179000 | 163000 | 148000 | 121000 | 97900 | 78800 | 62600 | 49100 | 37700 | 28300 | 20300                        | 13400 |
|                                              |    | P                                 | 25.7   | 25.5   | 25.3   | 24.5   | 23.3  | 21.8  | 20.0  | 18.0  | 15.9  | 13.7  | 11.4                         | 9.24  |
|                                              | 40 | Q                                 | 156000 | 142000 | 129000 | 105000 | 84800 | 68000 | 53900 | 42000 | 31900 | 23300 | -                            | -     |
|                                              |    | P                                 | 31.9   | 31.3   | 30.6   | 29.0   | 27.0  | 24.7  | 22.2  | 19.5  | 16.8  | 14.0  | -                            | -     |
|                                              | 50 | Q                                 | 134000 | 122000 | 110000 | 88600  | 71600 | 57200 | 44900 | 34600 | 25700 | -     | -                            | -     |
|                                              |    | P                                 | 37.7   | 36.6   | 35.4   | 33.0   | 30.2  | 27.1  | 23.8  | 20.4  | 17.0  | -     | -                            | -     |

<sup>1)</sup> ASERCOM certified

Relating to 20 °C suction gas temperature  
without liquid subcooling

 Motor version -S-  
(more powerful motor)

 Supplementary cooling or  
reduced suction gas temperature

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# HG semi-hermetic compressors

## Performance data

### R407A | 50 Hz

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

Relating to 20 °C suction gas temperature  
without liquid subcooling

 Motor version -S-  
(more powerful motor)

 Supplementary cooling or  
reduced suction gas temperature

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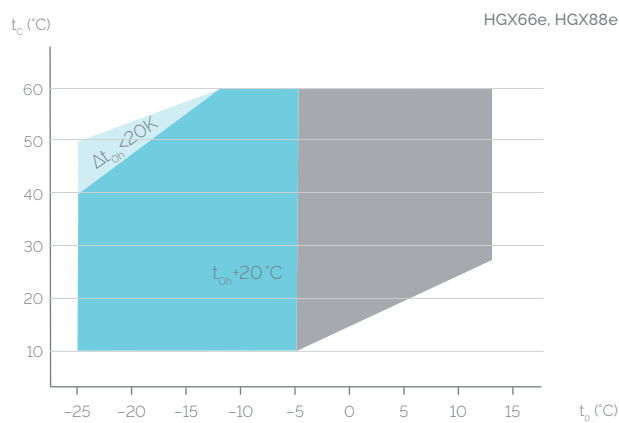
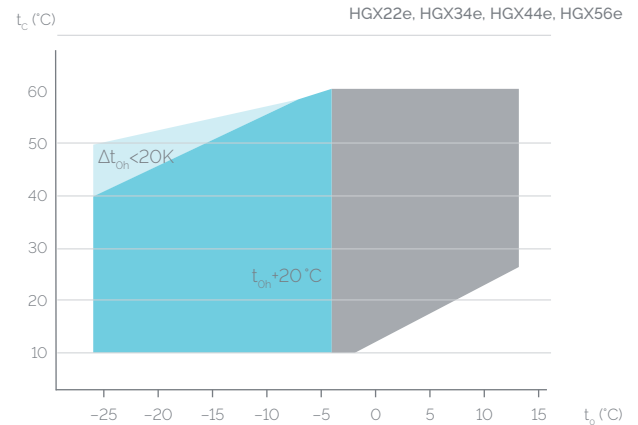
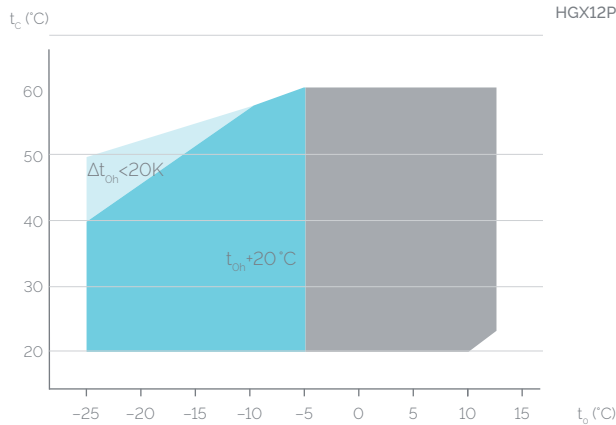




# HG semi-hermetic compressors

## Operating limits

### R407C



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

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

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

<sup>1)</sup> LP = low pressure, HP = high pressure

## Notes

### Operating limits

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

Restrictions to operating limits may occur when using a frequency converter. For further explanations consult [www.bock.de](http://www.bock.de).

### Performance data

The performance data for R407C are based on European Standard EN 12900 50 Hz power supply frequency. This signifies: 20 °C suction gas temperature without liquid subcooling.

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

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

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

Conversion factor for 60 Hz = 1.2

Performance data for other operating points, see BOCK VAP software ([vap.bock.de](http://vap.bock.de)).

# HG semi-hermetic compressors

## Performance data

| R407C   50 Hz                   |          |   |                            |       |       |       |       |                              |       |       |      |      |
|---------------------------------|----------|---|----------------------------|-------|-------|-------|-------|------------------------------|-------|-------|------|------|
| Type                            |          |   | Cooling capacity $Q_o$ [W] |       |       |       |       | Power consumption $P_e$ [kW] |       |       |      |      |
|                                 |          |   | Evaporating temperature °C |       |       |       |       |                              |       |       |      |      |
|                                 |          |   |                            |       |       |       |       |                              |       |       |      |      |
| Cond.                           | temp. °C |   | 12.5                       | 10    | 7.5   | 5     | 0     | -5                           | -10   | -15   | -20  | -25  |
| HGX12P/60-4 S                   | 30       | Q | 6780                       | 6180  | 5610  | 5080  | 4140  | 3330                         | 2650  | 2080  | 1610 | 1230 |
|                                 |          | P | 0.88                       | 0.90  | 0.92  | 0.92  | 0.91  | 0.88                         | 0.82  | 0.76  | 0.69 | 0.62 |
|                                 | 40       | Q | 5870                       | 5340  | 4840  | 4380  | 3560  | 2860                         | 2270  | 1780  | 1360 | 1020 |
|                                 |          | P | 1.16                       | 1.16  | 1.15  | 1.13  | 1.08  | 1.01                         | 0.92  | 0.83  | 0.74 | 0.66 |
|                                 | 50       | Q | 5010                       | 4550  | 4120  | 3720  | 3020  | 2420                         | 1920  | 1490  | 1130 | 827  |
|                                 |          | P | 1.41                       | 1.39  | 1.35  | 1.31  | 1.22  | 1.12                         | 1.00  | 0.90  | 0.79 | 0.69 |
| HGX12P/75-4<br>HGX12P/75-4 S    | 30       | Q | 8740                       | 7960  | 7230  | 6550  | 5340  | 4300                         | 3420  | 2680  | 2080 | 1580 |
|                                 |          | P | 1.12                       | 1.16  | 1.18  | 1.18  | 1.17  | 1.13                         | 1.06  | 0.98  | 0.89 | 0.79 |
|                                 | 40       | Q | 7560                       | 6880  | 6240  | 5650  | 4590  | 3690                         | 2920  | 2290  | 1760 | 1320 |
|                                 |          | P | 1.50                       | 1.49  | 1.48  | 1.46  | 1.39  | 1.30                         | 1.19  | 1.07  | 0.96 | 0.84 |
|                                 | 50       | Q | 6450                       | 5860  | 5310  | 4800  | 3890  | 3120                         | 2470  | 1920  | 1460 | 1070 |
|                                 |          | P | 1.82                       | 1.79  | 1.74  | 1.69  | 1.58  | 1.44                         | 1.29  | 1.15  | 1.01 | 0.89 |
| HGX12P/90-4<br>HGX12P/90-4 S    | 30       | Q | 10500                      | 9490  | 8620  | 7810  | 6360  | 5120                         | 4080  | 3200  | 2480 | 1890 |
|                                 |          | P | 1.34                       | 1.38  | 1.40  | 1.41  | 1.40  | 1.34                         | 1.26  | 1.16  | 1.05 | 0.95 |
|                                 | 40       | Q | 9020                       | 8200  | 7440  | 6730  | 5470  | 4400                         | 3490  | 2730  | 2090 | 1570 |
|                                 |          | P | 1.79                       | 1.78  | 1.77  | 1.74  | 1.66  | 1.55                         | 1.42  | 1.28  | 1.13 | 1.00 |
|                                 | 50       | Q | 7690                       | 6990  | 6330  | 5720  | 4640  | 3720                         | 2940  | 2290  | 1740 | 1280 |
|                                 |          | P | 2.17                       | 2.13  | 2.08  | 2.02  | 1.88  | 1.72                         | 1.55  | 1.37  | 1.21 | 1.06 |
| HGX12P/110-4<br>HGX12P/110-4 S  | 30       | Q | 12300                      | 11200 | 10200 | 9180  | 7480  | 6020                         | 4790  | 3760  | 2910 | 2220 |
|                                 |          | P | 1.58                       | 1.62  | 1.65  | 1.66  | 1.64  | 1.58                         | 1.48  | 1.37  | 1.24 | 1.11 |
|                                 | 40       | Q | 10600                      | 9640  | 8750  | 7910  | 6430  | 5170                         | 4100  | 3200  | 2460 | 1850 |
|                                 |          | P | 2.10                       | 2.10  | 2.08  | 2.05  | 1.95  | 1.82                         | 1.67  | 1.50  | 1.33 | 1.18 |
|                                 | 50       | Q | 9040                       | 8210  | 7440  | 6730  | 5460  | 4370                         | 3460  | 2690  | 2040 | 1500 |
|                                 |          | P | 2.56                       | 2.51  | 2.45  | 2.38  | 2.21  | 2.02                         | 1.82  | 1.61  | 1.42 | 1.25 |
| HGX22e/125-4<br>HGX22e/125-4 S  | 30       | Q | 14400                      | 13100 | 11900 | 10800 | 8790  | 7070                         | 5630  | 4420  | 3420 | 2600 |
|                                 |          | P | 1.78                       | 1.82  | 1.85  | 1.87  | 1.85  | 1.78                         | 1.67  | 1.53  | 1.39 | 1.25 |
|                                 | 40       | Q | 12500                      | 11400 | 10300 | 9300  | 7560  | 6060                         | 4800  | 3760  | 2890 | 2160 |
|                                 |          | P | 2.36                       | 2.35  | 2.33  | 2.30  | 2.19  | 2.04                         | 1.87  | 1.68  | 1.5  | 1.32 |
|                                 | 50       | Q | 10700                      | 9640  | 8740  | 7910  | 6410  | 5120                         | 4050  | 3150  | 2400 | 1760 |
|                                 |          | P | 2.87                       | 2.81  | 2.75  | 2.67  | 2.48  | 2.27                         | 2.04  | 1.81  | 1.59 | 1.40 |
| HHGX22e/160-4<br>HGX22e/160-4 S | 30       | Q | 17600                      | 16000 | 14500 | 13200 | 10700 | 8730                         | 6950  | 5470  | 4240 | 3230 |
|                                 |          | P | 2.18                       | 2.24  | 2.28  | 2.30  | 2.27  | 2.30                         | 2.16  | 1.99  | 1.79 | 1.61 |
|                                 | 40       | Q | 15200                      | 13800 | 12500 | 11300 | 9180  | 7500                         | 5950  | 4650  | 3580 | 2680 |
|                                 |          | P | 2.90                       | 2.90  | 2.87  | 2.83  | 2.69  | 2.64                         | 2.42  | 2.18  | 1.94 | 1.72 |
|                                 | 50       | Q | 12900                      | 11700 | 10700 | 9590  | 7780  | 6350                         | 5020  | 3900  | 2970 | 2180 |
|                                 |          | P | 3.53                       | 3.46  | 3.38  | 3.28  | 3.05  | 2.93                         | 2.64  | 2.34  | 2.06 | 1.81 |
| HGX22e/190-4<br>HGX22e/190-4 S  | 30       | Q | 21800                      | 19900 | 18100 | 16400 | 13300 | 10800                        | 8550  | 6700  | 5180 | 3960 |
|                                 |          | P | 2.67                       | 2.74  | 2.79  | 2.81  | 2.78  | 2.83                         | 2.65  | 2.44  | 2.20 | 1.98 |
|                                 | 40       | Q | 18900                      | 17200 | 15600 | 14100 | 11500 | 9220                         | 7310  | 5710  | 4390 | 3290 |
|                                 |          | P | 3.54                       | 3.54  | 3.51  | 3.46  | 3.29  | 3.25                         | 2.97  | 2.68  | 2.38 | 2.10 |
|                                 | 50       | Q | 16100                      | 14600 | 13300 | 12000 | 9700  | 7790                         | 6170  | 4810  | 3650 | 2670 |
|                                 |          | P | 4.31                       | 4.23  | 4.13  | 4.01  | 3.73  | 3.60                         | 3.24  | 2.87  | 2.53 | 2.22 |
| HGX34e/215-4<br>HGX34e/215-4 S  | 30       | Q | 25600                      | 23300 | 21100 | 19100 | 15600 | 12200                        | 9720  | 7650  | 5910 | 4480 |
|                                 |          | P | 3.45                       | 3.49  | 3.50  | 3.48  | 3.39  | 3.16                         | 2.94  | 2.67  | 2.38 | 2.09 |
|                                 | 40       | Q | 22400                      | 20300 | 18400 | 16600 | 13400 | 10400                        | 8190  | 6410  | 4920 | 3700 |
|                                 |          | P | 4.38                       | 4.33  | 4.26  | 4.17  | 3.94  | 3.60                         | 3.25  | 2.89  | 2.52 | 2.17 |
|                                 | 50       | Q | 19100                      | 17300 | 15600 | 14100 | 11300 | 8590                         | 6820  | 5330  | 4100 | 3100 |
|                                 |          | P | 5.19                       | 5.06  | 4.91  | 4.75  | 4.39  | 3.98                         | 3.54  | 3.09  | 2.66 | 2.27 |
| HGX34e/255-4<br>HGX34e/255-4 S  | 30       | Q | 29600                      | 27000 | 24600 | 22300 | 18300 | 14500                        | 11500 | 9040  | 7030 | 5300 |
|                                 |          | P | 4.30                       | 4.30  | 4.28  | 4.23  | 4.08  | 3.84                         | 3.54  | 3.20  | 2.85 | 2.48 |
|                                 | 40       | Q | 26000                      | 23600 | 21500 | 19500 | 15800 | 12300                        | 9730  | 7660  | 5940 | 4430 |
|                                 |          | P | 5.33                       | 5.24  | 5.13  | 5.00  | 4.71  | 4.38                         | 3.94  | 3.50  | 3.06 | 2.63 |
|                                 | 50       | Q | 22200                      | 20200 | 18300 | 16500 | 13400 | 10200                        | 8080  | 6420  | 5050 | 3820 |
|                                 |          | P | 6.25                       | 6.08  | 5.89  | 5.69  | 5.25  | 4.83                         | 4.29  | 3.76  | 3.26 | 2.79 |
| HGX34e/315-4<br>HGX34e/315-4 S  | 30       | Q | 35900                      | 32700 | 29800 | 27000 | 22100 | 17600                        | 14100 | 11100 | 8590 | 6550 |
|                                 |          | P | 4.95                       | 5.00  | 5.01  | 4.99  | 4.86  | 4.69                         | 4.34  | 3.96  | 3.55 | 3.11 |
|                                 | 40       | Q | 31300                      | 28500 | 25900 | 23500 | 19200 | 15100                        | 12000 | 9420  | 7260 | 5500 |
|                                 |          | P | 6.32                       | 6.25  | 6.16  | 6.04  | 5.72  | 5.33                         | 4.85  | 4.33  | 3.80 | 3.27 |
|                                 | 50       | Q | 26800                      | 24300 | 22100 | 20000 | 16200 | 12800                        | 10200 | 7910  | 6060 | 4550 |
|                                 |          | P | 7.63                       | 7.45  | 7.24  | 7.02  | 6.50  | 5.87                         | 5.25  | 4.63  | 3.99 | 3.37 |

Relating to 20 °C suction gas temperature  
without liquid subcooling

Motor version -S-  
(more powerful motor)

Supplementary cooling or  
reduced suction gas temperature

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# HG semi-hermetic compressors

## Performance data

### R407C | 50 Hz

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

<sup>1)</sup> ASERCOM certified

Relating to 20 °C suction gas temperature  
without liquid subcooling

Motor version -S-  
(more powerful motor)

Supplementary cooling or  
reduced suction gas temperature

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# HG semi-hermetic compressors

## Performance data

### R407C | 50 Hz

| Type                             |    |     | Cooling capacity $\dot{Q}_0$ [kW] |                |                |                |                |                | Power consumption $\dot{P}_e$ [kW] |                |               |               |
|----------------------------------|----|-----|-----------------------------------|----------------|----------------|----------------|----------------|----------------|------------------------------------|----------------|---------------|---------------|
|                                  |    |     | Evaporating temperature °C        |                |                |                |                |                |                                    |                |               |               |
|                                  |    |     |                                   |                |                |                |                |                |                                    |                |               |               |
| Cond.<br>temp. °C                |    |     | 12.5                              | 10             | 7.5            | 5              | 0              | -5             | -10                                | -15            | -20           | -25           |
| HGX66e/1750-4<br>HGX66e/1750-4 S | 30 | Q P | 212000<br>28.0                    | 194000<br>27.8 | 177000<br>27.5 | 160000<br>27.1 | 132000<br>26.2 | 107000<br>24.8 | 85300<br>23.2                      | 67500<br>21.4  | 52500<br>19.3 | 39900<br>16.9 |
|                                  |    | Q P | 187000<br>34.9                    | 171000<br>34.2 | 155000<br>33.5 | 141000<br>32.7 | 115000<br>31.0 | 92800<br>28.8  | 74200<br>26.4                      | 58500<br>23.8  | 45100<br>21.0 | 33800<br>17.8 |
|                                  | 50 | Q P | 161000<br>41.5                    | 147000<br>40.4 | 133000<br>39.2 | 121000<br>38.0 | 98100<br>35.3  | 79100<br>32.3  | 63000<br>29.0                      | 49400<br>25.5  | 37700<br>21.8 | 27600<br>17.8 |
|                                  |    | Q P | 250000<br>33.1                    | 228000<br>32.8 | 208000<br>32.5 | 189000<br>32.0 | 155000<br>30.9 | 126000<br>29.3 | 101000<br>27.5                     | 79500<br>25.3  | 61900<br>22.8 | 47100<br>19.9 |
|                                  | 40 | Q P | 220000<br>41.4                    | 200000<br>40.6 | 182000<br>39.8 | 165000<br>38.8 | 135000<br>36.7 | 109000<br>34.2 | 87300<br>31.3                      | 68800<br>28.2  | 53200<br>24.8 | 39800<br>21.0 |
|                                  |    | Q P | 189000<br>49.5                    | 172000<br>48.1 | 156000<br>46.7 | 142000<br>45.2 | 116000<br>41.9 | 92800<br>38.4  | 74000<br>34.4                      | 58100<br>30.2  | 44400<br>25.7 | 32500<br>21.0 |
| HGX88e/2400-4<br>HGX88e/2400-4 S | 30 | Q P | 296000<br>39.3                    | 270000<br>39.0 | 246000<br>38.6 | 223000<br>38.1 | 183000<br>36.9 | 147000<br>34.8 | 118000<br>32.7                     | 93300<br>30.2  | 72600<br>27.3 | 55200<br>24.1 |
|                                  |    | Q P | 261000<br>48.5                    | 238000<br>47.7 | 217000<br>46.7 | 196000<br>45.7 | 161000<br>43.3 | 129000<br>40.4 | 103000<br>37.2                     | 81000<br>33.6  | 62500<br>29.6 | 46800<br>25.4 |
|                                  | 50 | Q P | 226000<br>57.5                    | 206000<br>56.0 | 187000<br>54.4 | 169000<br>52.7 | 138000<br>49.1 | 110000<br>45.3 | 87400<br>40.8                      | 68500<br>36.0  | 52300<br>30.9 | 38400<br>25.5 |
|                                  |    | Q P | 336000<br>44.4                    | 306000<br>44.1 | 279000<br>43.6 | 253000<br>43.1 | 208000<br>41.7 | 168000<br>39.6 | 135000<br>37.3                     | 107000<br>34.5 | 82700<br>31.2 | 62900<br>27.5 |
|                                  | 40 | Q P | 296000<br>55.1                    | 270000<br>54.1 | 246000<br>53.0 | 223000<br>51.8 | 182000<br>49.1 | 147000<br>45.9 | 118000<br>42.3                     | 92300<br>38.2  | 71200<br>33.8 | 53300<br>29.1 |
|                                  |    | Q P | 257000<br>65.5                    | 233000<br>63.8 | 212000<br>61.9 | 192000<br>60.0 | 156000<br>55.8 | 126000<br>51.3 | 99700<br>46.3                      | 78100<br>40.9  | 59600<br>35.2 | 43700<br>29.2 |
| HGX88e/2735-4<br>HGX88e/2735-4 S | 30 | Q P | 396000<br>52.3                    | 362000<br>51.9 | 329000<br>51.4 | 299000<br>50.8 | 245000<br>49.1 | 198000<br>46.7 | 159000<br>43.9                     | 126000<br>40.5 | 97500<br>36.7 | 74000<br>32.3 |
|                                  |    | Q P | 350000<br>64.9                    | 319000<br>63.7 | 290000<br>62.4 | 263000<br>61.0 | 215000<br>57.8 | 173000<br>54.0 | 139000<br>49.7                     | 109000<br>44.9 | 83800<br>39.7 | 62700<br>34.0 |
|                                  | 50 | Q P | 303000<br>77.1                    | 275000<br>75.0 | 250000<br>72.8 | 226000<br>70.5 | 184000<br>65.6 | 148000<br>60.4 | 118000<br>54.4                     | 91800<br>48.0  | 70000<br>41.2 | 51300<br>34.1 |
|                                  |    | Q P | 396000<br>52.3                    | 362000<br>51.9 | 329000<br>51.4 | 299000<br>50.8 | 245000<br>49.1 | 198000<br>46.7 | 159000<br>43.9                     | 126000<br>40.5 | 97500<br>36.7 | 74000<br>32.3 |
|                                  | 40 | Q P | 350000<br>64.9                    | 319000<br>63.7 | 290000<br>62.4 | 263000<br>61.0 | 215000<br>57.8 | 173000<br>54.0 | 139000<br>49.7                     | 109000<br>44.9 | 83800<br>39.7 | 62700<br>34.0 |
|                                  |    | Q P | 303000<br>77.1                    | 275000<br>75.0 | 250000<br>72.8 | 226000<br>70.5 | 184000<br>65.6 | 148000<br>60.4 | 118000<br>54.4                     | 91800<br>48.0  | 70000<br>41.2 | 51300<br>34.1 |

Relating to 20 °C suction gas temperature  
without liquid subcooling



Motor version -S-  
(more powerful motor)



Supplementary cooling or  
reduced suction gas temperature

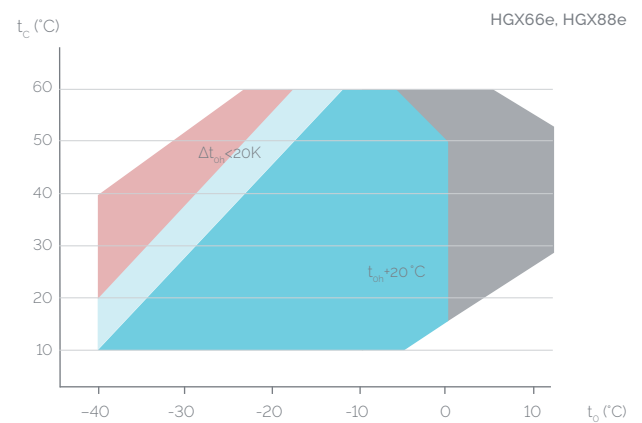
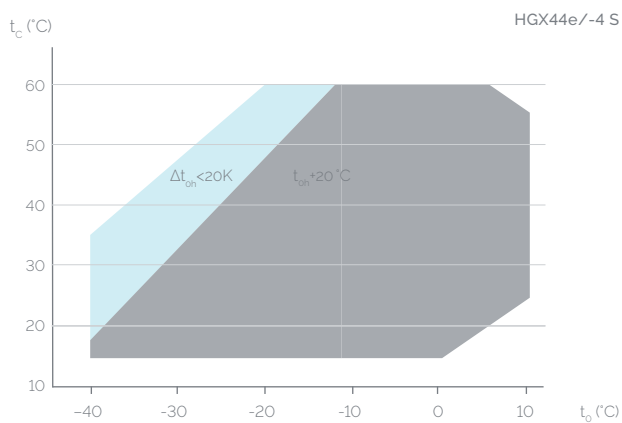
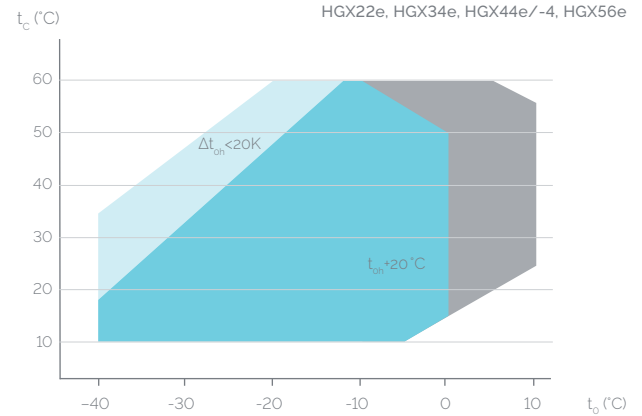
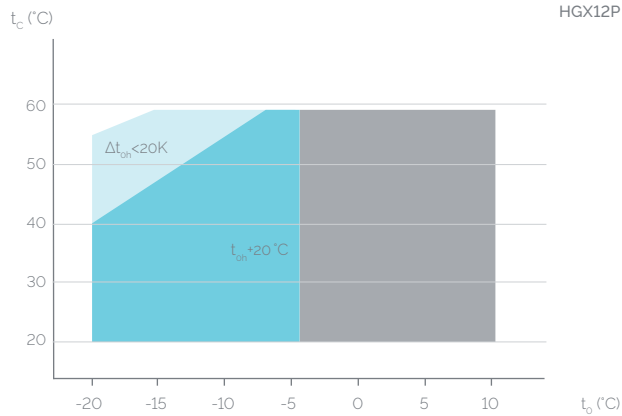
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# HG semi-hermetic compressors

## Operating limits

### R407F



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

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

### Notes

#### Operating limits

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

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

For further explanations consult [www.bock.de](http://www.bock.de).

#### Performance data

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

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

Conversion factor for 60 Hz = 1.2

Performance data for other operating points, see BOCK VAP software ([vap.bock.de](http://vap.bock.de)).

ASERCOM certified performance data



For compressors with this label, the performance data are certified according to the strict requirements of ASERCOM.

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# HG semi-hermetic compressors

## Performance data

### R407F | 50 Hz

| Type                            |    |     | Cooling capacity Q <sub>0</sub> [kW] |               |               |               |               |               |               |               | Power consumption P <sub>e</sub> [kW] |              |              |              |
|---------------------------------|----|-----|--------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------------------------------|--------------|--------------|--------------|
|                                 |    |     | Evaporating temperature °C           |               |               |               |               |               |               |               |                                       |              |              |              |
|                                 |    |     |                                      |               |               |               |               |               |               |               |                                       |              |              |              |
| HGX12P/60-4 S                   | 30 | Q P | 7240<br>110                          | 6570<br>113   | 5950<br>115   | 4840<br>115   | 3890<br>112   | 3080<br>106   | 2410<br>0.982 | 1850<br>0.894 | -                                     | -            | -            | -            |
|                                 |    | Q P | 6290<br>141                          | 5700<br>142   | 5150<br>140   | 4180<br>136   | 3340<br>127   | 2640<br>117   | 2040<br>106   | 1540<br>0.948 | -                                     | -            | -            | -            |
|                                 | 50 | Q P | 5300<br>167                          | 4800<br>164   | 4330<br>160   | 3490<br>151   | 2780<br>138   | 2170<br>124   | 1660<br>110   | 1220<br>0.963 | -                                     | -            | -            | -            |
|                                 |    |     |                                      |               |               |               |               |               |               |               |                                       |              |              |              |
| HGX12P/75-4<br>HGX12P/75-4 S    | 30 | Q P | 9010<br>139                          | 8200<br>143   | 7440<br>146   | 6090<br>146   | 4950<br>140   | 3960<br>133   | 3130<br>123   | 2430<br>112   | -                                     | -            | -            | -            |
|                                 |    | Q P | 7850<br>182                          | 7140<br>182   | 6470<br>180   | 5290<br>174   | 4310<br>162   | 3440<br>149   | 2690<br>136   | 2070<br>121   | -                                     | -            | -            | -            |
|                                 | 50 | Q P | 6670<br>2.15                         | 6060<br>2.11  | 5490<br>2.06  | 4480<br>1.94  | 3670<br>1.78  | 2910<br>1.61  | 2260<br>1.44  | 1720<br>1.27  | -                                     | -            | -            | -            |
|                                 |    |     |                                      |               |               |               |               |               |               |               |                                       |              |              |              |
| HGX12P/90-4<br>HGX12P/90-4 S    | 30 | Q P | 10800<br>171                         | 9780<br>174   | 8880<br>176   | 7270<br>175   | 5760<br>166   | 4620<br>155   | 3650<br>143   | 2840<br>129   | -                                     | -            | -            | -            |
|                                 |    | Q P | 9380<br>2.18                         | 8530<br>2.17  | 7740<br>2.14  | 6320<br>2.06  | 5020<br>1.89  | 4000<br>1.73  | 3140<br>1.55  | 2400<br>1.38  | -                                     | -            | -            | -            |
|                                 | 50 | Q P | 7990<br>2.60                         | 7260<br>2.55  | 6580<br>2.48  | 5370<br>2.32  | 4270<br>2.09  | 3370<br>1.87  | 2620<br>1.65  | 1980<br>1.44  | -                                     | -            | -            | -            |
|                                 |    |     |                                      |               |               |               |               |               |               |               |                                       |              |              |              |
| HGX12P/110-4<br>HGX12P/110-4 S  | 30 | Q P | 12500<br>2.01                        | 11300<br>2.04 | 10300<br>2.06 | 8420<br>2.03  | 6830<br>2.01  | 5510<br>1.88  | 4390<br>1.73  | 3440<br>1.57  | -                                     | -            | -            | -            |
|                                 |    | Q P | 10900<br>2.54                        | 9860<br>2.52  | 8960<br>2.50  | 7330<br>2.40  | 5970<br>2.31  | 4800<br>2.11  | 3790<br>1.89  | 2940<br>1.68  | -                                     | -            | -            | -            |
|                                 | 50 | Q P | 9160<br>3.04                         | 8330<br>2.98  | 7560<br>2.91  | 6180<br>2.72  | 5070<br>2.54  | 4040<br>2.27  | 3170<br>2.00  | 2430<br>1.74  | -                                     | -            | -            | -            |
|                                 |    |     |                                      |               |               |               |               |               |               |               |                                       |              |              |              |
| HGX22e/125-4<br>HGX22e/125-4 S  | 30 | Q P | 15400<br>2.25                        | 14100<br>2.26 | 12800<br>2.26 | 10600<br>2.22 | 8560<br>2.14  | 6860<br>2.03  | 5410<br>1.89  | 4190<br>1.74  | 3180<br>1.57                          | 2350<br>1.39 | 1690<br>1.22 | 1160<br>1.05 |
|                                 |    | Q P | 13600<br>2.81                        | 12400<br>2.77 | 11200<br>2.72 | 9180<br>2.60  | 7420<br>2.44  | 5910<br>2.26  | 4630<br>2.07  | 3560<br>1.87  | 2670<br>1.66                          | 1940<br>1.46 | 1360<br>1.27 | -            |
|                                 | 50 | Q P | 11700<br>3.35                        | 10600<br>3.25 | 9580<br>3.16  | 7800<br>2.94  | 6260<br>2.71  | 4950<br>2.47  | 3840<br>2.22  | 2920<br>1.97  | 2160<br>1.73                          | -            | -            | -            |
|                                 |    |     |                                      |               |               |               |               |               |               |               |                                       |              |              |              |
| HHGX22e/160-4<br>HGX22e/160-4 S | 30 | Q P | 19600<br>2.98                        | 17900<br>2.93 | 16300<br>2.88 | 13100<br>2.77 | 10600<br>2.61 | 8470<br>2.46  | 6740<br>2.32  | 5300<br>2.17  | 4110<br>2.01                          | 3120<br>1.81 | 2280<br>1.58 | 1520<br>1.30 |
|                                 |    | Q P | 17500<br>3.59                        | 15900<br>3.49 | 14400<br>3.39 | 11600<br>3.22 | 9300<br>2.99  | 7440<br>2.79  | 5890<br>2.58  | 4580<br>2.37  | 3490<br>2.14                          | 2540<br>1.87 | 1690<br>1.57 | -            |
|                                 | 50 | Q P | 15300<br>4.20                        | 13800<br>4.05 | 12500<br>3.90 | 10200<br>3.67 | 8140<br>3.37  | 6460<br>3.09  | 5040<br>2.80  | 3820<br>2.51  | 2770<br>2.19                          | -            | -            | -            |
|                                 |    |     |                                      |               |               |               |               |               |               |               |                                       |              |              |              |
| HGX22e/190-4<br>HGX22e/190-4 S  | 30 | Q P | 22700<br>3.85                        | 20800<br>3.73 | 19000<br>3.62 | 15800<br>3.52 | 13000<br>3.27 | 10600<br>3.04 | 8450<br>2.82  | 6680<br>2.60  | 5200<br>2.38                          | 3960<br>2.14 | 2940<br>1.88 | 2100<br>1.59 |
|                                 |    | Q P | 20000<br>4.64                        | 18300<br>4.46 | 16700<br>4.30 | 13900<br>4.12 | 11400<br>3.77 | 9180<br>3.46  | 7330<br>3.16  | 5770<br>2.87  | 4460<br>2.58                          | 3370<br>2.29 | 2450<br>1.98 | -            |
|                                 | 50 | Q P | 17400<br>5.47                        | 15900<br>5.24 | 14500<br>5.02 | 11900<br>4.72 | 9680<br>4.27  | 7790<br>3.85  | 6180<br>3.46  | 4830<br>3.09  | 3700<br>2.72                          | -            | -            | -            |
|                                 |    |     |                                      |               |               |               |               |               |               |               |                                       |              |              |              |
| HGX34e/215-4<br>HGX34e/215-4 S  | 30 | Q P | 25900<br>3.62                        | 23600<br>3.61 | 21400<br>3.57 | 17200<br>3.48 | 13900<br>3.29 | 11100<br>3.05 | 8570<br>2.77  | 6520<br>2.47  | 4820<br>2.17                          | 3430<br>1.88 | 2320<br>1.61 | 1450<br>1.38 |
|                                 |    | Q P | 22700<br>4.70                        | 20600<br>4.57 | 18600<br>4.43 | 14800<br>4.18 | 11800<br>3.81 | 9230<br>3.41  | 7080<br>3.01  | 5290<br>2.62  | 3840<br>2.24                          | 2680<br>1.91 | 1770<br>1.63 | -            |
|                                 | 50 | Q P | 19400<br>5.68                        | 17500<br>5.45 | 15700<br>5.20 | 12300<br>4.80 | 9650<br>4.26  | 7460<br>3.72  | 5650<br>3.20  | 4180<br>2.72  | 3020<br>2.29                          | -            | -            | -            |
|                                 |    |     |                                      |               |               |               |               |               |               |               |                                       |              |              |              |
| HGX34e/255-4<br>HGX34e/255-4 S  | 30 | Q P | 30300<br>3.83                        | 27700<br>3.92 | 25200<br>3.98 | 20500<br>4.05 | 16700<br>3.94 | 13400<br>3.73 | 10500<br>3.44 | 8020<br>3.10  | 5970<br>2.72                          | 4280<br>2.33 | 2910<br>1.96 | 1820<br>1.61 |
|                                 |    | Q P | 26300<br>5.05                        | 24000<br>5.04 | 21800<br>4.99 | 17600<br>4.92 | 14300<br>4.62 | 11400<br>4.25 | 8860<br>3.81  | 6760<br>3.34  | 5000<br>2.86                          | 3540<br>2.39 | 2360<br>1.94 | -            |
|                                 | 50 | Q P | 22000<br>6.15                        | 20000<br>6.03 | 18100<br>5.88 | 14500<br>5.67 | 11700<br>5.19 | 9230<br>4.65  | 7190<br>4.07  | 5470<br>3.47  | 4050<br>2.89                          | -            | -            | -            |
|                                 |    |     |                                      |               |               |               |               |               |               |               |                                       |              |              |              |
| HGX34e/315-4<br>HGX34e/315-4 S  | 30 | Q P | 38500<br>5.04                        | 34900<br>5.07 | 31700<br>5.07 | 25600<br>4.91 | 20600<br>4.72 | 16400<br>4.45 | 12900<br>4.11 | 9900<br>3.71  | 7460<br>3.27                          | 5450<br>2.82 | 3800<br>2.36 | 2430<br>1.91 |
|                                 |    | Q P | 33500<br>6.44                        | 30400<br>6.36 | 27500<br>6.25 | 22100<br>5.90 | 17700<br>5.52 | 14000<br>5.07 | 11000<br>4.57 | 8350<br>4.02  | 6230<br>3.46                          | 4470<br>2.89 | 3000<br>2.32 | -            |
|                                 | 50 | Q P | 28500<br>7.76                        | 25700<br>7.57 | 23200<br>7.35 | 18500<br>6.80 | 14800<br>6.23 | 11600<br>5.59 | 8990<br>4.92  | 6840<br>4.22  | 5070<br>3.51                          | -            | -            | -            |
|                                 |    |     |                                      |               |               |               |               |               |               |               |                                       |              |              |              |

Relating to 20 °C suction gas temperature  
without liquid subcooling

Motor version -S-  
(more powerful motor)

Supplementary cooling or  
reduced suction gas temperature

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# HG semi-hermetic compressors

## Performance data

### R407F | 50 Hz

| Type                                         |    | Cooling capacity $\dot{Q}_0$ [kW] |        |        |        |        |        |       |       |       |       |       | Power consumption $P_e$ [kW] |       |
|----------------------------------------------|----|-----------------------------------|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|------------------------------|-------|
|                                              |    | Evaporating temperature °C        |        |        |        |        |        |       |       |       |       |       |                              |       |
|                                              |    | Cond. temp. °C                    | 10     | 7,5    | 5      | 0      | -5     | -10   | -15   | -20   | -25   | -30   | -35                          | -40   |
| HGX34e/380-4<br>HGX34e/380-4 S               | 30 | Q                                 | 45700  | 41600  | 37800  | 30700  | 25000  | 20100 | 15900 | 12400 | 9460  | 7040  | 5030                         | 3320  |
|                                              |    | P                                 | 6.39   | 6.39   | 6.36   | 6.15   | 5.88   | 5.53  | 5.09  | 4.60  | 4.07  | 3.51  | 2.94                         | 2.38  |
|                                              | 40 | Q                                 | 39900  | 36200  | 32900  | 26500  | 21500  | 17200 | 13600 | 10600 | 8000  | 5870  | 4050                         |       |
|                                              |    | P                                 | 8.05   | 7.93   | 7.77   | 7.34   | 6.85   | 6.29  | 5.67  | 5.00  | 4.31  | 3.61  | 2.92                         |       |
|                                              | 50 | Q                                 | 33800  | 30700  | 27800  | 22300  | 18000  | 14400 | 11300 | 8760  | 6630  |       |                              |       |
|                                              |    | P                                 | 9.65   | 9.39   | 9.10   | 8.45   | 7.73   | 6.94  | 6.11  | 5.26  | 4.40  |       |                              |       |
| HGX44e/475-4<br>HGX44e/475-4 S               | 30 | Q                                 | 58200  | 53100  | 48400  | 39600  | 32300  | 26000 | 20600 | 16100 | 12400 | 9210  | 6640                         | 4520  |
|                                              |    | P                                 | 7.56   | 7.67   | 7.73   | 7.62   | 7.37   | 6.98  | 6.45  | 5.84  | 5.15  | 4.43  | 3.71                         | 3.00  |
|                                              | 40 | Q                                 | 51000  | 46500  | 42400  | 34500  | 28100  | 22600 | 17900 | 13900 | 10500 | 7620  | 5210                         |       |
|                                              |    | P                                 | 9.81   | 9.74   | 9.63   | 9.22   | 8.67   | 7.99  | 7.21  | 6.36  | 5.46  | 4.55  | 3.65                         |       |
|                                              | 50 | Q                                 | 43900  | 40000  | 36300  | 29400  | 23900  | 19100 | 15000 | 11500 | 8460  |       |                              |       |
|                                              |    | P                                 | 11.8   | 11.6   | 11.3   | 10.6   | 9.78   | 8.81  | 7.76  | 6.67  | 5.55  |       |                              |       |
| HGX44e/565-4<br>HGX44e/565-4 S               | 30 | Q                                 | 69400  | 63400  | 57800  | 47100  | 38500  | 31000 | 24700 | 19400 | 14900 | 11200 | 8120                         | 5600  |
|                                              |    | P                                 | 9.05   | 9.18   | 9.24   | 9.13   | 8.84   | 8.36  | 7.73  | 6.99  | 6.16  | 5.30  | 4.42                         | 3.57  |
|                                              | 40 | Q                                 | 61000  | 55700  | 50700  | 41100  | 33500  | 27000 | 21500 | 16700 | 12800 | 9330  | 6460                         |       |
|                                              |    | P                                 | 11.7   | 11.6   | 11.5   | 11.1   | 10.4   | 9.61  | 8.66  | 7.63  | 6.54  | 5.44  | 4.36                         |       |
|                                              | 50 | Q                                 | 52600  | 47900  | 43600  | 35100  | 28600  | 22900 | 18100 | 14000 | 10400 |       |                              |       |
|                                              |    | P                                 | 14.1   | 13.8   | 13.5   | 12.8   | 11.8   | 10.6  | 9.35  | 8.02  | 6.66  |       |                              |       |
| HGX44e/665-4<br>HGX44e/665-4 S <sup>1)</sup> | 30 | Q                                 | 81800  | 74700  | 68000  | 55700  | 45400  | 36500 | 29000 | 22600 | 17300 | 12900 | 9260                         | 6270  |
|                                              |    | P                                 | 10.5   | 10.6   | 10.7   | 10.6   | 10.2   | 9.72  | 9.00  | 8.15  | 7.20  | 6.20  | 5.18                         | 4.19  |
|                                              | 40 | Q                                 | 71600  | 65300  | 59400  | 48500  | 39400  | 31600 | 25000 | 19400 | 14700 | 10700 | 7220                         |       |
|                                              |    | P                                 | 13.6   | 13.5   | 13.4   | 12.8   | 12.0   | 11.1  | 10.0  | 8.88  | 7.63  | 6.36  | 5.11                         |       |
|                                              | 50 | Q                                 | 61600  | 56000  | 50900  | 41300  | 33400  | 26700 | 20900 | 16000 | 11800 |       |                              |       |
|                                              |    | P                                 | 16.5   | 16.2   | 15.8   | 14.8   | 13.6   | 12.3  | 10.8  | 9.33  | 7.78  |       |                              |       |
| HGX44e/770-4<br>HGX44e/770-4 S               | 30 | Q                                 | 93600  | 85500  | 77900  | 64300  | 52400  | 42200 | 33600 | 26300 | 20200 | 15100 | 10900                        | 7350  |
|                                              |    | P                                 | 12.1   | 12.3   | 12.4   | 12.3   | 11.9   | 11.3  | 10.4  | 9.50  | 8.42  | 7.29  | 6.16                         | 5.08  |
|                                              | 40 | Q                                 | 82000  | 74900  | 68200  | 56100  | 45700  | 36700 | 29100 | 22600 | 17100 | 12500 | 8480                         |       |
|                                              |    | P                                 | 15.8   | 15.7   | 15.5   | 14.9   | 14.0   | 12.9  | 11.7  | 10.3  | 8.99  | 7.58  | 6.20                         |       |
|                                              | 50 | Q                                 | 70500  | 64300  | 58400  | 47900  | 38900  | 31100 | 24400 | 18700 | 13900 |       |                              |       |
|                                              |    | P                                 | 19.2   | 18.8   | 18.3   | 17.2   | 15.8   | 14.3  | 12.7  | 11.0  | 9.27  |       |                              |       |
| HGX56e/850-4<br>HGX56e/850-4 S               | 30 | Q                                 | 104000 | 94600  | 86300  | 70700  | 57800  | 46600 | 37100 | 29100 | 22400 | 16800 | 12200                        | 8390  |
|                                              |    | P                                 | 13.5   | 13.7   | 13.8   | 13.6   | 13.2   | 12.5  | 11.6  | 10.4  | 9.26  | 7.96  | 6.64                         | 5.36  |
|                                              | 40 | Q                                 | 90800  | 82900  | 75500  | 61800  | 50400  | 40600 | 32200 | 25100 | 19100 | 14100 | 9680                         |       |
|                                              |    | P                                 | 17.5   | 17.4   | 17.2   | 16.5   | 15.5   | 14.3  | 12.9  | 11.4  | 9.82  | 8.18  | 6.55                         |       |
|                                              | 50 | Q                                 | 78100  | 71200  | 64700  | 52700  | 42900  | 34400 | 27200 | 21000 | 15600 |       |                              |       |
|                                              |    | P                                 | 21.3   | 20.8   | 20.3   | 19.1   | 17.5   | 15.8  | 13.9  | 12.0  | 10.0  |       |                              |       |
| HGX56e/995-4<br>HGX56e/995-4 S               | 30 | Q                                 | 122000 | 112000 | 102000 | 83700  | 68600  | 55500 | 44200 | 34600 | 26600 | 19800 | 14100                        | 9420  |
|                                              |    | P                                 | 16.5   | 16.5   | 16.4   | 16.0   | 15.4   | 14.5  | 13.4  | 12.1  | 10.7  | 9.23  | 7.65                         | 6.04  |
|                                              | 40 | Q                                 | 108000 | 98400  | 89700  | 73600  | 60000  | 48200 | 38100 | 29600 | 22300 | 16200 | 11000                        |       |
|                                              |    | P                                 | 20.9   | 20.6   | 20.2   | 19.3   | 18.0   | 16.6  | 15.0  | 13.2  | 11.3  | 9.38  | 7.36                         |       |
|                                              | 50 | Q                                 | 93700  | 85400  | 77600  | 63100  | 51100  | 40700 | 31900 | 24300 | 17900 |       |                              |       |
|                                              |    | P                                 | 25.1   | 24.4   | 23.8   | 22.2   | 20.4   | 18.4  | 16.2  | 13.9  | 11.4  |       |                              |       |
| HGX56e/1155-4<br>HGX56e/1155-4 S             | 30 | Q                                 | 141000 | 129000 | 117000 | 96000  | 78300  | 63100 | 50200 | 39300 | 30100 | 22500 | 16300                        | 11100 |
|                                              |    | P                                 | 18.9   | 19.2   | 19.3   | 19.2   | 18.6   | 17.6  | 16.3  | 14.8  | 13.1  | 11.3  | 9.59                         | 7.89  |
|                                              | 40 | Q                                 | 124000 | 113000 | 103000 | 83800  | 68200  | 54900 | 43500 | 33800 | 25600 | 18700 | 12700                        |       |
|                                              |    | P                                 | 24.6   | 24.4   | 24.1   | 23.4   | 22.0   | 20.3  | 18.3  | 16.2  | 14.0  | 11.8  | 9.65                         |       |
|                                              | 50 | Q                                 | 106000 | 96600  | 87800  | 71500  | 58000  | 46400 | 36500 | 28000 | 20700 |       |                              |       |
|                                              |    | P                                 | 29.8   | 29.2   | 28.5   | 27.0   | 24.9   | 22.5  | 19.9  | 17.2  | 14.4  |       |                              |       |
| HGX66e/1340-4<br>HGX66e/1340-4 S             | 30 | Q                                 | 164000 | 149000 | 136000 | 111000 | 89600  | 71900 | 56900 | 44300 | 33800 | 25000 |                              |       |
|                                              |    | P                                 | 23.1   | 23.0   | 22.8   | 22.1   | 21.0   | 19.6  | 17.9  | 16.1  | 14.2  | 12.2  |                              |       |
|                                              | 40 | Q                                 | 144000 | 131000 | 119000 | 96300  | 78000  | 62400 | 49100 | 38000 | 28700 |       |                              |       |
|                                              |    | P                                 | 29.0   | 28.5   | 27.8   | 26.3   | 24.4   | 22.3  | 19.9  | 17.5  | 15.0  |       |                              |       |
|                                              | 50 | Q                                 | 124000 | 113000 | 102000 | 82200  | 66200  | 52600 | 41100 | 31500 |       |       |                              |       |
|                                              |    | P                                 | 34.5   | 33.4   | 32.3   | 30.0   | 27.3   | 24.4  | 21.4  | 18.3  |       |       |                              |       |
| HGX66e/1540-4<br>HGX66e/1540-4 S             | 30 | Q                                 | 187000 | 171000 | 156000 | 127000 | 103000 | 82900 | 65800 | 51400 | 39300 | 29300 |                              |       |
|                                              |    | P                                 | 26.6   | 26.5   | 26.3   | 25.5   | 24.3   | 22.7  | 20.8  | 18.7  | 16.5  | 14.2  |                              |       |
|                                              | 40 | Q                                 | 165000 | 150000 | 137000 | 111000 | 89800  | 72000 | 57000 | 44300 | 33600 |       |                              |       |
|                                              |    | P                                 | 33.6   | 32.9   | 32.2   | 30.5   | 28.3   | 25.9  | 23.3  | 20.5  | 17.6  |       |                              |       |
|                                              | 50 | Q                                 | 143000 | 130000 | 118000 | 94600  | 76400  | 61000 | 47900 | 36900 |       |       |                              |       |
|                                              |    | P                                 | 40.1   | 38.9   | 37.6   | 35.0   | 31.9   | 28.6  | 25.1  | 21.6  |       |       |                              |       |

<sup>1)</sup> ASERCOM certified

Relating to 20 °C suction gas temperature without liquid subcooling

Motor version -S- (more powerful motor)

Supplementary cooling or reduced suction gas temperature

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# HG semi-hermetic compressors

## Performance data

### R407F | 50 Hz

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

Relating to 20 °C suction gas temperature  
without liquid subcooling

 Motor version -S-  
(more powerful motor)

 Supplementary cooling or  
reduced suction gas temperature

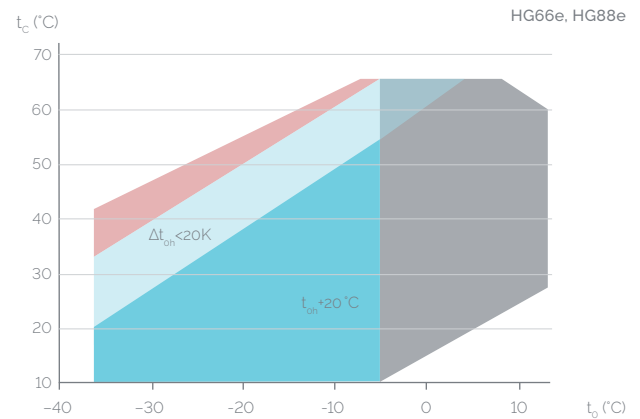
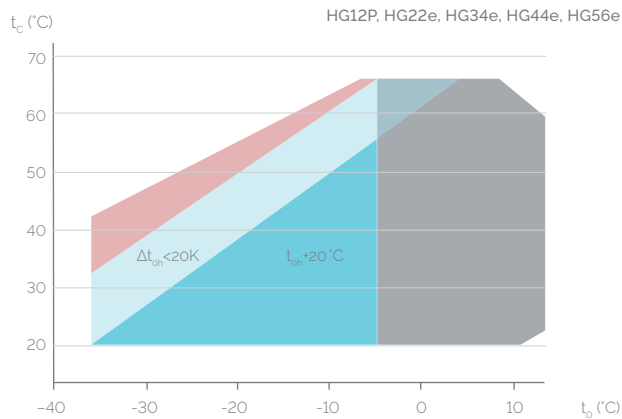
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# HG semi-hermetic compressors

## Operating limits

### R22



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

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

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

<sup>1)</sup> LP = low pressure, HP = high pressure

## Notes

### Operating limits

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

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

For further explanations consult [www.bock.de](http://www.bock.de).

### Performance data

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

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

Conversion factor for 60 Hz = 1.2

Performance data for other operating points, see BOCK VAP software ([vap.bock.de](http://vap.bock.de)).

# HG semi-hermetic compressors

## Performance data

### R22 | 50 Hz

| Type                         |                               | Cooling capacity $\dot{Q}_0$ [kW] |               |               |               |               |               |               |               | Power consumption $P_e$ [kW] |               |               |               |               |  |
|------------------------------|-------------------------------|-----------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|------------------------------|---------------|---------------|---------------|---------------|--|
|                              |                               | Evaporating temperature °C        |               |               |               |               |               |               |               |                              |               |               |               |               |  |
|                              |                               | 12.5                              | 10            | 7.5           | 5             | 0             | -5            | -10           | -15           | -20                          | -25           | -30           | -35           |               |  |
| HGX12P/60-4 S <sup>1)</sup>  | 30                            | Q P                               | 7120<br>0.889 | 6530<br>0.911 | 5980<br>0.927 | 5460<br>0.936 | 4520<br>0.939 | 3710<br>0.921 | 3000<br>0.886 | 2390<br>0.837                | 1870<br>0.776 | 1430<br>0.707 | 1040<br>0.632 | 708<br>0.553  |  |
|                              |                               | Q P                               | 6290<br>1.19  | 5760<br>1.19  | 5270<br>1.18  | 4800<br>1.17  | 3960<br>1.13  | 3230<br>1.08  | 2600<br>1.01  | 2050<br>0.936                | 1570<br>0.849 | 1160<br>0.758 |               |               |  |
|                              | 40                            | Q P                               | 5500<br>1.46  | 5030<br>1.44  | 4590<br>1.41  | 4170<br>1.38  | 3430<br>1.30  | 2780<br>1.21  | 2210<br>1.12  | 1720<br>1.01                 | 1290<br>0.906 |               |               |               |  |
|                              |                               | Q P                               | 8890<br>1.11  | 8150<br>1.13  | 7460<br>1.15  | 6820<br>1.17  | 5650<br>1.17  | 4630<br>1.15  | 3750<br>1.10  | 2990<br>1.04                 | 2340<br>0.970 | 1780<br>0.883 | 1300<br>0.789 | 885<br>0.691  |  |
|                              | HGX12P/75-4 S <sup>1)</sup>   | 40                                | Q P           | 7860<br>1.49  | 7200<br>1.49  | 6580<br>1.48  | 6000<br>1.46  | 4950<br>1.42  | 4040<br>1.35  | 3240<br>1.26                 | 2560<br>1.16  | 1970<br>1.06  | 1450<br>0.947 |               |  |
|                              |                               | 50                                | Q P           | 6870<br>1.83  | 6280<br>1.80  | 5730<br>1.76  | 5210<br>1.72  | 4280<br>1.63  | 3470<br>1.52  | 2760<br>1.40                 | 2150<br>1.26  |               |               |               |  |
| HGX12P/90-4 S <sup>1)</sup>  | 30                            | Q P                               | 10600<br>1.32 | 9720<br>1.35  | 8900<br>1.38  | 8130<br>1.39  | 6740<br>1.39  | 5520<br>1.37  | 4470<br>1.32  | 3570<br>1.24                 | 2790<br>1.15  | 2120<br>1.05  | 1550<br>0.941 | 1060<br>0.825 |  |
|                              |                               | Q P                               | 9380<br>1.78  | 8590<br>1.77  | 7850<br>1.76  | 7160<br>1.75  | 5900<br>1.69  | 4810<br>1.61  | 3870<br>1.51  | 3050<br>1.39                 | 2340<br>1.26  | 1730<br>1.12  |               |               |  |
|                              | 40                            | Q P                               | 8190<br>2.18  | 7490<br>2.15  | 6830<br>2.10  | 6220<br>2.06  | 5100<br>1.94  | 4140<br>1.81  | 3290<br>1.66  | 2560<br>1.51                 |               |               |               |               |  |
|                              |                               | Q P                               | 12500<br>1.55 | 11500<br>1.59 | 10500<br>1.62 | 9560<br>1.64  | 7920<br>1.64  | 6490<br>1.61  | 5260<br>1.55  | 4190<br>1.46                 | 3280<br>1.36  | 2500<br>1.23  | 1820<br>1.10  | 1240<br>0.970 |  |
|                              | HGX12P/110-4 S <sup>1)</sup>  | 40                                | Q P           | 11100<br>2.09 | 10100<br>2.09 | 9230<br>2.08  | 8410<br>2.05  | 6940<br>1.99  | 5660<br>1.89  | 4550<br>1.77                 | 3590<br>1.63  | 2750<br>1.48  | 2030<br>1.32  |               |  |
|                              |                               | 50                                | Q P           | 9630<br>2.57  | 8800<br>2.52  | 8030<br>2.48  | 7310<br>2.42  | 6000<br>2.29  | 4860<br>2.13  | 3870<br>1.96                 | 3010<br>1.77  |               |               |               |  |
| HGX22e/125-4 S <sup>1)</sup> | 30                            | Q P                               | 15700<br>1.94 | 14400<br>1.97 | 13200<br>1.99 | 12000<br>2.00 | 9930<br>1.98  | 8150<br>1.91  | 6630<br>1.82  | 5340<br>1.69                 | 4250<br>1.55  | 3340<br>1.40  | 2580<br>1.25  | 1960<br>1.09  |  |
|                              |                               | Q P                               | 13800<br>2.54 | 12700<br>2.53 | 11600<br>2.50 | 10600<br>2.47 | 8740<br>2.37  | 7170<br>2.24  | 5840<br>2.08  | 4700<br>1.90                 | 3730<br>1.72  | 2900<br>1.52  |               |               |  |
|                              | 40                            | Q P                               | 12000<br>3.11 | 11000<br>3.06 | 10000<br>2.99 | 9120<br>2.91  | 7540<br>2.73  | 6170<br>2.53  | 5010<br>2.31  | 4010<br>2.07                 |               |               |               |               |  |
|                              |                               | Q P                               | 19400<br>2.40 | 17800<br>2.44 | 16300<br>2.46 | 14900<br>2.47 | 12300<br>2.44 | 10100<br>2.36 | 8190<br>2.24  | 6590<br>2.09                 | 5240<br>1.92  | 4120<br>1.73  | 3190<br>1.54  | 2420<br>1.35  |  |
|                              | HHGX22e/160-4 S <sup>1)</sup> | 40                                | Q P           | 17100<br>3.13 | 15600<br>3.12 | 14300<br>3.09 | 13100<br>3.05 | 10800<br>2.93 | 8860<br>2.77  | 7200<br>2.57                 | 5790<br>2.35  | 4590<br>2.11  | 3580<br>1.88  |               |  |
|                              |                               | 50                                | Q P           | 14800<br>3.84 | 13500<br>3.77 | 12400<br>3.69 | 11300<br>3.60 | 9300<br>3.38  | 7620<br>3.13  | 6180<br>2.85                 | 4940<br>2.55  |               |               |               |  |
| HGX22e/190-4 S <sup>1)</sup> | 30                            | Q P                               | 23400<br>2.90 | 21400<br>2.94 | 19600<br>2.97 | 17900<br>2.98 | 14800<br>2.94 | 12200<br>2.84 | 9850<br>2.70  | 7920<br>2.52                 | 6300<br>2.31  | 4950<br>2.09  | 3840<br>1.86  | 2910<br>1.63  |  |
|                              |                               | Q P                               | 20600<br>3.78 | 18900<br>3.76 | 17200<br>3.72 | 15700<br>3.67 | 13000<br>3.52 | 10700<br>3.32 | 8680<br>3.09  | 6980<br>2.83                 | 5540<br>2.55  | 4320<br>2.27  |               |               |  |
|                              | 40                            | Q P                               | 17800<br>4.63 | 16300<br>4.54 | 14900<br>4.44 | 13600<br>4.33 | 11200<br>4.06 | 9200<br>3.76  | 7450<br>3.43  | 5960<br>3.08                 |               |               |               |               |  |
|                              |                               | Q P                               | 26500<br>3.30 | 24300<br>3.35 | 22200<br>3.38 | 20300<br>3.39 | 16800<br>3.35 | 13900<br>3.25 | 11300<br>3.08 | 9010<br>2.88                 | 7160<br>2.64  | 5620<br>2.38  | 4360<br>2.12  | 3310<br>1.86  |  |
|                              | HGX34e/215-4 S <sup>1)</sup>  | 40                                | Q P           | 23300<br>4.31 | 21400<br>4.29 | 19600<br>4.25 | 17900<br>4.19 | 14800<br>4.02 | 12200<br>3.80 | 9870<br>3.53                 | 7930<br>3.23  | 6290<br>2.91  | 4910<br>2.58  |               |  |
|                              |                               | 50                                | Q P           | 20200<br>5.29 | 18500<br>5.19 | 17000<br>5.07 | 15500<br>4.94 | 12800<br>4.64 | 10500<br>4.29 | 8480<br>3.91                 | 6780<br>3.51  |               |               |               |  |
| HGX34e/255-4 S <sup>1)</sup> | 30                            | Q P                               | 31200<br>3.87 | 28600<br>3.94 | 26200<br>3.98 | 23900<br>3.99 | 19800<br>3.94 | 16300<br>3.82 | 13200<br>3.62 | 10600<br>3.37                | 8440<br>3.10  | 6630<br>2.80  | 5130<br>2.49  | 3890<br>2.19  |  |
|                              |                               | Q P                               | 27400<br>5.06 | 25100<br>5.04 | 23000<br>4.99 | 21000<br>4.92 | 17400<br>4.72 | 14300<br>4.46 | 11600<br>4.14 | 9330<br>3.79                 | 7410<br>3.42  | 5780<br>3.03  |               |               |  |
|                              | 40                            | Q P                               | 23700<br>6.21 | 21800<br>6.09 | 19900<br>5.96 | 18200<br>5.80 | 15000<br>5.45 | 12300<br>5.04 | 9970<br>4.59  | 7970<br>4.12                 |               |               |               |               |  |
|                              |                               | Q P                               | 38500<br>4.79 | 35300<br>4.87 | 32300<br>4.92 | 29500<br>4.93 | 24500<br>4.87 | 20100<br>4.71 | 16400<br>4.49 | 13200<br>4.19                | 10500<br>3.83 | 8200<br>3.45  | 6340<br>3.07  | 4800<br>2.70  |  |
|                              | HGX34e/315-4 S <sup>1)</sup>  | 40                                | Q P           | 33900<br>6.26 | 31100<br>6.23 | 28500<br>6.17 | 26000<br>6.09 | 21600<br>5.84 | 17700<br>5.51 | 14400<br>5.13                | 11600<br>4.69 | 9160<br>4.22  | 7140<br>3.74  |               |  |
|                              |                               | 50                                | Q P           | 29400<br>7.67 | 26900<br>7.53 | 24600<br>7.37 | 22500<br>7.18 | 18600<br>6.74 | 15200<br>6.23 | 12400<br>5.69                | 9850<br>5.10  |               |               |               |  |

<sup>1)</sup> ASERCOM certified

Relating to 20 °C suction gas temperature without liquid subcooling

Motor version -S- (more powerful motor)

Supplementary cooling or reduced suction gas temperature

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# HG semi-hermetic compressors

## Performance data

R22 | 50 Hz

| Type                             |    |   | Cooling capacity $\dot{Q}_0$ [kW] |        |        |        |        |        |       |       | Power consumption $P_e$ [kW] |       |       |       |
|----------------------------------|----|---|-----------------------------------|--------|--------|--------|--------|--------|-------|-------|------------------------------|-------|-------|-------|
|                                  |    |   | Evaporating temperature °C        |        |        |        |        |        |       |       |                              |       |       |       |
|                                  |    |   | Cond.<br>temp. °C                 | 12.5   | 10     | 7.5    | 5      | 0      | -5    | -10   | -15                          | -20   | -25   | -30   |
| HGX34e/380-4<br>HGX34e/380-4 S   | 30 | Q | 46700                             | 42800  | 39100  | 35700  | 29600  | 24300  | 19800 | 16000 | 12700                        | 9950  | 7690  | 5830  |
|                                  |    | P | 5.82                              | 5.92   | 5.97   | 5.99   | 5.91   | 5.72   | 5.43  | 5.06  | 4.64                         | 4.19  | 3.73  | 3.29  |
|                                  | 40 | Q | 41000                             | 37600  | 34400  | 31400  | 26100  | 21400  | 17400 | 14000 | 11200                        | 8650  |       |       |
| HGX44e/475-4<br>HGX44e/475-4 S   | 30 | Q | 58200                             | 53600  | 49100  | 45000  | 37500  | 30800  | 25100 | 20300 | 16100                        | 12500 | 9390  | 6730  |
|                                  |    | P | 7.16                              | 7.27   | 7.34   | 7.36   | 7.29   | 7.02   | 6.68  | 6.25  | 5.73                         | 5.16  | 4.55  | 3.93  |
|                                  | 40 | Q | 52700                             | 48300  | 44300  | 40500  | 33600  | 27400  | 22200 | 17800 | 14000                        | 10700 |       |       |
| HGX44e/565-4<br>HGX44e/565-4 S   | 30 | Q | 69400                             | 63900  | 58600  | 53700  | 44800  | 36700  | 30000 | 24300 | 19300                        | 15100 | 11400 | 8180  |
|                                  |    | P | 8.50                              | 8.64   | 8.71   | 8.74   | 8.65   | 8.37   | 7.96  | 7.43  | 6.81                         | 6.12  | 5.39  | 4.64  |
|                                  | 40 | Q | 62900                             | 57700  | 52900  | 48400  | 40200  | 32600  | 26600 | 21300 | 16800                        | 12900 |       |       |
| HGX44e/665-4<br>HGX44e/665-4 S   | 30 | Q | 81000                             | 74500  | 68300  | 62600  | 52100  | 43300  | 35300 | 28500 | 22600                        | 17500 | 13200 | 9410  |
|                                  |    | P | 10.8                              | 10.8   | 10.7   | 10.6   | 10.2   | 9.79   | 9.11  | 8.33  | 7.48                         | 6.58  | 6.30  | 5.44  |
|                                  | 40 | Q | 73100                             | 67100  | 61500  | 56200  | 46600  | 38400  | 31200 | 24900 | 19600                        | 14900 |       |       |
| HGX44e/770-4<br>HGX44e/770-4 S   | 30 | Q | 93900                             | 86300  | 79200  | 72600  | 60500  | 50000  | 40900 | 33000 | 26200                        | 20400 | 15400 | 11100 |
|                                  |    | P | 11.5                              | 11.7   | 11.8   | 11.8   | 11.7   | 11.3   | 10.8  | 10.1  | 9.28                         | 8.35  | 7.36  | 6.36  |
|                                  | 40 | Q | 84700                             | 77800  | 71300  | 65200  | 54100  | 44500  | 36200 | 29000 | 22800                        | 17500 |       |       |
| HGX56e/850-4<br>HGX56e/850-4 S   | 30 | Q | 104000                            | 95400  | 87600  | 80200  | 66900  | 55000  | 45000 | 36400 | 29000                        | 22600 | 17100 | 12300 |
|                                  |    | P | 12.7                              | 12.9   | 13.0   | 13.0   | 12.9   | 12.5   | 11.9  | 11.1  | 10.2                         | 9.19  | 8.10  | 6.97  |
|                                  | 40 | Q | 93700                             | 86000  | 78800  | 72100  | 59900  | 49000  | 39900 | 32000 | 25200                        | 19400 |       |       |
| HGX56e/995-4<br>HGX56e/995-4 S   | 30 | Q | 122000                            | 112000 | 103000 | 93700  | 78000  | 64700  | 52800 | 42600 | 33800                        | 26200 | 19700 | 14100 |
|                                  |    | P | 14.9                              | 15.1   | 15.2   | 15.3   | 15.1   | 14.5   | 13.8  | 12.9  | 11.8                         | 10.6  | 9.42  | 8.14  |
|                                  | 40 | Q | 110000                            | 101000 | 91900  | 84000  | 69700  | 57400  | 46600 | 37300 | 29200                        | 22300 |       |       |
| HGX56e/1155-4<br>HGX56e/1155-4 S | 30 | Q | 141000                            | 130000 | 119000 | 109000 | 90700  | 74700  | 61000 | 49300 | 39200                        | 30500 | 23100 | 16600 |
|                                  |    | P | 18.0                              | 18.2   | 18.4   | 18.5   | 18.3   | 17.7   | 16.9  | 15.8  | 14.4                         | 13.0  | 11.4  | 9.89  |
|                                  | 40 | Q | 128000                            | 117000 | 107000 | 97800  | 81200  | 66500  | 54000 | 43300 | 34100                        | 26100 |       |       |
| HGX66e/1340-4<br>HGX66e/1340-4 S | 30 | Q | 168000                            | 155000 | 142000 | 131000 | 109000 | 89400  | 73100 | 59000 | 46800                        | 36400 | 27700 | 20400 |
|                                  |    | P | 21.4                              | 21.6   | 21.7   | 21.6   | 21.2   | 20.3   | 19.2  | 17.8  | 16.2                         | 14.4  | 12.6  | 10.8  |
|                                  | 40 | Q | 152000                            | 140000 | 128000 | 118000 | 97600  | 79700  | 64800 | 51900 | 40900                        | 31400 |       |       |
| HGX66e/1540-4<br>HGX66e/1540-4 S | 30 | Q | 192000                            | 177000 | 163000 | 150000 | 126000 | 103000 | 84200 | 68100 | 54200                        | 42300 | 32300 | 24000 |
|                                  |    | P | 24.6                              | 24.8   | 24.9   | 24.9   | 24.4   | 23.5   | 22.2  | 20.6  | 18.8                         | 16.8  | 14.7  | 12.6  |
|                                  | 40 | Q | 174000                            | 160000 | 147000 | 135000 | 113000 | 91800  | 74800 | 60200 | 47500                        | 36700 |       |       |
| HGX66e/1540-4<br>HGX66e/1540-4 S | 30 | Q | 192000                            | 177000 | 163000 | 150000 | 126000 | 103000 | 84200 | 68100 | 54200                        | 42300 | 32300 | 24000 |
|                                  |    | P | 24.6                              | 24.8   | 24.9   | 24.9   | 24.4   | 23.5   | 22.2  | 20.6  | 18.8                         | 16.8  | 14.7  | 12.6  |
|                                  | 40 | Q | 174000                            | 160000 | 147000 | 135000 | 113000 | 91800  | 74800 | 60200 | 47500                        | 36700 |       |       |
| HGX66e/1540-4<br>HGX66e/1540-4 S | 30 | Q | 192000                            | 177000 | 163000 | 150000 | 126000 | 103000 | 84200 | 68100 | 54200                        | 42300 | 32300 | 24000 |
|                                  |    | P | 24.6                              | 24.8   | 24.9   | 24.9   | 24.4   | 23.5   | 22.2  | 20.6  | 18.8                         | 16.8  | 14.7  | 12.6  |
|                                  | 40 | Q | 174000                            | 160000 | 147000 | 135000 | 113000 | 91800  | 74800 | 60200 | 47500                        | 36700 |       |       |
| HGX66e/1540-4<br>HGX66e/1540-4 S | 30 | Q | 192000                            | 177000 | 163000 | 150000 | 126000 | 103000 | 84200 | 68100 | 54200                        | 42300 | 32300 | 24000 |
|                                  |    | P | 24.6                              | 24.8   | 24.9   | 24.9   | 24.4   | 23.5   | 22.2  | 20.6  | 18.8                         | 16.8  | 14.7  | 12.6  |
|                                  | 40 | Q | 174000                            | 160000 | 147000 | 135000 | 113000 | 91800  | 74800 | 60200 | 47500                        | 36700 |       |       |
| HGX66e/1540-4<br>HGX66e/1540-4 S | 30 | Q | 192000                            | 177000 | 163000 | 150000 | 126000 | 103000 | 84200 | 68100 | 54200                        | 42300 | 32300 | 24000 |
|                                  |    | P | 24.6                              | 24.8   | 24.9   | 24.9   | 24.4   | 23.5   | 22.2  | 20.6  | 18.8                         | 16.8  | 14.7  | 12.6  |
|                                  | 40 | Q | 174000                            | 160000 | 147000 | 135000 | 113000 | 91800  | 74800 | 60200 | 47500                        | 36700 |       |       |
| HGX66e/1540-4<br>HGX66e/1540-4 S | 30 | Q | 192000                            | 177000 | 163000 | 150000 | 126000 | 103000 | 84200 | 68100 | 54200                        | 42300 | 32300 | 24000 |
|                                  |    | P | 24.6                              | 24.8   | 24.9   | 24.9   | 24.4   | 23.5   | 22.2  | 20.6  | 18.8                         | 16.8  | 14.7  | 12.6  |
|                                  | 40 | Q | 174000                            | 160000 | 147000 | 135000 | 113000 | 91800  | 74800 | 60200 | 47500                        | 36700 |       |       |
| HGX66e/1540-4<br>HGX66e/1540-4 S | 30 | Q | 192000                            | 177000 | 163000 | 150000 | 126000 | 103000 | 84200 | 68100 | 54200                        | 42300 | 32300 | 24000 |
|                                  |    | P | 24.6                              | 24.8   | 24.9   | 24.9   | 24.4   | 23.5   | 22.2  | 20.6  | 18.8                         | 16.8  | 14.7  | 12.6  |
|                                  | 40 | Q | 174000                            | 160000 | 147000 | 135000 | 113000 | 91800  | 74800 | 60200 | 47500                        | 36700 |       |       |
| HGX66e/1540-4<br>HGX66e/1540-4 S | 30 | Q | 192000                            | 177000 | 163000 | 150000 | 126000 | 103000 | 84200 | 68100 | 54200                        | 42300 | 32300 | 24000 |
|                                  |    | P | 24.6                              | 24.8   | 24.9   | 24.9   | 24.4   | 23.5   | 22.2  | 20.6  | 18.8                         | 16.8  | 14.7  | 12.6  |
|                                  | 40 | Q | 174000                            | 160000 | 147000 | 135000 | 113000 | 91800  | 74800 | 60200 | 47500                        | 36700 |       |       |
| HGX66e/1540-4<br>HGX66e/1540-4 S | 30 | Q | 192000                            | 177000 | 163000 | 150000 | 126000 | 103000 | 84200 | 68100 | 54200                        | 42300 | 32300 | 24000 |
|                                  |    | P | 24.6                              | 24.8   | 24.9   | 24.9   | 24.4   | 23.5   | 22.2  | 20.6  | 18.8                         | 16.8  | 14.7  | 12.6  |
|                                  | 40 | Q | 174000                            | 160000 | 147000 | 135000 | 113000 | 91800  | 74800 | 60200 | 47500                        | 36700 |       |       |
| HGX66e/1540-4<br>HGX66e/1540-4 S | 30 | Q | 192000                            | 177000 | 163000 | 150000 | 126000 | 103000 | 84200 | 68100 | 54200                        | 42300 | 32300 | 24000 |
|                                  |    | P | 24.6                              | 24.8   | 24.9   | 24.9   | 24.4   | 23.5   | 22.2  | 20.6  | 18.8                         | 16.8  | 14.7  | 12.6  |
|                                  | 40 | Q | 174000                            | 160000 | 147000 | 135000 | 113000 | 91800  | 74800 | 60200 | 47500                        | 36700 |       |       |
| HGX66e/1540-4<br>HGX66e/1540-4 S | 30 | Q | 192000                            | 177000 | 163000 | 150000 | 126000 | 103000 | 84200 | 68100 | 54200                        | 42300 | 32300 | 24000 |
|                                  |    | P | 24.6                              | 24.8   | 24.9   | 24.9   | 24.4   | 23.5   | 22.2  | 20.6  | 18.8                         | 16.8  | 14.7  | 12.6  |
|                                  | 40 | Q | 174000                            | 160000 | 147000 | 135000 | 113000 | 91800  | 74800 | 60200 | 47500                        | 36700 |       |       |
| HGX66e/1540-4<br>HGX66e/1540-4 S | 30 | Q | 192000                            | 177000 | 163000 | 150000 | 126000 | 103000 | 84200 | 68100 | 54200                        | 42300 | 32300 | 24000 |
|                                  |    | P | 24.6                              | 24.8   | 24.9   | 24.9   | 24.4   | 23.5   | 22.2  | 20.6  | 18.8                         | 16.8  | 14.7  | 12.6  |
|                                  | 40 | Q | 174000                            | 160000 | 147000 | 135000 | 113000 | 91800  | 74800 | 60200 | 47500                        | 36700 |       |       |
| HGX66e/1540-4<br>HGX66e/1540-4 S | 30 | Q | 192000                            | 177000 | 163000 | 150000 | 126000 | 103000 | 84200 | 68100 | 54200                        | 42300 | 32300 | 24000 |
|                                  |    | P | 24.6                              | 24.8   | 24.9   | 24.9   | 24.4   | 23.5   | 22.2  | 20.6  | 18.8                         | 16.8  | 14.7  | 12.6  |
|                                  | 40 | Q | 174000                            | 160000 | 147000 | 135000 | 113000 | 91800  | 74800 | 60200 | 47500                        | 36700 |       |       |
| HGX66e/1540-4<br>HGX66e/1540-4 S | 30 | Q | 192000                            | 177000 | 163000 | 150000 | 126000 | 103000 | 84200 | 68100 | 54200                        | 42300 | 32300 | 24000 |
|                                  |    | P | 24.6                              | 24.8   | 24.9   | 24.9   | 24.4   | 23.5   | 22.2  | 20.6  | 18.8                         | 16.8  | 14.7  | 12.6  |
|                                  | 40 | Q | 174000                            | 160000 | 147000 | 135000 | 113000 | 91800  | 74800 | 60200 | 47500                        | 36700 |       |       |
| HGX66e/1540-4<br>HGX66e/1540-4 S | 30 | Q | 192000                            | 177000 | 163000 | 150000 | 126000 | 103000 | 84200 | 68100 | 54200                        | 42300 | 32300 | 24000 |
|                                  |    | P | 24.6                              | 24.8   | 24.9   | 24.9   | 24.4   | 23.5   | 22.2  | 20.6  | 18.8                         | 16.8  | 14.7  | 12.6  |
|                                  | 40 | Q | 174000                            | 160000 | 147000 | 135000 | 113000 | 91800  | 74800 | 60200 | 47500                        | 36700 |       |       |
| HGX66e/1540-4<br>HGX66e/1540-4 S | 30 | Q | 192000                            | 177000 | 163000 | 150000 | 126000 | 103000 | 84200 | 68100 | 54200                        | 42300 | 32300 | 24000 |
|                                  |    | P | 24.6                              | 24.8   | 24.9   | 24.9   | 24.4   | 23.5   | 22.2  | 20.6  | 18.8                         | 16.8  | 14.7  | 12.6  |
|                                  | 40 | Q | 174000                            | 160000 | 147000 | 135000 | 113000 | 91800  | 74800 | 60200 | 47500                        | 36700 |       |       |
| HGX66e/1540-4<br>HGX66e/1540-4 S | 30 | Q | 192000                            | 177000 | 163000 | 150000 | 126000 | 103000 | 84200 | 68100 | 54200                        | 42300 | 32300 | 24000 |
|                                  |    | P | 24.6                              | 24.8   | 24.9   | 24.9   | 24.4   | 23.5   | 22.2  | 20.6  | 18.8                         | 16.8  | 14.7  | 12.6  |
|                                  | 40 | Q | 174000                            | 160000 | 147000 | 135000 | 113000 | 91800  | 74800 | 60200 | 47500                        | 36700 |       |       |
| HGX66e/1540-4<br>HGX66e/1540-4 S | 30 | Q | 192000                            | 177000 | 163000 | 150000 | 126000 | 103000 | 84200 | 68100 | 54200                        | 42300 | 32300 | 24000 |
|                                  |    | P | 24.6                              | 24.8   | 24.9   | 24.9   | 24.4   | 23.5   | 22.2  | 20.6  | 18.8                         | 16.8  | 14.7  | 12.6  |
|                                  | 40 | Q | 174000                            | 160000 | 147000 | 135000 | 113000 | 91800  | 74800 | 60200 | 47500                        | 36700 |       |       |
| HGX66e/1540-4<br>HGX66e/1540-4 S | 30 | Q | 192000                            | 177000 | 163000 | 150000 | 126000 | 103000 | 84200 | 68100 | 54200                        | 42300 | 32300 | 24000 |
|                                  |    | P | 24.6                              | 24.8   | 24.9   | 24.9   | 24.4   | 23.5   | 22.2  | 20.6  | 18.8                         | 16.8  | 14.7  | 12.6  |
|                                  | 40 | Q | 174000                            | 160000 | 147000 | 135000 | 113000 | 91800  | 74800 | 60200 | 47500                        | 36700 |       |       |
| HGX66e/1540-4<br>HGX66e/1540-4 S | 30 | Q | 192000                            | 177000 | 163000 | 150000 | 126000 | 103000 | 84200 | 68100 | 54200                        | 42300 | 32300 | 24000 |
|                                  |    | P | 24.6                              | 24.8   | 24.9   | 24.9   | 24.4   | 23.5   | 22.2  | 20.6  | 18.8                         | 16.8  | 14.7  | 12.6  |
|                                  | 40 | Q | 17                                |        |        |        |        |        |       |       |                              |       |       |       |

Relating to 20 °C suction gas temperature  
without liquid subcooling

Motor version -S-  
(more powerful motor)

Supplementary cooling or  
reduced suction gas temperature

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# HG semi-hermetic compressors

## Performance data

### R22 | 50 Hz

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

Relating to 20 °C suction gas temperature  
without liquid subcooling

 Motor version -S-  
(more powerful motor)

 Supplementary cooling or  
reduced suction gas temperature

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# HG semi-hermetic compressors

## Technical data

### HG

| Type           | Number<br>of<br>cylinders | Displacement      |                   | Electrical data       |                                          |            |                                                 |                                          |     | Weight | Connections <sup>5)</sup> |                    |    |      | Oil<br>charge | Fre-<br>quency<br>range |
|----------------|---------------------------|-------------------|-------------------|-----------------------|------------------------------------------|------------|-------------------------------------------------|------------------------------------------|-----|--------|---------------------------|--------------------|----|------|---------------|-------------------------|
|                |                           |                   |                   | Voltage <sup>1)</sup> | Max.<br>Working<br>current <sup>2)</sup> |            | Max.<br>Power<br>consump-<br>tion <sup>2)</sup> | Starting<br>current<br>(rotor<br>locked) |     |        | Discharge<br>line DV      | Suction<br>line SV |    |      |               |                         |
|                |                           | m³/h              |                   |                       | A                                        |            |                                                 | kW                                       |     |        |                           | A                  |    | kg   |               |                         |
|                |                           | 50 Hz<br>1450 rpm | 60 Hz<br>1740 rpm |                       | Δ                                        | Y          |                                                 | Δ                                        | Y   |        | mm                        | inch               | mm | inch | Ltr.          | Hz                      |
| HG12P/60-4 S   | 2                         | 5.40              | 6.40              | <sup>3)</sup>         | 6.8                                      | 3.9        | 2.2                                             | 40                                       | 23  | 48.0   | 12                        | ½                  | 16 | ⅝    | 0.8           | 30-70                   |
| HG12P/75-4     | 2                         | 6.70              | 8.10              | <sup>3)</sup>         | 7.1                                      | 4.1        | 2.3                                             | 40                                       | 23  | 48.0   | 12                        | ½                  | 16 | ⅝    | 0.8           | 30-70                   |
| HG12P/75-4 S   | 2                         | 6.70              | 8.10              | <sup>3)</sup>         | 8.0                                      | 4.6        | 2.6                                             | 43                                       | 25  | 49.0   | 12                        | ½                  | 16 | ⅝    | 0.8           | 30-70                   |
| HG12P/90-4     | 2                         | 8.00              | 9.60              | <sup>3)</sup>         | 8.5                                      | 4.9        | 2.8                                             | 43                                       | 25  | 49.0   | 12                        | ½                  | 16 | ⅝    | 0.8           | 30-70                   |
| HG12P/90-4 S   | 2                         | 8.00              | 9.60              | <sup>3)</sup>         | 9.1                                      | 5.3        | 3.0                                             | 45                                       | 26  | 49.0   | 12                        | ½                  | 16 | ⅝    | 0.8           | 30-70                   |
| HG12P/110-4    | 2                         | 9.40              | 11.30             | <sup>3)</sup>         | 9.2                                      | 5.3        | 3.1                                             | 43                                       | 25  | 49.0   | 12                        | ½                  | 16 | ⅝    | 0.8           | 30-70                   |
| HG12P/110-4 S  | 2                         | 9.40              | 11.30             | <sup>3)</sup>         | 10.6                                     | 6.1        | 3.6                                             | 45                                       | 26  | 49.0   | 12                        | ½                  | 16 | ⅝    | 0.8           | 30-70                   |
| HG22e/125-4    | 2                         | 11.10             | 13.30             | <sup>3)</sup>         | 9.3                                      | 5.4        | 3.0                                             | 69                                       | 40  | 74.0   | 16                        | ⅝                  | 22 | ⅞    | 1.0           | 30-70                   |
| HG22e/125-4 S  | 2                         | 11.10             | 13.30             | <sup>3)</sup>         | 10.8                                     | 6.2        | 3.6                                             | 69                                       | 40  | 74.0   | 16                        | ⅝                  | 22 | ⅞    | 1.0           | 30-70                   |
| HG22e/160-4    | 2                         | 13.70             | 16.40             | <sup>3)</sup>         | 11.1                                     | 6.4        | 3.7                                             | 69                                       | 40  | 74.0   | 16                        | ⅝                  | 22 | ⅞    | 1.0           | 30-70                   |
| HG22e/160-4 S  | 2                         | 13.70             | 16.40             | <sup>3)</sup>         | 13.1                                     | 7.6        | 4.4                                             | 87                                       | 50  | 76.0   | 16                        | ⅝                  | 22 | ⅞    | 1.0           | 30-70                   |
| HG22e/190-4    | 2                         | 16.50             | 19.80             | <sup>3)</sup>         | 13.8                                     | 8.0        | 4.8                                             | 69                                       | 40  | 74.0   | 16                        | ⅝                  | 22 | ⅞    | 1.0           | 30-70                   |
| HG22e/190-4 S  | 2                         | 16.50             | 19.80             | <sup>3)</sup>         | 16.2                                     | 9.4        | 5.6                                             | 87                                       | 50  | 75.0   | 16                        | ⅝                  | 22 | ⅞    | 1.0           | 30-70                   |
| HG34e/215-4    | 4                         | 18.80             | 22.60             | <sup>3)</sup>         | 14.0                                     | 8.1        | 4.8                                             | 87                                       | 50  | 92.0   | 22                        | ⅞                  | 28 | 1⅝   | 1.2           | 25-70                   |
| HG34e/215-4 S  | 4                         | 18.80             | 22.60             | <sup>3)</sup>         | 18.3                                     | 10.5       | 6.0                                             | 132                                      | 76  | 97.0   | 22                        | ⅞                  | 28 | 1⅝   | 1.2           | 25-70                   |
| HG34e/255-4    | 4                         | 22.10             | 26.60             | <sup>3)</sup>         | 17.0                                     | 9.8        | 6.0                                             | 87                                       | 50  | 92.0   | 22                        | ⅞                  | 28 | 1⅝   | 1.2           | 25-70                   |
| HG34e/255-4 S  | 4                         | 22.10             | 26.60             | <sup>3)</sup>         | 21.1                                     | 12.2       | 7.2                                             | 132                                      | 76  | 96.0   | 22                        | ⅞                  | 28 | 1⅝   | 1.2           | 25-70                   |
| HG34e/315-4    | 4                         | 27.30             | 32.80             | <sup>3)</sup>         | 21.1                                     | 12.2       | 7.4                                             | 111                                      | 64  | 94.0   | 22                        | ⅞                  | 28 | 1⅝   | 1.2           | 25-70                   |
| HG34e/315-4 S  | 4                         | 27.30             | 32.80             | <sup>3)</sup>         | 25.5                                     | 14.7       | 8.9                                             | 132                                      | 76  | 97.0   | 22                        | ⅞                  | 28 | 1⅝   | 1.2           | 25-70                   |
| HG34e/380-4    | 4                         | 33.10             | 39.70             | <sup>3)</sup>         | 26.1                                     | 15.1       | 9.3                                             | 111                                      | 64  | 93.0   | 22                        | ⅞                  | 28 | 1⅝   | 1.2           | 25-70                   |
| HG34e/380-4 S  | 4                         | 33.10             | 39.70             | <sup>3)</sup>         | 31.2                                     | 18.0       | 11.1                                            | 132                                      | 76  | 96.0   | 22                        | ⅞                  | 28 | 1⅝   | 1.2           | 25-70                   |
|                |                           | PW 1+2*           |                   |                       |                                          | PW1/PW1+2* |                                                 |                                          |     |        |                           |                    |    |      |               |                         |
| HG44e/475-4    | 4                         | 41.30             | 49.60             | <sup>4)</sup>         | 19.0                                     |            | 11.0                                            | 83                                       | 109 | 164.0  | 28                        | 1⅝                 | 35 | 1⅜   | 2.3           | 25-70                   |
| HG44e/475-4 S  | 4                         | 41.30             | 49.60             | <sup>4)</sup>         | 23.0                                     |            | 13.1                                            | 115                                      | 150 | 168.0  | 28                        | 1⅝                 | 35 | 1⅜   | 2.3           | 25-70                   |
| HG44e/565-4    | 4                         | 49.20             | 59.00             | <sup>4)</sup>         | 22.0                                     |            | 13.2                                            | 83                                       | 109 | 164.0  | 28                        | 1⅝                 | 35 | 1⅜   | 2.3           | 25-70                   |
| HG44e/565-4 S  | 4                         | 49.20             | 59.00             | <sup>4)</sup>         | 26.0                                     |            | 15.6                                            | 133                                      | 171 | 170.0  | 28                        | 1⅝                 | 42 | 1⅝   | 2.3           | 25-70                   |
| HG44e/665-4    | 4                         | 57.70             | 69.20             | <sup>4)</sup>         | 26.0                                     |            | 15.4                                            | 115                                      | 150 | 171.0  | 28                        | 1⅝                 | 42 | 1⅝   | 2.3           | 25-70                   |
| HG44e/665-4 S  | 4                         | 57.70             | 69.20             | <sup>4)</sup>         | 30.0                                     |            | 18.3                                            | 133                                      | 171 | 168.0  | 28                        | 1⅝                 | 42 | 1⅝   | 2.3           | 25-70                   |
| HG44e/770-4    | 4                         | 67.00             | 80.40             | <sup>4)</sup>         | 30.0                                     |            | 17.8                                            | 133                                      | 171 | 168.0  | 28                        | 1⅝                 | 42 | 1⅝   | 2.3           | 25-70                   |
| HG44e/770-4 S  | 4                         | 67.00             | 80.40             | <sup>4)</sup>         | 35.0                                     |            | 21.4                                            | 133                                      | 171 | 168.0  | 28                        | 1⅝                 | 42 | 1⅝   | 2.3           | 25-70                   |
| HG56e/850-4    | 6                         | 73.80             | 88.60             | <sup>4)</sup>         | 32.6                                     |            | 19.7                                            | 133                                      | 171 | 194.3  | 35                        | 1⅜                 | 54 | 2⅛   | 2.7           | 25-70                   |
| HG56e/850-4 S  | 6                         | 73.80             | 88.60             | <sup>4)</sup>         | 39.4                                     |            | 23.5                                            | 162                                      | 210 | 211.1  | 35                        | 1⅜                 | 54 | 2⅛   | 2.7           | 25-70                   |
| HG56e/995-4    | 6                         | 86.60             | 103.90            | <sup>4)</sup>         | 38.9                                     |            | 23.2                                            | 162                                      | 210 | 194.3  | 35                        | 1⅜                 | 54 | 2⅛   | 2.7           | 25-70                   |
| HG56e/995-4 S  | 6                         | 86.60             | 103.90            | <sup>4)</sup>         | 46.4                                     |            | 27.7                                            | 189                                      | 246 | 211.3  | 35                        | 1⅜                 | 54 | 2⅛   | 2.7           | 25-70                   |
| HG56e/1155-4   | 6                         | 100.40            | 120.50            | <sup>4)</sup>         | 46.9                                     |            | 28.0                                            | 189                                      | 246 | 211.8  | 35                        | 1⅜                 | 54 | 2⅛   | 2.7           | 25-70                   |
| HG56e/1155-4 S | 6                         | 100.40            | 120.50            | <sup>4)</sup>         | 58.3                                     |            | 33.3                                            | 253                                      | 330 | 220.6  | 35                        | 1⅜                 | 54 | 2⅛   | 2.7           | 25-70                   |

\*PW = Part Winding, motors for part winding start

1 = first part winding

2 = second part winding

# HG semi-hermetic compressors

## Technical data

### HG

| Type           | Number<br>of<br>cylinders | Displacement                  |                   | Electrical data       |                                          |                                                 |                                          |                      |                    | Weight | Connections <sup>5)</sup> |       |    |       | Oil<br>charge | Fre-<br>quency<br>range |
|----------------|---------------------------|-------------------------------|-------------------|-----------------------|------------------------------------------|-------------------------------------------------|------------------------------------------|----------------------|--------------------|--------|---------------------------|-------|----|-------|---------------|-------------------------|
|                |                           | 50 Hz/60Hz<br>(1450/1740 rpm) |                   | Voltage <sup>1)</sup> | Max.<br>Working<br>current <sup>2)</sup> | Max.<br>Power<br>consump-<br>tion <sup>2)</sup> | Starting<br>current<br>(rotor<br>locked) | Discharge<br>line DV | Suction<br>line SV |        |                           |       |    |       |               |                         |
|                |                           | m³/h                          |                   |                       |                                          |                                                 |                                          |                      |                    |        | A                         |       | kW |       |               |                         |
|                |                           | 50 Hz<br>1450 rpm             | 60 Hz<br>1740 rpm |                       | Δ                                        | Y                                               |                                          | Δ                    | Y                  |        | mm                        | inch  | mm | inch  | Ltr.          | Hz                      |
| HG66e/1340-4   | 6                         | 116.50                        | 139.80            | <sup>4)</sup>         | 53.7                                     |                                                 | 31.9                                     | 170                  | 275                | 282.0  | 42                        | 1 5⁄8 | 54 | 2 1⁄8 | 4.4           | 25-60                   |
| HG66e/1340-4 S | 6                         | 116.50                        | 139.80            | <sup>4)</sup>         | 65.3                                     |                                                 | 38.1                                     | 196                  | 335                | 287.0  | 42                        | 1 5⁄8 | 54 | 2 1⁄8 | 4.4           | 25-60                   |
| HG66e/1540-4   | 6                         | 133.80                        | 160.50            | <sup>4)</sup>         | 62.1                                     |                                                 | 37.2                                     | 170                  | 275                | 280.0  | 42                        | 1 5⁄8 | 54 | 2 1⁄8 | 4.4           | 25-60                   |
| HG66e/1540-4 S | 6                         | 133.80                        | 160.50            | <sup>4)</sup>         | 75.0                                     |                                                 | 44.4                                     | 196                  | 335                | 285.0  | 42                        | 1 5⁄8 | 54 | 2 1⁄8 | 4.4           | 25-60                   |
| HG66e/1750-4   | 6                         | 152.20                        | 182.60            | <sup>4)</sup>         | 71.9                                     |                                                 | 42.4                                     | 196                  | 335                | 280.0  | 42                        | 1 5⁄8 | 54 | 2 1⁄8 | 4.4           | 25-60                   |
| HG66e/1750-4 S | 6                         | 152.20                        | 182.60            | <sup>4)</sup>         | 86.8                                     |                                                 | 50.7                                     | 222                  | 361                | 282.0  | 42                        | 1 5⁄8 | 54 | 2 1⁄8 | 4.4           | 25-60                   |
| HG66e/2070-4   | 6                         | 180.00                        | 216.00            | <sup>4)</sup>         | 85.1                                     |                                                 | 50.7                                     | 196                  | 335                | 276.0  | 42                        | 1 5⁄8 | 64 | 2 1⁄8 | 4.4           | 25-60                   |
| HG66e/2070-4 S | 6                         | 180.00                        | 216.00            | <sup>4)</sup>         | 103.0                                    |                                                 | 60.7                                     | 222                  | 361                | 278.0  | 42                        | 1 5⁄8 | 64 | 2 1⁄8 | 4.4           | 25-60                   |
| HG88e/2400-4   | 8                         | 209.10                        | 250.90            | <sup>4)</sup>         | 101.0                                    |                                                 | 59.5                                     | 298                  | 438                | 452.0  | 54                        | 2 1⁄8 | 76 | 3 1⁄8 | 9.6           | 25-60                   |
| HG88e/2400-4 S | 8                         | 209.10                        | 250.90            | <sup>4)</sup>         | 120.0                                    |                                                 | 69.8                                     | 447                  | 657                | 452.0  | 54                        | 2 1⁄8 | 76 | 3 1⁄8 | 9.6           | 25-60                   |
| HG88e/2735-4   | 8                         | 237.90                        | 285.50            | <sup>4)</sup>         | 116.0                                    |                                                 | 67.1                                     | 386                  | 567                | 455.0  | 54                        | 2 1⁄8 | 76 | 3 1⁄8 | 9.6           | 25-60                   |
| HG88e/2735-4 S | 8                         | 237.90                        | 285.50            | <sup>4)</sup>         | 136.0                                    |                                                 | 80.0                                     | 447                  | 657                | 464.0  | 54                        | 2 1⁄8 | 76 | 3 1⁄8 | 9.6           | 25-60                   |
| HG88e/3235-4   | 8                         | 281.30                        | 337.60            | <sup>4)</sup>         | 135.0                                    |                                                 | 79.2                                     | 447                  | 657                | 459.0  | 54                        | 2 1⁄8 | 76 | 3 1⁄8 | 9.6           | 25-60                   |
| HG88e/3235-4 S | 8                         | 281.30                        | 337.60            | <sup>4)</sup>         | 162.0                                    |                                                 | 93.9                                     | 538                  | 791                | 467.0  | 54                        | 2 1⁄8 | 76 | 3 1⁄8 | 9.6           | 25-60                   |

\*PW = Part Winding, motors for part winding start

1 = first part winding

2 = second part winding

### Explanations

- 1) Tolerance (± 10 %) relates to the mean value of the voltage range. Other voltages and current types on request.
- 2) • The specifications for max. power consumption apply for 50 Hz operation. For 60 Hz operation, the specifications have to be multiplied by the factor 1.2. The max. working current remains unchanged.
- Take account of the max. operating current / max. power consumption when designing contactors, leads and fuses. Switches: Service category AC3

- 3) 220 – 240 V Δ / 380 – 420 V Y - 3 - 50 Hz,  
265 – 290 V Δ / 440 – 480 V Y - 3 - 60 Hz

- 4) PW = Part Winding, motors for part winding start (no start unloaders required)

- Winding ratios:  
HG44e, HG56e, HG66e, HG88e = 50 % / 50 %
- Designs for Y/Δ on request

- 5) For soldering connections

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

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

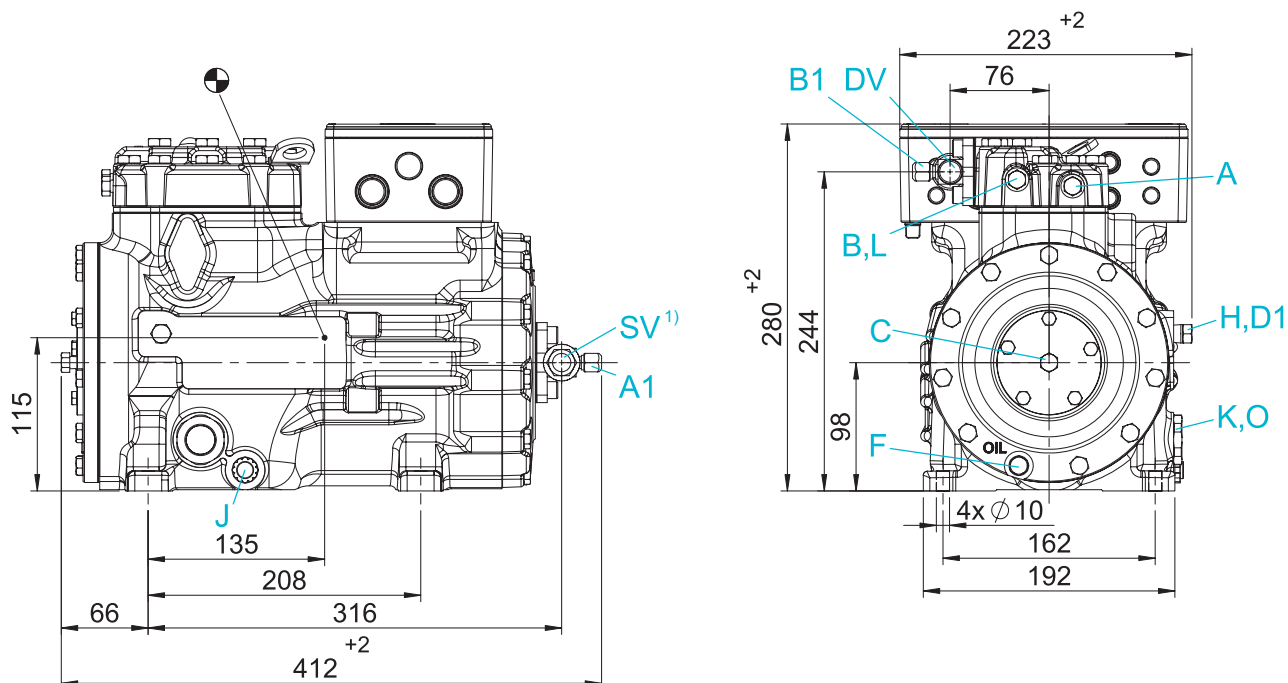
#### Oil sump heater 230 V - 1 - 50 / 60 Hz (option)

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

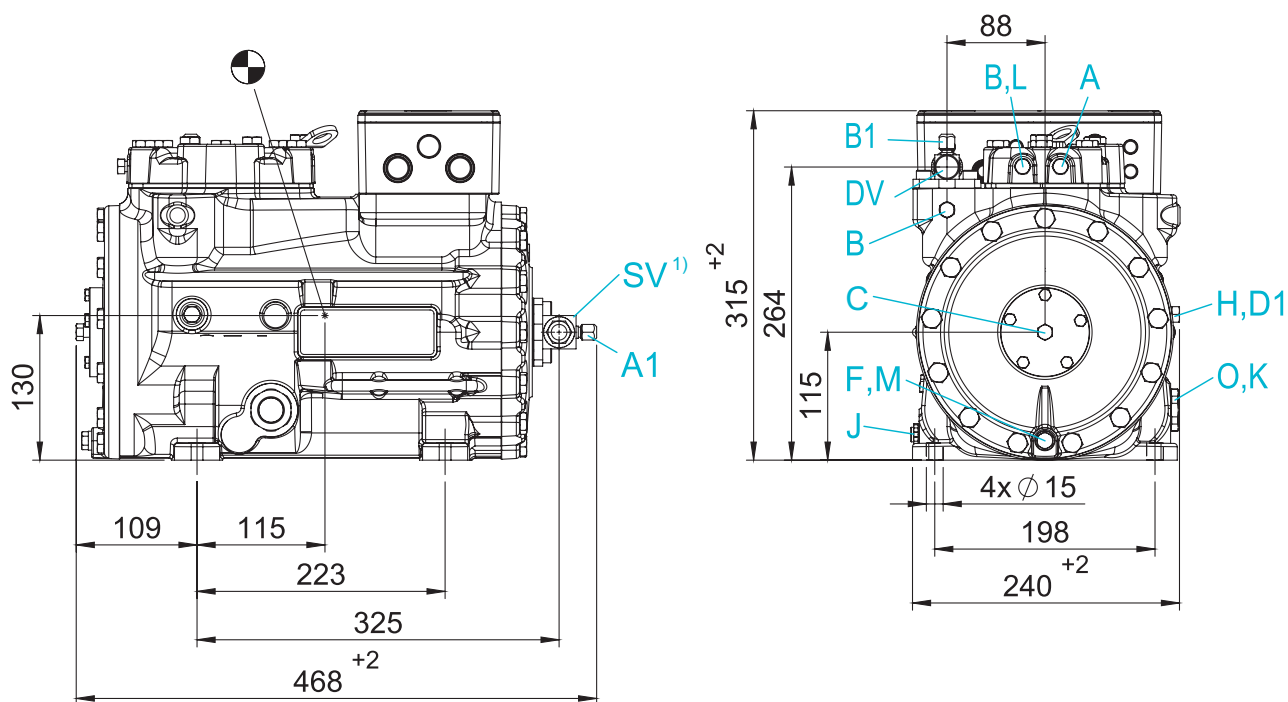
# HG semi-hermetic compressors

## Dimensions and connections

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



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

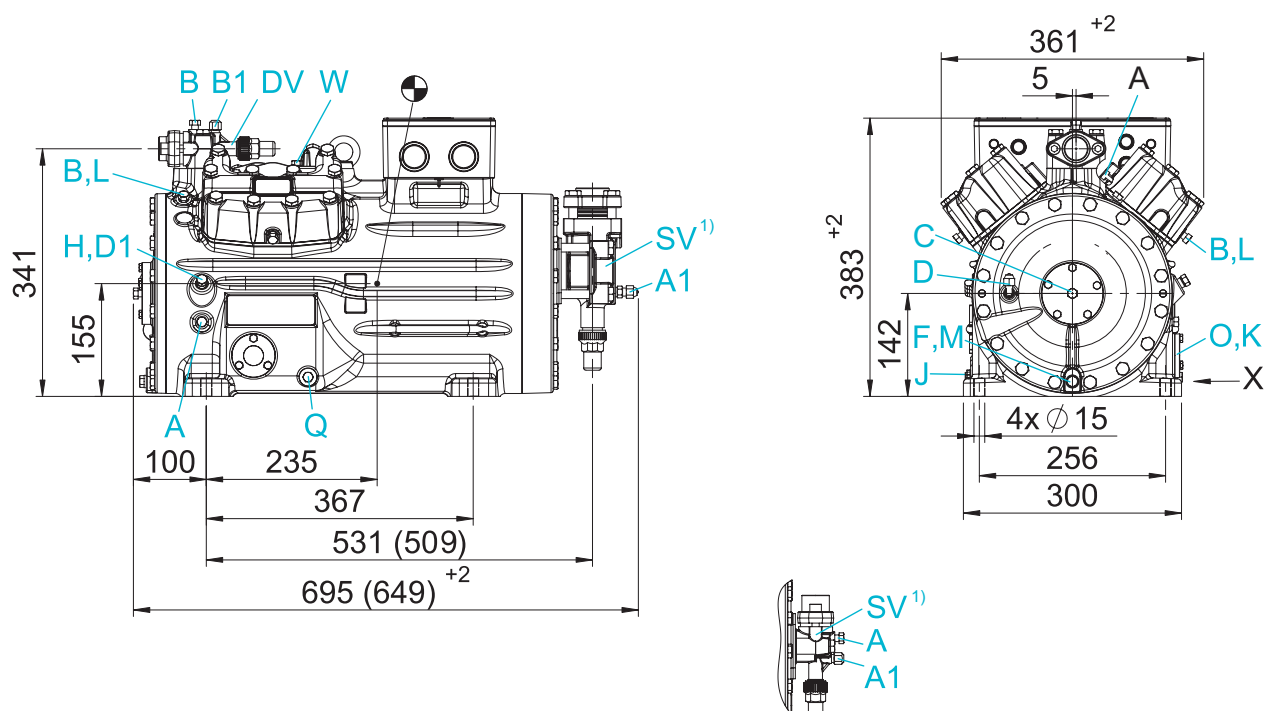
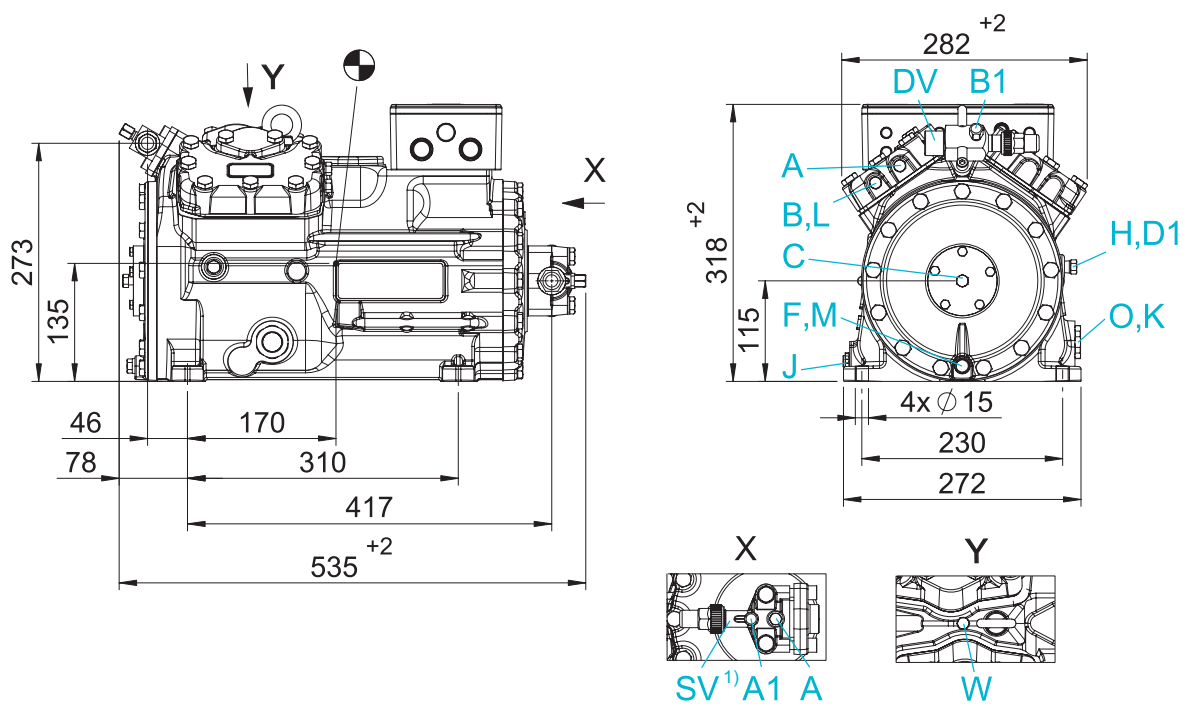


Dimensions in mm  
 ● Center of gravity  
<sup>1)</sup> SV 90° rotatable

Connections see page 64  
 Dimensions for anti-vibration pad see page 61



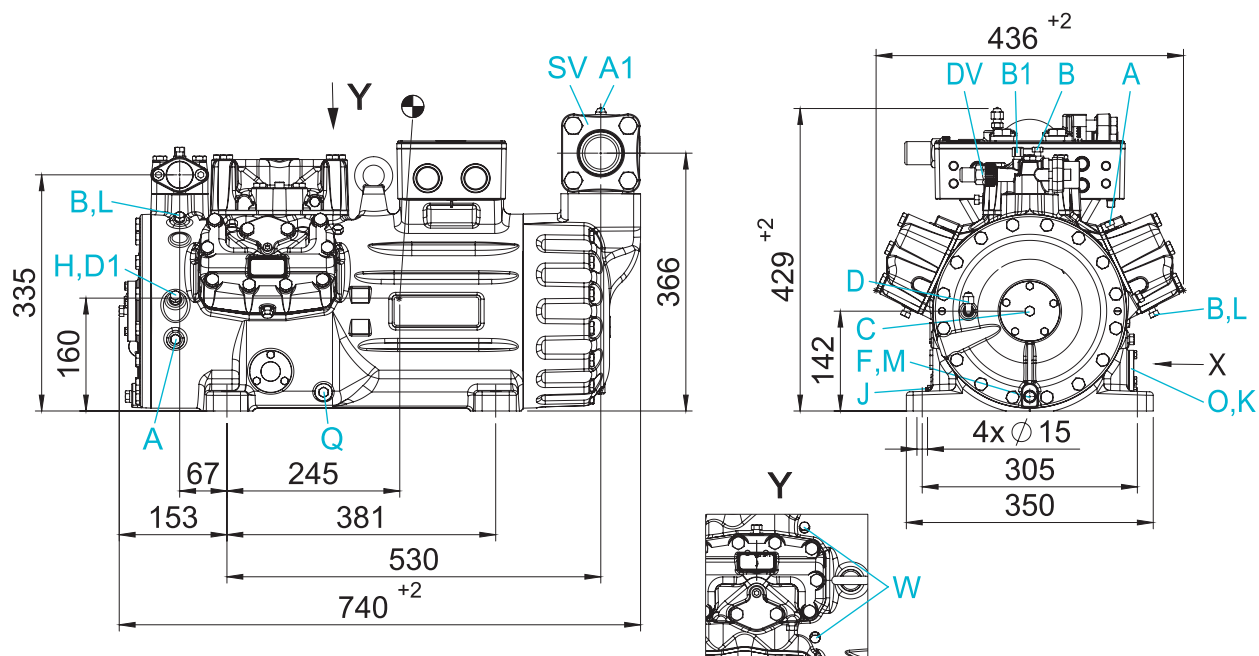
**HG34e** » HG34e/215-4 » HG34e/215-4 S » HG34e/255-4 » HG34e/255-4 S  
HG34e/315-4 » HG34e/315-4 S » HG34e/380-4 » HG34e/380-4 S



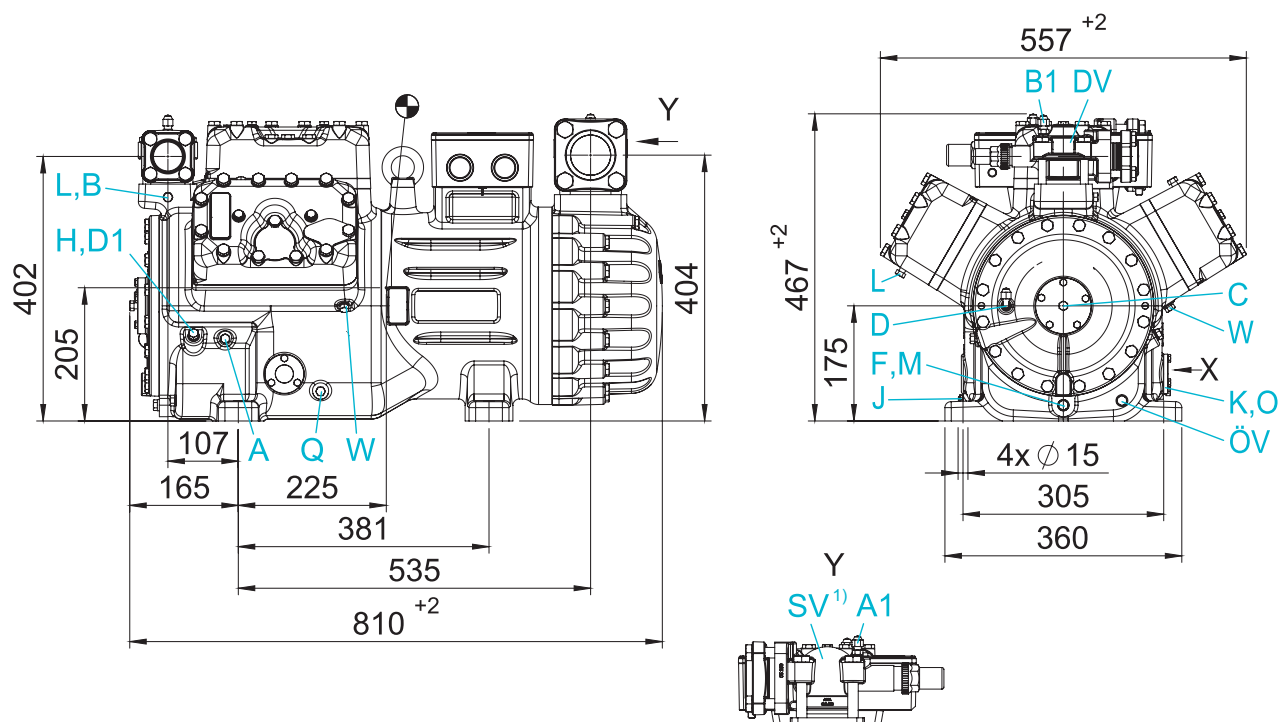
# HG semi-hermetic compressors

## Dimensions and connections

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



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



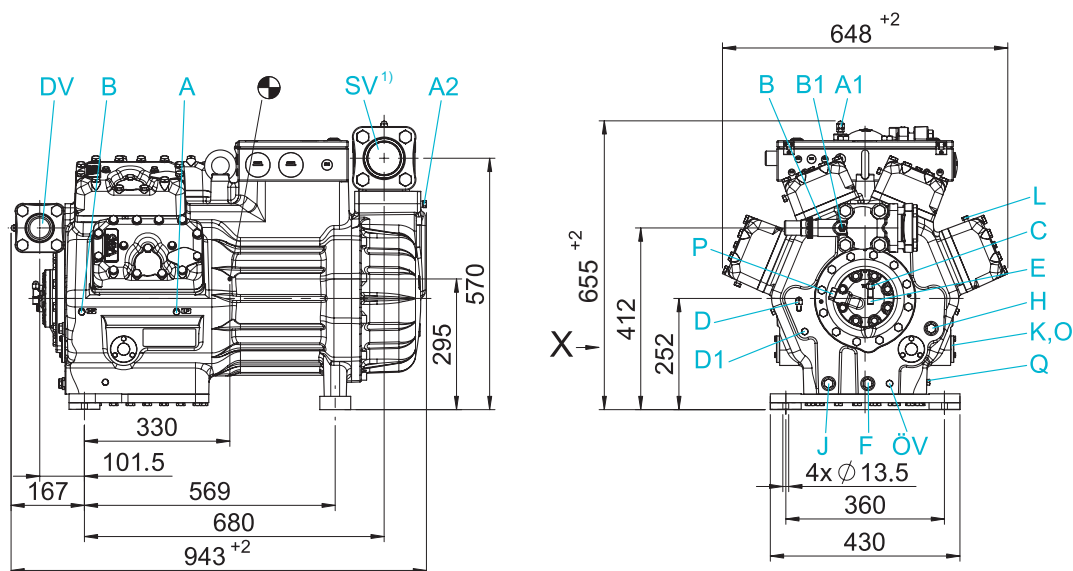
Dimensions in mm  
 ● Center of gravity  
<sup>1)</sup> SV 180° rotatable

Connections see page 64  
 Dimensions for anti-vibration pad see page 61

# HG semi-hermetic compressors

## Dimensions and connections

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



Dimensions in mm

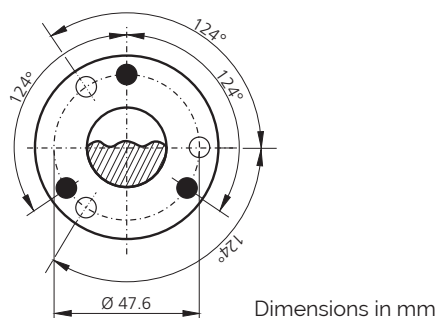
● Center of gravity

<sup>1)</sup> SV 180° rotatable

Connections see page 64

Dimensions for anti-vibration pad see below

### View X



Possibility to connect to oil level regulator

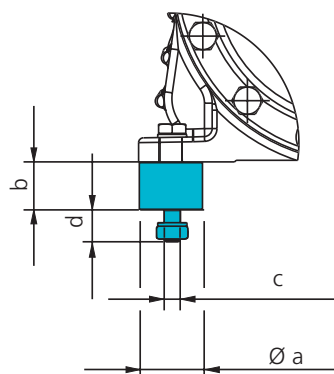
HG44e, HG56e, HG66e, HG88e

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

### Dimensions for anti-vibration pad

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

Dimensions in mm

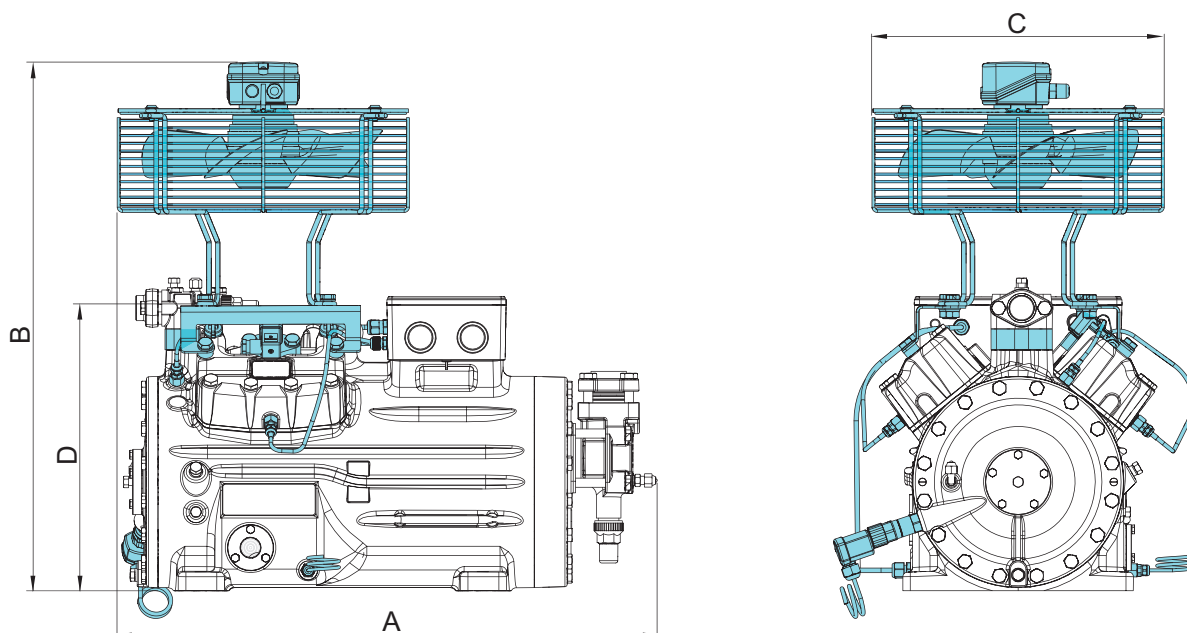


# HG semi-hermetic compressors

## Dimensions and connections

HG12P HG22e HG34e HG44e HG56e

Dimensions with accessories



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

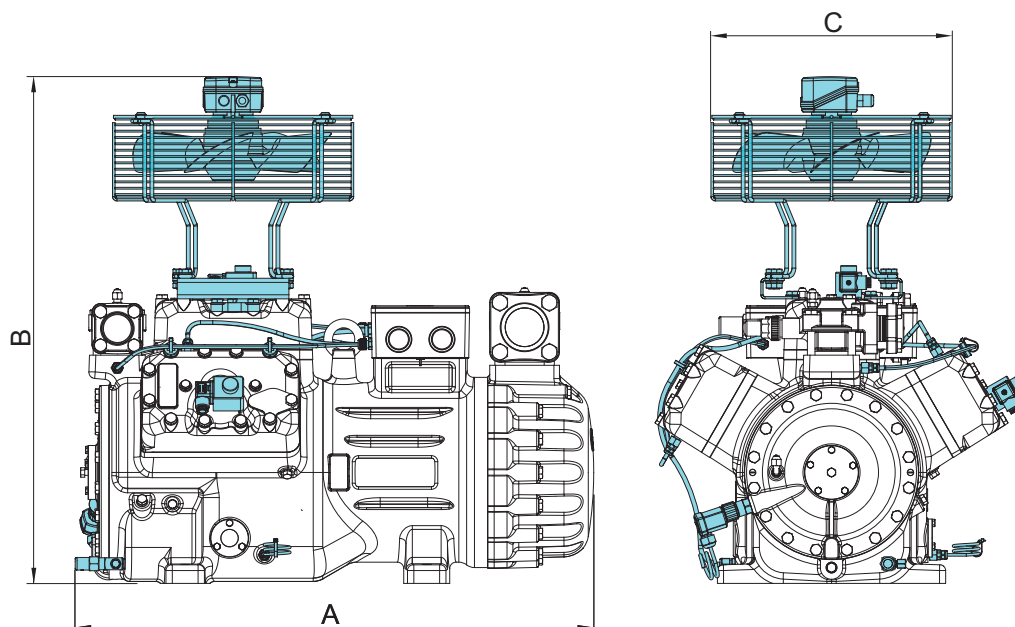
Dimensions in mm

# HG semi-hermetic compressors

## Dimensions and connections

### HG66e

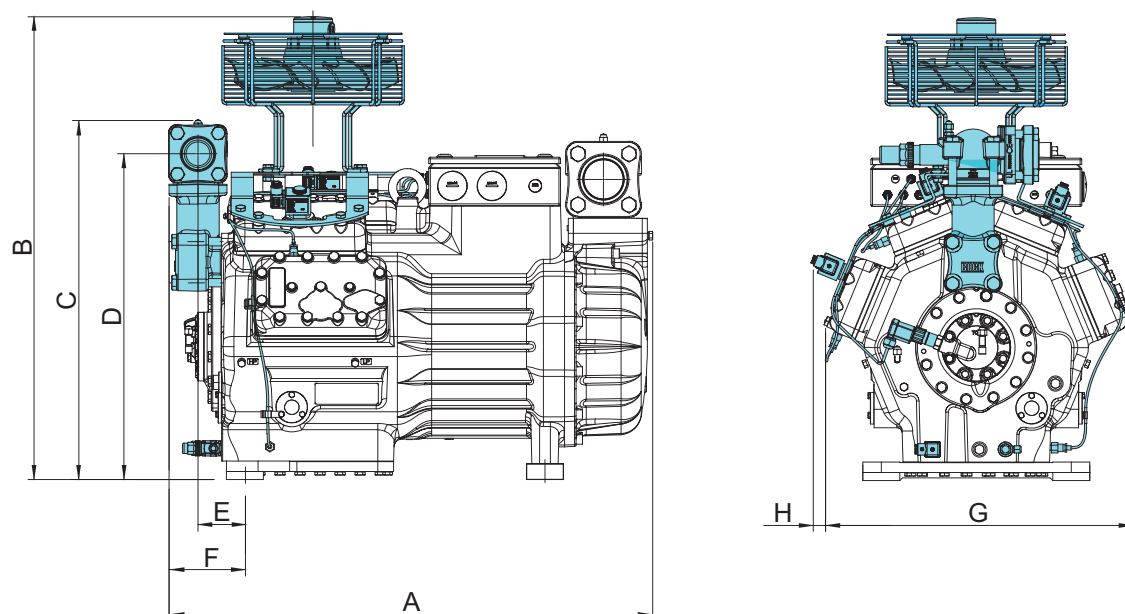
### Dimensions with accessories



| Type             | A       | B       | C       |
|------------------|---------|---------|---------|
| HG66e            | ca. 820 | ca. 800 | ca. 380 |
| Dimensions in mm |         |         |         |

### HG88e

### Dimensions with accessories



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

Dimensions in mm



# HG semi-hermetic compressors

## Dimensions and connections

| Connections |                                             | HG12P                                  | HG22e            | HG34e            | HG44e     | HG56e       | HG66e       | HG88e     |
|-------------|---------------------------------------------|----------------------------------------|------------------|------------------|-----------|-------------|-------------|-----------|
| SV          | Suction line                                | Please refer to technical data page 56 |                  |                  |           |             |             |           |
| DV          | Discharge line                              |                                        |                  |                  |           |             |             |           |
| A           | Connection suction side, not lockable       | 1/8" NPTF                              | 1/8" NPTF        | 1/8" NPTF        | 1/8" NPTF | 1/8" NPTF   | 1/8" NPTF   | 1/8" NPTF |
| A1          | Connection suction side, lockable           | 7/16" UNF                              | 7/16" UNF        | 7/16" UNF        | 7/16" UNF | 7/16" UNF   | 7/16" UNF   | 7/16" UNF |
| A2          | Connection suction side, not lockable       | -                                      | -                | -                | -         | -           | -           | 1/4" NPTF |
| B           | Connection discharge side, not lockable     | 1/8" NPTF                              | 1/8" NPTF        | 1/8" NPTF        | 1/8" NPTF | 1/8" NPTF   | 1/8" NPTF   | 1/8" NPTF |
| B1          | Connection discharge side, lockable         | 7/16" UNF                              | 7/16" UNF        | 7/16" UNF        | 7/16" UNF | 7/16" UNF   | 7/16" UNF   | 7/16" UNF |
| C           | Connection oil pressure safety switch HP    | 1/8" NPTF                              | 1/8" NPTF        | 1/8" NPTF        | 1/8" NPTF | 1/8" NPTF   | 1/8" NPTF   | 7/16" UNF |
| D           | Connection oil pressure safety switch LP    | -                                      | -                | -                | 7/16" UNF | 7/16" UNF   | 7/16" UNF   | 7/16" UNF |
| D1          | Connection oil return from oil separator    | 1/4" NPTF                              | 1/4" NPTF        | 1/4" NPTF        | 1/4" NPTF | 1/4" NPTF   | 1/4" NPTF   | 1/4" NPTF |
| F           | Oil drain plug                              | M8                                     | M12 x 15         | M12 x 15         | M12 x 15  | M12 x 15    | M12 x 15    | M22 x 15  |
| H           | Oil charge plug                             | 1/4" NPTF                              | 1/4" NPTF        | 1/4" NPTF        | 1/4" NPTF | 1/4" NPTF   | 1/4" NPTF   | M22 x 15  |
| J           | Connection oil sump heater                  | 3/8" NPTF                              | 3/8" NPTF        | 3/8" NPTF        | 3/8" NPTF | 3/8" NPTF   | 3/8" NPTF   | M22 x 15  |
| K           | Sight glass                                 | 1 1/8" - 18 UNEF                       | 1 1/8" - 18 UNEF | 1 1/8" - 18 UNEF | 3 hole M6 | 3 hole M6   | 3 hole M6   | 3 hole M6 |
| L           | Connection thermal protection thermostat    | 1/8" NPTF                              | 1/8" NPTF        | 1/8" NPTF        | 1/8" NPTF | 1/8" NPTF   | 1/8" NPTF   | 1/8" NPTF |
| M           | Oil strainer                                | -                                      | M12 x 15         | M12 x 15         | M12 x 15  | M12 x 15    | M12 x 15    | M22 x 15  |
| O           | Connection oil level regulator              | 1 1/8" - 18 UNEF                       | 1 1/8" - 18 UNEF | 1 1/8" - 18 UNEF | 1)        | 1)          | 1)          | 1)        |
| ÖV          | Connection oil service valve                | -                                      | -                | -                | -         | -           | 1/4" NPTF   | 1/4" NPTF |
| P           | Connection oil pressure differential sensor | -                                      | -                | -                | -         | -           | -           | M20 x 15  |
| Q           | Connection oil temperature sensor           | -                                      | -                | -                | 1/8" NPTF | 1/8" NPTF   | 1/8" NPTF   | 1/8" NPTF |
| W           | Connection for refrigerant injection        | -                                      | -                | 1/8" NPTF        | 1/8" NPTF | 2 1/8" NPTF | 2 1/8" NPTF | -         |

<sup>1)</sup> Dimensions see view X page 61

# HG semi-hermetic compressors

## Scope of supply and accessories

|                                                                                                                                                                          | HG12P                                                           | HG22e           | HG34e           | HG44e           | HG56e           | HG66e           | HG88e           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Semi-hermetic two-cylinder reciprocating compressor with drive motor for direct start<br>220–240 V Δ / 380–420 V Y - 3 - 50 Hz<br>265–290 V Δ / 440–480 V Y - 3 - 60 Hz  | ●                                                               | ●               | –               | –               | –               | –               | –               |
| Semi-hermetic four-cylinder reciprocating compressor with drive motor for direct start<br>220–240 V Δ / 380–420 V Y - 3 - 50 Hz<br>265–290 V Δ / 440–480 V Y - 3 - 60 Hz | –                                                               | –               | ●               | –               | –               | –               | –               |
| Semi-hermetic four-cylinder reciprocating compressor with drive motor for part winding start (50/50)<br>380–420 V Y/YY - 3 - 50 Hz<br>440–480 V Y/YY - 3 - 60 Hz         | –                                                               | –               | –               | ●               | –               | –               | –               |
| LSemi-hermetic six-cylinder reciprocating compressor with drive motor for part winding start (50/50)<br>380–420 V Y/YY - 3 - 50 Hz<br>440–480 V Y/YY - 3 - 60 Hz         | –                                                               | –               | –               | –               | ●               | ●               | –               |
| Semi-hermetic eight-cylinder reciprocating compressor with drive motor for part winding start (50/50)<br>380–420 V Y/YY - 3 - 50 Hz<br>440–480 V Y/YY - 3 - 60 Hz        | –                                                               | –               | –               | –               | –               | –               | ●               |
| Special voltage and/or frequency                                                                                                                                         | ○ <sup>3)</sup>                                                 | ○ <sup>3)</sup> | ○ <sup>3)</sup> | ○ <sup>3)</sup> | ○ <sup>3)</sup> | ○ <sup>3)</sup> | ○ <sup>3)</sup> |
| Winding protection with PTC resistor sensors with electronic triggering unit INT69 G (230 V)                                                                             | ●                                                               | ●               | ●               | ●               | ●               | ●               | ●               |
| ① Thermal protection PTC                                                                                                                                                 | ○ <sup>2)</sup>                                                 | ○ <sup>2)</sup> | ○ <sup>2)</sup> | ○ <sup>2)</sup> | ○ <sup>2)</sup> | ○ <sup>2)</sup> | ○ <sup>2)</sup> |
| Oil pump                                                                                                                                                                 | ●                                                               | ●               | ●               | ●               | ●               | ●               | ●               |
| Oil charge: FUCHS Reniso SP46, HGX: FUCHS Rensio Triton SE55                                                                                                             | ●                                                               | ●               | ●               | ●               | ●               | ●               | ●               |
| Inert gas charge                                                                                                                                                         | ●                                                               | ●               | ●               | ●               | ●               | ●               | ●               |
| 4 anti-vibration pads                                                                                                                                                    | ● <sup>1)</sup>                                                 | ● <sup>1)</sup> | ● <sup>1)</sup> | ● <sup>1)</sup> | ● <sup>1)</sup> | ● <sup>1)</sup> | ● <sup>1)</sup> |
| Internal safety valve                                                                                                                                                    | –                                                               | –               | –               | ●               | ●               | ●               | ●               |
| Suction and discharge line valve                                                                                                                                         | ●                                                               | ●               | ●               | ●               | ●               | ●               | ●               |
| Sight glasses                                                                                                                                                            | One                                                             | ●               | ●               | ●               | ●               | ●               | –               |
|                                                                                                                                                                          | Three                                                           | –               | –               | –               | –               | –               | ●               |
| ② Oil sump heater                                                                                                                                                        | 110–240 V - 1 - 50/60 Hz, 50–120 W, PTC heater, self-regulating | ○ <sup>2)</sup> | ○ <sup>2)</sup> | –               | –               | –               | –               |
|                                                                                                                                                                          | 220–240 V - 1 - 50/60 Hz, 160 W                                 | –               | –               | ○ <sup>2)</sup> | ○ <sup>2)</sup> | ○ <sup>2)</sup> | –               |
|                                                                                                                                                                          | 220–240 V - 1 - 50/60 Hz, 200 W                                 | –               | –               | –               | –               | –               | ○ <sup>2)</sup> |
| Rear bearing flange prepared for oil differential pressure sensor                                                                                                        | –                                                               | –               | –               | ○ <sup>2)</sup> | ○ <sup>2)</sup> | ○ <sup>2)</sup> | ● <sup>2)</sup> |
| ③ Oil differential pressure sensor DELTA-P II 220–240 V - 1 - 50/60 Hz                                                                                                   | –                                                               | –               | –               | ○ <sup>1)</sup> | ○ <sup>1)</sup> | ○ <sup>1)</sup> | ○ <sup>1)</sup> |
| ④ Oil pressure safety switch                                                                                                                                             | 230 V - 1 - 50/60 Hz, IP20 MP54                                 | –               | –               | ○ <sup>1)</sup> | ○ <sup>1)</sup> | ○ <sup>1)</sup> | ○ <sup>1)</sup> |
|                                                                                                                                                                          | 230 V - 1 - 50/60 Hz, IP20 MP55                                 | ○ <sup>1)</sup> | ○ <sup>1)</sup> | ○ <sup>1)</sup> | –               | –               | –               |
| ⑤ Oil service valve                                                                                                                                                      | –                                                               | –               | –               | –               | –               | ○ <sup>2)</sup> | ○ <sup>2)</sup> |
| ⑥ Capacity regulator                                                                                                                                                     | 1 capacity regulator = 50% residual capacity                    | –               | –               | ○ <sup>2)</sup> | –               | –               | –               |
|                                                                                                                                                                          | 1–2 capacity regulators = 66/33% residual capacity              | –               | –               | –               | ○ <sup>2)</sup> | ○ <sup>2)</sup> | –               |
|                                                                                                                                                                          | 1–3 capacity regulators = 75/50/25% residual capacity           | –               | –               | –               | –               | –               | ○ <sup>2)</sup> |

<sup>1)</sup> Enclosed <sup>2)</sup> Mounted <sup>3)</sup> On request  
<sup>4)</sup> Only possible with additional adapter

● Scope of supply (standard)  
 ○ Available accessories

# HG semi-hermetic compressors

## Scope of supply and accessories

|    |                                                                                                                                                                                         | HG12P | HG22e | HG34e | HG44e | HG56e | HG66e | HG88e |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|
| 7  | Prepared for capacity regulator                                                                                                                                                         |       |       | 2)    | 2)    | 2)    | 2)    | 2)    |
|    | 1 cylinder cover                                                                                                                                                                        | –     | –     | –     | –     | –     | –     | –     |
|    | 2 cylinder covers                                                                                                                                                                       | –     | –     | –     | –     | –     | –     | –     |
|    | 3 cylinder covers                                                                                                                                                                       | –     | –     | –     | –     | –     | –     | 2)    |
| 8  | Oil temperature sensor                                                                                                                                                                  | –     | –     | –     | 2)    | 2)    | 2)    | 2)    |
|    | Start unloader by means of ESS (Electronic Soft Start)                                                                                                                                  |       |       |       |       |       |       |       |
| 9  | 400 V - 3 - 50 / 60 Hz, IP20, (connection clamps IPOO) for installation in switch cabinet                                                                                               | –     | 1)    | 1)    | 1)    | 1)    | 1)    | –     |
| 10 | Connection piece suction and discharge valve in welded construction                                                                                                                     | –     | –     | –     | 3)    | 3)    | 3)    | 3)    |
|    | Additional fan                                                                                                                                                                          |       |       |       |       |       |       |       |
| 11 | 230 V - 1 - 50 Hz, 97 W, IP44,<br>230 V - 1 - 60 Hz, 128 W,<br>Voltage range ± 10 %                                                                                                     | 1)    | 1)    | 1)    | 1)    | 1)    | 1)    | 1)    |
| 12 | Intermediate flange for discharge line valve on right or left, seen from oil pump                                                                                                       | –     | –     | –     | 1)    | –     | –     | –     |
| 13 | INT69 G Diagnose 115 / 230 V Ac, 50 / 60 Hz, IPOO (INT69 G not applicable)                                                                                                              | –     | 1)    | 1)    | 1)    | 1)    | 1)    | –     |
| 14 | INT69 GTML Diagnose 115 / 230 V Ac, 50 / 60 Hz, IPOO, incl. oil differential pressure sensor<br>INT250, thermal protection thermostat (PTC) per cylinder cover (INT69 G not applicable) | –     | –     | –     | –     | –     | –     | 2)    |
| 15 | DP – modbus gateway 115 / 230 V Ac, 50 / 60 Hz, IPOO incl. adapter cable                                                                                                                | –     | 1)    | 1)    | 1)    | 1)    | 1)    | 1)    |
| 16 | Modbus – LAN gateway 230 V Ac, 50 / 60 Hz, IPOO                                                                                                                                         | –     | 1)    | 1)    | 1)    | 1)    | 1)    | 1)    |
| 17 | USB converter for INT69 G Diagnose and INT69 GTML Diagnose                                                                                                                              | –     | 1)    | 1)    | 1)    | 1)    | 1)    | 1)    |
|    | Connection for oil level regulator of brands ESK, AC+ R or CARLY                                                                                                                        | 4)    | 4)    | 4)    | 4)    | 4)    | 4)    | 4)    |
|    | Connection for oil level regulator of brand Traxoil                                                                                                                                     | 4)    | 4)    | 4)    | 4)    | 4)    | 4)    | 4)    |

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

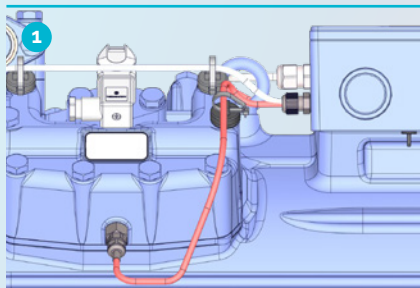
● Scope of supply (standard)  
● Available accessories

vap.bock.de 

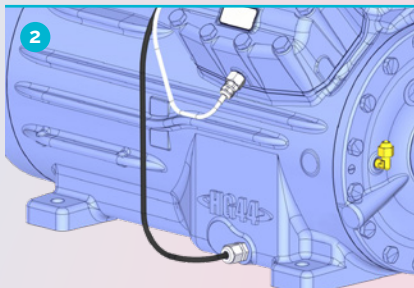
# HG semi-hermetic compressors

## Accessories

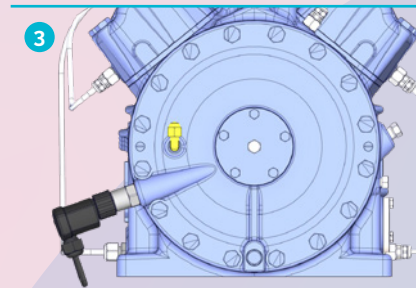
### Thermal protection thermostat



### Oil sump heater



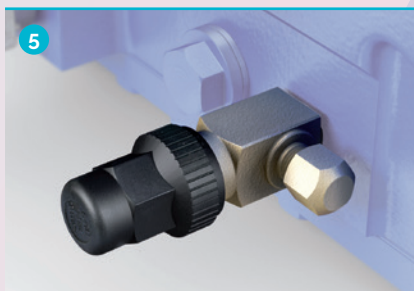
### Oil differential pressure sensor



### Oil pressure safety switch



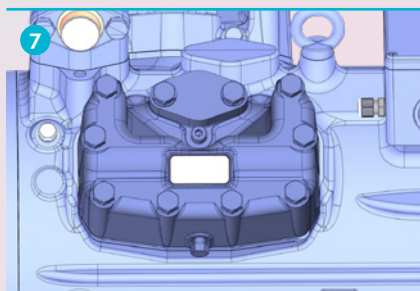
### Oil service valve



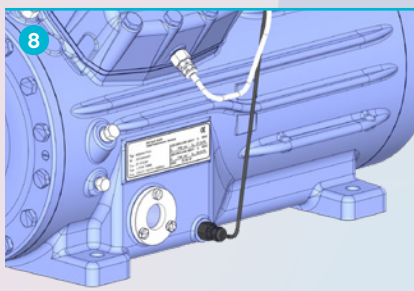
### Capacity regulator



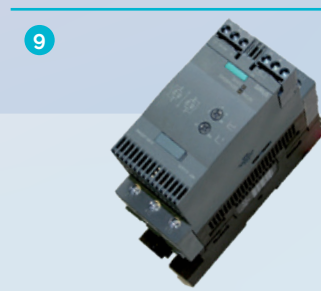
### Prepared for capacity regulator



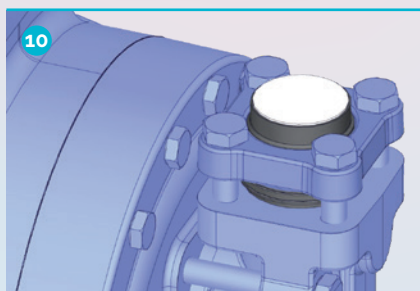
### Oil temperature sensor



### ESS Electronic Soft Start



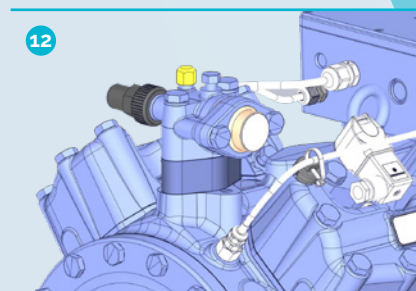
### Connection piece in welded construction



### Additional fan



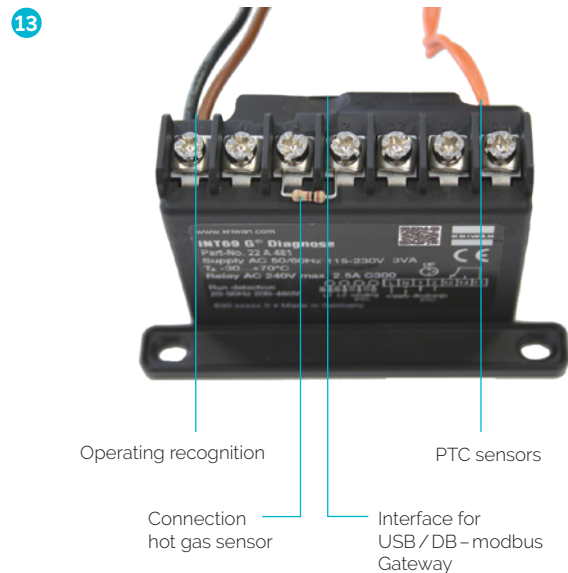
### Intermediate flange for discharge line valve



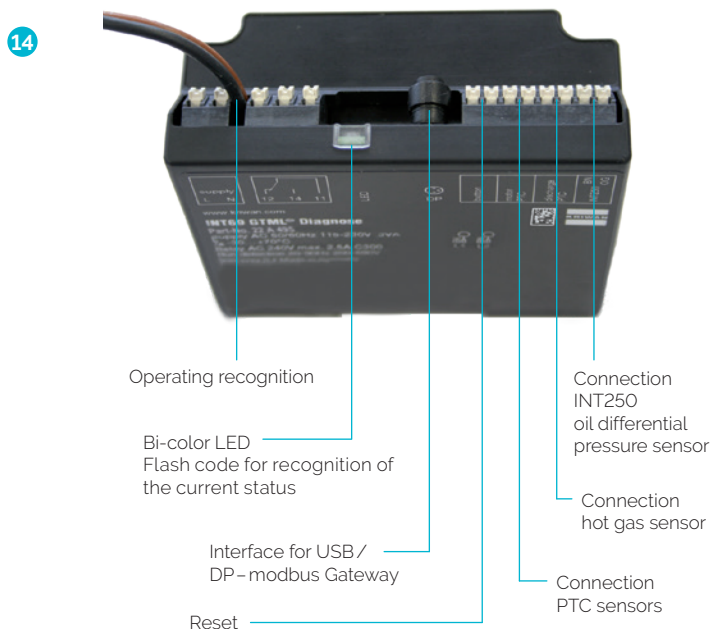
# HG semi-hermetic compressors

## Accessories

### INT69 G Diagnose



### INT69 GTML Diagnose



### DP - modbus Gateway



### Modbus - LAN Gateway



### USB converter



## INT69 G Motor Protection

### Technical Data

| Unit designation   | INT69 G (Standard)                       | INT69 G Diagnose                         | INT69 GTML Diagnose                      |
|--------------------|------------------------------------------|------------------------------------------|------------------------------------------|
| Connection voltage | AC 115–230 V - 1- 50/60 Hz<br>± 10% 3 VA | AC 115–230 V - 1- 50/60 Hz<br>± 10% 3 VA | AC 115–230 V - 1- 50/60 Hz<br>± 10% 3 VA |
| Relay              | AC 240 V, 2.5 A, C300                    | AC 240 V, 2.5 A, C300                    | AC 240 V, 2.5 A, C300                    |
| Dimensions L/W/H   | 53 × 33 × 68 mm                          | 50 × 33 × 68 mm                          | 87 × 40 × 81.5 mm                        |



# HG semi-hermetic compressors

## Accessories

### INT69 G Diagnose Unit Motor Protection

#### Read facility via INTelligence diagnosis software

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

#### Advantages:

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

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

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

#### Protection



Terminal box

#### Communication



USB converter

#### Software



INTelligence  
(available for download)

"On site" retrieval

Remote retrieval

INTelligence server



Internet



Modbus – LAN  
Gateway

Customer Controller



# Bock HA semi-hermetic compressors

- 72** At a glance
- 76** Operating limits and performance data
- 88** Technical data
- 89** Dimensions and connections
- 94** Scope of supply & accessories

## Bock HA22e – HA44e

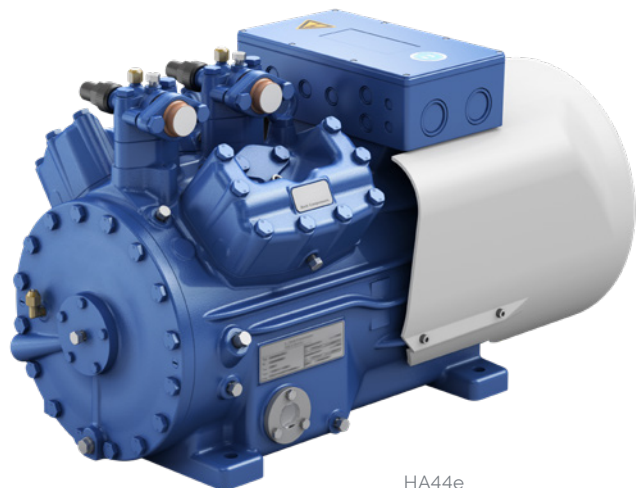
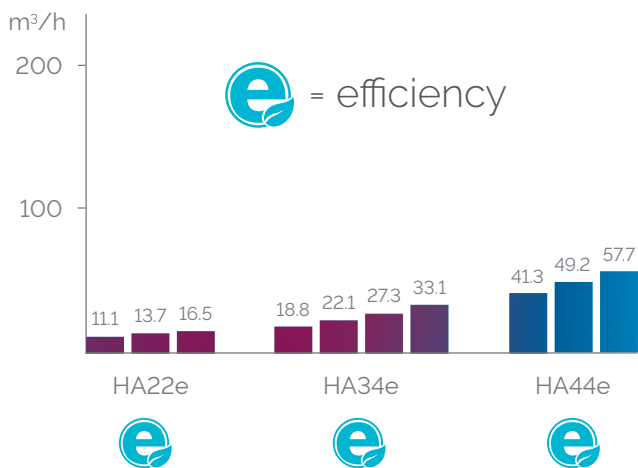


# Bock HA semi-hermetic compressors

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

## The current programm

3 model sizes with 10 capacity stages from 11.1 to 57.7 m<sup>3</sup>/h (50 Hz)



HA44e

# HA semi-hermetic compressors

## At a glance

Low-temperature applications place greater demands on compressors. This applies particularly to suction-gas-cooled semi-hermetic compressors. Within low-temperature applications the refrigerant mass flow is smaller and is heated up disproportionately by the drive motor. This has the following effects on the operation of the compressor.

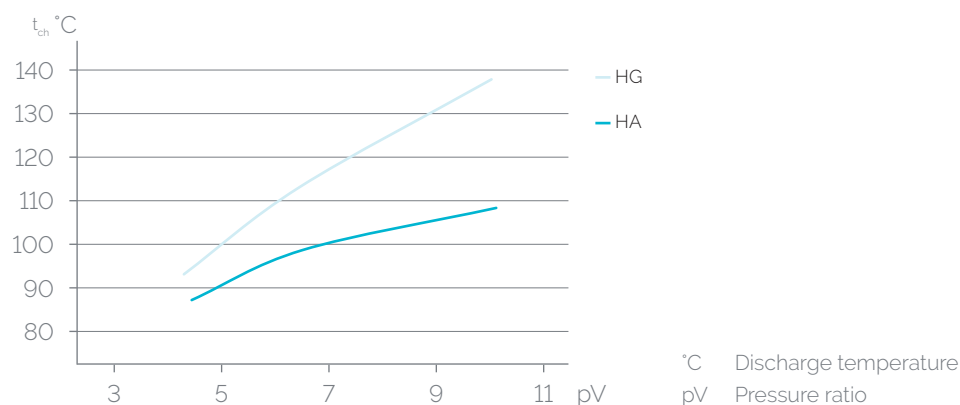
- The volumetric efficiency is reduced due to the decreasing specific density
- The discharge temperature and oil temperature are higher. This means that the oil ages more quickly and the lubrication properties deteriorate

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

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

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

### HA vs. HG R449A discharge temperature



### Type key

**HAX44e / 465-4**

- Number of poles
- Swept volume
- Series <sup>3)</sup>
- Number of cylinders
- Size
- Ester oil filling <sup>2)</sup>
- Series <sup>1)</sup>

- <sup>1)</sup> HA = Hermetic Air-Cooled (low temperature application)
- <sup>2)</sup> X = Ester oil filling  
(HFC refrigerants e.g. R134a, R404A, R507, R407C)
- <sup>3)</sup> e = Additional marker for e-series compressors  
P = Additional marker for Pluscom compressors



# HA semi-hermetic compressors

## Overview



HA22e



HA34e

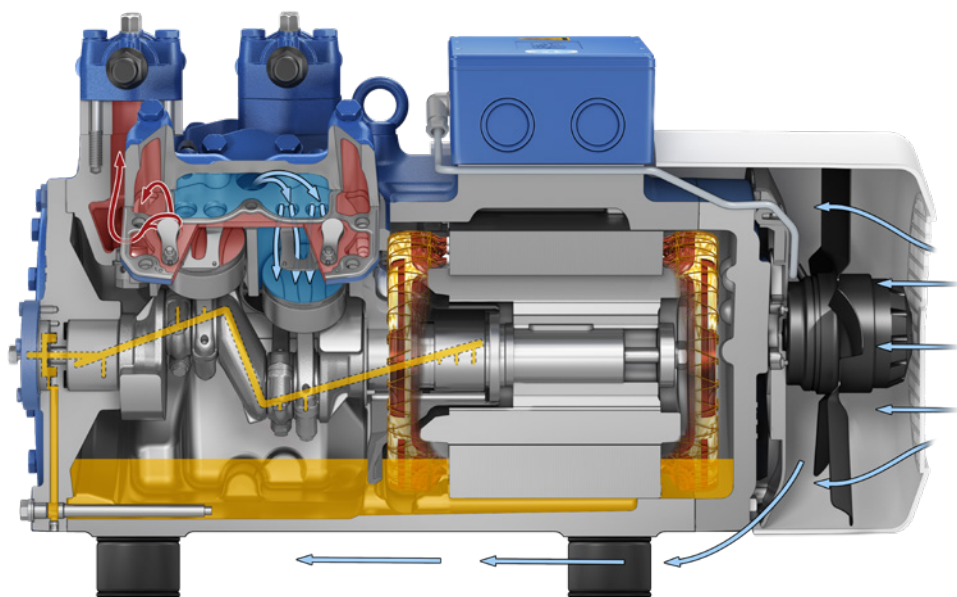


HA44e

# HA semi-hermetic compressors

## Overview

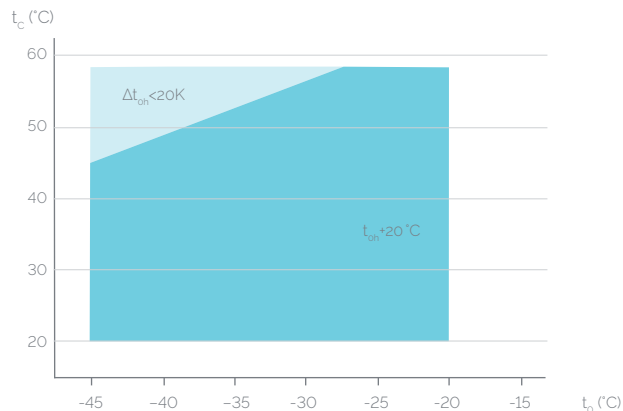
HA44e sectional drawing



# HA semi-hermetic compressors

## Operating limits

### R404A/R507



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

- Unlimited application range
- Reduced suction gas temperature

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

<sup>1)</sup> LP = low pressure, HP = high pressure

## Notes

### Operating limits

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

Restrictions to operating limits may occur when using a frequency converter. For further explanations consult [www.bock.de](http://www.bock.de).

### Performance data

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

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

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

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

# HA semi-hermetic compressors

## Performance data

### R404A/R507 | 50 Hz

| Type              |    |     | Cooling capacity $Q_o$ [kW] |                |               |               |               | Power consumption |              |
|-------------------|----|-----|-----------------------------|----------------|---------------|---------------|---------------|-------------------|--------------|
|                   |    |     | $P_e$ [kW]                  |                |               |               |               |                   |              |
|                   |    |     | Evaporating temperature °C  |                |               |               |               |                   |              |
| Cond.<br>temp. °C |    |     | -20                         | -25            | -30           | -35           | -40           | -45               |              |
| HA22e/125-4       | 30 | Q P | 4730<br>1.91                | 3800<br>1.71   | 2990<br>1.51  | 2300<br>1.31  | 1720<br>1.13  | 1250<br>0.94      |              |
|                   |    | Q P | 3960<br>2.09                | 3160<br>1.84   | 2470<br>1.60  | 1880<br>1.37  | 1390<br>1.14  | 978<br>0.92       |              |
|                   | 50 | Q P | 3220<br>2.21                | 2540<br>1.92   | 1960<br>1.64  | 1460<br>1.36  | 1040<br>1.09  | 690<br>0.83       |              |
|                   |    | 30  | Q P                         | 5840<br>2.36   | 4690<br>2.11  | 3690<br>1.86  | 2830<br>1.62  | 2120<br>1.39      | 1540<br>1.16 |
|                   | 40 |     | Q P                         | 4890<br>2.58   | 3900<br>2.27  | 3050<br>1.97  | 2320<br>1.69  | 1710<br>1.41      | 1210<br>1.13 |
|                   |    | 50  | Q P                         | 3970<br>2.73   | 3140<br>2.37  | 2420<br>2.02  | 1800<br>1.68  | 1290<br>1.35      | 851<br>1.03  |
| HA22e/160-4       | 30 |     | Q P                         | 7070<br>2.86   | 5670<br>2.55  | 4460<br>2.25  | 3430<br>1.96  | 2570<br>1.68      | 1870<br>1.41 |
|                   |    | Q P | 5920<br>3.12                | 4720<br>2.75   | 3690<br>2.39  | 2810<br>2.04  | 2070<br>1.70  | 1460<br>1.37      |              |
|                   | 50 | Q P | 4800<br>3.31                | 3800<br>2.87   | 2930<br>2.45  | 2180<br>2.04  | 1550<br>1.64  | 1030<br>1.24      |              |
|                   |    | 30  | Q P                         | 8050<br>3.26   | 6450<br>2.90  | 5080<br>2.57  | 3900<br>2.24  | 2920<br>1.92      | 2130<br>1.60 |
|                   | 40 |     | Q P                         | 6740<br>3.55   | 5380<br>3.13  | 4200<br>2.72  | 3200<br>2.33  | 2350<br>1.94      | 1670<br>1.56 |
|                   |    | 50  | Q P                         | 5470<br>3.77   | 4320<br>3.27  | 3330<br>2.79  | 2480<br>2.32  | 1770<br>1.86      | 1180<br>1.41 |
| HA34e/215-4       | 30 |     | Q P                         | 9460<br>3.83   | 7590<br>3.42  | 5970<br>3.02  | 4590<br>2.63  | 3440<br>2.26      | 2500<br>1.88 |
|                   |    | Q P | 7920<br>4.18                | 6320<br>3.68   | 4940<br>3.20  | 3760<br>2.74  | 2770<br>2.28  | 1960<br>1.84      |              |
|                   | 50 | Q P | 6430<br>4.43                | 5080<br>3.84   | 3920<br>3.28  | 2920<br>2.73  | 2080<br>2.19  | 1380<br>1.66      |              |
|                   |    | 30  | Q P                         | 11700<br>4.73  | 9370<br>4.22  | 7370<br>3.73  | 5660<br>3.25  | 4240<br>2.79      | 3080<br>2.33 |
|                   | 40 |     | Q P                         | 9780<br>5.16   | 7800<br>4.54  | 6090<br>3.95  | 4640<br>3.38  | 3420<br>2.82      | 2420<br>2.27 |
|                   |    | 50  | Q P                         | 7930<br>5.47   | 6270<br>4.75  | 4830<br>4.05  | 3600<br>3.37  | 2570<br>2.71      | 1710<br>2.06 |
| HA34e/255-4       | 30 |     | Q P                         | 14200<br>5.50  | 11400<br>4.96 | 8910<br>4.39  | 6850<br>3.81  | 5130<br>3.22      | 3730<br>2.65 |
|                   |    | Q P | 11900<br>5.95               | 9440<br>5.28   | 7370<br>4.58  | 5610<br>3.86  | 4130<br>3.16  | 2920<br>2.74      |              |
|                   | 50 | Q P | 9600<br>6.25                | 7590<br>5.43   | 5850<br>4.59  | 4360<br>3.74  | 3100<br>3.28  | 2060<br>2.07      |              |
|                   |    | 30  | Q P                         | 18700<br>6.64  | 15100<br>6.01 | 11900<br>5.35 | 9100<br>4.66  | 6800<br>3.95      | 4890<br>3.24 |
|                   | 40 |     | Q P                         | 15700<br>7.13  | 12600<br>6.32 | 9760<br>5.47  | 7430<br>4.62  | 5450<br>3.76      | 3810<br>2.91 |
|                   |    | 50  | Q P                         | 12900<br>7.44  | 10200<br>6.43 | 7830<br>5.41  | 5880<br>4.39  | 4230<br>3.38      | 2850<br>2.40 |
| HA34e/315-4       | 30 |     | Q P                         | 21900<br>8.08  | 17600<br>7.36 | 13900<br>6.58 | 10800<br>5.77 | 8040<br>4.93      | 5800<br>4.09 |
|                   |    | Q P | 18400<br>8.73               | 14700<br>7.79  | 11500<br>6.82 | 8770<br>5.83  | 6470<br>4.83  | 4530<br>3.84      |              |
|                   | 50 | Q P | 15100<br>9.17               | 11900<br>8.02  | 9230<br>6.85  | 6950<br>5.68  | 5020<br>4.52  | 3400<br>3.39      |              |
|                   |    | 30  | Q P                         | 25000<br>9.33  | 20200<br>8.43 | 16000<br>7.49 | 12400<br>6.52 | 9310<br>5.53      | 6750<br>4.55 |
|                   | 40 |     | Q P                         | 21100<br>10.10 | 16900<br>8.97 | 13300<br>7.79 | 10200<br>6.60 | 7480<br>5.42      | 5270<br>4.27 |
|                   |    | 50  | Q P                         | 17200<br>10.70 | 13700<br>9.29 | 10600<br>7.87 | 8010<br>6.47  | 5810<br>5.10      | 3960<br>3.78 |

Relating to 20 °C suction gas temperature  
without liquid subcooling

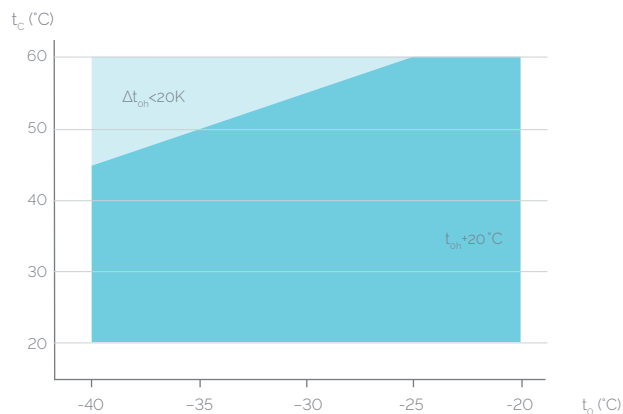
 Reduced suction gas temperature

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# HA semi-hermetic compressors

## Operating limits

### R448A



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

- Unlimited application range
- Reduced suction gas temperature

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

<sup>1)</sup> LP = low pressure, HP = high pressure

## Notes

### Operating limits

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

Restrictions to operating limits may occur when using a frequency converter. For further explanations consult [www.bock.de](http://www.bock.de).

### Performance data

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

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

Conversion factor for 60 Hz = 1.2

Performance data for other operating points, see BOCK VAP software ([vap.bock.de](http://vap.bock.de)).

# HA semi-hermetic compressors

## Performance data

### R448A | 50 Hz

| Type           |    | Cooling capacity $\dot{Q}_0$ [kW] |       |       |       | Power consumption |      |
|----------------|----|-----------------------------------|-------|-------|-------|-------------------|------|
|                |    |                                   |       |       |       | $P_e$ [kW]        |      |
|                |    | Evaporating temperature °C        |       |       |       |                   |      |
| Cond. temp. °C |    | -20                               | -25   | -30   | -35   | -40               |      |
| HA22e/125-4    | 30 | Q                                 | 4190  | 3250  | 2450  | 1780              | 1230 |
|                |    | P                                 | 1.70  | 1.53  | 1.36  | 1.18              | 1.00 |
|                | 40 | Q                                 | 3530  | 2700  | 2000  | 1410              | 915  |
|                |    | P                                 | 1.81  | 1.59  | 1.38  | 1.16              | 0.96 |
|                | 50 | Q                                 | 2910  | 2190  | 1570  | 1060              | 631  |
|                |    | P                                 | 1.87  | 1.62  | 1.36  | 1.12              | 0.88 |
| HA22e/160-4    | 30 | Q                                 | 5220  | 4030  | 3020  | 2170              | 1470 |
|                |    | P                                 | 2.03  | 1.83  | 1.62  | 1.39              | 1.17 |
|                | 40 | Q                                 | 4420  | 3350  | 2450  | 1700              | 1070 |
|                |    | P                                 | 2.17  | 1.90  | 1.64  | 1.37              | 1.10 |
|                | 50 | Q                                 | 3640  | 2700  | 1910  | 1250              | 691  |
|                |    | P                                 | 2.25  | 1.93  | 1.61  | 1.30              | 1.00 |
| HA22e/190-4    | 30 | Q                                 | 6310  | 4940  | 3780  | 2810              | 2010 |
|                |    | P                                 | 2.48  | 2.23  | 1.97  | 1.71              | 1.45 |
|                | 40 | Q                                 | 5440  | 4210  | 3170  | 2300              | 1570 |
|                |    | P                                 | 2.67  | 2.35  | 2.03  | 1.71              | 1.40 |
|                | 50 | Q                                 | 4570  | 3470  | 2550  | 1780              | 1140 |
|                |    | P                                 | 2.80  | 2.41  | 2.03  | 1.66              | 1.30 |
| HA34e/215-4    | 30 | Q                                 | 6790  | 5230  | 3920  | 2810              | 1900 |
|                |    | P                                 | 2.59  | 2.32  | 2.03  | 1.74              | 1.44 |
|                | 40 | Q                                 | 5690  | 4300  | 3120  | 2130              | 1310 |
|                |    | P                                 | 2.78  | 2.41  | 2.04  | 1.67              | 1.31 |
|                | 50 | Q                                 | 4600  | 3370  | 2330  | 1460              | 731  |
|                |    | P                                 | 2.87  | 2.41  | 1.96  | 1.52              | 1.10 |
| HA34e/255-4    | 30 | Q                                 | 8250  | 6410  | 4850  | 3540              | 2460 |
|                |    | P                                 | 3.16  | 2.81  | 2.45  | 2.08              | 1.72 |
|                | 40 | Q                                 | 6980  | 5340  | 3960  | 2800              | 1840 |
|                |    | P                                 | 3.39  | 2.94  | 2.49  | 2.05              | 1.62 |
|                | 50 | Q                                 | 5740  | 4310  | 3100  | 2090              | 1240 |
|                |    | P                                 | 3.54  | 2.99  | 2.46  | 1.94              | 1.45 |
| HA34e/315-4    | 30 | Q                                 | 10400 | 8020  | 6020  | 4370              | 3010 |
|                |    | P                                 | 3.86  | 3.44  | 3.00  | 2.55              | 2.12 |
|                | 40 | Q                                 | 8790  | 6670  | 4890  | 3410              | 2220 |
|                |    | P                                 | 4.16  | 3.60  | 3.05  | 2.51              | 1.99 |
|                | 50 | Q                                 | 7190  | 5320  | 3770  | 2490              | 1460 |
|                |    | P                                 | 4.34  | 3.66  | 3.00  | 2.36              | 1.77 |
| HA34e/380-4    | 30 | Q                                 | 12700 | 9820  | 7430  | 5430              | 3780 |
|                |    | P                                 | 4.76  | 4.23  | 3.69  | 3.14              | 2.60 |
|                | 40 | Q                                 | 10800 | 8220  | 6070  | 4260              | 2770 |
|                |    | P                                 | 5.17  | 4.50  | 3.82  | 3.15              | 2.50 |
|                | 50 | Q                                 | 8860  | 6600  | 4690  | 3090              | 1760 |
|                |    | P                                 | 5.44  | 4.62  | 3.80  | 3.01              | 2.26 |
| HA44e/475-4    | 30 | Q                                 | 16300 | 12600 | 9480  | 6890              | 4750 |
|                |    | P                                 | 5.79  | 5.18  | 4.54  | 3.87              | 3.21 |
|                | 40 | Q                                 | 13900 | 10600 | 7750  | 5420              | 3490 |
|                |    | P                                 | 6.21  | 5.41  | 4.60  | 3.78              | 2.98 |
|                | 50 | Q                                 | 11500 | 8500  | 6040  | 3970              | 2250 |
|                |    | P                                 | 6.47  | 5.48  | 4.49  | 3.52              | 2.58 |
| HA44e/565-4    | 30 | Q                                 | 20200 | 15700 | 11900 | 8740              | 6130 |
|                |    | P                                 | 7.06  | 6.33  | 5.57  | 4.78              | 3.99 |
|                | 40 | Q                                 | 17400 | 13400 | 9920  | 7070              | 4710 |
|                |    | P                                 | 7.63  | 6.70  | 5.74  | 4.78              | 3.84 |
|                | 50 | Q                                 | 14600 | 11000 | 7950  | 5420              | 3310 |
|                |    | P                                 | 8.02  | 6.88  | 5.74  | 4.61              | 3.53 |
| HA44e/665-4    | 30 | Q                                 | 22800 | 17800 | 13600 | 9960              | 7030 |
|                |    | P                                 | 8.06  | 7.19  | 6.27  | 5.34              | 4.42 |
|                | 40 | Q                                 | 19700 | 15100 | 11300 | 8100              | 5450 |
|                |    | P                                 | 8.76  | 7.63  | 6.49  | 5.36              | 4.26 |
|                | 50 | Q                                 | 16500 | 12500 | 9090  | 6270              | 3910 |
|                |    | P                                 | 9.27  | 7.88  | 6.52  | 5.19              | 3.93 |

Relating to 20 °C suction gas temperature  
without liquid subcooling

 Reduced suction gas temperature

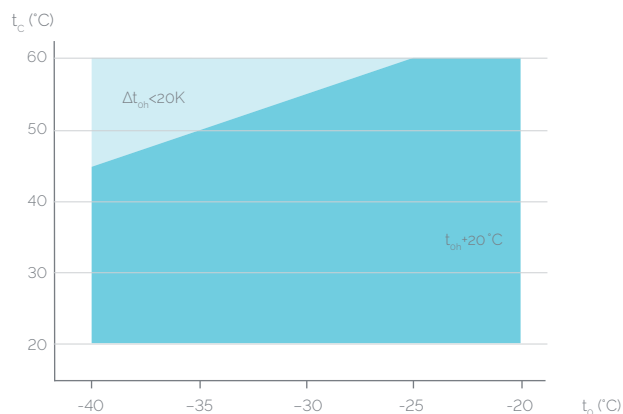
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# HA semi-hermetic compressors

## Operating limits

### R449A



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

- Unlimited application range
- Reduced suction gas temperature

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

<sup>1)</sup> LP = low pressure, HP = high pressure

## Notes

### Operating limits

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

Restrictions to operating limits may occur when using a frequency converter. For further explanations consult [www.bock.de](http://www.bock.de).

### Performance data

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

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

Conversion factor for 60 Hz = 1.2

Performance data for other operating points, see BOCK VAP software ([vap.bock.de](http://vap.bock.de)).

# HA semi-hermetic compressors

## Performance data

### R449A | 50 Hz

| Type           |    | Cooling capacity $\dot{Q}_0$ [kW] |       |       |       | Power consumption |      |
|----------------|----|-----------------------------------|-------|-------|-------|-------------------|------|
|                |    |                                   |       |       |       | $P_e$ [kW]        |      |
|                |    | Evaporating temperature °C        |       |       |       |                   |      |
| Cond. temp. °C |    | -20                               | -25   | -30   | -35   | -40               |      |
| HA22e/125-4    | 30 | Q                                 | 4170  | 3240  | 2440  | 1780              | 1230 |
|                |    | P                                 | 1.69  | 1.53  | 1.35  | 1.18              | 1.00 |
|                | 40 | Q                                 | 3520  | 2690  | 1990  | 1400              | 912  |
|                |    | P                                 | 1.80  | 1.59  | 1.37  | 1.16              | 0.96 |
|                | 50 | Q                                 | 2890  | 2170  | 1570  | 1060              | 628  |
|                |    | P                                 | 1.87  | 1.61  | 1.36  | 1.11              | 0.88 |
| HA22e/160-4    | 30 | Q                                 | 5200  | 4010  | 3010  | 2160              | 1470 |
|                |    | P                                 | 2.03  | 1.83  | 1.61  | 1.39              | 1.17 |
|                | 40 | Q                                 | 4400  | 3340  | 2440  | 1690              | 1070 |
|                |    | P                                 | 2.16  | 1.90  | 1.63  | 1.36              | 1.10 |
|                | 50 | Q                                 | 3620  | 2680  | 1900  | 1240              | 688  |
|                |    | P                                 | 2.24  | 1.92  | 1.60  | 1.29              | 1.00 |
| HA22e/190-4    | 30 | Q                                 | 6280  | 4920  | 3770  | 2800              | 2010 |
|                |    | P                                 | 2.47  | 2.22  | 1.96  | 1.70              | 1.44 |
|                | 40 | Q                                 | 5420  | 4190  | 3150  | 2290              | 1570 |
|                |    | P                                 | 2.66  | 2.34  | 2.02  | 1.70              | 1.40 |
|                | 50 | Q                                 | 4540  | 3450  | 2540  | 1770              | 1130 |
|                |    | P                                 | 2.79  | 2.40  | 2.02  | 1.65              | 1.30 |
| HA34e/215-4    | 30 | Q                                 | 6760  | 5220  | 3900  | 2810              | 1900 |
|                |    | P                                 | 2.59  | 2.31  | 2.03  | 1.74              | 1.44 |
|                | 40 | Q                                 | 5670  | 4280  | 3110  | 2130              | 1310 |
|                |    | P                                 | 2.76  | 2.40  | 2.03  | 1.67              | 1.31 |
|                | 50 | Q                                 | 4580  | 3350  | 2320  | 1450              | 728  |
|                |    | P                                 | 2.86  | 2.40  | 1.96  | 1.52              | 1.10 |
| HA34e/255-4    | 30 | Q                                 | 8220  | 6390  | 4830  | 3530              | 2460 |
|                |    | P                                 | 3.15  | 2.80  | 2.44  | 2.08              | 1.72 |
|                | 40 | Q                                 | 6940  | 5320  | 3940  | 2790              | 1830 |
|                |    | P                                 | 3.37  | 2.93  | 2.48  | 2.04              | 1.62 |
|                | 50 | Q                                 | 5700  | 4280  | 3080  | 2080              | 1240 |
|                |    | P                                 | 3.52  | 2.98  | 2.45  | 1.94              | 1.45 |
| HA34e/315-4    | 30 | Q                                 | 10400 | 7990  | 6010  | 4360              | 3010 |
|                |    | P                                 | 3.85  | 3.42  | 2.99  | 2.55              | 2.11 |
|                | 40 | Q                                 | 8740  | 6640  | 4870  | 3400              | 2210 |
|                |    | P                                 | 4.14  | 3.59  | 3.04  | 2.50              | 1.99 |
|                | 50 | Q                                 | 7150  | 5290  | 3750  | 2480              | 1450 |
|                |    | P                                 | 4.32  | 3.65  | 2.99  | 2.36              | 1.77 |
| HA34e/380-4    | 30 | Q                                 | 12600 | 9790  | 7410  | 5420              | 3770 |
|                |    | P                                 | 4.74  | 4.22  | 3.68  | 3.14              | 2.60 |
|                | 40 | Q                                 | 10800 | 8180  | 6040  | 4250              | 2760 |
|                |    | P                                 | 5.15  | 4.48  | 3.81  | 3.14              | 2.49 |
|                | 50 | Q                                 | 8800  | 6560  | 4660  | 3070              | 1750 |
|                |    | P                                 | 5.42  | 4.60  | 3.79  | 3.00              | 2.25 |
| HA44e/475-4    | 30 | Q                                 | 16200 | 12600 | 9450  | 6870              | 4740 |
|                |    | P                                 | 5.77  | 5.16  | 4.52  | 3.86              | 3.20 |
|                | 40 | Q                                 | 13800 | 10500 | 7720  | 5400              | 3480 |
|                |    | P                                 | 6.19  | 5.39  | 4.58  | 3.77              | 2.97 |
|                | 50 | Q                                 | 11400 | 8450  | 6000  | 3950              | 2240 |
|                |    | P                                 | 6.44  | 5.46  | 4.47  | 3.51              | 2.58 |
| HA44e/565-4    | 30 | Q                                 | 20100 | 15700 | 11900 | 8720              | 6120 |
|                |    | P                                 | 7.03  | 6.31  | 5.55  | 4.77              | 3.98 |
|                | 40 | Q                                 | 17300 | 13300 | 9880  | 7050              | 4690 |
|                |    | P                                 | 7.60  | 6.67  | 5.72  | 4.77              | 3.83 |
|                | 50 | Q                                 | 14500 | 11000 | 7910  | 5390              | 3290 |
|                |    | P                                 | 7.99  | 6.85  | 5.72  | 4.60              | 3.52 |
| HA44e/665-4    | 30 | Q                                 | 22700 | 17700 | 13500 | 9940              | 7020 |
|                |    | P                                 | 8.04  | 7.16  | 6.26  | 5.33              | 4.41 |
|                | 40 | Q                                 | 19600 | 15100 | 11300 | 8070              | 5430 |
|                |    | P                                 | 8.73  | 7.60  | 6.47  | 5.34              | 4.25 |
|                | 50 | Q                                 | 16400 | 12400 | 9040  | 6240              | 3890 |
|                |    | P                                 | 9.23  | 7.85  | 6.49  | 5.18              | 3.92 |

Relating to 20 °C suction gas temperature  
without liquid subcooling

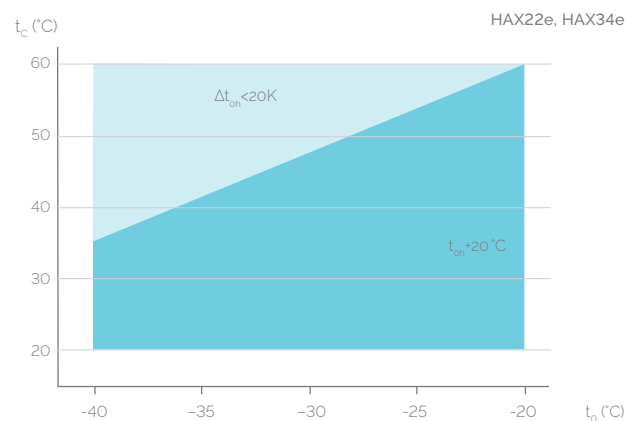
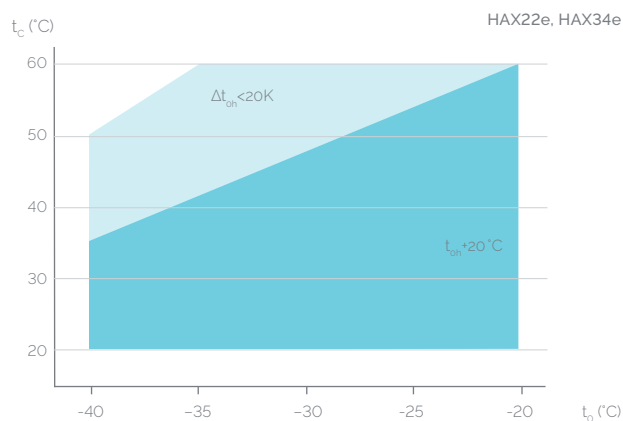
 Reduced suction gas temperature

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# HA semi-hermetic compressors

## Operating limits

### R407A



$t_o$  Evaporating temperature (°C)  
 $t_c$  Condensing temperature (°C)  
 $\Delta t_{gh}$  Suction gas superheat (K)  
 $t_{gh}$  Suction gas temperature (°C)

● Unlimited application range  
 ● Reduced suction gas temperature

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

<sup>1)</sup> LP = low pressure, HP = high pressure

## Notes

### Operating limits

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

Restrictions to operating limits may occur when using a frequency converter. For further explanations consult [www.bock.de](http://www.bock.de).

### Performance data

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

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

Conversion factor for 60 Hz = 1.2

Performance data for other operating points, see BOCK VAP software ([vap.bock.de](http://vap.bock.de)).

# HA semi-hermetic compressors

## Performance data

### R407A | 50 Hz

| Type           |    | Cooling capacity $\dot{Q}_0$ [kW] |       |       |       |      | Power consumption |  |
|----------------|----|-----------------------------------|-------|-------|-------|------|-------------------|--|
|                |    |                                   |       |       |       |      | $P_e$ [kW]        |  |
|                |    | Evaporating temperature °C        |       |       |       |      |                   |  |
| Cond. temp. °C |    | -20                               | -25   | -30   | -35   | -40  |                   |  |
| HA22e/125-4    | 30 | Q                                 | 4090  | 3120  | 2330  | 1680 | 1140              |  |
|                |    | P                                 | 1.65  | 1.48  | 1.30  | 1.12 | 0.95              |  |
|                | 40 | Q                                 | 3460  | 2600  | 1900  | 1310 | 804               |  |
|                |    | P                                 | 1.76  | 1.53  | 1.30  | 1.08 | 0.88              |  |
|                | 50 | Q                                 | 2830  | 2070  | 1450  | 923  | 454               |  |
|                |    | P                                 | 1.81  | 1.53  | 1.26  | 1.00 | 0.77              |  |
| HA22e/160-4    | 30 | Q                                 | 5110  | 3890  | 2870  | 2030 | 1350              |  |
|                |    | P                                 | 1.98  | 1.77  | 1.54  | 1.32 | 1.10              |  |
|                | 40 | Q                                 | 4330  | 3230  | 2310  | 1550 | 920               |  |
|                |    | P                                 | 2.10  | 1.82  | 1.54  | 1.27 | 1.00              |  |
|                | 50 | Q                                 | 3530  | 2550  | 1730  | 1060 | 503               |  |
|                |    | P                                 | 2.16  | 1.82  | 1.48  | 1.15 | 0.84              |  |
| HA22e/190-4    | 30 | Q                                 | 6160  | 4750  | 3610  | 2670 | 1880              |  |
|                |    | P                                 | 2.41  | 2.15  | 1.88  | 1.62 | 1.36              |  |
|                | 40 | Q                                 | 5330  | 4060  | 3020  | 2150 | 1400              |  |
|                |    | P                                 | 2.59  | 2.25  | 1.92  | 1.59 | 1.29              |  |
|                | 50 | Q                                 | 4440  | 3310  | 2370  | 1560 | 844               |  |
|                |    | P                                 | 2.70  | 2.28  | 1.87  | 1.48 | 1.12              |  |
| HA34e/215-4    | 30 | Q                                 | 6700  | 5120  | 3790  | 2680 | 1770              |  |
|                |    | P                                 | 2.51  | 2.25  | 1.97  | 1.68 | 1.39              |  |
|                | 40 | Q                                 | 5630  | 4200  | 3000  | 2000 | 1170              |  |
|                |    | P                                 | 2.69  | 2.33  | 1.97  | 1.60 | 1.24              |  |
|                | 50 | Q                                 | 4540  | 3260  | 2200  | 1310 | 561               |  |
|                |    | P                                 | 2.78  | 2.32  | 1.87  | 1.42 | 1.00              |  |
| HA34e/255-4    | 30 | Q                                 | 8160  | 6290  | 4710  | 3390 | 2310              |  |
|                |    | P                                 | 3.05  | 2.71  | 2.37  | 2.01 | 1.66              |  |
|                | 40 | Q                                 | 6920  | 5240  | 3820  | 2640 | 1660              |  |
|                |    | P                                 | 3.28  | 2.85  | 2.40  | 1.96 | 1.54              |  |
|                | 50 | Q                                 | 5680  | 4190  | 2940  | 1900 | 1030              |  |
|                |    | P                                 | 3.43  | 2.89  | 2.35  | 1.83 | 1.33              |  |
| HA34e/315-4    | 30 | Q                                 | 10300 | 7850  | 5850  | 4180 | 2810              |  |
|                |    | P                                 | 3.76  | 3.33  | 2.88  | 2.42 | 1.97              |  |
|                | 40 | Q                                 | 8630  | 6500  | 4710  | 3220 | 1990              |  |
|                |    | P                                 | 4.04  | 3.48  | 2.91  | 2.35 | 1.80              |  |
|                | 50 | Q                                 | 7060  | 5180  | 3600  | 2280 | 1200              |  |
|                |    | P                                 | 4.21  | 3.51  | 2.83  | 2.16 | 1.52              |  |
| HA34e/380-4    | 30 | Q                                 | 12500 | 9590  | 7220  | 5230 | 3540              |  |
|                |    | P                                 | 4.64  | 4.10  | 3.55  | 2.98 | 2.42              |  |
|                | 40 | Q                                 | 10600 | 8010  | 5870  | 4060 | 2480              |  |
|                |    | P                                 | 5.03  | 4.35  | 3.65  | 2.95 | 2.26              |  |
|                | 50 | Q                                 | 8690  | 6420  | 4500  | 2860 | 1390              |  |
|                |    | P                                 | 5.28  | 4.44  | 3.60  | 2.76 | 1.95              |  |
| HA44e/475-4    | 30 | Q                                 | 15800 | 12200 | 9080  | 6510 | 4400              |  |
|                |    | P                                 | 5.69  | 5.08  | 4.44  | 3.78 | 3.11              |  |
|                | 40 | Q                                 | 13400 | 10100 | 7350  | 5050 | 3160              |  |
|                |    | P                                 | 6.08  | 5.28  | 4.46  | 3.64 | 2.84              |  |
|                | 50 | Q                                 | 11000 | 8090  | 5650  | 3620 | 1940              |  |
|                |    | P                                 | 6.30  | 5.31  | 4.32  | 3.35 | 2.41              |  |
| HA44e/565-4    | 30 | Q                                 | 19600 | 15200 | 11400 | 8280 | 5710              |  |
|                |    | P                                 | 6.94  | 6.22  | 5.45  | 4.66 | 3.88              |  |
|                | 40 | Q                                 | 16800 | 12800 | 9430  | 6630 | 4310              |  |
|                |    | P                                 | 7.48  | 6.54  | 5.58  | 4.63 | 3.69              |  |
|                | 50 | Q                                 | 14100 | 10500 | 7490  | 5000 | 2940              |  |
|                |    | P                                 | 7.83  | 6.69  | 5.54  | 4.42 | 3.34              |  |
| HA44e/665-4    | 30 | Q                                 | 22200 | 17200 | 13000 | 9450 | 6560              |  |
|                |    | P                                 | 7.93  | 7.05  | 6.14  | 5.21 | 4.29              |  |
|                | 40 | Q                                 | 19000 | 14600 | 10800 | 7600 | 5000              |  |
|                |    | P                                 | 8.58  | 7.44  | 6.30  | 5.18 | 4.09              |  |
|                | 50 | Q                                 | 15900 | 11900 | 8570  | 5800 | 3490              |  |
|                |    | P                                 | 9.03  | 7.65  | 6.29  | 4.97 | 3.72              |  |

Relating to 20 °C suction gas temperature  
without liquid subcooling

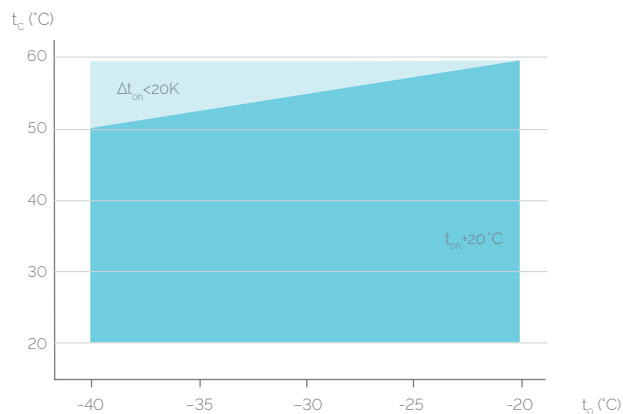
 Reduced suction gas temperature

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# HA semi-hermetic compressors

## Operating limits

### R407F



$t_o$  Evaporating temperature (°C)

$t_c$  Condensing temperature (°C)

$\Delta t_{oh}$  Suction gas superheat (K)

$t_{oh}$  Suction gas temperature (°C)

● Unlimited application range

● Reduced suction gas temperature

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

<sup>1)</sup> LP = low pressure, HP = high pressure

## Notes

### Operating limits

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

Restrictions to operating limits may occur when using a frequency converter. For further explanations consult [www.bock.de](http://www.bock.de).

### Performance data

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

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

Conversion factor for 60 Hz = 1.2

Performance data for other operating points, see BOCK VAP software ([vap.bock.de](http://vap.bock.de)).

# HA semi-hermetic compressors

## Performance data

### R407F | 50 Hz

| Type           |    | Cooling capacity $Q_o$ [kW] |       |       |       | Power consumption |      |
|----------------|----|-----------------------------|-------|-------|-------|-------------------|------|
|                |    |                             |       |       |       | $P_e$ [kW]        |      |
|                |    | Evaporating temperature °C  |       |       |       |                   |      |
| Cond. temp. °C |    | -20                         | -25   | -30   | -35   | -40               |      |
| HA22e/125-4    | 30 | Q                           | 4300  | 3270  | 2420  | 1730              | 1190 |
|                |    | P                           | 1.72  | 1.54  | 1.35  | 1.17              | 1.00 |
|                | 40 | Q                           | 3670  | 2740  | 1990  | 1380              | 912  |
|                |    | P                           | 1.84  | 1.60  | 1.37  | 1.15              | 0.96 |
|                | 50 | Q                           | 3030  | 2220  | 1570  | 1060              | 669  |
|                |    | P                           | 1.90  | 1.62  | 1.35  | 1.11              | 0.90 |
| HA22e/160-4    | 30 | Q                           | 5370  | 4060  | 2980  | 2110              | 1420 |
|                |    | P                           | 2.06  | 1.84  | 1.61  | 1.38              | 1.17 |
|                | 40 | Q                           | 4590  | 3400  | 2440  | 1660              | 1060 |
|                |    | P                           | 2.20  | 1.91  | 1.62  | 1.36              | 1.11 |
|                | 50 | Q                           | 3790  | 2750  | 1900  | 1230              | 722  |
|                |    | P                           | 2.28  | 1.93  | 1.59  | 1.29              | 1.02 |
| HA22e/190-4    | 30 | Q                           | 6490  | 4990  | 3750  | 2740              | 1960 |
|                |    | P                           | 2.52  | 2.24  | 1.96  | 1.70              | 1.45 |
|                | 40 | Q                           | 5660  | 4280  | 3160  | 2260              | 1580 |
|                |    | P                           | 2.72  | 2.36  | 2.02  | 1.70              | 1.41 |
|                | 50 | Q                           | 4770  | 3540  | 2550  | 1780              | 1210 |
|                |    | P                           | 2.84  | 2.41  | 2.01  | 1.65              | 1.33 |
| HA34e/215-4    | 30 | Q                           | 7030  | 5370  | 3970  | 2820              | 1910 |
|                |    | P                           | 2.67  | 2.37  | 2.06  | 1.75              | 1.45 |
|                | 40 | Q                           | 5930  | 4440  | 3180  | 2150              | 1330 |
|                |    | P                           | 2.86  | 2.47  | 2.07  | 1.68              | 1.32 |
|                | 50 | Q                           | 4800  | 3480  | 2360  | 1450              | 726  |
|                |    | P                           | 2.94  | 2.45  | 1.97  | 1.51              | 1.09 |
| HA34e/255-4    | 30 | Q                           | 8540  | 6570  | 4920  | 3560              | 2480 |
|                |    | P                           | 3.25  | 2.87  | 2.48  | 2.09              | 1.73 |
|                | 40 | Q                           | 7270  | 5510  | 4040  | 2840              | 1880 |
|                |    | P                           | 3.49  | 3.00  | 2.52  | 2.06              | 1.64 |
|                | 50 | Q                           | 6000  | 4450  | 3170  | 2120              | 1290 |
|                |    | P                           | 3.63  | 3.05  | 2.48  | 1.94              | 1.46 |
| HA34e/315-4    | 30 | Q                           | 10800 | 8160  | 6000  | 4240              | 2860 |
|                |    | P                           | 4.03  | 3.53  | 3.03  | 2.54              | 2.09 |
|                | 40 | Q                           | 9110  | 6770  | 4860  | 3320              | 2120 |
|                |    | P                           | 4.33  | 3.69  | 3.07  | 2.49              | 1.97 |
|                | 50 | Q                           | 7460  | 5410  | 3760  | 2450              | 1450 |
|                |    | P                           | 4.50  | 3.73  | 3.01  | 2.35              | 1.78 |
| HA34e/380-4    | 30 | Q                           | 13100 | 9990  | 7400  | 5280              | 3580 |
|                |    | P                           | 4.97  | 4.36  | 3.74  | 3.14              | 2.57 |
|                | 40 | Q                           | 11200 | 8350  | 6030  | 4140              | 2630 |
|                |    | P                           | 5.38  | 4.61  | 3.85  | 3.13              | 2.47 |
|                | 50 | Q                           | 9190  | 6700  | 4650  | 3010              | 1720 |
|                |    | P                           | 5.64  | 4.71  | 3.82  | 3.00              | 2.25 |
| HA44e/475-4    | 30 | Q                           | 17000 | 13000 | 9640  | 6910              | 4670 |
|                |    | P                           | 5.99  | 5.34  | 4.65  | 3.95              | 3.25 |
|                | 40 | Q                           | 14500 | 11000 | 7980  | 5560              | 3570 |
|                |    | P                           | 6.42  | 5.59  | 4.75  | 3.93              | 3.13 |
|                | 50 | Q                           | 11900 | 8800  | 6260  | 4170              | 2460 |
|                |    | P                           | 6.68  | 5.67  | 4.69  | 3.75              | 2.87 |
| HA44e/565-4    | 30 | Q                           | 21100 | 16200 | 12100 | 8770              | 6050 |
|                |    | P                           | 7.30  | 6.52  | 5.72  | 4.89              | 4.05 |
|                | 40 | Q                           | 18200 | 13900 | 10300 | 7270              | 4850 |
|                |    | P                           | 7.88  | 6.91  | 5.94  | 4.99              | 4.06 |
|                | 50 | Q                           | 15200 | 11400 | 8270  | 5730              | 3640 |
|                |    | P                           | 8.28  | 7.13  | 6.01  | 4.94              | 3.94 |
| HA44e/665-4    | 30 | Q                           | 23900 | 18300 | 13800 | 10100             | 6950 |
|                |    | P                           | 8.35  | 7.42  | 6.45  | 5.47              | 4.49 |
|                | 40 | Q                           | 20600 | 15700 | 11700 | 8350              | 5620 |
|                |    | P                           | 9.07  | 7.90  | 6.73  | 5.60              | 4.53 |
|                | 50 | Q                           | 17200 | 13000 | 9480  | 6650              | 4310 |
|                |    | P                           | 9.59  | 8.19  | 6.86  | 5.60              | 4.45 |

Relating to 20 °C suction gas temperature  
without liquid subcooling

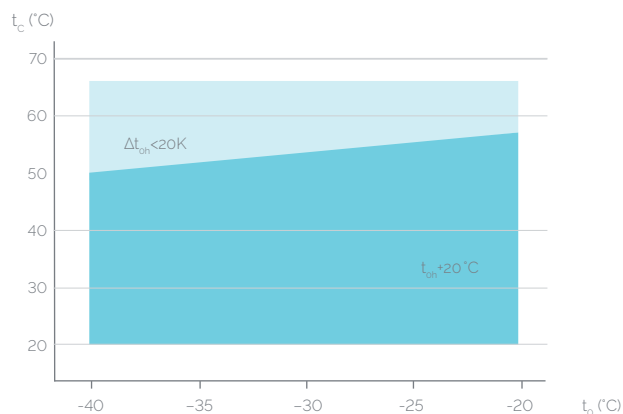




# HA semi-hermetic compressors

## Operating limits

### R22



$t_o$  Evaporating temperature (°C)

$t_c$  Condensing temperature (°C)

$\Delta t_{oh}$  Suction gas superheat (K)

$t_{oh}$  Suction gas temperature (°C)

● Unlimited application range

● Reduced suction gas temperature

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

<sup>1)</sup> LP = low pressure, HP = high pressure

### R22 Notes

#### Operating limits

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

Restrictions to operating limits may occur when using a frequency converter. For further explanations consult [www.bock.de](http://www.bock.de).

#### Performance data

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

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

Conversion factor for 60 Hz = 1.2

Performance data for other operating points, see BOCK VAP software ([vap.bock.de](http://vap.bock.de)).

# HA semi-hermetic compressors

## Performance data

### R22 | 50 Hz

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

Relating to 20 °C suction gas temperature  
without liquid subcooling

 Reduced suction gas temperature

vap.bock.de 

# HA semi-hermetic compressors

## Technical data

### HA

| Type        | Number<br>of<br>cylinders | Displacement      |                   | Electrical data       |                                          |                                                 |                                          |                      |     | Weight | Connections <sup>5)</sup> |      |    |      | Oil<br>charge | Fre-<br>quency<br>range |
|-------------|---------------------------|-------------------|-------------------|-----------------------|------------------------------------------|-------------------------------------------------|------------------------------------------|----------------------|-----|--------|---------------------------|------|----|------|---------------|-------------------------|
|             |                           |                   |                   | Voltage <sup>1)</sup> | Max.<br>Working<br>current <sup>2)</sup> | Max.<br>Power<br>consump-<br>tion <sup>2)</sup> | Starting<br>current<br>(rotor<br>locked) | Discharge<br>line DV |     |        | Suction<br>line SV        |      |    |      |               |                         |
|             |                           |                   |                   |                       |                                          |                                                 |                                          |                      |     |        |                           |      |    |      |               |                         |
|             | m³/h                      |                   | A                 |                       | kW                                       |                                                 | A                                        |                      | kg  |        |                           |      |    |      |               |                         |
|             |                           | 50 Hz<br>1450 rpm | 60 Hz<br>1740 rpm |                       | Δ                                        | Y                                               |                                          | Δ                    | Y   |        | mm                        | inch | mm | inch | Ltr.          | Hz                      |
| HA22e/125-4 | 2                         | 11.10             | 13.30             | <sup>3)</sup>         | 8.1                                      | 4.7                                             | 2.4                                      | 69                   | 40  | 75.5   | 12                        | ½    | 16 | ⅝    | 0.9           | 30–70                   |
| HA22e/160-4 | 2                         | 13.70             | 16.40             | <sup>3)</sup>         | 9.6                                      | 5.5                                             | 2.9                                      | 87                   | 50  | 77.5   | 12                        | ½    | 16 | ⅝    | 0.9           | 30–70                   |
| HA22e/190-4 | 2                         | 16.50             | 19.80             | <sup>3)</sup>         | 10.9                                     | 6.3                                             | 3.5                                      | 87                   | 50  | 76.5   | 12                        | ½    | 16 | ⅝    | 0.9           | 30–70                   |
| HA34e/215-4 | 4                         | 18.80             | 22.60             | <sup>3)</sup>         | 12.1                                     | 7.0                                             | 4.0                                      | 87                   | 50  | 94.0   | 16                        | ⅝    | 22 | ⅞    | 1.2           | 25–70                   |
| HA34e/255-4 | 4                         | 22.10             | 26.60             | <sup>3)</sup>         | 13.8                                     | 8.0                                             | 4.7                                      | 87                   | 50  | 93.5   | 16                        | ⅝    | 22 | ⅞    | 1.2           | 25–70                   |
| HA34e/315-4 | 4                         | 27.30             | 32.80             | <sup>3)</sup>         | 17.1                                     | 9.9                                             | 5.8                                      | 111                  | 64  | 96.5   | 16                        | ⅝    | 22 | ⅞    | 1.2           | 25–70                   |
| HA34e/380-4 | 4                         | 33.10             | 39.70             | <sup>3)</sup>         | 19.4                                     | 11.2                                            | 6.4                                      | 132                  | 76  | 96.0   | 16                        | ⅝    | 22 | ⅞    | 1.2           | 25–70                   |
|             |                           |                   |                   |                       | PW 1+2*                                  |                                                 |                                          | PW1/PW1+2*           |     |        |                           |      |    |      |               |                         |
| HA44e/475-4 | 4                         | 41.30             | 49.60             | <sup>4)</sup>         | 15.2                                     |                                                 | 7.6                                      | 87                   | 149 | 174.0  | 28                        | 1⅛   | 35 | 1⅜   | 2.3           | 25–70                   |
| HA44e/565-4 | 4                         | 49.20             | 59.00             | <sup>4)</sup>         | 18.3                                     |                                                 | 9.4                                      | 101                  | 174 | 178.5  | 28                        | 1⅛   | 35 | 1⅜   | 2.3           | 25–70                   |
| HA44e/665-4 | 4                         | 57.70             | 69.30             | <sup>4)</sup>         | 20.3                                     |                                                 | 11.0                                     | 101                  | 174 | 173.5  | 28                        | 1⅛   | 35 | 1⅜   | 2.3           | 25–70                   |

\*PW = Part Winding, motors for part winding start

1 = first part winding

2 = second part winding

## Explanations

- 1) Tolerance ( $\pm 10\%$ ) relates to the mean value of the voltage range. Other voltages and current types on request.
- 2) • The specifications for max. power consumption apply for 50 Hz operation. For 60 Hz operation, the specifications have to be multiplied by the factor 1.2. The max. working current remains unchanged.  
• Take account of the max. operating current / max. power consumption when designing contactors, leads and fuses.  
Switches: Service category AC3

- 3) 220 – 240 V  $\Delta$  / 380 – 420 V Y - 3 - 50 Hz,  
265 – 290 V  $\Delta$  / 440 – 480 V Y - 3 - 60 Hz

- 4) PW = Part Winding, motors for part winding start (no start unloaders required)  
• Winding ratios: HA44e = 50 % / 50 %  
• Designs for Y/ $\Delta$  on request

- 5) For soldering connections

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

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

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

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

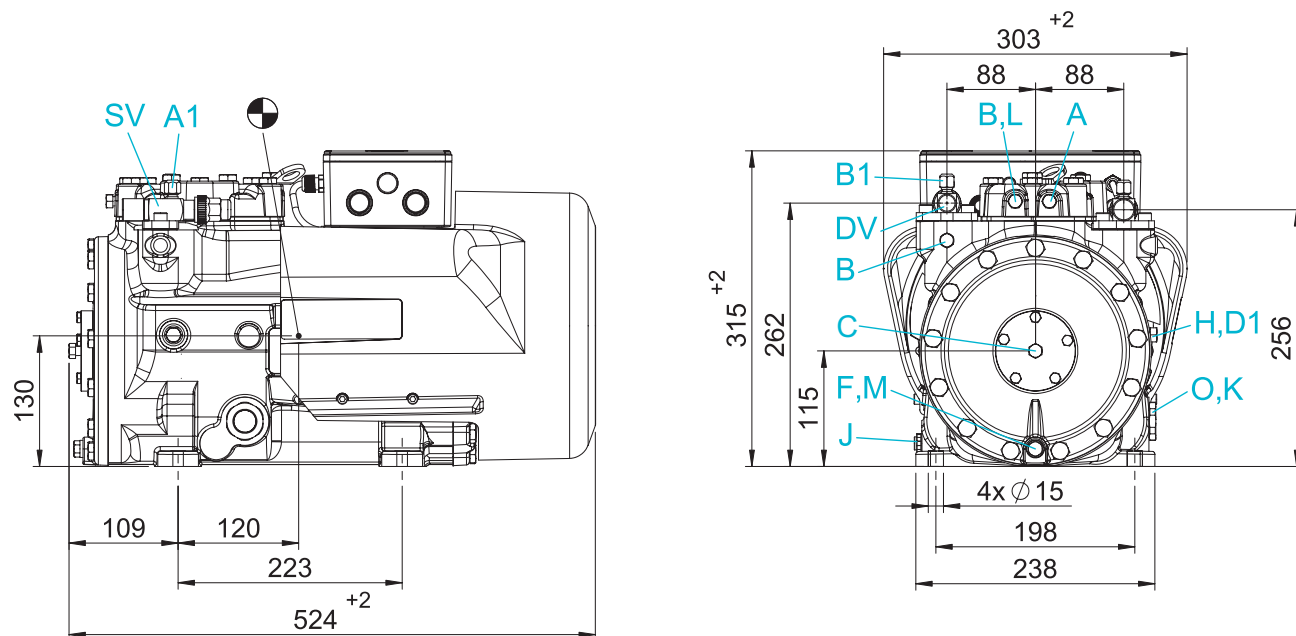
### Oil sump heater 230 V - 1 - 50 / 60 Hz (option)

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

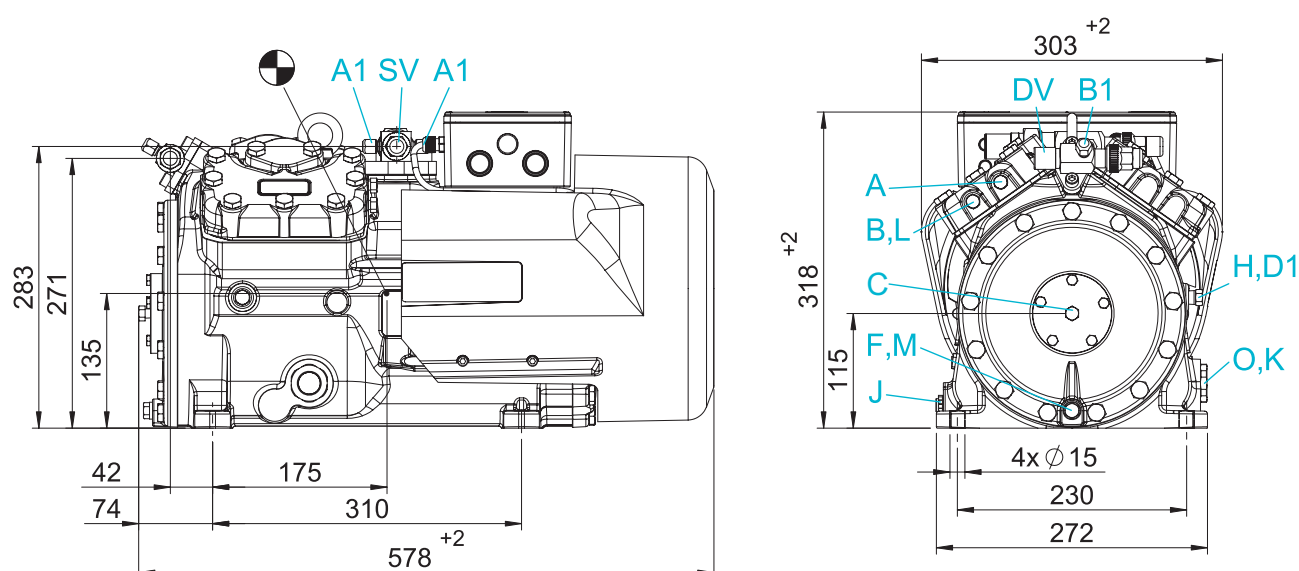
# HA semi-hermetic compressors

## Dimensions and connections

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



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



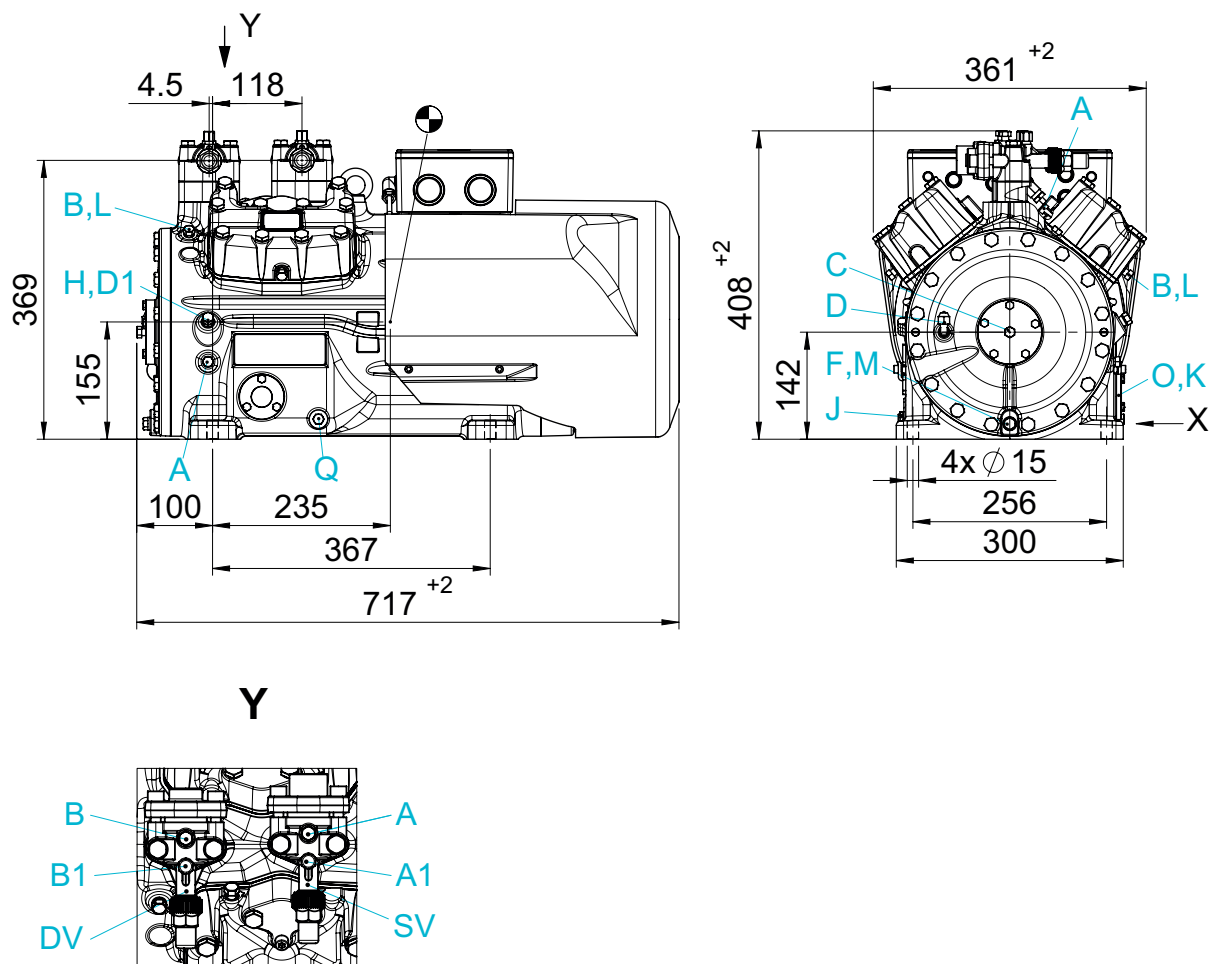
Dimensions in mm  
 ● Center of gravity

Connections see page 93  
 Dimensions for anti-vibration pad see page 91  
 Dimensions for view X see page 91

# HA semi-hermetic compressors

## Dimensions and connections

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



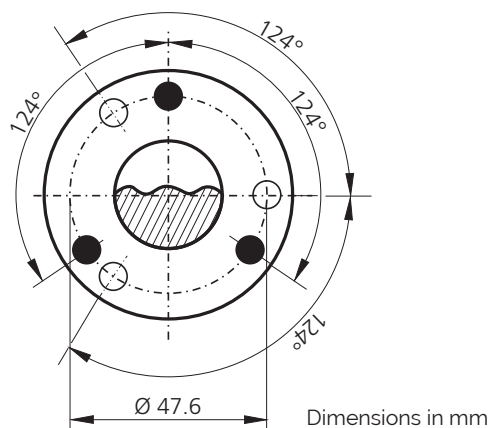
Dimensions in mm  
 ● Center of gravity

Connections see page 93  
 Dimensions for anti-vibration pad see page 91  
 Dimensions for view X see page 91

## HA semi-hermetic compressors

### Dimensions and connections

View X



Possibility to connect to oil level regulator

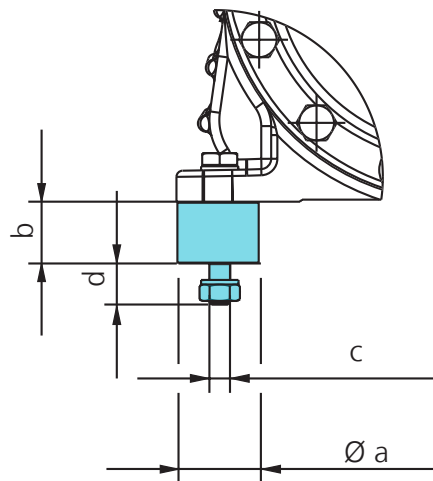
HA44e

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

Dimensions for anti-vibration pad

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

Dimensions in mm



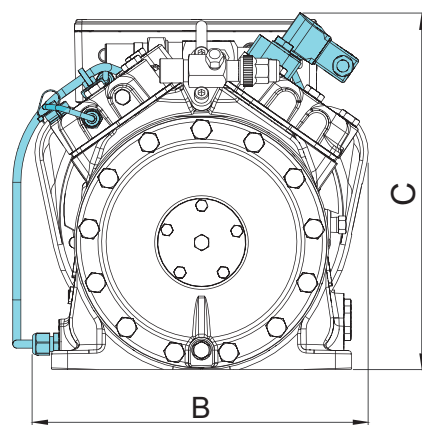
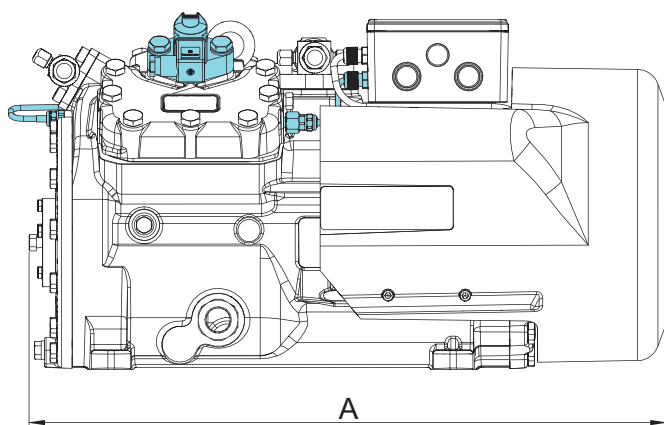


# HA semi-hermetic compressors

## Dimensions and connections

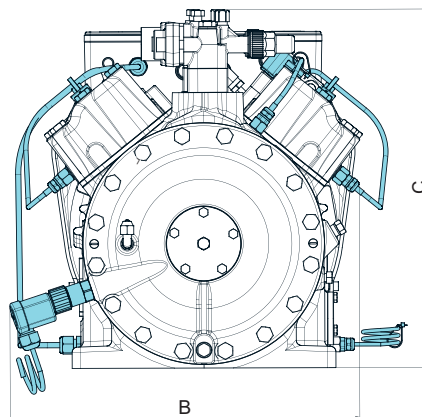
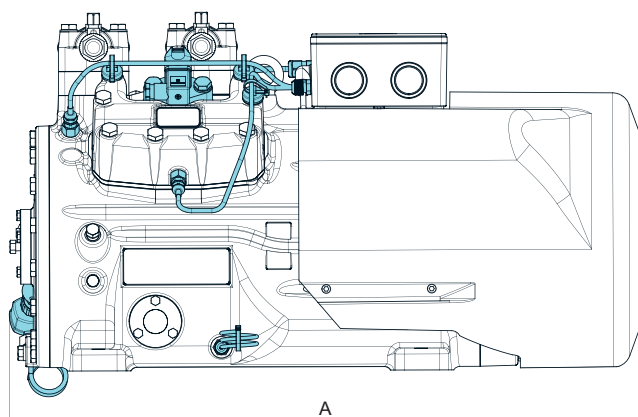
HA22e HA34e

Dimensions with accessories



HA44e

Dimensions with accessories



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

Dimensions in mm

# HA semi-hermetic compressors

## Connections

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

# HA semi-hermetic compressors

## Scope of supply and accessories

|                                                                                                                                                                                  | HA22e           | HA34e           | HA44e           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|
| Semi-hermetic two-cylinder reciprocating compressor with drive motor for direct start<br>220 – 240 V Δ / 380 – 420 V Y - 3 - 50 Hz<br>265 – 290 V Δ / 440 – 480 V Y - 3 - 60 Hz  | ●               | –               | –               |
| Semi-hermetic four-cylinder reciprocating compressor with drive motor for direct start<br>220 – 240 V Δ / 380 – 420 V Y - 3 - 50 Hz<br>265 – 290 V Δ / 440 – 480 V Y - 3 - 60 Hz | –               | ●               | –               |
| Semi-hermetic four-cylinder reciprocating compressor with drive motor for part winding start (50/50)<br>380 – 420 V Y/YY - 3 - 50 Hz<br>440 – 480 V Y/YY - 3 - 60 Hz             | –               | –               | ●               |
| Special voltage and/or frequency                                                                                                                                                 | ○ <sup>3)</sup> | ○ <sup>3)</sup> | ○ <sup>3)</sup> |
| Motor is cooled by an integrated fan with air deflection hood<br>230 V - 1 - 50 / 60 Hz, IP44 38 W, 0.17                                                                         | ●               | ●               | –               |
| Motor is cooled by an integrated fan with air deflection hood<br>230 V - 1 - 50 / 60 Hz, IP44 140 W, 0.71 A                                                                      | –               | –               | ●               |
| Winding protection with PTC resistor sensors with electronic triggering unit INT69 G                                                                                             | ●               | ●               | ●               |
| ① Thermal protection PTC                                                                                                                                                         | ○ <sup>2)</sup> | ○ <sup>2)</sup> | ○ <sup>2)</sup> |
| Oil pump                                                                                                                                                                         | ●               | ●               | ●               |
| Oil charge; HA: FUCHS Reniso SP46, HAX: FUCHS Reniso Triton SE55                                                                                                                 | ●               | ●               | ●               |
| Inert gas charge                                                                                                                                                                 | ●               | ●               | ●               |
| 4 anti-vibration pads                                                                                                                                                            | ● <sup>1)</sup> | ● <sup>1)</sup> | ● <sup>1)</sup> |
| Internal safety valve                                                                                                                                                            | –               | –               | ●               |
| Suction and discharge line valve                                                                                                                                                 | ●               | ●               | ●               |
| Sight glasses                                                                                                                                                                    | ●               | ●               | ●               |
| ② Oil sump heater 110 – 240 V - 1 - 50 / 60 Hz, 50 – 120 W, PTC heater, self-regulating                                                                                          | ○ <sup>2)</sup> | ○ <sup>2)</sup> | –               |
| 220 – 240 V - 1 - 50 / 60 Hz, 160 W                                                                                                                                              | –               | –               | ○ <sup>2)</sup> |
| Rear bearing flange prepared for oil differential pressure sensor                                                                                                                | –               | –               | ○ <sup>2)</sup> |
| ③ Oil differential pressure sensor DELTA-P II 220 – 240 V - 1 - 50 / 60 Hz                                                                                                       | –               | –               | ○ <sup>1)</sup> |
| ④ Oil pressure safety switch 230 V - 1 - 50/60 Hz, IP20 MP54                                                                                                                     | –               | –               | ○ <sup>1)</sup> |
| 230 V - 1 - 50/60 Hz, IP20 MP55                                                                                                                                                  | ○ <sup>1)</sup> | ○ <sup>1)</sup> | –               |
| ⑥ Capacity regulator 230 V - 1 - 50 / 60 Hz, IP65<br>1 capacity regulator = 50 % residual capacity                                                                               | –               | ○ <sup>2)</sup> | ○ <sup>2)</sup> |

<sup>1)</sup> Enclosed <sup>2)</sup> Mounted <sup>3)</sup> On request  
<sup>4)</sup> Only possible with additional adapter

● Scope of supply (standard)  
○ Available accessories

vap.bock.de 

● Pictures see page 67/68

# HA semi-hermetic compressors

## Scope of supply and accessories

|                                                                                             | HA22e           | HA34e           | HA44e           |
|---------------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|
| 7 Prepared for capacity regulator (1 cylinder cover)                                        | –               | ● <sup>2)</sup> | ● <sup>2)</sup> |
| 8 Oil temperature sensor                                                                    | –               | –               | ● <sup>2)</sup> |
| Start unloader by means of ESS (Electronic Soft Start)                                      |                 |                 |                 |
| 9 400 V – 3 – 50 / 60 Hz, IP20, (connection clamps IP00) for installation in switch cabinet | ● <sup>1)</sup> | ● <sup>1)</sup> | ● <sup>1)</sup> |
| 12 Intermediate flange for discharge line valve on right or left, seen from oil pump        | –               | –               | ● <sup>1)</sup> |
| 13 INT69 G Diagnose 115 / 230 V Ac, 50 / 60 Hz, IP00 (INT69 G not applicable)               | ● <sup>2)</sup> | ● <sup>2)</sup> | ● <sup>2)</sup> |
| 15 DP – modbus gateway 115 / 230 V Ac, 50 / 60 Hz, IP00 incl. adapter cable                 | ● <sup>1)</sup> | ● <sup>1)</sup> | ● <sup>1)</sup> |
| 16 Modbus – LAN gateway 230 V Ac, 50 / 60 Hz, IP00                                          | ● <sup>1)</sup> | ● <sup>1)</sup> | ● <sup>1)</sup> |
| 17 USB converter for INT69 G Diagnose and INT69 GTML Diagnose                               | ● <sup>1)</sup> | ● <sup>1)</sup> | ● <sup>1)</sup> |
| Connection for oil level regulator of brands ESK, AC+ R or CARLY                            | ● <sup>4)</sup> | ● <sup>4)</sup> | ●               |
| Connection for oil level regulator of brand Traxoil                                         | ● <sup>4)</sup> | ● <sup>4)</sup> | ● <sup>4)</sup> |

<sup>1)</sup> Enclosed <sup>2)</sup> Mounted <sup>3)</sup> On request  
<sup>4)</sup> Only possible with additional adapter

● Scope of supply (standard)  
 ● Available accessories



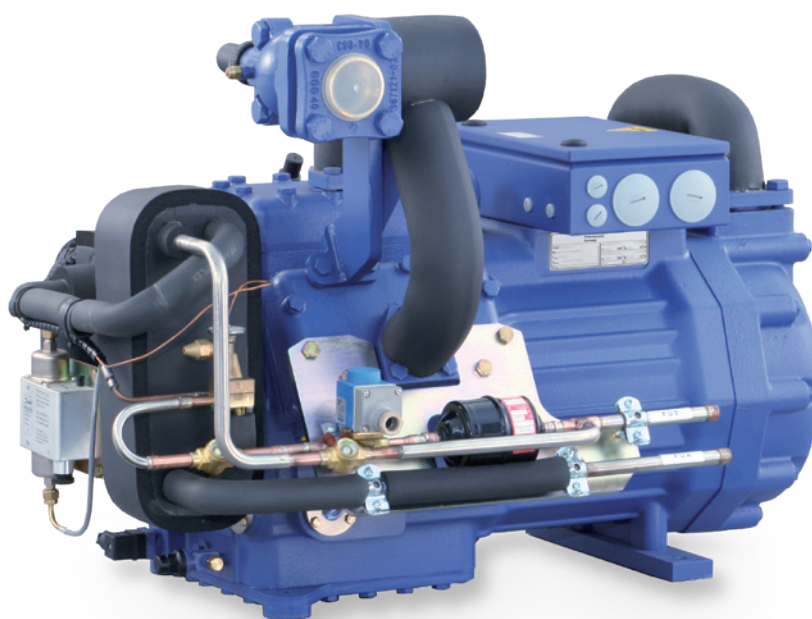
● Pictures see page 67/68



# Bock HGZ semi-hermetic compressors

- 98** At a glance
- 100** Operating limits and performance data
- 104** Technical data
- 104** Dimensions and connections
- 107** Scope of supply & accessories

## Bock HGZ7 two-stage





# Bock HGZ two-stage semi-hermetic compressors

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

**The two stage system consists of:**

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

**Special features:**

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

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

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

**The two possible designs of the HGZ7**

**Design version: everything enclosed separately**

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

**Design version: mounted directly to the compressor**

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

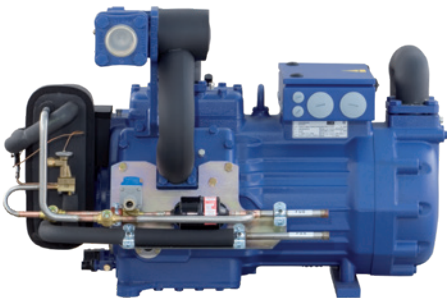
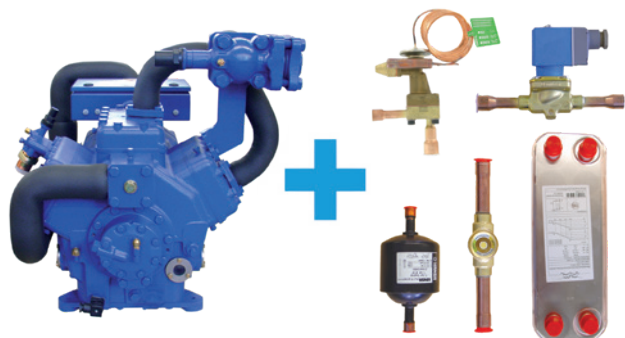
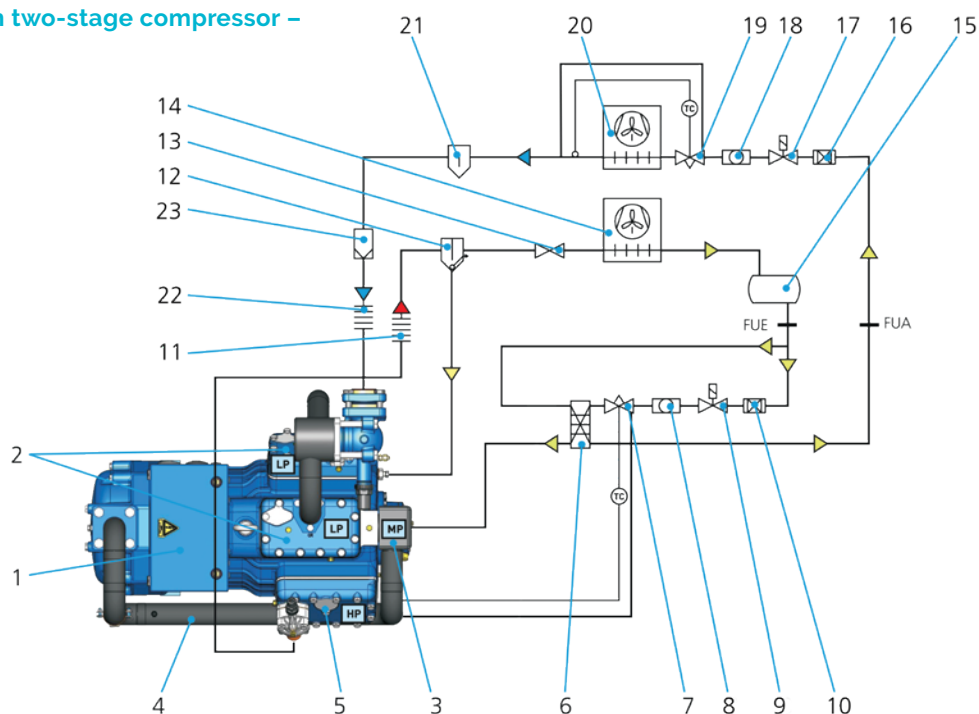


Image similar

# HGZ two-stage semi-hermetic compressors

## Spezial features

### Refrigeration circuit with two-stage compressor – Schematic diagram



### Explanations

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

\* Components for subcooling system not supplied as standard

### Type key

**HGZX7 / 2110 - 4 R404A**

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

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

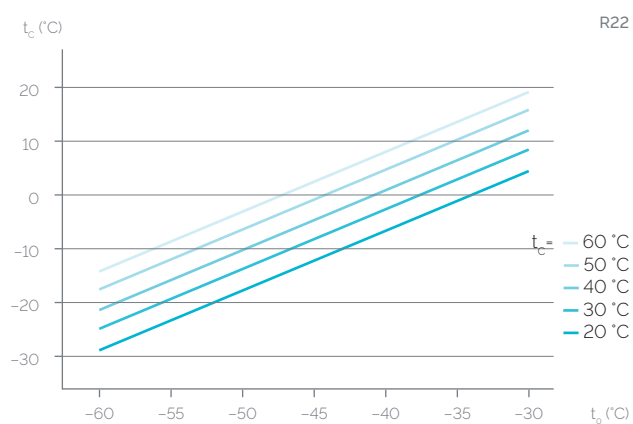
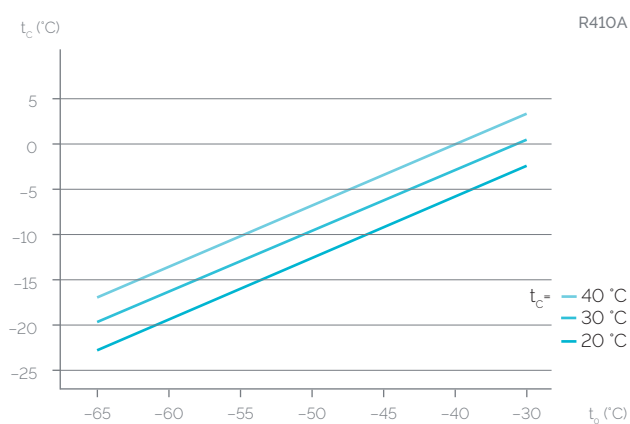
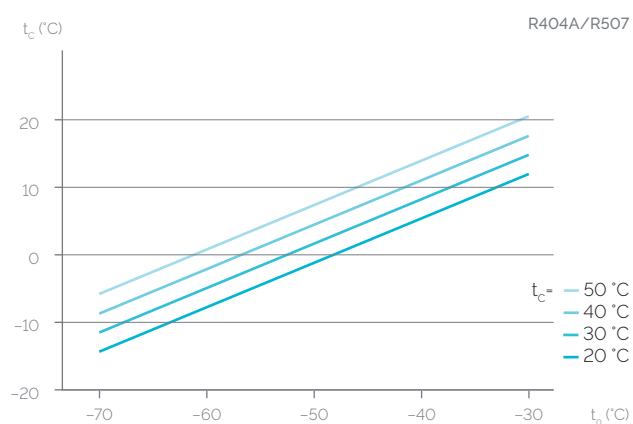
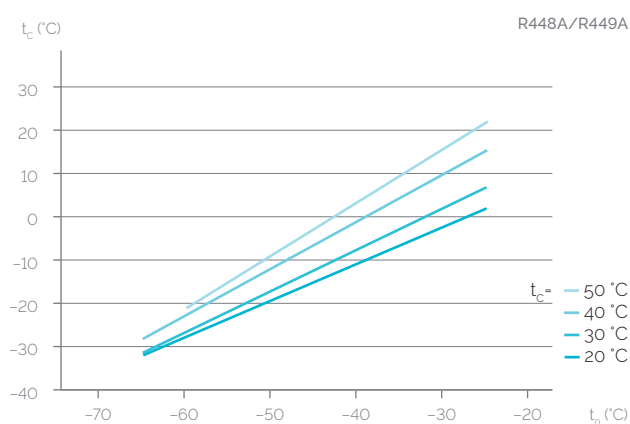
# HGZ two-stage semi-hermetic compressors

## Operating limits

### Subcooling temperature

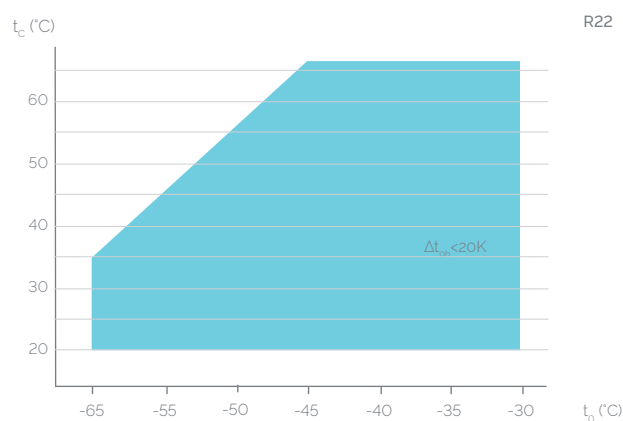
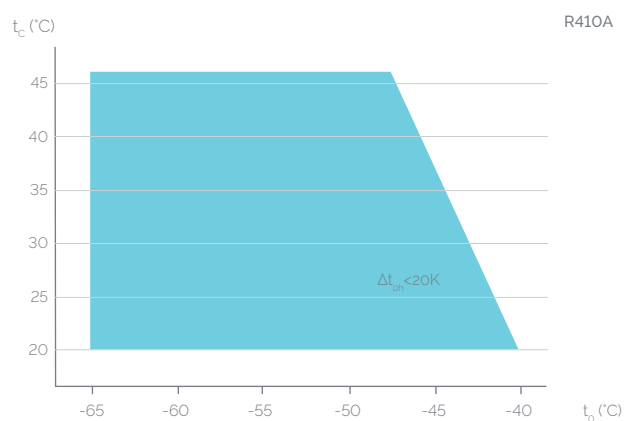
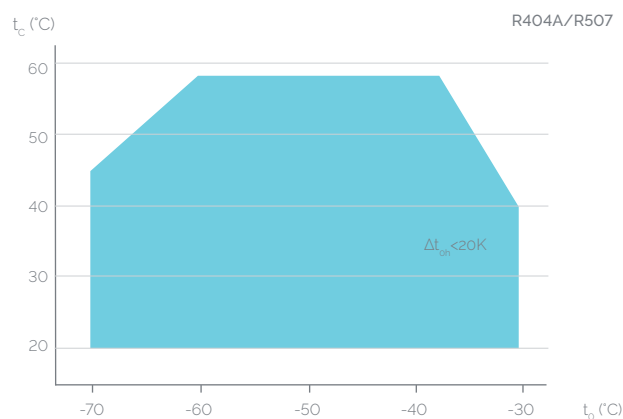
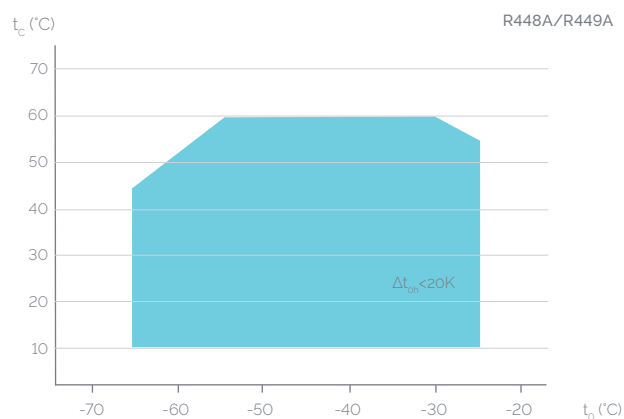
Defined with the help of the diagram by approximately calculating the subcooling temperature arising in the relevant operating conditions ( $t_o/t_c$ ).

Subcooling temperature calculation diagram for the intermediate cooler outlet



# HGZ two-stage semi-hermetic compressors

## Operating limits



$t_o$  Evaporating temperature (°C)  
 $t_c$  Condensing temperature (°C)  
 $\Delta t_{sh}$  Suction gas superheat (K)  
 $t_{sh}$  Suction gas temperature (°C)

● Application range

Max. permissible operating pressure (LP/HP)<sup>1)</sup>: 19/28 bar  
<sup>1)</sup> LP = low pressure, HP = high pressure

## Notes

### Operating limits

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

### Performance data

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

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

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

# HGZ two-stage semi-hermetic compressors

## Performance data

### R448A | 50 Hz

| Type           |    | Cooling capacity $Q_o$ [kW] |                |                |                |                |                | Power consumption |  |
|----------------|----|-----------------------------|----------------|----------------|----------------|----------------|----------------|-------------------|--|
|                |    |                             |                |                |                |                |                | $P_e$ [kW]        |  |
|                |    | Evaporating temperature °C  |                |                |                |                |                |                   |  |
| Cond. temp. °C |    | -30                         | -35            | -40            | -45            | -50            | -55            | -60               |  |
| HGZX7/1620-4   | 30 | Q P 30500<br>1710           | 25000<br>15.50 | 19900<br>13.90 | 15500<br>12.30 | 11700<br>10.80 | 8650<br>9.51   | 6420<br>8.32      |  |
|                | 40 | Q P 28900<br>19.10          | 23700<br>17.20 | 19000<br>15.40 | 14900<br>13.60 | 11400<br>12.00 | 8460<br>10.40  | 6360<br>9.06      |  |
|                | 50 | Q P 27000<br>21.00          | 22300<br>19.00 | 18000<br>17.00 | 14200<br>15.10 | 10900<br>13.20 | 8260<br>11.50  | 6330<br>9.95      |  |
| HGZX7/1860-4   | 30 | Q P 35100<br>19.70          | 28700<br>17.80 | 22900<br>15.90 | 17800<br>14.10 | 13500<br>12.40 | 9930<br>10.90  | 7370<br>9.56      |  |
|                | 40 | Q P 33100<br>21.90          | 27200<br>19.80 | 21800<br>17.70 | 17100<br>15.70 | 13000<br>13.80 | 9720<br>12.00  | 7300<br>10.40     |  |
|                | 50 | Q P 31000<br>24.20          | 25600<br>21.80 | 20600<br>19.60 | 16300<br>17.30 | 12500<br>15.20 | 9480<br>13.20  | 7270<br>11.40     |  |
| HGZX7/2110-4   | 30 | Q P 39900<br>22.40          | 32600<br>20.20 | 26000<br>18.10 | 20200<br>16.10 | 15300<br>14.10 | 11300<br>12.40 | 8380<br>10.80     |  |
|                | 40 | Q P 37700<br>24.90          | 31000<br>22.50 | 24800<br>20.20 | 19400<br>17.80 | 14800<br>15.60 | 11100<br>13.60 | 8310<br>11.80     |  |
|                | 50 | Q P 35200<br>27.50          | 29100<br>24.90 | 23500<br>22.30 | 18500<br>19.70 | 14200<br>17.30 | 10800<br>15.00 | 8260<br>13.00     |  |

### R449A | 50 Hz

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

### R404A/R507 | 50 Hz

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

# HGZ two-stage semi-hermetic compressors

## Performance data

### R410A | 50 Hz

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

### R22 | 50 Hz

| Type              |    |     | Cooling capacity $Q_o$ [W] |                |                |                |                | Power consumption |               |
|-------------------|----|-----|----------------------------|----------------|----------------|----------------|----------------|-------------------|---------------|
|                   |    |     |                            |                |                |                |                | $P_e$ [kW]        |               |
|                   |    |     | Evaporating temperature °C |                |                |                |                |                   |               |
| Cond.<br>temp. °C |    |     | -30                        | -35            | -40            | -45            | -50            | -55               | -60           |
| HGZX7/1620-4      | 30 | Q P | 29711<br>18.26             | 24214<br>16.81 | 19448<br>15.40 | 15365<br>14.03 | 11921<br>12.70 | 9070<br>11.41     | 6765<br>10.16 |
|                   | 40 | Q P | 29059<br>20.23             | 23630<br>18.52 | 18930<br>16.86 | 14914<br>15.23 | 11537<br>13.64 | 8753<br>12.10     | -<br>-        |
|                   | 50 | Q P | 28355<br>22.30             | 22992<br>20.33 | 18360<br>18.41 | 14411<br>16.53 | 11100<br>14.69 | -<br>-            | -<br>-        |
|                   | 60 | Q P | 27598<br>24.47             | 22302<br>22.25 | 17736<br>20.07 | 13854<br>17.93 | -<br>-         | -<br>-            | -<br>-        |
|                   | 30 | Q P | 30088<br>20.97             | 27881<br>19.31 | 22408<br>17.69 | 17669<br>16.11 | 13664<br>14.58 | 10393<br>13.10    | 7855<br>11.67 |
| HGZX7/1860-4      | 40 | Q P | 33296<br>23.23             | 27181<br>21.27 | 21800<br>19.36 | 17153<br>17.49 | 13240<br>15.67 | 10061<br>13.89    | -<br>-        |
|                   | 50 | Q P | 32434<br>25.60             | 26411<br>23.35 | 21122<br>21.14 | 16567<br>18.98 | 12746<br>16.68 | -<br>-            | -<br>-        |
|                   | 60 | Q P | 31503<br>28.09             | 25572<br>25.54 | 20375<br>23.04 | 15912<br>20.59 | -<br>-         | -<br>-            | -<br>-        |
|                   | 30 | Q P | 38811<br>23.86             | 31632<br>21.96 | 25406<br>20.12 | 20072<br>18.33 | 15573<br>16.59 | 11848<br>14.91    | 8837<br>13.27 |
| HGZX7/2110-4      | 40 | Q P | 37960<br>26.43             | 30868<br>24.20 | 24729<br>22.02 | 19483<br>19.89 | 15071<br>17.82 | 11433<br>15.80    | -<br>-        |
|                   | 50 | Q P | 37040<br>29.13             | 30035<br>26.56 | 23984<br>24.05 | 18825<br>21.59 | 14500<br>19.18 | -<br>-            | -<br>-        |
|                   | 60 | Q P | 36050<br>31.96             | 29133<br>29.06 | 23169<br>26.21 | 18097<br>23.42 | -<br>-         | -<br>-            | -<br>-        |

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

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# HGZ two-stage semi-hermetic compressors

## Technical data / Dimensions and connections

### HGZ7

### Two-Stage Compressors

| Type                                                                                        | Number of cylinders | Displacement        |       | Displacement        |       | Voltage <sup>1)</sup> | Electrical data                    |                                      |                                    |     | Weight | Oil charge |  |
|---------------------------------------------------------------------------------------------|---------------------|---------------------|-------|---------------------|-------|-----------------------|------------------------------------|--------------------------------------|------------------------------------|-----|--------|------------|--|
|                                                                                             |                     | 50 Hz<br>(1450 rpm) |       | 60Hz<br>(1.740 rpm) |       |                       | Max. Working current <sup>2)</sup> | Max. Power consumption <sup>2)</sup> | Starting current<br>(rotor locked) |     |        |            |  |
|                                                                                             | m³/h                |                     | m³/h  |                     | A     | kW                    | A                                  |                                      | kg                                 |     |        |            |  |
|                                                                                             |                     | LP**                | HP**  | LP**                | HP**  |                       | Δ / Y                              |                                      | Δ                                  | Y   |        | Ltr.       |  |
|                                                                                             |                     |                     |       |                     |       |                       | PW1+2*                             | PW1 / PW1+2*                         |                                    |     |        |            |  |
| HGZ7/1620-4 R448A/R449A<br>HGZX7/1620-4 R404A<br>HGZX7/1620-4 R410A<br>HGZ7/1620-4 R22      | 6                   | 93.70               | 46.90 | 112.50              | 56.20 | 3)                    | 50                                 | 27.0                                 | 175                                | 269 | 294    | 4.5        |  |
| HGZ7/1860-4 R448A/R449A<br>HGZX7/1860-4 R404A/R507<br>HGZX7/1860-4 R410A<br>HGZ7/1860-4 R22 | 6                   | 107.60              | 53.80 | 129.10              | 64.60 | 3)                    | 55                                 | 30.0                                 | 175                                | 269 | 291    | 4.5        |  |
| HGZ7/2110-4 R448A/R449A<br>HGZX7/2110-4 R404A/R507<br>HGZX7/2110-4 R410A<br>HGZ7/2110-4 R22 | 6                   | 122.40              | 61.20 | 146.90              | 73.40 | 3)                    | 68                                 | 36.0                                 | 232                                | 357 | 289    | 4.5        |  |

\*PW = Part Winding, motors for part winding start

1 = first part winding

2 = second part winding

\*\* LP = low pressure HP = high pressure

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

- 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 Y/YY - 3 - 50 Hz PW

440 – 480 V Y/YY - 3 - 60 Hz PW

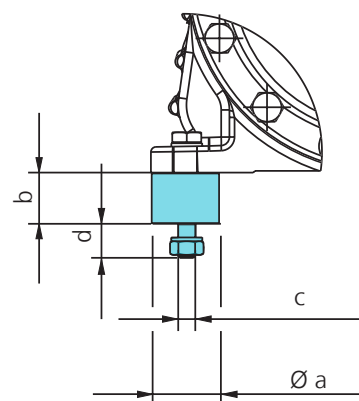
PW = Part Winding, motors for part winding start (no start unloaders required)

Winding ratios: 50 % / 50 %

### Dimensions for anti-vibration pad

| Type | Ø a | b  | c   | d  |
|------|-----|----|-----|----|
| HGZ7 | 50  | 30 | M10 | 25 |

Dimensions in mm

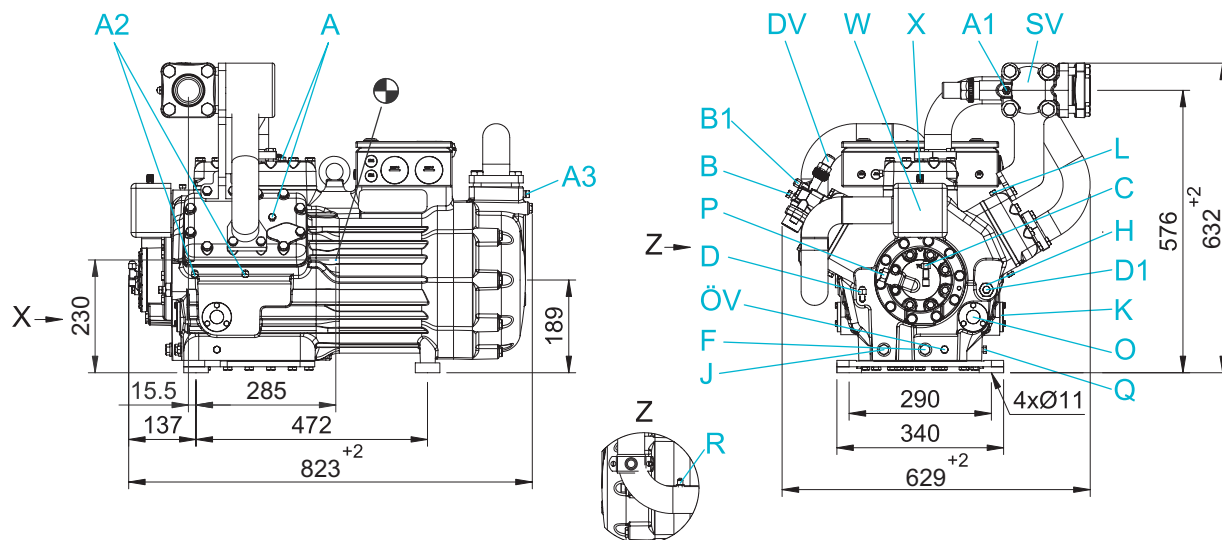


# HGZ two-stage semi-hermetic compressors

## Dimensions and connections

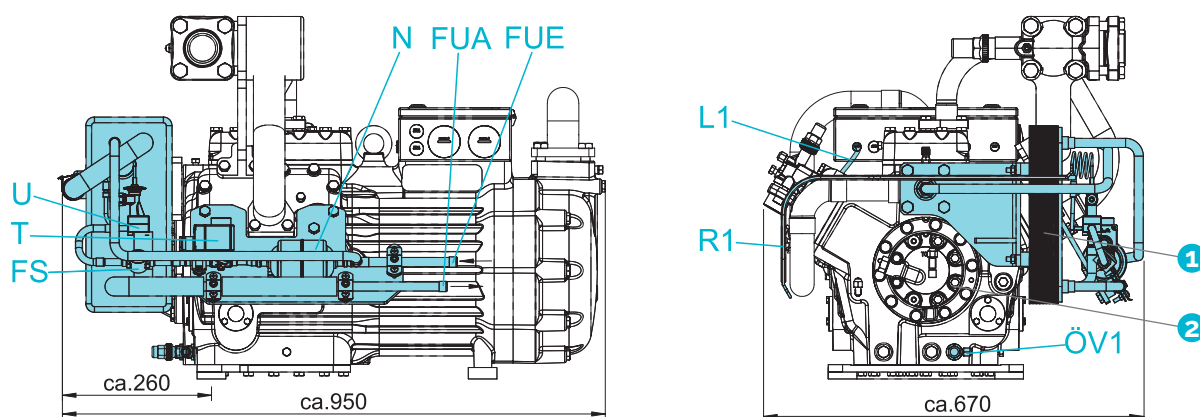
### HGZ7 - Series

Liquid subcooler with accessories supplied separately



### HGZ7 - Option

Liquid subcooler with complete accessories directly mounted onto the compressor



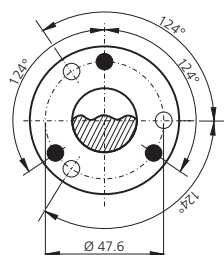
- ① Liquid subcooler with accessories    ② Oil service valve

Dimensions in mm

● Center of gravity

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

### View X



Possibility to connect to oil level regulator

HGZ7

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

Dimensions in mm

# HGZ two-stage semi-hermetic compressors

## Dimensions and connections

| Connections – Series |                                                                   | HGZ7           |
|----------------------|-------------------------------------------------------------------|----------------|
| SV                   | Suction line                                                      | Ø 54 mm 2 1/8" |
| DV                   | Discharge line                                                    | Ø 35 mm 1 3/8" |
| A                    | Connection suction side, not lockable                             | 1/8" NPTF      |
| A1                   | Connection suction side, lockable                                 | 7/16" UNF      |
| A2                   | Connection suction side, not lockable                             | 1/8" NPTF      |
| A3                   | Connection intermediate pressure, not lockable                    | 1/4" NPTF      |
| B                    | Connection discharge side, not lockable                           | 1/8" NPTF      |
| B1                   | Connection discharge side, lockable                               | 7/16" UNF      |
| C                    | Connection oil pressure safety switch HP                          | 7/16" UNF      |
| D                    | Connection oil pressure safety switch LP                          | 7/16" UNF      |
| D1                   | Connection oil return from oil separator                          | 1/4" NPTF      |
| F                    | Oil drain plug                                                    | M 22 x 1.5     |
| H                    | Oil charge plug                                                   | M 22 x 1.5     |
| J                    | Connection oil sump heater                                        | M 22 x 1.5     |
| K                    | Sight glass                                                       | 3 hole M 6     |
| L                    | Connection thermal protection thermostat                          | 1/8" NPTF      |
| O                    | Connection oil level regulator                                    | <sup>1)</sup>  |
| ÖV                   | Connection oil service valve                                      | 1/4" NPTF      |
| P                    | Connection oil pressure differential sensor                       | M 20 x 1.5     |
| Q                    | Connection oil temperature sensor                                 | 1/8" NPTF      |
| R                    | Connection equalizer for injection valve                          | 7/16" UNF      |
| W                    | Connection for refrigerant injection                              | M 22 x 1.5     |
| X                    | Connection for Schrader valve for intermediate pressure manometer | 7/16" UNF      |

<sup>1)</sup> Dimensions see view X page 105

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

# HGZ two-stage semi-hermetic compressors

## Scope of supply and accessories

|                                                                                                                                                                                                                                                  | HGZ7                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| Semi-hermetic six-cylinder reciprocating compressor with drive motor for part winding start<br>380 – 420 V Y / YY - 3 - 50 Hz<br>440 – 480 V Y / YY - 3 - 60 Hz<br>Single-section compressor housing with hermetically integrated electric motor | ●                                                        |
| Special voltage and/or frequency                                                                                                                                                                                                                 | ● <sup>3)</sup>                                          |
| Cylinder design in W form, LP/HP stage ratio 2:1                                                                                                                                                                                                 | ●                                                        |
| 1 Intermediate pressure line mounted and insulated                                                                                                                                                                                               | ●                                                        |
| 2 Winding protection with PTC sensors and MP10 electronic motor protection                                                                                                                                                                       | ●                                                        |
| Oil pump                                                                                                                                                                                                                                         | ●                                                        |
| 3 Oil pump cover with screw connection for oil differential pressure sensor DELTA-P II                                                                                                                                                           | ●                                                        |
| 4 Direct connection possibility for oil level regulators ESK, AC+R or CARLY                                                                                                                                                                      | ●                                                        |
| Direct connection possibility for oil level regulators Traxoil                                                                                                                                                                                   | ● <sup>4)</sup>                                          |
| Oil charge                                                                                                                                                                                                                                       | HGZ: FUCHS Reniso SP46<br>HGZX: FUCHS Reniso Triton SE55 |
| 5 Two sight glasses                                                                                                                                                                                                                              | ●                                                        |
| Internal safety valve                                                                                                                                                                                                                            | ●                                                        |
| 6 Suction line Shut-off valve                                                                                                                                                                                                                    | ●                                                        |
| 7 Discharge line Shut-off valve                                                                                                                                                                                                                  | ●                                                        |
| Inert gas charge                                                                                                                                                                                                                                 | ●                                                        |
| 4 anti-vibration pads                                                                                                                                                                                                                            | ●                                                        |
| Liquid subcooler, re-injection valve, solenoid valve 230 V - 1 - 50 / 60 Hz, sight glass, filter drier, supplied separately for individual, external installation. Assembly is mandatory for the function of the compressor.                     | ● <sup>1)</sup>                                          |
| Liquid subcooler, re-injection valve, solenoid valve 230 V - 1 - 50 / 60 Hz, sight glass, filter drier, directly mounted onto the compressor, fully assembled and insulated with pipes ready for connection.                                     | ● <sup>2)</sup>                                          |
| 10 Oil sump heater 220 – 240 V - 1 - 50 / 60 Hz, 140 W                                                                                                                                                                                           | ● <sup>2)</sup>                                          |
| 11 Thermal protection thermostat (PTC sensor) 230 V - 1 - 50 / 60 Hz                                                                                                                                                                             | ● <sup>2)</sup>                                          |
| 12 Oil pressure safety switch MP 54, 230 V - 1 - 50 / 60 Hz, IP20                                                                                                                                                                                | ● <sup>1)</sup>                                          |
| 13 Oil differential pressure sensor DELTA-P II, 220 – 240 V - 1 - 50 / 60 Hz                                                                                                                                                                     | ● <sup>1)</sup>                                          |
| 14 Oil service valve                                                                                                                                                                                                                             | ● <sup>2)</sup>                                          |
| 15 Oil temperature sensor                                                                                                                                                                                                                        | ● <sup>2)</sup>                                          |

<sup>1)</sup> Enclosed <sup>2)</sup> Mounted <sup>3)</sup> On request

<sup>4)</sup> Only possible with additional adapter

● Scope of supply (standard)  
● Available accessories

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# HGZ two-stage semi-hermetic compressors

## Accessories

Intermediate pressure line



Winding protection



Oil pump cover



Direct connection possibility



Sight glasses



Suction line shut-off valve



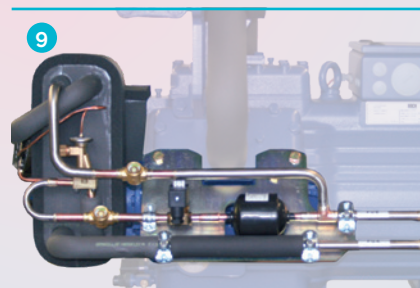
Discharge line shut-off valve



Components enclosed separately



Components mounted directly



# HGZ two-stage semi-hermetic compressors

## Accessories

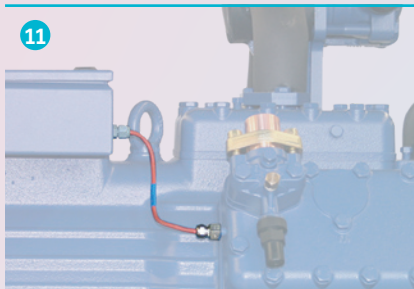
Oil sump heater

10



Thermal protection thermostat

11



Oil pressure safety switch

12



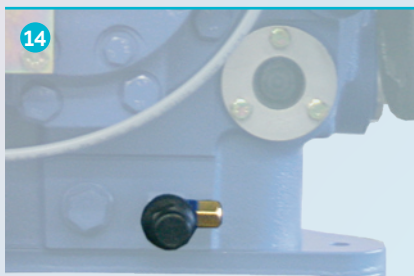
Oil differential pressure sensor

13



Oil service valve

14



Oil temperature sensor

15





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Together with Danfoss, BOCK offers special (online) user training courses. For this purpose, a complete transcritical supermarket refrigeration system with the latest CO<sub>2</sub> technology is in operation at the BOCK training center – with heat recovery + air conditioning + parallel compression + ejector – in order to make the seminars more practical.

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## **BOCKCO<sub>2</sub>Tool**

The strengths of the **BOCKCO<sub>2</sub>Tool** based on Excel: Support for the selection of CO<sub>2</sub> compressors, e.g. by displaying the system schematic as RI flow diagram and refrigeration circuit in log-p-h-diagram, as well as selecting compressors in rack systems and for special CO<sub>2</sub> systems such as booster systems.

» Usage on request: [vap@bock.de](mailto:vap@bock.de)

## **BOCKVAP**

The BOCK compressor selection program (VAP) is the perfect tool, to find suitable compressors or condensing units for your stationary or mobile application: Simply enter cooling capacity and operating conditions and the suitable components will be displayed immediately. In addition, the tool provides you with further information, e.g. application limits, performance data, dimensions and connections, scope of delivery, accessories, 3 D compressor models and much more.

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» [vap.bock.de](http://vap.bock.de)

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