

New designed housing
with optimised gas flow

MexxFlow 2.0
valve plate system

Proven and reliable
oil pump lubrication

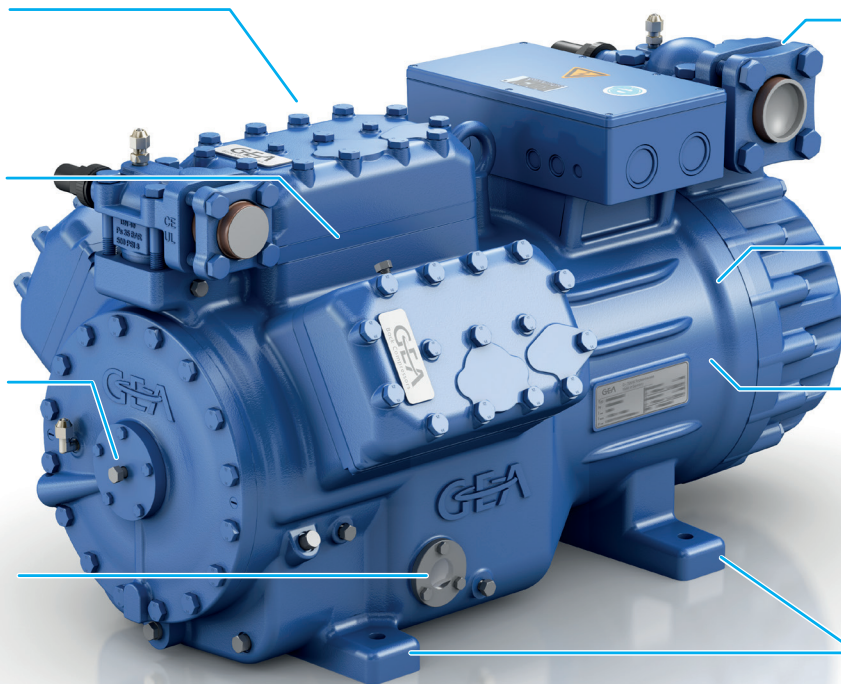
Standard position
sight glass

Standard position
Valves

Highly efficient electric
motors of the latest
generation

Exchangeable motor

Standard footprints



GEA Bock HG66e

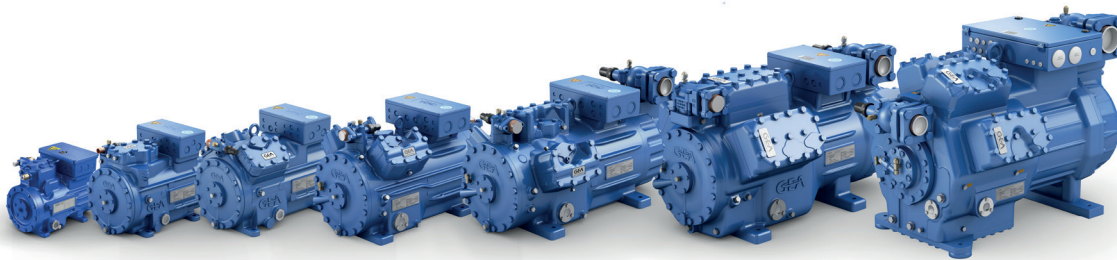
The new 6-cylinder compressor for
high capacities and a high level of efficiency

The new 6-cylinder GEA Bock HG66e compressor for high capacities

The new HG66e

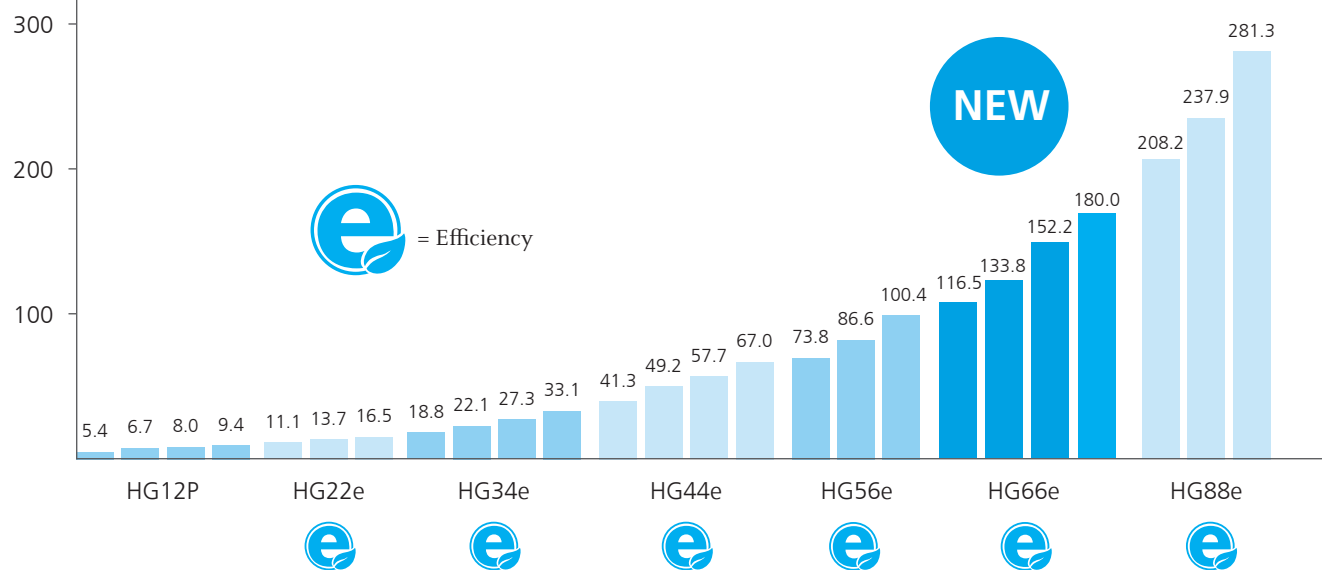
With the GEA Bock HG66e series, it is a case of entirely new compressors – these combine state-of-the-art technology with the GEA design features that have been proven for decades. They are equipped with the mexxFlow 2.0 valve plate system and replace the previous 4- and 6-cylinder series HG6 and HG7. MexxFlow is already known and proven in HG88e for its high efficiency and reliability in operation with high capacities. Four sizes cover the range from 116.5 m³/h to 180.0 m³/h displacement (at 50 Hz).

A modern, self-developed valve plate system, the latest generation of electric motors and an improved gas flow in the compressor increase the overall level of efficiency. The proven oil pump lubrication is used in all compressors, and this enables a greater range of speed control to be achieved in the operation of the frequency converter. The emergency running properties have also been optimised - this is particularly important for operation with natural refrigerants. As usual, ease of servicing was one of the main priorities in the development of the new HG66e compressors: the stators can be changed on site without special tools.



THE CURRENT PROGRAM

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



Replacement for former types

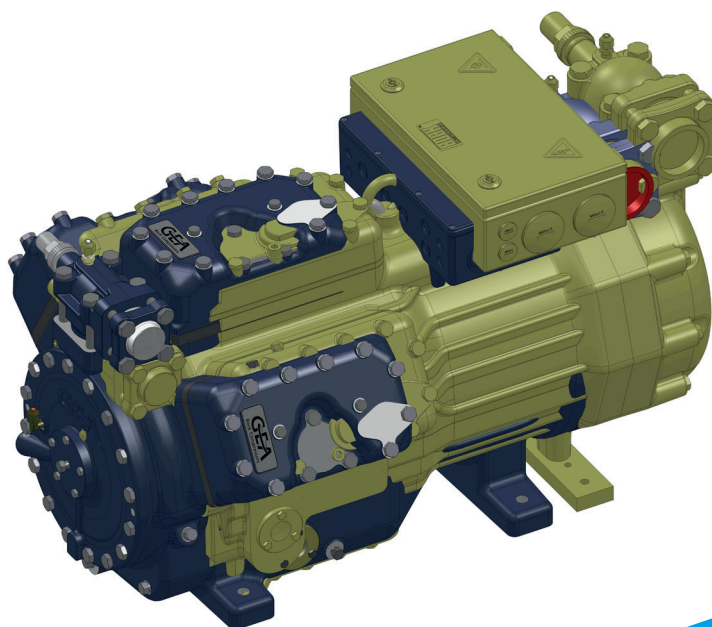
HG66e		vs.	HG6/HG7	
Types:	Displacement at 50 Hz:		Former types:	Displacement at 50 Hz:
HG66e/1340-4 (S)	116,5 m³/h		HG6/1410-4 (S)	122,4 m³/h
HG66e/1540-4 (S)	133,8 m³/h		HG7/1620-4 (S)	140,6 m³/h
HG66e/1750-4 (S)	152,2 m³/h		HG7/1860-4 (S)	161,4 m³/h
HG66e/2070-4 (S)	180,0 m³/h		HG7/2110-4 (S)	183,6 m³/h

Price benefit

Types:

HG66e/1340-4 (S)	vs.	HG6/1410-4 (S)	approx. 8% Price benefit
HG66e/1540-4 (S)	vs.	HG7/1620-4 (S)	approx. 11% Price benefit
HG66e/1750-4 (S)	vs.	HG7/1860-4 (S)	approx. 4% Price benefit
HG66e/2070-4 (S)	vs.	HG7/2110-4 (S)	approx. 7 % Price benefit

Dimension comparison of the HG66e vs. HG7



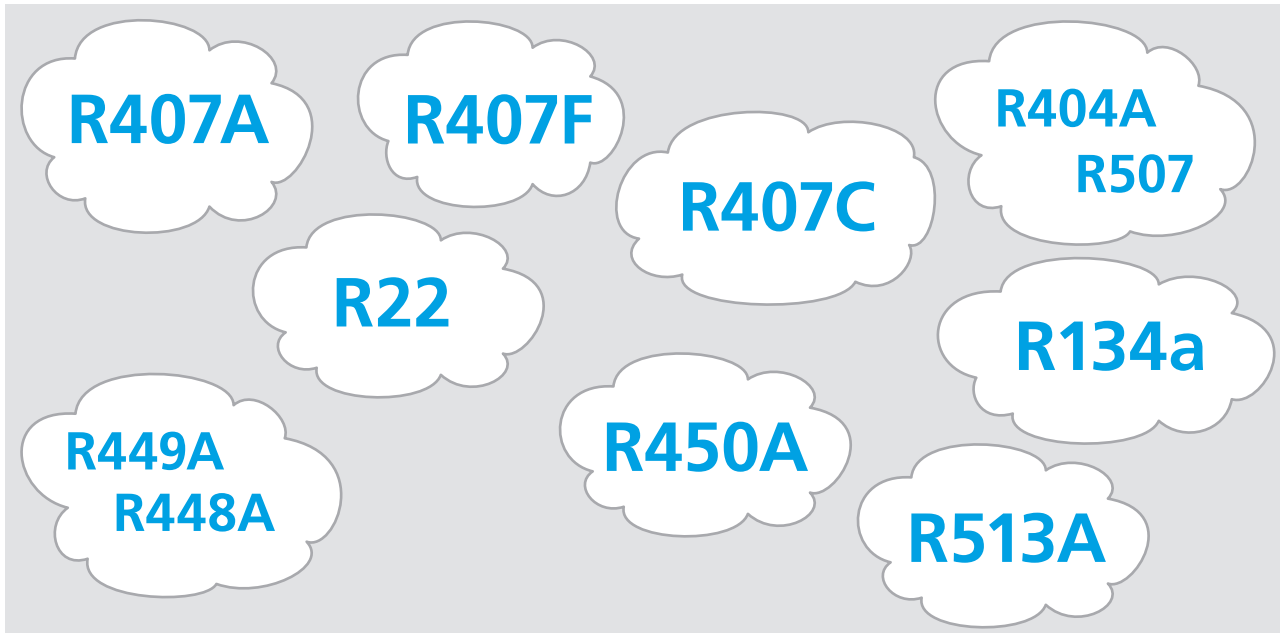
Blue: GEA Bock HG66e

Yellow: GEA Bock HG7

Length (mm)	Width (mm)	Hight (mm)
-29	+51	-35

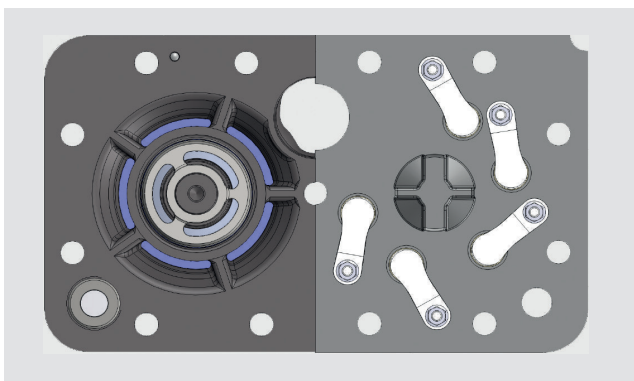
Unique features and improved technology

One compressor design for all standard refrigerants



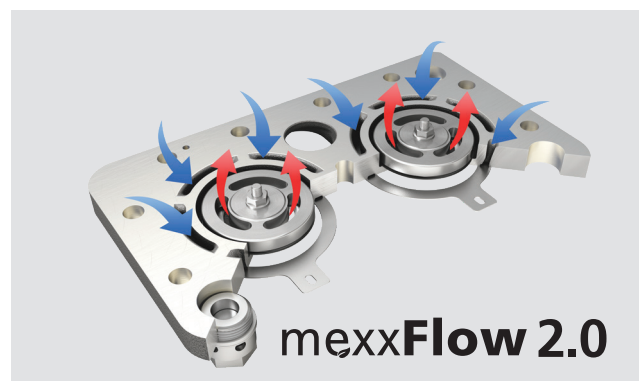
- For air-conditioning, medium and low temperature application
- Maximum allowed operating pressure: 28 bar

mexxFlow valve plate innovation for high capacities



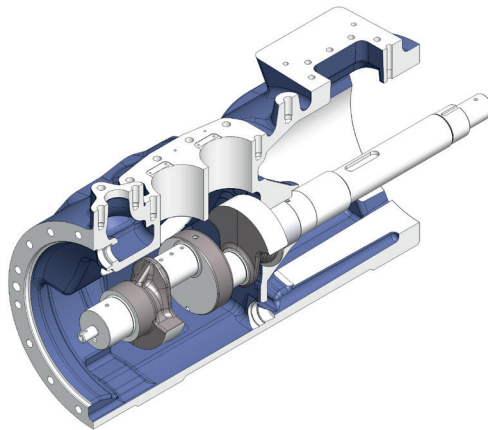
mexxFlow (left side) vs. previous design (right side)

- Valve plate with highly efficient double ring fins
- Flow optimized system of valve plate and cylinder head
- Proven from HG88e application



The second generation shows even greater resistance with a consistent high robustness.

Optimized drive gear



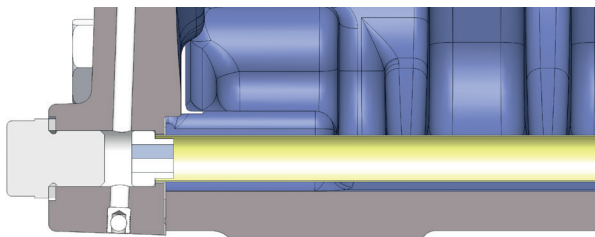
- Optimized drive gear with thrust washer, improving emergency-mode operation and increase of resistance to galling in case of insufficient lubrication

Safe, reliable oil supply



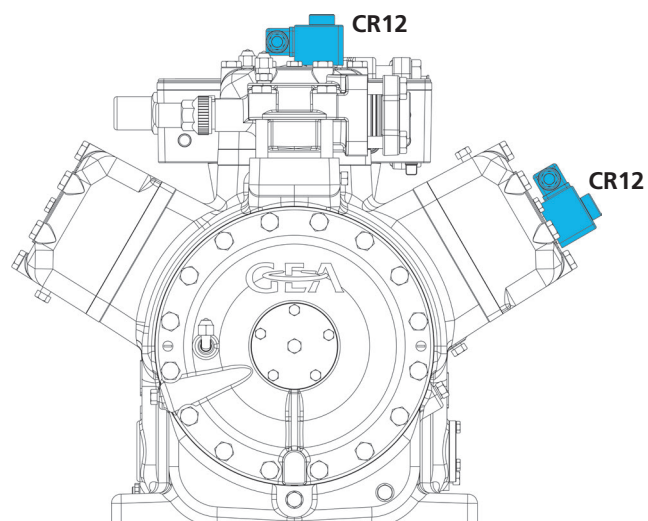
- All compressors with a conventional single circuit lubricating system
- All compressors with oil pump lubrication independent of direction of rotation
- Minimized oil carry over
- Servicefriendly oil strainer

Easy maintainable strainer



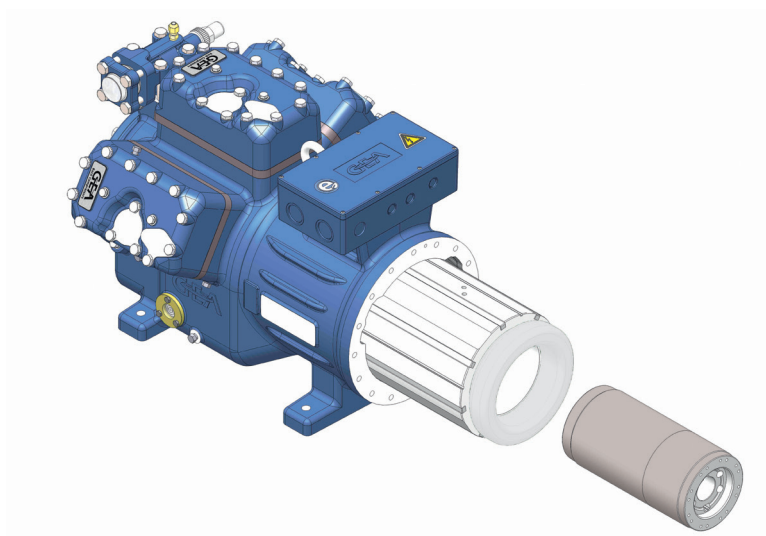
- Easy-to-remove oil strainer for easier maintenance and increased availability

Capacity regulator CR12



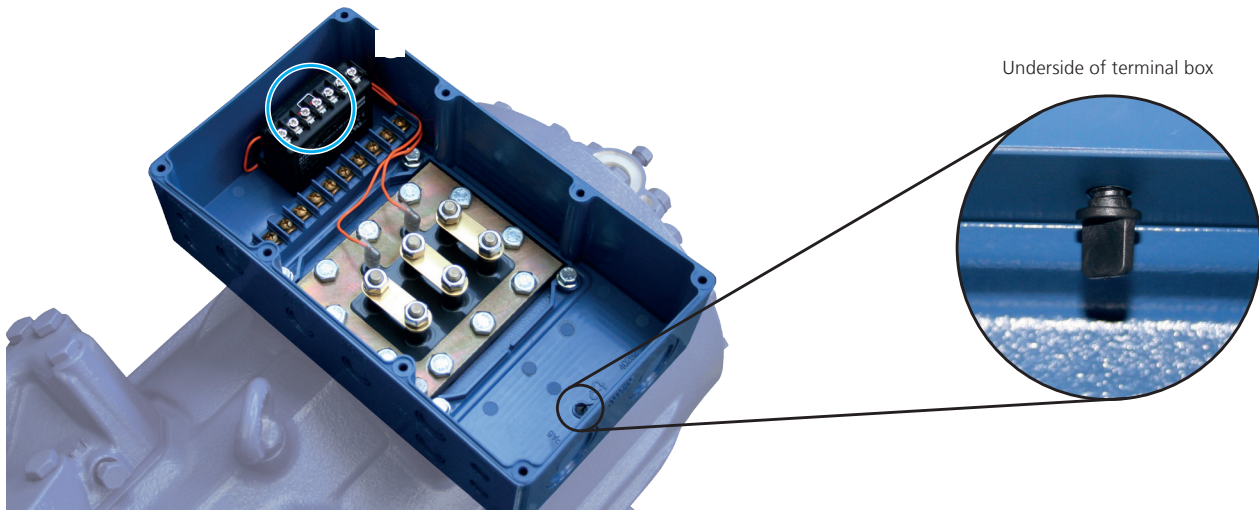
- Capacity regulator with high operational safety due to high-pressure control

Service friendly design



- Easily to be replaced build in motor due to slide fit (not press fit)

State of the art terminal box



- Easy electrical installation due to large internal volume
- Terminal board with cable entry points in glass seal model
- Electrical motor protection INT69 G ① integrated
- High level of protection IP66
- Plug to drain under unfavorable circumstances condensed water out of the terminal box (if used, IP protection is reduced!)

Electronic Motor Protection INT69 G



Temperature safety drive for the drive motor

The INT69 G also provides the usual functions, as:

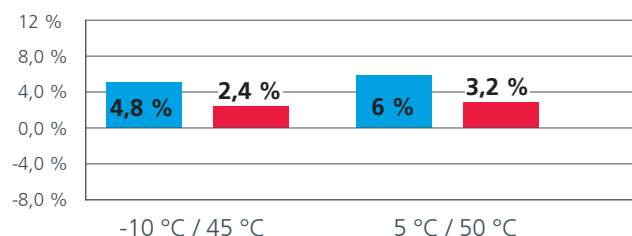
- Motor temperature monitoring
- Hot gas temperature monitoring
- A reconnection preventing device
- A reset

① PTC sensors

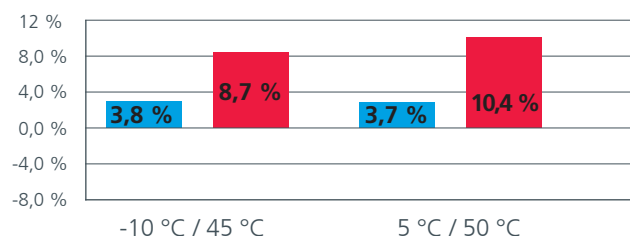
Connection of up to nine PTC sensors possible

Performance data

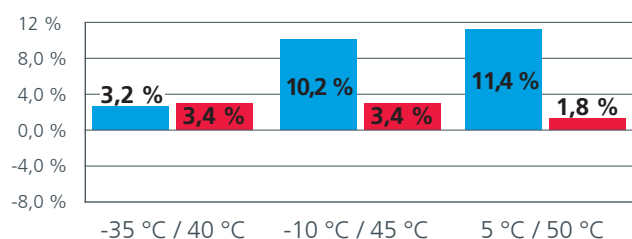
**R134a Performance comparison
HG66e/1540-4 S vs. Competitor**



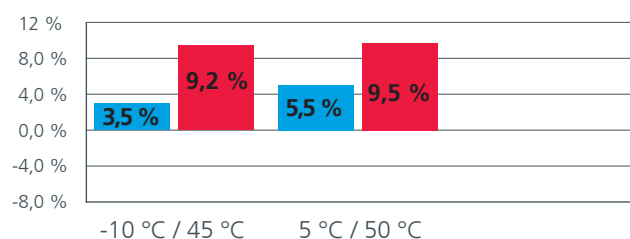
HG66e/2070-4 S vs. Competitor



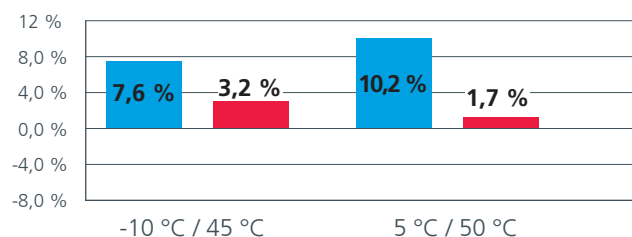
**R404A Performance comparison
HG66e/1540-4 S vs. Competitor**



HG66e/2070-4 S vs. Competitor



**R449A Performance comparison
HG66e/1540-4 S vs. Competitor**



■ Cooling capacity

■ COP

Technical data

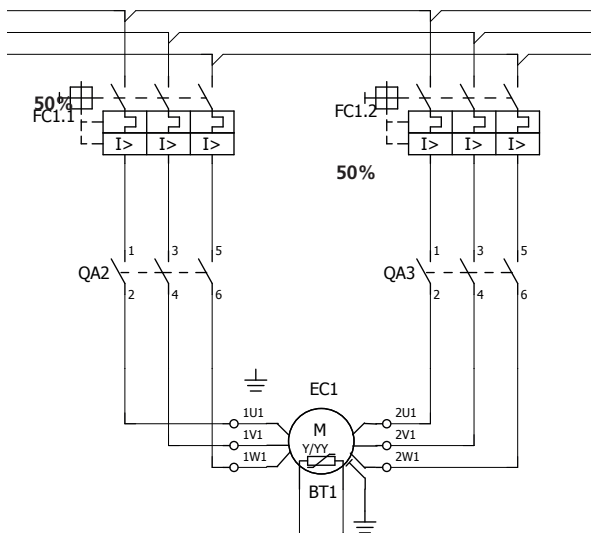
Technical data

HG	Number of cylinders	Displacement 50 / 60 Hz (1,450 / 1,740 rpm)	Voltage ¹⁾	Electrical data			Weight	Connections		Oil charge
				Max. working current ²⁾	Max. power consumption ²⁾	Starting current (rotor locked)		Discharge line DV	Suction line SV	
Type		m ³ /h		A	kW	A	kg	mm inch	mm inch	Ltr.
				*PW 1+2		*PW1 / PW 1+2				
HG66e/1340-4	6	116,5 / 139,8	4)	53,7	31,9	170 / 275	282,9	42 1 5/8"	54 2 1/8"	4,4
HG66e/1340-4 S	6	116,5 / 139,8	4)	63,4	38,1	196 / 335	287,8	42 1 5/8"	54 2 1/8"	4,4
HG66e/1540-4	6	133,8 / 160,5	4)	62,0	37,2	170 / 275	280,6	42 1 5/8"	54 2 1/8"	4,4
HG66e/1540-4 S	6	133,8 / 160,5	4)	75,0	44,4	196 / 335	285,5	42 1 5/8"	54 2 1/8"	4,4
HG66e/1750-4	6	152,2 / 182,6	4)	70,5	42,4	196 / 335	280,0	42 1 5/8"	54 2 1/8"	4,4
HG66e/1750-4 S	6	152,2 / 182,6	4)	86,8	50,7	222 / 361	282,4	42 1 5/8"	54 2 1/8"	4,4
HG66e/2070-4	6	180,0 / 216,0	4)	85,1	50,7	196 / 335	276,5	42 1 5/8"	64 2 5/8"	4,4
HG66e/2070-4 S	6	180,0 / 216,0	4)	103	60,7	222 / 361	279,0	42 1 5/8"	64 2 5/8"	4,4

4) 380-420 V Y/Y - 3 - 50 Hz PW
440-480 V Y/Y - 3 - 60 Hz PW

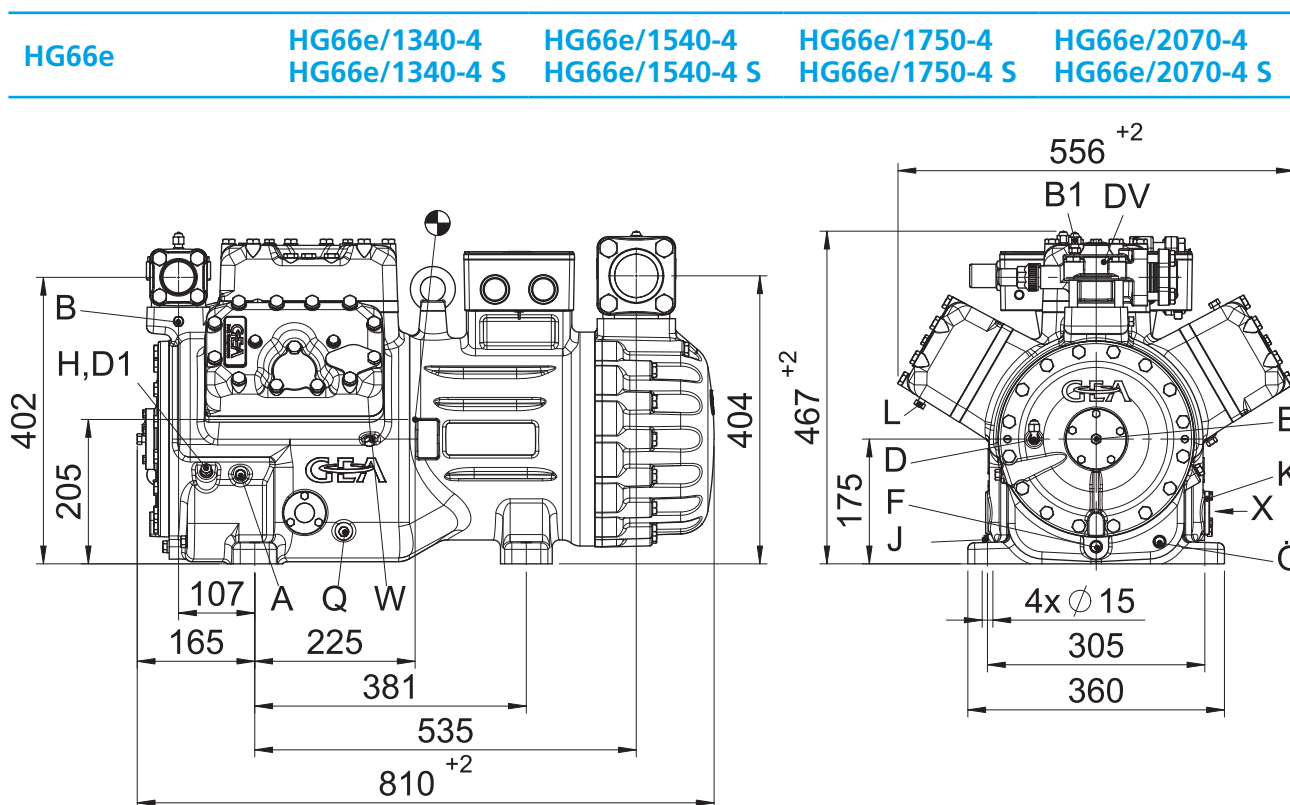
* PW = Part Winding, Motors for part winding start 1 = 1. part winding 2 = 2. part winding

Winding section



All the models of the GEA Bock HG66e series have a **winding section of 50 % / 50 %**.

The motor winding is divided into two parts:
partial winding 1 = 50 % and partial winding 2 = 50 %
This winding division reduces the start-up current required for a partial winding start to approx. 50 % of that for a direct start.



Connections

HG66e

SV	Suction line	Please refer to technical data on page 9
DV	Discharge line	
A	Connection suction side, not lockable	1/8" NPTF
A1	Connection suction side, lockable	7/16" UNF
B	Connection discharge side, not lockable	1/8" NPTF
B1	Connection discharge side, lockable	7/16" UNF
D	Connection oil pressure safety switch LP	7/16" UNF
D1	Connection oil return from oil separator	1/4" NPTF
E	Connection oil pressure gauge	1/8" NPTF
F	Oil drain	M 12 x 1,5
H	Oil charge plug	1/4" NPTF
J	Connection oil sump heater	3/8" NPTF
K	Sight glass	3 x M6
L	Connection thermal protection thermostat	1/8" NPTF
O	Connection oil level regulator	3 x M6
ÖV	Connection oil service valve	1/4" NPTF
Q	Connection oil temperature sensor	1/8" NPTF
W	Connection for refrigerant injection	2x 1/8" NPTF

Scope of supply & Accessories		HG66e
Semi-hermetic six cylinder reciprocating compressor with drive motor for part winding start (50/50) 380-420 V Y/YY - 3 - 50 Hz 440-480 V Y/YY - 3 - 60 Hz		●
Special voltage and/or frequency		○ ³⁾
Winding protection with PTC resistor sensors with electronic triggering unit INT69 G		●
Oil pump		●
Oil charge: HG: FUCHS Reniso SP46, HGX: FUCHS Reniso Triton SE55		●
Inert gas charge		●
4 anti-vibration pads enclosed		●
Internal safety valve		●
Suction and discharge line valve		●
Sight glass (one)		●
Thermal protection thermostat (ptc)		○ ²⁾
Oil sump heater	220-240 V - 1 - 50/60 Hz, 160 W	○ ²⁾
Oil differential pressure sensor DELTA-P II 220-240 V - 1 - 50/60 Hz		○ ¹⁾
Oil pressure safety switch MP54	230 V - 1 - 50/60 Hz, IP20	○ ¹⁾
Capacity regulator	1–2 capacity regulators = 66/33 % residual capacity	○ ²⁾
Prepared for capacity reluator	1 cylinder cover	○ ²⁾
	2 cylinder cover	○ ²⁾
Oil temperature sensor		○ ²⁾
Start unloader by means of a ESS (Electronic Soft Start) 400 V - 3 - 50/60 Hz, IP20, (connection clamps IP00) for installation in switch cabinet (except HG66e/2070-4(S))		○ ¹⁾
Connection piece suction and discharge valve in welded construction		○ ³⁾
Rear bearing flange prepared for oil differential pressure sensor		○ ²⁾
Additional fan 230 V - 1 - 50 Hz, 97 W, IP44, 230- V - 1 - 60 Hz, 128 W, Voltage range ± 10%		○ ¹⁾
INT69 G diagnose 115 V / 230 V Ac, 50/60 Hz, IP00 (INT69 G not applicable)		○ ²⁾
DP-modbus Gateway 115 V / 230 V Ac, 50/60 Hz, IP00 incl. adapter cable		○ ¹⁾
modbus-LAN Gateway 230 V Ac, 50/60 Hz, IP00		○ ¹⁾
USB converter for INT69 G diagnose and Int69 GTML diagnose		○ ¹⁾
Possibility to connect to oil level controllers brand ESK, AC+R or CARLY		●
Possibility to connect to oil level controllers brand Traxoil		● ⁴⁾

● Scope of Supply (Standard)

○ Accessories (Available)

¹⁾ Enclosure²⁾ Mounted³⁾ On request⁴⁾ Only possible with additional adapter

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