



## **Semi-hermetic Bock Compressors**

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

° In touch with our customers

## GEA Refrigeration Technologies: Your partner for low temperatures

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

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

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

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

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







## GEA Bock - More than a compressor

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

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

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

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

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



## Semi-hermetic compressors HG (HA)

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

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

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



## Vehicle compressors FK

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

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

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

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

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



## Open type compressors F

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

Virtually all drive capacity requirements can be met.

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

- ° Single-stage compressors
- ° NH<sub>3</sub> compressors
- ° Compressor units for direct drive
- ° NH<sub>3</sub> Compressor units for direct drive





**Universal**

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

**High refrigeration capacity combined with minimum power requirement**

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

**Wide range of applications without additional cooling**

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

**Stable valve plate design**

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

**Replaceable motors**

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

**Economic capacity control**

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

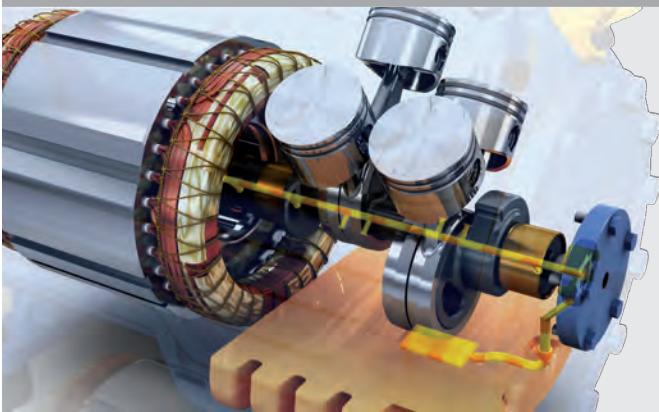
**Minimum space requirement**

Particularly low installation height and width

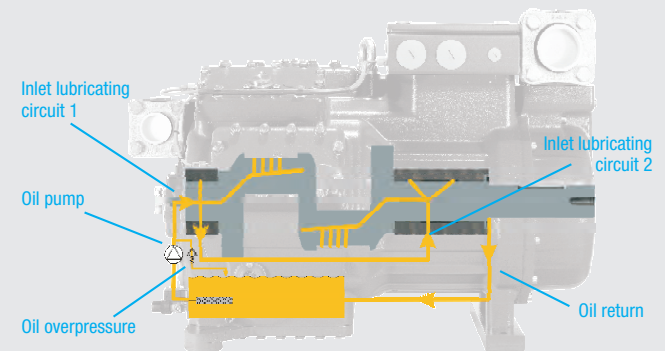
**Quiet and low vibration**

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

**Safe, reliable oil supply**



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

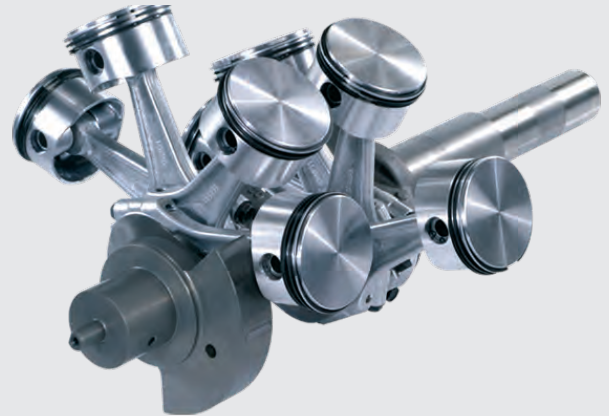


- 8 cylinder compressor with a dual circuit lubricating system (two oil circuits), each of the two main bearings supplied as the first lubrication point
- Oil pump lubrication independent of direction of rotation
- Connection possibility for oil pressure monitoring  $\Delta p$ -oil differential pressure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

Wear-resistant durable driving gear



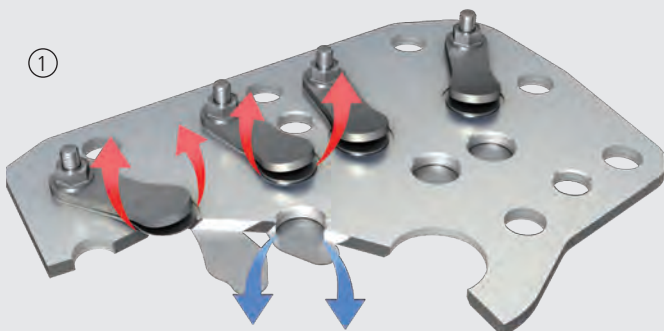
- 2 and 4 cylinder compressor HG(HA)12 to HG(HA)34
- Solid construction and design
- Low friction sleeve bearings
- Aluminium pistons with two ring assembly



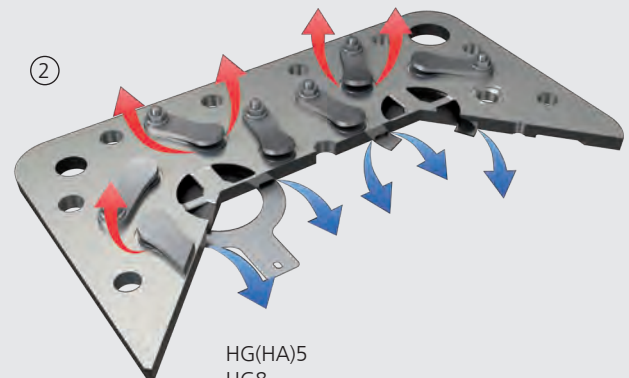
- 4 and 6 and 8 cylinder compressor HG(HA)4 to HG8
- Solid construction and design
- Surface-hardened crankshaft
- Low friction sleeve bearings
- Aluminium pistons with triple ring assembly, hard-chromium plated sealing ring, HG(HA)4 with double ring assembly
- Aluminium connecting rod with high resistance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

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Solid construction and design



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

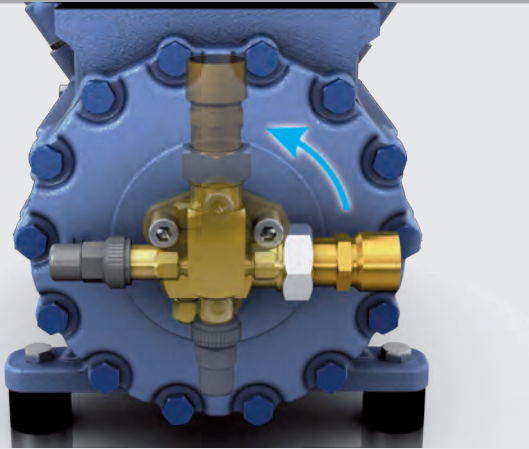


HG(HA)5  
HG8

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

Variable suction line valve position (HG)

4 cylinder

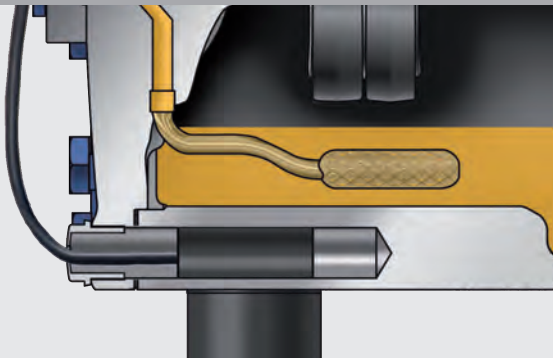


8 cylinder

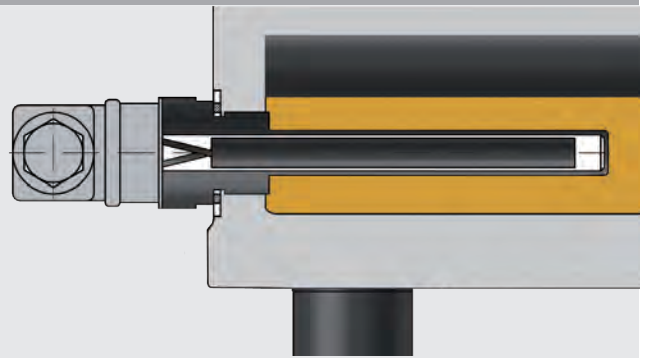


- Shutoff valve rotates through 90° (2 and 4 cylinder) suction cover rotates through 90° (8 cylinder)
- Flexible location for suction line connection

Oil sump heater

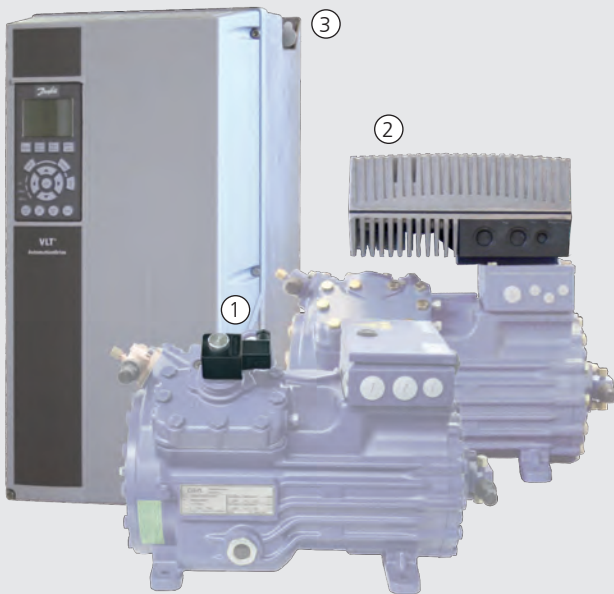


- Optional in 2 and 4 cylinder compressors HG(HA)12 up to HG(HA)34
- PTC heater, self-regulating
- Replacement without opening the refrigeration circuit



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

Economic capacity control (option)



Via capacity regulator ①

Cylinder cover incorporating a connection for capacity control

Possible control stages:

- 4 cylinder: 50 %,
- 6 cylinder: 33 % / 66 %,
- 8 cylinder: 25 % / 50 % / 75 %

Via frequency converter

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

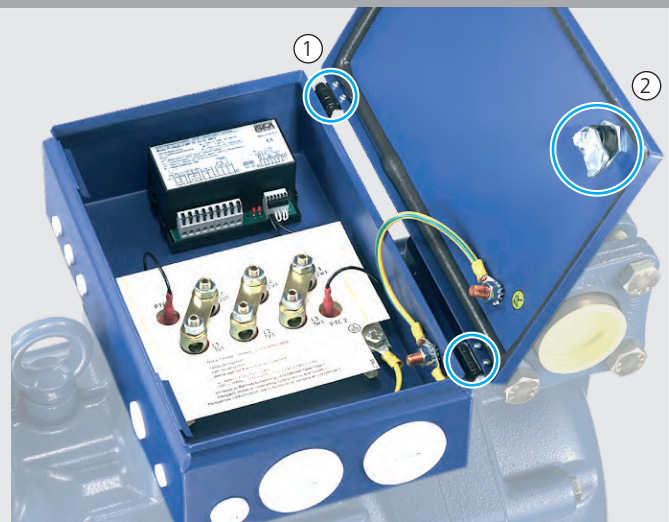
- Up to 25% less power consumption
- EFC ② Continuously variable speed control directly mounted on the compressor HG(HA)12 to HG(HA)34
- EFCe ③ Continuously variable speed control for individual set-up HG4 to HG8, HA on request
- Further information see separate brochure "Bock semi-hermetic compressors - Electronic Controls".

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Electric switch box



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





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




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

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

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

 Motor version -S- (more powerful motor)

 Supplementary cooling and red. suction gas temp.

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