

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

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

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

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

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

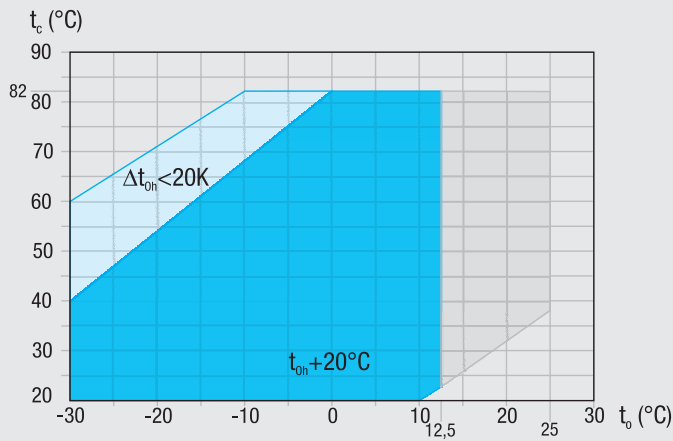
Oil sump heater 230 V - 1 - 50/60 Hz (standard)  
- HG(HA)4: 80 W  
- HG(HA)5, HG(HA)6, HG7: 140 W  
- HG8: 200 W  
Permanently set version, installation in immersion sleeve

### Explanations:

- ① Tolerance (± 10%) relates to the mean value of the voltage range. Other voltages and current types on request.
- ② - The specifications for max. power consumption apply for 50Hz operation. For 60Hz operation, the specifications have to be multiplied by the factor 1.2. The max. working current remains unchanged.  
- Take account of the max. operating current / max. power consumption when designing contactors, leads and fuses. Switches: Service category AC3
- ③ 220-240 V Δ / 380-420 V Y - 3 - 50 Hz  
265-290 V Δ / 440-480 V Y - 3 - 60 Hz
- ④ 380-420 V Y/Y - 3 - 50 Hz PW  
440-480 V Y/Y - 3 - 60 Hz PW  
PW = Part Winding, motors for part winding start (no start unloaders required)  
- Winding ratios: HG(HA)4, HG(HA)5, HG(HA)6 = 66% / 33%  
- Designs for Y/Δ on request
- ⑤ 380-420 V Δ / YYY - 3 - 50 Hz PW  
440-480 V Δ / YYY - 3 - 60 Hz PW  
PW = Part Winding, motors for part winding start (no start unloaders required)  
- Winding ratios: HG7, HG8 = 60% / 40%  
- Designs for Y/Δ on request
- ⑥ For soldering connections

R134a Operating limits

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



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

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

1) LP = low pressure HP = high pressure

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

R134a Notes

Operating limits

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

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

Performance data

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

**25 °C suction gas temperature without liquid subcooling.**

For Pluscom compressors and HGX8/2470-4 operating at 50 Hz already comply with EN 12900. This signifies **20 °C suction gas temperature without liquid subcooling.**

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

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

Conversion factor for 60 Hz = 1,2

Performance data for other operating points, see GEA Bock software.

ASERCOM certified performance data



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

ASERCOM is the Association of European Refrigeration Compressors and Controls Manufacturers.

Information about the Association and the constantly updated overview of certified Bock compressors can be found at [www.asercom.org](http://www.asercom.org) and [www.bock.de](http://www.bock.de).

R134a		Performance data											50 Hz		
Type	Cond. temp. °C	Q	Cooling capacity $\dot{Q}_o$ [W]										Power consumption $P_e$ [kW]		
			Evaporating temperature °C											Q	P
			12,5	10	7,5	5	0	-5	-10	-15	-20	-25	-30		
HGX12P/60-4 S	30	Q	4920	4486	4078	3697	3009	2415	1908	1480	1125	836	605		
		P	0,70	0,71	0,71	0,71	0,68	0,65	0,60	0,54	0,49	0,44	0,40		
	40	Q	4254	3874	3518	3185	2585	2066	1622	1246	931	670	455		
		P	0,85	0,84	0,83	0,81	0,77	0,71	0,65	0,59	0,54	0,49	0,45		
	50	Q	3620	3292	2985	2698	2181	1734	1349	1021	742	504	302		
		P	0,99	0,97	0,94	0,91	0,85	0,77	0,70	0,63	0,57	0,52	0,49		
HGX12P/75-4	30	Q	6147	5604	5095	4619	3760	3017	2383	1849	1405	1044	756		
		P	0,88	0,89	0,89	0,88	0,85	0,81	0,75	0,68	0,61	0,55	0,50		
	40	Q	5315	4840	4395	3979	3229	2581	2027	1557	1163	837	569		
		P	1,06	1,05	1,04	1,02	0,96	0,89	0,82	0,74	0,67	0,61	0,57		
	50	Q	4523	4113	3729	3371	2725	2166	1686	1276	927	630	377		
		P	1,24	1,21	1,18	1,14	1,06	0,97	0,88	0,79	0,71	0,65	0,62		
HGX12P/90-4	30	Q	7295	6663	6069	5511	4501	3623	2869	2229	1696	1259	911		
		P	1,09	1,11	1,12	1,13	1,11	1,06	1,00	0,92	0,83	0,74	0,65		
	40	Q	6377	5811	5280	4782	3883	3104	2437	1872	1402	1016	707		
		P	1,34	1,34	1,32	1,30	1,24	1,16	1,06	0,96	0,85	0,74	0,65		
	50	Q	5481	4981	4513	4075	3286	2606	2025	1535	1127	792	521		
		P	1,60	1,57	1,53	1,49	1,39	1,27	1,14	1,01	0,89	0,77	0,67		
HGX12P/110-4	30	Q	8619	7858	7145	6477	5272	4231	3342	2593	1971	1464	1060		
		P	1,23	1,24	1,25	1,24	1,20	1,13	1,05	0,95	0,86	0,78	0,71		
	40	Q	7453	6787	6163	5580	4528	3619	2842	2183	1631	1173	797		
		P	1,49	1,48	1,45	1,42	1,35	1,25	1,14	1,04	0,94	0,85	0,79		
	50	Q	6342	5767	5229	4726	3820	3037	2364	1789	1299	883	528		
		P	1,74	1,70	1,65	1,60	1,48	1,36	1,23	1,11	1,00	0,92	0,87		
HGX22e/125-4	30	Q	10200	9270	8440	7660	6220	4960	3860	2930	2160	1550	1090		
		P	1,30	1,35	1,38	1,39	1,39	1,34	1,25	1,14	1,02	0,891	0,765		
	40	Q	8990	8200	7450	6740	5440	4300	3310	2480	1790	1260	860		
		P	1,69	1,70	1,69	1,67	1,59	1,48	1,35	1,20	1,05	0,903	0,769		
	50	Q	7800	7090	6420	5780	4630	3620	2750	2020	1440	978	657		
		P	2,02	1,98	1,94	1,88	1,75	1,59	1,41	1,24	1,06	0,908	0,773		
HGX22e/160-4	30	Q	12800	11600	10600	9560	7780	6240	4920	3810	2870	2110	1490		
		P	1,63	1,65	1,66	1,65	1,63	1,59	1,51	1,41	1,29	1,15	0,983		
	40	Q	11200	10200	9200	8330	6750	5390	4230	3240	2410	1730	1160		
		P	2,07	2,05	2,03	2,00	1,92	1,81	1,68	1,53	1,36	1,17	0,962		
	50	Q	9640	8760	7930	7170	5780	4580	3560	2680	1940	1310	783		
		P	2,46	2,41	2,36	2,29	2,15	1,99	1,80	1,60	1,38	1,14	0,884		
HGX22e/190-4	30	Q	15300	14000	12900	11700	9630	7800	6180	4790	3610	2640	1870		
		P	2,04	2,06	2,06	2,05	2,00	1,92	1,80	1,65	1,48	1,29	1,09		
	40	Q	13600	12500	11400	10400	8460	6810	5360	4110	3060	2200	1530		
		P	2,59	2,55	2,51	2,46	2,33	2,17	1,98	1,78	1,57	1,34	1,11		
	50	Q	11900	10800	9840	8940	7270	5800	4520	3430	2520	1790	1220		
		P	3,09	3,01	2,92	2,83	2,62	2,39	2,14	1,89	1,63	1,37	1,12		
HGX22e/190-4	60	Q	10100	9160	8320	7520	6070	4800	3700	2770	2010	1410	959		
		P	3,54	3,41	3,28	3,14	2,86	2,56	2,26	1,96	1,66	1,37	1,10		
	70	Q	8280	7510	6790	6110	4880	3810	2900	2150	1540				
		P	3,91	3,74	3,57	3,39	3,03	2,68	2,32	1,97	1,64				

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

Supplementary cooling or reduced suction gas temp.

R134a		Performance data											50 Hz	
Type	Cond. temp. °C	Q	Cooling capacity $\dot{Q}_o$ [W]										Power consumption $P_e$ [kW]	
			Evaporating temperature °C											
			12,5	10	7,5	5	0	-5	-10	-15	-20	-25	-30	
HGX34e/215-4	30	Q	17200	15700	14400	13000	10600	8450	6590	5000	3670	2610	1800	
		P	2,27	2,30	2,32	2,31	2,25	2,14	1,98	1,80	1,59	1,38	1,18	
	40	Q	15200	13800	12600	11400	9120	7190	5530	4120	2970	2060	1400	
		P	2,87	2,84	2,78	2,72	2,55	2,34	2,11	1,87	1,64	1,42	1,22	
	50	Q	13000	11800	10700	9540	7590	5890	4440	3240	2270	1540	1040	
		P	3,38	3,27	3,16	3,03	2,76	2,47	2,18	1,90	1,64	1,42	1,24	
HGX34e/255-4 <sup>1)</sup>	30	Q	20600	18800	17200	15600	12700	10100	7800	5890	4320	3080	2190	
		P	2,61	2,67	2,71	2,71	2,66	2,53	2,34	2,12	1,88	1,63	1,41	
	40	Q	18100	16500	15000	13600	11000	8660	6660	4960	3570	2490	1710	
		P	3,36	3,35	3,31	3,25	3,08	2,84	2,57	2,27	1,97	1,68	1,43	
	50	Q	15600	14200	12900	11600	9310	7280	5540	4070	2880	1960	1330	
		P	4,02	3,93	3,83	3,71	3,42	3,08	2,73	2,36	2,01	1,68	1,41	
HGX34e/315-4 <sup>1)</sup>	30	Q	25500	23300	21100	19200	15500	12400	9660	7390	5520	4040	2920	
		P	3,40	3,43	3,43	3,40	3,29	3,11	2,88	2,61	2,32	2,02	1,72	
	40	Q	22300	20300	18500	16700	13500	10700	8260	6260	4620	3320	2330	
		P	4,22	4,17	4,10	4,01	3,78	3,49	3,16	2,80	2,42	2,07	1,73	
	50	Q	19200	17400	15800	14200	11400	8950	6880	5140	3720	2600	1740	
		P	4,97	4,85	4,71	4,55	4,19	3,79	3,36	2,91	2,47	2,04	1,65	
HGX34e/380-4 <sup>1)</sup>	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	
HGX4/465-4	30	Q	36844	33673	30698	27910	22866	18484	14705	11472	8725	6406	4458	
		P	6,44	6,21	5,98	5,77	5,37	4,98	4,62	4,26	3,89	3,50	3,10	
	40	Q	33160	30273	27568	25038	20475	16524	13128	10228	7765	5682	3920	
		P	7,25	6,97	6,70	6,44	5,94	5,46	4,98	4,52	4,04	3,54	3,02	
	50	Q	28823	26257	23862	21629	17623	14181	11244	8754	6653	4882	3383	
		P	8,09	7,75	7,42	7,10	6,48	5,87	5,28	4,68	4,07	3,44	2,78	
HGX4/555-4	30	Q	43847	40074	36533	33215	27212	21997	17501	13652	10383	7624	5305	
		P	7,66	7,39	7,12	6,87	6,38	5,93	5,50	5,06	4,63	4,17	3,69	
	40	Q	39463	36027	32808	29798	24367	19665	15624	12172	9241	6762	4665	
		P	8,63	8,30	7,98	7,66	7,07	6,49	5,93	5,37	4,80	4,21	3,59	
	50	Q	34302	31248	28398	25741	20973	16876	13381	10418	7917	5810	4026	
		P	9,63	9,23	8,83	8,45	7,71	6,99	6,28	5,57	4,84	4,09	3,30	
HGX4/650-4	30	Q	51459	47031	42875	38981	31937	25816	20539	16023	12186	8948	6226	
		P	8,99	8,67	8,36	8,06	7,49	6,96	6,45	5,94	5,43	4,90	4,33	
	40	Q	46314	42282	38504	34971	28597	23079	18336	14285	10846	7936	5474	
		P	10,13	9,74	9,36	8,99	8,29	7,62	6,96	6,31	5,64	4,95	4,22	
	50	Q	40257	36673	33328	30209	24614	19806	15704	12227	9292	6818	4724	
		P	11,30	10,83	10,37	9,92	9,05	8,20	7,37	6,53	5,68	4,80	3,88	
HGX4/650-4	60	Q	33186	30106	27246	24596	19887	15897	12544	9747	7424	5494	3876	
		P	12,51	11,94	11,38	10,84	9,77	8,72	7,68	6,63	5,56	4,46	3,31	
	70	Q	25002	22478	20158	18031	14315	11250	8754	6745	5142			
		P	13,76	13,08	12,41	11,75	10,45	9,17	7,89	6,60	5,29			

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

<sup>1)</sup> Compressors are ASERCOM certified



Supplementary cooling or reduced suction gas temp.



R134a		Performance data											50 Hz	
Type	Cond. temp. °C		Cooling capacity $\dot{Q}_o$ [W]						Power consumption $P_e$ [kW]					
			Evaporating temperature °C											
			12,5	10	7,5	5	0	-5	-10	-15	-20	-25	-30	
HGX7/1860-4	30	Q	139469	127396	116108	105573	86635	70327	56394	44583	34639	26307	19334	
		P	18,89	19,20	19,34	19,32	18,90	18,01	16,78	15,29	13,66	11,98	10,37	
	40	Q	125034	113989	103680	94075	76853	62067	49463	38787	29784	22201	15782	
		P	24,14	24,00	23,72	23,31	22,15	20,62	18,84	16,90	14,91	12,96	11,17	
	50	Q	110190	100194	90887	82236	66775	53557	42327	32832	24817	18027	12208	
		P	28,92	28,36	27,68	26,89	25,05	22,94	20,65	18,31	16,00	13,83	11,91	
60	Q	94985	86063	77780	70105	56451	44847	35037	26768	19786	13835	8662		
	P	33,13	32,18	31,12	29,99	27,51	24,86	22,13	19,42	16,85	14,51	12,50		
70	Q	79471	71645	64409	57733	45932	35987	27643	20646	14742				
	P	36,71	35,38	33,98	32,51	29,45	26,31	23,18	20,16	17,37				
HGX7/2110-4	30	Q	158685	144949	132106	120119	98571	80016	64164	50725	39411	29932	21997	
		P	21,49	21,84	22,00	21,99	21,50	20,49	19,09	17,40	15,54	13,64	11,80	
	40	Q	142261	129694	117965	107037	87442	70618	56278	44131	33888	25259	17956	
		P	27,47	27,31	26,99	26,52	25,20	23,47	21,44	19,23	16,96	14,75	12,71	
	50	Q	125371	113999	103409	93566	75975	60936	48159	37356	28236	20510	13890	
		P	32,90	32,26	31,49	30,59	28,50	26,10	23,50	20,83	18,20	15,74	13,55	
60	Q	108072	97921	88497	79764	64229	51026	39864	30456	22512	15741	9855		
	P	37,70	36,61	35,41	34,12	31,30	28,28	25,18	22,10	19,17	16,50	14,22		
70	Q	90421	81516	73284	65688	52260	40945	31451	23490	16773				
	P	41,77	40,25	38,66	36,99	33,51	29,93	26,37	22,94	19,77				
HGX8/2470-4	30	Q	180980	165373	150688	136898	111894	90139	71410	55486	42145	31167	22328	
		P	28,60	28,57	28,38	28,02	26,89	25,25	23,21	20,85	18,25	15,51	12,72	
	40	Q	162981	148715	135302	122715	99905	80064	62970	48402	36137	25955	17633	
		P	36,03	35,34	34,51	33,54	31,25	28,57	25,58	22,37	19,02	15,64	12,30	
	50	Q	143344	130506	118452	107152	86709	68954	53667	40626	29610	20396	12762	
		P	42,17	40,85	39,41	37,87	34,51	30,85	26,99	23,01	18,99	15,03	11,22	
60	Q	122458	111134	100523	90598	72692	57197	43889	32547	22950	14877	8104		
	P	47,04	45,14	43,14	41,06	36,70	32,14	27,48	22,80	18,19	13,73	9,53		
70	Q	100710	90986	81905	73439	58244	45179	34022	24552	16547				
	P	50,70	48,24	45,72	43,14	37,86	32,48	27,09	21,79	16,65				
HGX8/2830-4	30	Q	210768	192307	174998	158801	129576	104304	82654	64297	48905	36146	25692	
		P	35,60	35,08	34,39	33,54	31,42	28,87	26,05	23,09	20,14	17,35	14,88	
	40	Q	189115	172156	156289	141473	114827	91890	72331	55821	42031	30631	21293	
		P	41,56	40,50	39,29	37,95	34,95	31,67	28,23	24,80	21,51	18,52	15,96	
	50	Q	166558	151192	136858	123512	99626	79203	61916	47433	35427	25566	17523	
		P	47,26	45,66	43,95	42,14	38,31	34,32	30,32	26,45	22,86	19,69	17,10	
60	Q	143108	129426	116713	104929	83982	66256	51419	39145	29102	20961	14394		
	P	52,79	50,68	48,49	46,23	41,61	36,96	32,42	28,16	24,30	21,00	18,41		
70	Q	118776	106867	95867	85734	67907	53056	40852	30965	23067				
	P	58,28	55,68	53,02	50,34	44,96	39,69	34,66	30,03	25,95				
HGX8/3220-4	30	Q	239807	218802	199109	180680	147429	118675	94042	73156	55642	41126	29232	
		P	40,50	39,92	39,13	38,16	35,75	32,85	29,63	26,27	22,92	19,75	16,93	
	40	Q	215170	195875	177822	160965	130648	104550	82296	63512	47822	34852	24226	
		P	47,29	46,08	44,70	43,17	39,77	36,03	32,12	28,22	24,47	21,07	18,16	
	50	Q	189506	172023	155713	140530	113352	90116	70446	53969	40308	29089	19937	
		P	53,77	51,95	50,00	47,94	43,59	39,05	34,50	30,09	26,01	22,41	19,46	
60	Q	162825	147258	132794	119386	95553	75384	58504	44538	33111	23849	16377		
	P	60,06	57,66	55,17	52,60	47,34	42,05	36,89	32,04	27,65	23,90	20,95		
70	Q	135141	121591	109075	97546	77263	60366	46481	35232	26245				
	P	66,32	63,35	60,33	57,28	51,16	45,15	39,44	34,17	29,53				

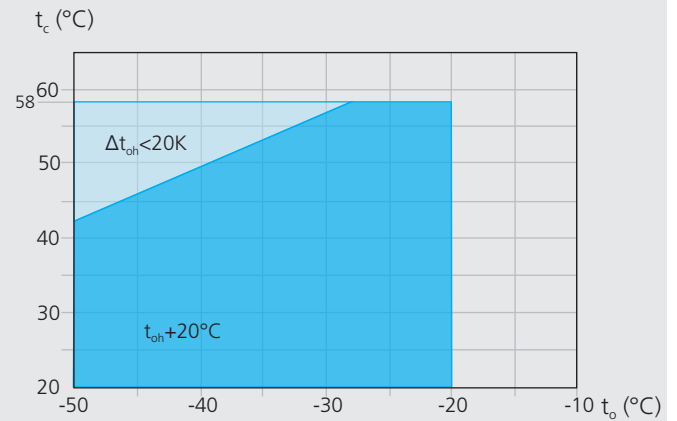
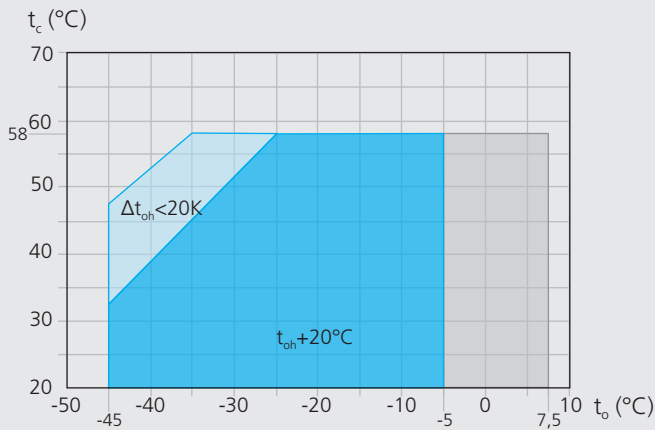
Relating to 25 °C suction gas temperature  
(HGX8/2470-4 to 20 °C suction gas temperature)  
without liquid subcooling

Supplementary cooling or reduced suction gas temp.

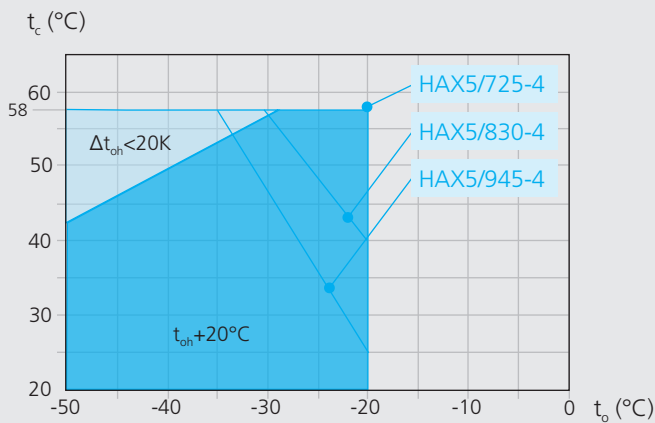
R404A/R507 Operating limits

HGX12P / HGX22e / HGX34e /  
HGX4 / HGX5 / HGX6<sup>①</sup> / HGX7 / HGX8<sup>②</sup>

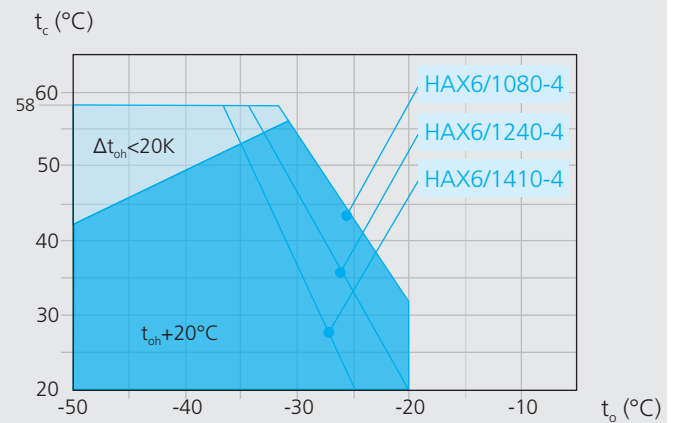
HAX12P / HAX22P / HAX34P / HAX4



HAX5



HAX6



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

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

- ① **HGX6/1410-4S**  
Max. evaporating temperature  
 $t_o = 2\text{ °C}$   
**HGX6/1410-4**  
Max. evaporating temperature  
 $t_o = -7\text{ °C}$
- ② **HGX8/2830-4**  
Max. evaporating temperature  
 $t_o = 0\text{ °C}$

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



R404A/R507		Performance data											50 Hz	
Type	Cond. temp. °C	Q	Cooling capacity $\dot{Q}_o$ [W]										Power consumption $P_e$ [kW]	
			Evaporating temperature °C										-40	-45
			7,5	5	0	-5	-10	-15	-20	-25	-30	-35		
HGX12P/60-4 S <sup>1)</sup>	30	P	6535	5989	4990	4108	3336	2667	2094	1610	1207	878	616	414
	40	P	5537	5060	4191	3428	2764	2193	1706	1297	959	684	465	296
		P	1,49	1,48	1,43	1,37	1,28	1,18	1,06	0,95	0,83	0,71	0,61	0,52
HAX12P/60-4	30	P							2327	1851	1442	1097	809	573
	40	P							1,04	0,95	0,86	0,75	0,66	0,56
		P								1,12	1,00	0,88	0,76	0,65
HGX12P/75-4 S <sup>1)</sup>	30	P	8160	7498	6284	5227	4288	3469	2764	2164	1661	1246	911	648
	40	P	1,52	1,54	1,55	1,50	1,45	1,37	1,26	1,15	1,03	0,91	0,79	0,68
		P	6934	6357	5304	4419	3606	2902	2299	1789	1364	1015	734	513
HAX12P/75-4	30	P							2888	2296	1789	1361	1004	711
	40	P							1,29	1,18	1,06	0,94	0,81	0,70
		P								1,39	1,25	1,10	0,95	0,80
HGX12P/90-4 S <sup>1)</sup>	30	P	9738	8948	7500	6085	5000	4052	3231	2529	1937	1446	1047	730
	40	P	1,85	1,86	1,86	1,78	1,69	1,58	1,46	1,32	1,18	1,03	0,89	0,75
		P	8288	7600	6344	5145	4202	3381	2676	2075	1571	1155	817	549
HAX12P/90-4	30	P							6863	6276	5212	4219	3418	2727
	40	P							2,21	2,17	2,05	1,92	1,78	1,62
		P								1,46	1,29	1,11	0,93	0,77
HGX12P/110-4 S <sup>1)</sup>	30	P	11247	10345	8691	7218	5966	4868	3914	3094	2397	1814	1334	946
	40	P	2,17	2,18	2,16	2,15	2,05	1,92	1,76	1,59	1,41	1,23	1,05	0,88
		P	9581	8796	7361	6125	5039	4091	3270	2567	1972	1473	1062	728
HAX12P/110-4	30	P							2,65	2,62	2,53	2,47	2,30	2,10
	40	P							1,89	1,68	1,46	1,25	1,05	0,88
		P								3,12	3,05	2,89	2,74	2,50
HGX22e/125-4 S	30	P	13400	12400	10500	8790	7250	5870	4650	3590	2680	1920	1320	857
	40	P	2,19	2,23	2,26	2,24	2,16	2,03	1,88	1,69	1,49	1,28	1,07	0,878
		P	11600	10700	8970	7460	6090	4880	3820	2900	2120	1490	992	640
HAX22P/125-4	30	P							2,77	2,75	2,68	2,58	2,41	2,22
	40	P							2,00	1,76	1,52	1,28	1,06	0,853
		P								9650	8860	7390	6080	4910
HGX22e/160-4 S	30	P	16900	15600	13200	10900	8980	7320	5850	4560	3450	2510	1750	1170
	40	P	2,71	2,75	2,78	2,73	2,62	2,47	2,29	2,07	1,84	1,59	1,34	1,08
		P	14500	13400	11200	9170	7540	6090	4810	3700	2750	1960	1330	851
HAX22P/160-4	30	P							4,02	3,94	3,73	3,51	3,22	2,90
	40	P							2,22	1,92	1,64	1,37	1,10	0,83
		P								5837	4680	3680	2828	2118
HAX22P/160-4	30	P							2,37	2,11	1,87	1,63	1,40	1,17
	40	P							2,58	2,27	1,98	1,69	1,41	1,14
		P								3964	3134	2414	1799	1281

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

<sup>1)</sup> Compressors (R404A) are ASERCOM certified



Motor version -S- (more powerful motor)

Supplementary cooling or reduced suction gas temp.



R404A/R507		Performance data												50 Hz	
Type	Cond. temp. °C		Cooling capacity $\dot{Q}_o$ [W]									Power consumption $P_e$ [kW]			
			Evaporating temperature °C												
			7,5	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45	
HGX4/555-4 <sup>1)</sup>	30	Q	59014	54222	45450	37853	31129	25259	20184	15848	12194	9164	6702	4751	
		P	11,52	11,34	10,89	10,34	9,72	8,99	8,19	7,34	6,47	5,59	4,73	3,93	
	40	Q	50452	46260	38616	32112	26279	21212	16857	13155	10050	7484	5401	3743	
P		13,64	13,29	12,51	11,84	10,88	9,86	8,81	7,74	6,69	5,67	4,72	3,85		
HAX4/555-4	30	Q							21842	17569	13875	10713	8037	5799	
		P							8,84	7,84	6,87	5,93	5,01	4,12	
	40	Q							18374	14675	11488	8766	6461	4528	
P								9,46	8,27	7,14	6,04	4,99	3,98		
HGX4/650-4 <sup>1)</sup>	30	Q	70903	65224	54821	44444	36811	30119	24302	19297	15039	11465	8510	6110	
		P	14,57	14,19	13,41	12,51	11,70	10,80	9,84	8,84	7,82	6,80	5,80	4,85	
	40	Q	60855	55879	46795	37928	31232	25384	20322	15982	12298	9208	6647	4550	
P		16,80	16,29	15,22	14,30	13,15	11,94	10,70	9,45	8,21	7,01	5,86	4,79		
HAX4/650-4	30	Q							24978	20136	15945	12352	9304	6747	
		P							9,71	8,62	7,57	6,54	5,55	4,57	
	40	Q							21012	16819	13202	10107	7480	5268	
P								10,39	9,10	7,86	6,67	5,53	4,42		
HGX5/725-4 <sup>1)</sup>	30	Q	76254	70105	58815	48024	39230	31558	24934	19288	14546	10636	7486	5024	
		P	13,31	13,28	13,03	12,99	12,20	11,23	10,13	8,94	7,70	6,47	5,28	4,19	
	40	Q	64689	59328	49517	40164	32541	25933	20266	15468	11467	8191	5568	3525	
P		16,28	16,01	15,29	14,87	13,61	12,22	10,76	9,25	7,76	6,32	4,98	3,78		
HAX5/725-4	30	Q							26886	21437	16746	12756	9409	6644	
		P							10,67	9,42	8,19	7,01	5,86	4,75	
	40	Q							22619	17905	13864	10437	7565	5189	
P								11,41	9,93	8,51	7,15	5,84	4,60		
HGX5/830-4 <sup>1)</sup>	30	Q	86623	79925	67508	54430	44830	36400	29056	22717	17300	12722	8900	5752	
		P	15,69	15,61	15,23	14,69	13,90	12,93	11,80	10,55	9,21	7,82	6,41	5,01	
	40	Q	74069	68151	57216	45580	37311	30078	23798	18389	13769	9854	6561	3809	
P		19,30	18,89	17,91	16,93	15,69	14,28	12,75	11,13	9,45	7,74	6,04	4,38		
HAX5/830-4	30	Q							30392	24266	19003	14530	10772	7655	
		P							12,06	10,65	9,29	7,96	6,67	5,43	
	40	Q							25602	20281	15733	11882	8654	5976	
P								12,90	11,24	9,65	8,12	6,65	5,25		
HGX5/945-4 <sup>1)</sup>	30	Q	99975	91955	77277	63293	52168	42473	34090	26900	20783	15620	11291	7678	
		P	18,52	18,31	17,73	17,40	16,27	15,04	13,74	12,35	10,90	9,38	7,80	6,18	
	40	Q	84751	77834	65213	52881	43552	35430	28395	22327	17107	12617	8737	5347	
P		22,17	21,71	20,66	19,84	18,30	16,69	14,99	13,23	11,40	9,52	7,59	5,61		
HAX5/945-4	30	Q									12641	9414	6718	4480	
		P									9,88	8,16	6,53	4,99	
	40	Q										18205	13799	10088	6997
P											11,13	9,39	7,71	6,11	
HGX5/1080-4 <sup>1)</sup>	30	Q	113675	104548	87811	72501	59869	48801	39180	30889	23810	17826	12819	8672	
		P	22,05	21,89	21,27	20,82	19,21	17,56	15,88	14,16	12,40	10,60	8,76	6,86	
	40	Q	96893	88944	74420	61734	50695	41062	32716	25541	19419	14233	9866	6200	
P		26,74	26,17	24,80	23,74	21,61	19,46	17,30	15,13	12,94	10,72	8,49	6,22		
HAX5/1080-4	30	Q									10929	7834	5248		
		P									9,44	7,57	5,81		
	40	Q										17547	13107	9392	
P											13,68	11,32	9,09		

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

<sup>1)</sup> Compressors (R404A) are ASERCOM certified



Motor version -S- (more powerful motor)

Supplementary cooling or reduced suction gas temp.

R404A/R507		Performance data											50 Hz	
Type	Cond. temp. °C	Q P	Cooling capacity $\dot{Q}_0$ [W]										Power consumption $P_e$ [kW]	
			Evaporating temperature °C											
			7,5	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
HGX6/1240-4 <sup>1)</sup>	30	Q	133368	122554	102765	83399	68935	56229	45169	35643	27538	20744	15146	10634
		P	27,78	27,28	26,04	23,70	22,26	20,54	18,62	16,56	14,43	12,29	10,21	8,25
		Q P	113720	104299	87122	71042	58440	47422	37874	29684	22741	16931	12143	8265
HGX6/1240-4 S <sup>1)</sup>	40	Q	33,36	32,38	30,24	27,42	25,14	22,68	20,13	17,53	14,97	12,49	10,17	8,08
		P	94323	86295	71734	58323	47668	38420	30468	23698	17998	13257	9362	
		Q P	38,27	36,83	33,86	30,45	27,41	24,30	21,19		18,14	15,22	12,49	10,02
HAX6/1240-4	30	Q								38742	30407	23329	17378	12423
		P								17,00	14,83	12,74	10,72	8,75
		Q P									25193	19081	13958	9695
HGX6/1410-4 <sup>1)</sup>	40	Q												
		P												
		Q P												
HGX6/1410-4 S <sup>1)</sup>	50	Q												
		P												
		Q P												
HAX6/1410-4	30	Q												
		P												
		Q P												
HGX7/1620-4 <sup>1)</sup>	40	Q												
		P												
		Q P												
HGX7/1620-4 S <sup>1)</sup>	50	Q												
		P												
		Q P												
HGX7/1860-4 <sup>1)</sup>	30	Q												
		P												
		Q P												
HGX7/1860-4 S <sup>1)</sup>	40	Q												
		P												
		Q P												
HGX7/2110-4 <sup>1)</sup>	50	Q												
		P												
		Q P												
HGX7/2110-4 S <sup>1)</sup>	30	Q												
		P												
		Q P												
HGX7/2470-4 <sup>1)</sup>	40	Q												
		P												
		Q P												
HGX7/2470-4 S <sup>1)</sup>	50	Q												
		P												
		Q P												
HGX8/2830-4 <sup>1)</sup>	30	Q												
		P												
		Q P												
HGX8/2830-4 S <sup>1)</sup>	40	Q												
		P												
		Q P												
HGX8/3220-4 <sup>1)</sup>	50	Q												
		P												
		Q P												
HGX8/3220-4 S <sup>1)</sup>	30	Q												
		P												
		Q P												
HGX8/3220-4 S <sup>1)</sup>	40	Q												
		P												
		Q P												
HGX8/3220-4 S <sup>1)</sup>	50	Q												
		P												
		Q P												

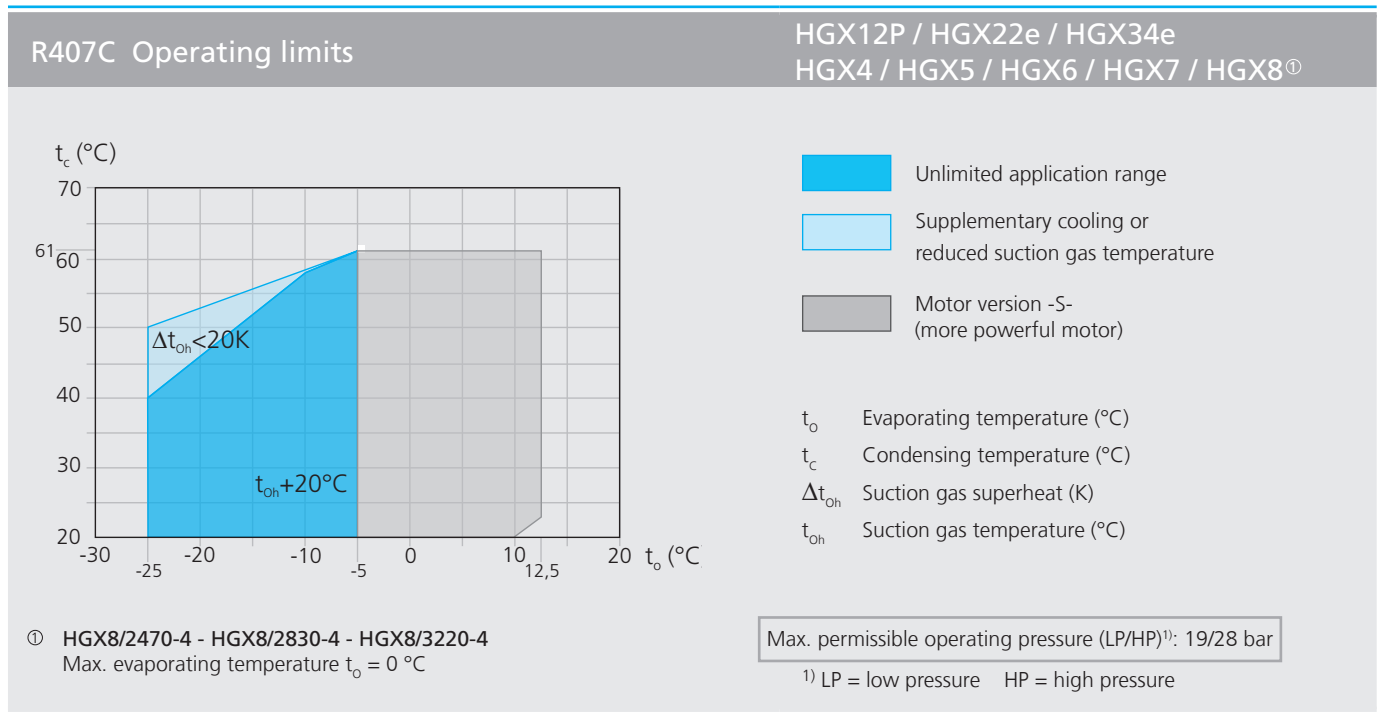
Relating to 20 °C suction gas temp. without liquid subcooling

<sup>1)</sup> Compressors (R404A) are ASERCOM certified



Motor version -S- (more powerful motor)

Supplementary cooling or reduced suction gas temp.



- 1
- 2
- 3
- 4

R407C Notes

### Operating limits

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

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

### Performance data

The performance data for R407C are based on ISO-DIS 9309 (DIN 8928) with a **50 Hz power supply frequency**. This signifies: **25 °C suction gas temperature without liquid subcooling**. EN 12900 is already valid for Pluscom compressors, HGX4 and HGX8/2470-4 **operating at 50 Hz. 20 °C suction gas temperature without liquid subcooling**. Evaporation and condensing temperatures are based on the dew point values (saturated vapour conditions). A comprehensive modification to 20 °C suction gas temperature will follow at a later date. This results in significant differences compared to specifications with liquid undercooling and/or suction-gas temperatures.

Conversion factor for 60 Hz = 1,2

Performance data for other operating points, see GEA Bock software.





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

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



Motor version -S-  
(more powerful motor)

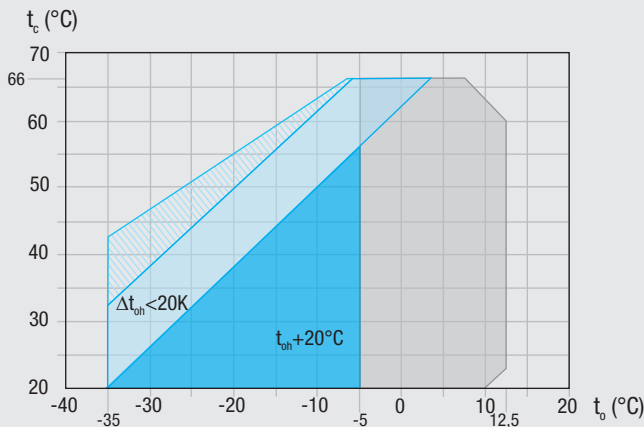


Supplementary cooling or  
reduced suction gas temp.

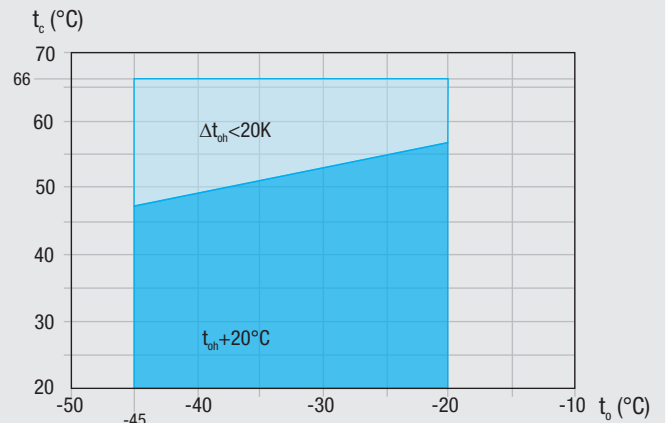


R22 Operating limits

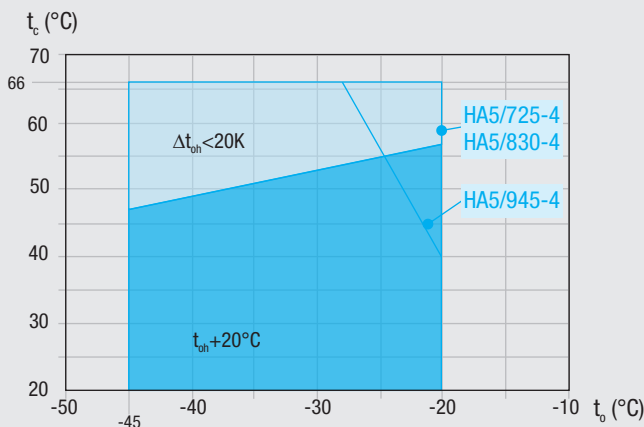
HG12P / HG22e / HG34e /  
HG4 / HG5 / HG6<sup>①</sup> / HG7 / HG8<sup>②</sup>



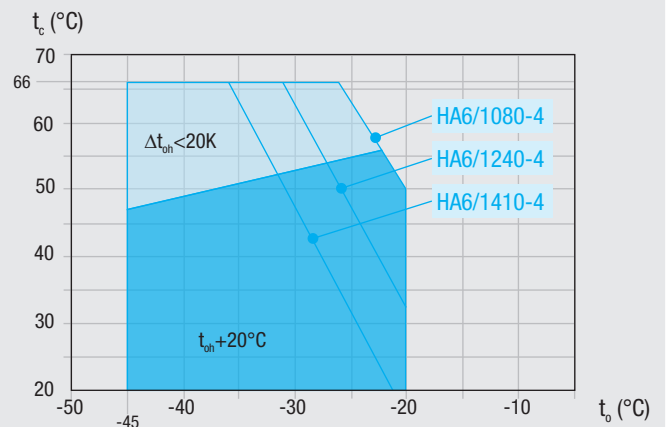
HA12P / HA22P / HA34P / HA4



HA5



HA6







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

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

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





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

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

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

R22		Performance data													50 Hz	
Type	Cond. temp. °C	Q	Cooling capacity $\dot{Q}_o$ [W]										Power consumption $P_e$ [kW]			
			Evaporating temperature °C													
			12,5	10	7,5	5	0	-5	-10	-15	-20	-25	-30	-35	-45	
HG12P/60-4 S	30	Q	7110	6523	5971	5454	4518	3703	2997	2390	1868	1422	1039	708		
	40	P	0,89	0,91	0,93	0,94	0,94	0,92	0,89	0,84	0,78	0,71	0,63	0,55		
		P	1,20	1,19	1,19	1,18	1,14	1,08	1,01	0,94	0,85	0,76	0,66	0,57		
HA12P/60-4	30	Q									1824	1407	1054	758	512	
	40	P									0,72	0,63	0,53	0,43	0,33	
		P									0,79	0,68	0,57	0,46	0,35	
HG12P/75-4 S	30	Q	8883	8149	7460	6814	5645	4626	3745	2985	2334	1776	1298	884		
	40	P	1,11	1,14	1,16	1,17	1,17	1,15	1,11	1,05	0,97	0,88	0,79	0,69		
		P	1,49	1,49	1,48	1,47	1,42	1,35	1,27	1,17	1,06	0,95	0,83	0,71		
HA12P/75-4	30	Q									2265	1748	1310	942	637	
	40	P									0,90	0,78	0,66	0,53	0,41	
		P									0,99	0,85	0,72	0,58	0,44	
HG12P/90-4 S	30	Q	10595	9719	8897	8127	6732	5518	4466	3561	2784	2119	1548	1054		
	40	P	1,32	1,36	1,38	1,40	1,40	1,37	1,32	1,25	1,16	1,05	0,94	0,83		
		P	1,78	1,78	1,77	1,75	1,69	1,61	1,51	1,39	1,27	1,13	0,99	0,85		
HA12P/90-4	30	Q									2702	2084	1562	1123	758	
	40	P									1,06	0,92	0,77	0,62	0,47	
		P									2,369	1,832	1,378	996	676	
HG12P/110-4 S	30	Q	12456	11427	10460	9555	7915	6487	5251	4186	3273	2491	1820	1240		
	40	P	1,56	1,60	1,62	1,64	1,65	1,61	1,55	1,47	1,36	1,24	1,11	0,97		
		P	2,10	2,09	2,08	2,06	1,99	1,90	1,78	1,64	1,49	1,33	1,16	1,00		
HA12P/110-4	30	Q									3175	2449	1835	1320	891	
	40	P									1,25	1,09	0,92	0,74	0,57	
		P									2,783	2,153	1,619	1,170	794	
HG22e/125-4 S	30	Q	15700	14400	13200	12000	9930	8150	6630	5340	4250	3340	2580	1960		
	40	P	1,94	1,97	1,99	2,00	1,98	1,91	1,82	1,69	1,55	1,40	1,25	1,09		
		P	2,54	2,53	2,50	2,47	2,37	2,24	2,08	1,90	1,72	1,52	1,33	1,15		
HA22P/125-4	30	Q									3866	2983	2235	1607	1085	
	40	P									1,53	1,33	1,12	0,91	0,69	
		P									3,390	2,621	1,972	1,425	967	
HG22e/160-4 S	30	Q	19400	17800	16300	14900	12300	10100	8190	6590	5240	4120	3190	2420		
	40	P	2,40	2,44	2,46	2,47	2,44	2,36	2,24	2,09	1,92	1,73	1,54	1,35		
		P	3,17	3,12	3,09	3,05	2,93	2,77	2,57	2,35	2,11	1,88	1,64	1,42		
HA22P/160-4	30	Q									3046	2389	1833	1363	965	
	40	P									1,78	1,55	1,32	1,09	0,86	
		P									3,84	3,77	3,69	3,60	3,38	

1  
2  
3  
4

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

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

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

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

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

Motor version -S- (more powerful motor)

Supplementary cooling and red. suction gas temp.

R22		Performance data												50 Hz		
Type	Cond. temp. °C	Q	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			
HG4/465-4 S	30	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				
	40	Q									16459	12893	9840	7251	5074	
P										5,74	5,32	4,83	4,26	3,58		
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			
HA4/555-4	30	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				
	40	Q									19587	15343	11711	8630	6039	
P										6,83	6,33	5,75	5,07	4,26		
HG4/650-4 HG4/650-4 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			
HA4/650-4	30	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				
	40	Q									22988	18007	13744	10128	7087	
P										8,01	7,43	6,75	5,95	5,00		
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			
HA5/725-4	30	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				
	40	Q									25631	20086	15342	11316	7926	
P										8,94	8,29	7,52	6,62	5,56		
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			
HA5/830-4	30	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				
	40	Q									29343	22994	17562	12953	9072	
P										10,24	9,49	8,61	7,58	6,37		
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			
HG5/945-4 S	30	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				
	40	Q									26046	20248	15306	11124	7609	
P										11,73	10,66	9,43	8,03	6,42		
HG5/945-4 S	30	Q								22234	17080	12720	9059	6003		
		P								12,90	11,44	9,81	7,98	5,92		
	40	Q														
P																

- 1
- 2
- 3
- 4

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

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



Motor version -S- (more powerful motor)

Supplementary cooling and red. suction gas temp.



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

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

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

 Motor version -S-  
(more powerful motor)  Supplementary cooling and  
red. suction gas temp.

- 1
- 2
- 3
- 4