



GEA Bock SHG44e/-L

Air-cooled condensing units – proven reliability in combination with optimized efficiency



ASERCOM certification

Based on the EU Ecodesign Directive and its related regulation

ASERCOM, the Association of European Component Manufacturers, is the platform for addressing scientific and technical challenges, promoting standards for performance and safety, encouraging better environment protection and serving the refrigeration and airconditioning industry and its customers.

The new ASERCOM certification programme for condensing units makes it possible to objectively compare the performance of the wide variety of products available on the market.

Following GEA Bock condensing units are „Certified Performance“ products:

Plusbox:

- SHGX34e/255-4 PB
- SHGX34e/315-4 PB
- SHGX34e/380-4 PB

Air-cooled condensing units:

- SHGX34e/255-4 L
- SHGX34e/380-4 L

The new air-cooled condensing units GEA Bock SHG44e/-L with the HG44e compressor range

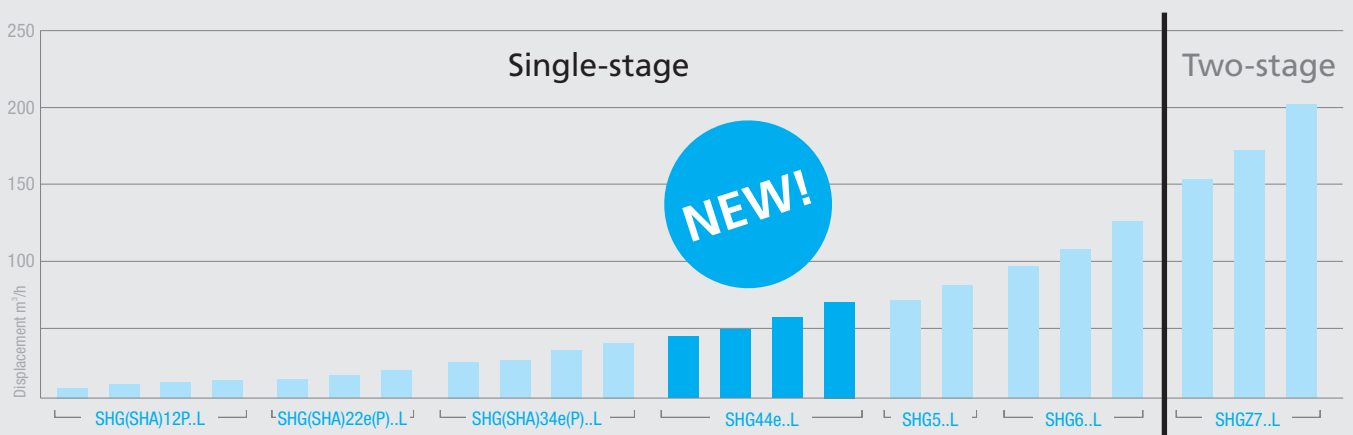
With its GEA Bock HG44e compressor range, GEA introduced new, more efficient semi-hermetic compressors to the market and replaced the HG4 range. Since April 2014 the HG44e is successfully on the market and offers key advantages over the previous range: the HG44e combines the well-tried reliability and running smoothness of the preceding model HG4 with new and enhanced efficiency!

Now the advantages of the HG44e range have been transferred to the air-cooled condensing units: the new range of the GEA Bock SHG44e/-L will be launched in April 2015.

The SHG44e/-L range with four model sizes covers the range of maximum displacements from 41.3 to 67.0 m³/h. The GEA Bock SHG44e series, in comparison to its predecessors, now offers four instead of three model sizes. In addition, the largest version, the SHG44e/770-4 compressor, offers with its 67.0 m³/h almost 20 % more displacement than the largest SHG4 model and replaces the smallest model size of the former SHG5 range with 62.9 m³/h. The condensers used are in proven quality and are – as usual – also suitable for higher ambient temperatures.

The current program

...6 model sizes with 20 capacity stages from 5,4 to 122,4 m³/h (50 Hz)



Replacement for former types

SHG44e		vs.	SHG4/SHG5	
Types:	Displacement at 50 Hz:		Former types:	Displacement at 50 Hz:
SHG44e/475-4 (S)L	41,3 m ³ /h		SHG4/465-4 (S)L	40,5 m ³ /h
SHG44e/565-4 (S)L	49,2 m ³ /h		SHG4/555-4 (S)L	48,2 m ³ /h
SHG44e/665-4 (S)L	57,7 m ³ /h		SHG4/650-4 (S)L	56,6 m ³ /h
SHG44e/770-4 (S)L	67,0 m ³ /h		SHG5/725-4 (S)L	62,9 m ³ /h

R134a			Performance data								50 Hz
Type	Amb. temp. °C		Cooling capacity $\dot{Q}_o$ [W]					Power consumption P_e [kW]			
			Evaporating temperature °C								
			10	5	0	-5	-10	-15	-20	-25	
SHGX44e/475-4 L	25	Q	29500	25200	21200	17600	14300	11500	8920	6780	
		P	6,40	5,89	5,39	4,90	4,41	3,94	3,48	3,04	
	32	Q	27000	23000	19300	16000	13000	10400	8020	6020	
		P	7,03	6,44	5,86	5,29	4,73	4,19	3,66	3,16	
	43	Q	22900	19500	16400	13500	10900	8610	6580	4810	
		P	7,93	7,22	6,51	5,82	5,15	4,49	3,86	3,27	
SHGX44e/475-4 SL	25	Q	32400	27300	22800	18700	15100	12000	9280	7020	
		P	5,76	5,43	5,08	4,71	4,31	3,91	3,50	3,09	
	32	Q	29700	25000	20800	17100	13800	10900	8350	6240	
		P	6,44	6,03	5,59	5,13	4,65	4,17	3,69	3,22	
	43	Q	25500	21400	17800	14500	11600	9070	6890	5000	
		P	7,46	6,90	6,31	5,72	5,12	4,52	3,92	3,35	
SHGX44e/565-4 L	25	Q	33700	28900	24500	20400	16800	13500	10600	8100	
		P	8,02	7,31	6,63	5,97	5,34	4,73	4,15	3,60	
	32	Q	30800	26400	22400	18600	15300	12300	9540	7220	
		P	8,74	7,94	7,17	6,42	5,70	5,01	4,36	3,74	
	43	Q	26100	22400	18900	15800	12900	10300	7900	5830	
		P	9,75	8,81	7,90	7,02	6,17	5,36	4,58	3,86	
SHGX44e/565-4 SL	25	Q	38000	32200	26900	22200	18000	14300	11200	8470	
		P	7,01	6,58	6,12	5,65	5,16	4,66	4,16	3,67	
	32	Q	34900	29500	24700	20300	16400	13000	10100	7560	
		P	7,81	7,27	6,72	6,14	5,56	4,97	4,39	3,82	
	43	Q	30000	25300	21100	17300	13900	11000	8360	6130	
		P	8,99	8,29	7,57	6,83	6,10	5,37	4,66	3,98	
SHGX44e/665-4 L	25	Q	42700	36300	30400	25100	20400	16300	12700	9600	
		P	8,57	7,94	7,31	6,67	6,04	5,40	4,79	4,19	
	32	Q	39000	33200	27800	22900	18600	14700	11400	8500	
		P	9,47	8,73	7,98	7,23	6,49	5,75	5,04	4,36	
	43	Q	33200	28100	23500	19300	15600	12300	9310	6760	
		P	10,7	9,85	8,92	8,00	7,09	6,20	5,34	4,53	
SHGX44e/665-4 SL	25	Q	43000	36500	30500	25200	20400	16300	12700	9560	
		P	8,49	7,91	7,31	6,70	6,08	5,46	4,85	4,26	
	32	Q	39400	33400	27900	23000	18600	14700	11400	8470	
		P	9,41	8,70	7,98	7,26	6,53	5,82	5,11	4,43	
	43	Q	33500	28400	23600	19400	15600	12300	9280	6740	
		P	10,7	9,85	8,95	8,05	7,15	6,27	5,42	4,61	
SHGX44e/770-4 L	25	Q	48500	41300	34700	28800	23500	18800	14700	11200	
		P	10,2	9,44	8,66	7,88	7,11	6,36	5,62	4,91	
	32	Q	44400	37800	31800	26300	21400	17000	13300	9950	
		P	11,2	10,3	9,43	8,52	7,63	6,76	5,91	5,11	
	43	Q	37800	32100	27000	22300	18000	14300	11000	8000	
		P	12,7	11,6	10,5	9,40	8,32	7,27	6,25	5,29	
SHGX44e/770-4 SL	25	Q	51900	43800	36600	30100	24300	19400	15100	11500	
		P	9,33	8,77	8,18	7,54	6,89	6,21	5,54	4,87	
	32	Q	47600	40200	33400	27400	22200	17500	13600	10200	
		P	10,4	9,74	9,00	8,23	7,44	6,65	5,85	5,08	
	43	Q	41100	34600	28700	23500	18900	14800	11300	8210	
		P	12,0	11,1	10,1	9,16	8,17	7,18	6,22	5,28	

Relating to 20 °C suction gas temperature
without liquid subcooling

Supplementary cooling or
reduced suction gas temperature

R404A/R507			Performance data										50 Hz
Type	Amb. temp. °C		Cooling capacity $\dot{Q}_o$ [W]					Power consumption P_e [kW]					
			Evaporating temperature °C										
			5	0	-5	-10	-15	-20	-25	-30	-35	-40	
SHGX44e/475-4 L	25	Q P			26000 9,68	22300 8,75	18900 7,86	15800 7,00	12900 6,16	10300 5,35	8000 4,56	5980 3,81	
	32	Q P			23000 10,2	19800 9,24	16700 8,24	13900 7,28	11400 6,36	9030 5,47	6950 4,63	5080 3,83	
	43	Q P				15600 9,93	13200 8,78	10900 7,68	8840 6,64	6960 5,65	5240 4,74	3650 3,90	
SHGX44e/475-4 SL	25	Q P	39800 10,3	34500 9,63	29500 8,96	24900 8,26	20800 7,55	17100 6,83	13900 6,09	11000 5,35	8410 4,61	6230 3,89	
	32	Q P	35700 11,2	30800 10,4	26300 9,65	22200 8,82	18500 7,99	15200 7,15	12300 6,32	9610 5,49	7310 4,68	5300 3,91	
	43	Q P	28900 12,6	24900 11,6	21200 10,6	17800 9,58	14800 8,57	12100 7,58	9630 6,61	7470 5,67	5560 4,79	3840 3,97	
SHGX44e/565-4 L	25	Q P			29200 11,9	25300 10,7	21600 9,58	18200 8,47	15100 7,40	12200 6,39	9540 5,43	7210 4,51	
	32	Q P			25700 12,6	22300 11,3	19100 10,0	16100 8,79	13300 7,63	10700 6,53	8320 5,50	6170 4,54	
	43	Q P					15000 10,6	12600 9,26	10400 7,96	8290 6,75	6330 5,64	4490 4,63	
SHGX44e/565-4 SL	25	Q P	46400 12,5	40300 11,7	34600 10,8	29400 9,94	24600 9,06	20400 8,16	16500 7,26	13200 6,37	10200 5,48	7600 4,61	
	32	Q P	41500 13,6	36000 12,6	30900 11,6	26200 10,5	22000 9,56	18100 8,54	14700 7,52	11600 6,53	8910 5,56	6520 4,64	
	43	Q P		29000 13,9	24900 12,7	21000 11,4	17600 10,2	14500 9,03	11700 7,86	9100 6,74	6840 5,69	4800 4,71	
SHGX44e/665-4 L	25	Q P			37500 13,2	32100 12,0	27000 10,8	22400 9,70	18300 8,56	14600 7,45	11300 6,37	8370 5,33	
	32	Q P			33300 14,1	28400 12,7	23900 11,4	19800 10,1	16100 8,85	12800 7,63	9730 6,46	7090 5,36	
	43	Q P			26300 15,3	22400 13,7	18900 12,1	15600 10,6	12600 9,25	9790 7,89	7320 6,61	5070 5,44	
SHGX44e/665-4 SL	25	Q P	51200 15,3	44700 14,1	38500 13,0	32800 11,8	27600 10,7	22800 9,64	18500 8,53	14700 7,45	11400 6,39	8420 5,36	
	32	Q P	45600 16,5	39700 15,2	34200 13,9	29100 12,6	24400 11,3	20200 10,0	16300 8,83	12900 7,63	9820 6,48	7130 5,38	
	43	Q P			27200 15,1	23100 13,6	19300 12,0	15900 10,6	12800 9,22	9910 7,89	7390 6,63	5100 5,47	
SHGX44e/770-4 L	25	Q P			43000 15,5	36900 14,0	31200 12,6	26000 11,2	21300 9,95	17100 8,64	13300 7,38	9940 6,17	
	32	Q P			38100 16,5	32700 14,8	27600 13,2	23000 11,7	18800 10,2	15000 8,85	11600 7,48	8490 6,20	
	43	Q P				25800 16,0	21800 14,1	18100 12,4	14800 10,7	11700 9,14	8780 7,66	6170 6,30	
SHGX44e/770-4 SL	25	Q P	64100 16,6	55400 15,6	47400 14,5	40100 13,3	33500 12,2	27600 11,0	22300 9,79	17700 8,56	13700 7,35	10200 6,16	
	32	Q P	57600 18,2	49700 16,9	42400 15,6	35800 14,2	29800 12,9	24500 11,5	19800 10,1	15600 8,79	11900 7,46	8670 6,19	
	43	Q P	47600 20,4	40900 18,7	34800 17,1	29200 15,4	24300 13,8	19800 12,1	15900 10,6	12400 9,07	9230 7,62	6430 6,28	

Relating to 20 °C suction gas temperature
without liquid subcooling

Supplementary cooling or
reduced suction gas temperature

R407C			Performance data							50 Hz
Type	Amb. temp. °C		Cooling capacity $\dot{Q}_o$ [W]				Power consumption P_e [kW]			
			Evaporating temperature °C							
			10	5	0	-5	-10	-15	-20	
SHGX44e/475-4 L	25	Q P				23200 8,10	19300 7,19	15700 6,33	12500 5,52	
	32	Q P				21000 8,57	17400 7,57	14200 6,63	11200 5,74	
	43	Q P				17400 9,19	14400 8,05			
SHGX44e/475-4 SL	25	Q P	42500 9,90	36200 9,14	30500 8,38	25400 7,64	20800 6,89	16800 6,17	13300 5,46	
	32	Q P	38900 10,7	33100 9,91	27800 9,04	23100 8,18	18900 7,34	15200 6,51	11900 5,71	
	43	Q P	32900 12,0	27900 10,9	23400 9,93	19400 8,91	15800 7,91	12600 6,94	9730 6,00	
SHGX44e/565-4 L	25	Q P				26500 9,95	22200 8,76	18200 7,66	14600 6,63	
	32	Q P				23900 10,4	20000 9,19	16400 7,99	13100 6,87	
	43	Q P								
SHGX44e/565-4 SL	25	Q P	49600 12,0	42400 11,0	35900 10,1	29900 9,19	24600 8,27	20000 7,38	15800 6,51	
	32	Q P	45300 13,0	38700 11,9	32700 10,8	27300 9,82	22400 8,78	18100 7,78	14200 6,80	
	43	Q P		32600 13,1	27500 11,9	22900 10,6	18700 9,44	15000 8,26	11700 7,13	
SHGX44e/665-4 L	25	Q P				33500 11,0	27700 9,82	22500 8,67	17900 7,59	
	32	Q P				30300 11,7	25000 10,3	20300 9,11	16000 7,91	
	43	Q P				25300 12,6	20800 11,0	16700 9,63	13000 8,25	
SHGX44e/665-4 SL	25	Q P	55300 14,7	47500 13,4	40300 12,1	33800 10,9	27800 9,82	22600 8,71	17900 7,65	
	32	Q P	50300 15,8	43200 14,4	36600 13,0	30600 11,6	25200 10,4	20400 9,16	16000 7,98	
	43	Q P			30600 14,1	25500 12,6	20900 11,1	16800 9,70	13100 8,34	
SHGX44e/770-4 L	25	Q P				37900 12,9	31400 11,4	25400 10,0	20100 8,67	
	32	Q P				34200 13,6	28200 11,9	22800 10,4	17900 8,93	
	43	Q P				28300 14,4	23200 12,5	18600 10,7		
SHGX44e/770-4 SL	25	Q P	67800 16,3	57800 15,0	48700 13,6	40500 12,3	33100 11,0	26600 9,80	20900 8,56	
	32	Q P	61800 17,7	52600 16,1	44200 14,6	36600 13,1	29900 11,7	23900 10,2	18600 8,86	
	43	Q P	52500 19,5	44500 17,7	37200 15,9	30700 14,1	24800 12,4	19600 10,7	15000 9,07	

Relating to 20 °C suction gas temperature
without liquid subcooling

Supplementary cooling or
reduced suction gas temperature

R22			Performance data								50 Hz
Type	Amb. temp. °C		Cooling capacity $\dot{Q}_o$ [W]					Power consumption P_e [kW]			
			Evaporating temperature °C								
			10	5	0	-5	-10	-15	-20	-25	-30
SHG44e/475-4 L	25	Q				26100	21900	18100	14700	11700	8970
		P				8,61	7,74	6,90	6,10	5,34	4,62
	32	Q				23900	20100	16500	13400	10500	7950
		P				9,25	8,26	7,32	6,42	5,57	4,76
	43	Q				20500	17100	14000	11200		
		P				10,1	9,01	7,90	6,85		
SHG44e/475-4 SL	25	Q	46100	39600	33700	28400	23600	19400	15600	12300	9430
		P	9,90	9,25	8,60	7,95	7,28	6,62	5,95	5,28	4,63
	32	Q	42800	36700	31200	26200	21700	17800	14200	11100	8380
		P	10,9	10,1	9,41	8,63	7,85	7,08	6,30	5,54	4,80
	43	Q	37500	32100	27100	22700	18700	15100	12000	9160	
		P	12,5	11,5	10,6	9,63	8,67	7,72	6,78	5,87	
SHG44e/565-4 L	25	Q				29800	25200	21000	17200	13700	10600
		P				10,7	9,52	8,42	7,39	6,42	5,51
	32	Q				27400	23100	19200	15600	12400	9410
		P				11,4	10,1	8,90	7,75	6,67	5,66
	43	Q				23400	19700	16300	13100		
		P				12,5	10,9	9,56	8,22		
SHG44e/565-4 SL	25	Q	53900	46500	39700	33500	27900	23000	18600	14700	11400
		P	12,1	11,2	10,4	9,60	8,77	7,94	7,11	6,30	5,51
	32	Q	50100	43100	36700	31000	25800	21100	17000	13300	10100
		P	13,3	12,3	11,3	10,4	9,43	8,47	7,53	6,60	5,70
	43	Q	43800	37600	31900	26800	22200	18000	14400	11100	
		P	15,2	14,0	12,7	11,5	10,3	9,22	8,08	6,98	
SHG44e/665-4 L	25	Q				37500	31400	25900	21000	16700	12800
		P				11,6	10,5	9,42	8,36	7,34	6,37
	32	Q				34500	28800	23700	19100	15000	11300
		P				12,5	11,2	10,0	8,82	7,67	6,58
	43	Q				29600	24600	20000	16000	12300	
		P				13,8	12,3	10,8	9,43	8,08	
SHG44e/665-4 SL	25	Q	60400	52200	44700	37800	31600	26000	21100	16700	12800
		P	14,9	13,8	12,6	11,5	10,4	9,42	8,40	7,40	6,44
	32	Q	55900	48300	41200	34800	29000	23800	19100	15000	11300
		P	16,3	15,0	13,7	12,4	11,2	10,0	8,87	7,74	6,66
	43	Q		41800	35600	29900	24800	20200	16000	12300	
		P		16,8	15,3	13,8	12,3	10,8	9,50	8,16	
SHG44e/770-4 L	25	Q				42800	35900	29700	24200	19200	14800
		P				13,8	12,4	11,1	9,83	8,62	7,46
	32	Q				39400	33000	27200	22000	17300	13200
		P				14,8	13,2	11,7	10,3	9,00	7,70
	43	Q				33800	28200	23100	18500	14300	
		P				16,3	14,5	12,7	11,0	9,46	
SHG44e/770-4 SL	25	Q	73400	63200	53900	45400	37800	31100	25100	19900	15300
		P	16,3	15,1	14,0	12,9	11,8	10,7	9,58	8,48	7,39
	32	Q	68200	58600	49800	41900	34800	28500	22900	17900	13500
		P	18,0	16,7	15,4	14,0	12,7	11,4	10,1	8,89	7,66
	43	Q	60100	51400	43600	36500	30100	24400	19400	14900	
		P	20,5	18,9	17,2	15,6	14,0	12,4	10,9	9,38	

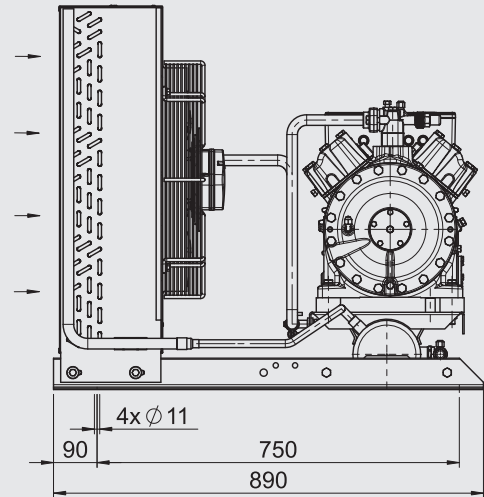
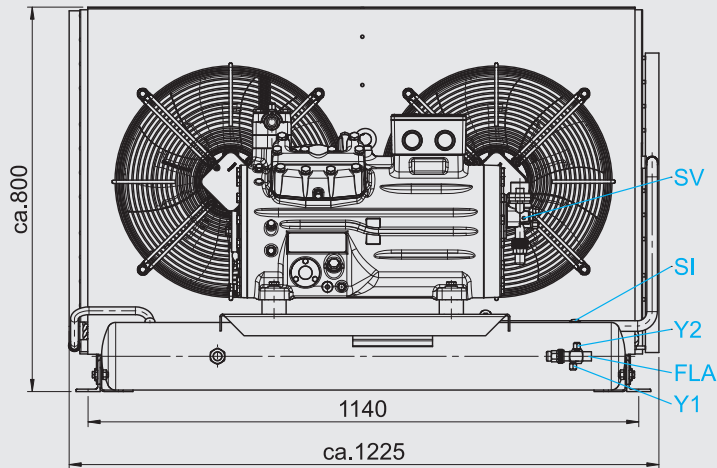
Relating to 20 °C suction gas temperature
without liquid subcooling

 Supplementary cooling and
reduced suction gas temperature  Supplementary cooling or
reduced suction gas temperature

SHG44e L

SHG44e/475-4 L

SHG44e/565-4 L



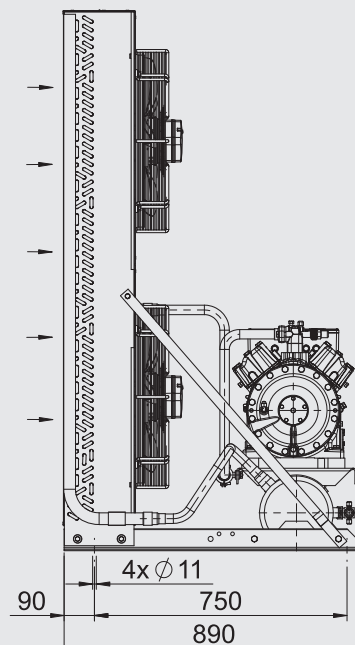
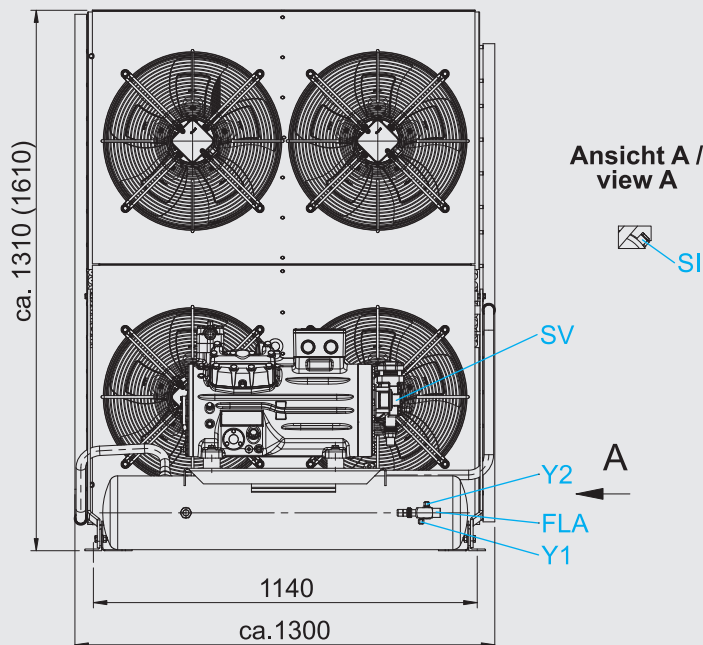
SHG44e L

SHG44e/475-4 SL

SHG44e/565-4 SL

SHG44e/665-4 L
SHG44e/665-4 SL

SHG44e/770-4 L
SHG44e/770-4 SL



Dimensions in () = SHG44e/770-4 SL

Connections see page 9
Further compressor connections can be found in the brochure "semi-hermetic GEA Bock compressors"

Dimensions in mm

SHG Type	Connections ①				
	SV	FLA	SI	Y1	Y2
	mm inch	mm inch	inch	inch	inch
SHG44e/475-4 L	35 1 3/8	16 5/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHG44e/475-4 SL	35 1 3/8	16 5/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHG44e/565-4 L	35 1 3/8	16 5/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHG44e/565-4 SL	42 1 5/8	22 7/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHG44e/665-4 L	42 1 5/8	22 7/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHG44e/665-4 SL	42 1 5/8	22 7/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHG44e/770-4 L	42 1 5/8	22 7/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHG44e/770-4 SL	42 1 5/8	22 7/8	1/2 NPTF	7/16 UNF	7/16 UNF

SV = Suction line shut off valve
 FLA = Liquid outlet
 SI = Connection safety valve

Y1 = Connection liquid side, lockable
 Y2 = Connection liquid side, not lockable

① Further compressor connections can be found in the brochure "semi-hermetic GEA Bock compressors"

SHG Type	Compressor ①			Fan / Condenser ③			Receiver	Weight
	Displacement 50 Hz (1450 rpm)	Voltage ②	Max. working current	Max. working current 50 Hz	Max. power consumption 50 Hz	Air flow 50 Hz	Capacity	
	m³/h		A * PW 1+2	A	W	m³/h	Ltr.	kg
SHG44e/475-4 L	41,30	④	19	2 x 2,50	2 x 500	9490	14,0	255
SHG44e/475-4 SL	41,30	④	23	4 x 2,50	4 x 500	16280	14,0	311
SHG44e/565-4 L	49,20	④	22	2 x 2,50	2 x 500	9490	14,0	256
SHG44e/565-4 SL	49,20	④	26	4 x 2,50	4 x 500	14880	23,0	327
SHG44e/665-4 L	57,70	④	26	4 x 2,50	4 x 500	16280	23,0	318
SHG44e/665-4 SL	57,70	④	30	4 x 2,50	4 x 500	14880	23,0	324
SHG44e/770-4 L	67,00	④	30	4 x 2,50	4 x 500	14880	23,0	396
SHG44e/770-4 SL	67,00	④	35	4 x 3,00	4 x 680	23850	35,0	419

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

Explanations:

① Further explanations and technical data see brochure "semi-hermetic GEA Bock compressors"

② Tolerance (± 10%) relates to the mean value of the voltage range. Other voltages and current types on request.

③ 230 V - 1 - 50 Hz

④ 380-420 V Y/YY - 3 - 50 Hz PW

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

- Winding ratio: 70% / 30%

- Designs for Y/Δ on request

Scope of supply

Semi-hermetic GEA Bock compressors HG with suction gas-cooling, installed with rubber anti-vibration pads on liquid receiver.

the liquid receivers with sight glass and Rotalock shut-off valve with brazing connection

Liquid receivers, tank is provided

Air-cooled finned tube condensing with 2 or 4 ventilators

Ventilators 230 V -1- 50/60 Hz, with bimetal winding protection, phase control for speed adjustment

with piping on discharge and liquid side

Inert gas charge

Rubber plates for installation of the unit

Accessories

High and low pressure switch

Safety valve for receiver

Instrument panel with gauges for high, low and oil pressure incl. mounting

Oil separator

Ventilator three-phase

larger liquid receiver

Further accessories can be found in the brochure "semi-hermetic GEA Bock compressors".





We live our values.

Excellence • Passion • Integrity • Responsibility • GEA-versity

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

GEA Refrigeration Technologies

GEA Bock GmbH

Benzstrasse 7, 72636 Frickenhausen, Germany
Phone: +49 7022 94 54-0, Fax: +49 7022 94 54-137
refrigeration@gea.com, www.gea.com