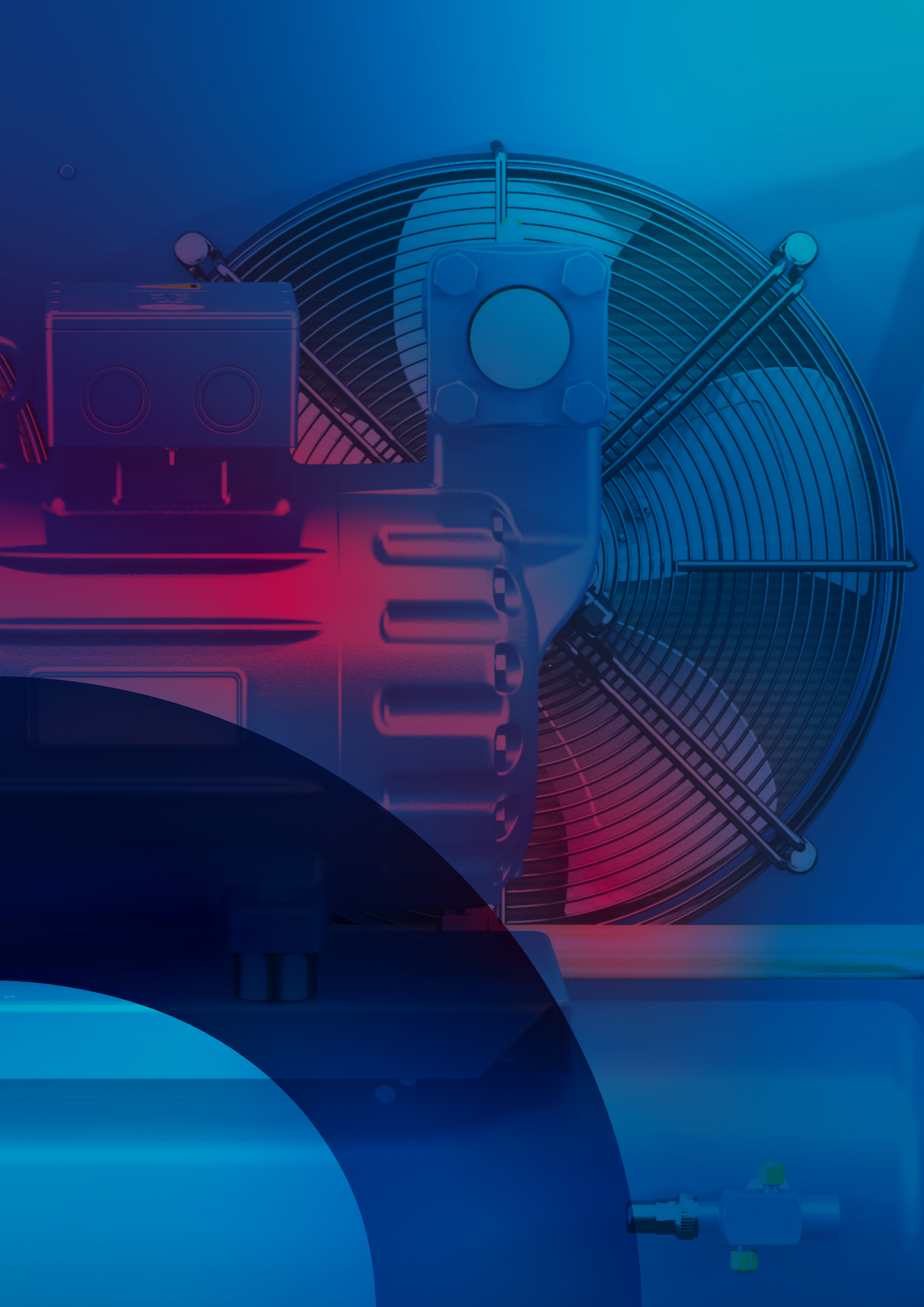




# BOCK Condensing Units air-cooled

**BOCK**

colour the world  
of tomorrow



- 1 SHG condensing units air-cooled single-stage
- 2 SHA condensing units air-cooled single-stage
- 3 SHGZ condensing units air-cooled two-stage



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

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

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

**Many of the BOCK condensing units are certified.**

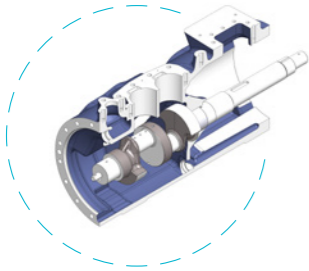
An overview can be found here:  
[www.asercom.org/list-of-certified-condensing-units/](http://www.asercom.org/list-of-certified-condensing-units/)

# Your solution for all ambient temperatures

Whether in the desert or in the arctic - BOCK condensing units offer maximum reliability and efficiency.

**Efficient condensers:**

- Condenser in reliable fin-tube design
- One condenser for low and high ambient temperatures



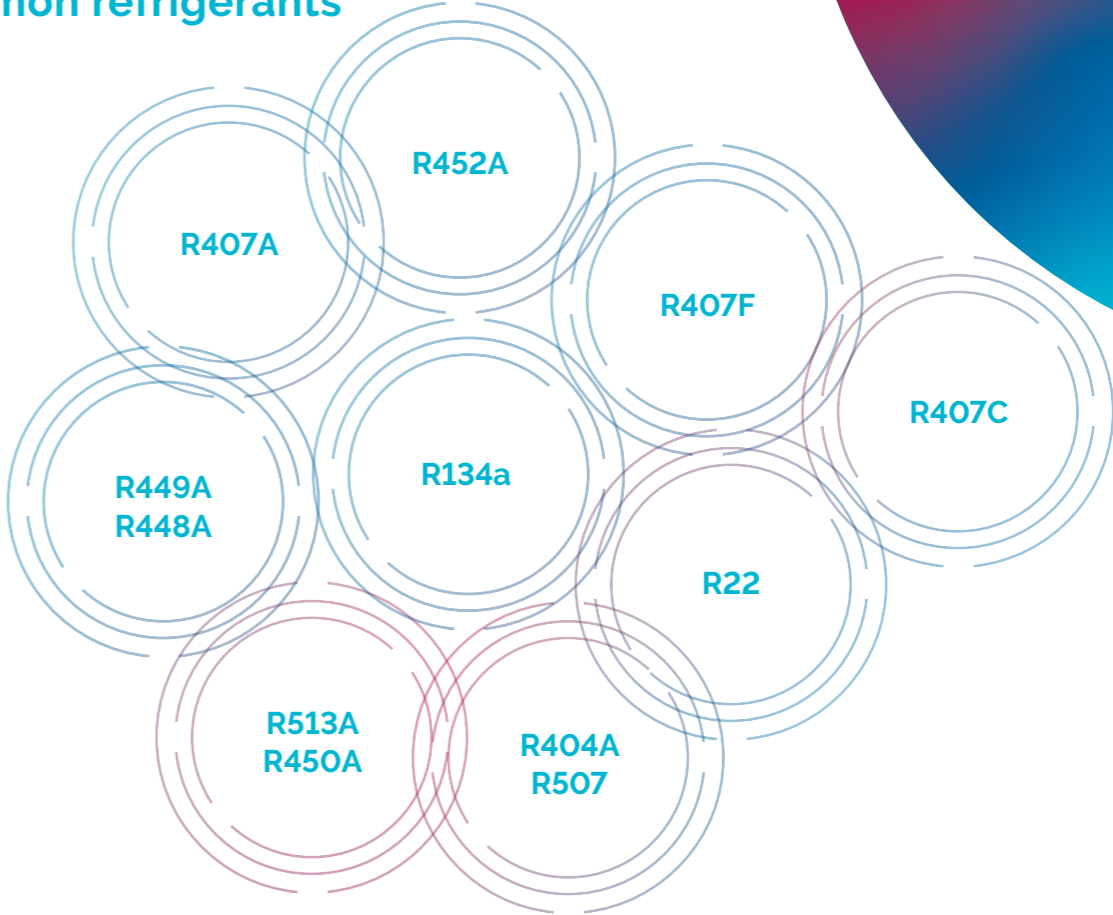
**Optimized drive gear:**

more resistant to lack of lubrication

**Reliable and safe oil supply**



## Common refrigerants

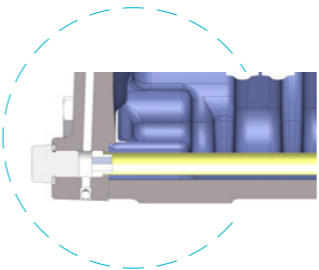
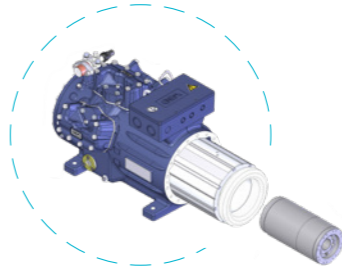


**Rugged fans:**

- suitable for speed regulation
- made in Germany

**Service friendly design:**

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



## BOCK VAP

### COMPRESSOR SELECTION PROGRAM



Up-to-date information on technical data, performance data, operating limits and much more can be accessed online via the BOCK compressor selection program (VAP): [vap.bock.de](http://vap.bock.de)

# SHG

## Condensing units air-cooled single-stage

- 9 At a glance
- 10–59 Performance data
- 60–61 Technical data
- 62–65 Dimensions and connections
- 66 Scope of supply and accessories



# SHG-L Condensing units air-cooled

With the current completely improved condensing unit range, Bock offers you a comprehensive program from 2 to 40 HP (5 to 116.5 m<sup>3</sup>/h) displacement. The newly developed compressors HG44e, HG56e, HG66e and the optimized HG22e and HG34e, are used.



Efficiency

#### The PLUS of the new compressor series

- o high efficiency (COP)
- o high reliability and excellent emergency running characteristics through the implementation of an optimized drive gear
- o highly efficient electric motors of the latest generation



Reliability

#### This is why you can rely on BOCK compressors

- o from the smallest to the largest Bock compressor: equipped with the most reliable way of oil supply: an oil pump
- o service-friendly: simple oil change and motor change by means of stator sliding seat directly on site without special tools.

#### BOCK condensing units -

##### proven for years under the toughest conditions:

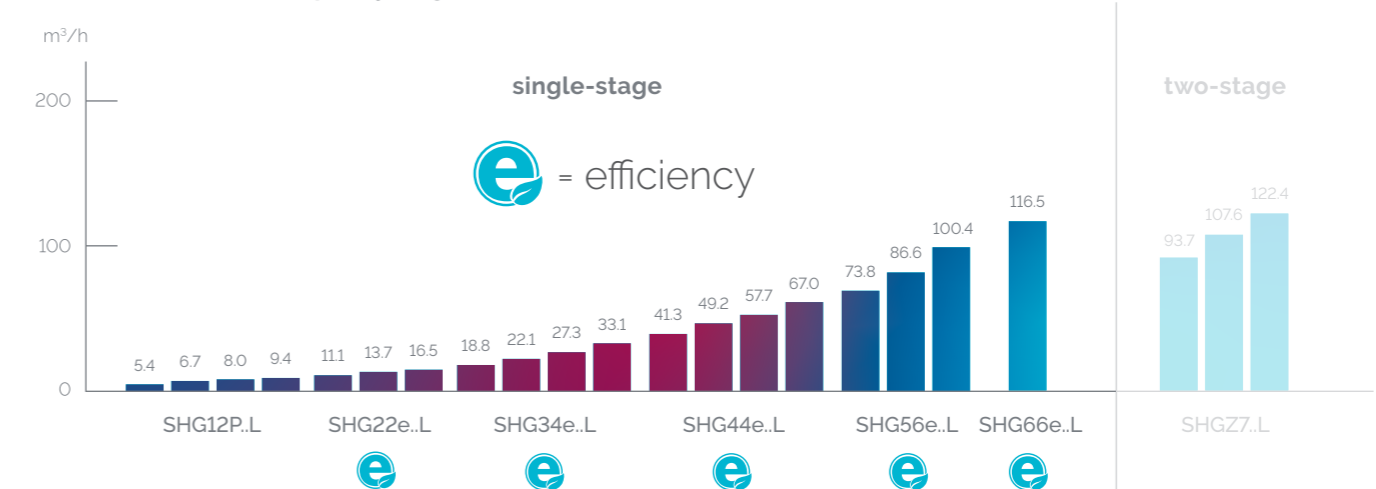
- o Tube-fin heat exchanger, one design for low and high ambient temperatures.
- o Robust fans, suitable for speed control - made in Germany.
- o Safety for the cooled goods: from 7,5 HP (27m<sup>3</sup>/h) resp. 15 HP (48 m<sup>3</sup>/h) a double or quadruple redundant design of the fans. If a fan should fail, safe cooling is still guaranteed.

## SHG air-cooled single-stage condensing units At a glance



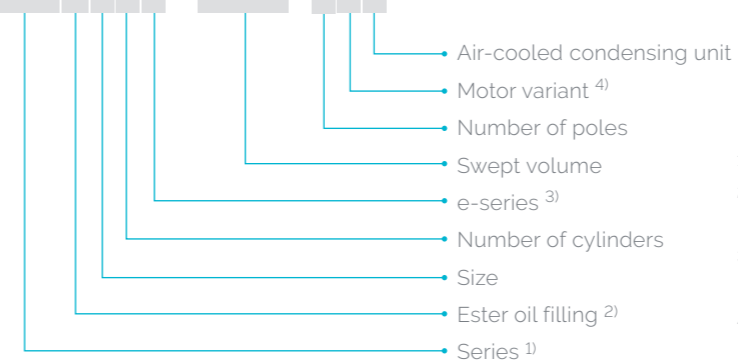
#### The current range

6 model sizes with 19 capacity stages from 5.4 to 116.5 m<sup>3</sup>/h (50 Hz)



#### Type key – condensing units air-cooled

SHGX66e / 1340 - 4SL



- 1) SHG = Hermetic Gas-cooled (suction gas-cooled)
- 2) X = Ester oil filling (HFC refrigerants e.g. R134a, R404A, R507, R407C)
- 3) = Additional declaration for e-series and P = Pluscom compressors
- 4) S = More powerful motor e.g. air-conditioning applications





















# SHG condensing units air-cooled single-stage

## Performance data

R404A / R507 | 50 Hz

Type	Amb. temp. °C		Cooling capacity Q <sub>0</sub> [kW]						Power consumption P <sub>e</sub> [kW]	
			Evaporating temperature °C							
			5	0	-5	-10	-15	-20		
SHG56e/995-4 SL	50	Q	-	-	-	-	-	20500	16200	12300
		P	-	-	-	-	-	18.2	15.8	13.4
	46	Q	-	-	-	33600	27900	22600	17900	13700
		P	-	-	-	22.9	20.5	18.2	15.9	13.6
	43	Q	-	49300	42300	35800	29800	24300	19300	14800
		P	-	27.2	24.9	22.6	20.4	18.1	15.9	13.7
	38	Q	62400	54300	46700	39600	33000	27000	21600	16700
		P	28.7	26.5	24.3	22.1	20.0	17.9	15.8	13.7
	32	Q	69200	60400	52000	44200	37000	30300	24400	19000
		P	27.5	25.4	23.3	21.3	19.3	17.4	15.5	13.6
	27	Q	75000	65500	56600	48100	40300	33200	26800	21000
		P	26.4	24.4	22.4	20.5	18.7	16.9	15.1	13.4
15	Q	89400	78300	67800	57900	48700	40300	32700	25900	
	P	23.4	21.7	20.0	18.4	16.9	15.5	14.2	12.9	
SHG56e/1155-4 L	50	Q	-	-	-	-	-	23400	18800	14700
		P	-	-	-	-	-	22.4	19.7	17.1
	46	Q	-	-	-	-	31100	25700	20800	16300
		P	-	-	-	-	24.9	22.1	19.4	16.9
	43	Q	-	-	46400	39600	33300	27500	22300	17500
		P	-	-	30.4	27.4	24.6	21.9	19.2	16.7
	38	Q	-	-	51200	43800	36900	30500	24800	19600
		P	-	-	29.5	26.7	24.0	21.4	18.9	16.5
	32	Q	-	-	57200	48900	41200	34200	27900	22200
		P	-	-	28.3	25.8	23.3	20.9	18.6	16.3
	27	Q	-	71800	62200	53200	44900	37400	30500	24400
		P	-	29.7	27.3	24.9	22.6	20.4	18.2	16.1
15	Q	-	85900	74600	64000	54100	45200	37100	29800	
	P	-	26.1	24.2	22.4	20.6	18.8	17.0	15.3	
SHG56e/1155-4 SL	50	Q	-	-	-	-	-	24200	19400	15100
		P	-	-	-	-	-	22.3	19.7	17.1
	46	Q	-	-	-	38900	32400	26600	21400	16700
		P	-	-	-	27.5	24.7	22.0	19.4	17.0
	43	Q	-	57000	48900	41400	34600	28500	22900	18000
		P	-	32.5	29.8	27.1	24.4	21.8	19.2	16.8
	38	Q	72300	62700	53800	45700	38300	31500	25500	20100
		P	34.1	31.5	28.9	26.3	23.8	21.4	19.0	16.6
	32	Q	80100	69600	59900	50900	42700	35300	28600	22700
		P	32.4	30.1	27.7	25.4	23.1	20.8	18.6	16.4
	27	Q	86700	75500	65000	55400	46500	38500	31300	24900
		P	30.9	28.8	26.6	24.5	22.4	20.3	18.2	16.2
15	Q	104000	90100	77800	66300	55900	46400	38000	30500	
	P	26.6	25.0	23.4	21.8	20.2	18.6	17.0	15.3	
SHG66e/1340-4 L	50	Q	-	-	-	-	-	21200	16600	
		P	-	-	-	-	-	20.5	17.4	
	46	Q	-	-	-	-	34900	29000	23500	18400
		P	-	-	-	-	27.0	23.7	20.5	17.5
	43	Q	-	-	-	44100	37400	31000	25100	19700
		P	-	-	-	30.2	26.8	23.6	20.5	17.5
	38	Q	-	-	56900	49000	41600	34500	28000	22000
		P	-	-	33.1	29.7	26.5	23.3	20.4	17.6
	32	Q	-	-	63900	55100	46700	38800	31500	24900
		P	-	-	32.1	29.0	25.9	22.9	20.1	17.5
	27	Q	-	-	69700	60100	51000	42500	34600	27400
		P	-	-	31.2	28.2	25.3	22.5	19.8	17.3
15	Q	-	96000	84000	72500	61600	51400	42000	33600	
	P	-	31.3	28.5	25.9	23.4	21.0	18.7	16.6	

Relating to 20 °C suction gas temperature without liquid subcooling

Supplementary cooling or reduced suction gas temperature



# SHG condensing units air-cooled single-stage

## Performance data

R404A / R507 | 50 Hz

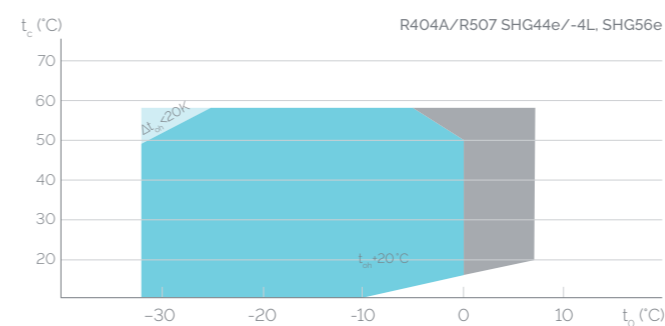
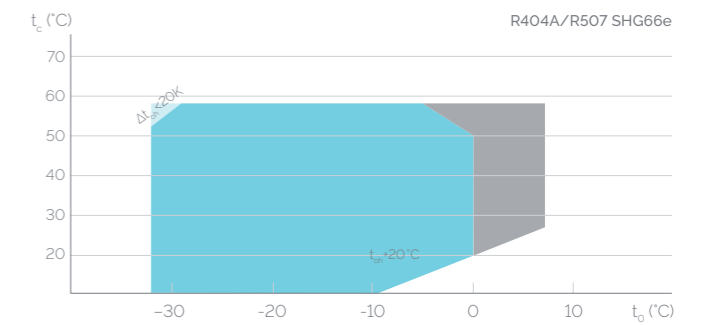
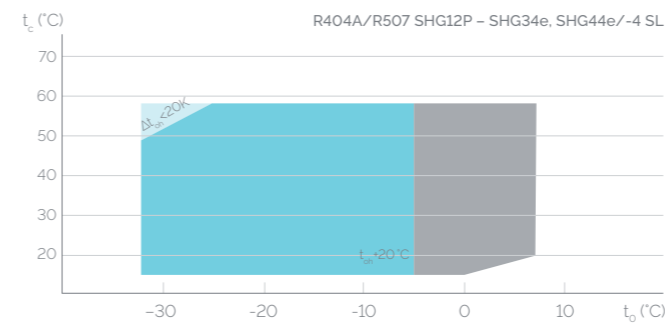
Type	Amb. temp. °C		Cooling capacity Q <sub>0</sub> [kW]						Power consumption P <sub>e</sub> [kW]	
			Evaporating temperature °C							
			5	0	-5	-10	-15	-20		
SHG66e/1340-4 SL	50	Q	-	-	-	-	-	27400	22000	17100
		P	-	-	-	-	-	23.9	20.7	17.6
	46	Q	-	-	-	43600	36600	30200	24300	18900
		P	-	-	-	30.3	27.0	23.8	20.7	17.7
	43	Q	-	-	54500	46600	39200	32300	26000	20300
		P	-	-	33.4	30.1	26.8	23.7	20.6	17.8
	38	Q	-	69600	60400	51700	43500	35900	28900	22600
		P	-	36.0	32.7	29.5	26.4	23.4	20.5	17.8
	32	Q	88500	77800	67600	57900	48800	40300	32600	25600
		P	37.9	34.8	31.7	28.7	25.8	23.0	20.3	17.7
	27	Q	96300	84700	73600	63100	53200	44000	35600	28100
		P	36.6	33.6	30.7	27.9	25.1	22.5	19.9	17.5
15	Q	116000	102000	88400	75800	64000	53100	43200	34400	
	P	32.9	30.3	27.8	25.4	23.1	20.9	18.8	16.7	

Relating to 20 °C suction gas temperature without liquid subcooling

Supplementary cooling or reduced suction gas temperature



## Operating limits



- t<sub>e</sub> Evaporating temperature (°C)
- t<sub>c</sub> Condensing temperature (°C)
- Δt<sub>sh</sub> Suction gas superheat (K)
- t<sub>sh</sub> Suction gas temperature (°C)
- Unlimited application range
- ◐ Supplementary cooling or reduced suction gas temperature (Δt<sub>sh</sub><20K)
- Motor version -S- (more powerful motor)

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











## SHG condensing units air-cooled single-stage Performance data

R448A | 50 Hz

Type	Amb. temp. °C		Cooling capacity Q <sub>o</sub> [kW]						Power consumption P <sub>e</sub> [kW]			
			Evaporating temperature °C									
			5	0	-5	-10	-15	-20			-25	-30
SHG56e/995-4 SL	50	Q	-	-	-	-	25000	19900	15200	10900		
		P	-	-	-	-	19.0	16.4	13.9	11.5		
	46	Q	-	-	-	32900	27000	21600	16700	12200		
		P	-	-	-	21.5	18.9	16.3	13.9	11.7		
	43	Q	-	-	41500	34700	28500	22900	17800	13200		
		P	-	-	23.8	21.2	18.7	16.3	14.0	11.8		
	38	Q	61300	52900	45000	37700	31100	25000	19600	14700		
		P	28.3	25.7	23.1	20.7	18.3	16.1	13.9	11.8		
	32	Q	67000	57800	49200	41300	34100	27600	21800	16600		
		P	27.0	24.6	22.2	20.0	17.8	15.7	13.7	11.8		
	27	Q	71700	61900	52800	44400	36700	29700	23600	18100		
		P	25.9	23.6	21.4	19.3	17.3	15.3	13.5	11.8		
15	Q	83300	72000	61500	51700	42800	34700	27700	21500			
	P	22.8	20.9	19.0	17.3	15.7	14.2	12.7	11.3			
SHG56e/1155-4 L	50	Q	-	-	-	-	-	21200	16300			
		P	-	-	-	-	-	18.3	15.4			
	46	Q	-	-	-	35400	29000	23300	18100	13500		
		P	-	-	-	24.6	21.4	18.4	15.7	13.1		
	43	Q	-	-	-	37500	30900	24800	19400	14600		
		P	-	-	-	24.4	21.4	18.5	15.8	13.3		
	38	Q	-	-	-	41000	33900	27400	21600	16500		
		P	-	-	-	24.1	21.2	18.4	15.9	13.5		
	32	Q	-	-	53800	45300	37500	30400	24100	18600		
		P	-	-	26.3	23.5	20.7	18.2	15.8	13.5		
	27	Q	-	-	57900	48800	40400	32900	26200	20300		
		P	-	-	25.5	22.8	20.2	17.8	15.5	13.4		
15	Q	-	79200	67900	57300	47500	38700	30900	24100			
	P	-	25.3	22.9	20.6	18.4	16.4	14.6	12.8			
SHG56e/1155-4 SL	50	Q	-	-	-	-	27700	21900	16800	12300		
		P	-	-	-	-	21.4	18.4	15.6	13.0		
	46	Q	-	-	-	37000	30200	24100	18700	13900		
		P	-	-	-	24.4	21.4	18.6	15.9	13.3		
	43	Q	-	-	47100	39200	32100	25700	20000	15000		
		P	-	-	27.3	24.3	21.4	18.6	16.0	13.5		
	38	Q	70700	60600	51400	42900	35200	28300	22300	16900		
		P	32.9	29.7	26.7	23.8	21.1	18.5	16.0	13.7		
	32	Q	77400	66500	56500	47200	38900	31400	24800	19100		
		P	31.5	28.6	25.8	23.1	20.6	18.2	15.8	13.7		
	27	Q	83000	71500	60700	50900	41900	33900	26900	20800		
		P	30.2	27.5	24.8	22.4	20.0	17.7	15.6	13.5		
15	Q	96600	83300	70900	59500	49100	39800	31600	24500			
	P	26.5	24.2	22.1	20.0	18.1	16.3	14.6	12.9			
SHG66e/1340-4 L	50	Q	-	-	-	-	-	24200	18700	13500		
		P	-	-	-	-	-	20.4	17.1	14.0		
	46	Q	-	-	-	-	32700	26400	20500	15000		
		P	-	-	-	-	23.9	20.5	17.3	14.3		
	43	Q	-	-	-	41900	34700	28000	21800	16200		
		P	-	-	-	27.3	23.8	20.5	17.4	14.5		
	38	Q	-	-	54200	45800	37900	30700	24100	18100		
		P	-	-	30.5	26.9	23.5	20.4	17.5	14.8		
	32	Q	-	-	59600	50400	41900	34000	26900	20500		
		P	-	-	29.6	26.2	23.1	20.1	17.4	14.9		
	27	Q	-	74600	64200	54300	45200	36800	29200	22500		
		P	-	32.2	28.8	25.6	22.6	19.8	17.2	14.9		
15	Q	-	87400	75300	63800	53200	43500	34800	27200			
	P	-	29.5	26.4	23.6	21.0	18.6	16.4	14.4			

Relating to 20 °C suction gas temperature without liquid subcooling

Supplementary cooling and reduced suction gas temperature

Supplementary cooling or reduced suction gas temperature

vap.bock.de

## SHG condensing units air-cooled single-stage Performance data

R448A | 50 Hz

Type	Amb. temp. °C		Cooling capacity Q <sub>o</sub> [kW]						Power consumption P <sub>e</sub> [kW]			
			Evaporating temperature °C									
			5	0	-5	-10	-15	-20			-25	-30
SHG66e/1340-4 SL	50	Q	-	-	-	-	-	25100	19300	13900		
		P	-	-	-	-	-	20.6	17.4	14.3		
	46	Q	-	-	-	41700	34200	27400	21100	15500		
		P	-	-	-	27.4	24.0	20.7	17.6	14.7		
	43	Q	-	-	52700	44100	36200	29100	22600	16700		
		P	-	-	30.8	27.2	23.8	20.7	17.7	14.9		
	38	Q	-	67300	57400	48100	39600	31900	24900	18700		
		P	-	33.7	30.1	26.7	23.5	20.5	17.7	15.1		
	32	Q	85500	73900	63000	53000	43700	35300	27800	21100		
		P	36.1	32.5	29.1	26.0	23.0	20.2	17.6	15.1		
	27	Q	91700	79400	67800	57000	47100	38200	30200	23100		
		P	34.8	31.4	28.2	25.3	22.5	19.8	17.4	15.1		
15	Q	107000	92700	79300	66800	55400	45000	35900	27900			
	P	31.5	28.5	25.7	23.1	20.7	18.5	16.5	14.5			

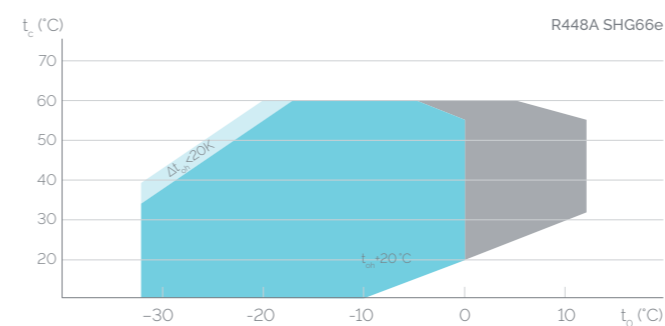
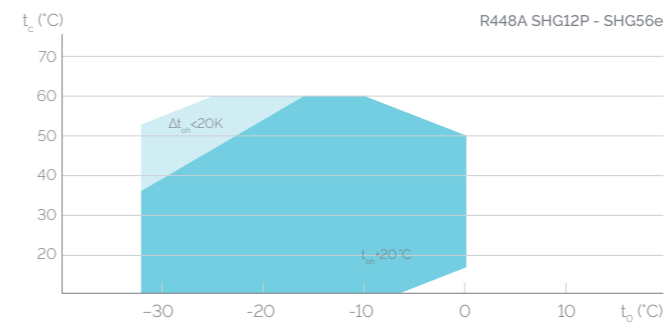
Relating to 20 °C suction gas temperature without liquid subcooling

Supplementary cooling and reduced suction gas temperature

Supplementary cooling or reduced suction gas temperature

vap.bock.de

### Operating limits



- t<sub>e</sub> Evaporating temperature (°C)
- t<sub>c</sub> Condensing temperature (°C)
- Δt<sub>s,oh</sub> Suction gas superheat (K)
- t<sub>s,oh</sub> Suction gas temperature (°C)
- Unlimited application range
- Supplementary cooling or reduced suction gas temperature (Δt<sub>s,oh</sub> < 20K)
- Motor version -S- (more powerful motor)

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























## SHG condensing units air-cooled single-stage

### Technical data

#### SHG

Type	Displacement 50 Hz (1450 rpm) m <sup>3</sup> /h	Compressor ①			Fan / Condenser			Receiver Capacity Ltr.
		Voltage ②	Max. Working current		Max. Working current 50 Hz A	Max. Power consumption 50 Hz W	Air flow 50 Hz m <sup>3</sup> /h	
			Δ	Y				
SHG12P/60-4 SL	5.4	③	6.8	3.9	1 x 122	1 x 280	3550	6.0
SHG12P/75-4 L	6.7	③	7.1	4.1	1 x 122	1 x 280	3550	6.0
SHG12P/75-4 SL	6.7	③	8.0	4.6	1 x 122	1 x 280	3550	6.0
SHG12P/90-4 L	8.0	③	8.5	4.9	1 x 122	1 x 280	3550	6.0
SHG12P/90-4 SL	8.0	③	9.1	5.3	1 x 122	1 x 280	3550	6.0
SHG12P/110-4 L	9.4	③	9.2	5.3	1 x 122	1 x 280	3550	6.0
SHG12P/110-4 SL	9.4	③	10.6	6.1	1 x 122	1 x 280	3550	6.0
SHG22e/125-4 L	11.1	③	9.3	5.4	1 x 122	1 x 280	3550	6.0
SHG22e/125-4 SL	11.1	③	10.8	6.2	1 x 122	1 x 280	3410	6.0
SHG22e/160-4 L	13.7	③	11.1	6.4	1 x 122	1 x 280	3410	6.0
SHG22e/160-4 SL	13.7	③	13.1	7.6	1 x 122	1 x 280	3410	6.0
SHG22e/190-4 L	16.5	③	13.8	8.0	1 x 250	1 x 580	5950	8.0
SHG22e/190-4 SL	16.5	③	16.2	9.4	1 x 250	1 x 580	5950	8.0
SHG34e/215-4 L	18.8	③	14.0	8.1	1 x 250	1 x 580	5950	8.0
SHG34e/215-4 SL	18.8	③	18.3	10.5	1 x 250	1 x 580	5950	10.0
SHG34e/255-4 L	22.1	③	17.0	9.8	1 x 250	1 x 580	5950	8.0
SHG34e/255-4 SL	22.1	③	21.1	12.2	1 x 250	1 x 580	5950	10.0
SHG34e/315-4 L	27.3	③	21.1	12.2	1 x 250	1 x 580	5950	8.0
SHG34e/315-4 SL	27.3	③	25.5	14.7	2 x 250	2 x 500	8740	14.0
SHG34e/380-4 L	33.1	③	26.1	15.1	2 x 250	2 x 500	8740	14.0
SHG34e/380-4 SL	33.1	③	31.2	18.0	2 x 250	2 x 500	9490	14.0
PW 1+2*								
SHG44e/475-4 L	41.3	④	19.0		2 x 250	2 x 500	9490	14.0
SHG44e/475-4 SL	41.3	④	23.0		4 x 250	4 x 500	16280	14.0
SHG44e/565-4 L	49.2	④	22.0		2 x 250	2 x 500	9490	14.0
SHG44e/565-4 SL	49.2	④	26.0		4 x 250	4 x 500	14880	23.0
SHG44e/665-4 L	57.7	④	26.0		4 x 250	4 x 500	16280	23.0
SHG44e/665-4 SL	57.7	④	30.0		4 x 250	4 x 500	14880	23.0
SHG44e/770-4 L	67.0	④	30.0		4 x 250	4 x 500	14880	23.0
SHG44e/770-4 SL	67.0	④	35.0		4 x 300	4 x 680	23850	35.0
SHG56e/850-4 L	73.8	④	32.6		4 x 250	4 x 500	14880	23.0
SHG56e/850-4 SL	73.8	④	39.4		4 x 300	4 x 680	23850	35.0
SHG56e/995-4 L	86.6	④	38.9		4 x 300	4 x 680	23850	23.0
SHG56e/995-4 SL	86.6	④	46.4		4 x 300	4 x 680	23850	35.0
SHG56e/1155-4 L	100.4	④	46.9		4 x 300	4 x 680	23850	23.0
SHG56e/1155-4 SL	100.4	④	58.3		4 x 300	4 x 680	21210	35.0
SHG66e/1340-4 L	116.5	④	55.0		4 x 300	4 x 680	23850	23.0
SHG66e/1340-4 SL	116.5	④	68.0		4 x 300	4 x 680	21210	35.0

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

1 - first part winding

2 - second part winding

## SHG condensing units air-cooled single-stage

### Technical data

#### Explanations

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

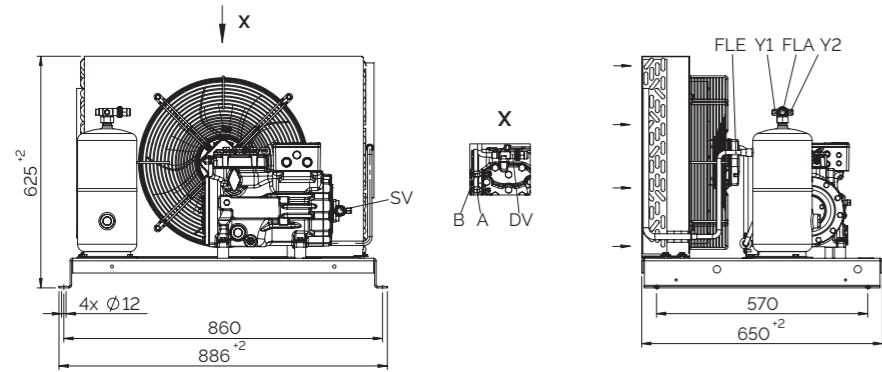
② Tolerance (± 10%) relates to the mean value of the voltage range. Other voltages and current types on request.

③ 220-240 V Δ / 380-420 V Y - 3 - 50 Hz

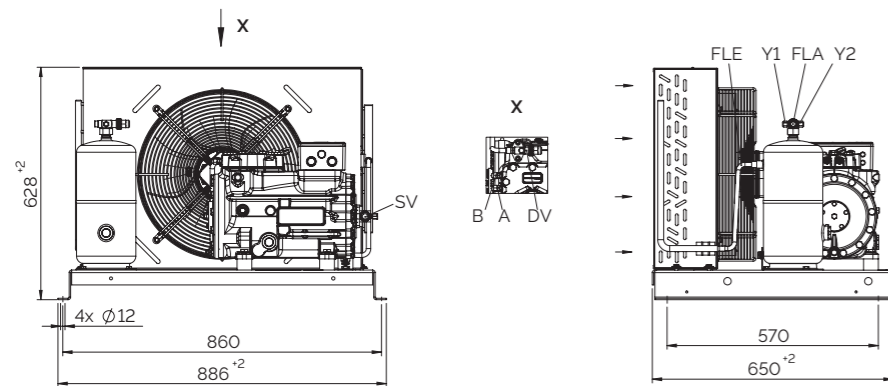
④ 380-420 V Y/YY - 3 - 50 Hz PW  
PW - Part Winding, motors for part winding start (no start unloaders required)  
- Designs for Y/Δ on request

## SHG condensing units air-cooled single-stage Dimensions and connections

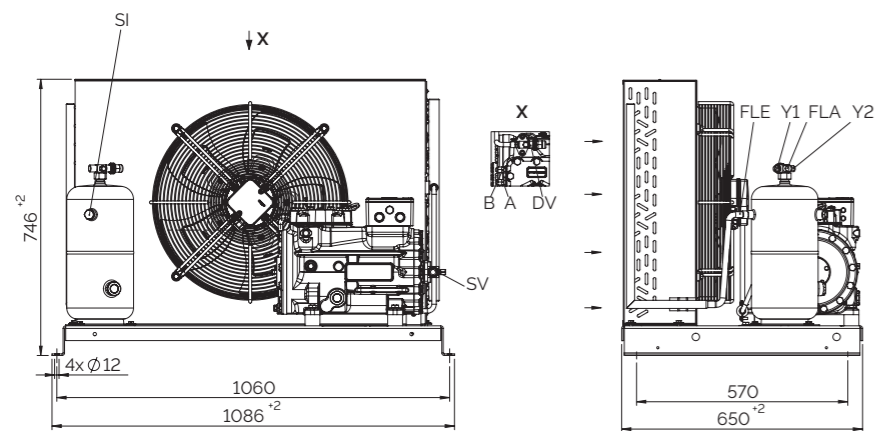
**SHG12P L** » SHG12P/60-4 SL » SHG12P/75-4 L » SHG12P/75-4 SL » SHG12P/90-4 L  
SHG12P/90-4 SL » SHG12P/110-4 L » SHG12P/110-4 SL



**SHG22e L** » SHG22e/125-4 L » SHG22e/125-4 SL » SHG22e/160-4 L » SHG22e/160-4 SL



**SHG22e L** » SHG22e/190-4 L » SHG22e/190-4 SL

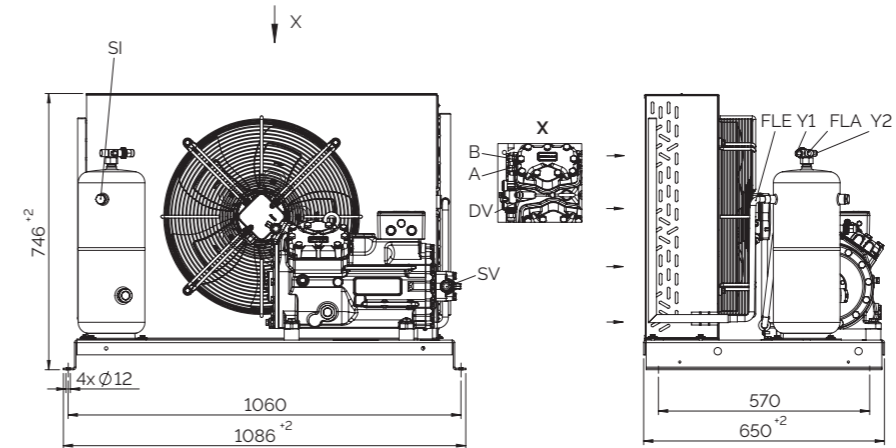


Dimensions in mm

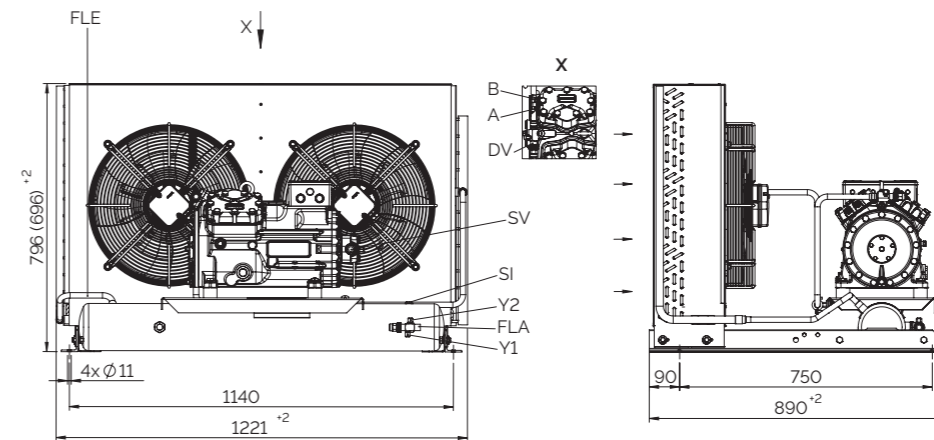
Further compressor connections can be found in the brochure "semi-hermetic Bock compressors"

## SHG condensing units air-cooled single-stage Dimensions and connections

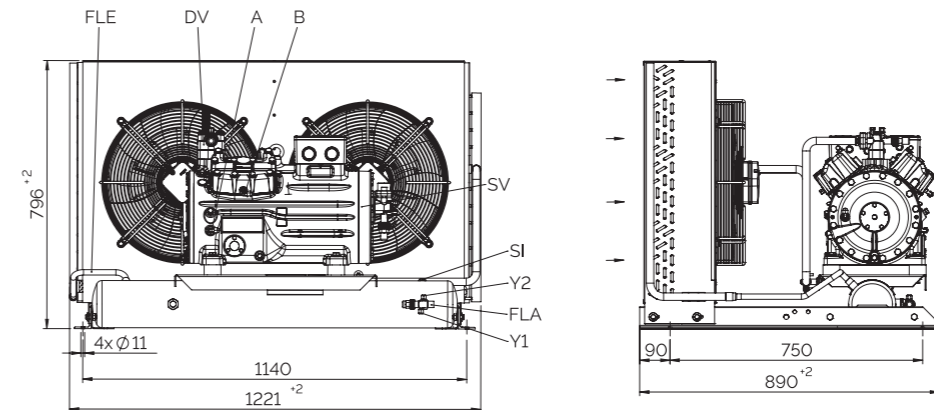
**SHG34e L** » SHG34e/215-4 SL » SHG34e/255-4 SL



**SHG34e L** » SHG34e/315-4 SL » SHG34e/380-4 L » SHG34e/380-4 SL



**SHG44e L** » SHG44e/475-4 L » SHG44e/565-4 L



Dimensions in mm

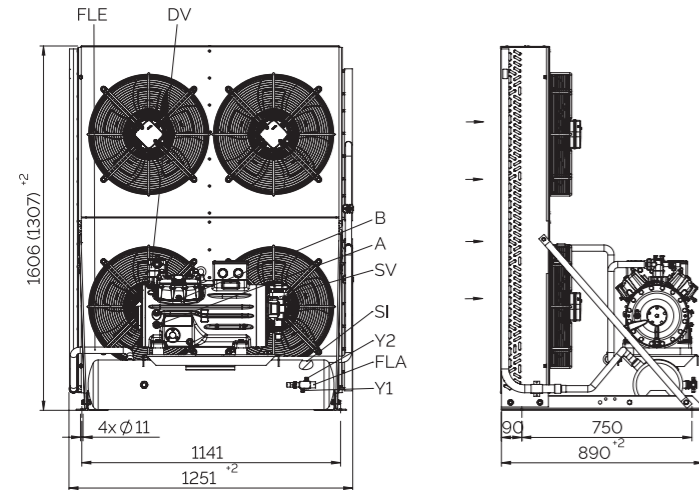
Further compressor connections can be found in the brochure "semi-hermetic Bock compressors"



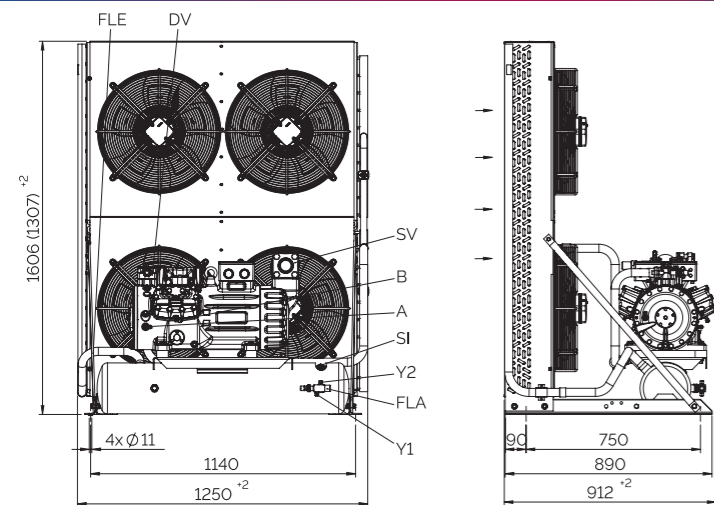
## SHG condensing units air-cooled single-stage

### Dimensions and connections

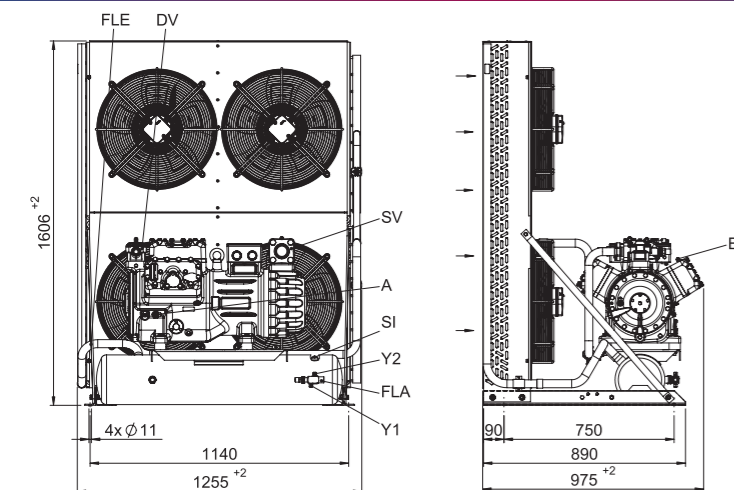
**SHG44e L** » SHG44e/665-4 L » SHG44e/770-4 L » SHG44e/475-4 SL » SHG44e/565-4 SL  
SHG44e/665-4 SL » SHG44e/770-4 SL



**SHG56e L** » SHG56e/850-4 L » SHG56e/995-4 SL » SHG56e/1155-4 L » SHG56e/850-4 SL  
SHG56e/995-4 SL » SHG56e/1155-4 SL



**SHG66e L** » SHG66e/1340-4 L » SHG66e/1340-4 SL



Dimensions in mm

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

## SHG condensing units air-cooled single-stage

### Connections

SHG	Connections ①						
	SV		FLA		SI	Y1	Y2
	mm	Inch	mm	Inch	Inch	Inch	Inch
SHG12P/60-4 L	16	5/8	12	1/2	-	7/16 UNF	7/16 UNF
SHG12P/75-4 L	16	5/8	12	1/2	-	7/16 UNF	7/16 UNF
SHG12P/75-4 SL	16	5/8	12	1/2	-	7/16 UNF	7/16 UNF
SHG12P/90-4 L	16	5/8	12	1/2	-	7/16 UNF	7/16 UNF
SHG12P/90-4 SL	16	5/8	12	1/2	-	7/16 UNF	7/16 UNF
SHG12P/110-4 L	16	5/8	12	1/2	-	7/16 UNF	7/16 UNF
SHG12P/110-4 SL	16	5/8	12	1/2	-	7/16 UNF	7/16 UNF
SHG22e/125-4 L	22	7/8	12	1/2	-	7/16 UNF	7/16 UNF
SHG22e/125-4 SL	22	7/8	12	1/2	-	7/16 UNF	7/16 UNF
SHG22e/160-4 L	22	7/8	12	1/2	-	7/16 UNF	7/16 UNF
SHG22e/160-4 SL	22	7/8	12	1/2	-	7/16 UNF	7/16 UNF
SHG22e/190-4 L	22	7/8	16	5/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHG22e/190-4 SL	22	7/8	16	5/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHG34e/215-4 L	28	1 1/8	16	5/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHG34e/215-4 SL	28	1 1/8	16	5/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHG34e/255-4 L	28	1 1/8	16	5/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHG34e/255-4 SL	28	1 1/8	16	5/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHG34e/315-4 L	28	1 1/8	16	5/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHG34e/315-4 SL	28	1 1/8	16	5/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHG34e/380-4 L	28	1 1/8	16	5/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHG34e/380-4 SL	28	1 1/8	16	5/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHG44e/475-4 L	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/665-4 L	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/475-4 SL	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 SL	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
SHG56e/850-4 L	54	2 1/8	22	7/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHG56e/995-4 L	54	2 1/8	22	7/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHG56e/1155-4 L	54	2 1/8	22	7/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHG56e/850-4 SL	54	2 1/8	22	7/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHG56e/995-4 SL	54	2 1/8	22	7/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHG56e/1155-4 SL	54	2 1/8	22	7/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHG66e/1340-4 L	54	2 1/8	22	7/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHG66e/1340-4 SL	54	2 1/8	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 Bock compressors"

## SHG condensing units air-cooled single-stage

### Scope of supply and accessories

SHG	SHG12	SHG22	SHG34	SHG44	SHG56	SHG66
Semi-hermetic reciprocating compressor with drive motor for part winding start 380-420 V Y/YY - 3 - 50 Hz, 440-480 V Y/YY - 3 - 60 Hz single-piece compressor housing with integrated electric motor, mounted on the liquid receiver using anti-vibration rubber pads	see HH catalog					
Generously sized liquid receiver with sight glass and Rotalock shut-off valve with brazing connection	●	●	●	●	●	●
Condenser with copper tubes and aluminum fins, optimized circuit, improved heat transfer and increased fin surface area.	●	●	●	●	●	●
Low noise fan 230 V -1- 50/60 Hz, with bimetal winding protection, speed control possible	●	●	●	●	●	●
Piping on discharge and liquid side	●	●	●	●	●	●
Inert gas charge	●	●	●	●	●	●
Rubber plates for installation of the unit	●	●	●	●	●	●
High pressure safety limiter + controller / + low pressure controller	○	○	○	○		
High-pressure limiter/high-pressure safety cut-out					○	○
Low-pressure limiter					○	○
Safety valve for receiver from 8L volume		○	○	○	○	○
Oil separator	○	○	○	○	○	○
Speed control available for all units with one fan	○	○	○			
Three-phase fan	○	○	○	○	○	○
Larger liquid receiver	○	○	○	○	○	○
Oil pressure safety switch MP 55 (adjustable)	○	○	○			
Oil pressure safety switch MP 54 (fixed)				○	○	○
Oil differential pressure sensor DELTA-P II				○	○	○
Weatherproof housing - easy assembly on site, thanks to assembly-friendly connection technology - also suitable for noise-reduced operation - eavailable for all units with one fan	○	○	○			

Further accessories can be found in the brochure "semi-hermetic Bock compressors" or in our compressor selection tool VAP: [vap.bock.de](http://vap.bock.de) as well as in our price list.

● Scope of supply (standard)  
○ Available accessories



## BOCK service and support

°Clever + Cool  
**Experts** <sup>live</sup>

**BOCKshop** |

**BOCK CO<sub>2</sub>Tool** |

**BOCK VAP** |

To ensure that you can make the best possible use of the advantages of BOCK compressors, we support you online and personal with four service and support modules. There you will find valuable information: from plant planning and design to implementation and operation to retrofitting or upgrading existing systems.

### BOCK training courses

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

### BOCKshop

The online catalog in the **BOCKshop** is the best choice to find spare parts for your BOCK compressor easily and quickly around the clock. Including all Ex-drawings and parts lists also for printing.  
» [bockshop.bock.de](http://bockshop.bock.de)

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

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

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

### BOCKVAP

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

Another advantage: **BOCKVAP** is available to you free of charge as an online and offline version for PC installation.

» [vap.bock.de](http://vap.bock.de)



From experts for experts – our new online formats can be used from any computer, regardless of location: Office, workshop or even at home.

# SHA

## Condensing units air-cooled single-stage

- 71** At a glance
- 72–83** Performance data
- 84** Technical data
- 85–87** Dimensions and connections
- 87** Scope of supply and accessories



# SHA-L Condensing units air-cooled

Low-temperature applications generally place higher demands on any compressor. Here, the refrigerant mass flow is lower and gets disproportionately heated by the drive motor.



Efficiency

#### This has the following effects on compressor behavior:

- As specific density decreases, volumetric efficiency decreases
- Discharge gas temperature and oil temperature increases. The oil ages more quickly and the lubricating properties deteriorate



Reliability

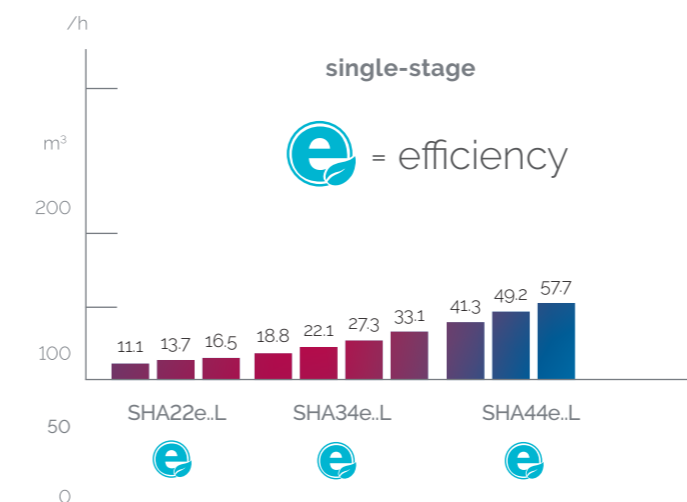
The "HA principle" of air-cooled compressors, specially developed by BOCK, is the most efficient semi-hermetic solution for low-temperature applications. It employs a direct-suction compressor combined with an air-cooled drive motor. The suction gas is not heated additionally, but rather fed directly into the cylinders without diversions via the motor. A compact ventilation unit is integrated to cool the motor and provide air flow for the cylinder heads, partially cooling them as well. This solution reduces the discharge temperature, increasing capacity and extending the range of applications. In combination with our generously dimensioned condenser- fan unit, you will get an optimal and reliable solution for your frozen goods.

## SHA condensing units air-cooled single-stage At a glance



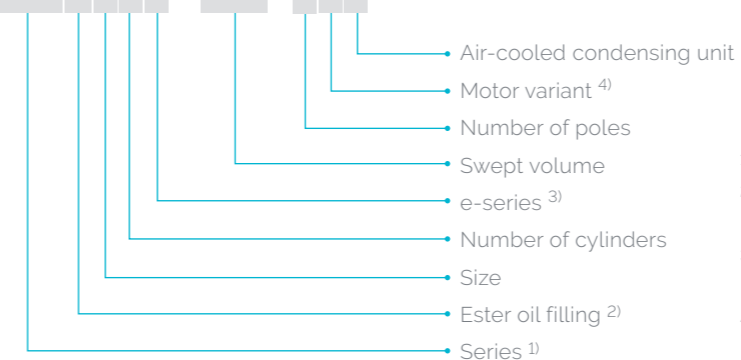
#### The current range

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



#### Type key – condensing units air-cooled

**SHAX34e / 315 - 4SL**



- <sup>1)</sup> SHG = Hermetic Gas-cooled (suction gas-cooled)
- <sup>2)</sup> X = Ester oil filling (HFC refrigerants e.g. R134a, R404A, R507, R407C)
- <sup>3)</sup> = Additional declaration for e-series and P = Pluscom compressors
- <sup>4)</sup> S = More powerful motor e.g. air-conditioning applications

SHA condensing units air-cooled single-stage  
Performance data

R404A   50 Hz							
Type	Cooling capacity $Q_o$ [W]		Power consumption $P_e$ [kW]				
Amb. temp. °C	Evaporating temperature °C						
	-20	-25	-30	-35	-40		
SHA22e/125-4 L	50	Q	2670	2160	1710	1300	935
		P	2.56	2.22	1.90	1.61	1.33
	46	Q	2920	2380	1890	1450	1070
		P	2.51	2.19	1.89	1.61	1.35
	43	Q	3110	2540	2030	1560	1160
		P	2.48	2.17	1.88	1.62	1.36
	38	Q	3440	2820	2260	1760	1320
		P	2.43	2.13	1.87	1.62	1.38
	32	Q	3840	3160	2540	1990	1510
		P	2.36	2.09	1.84	1.61	1.39
	27	Q	4200	3460	2790	2190	1680
		P	2.29	2.03	1.80	1.58	1.38
	15	Q	5110	4240	3440	-	-
		P	2.05	1.81	1.60	-	-
SHA22e/160-4 L	50	Q	-	-	1990	1510	1090
		P	-	-	2.30	1.93	1.57
	46	Q	3510	2870	2280	1760	1290
		P	3.06	2.66	2.28	1.93	1.60
	43	Q	3810	3120	2490	1920	1430
		P	3.01	2.62	2.27	1.94	1.62
	38	Q	4270	3500	2800	2180	1640
		P	2.93	2.58	2.25	1.94	1.65
	32	Q	4780	3920	3150	2460	1870
		P	2.85	2.52	2.21	1.93	1.66
	27	Q	5170	4250	3410	2680	2040
		P	2.77	2.46	2.17	1.90	1.65
	15	Q	6030	4960	4000	3150	2420
		P	2.56	2.28	2.01	1.77	1.55
SHA22e/190-4 L	50	Q	3940	3180	2490	1880	1350
		P	4.04	3.53	3.06	2.61	2.19
	46	Q	4430	3590	2840	2170	1590
		P	3.95	3.48	3.03	2.62	2.22
	43	Q	4780	3890	3080	2370	1750
		P	3.89	3.44	3.02	2.62	2.25
	38	Q	5350	4360	3470	2690	2020
		P	3.80	3.38	2.99	2.63	2.28
	32	Q	6000	4900	3920	3050	2310
		P	3.68	3.30	2.94	2.61	2.29
	27	Q	6530	5340	4280	3350	2550
		P	3.57	3.21	2.87	2.56	2.27
	15	Q	7750	6370	5130	4040	-
		P	3.23	2.90	2.60	2.32	-
SHA34e/215-4 L	50	Q	-	3540	2780	2110	1510
		P	-	3.96	3.41	2.89	2.41
	46	Q	4930	4010	3180	2430	1780
		P	4.44	3.89	3.38	2.90	2.45
	43	Q	5330	4350	3460	2660	1980
		P	4.37	3.85	3.36	2.91	2.48
	38	Q	5970	4880	3900	3030	2270
		P	4.26	3.78	3.33	2.91	2.51
	32	Q	6710	5500	4410	3440	2610
		P	4.14	3.69	3.28	2.89	2.53
	27	Q	7300	5990	4810	3770	2870
		P	4.02	3.59	3.21	2.85	2.51
	15	Q	8690	7150	5770	4550	3500
		P	3.65	3.26	2.91	2.59	2.29

Relating to 20 °C suction gas temperature without liquid subcooling

Supplementary cooling or reduced suction gas temperature



SHA condensing units air-cooled single-stage  
Performance data

R404A   50 Hz							
Type	Cooling capacity $Q_o$ [W]		Power consumption $P_e$ [kW]				
Amb. temp. °C	Evaporating temperature °C						
	-20	-25	-30	-35	-40		
SHA34e/255-4 L	50	Q	-	-	3190	2420	1740
		P	-	-	3.91	3.30	2.72
	46	Q	5620	4590	3650	2800	2060
		P	5.15	4.49	3.88	3.31	2.77
	43	Q	6090	4980	3970	3070	2280
		P	5.07	4.44	3.86	3.31	2.80
	38	Q	6830	5610	4490	3500	2630
		P	4.94	4.36	3.82	3.32	2.85
	32	Q	7690	6320	5080	3980	3020
		P	4.80	4.26	3.76	3.30	2.87
	27	Q	8380	6900	5560	4370	3340
		P	4.67	4.16	3.69	3.26	2.85
	15	Q	9980	8240	6670	5270	4070
		P	4.26	3.79	3.37	2.98	2.62
SHA34e/315-4 L	50	Q	-	-	-	2880	2080
		P	-	-	-	3.94	3.22
	46	Q	6600	5430	4340	3350	2470
		P	6.29	5.44	4.66	3.95	3.27
	43	Q	7170	5910	4740	3680	2750
		P	6.18	5.37	4.63	3.95	3.32
	38	Q	8080	6670	5370	4200	3180
		P	6.03	5.28	4.59	3.96	3.38
	32	Q	9120	7540	6090	4790	3660
		P	5.85	5.16	4.53	3.95	3.41
	27	Q	9960	8240	6670	5260	4040
		P	5.70	5.05	4.45	3.90	3.40
	15	Q	11900	9860	8020	6360	4930
		P	5.25	4.65	4.10	3.60	3.14
SHA34e/380-4 L	50	Q	-	6130	4860	3710	2690
		P	-	6.39	5.46	4.56	3.70
	46	Q	8340	6830	5450	4210	3110
		P	7.31	6.41	5.53	4.67	3.86
	43	Q	8960	7350	5890	4570	3410
		P	7.27	6.40	5.55	4.73	3.95
	38	Q	9970	8210	6600	5150	3890
		P	7.17	6.36	5.57	4.80	4.07
	32	Q	11200	9210	7430	5840	4450
		P	7.01	6.26	5.53	4.83	4.16
	27	Q	12200	10100	8120	6400	4910
		P	6.85	6.15	5.46	4.81	4.18
	15	Q	14600	12100	9800	7780	6020
		P	6.37	5.77	5.19	4.63	4.11
SHA44e/475-4 L	50	Q	-	-	6640	5130	3790
		P	-	-	6.21	5.15	4.14
	46	Q	11200	9150	7320	5680	4220
		P	8.48	7.37	6.31	5.30	4.34
	43	Q	12000	9780	7840	6100	4560
		P	8.45	7.39	6.37	5.39	4.47
	38	Q	13200	10900	8710	6810	5130
		P	8.37	7.38	6.42	5.51	4.64
	32	Q	14800	12200	9780	7690	5850
		P	8.22	7.31	6.43	5.60	4.80
	27	Q	16000	13200	10700	8440	6460
		P	8.05	7.21	6.40	5.62	4.88
	15	Q	19100	15800	12900	10300	7960
		P	7.53	6.85	6.19	5.55	4.94

Relating to 20 °C suction gas temperature without liquid subcooling

Supplementary cooling or reduced suction gas temperature



# SHA condensing units air-cooled single-stage

## Performance data

### R404A | 50 Hz

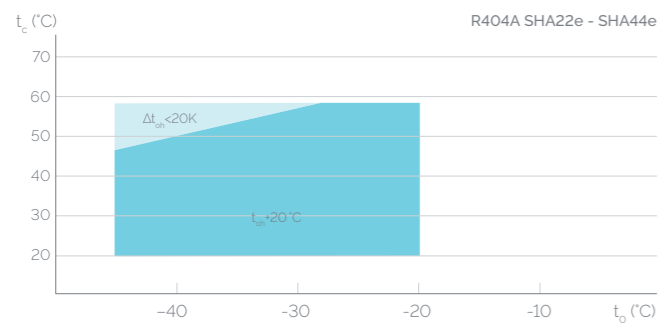
Type	Amb. temp. °C		Cooling capacity $Q_o$ [kW]					Power consumption $P_e$ [kW]				
			Evaporating temperature °C									
			-20	-25	-30	-35	-40					
SHA44e/565-4 L	50	Q	-	-	7550	5880	4380					
		P	-	-	769	6.44	5.25					
	46	Q	12600	10400	8350	6520	4890					
		P	10.3	9.01	7.77	6.57	5.44					
	43	Q	13500	11100	8950	7010	5280					
		P	10.2	9.01	7.80	6.65	5.55					
	38	Q	14900	12400	9960	7840	5950					
		P	10.1	8.96	7.83	6.74	5.71					
	32	Q	16600	13800	11200	8860	6780					
		P	9.95	8.85	7.80	6.79	5.83					
27	Q	18100	15100	12300	9710	7480						
	P	9.74	8.71	7.73	6.78	5.88						
SHA44e/665-4 L	50	Q	-	11500	9160	7090	5260					
		P	-	11.3	9.74	8.27	6.87					
	46	Q	15400	12700	10100	7860	5870					
		P	12.8	11.2	9.80	8.39	7.05					
	43	Q	16500	13500	10900	8440	6330					
		P	12.7	11.2	9.81	8.46	7.17					
	38	Q	18200	15000	12100	9430	7130					
		P	12.5	11.1	9.79	8.52	7.32					
	32	Q	20300	16700	13500	10700	8120					
		P	12.2	10.9	9.71	8.54	7.43					
27	Q	22000	18200	14800	11700	8970						
	P	11.8	10.7	9.59	8.50	7.47						
15	Q	26200	21800	17800	14200	11100						
	P	11.0	10.0	9.13	8.25	7.40						

Relating to 20 °C suction gas temperature without liquid subcooling

Supplementary cooling or reduced suction gas temperature



### Operating limits



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

● Unlimited application range  
 ○ Supplementary cooling or reduced suction gas temperature ( $\Delta t_{oh} < 20K$ )

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

# SHA condensing units air-cooled single-stage

## Performance data

### R448A | 50 Hz

Type	Amb. temp. °C		Cooling capacity $Q_o$ [kW]					Power consumption $P_e$ [kW]				
			Evaporating temperature °C									
			-20	-25	-30	-35	-40					
SHA22e/125-4 L	50	Q	2450	1880	1370	934	557					
		P	2.15	1.87	1.60	1.34	1.11					
	46	Q	2640	2040	1510	1050	650					
		P	2.14	1.87	1.61	1.36	1.14					
	43	Q	2800	2170	1620	1140	722					
		P	2.13	1.87	1.62	1.38	1.16					
	38	Q	3060	2390	1800	1290	849					
		P	2.11	1.86	1.62	1.40	1.19					
	32	Q	3380	2660	2030	1480	1010					
		P	2.08	1.85	1.63	1.42	1.22					
27	Q	3650	2890	2220	1650	1150						
	P	2.04	1.82	1.62	1.43	1.24						
15	Q	4340	3480	2720	2070	1510						
	P	1.92	1.75	1.58	1.42	1.27						
SHA22e/160-4 L	50	Q	3070	2320	1670	1100	605					
		P	2.52	2.17	1.83	1.51	1.21					
	46	Q	3310	2530	1840	1240	727					
		P	2.52	2.18	1.85	1.55	1.26					
	43	Q	3500	2690	1980	1360	822					
		P	2.51	2.18	1.86	1.57	1.29					
	38	Q	3820	2960	2210	1550	987					
		P	2.48	2.17	1.88	1.60	1.34					
	32	Q	4220	3300	2490	1790	1200					
		P	2.44	2.16	1.89	1.63	1.38					
27	Q	4560	3590	2740	2000	1380						
	P	2.40	2.13	1.88	1.64	1.41						
15	Q	5410	4320	3360	2530	1830						
	P	2.25	2.04	1.83	1.64	1.45						
SHA22e/190-4 L	50	Q	4040	3110	2300	1610	1030					
		P	3.43	3.00	2.59	2.21	1.85					
	46	Q	4350	3370	2520	1800	1180					
		P	3.40	3.00	2.61	2.24	1.90					
	43	Q	4580	3570	2690	1940	1300					
		P	3.38	2.99	2.61	2.26	1.93					
	38	Q	4970	3890	2960	2170	1500					
		P	3.33	2.96	2.61	2.28	1.97					
	32	Q	5440	4290	3300	2450	1740					
		P	3.25	2.92	2.60	2.29	2.00					
27	Q	5840	4630	3580	2690	1940						
	P	3.17	2.87	2.57	2.29	2.02						
15	Q	6790	5430	4260	3260	2430						
	P	2.93	2.69	2.46	2.24	2.02						
SHA34e/215-4 L	50	Q	3960	2930	2040	1270	610					
		P	3.46	2.96	2.49	2.04	1.62					
	46	Q	4330	3250	2310	1500	810					
		P	3.46	2.99	2.54	2.11	1.71					
	43	Q	4620	3490	2520	1680	964					
		P	3.45	3.00	2.57	2.16	1.78					
	38	Q	5090	3900	2860	1980	1230					
		P	3.42	3.00	2.60	2.23	1.87					
	32	Q	5670	4400	3290	2340	1550					
		P	3.36	2.98	2.63	2.28	1.95					
27	Q	6160	4820	3650	2650	1810						
	P	3.29	2.95	2.62	2.31	2.01						
15	Q	7340	5830	4520	3400	2460						
	P	3.05	2.80	2.56	2.32	2.08						

Relating to 20 °C suction gas temperature without liquid subcooling

Supplementary cooling or reduced suction gas temperature



# SHA condensing units air-cooled single-stage

## Performance data

R448A | 50 Hz

Type	Amb. temp. °C		Cooling capacity Q <sub>o</sub> [W]					Power consumption P <sub>e</sub> [kW]	
			Evaporating temperature °C						
			-20	-25	-30	-35	-40		
SHA34e/255-4 L	50	Q	4880	3730	2710	1840	1090		
		P	4.17	3.57	3.00	2.47	1.98		
	46	Q	5290	4070	3000	2080	1290		
		P	4.15	3.57	3.03	2.52	2.05		
	43	Q	5600	4330	3220	2260	1440		
		P	4.13	3.57	3.05	2.56	2.10		
	38	Q	6140	4780	3600	2580	1710		
		P	4.08	3.56	3.06	2.60	2.17		
	32	Q	6790	5330	4060	2970	2040		
		P	3.99	3.52	3.07	2.64	2.24		
	27	Q	7340	5810	4460	3310	2330		
		P	3.91	3.47	3.05	2.66	2.29		
15	Q	8720	6980	5460	4150	3050			
	P	3.63	3.29	2.96	2.64	2.34			
SHA34e/315-4 L	50	Q	5870	4430	3190	2130	1240		
		P	4.98	4.21	3.50	2.85	2.26		
	46	Q	6390	4870	3560	2430	1490		
		P	4.97	4.23	3.56	2.93	2.36		
	43	Q	6780	5210	3840	2670	1690		
		P	4.95	4.24	3.58	2.98	2.43		
	38	Q	7450	5780	4320	3070	2020		
		P	4.90	4.23	3.62	3.05	2.53		
	32	Q	8270	6480	4910	3570	2440		
		P	4.81	4.20	3.63	3.10	2.62		
	27	Q	8960	7060	5410	3990	2790		
		P	4.71	4.15	3.62	3.13	2.67		
15	Q	10700	8510	6630	5030	3680			
	P	4.38	3.93	3.51	3.11	2.74			
SHA34e/380-4 L	50	Q	7340	5550	3990	2640	1470		
		P	6.50	5.57	4.70	3.88	3.12		
	46	Q	7980	6100	4460	3040	1820		
		P	6.47	5.58	4.75	3.96	3.24		
	43	Q	8460	6510	4810	3340	2080		
		P	6.44	5.58	4.77	4.02	3.31		
	38	Q	9260	7200	5400	3850	2520		
		P	6.36	5.55	4.79	4.08	3.42		
	32	Q	10300	8040	6120	4470	3060		
		P	6.22	5.48	4.78	4.12	3.50		
	27	Q	11100	8740	6720	4980	3510		
		P	6.08	5.39	4.74	4.12	3.55		
15	Q	13100	10500	8170	6220	4590			
	P	5.62	5.06	4.53	4.02	3.55			
SHA44e/475-4 L	50	Q	9710	7370	5320	3550	2020		
		P	7.50	6.39	5.35	4.37	3.45		
	46	Q	10500	8030	5880	4020	2430		
		P	7.48	6.43	5.43	4.49	3.61		
	43	Q	11100	8530	6310	4380	2740		
		P	7.45	6.44	5.48	4.57	3.72		
	38	Q	12100	9370	7030	5000	3270		
		P	7.38	6.43	5.53	4.68	3.88		
	32	Q	13300	10500	7910	5750	3920		
		P	7.25	6.38	5.56	4.77	4.03		
	27	Q	14300	11300	8660	6400	4480		
		P	7.11	6.31	5.54	4.82	4.13		
15	Q	16800	13500	10500	7970	5840			
	P	6.63	5.99	5.39	4.81	4.25			

Relating to 20 °C suction gas temperature without liquid subcooling

Supplementary cooling or reduced suction gas temperature



# SHA condensing units air-cooled single-stage

## Performance data

R448A | 50 Hz

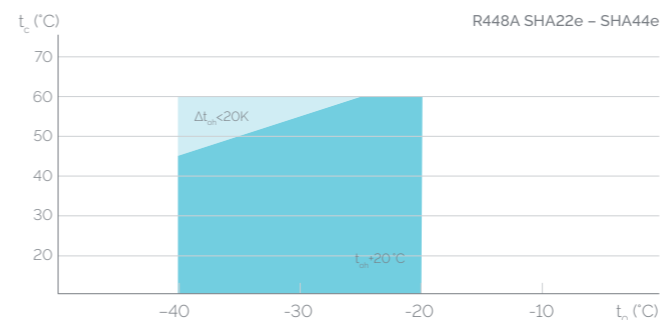
Type	Amb. temp. °C		Cooling capacity Q <sub>o</sub> [W]					Power consumption P <sub>e</sub> [kW]	
			Evaporating temperature °C						
			-20	-25	-30	-35	-40		
SHA44e/565-4 L	50	Q	12100	9310	6880	4770	2940		
		P	9.17	7.86	6.62	5.45	4.37		
	46	Q	13000	10100	7520	5310	3400		
		P	9.12	7.86	6.67	5.55	4.51		
	43	Q	13700	10700	8010	5720	3750		
		P	9.07	7.85	6.70	5.62	4.60		
	38	Q	14800	11600	8820	6410	4340		
		P	8.96	7.81	6.72	5.70	4.74		
	32	Q	16200	12800	9820	7260	5070		
		P	8.79	7.72	6.71	5.75	4.86		
	27	Q	17300	13800	10700	7990	5690		
		P	8.60	7.60	6.66	5.76	4.92		
15	Q	20200	16200	12800	9760	7220			
	P	8.01	7.19	6.40	5.66	4.96			
SHA44e/665-4 L	50	Q	14200	11000	8100	5650	3540		
		P	11.4	9.88	8.41	7.03	5.76		
	46	Q	15300	11900	8850	6270	4060		
		P	11.3	9.85	8.45	7.13	5.91		
	43	Q	16100	12500	9410	6750	4460		
		P	11.2	9.82	8.46	7.19	6.01		
	38	Q	17400	13700	10400	7550	5140		
		P	11.0	9.73	8.46	7.27	6.15		
	32	Q	19000	15100	11600	8530	5980		
		P	10.8	9.58	8.41	7.31	6.27		
	27	Q	20400	16200	12600	9360	6690		
		P	10.5	9.41	8.33	7.31	6.34		
15	Q	23800	19100	15000	11400	8450			
	P	9.75	8.85	7.99	7.16	6.37			

Relating to 20 °C suction gas temperature without liquid subcooling

Supplementary cooling or reduced suction gas temperature



### Operating limits



t<sub>e</sub> Evaporating temperature (°C)  
t<sub>c</sub> Condensing temperature (°C)  
Δt<sub>sh</sub> Suction gas superheat (K)  
t<sub>sh</sub> Suction gas temperature (°C)

- Unlimited application range
- Supplementary cooling or reduced suction gas temperature (Δt<sub>sh</sub> < 20K)

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

## SHA condensing units air-cooled single-stage

### Performance data

R449A | 50 Hz

Type		Cooling capacity $Q_o$ [W]					Power consumption $P_e$ [kW]	
		Evaporating temperature °C						
		-20	-25	-30	-35	-40		
Amb. temp. °C	Q							
	P							
SHA22e/125-4 L	50	Q	2430	1870	1370	930	555	
		P	2.15	1.86	1.59	1.34	1.10	
	46	Q	2630	2030	1500	1050	647	
		P	2.14	1.86	1.60	1.36	1.13	
	43	Q	2780	2160	1610	1130	720	
		P	2.13	1.86	1.61	1.38	1.15	
	38	Q	3040	2380	1790	1280	846	
		P	2.10	1.86	1.62	1.40	1.19	
	32	Q	3360	2650	2020	1480	1010	
		P	2.07	1.84	1.62	1.41	1.22	
	27	Q	3640	2880	2220	1640	1150	
		P	2.03	1.82	1.62	1.42	1.24	
15	Q	4330	3470	2720	2060	1510		
	P	1.91	1.74	1.58	1.42	1.27		
SHA22e/160-4 L	50	Q	3050	2310	1660	1090	602	
		P	2.51	2.16	1.83	1.51	1.21	
	46	Q	3290	2510	1830	1240	724	
		P	2.51	2.17	1.85	1.54	1.26	
	43	Q	3480	2670	1970	1350	819	
		P	2.50	2.17	1.86	1.56	1.29	
	38	Q	3810	2950	2200	1550	984	
		P	2.47	2.17	1.87	1.60	1.33	
	32	Q	4200	3290	2480	1790	1200	
		P	2.43	2.15	1.88	1.62	1.38	
	27	Q	4550	3580	2730	2000	1380	
		P	2.39	2.13	1.88	1.64	1.41	
15	Q	5400	4310	3350	2530	1830		
	P	2.24	2.03	1.83	1.63	1.45		
SHA22e/190-4 L	50	Q	4020	3090	2290	1610	1020	
		P	3.42	2.99	2.59	2.20	1.84	
	46	Q	4330	3350	2510	1790	1180	
		P	3.39	2.99	2.60	2.23	1.89	
	43	Q	4560	3550	2670	1930	1290	
		P	3.37	2.98	2.61	2.25	1.92	
	38	Q	4950	3880	2950	2160	1490	
		P	3.32	2.95	2.61	2.28	1.97	
	32	Q	5420	4280	3290	2440	1730	
		P	3.24	2.91	2.59	2.29	2.00	
	27	Q	5820	4610	3570	2680	1940	
		P	3.16	2.86	2.57	2.29	2.02	
15	Q	6770	5420	4250	3260	2430		
	P	2.92	2.69	2.46	2.24	2.02		
SHA34e/215-4 L	50	Q	3940	2910	2030	1260	607	
		P	3.45	2.95	2.48	2.04	1.62	
	46	Q	4310	3230	2300	1490	807	
		P	3.45	2.98	2.53	2.11	1.71	
	43	Q	4590	3470	2500	1670	960	
		P	3.44	2.99	2.56	2.16	1.77	
	38	Q	5070	3880	2850	1970	1220	
		P	3.41	2.99	2.60	2.22	1.86	
	32	Q	5650	4380	3280	2340	1540	
		P	3.35	2.98	2.62	2.28	1.95	
	27	Q	6130	4800	3640	2650	1810	
		P	3.28	2.94	2.62	2.31	2.01	
15	Q	7320	5820	4510	3400	2460		
	P	3.04	2.79	2.55	2.31	2.08		

Relating to 20 °C suction gas temperature without liquid subcooling

■ Supplementary cooling or reduced suction gas temperature



## SHA condensing units air-cooled single-stage

### Performance data

R449A | 50 Hz

Type		Cooling capacity $Q_o$ [W]					Power consumption $P_e$ [kW]	
		Evaporating temperature °C						
		-20	-25	-30	-35	-40		
Amb. temp. °C	Q							
	P							
SHA34e/255-4 L	50	Q	4850	3700	2700	1830	1080	
		P	4.16	3.56	2.99	2.46	1.97	
	46	Q	5260	4050	2990	2070	1280	
		P	4.14	3.56	3.02	2.52	2.05	
	43	Q	5570	4310	3210	2250	1440	
		P	4.11	3.56	3.04	2.55	2.10	
	38	Q	6100	4760	3580	2570	1710	
		P	4.06	3.54	3.06	2.60	2.17	
	32	Q	6760	5310	4050	2960	2040	
		P	3.98	3.51	3.06	2.64	2.24	
	27	Q	7320	5790	4450	3300	2330	
		P	3.90	3.46	3.05	2.65	2.28	
15	Q	8700	6960	5440	4140	3040		
	P	3.62	3.28	2.95	2.64	2.33		
SHA34e/315-4 L	50	Q	5830	4410	3170	2120	1240	
		P	4.96	4.20	3.49	2.85	2.26	
	46	Q	6350	4850	3540	2420	1490	
		P	4.95	4.22	3.55	2.92	2.36	
	43	Q	6750	5180	3820	2660	1680	
		P	4.93	4.23	3.57	2.97	2.43	
	38	Q	7420	5750	4300	3060	2010	
		P	4.88	4.22	3.61	3.04	2.52	
	32	Q	8230	6450	4890	3550	2430	
		P	4.79	4.19	3.62	3.10	2.61	
	27	Q	8920	7040	5390	3980	2790	
		P	4.70	4.13	3.61	3.12	2.67	
15	Q	10700	8480	6620	5020	3680		
	P	4.37	3.92	3.50	3.10	2.73		
SHA34e/380-4 L	50	Q	7300	5520	3970	2620	1470	
		P	6.47	5.55	4.68	3.87	3.11	
	46	Q	7930	6070	4440	3020	1810	
		P	6.45	5.56	4.73	3.95	3.23	
	43	Q	8410	6480	4790	3330	2070	
		P	6.41	5.56	4.76	4.01	3.31	
	38	Q	9220	7170	5380	3830	2510	
		P	6.34	5.53	4.78	4.07	3.41	
	32	Q	10200	8010	6100	4450	3050	
		P	6.20	5.46	4.77	4.11	3.50	
	27	Q	11100	8710	6700	4970	3500	
		P	6.06	5.37	4.73	4.12	3.54	
15	Q	13000	10500	8150	6220	4580		
	P	5.60	5.04	4.52	4.02	3.54		
SHA44e/475-4 L	50	Q	9650	7330	5290	3530	2010	
		P	7.47	6.37	5.33	4.36	3.44	
	46	Q	10500	7990	5850	4000	2420	
		P	7.45	6.41	5.41	4.48	3.60	
	43	Q	11000	8490	6280	4370	2730	
		P	7.42	6.42	5.46	4.56	3.71	
	38	Q	12000	9330	7000	4980	3260	
		P	7.35	6.41	5.52	4.67	3.87	
	32	Q	13200	10400	7880	5740	3910	
		P	7.23	6.36	5.54	4.76	4.03	
	27	Q	14300	11300	8630	6380	4470	
		P	7.08	6.29	5.53	4.81	4.13	
15	Q	16800	13400	10500	7960	5830		
	P	6.61	5.98	5.38	4.80	4.24		

Relating to 20 °C suction gas temperature without liquid subcooling

■ Supplementary cooling or reduced suction gas temperature






## SHA condensing units air-cooled single-stage

### Performance data

#### R449A | 50 Hz

Type	Amb. temp. °C		Cooling capacity Q <sub>o</sub> [kW]					Power consumption P <sub>e</sub> [kW]					
			Evaporating temperature °C										
			-20	-25	-30	-35	-40	-20	-25	-30	-35	-40	
SHA44e/565-4 L	50	Q	12000	9260	6850	4750	2930						
		P	9.13	7.83	6.60	5.44	4.36						
	46	Q	12900	10100	7480	5280	3380						
		P	9.08	7.83	6.65	5.54	4.50						
	43	Q	13600	10600	7970	5690	3730						
		P	9.03	7.82	6.68	5.60	4.60						
	38	Q	14700	11600	8790	6390	4330						
		P	8.93	7.78	6.70	5.68	4.73						
	32	Q	16100	12800	9790	7240	5060						
		P	8.75	7.69	6.69	5.74	4.85						
	27	Q	17300	13800	10700	7960	5680						
		P	8.57	7.58	6.64	5.75	4.92						
15	Q	20100	16200	12800	9740	7220							
	P	7.99	7.17	6.39	5.65	4.95							
SHA44e/665-4 L	50	Q	14100	10900	8060	5630	3530						
		P	11.4	9.85	8.38	7.02	5.75						
	46	Q	15200	11800	8800	6250	4050						
		P	11.3	9.82	8.43	7.12	5.90						
	43	Q	16000	12500	9370	6720	4450						
		P	11.2	9.79	8.44	7.18	6.00						
	38	Q	17300	13600	10400	7520	5130						
		P	11.0	9.70	8.44	7.25	6.14						
	32	Q	19000	15000	11500	8500	5970						
		P	10.7	9.55	8.39	7.29	6.26						
	27	Q	20300	16200	12500	9340	6680						
		P	10.5	9.39	8.31	7.29	6.33						
15	Q	23700	19000	14900	11400	8440							
	P	9.73	8.83	7.97	7.15	6.36							

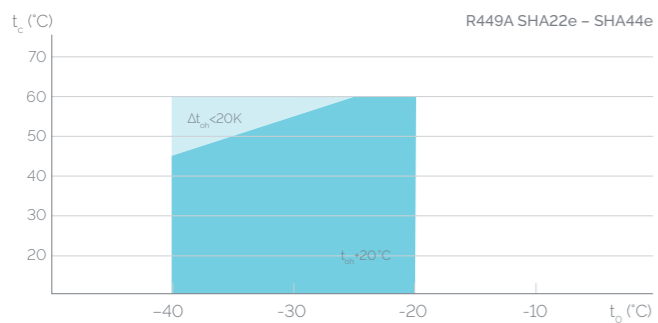
Relating to 20 °C suction gas temperature without liquid subcooling

 Supplementary cooling or reduced suction gas temperature

vap.bock.de



## Operating limits



$t_o$  Evaporating temperature (°C)  
 $t_c$  Condensing temperature (°C)  
 $\Delta t_{sh}$  Suction gas superheat (K)  
 $t_{s1}$  Suction gas temperature (°C)

- Unlimited application range
- Supplementary cooling or reduced suction gas temperature ( $\Delta t_{s1} < 20K$ )

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


## SHA condensing units air-cooled single-stage

### Performance data

#### R22 | 50 Hz

Type	Amb. temp. °C		Cooling capacity Q <sub>o</sub> [kW]					Power consumption P <sub>e</sub> [kW]					
			Evaporating temperature °C										
			-20	-25	-30	-35	-40	-20	-25	-30	-35	-40	
SHA22e/125-4 L	50	Q	2780	2170	1630	1170	760						
		P	2.27	2.00	1.74	1.49	1.26						
	46	Q	2960	2320	1770	1280	855						
		P	2.24	1.99	1.74	1.50	1.28						
	43	Q	3110	2450	1870	1370	929						
		P	2.22	1.97	1.74	1.51	1.30						
	38	Q	3350	2660	2050	1520	1060						
		P	2.18	1.95	1.73	1.52	1.32						
	32	Q	3660	2920	2270	1700	1220						
		P	2.12	1.91	1.71	1.52	1.33						
	27	Q	3920	3140	2460	1870	1360						
		P	2.07	1.88	1.69	1.51	1.34						
15	Q	4570	3700	2940	2280	-							
	P	1.90	1.76	1.61	1.47	-							
SHA22e/160-4 L	50	Q	3470	2670	1980	1380	854						
		P	2.67	2.34	2.01	1.70	1.41						
	46	Q	3720	2890	2160	1530	987						
		P	2.64	2.33	2.02	1.73	1.45						
	43	Q	3910	3050	2300	1650	1090						
		P	2.62	2.31	2.02	1.74	1.47						
	38	Q	4220	3320	2530	1850	1270						
		P	2.56	2.28	2.01	1.75	1.50						
	32	Q	4610	3650	2810	2090	1480						
		P	2.49	2.24	1.99	1.76	1.53						
	27	Q	4930	3930	3050	2290	1650						
		P	2.42	2.19	1.97	1.75	1.54						
15	Q	5690	4590	3620	2780	-							
	P	2.22	2.05	1.87	1.70	-							
SHA22e/190-4 L	50	Q	4380	3440	2620	1910	1310						
		P	3.60	3.19	2.79	2.42	2.07						
	46	Q	4710	3720	2860	2110	1480						
		P	3.54	3.16	2.79	2.44	2.11						
	43	Q	4940	3920	3030	2260	1610						
		P	3.50	3.13	2.78	2.44	2.13						
	38	Q	5320	4240	3300	2490	1810						
		P	3.41	3.08	2.75	2.44	2.15						
	32	Q	5760	4610	3620	2760	2040						
		P	3.30	3.00	2.71	2.43	2.16						
	27	Q	6100	4910	3870	2980	2220						
		P	3.19	2.92	2.66	2.40	2.15						
15	Q	6870	5560	4420	3450	-							
	P	2.93	2.72	2.52	2.31	-							
SHA34e/215-4 L	50	Q	4400	3360	2440	1650	967						
		P	3.69	3.22	2.76	2.33	1.92						
	46	Q	4790	3700	2740	1910	1200						
		P	3.66	3.21	2.79	2.39	2.00						
	43	Q	5090	3950	2960	2100	1370						
		P	3.62	3.20	2.80	2.42	2.05						
	38	Q	5560	4360	3310	2410	1640						
		P	3.55	3.17	2.80	2.45	2.12						
	32	Q	6100	4830	3720	2760	1950						
		P	3.44	3.11	2.78	2.47	2.17						
	27	Q	6530	5200	4040	3040	2190						
		P	3.34	3.04	2.75	2.47	2.20						
15	Q	7500	6030	4760	3660	-							
	P	3.06	2.84	2.63	2.41	-							

Relating to 20 °C suction gas temperature without liquid subcooling

 Supplementary cooling or reduced suction gas temperature

vap.bock.de



### SHA condensing units air-cooled single-stage

## Performance data

R22 | 50 Hz

Type	Amb. temp. °C		Cooling capacity Q <sub>o</sub> [kW]					Power consumption P <sub>e</sub> [kW]	
			Evaporating temperature °C						
			-20	-25	-30	-35	-40		
SHA34e/255-4 L	50	Q	5340	4170	3140	2250	1470		
		P	4.43	3.85	3.29	2.78	2.29		
	46	Q	5780	4550	3460	2510	1700		
		P	4.37	3.82	3.30	2.81	2.35		
	43	Q	6110	4820	3690	2710	1870		
		P	4.32	3.79	3.30	2.83	2.39		
	38	Q	6640	5280	4080	3040	2150		
		P	4.22	3.74	3.28	2.84	2.43		
	32	Q	7260	5810	4530	3420	2470		
		P	4.09	3.65	3.24	2.85	2.47		
27	Q	7770	6230	4890	3730	2740			
	P	3.97	3.57	3.19	2.83	2.49			
15	Q	8920	7210	5720	4440	3350			
	P	3.65	3.34	3.05	2.76	2.48			
SHA34e/315-4 L	50	Q	6430	4980	3720	2620	1690		
		P	5.32	4.57	3.88	3.24	2.66		
	46	Q	7000	5470	4120	2970	1980		
		P	5.27	4.55	3.90	3.29	2.74		
	43	Q	7410	5820	4430	3220	2200		
		P	5.21	4.53	3.90	3.32	2.79		
	38	Q	8090	6400	4920	3640	2550		
		P	5.10	4.48	3.89	3.35	2.85		
	32	Q	8870	7070	5490	4120	2970		
		P	4.95	4.38	3.85	3.36	2.90		
27	Q	9500	7610	5950	4520	3300			
	P	4.80	4.29	3.80	3.35	2.92			
15	Q	11000	8820	6980	5400	4050			
	P	4.40	4.00	3.62	3.25	2.91			
SHA34e/380-4 L	50	Q	8160	6340	4730	3340	2130		
		P	6.87	5.97	5.12	4.33	3.59		
	46	Q	8770	6870	5200	3740	2480		
		P	6.79	5.94	5.13	4.38	3.68		
	43	Q	9230	7270	5550	4040	2750		
		P	6.72	5.90	5.13	4.40	3.73		
	38	Q	9990	7930	6110	4540	3190		
		P	6.57	5.81	5.09	4.42	3.79		
	32	Q	10900	8700	6780	5120	3700		
		P	6.37	5.67	5.02	4.40	3.82		
27	Q	11700	9330	7330	5600	4110			
	P	6.17	5.53	4.93	4.36	3.82			
15	Q	13400	10800	8590	6690	5070			
	P	5.62	5.11	4.62	4.16	3.72			
SHA44e/475-4 L	50	Q	10600	8240	6170	4350	2780		
		P	7.98	6.91	5.89	4.94	4.04		
	46	Q	11400	8910	6740	4850	3210		
		P	7.91	6.89	5.93	5.02	4.17		
	43	Q	12000	9400	7160	5210	3530		
		P	7.83	6.86	5.94	5.07	4.25		
	38	Q	12900	10300	7860	5820	4070		
		P	7.69	6.79	5.94	5.13	4.37		
	32	Q	14000	11200	8690	6540	4690		
		P	7.48	6.67	5.89	5.16	4.46		
	27	Q	15000	12000	9370	7120	5210		
		P	7.28	6.53	5.83	5.15	4.51		
	15	Q	17100	13800	11000	8480	6390		
		P	6.70	6.12	5.56	5.03	4.51		

Relating to 20 °C suction gas temperature without liquid subcooling

Supplementary cooling or reduced suction gas temperature



### SHA condensing units air-cooled single-stage

## Performance data

R22 | 50 Hz

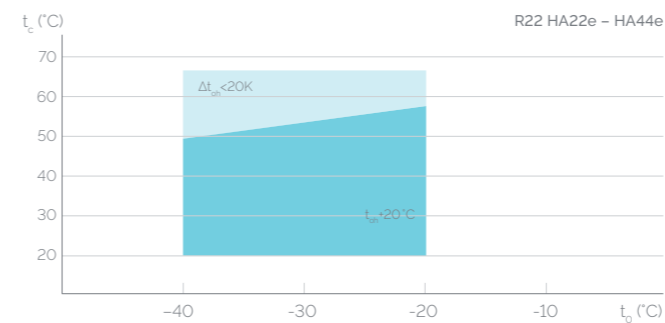
Type	Amb. temp. °C		Cooling capacity Q <sub>o</sub> [kW]					Power consumption P <sub>e</sub> [kW]	
			Evaporating temperature °C						
			-20	-25	-30	-35	-40		
SHA44e/565-4 L	50	Q	13100	10300	7820	5660	3790		
		P	9.74	8.45	7.23	6.09	5.02		
	46	Q	14000	11100	8470	6220	4270		
		P	9.63	8.40	7.24	6.15	5.13		
	43	Q	14600	11600	8950	6640	4630		
		P	9.53	8.34	7.23	6.18	5.19		
	38	Q	15700	12600	9750	7320	5230		
		P	9.34	8.23	7.18	6.20	5.27		
	32	Q	17000	13700	10700	8130	5930		
		P	9.07	8.05	7.09	6.18	5.32		
27	Q	18000	14600	11500	8790	6500			
	P	8.82	7.87	6.98	6.13	5.34			
15	Q	20500	16600	13300	10400	7830			
	P	8.11	7.34	6.61	5.92	5.25			
SHA44e/665-4 L	50	Q	15600	12300	9360	6830	4630		
		P	12.0	10.5	9.11	7.78	6.54		
	46	Q	16600	13200	10100	7440	5170		
		P	11.8	10.4	9.08	7.82	6.63		
	43	Q	17400	13800	10700	7910	5570		
		P	11.7	10.3	9.05	7.83	6.69		
	38	Q	18600	14900	11600	8680	6230		
		P	11.4	10.1	8.96	7.83	6.76		
	32	Q	20100	16100	12700	9600	7030		
		P	11.0	9.90	8.81	7.78	6.80		
	27	Q	21300	17200	13500	10400	7680		
		P	10.7	9.65	8.66	7.71	6.80		
	15	Q	24200	19600	15600	12200	9220		
		P	9.76	8.95	8.17	7.41	6.69		

Relating to 20 °C suction gas temperature without liquid subcooling

Supplementary cooling or reduced suction gas temperature



### Operating limits



- t<sub>o</sub> Evaporating temperature (°C)
- t<sub>c</sub> Condensing temperature (°C)
- Δt<sub>oh</sub> Suction gas superheat (K)
- t<sub>on</sub> Suction gas temperature (°C)
- Unlimited application range
- ▨ Supplementary cooling or reduced suction gas temperature (Δt<sub>gh</sub> < 20K)

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

# SHA condensing units air-cooled single-stage

## Technical data

### SHA

Type	Displacement 50 Hz (1450 rpm) m <sup>3</sup> /h	Compressor ①		Fan / Condenser			Receiver Capacity Ltr.	
		Voltage ②	Max. Working current	Max. Working current 50 Hz	Max. Power consumption 50 Hz	Air flow 50 Hz m <sup>3</sup> /h		
								Δ
SHA22e/125-4 L	11.1	③	8.1	4.7	1x1.22	1x280	3550	6.0
SHA22e/160-4 L	13.7	③	9.6	5.5	1x1.22	1x280	3410	6.0
SHA22e/190-4 L	16.5	③	10.9	6.3	1x2.50	1x580	5950	8.0
SHA34e/215-4 L	18.8	③	12.1	7.0	1x2.50	1x580	5950	8.0
SHA34e/255-4 L	22.1	③	13.8	8.0	1x2.50	1x580	5950	8.0
SHA34e/315-4 L	27.3	③	17.1	9.9	1x2.50	1x580	5950	8.0
SHA34e/380-4 L	33.1	③	19.4	11.2	2x2.50	2x500	8740	14.5
PW 1+2*								
SHA44e/475-4 L	41.3	④	15.2		2x2.50	2x500	9490	14.5
SHA44e/565-4 L	49.2	④	18.3		2x2.50	2x500	9490	14.5
SHA44e/655-4 L	57.7	④	20.3		4x2.50	4x 500	16280	23.0

\*PW - Part Winding, motors for part winding start      1 - first part winding      2 - second part winding

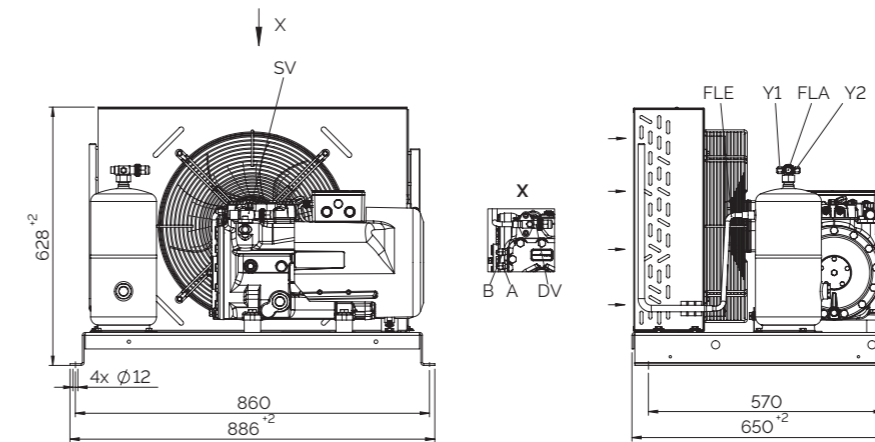
### Explanations

- ① Further explanations and technical data see brochure "semi-hermetic Bock compressors"
- ② Tolerance (± 10%) relates to the mean value of the voltage range. Other voltages and current types on request.
- ③ 220-240 V Δ / 380-420 V Y - 3 - 50 Hz
- ④ 380-420 V Y/YY - 3 - 50 Hz PW  
PW - Part Winding, motors for part winding start (no start unloaders required)  
- Designs for Y/Δ on request

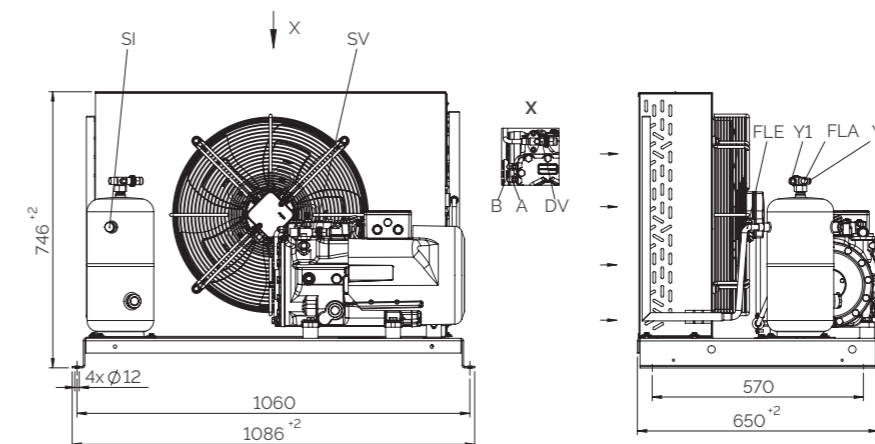
# SHA condensing units air-cooled single-stage

## Dimensions and connections

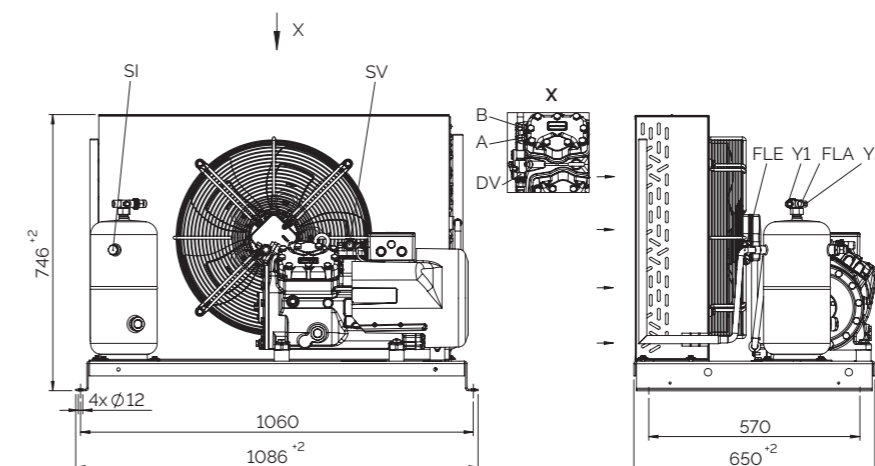
### SHA22e L » SHA22e/125-4 L » SHA22e/160-4 L



### SHA22e L » SHA22e/190-4 L



### SHA34e L » SHA34e/215-4 L » SHA34e/255-4 L » SHA34e/315-4 L



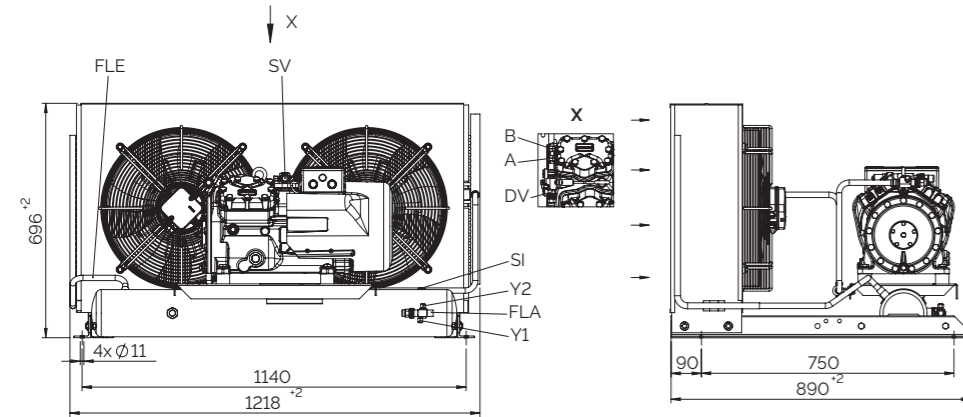
Dimensions in mm

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

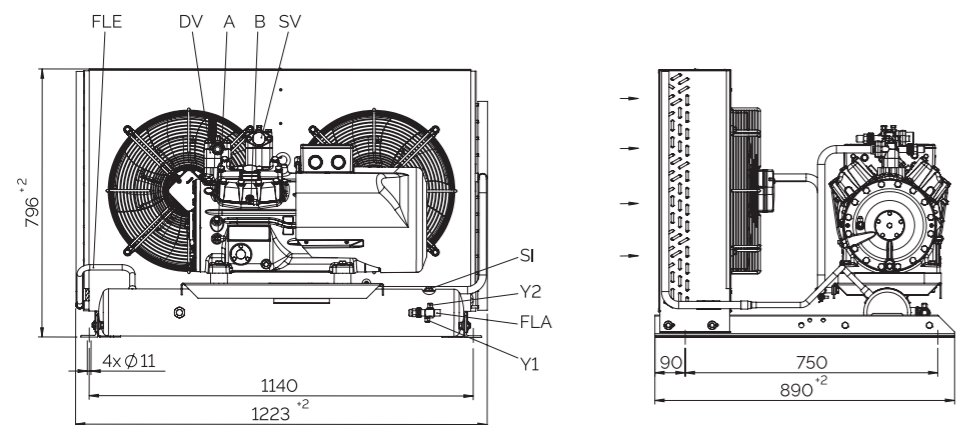
# SHA condensing units air-cooled single-stage

## Dimensions and connections

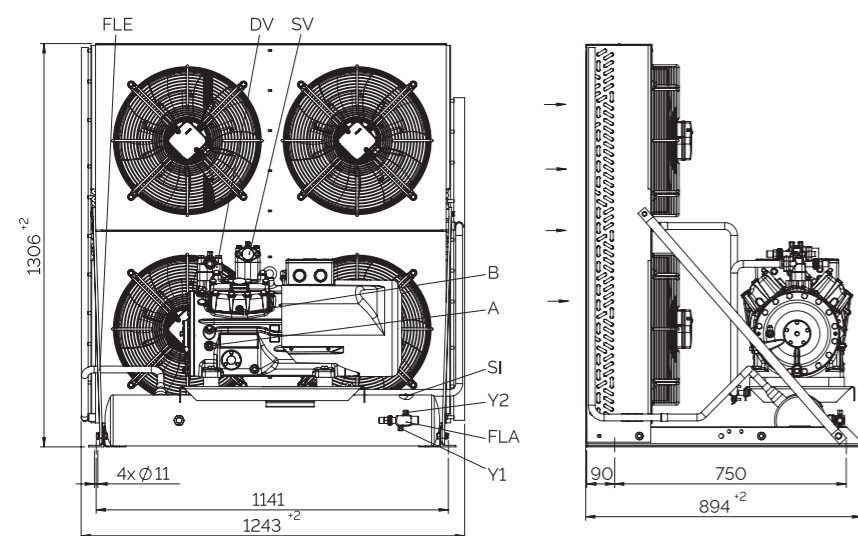
### SHA34e L » SHA34e/380-4 L



### SHA44e L » SHA44e/475-4 L » SHA44e/565-4 L



### SHA44e L » SHA44e/655-4 L



Dimensions in mm

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

# SHA condensing units air-cooled single-stage

## Connections, Scope of supply and accessories

### SHA

Type	Connections ①						
	SV		FLA		SI	Y1	Y2
	mm	Inch	mm	Inch	Inch	Inch	Inch
SHA22e/125-4 L	16	5/8	12	1/2	-	7/16 UNF	7/16 UNF
SHA22e/160-4 L	16	5/8	12	1/2	-	7/16 UNF	7/16 UNF
SHA22e/190-4 L	16	5/8	16	5/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHA34e/215-4 L	22	7/8	16	5/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHA34e/255-4 L	22	7/8	16	5/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHA34e/315-4 L	22	7/8	16	5/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHA34e/380-4 L	22	7/8	16	5/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHA44e/475-4 L	35	1 3/8	16	5/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHA44e/565-4 L	35	1 3/8	16	5/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHA44e/655-4 L	35	1 3/8	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 Bock compressors"

	SHA22	SHA34	SHA44
Semi-hermetic reciprocating compressor with drive motor for part winding start 380-420 V Y/YY - 3 - 50 Hz, 440-480 V Y/YY - 3 - 60 Hz single-piece compressor housing with integrated electric motor, mounted on the liquid receiver using anti-vibration rubber pads			see HH catalog
Condenser with copper tubes and aluminum fins, optimized circuit, improved heat transfer and increased fin surface area	●	●	●
Low noise fan 230 V -1- 50/60 Hz, with bimetal winding protection, speed control possible	●	●	●
Generously sized liquid receiver with sight glass and Rotalock shut-off valve with brazing connection	●	●	●
Piping on discharge and liquid side	●	●	●
Inert gas charge	●	●	●
Rubber plates for installation of the unit	●	●	●
High pressure safety limiter + controller / + low pressure controller	○	○	○
Safety valve for receiver from 8l volume		○	○
Oil separator	○	○	○
Speed control available for all units with one fan	○	○	
Three-phase fan	○	○	○
Larger liquid receiver	○	○	○
Oil pressure safety switch MP 55 (adjustable)	○	○	
Oil pressure safety switch MP 54 (fixed)			○
Oil differential pressure sensor DELTA-P II			○
Weatherproof housing			
- easy assembly on site, thanks to assembly-friendly connection technology	○	○	
- also suitable for noise-reduced operation			
- eavailable for all units with one fan			

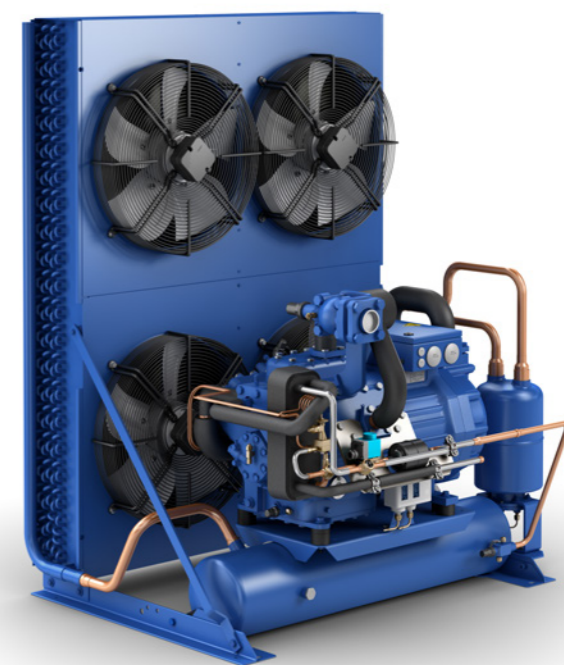
Further accessories can be found in the brochure "semi-hermetic Bock compressors" or in our compressor selection tool VAP: vap.bock.de as well as in our price list.

● Scope of supply (standard)  
 ○ Available accessories

# SHGZ

## Condensing units air-cooled two-stage

- 91 At a glance
- 92–95 Performance data
- 96 Technical data
- 97 Dimensions and connections
- 98 Scope of supply and accessories



# SHGZ-L Condensing units air-cooled

For extended use in low temperature, condensing units are available, equipped with two-stage compressors BOCK HGZ7.

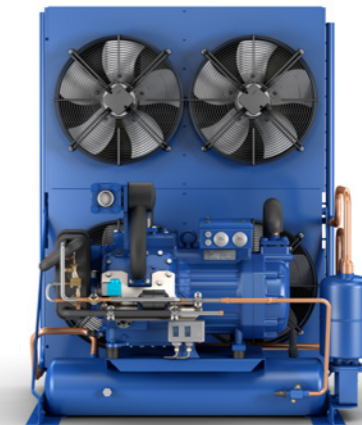


These two-stage compressors in combination with the largest Bock condenser-fan unit offer sufficient power reserves for demanding applications such as blast freezers. The two-stage condensing units are equipped as standard with already mounted two-stage components.

- o Liquid subcooler
- o Expansion valve
- o Solenoid valve
- o Sight glass
- o Filter drier

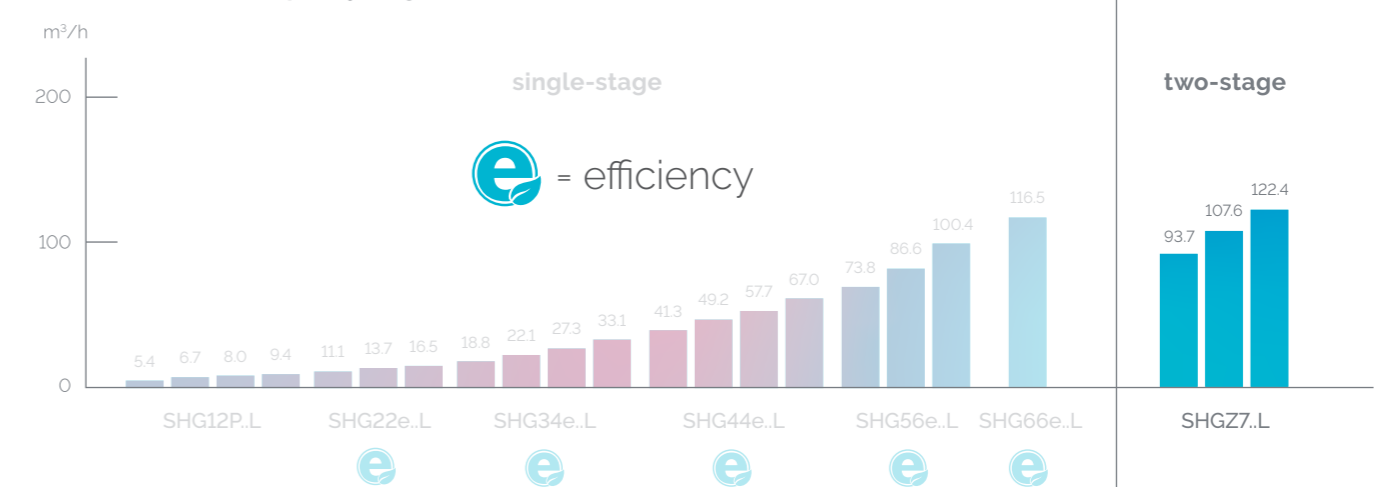


## SHGZ condensing units air-cooled two-stage At a glance



### The current range

1 model size with 3 capacity stages from 93.7 to 122.4 m<sup>3</sup>/h (50 Hz)



### Type key – condensing units air-cooled

**SHGZX7 / 2110 - 4SL**

- Air-cooled condensing unit
- Motor variant <sup>4)</sup>
- Number of poles
- Swept volume
- BSize
- Ester oil filling <sup>2)</sup>
- Two-stage
- Series <sup>1)</sup>

- <sup>1)</sup> SHG - Hermetic Gas-cooled (sauggasgekühlt)
- <sup>2)</sup> X - Ester oil filling (HFC refrigerants e.g. R134a, R404A, R507, R407C)
- <sup>3)</sup> S - More powerful motor e.g. air-conditioning applications

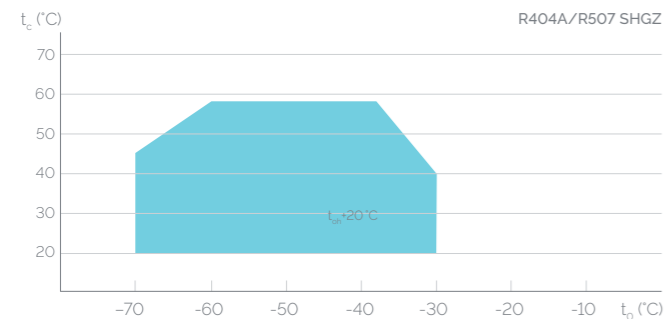
## SHGZ condensing units air-cooled two-stage Performance data

### R404A/R507 | 50 Hz

Type		Cooling capacity Q <sub>0</sub> [kW]									Power consumption P <sub>e</sub> [kW]		
		Evaporating temperature °C											
		Amb. temp. °C		-30	-35	-40	-45	-50	-55	-60	-65	-70	
SHGZX7/1620-4 L	50	Q	-	-	19900	16100	12900	10300	7970	-	-	-	-
		P	-	-	25.0	22.5	20.0	17.7	15.6	-	-		
	46	Q	-	-	20500	16600	13400	10700	8370	6410	-	-	-
		P	-	-	24.4	21.9	19.6	17.3	15.2	13.2	-		
	43	Q	-	-	20900	17000	13700	11000	8610	6640	-	-	-
		P	-	-	23.9	21.5	19.2	17.0	14.9	13.0	-		
	38	Q	-	26400	21600	17500	14100	11300	8930	6930	5150	-	-
		P	-	25.4	23.0	20.7	18.5	16.4	14.4	12.5	10.8		
	32	Q	-	27200	22200	18000	14600	11700	9200	7160	5370	-	-
		P	-	24.2	22.0	19.8	17.7	15.7	13.8	12.0	10.4		
	27	Q	33800	27800	22700	18400	14800	11900	9360	7280	5480	-	-
		P	25.5	23.2	21.1	19.0	17.0	15.1	13.3	11.6	10.0		
15	Q	35600	29200	23800	19200	-	-	-	-	-	-	-	
	P	22.8	20.9	19.0	17.3	-	-	-	-	-			
SHGZX7/1860-4 L	50	Q	-	-	22600	18300	14700	11700	9080	-	-	-	-
		P	-	-	28.5	25.6	22.7	20.1	17.6	-	-		
	46	Q	-	-	23300	18900	15300	12200	9550	7320	-	-	-
		P	-	-	27.8	24.9	22.2	19.6	17.1	14.8	-		
	43	Q	-	-	23900	19400	15600	12500	9840	7580	-	-	-
		P	-	-	27.2	24.4	21.8	19.2	16.8	14.6	-		
	38	Q	-	30100	24600	20000	16200	13000	10300	7930	5890	-	-
		P	-	29.1	26.3	23.6	21.0	18.5	16.2	14.1	12.1		
	32	Q	-	31000	25400	20600	16700	13300	10600	8200	6150	-	-
		P	-	27.7	25.1	22.5	20.1	17.7	15.5	13.5	11.5		
	27	Q	38600	31800	25900	21100	17000	13600	10800	8350	6290	-	-
		P	29.2	26.6	24.0	21.6	19.3	17.1	15.0	13.0	11.2		
15	Q	40600	33300	27200	22000	17700	14100	-	-	-	-	-	
	P	26.1	23.8	21.7	19.6	17.6	15.6	-	-	-			
SHGZX7/2110-4 L	50	Q	-	-	-	20600	16500	13100	10300	-	-	-	-
		P	-	-	-	28.9	25.7	22.6	19.7	-	-		
	46	Q	-	-	26300	21300	17200	13800	10800	8270	-	-	-
		P	-	-	31.5	28.2	25.0	22.0	19.2	16.6	-		
	43	Q	-	-	26900	21900	17700	14100	11200	8580	-	-	-
		P	-	-	30.9	27.6	24.5	21.6	18.8	16.3	-		
	38	Q	-	33900	27800	22600	18300	14700	11600	8990	6680	-	-
		P	-	33.1	29.8	26.7	23.7	20.9	18.2	15.7	13.4		
	32	Q	-	35100	28700	23400	18900	15100	12000	9310	6980	-	-
		P	-	31.6	28.4	25.4	22.6	19.9	17.4	15.0	12.8		
	27	Q	-	35900	29400	23900	19300	15400	12200	9490	7140	-	-
		P	-	30.2	27.3	24.4	21.7	19.1	16.7	14.5	12.4		
15	Q	45900	37700	30800	24900	20100	16000	12700	-	-	-	-	
	P	29.8	27.1	24.5	22.1	19.7	17.5	15.4	-	-			

Relating to 10 K suction gas superheat with liquid subcooling

### Operating limits



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

● Unlimited application range

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

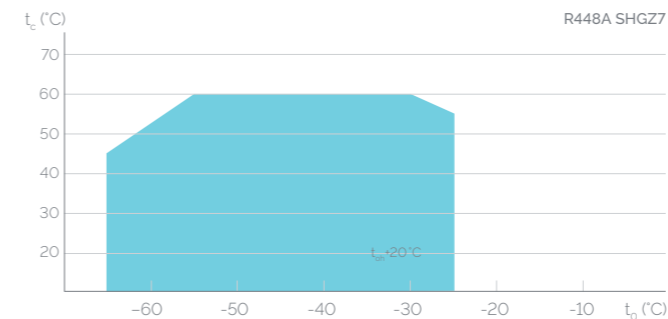
## SHGZ condensing units air-cooled two-stage Performance data

### R448A | 50 Hz

Type		Cooling capacity Q <sub>0</sub> [kW]								Power consumption P <sub>e</sub> [kW]			
		Evaporating temperature °C											
		Amb. temp. °C		-25	-30	-35	-40	-45	-50	-55	-60	-65	
SHGZX7/1620-4 L	50	Q	-	24900	20900	17100	13700	10700	8160	-	-	-	-
		P	-	25.5	23.1	20.8	18.6	16.5	14.6	-	-		
	46	Q	-	25700	21500	17600	14000	10900	8250	6330	-	-	-
		P	-	24.8	22.5	20.2	18.0	16.0	14.1	12.5	-		
	43	Q	30900	26300	22000	17900	14200	11000	8310	6340	-	-	-
		P	26.6	24.3	22.0	19.7	17.6	15.6	13.8	12.2	-		
	38	Q	32000	27300	22700	18400	14600	11200	8410	6350	5080	-	-
		P	25.6	23.4	21.1	19.0	16.9	15.0	13.3	11.8	10.5		
	32	Q	33400	28300	23500	19000	14900	11400	8520	6380	5050	-	-
		P	24.5	22.3	20.1	18.1	16.1	14.3	12.7	11.3	10.2		
	27	Q	34500	29200	24100	19400	15200	11600	8610	6400	5050	-	-
		P	23.5	21.3	19.3	17.3	15.5	13.8	12.3	11.0	9.99		
15	Q	36900	31000	25500	20400	15900	12000	8850	6540	5150	-	-	
	P	21.0	19.1	17.2	15.5	13.9	12.5	11.3	10.3	9.57			
SHGZX7/1860-4 L	50	Q	-	-	23700	19500	15600	12200	9350	-	-	-	-
		P	-	-	26.4	23.7	21.1	18.7	16.4	-	-		
	46	Q	-	29200	24500	20000	16000	12400	9450	7260	-	-	-
		P	-	28.4	25.7	23.0	20.5	18.1	15.9	14.0	-		
	43	Q	-	29900	25000	20400	16200	12600	9530	7280	-	-	-
		P	-	27.8	25.1	22.5	20.0	17.7	15.6	13.7	-		
	38	Q	36300	31000	25800	21000	16600	12800	9640	7290	5840	-	-
		P	29.5	26.8	24.1	21.6	19.2	17.0	15.0	13.2	11.7		
	32	Q	37900	32200	26800	21700	17100	13100	9770	7320	5800	-	-
		P	28.1	25.5	23.0	20.6	18.3	16.2	14.3	12.7	11.3		
	27	Q	39200	33200	27500	22200	17400	13300	9870	7350	5800	-	-
		P	27.0	24.5	22.0	19.7	17.5	15.5	13.8	12.3	11.1		
15	Q	42000	35400	29100	23400	18200	13800	10200	7500	5900	-	-	
	P	24.1	21.9	19.7	17.6	15.7	14.0	12.6	11.4	10.6			
SHGZX7/2110-4 L	50	Q	-	-	-	22000	17600	13800	10700	-	-	-	-
		P	-	-	-	26.9	23.9	21.0	18.4	-	-		
	46	Q	-	32700	27500	22600	18000	14100	10800	8260	-	-	-
		P	-	32.4	29.2	26.1	23.1	20.4	17.9	15.6	-		
	43	Q	-	33500	28100	23000	18400	14300	10900	8270	-	-	-
		P	-	31.7	28.5	25.5	22.6	19.9	17.4	15.3	-		
	38	Q	40700	34800	29100	23700	18800	14500	11000	8290	6640	-	-
		P	33.6	30.5	27.4	24.5	21.7	19.1	16.8	14.7	13.0		
	32	Q	42500	36200	30200	24500	19300	14800	11100	8320	6600	-	-
		P	32.1	29.1	26.1	23.3	20.6	18.2	16.0	14.1	12.6		
	27	Q	44000	37400	31000	25100	19800	15100	11300	8360	6590	-	-
		P	30.8	27.9	25.0	22.3	19.7	17.4	15.4	13.7	12.3		
15	Q	47300	39900	32900	26500	20600	15600	11600	8520	6700	-	-	
	P	27.6	24.9	22.3	19.9	17.7	15.7	14.1	12.7	11.7			

Relating to 10 K suction gas superheat with liquid subcooling

### Operating limits



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

● Unlimited application range

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

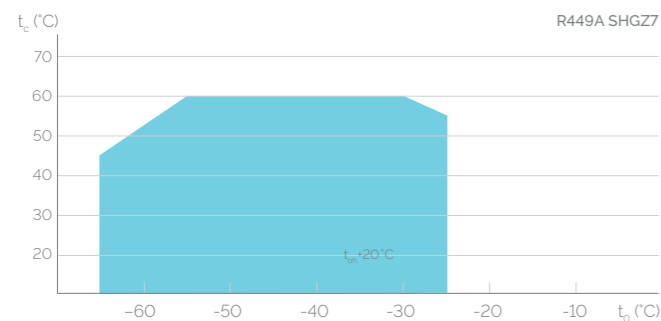
# SHGZ condensing units air-cooled two-stage Performance data

## R449A | 50 Hz

Type		Cooling capacity $Q_o$ [kW]									Power consumption $P_e$ [kW]		
		Amb. temp. °C	Evaporating temperature °C									-65	-5100
			-25	-30	-35	-40	-45	-50	-55	-60	-65		
SHGZX7/1620-4 L	50	Q	-	24800	20800	17100	13600	10700	8160	-	-	-	
	P	-	25.4	23.0	20.7	18.5	16.4	14.5	-	-	-		
	46	Q	-	25600	21400	17500	14000	10900	8250	6340	-		
	P	-	24.7	22.4	20.1	18.0	15.9	14.1	12.4	-	-		
	43	Q	30700	26200	21900	17900	14200	11000	8320	6350	-		
	P	26.5	24.2	21.9	19.7	17.5	15.6	13.8	12.2	-	-		
	38	Q	31900	27100	22600	18400	14500	11200	8420	6370	5100		
	P	25.5	23.3	21.1	18.9	16.9	15.0	13.3	11.8	10.5	-		
	32	Q	33300	28200	23400	19000	14900	11400	8530	6390	5070		
	P	24.4	22.2	20.1	18.0	16.1	14.3	12.7	11.3	10.2	-		
	27	Q	34400	29100	24100	19400	15200	11600	8620	6420	5060		
	P	23.4	21.3	19.2	17.3	15.4	13.7	12.2	11.0	9.98	-		
15	Q	36800	31000	25500	20400	15900	12000	8870	6560	5160			
P	20.9	19.0	17.2	15.5	13.9	12.5	11.3	10.3	9.56	-			
SHGZX7/1860-4 L	50	Q	-	-	23600	19400	15600	12200	9350	-	-		
	P	-	-	26.3	23.6	21.0	18.6	16.4	-	-			
	46	Q	-	29000	24400	20000	15900	12400	9460	7280	-		
	P	-	28.3	25.6	22.9	20.4	18.0	15.9	14.0	-	-		
	43	Q	-	29700	24900	20400	16200	12600	9540	7290	-		
	P	-	27.7	25.0	22.4	19.9	17.6	15.5	13.7	-	-		
	38	Q	36100	30800	25700	21000	16600	12800	9650	7310	5850		
	P	29.3	26.7	24.1	21.5	19.1	16.9	14.9	13.2	11.7	-		
	32	Q	37700	32100	26700	21600	17100	13100	9780	7340	5820		
	P	28.0	25.4	22.9	20.5	18.2	16.1	14.3	12.7	11.3	-		
	27	Q	39000	33100	27400	22200	17400	13300	9890	7370	5810		
	P	26.9	24.4	21.9	19.6	17.5	15.5	13.7	12.3	11.1	-		
15	Q	41900	35300	29100	-	-	13800	10200	7520	5920			
P	24.0	21.8	19.6	-	-	14.0	12.6	11.4	10.6	-			
SHGZX7/2110-4 L	50	Q	-	-	-	21900	17600	13800	10700	-	-		
	P	-	-	-	26.8	23.8	21.0	18.4	-	-			
	46	Q	-	32600	27400	22500	18000	14100	10800	8270	-		
	P	-	32.2	29.0	26.0	23.0	20.3	17.8	15.6	-	-		
	43	Q	-	33400	28000	23000	18300	14300	10900	8290	-		
	P	-	31.5	28.4	25.4	22.5	19.8	17.4	15.3	-	-		
	38	Q	40500	34700	29000	23700	18800	14500	11000	8310	6660		
	P	33.5	30.4	27.3	24.4	21.6	19.0	16.7	14.7	13.0	-		
	32	Q	42300	36100	30100	24500	19300	14800	11200	8340	6620		
	P	32.0	29.0	26.0	23.2	20.5	18.1	16.0	14.1	12.6	-		
	27	Q	43800	37300	31000	25100	19700	15100	11300	8380	6610		
	P	30.7	27.8	24.9	22.2	19.7	17.4	15.4	13.6	12.2	-		
15	Q	47100	39800	32900	26400	20600	15700	11600	8550	6730			
P	27.5	24.8	22.3	19.8	17.6	15.7	14.0	12.7	11.7	-			

Relating to 10 K suction gas superheat with liquid subcooling

## Operating limits



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

● Unlimited application range

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

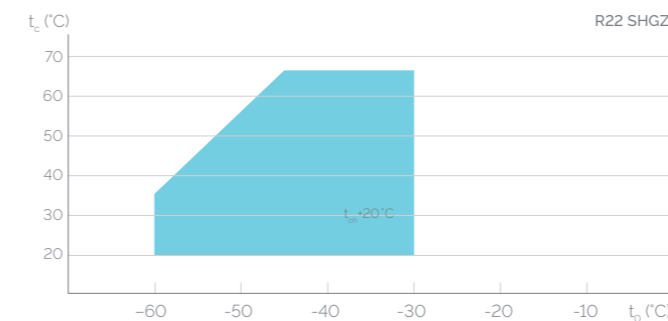
# SHGZ condensing units air-cooled two-stage Performance data

## R22 | 50 Hz

Type		Cooling capacity $Q_o$ [kW]						Power consumption $P_e$ [kW]		
		Amb. temp. °C	Evaporating temperature °C						-60	-5100
			-30	-35	-40	-45	-50	-55		
SHGZ7/1620-4 L	50	Q	27700	22500	18000	14100	10900	-	-	
	P	27.0	24.5	22.2	19.9	17.8	-	-		
	46	Q	28000	22700	18200	14300	11100	-	-	
	P	26.1	23.7	21.5	19.4	17.4	-	-		
	43	Q	28200	22900	18400	14500	11200	-	-	
	P	25.5	23.2	21.0	19.0	17.1	-	-		
	38	Q	28500	23300	18700	14800	11400	8670	-	
	P	24.4	22.3	20.2	18.3	16.5	14.8	-		
	32	Q	29000	23600	19000	15000	11700	8870	-	
	P	23.2	21.2	19.3	17.6	15.9	14.4	-		
	27	Q	29300	23900	19300	15300	11900	9030	6750	
	P	22.2	20.3	18.6	17.0	15.5	14.1	12.7		
15	Q	30100	24600	19900	15800	-	-	-		
P	19.8	18.2	16.9	15.6	-	-	-			
SHGZ7/1860-4 L	50	Q	31400	25600	20600	16200	-	-		
	P	31.0	28.0	25.3	22.6	-	-	-		
	46	Q	31800	26000	20900	16400	12700	-	-	
	P	30.0	27.2	24.5	22.0	19.7	-	-		
	43	Q	32100	26200	21100	16600	12800	-	-	
	P	29.2	26.5	24.0	21.6	19.3	-	-		
	38	Q	32500	26600	21400	16900	13100	9950	-	
	P	28.0	25.4	23.0	20.8	18.7	16.7	-		
	32	Q	33100	27100	21800	17200	13400	10200	-	
	P	26.6	24.2	22.0	19.9	18.0	16.2	-		
	27	Q	33500	27500	22100	17500	13600	10400	7830	
	P	25.4	23.2	21.1	19.2	17.5	15.8	14.3		
15	Q	34500	28300	22800	18100	-	-	-		
P	22.6	20.8	19.1	17.6	-	-	-			
SHGZ7/2110-4 L	50	Q	35800	29100	23300	18300	-	-		
	P	35.4	31.9	28.6	25.6	-	-	-		
	46	Q	36200	29500	23600	18600	14400	-	-	
	P	34.2	30.9	27.8	24.9	22.1	-	-		
	43	Q	36500	29700	23800	18800	14600	-	-	
	P	33.4	30.1	27.1	24.3	21.7	-	-		
	38	Q	37000	30200	24200	19100	14900	11300	-	
	P	31.9	28.9	26.1	23.5	21.0	18.7	-		
	32	Q	37600	30700	24700	19500	15200	11600	-	
	P	30.3	27.5	24.9	22.5	20.2	18.1	-		
	27	Q	38000	31100	25000	19800	15400	11800	8790	
	P	28.9	26.3	23.9	21.6	19.6	17.7	15.9		
15	Q	39100	32000	25800	20500	-	12200	-		
P	25.7	23.6	21.6	19.8	-	16.7	-			

Relating to 10 K suction gas superheat with liquid subcooling

## Operating limits



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

● Unlimited application range

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



## SHGZ condensing units air-cooled two-stage

### Technical data

#### SHGZ

Type	Compressor ①			Fan / Condenser			Receiver Capacity
	Displacement 50 Hz (1450 rpm) m <sup>3</sup> /h	Voltage ②	Max. Working current A	Max. Working current 50 Hz A	Max. Power con- sumption 50 Hz W	Air flow 50 Hz m <sup>3</sup> /h	
SHGZX7/1620-4 L R448A/449A SHGZ7/1620-4 L R22 SHGZX7/1620-4 L R404A/R507	93.7	④	50.0	4 x 3.00	4 x 680	21210	35.0
SHGZX7/1860-4 L R448A/449A SHGZ7/1860-4 L R22 SHGZX7/1860-4 L R404A/R507	107.8	④	55.0	4 x 3.00	4 x 680	21210	35.0
SHGZX7/2110-4 L R448A/449A SHGZ7/2110-4 L R22 SHGZX7/2110-4 L R404A/R507	122.4	④	68.0	4 x 3.00	4 x 680	21210	35.0

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

1 - first part winding

2 - second part winding

#### Explanations

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

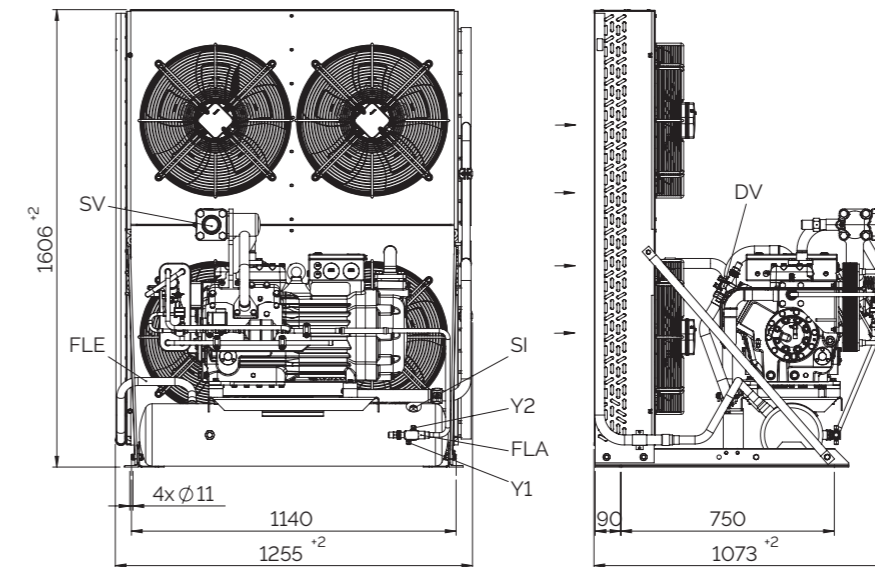
④ 380-420 V Y/YY - 3 - 50 Hz PW  
PW = Part Winding, motors for part winding start  
(no start unloaders required)

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

## SHGZ condensing units air-cooled two-stage

### Dimensions and connections

SHGZ » SHGZ7/1620-4 L » SHGZ7/1860-4 L » SHGZ7/2110-4 L



Dimensions in mm

#### SHGZ

Type	Connections ①						
	SV		FLA		SI	Y1	Y2
	mm	Inch	mm	Inch	Inch	Inch	Inch
SHGZX7/1620-4 L R448A/449A SHGZ7/1620-4 L R22 SHGZX7/1620-4 L R404A/R507	54	2 1/8	22	7/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHGZX7/1860-4 L R448A/449A SHGZ7/1860-4 L R22 SHGZX7/1860-4 L R404A/R507	54	2 1/8	22	7/8	1/2 NPTF	7/16 UNF	7/16 UNF
SHGZX7/2110-4 L R448A/449A SHGZ7/2110-4 L R22 SHGZX7/2110-4 L R404A/R507	54	2 1/8	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 Bock compressors"

## SHGZ condensing units air-cooled two-stage

### Scope of supply and accessories

#### SHGZ

	SHGZ
Semi-hermetic reciprocating compressor with drive motor for part winding start 380-420 V Y/YY - 3 - 50 Hz, 440-480 V Y/YY - 3 - 60 Hz single-piece compressor housing with integrated electric motor, mounted on the liquid receiver using anti-vibration rubber pads	see HH catalog
Condenser with copper tubes and aluminum fins, optimized circuit, improved heat transfer and increased fin surface area	●
Low noise fan 230 V -1- 50/60 Hz, with bimetal winding protection, speed control possible	●
Generously sized liquid receiver with sight glass and Rotalock shut-off valve with brazing connection	●
Piping on discharge and liquid side	●
Liquid subcooler, re-injection valve, solenoid valve 230 V - 1 - 50 / 60 Hz, sight glass, filter drier, directly mounted onto the compressor, fully assembled and insulated with pipes ready for connection.	●
Inert gas charge	●
Rubber plates for installation of the unit	●
High pressure safety limiter + controller / + low pressure controller	○
Safety valve for receiver	○
Oil separator	○
Three-phase fan	○
Oil pressure safety switch MP 54 (fixed)	○
Oil differential pressure sensor DELTA-P II	○

Further accessories can be found in the brochure "semi-hermetic Bock compressors" or in our compressor selection tool VAP: [vap.bock.de](http://vap.bock.de) as well as in our price list.

- Scope of supply (standard)
- Available accessories



## BOCK service and support

°Clever + Cool  
**Experts** <sup>live</sup>

**BOCKshop** |

**BOCK CO<sub>2</sub>Tool** |

**BOCK VAP** |

To ensure that you can make the best possible use of the advantages of BOCK compressors, we support you online and personal with four service and support modules. There you will find valuable information: from plant planning and design to implementation and operation to retrofitting or upgrading existing systems.

#### BOCK training courses

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

#### BOCKshop

The online catalog in the **BOCKshop** is the best choice to find spare parts for your BOCK compressor easily and quickly around the clock. Including all Ex-drawings and parts lists also for printing.  
» [bockshop.bock.de](http://bockshop.bock.de)

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

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

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

#### BOCKVAP

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

Another advantage: **BOCKVAP** is available to you free of charge as an online and offline version for PC installation.

» [vap.bock.de](http://vap.bock.de)



From experts for experts – our new online formats can be used from any computer, regardless of location: Office, workshop or even at home.



**BOCK is one of the world's technology and innovation leaders in the development of environmentally friendly, economical solutions in the field of refrigeration and air-conditioning technology, including heat pumps and heat recovery – with one of the world's largest portfolios of compressors for natural refrigerants such as CO<sub>2</sub> (R744), hydrocarbons and other low-GWP refrigerants.**

# BOCK

**Bock GmbH**

Benzstraße 7  
72636 Frickenhausen  
Deutschland  
Tel +49 7022 9454-0  
Fax +49 7022 9454-137  
bock.de