

# EX-HG56e/995-4 S

Engine: 380-420V Y/YY -3- 50Hz PW

Refrigerant: R22

Subject: Предварительный расчет

## Performance data

### Application: Refrigeration & AC

Refrigerant	R22	Compressor refrigeration capacity	43.30 kW
Reference temperature	Dew point	Evaporator refrigeration capacity	43.30 kW
Power supply	50 Hz, 400 V	Power consumption	16.80 kW
Supply frequency	50 Hz	Current draw (400 V)	31.20 A
Evaporating temperature	-10.0 °C	Coefficient of performance (COP/EER)	2.57
<i>Evaporating pressure (abs.)</i>	<i>3.54 bar</i>	Condensing capacity	60.20 kW
Condensing temperature	45.0 °C	Mass flow	0.260 kg/s
<i>Condensing pressure (abs.)</i>	<i>17.29 bar</i>	Discharge end temperature	123.1 °C <sup>1)</sup>
Suction gas temperature	20 °C		
Subcooling (outside cond.)	0 K		
Usable superheat	100%		

*Preliminary capacity data.*

- 1) The stated value of the discharge end temperature is a mere calculated value. Additional cooling and heat dissipation are not considered. Deviations (particularly in deep freezing applications) from the real measured discharge temperature during operation are possible.

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From:

26.10.2022  
Page 1 of 8

VAP 11.12.0

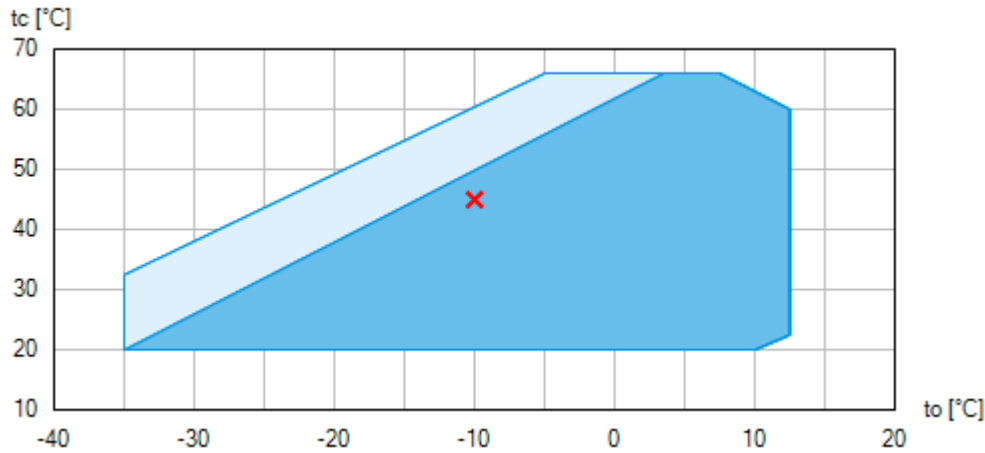
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## Operating limits



-  Unlimited application range
-  Reduced suction gas temperature ( $\Delta t_{oh} < 20K$ )

Compressor operation is possible within the limits shown on the diagrams of application. Please note the coloured areas. Compressor application limits should not be chosen for design purposes or continuous operation. Axis values refer to dew point (saturated vapour line).

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To: Промышленная Холодильная  
Компания info@phk-holod.ru

From:

26.10.2022  
Page 2 of 8

VAP 11.12.0

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## Technical data

Number of cylinders / Bore / Stroke	6 / 65 mm / 50 mm
Displacement 50/60 Hz (1450/1740 1/min)	86,60 / 103,90 m³/h
Voltage 1)	380-420V Y/YY -3- 50Hz PW
	440-480V Y/YY -3- 60Hz PW
Winding divided into	50% / 50%
Max. working current 2)	46.4 A
Max. power consumption 2)	27.7 kW
Starting current (rotor blocked) 2)	149.0 / 246.0 A
Motor protection	INT69 EX2
Protection terminal box	IP 66
Weight	218 kg
Frequency range 3)	25 - 70 Hz
Max. permissible overpressure (g) (LP/HP) 4)	19 / 28 bar
Connection suction line SV	54 mm - 2 1/8 "
Connection discharge line DV	35 mm - 1 3/8 "
Lubrication	Oil pump
Oil type R134a, R404A, R407A/C/F, R448A, R449A, R450A, R513A	BOCKlub E55
Oil type R22	BOCKlub A46
Oil charge	3,2 Ltr.
Oil sump heater	230 V - 1 - 50/60 Hz, 180 W
Dimensions Length / Width / Height	740 / 440 / 429 mm
Sound power level L <sub>WA</sub> 5)	86 db(A) @ -35/+40 °C
	80 db(A) @ -10/+45 °C
	78 db(A) @ +5/+50 °C
Sound pressure level L <sub>pA</sub> 5)	73 db(A) @ -35/+40 °C
	67 db(A) @ -10/+45 °C
	64 db(A) @ +5/+50 °C

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Компания info@phk-holod.ru

From:

26.10.2022  
Page 3 of 8

VAP 11.12.0

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- 1) Tolerance ( $\pm 10\%$ ) relates to the mean value of the voltage range. Other voltages and current types on request  
  
All data are based on voltage rms values  
  
PW = part winding, motors for part winding starting  
(no start unloaders required)
  - 2) - The stated value for the max. power consumption is valid for the adjusted power supply.  
  
- Starting current (rotor blocked):
    - Part winding (PW) motors: Winding 1 / Winding 1+2
    - Delta/Star ( $\Delta/Y$ ) motors:  $\Delta / Y$- Take account of the max. operating current / max. power consumption for designing motor contractors, feed lines, fuses and motor protection switches. Motor contractors: Consumption category AC3.
  - 3) The maximum permissible working current of the compressor ( $I_{max}$ ) must not be exceeded. Take account of the guidelines for use of frequency inverter (see compressor assembly instruction or selection software).
  - 4) LP = Low pressure  
HP = High pressure
  - 5) Declared dual-number noise emission values are in accordance with ISO 4871. The corresponding uncertainty to the sound power level is  $K_{WA} = 2,5$  dB and to the sound pressure level is  $K_{pA} = 2,5$  dB. The values are valid for 50 Hz with the refrigerant R404A at the standard rating points according to EN 12900.
    - A-weighted sound power level  $L_{WA}$  (re 1 pW), in decibel. To determine the values, measurement methods of the ISO 3740 standard with accuracy class 2 or higher were used .
    - A-weighted sound pressure level  $L_{pA}$  (re 20  $\mu$ Pa), in decibel. The values are calculated from the sound power level in accordance with ISO 11203:  $L_{pA} = L_{WA} - Q_2$  at a distance of  $d = 1$  m to the reference box.

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To: Промышленная Холодильная  
Компания info@phk-holod.ru

From:

26.10.2022  
Page 4 of 8

VAP 11.12.0

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## Performance data table

Application: Refrigeration & AC  
Reference temperature: Dew point  
Supply frequency: 50 Hz  
Voltage: 400 V  
Suction gas temperature: 20 °C  
Subcooling (outside cond.): 0 K

tc [°C]		to [°C]									
		10.0	5.0	0.0	-5.0	-10.0	-15.0	-20.0			
20.0	Q [W]	123000	104000	86400	71500	58700	47600	38100			
	P [kW]	10.80	11.60	12.00	12.00	11.80	11.30	10.60			
	I [A]	24.40	25.10	25.50	25.60	25.30	24.80	24.10			
25.0	Q [W]	118000	98500	82200	68000	55600	45000	35800			
	P [kW]	13.00	13.50	13.60	13.40	12.90	12.20	11.30			
	I [A]	26.70	27.20	27.30	27.10	26.50	25.80	24.80			
30.0	Q [W]	112000	93700	78000	64400	52500	42300	33600			
	P [kW]	15.10	15.30	15.10	14.70	13.90	13.00	12.00			
	I [A]	29.10	29.30	29.10	28.60	27.70	26.70	25.50			
35.0	Q [W]	106000	88800	73800	60800	49500	39700	31300			
	P [kW]	17.10	17.00	16.60	15.90	15.00	13.80	12.60			
	I [A]	31.60	31.40	30.90	30.00	28.90	27.60	26.20			
40.0	Q [W]	101000	84000	69700	57200	46400	37100	29100			
	P [kW]	19.10	18.70	18.00	17.10	15.90	14.60	13.10			
	I [A]	34.10	33.60	32.70	31.50	30.10	28.50	26.80			
45.0	Q [W]	94900	79200	65500	53600	43300	34500	26800			
	P [kW]	21.00	20.30	19.40	18.20	16.80	15.30	13.60			
	I [A]	36.70	35.80	34.50	33.00	31.20	29.30	27.40			
50.0	Q [W]	89300	74400	61300	50000	40300	31800				
	P [kW]	22.80	21.90	20.70	19.30	17.70	15.90				
	I [A]	39.30	37.90	36.30	34.30	32.20	30.10				
55.0	Q [W]	83700	69500	57200	46400	37200					
	P [kW]	24.60	23.40	21.90	20.30	18.40					
	I [A]	41.80	40.10	38.00	35.70	33.20					

Preliminary capacity data.



Reduced suction gas temperature ( $\Delta t_{oh} < 20K$ )

to Evaporating temperature  
tc Condensing temperature  
Q Compressor refrigeration capacity  
P Power consumption  
I Current draw

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Компания info@phk-holod.ru

From:

26.10.2022  
Page 5 of 8

VAP 11.12.0

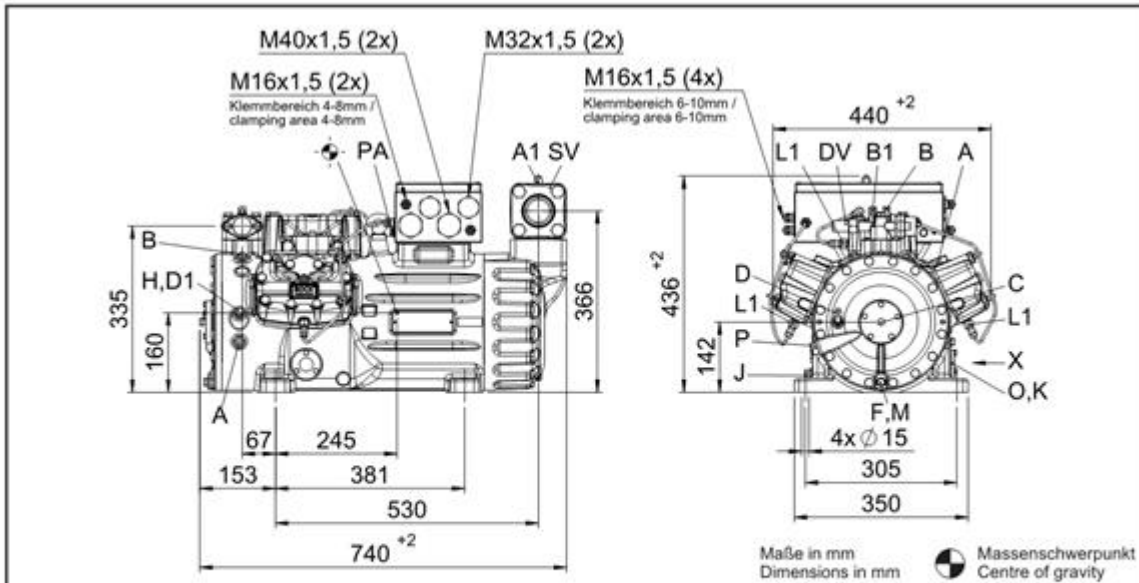
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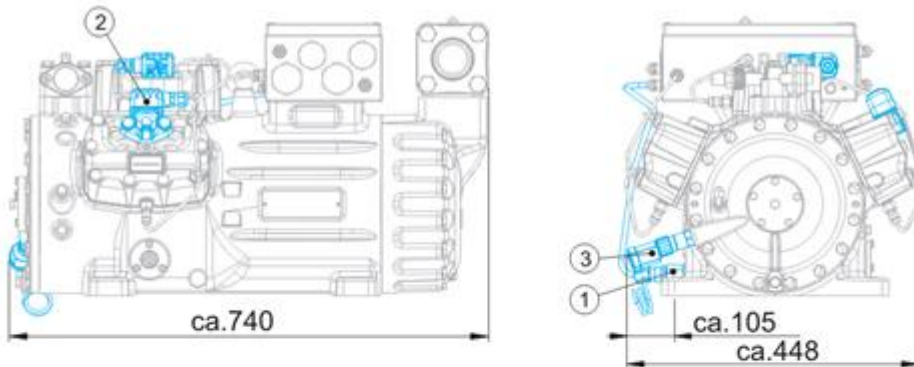
Refrigerant: R22

Subject: Предварительный расчет

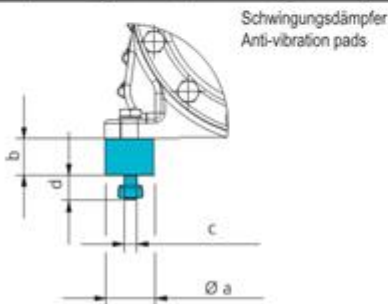
## Dimensions and connections



### Maße Zubehör / Dimensions Accessories



- ① Ölumpfeheizung / Oil sump heater    ② Leistungsregler / Capacity regulator    ③ Öldifferenzdrucksensor / Oil differential pressure sensor



Typ / Type	Øa mm / inch	b mm / inch	c mm / inch	d mm / inch
HG12P	30	30	M8	20
HG22e	40	30	M10	20
HG34e	40	30	M10	20
HG44e	50	30	M12	25
HG56e	50	30	M12	25
HG66e	50	30	M12	25
HG88e	70	45	M12	37

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To: Промышленная Холодильная  
Компания info@phk-holod.ru

From:

26.10.2022  
Page 6 of 8

VAP 11.12.0

# EX-HG56e/995-4 S

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SV	Suction line valve, tube $\varnothing$ <sup>1)</sup>	54 mm - 2 1/8 "
DV	Discharge line valve, tube $\varnothing$ <sup>1)</sup>	35 mm - 1 3/8 "
A	Connection suction side, not lockable	1/8 " NPTF
A1	Connection suction side, lockable	7/16 " UNF
B	Connection discharge side, not lockable	1/8 " NPTF
B1	Connection discharge side, lockable	7/16 " UNF
C	Connection oil pressure safety switch OIL	1/8 " NPTF
D	Connection oil pressure safety switch LP <sup>2)</sup>	7/16 " UNF
D1	Connection oil return from oil separator	1/4 " NPTF
F	Oil drain	M 12 x 1.5
H	Oil charge plug	1/4 " NPTF
J	Connection oil sump heater <sup>2)</sup>	M 22 x 1.5
K	Sight glass	3 x M 6
L1	Thermal protection thermostat	1/8 " NPTF
M	Oil strainer	M 12 x 1.5
O	Connection oil level regulator <sup>2)</sup>	3 x M 6
P	Connection oil differential pressure sensor	M 20 x 1.5
PA	Connection potential compensation	M 8

1) Brazing connection

2) The operation of this components is only allowed with a suitable protection class

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From:

26.10.2022  
Page 7 of 8

VAP 11.12.0

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### Product photo



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From:

26.10.2022  
Page 8 of 8

VAP 11.12.0