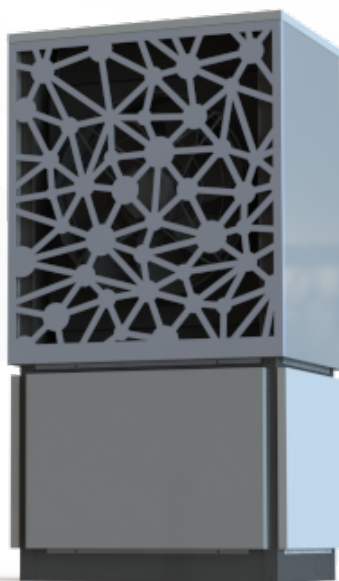




WAMAK

Heat pump



AiWa 11 EVI
H Out

WAMAK AiWa 11 EVI H Out

Product description

Compact air-to-water heat pump for heating, cooling and domestic hot water with the possibility of installation either in the utility room or outdoors. A short closed refrigerant circuit with a silent scroll compressor at the bottom under the fan simplifies installation and helps for long-term stable operation.

Use for single-family houses and smaller buildings with a heat output requirement of up to 20 kW. The COMFORT range includes robust heat pump internal refrigerant circuit parts as well as all the measuring, distribution and control elements required by today's modern climate technology in single-family houses.

The primary source is the heat energy from the ambient air, which is blown by a silent fan in the shape of an owl's wing through a heat exchanger made of copper and aluminium.

The EVI (Enhanced Vapour Injection) technology allows the heat pump to achieve higher header flow temperatures even at lower source temperatures. EVI also has a positive impact on the compressor lifespan and overall system stability because the discharge gas temperature from the compressor is lower.

The APS (Active Process Subcooling) system simultaneously increases the stability and efficiency of operation by additional utilisation of the liquid refrigerant temperature after it has condensed.

Outdoor monoblock

Product features

- Scroll compressor
- EVI technology
- Asymetric plate heat exchanger
- Active cooling
- Enhanced defrosting with APS system
- Heated drip tray
- Phase and rotation control
- High pressure sensor - analogue
- Flow switch consumer - on/off - (with accessory)
- ECM speed circulator - condenser
- Direct heating/cooling circuit control - (with accessory)
- DHW circulation control - (with accessory)
- DHW temperature sensor
- Cascade control - (with accessory)
- Solid frame structure
- Sylomer pads under compressor unit
- Electronic expansion valve
- Large air heat exchanger with APS system
- Reversible defrosting
- Speed - controlled EC fan
- Compressor soft starter
- High pressure switch
- Low pressure sensor - analogue
- Flow sensor consumer - analogue
- Mixed heating/cooling circuit control - (with accessory)
- DHW switching control - (with accessory)
- Outdoor temperature sensor
- Buffer temperature sensor
- Modbus connection - (with accessory)

Basic performance data - WAMAK AiWa 11 EVI H Out

Heating - EN 14511		
Heating capacity [kW]	A7 / W35	12.4
	A2 / W35	10.6
	A-7 / W34	8.8
Electrical power input [kW]	A7 / W35	2.5
	A2 / W35	2.6
	A-7 / W34	2.5
Heating efficiency faktor [COP]	A7 / W35	4.85
	A2 / W35	4.12
	A-7 / W34	3.49
Seasonal space heating energy efficiency - SCOP EN 14825		
Average Climate / Low Temperature [35°C]	SCOP	4.77
	η [%]	190.9
	Label	A+++
	Qhe [kWh]	20453.4
	Pdesignh [kW]	9.9
	Tbivalent [°C]	-7
Cooling		
Cooling capacity - [kW]	A35 / W23-18	11.5
	A25 / W23-18	12.3
	A35 / W12-7	8.6
	A25 / W12-7	8.6
Seasonal space cooling energy efficiency - SEER EN 14825		
[W 23 / 18°C]	SEER	4.69
	Qce [kWh]	5160.0
	η_c [%]	187.5
Sound EN 12102		
Acoustic power - Lw	dB(A)	56.8
Acoustic pressure - Lp	1 m dB(A)	48.8
	5 m dB(A)	34.8
	10 m dB(A)	28.8
Mechanical and operational information		
Compressor type (3~ 400/50)	SCROLL / 1 /	On/Off
Refrigerant	R410A (GWP - 2088)	5 kg
Operating limit temperatures heating - (min / max) [°C]	25 / 65	
Operating limit temperatures source - (min / max) [°C]	-22 / 40	
Weight	275 kg	

Main technical data - WAMAK AiWa 11 EVI H Out

Enclosure type			AiWa-O		Heat energy rejection side data				
Basic dimensions	Height [mm]		1760		Operating limit temperatures heating	MAX [°C]	65		
	Width [mm]		920			MIN [°C]	25		
	Length [mm]		660		for more see operating limits diagram				
Weight [kg]			275		Condenser	Port size	1 "		
Colour			Gray			Type	BPHE		
Enclousure IP Class			IP44			Count	1		
Refrigeration cycle						Material	AISI 316		
Compressor	Type		Scroll		Maximal operating pressure - refrigerant [bar]			45	
	Number of stages		1		Maximal operating pressure - Water [bar]			6	
	On/Off				Testing pressure [bar]			70	
	Power factor Cosφ		0.79		Heat transfer medium			Water	
	Winding resistance		3.20 Ohm		Volume flow @ dT 5K (nom) - Water [m3/h]			2.13	
Refrigerant			R410A		Internal pressure drop - Water [kPa]			12	
	Volme		5 kg		ECM speed circulator - condenser			UPM3 25-75	
	GWP		2088		Flow sensor consumer - analogue			0..10V	
	Safety class		A1		Temperature difference	@ 35 °C (nom)	5 K		
Refrigeration oil type	POE RL32-3MAF					@ 55 °C	8 K		
	Oil volume		1.25 L			@ 65 °C	10 K		
Maximal pressure - refrigerant [bar]			45		Renewable energy extraction side data				
			PED class		Operating limit temperatures source		MIN [°C]	-22	
EVI - vapour injection with economizer								MAX [°C]	40
APS System of liquid subcooling					for more see operating limits diagram				
Reversible operation (cooling)					Evaporator	Type	Cu-coil /Al-fin		
Reverse defrosting with hot gas						Count	1		
Electrical connection data						Material	Cu/Al		
Line voltage [#~ V/Hz]			3~ 400/50		Maximal operating pressure - refrigerant [bar]			28	
Current	nominal [A]		4.28		Heat transfer medium			Air	
	maximal [A]		9.20		Volume flow - Air [m3/h]			3930	
	starting [A]		11.55		Internal pressure drop - Air [kPa]			0.023	
Softstart			MCI 12		Temperature difference - Air			7 K	
Main safety			C20		Number of fans			1	
Control System					Fan diameter [mm]			630	
Main controller	SIEMENS	RVS 21 AVS 55.199							
Extension module	AVS75.3xx	AVS75.3xx	AVS75.372						
Bus Clip-In		LPB OCI346	Modbus OCI352						
Online connection		Web server OZW672	ToSyMo						
Superheat controller			1 - EEV H/C						
*** with accessory									

WAMAK AiWa 11 EVI H Out

ErP (EU) No 811/2013: Technical parameters for heat pump space heaters

Model	AiWa 11 EVI H Out
Air-to-water heat pump	yes
Brine-to-water heat pump	no
Water-to-water heat pump	no
Low-temperature heat pump	no
Equipped with a supplementary heater	no
Heat pump combination heater	no
Temperature application	low (35 °C - 30 °C)
Climate conditions	average

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output at Tdesignh	Prated	9.9	kW	Seasonal space heating energy efficiency	ηs	190.9	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7 °C	Pdh	8.8	kW	Tj = -7 °C	COPd	3.49	-
Tj = +2 °C	Pdh	10.6	kW	Tj = +2 °C	COPd	4.7	-
Tj = +7 °C	Pdh	12.3	kW	Tj = +7 °C	COPd	6.1	-
Tj = +12 °C	Pdh	14.3	kW	Tj = +12 °C	COPd	8.2	-
Tj = bivalent temperature	Pdh	8.5	kW	Tj = bivalent temperature	COPd	3.3	-
Tj = operation limit temperature	Pdh	6.2	kW	Tj = operation limit temperature	COPd	2.4	-
Bivalent temperature	Tbiv	-7	°C	Tj = operation limit temperature	TOL	-22	°C
Power consumption in modes other than active mode				Heating water operating limit temperature	WTOL	65	°C
Off mode	Poff	0.010	kW	Supplementary heater			
Thermostat-off mode	Pto	0.010	kW	Rated heat output	Psup	4.4	kW
Standby mode	Psb	0.010	kW	Type of energy input		electricity	
Crankcase heater mode	Pck	0.020	kW				
Other items							
Capacity control		fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	3930	m3/h
Sound power level				For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	---	m3/h
indoors	Lwa	---	dB				
outdoors	Lwa	57	dB				
Annual energy consumption	QHE	20453.4	kWh				

Contact details: WAMAK, s.r.o., Orovnic 252, 96652, Orovnic, Slovakia, info@wamak.sk

WAMAK AiWa 11 EVI H Out

ErP (EU) No 811/2013: Technical parameters for heat pump space heaters

Model	AiWa 11 EVI H Out
Air-to-water heat pump	yes
Brine-to-water heat pump	no
Water-to-water heat pump	no
Low-temperature heat pump	no
Equipped with a supplementary heater	no
Heat pump combination heater	no
Temperature application	middle (55 °C - 47 °C)
Climate conditions	average

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output at Tdesignh	Prated	10.5	kW	Seasonal space heating energy efficiency	η_s	143.7	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7 °C	Pdh	9.2	kW	Tj = -7 °C	COPd	2.32	-
Tj = +2 °C	Pdh	10.7	kW	Tj = +2 °C	COPd	3.5	-
Tj = +7 °C	Pdh	12.4	kW	Tj = +7 °C	COPd	4.7	-
Tj = +12 °C	Pdh	14.3	kW	Tj = +12 °C	COPd	6.7	-
Tj = bivalent temperature	Pdh	9.0	kW	Tj = bivalent temperature	COPd	2.1	-
Tj = operation limit temperature	Pdh	7.1	kW	Tj = operation limit temperature	COPd	1.7	-
Bivalent temperature	Tbiv	-7	°C	Tj = operation limit temperature	TOL	-22	°C
Power consumption in modes other than active mode				Heating water operating limit temperature	WTOL	65	°C
Off mode	Poff	0.010	kW	Supplementary heater			
Thermostat-off mode	Pto	0.010	kW	Rated heat output	Psup	4.4	kW
Standby mode	Psb	0.010	kW	Type of energy input		electricity	
Crankcase heater mode	Pck	0.020	kW				
Other items							
Capacity control		fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	3930	m ³ /h
Sound power level				For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	---	m ³ /h
indoors	Lwa	---	dB				
outdoors	Lwa	57	dB				
Annual energy consumption	Q _{HE}	21693.0	kWh				

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ENERG

енергия - ενεργεια



WAMAK

AiWa 11 EVI H Out



55 °C

35 °C

A+++

A++

A+

A

B

C

D

A++

A+++



--- dB



57 dB

■ 12
■ 11
■ 11
kW

■ 11
■ 10
■ 10
kW



2019

811/2013

AiWa 11 EVI H Out

ErP Data

	55 °C	35 °C
Energy class	A++	A+++
η [%]	143.7	190.9
P_{rated} [kW]	11	10
Q_{HE} [kWh/y]	21693	20454
SCOP [-]	3.59	4.77
$T_{bivalent}$ [°C]	-7	-7

CONTROLLER



+ QAA55/75

class VII

3.5% ↓

- QAA55/75

class III

1.5% ↓

Heating performance data

Version: v2024.004-AW

Average Climate / Low Temperature [35°C]

ZHI11K1P-TFM_R410A_1_AW

Operating conditions		Qh	P	COP
1	A7 / W30-35	12.4	2.5	4.85
2	A2 / W35	10.6	2.6	4.12
3	A-22 / W35	6.2	2.5	2.45
A	A-7 / W34	8.8	2.5	3.49
B	A2 / W30	10.6	2.3	4.66
C	A7 / W27	12.3	2.0	6.05
D	A12 / W24	14.3	1.7	8.24
E	A-10 / W35	8.5	2.6	3.29
F	A-7 / W34	8.8	2.5	3.49

SCOP DATA EN 14825:2018	
Average Climate / Low Temperature [35°C]	
SCOPon	4.91
SCOPnet	4.95
SCOP	4.77
η [%]	190.93
Label	A+++
Qh [kWh]	20453.40
Pdesignh [kW]	9.9
Tbivalent [°C]	-7.00

Average Climate / Medium Temperature [55°C]

Operating conditions		Qh	P	COP
1	A7 / W47-55	12.3	4.3	2.88
2	A2 / W55	10.9	4.3	2.53
3	A-22 / W55	7.1	4.0	1.66
A	A-7 / W52	9.2	4.0	2.32
B	A2 / W42	10.7	3.1	3.46
C	A7 / W36	12.4	2.6	4.72
D	A12 / W30	14.3	2.1	6.75
E	A-10 / W55	9.0	4.3	2.11
F	A-7 / W55	9.3	4.3	2.17

SCOP DATA EN 14825:2018	
Average Climate / Medium Temperature [55°C]	
SCOPon	3.66
SCOPnet	3.69
SCOP	3.59
η [%]	143.70
Label	A++
Qh [kWh]	21693.00
Pdesignh [kW]	10.5
Tbivalent [°C]	-7.00

Cooling performance data

Low temperature cooling W 12 / 7°C

Operating conditions		Qc	P	EER
A	A35 / W12-7	8.6	3.2	2.71
B	A30 / W12-7	8.9	2.8	3.19
C	A25 / W12-7	9.2	2.4	3.75
D	A20 / W12-7	9.4	2.1	4.40

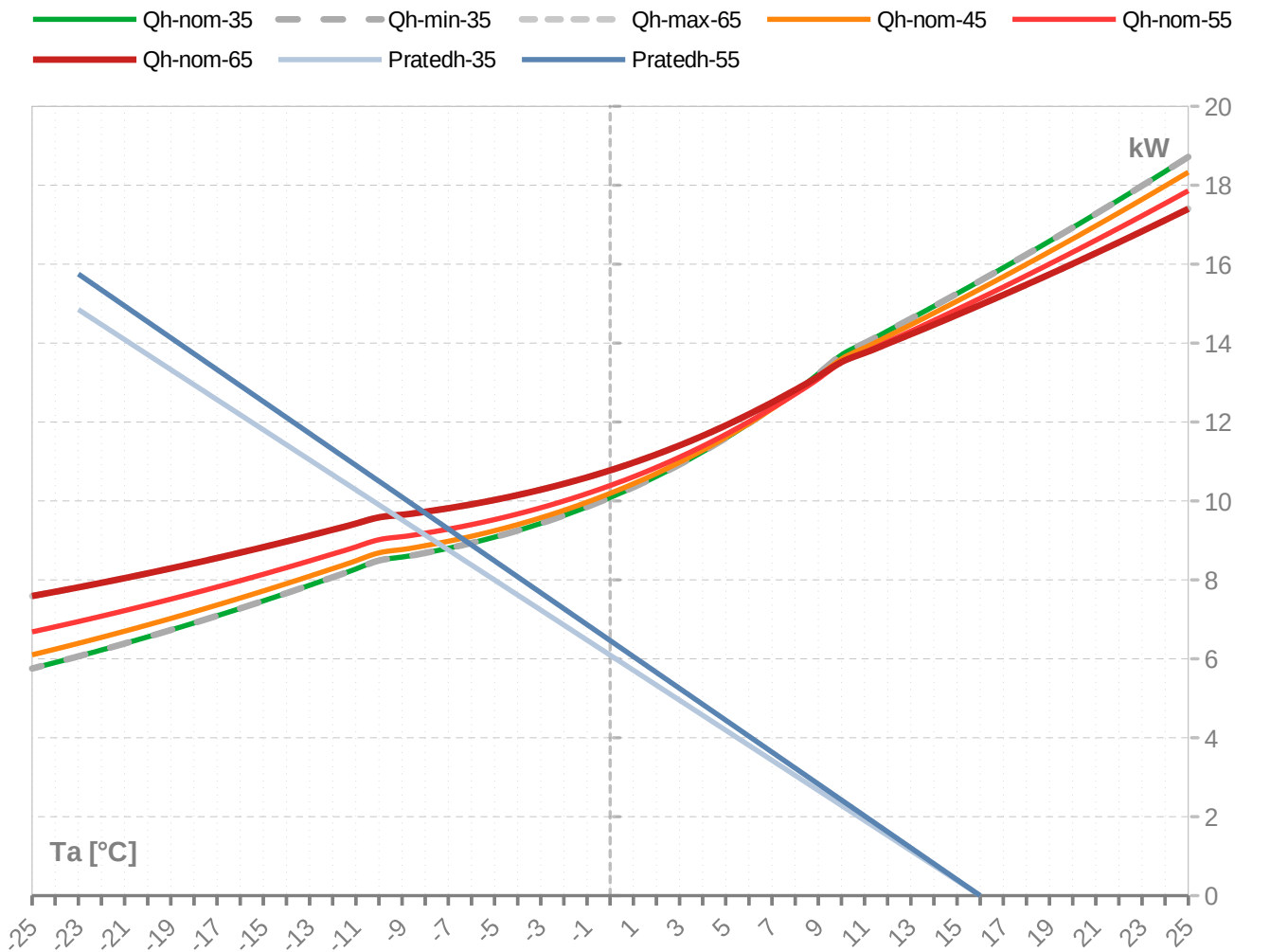
SEER DATA EN 14825:2018 [W 12 / 7°C]	
SEERon	3.64
SEER	3.52
Qc [kWh]	5160.00
η [%]	140.89

Radiant cooling W 23 / 18°C

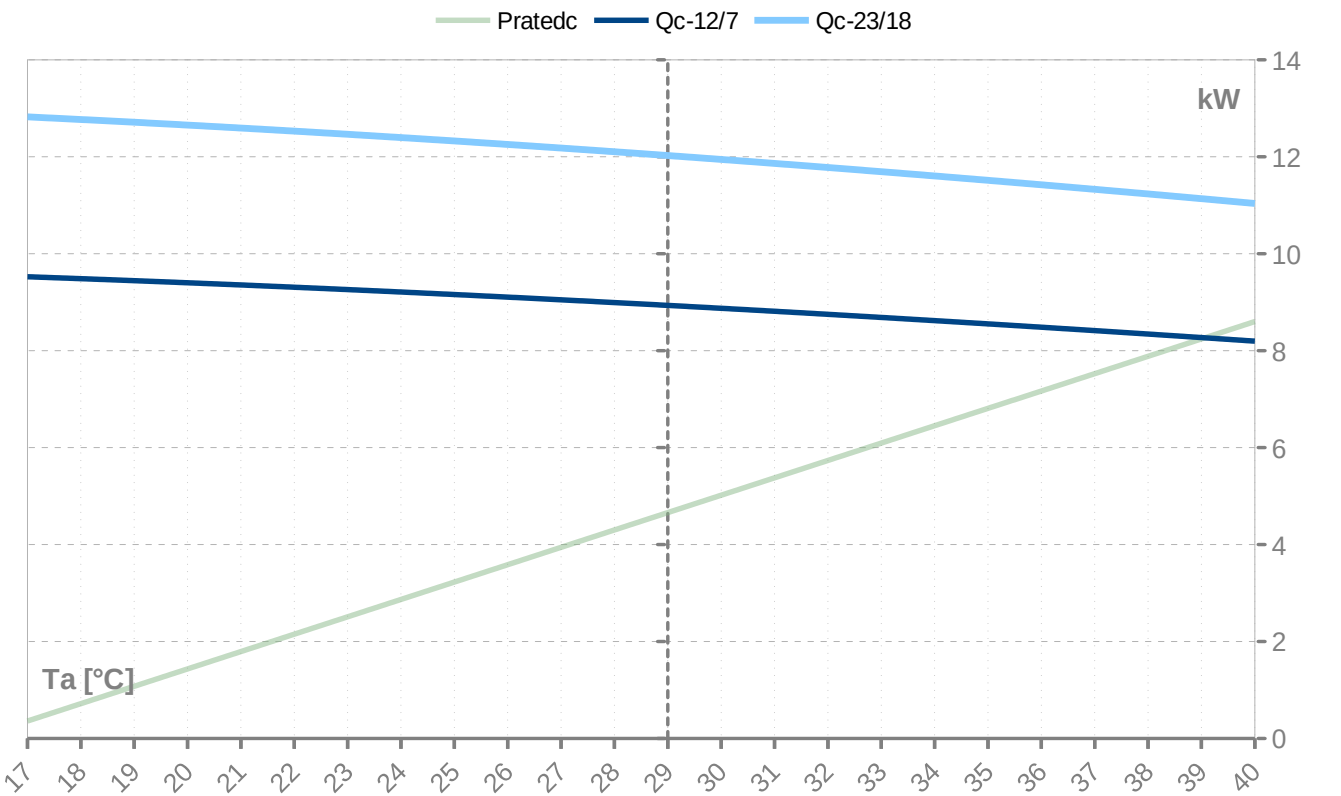
Operating conditions		Qc	P	EER
A	A35 / W23-18	11.5	3.2	3.65
B	A30 / W23-18	11.9	2.5	4.30
C	A25 / W23-18	12.3	2.2	5.05
D	A20 / W23-18	12.7	1.8	5.92

SEER DATA EN 14825:2018 [W 23 / 18°C]	
SEERon	4.90
SEER	4.69
Qc [kWh]	5160.00
η [%]	187.55

Performance lines - heating



Performance lines - cooling



Th [°C]		35 °C								
Ta [°C]	Qh nom [kW]	Qh min [kW]	Qh max [kW]	Pin nom [kW]	Pin-min [kW]	Pin-max [kW]	COP kW / kW	I nom [A]	I min [A]	I max [A]
25	15.9	15.9		2.4	2.4		6.68	4.1	4.1	
24	15.9	15.9		2.4	2.4		6.68	4.1	4.1	
23	15.9	15.9		2.4	2.4		6.68	4.1	4.1	
22	15.9	15.9		2.4	2.4		6.68	4.1	4.1	
21	15.9	15.9		2.4	2.4		6.68	4.1	4.1	
20	15.9	15.9		2.4	2.4		6.68	4.1	4.1	
19	15.9	15.9		2.4	2.4		6.68	4.1	4.1	
18	15.9	15.9		2.4	2.4		6.68	4.1	4.1	
17	15.9	15.9		2.4	2.4		6.68	4.1	4.1	
16	15.6	15.6	15.6	2.4	2.4	2.4	6.49	4.2	4.2	4.2
15	15.3	15.3	15.3	2.4	2.4	2.4	6.30	4.2	4.2	4.2
14	14.9	14.9	14.9	2.4	2.4	2.4	6.12	4.2	4.2	4.2
13	14.6	14.6	14.6	2.5	2.5	2.5	5.95	4.2	4.2	4.2
12	14.3	14.3	14.3	2.5	2.5	2.5	5.79	4.2	4.2	4.2
11	14.0	14.0	14.0	2.5	2.5	2.5	5.63	4.3	4.3	4.3
10	13.7	13.7	13.7	2.5	2.5	2.5	5.48	4.3	4.3	4.3
9	13.2	13.2	13.2	2.5	2.5	2.5	5.25	4.3	4.3	4.3
8	12.8	12.8	12.8	2.5	2.5	2.5	5.04	4.3	4.3	4.3
7	12.4	12.4	12.4	2.5	2.5	2.5	4.85	4.3	4.3	4.3
6	12.0	12.0	12.0	2.6	2.6	2.6	4.68	4.3	4.3	4.3
5	11.6	11.6	11.6	2.6	2.6	2.6	4.52	4.3	4.3	4.3
4	11.2	11.2	11.2	2.6	2.6	2.6	4.37	4.4	4.4	4.4
3	10.9	10.9	10.9	2.6	2.6	2.6	4.24	4.4	4.4	4.4
2	10.6	10.6	10.6	2.6	2.6	2.6	4.12	4.4	4.4	4.4
1	10.3	10.3	10.3	2.6	2.6	2.6	4.00	4.4	4.4	4.4
0	10.1	10.1	10.1	2.6	2.6	2.6	3.90	4.4	4.4	4.4
-1	9.8	9.8	9.8	2.6	2.6	2.6	3.81	4.4	4.4	4.4
-2	9.6	9.6	9.6	2.6	2.6	2.6	3.72	4.4	4.4	4.4
-3	9.4	9.4	9.4	2.6	2.6	2.6	3.65	4.4	4.4	4.4
-4	9.2	9.2	9.2	2.6	2.6	2.6	3.58	4.4	4.4	4.4
-5	9.1	9.1	9.1	2.6	2.6	2.6	3.51	4.4	4.4	4.4
-6	8.9	8.9	8.9	2.6	2.6	2.6	3.46	4.4	4.4	4.4
-7	8.8	8.8	8.8	2.6	2.6	2.6	3.41	4.4	4.4	4.4
-8	8.7	8.7	8.7	2.6	2.6	2.6	3.36	4.4	4.4	4.4
-9	8.6	8.6	8.6	2.6	2.6	2.6	3.32	4.4	4.4	4.4
-10	8.5	8.5	8.5	2.6	2.6	2.6	3.29	4.4	4.4	4.4
-11	8.3	8.3	8.3	2.6	2.6	2.6	3.21	4.4	4.4	4.4
-12	8.1	8.1	8.1	2.6	2.6	2.6	3.13	4.4	4.4	4.4
-13	7.9	7.9	7.9	2.6	2.6	2.6	3.06	4.4	4.4	4.4
-14	7.7	7.7	7.7	2.6	2.6	2.6	2.98	4.3	4.3	4.3
-15	7.5	7.5	7.5	2.6	2.6	2.6	2.91	4.3	4.3	4.3
-16	7.3	7.3	7.3	2.6	2.6	2.6	2.84	4.3	4.3	4.3
-17	7.1	7.1	7.1	2.6	2.6	2.6	2.77	4.3	4.3	4.3
-18	6.9	6.9	6.9	2.6	2.6	2.6	2.70	4.3	4.3	4.3
-19	6.7	6.7	6.7	2.6	2.6	2.6	2.64	4.3	4.3	4.3
-20	6.6	6.6	6.6	2.5	2.5	2.5	2.57	4.3	4.3	4.3
-21	6.4	6.4	6.4	2.5	2.5	2.5	2.51	4.3	4.3	4.3
-22	6.2	6.2	6.2	2.5	2.5	2.5	2.45	4.3	4.3	4.3
-23	6.1	6.1	6.1	2.5	2.5	2.5	2.39	4.3	4.3	4.3
-24	5.9	5.9	5.9	2.5	2.5	2.5	2.33	4.3	4.3	4.3
-25	5.8	5.8	5.8	2.5	2.5	2.5	2.27	4.3	4.3	4.3

* attention: operating limits not reflected in performance table

ZHI11K1P-TFM_R410A_1_AW

Th [°C]		45 °C								
Ta [°C]	Qh nom [kW]	Qh min [kW]	Qh max [kW]	Pin nom [kW]	Pin-min [kW]	Pin-max [kW]	COP kW / kW	I nom [A]	I min [A]	I max [A]
25	18.3	18.3	18.3	3.0	3.0	3.0	6.02	4.9	4.9	4.9
24	18.0	18.0	18.0	3.1	3.1	3.1	5.86	4.9	4.9	4.9
23	17.6	17.6	17.6	3.1	3.1	3.1	5.70	5.0	5.0	5.0
22	17.3	17.3	17.3	3.1	3.1	3.1	5.55	5.0	5.0	5.0
21	17.0	17.0	17.0	3.1	3.1	3.1	5.41	5.0	5.0	5.0
20	16.6	16.6	16.6	3.2	3.2	3.2	5.27	5.0	5.0	5.0
19	16.3	16.3	16.3	3.2	3.2	3.2	5.14	5.1	5.1	5.1
18	16.0	16.0	16.0	3.2	3.2	3.2	5.01	5.1	5.1	5.1
17	15.7	15.7	15.7	3.2	3.2	3.2	4.89	5.1	5.1	5.1
16	15.4	15.4	15.4	3.2	3.2	3.2	4.77	5.1	5.1	5.1
15	15.1	15.1	15.1	3.2	3.2	3.2	4.65	5.1	5.1	5.1
14	14.8	14.8	14.8	3.2	3.2	3.2	4.54	5.1	5.1	5.1
13	14.5	14.5	14.5	3.3	3.3	3.3	4.44	5.2	5.2	5.2
12	14.2	14.2	14.2	3.3	3.3	3.3	4.33	5.2	5.2	5.2
11	13.9	13.9	13.9	3.3	3.3	3.3	4.23	5.2	5.2	5.2
10	13.6	13.6	13.6	3.3	3.3	3.3	4.14	5.2	5.2	5.2
9	13.1	13.1	13.1	3.3	3.3	3.3	3.99	5.2	5.2	5.2
8	12.7	12.7	12.7	3.3	3.3	3.3	3.85	5.2	5.2	5.2
7	12.3	12.3	12.3	3.3	3.3	3.3	3.72	5.2	5.2	5.2
6	12.0	12.0	12.0	3.3	3.3	3.3	3.61	5.2	5.2	5.2
5	11.6	11.6	11.6	3.3	3.3	3.3	3.50	5.2	5.2	5.2
4	11.3	11.3	11.3	3.3	3.3	3.3	3.40	5.2	5.2	5.2
3	11.0	11.0	11.0	3.3	3.3	3.3	3.30	5.2	5.2	5.2
2	10.7	10.7	10.7	3.3	3.3	3.3	3.22	5.2	5.2	5.2
1	10.4	10.4	10.4	3.3	3.3	3.3	3.14	5.2	5.2	5.2
0	10.2	10.2	10.2	3.3	3.3	3.3	3.07	5.2	5.2	5.2
-1	10.0	10.0	10.0	3.3	3.3	3.3	3.00	5.2	5.2	5.2
-2	9.8	9.8	9.8	3.3	3.3	3.3	2.94	5.2	5.2	5.2
-3	9.6	9.6	9.6	3.3	3.3	3.3	2.89	5.2	5.2	5.2
-4	9.4	9.4	9.4	3.3	3.3	3.3	2.84	5.2	5.2	5.2
-5	9.2	9.2	9.2	3.3	3.3	3.3	2.79	5.2	5.2	5.2
-6	9.1	9.1	9.1	3.3	3.3	3.3	2.75	5.2	5.2	5.2
-7	9.0	9.0	9.0	3.3	3.3	3.3	2.71	5.2	5.2	5.2
-8	8.9	8.9	8.9	3.3	3.3	3.3	2.68	5.2	5.2	5.2
-9	8.8	8.8	8.8	3.3	3.3	3.3	2.65	5.2	5.2	5.2
-10	8.7	8.7	8.7	3.3	3.3	3.3	2.63	5.2	5.2	5.2
-11	8.5	8.5	8.5	3.3	3.3	3.3	2.57	5.2	5.2	5.2
-12	8.3	8.3	8.3	3.3	3.3	3.3	2.51	5.2	5.2	5.2
-13	8.1	8.1	8.1	3.3	3.3	3.3	2.45	5.2	5.2	5.2
-14	7.9	7.9	7.9	3.3	3.3	3.3	2.40	5.2	5.2	5.2
-15	7.7	7.7	7.7	3.3	3.3	3.3	2.35	5.2	5.2	5.2
-16	7.5	7.5	7.5	3.3	3.3	3.3	2.29	5.2	5.2	5.2
-17	7.4	7.4	7.4	3.3	3.3	3.3	2.24	5.2	5.2	5.2
-18	7.2	7.2	7.2	3.3	3.3	3.3	2.19	5.2	5.2	5.2
-19	7.0	7.0	7.0	3.3	3.3	3.3	2.14	5.2	5.2	5.2
-20	6.9	6.9	6.9	3.3	3.3	3.3	2.09	5.2	5.2	5.2
-21	6.7	6.7	6.7	3.3	3.3	3.3	2.04	5.2	5.2	5.2
-22	6.5	6.5	6.5	3.3	3.3	3.3	2.00	5.2	5.2	5.2
-23	6.4	6.4	6.4	3.3	3.3	3.3	1.95	5.2	5.2	5.2
-24	6.2	6.2	6.2	3.3	3.3	3.3	1.91	5.2	5.2	5.2
-25	6.1	6.1	6.1	3.3	3.3	3.3	1.86	5.2	5.2	5.2

* attention: operating limits not reflected in performance table

Th [°C]		55 °C								
Ta [°C]	Qh nom [kW]	Qh min [kW]	Qh max [kW]	Pin nom [kW]	Pin-min [kW]	Pin-max [kW]	COP kW / kW	I nom [A]	I min [A]	I max [A]
25	17.9	17.9	17.9	4.1	4.1	4.1	4.35	6.2	6.2	6.2
24	17.5	17.5	17.5	4.1	4.1	4.1	4.25	6.2	6.2	6.2
23	17.2	17.2	17.2	4.1	4.1	4.1	4.15	6.3	6.3	6.3
22	16.9	16.9	16.9	4.2	4.2	4.2	4.06	6.3	6.3	6.3
21	16.6	16.6	16.6	4.2	4.2	4.2	3.98	6.3	6.3	6.3
20	16.3	16.3	16.3	4.2	4.2	4.2	3.89	6.3	6.3	6.3
19	16.0	16.0	16.0	4.2	4.2	4.2	3.81	6.3	6.3	6.3
18	15.7	15.7	15.7	4.2	4.2	4.2	3.73	6.4	6.4	6.4
17	15.4	15.4	15.4	4.2	4.2	4.2	3.65	6.4	6.4	6.4
16	15.1	15.1	15.1	4.2	4.2	4.2	3.57	6.4	6.4	6.4
15	14.9	14.9	14.9	4.2	4.2	4.2	3.50	6.4	6.4	6.4
14	14.6	14.6	14.6	4.3	4.3	4.3	3.43	6.4	6.4	6.4
13	14.3	14.3	14.3	4.3	4.3	4.3	3.36	6.4	6.4	6.4
12	14.0	14.0	14.0	4.3	4.3	4.3	3.29	6.4	6.4	6.4
11	13.8	13.8	13.8	4.3	4.3	4.3	3.22	6.4	6.4	6.4
10	13.5	13.5	13.5	4.3	4.3	4.3	3.16	6.4	6.4	6.4
9	13.1	13.1	13.1	4.3	4.3	4.3	3.06	6.4	6.4	6.4
8	12.7	12.7	12.7	4.3	4.3	4.3	2.96	6.4	6.4	6.4
7	12.3	12.3	12.3	4.3	4.3	4.3	2.88	6.4	6.4	6.4
6	12.0	12.0	12.0	4.3	4.3	4.3	2.80	6.5	6.5	6.5
5	11.7	11.7	11.7	4.3	4.3	4.3	2.72	6.5	6.5	6.5
4	11.4	11.4	11.4	4.3	4.3	4.3	2.65	6.5	6.5	6.5
3	11.1	11.1	11.1	4.3	4.3	4.3	2.59	6.5	6.5	6.5
2	10.9	10.9	10.9	4.3	4.3	4.3	2.53	6.5	6.5	6.5
1	10.6	10.6	10.6	4.3	4.3	4.3	2.47	6.4	6.4	6.4
0	10.4	10.4	10.4	4.3	4.3	4.3	2.42	6.4	6.4	6.4
-1	10.2	10.2	10.2	4.3	4.3	4.3	2.38	6.4	6.4	6.4
-2	10.0	10.0	10.0	4.3	4.3	4.3	2.33	6.4	6.4	6.4
-3	9.8	9.8	9.8	4.3	4.3	4.3	2.29	6.4	6.4	6.4
-4	9.7	9.7	9.7	4.3	4.3	4.3	2.26	6.4	6.4	6.4
-5	9.5	9.5	9.5	4.3	4.3	4.3	2.23	6.4	6.4	6.4
-6	9.4	9.4	9.4	4.3	4.3	4.3	2.20	6.4	6.4	6.4
-7	9.3	9.3	9.3	4.3	4.3	4.3	2.17	6.4	6.4	6.4
-8	9.2	9.2	9.2	4.3	4.3	4.3	2.15	6.4	6.4	6.4
-9	9.1	9.1	9.1	4.3	4.3	4.3	2.13	6.4	6.4	6.4
-10	9.0	9.0	9.0	4.3	4.3	4.3	2.11	6.4	6.4	6.4
-11	8.8	8.8	8.8	4.3	4.3	4.3	2.07	6.4	6.4	6.4
-12	8.7	8.7	8.7	4.3	4.3	4.3	2.03	6.4	6.4	6.4
-13	8.5	8.5	8.5	4.3	4.3	4.3	1.99	6.4	6.4	6.4
-14	8.3	8.3	8.3	4.3	4.3	4.3	1.95	6.4	6.4	6.4
-15	8.1	8.1	8.1	4.3	4.3	4.3	1.91	6.4	6.4	6.4
-16	8.0	8.0	8.0	4.3	4.3	4.3	1.87	6.4	6.4	6.4
-17	7.8	7.8	7.8	4.3	4.3	4.3	1.83	6.4	6.4	6.4
-18	7.7	7.7	7.7	4.3	4.3	4.3	1.80	6.4	6.4	6.4
-19	7.5	7.5	7.5	4.3	4.3	4.3	1.76	6.4	6.4	6.4
-20	7.4	7.4	7.4	4.3	4.3	4.3	1.72	6.4	6.4	6.4
-21	7.2	7.2	7.2	4.3	4.3	4.3	1.69	6.4	6.4	6.4
-22	7.1	7.1	7.1	4.3	4.3	4.3	1.66	6.4	6.4	6.4
-23	6.9	6.9	6.9	4.3	4.3	4.3	1.62	6.4	6.4	6.4
-24	6.8	6.8	6.8	4.3	4.3	4.3	1.59	6.4	6.4	6.4
-25	6.7	6.7	6.7	4.3	4.3	4.3	1.56	6.4	6.4	6.4

* attention: operating limits not reflected in performance table

Th [°C]		T-Max @ 65 °C								
Ta [°C]	Qh nom [kW]	Qh min [kW]	Qh max [kW]	Pin nom [kW]	Pin-min [kW]	Pin-max [kW]	COP kW / kW	I nom [A]	I min [A]	I max [A]
25	17.4	17.4	17.4	5.4	5.4	5.4	3.21	8.0	8.0	8.0
24	17.1	17.1	17.1	5.4	5.4	5.4	3.15	8.0	8.0	8.0
23	16.8	16.8	16.8	5.5	5.5	5.5	3.09	8.0	8.0	8.0
22	16.6	16.6	16.6	5.5	5.5	5.5	3.03	8.0	8.0	8.0
21	16.3	16.3	16.3	5.5	5.5	5.5	2.97	8.0	8.0	8.0
20	16.0	16.0	16.0	5.5	5.5	5.5	2.92	8.0	8.0	8.0
19	15.7	15.7	15.7	5.5	5.5	5.5	2.87	8.1	8.1	8.1
18	15.5	15.5	15.5	5.5	5.5	5.5	2.81	8.1	8.1	8.1
17	15.2	15.2	15.2	5.5	5.5	5.5	2.76	8.1	8.1	8.1
16	15.0	15.0	15.0	5.5	5.5	5.5	2.71	8.1	8.1	8.1
15	14.7	14.7	14.7	5.5	5.5	5.5	2.66	8.1	8.1	8.1
14	14.5	14.5	14.5	5.5	5.5	5.5	2.62	8.1	8.1	8.1
13	14.2	14.2	14.2	5.5	5.5	5.5	2.57	8.1	8.1	8.1
12	14.0	14.0	14.0	5.5	5.5	5.5	2.53	8.1	8.1	8.1
11	13.7	13.7	13.7	5.5	5.5	5.5	2.48	8.1	8.1	8.1
10	13.5	13.5	13.5	5.5	5.5	5.5	2.44	8.1	8.1	8.1
9	13.2	13.2	13.2	5.5	5.5	5.5	2.37	8.1	8.1	8.1
8	12.8	12.8	12.8	5.5	5.5	5.5	2.31	8.1	8.1	8.1
7	12.5	12.5	12.5	5.6	5.6	5.6	2.25	8.1	8.1	8.1
6	12.2	12.2	12.2	5.6	5.6	5.6	2.20	8.1	8.1	8.1
5	11.9	11.9	11.9	5.6	5.6	5.6	2.15	8.1	8.1	8.1
4	11.7	11.7	11.7	5.6	5.6	5.6	2.10	8.1	8.1	8.1
3	11.4	11.4	11.4	5.6	5.6	5.6	2.05	8.1	8.1	8.1
2	11.2	11.2	11.2	5.6	5.6	5.6	2.01	8.1	8.1	8.1
1	11.0	11.0	11.0	5.6	5.6	5.6	1.98	8.1	8.1	8.1
0	10.8	10.8	10.8	5.6	5.6	5.6	1.94	8.1	8.1	8.1
-1	10.6	10.6	10.6	5.6	5.6	5.6	1.91	8.1	8.1	8.1
-2	10.4	10.4	10.4	5.6	5.6	5.6	1.88	8.1	8.1	8.1
-3	10.3	10.3	10.3	5.6	5.6	5.6	1.85	8.1	8.1	8.1
-4	10.1	10.1	10.1	5.6	5.6	5.6	1.83	8.1	8.1	8.1
-5	10.0	10.0	10.0	5.6	5.6	5.6	1.80	8.1	8.1	8.1
-6	9.9	9.9	9.9	5.6	5.6	5.6	1.78	8.1	8.1	8.1
-7	9.8	9.8	9.8	5.6	5.6	5.6	1.77	8.1	8.1	8.1
-8	9.7	9.7	9.7	5.6	5.6	5.6	1.75	8.1	8.1	8.1
-9	9.6	9.6	9.6	5.6	5.6	5.6	1.74	8.1	8.1	8.1
-10	9.6	9.6	9.6	5.6	5.6	5.6	1.72	8.1	8.1	8.1
-11	9.4	9.4	9.4	5.6	5.6	5.6	1.70	8.1	8.1	8.1
-12	9.3	9.3	9.3	5.6	5.6	5.6	1.67	8.1	8.1	8.1
-13	9.1	9.1	9.1	5.6	5.6	5.6	1.64	8.1	8.1	8.1
-14	9.0	9.0	9.0	5.6	5.6	5.6	1.61	8.1	8.1	8.1
-15	8.8	8.8	8.8	5.6	5.6	5.6	1.59	8.1	8.1	8.1
-16										
-17										
-18										
-19										
-20										
-21										
-22										
-23										
-24										
-25										

* attention: operating limits not reflected in performance table

Tc [°C]		W 12 / 7 °C								
Ta [°C]	Qc nom [kW]	Qc min [kW]	Qc max [kW]	Pin [kW]	Pin min [kW]	Pin max [kW]	EER kW / kW	I nom [A]	I min [A]	I max [A]
40	8.2	8.2	8.2	3.6	3.6	3.6	2.29	5.6	5.6	5.6
39	8.3	8.3	8.3	3.5	3.5	3.5	2.37	5.4	5.4	5.4
38	8.3	8.3	8.3	3.4	3.4	3.4	2.45	5.3	5.3	5.3
37	8.4	8.4	8.4	3.3	3.3	3.3	2.53	5.2	5.2	5.2
36	8.5	8.5	8.5	3.2	3.2	3.2	2.62	5.1	5.1	5.1
35	8.6	8.6	8.6	3.2	3.2	3.2	2.71	5.0	5.0	5.0
34	8.6	8.6	8.6	3.1	3.1	3.1	2.80	4.9	4.9	4.9
33	8.7	8.7	8.7	3.0	3.0	3.0	2.90	4.8	4.8	4.8
32	8.7	8.7	8.7	2.9	2.9	2.9	2.99	4.8	4.8	4.8
31	8.8	8.8	8.8	2.9	2.9	2.9	3.09	4.7	4.7	4.7
30	8.9	8.9	8.9	2.8	2.8	2.8	3.19	4.6	4.6	4.6
29	8.9	8.9	8.9	2.7	2.7	2.7	3.30	4.5	4.5	4.5
28	9.0	9.0	9.0	2.6	2.6	2.6	3.41	4.4	4.4	4.4
27	9.0	9.0	9.0	2.6	2.6	2.6	3.52	4.3	4.3	4.3
26	9.1	9.1	9.1	2.5	2.5	2.5	3.63	4.3	4.3	4.3
25	9.2	9.2	9.2	2.4	2.4	2.4	3.75	4.2	4.2	4.2
24	9.2	9.2	9.2	2.4	2.4	2.4	3.87	4.1	4.1	4.1
23	9.3	9.3	9.3	2.3	2.3	2.3	4.00	4.1	4.1	4.1
22	9.3	9.3	9.3	2.3	2.3	2.3	4.13	4.0	4.0	4.0
21	9.4	9.4	9.4	2.2	2.2	2.2	4.26	3.9	3.9	3.9
20	9.4	9.4	9.4	2.1	2.1	2.1	4.40	3.9	3.9	3.9
19	9.4	9.4	9.4	2.1	2.1	2.1	4.54	3.8	3.8	3.8
18	9.5	9.5	9.5	2.0	2.0	2.0	4.69	3.7	3.7	3.7
17	9.5	9.5	9.5	2.0	2.0	2.0	4.84	3.7	3.7	3.7

Tc [°C]		W 23 / 18 °C								
Ta [°C]	Qc [kW]	Qh-min [kW]	Qh-max [kW]	Pin [kW]	Pin-min [kW]	Pin-max [kW]	EER kW / kW	I [A]	I-min [A]	I-max [A]
40	11.0	11.0	11.0	3.6	3.6	3.6	3.08	5.5	5.5	5.5
39	11.1	11.1	11.1	3.5	3.5	3.5	3.19	5.4	5.4	5.4
38	11.2	11.2	11.2	3.4	3.4	3.4	3.30	5.3	5.3	5.3
37	11.3	11.3	11.3	3.3	3.3	3.3	3.41	5.2	5.2	5.2
36	11.4	11.4	11.4	3.2	3.2	3.2	3.53	5.1	5.1	5.1
35	11.5	11.5	11.5	3.2	3.2	3.2	3.65	5.0	5.0	5.0
34	11.6	11.6	11.6	3.1	3.1	3.1	3.77	4.9	4.9	4.9
33	11.7	11.7	11.7	3.0	3.0	3.0	3.90	4.8	4.8	4.8
32	11.8	11.8	11.8	2.9	2.9	2.9	4.03	4.7	4.7	4.7
31	11.9	11.9	11.9	2.9	2.9	2.9	4.16	4.6	4.6	4.6
30	11.9	11.9	11.9	2.8	2.8	2.8	4.30	4.5	4.5	4.5
29	12.0	12.0	12.0	2.7	2.7	2.7	4.44	4.4	4.4	4.4
28	12.1	12.1	12.1	2.6	2.6	2.6	4.59	4.3	4.3	4.3
27	12.2	12.2	12.2	2.6	2.6	2.6	4.74	4.2	4.2	4.2
26	12.3	12.3	12.3	2.5	2.5	2.5	4.89	4.2	4.2	4.2
25	12.3	12.3	12.3	2.4	2.4	2.4	5.05	4.1	4.1	4.1
24	12.4	12.4	12.4	2.4	2.4	2.4	5.21	4.0	4.0	4.0
23	12.5	12.5	12.5	2.3	2.3	2.3	5.38	3.9	3.9	3.9
22	12.5	12.5	12.5	2.3	2.3	2.3	5.55	3.9	3.9	3.9
21	12.6	12.6	12.6	2.2	2.2	2.2	5.73	3.8	3.8	3.8
20	12.7	12.7	12.7	2.1	2.1	2.1	5.92	3.7	3.7	3.7
19	12.7	12.7	12.7	2.1	2.1	2.1	6.11	3.6	3.6	3.6
18	12.8	12.8	12.8	2.0	2.0	2.0	6.31	3.6	3.6	3.6
17	12.8	12.8	12.8	2.0	2.0	2.0	6.52	3.5	3.5	3.5

* attention: operating limits not reflected in performance table

LEGENDE:

Ts-IN: Temperature renewable source - inlet [°C]

Th-OU: Temperature heating - outlet (flow) [°C]

Tc-OU: Temperature cooling - outlet (flow) [°C]

Qh nom: Heating capacity nominal

Qh min: Heating capacity minimal

Qh max: Heating capacity maximal

Pin nom: Power input at nominal heating capacity

Pin min: Power input at minimal heating capacity

Pin max: Power input at maximal heating capacity

COP nom: coefficient of performance at nominal heating capacity

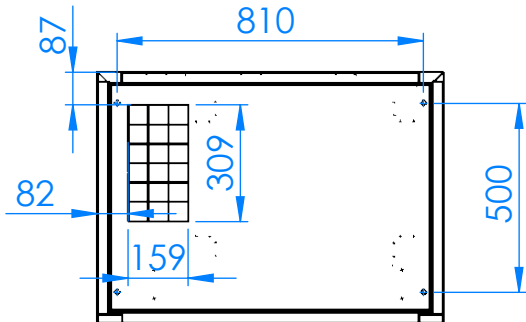
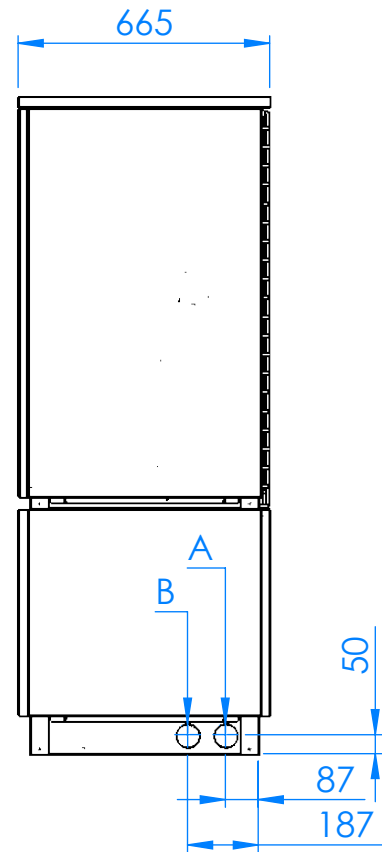
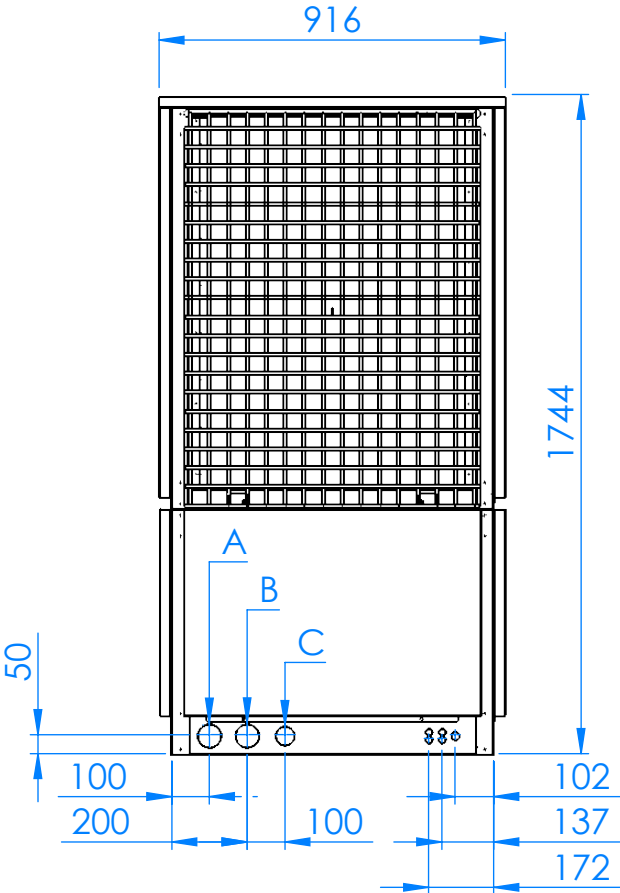
Qc nom: cooling / heat extraction capacity at nominal heating capacity

Qc min: cooling / heat extraction at minimal heating capacity

Qc max: cooling / heat extraction at maximal heating capacity

I nom: Current at nominal heating capacity

EER: energy efficiency ratio at nominal cooling capacity



- A -  Red compressor and condenser coil symbol
- B -  Blue evaporator coil symbol
- C - condens

