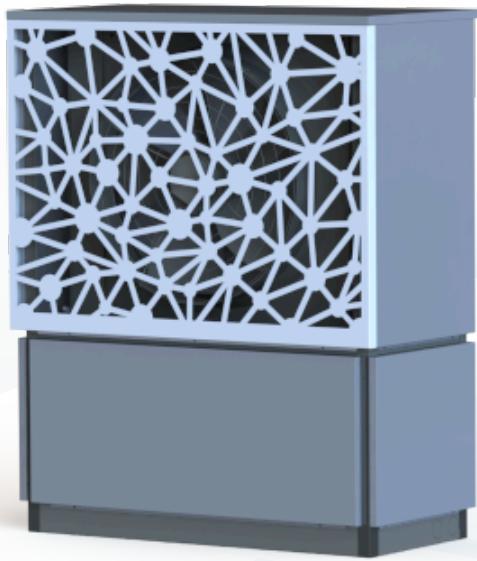




Heat pump



AiWa 23 EVI
H Out

WAMAK AiWa 23 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 multi-family dwellings, suburban mixed-use buildings or commercial operations. The Urban range is based on a robust construction quality steel for all parts. High quality, long proven heat pump circuit components extend the life of the heat pump.

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
- Asymmetric 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)
- Plate exchanger protection HG-BYPASS
- Mixed heating/cooling circuit control - (with accessory)
- DHW switching control - (with accessory)
- Outdoor temperature sensor
- Buffer temperature sensor
- Modbus connection - (with accessory)
- 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
- 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

Basic performance data - WAMAK AiWa 23 EVI H Out

Heating - EN 14511		
Heating capacity [kW]	A7 / W35	26.0
	A2 / W35	22.2
	A-7 / W34	18.4
Electrical power input [kW]	A7 / W35	5.9
	A2 / W35	5.8
	A-7 / W34	5.5
Heating efficiency faktor [COP]	A7 / W35	4.40
	A2 / W35	3.84
	A-7 / W34	3.34
Seasonal space heating energy efficiency - SCOP EN 14825		
Average Climate / Low Temperature [35°C]	SCOP	4.24
	η [%]	169.6
	Label	A+++
	Qhe [kWh]	42972.8
	Pdesignh [kW]	20.8
	Tbivalent [°C]	-7
Cooling		
Cooling capacity - [kW]	A35 / W23-18	24.5
	A25 / W23-18	25.7
	A35 / W12-7	18.2
	A25 / W12-7	18.2
Seasonal space cooling energy efficiency - SEER EN 14825		
[W 23 / 18°C]	SEER	4.29
	Qce [kWh]	10920.0
	ηc [%]	171.6
Sound EN 12102		
Acoustic power - Lw	dB(A)	68
Acoustic pressure - Lp	1 m dB(A)	60
	5 m dB(A)	46
	10 m dB(A)	40
Mechanical and operational information		
Compressor type (3~ 400/50)	SCROLL / 1 /	On/Off
Refrigerant	R410A (GWP - 2088)	7.9 kg
Operating limit temperatures heating - (min / max) [°C]	25 / 65	
Operating limit temperatures source - (min / max) [°C]	-22 / 40	
Weight	315 kg	

Main technical data - WAMAK AiWa 23 EVI H Out

Enclosure type		AiWa-O-1200	
Basic dimensions	Height [mm]	1760	Operating limit temperatures heating
	Width [mm]	1420	MAX [°C]
	Length [mm]	660	MIN [°C]
for more see operating limits diagram			
Weight [kg]	315	Condenser	Port size
Colour	Gray		Type
Enclosure IP Class	IP44		Count
Refrigeration cycle			Material
Compressor	Type	Scroll	Maximal operating pressure - refrigerant [bar]
	Number of stages	1	Maximal operating pressure - Water [bar]
	On/Off		Testing pressure [bar]
	Power factor Cosφ	0.65	Heat transfer medium
	Winding resistance	1.38 Ohm	Volume flow - Water [m ³ /h]
Refrigerant		R410A	Internal pressure drop - Water [kPa]
	Volme	7.9 kg	ECM speed circulator - condenser
	GWP	2088	UPMXL GEO 32-125
	Safety class	A1	Flow sensor consumer - analogue
Refrigeration oil type	POE RL32-3MAF		Temperature difference @ 35°C (nom)
	Oil volume	1.77 L	@ 55°C
			@ 65°C
Maximal pressure - refrigerant [bar]	45	Renewable energy extraction side data	
PED class	1	Operating limit temperatures source	MIN [°C]
EVI - vapour injection with economizer			MAX [°C]
APS System of liquid subcooling		for more see operating limits diagram	
Reversible operation (cooling)		Evaporator	Type
Reverse defrosting with hot gas			Count
Plate exchanger protection HG-BYPASS			Material
Electrical connection data			Maximal operating pressure - refrigerant [bar]
Line voltage [#~ V/Hz]	3~ 400/50		Heat transfer medium
Current	nominal [A]	11.80	Volume flow - Air [m ³ /h]
	maximal [A]	18.60	Internal pressure drop - Air [kPa]
	starting [A]	29.7	Temperature difference - Air
Softstart	MCI 25		Number of fans
Main safety	C32		Fan diameter [mm]
Control System			800
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 23 EVI H Out

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

Model	AiWa 23 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	20.8	kW	Seasonal space heating energy efficiency	ηs	169.6	%
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	18.4	kW	Tj = -7 °C	COPd	3.34	-
Tj = +2 °C	Pdh	22.0	kW	Tj = +2 °C	COPd	4.2	-
Tj = +7 °C	Pdh	25.8	kW	Tj = +7 °C	COPd	5.1	-
Tj = +12 °C	Pdh	30.3	kW	Tj = +12 °C	COPd	6.3	-
Tj = bivalent temperature	Pdh	17.8	kW	Tj = bivalent temperature	COPd	3.2	-
Tj = operation limit temperature	Pdh	13.0	kW	Tj = operation limit temperature	COPd	2.5	-
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	0.030	kW	Supplementary heater			
Thermostat-off mode	Pto	0.010	kW	Rated heat output	Psup	9.3	kW
Standby mode	Psb	0.010	kW	Type of energy input		electricity	
Crankcase heater mode	Pck	0.050	kW	For air-to-water heat pumps: Rated air flow rate, outdoors	-	8030	m3/h
Other items				For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	---	m3/h
Capacity control		fixed		Annual energy consumption	QHE	42972.8	kWh
Sound power level							
indoors	Lwa	---	dB				
outdoors	Lwa	68	dB				

Contact details: WAMAK, s.r.o., Orovnička 252, 96652, Orovnička, Slovensko, info@wamak.sk

WAMAK AiWa 23 EVI H Out

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

Model	AiWa 23 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	22.1	kW	Seasonal space heating energy efficiency	ηs	135.5	%
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	19.3	kW	Tj = -7 °C	COPd	2.41	-
Tj = +2 °C	Pdh	22.4	kW	Tj = +2 °C	COPd	3.4	-
Tj = +7 °C	Pdh	26.0	kW	Tj = +7 °C	COPd	4.3	-
Tj = +12 °C	Pdh	30.3	kW	Tj = +12 °C	COPd	5.6	-
Tj = bivalent temperature	Pdh	19.0	kW	Tj = bivalent temperature	COPd	2.2	-
Tj = operation limit temperature	Pdh	14.4	kW	Tj = operation limit temperature	COPd	1.8	-
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	0.030	kW	Supplementary heater			
Thermostat-off mode	Pto	0.010	kW	Rated heat output	Psup	9.3	kW
Standby mode	Psb	0.010	kW	Type of energy input			
Crankcase heater mode	Pck	0.050	kW	For air-to-water heat pumps: Rated air flow rate, outdoors	-	8030	m3/h
Other items				For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	---	m3/h
Capacity control		fixed		Annual energy consumption	QHE	45658.6	kWh
Sound power level							
indoors	Lwa	---	dB				
outdoors	Lwa	68	dB				

Contact details: WAMAK, s.r.o., Orovnička 252, 96652, Orovnička, Slovensko, info@wamak.sk



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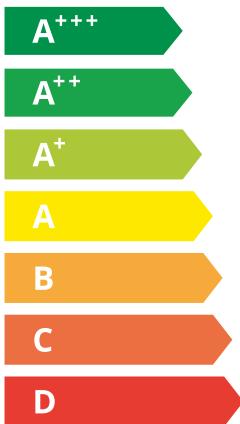
WAMAK

AiWa 23 EVI H Out



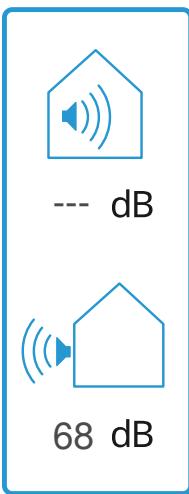
55 °C

35 °C

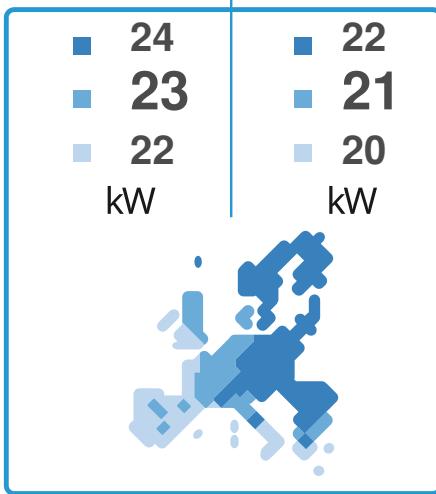


A++

A+++



2019



811/2013

AiWa 23 EVI H Out

ErP Data

	55 °C	35 °C
Energy class	A++	A+++
η [%]	135.5	169.6
P _{rated} [kW]	23	21
Q _{HE} [kWh/y]	45659	42973
SCOP [-]	3.39	4.24
T _{bivalent} [°C]	-7	-7

CONTROLLER



+ QAA55/75

class **VII**

3.5% ↓

- QAA55/75

class **III**

1.5% ↓

Heating performance data

Version: v202223.006-AW

Average Climate / Low Temperature [35°C]

ZHI23K1P-TFM_R410A_1_AW

Operating conditions		Qh	P	COP
1	A7 / W30-35	26.0	5.9	4.40
2	A2 / W35	22.2	5.8	3.84
3	A-22 / W35	13.0	5.2	2.49
A	A-7 / W34	18.4	5.5	3.34
B	A2 / W30	22.0	5.2	4.22
C	A7 / W27	25.8	5.0	5.15
D	A12 / W24	30.3	4.8	6.29
E	A-10 / W35	17.8	5.6	3.19
F	A-7 / W34	18.4	5.5	3.34

SCOP DATA EN 14825:2018

Average Climate / Low Temperature [35°C]	
SCOPon	4.37
SCOPnet	4.41
SCOP	4.24
η [%]	169.63
Label	A+++
Qh [kWh]	42972.80
Pdesignh [kW]	20.8
Tbivalent [°C]	-7.00

Average Climate / Medium Temperature [55°C]

Operating conditions		Qh	P	COP
1	A7 / W47-55	26.5	9.0	2.93
2	A2 / W55	23.0	8.8	2.61
3	A-22 / W55	14.4	7.3	1.83
A	A-7 / W52	19.3	8.0	2.41
B	A2 / W42	22.4	6.7	3.36
C	A7 / W36	26.0	6.0	4.32
D	A12 / W30	30.3	5.4	5.60
E	A-10 / W55	19.0	8.5	2.24
F	A-7 / W55	19.5	8.5	2.29

SCOP DATA EN 14825:2018

Average Climate / Medium Temperature [55°C]	
SCOPon	3.47
SCOPnet	3.50
SCOP	3.39
η [%]	135.52
Label	A++
Qh [kWh]	45658.60
Pdesignh [kW]	22.1
Tbivalent [°C]	-7.00

Cooling performance data**Low temperature cooling W 12 / 7°C**

Operating conditions		Qc	P	EER
A	A35 / W12-7	18.2	6.9	2.64
B	A30 / W12-7	18.7	6.2	3.00
C	A25 / W12-7	19.1	5.6	3.40
D	A20 / W12-7	19.4	5.1	3.83

SEER DATA EN 14825:2018 [W 12 / 7°C]

SEERon	3.33
SEER	3.22
Qc [kWh]	10920.00
η [%]	128.82

Radiant cooling W 23 / 18°C

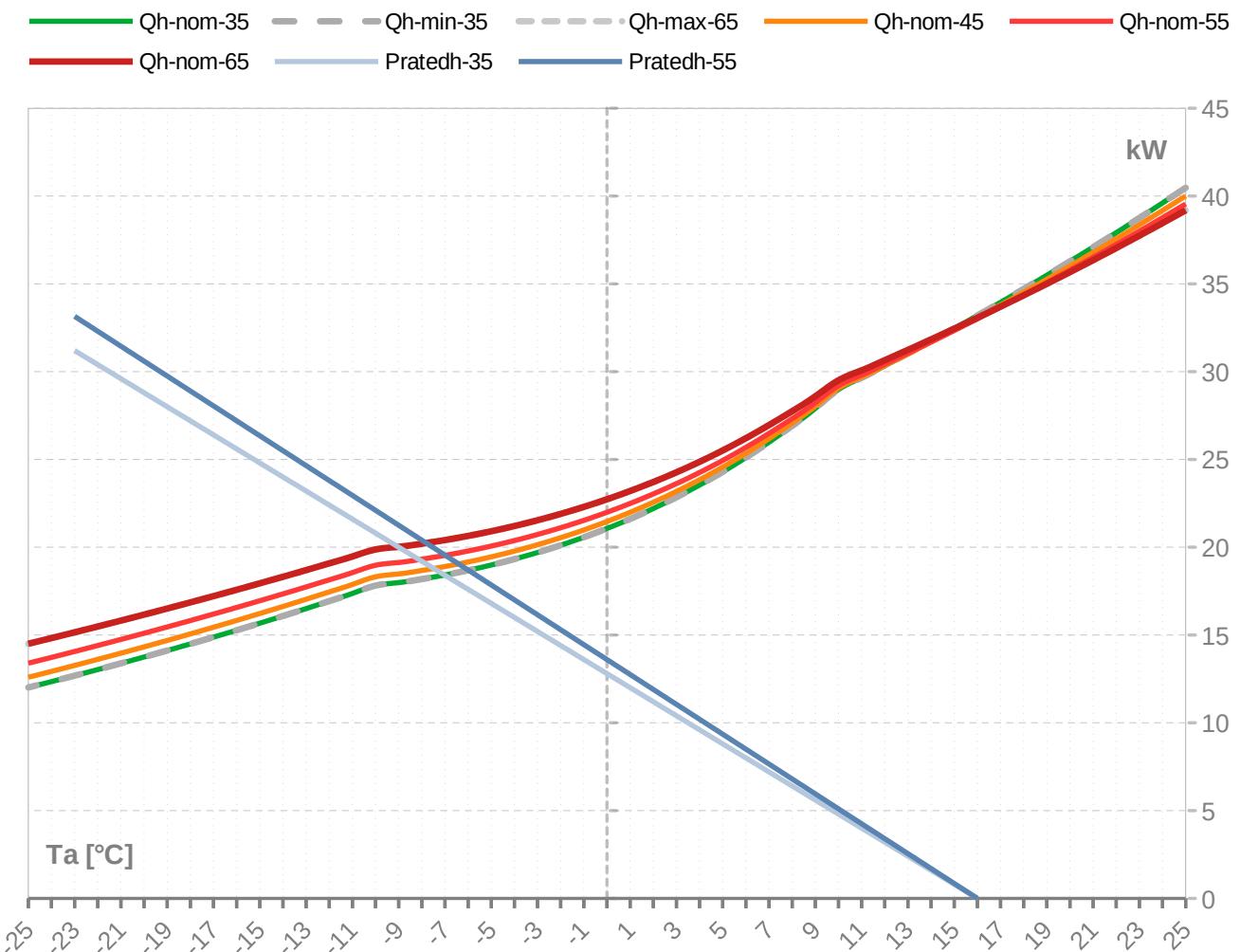
Operating conditions		Qc	P	EER
A	A35 / W23-18	24.5	6.9	3.55
B	A30 / W23-18	25.2	5.9	4.05
C	A25 / W23-18	25.7	5.4	4.59
D	A20 / W23-18	26.2	4.8	5.17

SEER DATA EN 14825:2018 [W 23 / 18°C]

SEERon	4.48
SEER	4.29
Qc [kWh]	10920.00
η [%]	171.62

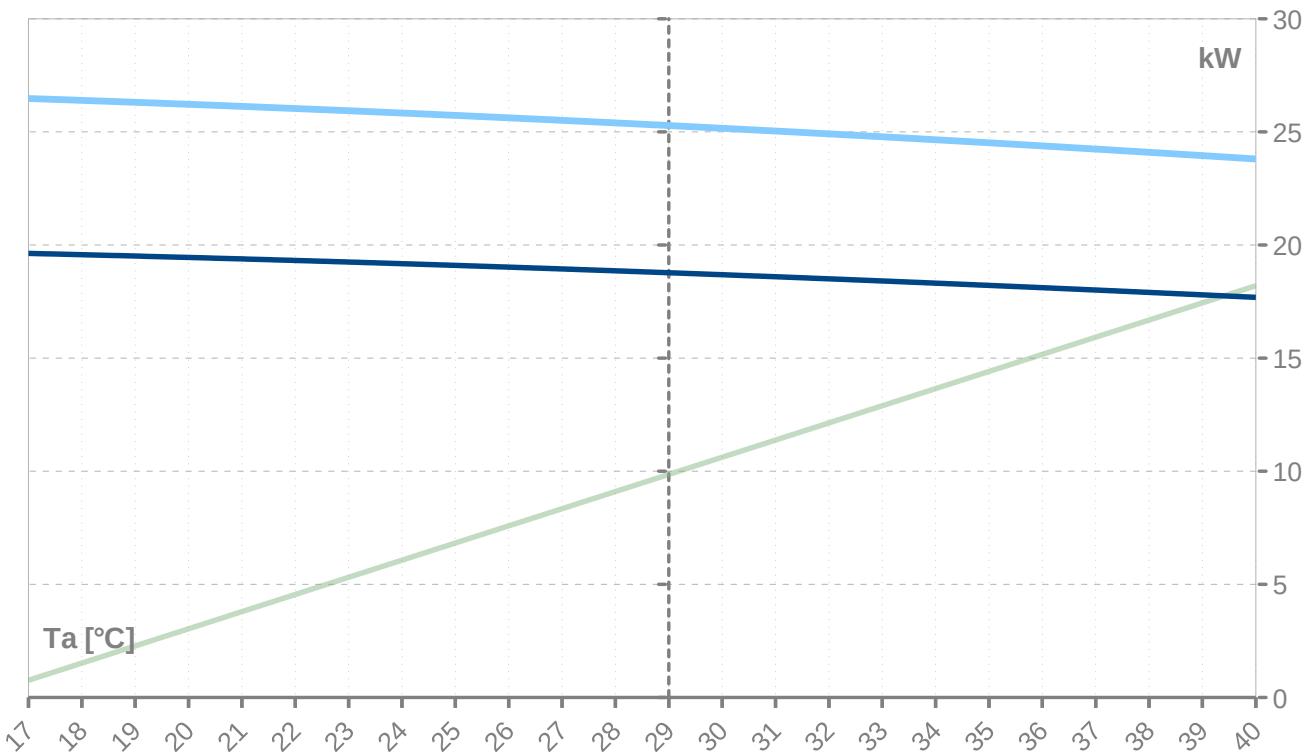
Performance lines - heating

ZHI23K1P-TFM_R410A_1_AW



Performance lines - cooling

Pratedc Qc-12/7 Qc-23/18



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	33.9	33.9		6.1	6.1		5.59	12.0	12.0	
24	33.9	33.9		6.1	6.1		5.59	12.0	12.0	
23	33.9	33.9		6.1	6.1		5.59	12.0	12.0	
22	33.9	33.9		6.1	6.1		5.59	12.0	12.0	
21	33.9	33.9		6.1	6.1		5.59	12.0	12.0	
20	33.9	33.9		6.1	6.1		5.59	12.0	12.0	
19	33.9	33.9		6.1	6.1		5.59	12.0	12.0	
18	33.9	33.9		6.1	6.1		5.59	12.0	12.0	
17	33.9	33.9		6.1	6.1		5.59	12.0	12.0	
16	33.2	33.2	33.2	6.1	6.1	6.1	5.48	12.0	12.0	12.0
15	32.5	32.5	32.5	6.0	6.0	6.0	5.37	12.0	12.0	12.0
14	31.7	31.7	31.7	6.0	6.0	6.0	5.26	12.0	12.0	12.0
13	31.0	31.0	31.0	6.0	6.0	6.0	5.16	12.0	12.0	12.0
12	30.3	30.3	30.3	6.0	6.0	6.0	5.05	12.0	12.0	12.0
11	29.7	29.7	29.7	6.0	6.0	6.0	4.95	11.9	11.9	11.9
10	29.0	29.0	29.0	6.0	6.0	6.0	4.85	11.9	11.9	11.9
9	27.9	27.9	27.9	5.9	5.9	5.9	4.69	11.9	11.9	11.9
8	26.9	26.9	26.9	5.9	5.9	5.9	4.54	11.9	11.9	11.9
7	26.0	26.0	26.0	5.9	5.9	5.9	4.40	11.9	11.9	11.9
6	25.1	25.1	25.1	5.9	5.9	5.9	4.27	11.8	11.8	11.8
5	24.3	24.3	24.3	5.9	5.9	5.9	4.15	11.8	11.8	11.8
4	23.5	23.5	23.5	5.8	5.8	5.8	4.04	11.8	11.8	11.8
3	22.8	22.8	22.8	5.8	5.8	5.8	3.94	11.8	11.8	11.8
2	22.2	22.2	22.2	5.8	5.8	5.8	3.84	11.8	11.8	11.8
1	21.6	21.6	21.6	5.8	5.8	5.8	3.75	11.8	11.8	11.8
0	21.1	21.1	21.1	5.7	5.7	5.7	3.67	11.7	11.7	11.7
-1	20.6	20.6	20.6	5.7	5.7	5.7	3.60	11.7	11.7	11.7
-2	20.1	20.1	20.1	5.7	5.7	5.7	3.53	11.7	11.7	11.7
-3	19.7	19.7	19.7	5.7	5.7	5.7	3.47	11.7	11.7	11.7
-4	19.3	19.3	19.3	5.7	5.7	5.7	3.41	11.7	11.7	11.7
-5	19.0	19.0	19.0	5.6	5.6	5.6	3.36	11.7	11.7	11.7
-6	18.7	18.7	18.7	5.6	5.6	5.6	3.32	11.7	11.7	11.7
-7	18.4	18.4	18.4	5.6	5.6	5.6	3.28	11.6	11.6	11.6
-8	18.2	18.2	18.2	5.6	5.6	5.6	3.24	11.6	11.6	11.6
-9	18.0	18.0	18.0	5.6	5.6	5.6	3.22	11.6	11.6	11.6
-10	17.8	17.8	17.8	5.6	5.6	5.6	3.19	11.6	11.6	11.6
-11	17.4	17.4	17.4	5.6	5.6	5.6	3.12	11.6	11.6	11.6
-12	16.9	16.9	16.9	5.5	5.5	5.5	3.06	11.6	11.6	11.6
-13	16.5	16.5	16.5	5.5	5.5	5.5	3.00	11.6	11.6	11.6
-14	16.1	16.1	16.1	5.5	5.5	5.5	2.94	11.5	11.5	11.5
-15	15.7	15.7	15.7	5.5	5.5	5.5	2.88	11.5	11.5	11.5
-16	15.3	15.3	15.3	5.4	5.4	5.4	2.82	11.5	11.5	11.5
-17	14.9	14.9	14.9	5.4	5.4	5.4	2.76	11.5	11.5	11.5
-18	14.5	14.5	14.5	5.4	5.4	5.4	2.70	11.4	11.4	11.4
-19	14.1	14.1	14.1	5.3	5.3	5.3	2.65	11.4	11.4	11.4
-20	13.7	13.7	13.7	5.3	5.3	5.3	2.59	11.4	11.4	11.4
-21	13.4	13.4	13.4	5.3	5.3	5.3	2.54	11.4	11.4	11.4
-22	13.0	13.0	13.0	5.2	5.2	5.2	2.49	11.3	11.3	11.3
-23	12.7	12.7	12.7	5.2	5.2	5.2	2.44	11.3	11.3	11.3
-24	12.3	12.3	12.3	5.2	5.2	5.2	2.39	11.3	11.3	11.3
-25	12.0	12.0	12.0	5.1	5.1	5.1	2.34	11.3	11.3	11.3

* attention: operating limits not reflected in performance table

ZHI23K1P-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	40.0	40.0	40.0	7.6	7.6	7.6	5.25	13.5	13.5	13.5	
24	39.2	39.2	39.2	7.6	7.6	7.6	5.15	13.5	13.5	13.5	
23	38.4	38.4	38.4	7.6	7.6	7.6	5.06	13.5	13.5	13.5	
22	37.6	37.6	37.6	7.6	7.6	7.6	4.96	13.5	13.5	13.5	
21	36.8	36.8	36.8	7.6	7.6	7.6	4.87	13.4	13.4	13.4	
20	36.0	36.0	36.0	7.5	7.5	7.5	4.77	13.4	13.4	13.4	
19	35.3	35.3	35.3	7.5	7.5	7.5	4.68	13.4	13.4	13.4	
18	34.5	34.5	34.5	7.5	7.5	7.5	4.59	13.4	13.4	13.4	
17	33.8	33.8	33.8	7.5	7.5	7.5	4.51	13.4	13.4	13.4	
16	33.1	33.1	33.1	7.5	7.5	7.5	4.42	13.4	13.4	13.4	
15	32.4	32.4	32.4	7.5	7.5	7.5	4.34	13.4	13.4	13.4	
14	31.7	31.7	31.7	7.4	7.4	7.4	4.25	13.3	13.3	13.3	
13	31.0	31.0	31.0	7.4	7.4	7.4	4.17	13.3	13.3	13.3	
12	30.3	30.3	30.3	7.4	7.4	7.4	4.09	13.3	13.3	13.3	
11	29.7	29.7	29.7	7.4	7.4	7.4	4.02	13.3	13.3	13.3	
10	29.1	29.1	29.1	7.4	7.4	7.4	3.94	13.3	13.3	13.3	
9	28.0	28.0	28.0	7.3	7.3	7.3	3.82	13.2	13.2	13.2	
8	27.1	27.1	27.1	7.3	7.3	7.3	3.70	13.2	13.2	13.2	
7	26.2	26.2	26.2	7.3	7.3	7.3	3.60	13.2	13.2	13.2	
6	25.3	25.3	25.3	7.2	7.2	7.2	3.50	13.1	13.1	13.1	
5	24.6	24.6	24.6	7.2	7.2	7.2	3.41	13.1	13.1	13.1	
4	23.8	23.8	23.8	7.2	7.2	7.2	3.32	13.1	13.1	13.1	
3	23.2	23.2	23.2	7.1	7.1	7.1	3.24	13.0	13.0	13.0	
2	22.6	22.6	22.6	7.1	7.1	7.1	3.17	13.0	13.0	13.0	
1	22.0	22.0	22.0	7.1	7.1	7.1	3.10	13.0	13.0	13.0	
0	21.5	21.5	21.5	7.1	7.1	7.1	3.04	13.0	13.0	13.0	
-1	21.0	21.0	21.0	7.0	7.0	7.0	2.98	12.9	12.9	12.9	
-2	20.5	20.5	20.5	7.0	7.0	7.0	2.93	12.9	12.9	12.9	
-3	20.1	20.1	20.1	7.0	7.0	7.0	2.88	12.9	12.9	12.9	
-4	19.8	19.8	19.8	7.0	7.0	7.0	2.84	12.9	12.9	12.9	
-5	19.5	19.5	19.5	6.9	6.9	6.9	2.80	12.8	12.8	12.8	
-6	19.2	19.2	19.2	6.9	6.9	6.9	2.77	12.8	12.8	12.8	
-7	18.9	18.9	18.9	6.9	6.9	6.9	2.74	12.8	12.8	12.8	
-8	18.7	18.7	18.7	6.9	6.9	6.9	2.71	12.8	12.8	12.8	
-9	18.5	18.5	18.5	6.9	6.9	6.9	2.69	12.8	12.8	12.8	
-10	18.3	18.3	18.3	6.9	6.9	6.9	2.67	12.8	12.8	12.8	
-11	17.9	17.9	17.9	6.8	6.8	6.8	2.62	12.7	12.7	12.7	
-12	17.5	17.5	17.5	6.8	6.8	6.8	2.57	12.7	12.7	12.7	
-13	17.0	17.0	17.0	6.8	6.8	6.8	2.52	12.7	12.7	12.7	
-14	16.6	16.6	16.6	6.7	6.7	6.7	2.47	12.6	12.6	12.6	
-15	16.2	16.2	16.2	6.7	6.7	6.7	2.43	12.6	12.6	12.6	
-16	15.8	15.8	15.8	6.6	6.6	6.6	2.38	12.6	12.6	12.6	
-17	15.4	15.4	15.4	6.6	6.6	6.6	2.34	12.5	12.5	12.5	
-18	15.1	15.1	15.1	6.6	6.6	6.6	2.29	12.5	12.5	12.5	
-19	14.7	14.7	14.7	6.5	6.5	6.5	2.25	12.5	12.5	12.5	
-20	14.3	14.3	14.3	6.5	6.5	6.5	2.21	12.4	12.4	12.4	
-21	14.0	14.0	14.0	6.4	6.4	6.4	2.17	12.4	12.4	12.4	
-22	13.6	13.6	13.6	6.4	6.4	6.4	2.13	12.3	12.3	12.3	
-23	13.3	13.3	13.3	6.4	6.4	6.4	2.09	12.3	12.3	12.3	
-24	12.9	12.9	12.9	6.3	6.3	6.3	2.05	12.3	12.3	12.3	
-25	12.6	12.6	12.6	6.3	6.3	6.3	2.01	12.2	12.2	12.2	

* 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	39.5	39.5	39.5	9.5	9.5	9.5	4.17	15.6	15.6	15.6
24	38.8	38.8	38.8	9.5	9.5	9.5	4.10	15.6	15.6	15.6
23	38.0	38.0	38.0	9.4	9.4	9.4	4.02	15.5	15.5	15.5
22	37.2	37.2	37.2	9.4	9.4	9.4	3.95	15.5	15.5	15.5
21	36.5	36.5	36.5	9.4	9.4	9.4	3.88	15.5	15.5	15.5
20	35.8	35.8	35.8	9.4	9.4	9.4	3.81	15.5	15.5	15.5
19	35.1	35.1	35.1	9.4	9.4	9.4	3.74	15.4	15.4	15.4
18	34.4	34.4	34.4	9.3	9.3	9.3	3.68	15.4	15.4	15.4
17	33.7	33.7	33.7	9.3	9.3	9.3	3.61	15.4	15.4	15.4
16	33.0	33.0	33.0	9.3	9.3	9.3	3.55	15.4	15.4	15.4
15	32.3	32.3	32.3	9.3	9.3	9.3	3.49	15.3	15.3	15.3
14	31.7	31.7	31.7	9.3	9.3	9.3	3.42	15.3	15.3	15.3
13	31.1	31.1	31.1	9.2	9.2	9.2	3.36	15.3	15.3	15.3
12	30.4	30.4	30.4	9.2	9.2	9.2	3.30	15.3	15.3	15.3
11	29.8	29.8	29.8	9.2	9.2	9.2	3.25	15.2	15.2	15.2
10	29.2	29.2	29.2	9.2	9.2	9.2	3.19	15.2	15.2	15.2
9	28.2	28.2	28.2	9.1	9.1	9.1	3.10	15.2	15.2	15.2
8	27.3	27.3	27.3	9.1	9.1	9.1	3.01	15.1	15.1	15.1
7	26.5	26.5	26.5	9.0	9.0	9.0	2.93	15.1	15.1	15.1
6	25.7	25.7	25.7	9.0	9.0	9.0	2.86	15.0	15.0	15.0
5	24.9	24.9	24.9	8.9	8.9	8.9	2.79	15.0	15.0	15.0
4	24.3	24.3	24.3	8.9	8.9	8.9	2.73	14.9	14.9	14.9
3	23.6	23.6	23.6	8.9	8.9	8.9	2.67	14.9	14.9	14.9
2	23.0	23.0	23.0	8.8	8.8	8.8	2.61	14.8	14.8	14.8
1	22.5	22.5	22.5	8.8	8.8	8.8	2.56	14.8	14.8	14.8
0	22.0	22.0	22.0	8.7	8.7	8.7	2.52	14.7	14.7	14.7
-1	21.5	21.5	21.5	8.7	8.7	8.7	2.47	14.7	14.7	14.7
-2	21.1	21.1	21.1	8.7	8.7	8.7	2.43	14.7	14.7	14.7
-3	20.7	20.7	20.7	8.6	8.6	8.6	2.40	14.6	14.6	14.6
-4	20.4	20.4	20.4	8.6	8.6	8.6	2.37	14.6	14.6	14.6
-5	20.1	20.1	20.1	8.6	8.6	8.6	2.34	14.6	14.6	14.6
-6	19.8	19.8	19.8	8.6	8.6	8.6	2.31	14.5	14.5	14.5
-7	19.5	19.5	19.5	8.5	8.5	8.5	2.29	14.5	14.5	14.5
-8	19.3	19.3	19.3	8.5	8.5	8.5	2.27	14.5	14.5	14.5
-9	19.1	19.1	19.1	8.5	8.5	8.5	2.25	14.5	14.5	14.5
-10	19.0	19.0	19.0	8.5	8.5	8.5	2.24	14.5	14.5	14.5
-11	18.6	18.6	18.6	8.4	8.4	8.4	2.20	14.4	14.4	14.4
-12	18.1	18.1	18.1	8.4	8.4	8.4	2.16	14.4	14.4	14.4
-13	17.7	17.7	17.7	8.3	8.3	8.3	2.13	14.3	14.3	14.3
-14	17.3	17.3	17.3	8.3	8.3	8.3	2.09	14.3	14.3	14.3
-15	16.9	16.9	16.9	8.2	8.2	8.2	2.05	14.2	14.2	14.2
-16	16.6	16.6	16.6	8.2	8.2	8.2	2.02	14.2	14.2	14.2
-17	16.2	16.2	16.2	8.2	8.2	8.2	1.99	14.1	14.1	14.1
-18	15.8	15.8	15.8	8.1	8.1	8.1	1.95	14.1	14.1	14.1
-19	15.5	15.5	15.5	8.0	8.0	8.0	1.92	14.0	14.0	14.0
-20	15.1	15.1	15.1	8.0	8.0	8.0	1.89	14.0	14.0	14.0
-21	14.7	14.7	14.7	7.9	7.9	7.9	1.86	13.9	13.9	13.9
-22	14.4	14.4	14.4	7.9	7.9	7.9	1.83	13.8	13.8	13.8
-23	14.1	14.1	14.1	7.8	7.8	7.8	1.80	13.8	13.8	13.8
-24	13.7	13.7	13.7	7.8	7.8	7.8	1.77	13.7	13.7	13.7
-25	13.4	13.4	13.4	7.7	7.7	7.7	1.74	13.7	13.7	13.7

* 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	39.2	39.2	39.2	11.8	11.8	11.8	3.31	18.4	18.4	18.4	
24	38.5	38.5	38.5	11.8	11.8	11.8	3.26	18.4	18.4	18.4	
23	37.7	37.7	37.7	11.8	11.8	11.8	3.20	18.4	18.4	18.4	
22	37.0	37.0	37.0	11.8	11.8	11.8	3.15	18.3	18.3	18.3	
21	36.3	36.3	36.3	11.7	11.7	11.7	3.10	18.3	18.3	18.3	
20	35.7	35.7	35.7	11.7	11.7	11.7	3.05	18.3	18.3	18.3	
19	35.0	35.0	35.0	11.7	11.7	11.7	3.00	18.2	18.2	18.2	
18	34.3	34.3	34.3	11.6	11.6	11.6	2.95	18.2	18.2	18.2	
17	33.7	33.7	33.7	11.6	11.6	11.6	2.90	18.2	18.2	18.2	
16	33.1	33.1	33.1	11.6	11.6	11.6	2.85	18.1	18.1	18.1	
15	32.4	32.4	32.4	11.6	11.6	11.6	2.81	18.1	18.1	18.1	
14	31.8	31.8	31.8	11.5	11.5	11.5	2.76	18.0	18.0	18.0	
13	31.2	31.2	31.2	11.5	11.5	11.5	2.72	18.0	18.0	18.0	
12	30.7	30.7	30.7	11.5	11.5	11.5	2.67	18.0	18.0	18.0	
11	30.1	30.1	30.1	11.4	11.4	11.4	2.63	17.9	17.9	17.9	
10	29.5	29.5	29.5	11.4	11.4	11.4	2.59	17.9	17.9	17.9	
9	28.6	28.6	28.6	11.3	11.3	11.3	2.52	17.8	17.8	17.8	
8	27.7	27.7	27.7	11.3	11.3	11.3	2.46	17.7	17.7	17.7	
7	27.0	27.0	27.0	11.2	11.2	11.2	2.40	17.7	17.7	17.7	
6	26.2	26.2	26.2	11.2	11.2	11.2	2.35	17.6	17.6	17.6	
5	25.5	25.5	25.5	11.1	11.1	11.1	2.30	17.5	17.5	17.5	
4	24.9	24.9	24.9	11.1	11.1	11.1	2.25	17.5	17.5	17.5	
3	24.3	24.3	24.3	11.0	11.0	11.0	2.21	17.4	17.4	17.4	
2	23.7	23.7	23.7	11.0	11.0	11.0	2.17	17.3	17.3	17.3	
1	23.2	23.2	23.2	10.9	10.9	10.9	2.13	17.3	17.3	17.3	
0	22.7	22.7	22.7	10.9	10.9	10.9	2.09	17.2	17.2	17.2	
-1	22.3	22.3	22.3	10.8	10.8	10.8	2.06	17.2	17.2	17.2	
-2	21.9	21.9	21.9	10.8	10.8	10.8	2.04	17.1	17.1	17.1	
-3	21.5	21.5	21.5	10.7	10.7	10.7	2.01	17.1	17.1	17.1	
-4	21.2	21.2	21.2	10.7	10.7	10.7	1.99	17.0	17.0	17.0	
-5	20.9	20.9	20.9	10.6	10.6	10.6	1.96	17.0	17.0	17.0	
-6	20.6	20.6	20.6	10.6	10.6	10.6	1.95	16.9	16.9	16.9	
-7	20.4	20.4	20.4	10.6	10.6	10.6	1.93	16.9	16.9	16.9	
-8	20.2	20.2	20.2	10.6	10.6	10.6	1.91	16.9	16.9	16.9	
-9	20.0	20.0	20.0	10.5	10.5	10.5	1.90	16.8	16.8	16.8	
-10	19.9	19.9	19.9	10.5	10.5	10.5	1.89	16.8	16.8	16.8	
-11	19.5	19.5	19.5	10.5	10.5	10.5	1.86	16.8	16.8	16.8	
-12	19.1	19.1	19.1	10.4	10.4	10.4	1.84	16.7	16.7	16.7	
-13	18.7	18.7	18.7	10.3	10.3	10.3	1.81	16.6	16.6	16.6	
-14	18.3	18.3	18.3	10.3	10.3	10.3	1.78	16.6	16.6	16.6	
-15	17.9	17.9	17.9	10.2	10.2	10.2	1.76	16.5	16.5	16.5	
-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	17.7	17.7	17.7	7.7	7.7	7.7	2.30	13.6	13.6	13.6	
39	17.8	17.8	17.8	7.5	7.5	7.5	2.37	13.4	13.4	13.4	
38	17.9	17.9	17.9	7.4	7.4	7.4	2.43	13.3	13.3	13.3	
37	18.0	18.0	18.0	7.2	7.2	7.2	2.50	13.1	13.1	13.1	
36	18.1	18.1	18.1	7.1	7.1	7.1	2.57	12.9	12.9	12.9	
35	18.2	18.2	18.2	6.9	6.9	6.9	2.64	12.8	12.8	12.8	
34	18.3	18.3	18.3	6.8	6.8	6.8	2.71	12.7	12.7	12.7	
33	18.4	18.4	18.4	6.6	6.6	6.6	2.78	12.5	12.5	12.5	
32	18.5	18.5	18.5	6.5	6.5	6.5	2.85	12.4	12.4	12.4	
31	18.6	18.6	18.6	6.4	6.4	6.4	2.93	12.3	12.3	12.3	
30	18.7	18.7	18.7	6.2	6.2	6.2	3.00	12.2	12.2	12.2	
29	18.8	18.8	18.8	6.1	6.1	6.1	3.08	12.0	12.0	12.0	
28	18.9	18.9	18.9	6.0	6.0	6.0	3.16	11.9	11.9	11.9	
27	18.9	18.9	18.9	5.8	5.8	5.8	3.24	11.8	11.8	11.8	
26	19.0	19.0	19.0	5.7	5.7	5.7	3.32	11.7	11.7	11.7	
25	19.1	19.1	19.1	5.6	5.6	5.6	3.40	11.6	11.6	11.6	
24	19.2	19.2	19.2	5.5	5.5	5.5	3.49	11.5	11.5	11.5	
23	19.2	19.2	19.2	5.4	5.4	5.4	3.57	11.4	11.4	11.4	
22	19.3	19.3	19.3	5.3	5.3	5.3	3.66	11.4	11.4	11.4	
21	19.4	19.4	19.4	5.2	5.2	5.2	3.74	11.3	11.3	11.3	
20	19.4	19.4	19.4	5.1	5.1	5.1	3.83	11.2	11.2	11.2	
19	19.5	19.5	19.5	5.0	5.0	5.0	3.92	11.1	11.1	11.1	
18	19.6	19.6	19.6	4.9	4.9	4.9	4.01	11.1	11.1	11.1	
17	19.6	19.6	19.6	4.8	4.8	4.8	4.10	11.0	11.0	11.0	

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	23.8	23.8	23.8	7.7	7.7	7.7	3.10	13.8	13.8	13.8	
39	24.0	24.0	24.0	7.5	7.5	7.5	3.19	13.7	13.7	13.7	
38	24.1	24.1	24.1	7.4	7.4	7.4	3.27	13.5	13.5	13.5	
37	24.2	24.2	24.2	7.2	7.2	7.2	3.36	13.3	13.3	13.3	
36	24.4	24.4	24.4	7.1	7.1	7.1	3.46	13.2	13.2	13.2	
35	24.5	24.5	24.5	6.9	6.9	6.9	3.55	13.0	13.0	13.0	
34	24.7	24.7	24.7	6.8	6.8	6.8	3.65	12.8	12.8	12.8	
33	24.8	24.8	24.8	6.6	6.6	6.6	3.74	12.7	12.7	12.7	
32	24.9	24.9	24.9	6.5	6.5	6.5	3.84	12.6	12.6	12.6	
31	25.0	25.0	25.0	6.4	6.4	6.4	3.94	12.4	12.4	12.4	
30	25.2	25.2	25.2	6.2	6.2	6.2	4.05	12.3	12.3	12.3	
29	25.3	25.3	25.3	6.1	6.1	6.1	4.15	12.2	12.2	12.2	
28	25.4	25.4	25.4	6.0	6.0	6.0	4.26	12.1	12.1	12.1	
27	25.5	25.5	25.5	5.8	5.8	5.8	4.36	12.0	12.0	12.0	
26	25.6	25.6	25.6	5.7	5.7	5.7	4.47	11.9	11.9	11.9	
25	25.7	25.7	25.7	5.6	5.6	5.6	4.59	11.8	11.8	11.8	
24	25.8	25.8	25.8	5.5	5.5	5.5	4.70	11.7	11.7	11.7	
23	25.9	25.9	25.9	5.4	5.4	5.4	4.81	11.6	11.6	11.6	
22	26.0	26.0	26.0	5.3	5.3	5.3	4.93	11.5	11.5	11.5	
21	26.1	26.1	26.1	5.2	5.2	5.2	5.05	11.4	11.4	11.4	
20	26.2	26.2	26.2	5.1	5.1	5.1	5.17	11.3	11.3	11.3	
19	26.3	26.3	26.3	5.0	5.0	5.0	5.29	11.2	11.2	11.2	
18	26.4	26.4	26.4	4.9	4.9	4.9	5.41	11.2	11.2	11.2	
17	26.5	26.5	26.5	4.8	4.8	4.8	5.54	11.1	11.1	11.1	

* 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

WAMAK AiWa 23 EVI H Out

