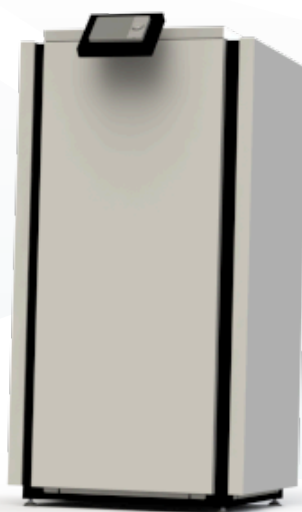




WAMAK

Heat pump



AiWa 14 EVI
S

WAMAK AiWa 14 EVI S

Product description

Split heat pump for heating, cooling and domestic hot water in split design with outdoor and indoor unit. The silent Scroll compressor is located in the indoor unit and, in contrast, the heat exchanger and fan are located outside the building. The split design will allow installation in more challenging conditions during renovations where the energy source is located further away from the utility room.

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.

Split system (compressor indoors)

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 14 EVI S

Heating - EN 14511		
Heating capacity [kW]	A7 / W35	15.4
	A2 / W35	13.1
	A-7 / W34	10.9
Electrical power input [kW]	A7 / W35	3.3
	A2 / W35	3.3
	A-7 / W34	3.2
Heating efficiency faktor [COP]	A7 / W35	4.73
	A2 / W35	3.96
	A-7 / W34	3.39
Seasonal space heating energy efficiency - SCOP EN 14825		
Average Climate / Low Temperature [35°C]	SCOP	4.61
	η [%]	184.3
	Label	A+++
	Qhe [kWh]	25618.4
	Pdesignh [kW]	12.4
	Tbivalent [°C]	-7
Cooling		
Cooling capacity - [kW]	A35 / W23-18	14.8
	A25 / W23-18	15.8
	A35 / W12-7	11.0
	A25 / W12-7	11.0
Seasonal space cooling energy efficiency - SEER EN 14825		
[W 23 / 18°C]	SEER	4.75
	Qce [kWh]	6600.0
	η_c [%]	190.0
Sound EN 12102		
Acoustic power - Lw	dB(A)	57
Acoustic pressure - Lp	1 m dB(A)	49
	5 m dB(A)	35
	10 m dB(A)	29
Mechanical and operational information		
Compressor type (3~ 400/50)	SCROLL / 1 /	On/Off
Refrigerant	R410A (GWP - 2088)	5.4 kg
Operating limit temperatures heating - (min / max) [°C]	25 / 65	
Operating limit temperatures source - (min / max) [°C]	-22 / 40	
Weight	143 kg	

Main technical data - WAMAK AiWa 14 EVI S

Enclosure type			VN600		Heat energy rejection side data			
Basic dimensions	Height [mm]		1270		Operating limit temperatures heating	MAX [°C]	65	
	Width [mm]		650			MIN [°C]	25	
	Length [mm]		630		for more see operating limits diagram			
Weight [kg]			143		Condenser	Port size	1.1/4 "	
Colour			Gray			Type	BPHE	
Enclosure IP Class			IP20			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]			3
	On/Off				Testing pressure [bar]			70
	Power factor Cosφ		0.77		Heat transfer medium			Water
	Winding resistance		2.33 Ohm		Volume flow - Water [m3/h]			2.67
Refrigerant			R410A		Internal pressure drop - Water [kPa]			12
	Volme		5.4 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		1.24 L			@ 65 °C	10 K	
Maximal pressure - refrigerant [bar]			45		Renewable energy extraction side data			
PED class			1		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	Port size	1/2" - 7/8" "	
Reverse defrosting with hot gas						Type	Cu-coil /Al-fin	
Electrical connection data						Count	1	
Line voltage [#~ V/Hz]			3~ 400/50			Material	Cu/Al	
Current	nominal [A]		5.58		Maximal operating pressure - refrigerant [bar]			28
	maximal [A]		10.90		Heat transfer medium			Air
	starting [A]		15.06		Volume flow - Air [m3/h]			4860
Softstart			MCI 12		Internal pressure drop - Air [kPa]			0.027
Main safety			C25		Temperature difference - Air			7 K
Control System					Possible outdoor units	1 x AiWa-VO-700		
Main controller			SIEMENS	RVS 21 AVS 55.199		1 x AiWa-VO-700-DUCT		
Extension module	AVS75.3xx	AVS75.3xx	AVS75.372		Split System (compressor indoors)			
Bus Clip-In		LPB OCI346	Modbus OCI352		Liquid line dimension (up to 8 meters IU/OU)			1/2"
Online connection		Web server OZW672	ToSyMo		Suction line dimension (up to 8 meters IU/OU)			7/8"
Superheat controller			SEC61		Surcharge of refrigerant over 8 meter distance IU/OU			0.08 kg/m
*** with accessory					air - water SPLIT heat pumps indoor units are delivered without full refrigerant charge only with residual overpressure from testing			

WAMAK AiWa 14 EVI S

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

Model	AiWa 14 EVI S
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	12.4	kW	Seasonal space heating energy efficiency	η_s	184.3	%
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	10.9	kW	Tj = -7 °C	COPd	3.39	-
Tj = +2 °C	Pdh	13.0	kW	Tj = +2 °C	COPd	4.5	-
Tj = +7 °C	Pdh	15.3	kW	Tj = +7 °C	COPd	5.8	-
Tj = +12 °C	Pdh	18.2	kW	Tj = +12 °C	COPd	7.7	-
Tj = bivalent temperature	Pdh	10.7	kW	Tj = bivalent temperature	COPd	3.3	-
Tj = operation limit temperature	Pdh	7.8	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	0.010	kW	Supplementary heater			
Thermostat-off mode	Pto	0.010	kW	Rated heat output	Psup	5.5	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	-	4860	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	57	dB				
outdoors	Lwa	59	dB				
Annual energy consumption	Q _{HE}	25618.4	kWh				

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

WAMAK AiWa 14 EVI S

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

Model	AiWa 14 EVI S
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	13.2	kW	Seasonal space heating energy efficiency	η_s	141.7	%
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	11.5	kW	Tj = -7 °C	COPd	2.35	-
Tj = +2 °C	Pdh	13.2	kW	Tj = +2 °C	COPd	3.4	-
Tj = +7 °C	Pdh	15.4	kW	Tj = +7 °C	COPd	4.6	-
Tj = +12 °C	Pdh	18.2	kW	Tj = +12 °C	COPd	6.5	-
Tj = bivalent temperature	Pdh	11.4	kW	Tj = bivalent temperature	COPd	2.2	-
Tj = operation limit temperature	Pdh	8.6	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	0.010	kW	Supplementary heater			
Thermostat-off mode	Pto	0.010	kW	Rated heat output	Psup	5.5	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	-	4860	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	57	dB				
outdoors	Lwa	59	dB				
Annual energy consumption	Q _{HE}	27271.2	kWh				

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ENERG

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WAMAK

AiWa 14 EVI S



55 °C

35 °C

A+++

A++

A+

A

B

C

D

A++

A+++



57 dB



59 dB

■ 14
■ 14
■ 13
kW

■ 13
■ 13
■ 12
kW



2019

811/2013

AiWa 14 EVI S

ErP Data

	55 °C	35 °C
Energy class	A++	A+++
η [%]	141.7	184.3
P_{rated} [kW]	14	13
Q_{HE} [kWh/y]	27272	25619
SCOP [-]	3.54	4.61
$T_{bivalent}$ [°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]

ZHI14K1P-TFM_R410A_1_AW

Operating conditions		Q _h	P	COP
1	A7 / W30-35	15.4	3.3	4.73
2	A2 / W35	13.1	3.3	3.96
3	A-22 / W35	7.8	3.1	2.50
A	A-7 / W34	10.9	3.2	3.39
B	A2 / W30	13.0	2.9	4.46
C	A7 / W27	15.3	2.6	5.81
D	A12 / W24	18.2	2.4	7.73
E	A-10 / W35	10.7	3.3	3.25
F	A-7 / W34	10.9	3.2	3.39

SCOP DATA EN 14825:2018	
Average Climate / Low Temperature [35°C]	
SCOP _{on}	4.70
SCOP _{net}	4.75
SCOP	4.61
η [%]	184.25
Label	A+++
Q _h [kWh]	25618.40
P _{designh} [kW]	12.4
T _{bivalent} [°C]	-7.00

Average Climate / Medium Temperature [55°C]

Operating conditions		Q _h	P	COP
1	A7 / W47-55	15.7	5.4	2.90
2	A2 / W55	13.6	5.4	2.53
3	A-22 / W55	8.6	4.5	1.78
A	A-7 / W52	11.5	4.9	2.35
B	A2 / W42	13.2	3.9	3.37
C	A7 / W36	15.4	3.3	4.61
D	A12 / W30	18.2	2.8	6.55
E	A-10 / W55	11.4	5.2	2.18
F	A-7 / W55	11.7	5.3	2.22

SCOP DATA EN 14825:2018	
Average Climate / Medium Temperature [55°C]	
SCOP _{on}	3.60
SCOP _{net}	3.63
SCOP	3.54
η [%]	141.70
Label	A++
Q _h [kWh]	27271.20
P _{designh} [kW]	13.2
T _{bivalent} [°C]	-7.00

Cooling performance data

Low temperature cooling W 12 / 7°C

Operating conditions		Q _c	P	EER
A	A35 / W12-7	11.0	4.0	2.74
B	A30 / W12-7	11.4	3.5	3.21
C	A25 / W12-7	11.7	3.1	3.74
D	A20 / W12-7	11.9	2.7	4.36

SEER DATA EN 14825:2018 [W 12 / 7°C]	
SEER _{on}	3.64
SEER	3.55
Q _c [kWh]	6600.00
η [%]	141.87

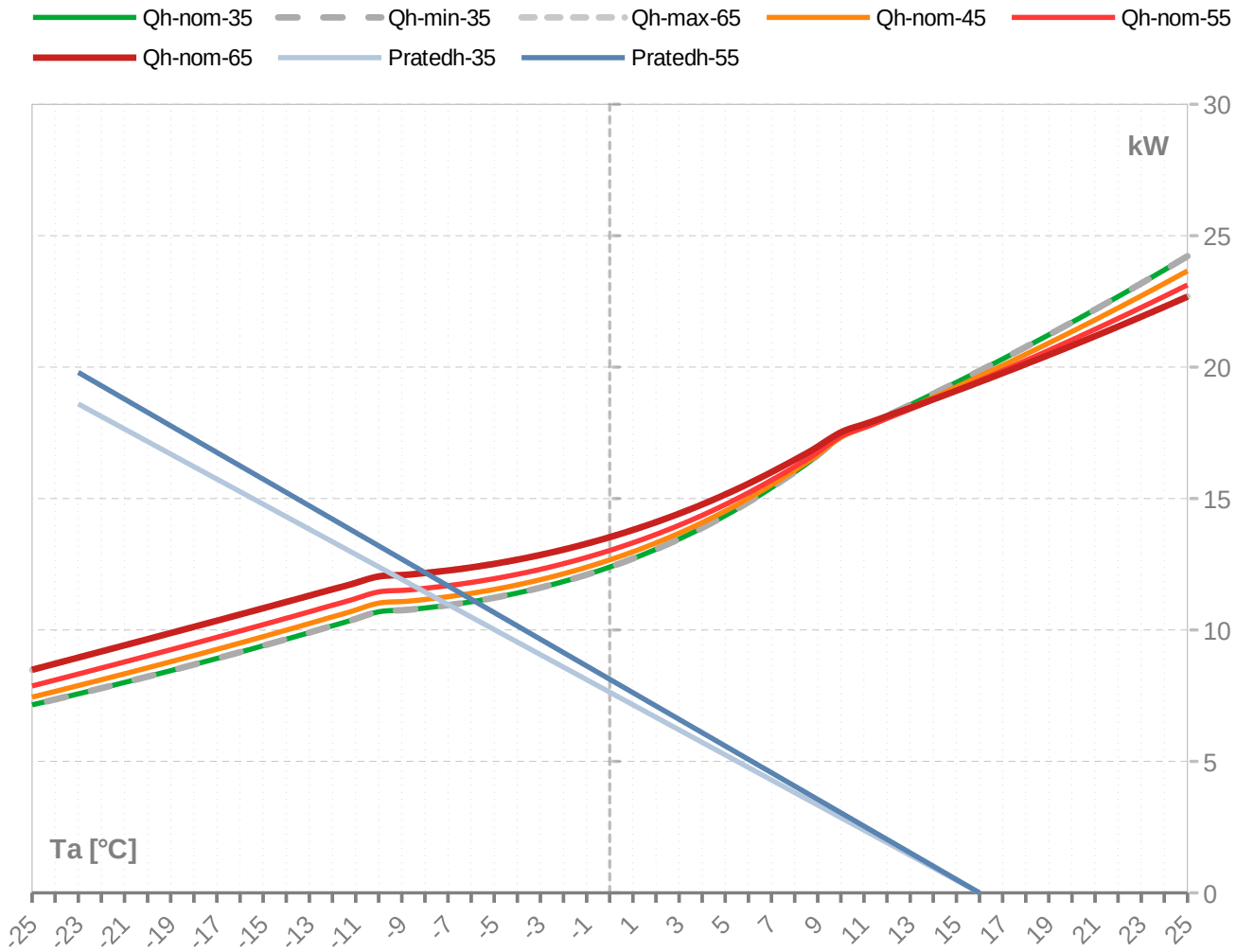
Radiant cooling W 23 / 18°C

Operating conditions		Q _c	P	EER
A	A35 / W23-18	14.8	4.0	3.69
B	A30 / W23-18	15.3	3.2	4.33
C	A25 / W23-18	15.8	2.8	5.06
D	A20 / W23-18	16.1	2.4	5.90

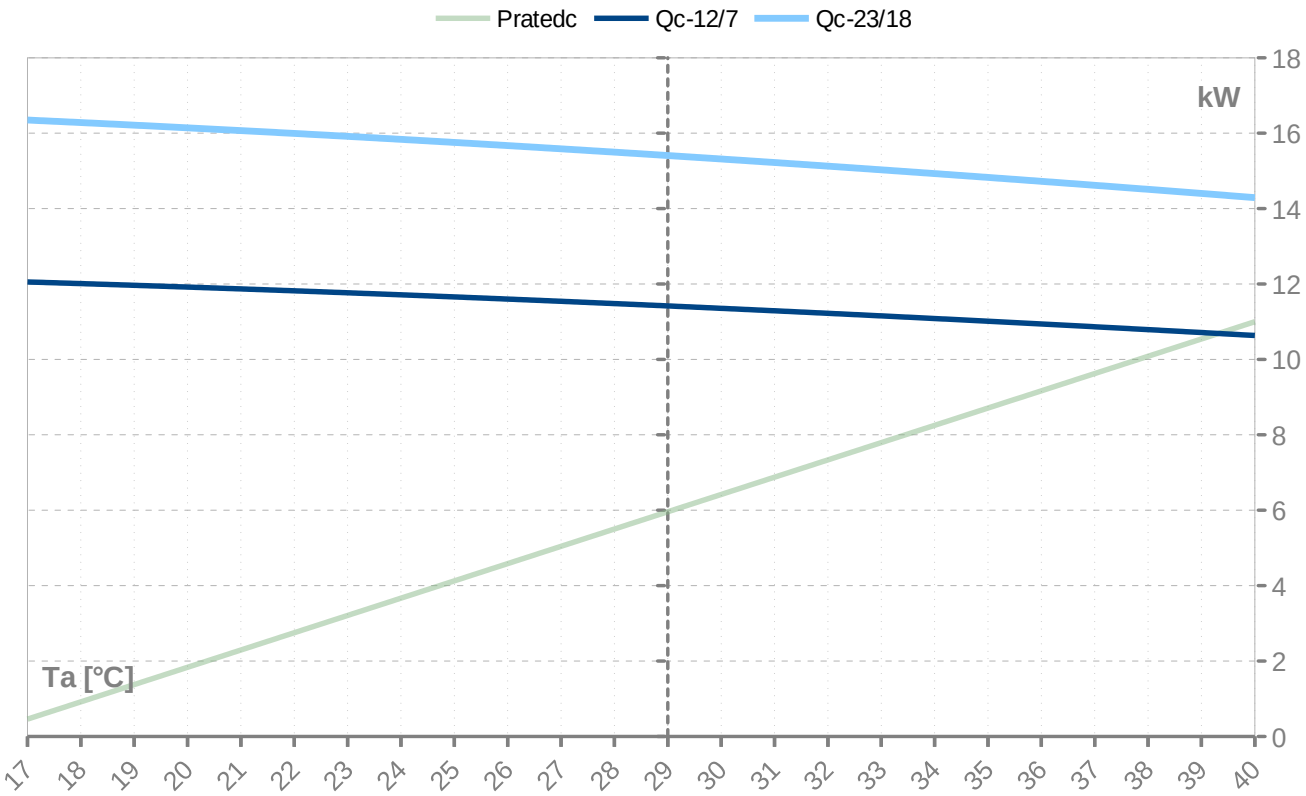
SEER DATA EN 14825:2018 [W 23 / 18°C]	
SEER _{on}	4.92
SEER	4.75
Q _c [kWh]	6600.00
η [%]	189.95

Performance lines - heating

ZHI14K1P-TFM_R410A_1_AW



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	20.3	20.3		3.1	3.1		6.52	5.5	5.5	
24	20.3	20.3		3.1	3.1		6.52	5.5	5.5	
23	20.3	20.3		3.1	3.1		6.52	5.5	5.5	
22	20.3	20.3		3.1	3.1		6.52	5.5	5.5	
21	20.3	20.3		3.1	3.1		6.52	5.5	5.5	
20	20.3	20.3		3.1	3.1		6.52	5.5	5.5	
19	20.3	20.3		3.1	3.1		6.52	5.5	5.5	
18	20.3	20.3		3.1	3.1		6.52	5.5	5.5	
17	20.3	20.3		3.1	3.1		6.52	5.5	5.5	
16	19.9	19.9	19.9	3.1	3.1	3.1	6.35	5.5	5.5	5.5
15	19.4	19.4	19.4	3.1	3.1	3.1	6.18	5.5	5.5	5.5
14	19.0	19.0	19.0	3.2	3.2	3.2	6.02	5.5	5.5	5.5
13	18.6	18.6	18.6	3.2	3.2	3.2	5.86	5.5	5.5	5.5
12	18.2	18.2	18.2	3.2	3.2	3.2	5.71	5.5	5.5	5.5
11	17.7	17.7	17.7	3.2	3.2	3.2	5.56	5.6	5.6	5.6
10	17.3	17.3	17.3	3.2	3.2	3.2	5.41	5.6	5.6	5.6
9	16.6	16.6	16.6	3.2	3.2	3.2	5.16	5.6	5.6	5.6
8	16.0	16.0	16.0	3.2	3.2	3.2	4.94	5.6	5.6	5.6
7	15.4	15.4	15.4	3.3	3.3	3.3	4.73	5.6	5.6	5.6
6	14.9	14.9	14.9	3.3	3.3	3.3	4.55	5.6	5.6	5.6
5	14.4	14.4	14.4	3.3	3.3	3.3	4.38	5.7	5.7	5.7
4	13.9	13.9	13.9	3.3	3.3	3.3	4.22	5.7	5.7	5.7
3	13.5	13.5	13.5	3.3	3.3	3.3	4.09	5.7	5.7	5.7
2	13.1	13.1	13.1	3.3	3.3	3.3	3.96	5.7	5.7	5.7
1	12.7	12.7	12.7	3.3	3.3	3.3	3.85	5.7	5.7	5.7
0	12.4	12.4	12.4	3.3	3.3	3.3	3.75	5.7	5.7	5.7
-1	12.1	12.1	12.1	3.3	3.3	3.3	3.66	5.7	5.7	5.7
-2	11.8	11.8	11.8	3.3	3.3	3.3	3.59	5.7	5.7	5.7
-3	11.6	11.6	11.6	3.3	3.3	3.3	3.52	5.7	5.7	5.7
-4	11.4	11.4	11.4	3.3	3.3	3.3	3.46	5.7	5.7	5.7
-5	11.2	11.2	11.2	3.3	3.3	3.3	3.40	5.7	5.7	5.7
-6	11.1	11.1	11.1	3.3	3.3	3.3	3.36	5.7	5.7	5.7
-7	10.9	10.9	10.9	3.3	3.3	3.3	3.32	5.7	5.7	5.7
-8	10.8	10.8	10.8	3.3	3.3	3.3	3.29	5.7	5.7	5.7
-9	10.8	10.8	10.8	3.3	3.3	3.3	3.27	5.7	5.7	5.7
-10	10.7	10.7	10.7	3.3	3.3	3.3	3.25	5.7	5.7	5.7
-11	10.4	10.4	10.4	3.3	3.3	3.3	3.18	5.7	5.7	5.7
-12	10.2	10.2	10.2	3.3	3.3	3.3	3.10	5.7	5.7	5.7
-13	9.9	9.9	9.9	3.3	3.3	3.3	3.03	5.7	5.7	5.7
-14	9.6	9.6	9.6	3.3	3.3	3.3	2.96	5.6	5.6	5.6
-15	9.4	9.4	9.4	3.2	3.2	3.2	2.90	5.6	5.6	5.6
-16	9.2	9.2	9.2	3.2	3.2	3.2	2.83	5.6	5.6	5.6
-17	8.9	8.9	8.9	3.2	3.2	3.2	2.77	5.6	5.6	5.6
-18	8.7	8.7	8.7	3.2	3.2	3.2	2.71	5.6	5.6	5.6
-19	8.5	8.5	8.5	3.2	3.2	3.2	2.66	5.6	5.6	5.6
-20	8.2	8.2	8.2	3.2	3.2	3.2	2.60	5.5	5.5	5.5
-21	8.0	8.0	8.0	3.1	3.1	3.1	2.55	5.5	5.5	5.5
-22	7.8	7.8	7.8	3.1	3.1	3.1	2.50	5.5	5.5	5.5
-23	7.6	7.6	7.6	3.1	3.1	3.1	2.45	5.5	5.5	5.5
-24	7.4	7.4	7.4	3.1	3.1	3.1	2.40	5.4	5.4	5.4
-25	7.1	7.1	7.1	3.0	3.0	3.0	2.35	5.4	5.4	5.4

* attention: operating limits not reflected in performance table

ZHI14K1P-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	23.7	23.7	23.7	4.0	4.0	4.0	5.96	6.4	6.4	6.4
24	23.2	23.2	23.2	4.0	4.0	4.0	5.81	6.5	6.5	6.5
23	22.7	22.7	22.7	4.0	4.0	4.0	5.67	6.5	6.5	6.5
22	22.3	22.3	22.3	4.0	4.0	4.0	5.53	6.5	6.5	6.5
21	21.8	21.8	21.8	4.0	4.0	4.0	5.40	6.5	6.5	6.5
20	21.4	21.4	21.4	4.1	4.1	4.1	5.27	6.5	6.5	6.5
19	20.9	20.9	20.9	4.1	4.1	4.1	5.14	6.6	6.6	6.6
18	20.5	20.5	20.5	4.1	4.1	4.1	5.02	6.6	6.6	6.6
17	20.1	20.1	20.1	4.1	4.1	4.1	4.90	6.6	6.6	6.6
16	19.7	19.7	19.7	4.1	4.1	4.1	4.78	6.6	6.6	6.6
15	19.2	19.2	19.2	4.1	4.1	4.1	4.67	6.6	6.6	6.6
14	18.8	18.8	18.8	4.1	4.1	4.1	4.56	6.7	6.7	6.7
13	18.5	18.5	18.5	4.1	4.1	4.1	4.45	6.7	6.7	6.7
12	18.1	18.1	18.1	4.2	4.2	4.2	4.35	6.7	6.7	6.7
11	17.7	17.7	17.7	4.2	4.2	4.2	4.25	6.7	6.7	6.7
10	17.3	17.3	17.3	4.2	4.2	4.2	4.15	6.7	6.7	6.7
9	16.7	16.7	16.7	4.2	4.2	4.2	3.98	6.7	6.7	6.7
8	16.1	16.1	16.1	4.2	4.2	4.2	3.82	6.7	6.7	6.7
7	15.5	15.5	15.5	4.2	4.2	4.2	3.68	6.8	6.8	6.8
6	15.0	15.0	15.0	4.2	4.2	4.2	3.55	6.8	6.8	6.8
5	14.5	14.5	14.5	4.2	4.2	4.2	3.44	6.8	6.8	6.8
4	14.1	14.1	14.1	4.2	4.2	4.2	3.33	6.8	6.8	6.8
3	13.7	13.7	13.7	4.2	4.2	4.2	3.24	6.8	6.8	6.8
2	13.3	13.3	13.3	4.2	4.2	4.2	3.15	6.8	6.8	6.8
1	13.0	13.0	13.0	4.2	4.2	4.2	3.07	6.8	6.8	6.8
0	12.7	12.7	12.7	4.2	4.2	4.2	3.01	6.8	6.8	6.8
-1	12.4	12.4	12.4	4.2	4.2	4.2	2.94	6.8	6.8	6.8
-2	12.1	12.1	12.1	4.2	4.2	4.2	2.89	6.7	6.7	6.7
-3	11.9	11.9	11.9	4.2	4.2	4.2	2.84	6.7	6.7	6.7
-4	11.7	11.7	11.7	4.2	4.2	4.2	2.80	6.7	6.7	6.7
-5	11.5	11.5	11.5	4.2	4.2	4.2	2.76	6.7	6.7	6.7
-6	11.4	11.4	11.4	4.2	4.2	4.2	2.73	6.7	6.7	6.7
-7	11.3	11.3	11.3	4.2	4.2	4.2	2.70	6.7	6.7	6.7
-8	11.2	11.2	11.2	4.2	4.2	4.2	2.68	6.7	6.7	6.7
-9	11.1	11.1	11.1	4.2	4.2	4.2	2.66	6.7	6.7	6.7
-10	11.0	11.0	11.0	4.2	4.2	4.2	2.65	6.7	6.7	6.7
-11	10.8	10.8	10.8	4.1	4.1	4.1	2.60	6.7	6.7	6.7
-12	10.5	10.5	10.5	4.1	4.1	4.1	2.54	6.7	6.7	6.7
-13	10.2	10.2	10.2	4.1	4.1	4.1	2.49	6.6	6.6	6.6
-14	10.0	10.0	10.0	4.1	4.1	4.1	2.44	6.6	6.6	6.6
-15	9.7	9.7	9.7	4.1	4.1	4.1	2.40	6.6	6.6	6.6
-16	9.5	9.5	9.5	4.0	4.0	4.0	2.35	6.6	6.6	6.6
-17	9.3	9.3	9.3	4.0	4.0	4.0	2.30	6.5	6.5	6.5
-18	9.0	9.0	9.0	4.0	4.0	4.0	2.26	6.5	6.5	6.5
-19	8.8	8.8	8.8	4.0	4.0	4.0	2.22	6.5	6.5	6.5
-20	8.6	8.6	8.6	3.9	3.9	3.9	2.18	6.4	6.4	6.4
-21	8.3	8.3	8.3	3.9	3.9	3.9	2.14	6.4	6.4	6.4
-22	8.1	8.1	8.1	3.9	3.9	3.9	2.10	6.3	6.3	6.3
-23	7.9	7.9	7.9	3.8	3.8	3.8	2.06	6.3	6.3	6.3
-24	7.7	7.7	7.7	3.8	3.8	3.8	2.02	6.2	6.2	6.2
-25	7.4	7.4	7.4	3.8	3.8	3.8	1.98	6.2	6.2	6.2

* 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	23.1	23.1	23.1	5.2	5.2	5.2	4.42	8.0	8.0	8.0
24	22.7	22.7	22.7	5.3	5.3	5.3	4.32	8.0	8.0	8.0
23	22.3	22.3	22.3	5.3	5.3	5.3	4.23	8.1	8.1	8.1
22	21.9	21.9	21.9	5.3	5.3	5.3	4.14	8.1	8.1	8.1
21	21.4	21.4	21.4	5.3	5.3	5.3	4.05	8.1	8.1	8.1
20	21.0	21.0	21.0	5.3	5.3	5.3	3.96	8.1	8.1	8.1
19	20.6	20.6	20.6	5.3	5.3	5.3	3.87	8.1	8.1	8.1
18	20.2	20.2	20.2	5.3	5.3	5.3	3.79	8.2	8.2	8.2
17	19.9	19.9	19.9	5.4	5.4	5.4	3.71	8.2	8.2	8.2
16	19.5	19.5	19.5	5.4	5.4	5.4	3.63	8.2	8.2	8.2
15	19.1	19.1	19.1	5.4	5.4	5.4	3.56	8.2	8.2	8.2
14	18.8	18.8	18.8	5.4	5.4	5.4	3.49	8.2	8.2	8.2
13	18.4	18.4	18.4	5.4	5.4	5.4	3.41	8.2	8.2	8.2
12	18.0	18.0	18.0	5.4	5.4	5.4	3.34	8.2	8.2	8.2
11	17.7	17.7	17.7	5.4	5.4	5.4	3.28	8.2	8.2	8.2
10	17.4	17.4	17.4	5.4	5.4	5.4	3.21	8.3	8.3	8.3
9	16.8	16.8	16.8	5.4	5.4	5.4	3.09	8.3	8.3	8.3
8	16.2	16.2	16.2	5.4	5.4	5.4	2.99	8.3	8.3	8.3
7	15.7	15.7	15.7	5.4	5.4	5.4	2.90	8.3	8.3	8.3
6	15.2	15.2	15.2	5.4	5.4	5.4	2.81	8.3	8.3	8.3
5	14.8	14.8	14.8	5.4	5.4	5.4	2.73	8.3	8.3	8.3
4	14.4	14.4	14.4	5.4	5.4	5.4	2.66	8.2	8.2	8.2
3	14.0	14.0	14.0	5.4	5.4	5.4	2.59	8.2	8.2	8.2
2	13.6	13.6	13.6	5.4	5.4	5.4	2.53	8.2	8.2	8.2
1	13.3	13.3	13.3	5.4	5.4	5.4	2.48	8.2	8.2	8.2
0	13.0	13.0	13.0	5.4	5.4	5.4	2.43	8.2	8.2	8.2
-1	12.8	12.8	12.8	5.3	5.3	5.3	2.39	8.2	8.2	8.2
-2	12.5	12.5	12.5	5.3	5.3	5.3	2.35	8.2	8.2	8.2
-3	12.3	12.3	12.3	5.3	5.3	5.3	2.32	8.1	8.1	8.1
-4	12.1	12.1	12.1	5.3	5.3	5.3	2.29	8.1	8.1	8.1
-5	11.9	11.9	11.9	5.3	5.3	5.3	2.26	8.1	8.1	8.1
-6	11.8	11.8	11.8	5.3	5.3	5.3	2.24	8.1	8.1	8.1
-7	11.7	11.7	11.7	5.3	5.3	5.3	2.22	8.1	8.1	8.1
-8	11.6	11.6	11.6	5.3	5.3	5.3	2.20	8.1	8.1	8.1
-9	11.5	11.5	11.5	5.2	5.2	5.2	2.19	8.1	8.1	8.1
-10	11.4	11.4	11.4	5.2	5.2	5.2	2.18	8.0	8.0	8.0
-11	11.2	11.2	11.2	5.2	5.2	5.2	2.14	8.0	8.0	8.0
-12	10.9	10.9	10.9	5.2	5.2	5.2	2.11	8.0	8.0	8.0
-13	10.7	10.7	10.7	5.2	5.2	5.2	2.07	7.9	7.9	7.9
-14	10.4	10.4	10.4	5.1	5.1	5.1	2.04	7.9	7.9	7.9
-15	10.2	10.2	10.2	5.1	5.1	5.1	2.00	7.9	7.9	7.9
-16	10.0	10.0	10.0	5.1	5.1	5.1	1.97	7.8	7.8	7.8
-17	9.7	9.7	9.7	5.0	5.0	5.0	1.93	7.8	7.8	7.8
-18	9.5	9.5	9.5	5.0	5.0	5.0	1.90	7.7	7.7	7.7
-19	9.2	9.2	9.2	4.9	4.9	4.9	1.87	7.7	7.7	7.7
-20	9.0	9.0	9.0	4.9	4.9	4.9	1.84	7.6	7.6	7.6
-21	8.8	8.8	8.8	4.9	4.9	4.9	1.81	7.5	7.5	7.5
-22	8.6	8.6	8.6	4.8	4.8	4.8	1.78	7.5	7.5	7.5
-23	8.3	8.3	8.3	4.8	4.8	4.8	1.75	7.4	7.4	7.4
-24	8.1	8.1	8.1	4.7	4.7	4.7	1.72	7.3	7.3	7.3
-25	7.9	7.9	7.9	4.6	4.6	4.6	1.69	7.3	7.3	7.3

* 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	22.7	22.7	22.7	6.8	6.8	6.8	3.32	10.1	10.1	10.1
24	22.3	22.3	22.3	6.9	6.9	6.9	3.25	10.2	10.2	10.2
23	21.9	21.9	21.9	6.9	6.9	6.9	3.19	10.2	10.2	10.2
22	21.5	21.5	21.5	6.9	6.9	6.9	3.13	10.2	10.2	10.2
21	21.2	21.2	21.2	6.9	6.9	6.9	3.07	10.2	10.2	10.2
20	20.8	20.8	20.8	6.9	6.9	6.9	3.02	10.2	10.2	10.2
19	20.5	20.5	20.5	6.9	6.9	6.9	2.96	10.2	10.2	10.2
18	20.1	20.1	20.1	6.9	6.9	6.9	2.91	10.3	10.3	10.3
17	19.8	19.8	19.8	6.9	6.9	6.9	2.85	10.3	10.3	10.3
16	19.4	19.4	19.4	6.9	6.9	6.9	2.80	10.3	10.3	10.3
15	19.1	19.1	19.1	6.9	6.9	6.9	2.75	10.3	10.3	10.3
14	18.8	18.8	18.8	6.9	6.9	6.9	2.70	10.3	10.3	10.3
13	18.5	18.5	18.5	6.9	6.9	6.9	2.66	10.3	10.3	10.3
12	18.1	18.1	18.1	7.0	7.0	7.0	2.61	10.3	10.3	10.3
11	17.8	17.8	17.8	7.0	7.0	7.0	2.56	10.3	10.3	10.3
10	17.5	17.5	17.5	7.0	7.0	7.0	2.52	10.3	10.3	10.3
9	17.0	17.0	17.0	6.9	6.9	6.9	2.44	10.3	10.3	10.3
8	16.5	16.5	16.5	6.9	6.9	6.9	2.37	10.3	10.3	10.3
7	16.0	16.0	16.0	6.9	6.9	6.9	2.31	10.3	10.3	10.3
6	15.6	15.6	15.6	6.9	6.9	6.9	2.25	10.2	10.2	10.2
5	15.2	15.2	15.2	6.9	6.9	6.9	2.20	10.2	10.2	10.2
4	14.8	14.8	14.8	6.9	6.9	6.9	2.15	10.2	10.2	10.2
3	14.4	14.4	14.4	6.8	6.8	6.8	2.11	10.2	10.2	10.2
2	14.1	14.1	14.1	6.8	6.8	6.8	2.07	10.1	10.1	10.1
1	13.8	13.8	13.8	6.8	6.8	6.8	2.03	10.1	10.1	10.1
0	13.5	13.5	13.5	6.8	6.8	6.8	2.00	10.1	10.1	10.1
-1	13.3	13.3	13.3	6.8	6.8	6.8	1.97	10.0	10.0	10.0
-2	13.1	13.1	13.1	6.7	6.7	6.7	1.94	10.0	10.0	10.0
-3	12.9	12.9	12.9	6.7	6.7	6.7	1.92	10.0	10.0	10.0
-4	12.7	12.7	12.7	6.7	6.7	6.7	1.90	9.9	9.9	9.9
-5	12.5	12.5	12.5	6.7	6.7	6.7	1.88	9.9	9.9	9.9
-6	12.4	12.4	12.4	6.6	6.6	6.6	1.86	9.9	9.9	9.9
-7	12.3	12.3	12.3	6.6	6.6	6.6	1.85	9.9	9.9	9.9
-8	12.2	12.2	12.2	6.6	6.6	6.6	1.84	9.9	9.9	9.9
-9	12.1	12.1	12.1	6.6	6.6	6.6	1.83	9.8	9.8	9.8
-10	12.0	12.0	12.0	6.6	6.6	6.6	1.82	9.8	9.8	9.8
-11	11.8	11.8	11.8	6.6	6.6	6.6	1.80	9.8	9.8	9.8
-12	11.5	11.5	11.5	6.5	6.5	6.5	1.77	9.7	9.7	9.7
-13	11.3	11.3	11.3	6.5	6.5	6.5	1.75	9.7	9.7	9.7
-14	11.1	11.1	11.1	6.4	6.4	6.4	1.72	9.6	9.6	9.6
-15	10.8	10.8	10.8	6.4	6.4	6.4	1.70	9.5	9.5	9.5
-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	10.6	10.6	10.6	4.6	4.6	4.6	2.34	7.2	7.2	7.2
39	10.7	10.7	10.7	4.4	4.4	4.4	2.41	7.0	7.0	7.0
38	10.8	10.8	10.8	4.3	4.3	4.3	2.49	6.9	6.9	6.9
37	10.9	10.9	10.9	4.2	4.2	4.2	2.57	6.8	6.8	6.8
36	10.9	10.9	10.9	4.1	4.1	4.1	2.66	6.6	6.6	6.6
35	11.0	11.0	11.0	4.0	4.0	4.0	2.74	6.5	6.5	6.5
34	11.1	11.1	11.1	3.9	3.9	3.9	2.83	6.4	6.4	6.4
33	11.2	11.2	11.2	3.8	3.8	3.8	2.92	6.3	6.3	6.3
32	11.2	11.2	11.2	3.7	3.7	3.7	3.01	6.2	6.2	6.2
31	11.3	11.3	11.3	3.6	3.6	3.6	3.11	6.1	6.1	6.1
30	11.4	11.4	11.4	3.5	3.5	3.5	3.21	6.0	6.0	6.0
29	11.4	11.4	11.4	3.4	3.4	3.4	3.31	5.9	5.9	5.9
28	11.5	11.5	11.5	3.4	3.4	3.4	3.41	5.8	5.8	5.8
27	11.5	11.5	11.5	3.3	3.3	3.3	3.52	5.7	5.7	5.7
26	11.6	11.6	11.6	3.2	3.2	3.2	3.63	5.6	5.6	5.6
25	11.7	11.7	11.7	3.1	3.1	3.1	3.74	5.5	5.5	5.5
24	11.7	11.7	11.7	3.0	3.0	3.0	3.86	5.4	5.4	5.4
23	11.8	11.8	11.8	3.0	3.0	3.0	3.98	5.3	5.3	5.3
22	11.8	11.8	11.8	2.9	2.9	2.9	4.10	5.2	5.2	5.2
21	11.9	11.9	11.9	2.8	2.8	2.8	4.23	5.1	5.1	5.1
20	11.9	11.9	11.9	2.7	2.7	2.7	4.36	5.1	5.1	5.1
19	12.0	12.0	12.0	2.7	2.7	2.7	4.49	5.0	5.0	5.0
18	12.0	12.0	12.0	2.6	2.6	2.6	4.63	4.9	4.9	4.9
17	12.1	12.1	12.1	2.5	2.5	2.5	4.77	4.9	4.9	4.9

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	14.3	14.3	14.3	4.6	4.6	4.6	3.14	7.1	7.1	7.1
39	14.4	14.4	14.4	4.4	4.4	4.4	3.24	6.9	6.9	6.9
38	14.5	14.5	14.5	4.3	4.3	4.3	3.35	6.8	6.8	6.8
37	14.6	14.6	14.6	4.2	4.2	4.2	3.46	6.7	6.7	6.7
36	14.7	14.7	14.7	4.1	4.1	4.1	3.57	6.5	6.5	6.5
35	14.8	14.8	14.8	4.0	4.0	4.0	3.69	6.4	6.4	6.4
34	14.9	14.9	14.9	3.9	3.9	3.9	3.81	6.3	6.3	6.3
33	15.0	15.0	15.0	3.8	3.8	3.8	3.94	6.2	6.2	6.2
32	15.1	15.1	15.1	3.7	3.7	3.7	4.06	6.1	6.1	6.1
31	15.2	15.2	15.2	3.6	3.6	3.6	4.19	5.9	5.9	5.9
30	15.3	15.3	15.3	3.5	3.5	3.5	4.33	5.8	5.8	5.8
29	15.4	15.4	15.4	3.4	3.4	3.4	4.47	5.7	5.7	5.7
28	15.5	15.5	15.5	3.4	3.4	3.4	4.61	5.6	5.6	5.6
27	15.6	15.6	15.6	3.3	3.3	3.3	4.76	5.5	5.5	5.5
26	15.7	15.7	15.7	3.2	3.2	3.2	4.91	5.4	5.4	5.4
25	15.8	15.8	15.8	3.1	3.1	3.1	5.06	5.4	5.4	5.4
24	15.8	15.8	15.8	3.0	3.0	3.0	5.22	5.3	5.3	5.3
23	15.9	15.9	15.9	3.0	3.0	3.0	5.38	5.2	5.2	5.2
22	16.0	16.0	16.0	2.9	2.9	2.9	5.55	5.1	5.1	5.1
21	16.1	16.1	16.1	2.8	2.8	2.8	5.73	5.0	5.0	5.0
20	16.1	16.1	16.1	2.7	2.7	2.7	5.90	5.0	5.0	5.0
19	16.2	16.2	16.2	2.7	2.7	2.7	6.09	4.9	4.9	4.9
18	16.3	16.3	16.3	2.6	2.6	2.6	6.28	4.8	4.8	4.8
17	16.3	16.3	16.3	2.5	2.5	2.5	6.47	4.7	4.7	4.7

* 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

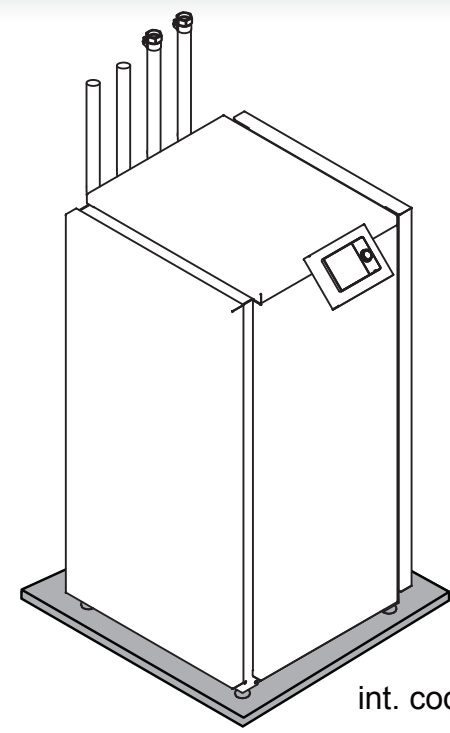
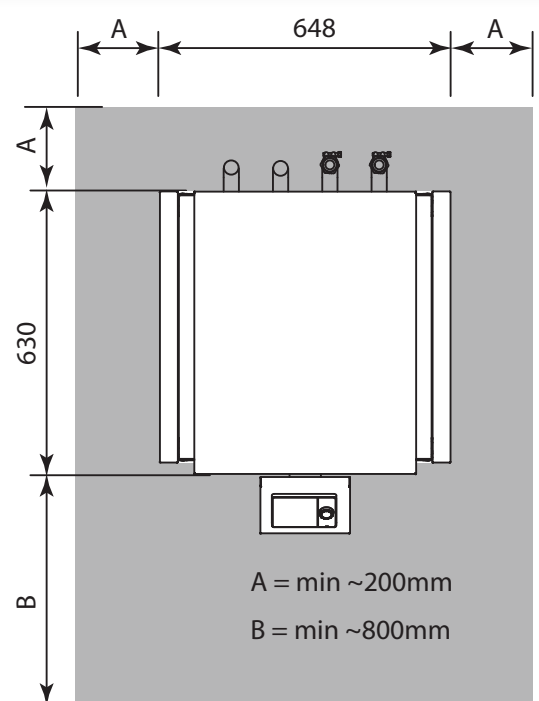
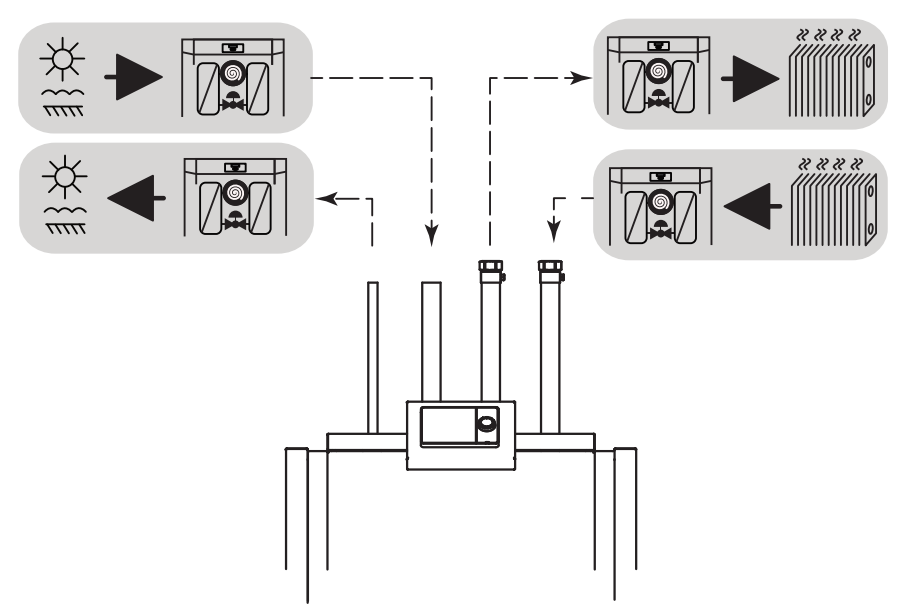
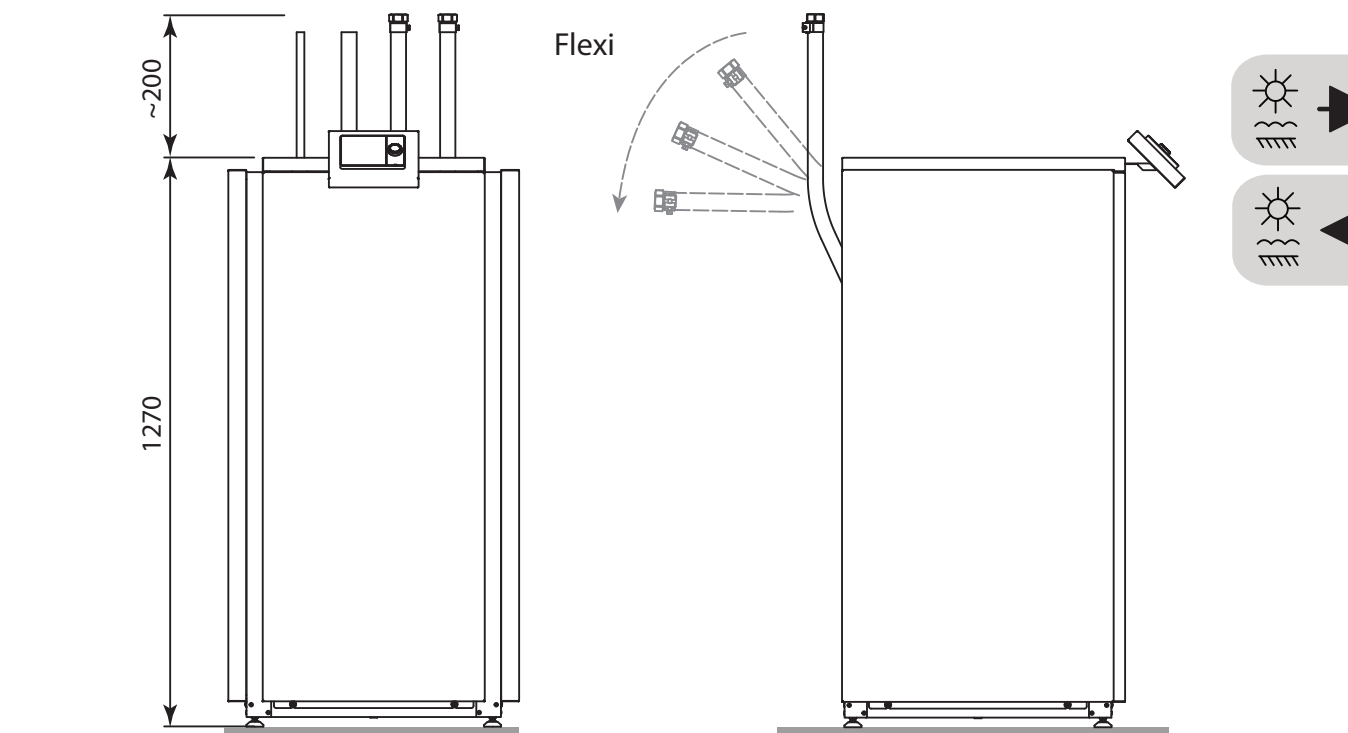
Qc nom: cooling / heat extraction capacity at nominal heating capacity

Qc min: cooling / heat extraction at minimal heating capacity

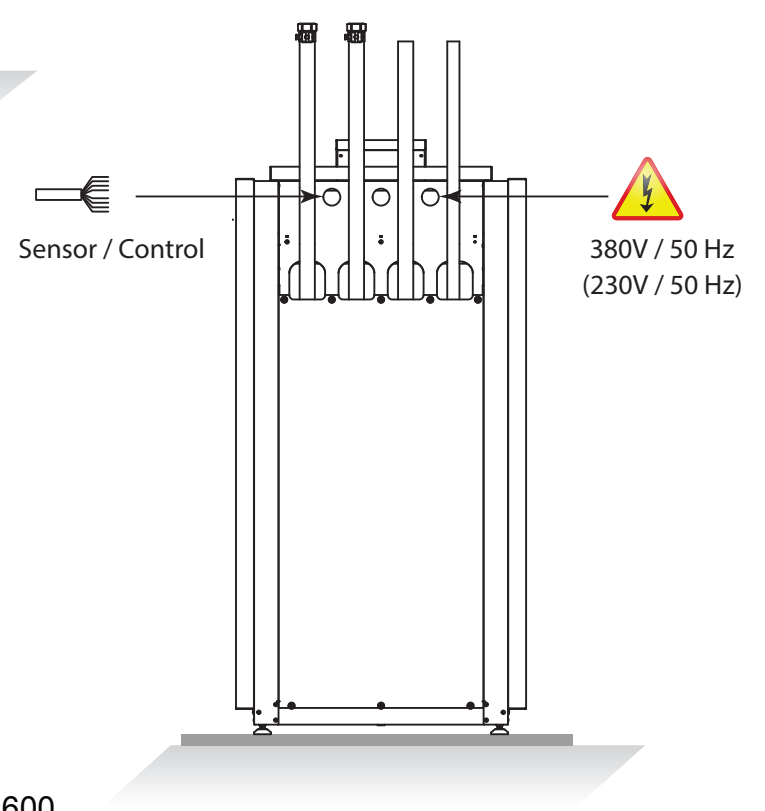
Qc max: cooling / heat extraction at maximal heating capacity

I nom: Current at nominal heating capacity

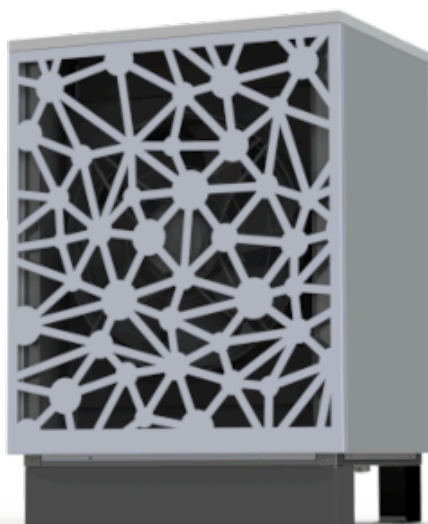
EER: energy efficiency ratio at nominal cooling capacity



int. code: VN600



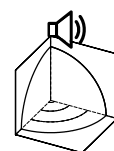
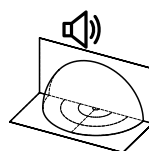
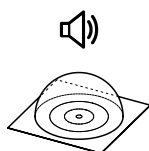
WAMAK AiWa 14 EVI S - Split unit variant: AiWa-VO-700



Enclosure type: AiWa-VO-700			Evaporator	
Article	WAV00700		Type	Cu-coil /Al-fin "
Basic dimensions	Height [mm]	1240	Port size	1/2" - 7/8" "
	Width [mm]	920	Heat transfer medium	Air
	Length [mm]	710	Volume flow - Air [m3/h]	4860
Weight [kg]	95		Internal pressure drop - Air [kPa]	0.027
Colour	Gray		Temperature difference - Air	7 K
Enclosure IP Class	IP44		Expansion valve	EEV
Fan	630 mm			
Number of fans	1		Fan mounting position	Horizontal axis
Fan motor type	EC		Fan type	Axial
Fan nominal current [A]	3.00		Fan power supply [V/Hz]	1~ 230/50
Minimal fan power input [Watt]	190		Maximal fan power input [Watt]	780

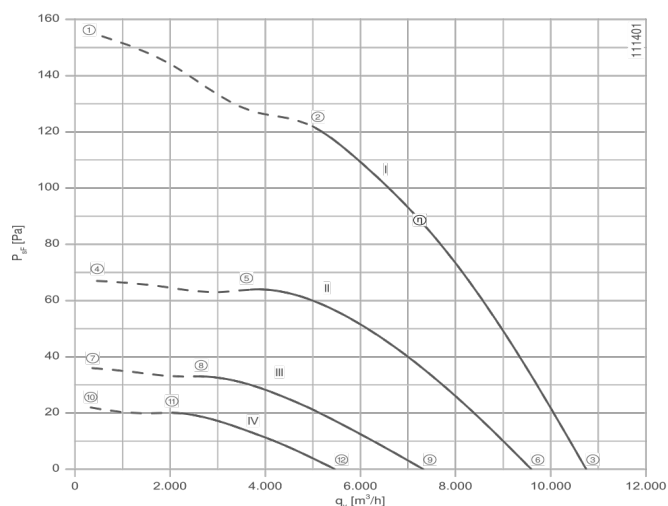
Acoustic power Lw

58.7 dB(A)

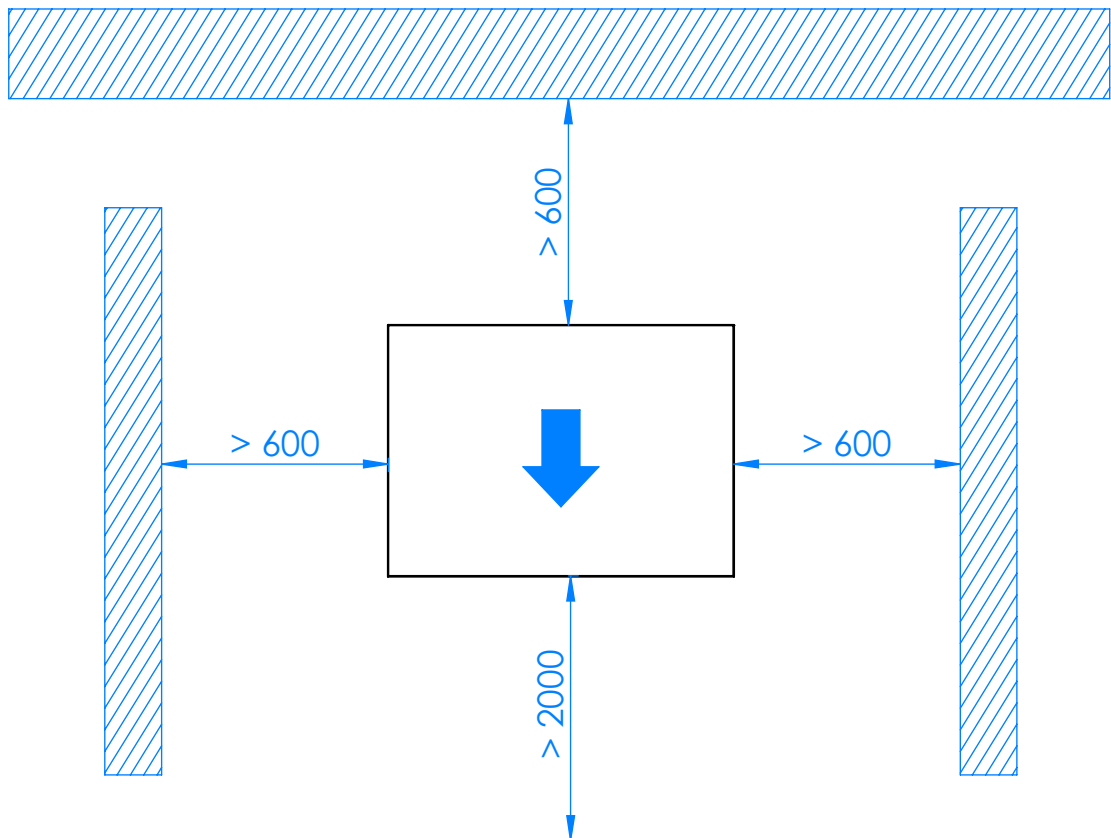
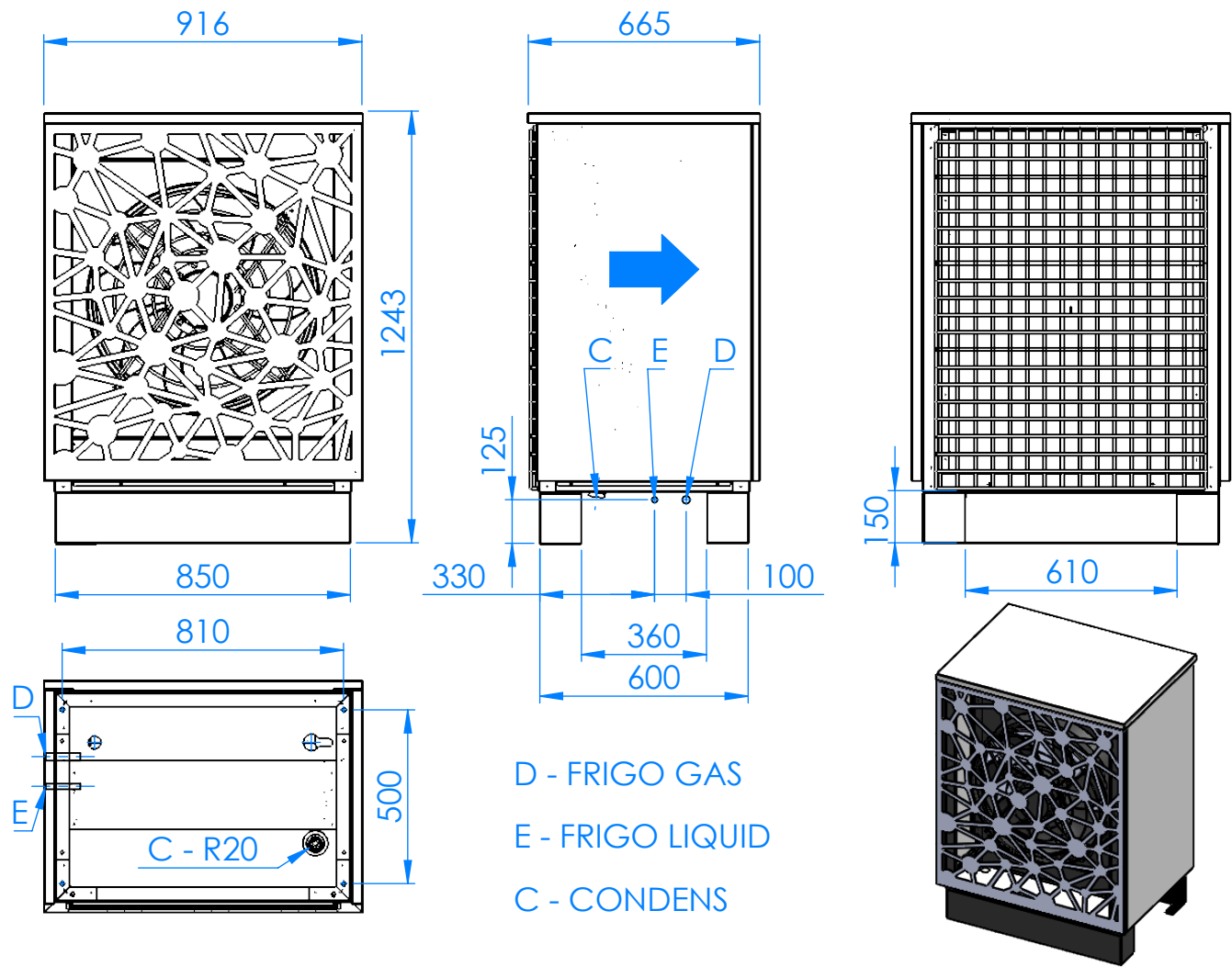


Distance [m]	1	5	10	15	1	5	10	15	1	5	10	15
Acoustic pressure Lp [dB(A)]	53.7	39.7	33.7	30.2	56.7	42.7	36.7	33.2	50.7	36.7	30.7	27.2

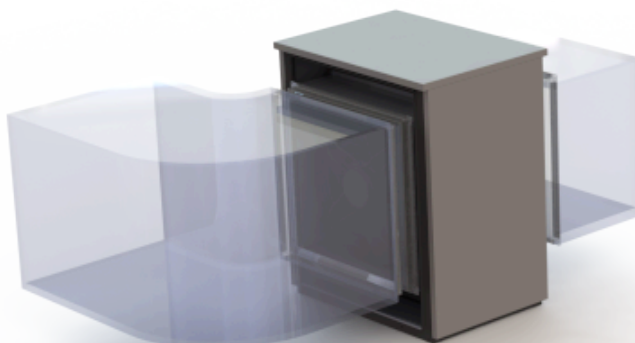
EC Fan 630mm



	U V		I A	P ₁ W	n min ⁻¹	L _{WA5} dB(A)
I	230	①	3,70	780	770	
	230*	②	2,90*	640*	870*	73
	230	③	2,20	480	930	71
II	170	④	3,20	480	510	
	170	⑤	3,00	460	630	66
	170	⑥	2,30	370	840	69
III	135	⑦	2,60	300	370	
	135	⑧	2,50	300	460	59
	135	⑨	2,30	280	640	63
IV	110	⑩	2,10	200	290	
	110	⑪	2,10	200	350	52
	110	⑫	2,00	190	480	56



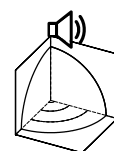
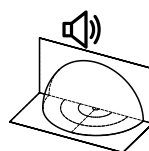
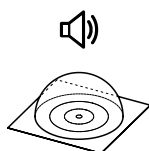
WAMAK AiWa 14 EVI S - Split unit variant: AiWa-VO-700-DUCT



Enclosure type: AiWa-VO-700-DUCT			Evaporator	
Article	WAVID070		Type	Cu-coil /Al-fin "
Basic dimensions	Height [mm]	1240	Port size	1/2" - 7/8" "
	Width [mm]	920	Heat transfer medium	Air
	Length [mm]	710	Volume flow - Air [m3/h]	4860
Weight [kg]	90		Internal pressure drop - Air [kPa]	0.027
Colour	Gray		Temperature difference - Air	7 K
Enclosure IP Class	IP44		Expansion valve	EEV
Fan	630 mm			
Number of fans	1		Fan mounting position	Horizontal axis
Fan motor type	EC		Fan type	Axial
Fan nominal current [A]	3.00		Fan power supply [V/Hz]	1~ 230/50
Minimal fan power input [Watt]	190		Maximal fan power input [Watt]	780

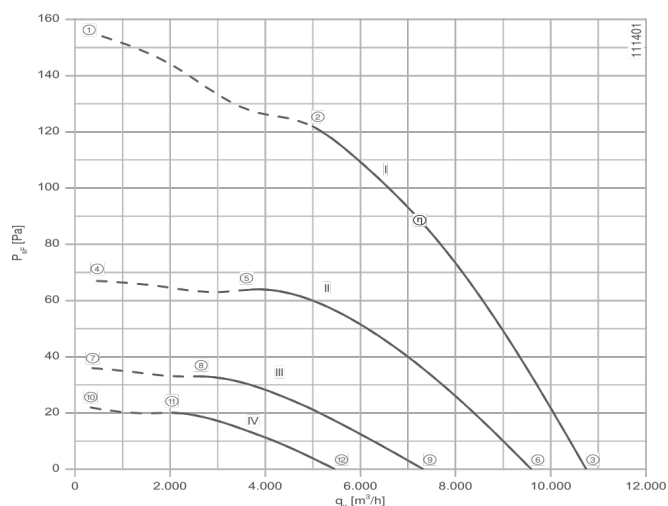
Acoustic power L_w

57.3 dB(A)



Distance [m]	1	5	10	15	1	5	10	15	1	5	10	15
Acoustic pressure L _p [dB(A)]	52.3	38.3	32.3	28.8	55.3	41.3	35.3	31.8	49.3	35.3	29.3	25.8

EC Fan 630mm



	U V		I A	P ₁ W	n min ⁻¹	L _{WA5} dB(A)
I	230	①	3,70	780	770	
	230*	②	2,90*	640*	870*	73
	230	③	2,20	480	930	71
II	170	④	3,20	480	510	
	170	⑤	3,00	460	630	66
	170	⑥	2,30	370	840	69
III	135	⑦	2,60	300	370	
	135	⑧	2,50	300	460	59
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IV	110	⑩	2,10	200	290	
	110	⑪	2,10	200	350	52
	110	⑫	2,00	190	480	56

