

Basic performance data - WAMAK AiWa 18 EVI H Out

Heating - EN 14511		
Heating capacity [kW]	A7 / W35	20.7
	A2 / W35	17.6
	A-7 / W34	14.8
Electrical power input [kW]	A7 / W35	4.5
	A2 / W35	4.6
	A-7 / W34	4.4
Heating efficiency faktor [COP]	A7 / W35	4.57
	A2 / W35	3.87
	A-7 / W34	3.32
Seasonal space heating energy efficiency - SCOP EN 14825		
Average Climate / Low Temperature [35 °C]	SCOP	4.37
	η [%]	174.8
	Label	A+++
	Qhe [kWh]	7662.8
	Pdesignh [kW]	16.7
	Tbivalent [°C]	-7
Cooling		
Cooling capacity - [kW]	A35 / W23-18	19.9
	A25 / W23-18	20.9
	A35 / W12-7	14.8
	A25 / W12-7	14.8
Seasonal space cooling energy efficiency - SEER EN 14825		
[W 23 / 18 °C]	SEER	4.44
	Qce [kWh]	8880.0
	η_c [%]	177.4
Sound EN 12102		
Acoustic power - Lw	dB(A)	66.9
Acoustic pressure - Lp	1 m dB(A)	58.9
	5 m dB(A)	44.9
	10 m dB(A)	38.9
Mechanical and operational information		
Compressor type (3~ 400/50)	SCROLL / 1 /	On/Off
Refrigerant	R410A (GWP - 2088)	6 kg
Operating limit temperatures heating - (min / max) [°C]	25 / 65	
Operating limit temperatures source - (min / max) [°C]	-22 / 40	
Weight	300 kg	

Main technical data - WAMAK AiWa 18 EVI H Out

Enclosure type			AiWa-O-1200		Heat energy rejection side data		
Basic dimensions	Height [mm]	1760		Operating limit temperatures heating	MAX [°C]	65	
	Width [mm]	1420			MIN [°C]	25	
	Length [mm]	660		for more see operating limits diagram			
Weight [kg]		300		Condenser	Port size	1.1/4 "	
Colour		Gray			Type	BPHE	
Enclosure IP Class		IP44			Count	1	
					Material	AISI 316	
Refrigeration cycle							
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	0.64		Heat transfer medium			
	Winding resistance	1.79 Ohm		Volume flow @ dT 5K (nom) - Water [m3/h]			
Refrigerant		R410A		Internal pressure drop - Water [kPa]			
	Volme	6 kg		ECM speed circulator - condenser			
	GWP	2088		Flow sensor consumer - analogue			
	Safety class	A1		Temperature difference			
Refrigeration oil type	POE RL32-3MAF			@ 35°C (nom)	5 K		
	Oil volume	1.89 L		@ 55°C	8 K		
Maximal pressure - refrigerant [bar]		45		@ 65°C	10 K		
	PED class	1		Renewable energy extraction side data			
EVI - vapour injection with economizer					Operating limit temperatures source	MIN [°C]	
APS System of liquid subcooling						MAX [°C]	
Reversible operation (cooling)					for more see operating limits diagram		
Reverse defrosting with hot gas					Evaporator	Type	
Plate exchanger protection HG-BYPASS						Count	
						Material	
					Cu-coil /Al-fin		
					1		
					Cu/Al		
					Maximal operating pressure - refrigerant [bar]		
					Heat transfer medium		
					Volume flow - Air [m3/h]		
					Internal pressure drop - Air [kPa]		
					Temperature difference - Air		
					Number of fans		
					Fan diameter [mm]		
					800		
Control System							
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 18 EVI H Out

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

Model	AiWa 18 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	16.7	kW	Seasonal space heating energy efficiency	ηs	174.8	%
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	14.8	kW	Tj = -7 °C	COPd	3.32	-
Tj = +2 °C	Pdh	17.5	kW	Tj = +2 °C	COPd	4.3	-
Tj = +7 °C	Pdh	20.6	kW	Tj = +7 °C	COPd	5.5	-
Tj = +12 °C	Pdh	24.4	kW	Tj = +12 °C	COPd	6.8	-
Tj = bivalent temperature	Pdh	14.5	kW	Tj = bivalent temperature	COPd	3.2	-
Tj = operation limit temperature	Pdh	10.6	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	7.4	kW
Standby mode	Psb	0.010	kW	Type of energy input		electricity	
Crankcase heater mode	Pck	0.050	kW				
Other items							
Capacity control		fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6470	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	67	dB				
Annual energy consumption	QHE	7662.8	kWh				

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

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

Model	AiWa 18 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	17.8	kW	Seasonal space heating energy efficiency	ηs	136.2	%
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	15.6	kW	Tj = -7 °C	COPd	2.31	-
Tj = +2 °C	Pdh	17.8	kW	Tj = +2 °C	COPd	3.3	-
Tj = +7 °C	Pdh	20.7	kW	Tj = +7 °C	COPd	4.5	-
Tj = +12 °C	Pdh	24.3	kW	Tj = +12 °C	COPd	6.0	-
Tj = bivalent temperature	Pdh	15.4	kW	Tj = bivalent temperature	COPd	2.1	-
Tj = operation limit temperature	Pdh	11.3	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	7.4	kW
Standby mode	Psb	0.010	kW	Type of energy input		electricity	
Crankcase heater mode	Pck	0.050	kW				
Other items							
Capacity control		fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6470	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	67	dB				
Annual energy consumption	QHE	10570.2	kWh				

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ENERG

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WAMAK

AiWa 18 EVI H Out



55 °C

35 °C

A+++

A++

A+

A

B

C

D

A++

A+++



--- dB



67 dB

19
18
18
kW

18
17
16
kW



2019

811/2013

AiWa 18 EVI H Out

ErP Data

	55 °C	35 °C
Energy class	A++	A+++
η [%]	136.2	174.8
P_{rated} [kW]	18	17
Q_{HE} [kWh/y]	10571	7663
SCOP [-]	3.40	4.37
$T_{bivalent}$ [°C]	-7	-7

CONTROLLER



+ QAA55/75

class VII

3.5% ↓

- QAA55/75

class III

1.5% ↓

Heating performance data

Version: v2024.010-AW

Average Climate / Low Temperature [35°C]

ZHI18K1P-TFM_R410A_1_AW

Operating conditions		Qh	P	COP
1	A7 / W30-35	20.7	4.5	4.57
2	A2 / W35	17.6	4.6	3.87
3	A-22 / W35	10.6	4.4	2.38
A	A-7 / W34	14.8	4.4	3.32
B	A2 / W30	17.5	4.1	4.31
C	A7 / W27	20.6	3.8	5.45
D	A12 / W24	24.4	3.6	6.84
E	A-10 / W35	14.5	4.5	3.18
F	A-7 / W34	14.8	4.4	3.32

SCOP DATA EN 14825:2018	
Average Climate / Low Temperature [35°C]	
SCOPon	4.50
SCOPnet	4.54
SCOP	4.37
η [%]	174.80
Label	A+++
Qh [kWh]	7662.81
Pdesignh [kW]	16.7
Tbivalent [°C]	-7.00

Average Climate / Medium Temperature [55°C]

Operating conditions		Qh	P	COP
1	A7 / W47-55	21.5	7.5	2.88
2	A2 / W55	18.5	7.4	2.51
3	A-22 / W55	11.3	6.2	1.69
A	A-7 / W52	15.6	6.7	2.31
B	A2 / W42	17.8	5.4	3.32
C	A7 / W36	20.7	4.6	4.47
D	A12 / W30	24.3	4.0	6.04
E	A-10 / W55	15.4	7.2	2.14
F	A-7 / W55	15.8	7.2	2.18

SCOP DATA EN 14825:2018	
Average Climate / Medium Temperature [55°C]	
SCOPon	3.48
SCOPnet	3.51
SCOP	3.40
η [%]	136.16
Label	A++
Qh [kWh]	10570.16
Pdesignh [kW]	17.8
Tbivalent [°C]	-7.00

Cooling performance data

Low temperature cooling W 12 / 7°C

Operating conditions		Qc	P	EER
A	A35 / W12-7	14.8	5.5	2.69
B	A30 / W12-7	15.2	4.9	3.12
C	A25 / W12-7	15.6	4.3	3.59
D	A20 / W12-7	15.9	3.9	4.11

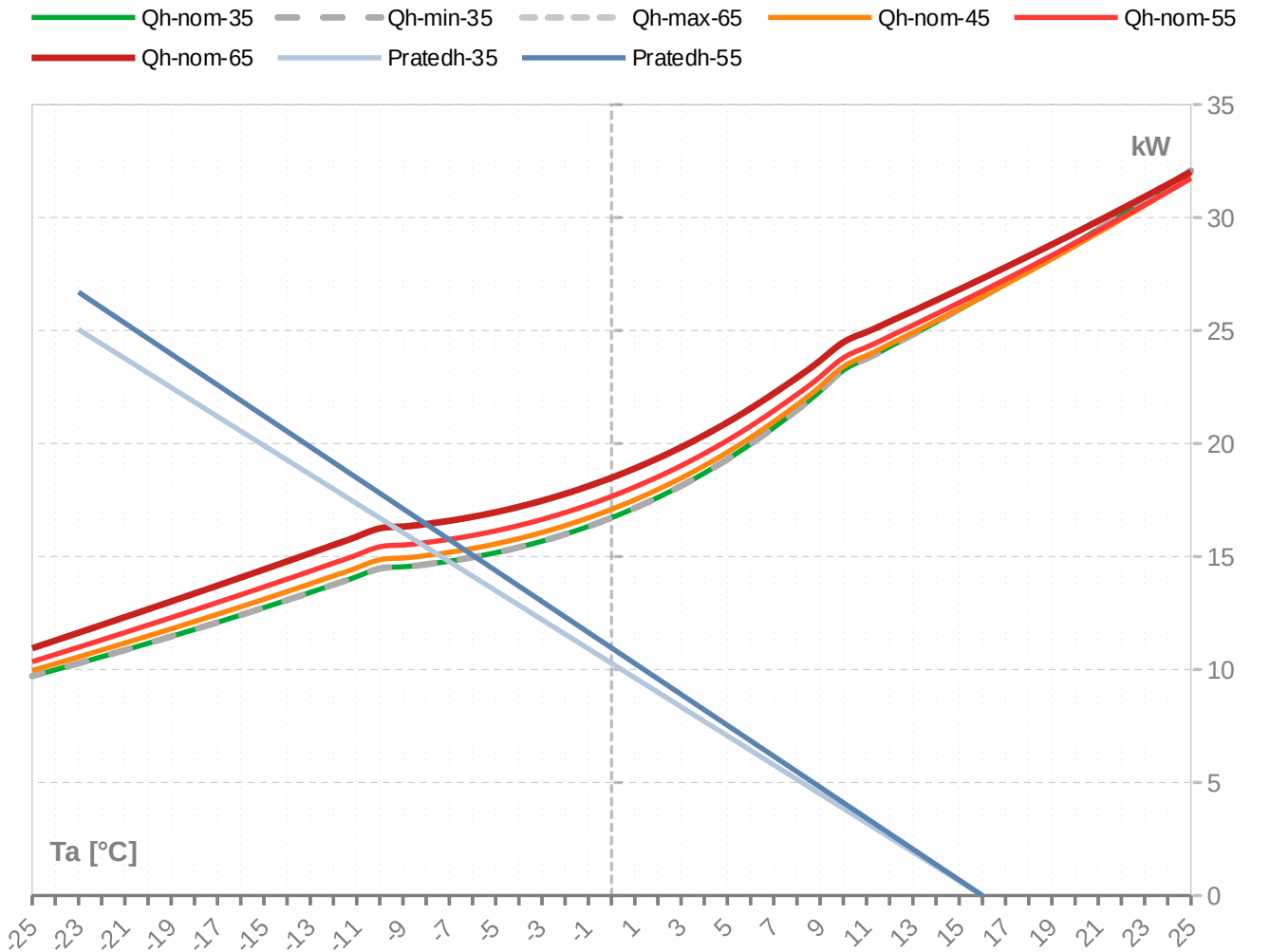
SEER DATA EN 14825:2018 [W 12 / 7°C]	
SEERon	3.50
SEER	3.36
Qc [kWh]	3194.80
η [%]	134.20

Radiant cooling W 23 / 18°C

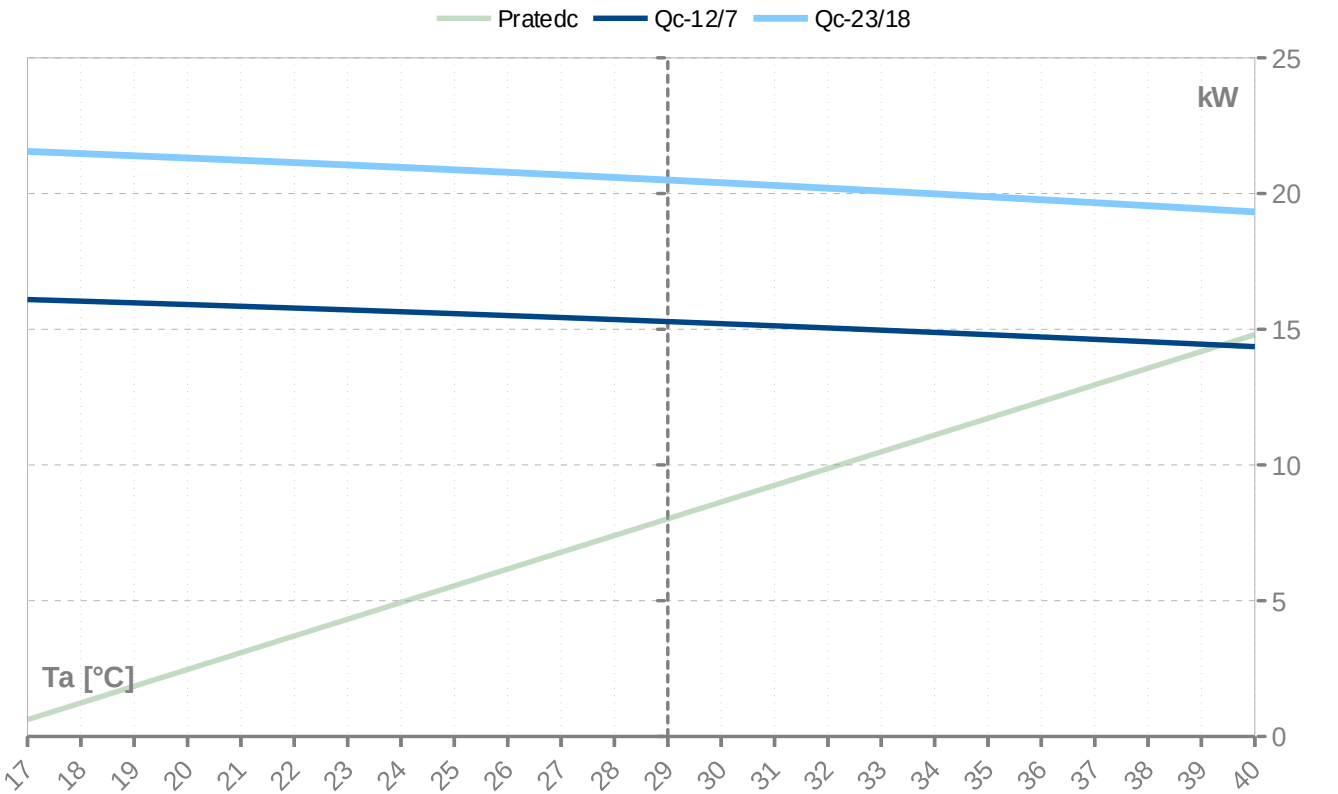
Operating conditions		Qc	P	EER
A	A35 / W23-18	19.9	5.5	3.61
B	A30 / W23-18	20.4	4.5	4.18
C	A25 / W23-18	20.9	4.0	4.82
D	A20 / W23-18	21.3	3.6	5.51

SEER DATA EN 14825:2018 [W 23 / 18°C]	
SEERon	4.69
SEER	4.44
Qc [kWh]	2383.20
η [%]	177.43

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	27.1	27.1		4.5	4.5		6.04	9.3	9.3	
24	27.1	27.1		4.5	4.5		6.04	9.3	9.3	
23	27.1	27.1		4.5	4.5		6.04	9.3	9.3	
22	27.1	27.1		4.5	4.5		6.04	9.3	9.3	
21	27.1	27.1		4.5	4.5		6.04	9.3	9.3	
20	27.1	27.1		4.5	4.5		6.04	9.3	9.3	
19	27.1	27.1		4.5	4.5		6.04	9.3	9.3	
18	27.1	27.1		4.5	4.5		6.04	9.3	9.3	
17	27.1	27.1		4.5	4.5		6.04	9.3	9.3	
16	26.5	26.5	26.5	4.5	4.5	4.5	5.90	9.3	9.3	9.3
15	25.9	25.9	25.9	4.5	4.5	4.5	5.77	9.3	9.3	9.3
14	25.4	25.4	25.4	4.5	4.5	4.5	5.64	9.3	9.3	9.3
13	24.8	24.8	24.8	4.5	4.5	4.5	5.52	9.4	9.4	9.4
12	24.3	24.3	24.3	4.5	4.5	4.5	5.39	9.4	9.4	9.4
11	23.8	23.8	23.8	4.5	4.5	4.5	5.27	9.4	9.4	9.4
10	23.2	23.2	23.2	4.5	4.5	4.5	5.15	9.4	9.4	9.4
9	22.3	22.3	22.3	4.5	4.5	4.5	4.94	9.4	9.4	9.4
8	21.5	21.5	21.5	4.5	4.5	4.5	4.75	9.4	9.4	9.4
7	20.7	20.7	20.7	4.5	4.5	4.5	4.57	9.4	9.4	9.4
6	20.0	20.0	20.0	4.5	4.5	4.5	4.40	9.4	9.4	9.4
5	19.3	19.3	19.3	4.5	4.5	4.5	4.25	9.4	9.4	9.4
4	18.7	18.7	18.7	4.5	4.5	4.5	4.11	9.4	9.4	9.4
3	18.1	18.1	18.1	4.5	4.5	4.5	3.99	9.4	9.4	9.4
2	17.6	17.6	17.6	4.6	4.6	4.6	3.87	9.4	9.4	9.4
1	17.1	17.1	17.1	4.6	4.6	4.6	3.77	9.4	9.4	9.4
0	16.7	16.7	16.7	4.6	4.6	4.6	3.67	9.4	9.4	9.4
-1	16.3	16.3	16.3	4.6	4.6	4.6	3.59	9.4	9.4	9.4
-2	16.0	16.0	16.0	4.6	4.6	4.6	3.51	9.4	9.4	9.4
-3	15.7	15.7	15.7	4.6	4.6	4.6	3.44	9.4	9.4	9.4
-4	15.4	15.4	15.4	4.6	4.6	4.6	3.38	9.4	9.4	9.4
-5	15.2	15.2	15.2	4.6	4.6	4.6	3.33	9.4	9.4	9.4
-6	15.0	15.0	15.0	4.5	4.5	4.5	3.29	9.4	9.4	9.4
-7	14.8	14.8	14.8	4.5	4.5	4.5	3.25	9.4	9.4	9.4
-8	14.7	14.7	14.7	4.5	4.5	4.5	3.22	9.4	9.4	9.4
-9	14.5	14.5	14.5	4.5	4.5	4.5	3.20	9.4	9.4	9.4
-10	14.5	14.5	14.5	4.5	4.5	4.5	3.18	9.4	9.4	9.4
-11	14.1	14.1	14.1	4.5	4.5	4.5	3.11	9.4	9.4	9.4
-12	13.8	13.8	13.8	4.5	4.5	4.5	3.03	9.4	9.4	9.4
-13	13.4	13.4	13.4	4.5	4.5	4.5	2.96	9.4	9.4	9.4
-14	13.1	13.1	13.1	4.5	4.5	4.5	2.89	9.4	9.4	9.4
-15	12.7	12.7	12.7	4.5	4.5	4.5	2.82	9.4	9.4	9.4
-16	12.4	12.4	12.4	4.5	4.5	4.5	2.75	9.4	9.4	9.4
-17	12.1	12.1	12.1	4.5	4.5	4.5	2.69	9.4	9.4	9.4
-18	11.8	11.8	11.8	4.5	4.5	4.5	2.62	9.4	9.4	9.4
-19	11.5	11.5	11.5	4.5	4.5	4.5	2.56	9.4	9.4	9.4
-20	11.2	11.2	11.2	4.5	4.5	4.5	2.50	9.3	9.3	9.3
-21	10.9	10.9	10.9	4.4	4.4	4.4	2.44	9.3	9.3	9.3
-22	10.6	10.6	10.6	4.4	4.4	4.4	2.38	9.3	9.3	9.3
-23	10.3	10.3	10.3	4.4	4.4	4.4	2.33	9.3	9.3	9.3
-24	10.0	10.0	10.0	4.4	4.4	4.4	2.27	9.3	9.3	9.3
-25	9.7	9.7	9.7	4.4	4.4	4.4	2.22	9.3	9.3	9.3

* attention: operating limits not reflected in performance table

ZHI18K1P-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	31.8	31.8	31.8	5.7	5.7	5.7	5.60	10.5	10.5	10.5
24	31.1	31.1	31.1	5.7	5.7	5.7	5.48	10.5	10.5	10.5
23	30.5	30.5	30.5	5.7	5.7	5.7	5.37	10.5	10.5	10.5
22	29.9	29.9	29.9	5.7	5.7	5.7	5.26	10.5	10.5	10.5
21	29.3	29.3	29.3	5.7	5.7	5.7	5.15	10.5	10.5	10.5
20	28.7	28.7	28.7	5.7	5.7	5.7	5.04	10.5	10.5	10.5
19	28.2	28.2	28.2	5.7	5.7	5.7	4.93	10.5	10.5	10.5
18	27.6	27.6	27.6	5.7	5.7	5.7	4.82	10.5	10.5	10.5
17	27.0	27.0	27.0	5.7	5.7	5.7	4.72	10.5	10.5	10.5
16	26.5	26.5	26.5	5.7	5.7	5.7	4.62	10.5	10.5	10.5
15	26.0	26.0	26.0	5.7	5.7	5.7	4.52	10.5	10.5	10.5
14	25.4	25.4	25.4	5.7	5.7	5.7	4.42	10.6	10.6	10.6
13	24.9	24.9	24.9	5.8	5.8	5.8	4.33	10.6	10.6	10.6
12	24.4	24.4	24.4	5.8	5.8	5.8	4.24	10.6	10.6	10.6
11	23.9	23.9	23.9	5.8	5.8	5.8	4.15	10.6	10.6	10.6
10	23.4	23.4	23.4	5.8	5.8	5.8	4.06	10.6	10.6	10.6
9	22.5	22.5	22.5	5.8	5.8	5.8	3.90	10.6	10.6	10.6
8	21.7	21.7	21.7	5.8	5.8	5.8	3.76	10.6	10.6	10.6
7	21.0	21.0	21.0	5.8	5.8	5.8	3.63	10.6	10.6	10.6
6	20.3	20.3	20.3	5.8	5.8	5.8	3.50	10.6	10.6	10.6
5	19.6	19.6	19.6	5.8	5.8	5.8	3.39	10.6	10.6	10.6
4	19.0	19.0	19.0	5.8	5.8	5.8	3.29	10.6	10.6	10.6
3	18.5	18.5	18.5	5.8	5.8	5.8	3.20	10.6	10.6	10.6
2	18.0	18.0	18.0	5.8	5.8	5.8	3.11	10.6	10.6	10.6
1	17.5	17.5	17.5	5.8	5.8	5.8	3.04	10.6	10.6	10.6
0	17.1	17.1	17.1	5.8	5.8	5.8	2.97	10.6	10.6	10.6
-1	16.7	16.7	16.7	5.8	5.8	5.8	2.90	10.6	10.6	10.6
-2	16.4	16.4	16.4	5.7	5.7	5.7	2.85	10.6	10.6	10.6
-3	16.1	16.1	16.1	5.7	5.7	5.7	2.80	10.6	10.6	10.6
-4	15.8	15.8	15.8	5.7	5.7	5.7	2.76	10.5	10.5	10.5
-5	15.6	15.6	15.6	5.7	5.7	5.7	2.72	10.5	10.5	10.5
-6	15.4	15.4	15.4	5.7	5.7	5.7	2.68	10.5	10.5	10.5
-7	15.2	15.2	15.2	5.7	5.7	5.7	2.66	10.5	10.5	10.5
-8	15.0	15.0	15.0	5.7	5.7	5.7	2.64	10.5	10.5	10.5
-9	14.9	14.9	14.9	5.7	5.7	5.7	2.62	10.5	10.5	10.5
-10	14.9	14.9	14.9	5.7	5.7	5.7	2.61	10.5	10.5	10.5
-11	14.5	14.5	14.5	5.7	5.7	5.7	2.55	10.5	10.5	10.5
-12	14.1	14.1	14.1	5.7	5.7	5.7	2.49	10.5	10.5	10.5
-13	13.8	13.8	13.8	5.7	5.7	5.7	2.44	10.5	10.5	10.5
-14	13.4	13.4	13.4	5.6	5.6	5.6	2.39	10.4	10.4	10.4
-15	13.1	13.1	13.1	5.6	5.6	5.6	2.34	10.4	10.4	10.4
-16	12.8	12.8	12.8	5.6	5.6	5.6	2.29	10.4	10.4	10.4
-17	12.4	12.4	12.4	5.6	5.6	5.6	2.24	10.4	10.4	10.4
-18	12.1	12.1	12.1	5.5	5.5	5.5	2.19	10.4	10.4	10.4
-19	11.8	11.8	11.8	5.5	5.5	5.5	2.14	10.3	10.3	10.3
-20	11.5	11.5	11.5	5.5	5.5	5.5	2.09	10.3	10.3	10.3
-21	11.2	11.2	11.2	5.5	5.5	5.5	2.05	10.3	10.3	10.3
-22	10.9	10.9	10.9	5.4	5.4	5.4	2.00	10.2	10.2	10.2
-23	10.6	10.6	10.6	5.4	5.4	5.4	1.96	10.2	10.2	10.2
-24	10.3	10.3	10.3	5.3	5.3	5.3	1.92	10.2	10.2	10.2
-25	10.0	10.0	10.0	5.3	5.3	5.3	1.87	10.1	10.1	10.1

* 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	31.7	31.7	31.7	7.4	7.4	7.4	4.29	12.3	12.3	12.3
24	31.1	31.1	31.1	7.4	7.4	7.4	4.21	12.3	12.3	12.3
23	30.6	30.6	30.6	7.4	7.4	7.4	4.13	12.3	12.3	12.3
22	30.0	30.0	30.0	7.4	7.4	7.4	4.04	12.4	12.4	12.4
21	29.4	29.4	29.4	7.4	7.4	7.4	3.96	12.4	12.4	12.4
20	28.9	28.9	28.9	7.4	7.4	7.4	3.89	12.4	12.4	12.4
19	28.3	28.3	28.3	7.4	7.4	7.4	3.81	12.4	12.4	12.4
18	27.8	27.8	27.8	7.4	7.4	7.4	3.73	12.4	12.4	12.4
17	27.3	27.3	27.3	7.5	7.5	7.5	3.66	12.4	12.4	12.4
16	26.7	26.7	26.7	7.5	7.5	7.5	3.59	12.4	12.4	12.4
15	26.2	26.2	26.2	7.5	7.5	7.5	3.52	12.4	12.4	12.4
14	25.7	25.7	25.7	7.5	7.5	7.5	3.45	12.4	12.4	12.4
13	25.2	25.2	25.2	7.5	7.5	7.5	3.38	12.4	12.4	12.4
12	24.7	24.7	24.7	7.5	7.5	7.5	3.31	12.4	12.4	12.4
11	24.3	24.3	24.3	7.5	7.5	7.5	3.25	12.4	12.4	12.4
10	23.8	23.8	23.8	7.5	7.5	7.5	3.19	12.4	12.4	12.4
9	23.0	23.0	23.0	7.5	7.5	7.5	3.07	12.4	12.4	12.4
8	22.2	22.2	22.2	7.5	7.5	7.5	2.97	12.4	12.4	12.4
7	21.5	21.5	21.5	7.5	7.5	7.5	2.88	12.4	12.4	12.4
6	20.8	20.8	20.8	7.4	7.4	7.4	2.79	12.4	12.4	12.4
5	20.1	20.1	20.1	7.4	7.4	7.4	2.71	12.4	12.4	12.4
4	19.6	19.6	19.6	7.4	7.4	7.4	2.64	12.4	12.4	12.4
3	19.0	19.0	19.0	7.4	7.4	7.4	2.57	12.3	12.3	12.3
2	18.5	18.5	18.5	7.4	7.4	7.4	2.51	12.3	12.3	12.3
1	18.1	18.1	18.1	7.4	7.4	7.4	2.46	12.3	12.3	12.3
0	17.7	17.7	17.7	7.3	7.3	7.3	2.41	12.3	12.3	12.3
-1	17.3	17.3	17.3	7.3	7.3	7.3	2.36	12.3	12.3	12.3
-2	16.9	16.9	16.9	7.3	7.3	7.3	2.32	12.2	12.2	12.2
-3	16.6	16.6	16.6	7.3	7.3	7.3	2.29	12.2	12.2	12.2
-4	16.4	16.4	16.4	7.3	7.3	7.3	2.25	12.2	12.2	12.2
-5	16.1	16.1	16.1	7.2	7.2	7.2	2.23	12.2	12.2	12.2
-6	15.9	15.9	15.9	7.2	7.2	7.2	2.20	12.2	12.2	12.2
-7	15.8	15.8	15.8	7.2	7.2	7.2	2.18	12.1	12.1	12.1
-8	15.6	15.6	15.6	7.2	7.2	7.2	2.17	12.1	12.1	12.1
-9	15.5	15.5	15.5	7.2	7.2	7.2	2.15	12.1	12.1	12.1
-10	15.4	15.4	15.4	7.2	7.2	7.2	2.14	12.1	12.1	12.1
-11	15.1	15.1	15.1	7.2	7.2	7.2	2.10	12.1	12.1	12.1
-12	14.7	14.7	14.7	7.1	7.1	7.1	2.06	12.1	12.1	12.1
-13	14.4	14.4	14.4	7.1	7.1	7.1	2.02	12.0	12.0	12.0
-14	14.0	14.0	14.0	7.1	7.1	7.1	1.98	12.0	12.0	12.0
-15	13.7	13.7	13.7	7.0	7.0	7.0	1.95	11.9	11.9	11.9
-16	13.3	13.3	13.3	7.0	7.0	7.0	1.91	11.9	11.9	11.9
-17	13.0	13.0	13.0	6.9	6.9	6.9	1.87	11.8	11.8	11.8
-18	12.6	12.6	12.6	6.9	6.9	6.9	1.83	11.8	11.8	11.8
-19	12.3	12.3	12.3	6.8	6.8	6.8	1.80	11.7	11.7	11.7
-20	12.0	12.0	12.0	6.8	6.8	6.8	1.76	11.7	11.7	11.7
-21	11.6	11.6	11.6	6.7	6.7	6.7	1.73	11.6	11.6	11.6
-22	11.3	11.3	11.3	6.7	6.7	6.7	1.69	11.6	11.6	11.6
-23	11.0	11.0	11.0	6.6	6.6	6.6	1.66	11.5	11.5	11.5
-24	10.7	10.7	10.7	6.6	6.6	6.6	1.62	11.5	11.5	11.5
-25	10.3	10.3	10.3	6.5	6.5	6.5	1.59	11.4	11.4	11.4

* 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	32.0	32.0	32.0	9.7	9.7	9.7	3.30	15.1	15.1	15.1
24	31.5	31.5	31.5	9.7	9.7	9.7	3.24	15.1	15.1	15.1
23	30.9	30.9	30.9	9.7	9.7	9.7	3.18	15.1	15.1	15.1
22	30.4	30.4	30.4	9.7	9.7	9.7	3.13	15.1	15.1	15.1
21	29.8	29.8	29.8	9.7	9.7	9.7	3.07	15.1	15.1	15.1
20	29.3	29.3	29.3	9.7	9.7	9.7	3.02	15.1	15.1	15.1
19	28.8	28.8	28.8	9.7	9.7	9.7	2.96	15.1	15.1	15.1
18	28.3	28.3	28.3	9.7	9.7	9.7	2.91	15.1	15.1	15.1
17	27.8	27.8	27.8	9.7	9.7	9.7	2.86	15.1	15.1	15.1
16	27.3	27.3	27.3	9.7	9.7	9.7	2.81	15.1	15.1	15.1
15	26.8	26.8	26.8	9.7	9.7	9.7	2.76	15.1	15.1	15.1
14	26.3	26.3	26.3	9.7	9.7	9.7	2.71	15.1	15.1	15.1
13	25.9	25.9	25.9	9.7	9.7	9.7	2.66	15.1	15.1	15.1
12	25.4	25.4	25.4	9.7	9.7	9.7	2.62	15.1	15.1	15.1
11	24.9	24.9	24.9	9.7	9.7	9.7	2.57	15.1	15.1	15.1
10	24.5	24.5	24.5	9.7	9.7	9.7	2.53	15.1	15.1	15.1
9	23.7	23.7	23.7	9.7	9.7	9.7	2.45	15.0	15.0	15.0
8	22.9	22.9	22.9	9.6	9.6	9.6	2.38	15.0	15.0	15.0
7	22.2	22.2	22.2	9.6	9.6	9.6	2.31	15.0	15.0	15.0
6	21.6	21.6	21.6	9.6	9.6	9.6	2.25	14.9	14.9	14.9
5	20.9	20.9	20.9	9.5	9.5	9.5	2.19	14.9	14.9	14.9
4	20.4	20.4	20.4	9.5	9.5	9.5	2.14	14.9	14.9	14.9
3	19.8	19.8	19.8	9.5	9.5	9.5	2.10	14.8	14.8	14.8
2	19.3	19.3	19.3	9.4	9.4	9.4	2.05	14.8	14.8	14.8
1	18.9	18.9	18.9	9.4	9.4	9.4	2.01	14.7	14.7	14.7
0	18.5	18.5	18.5	9.4	9.4	9.4	1.98	14.7	14.7	14.7
-1	18.1	18.1	18.1	9.3	9.3	9.3	1.94	14.7	14.7	14.7
-2	17.8	17.8	17.8	9.3	9.3	9.3	1.92	14.6	14.6	14.6
-3	17.5	17.5	17.5	9.2	9.2	9.2	1.89	14.6	14.6	14.6
-4	17.2	17.2	17.2	9.2	9.2	9.2	1.87	14.5	14.5	14.5
-5	17.0	17.0	17.0	9.2	9.2	9.2	1.85	14.5	14.5	14.5
-6	16.8	16.8	16.8	9.2	9.2	9.2	1.83	14.5	14.5	14.5
-7	16.6	16.6	16.6	9.1	9.1	9.1	1.81	14.5	14.5	14.5
-8	16.4	16.4	16.4	9.1	9.1	9.1	1.80	14.4	14.4	14.4
-9	16.3	16.3	16.3	9.1	9.1	9.1	1.79	14.4	14.4	14.4
-10	16.2	16.2	16.2	9.1	9.1	9.1	1.79	14.4	14.4	14.4
-11	15.9	15.9	15.9	9.0	9.0	9.0	1.76	14.4	14.4	14.4
-12	15.5	15.5	15.5	9.0	9.0	9.0	1.73	14.3	14.3	14.3
-13	15.1	15.1	15.1	8.9	8.9	8.9	1.70	14.2	14.2	14.2
-14	14.8	14.8	14.8	8.9	8.9	8.9	1.67	14.2	14.2	14.2
-15	14.4	14.4	14.4	8.8	8.8	8.8	1.64	14.1	14.1	14.1
-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	14.4	14.4	14.4	6.2	6.2	6.2	2.30	11.1	11.1	11.1
39	14.5	14.5	14.5	6.1	6.1	6.1	2.38	10.9	10.9	10.9
38	14.5	14.5	14.5	5.9	5.9	5.9	2.45	10.7	10.7	10.7
37	14.6	14.6	14.6	5.8	5.8	5.8	2.53	10.6	10.6	10.6
36	14.7	14.7	14.7	5.6	5.6	5.6	2.61	10.5	10.5	10.5
35	14.8	14.8	14.8	5.5	5.5	5.5	2.69	10.3	10.3	10.3
34	14.9	14.9	14.9	5.4	5.4	5.4	2.77	10.2	10.2	10.2
33	15.0	15.0	15.0	5.2	5.2	5.2	2.86	10.1	10.1	10.1
32	15.0	15.0	15.0	5.1	5.1	5.1	2.94	9.9	9.9	9.9
31	15.1	15.1	15.1	5.0	5.0	5.0	3.03	9.8	9.8	9.8
30	15.2	15.2	15.2	4.9	4.9	4.9	3.12	9.7	9.7	9.7
29	15.3	15.3	15.3	4.8	4.8	4.8	3.21	9.6	9.6	9.6
28	15.4	15.4	15.4	4.6	4.6	4.6	3.30	9.5	9.5	9.5
27	15.4	15.4	15.4	4.5	4.5	4.5	3.40	9.4	9.4	9.4
26	15.5	15.5	15.5	4.4	4.4	4.4	3.50	9.3	9.3	9.3
25	15.6	15.6	15.6	4.3	4.3	4.3	3.59	9.2	9.2	9.2
24	15.6	15.6	15.6	4.2	4.2	4.2	3.69	9.1	9.1	9.1
23	15.7	15.7	15.7	4.1	4.1	4.1	3.80	9.0	9.0	9.0
22	15.8	15.8	15.8	4.0	4.0	4.0	3.90	8.9	8.9	8.9
21	15.8	15.8	15.8	4.0	4.0	4.0	4.00	8.9	8.9	8.9
20	15.9	15.9	15.9	3.9	3.9	3.9	4.11	8.8	8.8	8.8
19	16.0	16.0	16.0	3.8	3.8	3.8	4.22	8.7	8.7	8.7
18	16.0	16.0	16.0	3.7	3.7	3.7	4.33	8.6	8.6	8.6
17	16.1	16.1	16.1	3.6	3.6	3.6	4.44	8.6	8.6	8.6

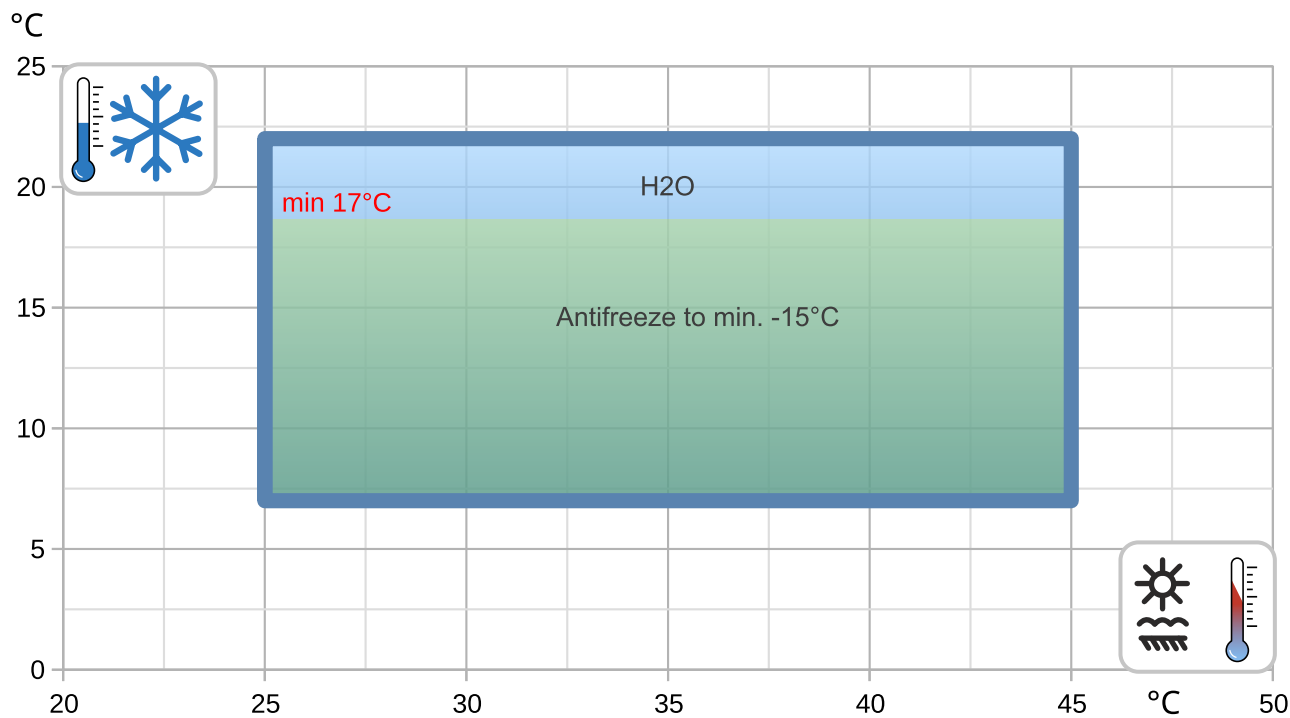
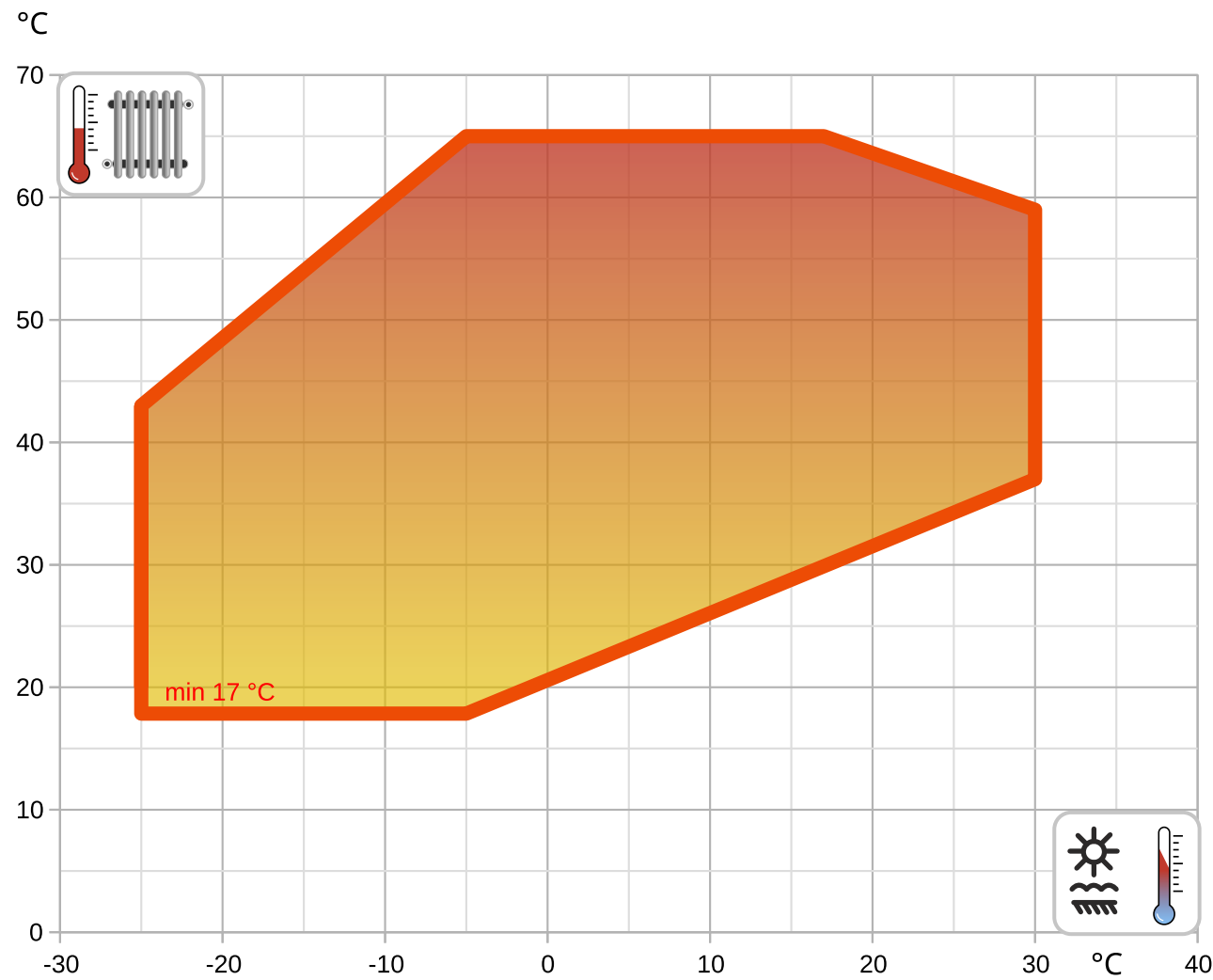
Tc [°C]		W 23 / 18 °C								
Ta [°C]	Qc [kW]	Qh-min [kW]	Qh-max [kW]	Pin [kW]	Pin-min [kW]	Pin-max [kW]	EER kW / kW	I [A]	I-min [A]	I-max [A]
40	19.3	19.3	19.3	6.2	6.2	6.2	3.10	11.0	11.0	11.0
39	19.4	19.4	19.4	6.1	6.1	6.1	3.20	10.9	10.9	10.9
38	19.6	19.6	19.6	5.9	5.9	5.9	3.30	10.7	10.7	10.7
37	19.7	19.7	19.7	5.8	5.8	5.8	3.40	10.6	10.6	10.6
36	19.8	19.8	19.8	5.6	5.6	5.6	3.50	10.4	10.4	10.4
35	19.9	19.9	19.9	5.5	5.5	5.5	3.61	10.3	10.3	10.3
34	20.0	20.0	20.0	5.4	5.4	5.4	3.72	10.1	10.1	10.1
33	20.1	20.1	20.1	5.2	5.2	5.2	3.83	10.0	10.0	10.0
32	20.2	20.2	20.2	5.1	5.1	5.1	3.95	9.9	9.9	9.9
31	20.3	20.3	20.3	5.0	5.0	5.0	4.06	9.8	9.8	9.8
30	20.4	20.4	20.4	4.9	4.9	4.9	4.18	9.7	9.7	9.7
29	20.5	20.5	20.5	4.8	4.8	4.8	4.31	9.6	9.6	9.6
28	20.6	20.6	20.6	4.6	4.6	4.6	4.43	9.5	9.5	9.5
27	20.7	20.7	20.7	4.5	4.5	4.5	4.56	9.4	9.4	9.4
26	20.8	20.8	20.8	4.4	4.4	4.4	4.69	9.3	9.3	9.3
25	20.9	20.9	20.9	4.3	4.3	4.3	4.82	9.2	9.2	9.2
24	21.0	21.0	21.0	4.2	4.2	4.2	4.95	9.1	9.1	9.1
23	21.1	21.1	21.1	4.1	4.1	4.1	5.09	9.0	9.0	9.0
22	21.1	21.1	21.1	4.0	4.0	4.0	5.22	8.9	8.9	8.9
21	21.2	21.2	21.2	4.0	4.0	4.0	5.36	8.9	8.9	8.9
20	21.3	21.3	21.3	3.9	3.9	3.9	5.51	8.8	8.8	8.8
19	21.4	21.4	21.4	3.8	3.8	3.8	5.65	8.7	8.7	8.7
18	21.5	21.5	21.5	3.7	3.7	3.7	5.79	8.6	8.6	8.6
17	21.6	21.6	21.6	3.6	3.6	3.6	5.94	8.6	8.6	8.6

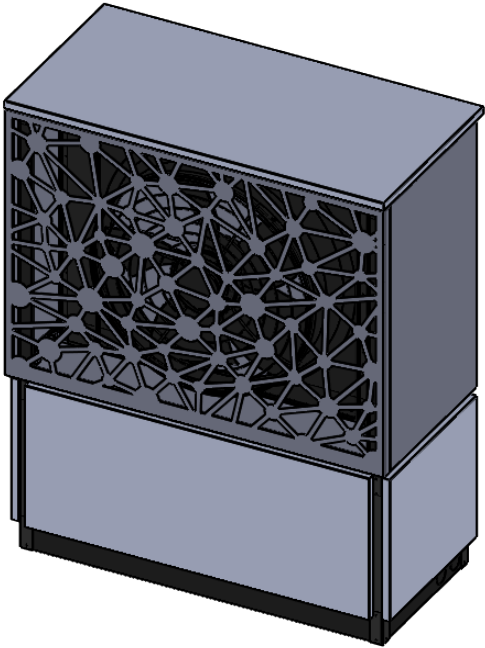
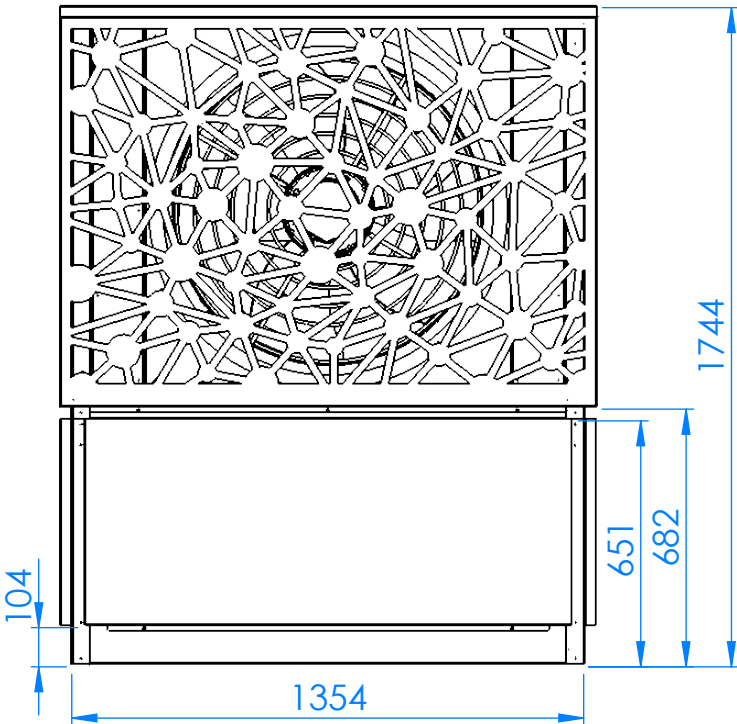
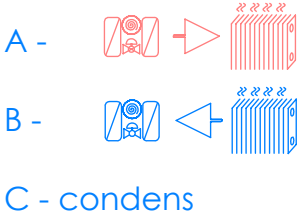
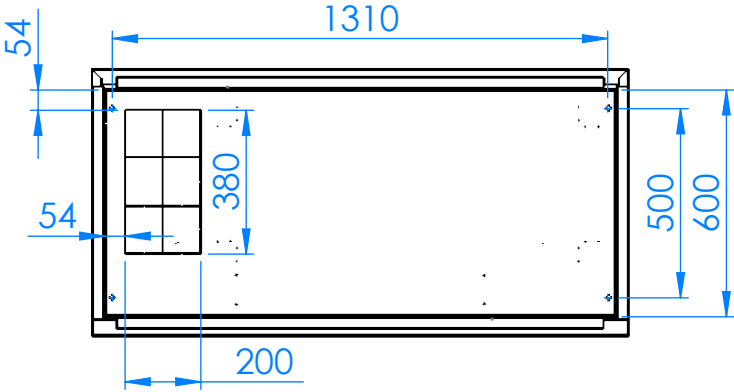
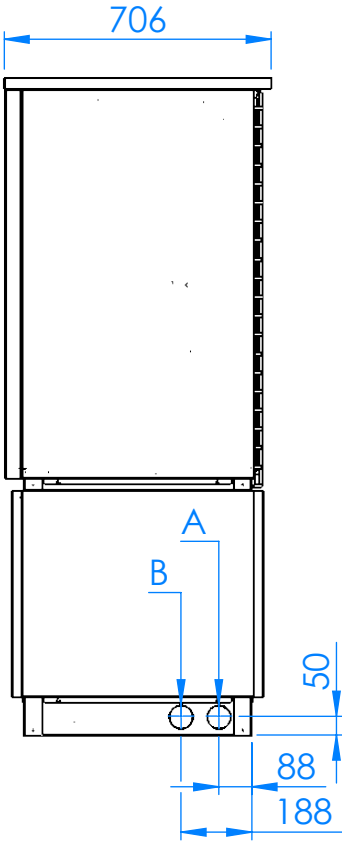
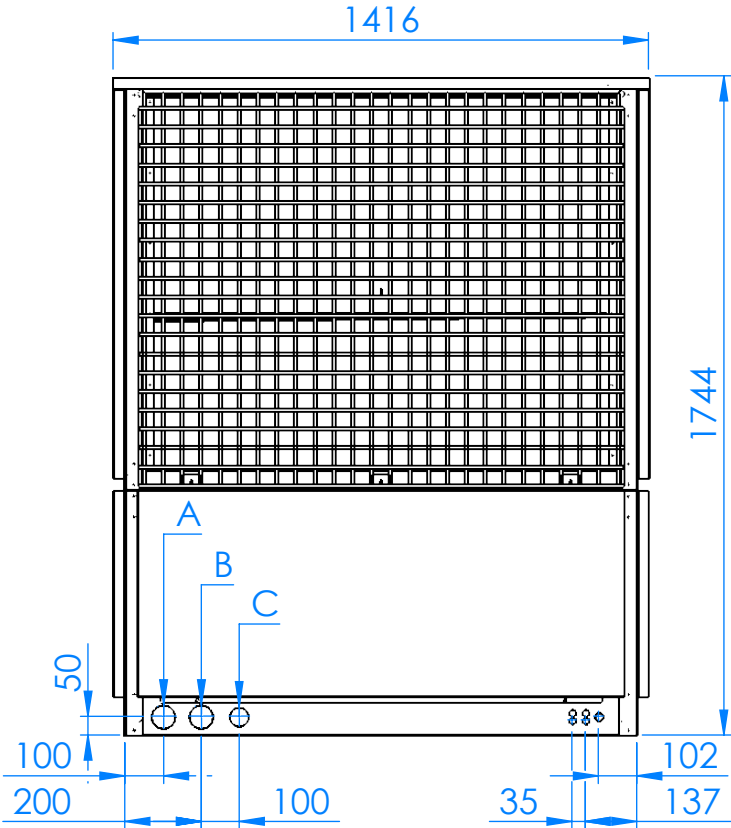
* attention: operating limits not reflected in performance table

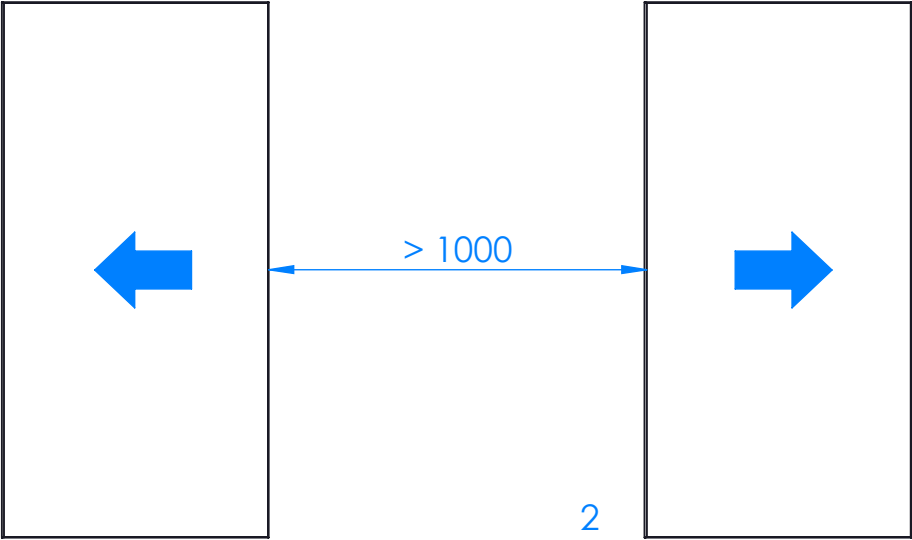
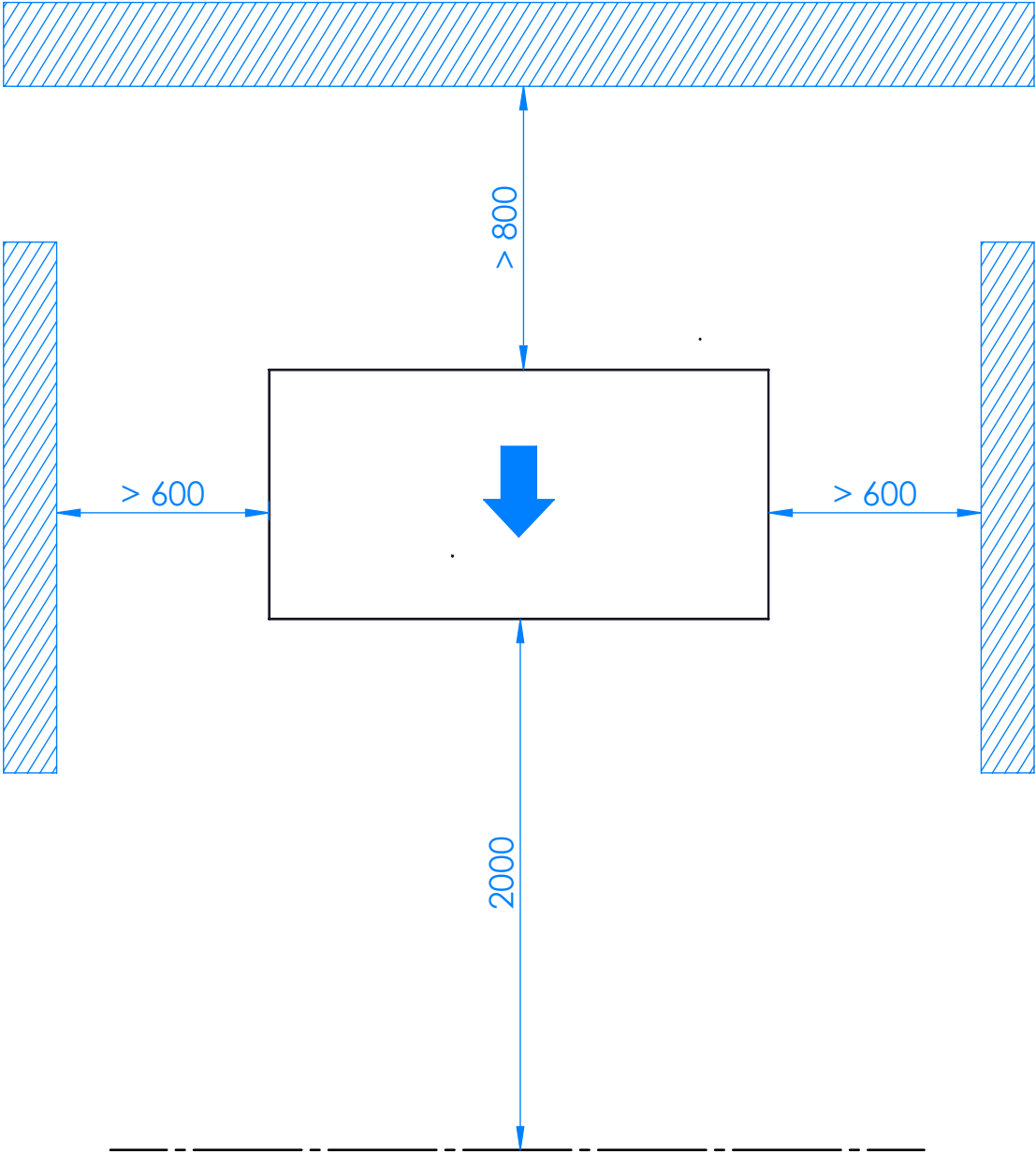
LEGENDE:

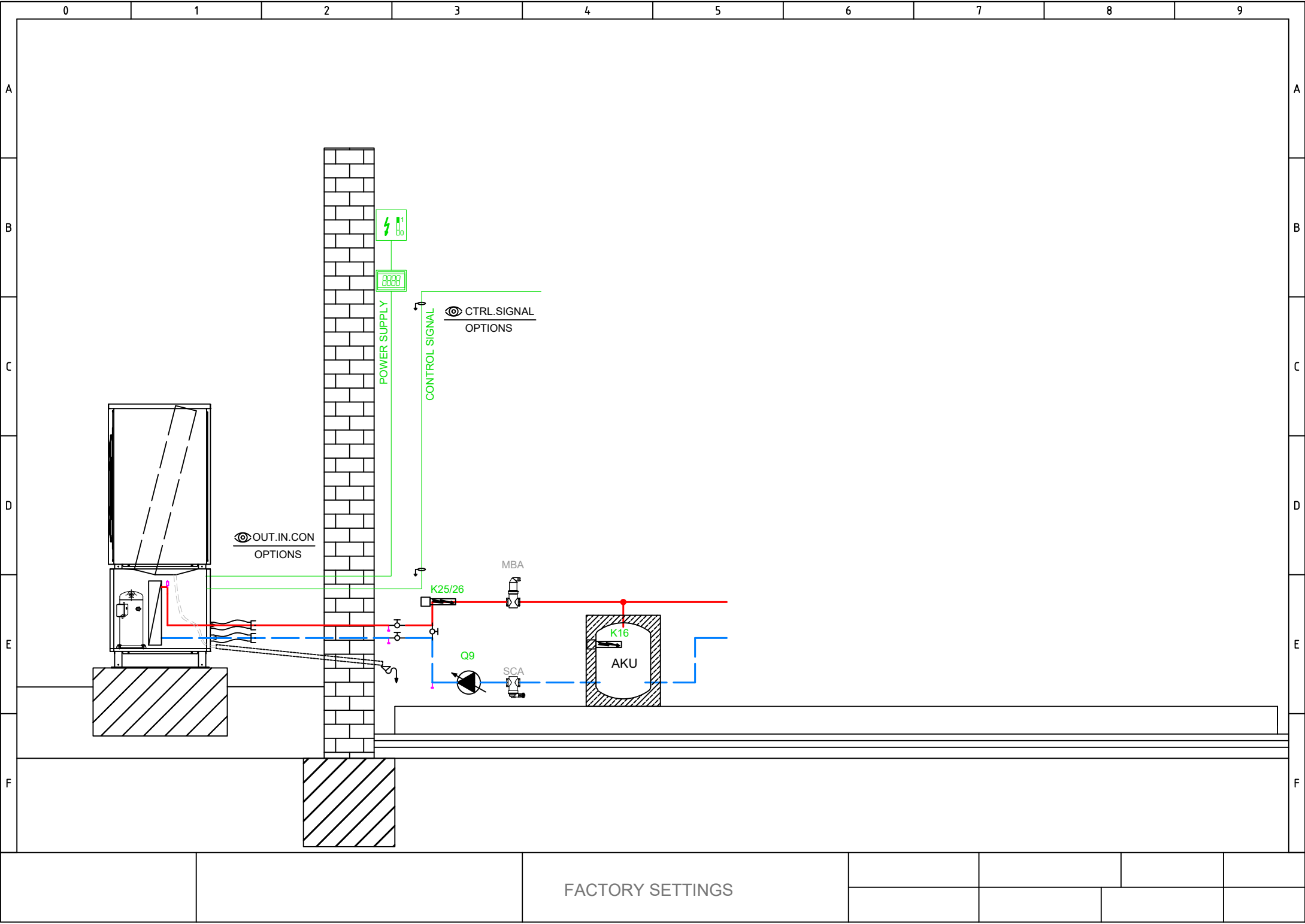
Ts-IN: Temperature renewable source - inlet [°C]
Th-OU: Temperature heating - outlet (flow) [°C]
Tc-OU: Temperature cooling - outlet (flow) [°C]
Qh nom: Heating capacity nominal
Qh min: Heating capacity minimal
Qh max: Heating capacity maximal
Pin nom: Power input at nominal heating capacity
Pin min: 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

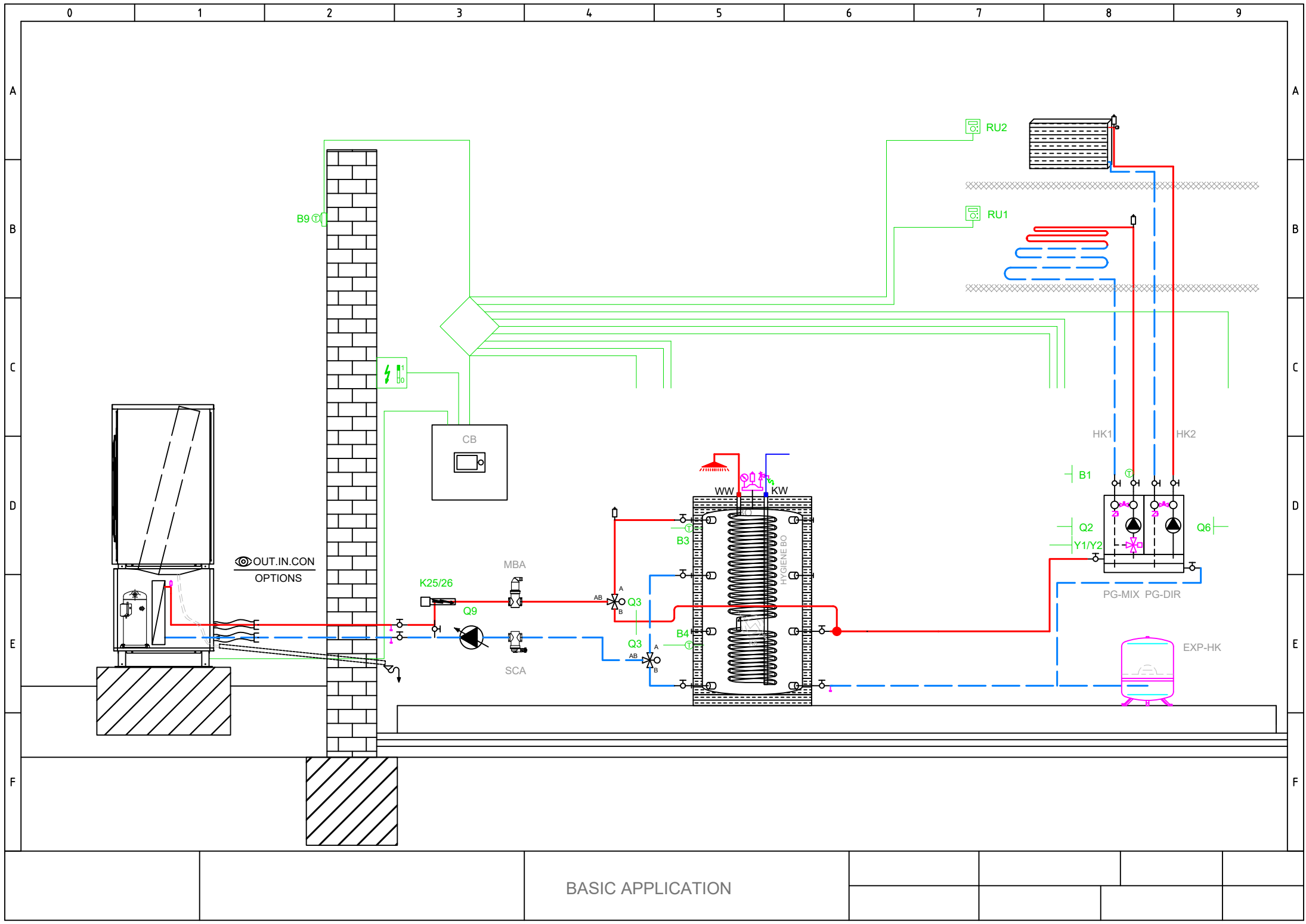
Operating limits

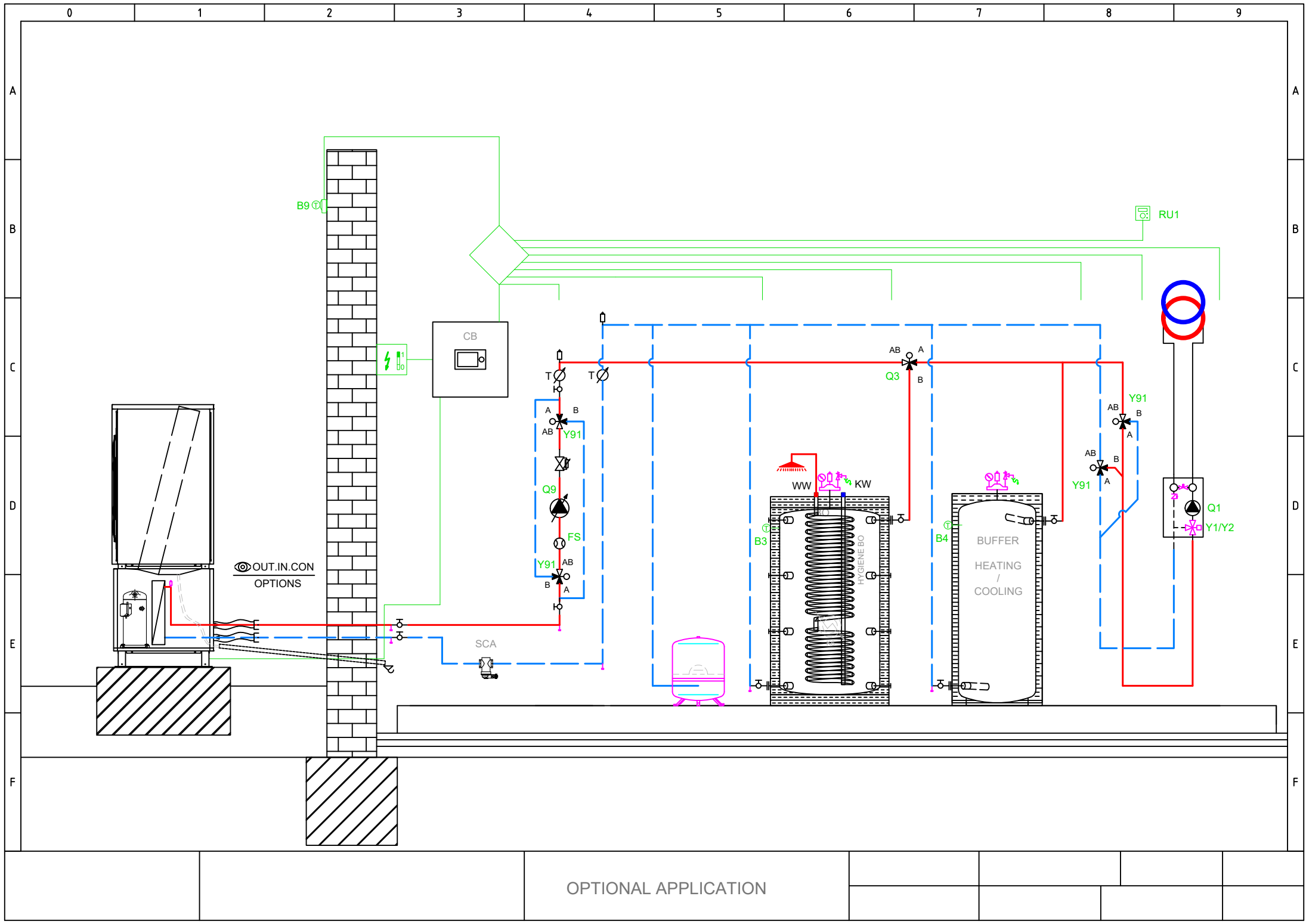












Main power supply 230V / 50 Hz

Ground

Neutral conductor

E10 High-pressure switch E10

E11 Overload compressor 1 E11

E14 Overload source E14

E24 Flow switch consumers E24

K82 Valve EVI K82

K40 Crankcase heater K40

L Phase 230V

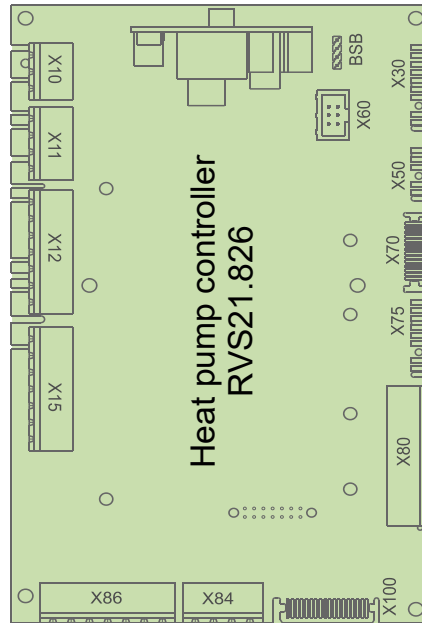
K1 Compressor stage 1 K1

Y22 Process revers valve Y22

Q9 Condenser pump Q9

Total: max 6A

1 x QX...: max 2A



BSB
X30
X60
X50
X70

D1
D2
D3
UX3
M
DI6
DI7
M

BX1
M
BX2
M
UX1
M
UX2
M

BX3
M
BX4
M

Connection service tool (OCI700)

Operating unit (HMI) AVS37.xxx

Modbus clip-in OCI351.01

Extension module AVS75.xxx

LPB clip-in

D1 Digital output 1 Heating

D2 Digital output 2 Cooling

D3 Digital output 3 HP On/Off

DI6 Digital input 6 Defrosting

DI7 Digital input 7 Alarm

B91 Source inlet sensor B91

B84 Source outl sens B92/B84

K19 Fan K19

0..10 V Signal

Q9 Condenser pump Q9

PWM Signal

B71 HP return sensor B71

B9 Outside sensor B9

Main power supply 230V / 50 Hz

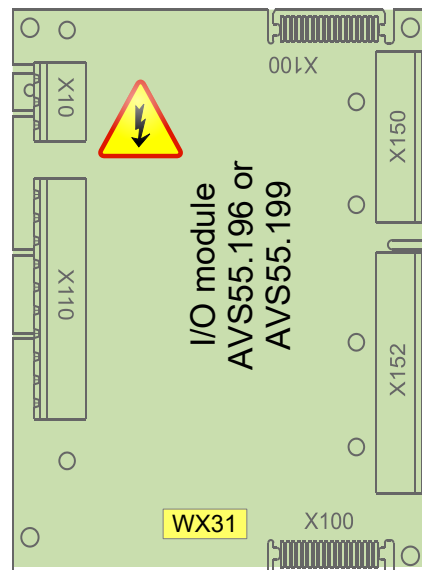
Ground

Neutral conductor

K10 Alarm output K10

V81 EEV evaporator V81

I/O module
AVS55.196 or
AVS55.199



BSB
M
G+
H31
M
H32
GX1
H33
M
BX31
M
BX32
M
BX33
M
BX34
M

5 V/12 V for active sensors

Flow measurement 10V

Low pressure 0..10V

5 V/12 V for active sensors

High pressure 0..10V

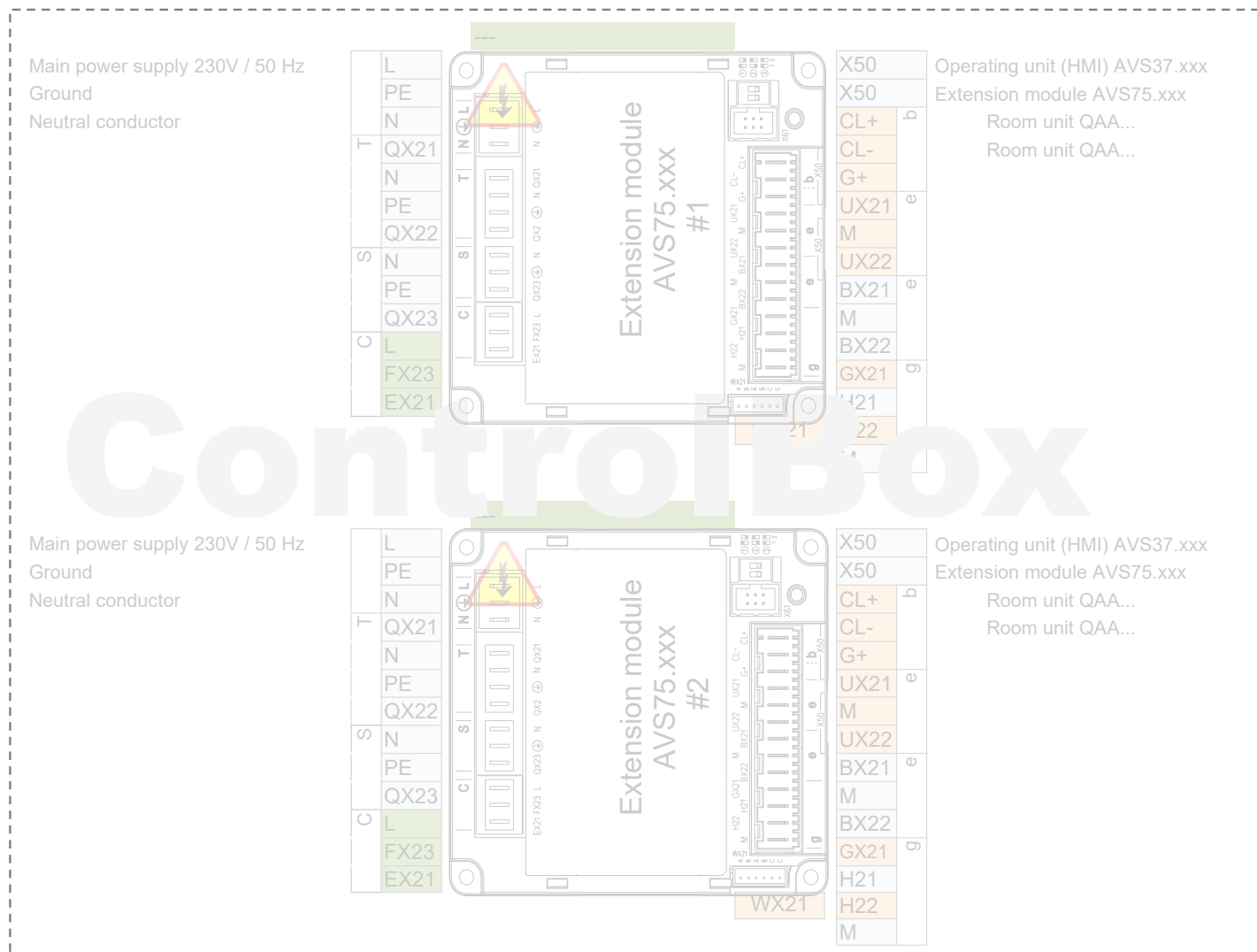
B21 HP flow sensor B21

B81 Hot-gas sensor B81

B85 Suction gas sensor B85

B83 Refrig sensor liquid B83

	AVS75.390
	AVS75.391
	AVS75.370

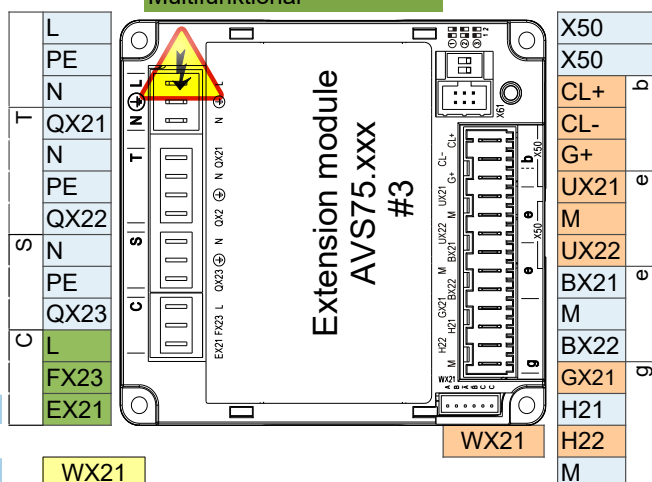


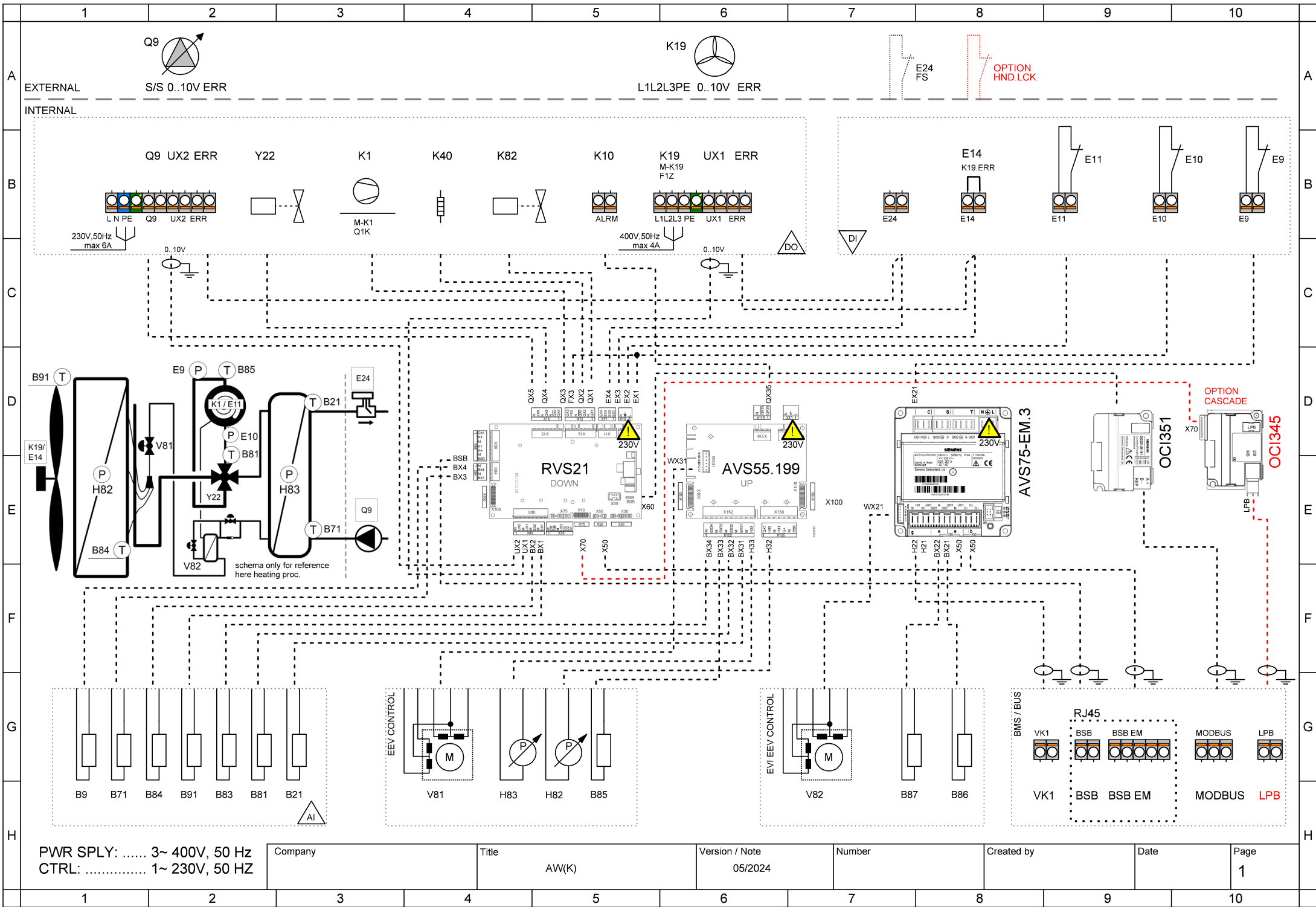
Main power supply 230V / 50 Hz
Ground
Neutral conductor

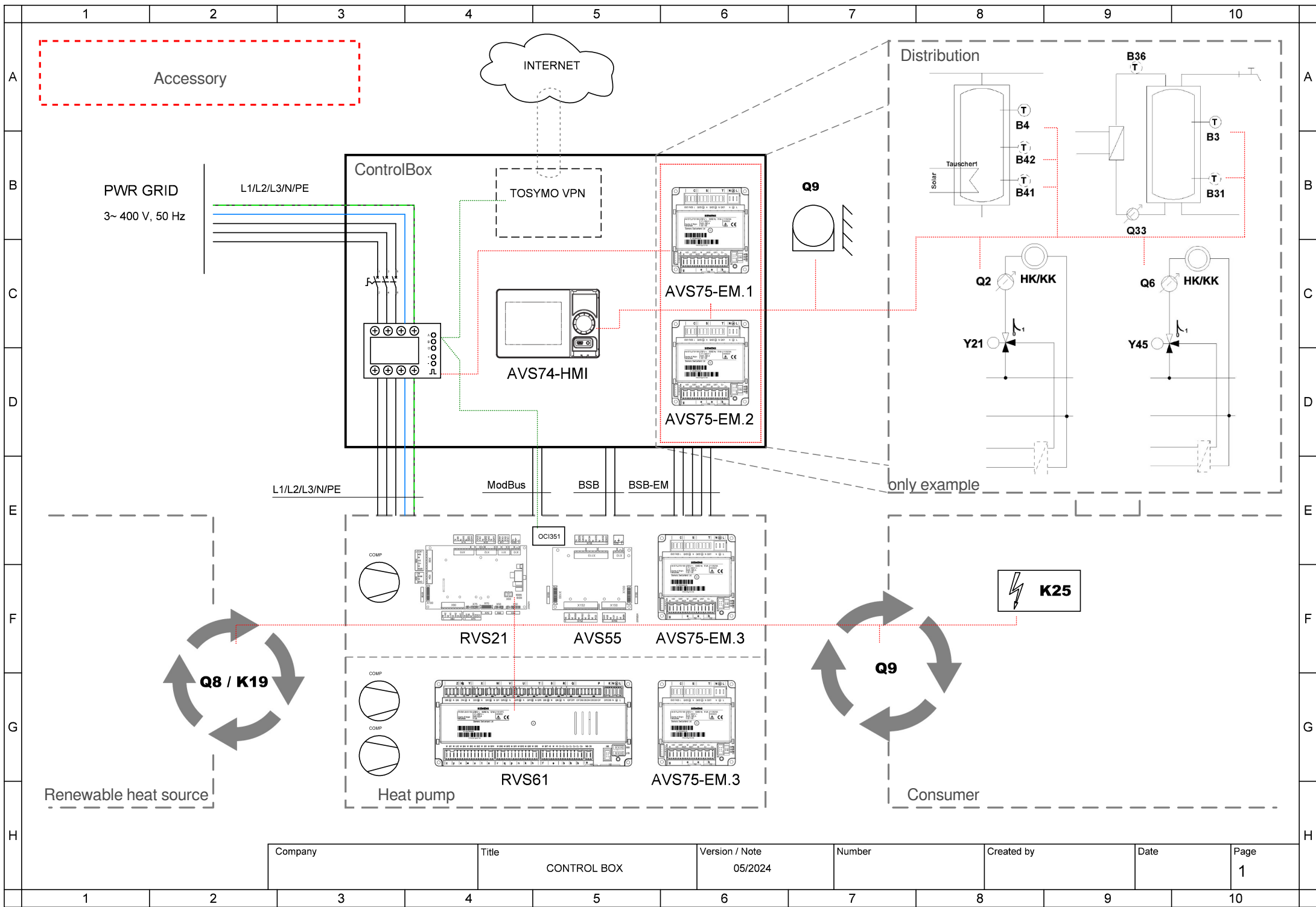
E9 Low-pressure switch E9

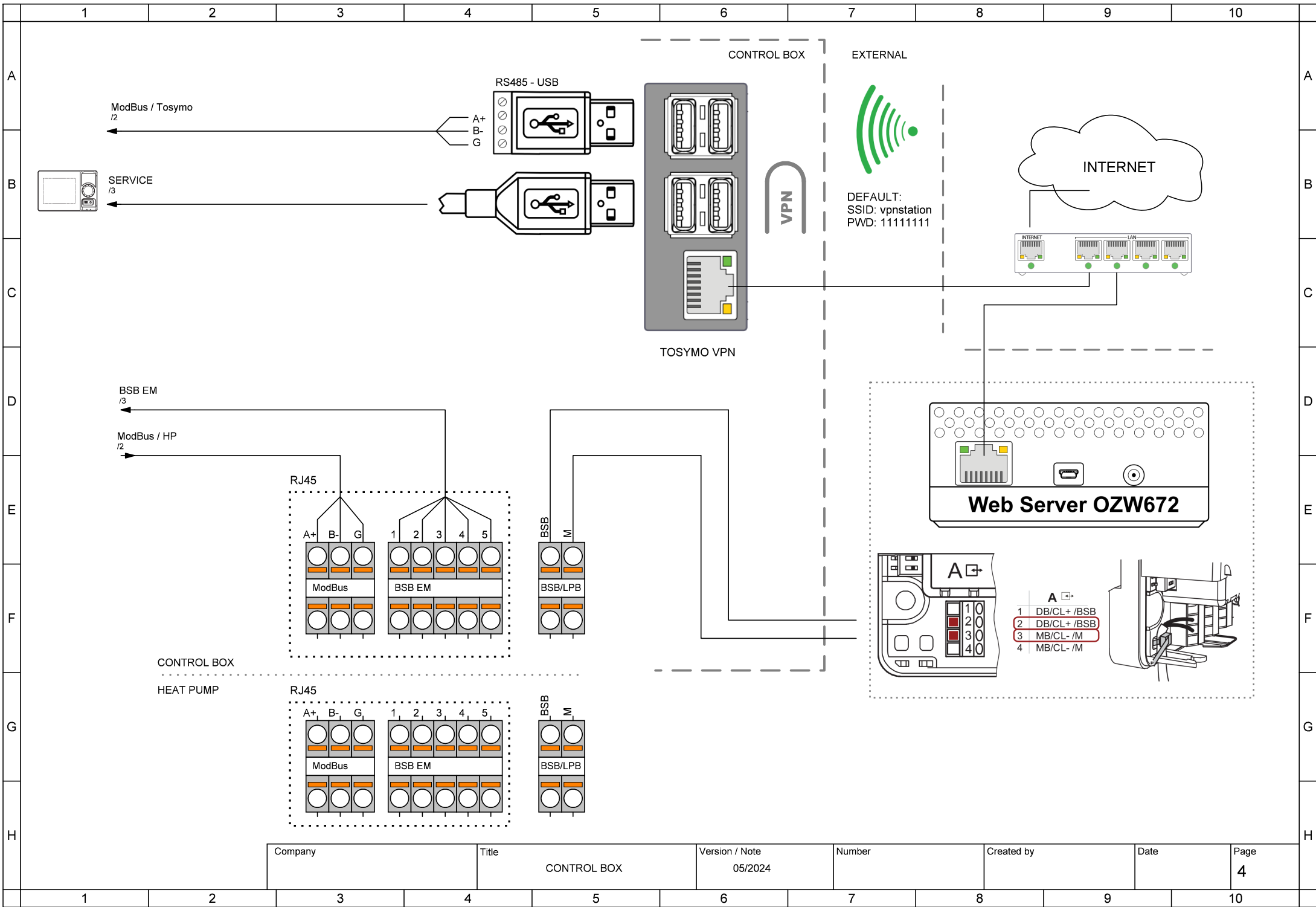
V82 EEV EVI V82

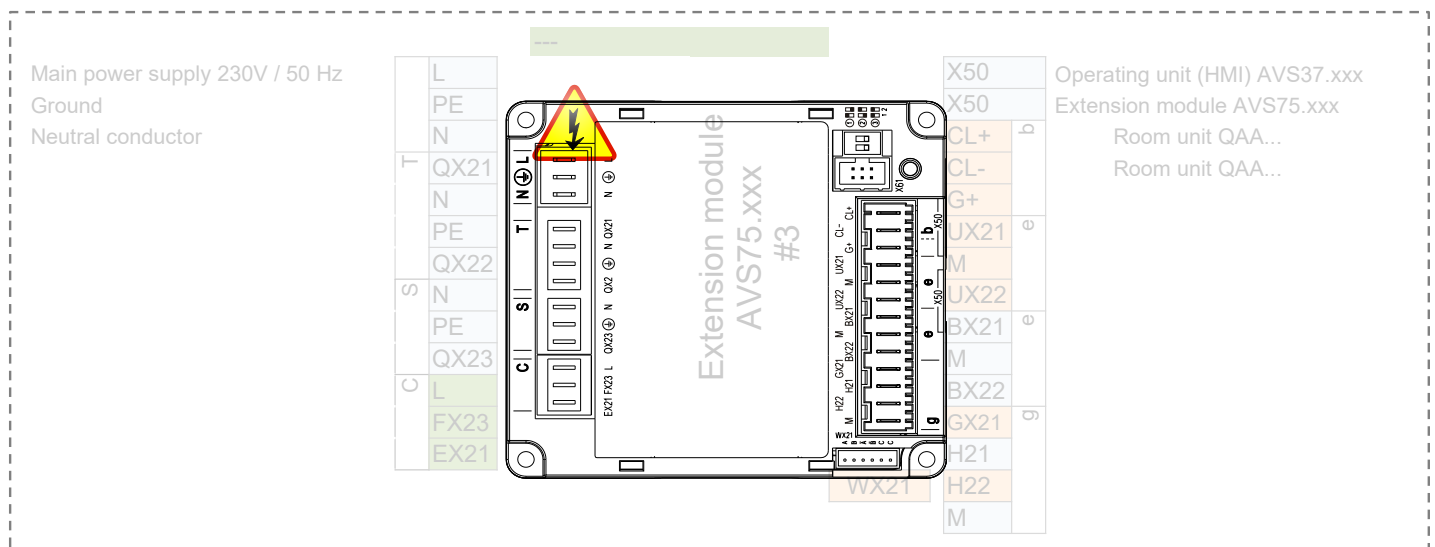
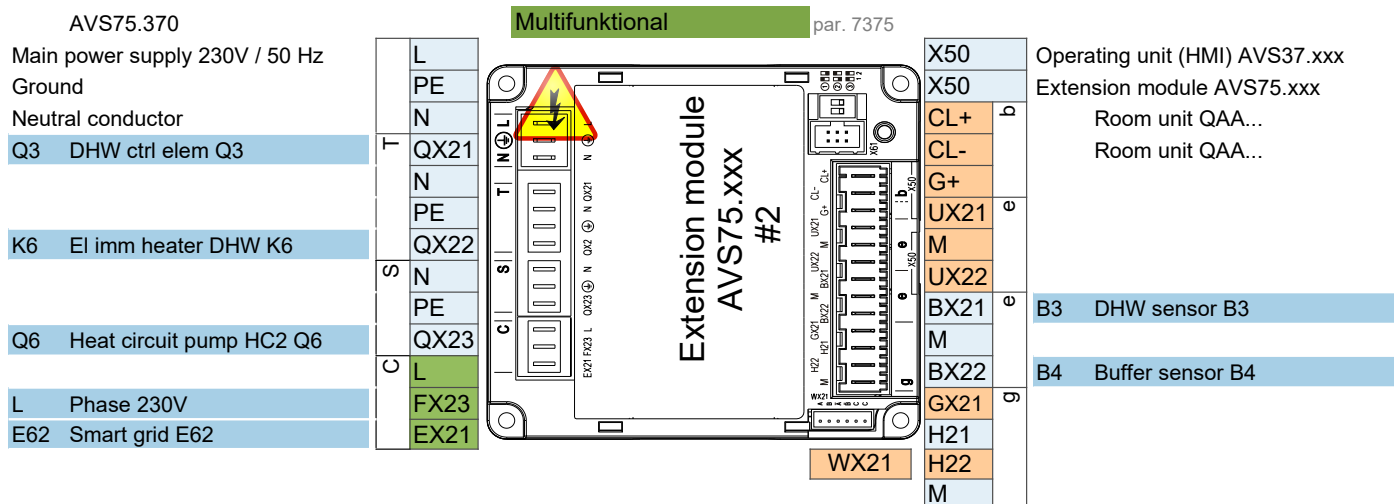
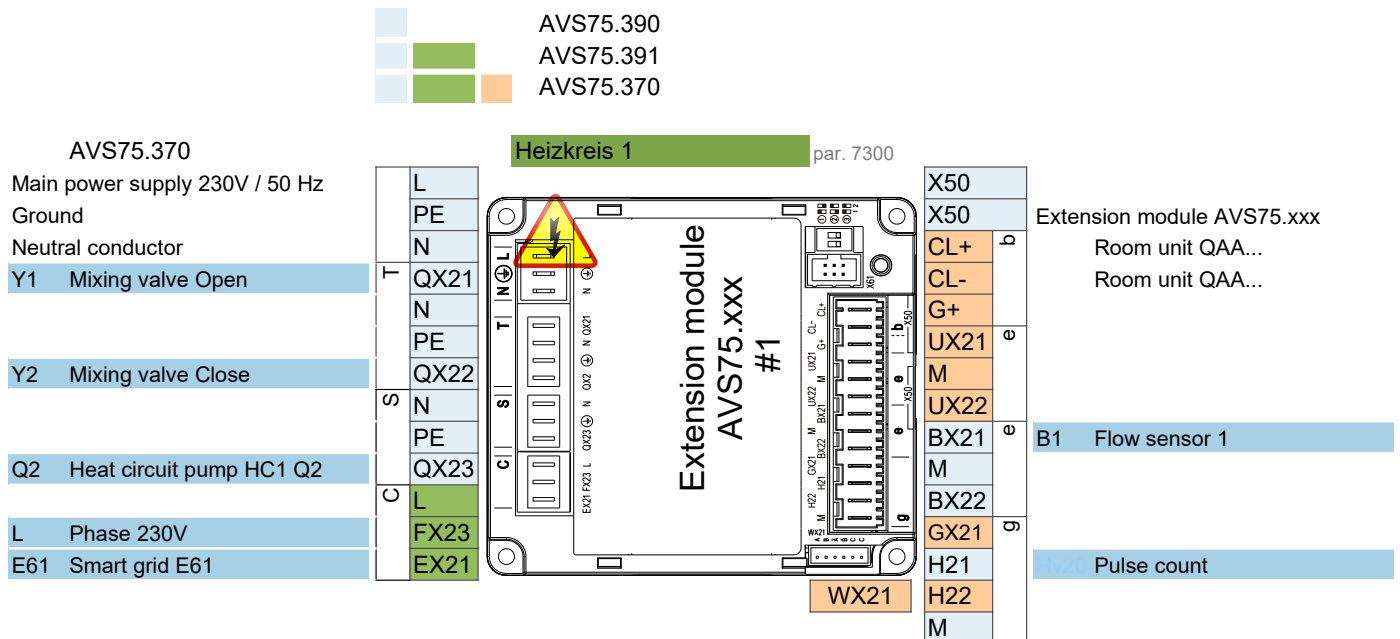
Multifunktional











Attention: Extension module 3 is inside the heat pump

Control connection options

1 ControlBox

ControlBox, with two built-in extension modules, enables numerous options for application control on the consumer side behind the heat pump. For more, see the ControlBox schematic and the application diagrams sheet.

2 Fix flow temperature setpoint - On / Off dry (potential free) contact

2 wire shielded cable 2 x 0.5 mm² - Setpoint = 45°C (editable by param. 1859)

Connection terminal - see wiring diagram

3 Analog 0..10V flow temperature setpoint control

2 wire shielded cable 2 x 0.5 mm² - Setpoint: 0V = 16°C ~ 10V = 60°C (editable in parameter set)

Connection terminal - see wiring diagram

4 ModBus RTU communication command

3 wire shielded cable min. 3 x 0.25mm²

For ModBus mapping table contact technical support

5 MQTT IoT communication protocol

For more information contact technical support