

Basic performance data - WAMAK WW 18 EVI

Heating - EN 14511		
Heating capacity [kW]	W10 / W35 (max)	18.9
	W10 / W35 (min)	18.9
	W10 / W34	18.9
Electrical power input [kW]	W10 / W35 (max)	3.0
	W10 / W35 (min)	3.0
	W10 / W34	2.9 (4.6 / 4.6)
Heating efficiency faktor [COP]	W10 / W35 (max)	6.26
	W10 / W35 (min)	6.26
	W10 / W34	6.43
Seasonal space heating energy efficiency - SCOP EN 14825		
Average Climate / Low Temperature [35 °C]	SCOP	7.27
	η [%]	290.9
	Label	A+++
	Qhe [kWh]	5329.0
	Pdesignh [kW]	18.9
	Tbivalent [°C]	-10
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	5.58
	Qce [kWh]	1479.7
	η_c [%]	223.3
Sound EN 12102		
Acoustic power - Lw	dB(A)	45.1
Acoustic pressure - Lp	1 m dB(A)	37.1
	5 m dB(A)	23.1
	10 m dB(A)	17.1
Mechanical and operational information		
Compressor type (3~ 400/50)	SCROLL / 1 /	On/Off
Refrigerant	R410A (GWP - 2088)	2.4 kg
Operating limit temperatures heating - (min / max) [°C]		25 / 65
Operating limit temperatures source - (min / max) [°C]		-10 (7) / 30
Weight		150 kg

Main technical data - WAMAK WW 18 EVI

Enclosure type			VN600			Heat energy rejection side data					
Basic dimensions	Height [mm]	1270	Operating limit temperatures heating	MAX [°C]	65	for more see operating limits diagram	Condenser	Port size	1.1/4 "		
	Width [mm]	650		MIN [°C]	25			Type	BPHE		
	Length [mm]	630		Count	1			Material	AISI 316		
Weight [kg]	150		Maximal operating pressure - refrigerant [bar]	45		Maximal operating pressure - Water [bar]	Volume flow @ dT 5K (nom) - Water [m3/h]		3.26		
Colour	Gray		Testing pressure [bar]	70			Heat transfer medium	Water			
Enclosure IP Class	IP20		Heat transfer medium	Water			Volume flow @ dT 5K (nom) - Water [m3/h]	3.26			
Refrigeration cycle			Internal pressure drop - Water [kPa]	12		ECM speed circulator - condenser	Flow sensor consumer - analogue		0..10V		
Compressor	Type	Scroll	Maximal operating pressure - Water [bar]	6			Temperature difference	@ 35°C (nom)	5 K		
	Number of stages	1	Testing pressure [bar]	70				@ 55°C	8 K		
	On/Off		Heat transfer medium	Water		@ 65°C		10 K			
	Power factor Cosφ	0.77	Volume flow @ dT 5K (nom) - Water [m3/h]	3.26		Renewable energy extraction side data	Operating limit temperatures source	MIN [°C]	-10 (7)		
	Winding resistance	2.33 Ohm	Internal pressure drop - Water [kPa]	12				MAX [°C]	30		
Refrigerant		R410A	ECM speed circulator - condenser	UPM3 25-75		for more see operating limits diagram	Evaporator	Port size	1.1/4 "		
		Volme	2.4 kg		Type			BPHE			
		GWP	2088		Count			1			
		Safety class	A1		Material	AISI 316					
Refrigeration oil type	POE RL32-3MAF		Flow sensor consumer - analogue	0..10V		Maximal operating pressure - refrigerant [bar]	Maximal operating pressure - Water [bar]		6		
	Oil volume	1.24 L	Temperature difference	@ 35°C (nom)	5 K		Heat transfer medium	Water			
Maximal pressure - refrigerant [bar]	45		@ 55°C	8 K		Maximal operating pressure - Water [bar]	Volume flow - Water [m3/h]		4.56		
	PED class	1	@ 65°C	10 K			Internal pressure drop - Water [kPa]	12			
EVI - vapour injection with economizer			Renewable energy extraction side data	Operating limit temperatures source	MIN [°C]	-10 (7)		Temperature difference - Water	3 K		
			MAX [°C]		30						
Electrical connection data			for more see operating limits diagram	Evaporator	Port size	1.1/4 "		Maximal operating pressure - refrigerant [bar]	28		
Line voltage [#~ V/Hz]	3~ 400/50				Type	BPHE			Heat transfer medium	Water	
Current	nominal [A]	5.58			Count	1				Maximal operating pressure - Water [bar]	6
	maximal [A]	10.90		Material	AISI 316		Volume flow - Water [m3/h]	4.56			
	starting [A]	15.06		Maximal operating pressure - refrigerant [bar]	28		Heat transfer medium	Water			
Softstart	MCI 12		Heat transfer medium	Water		Maximal operating pressure - Water [bar]	6		Volume flow - Water [m3/h]	4.56	
Main safety	C25		Maximal operating pressure - Water [bar]	6		Volume flow - Water [m3/h]	4.56				
Control System			Internal pressure drop - Water [kPa]	12		Temperature difference - Water	3 K				
Main controller	SIEMENS	RVS 21 AVS 55.199	Temperature difference - Water	3 K							
Extension module	AVS75.391	AVS75.391	AVS75.3xx								
Bus Clip-In		LPB OCI346	Modbus OCI352								
Online connection		Web server OZW672	ToSyMo								

*** with accessory

WAMAK WW 18 EVI

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

Model	WW 18 EVI
Air-to-water heat pump	no
Brine-to-water heat pump	no
Water-to-water heat pump	yes
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	18.9	kW	Seasonal space heating energy efficiency	η_s	290.9	%
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	18.9	kW	Tj = -7 °C	COPd	6.43	-
Tj = +2 °C	Pdh	18.9	kW	Tj = +2 °C	COPd	7.2	-
Tj = +7 °C	Pdh	19.0	kW	Tj = +7 °C	COPd	7.8	-
Tj = +12 °C	Pdh	19.0	kW	Tj = +12 °C	COPd	8.5	-
Tj = bivalent temperature	Pdh	18.9	kW	Tj = bivalent temperature	COPd	6.3	-
Tj = operation limit temperature	Pdh	---	kW	Tj = operation limit temperature	COPd	---	-
Bivalent temperature	Tbiv	-10	°C	Tj = operation limit temperature	TOL	---	°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	2.8	kW
Standby mode	Psb	0.010	kW	Type of energy input	electricity		
Crankcase heater mode	Pck	0.000	kW				
Other items							
Capacity control	fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	---	m ³ /h
Sound power level				For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	4.56	m ³ /h
indoors	Lwa	45	dB				
outdoors	Lwa	---	dB				
Annual energy consumption	Q _{HE}	5329.0	kWh				

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

WAMAK WW 18 EVI

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

Model	WW 18 EVI
Air-to-water heat pump	no
Brine-to-water heat pump	no
Water-to-water heat pump	yes
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	18.6	kW	Seasonal space heating energy efficiency	η_s	212.5	%
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	18.9	kW	Tj = -7 °C	COPd	4.08	-
Tj = +2 °C	Pdh	19.0	kW	Tj = +2 °C	COPd	5.5	-
Tj = +7 °C	Pdh	19.1	kW	Tj = +7 °C	COPd	6.4	-
Tj = +12 °C	Pdh	19.2	kW	Tj = +12 °C	COPd	7.3	-
Tj = bivalent temperature	Pdh	18.6	kW	Tj = bivalent temperature	COPd	3.6	-
Tj = operation limit temperature	Pdh	---	kW	Tj = operation limit temperature	COPd	---	-
Bivalent temperature	Tbiv	-10	°C	Tj = operation limit temperature	TOL	---	°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	2.8	kW
Standby mode	Psb	0.010	kW	Type of energy input	electricity		
Crankcase heater mode	Pck	0.000	kW				
Other items				For air-to-water heat pumps: Rated air flow rate, outdoors	-	---	m ³ /h
Capacity control	fixed			For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	4.56	m ³ /h
Sound power level							
indoors	Lwa	45	dB				
outdoors	Lwa	---	dB				
Annual energy consumption	Q _{HE}	7193.4	kWh				

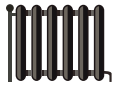
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WAMAK

WW 18 EVI



55 °C

35 °C



A+++

A+++



45 dB



--- dB

■ 20
 ■ 19
 ■ 19
 kW

■ 20
 ■ 19
 ■ 18
 kW



2019

811/2013

WW 18 EVI

ErP Data

	55 °C	35 °C
Energy class	A+++	A+++
η [%]	212.5	290.9
P_{rated} [kW]	19	19
Q_{HE} [kWh/y]	7194	5329
SCOP [-]	5.31	7.27
$T_{bivalent}$ [°C]	-10	-10

CONTROLLER



+ QAA55/75

class VII

3.5% ↓

- QAA55/75

class III

1.5% ↓

Heating performance data

Version: v2024.010-BW-WW

Source - Brine [0°C] / Low Temperature [35°C]

ZHI14K1P-TFM_R410A_1_BWW

Operating conditions	Qh	P	COP
1 B0 / W30-35	14.8	3.1	4.75
2 B0 / W30-35 (MIN)	14.8	3.1	4.75
A B0 / Wxx-34	14.8	3.0	4.87
B B0 / Wxx-30	14.8	2.7	5.39
C B0 / Wxx-27	14.7	2.5	5.81
D B0 / Wxx-24	14.7	2.3	6.28
E B0 / Wxx-35	14.8	3.1	4.75
F B0 / Wxx-35	14.8	3.1	4.75

SCOP DATA EN 14825:2018	
Source - Brine [0°C] / Low Temperature [35°C]	
SCOPon	5.48
SCOPnet	5.48
SCOP	5.44
η [%]	217.55
Label	A+++
Qh [kWh]	5583
Pdesignh [kW]	14.8
Tbivalent [°C]	-10

Source - Brine [0°C] / Medium Temperature [55°C]

Operating conditions	Qh	P	COP
1 B0 / W47-55	15.2	5.2	2.94
2 B0 / W47-55 (MIN)	15.2	5.0	2.94
A B0 / Wxx-52	15.2	4.7	3.37
B B0 / Wxx-42	15.2	3.5	4.36
C B0 / Wxx-36	15.0	3.1	4.88
D B0 / Wxx-30	14.9	2.7	5.46
E B0 / Wxx-55	15.2	5.2	2.94
F B0 / Wxx-54	15.3	4.8	3.18

SCOP DATA EN 14825:2018	
Source - Brine [0°C] / Medium Temperature [55°C]	
SCOPon	4.24
SCOPnet	4.24
SCOP	4.21
η [%]	168.59
Label	A+++
Qh [kWh]	7411
Pdesignh [kW]	15.2
Tbivalent [°C]	-10

Source - Water [10°C] / Low Temperature [35°C]

Operating conditions	Qh	P	COP
1 W10 / W30-35	18.9	3.0	6.26
2 W10 / W30-35 (MIN)	18.9	3.0	6.26
A W10 / Wxx-34	18.9	2.9	6.43
B W10 / Wxx-30	18.9	2.6	7.20
C W10 / Wxx-27	19.0	2.4	7.83
D W10 / Wxx-24	19.0	2.2	8.52
E W10 / Wxx-35	18.9	3.0	6.26
F W10 / Wxx-35	18.9	3.0	6.26

SCOP DATA EN 14825:2018	
Source - Water [10°C] / Low Temperature [35°C]	
SCOPon	7.33
SCOPnet	7.33
SCOP	7.27
η [%]	290.94
Label	A+++
Qh [kWh]	5329
Pdesignh [kW]	18.9
Tbivalent [°C]	-10.00

Source - Water [10°C] / Medium Temperature [55°C]

	Operating conditions	Qh	P	COP
1	W10 / W47-55	18.6	5.1	3.63
2	W10 / W47-55 (MIN)	18.6	5.1	3.63
A	W10 / Wxx-52	18.9	4.6	4.08
B	W10 / Wxx-42	19.0	3.4	5.52
C	W10 / Wxx-36	19.1	3.0	6.43
D	W10 / Wxx-30	19.2	2.6	7.30
E	W10 / Wxx-55	18.6	5.1	3.63
F	W10 / Wxx-55	18.6	5.1	3.63

SCOP DATA EN 14825:2018	
Source - Water [10°C] / Medium Temperature [55°C]	
SCOPon	5.34
SCOPnet	5.34
SCOP	5.31
η [%]	212.51
Label	A+++
Qh [kWh]	7193
Pdesignh [kW]	18.6
Tbivalent [°C]	-10.00

Low temperature cooling W 12 / 7°C

	Operating conditions	Qc	P	EER
A	W30-35 / W12-7	11.4	3.4	3.37
B	W26-xx / W12-7	11.6	3.0	3.81
C	W22-xx / W12-7	11.8	2.7	4.30
D	W18-xx / W12-7	11.9	2.6	4.57

SEER DATA EN 14825:2018 [W 12 / 7°C]	
SEERon	4.15
SEER	4.13
Qc [kWh]	6600
η [%]	165.35

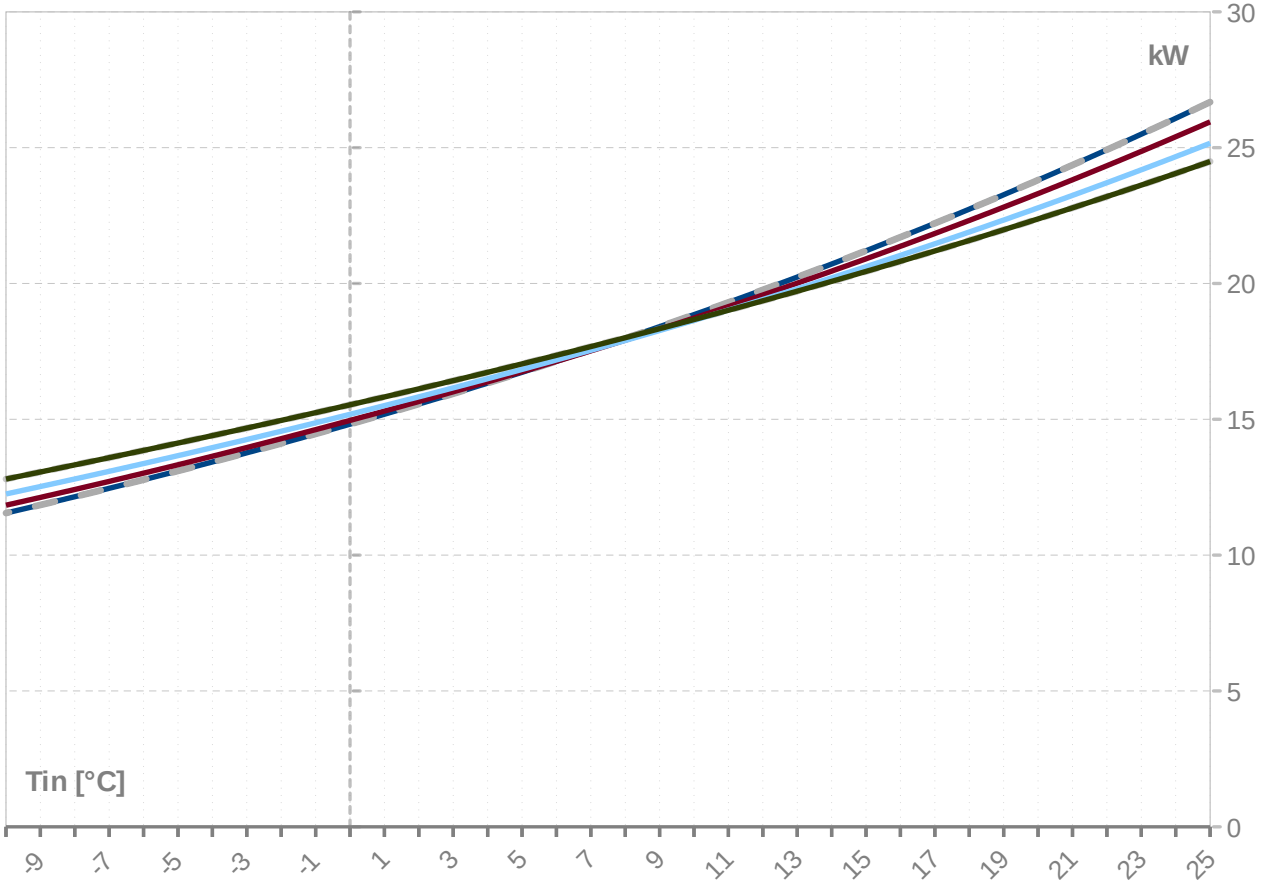
Radiant cooling W 23 / 18°C

	Operating conditions	Qc	P	EER
A	W50-xx / W23-18	13.1	5.6	2.36
B	W40-xx / W23-18	14.3	4.3	3.29
C	W30-35 / W23-18	15.3	3.4	4.54
D	W26-xx / W23-18	15.7	3.0	5.14

SEER DATA EN 14825:2018 [W 23 / 18°C]	
SEERon	5.61
SEER	5.58
Qc [kWh]	6600
η [%]	223.30

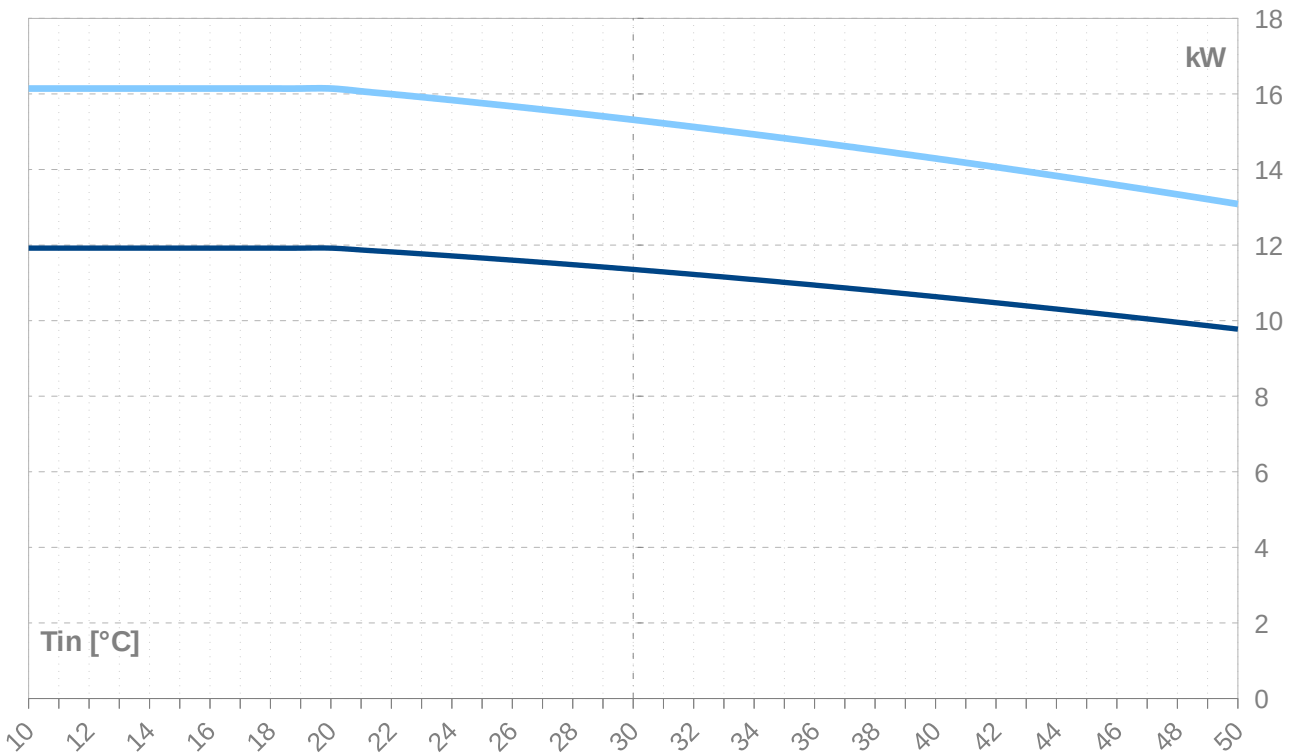
Performance lines - heating

- Qh-nom-35 — Qh-min-35 - - - Qh-max-65 — Qh-nom-45 — Qh-nom-55
- Qh-nom-65



Performance lines - cooling

- Qc-nom-12-7 — Qc-nom-23-18



Th -OU		35										
Ts -IN	Qh nom	Qh min	Qh max	Pin nom	Pin min	Pin max	COP nom	Qc nom	Qc min	Qc max	I nom	
[°C]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	kW / kW	[kW]	[kW]	[kW]	[A]	
25	26.7	26.7	26.7	2.8	2.8	2.8	9.54	24.1	24.1	24.1	5.3	
24	26.1	26.1	26.1	2.8	2.8	2.8	9.28	23.5	23.5	23.5	5.3	
23	25.5	25.5	25.5	2.8	2.8	2.8	9.02	22.9	22.9	22.9	5.3	
22	24.9	24.9	24.9	2.8	2.8	2.8	8.77	22.3	22.3	22.3	5.3	
21	24.4	24.4	24.4	2.9	2.9	2.9	8.53	21.7	21.7	21.7	5.3	
20	23.8	23.8	23.8	2.9	2.9	2.9	8.29	21.1	21.1	21.1	5.4	
19	23.3	23.3	23.3	2.9	2.9	2.9	8.06	20.6	20.6	20.6	5.4	
18	22.7	22.7	22.7	2.9	2.9	2.9	7.84	20.0	20.0	20.0	5.4	
17	22.2	22.2	22.2	2.9	2.9	2.9	7.62	19.5	19.5	19.5	5.4	
16	21.7	21.7	21.7	2.9	2.9	2.9	7.41	19.0	19.0	19.0	5.4	
15	21.2	21.2	21.2	2.9	2.9	2.9	7.20	18.5	18.5	18.5	5.4	
14	20.7	20.7	20.7	3.0	3.0	3.0	7.00	18.0	18.0	18.0	5.5	
13	20.2	20.2	20.2	3.0	3.0	3.0	6.81	17.5	17.5	17.5	5.5	
12	19.8	19.8	19.8	3.0	3.0	3.0	6.62	17.0	17.0	17.0	5.5	
11	19.3	19.3	19.3	3.0	3.0	3.0	6.43	16.5	16.5	16.5	5.5	
10	18.9	18.9	18.9	3.0	3.0	3.0	6.26	16.0	16.0	16.0	5.5	
9	18.4	18.4	18.4	3.0	3.0	3.0	6.08	15.6	15.6	15.6	5.5	
8	18.0	18.0	18.0	3.0	3.0	3.0	5.92	15.1	15.1	15.1	5.6	
7	17.6	17.6	17.6	3.1	3.1	3.1	5.75	14.7	14.7	14.7	5.6	
6	17.1	17.1	17.1	3.1	3.1	3.1	5.60	14.3	14.3	14.3	5.6	
5	16.7	16.7	16.7	3.1	3.1	3.1	5.44	13.9	13.9	13.9	5.6	
4	16.3	16.3	16.3	3.1	3.1	3.1	5.30	13.5	13.5	13.5	5.6	
3	15.9	15.9	15.9	3.1	3.1	3.1	5.15	13.1	13.1	13.1	5.6	
2	15.6	15.6	15.6	3.1	3.1	3.1	5.02	12.7	12.7	12.7	5.6	
1	15.2	15.2	15.2	3.1	3.1	3.1	4.88	12.3	12.3	12.3	5.6	
0	14.8	14.8	14.8	3.1	3.1	3.1	4.75	11.9	11.9	11.9	5.7	
-1	14.5	14.5	14.5	3.1	3.1	3.1	4.63	11.5	11.5	11.5	5.7	
-2	14.1	14.1	14.1	3.1	3.1	3.1	4.51	11.2	11.2	11.2	5.7	
-3	13.8	13.8	13.8	3.1	3.1	3.1	4.39	10.8	10.8	10.8	5.7	
-4	13.4	13.4	13.4	3.1	3.1	3.1	4.27	10.5	10.5	10.5	5.7	
-5	13.1	13.1	13.1	3.1	3.1	3.1	4.16	10.2	10.2	10.2	5.7	
-6	12.8	12.8	12.8	3.1	3.1	3.1	4.06	9.8	9.8	9.8	5.7	
-7	12.5	12.5	12.5	3.1	3.1	3.1	3.96	9.5	9.5	9.5	5.7	
-8	12.1	12.1	12.1	3.1	3.1	3.1	3.86	9.2	9.2	9.2	5.7	
-9	11.8	11.8	11.8	3.1	3.1	3.1	3.76	8.9	8.9	8.9	5.7	
-10	11.5	11.5	11.5	3.1	3.1	3.1	3.67	8.6	8.6	8.6	5.7	
-11	11.3	11.3	11.3	3.1	3.1	3.1	3.58	8.3	8.3	8.3	5.7	
-12	11.0	11.0	11.0	3.1	3.1	3.1	3.49	8.0	8.0	8.0	5.7	
-13	10.7	10.7	10.7	3.1	3.1	3.1	3.41	7.8	7.8	7.8	5.7	
-14	10.4	10.4	10.4	3.1	3.1	3.1	3.33	7.5	7.5	7.5	5.7	
-15	10.2	10.2	10.2	3.1	3.1	3.1	3.25	7.2	7.2	7.2	5.7	

-- attention: operating limits not reflected in performance table

ZHI14K1P-TFM_R410A_1_BWW

Th -OU	45										
[°C]	Qh nom [kW]	Qh min [kW]	Qh max [kW]	Pin nom [kW]	Pin min [kW]	Pin max [kW]	COP nom kW / kW	Qc nom [kW]	Qc min [kW]	Qc max [kW]	I nom [A]
25	25.9	25.9	25.9	3.7	3.7	3.7	7.09	22.5	22.5	22.5	6.3
24	25.4	25.4	25.4	3.7	3.7	3.7	6.91	22.0	22.0	22.0	6.3
23	24.9	24.9	24.9	3.7	3.7	3.7	6.73	21.4	21.4	21.4	6.3
22	24.3	24.3	24.3	3.7	3.7	3.7	6.56	20.9	20.9	20.9	6.4
21	23.8	23.8	23.8	3.7	3.7	3.7	6.39	20.3	20.3	20.3	6.4
20	23.3	23.3	23.3	3.7	3.7	3.7	6.22	19.8	19.8	19.8	6.4
19	22.8	22.8	22.8	3.8	3.8	3.8	6.06	19.3	19.3	19.3	6.4
18	22.3	22.3	22.3	3.8	3.8	3.8	5.91	18.8	18.8	18.8	6.4
17	21.8	21.8	21.8	3.8	3.8	3.8	5.75	18.3	18.3	18.3	6.5
16	21.4	21.4	21.4	3.8	3.8	3.8	5.61	17.8	17.8	17.8	6.5
15	20.9	20.9	20.9	3.8	3.8	3.8	5.46	17.3	17.3	17.3	6.5
14	20.5	20.5	20.5	3.8	3.8	3.8	5.33	16.9	16.9	16.9	6.5
13	20.0	20.0	20.0	3.9	3.9	3.9	5.19	16.4	16.4	16.4	6.5
12	19.6	19.6	19.6	3.9	3.9	3.9	5.06	16.0	16.0	16.0	6.6
11	19.1	19.1	19.1	3.9	3.9	3.9	4.93	15.5	15.5	15.5	6.6
10	18.7	18.7	18.7	3.9	3.9	3.9	4.81	15.1	15.1	15.1	6.6
9	18.3	18.3	18.3	3.9	3.9	3.9	4.69	14.7	14.7	14.7	6.6
8	17.9	17.9	17.9	3.9	3.9	3.9	4.57	14.3	14.3	14.3	6.6
7	17.5	17.5	17.5	3.9	3.9	3.9	4.46	13.9	13.9	13.9	6.6
6	17.1	17.1	17.1	3.9	3.9	3.9	4.35	13.5	13.5	13.5	6.6
5	16.8	16.8	16.8	3.9	3.9	3.9	4.25	13.1	13.1	13.1	6.7
4	16.4	16.4	16.4	4.0	4.0	4.0	4.14	12.7	12.7	12.7	6.7
3	16.0	16.0	16.0	4.0	4.0	4.0	4.04	12.3	12.3	12.3	6.7
2	15.7	15.7	15.7	4.0	4.0	4.0	3.95	12.0	12.0	12.0	6.7
1	15.3	15.3	15.3	4.0	4.0	4.0	3.85	11.6	11.6	11.6	6.7
0	15.0	15.0	15.0	4.0	4.0	4.0	3.76	11.2	11.2	11.2	6.7
-1	14.6	14.6	14.6	4.0	4.0	4.0	3.67	10.9	10.9	10.9	6.7
-2	14.3	14.3	14.3	4.0	4.0	4.0	3.59	10.6	10.6	10.6	6.7
-3	14.0	14.0	14.0	4.0	4.0	4.0	3.51	10.2	10.2	10.2	6.7
-4	13.6	13.6	13.6	4.0	4.0	4.0	3.43	9.9	9.9	9.9	6.7
-5	13.3	13.3	13.3	4.0	4.0	4.0	3.35	9.6	9.6	9.6	6.7
-6	13.0	13.0	13.0	4.0	4.0	4.0	3.27	9.3	9.3	9.3	6.7
-7	12.7	12.7	12.7	4.0	4.0	4.0	3.20	9.0	9.0	9.0	6.7
-8	12.4	12.4	12.4	4.0	4.0	4.0	3.13	8.7	8.7	8.7	6.7
-9	12.1	12.1	12.1	4.0	4.0	4.0	3.06	8.4	8.4	8.4	6.7
-10	11.8	11.8	11.8	4.0	4.0	4.0	2.99	8.1	8.1	8.1	6.7
-11	11.6	11.6	11.6	3.9	3.9	3.9	2.93	7.9	7.9	7.9	6.7
-12	11.3	11.3	11.3	3.9	3.9	3.9	2.87	7.6	7.6	7.6	6.6
-13	11.0	11.0	11.0	3.9	3.9	3.9	2.81	7.3	7.3	7.3	6.6
-14	10.7	10.7	10.7	3.9	3.9	3.9	2.75	7.1	7.1	7.1	6.6
-15	10.5	10.5	10.5	3.9	3.9	3.9	2.69	6.8	6.8	6.8	6.6

-- attention: operating limits not reflected in performance table

Th -OU		55										
	[°C]	Qh nom	Qh min	Qh max	Pin nom	Pin min	Pin max	COP nom	Qc nom	Qc min	Qc max	I nom
Ts -IN	[°C]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	kw / kw	[kW]	[kW]	[kW]	[A]
25	25.2	25.2	25.2	4.9	4.9	4.9	5.12	20.6	20.6	20.6	7.9	
24	24.7	24.7	24.7	4.9	4.9	4.9	5.00	20.1	20.1	20.1	7.9	
23	24.2	24.2	24.2	5.0	5.0	5.0	4.88	19.6	19.6	19.6	8.0	
22	23.7	23.7	23.7	5.0	5.0	5.0	4.77	19.1	19.1	19.1	8.0	
21	23.2	23.2	23.2	5.0	5.0	5.0	4.66	18.6	18.6	18.6	8.0	
20	22.8	22.8	22.8	5.0	5.0	5.0	4.55	18.1	18.1	18.1	8.0	
19	22.3	22.3	22.3	5.0	5.0	5.0	4.45	17.6	17.6	17.6	8.1	
18	21.9	21.9	21.9	5.0	5.0	5.0	4.35	17.2	17.2	17.2	8.1	
17	21.5	21.5	21.5	5.1	5.1	5.1	4.25	16.7	16.7	16.7	8.1	
16	21.0	21.0	21.0	5.1	5.1	5.1	4.15	16.3	16.3	16.3	8.1	
15	20.6	20.6	20.6	5.1	5.1	5.1	4.06	15.9	15.9	15.9	8.1	
14	20.2	20.2	20.2	5.1	5.1	5.1	3.97	15.5	15.5	15.5	8.2	
13	19.8	19.8	19.8	5.1	5.1	5.1	3.88	15.0	15.0	15.0	8.2	
12	19.4	19.4	19.4	5.1	5.1	5.1	3.79	14.6	14.6	14.6	8.2	
11	19.0	19.0	19.0	5.1	5.1	5.1	3.71	14.2	14.2	14.2	8.2	
10	18.6	18.6	18.6	5.1	5.1	5.1	3.63	13.8	13.8	13.8	8.2	
9	18.3	18.3	18.3	5.1	5.1	5.1	3.55	13.5	13.5	13.5	8.2	
8	17.9	17.9	17.9	5.2	5.2	5.2	3.48	13.1	13.1	13.1	8.2	
7	17.5	17.5	17.5	5.2	5.2	5.2	3.40	12.7	12.7	12.7	8.2	
6	17.2	17.2	17.2	5.2	5.2	5.2	3.33	12.4	12.4	12.4	8.3	
5	16.8	16.8	16.8	5.2	5.2	5.2	3.26	12.0	12.0	12.0	8.3	
4	16.5	16.5	16.5	5.2	5.2	5.2	3.19	11.7	11.7	11.7	8.3	
3	16.2	16.2	16.2	5.2	5.2	5.2	3.13	11.3	11.3	11.3	8.3	
2	15.8	15.8	15.8	5.2	5.2	5.2	3.06	11.0	11.0	11.0	8.3	
1	15.5	15.5	15.5	5.2	5.2	5.2	3.00	10.7	10.7	10.7	8.3	
0	15.2	15.2	15.2	5.2	5.2	5.2	2.94	10.4	10.4	10.4	8.3	
-1	14.9	14.9	14.9	5.2	5.2	5.2	2.88	10.0	10.0	10.0	8.3	
-2	14.6	14.6	14.6	5.2	5.2	5.2	2.82	9.7	9.7	9.7	8.3	
-3	14.3	14.3	14.3	5.2	5.2	5.2	2.77	9.4	9.4	9.4	8.2	
-4	14.0	14.0	14.0	5.1	5.1	5.1	2.71	9.2	9.2	9.2	8.2	
-5	13.7	13.7	13.7	5.1	5.1	5.1	2.66	8.9	8.9	8.9	8.2	
-6	13.4	13.4	13.4	5.1	5.1	5.1	2.61	8.6	8.6	8.6	8.2	
-7	13.1	13.1	13.1	5.1	5.1	5.1	2.56	8.3	8.3	8.3	8.2	
-8	12.8	12.8	12.8	5.1	5.1	5.1	2.51	8.0	8.0	8.0	8.2	
-9	12.5	12.5	12.5	5.1	5.1	5.1	2.46	7.8	7.8	7.8	8.2	
-10	12.2	12.2	12.2	5.1	5.1	5.1	2.42	7.5	7.5	7.5	8.1	
-11	12.0	12.0	12.0	5.0	5.0	5.0	2.37	7.3	7.3	7.3	8.1	
-12	11.7	11.7	11.7	5.0	5.0	5.0	2.33	7.0	7.0	7.0	8.1	
-13	11.4	11.4	11.4	5.0	5.0	5.0	2.29	6.8	6.8	6.8	8.0	
-14	11.2	11.2	11.2	5.0	5.0	5.0	2.25	6.5	6.5	6.5	8.0	
-15	10.9	10.9	10.9	4.9	4.9	4.9	2.21	6.3	6.3	6.3	8.0	

-- attention: operating limits not reflected in performance table

Th -OU	[°C]	65 (T-max)									
		Ts -IN [°C]	Qh nom [kW]	Qh min [kW]	Qh max [kW]	Pin nom [kW]	Pin min [kW]	Pin max [kW]	COP nom kW / kW	Qc nom [kW]	Qc min [kW]
25	24.5	24.5	24.5	6.5	6.5	6.5	3.80	18.5	18.5	18.5	10.0
24	24.1	24.1	24.1	6.5	6.5	6.5	3.72	18.0	18.0	18.0	10.1
23	23.6	23.6	23.6	6.5	6.5	6.5	3.64	17.6	17.6	17.6	10.1
22	23.2	23.2	23.2	6.5	6.5	6.5	3.57	17.1	17.1	17.1	10.1
21	22.8	22.8	22.8	6.5	6.5	6.5	3.49	16.7	16.7	16.7	10.1
20	22.4	22.4	22.4	6.5	6.5	6.5	3.42	16.3	16.3	16.3	10.2
19	22.0	22.0	22.0	6.5	6.5	6.5	3.36	15.9	15.9	15.9	10.2
18	21.6	21.6	21.6	6.6	6.6	6.6	3.29	15.5	15.5	15.5	10.2
17	21.2	21.2	21.2	6.6	6.6	6.6	3.22	15.1	15.1	15.1	10.2
16	20.8	20.8	20.8	6.6	6.6	6.6	3.16	14.7	14.7	14.7	10.2
15	20.4	20.4	20.4	6.6	6.6	6.6	3.10	14.3	14.3	14.3	10.2
14	20.1	20.1	20.1	6.6	6.6	6.6	3.04	13.9	13.9	13.9	10.3
13	19.7	19.7	19.7	6.6	6.6	6.6	2.98	13.5	13.5	13.5	10.3
12	19.4	19.4	19.4	6.6	6.6	6.6	2.93	13.2	13.2	13.2	10.3
11	19.0	19.0	19.0	6.6	6.6	6.6	2.87	12.8	12.8	12.8	10.3
10	18.7	18.7	18.7	6.6	6.6	6.6	2.82	12.5	12.5	12.5	10.3
9	18.3	18.3	18.3	6.6	6.6	6.6	2.77	12.1	12.1	12.1	10.3
8	18.0	18.0	18.0	6.6	6.6	6.6	2.72	11.8	11.8	11.8	10.3
7	17.7	17.7	17.7	6.6	6.6	6.6	2.67	11.5	11.5	11.5	10.3
6	17.4	17.4	17.4	6.6	6.6	6.6	2.62	11.2	11.2	11.2	10.3
5	17.0	17.0	17.0	6.6	6.6	6.6	2.57	10.9	10.9	10.9	10.3
4	16.7	16.7	16.7	6.6	6.6	6.6	2.53	10.5	10.5	10.5	10.3
3	16.4	16.4	16.4	6.6	6.6	6.6	2.48	10.2	10.2	10.2	10.3
2	16.1	16.1	16.1	6.6	6.6	6.6	2.44	10.0	10.0	10.0	10.3
1	15.8	15.8	15.8	6.6	6.6	6.6	2.40	9.7	9.7	9.7	10.3
0	15.5	15.5	15.5	6.6	6.6	6.6	2.36	9.4	9.4	9.4	10.2
-1	15.2	15.2	15.2	6.6	6.6	6.6	2.32	9.1	9.1	9.1	10.2
-2	15.0	15.0	15.0	6.6	6.6	6.6	2.28	8.8	8.8	8.8	10.2
-3	14.7	14.7	14.7	6.5	6.5	6.5	2.24	8.6	8.6	8.6	10.2
-4	14.4	14.4	14.4	6.5	6.5	6.5	2.20	8.3	8.3	8.3	10.2
-5	14.1	14.1	14.1	6.5	6.5	6.5	2.17	8.0	8.0	8.0	10.1
-6	13.9	13.9	13.9	6.5	6.5	6.5	2.13	7.8	7.8	7.8	10.1
-7	13.6	13.6	13.6	6.5	6.5	6.5	2.10	7.5	7.5	7.5	10.1
-8	13.3	13.3	13.3	6.4	6.4	6.4	2.07	7.3	7.3	7.3	10.0
-9	13.1	13.1	13.1	6.4	6.4	6.4	2.04	7.1	7.1	7.1	10.0
-10	12.8	12.8	12.8	6.4	6.4	6.4	2.00	6.8	6.8	6.8	10.0
-11	12.5	12.5	12.5	6.4	6.4	6.4	1.97	6.6	6.6	6.6	9.9
-12	12.3	12.3	12.3	6.3	6.3	6.3	1.94	6.4	6.4	6.4	9.9
-13	12.0	12.0	12.0	6.3	6.3	6.3	1.91	6.2	6.2	6.2	9.8
-14	11.8	11.8	11.8	6.3	6.3	6.3	1.89	5.9	5.9	5.9	9.8
-15	11.5	11.5	11.5	6.2	6.2	6.2	1.86	5.7	5.7	5.7	9.7

-- attention: operating limits not reflected in performance table

Tc -OU		W 12 / 7 °C										
Ts -IN	Qc nom	Qc min	Qc max	Pin nom	Pin min	Pin max	EER	Qh nom	Qh min	Qh max	I nom	
[°C]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	kW / kW	[kW]	[kW]	[kW]	[A]	
40	10.6	10.6	10.6	4.3	4.3	4.3	2.45	14.7	14.7	14.7	7.2	
39	10.7	10.7	10.7	4.2	4.2	4.2	2.53	14.7	14.7	14.7	7.0	
38	10.8	10.8	10.8	4.1	4.1	4.1	2.61	14.6	14.6	14.6	6.9	
37	10.9	10.9	10.9	4.0	4.0	4.0	2.70	14.6	14.6	14.6	6.8	
36	10.9	10.9	10.9	3.9	3.9	3.9	2.79	14.6	14.6	14.6	6.6	
35	11.0	11.0	11.0	3.8	3.8	3.8	2.88	14.6	14.6	14.6	6.5	
34	11.1	11.1	11.1	3.7	3.7	3.7	2.97	14.6	14.6	14.6	6.4	
33	11.2	11.2	11.2	3.6	3.6	3.6	3.06	14.6	14.6	14.6	6.3	
32	11.2	11.2	11.2	3.6	3.6	3.6	3.16	14.5	14.5	14.5	6.2	
31	11.3	11.3	11.3	3.5	3.5	3.5	3.26	14.5	14.5	14.5	6.1	
30	11.4	11.4	11.4	3.4	3.4	3.4	3.37	14.5	14.5	14.5	6.0	
29	11.4	11.4	11.4	3.3	3.3	3.3	3.47	14.5	14.5	14.5	5.9	
28	11.5	11.5	11.5	3.2	3.2	3.2	3.58	14.5	14.5	14.5	5.8	
27	11.5	11.5	11.5	3.1	3.1	3.1	3.69	14.5	14.5	14.5	5.7	
26	11.6	11.6	11.6	3.0	3.0	3.0	3.81	14.4	14.4	14.4	5.6	
25	11.7	11.7	11.7	3.0	3.0	3.0	3.93	14.4	14.4	14.4	5.5	
24	11.7	11.7	11.7	2.9	2.9	2.9	4.05	14.4	14.4	14.4	5.4	
23	11.8	11.8	11.8	2.8	2.8	2.8	4.17	14.4	14.4	14.4	5.3	
22	11.8	11.8	11.8	2.7	2.7	2.7	4.30	14.4	14.4	14.4	5.2	
21	11.9	11.9	11.9	2.7	2.7	2.7	4.44	14.4	14.4	14.4	5.1	
20	11.9	11.9	11.9	2.6	2.6	2.6	4.57	14.4	14.4	14.4	5.1	

Tc [°C]		W 23 / 18 °C										
0	Qc nom	Qc min	Qc max	Pin nom	Pin min	Pin max	EER	Qh nom	Qh min	Qh max	I nom	
[°C]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	kW / kW	[kW]	[kW]	[kW]	[A]	
40	14.3	14.3	14.3	4.3	4.3	4.3	3.29	18.3	18.3	18.3	7.1	
39	14.4	14.4	14.4	4.2	4.2	4.2	3.40	18.3	18.3	18.3	6.9	
38	14.5	14.5	14.5	4.1	4.1	4.1	3.51	18.3	18.3	18.3	6.8	
37	14.6	14.6	14.6	4.0	4.0	4.0	3.63	18.3	18.3	18.3	6.7	
36	14.7	14.7	14.7	3.9	3.9	3.9	3.75	18.3	18.3	18.3	6.5	
35	14.8	14.8	14.8	3.8	3.8	3.8	3.87	18.3	18.3	18.3	6.4	
34	14.9	14.9	14.9	3.7	3.7	3.7	4.00	18.3	18.3	18.3	6.3	
33	15.0	15.0	15.0	3.6	3.6	3.6	4.13	18.3	18.3	18.3	6.2	
32	15.1	15.1	15.1	3.6	3.6	3.6	4.26	18.4	18.4	18.3	6.1	
31	15.2	15.2	15.2	3.5	3.5	3.5	4.40	18.4	18.4	18.3	5.9	
30	15.3	15.3	15.3	3.4	3.4	3.4	4.54	18.4	18.4	18.3	5.8	
29	15.4	15.4	15.4	3.3	3.3	3.3	4.68	18.4	18.4	18.3	5.7	
28	15.5	15.5	15.5	3.2	3.2	3.2	4.83	18.4	18.4	18.3	5.6	
27	15.6	15.6	15.6	3.1	3.1	3.1	4.99	18.4	18.4	18.3	5.5	
26	15.7	15.7	15.7	3.0	3.0	3.0	5.14	18.4	18.4	18.3	5.4	
25	15.8	15.8	15.8	3.0	3.0	3.0	5.31	18.4	18.4	18.3	5.4	
24	15.8	15.8	15.8	2.9	2.9	2.9	5.47	18.4	18.4	18.3	5.3	
23	15.9	15.9	15.9	2.8	2.8	2.8	5.65	18.5	18.5	18.3	5.2	
22	16.0	16.0	16.0	2.7	2.7	2.7	5.82	18.5	18.5	18.4	5.1	
21	16.1	16.1	16.1	2.7	2.7	2.7	6.00	18.5	18.5	18.4	5.0	
20	16.1	16.1	16.1	2.6	2.6	2.6	6.19	18.5	18.5	18.4	5.0	

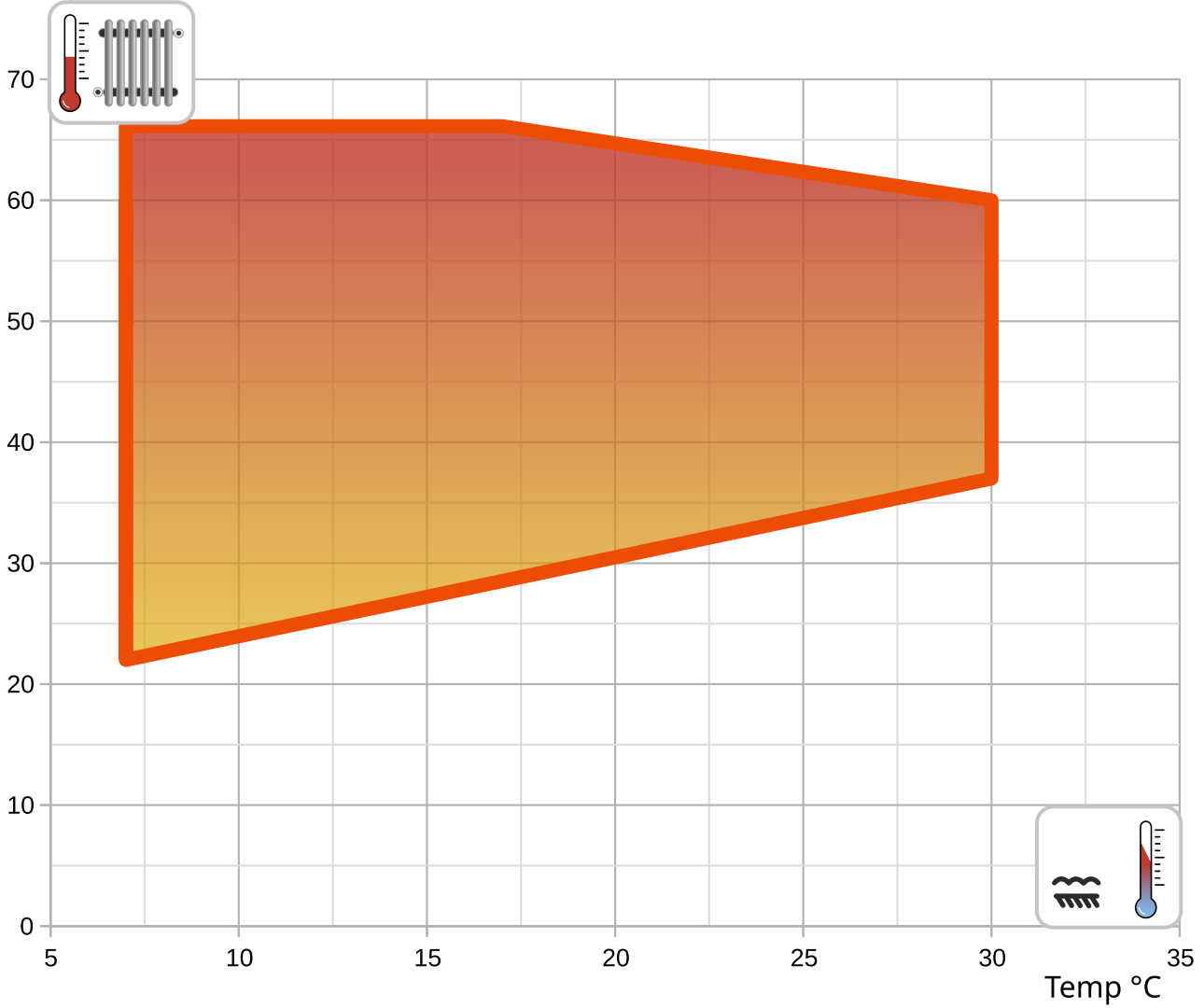
-- attention: operating limits not reflected in performance table

LEGEND:

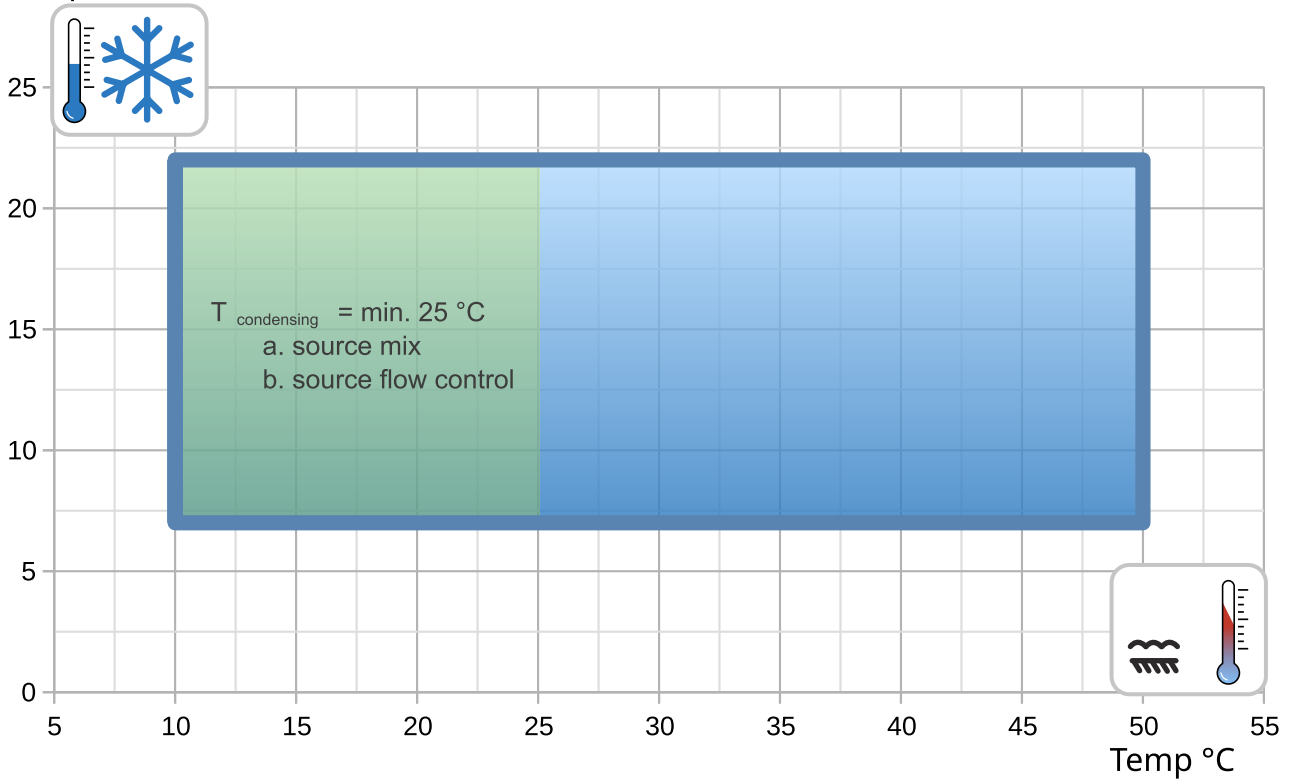
Ts-IN: Temperature renewable source - inlet [°C]
Th-OU: Temperature heating - outlet (flow) [°C]
Tc-OU: Temperature cooling - outlet (flow) [°C]
Qh nom: Heating capacity nominal
Qh min: Heating capacity minimal
Qh max: Heating capacity maximal
Pin nom: Power input at nominal heating capacity
Pin min: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

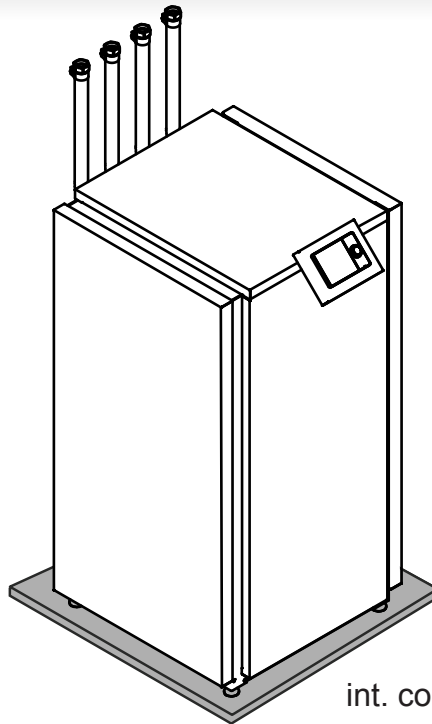
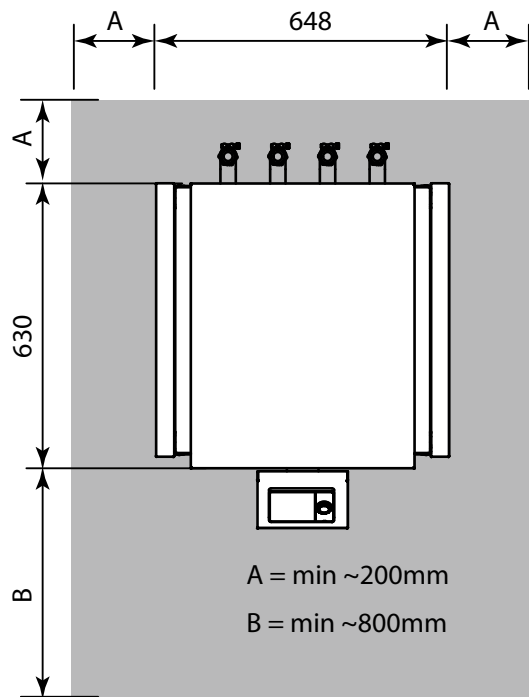
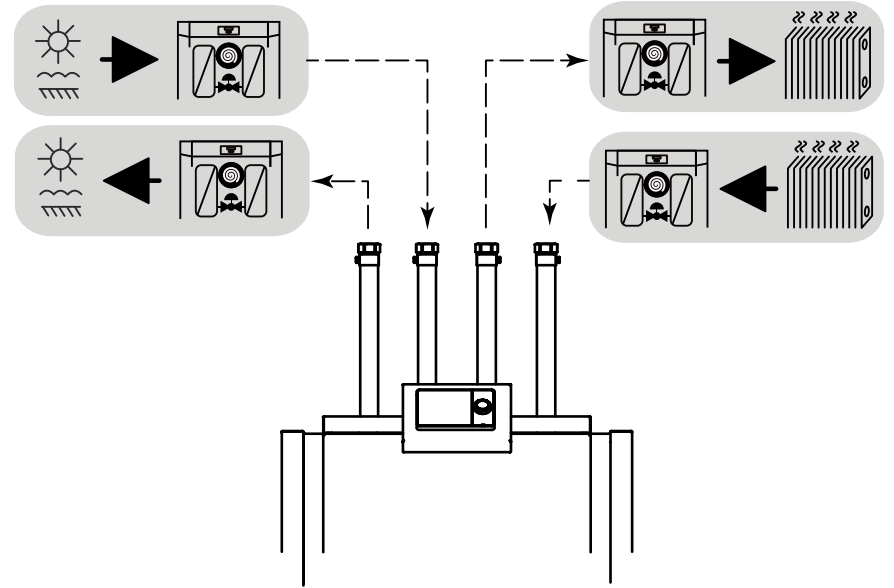
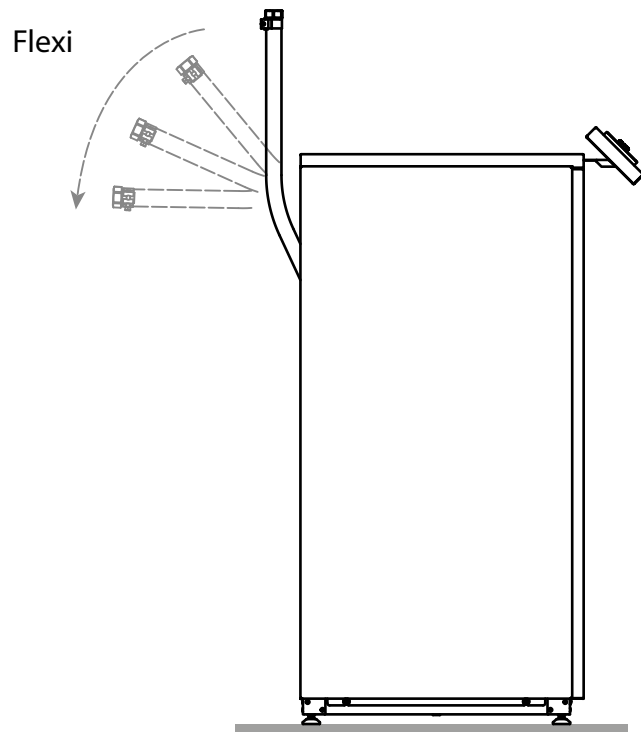
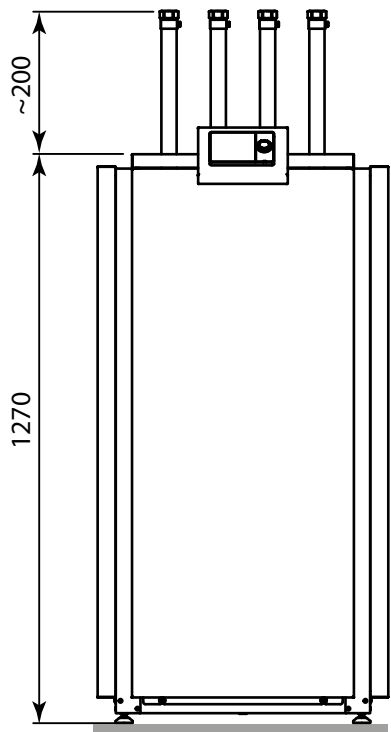
Operating limits

Temp °C

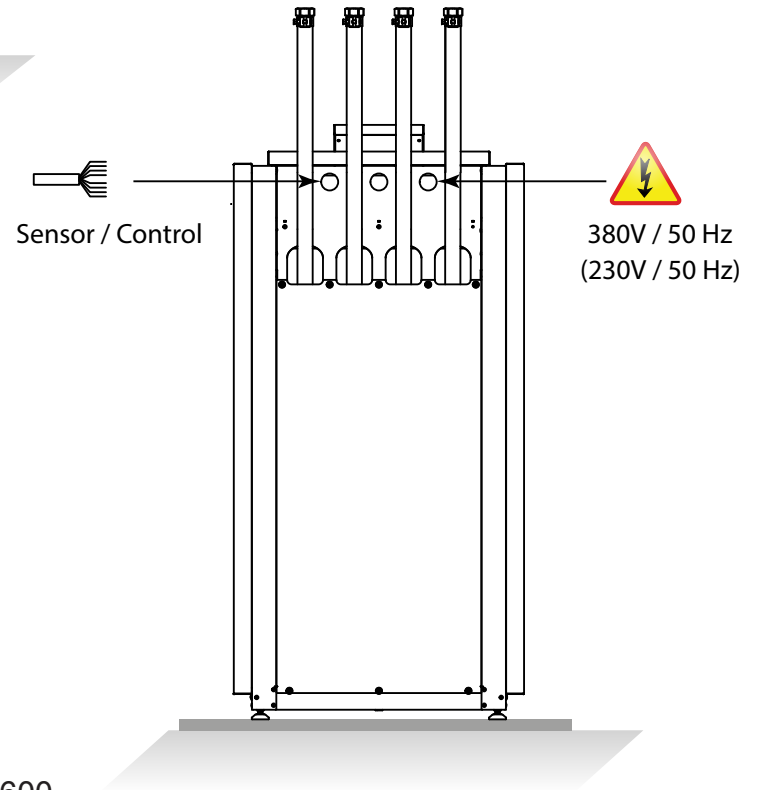


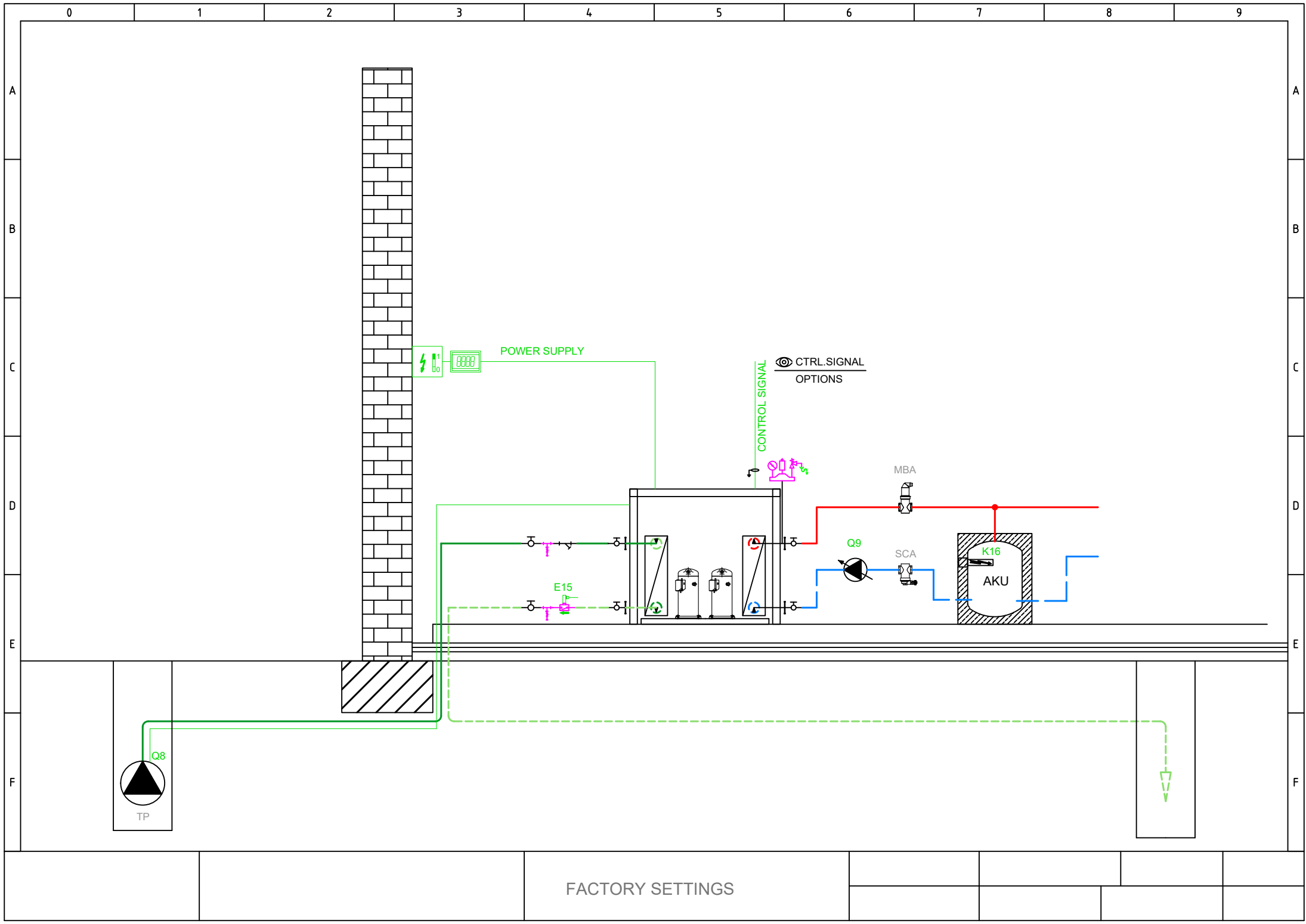
Temp °C

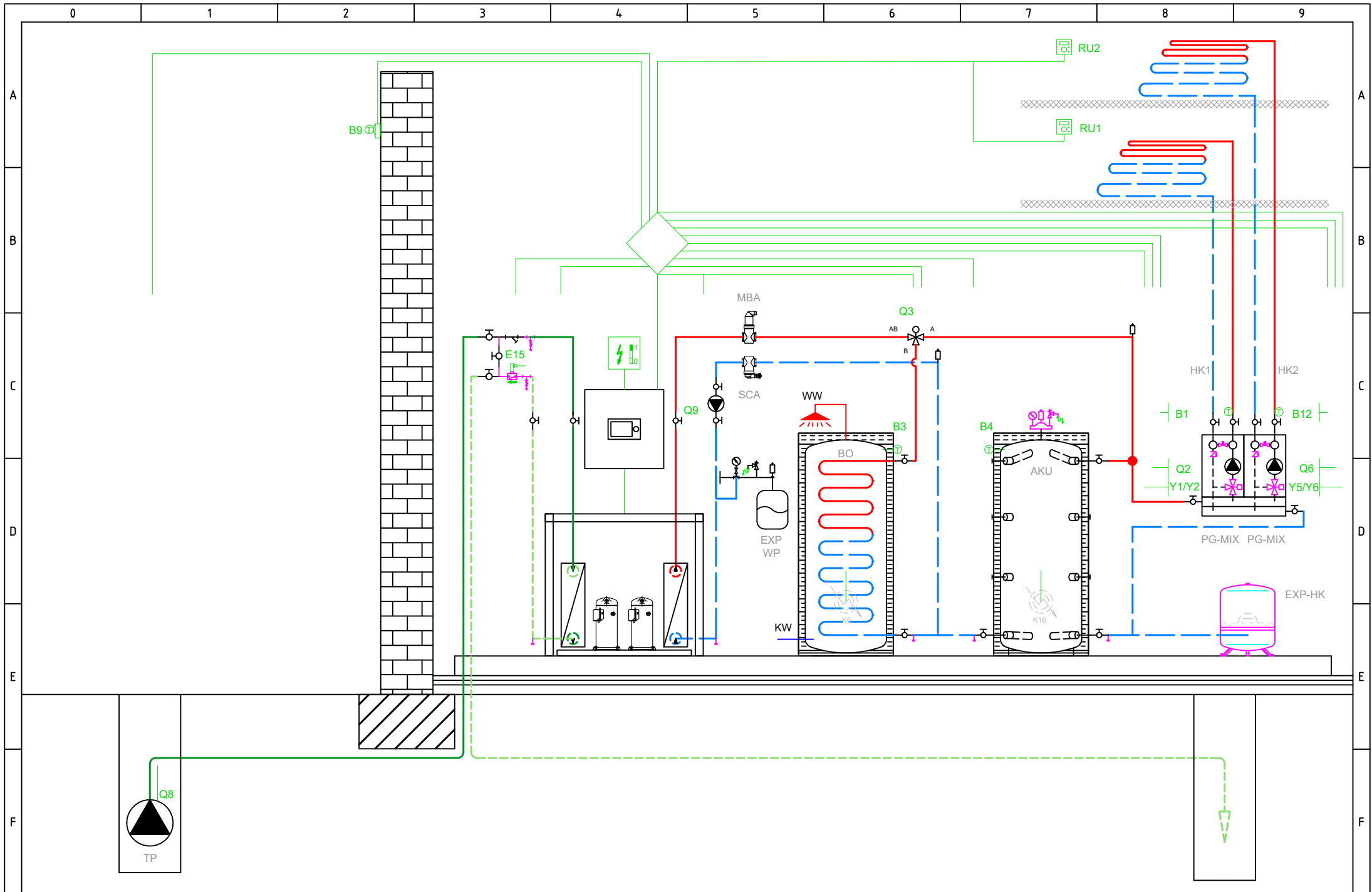




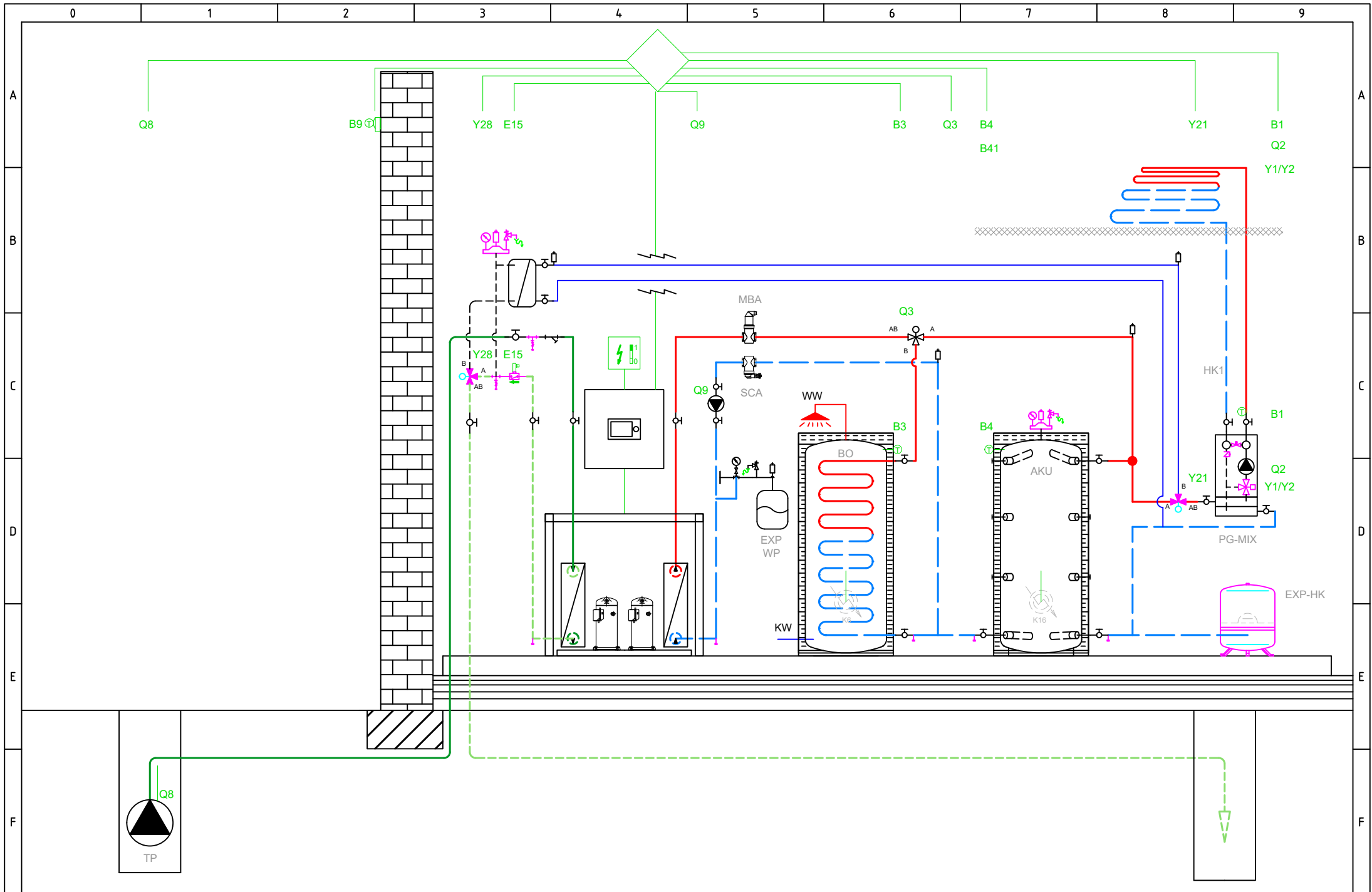
int. code: VN600







BASIC APPLICATION



OPTIONAL APPLICATION

Total: max 6A
1 x QX...: max 2A

Main power supply 230V / 50 Hz
Ground
Neutral conductor

- E9 Low-pressure switch E9
- E10 High-pressure switch E10
- E15 Flow switch source E15
- E24 Flow switch consumers E24
- E6 Electrical utility lock E6
- E12 Overload compressor 2 E12
- E21 Mains supervision E21
- E22 Mains supervision E22
- E23 Mains supervision E23
- E11 Overload compressor 1 E11
- K1 Compressor stage 1 K1

Q8 Source pump Q8

Q9 Condenser pump Q9

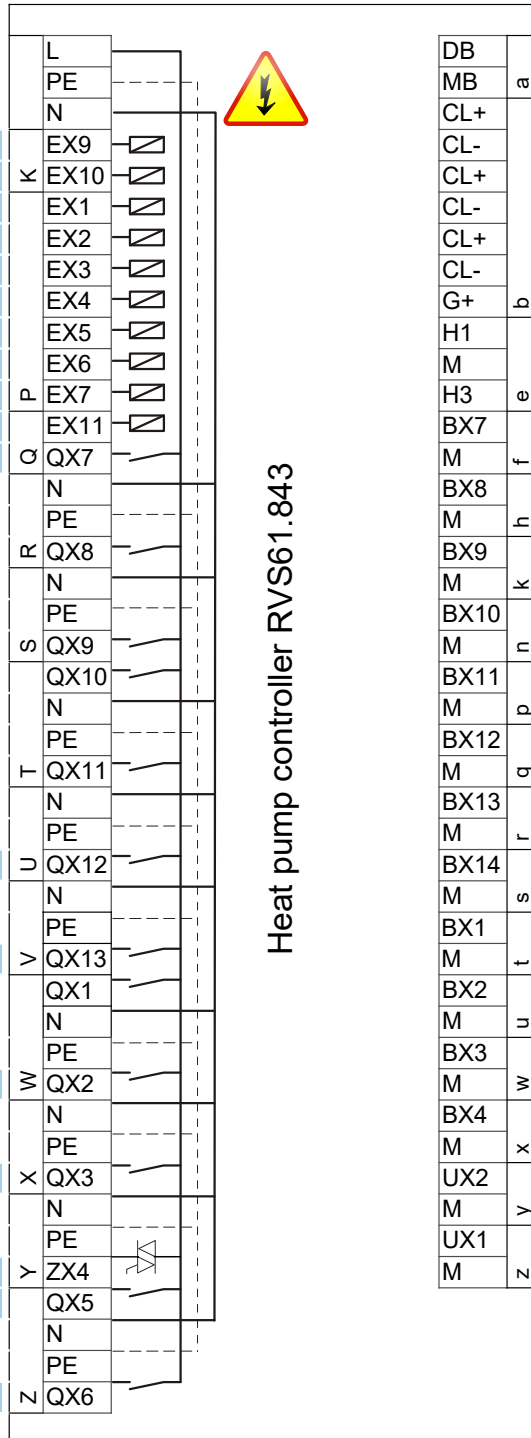
K10 Alarm output K10

K40 Crankcase heater K40

K81 Valve evaporator K81

K82 Valve EVI K82

K2 Compressor stage 2 K2

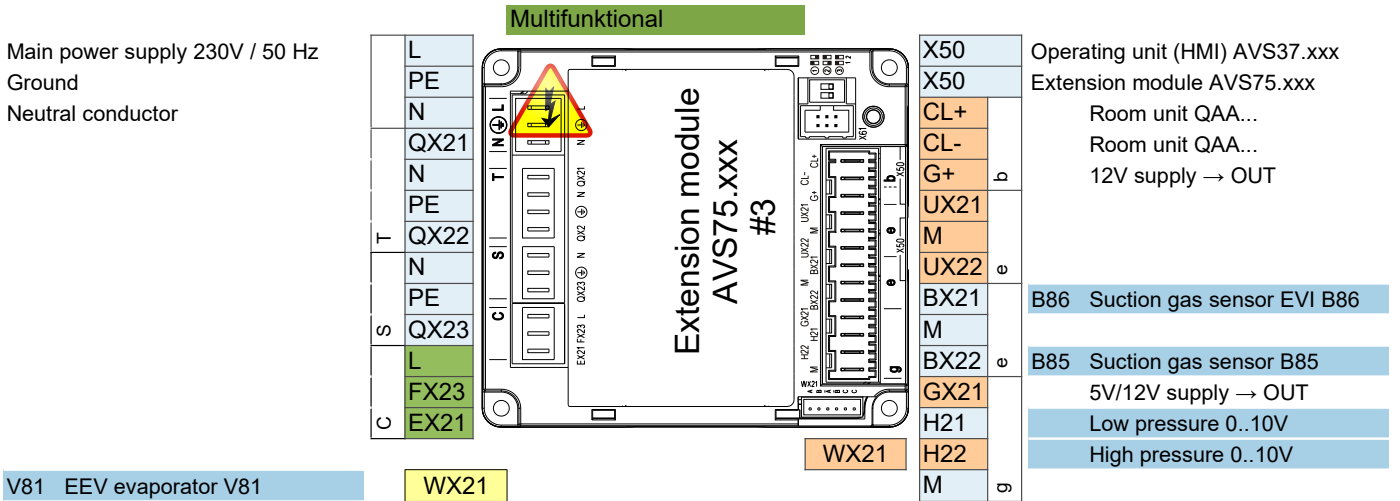
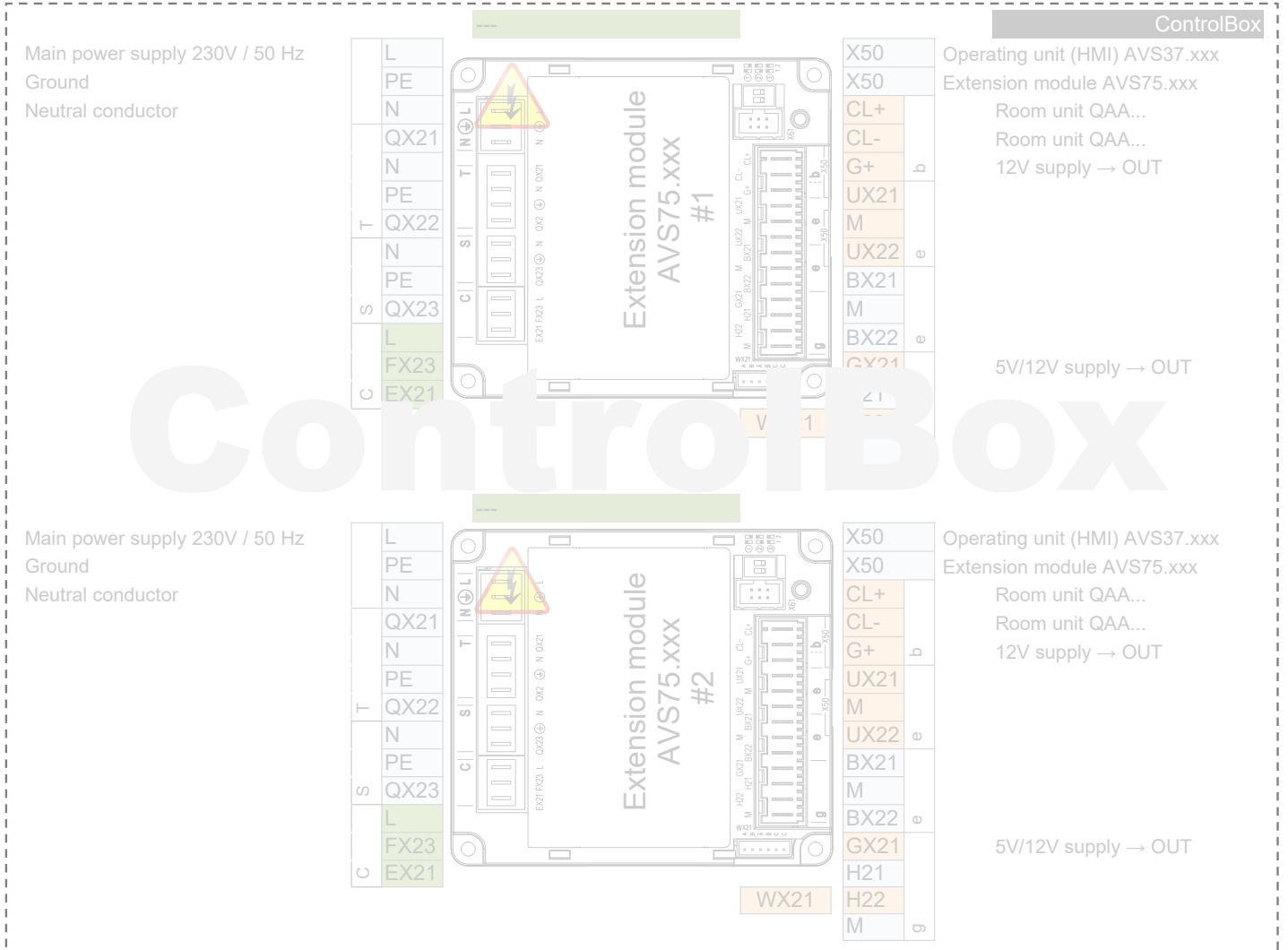


Heat pump controller RVS61.843

- DB LPB Bus data
- MB LPB Bus GND
- CL+ Room unit QAA...
- CL- Room unit QAA...
- CL+ Room unit QAA... 2.
- CL- Room unit QAA... 2.
- CL+ Room unit QAA... 3.
- CL- Room unit QAA... 3.
- G+ 12V supply → OUT
- H1
- M
- H3 Consumer request VK1
- BX7 B81 Hot-gas sensor K1 B81
- M
- BX8
- M
- BX9
- M B21 HP flow sensor B21
- BX10
- M
- BX11
- M
- BX12 B71 HP return sensor B71
- M
- BX13 B91 Source inlet sensor B91
- M
- BX14 B84 Source outl sens B92/B84
- M
- BX1
- M
- BX2
- M
- BX3 B83 Refrig sensor liquid B83
- M
- BX4 B82 Hot-gas sensor K2 B82
- M
- UX2 Condenser pump Q9
- M 0..10 V Signal
- UX1 Source pump Q8
- M 0..10 V Signal

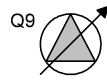
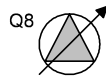


- AVS75.390
- AVS75.391
- AVS75.370



HEAT PUMP

EXTERNAL
INTERNAL



K1

K2

K82

K81

K40

K10

Q8 UX1

Q9 UX2

E11
KRW1
F1K
E11

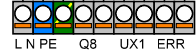
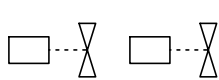
E12
KRW2
F2K
E12

E6

Q9 ERR
F1S
E24

Q8.ERR
F1Z
E15

E10
E9



230V,50Hz max 6A

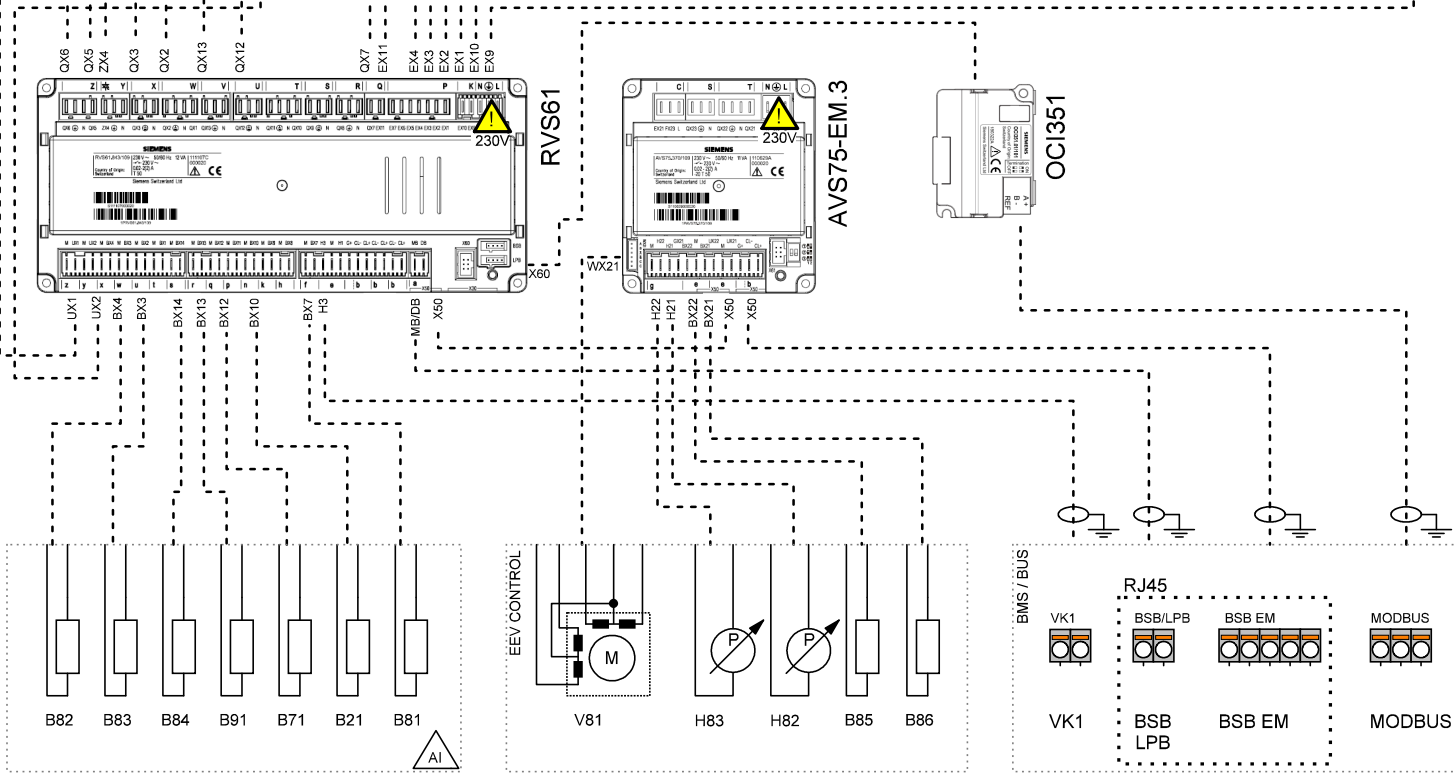
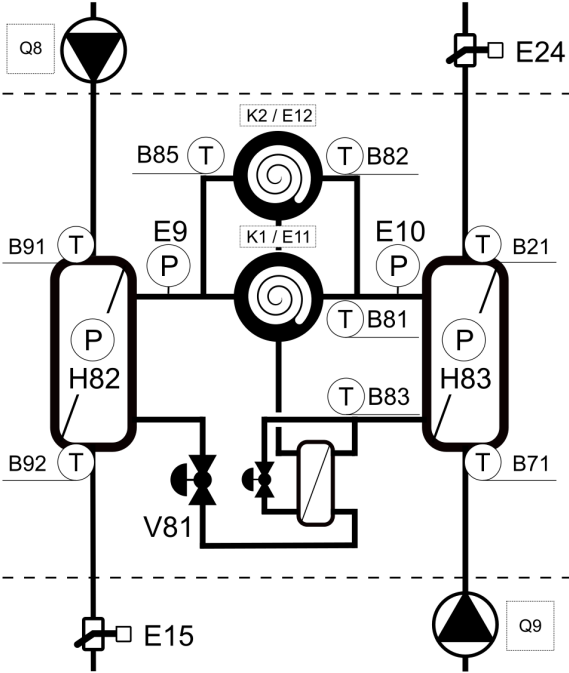
0...10V

230V,50Hz max 6A

0...10V

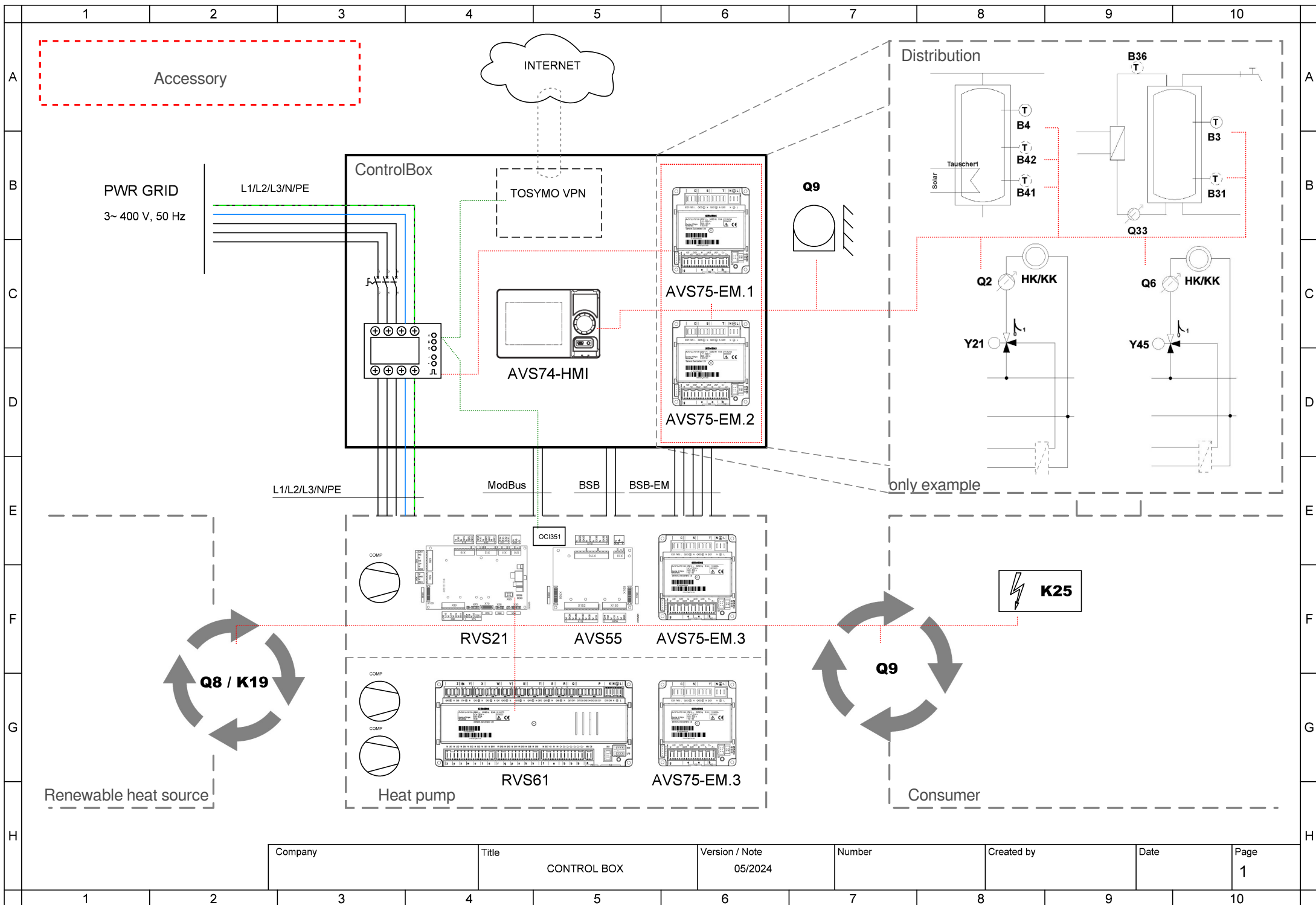
DI

DI

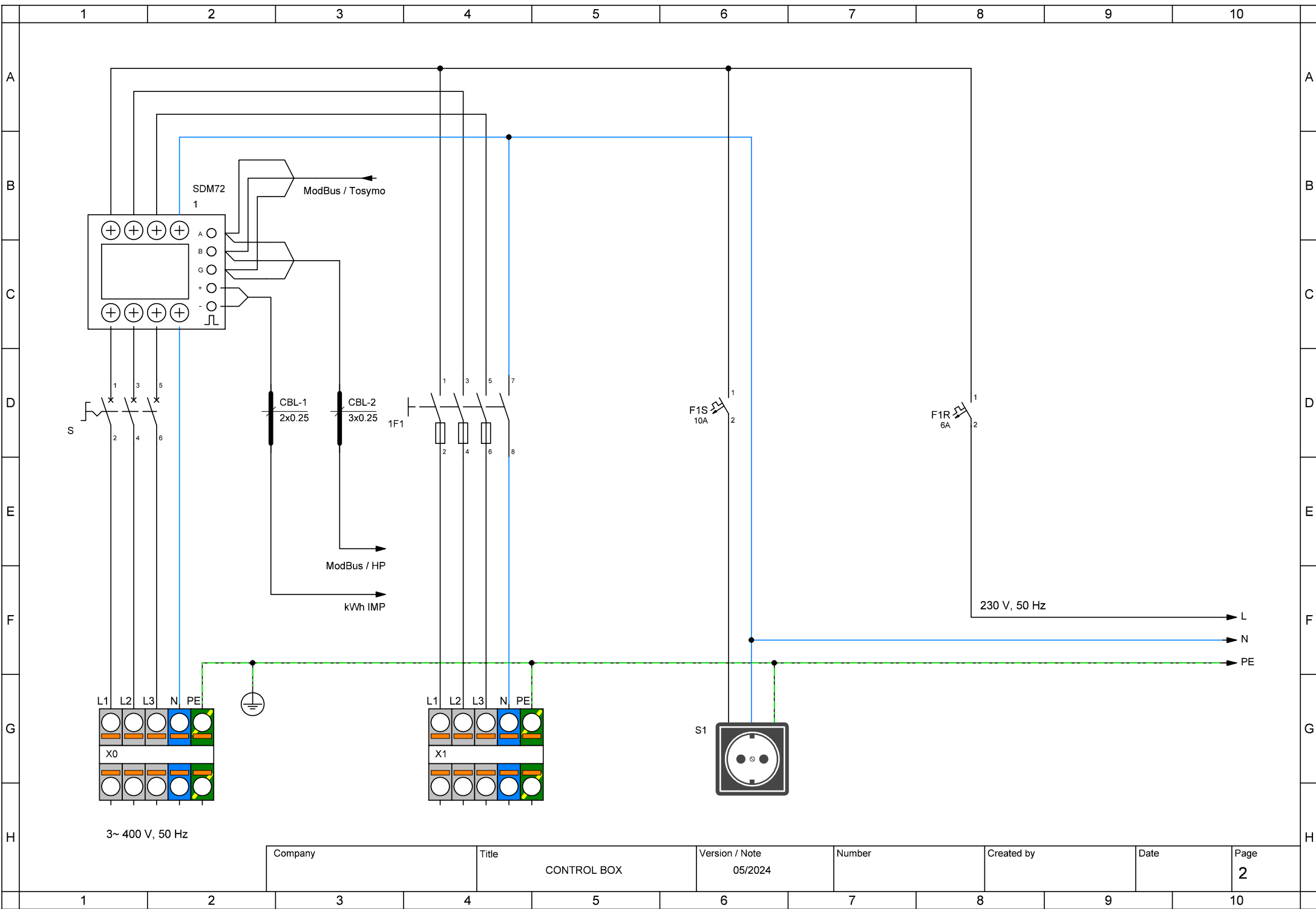


PWR SPLY: 3~ 400V, 50 Hz
CTRL: 1~ 230V, 50 HZ

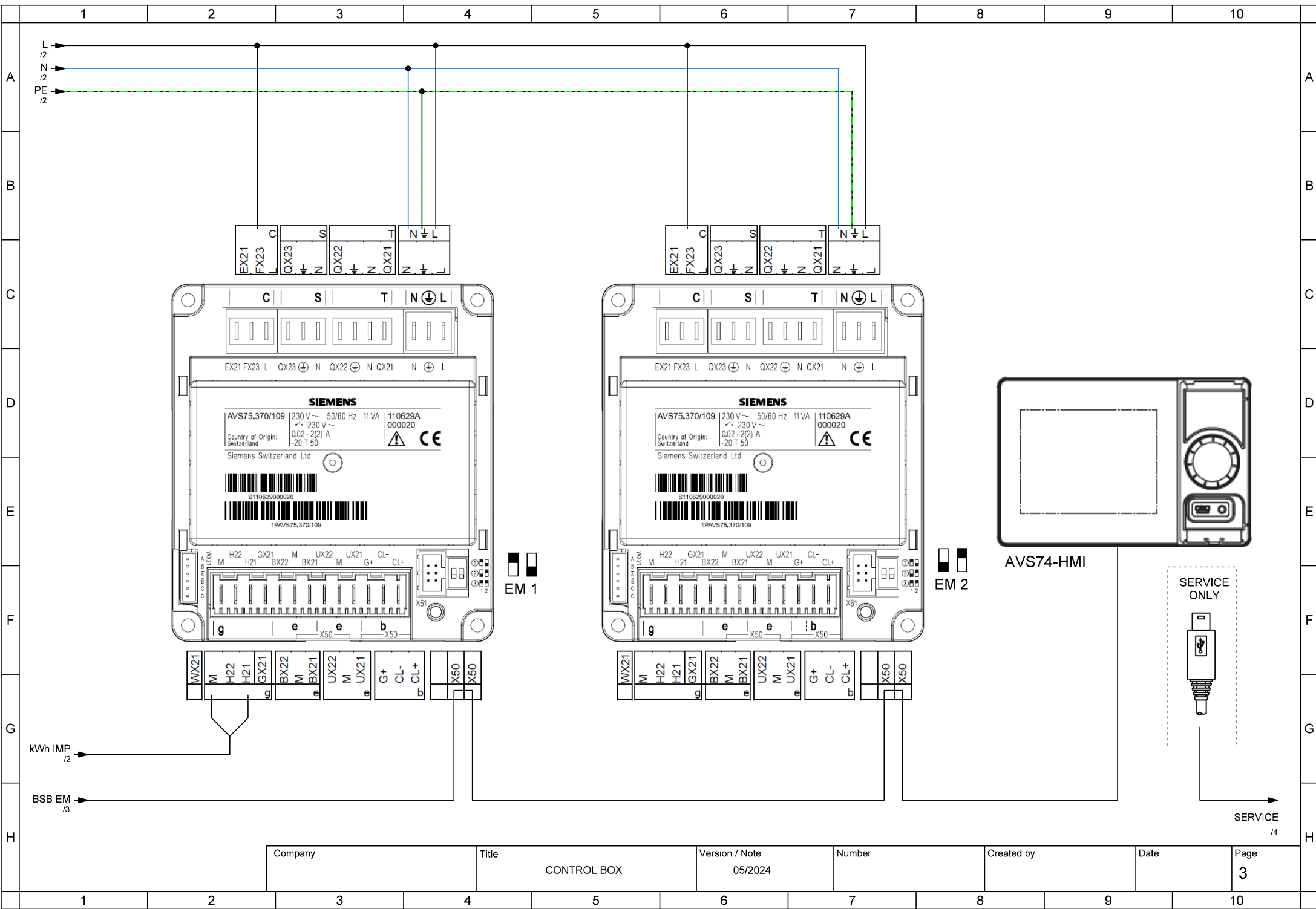
Company	Title	Version / Note	Number	Created by	Date	Page
	TBW-TWW	05/2024				1



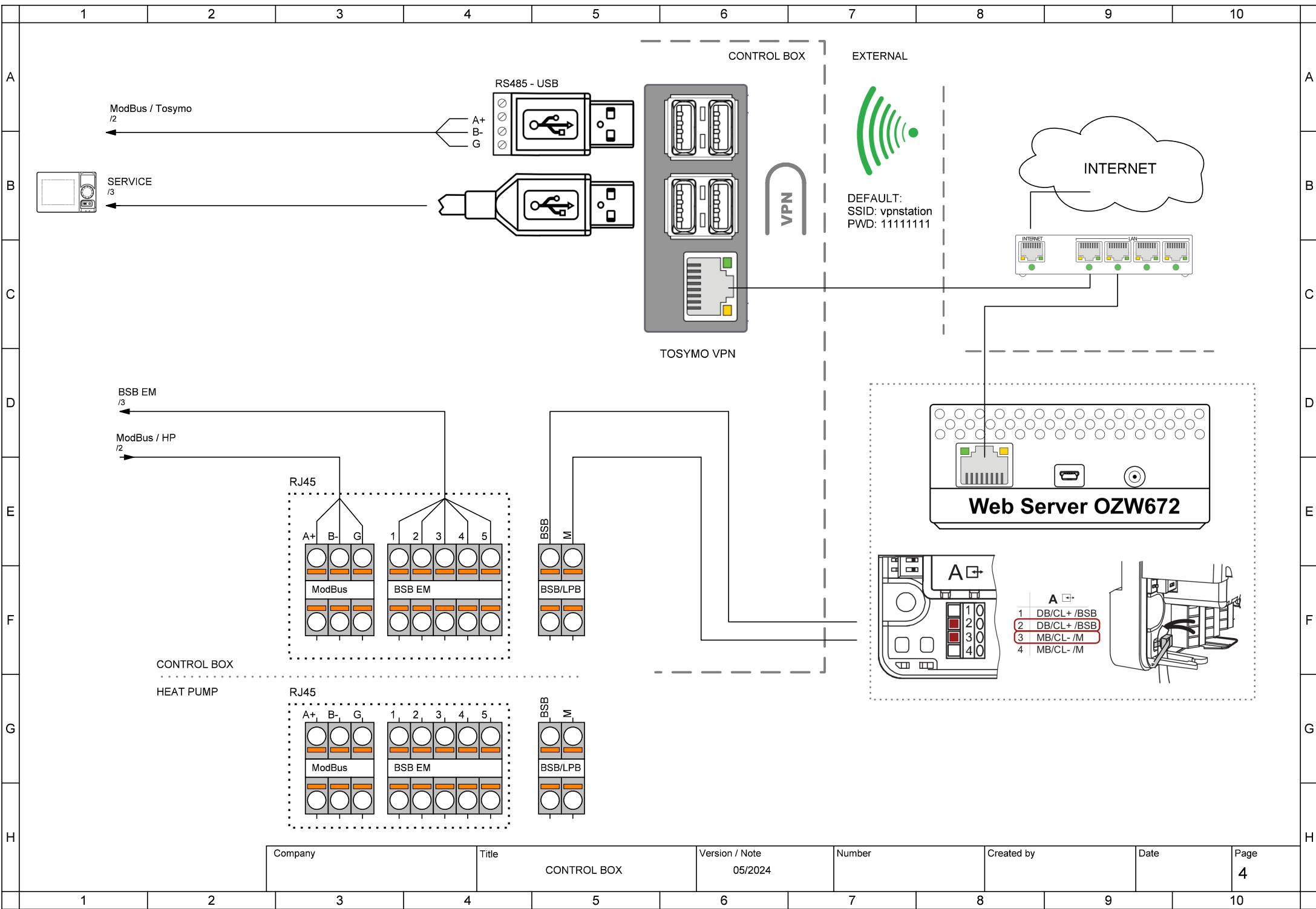
Company	Title	Version / Note	Number	Created by	Date	Page
	CONTROL BOX	05/2024				1



Company	Title	Version / Note	Number	Created by	Date	Page
	CONTROL BOX	05/2024				2



Company	Title	Version / Note	Number	Created by	Date	Page
	CONTROL BOX	05/2024				3



Company	Title	Version / Note	Number	Created by	Date	Page
	CONTROL BOX	05/2024				4

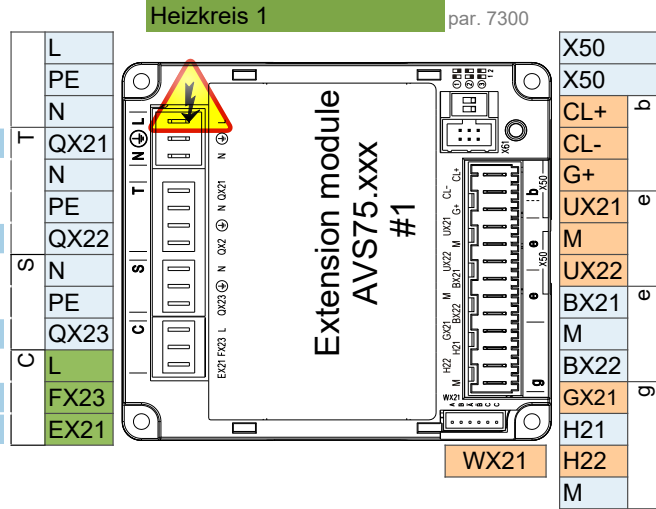
- AVS75.390
- AVS75.391
- AVS75.370

- AVS75.370**
 Main power supply 230V / 50 Hz
 Ground
 Neutral conductor
Y1 Mixing valve Open

Y2 Mixing valve Close

Q2 Heat circuit pump HC1 Q2

L Phase 230V
E61 Smart grid E61



- Extension module AVS75.xxx
 Room unit QAA...
 Room unit QAA...

B1 Flow sensor 1

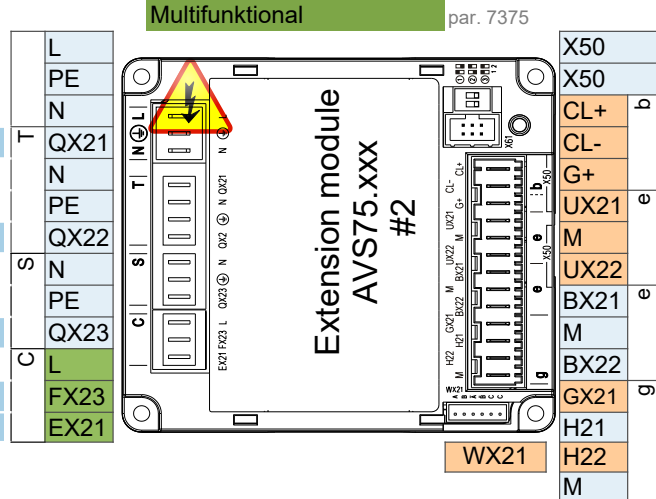
 Pulse count

- AVS75.370**
 Main power supply 230V / 50 Hz
 Ground
 Neutral conductor
Q3 DHW ctrl elem Q3

K6 El imm heater DHW K6

Q6 Heat circuit pump HC2 Q6

L Phase 230V
E62 Smart grid E62

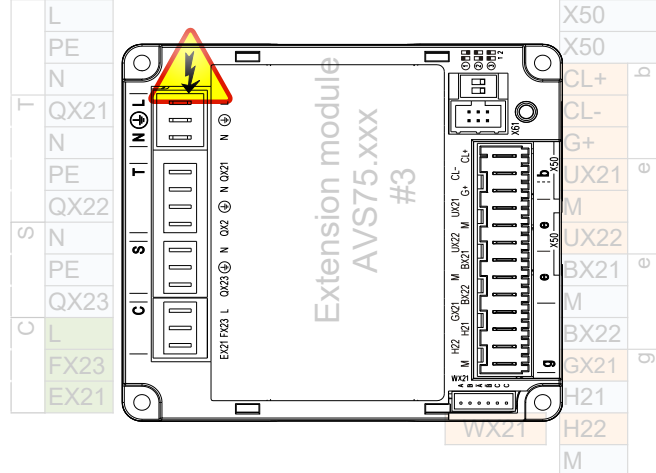


- Operating unit (HMI) AVS37.xxx
 Extension module AVS75.xxx
 Room unit QAA...
 Room unit QAA...

B3 DHW sensor B3

B4 Buffer sensor B4

- Main power supply 230V / 50 Hz
 Ground
 Neutral conductor



- Operating unit (HMI) AVS37.xxx
 Extension module AVS75.xxx
 Room unit QAA...
 Room unit QAA...

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