

Basic performance data - WAMAK AiWa 23 EVI H Out

Heating - EN 14511		
Heating capacity [kW]	A7 / W35	26.0
	A2 / W35	22.2
	A-7 / W34	18.4
Electrical power input [kW]	A7 / W35	5.9
	A2 / W35	5.8
	A-7 / W34	5.5
Heating efficiency faktor [COP]	A7 / W35	4.40
	A2 / W35	3.84
	A-7 / W34	3.34
Seasonal space heating energy efficiency - SCOP EN 14825		
Average Climate / Low Temperature [35 °C]	SCOP	4.24
	η [%]	169.6
	Label	A+++
	Qhe [kWh]	9826.9
	Pdesignh [kW]	20.8
	Tbivalent [°C]	-7
Cooling		
Cooling capacity - [kW]	A35 / W23-18	24.5
	A25 / W23-18	25.7
	A35 / W12-7	18.2
	A25 / W12-7	18.2
Seasonal space cooling energy efficiency - SEER EN 14825		
[W 23 / 18 °C]	SEER	4.29
	Qce [kWh]	10920.0
	η_c [%]	171.6
Sound EN 12102		
Acoustic power - Lw	dB(A)	68.3
Acoustic pressure - Lp	1 m dB(A)	60.3
	5 m dB(A)	46.3
	10 m dB(A)	40.3
Mechanical and operational information		
Compressor type (3~ 400/50)	SCROLL / 1 /	On/Off
Refrigerant	R410A (GWP - 2088)	7.9 kg
Operating limit temperatures heating - (min / max) [°C]	25 / 65	
Operating limit temperatures source - (min / max) [°C]	-22 / 40	
Weight	315 kg	

Main technical data - WAMAK AiWa 23 EVI H Out

Enclosure type			AiWa-O-1200		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]	315		Condenser	Port size	1.1/4 "				
Colour	Gray			Type	BPHE				
Enclosure IP Class	IP44			Count	1				
Refrigeration cycle				Material	AISI 316				
Compressor	Type	Scroll		Maximal operating pressure - refrigerant [bar]			45		
	Number of stages	1		Maximal operating pressure - Water [bar]			6		
	On/Off			Testing pressure [bar]			70		
	Power factor Cosφ	0.65		Heat transfer medium			Water		
	Winding resistance	1.38 Ohm		Volume flow @ dT 5K (nom) - Water [m3/h]			4.49		
Refrigerant		R410A		Internal pressure drop - Water [kPa]			14		
	Volme	7.9 kg		ECM speed circulator - condenser			UPMXL GEO 32-125		
	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	1.77 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	Type	Cu-coil /Al-fin				
Reverse defrosting with hot gas				Count	1				
Plate exchanger protection HG-BYPASS				Material	Cu/Al				
Electrical connection data			Maximal operating pressure - refrigerant [bar]					28	
Line voltage [#~ V/Hz]			Heat transfer medium					Air	
Current	nominal [A]	11.80		Volume flow - Air [m3/h]					8030
	maximal [A]	18.60		Internal pressure drop - Air [kPa]					0.032
	starting [A]	29.7		Temperature difference - Air					7 K
Softstart			Number of fans					1	
Main safety	C32		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 23 EVI H Out

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

Model	AiWa 23 EVI H Out
Air-to-water heat pump	yes
Brine-to-water heat pump	no
Water-to-water heat pump	no
Low-temperature heat pump	no
Equipped with a supplementary heater	no
Heat pump combination heater	no
Temperature application	low (35 °C - 30 °C)
Climate conditions	average

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output at Tdesignh	Prated	20.8	kW	Seasonal space heating energy efficiency	η_s	169.6	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7 °C	Pdh	18.4	kW	Tj = -7 °C	COPd	3.34	-
Tj = +2 °C	Pdh	22.0	kW	Tj = +2 °C	COPd	4.2	-
Tj = +7 °C	Pdh	25.8	kW	Tj = +7 °C	COPd	5.1	-
Tj = +12 °C	Pdh	30.3	kW	Tj = +12 °C	COPd	6.3	-
Tj = bivalent temperature	Pdh	17.8	kW	Tj = bivalent temperature	COPd	3.2	-
Tj = operation limit temperature	Pdh	13.0	kW	Tj = operation limit temperature	COPd	2.5	-
Bivalent temperature	Tbiv	-7	°C	Tj = operation limit temperature	TOL	-22	°C
Power consumption in modes other than active mode				Heating water operating limit temperature	WTOL	65	°C
Off mode	Poff	0.030	kW	Supplementary heater			
Thermostat-off mode	Pto	0.010	kW	Rated heat output	Psup	9.3	kW
Standby mode	Psb	0.010	kW	Type of energy input		electricity	
Crankcase heater mode	Pck	0.050	kW				
Other items							
Capacity control		fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	8030	m ³ /h
Sound power level				For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	---	m ³ /h
indoors	Lwa	---	dB				
outdoors	Lwa	68	dB				
Annual energy consumption	Q _{HE}	9826.9	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 23 EVI H Out
Air-to-water heat pump	yes
Brine-to-water heat pump	no
Water-to-water heat pump	no
Low-temperature heat pump	no
Equipped with a supplementary heater	no
Heat pump combination heater	no
Temperature application	middle (55 °C - 47 °C)
Climate conditions	average

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output at Tdesignh	Prated	22.1	kW	Seasonal space heating energy efficiency	ηs	135.5	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7 °C	Pdh	19.3	kW	Tj = -7 °C	COPd	2.41	-
Tj = +2 °C	Pdh	22.4	kW	Tj = +2 °C	COPd	3.4	-
Tj = +7 °C	Pdh	26.0	kW	Tj = +7 °C	COPd	4.3	-
Tj = +12 °C	Pdh	30.3	kW	Tj = +12 °C	COPd	5.6	-
Tj = bivalent temperature	Pdh	19.0	kW	Tj = bivalent temperature	COPd	2.2	-
Tj = operation limit temperature	Pdh	14.4	kW	Tj = operation limit temperature	COPd	1.8	-
Bivalent temperature	Tbiv	-7	°C	Tj = operation limit temperature	TOL	-22	°C
Power consumption in modes other than active mode				Heating water operating limit temperature	WTOL	65	°C
Off mode	Poff	0.030	kW	Supplementary heater			
Thermostat-off mode	Pto	0.010	kW	Rated heat output	Psup	9.3	kW
Standby mode	Psb	0.010	kW	Type of energy input		electricity	
Crankcase heater mode	Pck	0.050	kW				
Other items							
Capacity control		fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	8030	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	68	dB				
Annual energy consumption	QHE	13169.7	kWh				

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WAMAK

AiWa 23 EVI H Out



55 °C

35 °C

A+++

A++

A+

A

B

C

D

A++

A+++



--- dB



68 dB

■ 24
■ 23
■ 22
kW

■ 22
■ 21
■ 20
kW



2019

811/2013

AiWa 23 EVI H Out

ErP Data

	55 °C	35 °C
Energy class	A++	A+++
η [%]	135.5	169.6
P_{rated} [kW]	23	21
Q_{HE} [kWh/y]	13170	9827
SCOP [-]	3.39	4.24
$T_{bivalent}$ [°C]	-7	-7

CONTROLLER



+ QAA55/75

class VII

3.5% ↓

- QAA55/75

class III

1.5% ↓

Heating performance data

Version: v2024.010-AW

Average Climate / Low Temperature [35°C]

ZHI23K1P-TFM_R410A_1_AW

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

SCOP DATA EN 14825:2018	
Average Climate / Low Temperature [35°C]	
SCOPon	4.37
SCOPnet	4.41
SCOP	4.24
η [%]	169.63
Label	A+++
Qh [kWh]	9826.93
Pdesignh [kW]	20.8
Tbivalent [°C]	-7.00

Average Climate / Medium Temperature [55°C]

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

SCOP DATA EN 14825:2018	
Average Climate / Medium Temperature [55°C]	
SCOPon	3.47
SCOPnet	3.50
SCOP	3.39
η [%]	135.52
Label	A++
Qh [kWh]	13169.66
Pdesignh [kW]	22.1
Tbivalent [°C]	-7.00

Cooling performance data

Low temperature cooling W 12 / 7°C

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

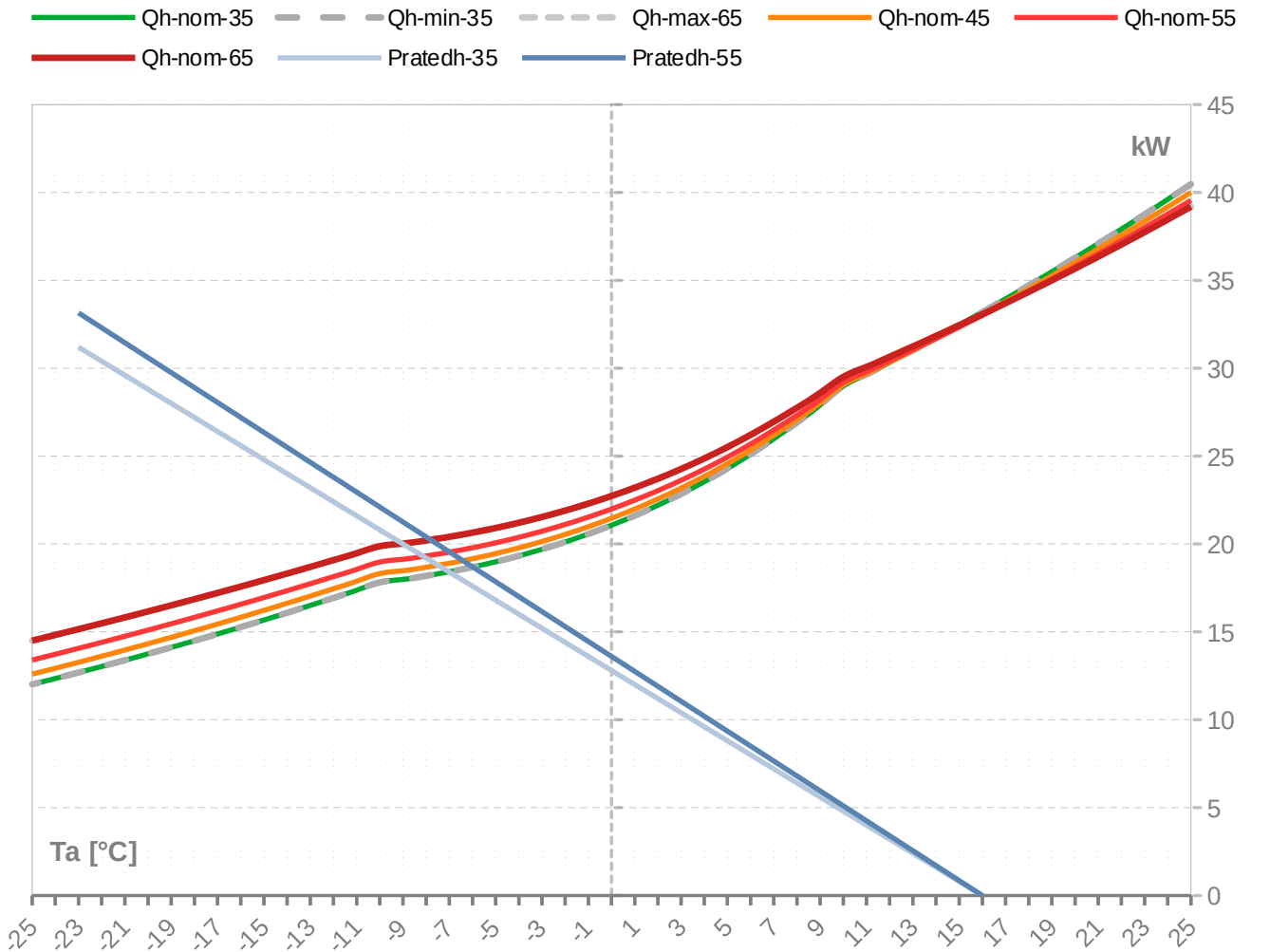
SEER DATA EN 14825:2018 [W 12 / 7°C]	
SEERon	3.33
SEER	3.22
Qc [kWh]	4131.25
η [%]	128.82

Radiant cooling W 23 / 18°C

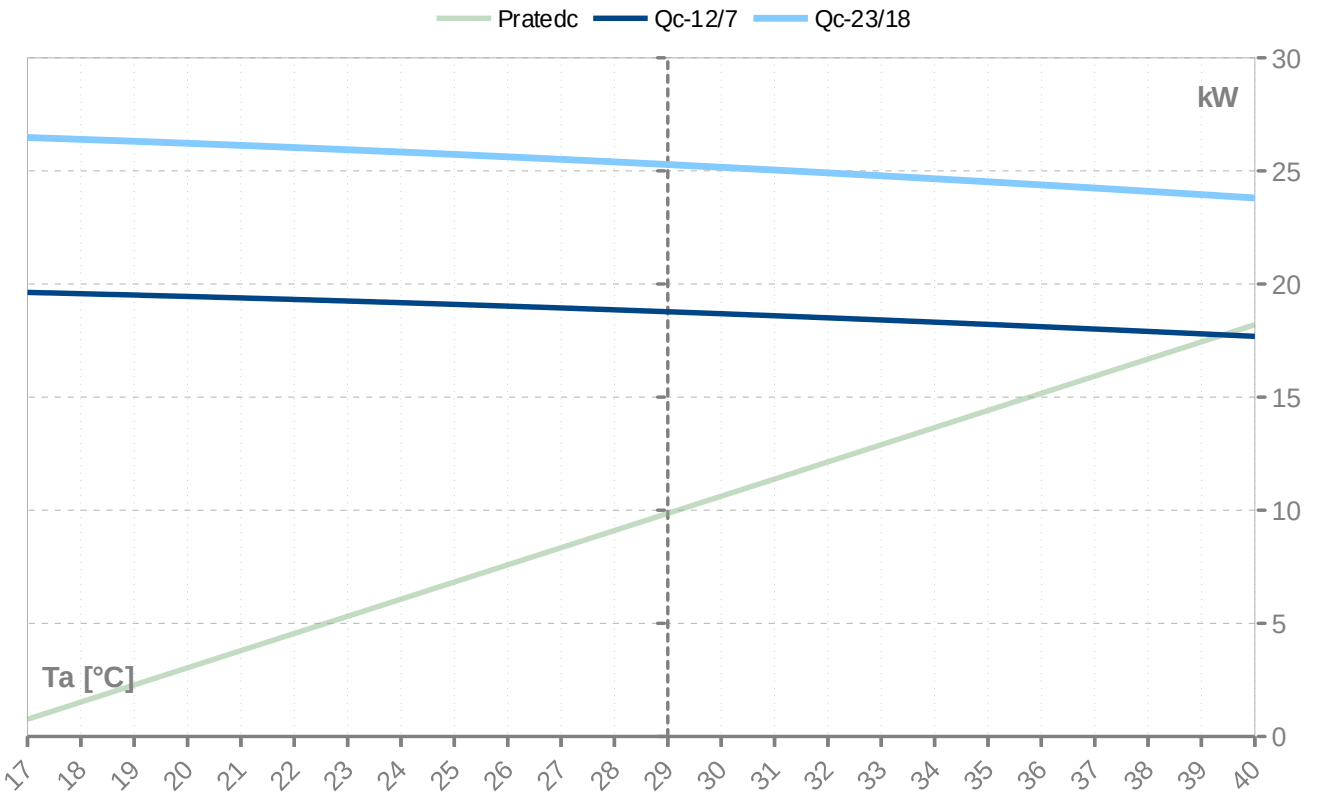
Operating conditions		Qc	P	EER
A	A35 / W23-18	24.5	6.9	3.55
B	A30 / W23-18	25.2	5.9	4.05
C	A25 / W23-18	25.7	5.4	4.59
D	A20 / W23-18	26.2	4.8	5.17

SEER DATA EN 14825:2018 [W 23 / 18°C]	
SEERon	4.48
SEER	4.29
Qc [kWh]	3066.91
η [%]	171.62

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

* attention: operating limits not reflected in performance table

ZHI23K1P-TFM_R410A_1_AW

Th [°C]		45 °C								
Ta [°C]	Qh nom [kW]	Qh min [kW]	Qh max [kW]	Pin nom [kW]	Pin-min [kW]	Pin-max [kW]	COP kW / kW	I nom [A]	I min [A]	I max [A]
25	40.0	40.0	40.0	7.6	7.6	7.6	5.25	13.5	13.5	13.5
24	39.2	39.2	39.2	7.6	7.6	7.6	5.15	13.5	13.5	13.5
23	38.4	38.4	38.4	7.6	7.6	7.6	5.06	13.5	13.5	13.5
22	37.6	37.6	37.6	7.6	7.6	7.6	4.96	13.5	13.5	13.5
21	36.8	36.8	36.8	7.6	7.6	7.6	4.87	13.4	13.4	13.4
20	36.0	36.0	36.0	7.5	7.5	7.5	4.77	13.4	13.4	13.4
19	35.3	35.3	35.3	7.5	7.5	7.5	4.68	13.4	13.4	13.4
18	34.5	34.5	34.5	7.5	7.5	7.5	4.59	13.4	13.4	13.4
17	33.8	33.8	33.8	7.5	7.5	7.5	4.51	13.4	13.4	13.4
16	33.1	33.1	33.1	7.5	7.5	7.5	4.42	13.4	13.4	13.4
15	32.4	32.4	32.4	7.5	7.5	7.5	4.34	13.4	13.4	13.4
14	31.7	31.7	31.7	7.4	7.4	7.4	4.25	13.3	13.3	13.3
13	31.0	31.0	31.0	7.4	7.4	7.4	4.17	13.3	13.3	13.3
12	30.3	30.3	30.3	7.4	7.4	7.4	4.09	13.3	13.3	13.3
11	29.7	29.7	29.7	7.4	7.4	7.4	4.02	13.3	13.3	13.3
10	29.1	29.1	29.1	7.4	7.4	7.4	3.94	13.3	13.3	13.3
9	28.0	28.0	28.0	7.3	7.3	7.3	3.82	13.2	13.2	13.2
8	27.1	27.1	27.1	7.3	7.3	7.3	3.70	13.2	13.2	13.2
7	26.2	26.2	26.2	7.3	7.3	7.3	3.60	13.2	13.2	13.2
6	25.3	25.3	25.3	7.2	7.2	7.2	3.50	13.1	13.1	13.1
5	24.6	24.6	24.6	7.2	7.2	7.2	3.41	13.1	13.1	13.1
4	23.8	23.8	23.8	7.2	7.2	7.2	3.32	13.1	13.1	13.1
3	23.2	23.2	23.2	7.1	7.1	7.1	3.24	13.0	13.0	13.0
2	22.6	22.6	22.6	7.1	7.1	7.1	3.17	13.0	13.0	13.0
1	22.0	22.0	22.0	7.1	7.1	7.1	3.10	13.0	13.0	13.0
0	21.5	21.5	21.5	7.1	7.1	7.1	3.04	13.0	13.0	13.0
-1	21.0	21.0	21.0	7.0	7.0	7.0	2.98	12.9	12.9	12.9
-2	20.5	20.5	20.5	7.0	7.0	7.0	2.93	12.9	12.9	12.9
-3	20.1	20.1	20.1	7.0	7.0	7.0	2.88	12.9	12.9	12.9
-4	19.8	19.8	19.8	7.0	7.0	7.0	2.84	12.9	12.9	12.9
-5	19.5	19.5	19.5	6.9	6.9	6.9	2.80	12.8	12.8	12.8
-6	19.2	19.2	19.2	6.9	6.9	6.9	2.77	12.8	12.8	12.8
-7	18.9	18.9	18.9	6.9	6.9	6.9	2.74	12.8	12.8	12.8
-8	18.7	18.7	18.7	6.9	6.9	6.9	2.71	12.8	12.8	12.8
-9	18.5	18.5	18.5	6.9	6.9	6.9	2.69	12.8	12.8	12.8
-10	18.3	18.3	18.3	6.9	6.9	6.9	2.67	12.8	12.8	12.8
-11	17.9	17.9	17.9	6.8	6.8	6.8	2.62	12.7	12.7	12.7
-12	17.5	17.5	17.5	6.8	6.8	6.8	2.57	12.7	12.7	12.7
-13	17.0	17.0	17.0	6.8	6.8	6.8	2.52	12.7	12.7	12.7
-14	16.6	16.6	16.6	6.7	6.7	6.7	2.47	12.6	12.6	12.6
-15	16.2	16.2	16.2	6.7	6.7	6.7	2.43	12.6	12.6	12.6
-16	15.8	15.8	15.8	6.6	6.6	6.6	2.38	12.6	12.6	12.6
-17	15.4	15.4	15.4	6.6	6.6	6.6	2.34	12.5	12.5	12.5
-18	15.1	15.1	15.1	6.6	6.6	6.6	2.29	12.5	12.5	12.5
-19	14.7	14.7	14.7	6.5	6.5	6.5	2.25	12.5	12.5	12.5
-20	14.3	14.3	14.3	6.5	6.5	6.5	2.21	12.4	12.4	12.4
-21	14.0	14.0	14.0	6.4	6.4	6.4	2.17	12.4	12.4	12.4
-22	13.6	13.6	13.6	6.4	6.4	6.4	2.13	12.3	12.3	12.3
-23	13.3	13.3	13.3	6.4	6.4	6.4	2.09	12.3	12.3	12.3
-24	12.9	12.9	12.9	6.3	6.3	6.3	2.05	12.3	12.3	12.3
-25	12.6	12.6	12.6	6.3	6.3	6.3	2.01	12.2	12.2	12.2

* attention: operating limits not reflected in performance table

Th [°C]		55 °C								
Ta [°C]	Qh nom [kW]	Qh min [kW]	Qh max [kW]	Pin nom [kW]	Pin-min [kW]	Pin-max [kW]	COP kW / kW	I nom [A]	I min [A]	I max [A]
25	39.5	39.5	39.5	9.5	9.5	9.5	4.17	15.6	15.6	15.6
24	38.8	38.8	38.8	9.5	9.5	9.5	4.10	15.6	15.6	15.6
23	38.0	38.0	38.0	9.4	9.4	9.4	4.02	15.5	15.5	15.5
22	37.2	37.2	37.2	9.4	9.4	9.4	3.95	15.5	15.5	15.5
21	36.5	36.5	36.5	9.4	9.4	9.4	3.88	15.5	15.5	15.5
20	35.8	35.8	35.8	9.4	9.4	9.4	3.81	15.5	15.5	15.5
19	35.1	35.1	35.1	9.4	9.4	9.4	3.74	15.4	15.4	15.4
18	34.4	34.4	34.4	9.3	9.3	9.3	3.68	15.4	15.4	15.4
17	33.7	33.7	33.7	9.3	9.3	9.3	3.61	15.4	15.4	15.4
16	33.0	33.0	33.0	9.3	9.3	9.3	3.55	15.4	15.4	15.4
15	32.3	32.3	32.3	9.3	9.3	9.3	3.49	15.3	15.3	15.3
14	31.7	31.7	31.7	9.3	9.3	9.3	3.42	15.3	15.3	15.3
13	31.1	31.1	31.1	9.2	9.2	9.2	3.36	15.3	15.3	15.3
12	30.4	30.4	30.4	9.2	9.2	9.2	3.30	15.3	15.3	15.3
11	29.8	29.8	29.8	9.2	9.2	9.2	3.25	15.2	15.2	15.2
10	29.2	29.2	29.2	9.2	9.2	9.2	3.19	15.2	15.2	15.2
9	28.2	28.2	28.2	9.1	9.1	9.1	3.10	15.2	15.2	15.2
8	27.3	27.3	27.3	9.1	9.1	9.1	3.01	15.1	15.1	15.1
7	26.5	26.5	26.5	9.0	9.0	9.0	2.93	15.1	15.1	15.1
6	25.7	25.7	25.7	9.0	9.0	9.0	2.86	15.0	15.0	15.0
5	24.9	24.9	24.9	8.9	8.9	8.9	2.79	15.0	15.0	15.0
4	24.3	24.3	24.3	8.9	8.9	8.9	2.73	14.9	14.9	14.9
3	23.6	23.6	23.6	8.9	8.9	8.9	2.67	14.9	14.9	14.9
2	23.0	23.0	23.0	8.8	8.8	8.8	2.61	14.8	14.8	14.8
1	22.5	22.5	22.5	8.8	8.8	8.8	2.56	14.8	14.8	14.8
0	22.0	22.0	22.0	8.7	8.7	8.7	2.52	14.7	14.7	14.7
-1	21.5	21.5	21.5	8.7	8.7	8.7	2.47	14.7	14.7	14.7
-2	21.1	21.1	21.1	8.7	8.7	8.7	2.43	14.7	14.7	14.7
-3	20.7	20.7	20.7	8.6	8.6	8.6	2.40	14.6	14.6	14.6
-4	20.4	20.4	20.4	8.6	8.6	8.6	2.37	14.6	14.6	14.6
-5	20.1	20.1	20.1	8.6	8.6	8.6	2.34	14.6	14.6	14.6
-6	19.8	19.8	19.8	8.6	8.6	8.6	2.31	14.5	14.5	14.5
-7	19.5	19.5	19.5	8.5	8.5	8.5	2.29	14.5	14.5	14.5
-8	19.3	19.3	19.3	8.5	8.5	8.5	2.27	14.5	14.5	14.5
-9	19.1	19.1	19.1	8.5	8.5	8.5	2.25	14.5	14.5	14.5
-10	19.0	19.0	19.0	8.5	8.5	8.5	2.24	14.5	14.5	14.5
-11	18.6	18.6	18.6	8.4	8.4	8.4	2.20	14.4	14.4	14.4
-12	18.1	18.1	18.1	8.4	8.4	8.4	2.16	14.4	14.4	14.4
-13	17.7	17.7	17.7	8.3	8.3	8.3	2.13	14.3	14.3	14.3
-14	17.3	17.3	17.3	8.3	8.3	8.3	2.09	14.3	14.3	14.3
-15	16.9	16.9	16.9	8.2	8.2	8.2	2.05	14.2	14.2	14.2
-16	16.6	16.6	16.6	8.2	8.2	8.2	2.02	14.2	14.2	14.2
-17	16.2	16.2	16.2	8.2	8.2	8.2	1.99	14.1	14.1	14.1
-18	15.8	15.8	15.8	8.1	8.1	8.1	1.95	14.1	14.1	14.1
-19	15.5	15.5	15.5	8.0	8.0	8.0	1.92	14.0	14.0	14.0
-20	15.1	15.1	15.1	8.0	8.0	8.0	1.89	14.0	14.0	14.0
-21	14.7	14.7	14.7	7.9	7.9	7.9	1.86	13.9	13.9	13.9
-22	14.4	14.4	14.4	7.9	7.9	7.9	1.83	13.8	13.8	13.8
-23	14.1	14.1	14.1	7.8	7.8	7.8	1.80	13.8	13.8	13.8
-24	13.7	13.7	13.7	7.8	7.8	7.8	1.77	13.7	13.7	13.7
-25	13.4	13.4	13.4	7.7	7.7	7.7	1.74	13.7	13.7	13.7

* attention: operating limits not reflected in performance table

Th [°C]		T-Max @ 65 °C								
Ta [°C]	Qh nom [kW]	Qh min [kW]	Qh max [kW]	Pin nom [kW]	Pin-min [kW]	Pin-max [kW]	COP kW / kW	I nom [A]	I min [A]	I max [A]
25	39.2	39.2	39.2	11.8	11.8	11.8	3.31	18.4	18.4	18.4
24	38.5	38.5	38.5	11.8	11.8	11.8	3.26	18.4	18.4	18.4
23	37.7	37.7	37.7	11.8	11.8	11.8	3.20	18.4	18.4	18.4
22	37.0	37.0	37.0	11.8	11.8	11.8	3.15	18.3	18.3	18.3
21	36.3	36.3	36.3	11.7	11.7	11.7	3.10	18.3	18.3	18.3
20	35.7	35.7	35.7	11.7	11.7	11.7	3.05	18.3	18.3	18.3
19	35.0	35.0	35.0	11.7	11.7	11.7	3.00	18.2	18.2	18.2
18	34.3	34.3	34.3	11.6	11.6	11.6	2.95	18.2	18.2	18.2
17	33.7	33.7	33.7	11.6	11.6	11.6	2.90	18.2	18.2	18.2
16	33.1	33.1	33.1	11.6	11.6	11.6	2.85	18.1	18.1	18.1
15	32.4	32.4	32.4	11.6	11.6	11.6	2.81	18.1	18.1	18.1
14	31.8	31.8	31.8	11.5	11.5	11.5	2.76	18.0	18.0	18.0
13	31.2	31.2	31.2	11.5	11.5	11.5	2.72	18.0	18.0	18.0
12	30.7	30.7	30.7	11.5	11.5	11.5	2.67	18.0	18.0	18.0
11	30.1	30.1	30.1	11.4	11.4	11.4	2.63	17.9	17.9	17.9
10	29.5	29.5	29.5	11.4	11.4	11.4	2.59	17.9	17.9	17.9
9	28.6	28.6	28.6	11.3	11.3	11.3	2.52	17.8	17.8	17.8
8	27.7	27.7	27.7	11.3	11.3	11.3	2.46	17.7	17.7	17.7
7	27.0	27.0	27.0	11.2	11.2	11.2	2.40	17.7	17.7	17.7
6	26.2	26.2	26.2	11.2	11.2	11.2	2.35	17.6	17.6	17.6
5	25.5	25.5	25.5	11.1	11.1	11.1	2.30	17.5	17.5	17.5
4	24.9	24.9	24.9	11.1	11.1	11.1	2.25	17.5	17.5	17.5
3	24.3	24.3	24.3	11.0	11.0	11.0	2.21	17.4	17.4	17.4
2	23.7	23.7	23.7	11.0	11.0	11.0	2.17	17.3	17.3	17.3
1	23.2	23.2	23.2	10.9	10.9	10.9	2.13	17.3	17.3	17.3
0	22.7	22.7	22.7	10.9	10.9	10.9	2.09	17.2	17.2	17.2
-1	22.3	22.3	22.3	10.8	10.8	10.8	2.06	17.2	17.2	17.2
-2	21.9	21.9	21.9	10.8	10.8	10.8	2.04	17.1	17.1	17.1
-3	21.5	21.5	21.5	10.7	10.7	10.7	2.01	17.1	17.1	17.1
-4	21.2	21.2	21.2	10.7	10.7	10.7	1.99	17.0	17.0	17.0
-5	20.9	20.9	20.9	10.6	10.6	10.6	1.96	17.0	17.0	17.0
-6	20.6	20.6	20.6	10.6	10.6	10.6	1.95	16.9	16.9	16.9
-7	20.4	20.4	20.4	10.6	10.6	10.6	1.93	16.9	16.9	16.9
-8	20.2	20.2	20.2	10.6	10.6	10.6	1.91	16.9	16.9	16.9
-9	20.0	20.0	20.0	10.5	10.5	10.5	1.90	16.8	16.8	16.8
-10	19.9	19.9	19.9	10.5	10.5	10.5	1.89	16.8	16.8	16.8
-11	19.5	19.5	19.5	10.5	10.5	10.5	1.86	16.8	16.8	16.8
-12	19.1	19.1	19.1	10.4	10.4	10.4	1.84	16.7	16.7	16.7
-13	18.7	18.7	18.7	10.3	10.3	10.3	1.81	16.6	16.6	16.6
-14	18.3	18.3	18.3	10.3	10.3	10.3	1.78	16.6	16.6	16.6
-15	17.9	17.9	17.9	10.2	10.2	10.2	1.76	16.5	16.5	16.5
-16										
-17										
-18										
-19										
-20										
-21										
-22										
-23										
-24										
-25										

* attention: operating limits not reflected in performance table

Tc [°C]		W 12 / 7 °C								
Ta [°C]	Qc nom [kW]	Qc min [kW]	Qc max [kW]	Pin [kW]	Pin min [kW]	Pin max [kW]	EER kW / kW	I nom [A]	I min [A]	I max [A]
40	17.7	17.7	17.7	7.7	7.7	7.7	2.30	13.6	13.6	13.6
39	17.8	17.8	17.8	7.5	7.5	7.5	2.37	13.4	13.4	13.4
38	17.9	17.9	17.9	7.4	7.4	7.4	2.43	13.3	13.3	13.3
37	18.0	18.0	18.0	7.2	7.2	7.2	2.50	13.1	13.1	13.1
36	18.1	18.1	18.1	7.1	7.1	7.1	2.57	12.9	12.9	12.9
35	18.2	18.2	18.2	6.9	6.9	6.9	2.64	12.8	12.8	12.8
34	18.3	18.3	18.3	6.8	6.8	6.8	2.71	12.7	12.7	12.7
33	18.4	18.4	18.4	6.6	6.6	6.6	2.78	12.5	12.5	12.5
32	18.5	18.5	18.5	6.5	6.5	6.5	2.85	12.4	12.4	12.4
31	18.6	18.6	18.6	6.4	6.4	6.4	2.93	12.3	12.3	12.3
30	18.7	18.7	18.7	6.2	6.2	6.2	3.00	12.2	12.2	12.2
29	18.8	18.8	18.8	6.1	6.1	6.1	3.08	12.0	12.0	12.0
28	18.9	18.9	18.9	6.0	6.0	6.0	3.16	11.9	11.9	11.9
27	18.9	18.9	18.9	5.8	5.8	5.8	3.24	11.8	11.8	11.8
26	19.0	19.0	19.0	5.7	5.7	5.7	3.32	11.7	11.7	11.7
25	19.1	19.1	19.1	5.6	5.6	5.6	3.40	11.6	11.6	11.6
24	19.2	19.2	19.2	5.5	5.5	5.5	3.49	11.5	11.5	11.5
23	19.2	19.2	19.2	5.4	5.4	5.4	3.57	11.4	11.4	11.4
22	19.3	19.3	19.3	5.3	5.3	5.3	3.66	11.4	11.4	11.4
21	19.4	19.4	19.4	5.2	5.2	5.2	3.74	11.3	11.3	11.3
20	19.4	19.4	19.4	5.1	5.1	5.1	3.83	11.2	11.2	11.2
19	19.5	19.5	19.5	5.0	5.0	5.0	3.92	11.1	11.1	11.1
18	19.6	19.6	19.6	4.9	4.9	4.9	4.01	11.1	11.1	11.1
17	19.6	19.6	19.6	4.8	4.8	4.8	4.10	11.0	11.0	11.0

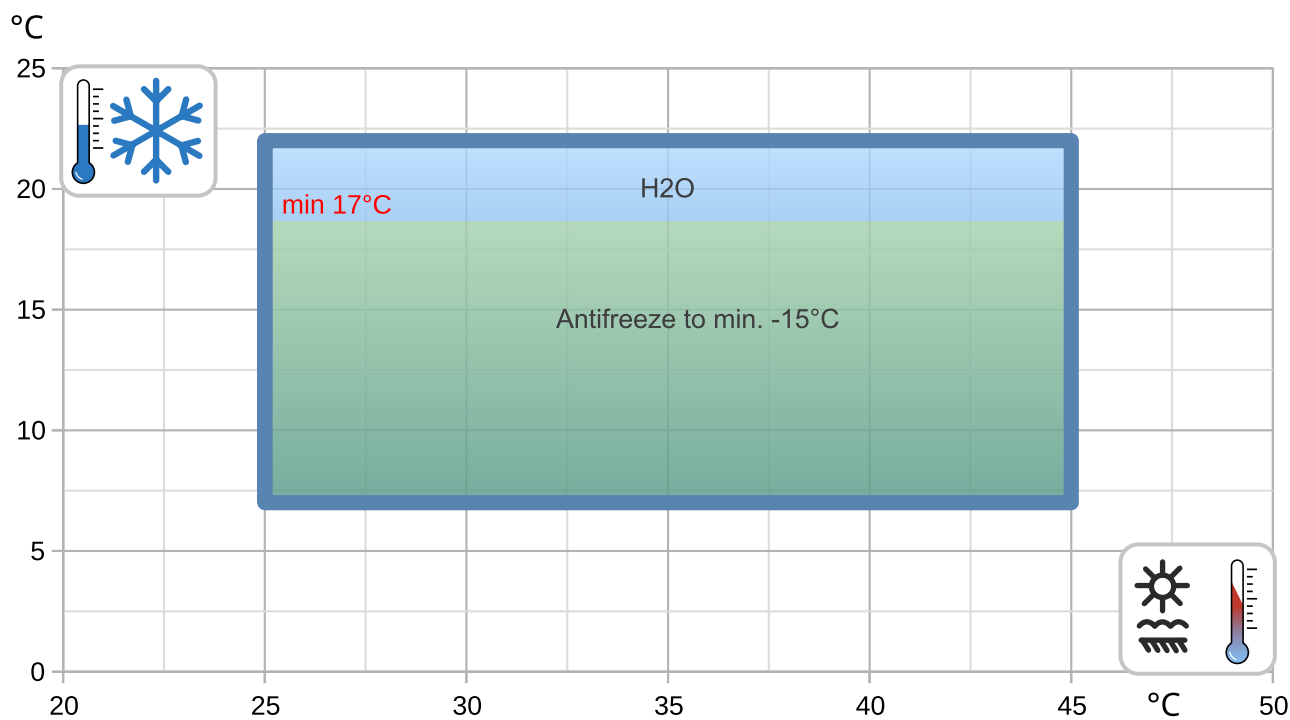
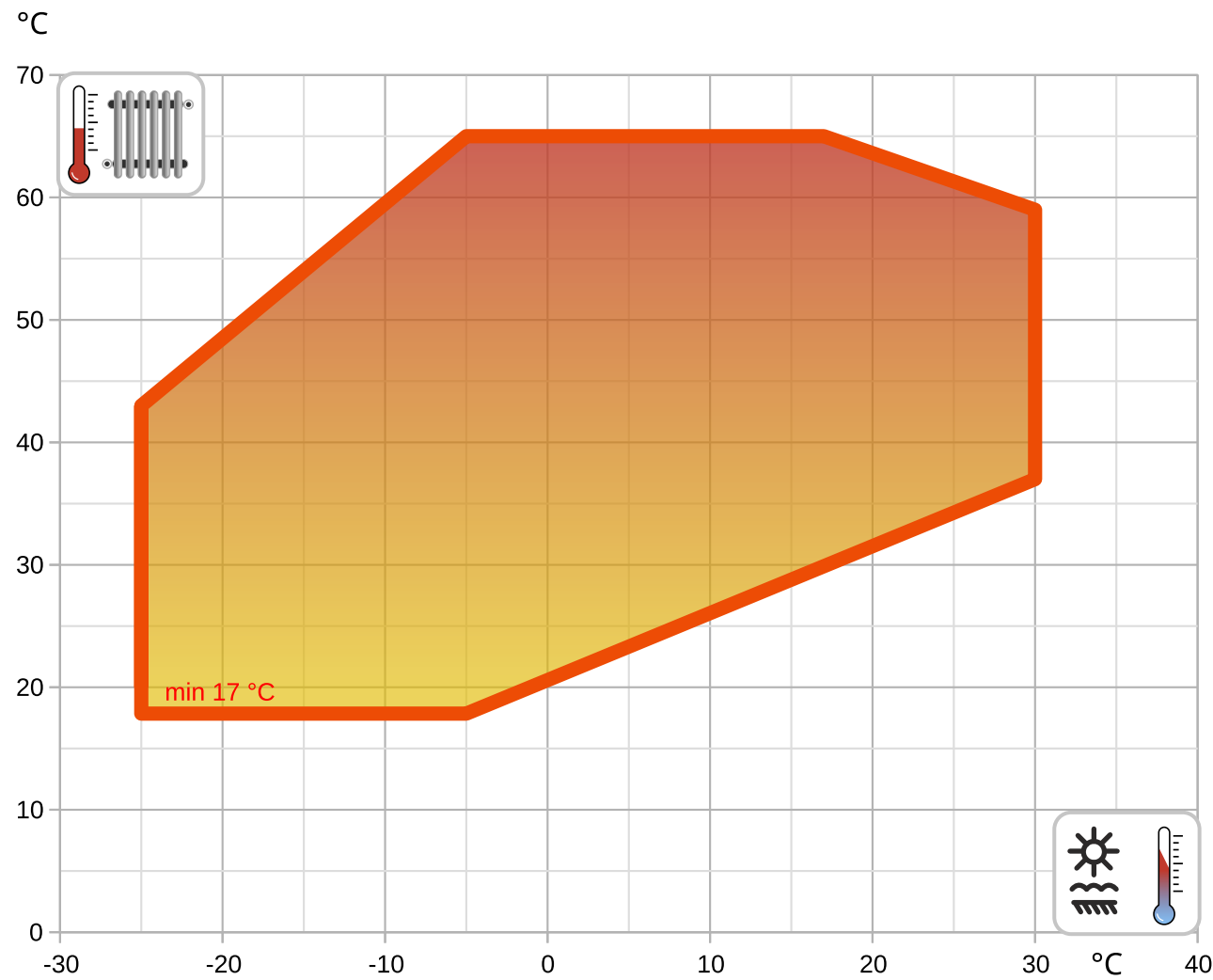
Tc [°C]		W 23 / 18 °C								
Ta [°C]	Qc [kW]	Qh-min [kW]	Qh-max [kW]	Pin [kW]	Pin-min [kW]	Pin-max [kW]	EER kW / kW	I [A]	I-min [A]	I-max [A]
40	23.8	23.8	23.8	7.7	7.7	7.7	3.10	13.8	13.8	13.8
39	24.0	24.0	24.0	7.5	7.5	7.5	3.19	13.7	13.7	13.7
38	24.1	24.1	24.1	7.4	7.4	7.4	3.27	13.5	13.5	13.5
37	24.2	24.2	24.2	7.2	7.2	7.2	3.36	13.3	13.3	13.3
36	24.4	24.4	24.4	7.1	7.1	7.1	3.46	13.2	13.2	13.2
35	24.5	24.5	24.5	6.9	6.9	6.9	3.55	13.0	13.0	13.0
34	24.7	24.7	24.7	6.8	6.8	6.8	3.65	12.8	12.8	12.8
33	24.8	24.8	24.8	6.6	6.6	6.6	3.74	12.7	12.7	12.7
32	24.9	24.9	24.9	6.5	6.5	6.5	3.84	12.6	12.6	12.6
31	25.0	25.0	25.0	6.4	6.4	6.4	3.94	12.4	12.4	12.4
30	25.2	25.2	25.2	6.2	6.2	6.2	4.05	12.3	12.3	12.3
29	25.3	25.3	25.3	6.1	6.1	6.1	4.15	12.2	12.2	12.2
28	25.4	25.4	25.4	6.0	6.0	6.0	4.26	12.1	12.1	12.1
27	25.5	25.5	25.5	5.8	5.8	5.8	4.36	12.0	12.0	12.0
26	25.6	25.6	25.6	5.7	5.7	5.7	4.47	11.9	11.9	11.9
25	25.7	25.7	25.7	5.6	5.6	5.6	4.59	11.8	11.8	11.8
24	25.8	25.8	25.8	5.5	5.5	5.5	4.70	11.7	11.7	11.7
23	25.9	25.9	25.9	5.4	5.4	5.4	4.81	11.6	11.6	11.6
22	26.0	26.0	26.0	5.3	5.3	5.3	4.93	11.5	11.5	11.5
21	26.1	26.1	26.1	5.2	5.2	5.2	5.05	11.4	11.4	11.4
20	26.2	26.2	26.2	5.1	5.1	5.1	5.17	11.3	11.3	11.3
19	26.3	26.3	26.3	5.0	5.0	5.0	5.29	11.2	11.2	11.2
18	26.4	26.4	26.4	4.9	4.9	4.9	5.41	11.2	11.2	11.2
17	26.5	26.5	26.5	4.8	4.8	4.8	5.54	11.1	11.1	11.1

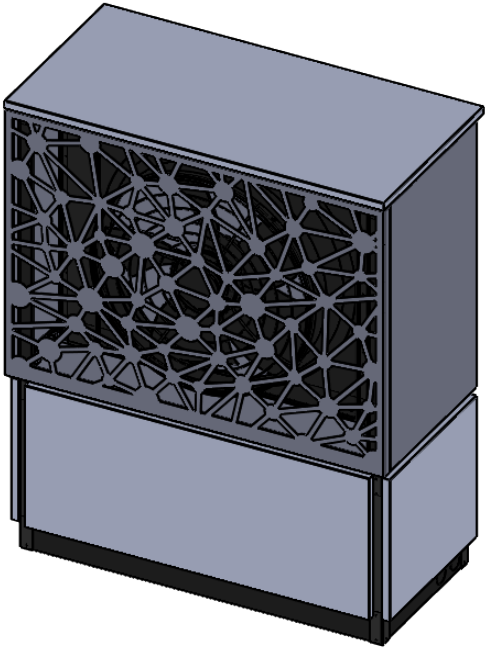
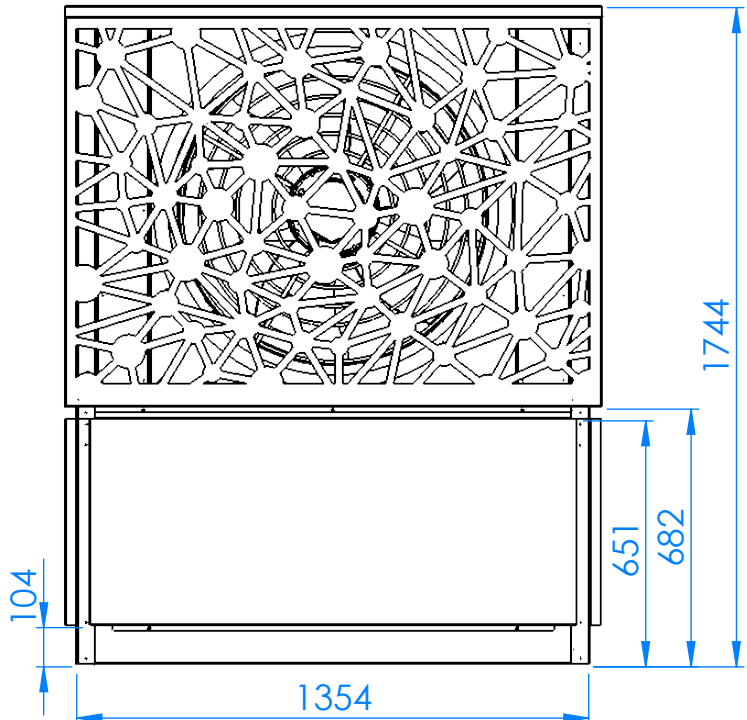
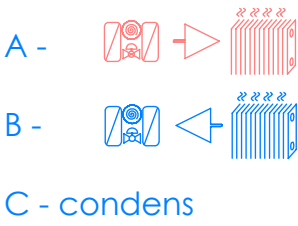
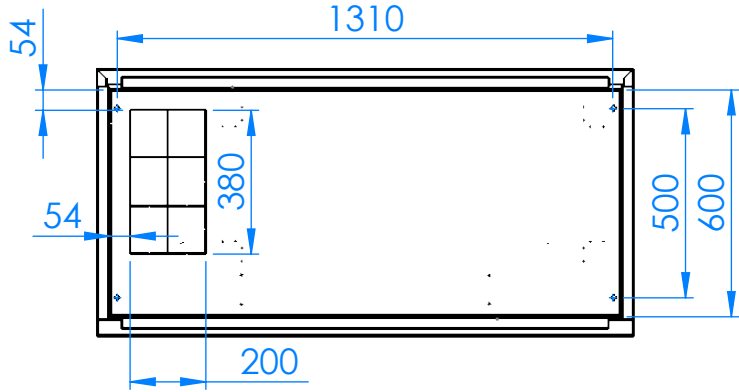
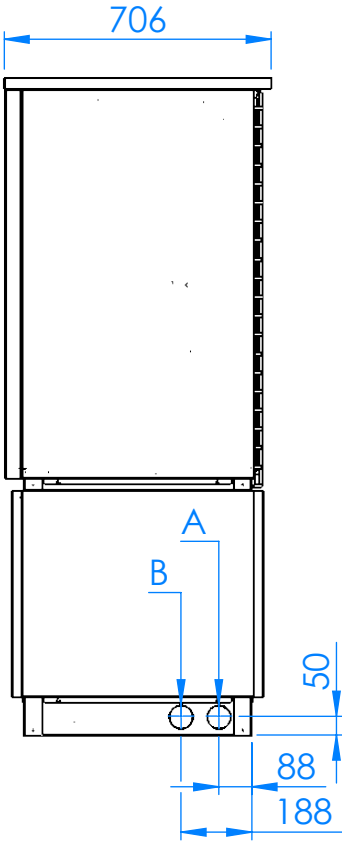
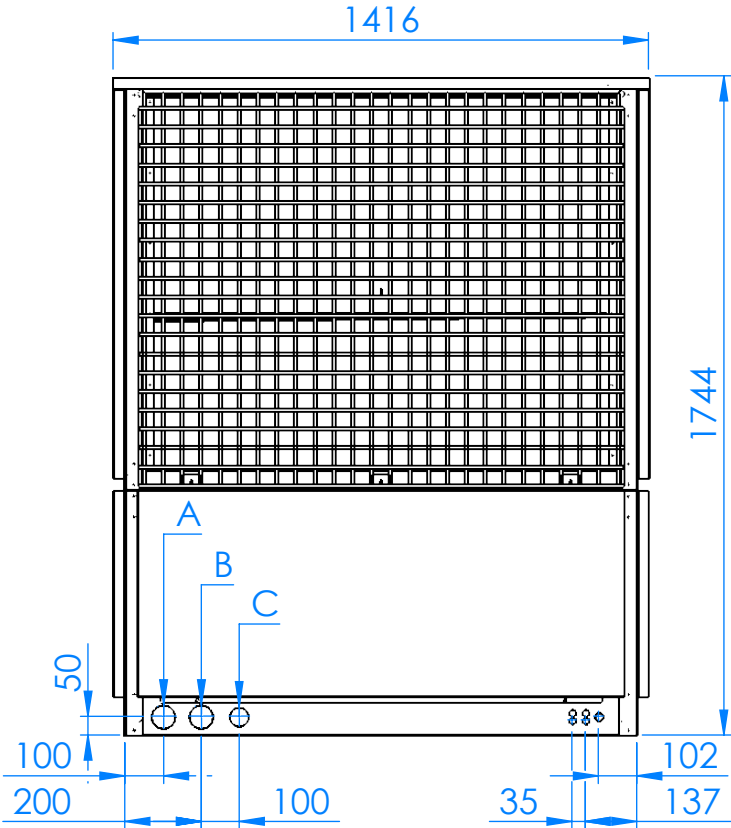
* attention: operating limits not reflected in performance table

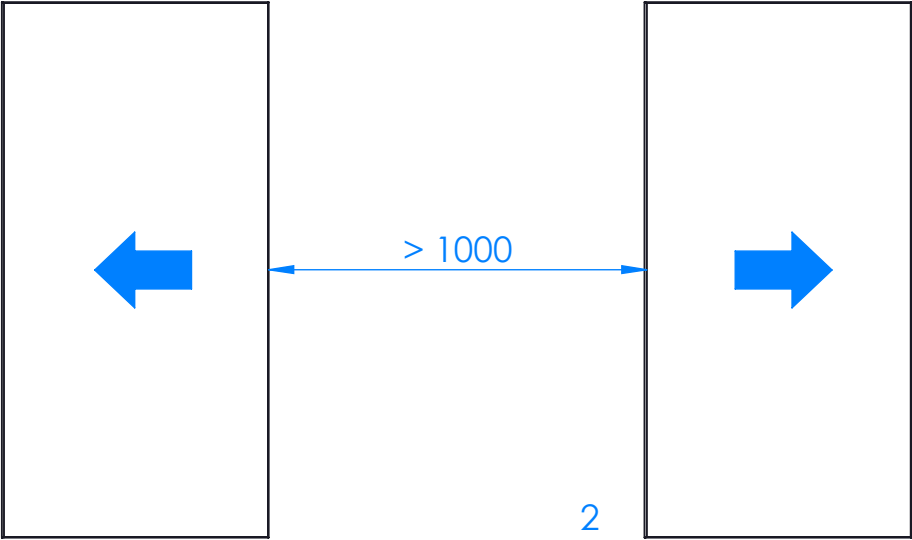
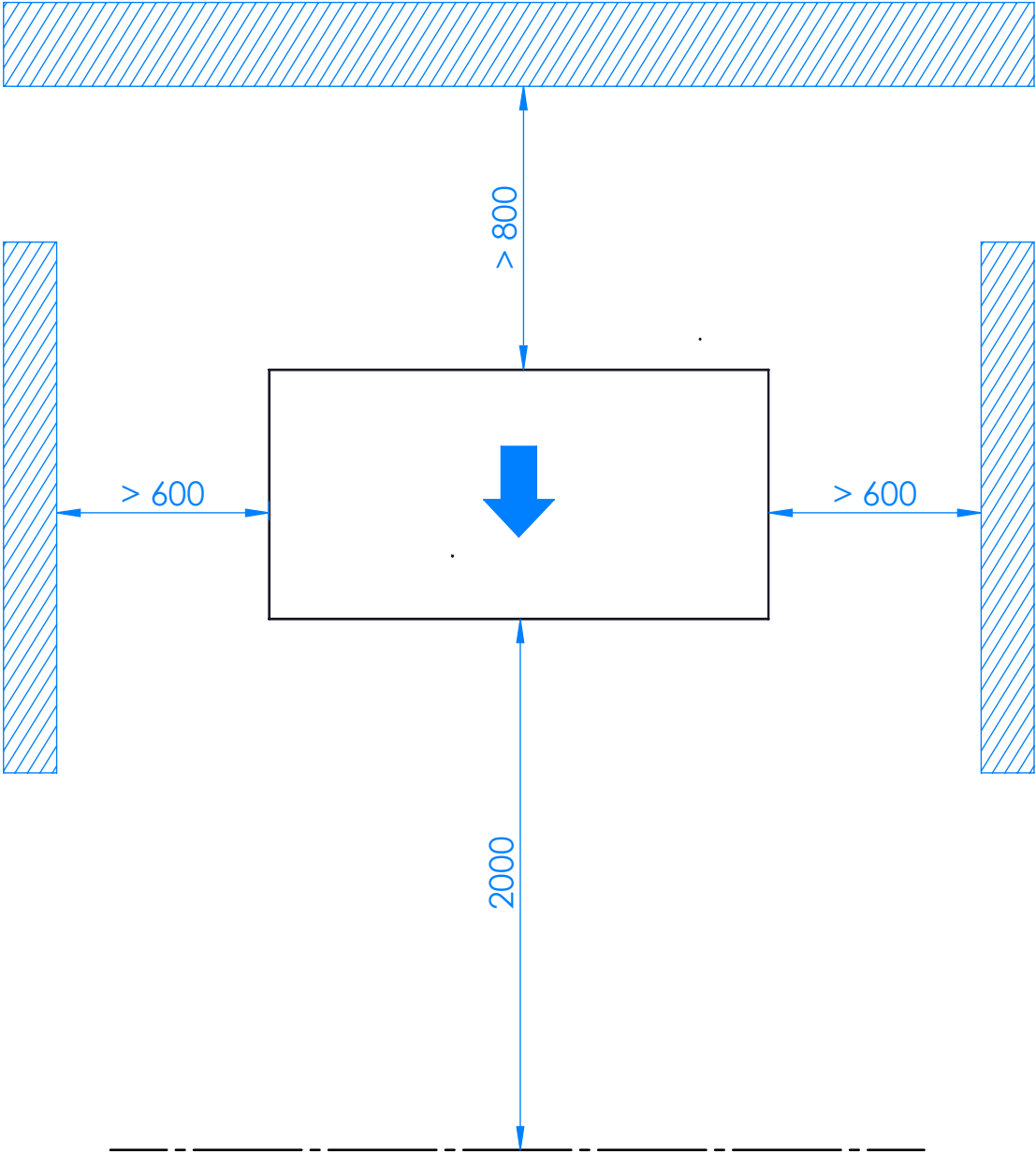
LEGENDE:

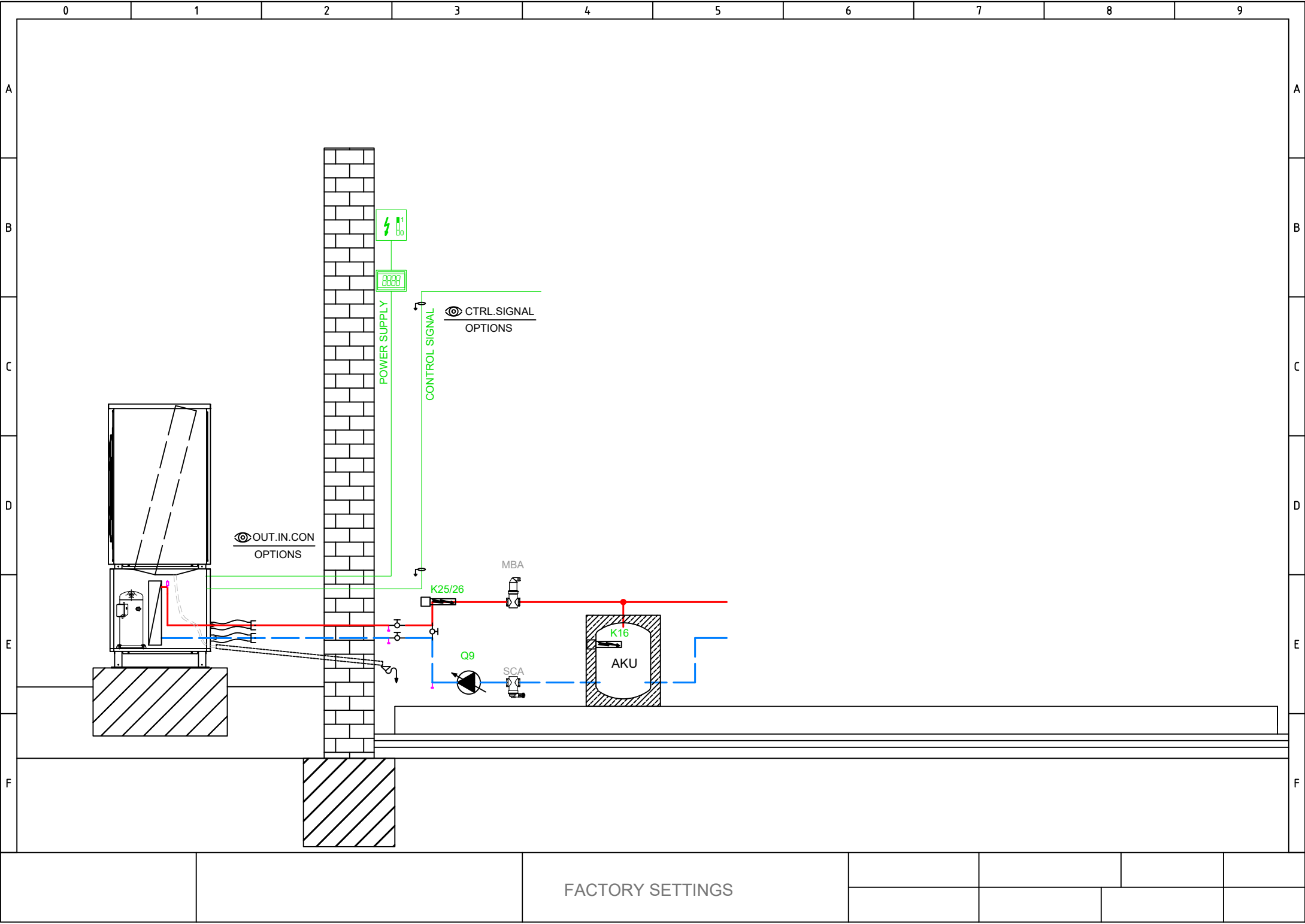
Ts-IN: Temperature renewable source - inlet [°C]
Th-OU: Temperature heating - outlet (flow) [°C]
Tc-OU: Temperature cooling - outlet (flow) [°C]
Qh nom: Heating capacity nominal
Qh min: Heating capacity minimal
Qh max: Heating capacity maximal
Pin nom: Power input at nominal heating capacity
Pin min: Power input at minimal heating capacity
Pin max: Power input at maximal heating capacity
COP nom: coefficient of performance at nominal heating capacity
Qc nom: cooling / heat extraction capacity at nominal heating capacity
Qc min: cooling / heat extraction at minimal heating capacity
Qc max: cooling / heat extraction at maximal heating capacity
I nom: Current at nominal heating capacity
EER: energy efficiency ratio at nominal cooling capacity

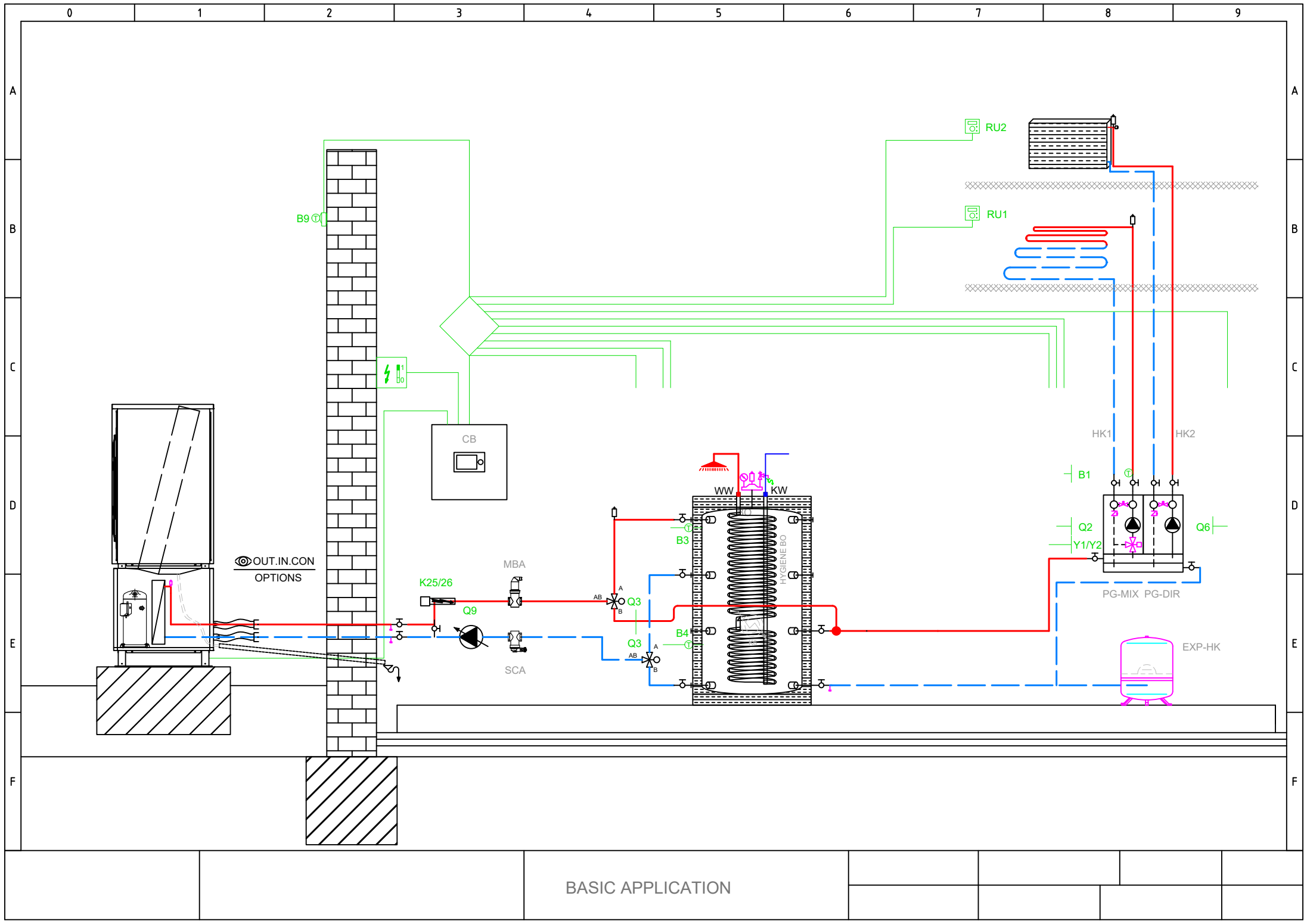
Operating limits

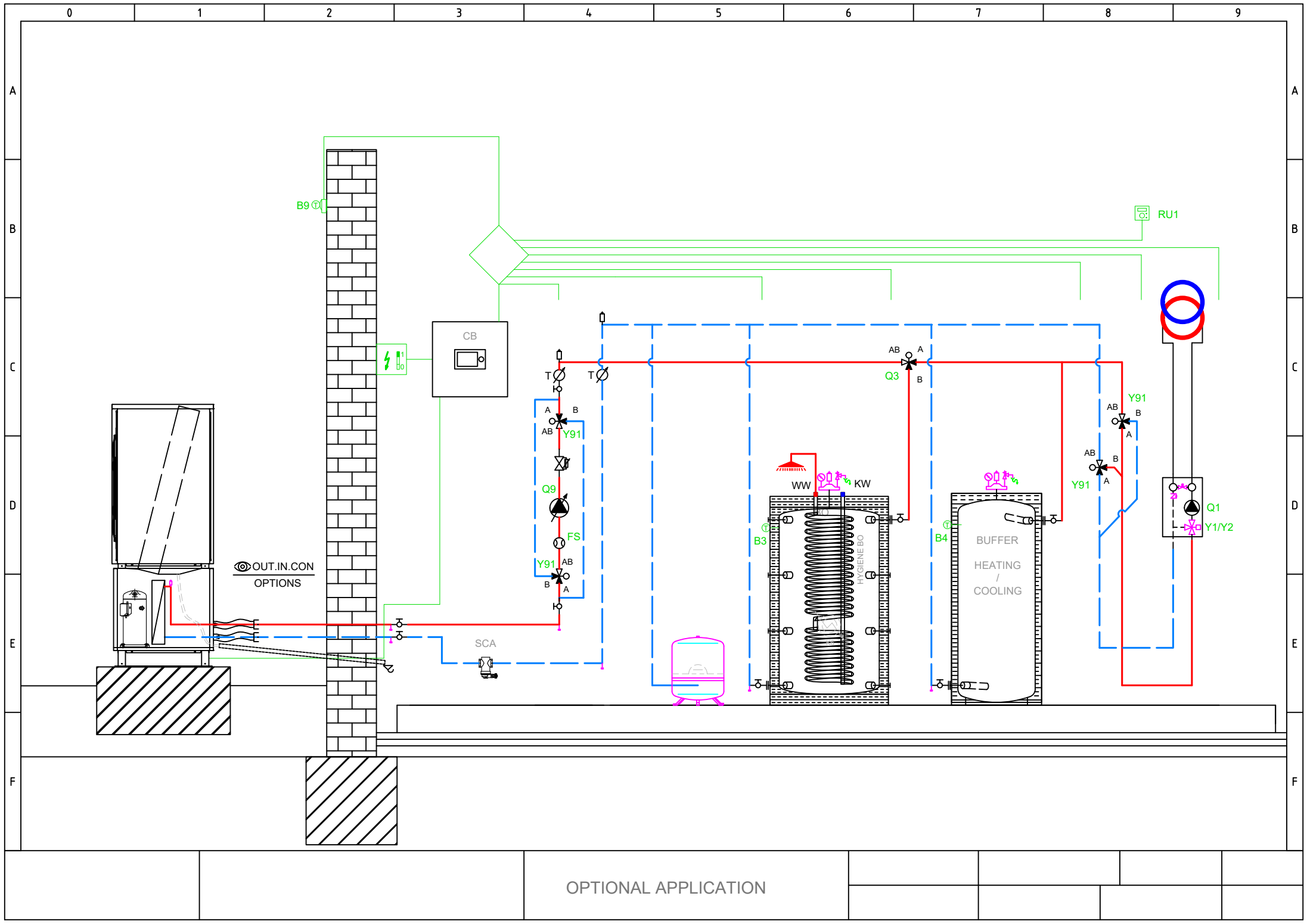












OPTIONAL APPLICATION

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

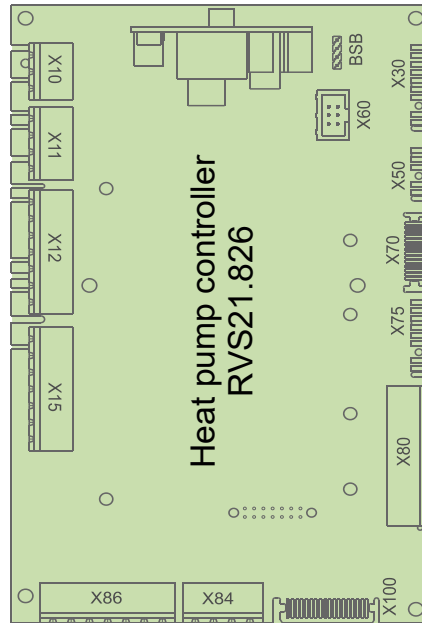
K1 Compressor stage 1 K1

Y22 Process revers valve Y22

Q9 Condenser pump Q9

Total: max 6A

1 x QX...: max 2A



BSB
X30
X60
X50
X70

Connection service tool (OCI700)

Operating unit (HMI) AVS37.xxx

Modbus clip-in OCI351.01

Extension module AVS75.xxx

LPB clip-in

D1
D2
D3
UX3
M
DI6
DI7
M

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

BX1
M
BX2
M
UX1
M
UX2
M

B91 Source inlet sensor B91

B84 Source outl sens B92/B84

K19 Fan K19

0..10 V Signal

Q9 Condenser pump Q9

PWM Signal

BX3
M
BX4
M

B71 HP return sensor B71

B9 Outside sensor B9

Main power supply 230V / 50 Hz

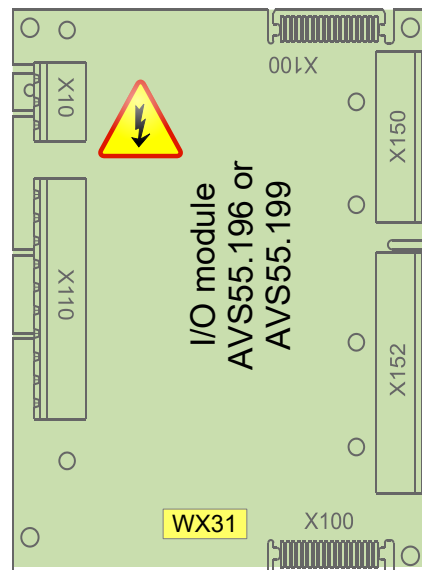
Ground

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

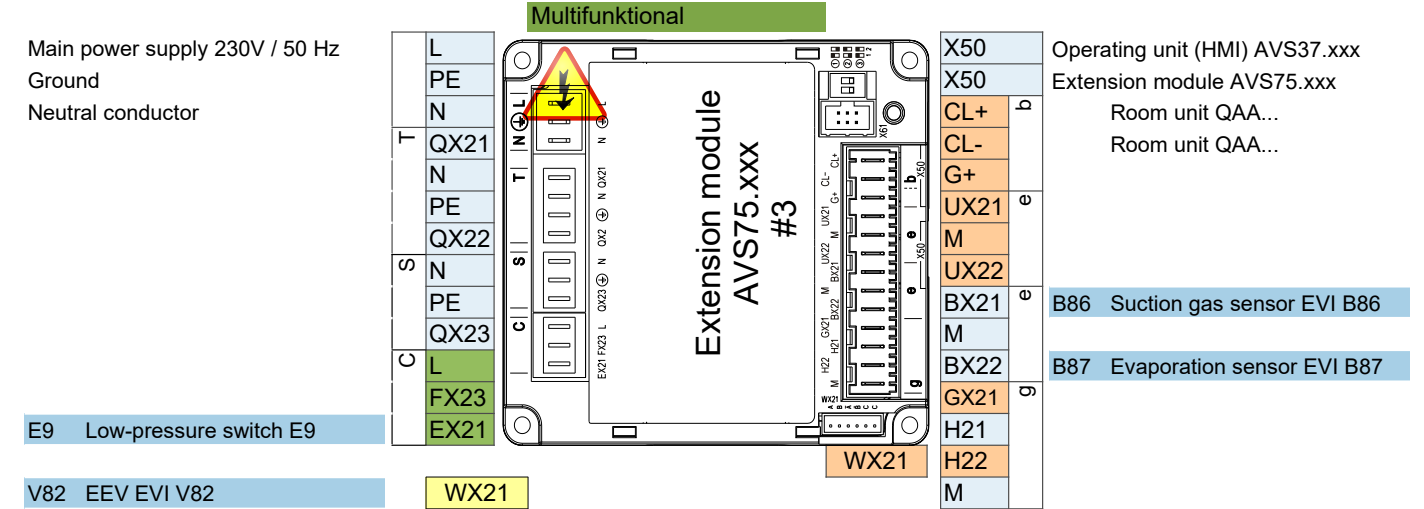
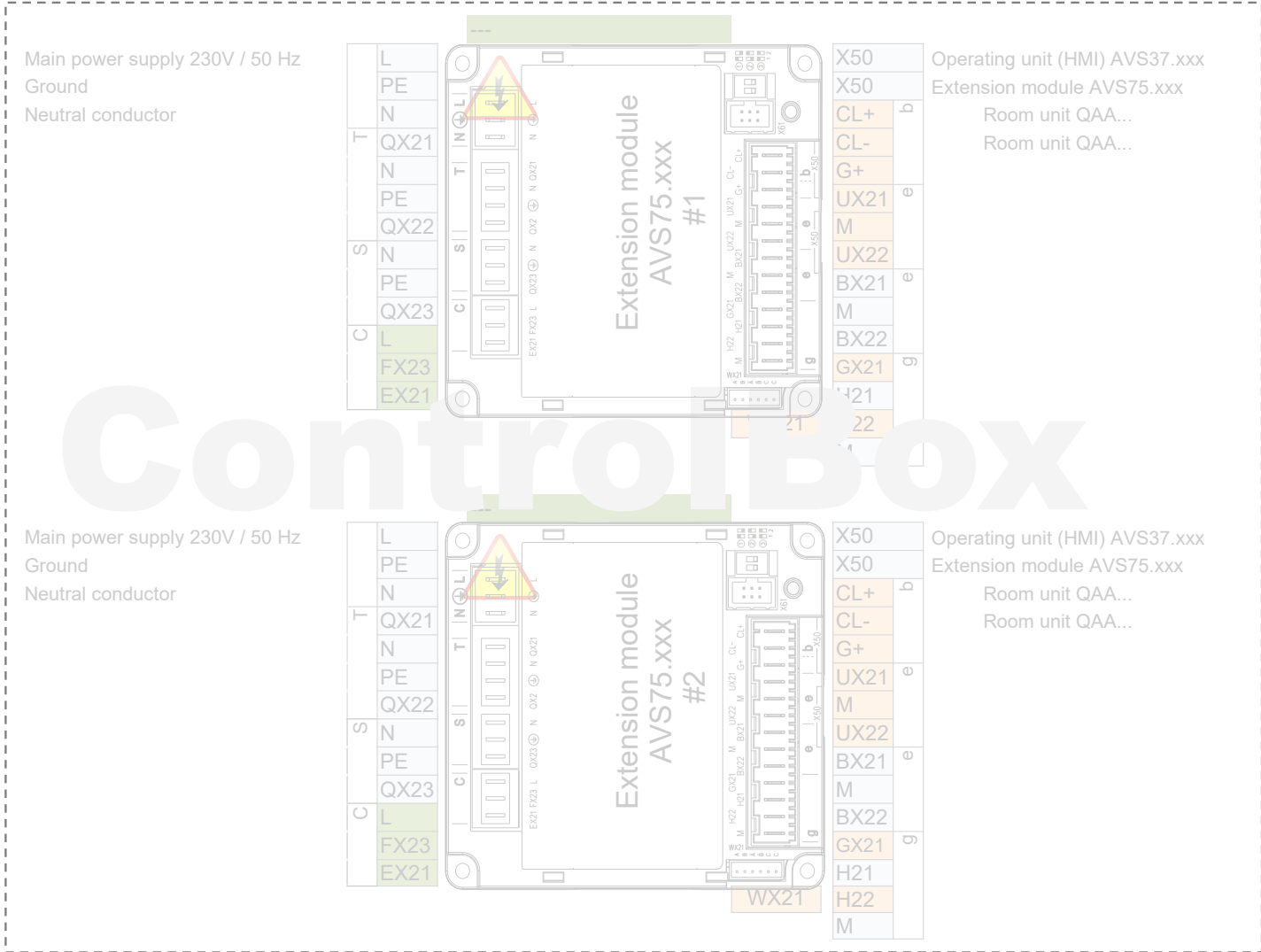
B21 HP flow sensor B21

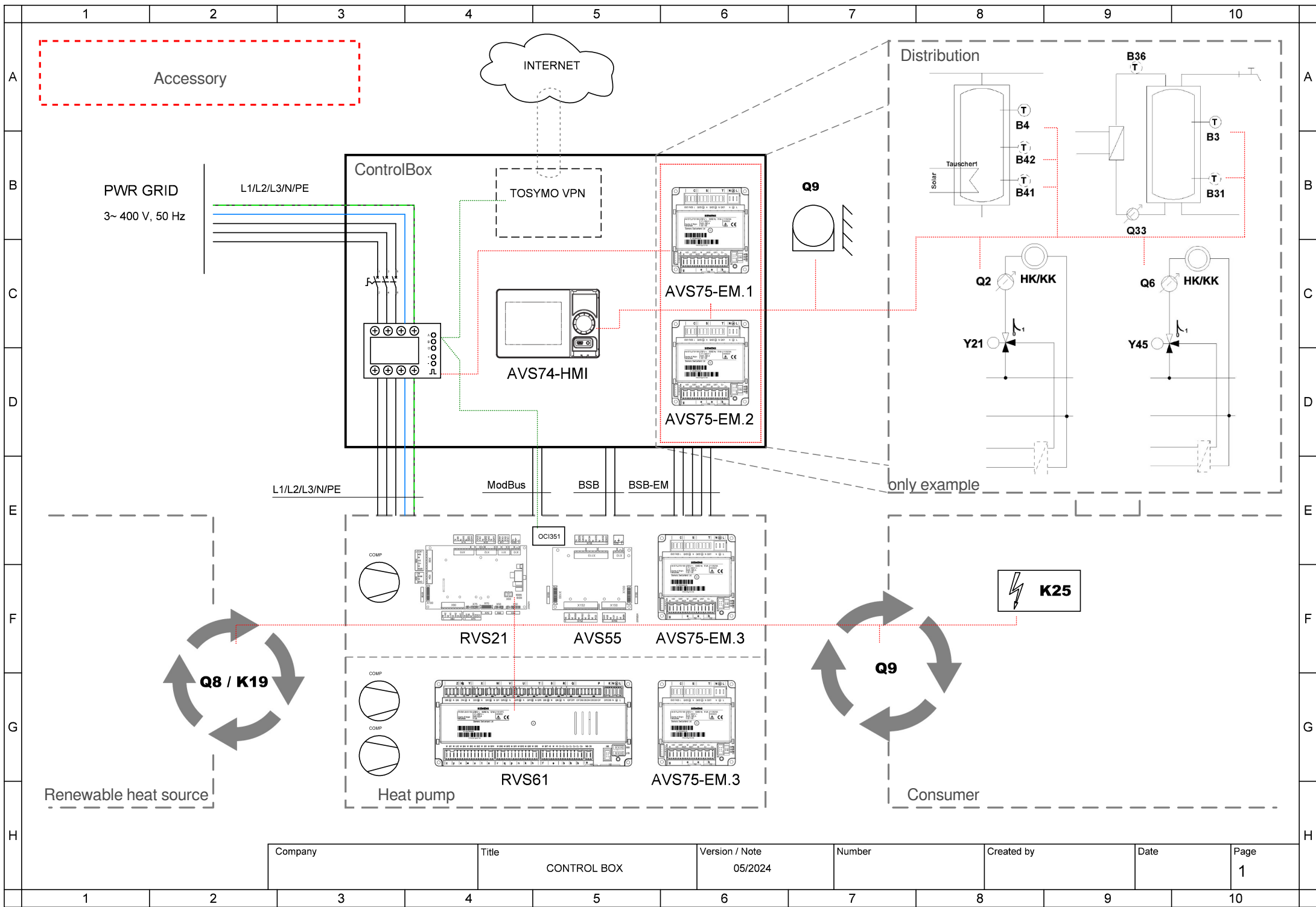
B81 Hot-gas sensor B81

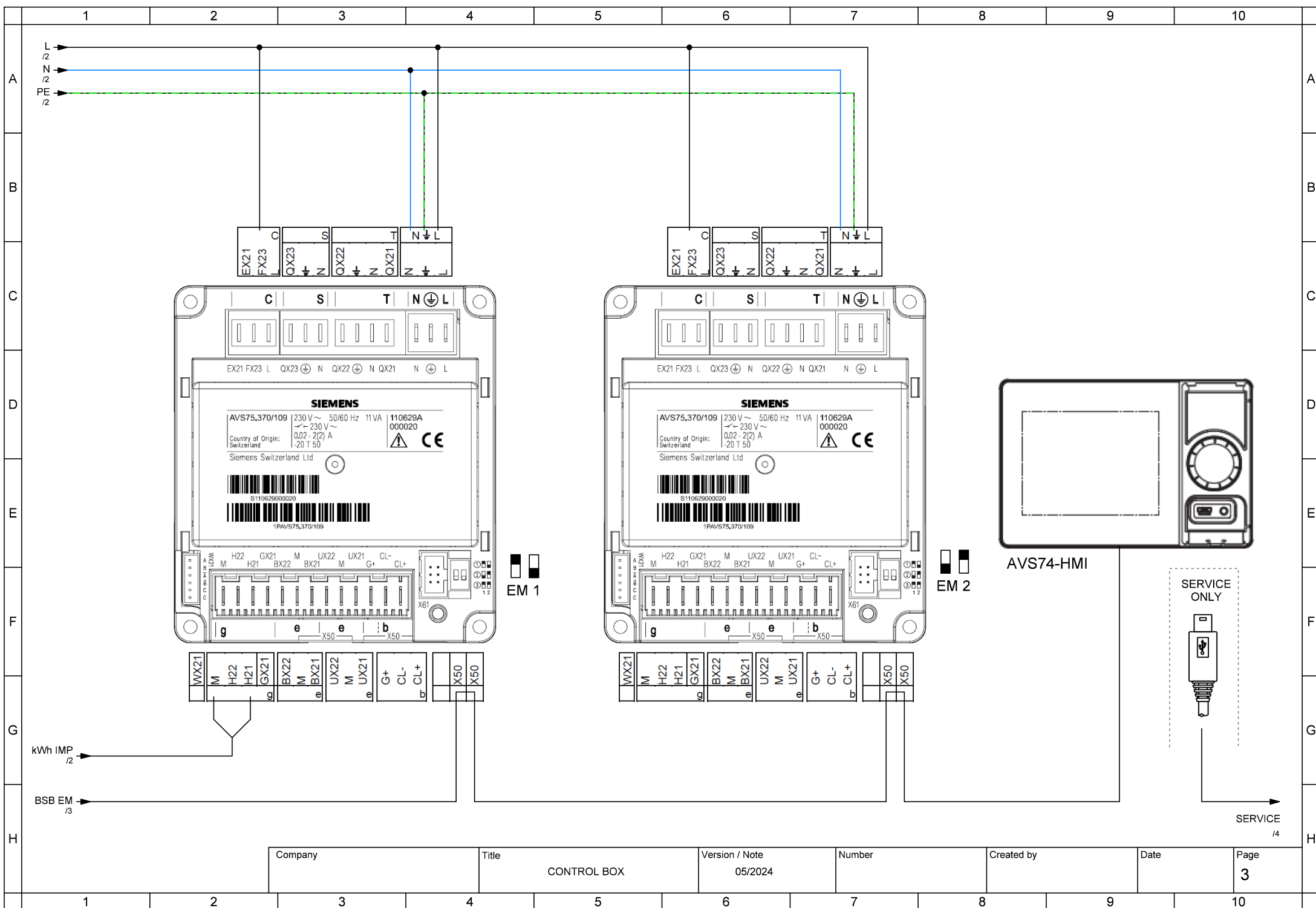
B85 Suction gas sensor B85

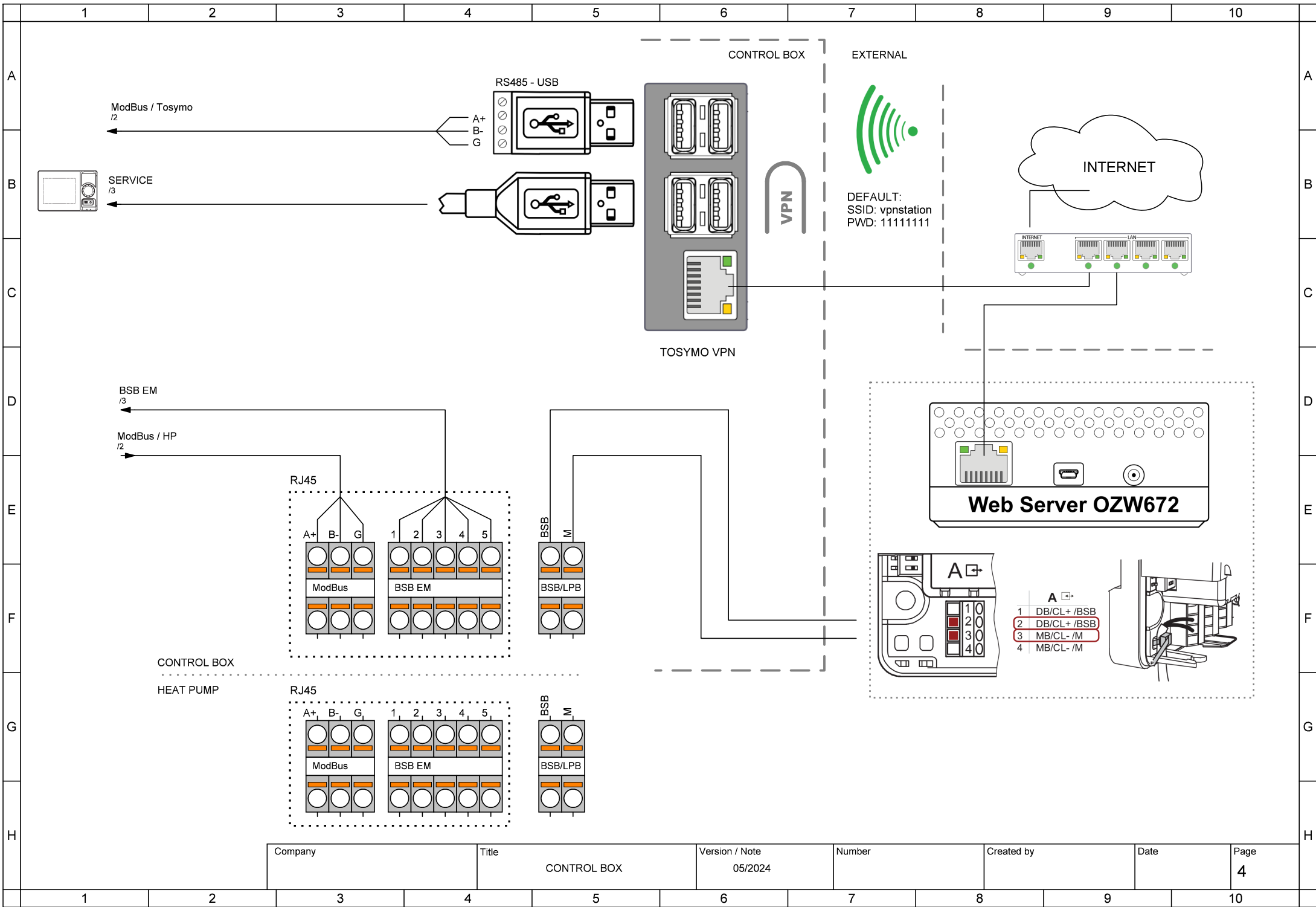
B83 Refrig sensor liquid B83

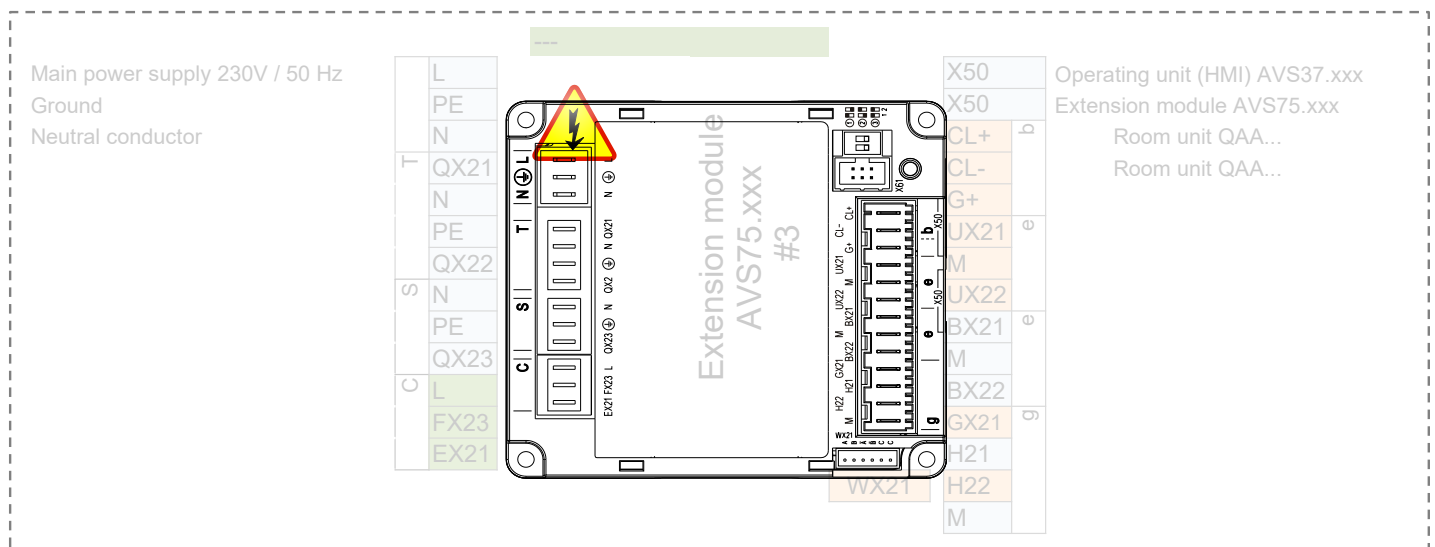
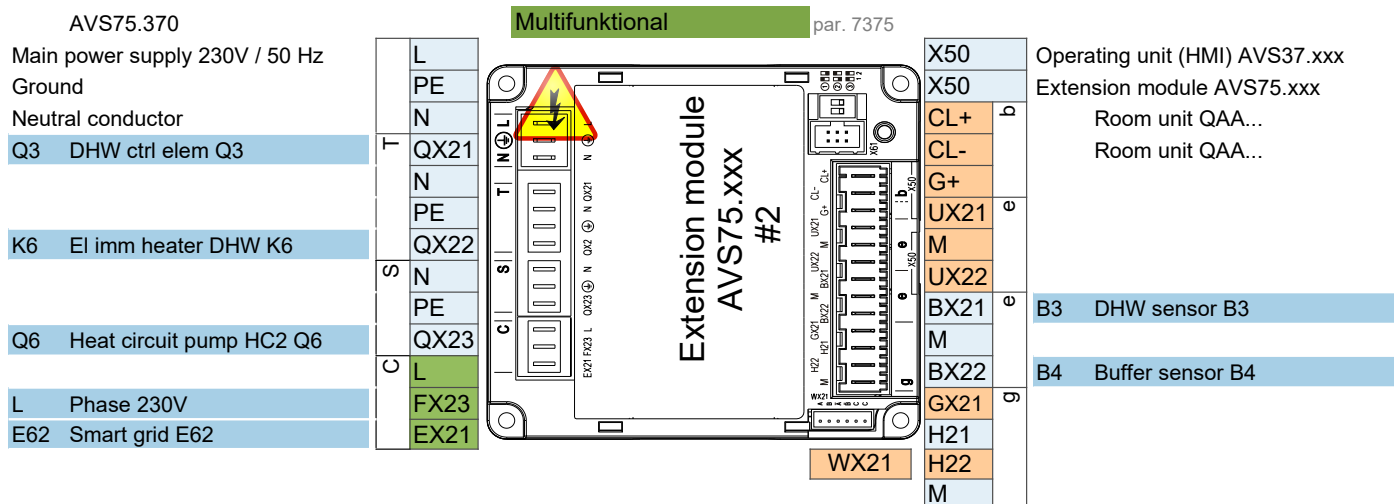
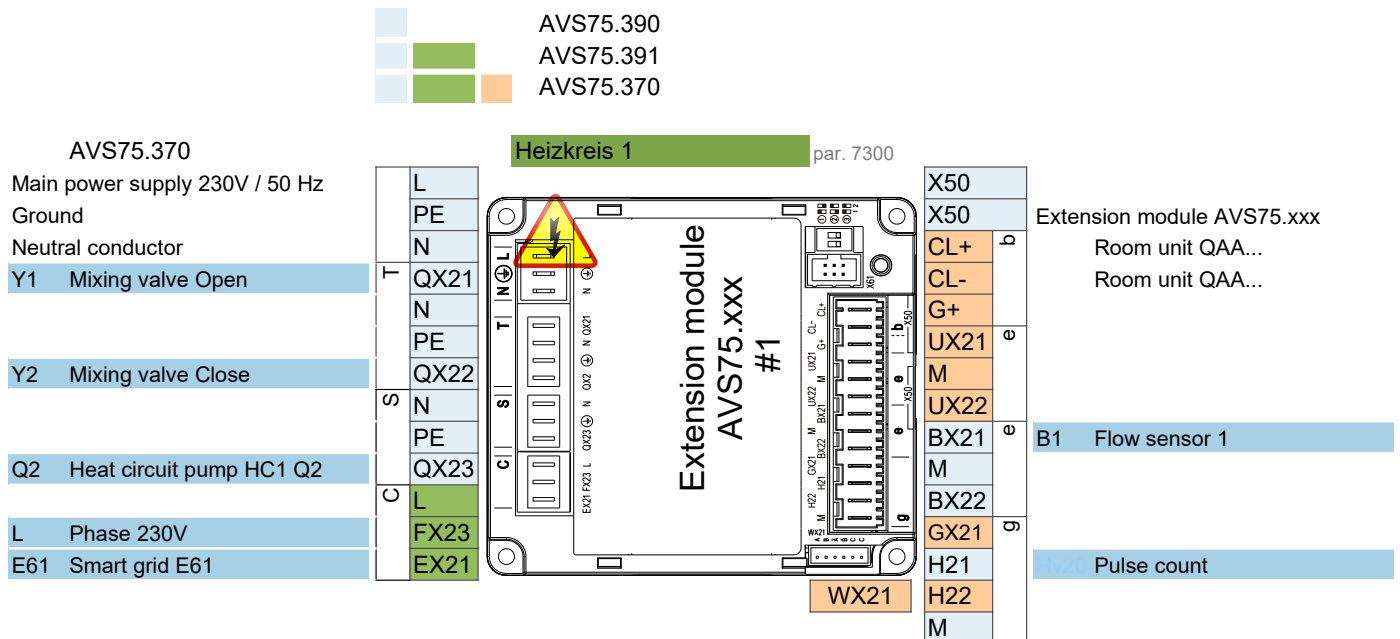
		AVS75.390
		AVS75.391
		AVS75.370











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