

## Basic performance data - WAMAK AiWa 23 EVI H In

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
	$\eta$ [%]	169.6
	Label	A+++
	Qhe [ kWh ]	42972.8
	Pdesignh [ kW ]	20.8
	Tbivalent [ °C ]	-7
Cooling		
Cooling capacity - [kW]	A35 / W23-18	24.5
	A25 / W23-18	25.7
	A35 / W12-7	18.2
	A25 / W12-7	18.2
Seasonal space cooling energy efficiency - SEER EN 14825		
[ W 23 / 18 °C ]	SEER	4.29
	Qce [ kWh ]	10920.0
	$\eta_c$ [%]	171.6
Sound EN 12102		
Acoustic power - Lw	dB(A)	67.2
Acoustic pressure - Lp	1 m dB(A)	59.2
	5 m dB(A)	45.2
	10 m dB(A)	39.2
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 / <b>65</b>
Operating limit temperatures source - (min / max ) [ °C ]		<b>-22</b> / 40
Weight		315 kg

## Main technical data - WAMAK AiWa 23 EVI H In

Enclosure type		AiWa-I-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	Port size	1200mm x 1200mm "		
Reverse defrosting with hot gas				Type	Cu-coil /Al-fin		
Plate exchanger protection HG-BYPASS				Count	1		
Electrical connection data				Material	Cu/Al		
Line voltage [#~ V/Hz]		3~ 400/50		Maximal operating pressure - refrigerant [bar]			28
Current	nominal [A]	11.80		Heat transfer medium			Air
	maximal [A]	18.60		Volume flow - Air [m3/h]			8030
	starting [A]	29.7		Internal pressure drop - Air [kPa]			0.032
Softstart	-		Temperature difference - Air			7 K	
Main safety	C32		Number of fans			1	
Control System			Fan diameter [mm]			800	
Main controller	SIEMENS	RVS 21 AVS 55.199					
Extension module	AVS75.3xx	AVS75.3xx	AVS75.372				
Bus Clip-In		LPB OCI346	Modbus OCI352				
Online connection		Web server OZW672	ToSyMo				
Superheat controller			1 - EEV H/C				

\*\*\* with accessory

## WAMAK AiWa 23 EVI H In

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

Model	AiWa 23 EVI H In
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	$\eta_s$	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				For air-to-water heat pumps: Rated air flow rate, outdoors	-	8030	m <sup>3</sup> /h
Capacity control		fixed		For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	---	m <sup>3</sup> /h
Sound power level							
indoors	Lwa	67	dB				
outdoors	Lwa	---	dB				
Annual energy consumption	Q <sub>HE</sub>	42972.8	kWh				

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

## WAMAK AiWa 23 EVI H In

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

Model	AiWa 23 EVI H In
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	$\eta_s$	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				For air-to-water heat pumps: Rated air flow rate, outdoors	-	8030	m <sup>3</sup> /h
Capacity control		fixed		For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	---	m <sup>3</sup> /h
Sound power level							
indoors	Lwa	67	dB				
outdoors	Lwa	---	dB				
Annual energy consumption	Q <sub>HE</sub>	45658.6	kWh				

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



**ENERG** Y IIA  
 енергия - ενεργεια IE IA



AiWa 23 EVI H In



55 °C

35 °C



67 dB

--- dB

■ 24	■ 22
■ 23	■ 21
■ 22	■ 20

kW kW

2019

811/2013

AiWa 23 EVI H In

**ErP Data**

	55 °C	35 °C
Energy class	<b>A++</b>	<b>A+++</b>
$\eta$ [%]	135.5	169.6
$P_{rated}$ [kW]	23	21
$Q_{HE}$ [kWh/y]	45659	42973
SCOP [-]	3.39	4.24
$T_{bivalent}$ [°C]	-7	-7

CONTROLLER



+ QAA55/75  
 - QAA55/75

class VII  
 class III

3.5% ↓  
 1.5% ↓

Heating performance data

Version: v2024.004-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	
<b>Average Climate / Low Temperature [35°C]</b>	
SCOPon	4.37
SCOPnet	4.41
SCOP	4.24
η [%]	169.63
Label	A+++
Qh [ kWh ]	42972.80
Pdesignh [ kW ]	20.8
Tbivalent [ °C ]	-7.00

Average Climate / Medium Temperature [55°C]

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

SCOP DATA EN 14825:2018	
<b>Average Climate / Medium Temperature [55°C]</b>	
SCOPon	3.47
SCOPnet	3.50
SCOP	3.39
η [%]	135.52
Label	A++
Qh [ kWh ]	45658.60
Pdesignh [ kW ]	22.1
Tbivalent [ °C ]	-7.00

Cooling performance data

Low temperature cooling W 12 / 7°C

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

SEER DATA EN 14825:2018 [ W 12 / 7°C ]	
SEERon	3.33
SEER	3.22
Qc [ kWh ]	10920.00
η [%]	128.82

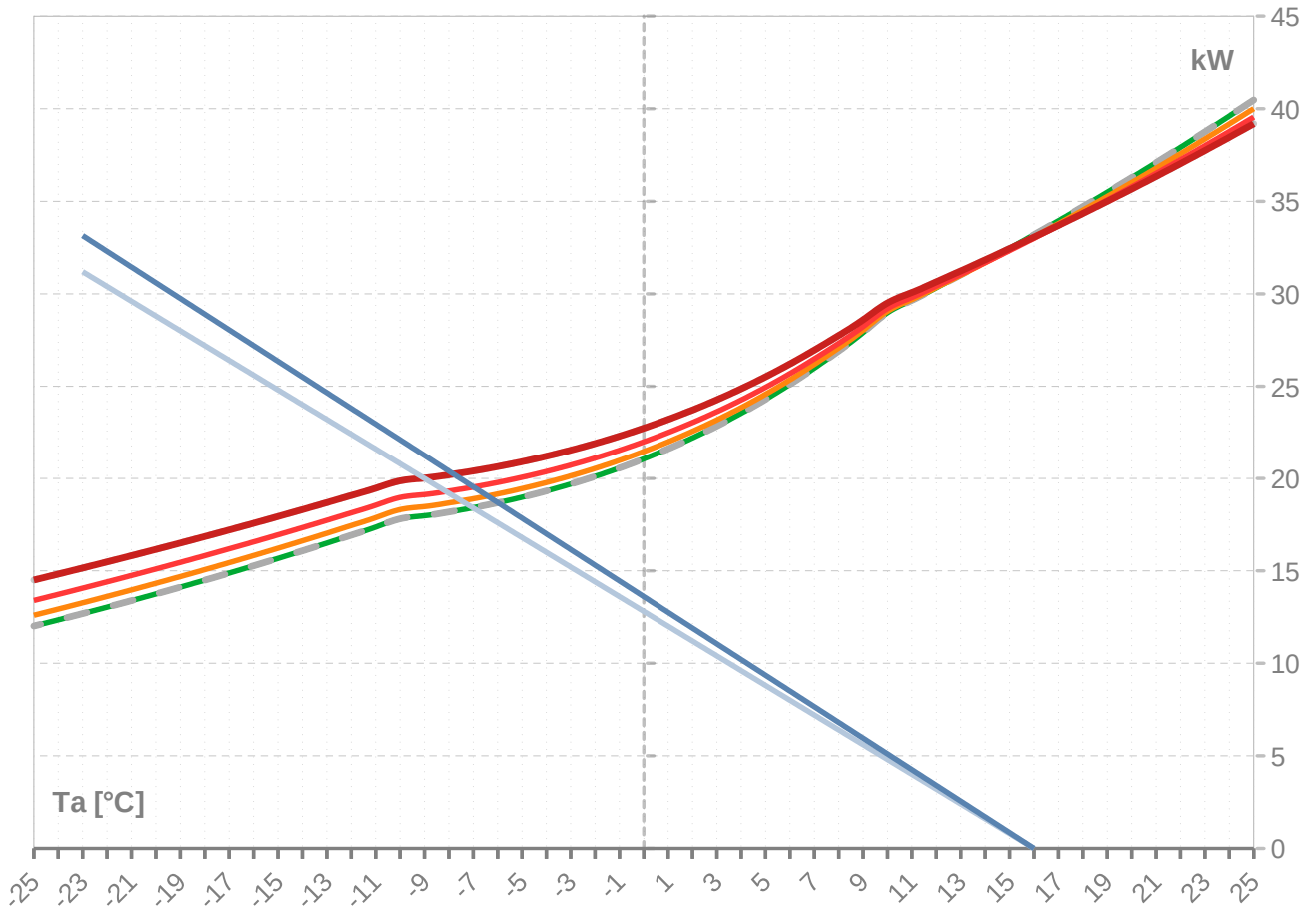
Radiant cooling W 23 / 18°C

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

SEER DATA EN 14825:2018 [ W 23 / 18°C ]	
SEERon	4.48
SEER	4.29
Qc [ kWh ]	10920.00
η [%]	171.62

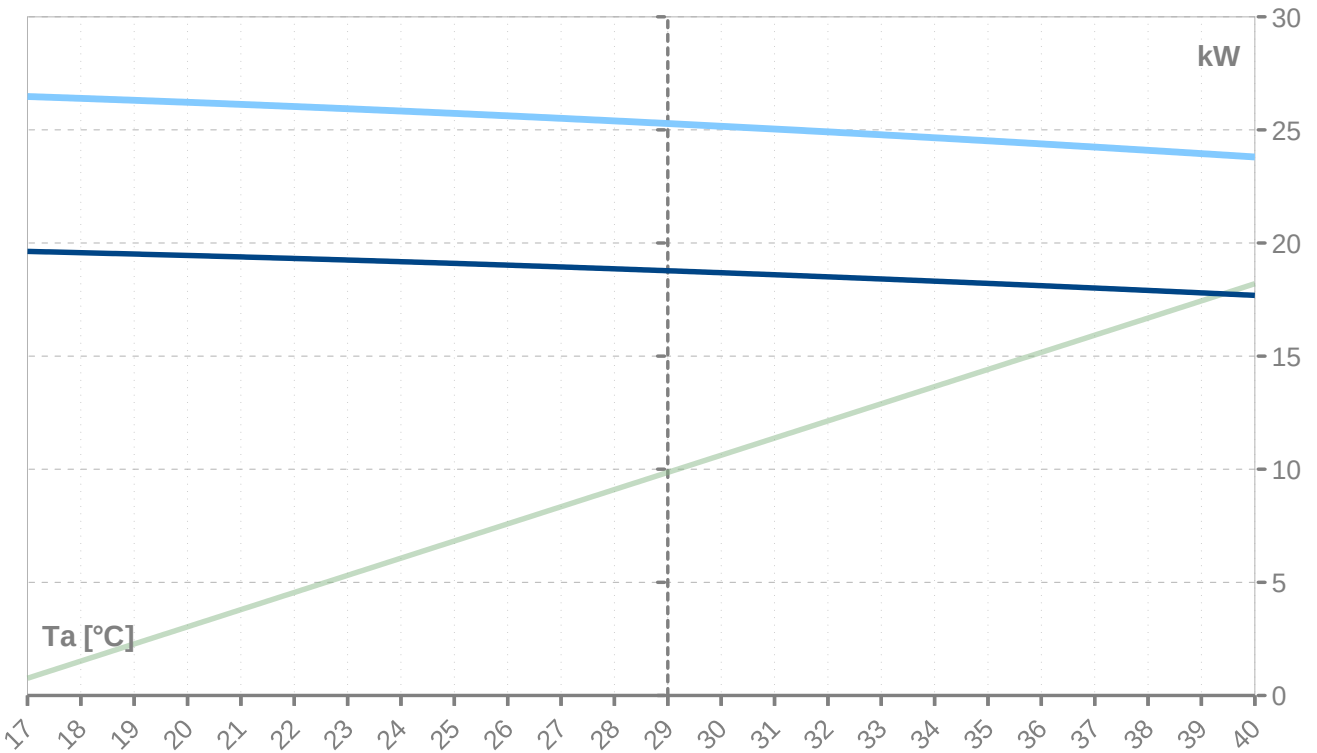
Performance lines - heating

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



Performance lines - cooling

- Pratedc    — Qc-12/7    — Qc-23/18



Th [°C]		35 °C								
Ta [°C]	Qh nom [kW]	Qh min [kW]	Qh max [kW]	Pin nom [kW]	Pin-min [kW]	Pin-max [kW]	COP kW / kW	I nom [A]	I min [A]	I max [A]
25	<b>33.9</b>	33.9		<b>6.1</b>	6.1		<b>5.59</b>	12.0	12.0	
24	<b>33.9</b>	33.9		<b>6.1</b>	6.1		<b>5.59</b>	12.0	12.0	
23	<b>33.9</b>	33.9		<b>6.1</b>	6.1		<b>5.59</b>	12.0	12.0	
22	<b>33.9</b>	33.9		<b>6.1</b>	6.1		<b>5.59</b>	12.0	12.0	
21	<b>33.9</b>	33.9		<b>6.1</b>	6.1		<b>5.59</b>	12.0	12.0	
20	<b>33.9</b>	33.9		<b>6.1</b>	6.1		<b>5.59</b>	12.0	12.0	
19	<b>33.9</b>	33.9		<b>6.1</b>	6.1		<b>5.59</b>	12.0	12.0	
18	<b>33.9</b>	33.9		<b>6.1</b>	6.1		<b>5.59</b>	12.0	12.0	
17	<b>33.9</b>	33.9		<b>6.1</b>	6.1		<b>5.59</b>	12.0	12.0	
16	<b>33.2</b>	33.2	33.2	<b>6.1</b>	6.1	6.1	<b>5.48</b>	12.0	12.0	12.0
15	<b>32.5</b>	32.5	32.5	<b>6.0</b>	6.0	6.0	<b>5.37</b>	12.0	12.0	12.0
14	<b>31.7</b>	31.7	31.7	<b>6.0</b>	6.0	6.0	<b>5.26</b>	12.0	12.0	12.0
13	<b>31.0</b>	31.0	31.0	<b>6.0</b>	6.0	6.0	<b>5.16</b>	12.0	12.0	12.0
12	<b>30.3</b>	30.3	30.3	<b>6.0</b>	6.0	6.0	<b>5.05</b>	12.0	12.0	12.0
11	<b>29.7</b>	29.7	29.7	<b>6.0</b>	6.0	6.0	<b>4.95</b>	11.9	11.9	11.9
10	<b>29.0</b>	29.0	29.0	<b>6.0</b>	6.0	6.0	<b>4.85</b>	11.9	11.9	11.9
9	<b>27.9</b>	27.9	27.9	<b>5.9</b>	5.9	5.9	<b>4.69</b>	11.9	11.9	11.9
8	<b>26.9</b>	26.9	26.9	<b>5.9</b>	5.9	5.9	<b>4.54</b>	11.9	11.9	11.9
7	<b>26.0</b>	26.0	26.0	<b>5.9</b>	5.9	5.9	<b>4.40</b>	11.9	11.9	11.9
6	<b>25.1</b>	25.1	25.1	<b>5.9</b>	5.9	5.9	<b>4.27</b>	11.8	11.8	11.8
5	<b>24.3</b>	24.3	24.3	<b>5.9</b>	5.9	5.9	<b>4.15</b>	11.8	11.8	11.8
4	<b>23.5</b>	23.5	23.5	<b>5.8</b>	5.8	5.8	<b>4.04</b>	11.8	11.8	11.8
3	<b>22.8</b>	22.8	22.8	<b>5.8</b>	5.8	5.8	<b>3.94</b>	11.8	11.8	11.8
2	<b>22.2</b>	22.2	22.2	<b>5.8</b>	5.8	5.8	<b>3.84</b>	11.8	11.8	11.8
1	<b>21.6</b>	21.6	21.6	<b>5.8</b>	5.8	5.8	<b>3.75</b>	11.8	11.8	11.8
0	<b>21.1</b>	21.1	21.1	<b>5.7</b>	5.7	5.7	<b>3.67</b>	11.7	11.7	11.7
-1	<b>20.6</b>	20.6	20.6	<b>5.7</b>	5.7	5.7	<b>3.60</b>	11.7	11.7	11.7
-2	<b>20.1</b>	20.1	20.1	<b>5.7</b>	5.7	5.7	<b>3.53</b>	11.7	11.7	11.7
-3	<b>19.7</b>	19.7	19.7	<b>5.7</b>	5.7	5.7	<b>3.47</b>	11.7	11.7	11.7
-4	<b>19.3</b>	19.3	19.3	<b>5.7</b>	5.7	5.7	<b>3.41</b>	11.7	11.7	11.7
-5	<b>19.0</b>	19.0	19.0	<b>5.6</b>	5.6	5.6	<b>3.36</b>	11.7	11.7	11.7
-6	<b>18.7</b>	18.7	18.7	<b>5.6</b>	5.6	5.6	<b>3.32</b>	11.7	11.7	11.7
-7	<b>18.4</b>	18.4	18.4	<b>5.6</b>	5.6	5.6	<b>3.28</b>	11.6	11.6	11.6
-8	<b>18.2</b>	18.2	18.2	<b>5.6</b>	5.6	5.6	<b>3.24</b>	11.6	11.6	11.6
-9	<b>18.0</b>	18.0	18.0	<b>5.6</b>	5.6	5.6	<b>3.22</b>	11.6	11.6	11.6
-10	<b>17.8</b>	17.8	17.8	<b>5.6</b>	5.6	5.6	<b>3.19</b>	11.6	11.6	11.6
-11	<b>17.4</b>	17.4	17.4	<b>5.6</b>	5.6	5.6	<b>3.12</b>	11.6	11.6	11.6
-12	<b>16.9</b>	16.9	16.9	<b>5.5</b>	5.5	5.5	<b>3.06</b>	11.6	11.6	11.6
-13	<b>16.5</b>	16.5	16.5	<b>5.5</b>	5.5	5.5	<b>3.00</b>	11.6	11.6	11.6
-14	<b>16.1</b>	16.1	16.1	<b>5.5</b>	5.5	5.5	<b>2.94</b>	11.5	11.5	11.5
-15	<b>15.7</b>	15.7	15.7	<b>5.5</b>	5.5	5.5	<b>2.88</b>	11.5	11.5	11.5
-16	<b>15.3</b>	15.3	15.3	<b>5.4</b>	5.4	5.4	<b>2.82</b>	11.5	11.5	11.5
-17	<b>14.9</b>	14.9	14.9	<b>5.4</b>	5.4	5.4	<b>2.76</b>	11.5	11.5	11.5
-18	<b>14.5</b>	14.5	14.5	<b>5.4</b>	5.4	5.4	<b>2.70</b>	11.4	11.4	11.4
-19	<b>14.1</b>	14.1	14.1	<b>5.3</b>	5.3	5.3	<b>2.65</b>	11.4	11.4	11.4
-20	<b>13.7</b>	13.7	13.7	<b>5.3</b>	5.3	5.3	<b>2.59</b>	11.4	11.4	11.4
-21	<b>13.4</b>	13.4	13.4	<b>5.3</b>	5.3	5.3	<b>2.54</b>	11.4	11.4	11.4
-22	<b>13.0</b>	13.0	13.0	<b>5.2</b>	5.2	5.2	<b>2.49</b>	11.3	11.3	11.3
-23	<b>12.7</b>	12.7	12.7	<b>5.2</b>	5.2	5.2	<b>2.44</b>	11.3	11.3	11.3
-24	<b>12.3</b>	12.3	12.3	<b>5.2</b>	5.2	5.2	<b>2.39</b>	11.3	11.3	11.3
-25	<b>12.0</b>	12.0	12.0	<b>5.1</b>	5.1	5.1	<b>2.34</b>	11.3	11.3	11.3

\* attention: operating limits not reflected in performance table



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	<b>40.0</b>	40.0	40.0	<b>7.6</b>	7.6	7.6	<b>5.25</b>	13.5	13.5	13.5
24	<b>39.2</b>	39.2	39.2	<b>7.6</b>	7.6	7.6	<b>5.15</b>	13.5	13.5	13.5
23	<b>38.4</b>	38.4	38.4	<b>7.6</b>	7.6	7.6	<b>5.06</b>	13.5	13.5	13.5
22	<b>37.6</b>	37.6	37.6	<b>7.6</b>	7.6	7.6	<b>4.96</b>	13.5	13.5	13.5
21	<b>36.8</b>	36.8	36.8	<b>7.6</b>	7.6	7.6	<b>4.87</b>	13.4	13.4	13.4
20	<b>36.0</b>	36.0	36.0	<b>7.5</b>	7.5	7.5	<b>4.77</b>	13.4	13.4	13.4
19	<b>35.3</b>	35.3	35.3	<b>7.5</b>	7.5	7.5	<b>4.68</b>	13.4	13.4	13.4
18	<b>34.5</b>	34.5	34.5	<b>7.5</b>	7.5	7.5	<b>4.59</b>	13.4	13.4	13.4
17	<b>33.8</b>	33.8	33.8	<b>7.5</b>	7.5	7.5	<b>4.51</b>	13.4	13.4	13.4
16	<b>33.1</b>	33.1	33.1	<b>7.5</b>	7.5	7.5	<b>4.42</b>	13.4	13.4	13.4
15	<b>32.4</b>	32.4	32.4	<b>7.5</b>	7.5	7.5	<b>4.34</b>	13.4	13.4	13.4
14	<b>31.7</b>	31.7	31.7	<b>7.4</b>	7.4	7.4	<b>4.25</b>	13.3	13.3	13.3
13	<b>31.0</b>	31.0	31.0	<b>7.4</b>	7.4	7.4	<b>4.17</b>	13.3	13.3	13.3
12	<b>30.3</b>	30.3	30.3	<b>7.4</b>	7.4	7.4	<b>4.09</b>	13.3	13.3	13.3
11	<b>29.7</b>	29.7	29.7	<b>7.4</b>	7.4	7.4	<b>4.02</b>	13.3	13.3	13.3
10	<b>29.1</b>	29.1	29.1	<b>7.4</b>	7.4	7.4	<b>3.94</b>	13.3	13.3	13.3
9	<b>28.0</b>	28.0	28.0	<b>7.3</b>	7.3	7.3	<b>3.82</b>	13.2	13.2	13.2
8	<b>27.1</b>	27.1	27.1	<b>7.3</b>	7.3	7.3	<b>3.70</b>	13.2	13.2	13.2
7	<b>26.2</b>	26.2	26.2	<b>7.3</b>	7.3	7.3	<b>3.60</b>	13.2	13.2	13.2
6	<b>25.3</b>	25.3	25.3	<b>7.2</b>	7.2	7.2	<b>3.50</b>	13.1	13.1	13.1
5	<b>24.6</b>	24.6	24.6	<b>7.2</b>	7.2	7.2	<b>3.41</b>	13.1	13.1	13.1
4	<b>23.8</b>	23.8	23.8	<b>7.2</b>	7.2	7.2	<b>3.32</b>	13.1	13.1	13.1
3	<b>23.2</b>	23.2	23.2	<b>7.1</b>	7.1	7.1	<b>3.24</b>	13.0	13.0	13.0
2	<b>22.6</b>	22.6	22.6	<b>7.1</b>	7.1	7.1	<b>3.17</b>	13.0	13.0	13.0
1	<b>22.0</b>	22.0	22.0	<b>7.1</b>	7.1	7.1	<b>3.10</b>	13.0	13.0	13.0
0	<b>21.5</b>	21.5	21.5	<b>7.1</b>	7.1	7.1	<b>3.04</b>	13.0	13.0	13.0
-1	<b>21.0</b>	21.0	21.0	<b>7.0</b>	7.0	7.0	<b>2.98</b>	12.9	12.9	12.9
-2	<b>20.5</b>	20.5	20.5	<b>7.0</b>	7.0	7.0	<b>2.93</b>	12.9	12.9	12.9
-3	<b>20.1</b>	20.1	20.1	<b>7.0</b>	7.0	7.0	<b>2.88</b>	12.9	12.9	12.9
-4	<b>19.8</b>	19.8	19.8	<b>7.0</b>	7.0	7.0	<b>2.84</b>	12.9	12.9	12.9
-5	<b>19.5</b>	19.5	19.5	<b>6.9</b>	6.9	6.9	<b>2.80</b>	12.8	12.8	12.8
-6	<b>19.2</b>	19.2	19.2	<b>6.9</b>	6.9	6.9	<b>2.77</b>	12.8	12.8	12.8
-7	<b>18.9</b>	18.9	18.9	<b>6.9</b>	6.9	6.9	<b>2.74</b>	12.8	12.8	12.8
-8	<b>18.7</b>	18.7	18.7	<b>6.9</b>	6.9	6.9	<b>2.71</b>	12.8	12.8	12.8
-9	<b>18.5</b>	18.5	18.5	<b>6.9</b>	6.9	6.9	<b>2.69</b>	12.8	12.8	12.8
-10	<b>18.3</b>	18.3	18.3	<b>6.9</b>	6.9	6.9	<b>2.67</b>	12.8	12.8	12.8
-11	<b>17.9</b>	17.9	17.9	<b>6.8</b>	6.8	6.8	<b>2.62</b>	12.7	12.7	12.7
-12	<b>17.5</b>	17.5	17.5	<b>6.8</b>	6.8	6.8	<b>2.57</b>	12.7	12.7	12.7
-13	<b>17.0</b>	17.0	17.0	<b>6.8</b>	6.8	6.8	<b>2.52</b>	12.7	12.7	12.7
-14	<b>16.6</b>	16.6	16.6	<b>6.7</b>	6.7	6.7	<b>2.47</b>	12.6	12.6	12.6
-15	<b>16.2</b>	16.2	16.2	<b>6.7</b>	6.7	6.7	<b>2.43</b>	12.6	12.6	12.6
-16	<b>15.8</b>	15.8	15.8	<b>6.6</b>	6.6	6.6	<b>2.38</b>	12.6	12.6	12.6
-17	<b>15.4</b>	15.4	15.4	<b>6.6</b>	6.6	6.6	<b>2.34</b>	12.5	12.5	12.5
-18	<b>15.1</b>	15.1	15.1	<b>6.6</b>	6.6	6.6	<b>2.29</b>	12.5	12.5	12.5
-19	<b>14.7</b>	14.7	14.7	<b>6.5</b>	6.5	6.5	<b>2.25</b>	12.5	12.5	12.5
-20	<b>14.3</b>	14.3	14.3	<b>6.5</b>	6.5	6.5	<b>2.21</b>	12.4	12.4	12.4
-21	<b>14.0</b>	14.0	14.0	<b>6.4</b>	6.4	6.4	<b>2.17</b>	12.4	12.4	12.4
-22	<b>13.6</b>	13.6	13.6	<b>6.4</b>	6.4	6.4	<b>2.13</b>	12.3	12.3	12.3
-23	<b>13.3</b>	13.3	13.3	<b>6.4</b>	6.4	6.4	<b>2.09</b>	12.3	12.3	12.3
-24	<b>12.9</b>	12.9	12.9	<b>6.3</b>	6.3	6.3	<b>2.05</b>	12.3	12.3	12.3
-25	<b>12.6</b>	12.6	12.6	<b>6.3</b>	6.3	6.3	<b>2.01</b>	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	<b>39.5</b>	39.5	39.5	<b>9.5</b>	9.5	9.5	<b>4.17</b>	15.6	15.6	15.6
24	<b>38.8</b>	38.8	38.8	<b>9.5</b>	9.5	9.5	<b>4.10</b>	15.6	15.6	15.6
23	<b>38.0</b>	38.0	38.0	<b>9.4</b>	9.4	9.4	<b>4.02</b>	15.5	15.5	15.5
22	<b>37.2</b>	37.2	37.2	<b>9.4</b>	9.4	9.4	<b>3.95</b>	15.5	15.5	15.5
21	<b>36.5</b>	36.5	36.5	<b>9.4</b>	9.4	9.4	<b>3.88</b>	15.5	15.5	15.5
20	<b>35.8</b>	35.8	35.8	<b>9.4</b>	9.4	9.4	<b>3.81</b>	15.5	15.5	15.5
19	<b>35.1</b>	35.1	35.1	<b>9.4</b>	9.4	9.4	<b>3.74</b>	15.4	15.4	15.4
18	<b>34.4</b>	34.4	34.4	<b>9.3</b>	9.3	9.3	<b>3.68</b>	15.4	15.4	15.4
17	<b>33.7</b>	33.7	33.7	<b>9.3</b>	9.3	9.3	<b>3.61</b>	15.4	15.4	15.4
16	<b>33.0</b>	33.0	33.0	<b>9.3</b>	9.3	9.3	<b>3.55</b>	15.4	15.4	15.4
15	<b>32.3</b>	32.3	32.3	<b>9.3</b>	9.3	9.3	<b>3.49</b>	15.3	15.3	15.3
14	<b>31.7</b>	31.7	31.7	<b>9.3</b>	9.3	9.3	<b>3.42</b>	15.3	15.3	15.3
13	<b>31.1</b>	31.1	31.1	<b>9.2</b>	9.2	9.2	<b>3.36</b>	15.3	15.3	15.3
12	<b>30.4</b>	30.4	30.4	<b>9.2</b>	9.2	9.2	<b>3.30</b>	15.3	15.3	15.3
11	<b>29.8</b>	29.8	29.8	<b>9.2</b>	9.2	9.2	<b>3.25</b>	15.2	15.2	15.2
10	<b>29.2</b>	29.2	29.2	<b>9.2</b>	9.2	9.2	<b>3.19</b>	15.2	15.2	15.2
9	<b>28.2</b>	28.2	28.2	<b>9.1</b>	9.1	9.1	<b>3.10</b>	15.2	15.2	15.2
8	<b>27.3</b>	27.3	27.3	<b>9.1</b>	9.1	9.1	<b>3.01</b>	15.1	15.1	15.1
7	<b>26.5</b>	26.5	26.5	<b>9.0</b>	9.0	9.0	<b>2.93</b>	15.1	15.1	15.1
6	<b>25.7</b>	25.7	25.7	<b>9.0</b>	9.0	9.0	<b>2.86</b>	15.0	15.0	15.0
5	<b>24.9</b>	24.9	24.9	<b>8.9</b>	8.9	8.9	<b>2.79</b>	15.0	15.0	15.0
4	<b>24.3</b>	24.3	24.3	<b>8.9</b>	8.9	8.9	<b>2.73</b>	14.9	14.9	14.9
3	<b>23.6</b>	23.6	23.6	<b>8.9</b>	8.9	8.9	<b>2.67</b>	14.9	14.9	14.9
2	<b>23.0</b>	23.0	23.0	<b>8.8</b>	8.8	8.8	<b>2.61</b>	14.8	14.8	14.8
1	<b>22.5</b>	22.5	22.5	<b>8.8</b>	8.8	8.8	<b>2.56</b>	14.8	14.8	14.8
0	<b>22.0</b>	22.0	22.0	<b>8.7</b>	8.7	8.7	<b>2.52</b>	14.7	14.7	14.7
-1	<b>21.5</b>	21.5	21.5	<b>8.7</b>	8.7	8.7	<b>2.47</b>	14.7	14.7	14.7
-2	<b>21.1</b>	21.1	21.1	<b>8.7</b>	8.7	8.7	<b>2.43</b>	14.7	14.7	14.7
-3	<b>20.7</b>	20.7	20.7	<b>8.6</b>	8.6	8.6	<b>2.40</b>	14.6	14.6	14.6
-4	<b>20.4</b>	20.4	20.4	<b>8.6</b>	8.6	8.6	<b>2.37</b>	14.6	14.6	14.6
-5	<b>20.1</b>	20.1	20.1	<b>8.6</b>	8.6	8.6	<b>2.34</b>	14.6	14.6	14.6
-6	<b>19.8</b>	19.8	19.8	<b>8.6</b>	8.6	8.6	<b>2.31</b>	14.5	14.5	14.5
-7	<b>19.5</b>	19.5	19.5	<b>8.5</b>	8.5	8.5	<b>2.29</b>	14.5	14.5	14.5
-8	<b>19.3</b>	19.3	19.3	<b>8.5</b>	8.5	8.5	<b>2.27</b>	14.5	14.5	14.5
-9	<b>19.1</b>	19.1	19.1	<b>8.5</b>	8.5	8.5	<b>2.25</b>	14.5	14.5	14.5
-10	<b>19.0</b>	19.0	19.0	<b>8.5</b>	8.5	8.5	<b>2.24</b>	14.5	14.5	14.5
-11	<b>18.6</b>	18.6	18.6	<b>8.4</b>	8.4	8.4	<b>2.20</b>	14.4	14.4	14.4
-12	<b>18.1</b>	18.1	18.1	<b>8.4</b>	8.4	8.4	<b>2.16</b>	14.4	14.4	14.4
-13	<b>17.7</b>	17.7	17.7	<b>8.3</b>	8.3	8.3	<b>2.13</b>	14.3	14.3	14.3
-14	<b>17.3</b>	17.3	17.3	<b>8.3</b>	8.3	8.3	<b>2.09</b>	14.3	14.3	14.3
-15	<b>16.9</b>	16.9	16.9	<b>8.2</b>	8.2	8.2	<b>2.05</b>	14.2	14.2	14.2
-16	<b>16.6</b>	16.6	16.6	<b>8.2</b>	8.2	8.2	<b>2.02</b>	14.2	14.2	14.2
-17	<b>16.2</b>	16.2	16.2	<b>8.2</b>	8.2	8.2	<b>1.99</b>	14.1	14.1	14.1
-18	<b>15.8</b>	15.8	15.8	<b>8.1</b>	8.1	8.1	<b>1.95</b>	14.1	14.1	14.1
-19	<b>15.5</b>	15.5	15.5	<b>8.0</b>	8.0	8.0	<b>1.92</b>	14.0	14.0	14.0
-20	<b>15.1</b>	15.1	15.1	<b>8.0</b>	8.0	8.0	<b>1.89</b>	14.0	14.0	14.0
-21	<b>14.7</b>	14.7	14.7	<b>7.9</b>	7.9	7.9	<b>1.86</b>	13.9	13.9	13.9
-22	<b>14.4</b>	14.4	14.4	<b>7.9</b>	7.9	7.9	<b>1.83</b>	13.8	13.8	13.8
-23	<b>14.1</b>	14.1	14.1	<b>7.8</b>	7.8	7.8	<b>1.80</b>	13.8	13.8	13.8
-24	<b>13.7</b>	13.7	13.7	<b>7.8</b>	7.8	7.8	<b>1.77</b>	13.7	13.7	13.7
-25	<b>13.4</b>	13.4	13.4	<b>7.7</b>	7.7	7.7	<b>1.74</b>	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	<b>17.7</b>	17.7	17.7	<b>7.7</b>	7.7	7.7	<b>2.30</b>	13.6	13.6	13.6
39	<b>17.8</b>	17.8	17.8	<b>7.5</b>	7.5	7.5	<b>2.37</b>	13.4	13.4	13.4
38	<b>17.9</b>	17.9	17.9	<b>7.4</b>	7.4	7.4	<b>2.43</b>	13.3	13.3	13.3
37	<b>18.0</b>	18.0	18.0	<b>7.2</b>	7.2	7.2	<b>2.50</b>	13.1	13.1	13.1
36	<b>18.1</b>	18.1	18.1	<b>7.1</b>	7.1	7.1	<b>2.57</b>	12.9	12.9	12.9
35	<b>18.2</b>	18.2	18.2	<b>6.9</b>	6.9	6.9	<b>2.64</b>	12.8	12.8	12.8
34	<b>18.3</b>	18.3	18.3	<b>6.8</b>	6.8	6.8	<b>2.71</b>	12.7	12.7	12.7
33	<b>18.4</b>	18.4	18.4	<b>6.6</b>	6.6	6.6	<b>2.78</b>	12.5	12.5	12.5
32	<b>18.5</b>	18.5	18.5	<b>6.5</b>	6.5	6.5	<b>2.85</b>	12.4	12.4	12.4
31	<b>18.6</b>	18.6	18.6	<b>6.4</b>	6.4	6.4	<b>2.93</b>	12.3	12.3	12.3
30	<b>18.7</b>	18.7	18.7	<b>6.2</b>	6.2	6.2	<b>3.00</b>	12.2	12.2	12.2
29	<b>18.8</b>	18.8	18.8	<b>6.1</b>	6.1	6.1	<b>3.08</b>	12.0	12.0	12.0
28	<b>18.9</b>	18.9	18.9	<b>6.0</b>	6.0	6.0	<b>3.16</b>	11.9	11.9	11.9
27	<b>18.9</b>	18.9	18.9	<b>5.8</b>	5.8	5.8	<b>3.24</b>	11.8	11.8	11.8
26	<b>19.0</b>	19.0	19.0	<b>5.7</b>	5.7	5.7	<b>3.32</b>	11.7	11.7	11.7
25	<b>19.1</b>	19.1	19.1	<b>5.6</b>	5.6	5.6	<b>3.40</b>	11.6	11.6	11.6
24	<b>19.2</b>	19.2	19.2	<b>5.5</b>	5.5	5.5	<b>3.49</b>	11.5	11.5	11.5
23	<b>19.2</b>	19.2	19.2	<b>5.4</b>	5.4	5.4	<b>3.57</b>	11.4	11.4	11.4
22	<b>19.3</b>	19.3	19.3	<b>5.3</b>	5.3	5.3	<b>3.66</b>	11.4	11.4	11.4
21	<b>19.4</b>	19.4	19.4	<b>5.2</b>	5.2	5.2	<b>3.74</b>	11.3	11.3	11.3
20	<b>19.4</b>	19.4	19.4	<b>5.1</b>	5.1	5.1	<b>3.83</b>	11.2	11.2	11.2
19	<b>19.5</b>	19.5	19.5	<b>5.0</b>	5.0	5.0	<b>3.92</b>	11.1	11.1	11.1
18	<b>19.6</b>	19.6	19.6	<b>4.9</b>	4.9	4.9	<b>4.01</b>	11.1	11.1	11.1
17	<b>19.6</b>	19.6	19.6	<b>4.8</b>	4.8	4.8	<b>4.10</b>	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	<b>23.8</b>	23.8	23.8	<b>7.7</b>	7.7	7.7	<b>3.10</b>	13.8	13.8	13.8
39	<b>24.0</b>	24.0	24.0	<b>7.5</b>	7.5	7.5	<b>3.19</b>	13.7	13.7	13.7
38	<b>24.1</b>	24.1	24.1	<b>7.4</b>	7.4	7.4	<b>3.27</b>	13.5	13.5	13.5
37	<b>24.2</b>	24.2	24.2	<b>7.2</b>	7.2	7.2	<b>3.36</b>	13.3	13.3	13.3
36	<b>24.4</b>	24.4	24.4	<b>7.1</b>	7.1	7.1	<b>3.46</b>	13.2	13.2	13.2
35	<b>24.5</b>	24.5	24.5	<b>6.9</b>	6.9	6.9	<b>3.55</b>	13.0	13.0	13.0
34	<b>24.7</b>	24.7	24.7	<b>6.8</b>	6.8	6.8	<b>3.65</b>	12.8	12.8	12.8
33	<b>24.8</b>	24.8	24.8	<b>6.6</b>	6.6	6.6	<b>3.74</b>	12.7	12.7	12.7
32	<b>24.9</b>	24.9	24.9	<b>6.5</b>	6.5	6.5	<b>3.84</b>	12.6	12.6	12.6
31	<b>25.0</b>	25.0	25.0	<b>6.4</b>	6.4	6.4	<b>3.94</b>	12.4	12.4	12.4
30	<b>25.2</b>	25.2	25.2	<b>6.2</b>	6.2	6.2	<b>4.05</b>	12.3	12.3	12.3
29	<b>25.3</b>	25.3	25.3	<b>6.1</b>	6.1	6.1	<b>4.15</b>	12.2	12.2	12.2
28	<b>25.4</b>	25.4	25.4	<b>6.0</b>	6.0	6.0	<b>4.26</b>	12.1	12.1	12.1
27	<b>25.5</b>	25.5	25.5	<b>5.8</b>	5.8	5.8	<b>4.36</b>	12.0	12.0	12.0
26	<b>25.6</b>	25.6	25.6	<b>5.7</b>	5.7	5.7	<b>4.47</b>	11.9	11.9	11.9
25	<b>25.7</b>	25.7	25.7	<b>5.6</b>	5.6	5.6	<b>4.59</b>	11.8	11.8	11.8
24	<b>25.8</b>	25.8	25.8	<b>5.5</b>	5.5	5.5	<b>4.70</b>	11.7	11.7	11.7
23	<b>25.9</b>	25.9	25.9	<b>5.4</b>	5.4	5.4	<b>4.81</b>	11.6	11.6	11.6
22	<b>26.0</b>	26.0	26.0	<b>5.3</b>	5.3	5.3	<b>4.93</b>	11.5	11.5	11.5
21	<b>26.1</b>	26.1	26.1	<b>5.2</b>	5.2	5.2	<b>5.05</b>	11.4	11.4	11.4
20	<b>26.2</b>	26.2	26.2	<b>5.1</b>	5.1	5.1	<b>5.17</b>	11.3	11.3	11.3
19	<b>26.3</b>	26.3	26.3	<b>5.0</b>	5.0	5.0	<b>5.29</b>	11.2	11.2	11.2
18	<b>26.4</b>	26.4	26.4	<b>4.9</b>	4.9	4.9	<b>5.41</b>	11.2	11.2	11.2
17	<b>26.5</b>	26.5	26.5	<b>4.8</b>	4.8	4.8	<b>5.54</b>	11.1	11.1	11.1

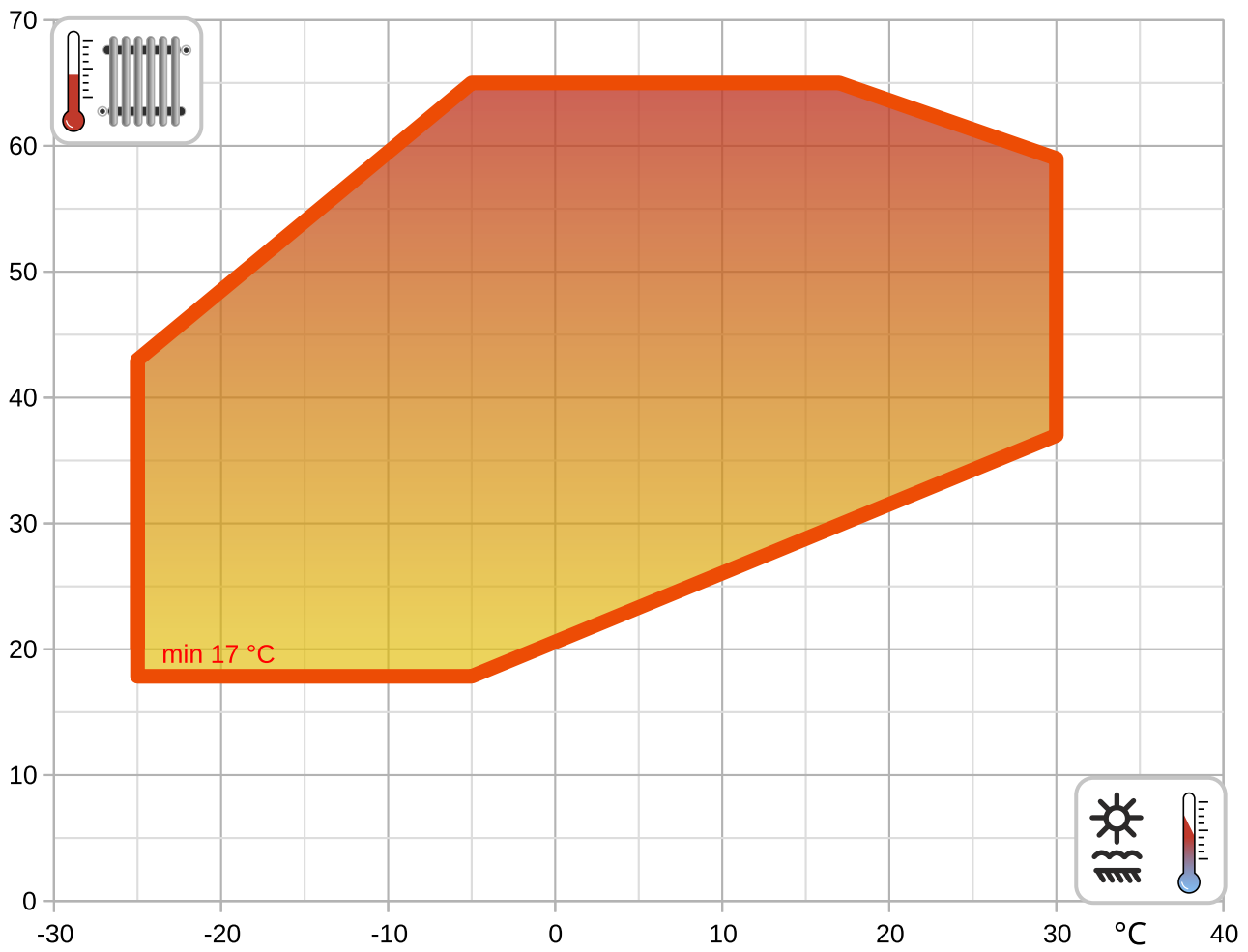
\* attention: operating limits not reflected in performance table

LEGENDE:

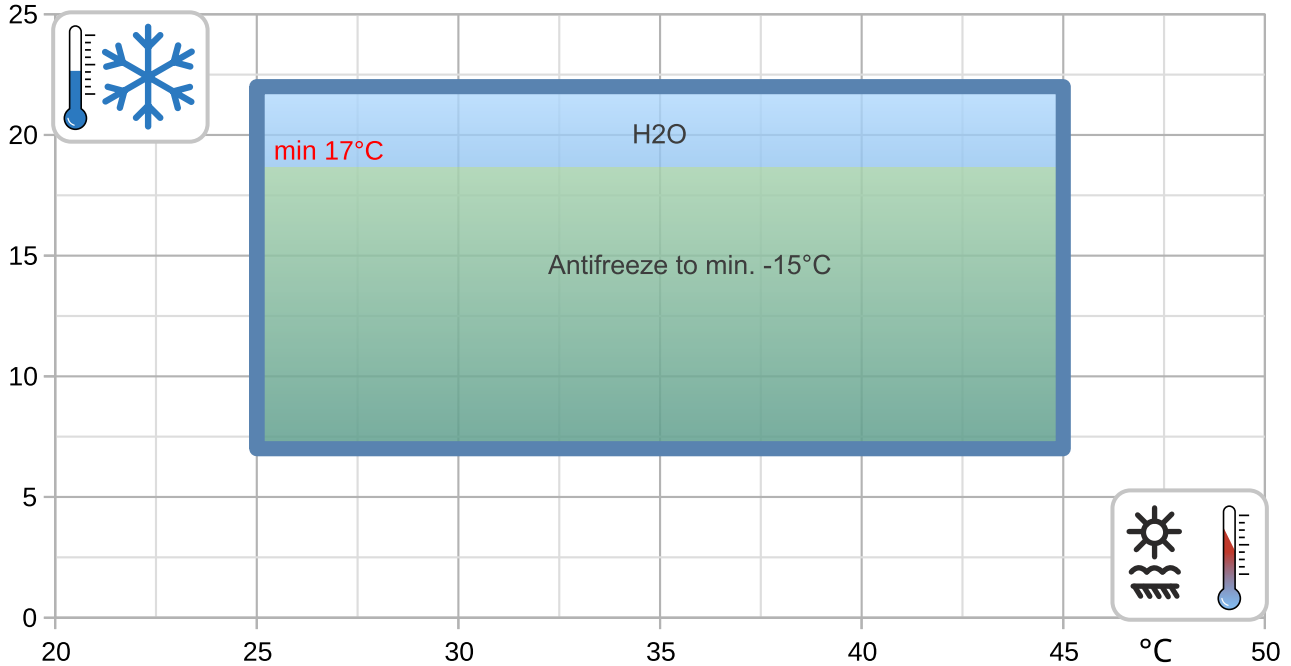
Ts-IN: Temperature renewable source - inlet [°C]  
Th-OU: Temperature heating - outlet (flow) [°C]  
Tc-OU: Temperature cooling - outlet (flow) [°C]  
Qh nom: Heating capacity nominal  
Qh min: Heating capacity minimal  
Qh max: Heating capacity maximal  
Pin nom: Power input at nominal heating capacity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

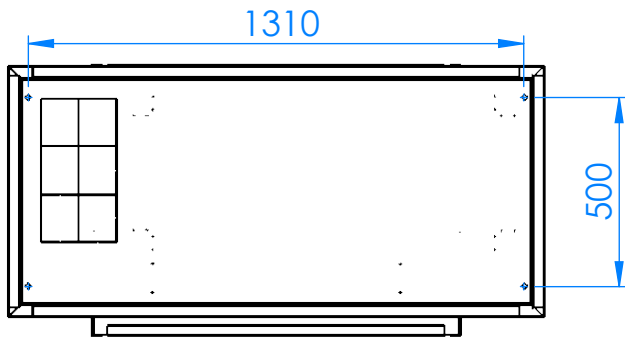
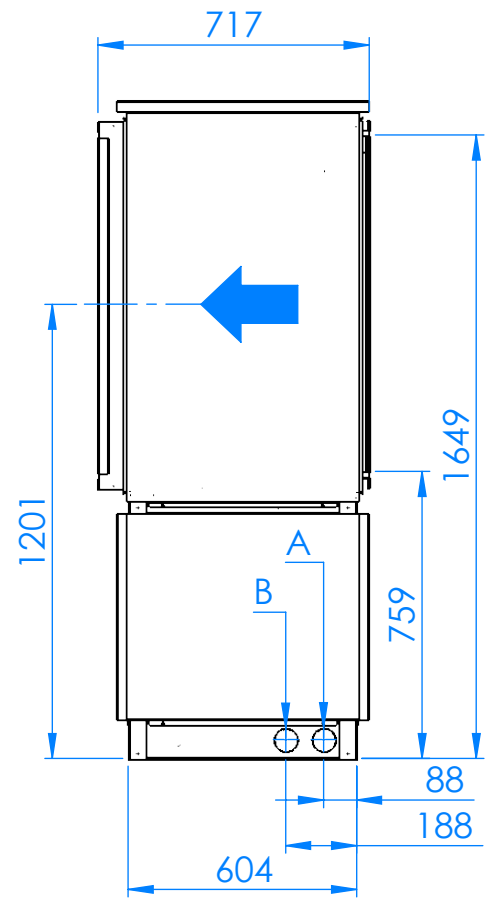
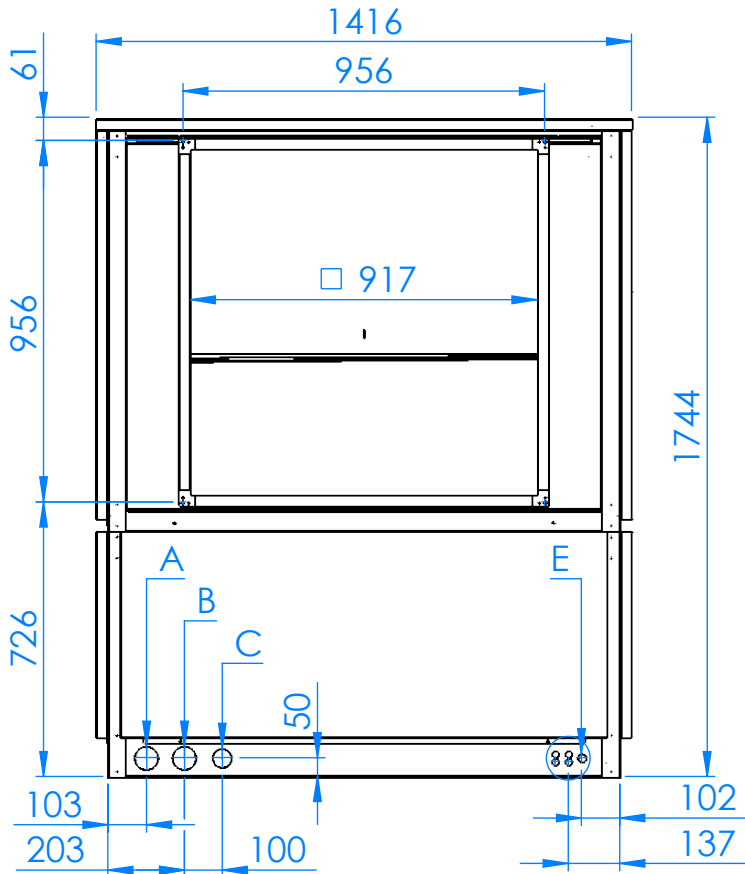
## Operating limits

°C



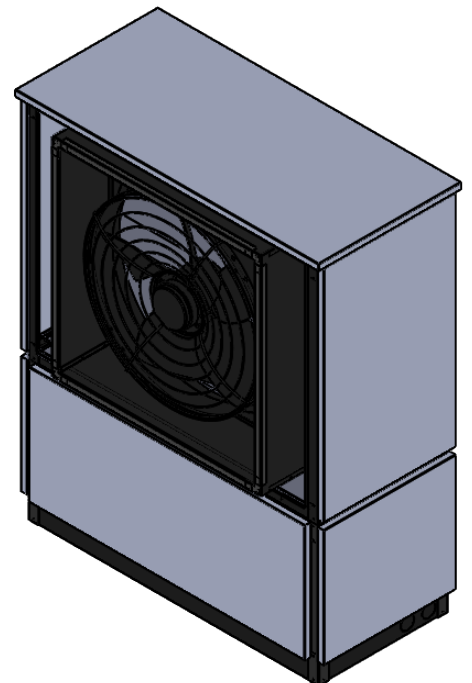
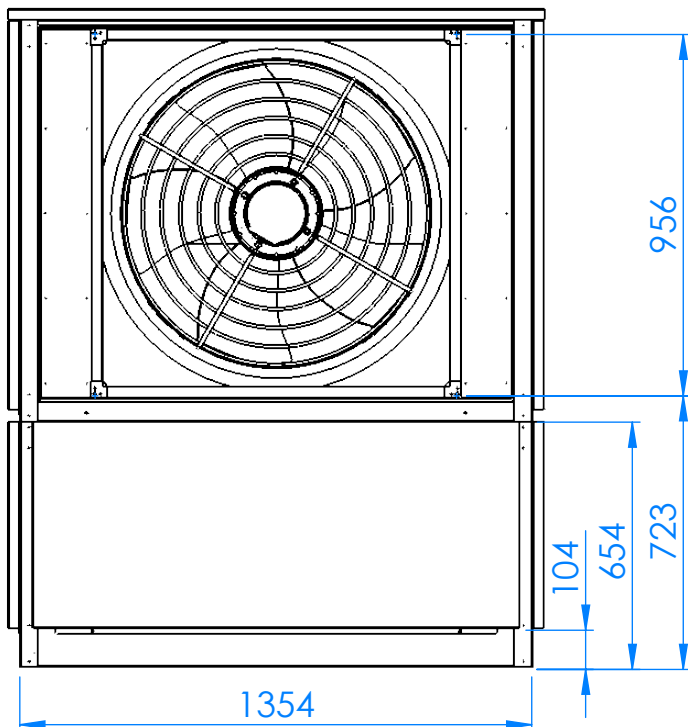
°C

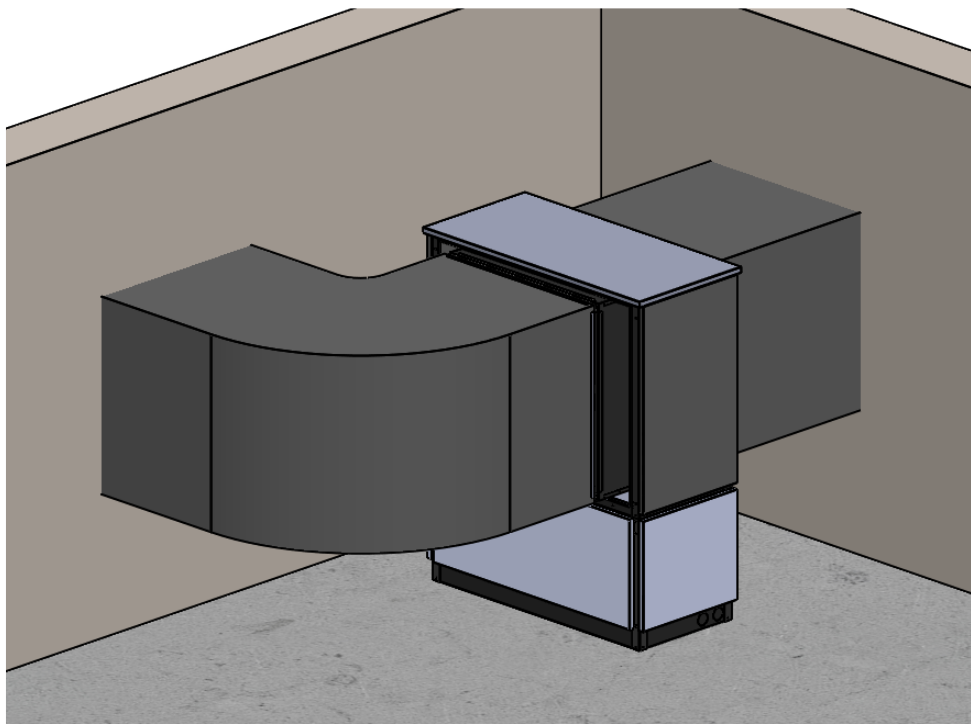
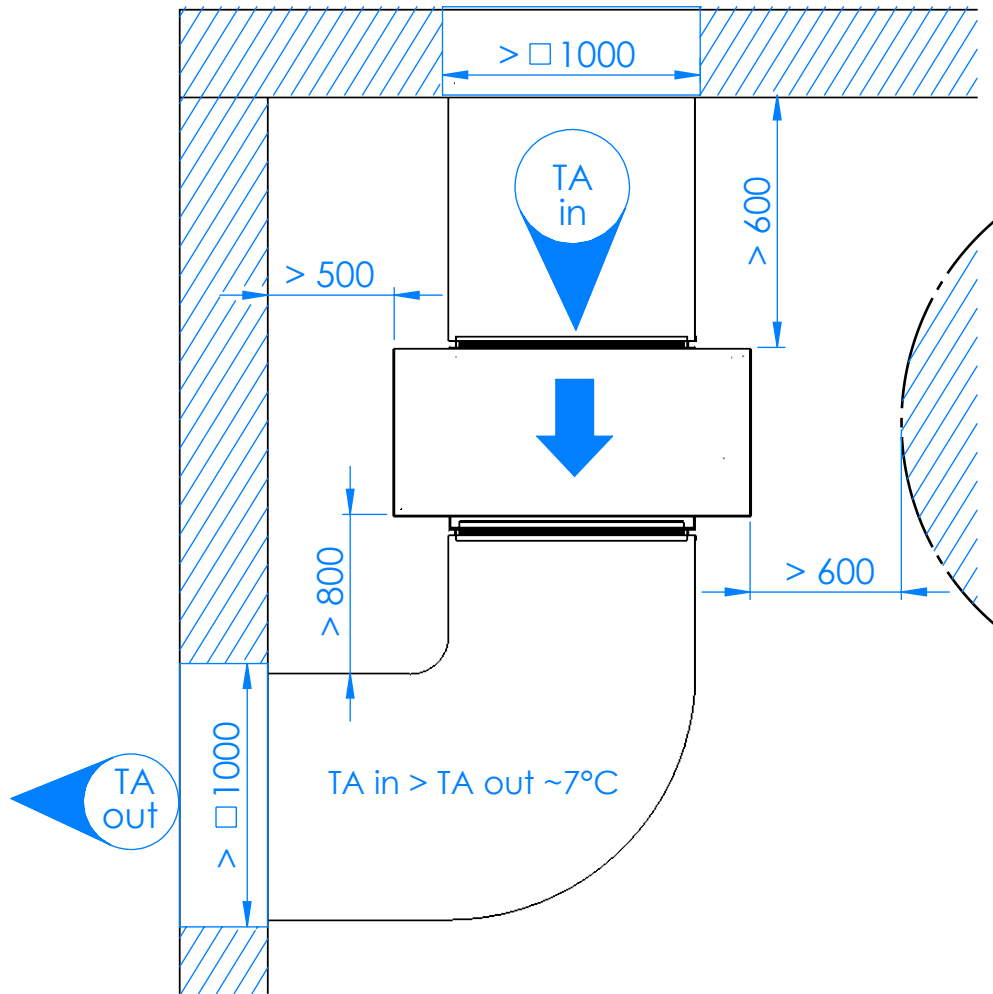




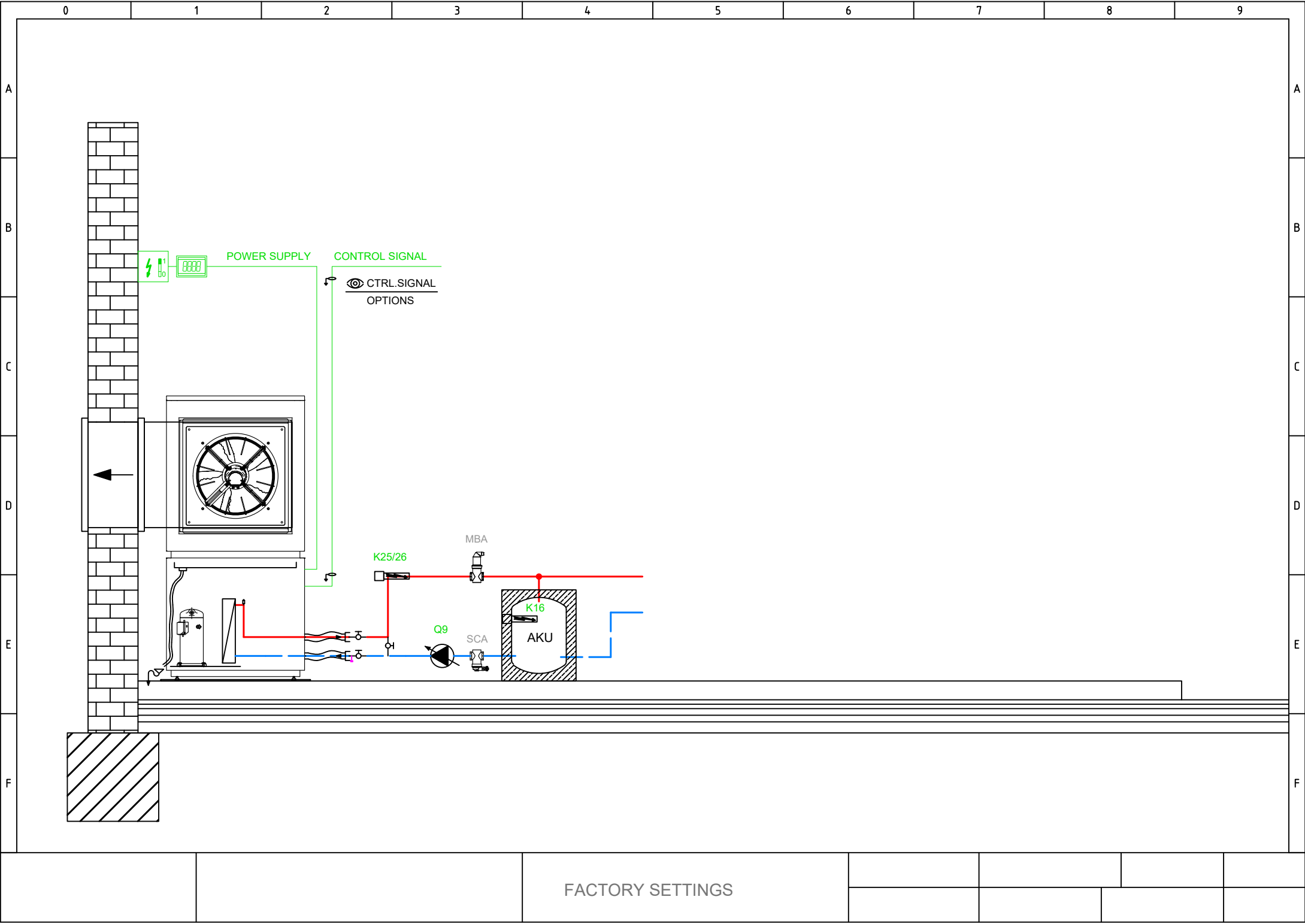
C - condens

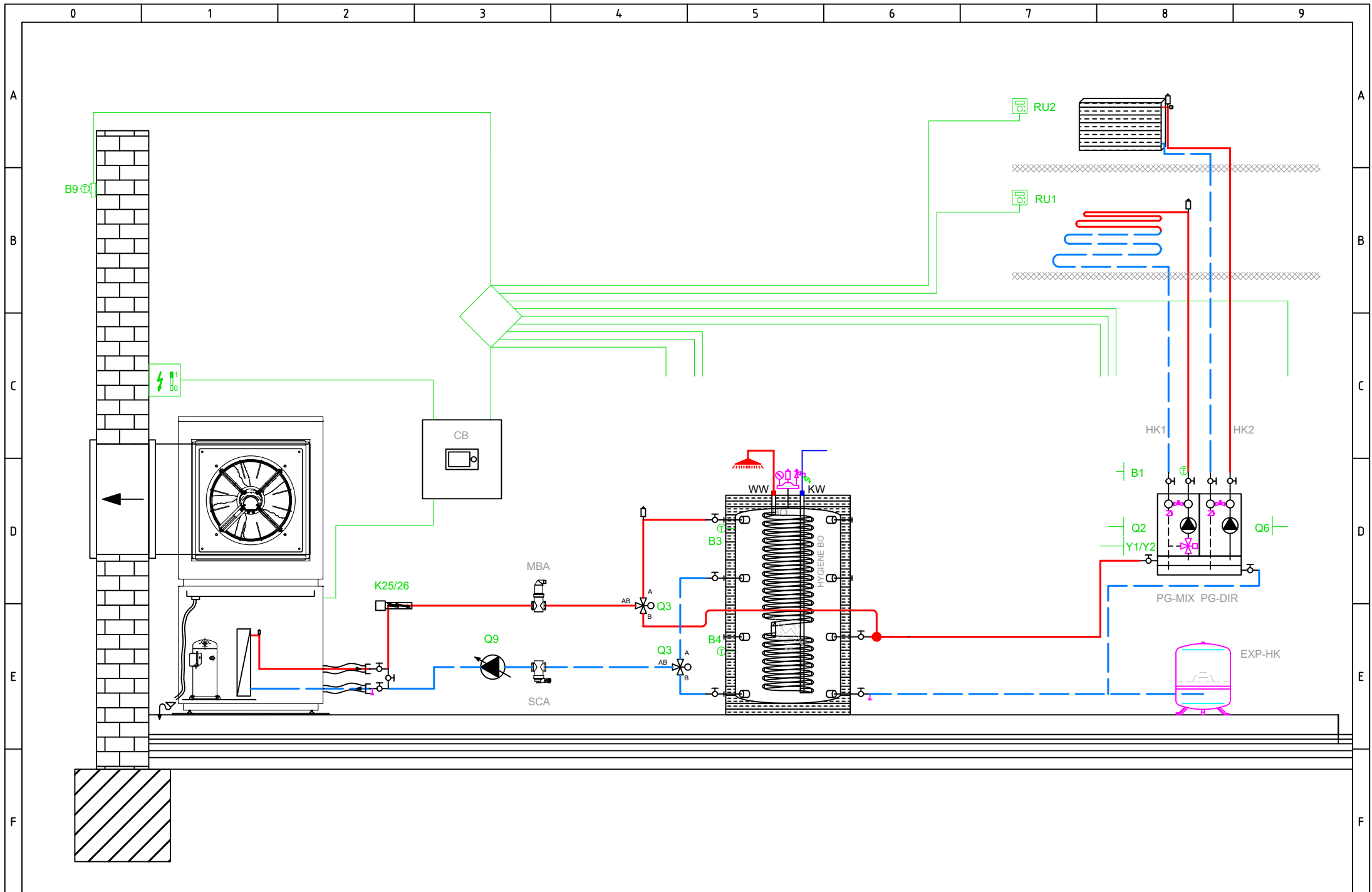
E - electro



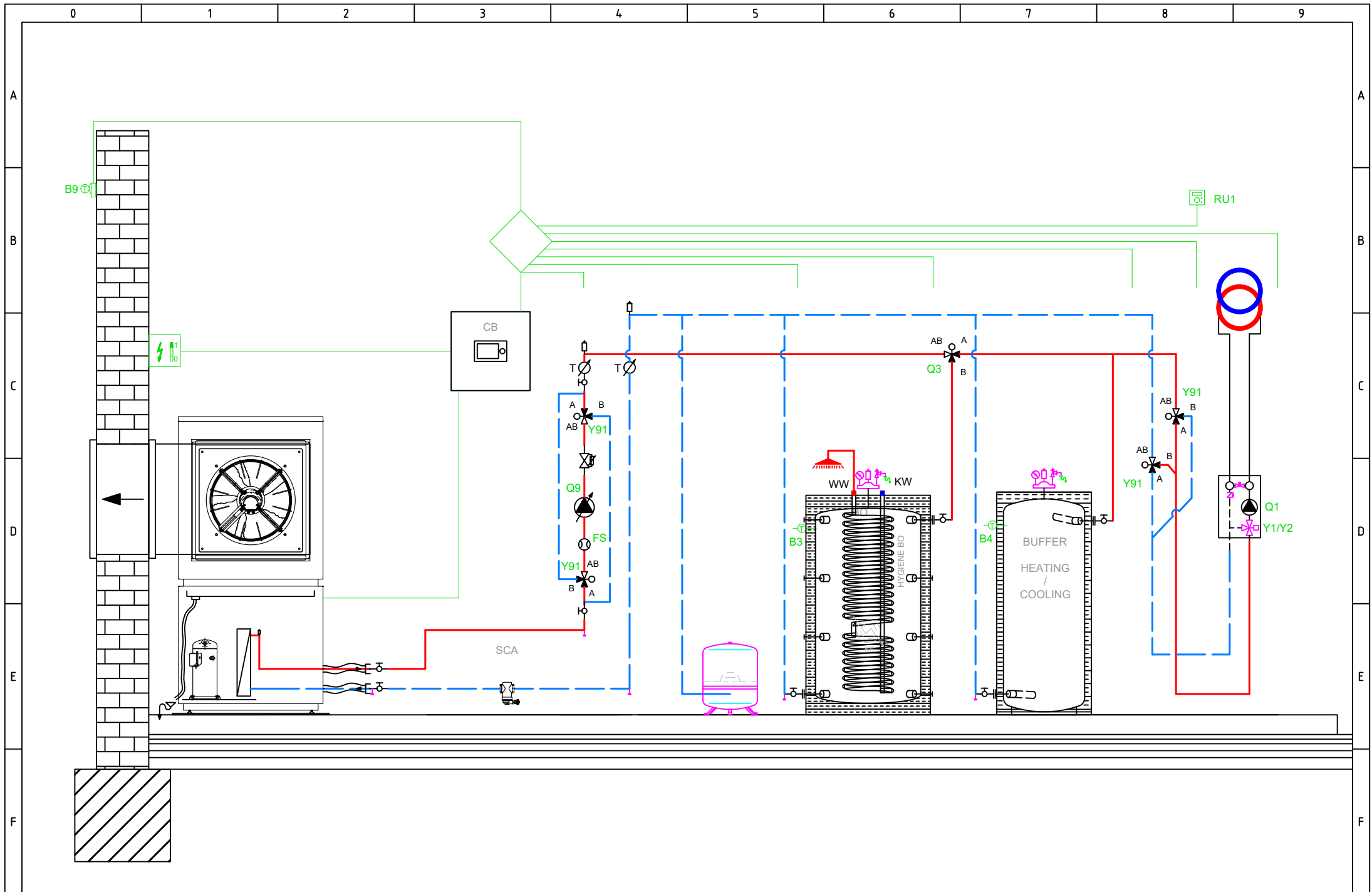








BASIC APPLICATION



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
- E21 Mains supervision E21
- K82 Valve EVI K82

K40 Crankcase heater K40

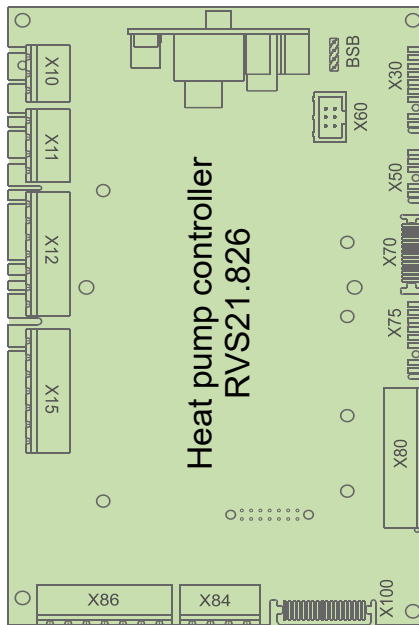
- L Phase 230V
- K1 Compressor stage 1 K1
- Y22 Process revers valve Y22

Q9 Condenser pump Q9

X10	1	L
X10	1	PE
X10	1	N
X11	1	EX1
X11	1	EX2
X11	1	EX3
X11	1	EX4
X12	1	QX1
X12	1	N
X12	1	QX2
X12	1	QX2i
X12	1	N
X12	1	FX3
X15	1	QX3
X15	1	QX4
X15	1	QX4i
X15	1	N
X15	1	QX5
X15	1	N
X15	1	ZX6
X15	1	N
X86	1	GX1
X86	1	H3
X86	1	M
X86	1	H1
X86	1	G+
X86	1	M
X86	1	BSB



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



BSB	Connection service tool (OCI700)
X30	Operating unit (HMI) AVS37.xxx
X60	Modbus clip-in OCI351.01
X50	Extension module AVS75.xxx
X70	LPB clip-in

D1	D1	Digital output 1 Heating
D2	D2	Digital output 2 Cooling
D3	D3	Digital output 3 HP On/Off
UX3		
M	X75	
DI6		DI6 Digital input 6 Defrosting
DI7		DI7 Digital input 7 Alarm
M	1	

BX1	B91	Source inlet sensor B91
M		
BX2	B84	Source outl sens B92/B84
M		
UX1	X80	K19 Fan K19
M		0..10 V Signal
UX2		Q9 Condenser pump Q9
M	1	PWM Signal

BX3	B71	HP return sensor B71
M		
BX4	X84	B9 Outside sensor B9
M	1	

Main power supply 230V / 50 Hz  
Ground  
Neutral conductor

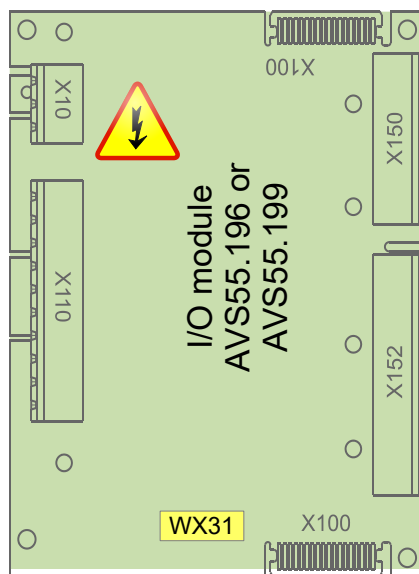
K10 Alarm output K10

V81 EEV evaporator V81

X10	1	L
X10	1	PE
X10	1	N
X110	1	QX31
X110	1	QX32
X110	1	N
X110	1	QX33
X110	1	N
X110	1	ZX34
X110	1	N
X115	1	QX35
X115	1	QX35i
X115	1	N

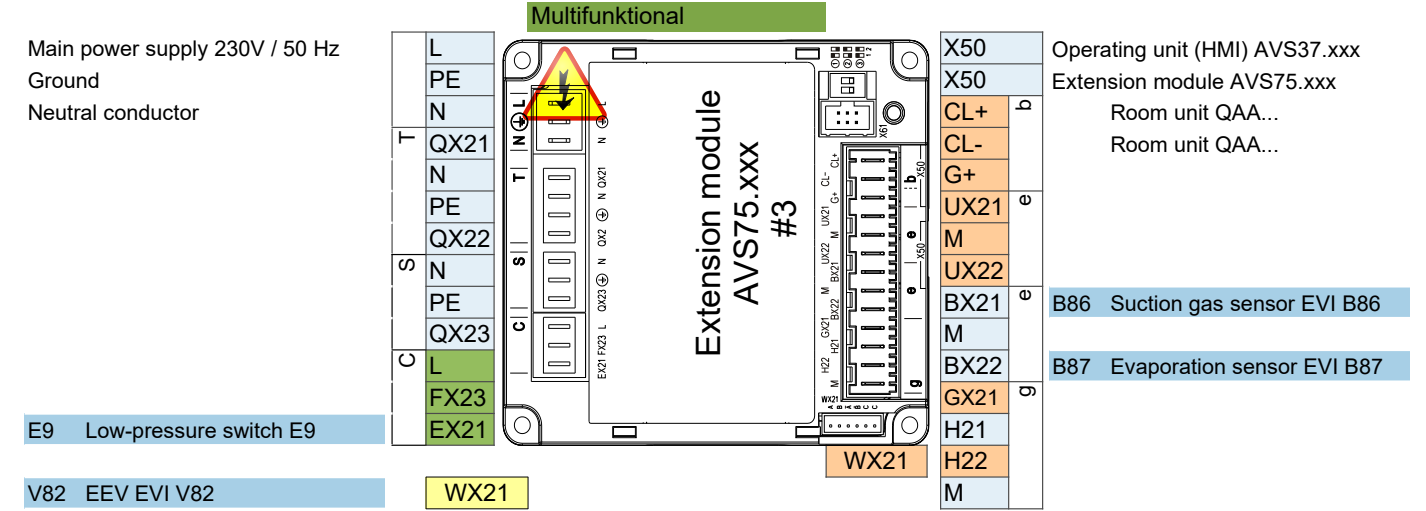
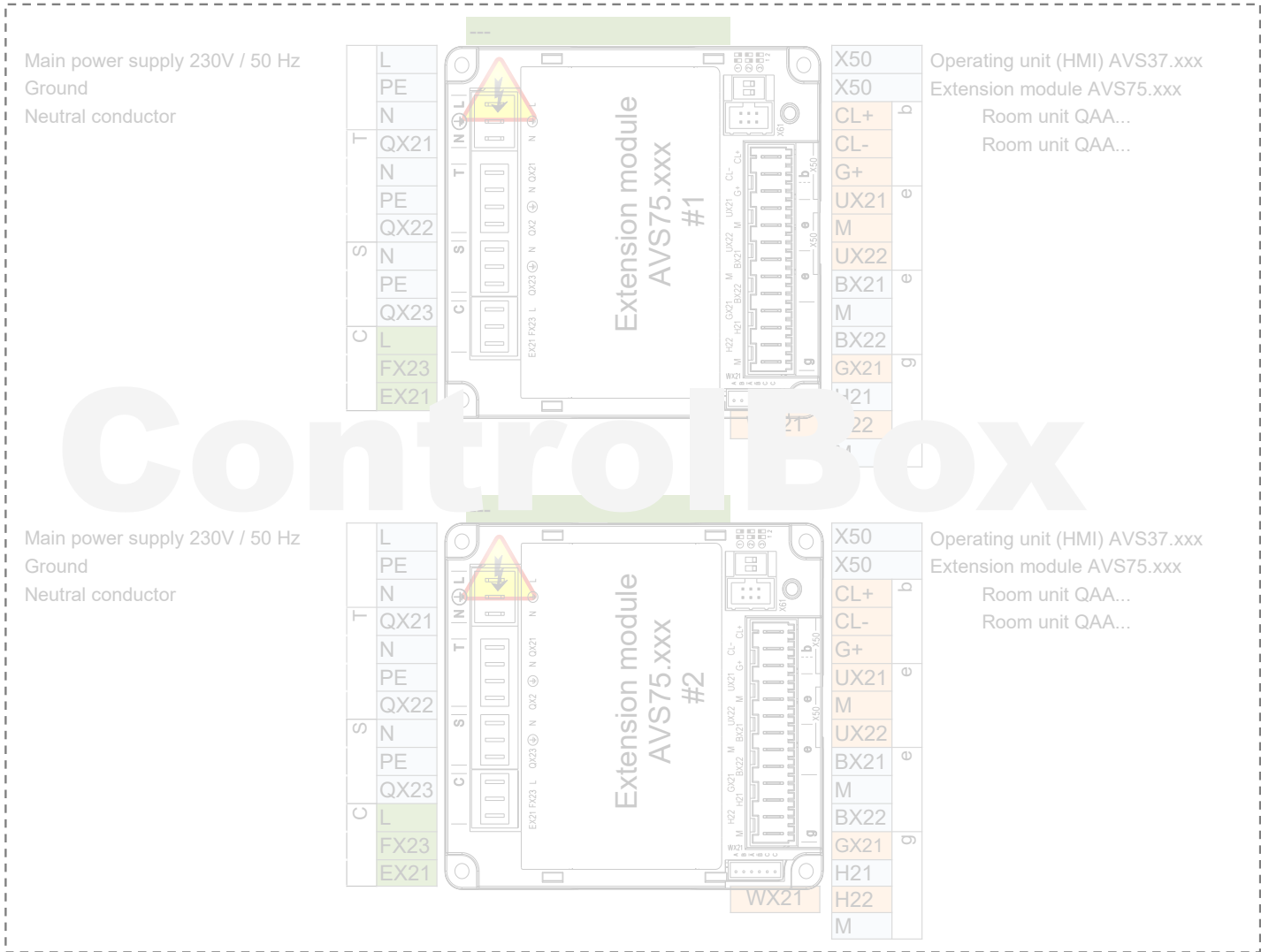


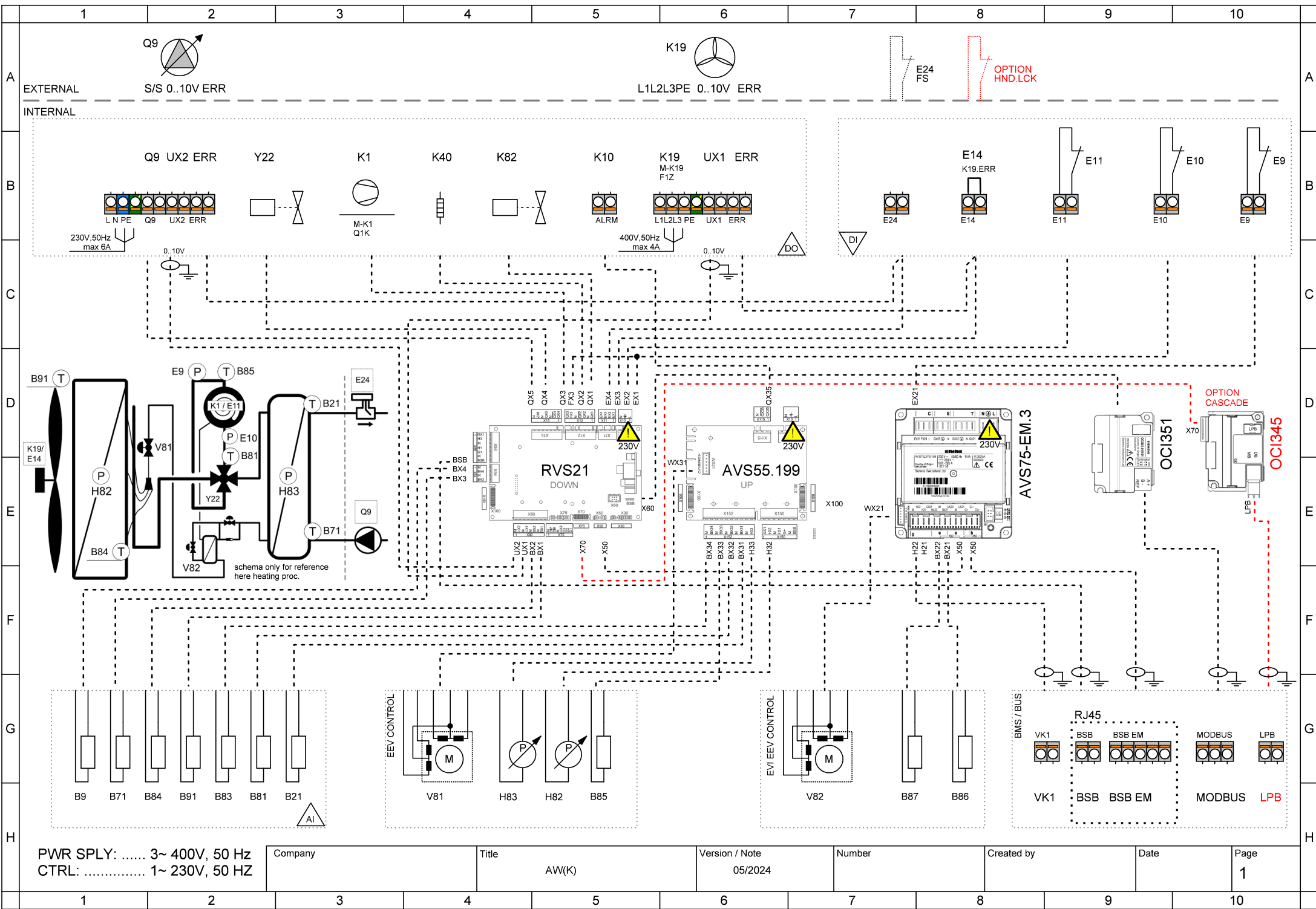
I/O module  
AVS55.196 or  
AVS55.199



BSB		
M		
G+	X150	5 V/12 V for active sensors
H31		Flow measurement 10V
M		
H32		Low pressure 0..10V
GX1	1	5 V/12 V for active sensors
H33		High pressure 0..10V
M		
BX31	B21	HP flow sensor B21
M		
BX32	B81	Hot-gas sensor B81
M		
BX33	B85	Suction gas sensor B85
M		
BX34	B83	Refrig sensor liquid B83
M	1	

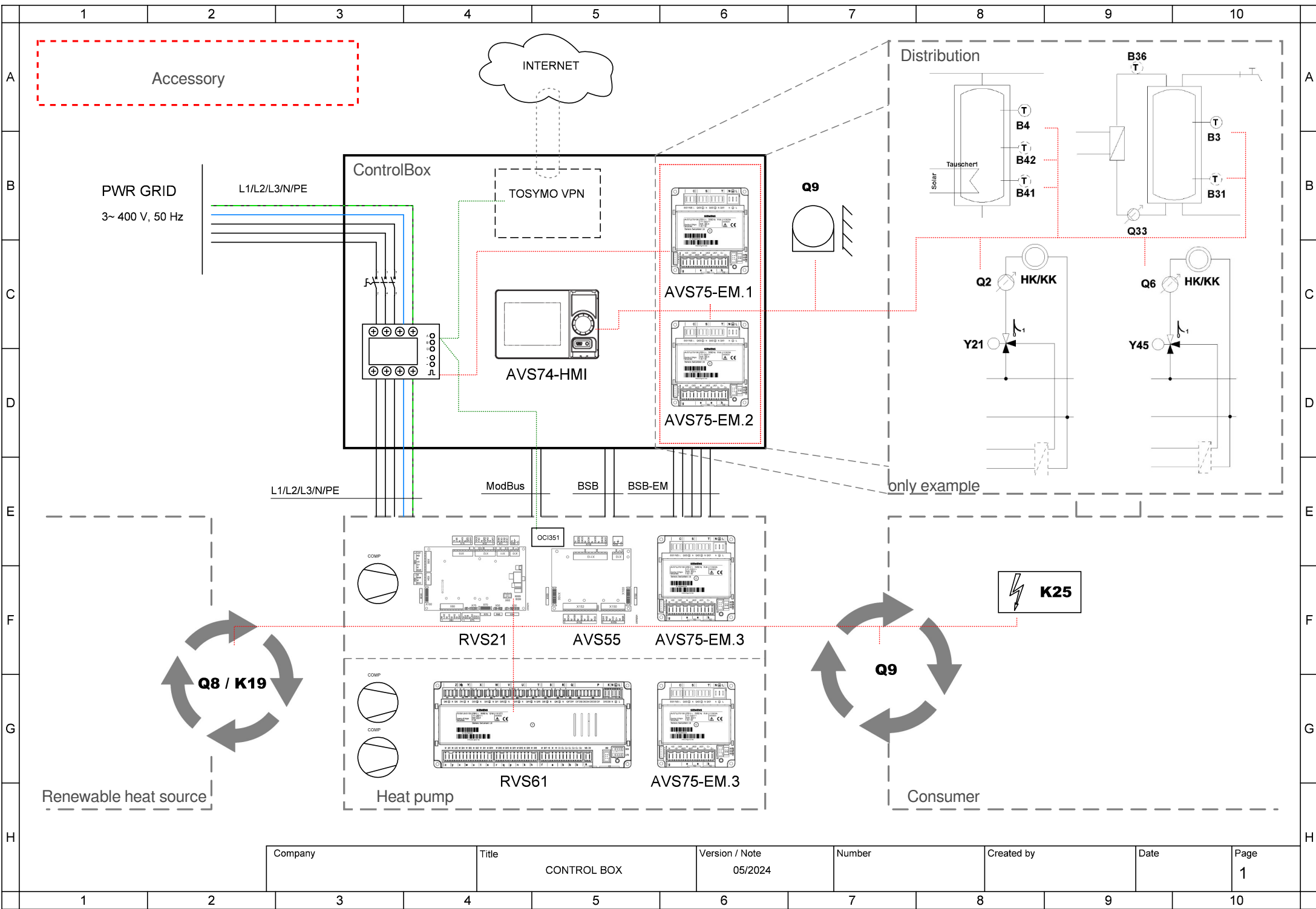
- AVS75.390
- AVS75.391
- AVS75.370





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

Company	Title	Version / Note	Number	Created by	Date	Page
	AW(K)	05/2024				1



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







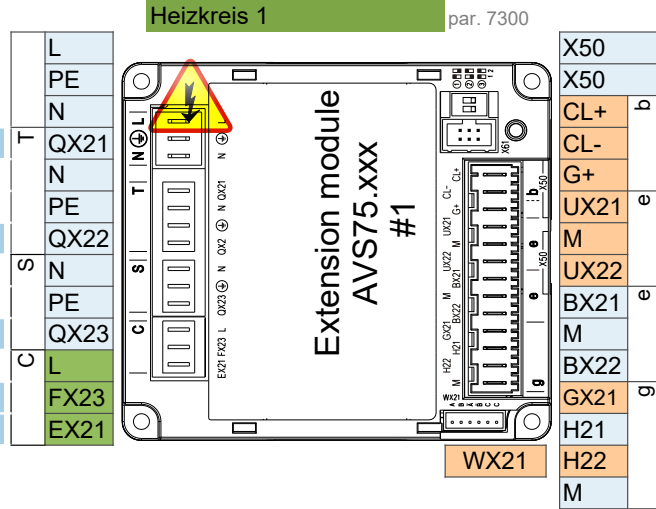
Company	Title	Version / Note	Number	Created by	Date	Page
	CONTROL BOX	05/2024				3



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

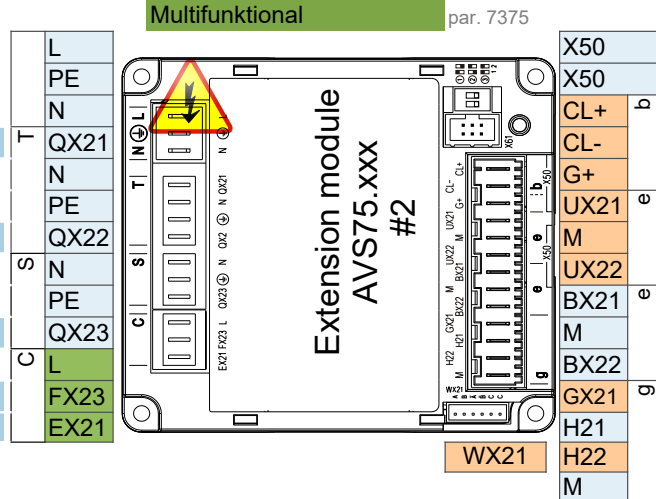
- AVS75.390
- AVS75.391
- AVS75.370

- 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



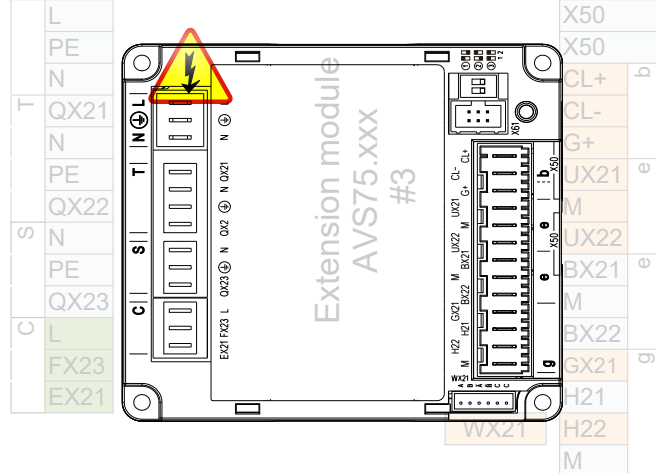
- Extension module AVS75.xxx  
 Room unit QAA...  
 Room unit QAA...  
  
**B1** Flow sensor 1  
  
 Pulse count

- 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 mm<sup>2</sup> - 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 mm<sup>2</sup> - 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 0.25mm<sup>2</sup>

For ModBus mapping table contact technical support

### 5 MQTT IoT communication protocol

---

For more information contact technical support