

## Basic performance data - WAMAK AiWa 18 EVI H In

Heating - EN 14511		
Heating capacity [kW]	A7 / W35	20.7
	A2 / W35	17.6
	A-7 / W34	14.8
Electrical power input [kW]	A7 / W35	4.5
	A2 / W35	4.6
	A-7 / W34	4.4
Heating efficiency faktor [COP]	A7 / W35	4.57
	A2 / W35	3.87
	A-7 / W34	3.32
Seasonal space heating energy efficiency - SCOP EN 14825		
Average Climate / Low Temperature [35 °C]	SCOP	4.37
	$\eta$ [%]	174.8
	Label	A+++
	Qhe [ kWh ]	34502.2
	Pdesignh [ kW ]	16.7
	Tbivalent [ °C ]	-7
Cooling		
Cooling capacity - [kW]	A35 / W23-18	19.9
	A25 / W23-18	20.9
	A35 / W12-7	14.8
	A25 / W12-7	14.8
Seasonal space cooling energy efficiency - SEER EN 14825		
[ W 23 / 18 °C ]	SEER	4.44
	Qce [ kWh ]	8880.0
	$\eta_c$ [%]	177.4
Sound EN 12102		
Acoustic power - Lw	dB(A)	66.5
Acoustic pressure - Lp	1 m dB(A)	58.5
	5 m dB(A)	44.5
	10 m dB(A)	38.5
Mechanical and operational information		
Compressor type (3~ 400/50)	SCROLL / 1 /	On/Off
Refrigerant	R410A (GWP - 2088)	6 kg
Operating limit temperatures heating - (min / max ) [ °C ]		25 / <b>65</b>
Operating limit temperatures source - (min / max ) [ °C ]		<b>-22</b> / 40
Weight		300 kg

## Main technical data - WAMAK AiWa 18 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	for more see operating limits diagram	Condenser	Port size	1.1/4 "
	Width [mm]	1420		MIN [°C]	25			Type	BPHE
	Length [mm]	660		Count	1			Material	AISI 316
Weight [kg]	300		Maximal operating pressure - refrigerant [bar]	45		Maximal operating pressure - Water [bar]	6		
Colour	Gray		Testing pressure [bar]	70			Heat transfer medium	Water	
Enclosure IP Class	IP44		Volume flow @ dT 5K (nom) - Water [m3/h]	3.59			Internal pressure drop - Water [kPa]	15	
Refrigeration cycle			Refrigerant	R410A		ECM speed circulator - condenser	UPMXL GEO 32-125		
Compressor	Type	Scroll	Refrigeration oil type	POE RL32-3MAF		Flow sensor consumer - analogue	0..10V		
	Number of stages	1	Oil volume	1.89 L		Temperature difference @ 35°C (nom)	5 K		
	On/Off		Maximal pressure - refrigerant [bar]	45		@ 55°C	8 K		
	Power factor Cosφ	0.64	PED class	1		@ 65°C	10 K		
	Winding resistance	1.79 Ohm	EVI - vapour injection with economizer			Renewable energy extraction side data			
Refrigerant			Reversible operation (cooling)			Operating limit temperatures source	MIN [°C]	-22	
GWP	2088		Reverse defrosting with hot gas				MAX [°C]	40	
Safety class	A1		Plate exchanger protection HG-BYPASS			for more see operating limits diagram			
Refrigeration oil type	POE RL32-3MAF		Electrical connection data			Evaporator	Port size	1200mm x 1200mm "	
Oil volume	1.89 L		Line voltage [#~ V/Hz]	3~ 400/50			Type	Cu-coil /Al-fin	
Maximal pressure - refrigerant [bar]	45		Current	nominal [A]	9.32		Count	1	
PED class	1			maximal [A]	16.00		Material	Cu/Al	
EVI - vapour injection with economizer				starting [A]	18.9		Maximal operating pressure - refrigerant [bar]	28	
APS System of liquid subcooling			Softstart	MCI 15		Heat transfer medium	Air		
Reversible operation (cooling)			Main safety	C25		Volume flow - Air [m3/h]	6470		
Reverse defrosting with hot gas			Control System			Internal pressure drop - Air [kPa]	0.024		
Plate exchanger protection HG-BYPASS			Main controller	SIEMENS	RVS 21 AVS 55.199	Temperature difference - Air	7 K		
Electrical connection data			Extension module	AVS75.3xx	AVS75.3xx	Number of fans	1		
Line voltage [#~ V/Hz]	3~ 400/50		Bus Clip-In	LPB OCI346	Modbus OCI352	Fan diameter [mm]	800		
Current	nominal [A]	9.32	Online connection	Web server OZW672	ToSyMo				
	maximal [A]	16.00	Superheat controller	1 - EEV H/C					
	starting [A]	18.9	*** with accessory						

## WAMAK AiWa 18 EVI H In

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

Model	AiWa 18 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	16.7	kW	Seasonal space heating energy efficiency	$\eta_s$	174.8	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7 °C	Pdh	14.8	kW	Tj = -7 °C	COPd	3.32	-
Tj = +2 °C	Pdh	17.5	kW	Tj = +2 °C	COPd	4.3	-
Tj = +7 °C	Pdh	20.6	kW	Tj = +7 °C	COPd	5.5	-
Tj = +12 °C	Pdh	24.4	kW	Tj = +12 °C	COPd	6.8	-
Tj = bivalent temperature	Pdh	14.5	kW	Tj = bivalent temperature	COPd	3.2	-
Tj = operation limit temperature	Pdh	10.6	kW	Tj = operation limit temperature	COPd	2.4	-
Bivalent temperature	Tbiv	-7	°C	Tj = operation limit temperature	TOL	-22	°C
Power consumption in modes other than active mode				Heating water operating limit temperature	WTOL	65	°C
Off mode	Poff	0.010	kW	Supplementary heater			
Thermostat-off mode	Pto	0.010	kW	Rated heat output	Psup	7.4	kW
Standby mode	Psb	0.010	kW	Type of energy input	electricity		
Crankcase heater mode	Pck	0.050	kW	For air-to-water heat pumps:			
Other items				Rated air flow rate, outdoors	-	6470	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			
Sound power level							
indoors	Lwa	67	dB				
outdoors	Lwa	---	dB				
Annual energy consumption	Q <sub>HE</sub>	34502.2	kWh				

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

Model	AiWa 18 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	17.8	kW	Seasonal space heating energy efficiency	$\eta_s$	136.2	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7 °C	Pdh	15.6	kW	Tj = -7 °C	COPd	2.31	-
Tj = +2 °C	Pdh	17.8	kW	Tj = +2 °C	COPd	3.3	-
Tj = +7 °C	Pdh	20.7	kW	Tj = +7 °C	COPd	4.5	-
Tj = +12 °C	Pdh	24.3	kW	Tj = +12 °C	COPd	6.0	-
Tj = bivalent temperature	Pdh	15.4	kW	Tj = bivalent temperature	COPd	2.1	-
Tj = operation limit temperature	Pdh	11.3	kW	Tj = operation limit temperature	COPd	1.7	-
Bivalent temperature	Tbiv	-7	°C	Tj = operation limit temperature	TOL	-22	°C
Power consumption in modes other than active mode				Heating water operating limit temperature	WTOL	65	°C
Off mode	Poff	0.010	kW	Supplementary heater			
Thermostat-off mode	Pto	0.010	kW	Rated heat output	Psup	7.4	kW
Standby mode	Psb	0.010	kW	Type of energy input	electricity		
Crankcase heater mode	Pck	0.050	kW	For air-to-water heat pumps:			
Other items				Rated air flow rate, outdoors	-	6470	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			
Sound power level							
indoors	Lwa	67	dB				
outdoors	Lwa	---	dB				
Annual energy consumption	Q <sub>HE</sub>	36774.8	kWh				

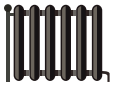
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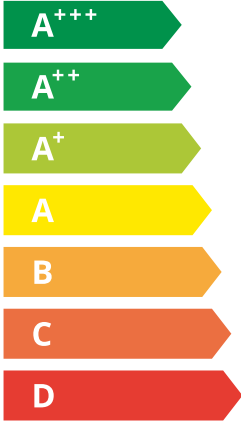


AiWa 18 EVI H In



55 °C

35 °C



67 dB

--- dB

■ 19	■ 18
■ 18	■ 17
■ 18	■ 16
kW	kW

2019

811/2013

AiWa 18 EVI H In

ErP Data

	55 °C	35 °C
Energy class	A++	A+++
$\eta$ [%]	136.2	174.8
$P_{rated}$ [kW]	18	17
$Q_{HE}$ [kWh/y]	36775	34503
SCOP [-]	3.40	4.37
$T_{bivalent}$ [°C]	-7	-7

CONTROLLER



+ QAA55/75 class VII 3.5% ↓  
- QAA55/75 class III 1.5% ↓

Heating performance data

Version: v2024.004-AW

Average Climate / Low Temperature [35°C]

ZHI18K1P-TFM\_R410A\_1\_AW

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

SCOP DATA EN 14825:2018	
<b>Average Climate / Low Temperature [35°C]</b>	
SCOPon	4.50
SCOPnet	4.54
SCOP	4.37
η [%]	174.80
Label	A+++
Qh [ kWh ]	34502.20
Pdesignh [ kW ]	16.7
Tbivalent [ °C ]	-7.00

Average Climate / Medium Temperature [55°C]

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

SCOP DATA EN 14825:2018	
<b>Average Climate / Medium Temperature [55°C]</b>	
SCOPon	3.48
SCOPnet	3.51
SCOP	3.40
η [%]	136.16
Label	A++
Qh [ kWh ]	36774.80
Pdesignh [ kW ]	17.8
Tbivalent [ °C ]	-7.00

Cooling performance data

Low temperature cooling W 12 / 7°C

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

SEER DATA EN 14825:2018 [ W 12 / 7°C ]	
SEERon	3.50
SEER	3.36
Qc [ kWh ]	8880.00
η [%]	134.20

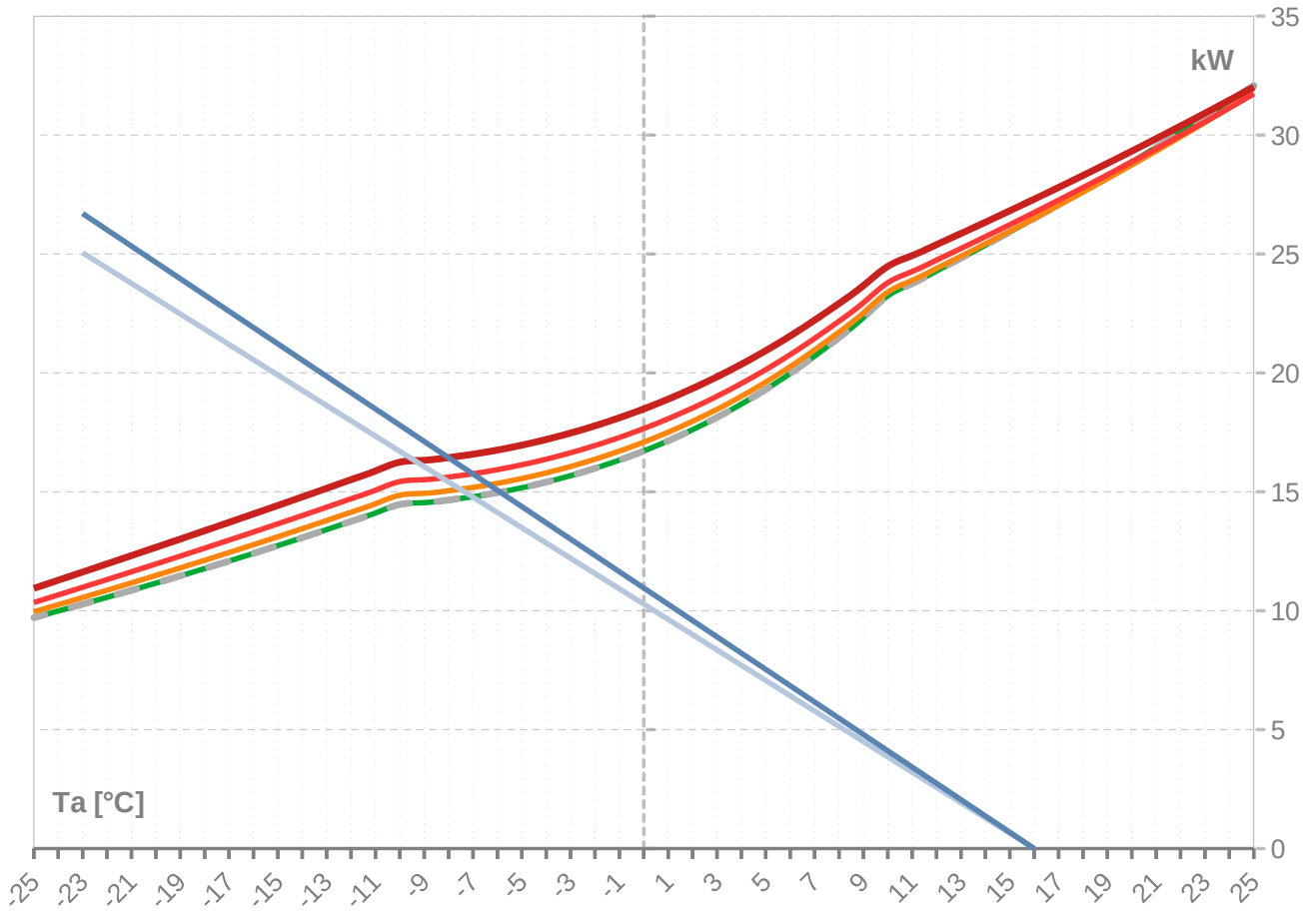
Radiant cooling W 23 / 18°C

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

SEER DATA EN 14825:2018 [ W 23 / 18°C ]	
SEERon	4.69
SEER	4.44
Qc [ kWh ]	8880.00
η [%]	177.43

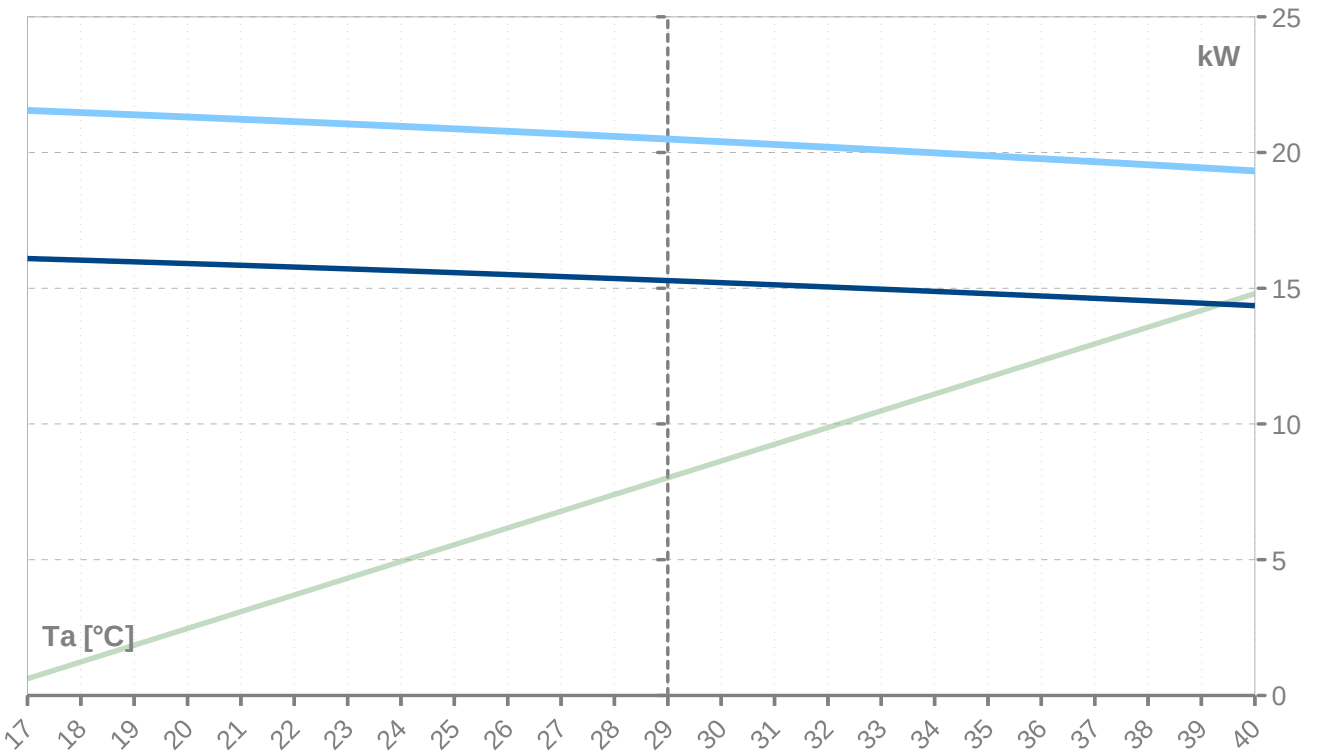
Performance lines - heating

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

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

\* attention: operating limits not reflected in performance table

Th [°C]		55 °C								
Ta [°C]	Qh nom [kW]	Qh min [kW]	Qh max [kW]	Pin nom [kW]	Pin-min [kW]	Pin-max [kW]	COP kW / kW	I nom [A]	I min [A]	I max [A]
25	31.7	31.7	31.7	7.4	7.4	7.4	4.29	12.3	12.3	12.3
24	31.1	31.1	31.1	7.4	7.4	7.4	4.21	12.3	12.3	12.3
23	30.6	30.6	30.6	7.4	7.4	7.4	4.13	12.3	12.3	12.3
22	30.0	30.0	30.0	7.4	7.4	7.4	4.04	12.4	12.4	12.4
21	29.4	29.4	29.4	7.4	7.4	7.4	3.96	12.4	12.4	12.4
20	28.9	28.9	28.9	7.4	7.4	7.4	3.89	12.4	12.4	12.4
19	28.3	28.3	28.3	7.4	7.4	7.4	3.81	12.4	12.4	12.4
18	27.8	27.8	27.8	7.4	7.4	7.4	3.73	12.4	12.4	12.4
17	27.3	27.3	27.3	7.5	7.5	7.5	3.66	12.4	12.4	12.4
16	26.7	26.7	26.7	7.5	7.5	7.5	3.59	12.4	12.4	12.4
15	26.2	26.2	26.2	7.5	7.5	7.5	3.52	12.4	12.4	12.4
14	25.7	25.7	25.7	7.5	7.5	7.5	3.45	12.4	12.4	12.4
13	25.2	25.2	25.2	7.5	7.5	7.5	3.38	12.4	12.4	12.4
12	24.7	24.7	24.7	7.5	7.5	7.5	3.31	12.4	12.4	12.4
11	24.3	24.3	24.3	7.5	7.5	7.5	3.25	12.4	12.4	12.4
10	23.8	23.8	23.8	7.5	7.5	7.5	3.19	12.4	12.4	12.4
9	23.0	23.0	23.0	7.5	7.5	7.5	3.07	12.4	12.4	12.4
8	22.2	22.2	22.2	7.5	7.5	7.5	2.97	12.4	12.4	12.4
7	21.5	21.5	21.5	7.5	7.5	7.5	2.88	12.4	12.4	12.4
6	20.8	20.8	20.8	7.4	7.4	7.4	2.79	12.4	12.4	12.4
5	20.1	20.1	20.1	7.4	7.4	7.4	2.71	12.4	12.4	12.4
4	19.6	19.6	19.6	7.4	7.4	7.4	2.64	12.4	12.4	12.4
3	19.0	19.0	19.0	7.4	7.4	7.4	2.57	12.3	12.3	12.3
2	18.5	18.5	18.5	7.4	7.4	7.4	2.51	12.3	12.3	12.3
1	18.1	18.1	18.1	7.4	7.4	7.4	2.46	12.3	12.3	12.3
0	17.7	17.7	17.7	7.3	7.3	7.3	2.41	12.3	12.3	12.3
-1	17.3	17.3	17.3	7.3	7.3	7.3	2.36	12.3	12.3	12.3
-2	16.9	16.9	16.9	7.3	7.3	7.3	2.32	12.2	12.2	12.2
-3	16.6	16.6	16.6	7.3	7.3	7.3	2.29	12.2	12.2	12.2
-4	16.4	16.4	16.4	7.3	7.3	7.3	2.25	12.2	12.2	12.2
-5	16.1	16.1	16.1	7.2	7.2	7.2	2.23	12.2	12.2	12.2
-6	15.9	15.9	15.9	7.2	7.2	7.2	2.20	12.2	12.2	12.2
-7	15.8	15.8	15.8	7.2	7.2	7.2	2.18	12.1	12.1	12.1
-8	15.6	15.6	15.6	7.2	7.2	7.2	2.17	12.1	12.1	12.1
-9	15.5	15.5	15.5	7.2	7.2	7.2	2.15	12.1	12.1	12.1
-10	15.4	15.4	15.4	7.2	7.2	7.2	2.14	12.1	12.1	12.1
-11	15.1	15.1	15.1	7.2	7.2	7.2	2.10	12.1	12.1	12.1
-12	14.7	14.7	14.7	7.1	7.1	7.1	2.06	12.1	12.1	12.1
-13	14.4	14.4	14.4	7.1	7.1	7.1	2.02	12.0	12.0	12.0
-14	14.0	14.0	14.0	7.1	7.1	7.1	1.98	12.0	12.0	12.0
-15	13.7	13.7	13.7	7.0	7.0	7.0	1.95	11.9	11.9	11.9
-16	13.3	13.3	13.3	7.0	7.0	7.0	1.91	11.9	11.9	11.9
-17	13.0	13.0	13.0	6.9	6.9	6.9	1.87	11.8	11.8	11.8
-18	12.6	12.6	12.6	6.9	6.9	6.9	1.83	11.8	11.8	11.8
-19	12.3	12.3	12.3	6.8	6.8	6.8	1.80	11.7	11.7	11.7
-20	12.0	12.0	12.0	6.8	6.8	6.8	1.76	11.7	11.7	11.7
-21	11.6	11.6	11.6	6.7	6.7	6.7	1.73	11.6	11.6	11.6
-22	11.3	11.3	11.3	6.7	6.7	6.7	1.69	11.6	11.6	11.6
-23	11.0	11.0	11.0	6.6	6.6	6.6	1.66	11.5	11.5	11.5
-24	10.7	10.7	10.7	6.6	6.6	6.6	1.62	11.5	11.5	11.5
-25	10.3	10.3	10.3	6.5	6.5	6.5	1.59	11.4	11.4	11.4

\* attention: operating limits not reflected in performance table

Th [°C]		T-Max @ 65 °C								
Ta [°C]	Qh nom [kW]	Qh min [kW]	Qh max [kW]	Pin nom [kW]	Pin-min [kW]	Pin-max [kW]	COP kW / kW	I nom [A]	I min [A]	I max [A]
25	32.0	32.0	32.0	9.7	9.7	9.7	3.30	15.1	15.1	15.1
24	31.5	31.5	31.5	9.7	9.7	9.7	3.24	15.1	15.1	15.1
23	30.9	30.9	30.9	9.7	9.7	9.7	3.18	15.1	15.1	15.1
22	30.4	30.4	30.4	9.7	9.7	9.7	3.13	15.1	15.1	15.1
21	29.8	29.8	29.8	9.7	9.7	9.7	3.07	15.1	15.1	15.1
20	29.3	29.3	29.3	9.7	9.7	9.7	3.02	15.1	15.1	15.1
19	28.8	28.8	28.8	9.7	9.7	9.7	2.96	15.1	15.1	15.1
18	28.3	28.3	28.3	9.7	9.7	9.7	2.91	15.1	15.1	15.1
17	27.8	27.8	27.8	9.7	9.7	9.7	2.86	15.1	15.1	15.1
16	27.3	27.3	27.3	9.7	9.7	9.7	2.81	15.1	15.1	15.1
15	26.8	26.8	26.8	9.7	9.7	9.7	2.76	15.1	15.1	15.1
14	26.3	26.3	26.3	9.7	9.7	9.7	2.71	15.1	15.1	15.1
13	25.9	25.9	25.9	9.7	9.7	9.7	2.66	15.1	15.1	15.1
12	25.4	25.4	25.4	9.7	9.7	9.7	2.62	15.1	15.1	15.1
11	24.9	24.9	24.9	9.7	9.7	9.7	2.57	15.1	15.1	15.1
10	24.5	24.5	24.5	9.7	9.7	9.7	2.53	15.1	15.1	15.1
9	23.7	23.7	23.7	9.7	9.7	9.7	2.45	15.0	15.0	15.0
8	22.9	22.9	22.9	9.6	9.6	9.6	2.38	15.0	15.0	15.0
7	22.2	22.2	22.2	9.6	9.6	9.6	2.31	15.0	15.0	15.0
6	21.6	21.6	21.6	9.6	9.6	9.6	2.25	14.9	14.9	14.9
5	20.9	20.9	20.9	9.5	9.5	9.5	2.19	14.9	14.9	14.9
4	20.4	20.4	20.4	9.5	9.5	9.5	2.14	14.9	14.9	14.9
3	19.8	19.8	19.8	9.5	9.5	9.5	2.10	14.8	14.8	14.8
2	19.3	19.3	19.3	9.4	9.4	9.4	2.05	14.8	14.8	14.8
1	18.9	18.9	18.9	9.4	9.4	9.4	2.01	14.7	14.7	14.7
0	18.5	18.5	18.5	9.4	9.4	9.4	1.98	14.7	14.7	14.7
-1	18.1	18.1	18.1	9.3	9.3	9.3	1.94	14.7	14.7	14.7
-2	17.8	17.8	17.8	9.3	9.3	9.3	1.92	14.6	14.6	14.6
-3	17.5	17.5	17.5	9.2	9.2	9.2	1.89	14.6	14.6	14.6
-4	17.2	17.2	17.2	9.2	9.2	9.2	1.87	14.5	14.5	14.5
-5	17.0	17.0	17.0	9.2	9.2	9.2	1.85	14.5	14.5	14.5
-6	16.8	16.8	16.8	9.2	9.2	9.2	1.83	14.5	14.5	14.5
-7	16.6	16.6	16.6	9.1	9.1	9.1	1.81	14.5	14.5	14.5
-8	16.4	16.4	16.4	9.1	9.1	9.1	1.80	14.4	14.4	14.4
-9	16.3	16.3	16.3	9.1	9.1	9.1	1.79	14.4	14.4	14.4
-10	16.2	16.2	16.2	9.1	9.1	9.1	1.79	14.4	14.4	14.4
-11	15.9	15.9	15.9	9.0	9.0	9.0	1.76	14.4	14.4	14.4
-12	15.5	15.5	15.5	9.0	9.0	9.0	1.73	14.3	14.3	14.3
-13	15.1	15.1	15.1	8.9	8.9	8.9	1.70	14.2	14.2	14.2
-14	14.8	14.8	14.8	8.9	8.9	8.9	1.67	14.2	14.2	14.2
-15	14.4	14.4	14.4	8.8	8.8	8.8	1.64	14.1	14.1	14.1
-16										
-17										
-18										
-19										
-20										
-21										
-22										
-23										
-24										
-25										

\* attention: operating limits not reflected in performance table

Tc [°C]		W 12 / 7 °C								
Ta [°C]	Qc nom [kW]	Qc min [kW]	Qc max [kW]	Pin [kW]	Pin min [kW]	Pin max [kW]	EER kW / kW	I nom [A]	I min [A]	I max [A]
40	14.4	14.4	14.4	6.2	6.2	6.2	2.30	11.1	11.1	11.1
39	14.5	14.5	14.5	6.1	6.1	6.1	2.38	10.9	10.9	10.9
38	14.5	14.5	14.5	5.9	5.9	5.9	2.45	10.7	10.7	10.7
37	14.6	14.6	14.6	5.8	5.8	5.8	2.53	10.6	10.6	10.6
36	14.7	14.7	14.7	5.6	5.6	5.6	2.61	10.5	10.5	10.5
35	14.8	14.8	14.8	5.5	5.5	5.5	2.69	10.3	10.3	10.3
34	14.9	14.9	14.9	5.4	5.4	5.4	2.77	10.2	10.2	10.2
33	15.0	15.0	15.0	5.2	5.2	5.2	2.86	10.1	10.1	10.1
32	15.0	15.0	15.0	5.1	5.1	5.1	2.94	9.9	9.9	9.9
31	15.1	15.1	15.1	5.0	5.0	5.0	3.03	9.8	9.8	9.8
30	15.2	15.2	15.2	4.9	4.9	4.9	3.12	9.7	9.7	9.7
29	15.3	15.3	15.3	4.8	4.8	4.8	3.21	9.6	9.6	9.6
28	15.4	15.4	15.4	4.6	4.6	4.6	3.30	9.5	9.5	9.5
27	15.4	15.4	15.4	4.5	4.5	4.5	3.40	9.4	9.4	9.4
26	15.5	15.5	15.5	4.4	4.4	4.4	3.50	9.3	9.3	9.3
25	15.6	15.6	15.6	4.3	4.3	4.3	3.59	9.2	9.2	9.2
24	15.6	15.6	15.6	4.2	4.2	4.2	3.69	9.1	9.1	9.1
23	15.7	15.7	15.7	4.1	4.1	4.1	3.80	9.0	9.0	9.0
22	15.8	15.8	15.8	4.0	4.0	4.0	3.90	8.9	8.9	8.9
21	15.8	15.8	15.8	4.0	4.0	4.0	4.00	8.9	8.9	8.9
20	15.9	15.9	15.9	3.9	3.9	3.9	4.11	8.8	8.8	8.8
19	16.0	16.0	16.0	3.8	3.8	3.8	4.22	8.7	8.7	8.7
18	16.0	16.0	16.0	3.7	3.7	3.7	4.33	8.6	8.6	8.6
17	16.1	16.1	16.1	3.6	3.6	3.6	4.44	8.6	8.6	8.6

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

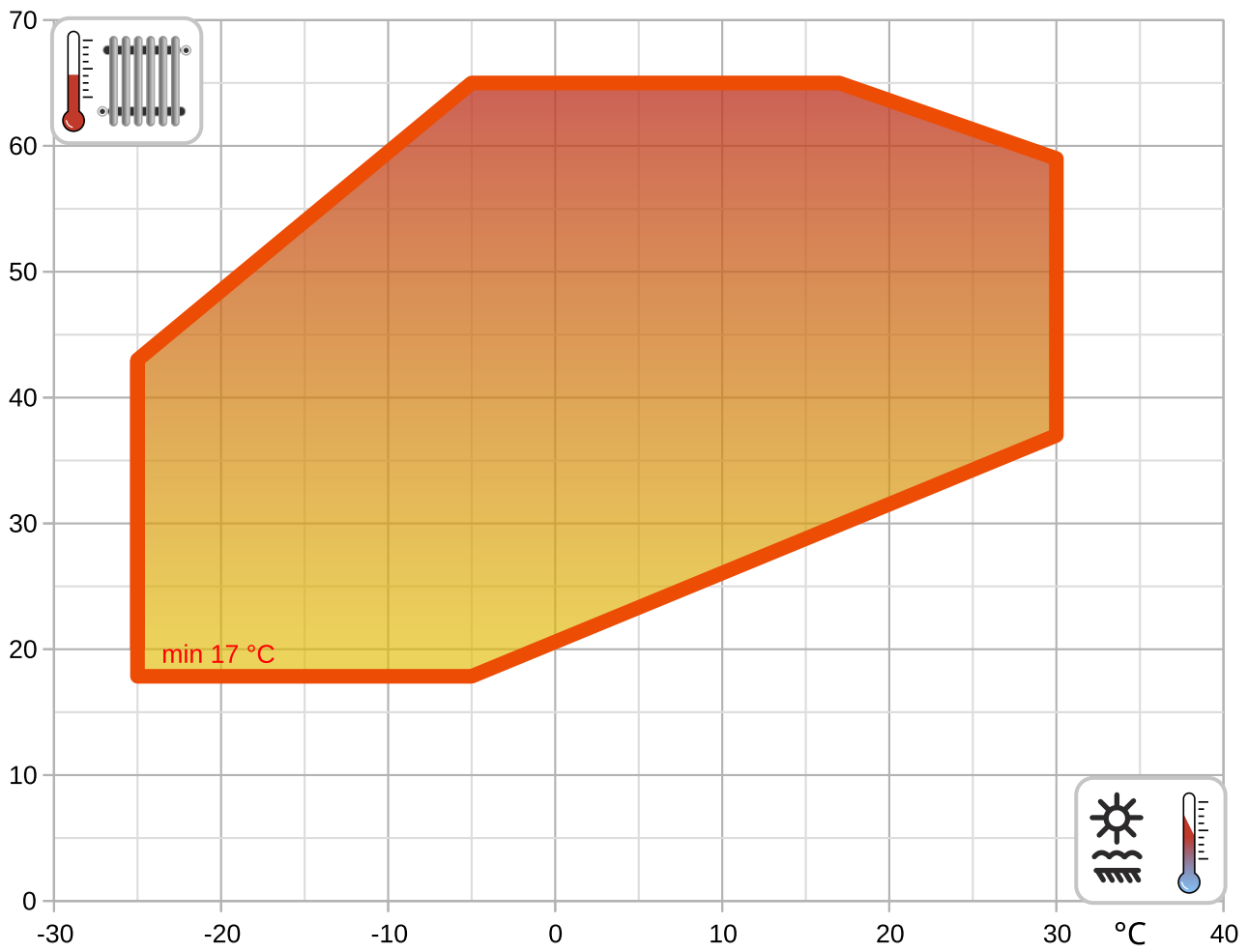
\* attention: operating limits not reflected in performance table

LEGENDE:

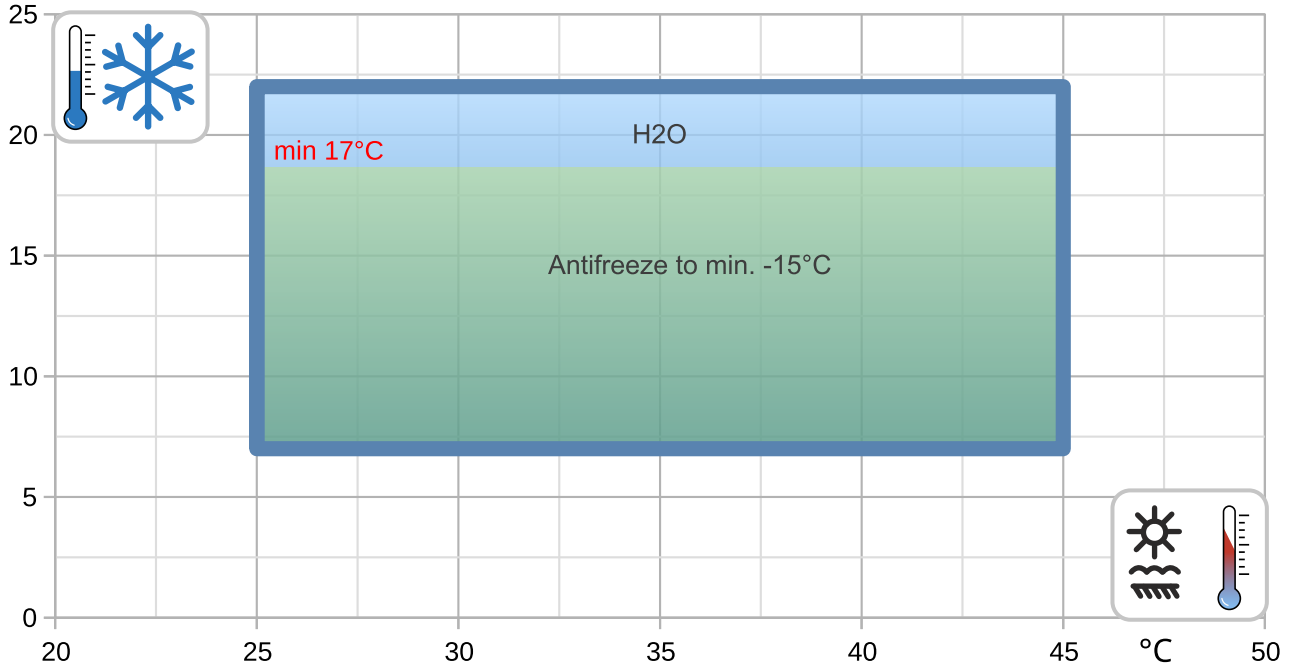
Ts-IN: Temperature renewable source - inlet [°C]  
Th-OU: Temperature heating - outlet (flow) [°C]  
Tc-OU: Temperature cooling - outlet (flow) [°C]  
Qh nom: Heating capacity nominal  
Qh min: Heating capacity minimal  
Qh max: Heating capacity maximal  
Pin nom: Power input at nominal heating capacity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

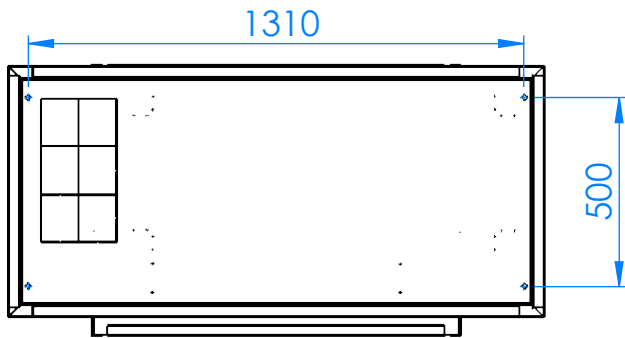
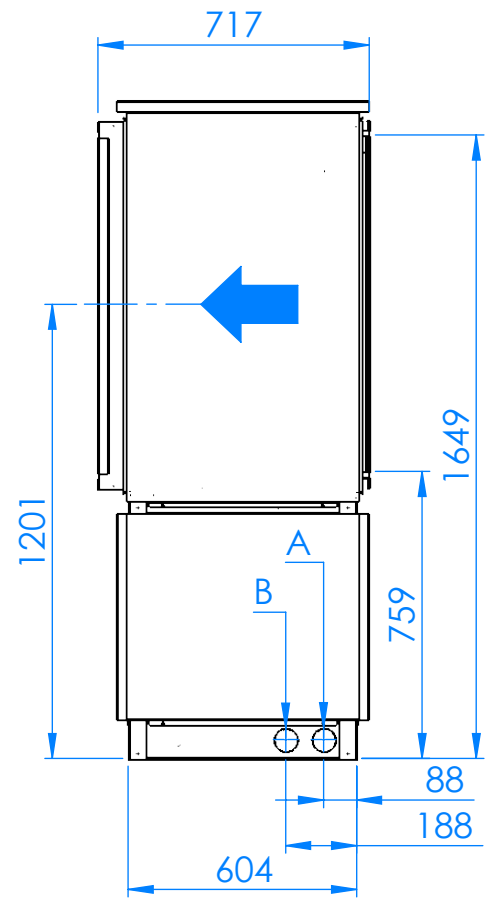
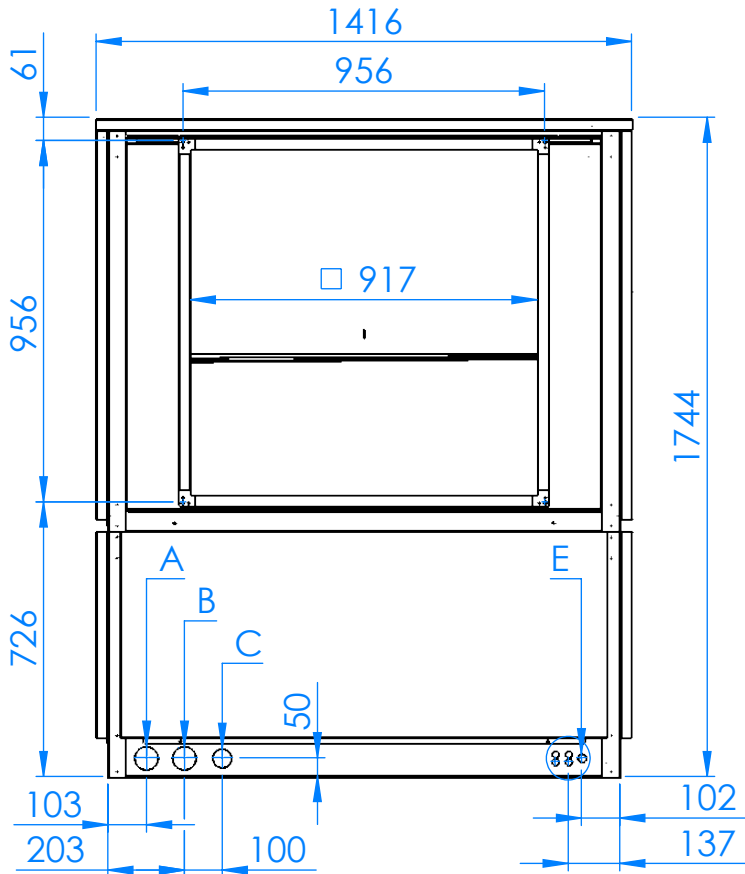
## Operating limits

°C



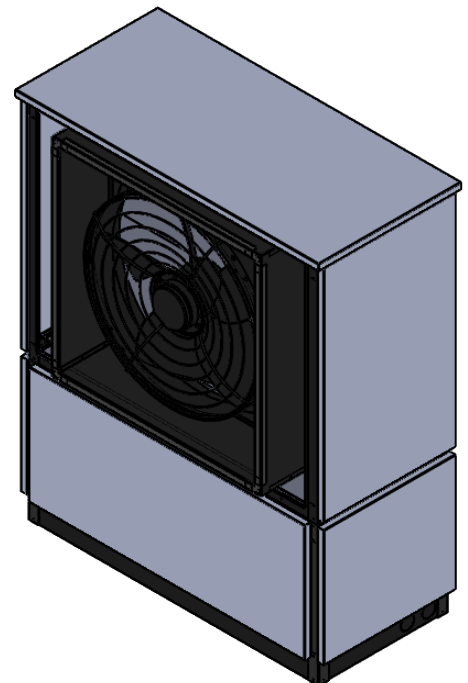
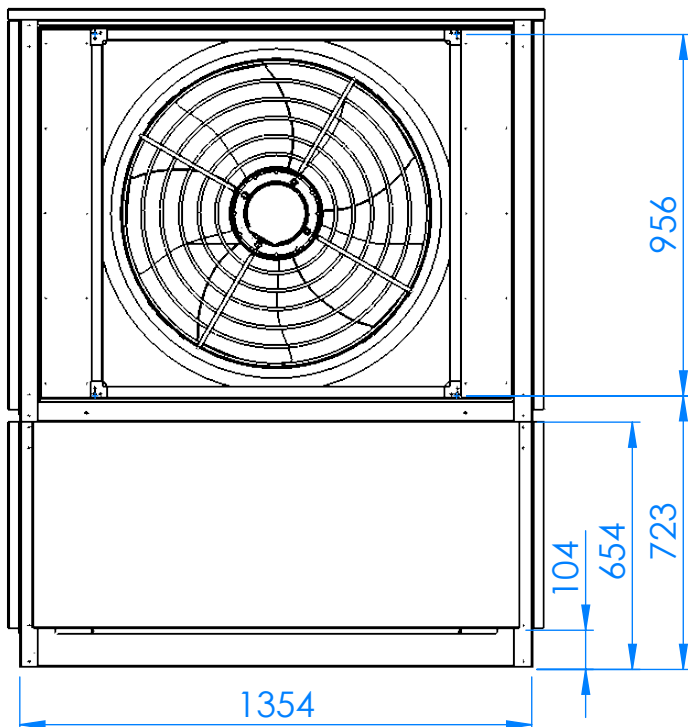
°C

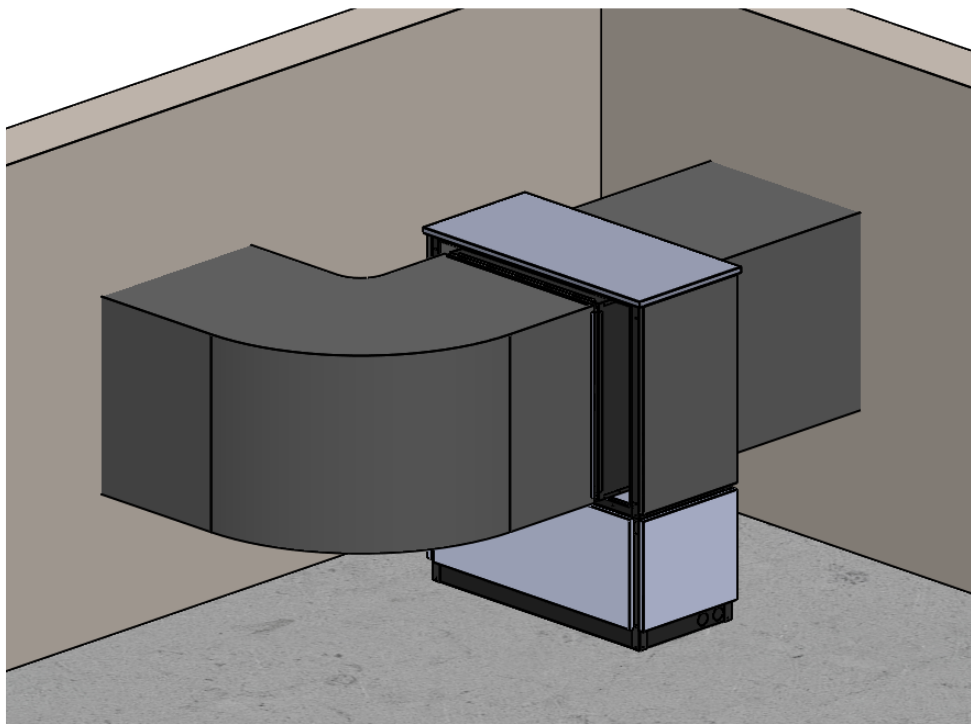
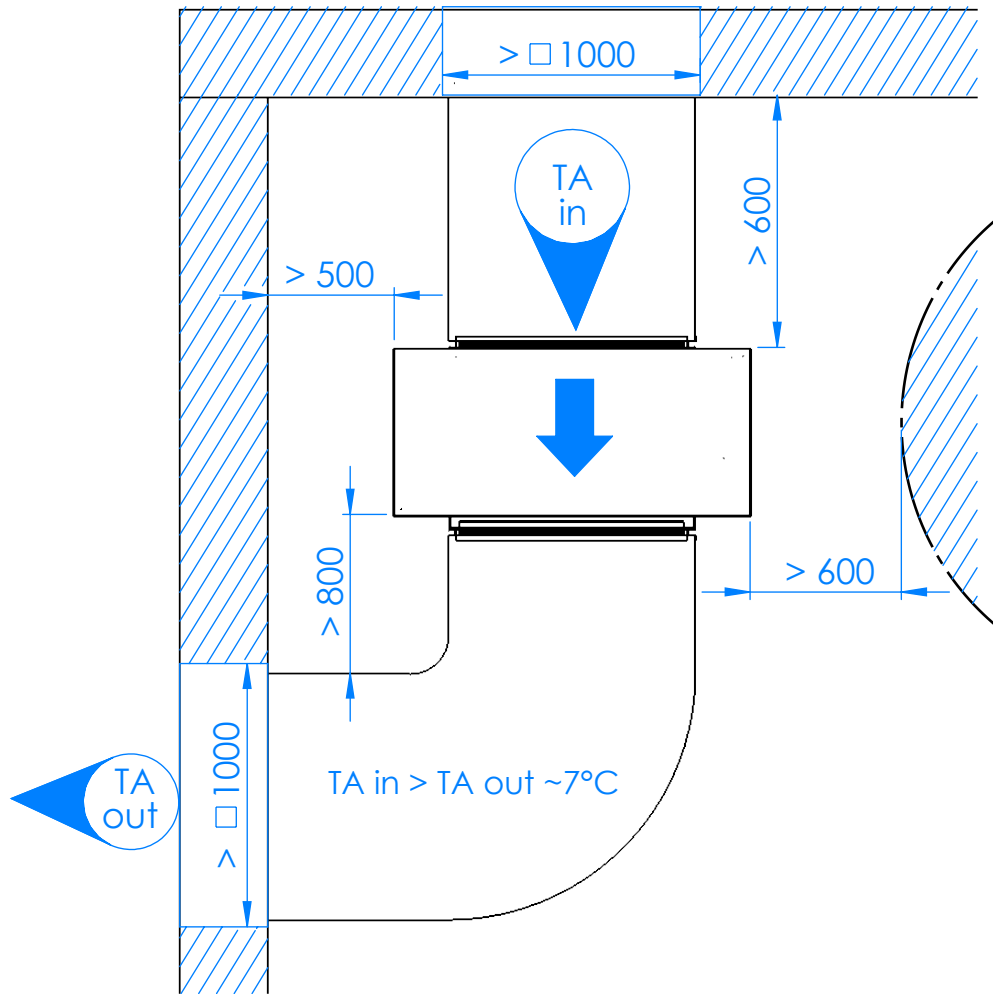




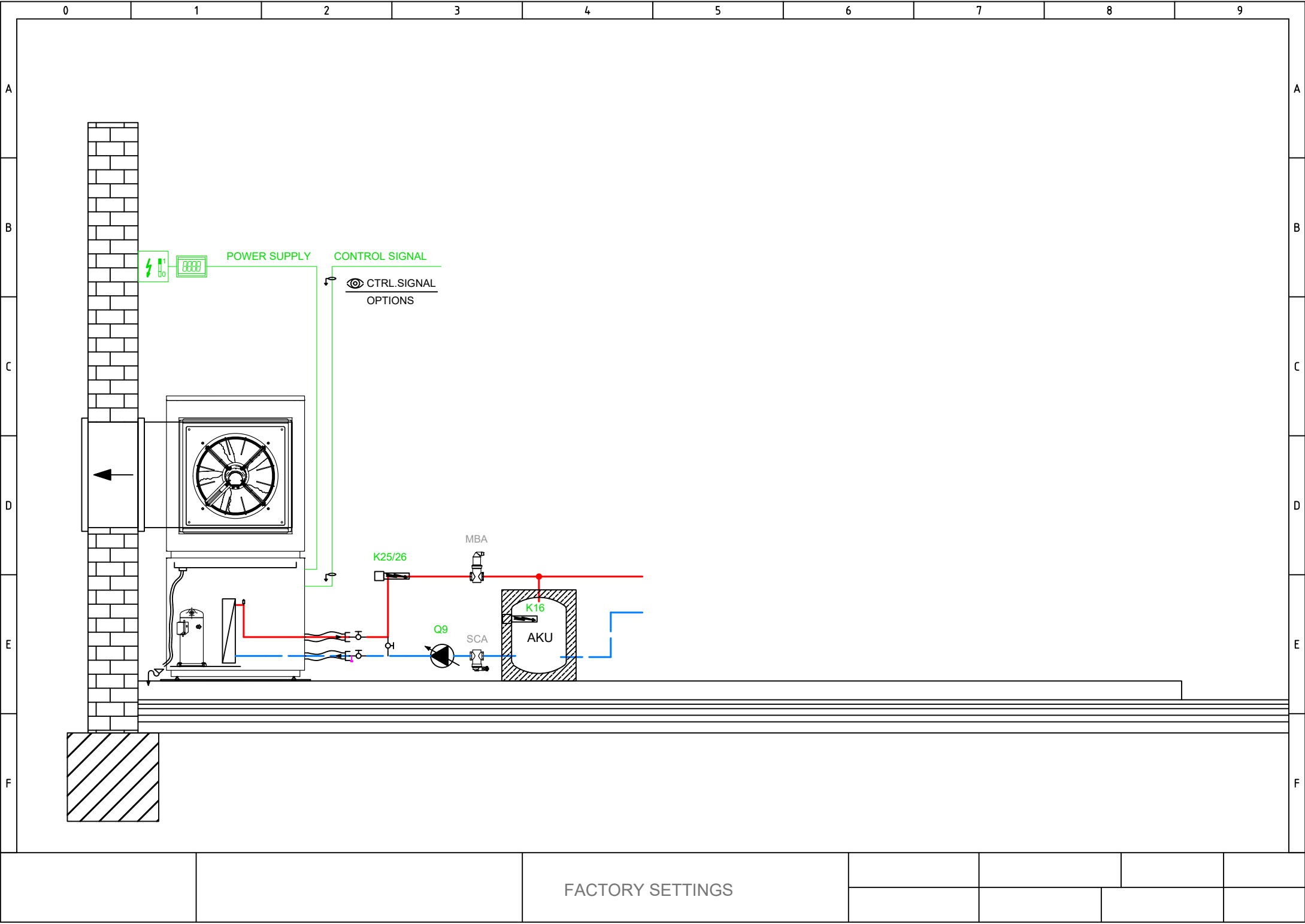
C - condens

E - electro









POWER SUPPLY

CONTROL SIGNAL

CTRL.SIGNAL  
OPTIONS

K25/26

MBA

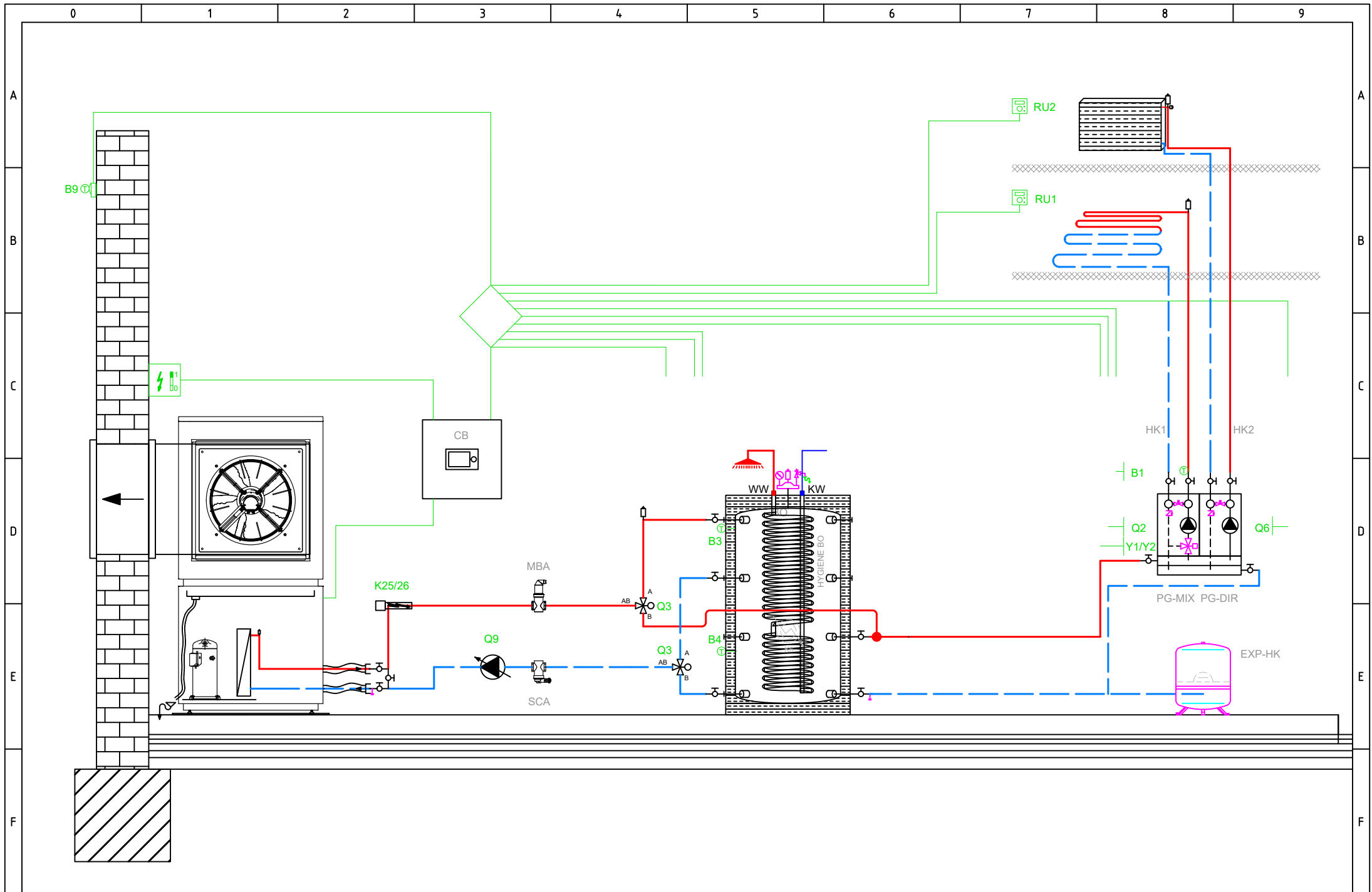
Q9

SCA

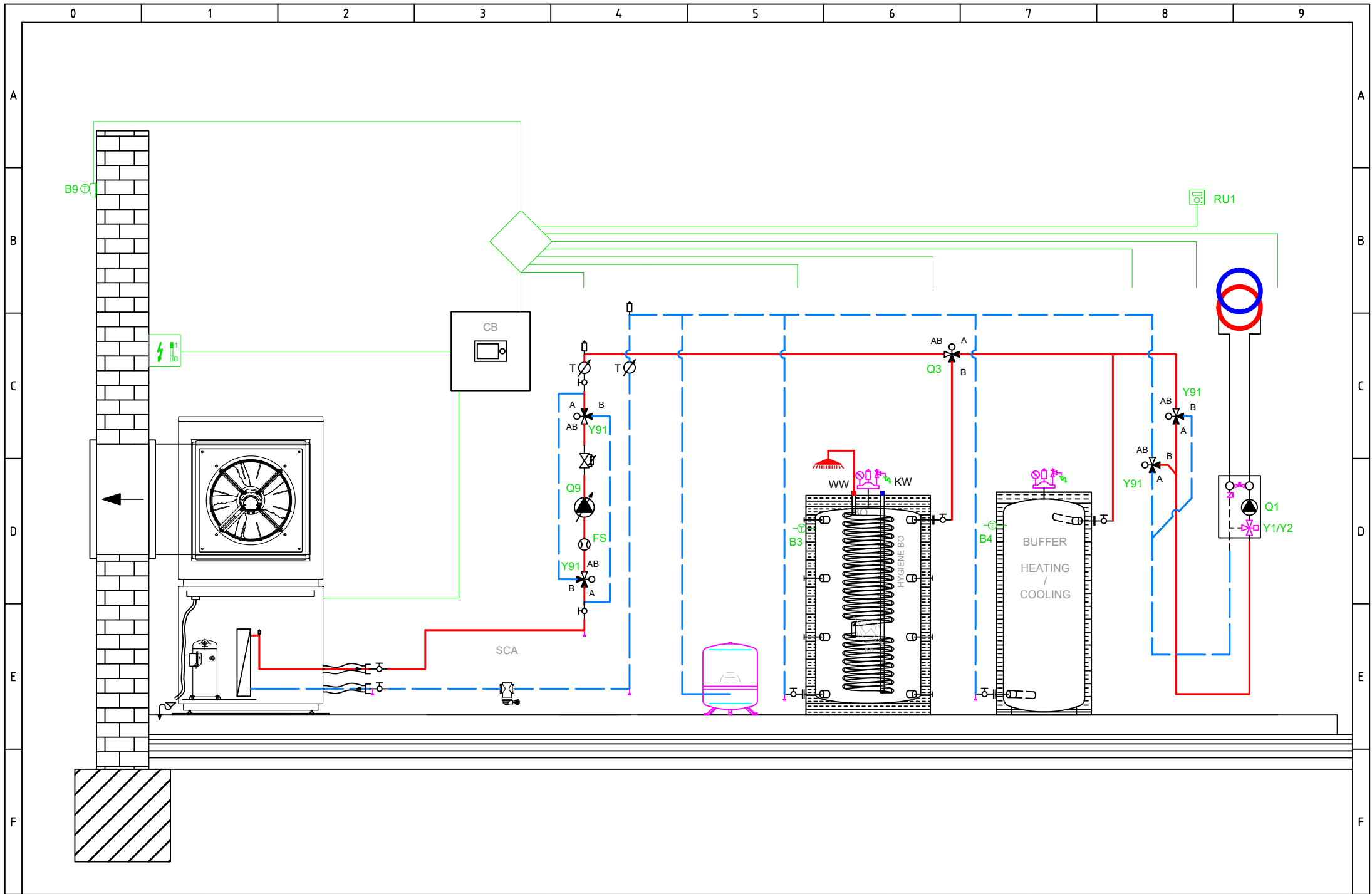
K16

AKU

FACTORY SETTINGS



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

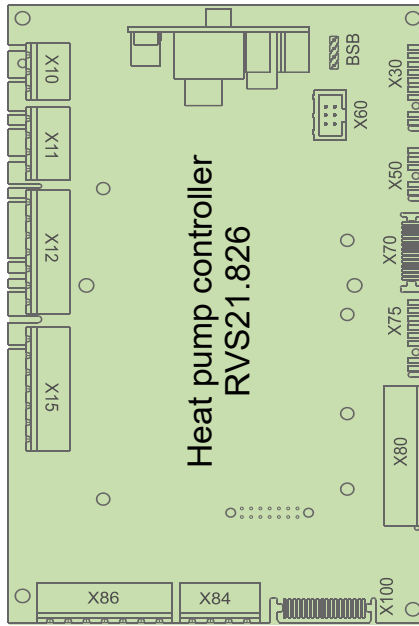
- L Phase 230V
- K1 Compressor stage 1 K1
- Y22 Process revers valve Y22

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
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

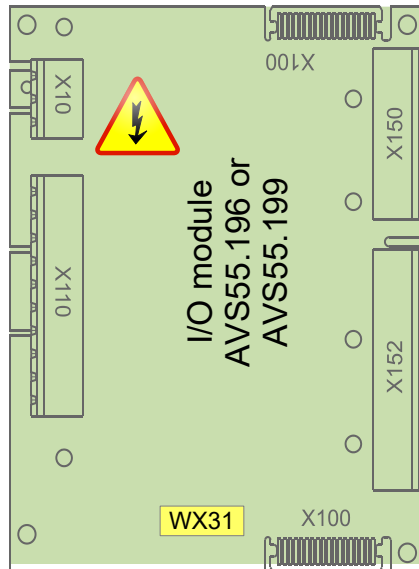
- B71 HP return sensor B71
- B9 Outside sensor B9

Main power supply 230V / 50 Hz  
Ground  
Neutral conductor

K10 Alarm output K10

V81 EEV evaporator V81

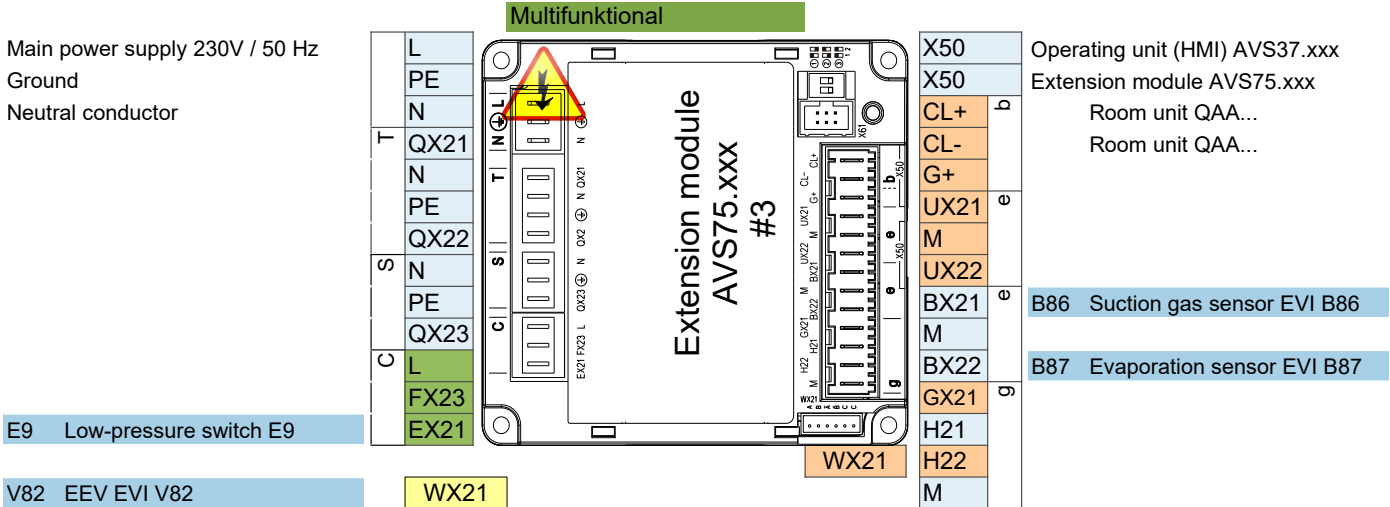
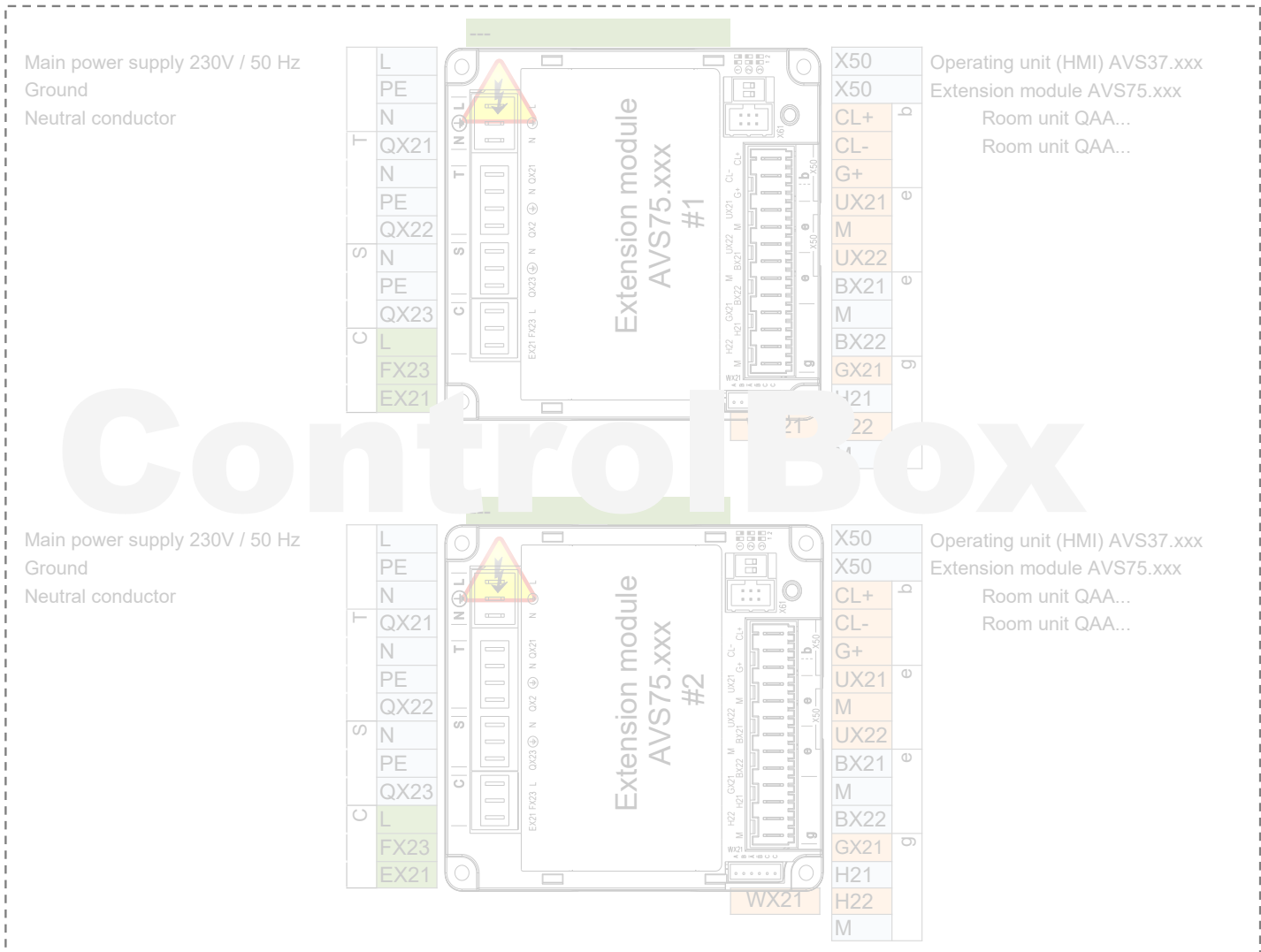
X10	1	L
X10	1	PE
X10	1	N
X110	1	QX31
X110	1	QX32
X110	1	QX33
X110	1	N
X110	1	ZX34
X110	1	N
X115	1	QX35
X115	1	QX35i
X115	1	N

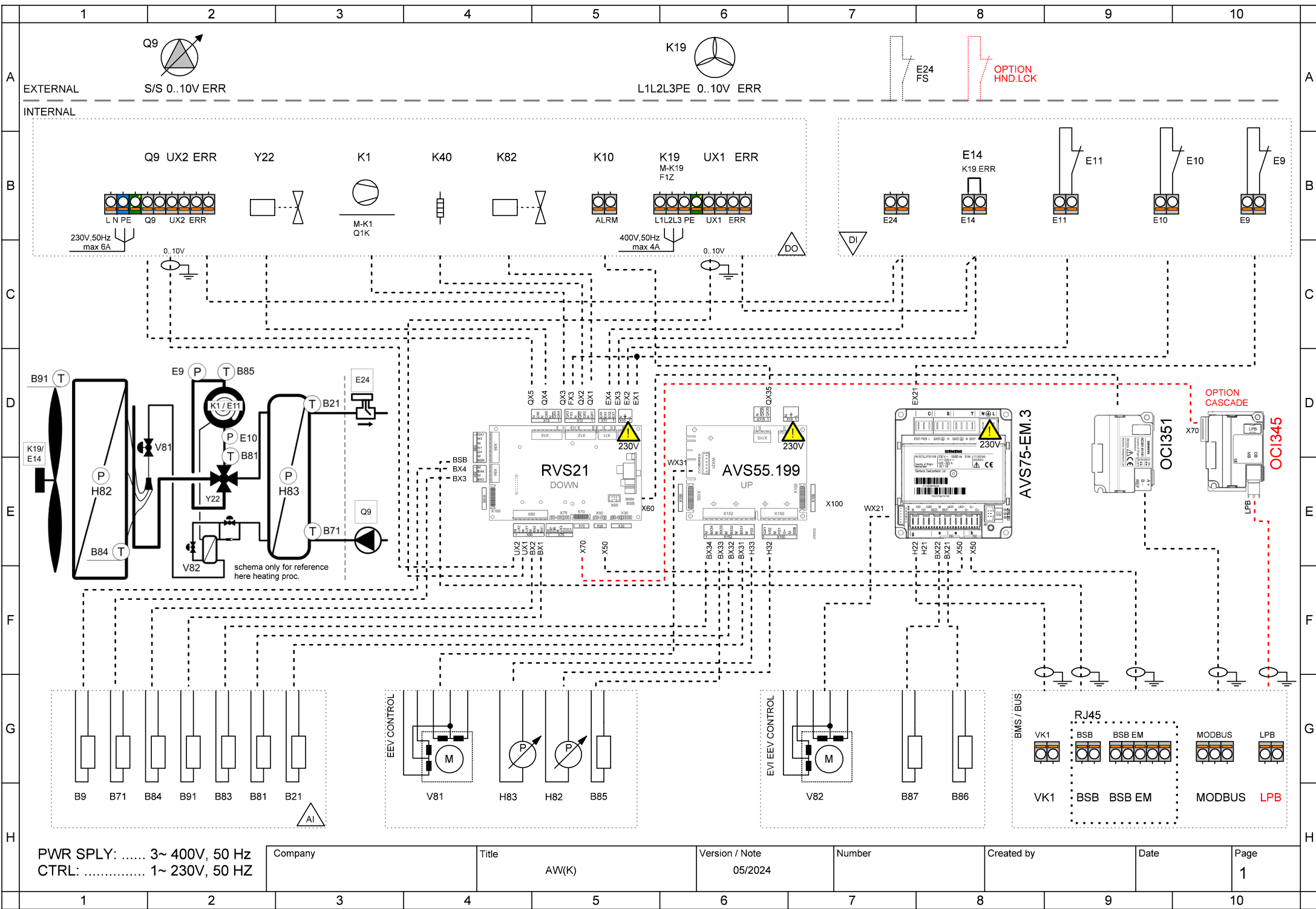


BSB
M
G+
H31
M
H32
GX1
H33
M
BX31
M
BX32
M
BX33
M
BX34
M

- 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

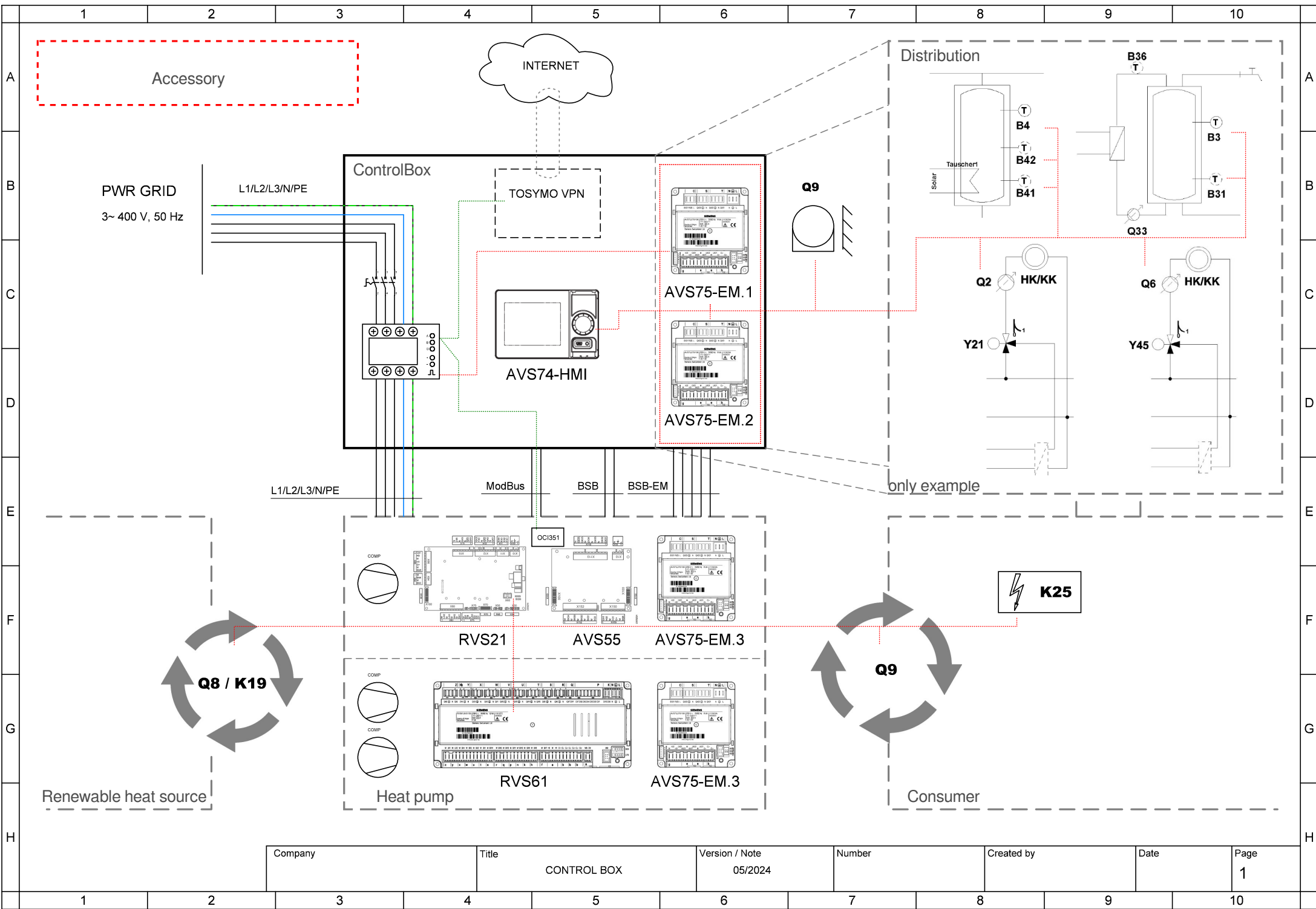
- AVS75.390
- AVS75.391
- AVS75.370





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				2





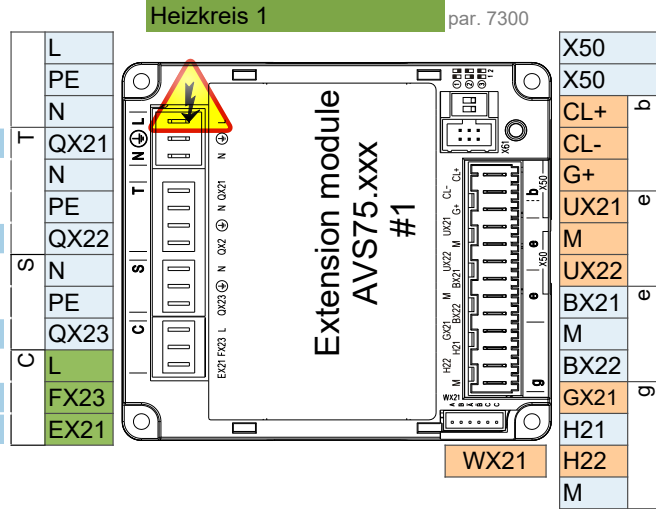
Company	Title	Version / Note	Number	Created by	Date	Page
	CONTROL BOX	05/2024				3



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

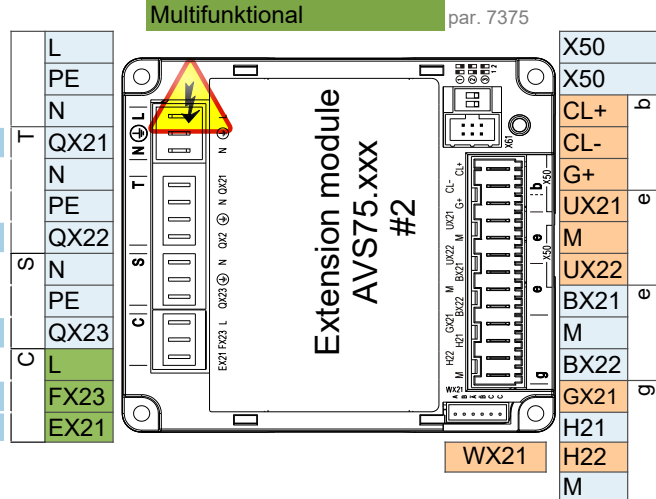
- AVS75.390
- AVS75.391
- AVS75.370

- 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



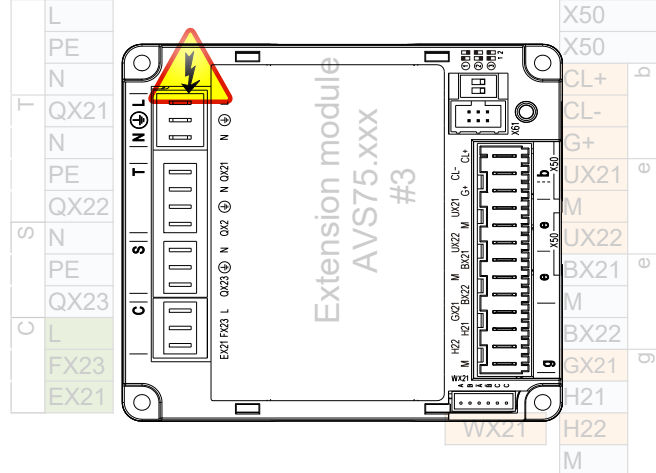
- Extension module AVS75.xxx  
 Room unit QAA...  
 Room unit QAA...  
  
**B1** Flow sensor 1  
  
 Pulse count

- 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

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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

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3 wire shielded cable min. 3 x 0.25mm<sup>2</sup>

For ModBus mapping table contact technical support

### 5 MQTT IoT communication protocol

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For more information contact technical support