

## Basic performance data - WAMAK TWW 330 WHR HeavyDuty 2L3

Heating - EN 14511		
Heating capacity [kW]	W10 / W35 (max)	182.1 ( 30.4 / 182.1 )
	W10 / W35 (min)	30.4 ( 30.4 / 182.1 )
	W10 / W34	183.3 ( 30.5 / 183.3 )
Electrical power input [kW]	W10 / W35 (max)	30.9 ( 5.0 / 30.9 )
	W10 / W35 (min)	5.0 ( 5.0 / 30.9 )
	W10 / W34	30.3 ( 4.9 / 30.3 )
Heating efficiency faktor [COP]	W10 / W35 (max)	5.89
	W10 / W35 (min)	6.07
	W10 / W34	6.04
Seasonal space heating energy efficiency - SCOP EN 14825		
Average Climate / Low Temperature [35°C]	SCOP	6.77
	$\eta$ [ % ]	270.9
	Label	A+++
	Qhe [ kWh ]	55204.0
	Pdesignh [ kW ]	182.1
	Tbivalent [ °C ]	-7
Cooling		
Cooling capacity - [kW]	A35 / W23-18	137.9
	A25 / W23-18	155.1
	A35 / W12-7	89.8
	A25 / W12-7	89.8
Seasonal space cooling energy efficiency - SEER EN 14825		
[ W 23 / 18°C ]	SEER	5.42
	Qce [ kWh ]	53880.0
	$\eta_c$ [ % ]	216.7
Sound EN 12102		
Acoustic power - Lw	dB(A)	70.6
Acoustic pressure - Lp	1 m dB(A)	62.6
	5 m dB(A)	48.6
	10 m dB(A)	42.6
Mechanical and operational information		
Compressor type (3~ 400/50)	SCROLL / 6 /	On/Off
Refrigerant	R513A (GWP - 631)	3 x 11.2 kg
Operating limit temperatures heating - (min / max ) [°C]		45 / 85
Operating limit temperatures source - (min / max ) [°C]		-10 / 50
Weight		1860 kg

## Main technical data - WAMAK TWW 330 WHR HeavyDuty 2L3

Enclosure type		HD2L3		Heat energy rejection side data		
Basic dimensions	Height [mm]	2000		Operating limit temperatures heating	MAX [°C]	85
	Width [mm]	2150			MIN [°C]	45
	Length [mm]	1200		for more see operating limits diagram		
Weight [kg]	1860		Condenser	Port size	3 x VIC 2.1/2 "	
Colour	Gray			Type	BPHE	
Enclosure IP Class	IP20			Count	3	
Refrigeration cycle				Material	AISI 316	
Compressor	Type	Scroll		Maximal operating pressure - refrigerant [bar]		32
	Number of stages	6		Maximal operating pressure - Water [bar]		6
	On/Off			Testing pressure [bar]		70
	Power factor Cosφ	0.63		Heat transfer medium		Water
	Winding resistance	1.23 Ohm		Volume flow @ dT 5K (nom) - Water [m3/h]		9.69 ~ 58.13
Refrigerant		R513A		Internal pressure drop - Water [kPa]		3 x 20
	Volme	3 x 11.2 kg		Temperature difference	@ 35°C (nom)	5 K
	GWP	631			@ 55°C	8 K
	Safety class	A1			@ 65°C	10 K
Refrigeration oil type	POE RL32-3MAF		Renewable energy extraction side data			
	Oil volume	6 x 3.25 L		Operating limit temperatures source	MIN [°C]	-10
Maximal pressure - refrigerant [bar]	32		for more see operating limits diagram			
	PED class	2		Evaporator	MAX [°C]	50
EVI - vapour injection with economizer			Port size		3 x VIC 2.1/2 "	
Electrical connection data			Type		BPHE	
Line voltage [#~ V/Hz]	3~ 400/50		Count	3		
Current	nominal [A]	103.32		Material	AISI 316	
	maximal [A]	133.80		Maximal operating pressure - refrigerant [bar]		20
	starting [A]	12.9		Heat transfer medium		Water
Softstart	-		Maximal operating pressure - Water [bar]		6	
Main safety	C140		Volume flow - Water [m3/h]		9.12 ~ 54.73	
Control System			Internal pressure drop - Water [kPa]		3 x 20	
Main controller	SIEMENS	RVS 61		Temperature difference - Water		4 K
Extension module	AVS75.3xx	AVS75.3xx	AVS75.372			
Bus Clip-In			Modbus OCI352			
Online connection	Web server OZW672		ToSyMo			
Superheat controller			SEC61			

\*\*\* with accessory

## WAMAK TWW 330 WHR HeavyDuty 2L3

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

Model	TWW 330 WHR HeavyDuty 2L3
Air-to-water heat pump	no
Brine-to-water heat pump	no
Water-to-water heat pump	yes
Low-temperature heat pump	no
Equipped with a supplementary heater	no
Heat pump combination heater	no
Temperature application	low (35°C - 30°C)
Climate conditions	average

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output at Tdesignh	Prated	182.1	kW	Seasonal space heating energy efficiency	$\eta_s$	270.9	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7 °C	Pdh	183.3	kW	Tj = -7 °C	COPd	6.04	-
Tj = +2 °C	Pdh	187.7	kW	Tj = +2 °C	COPd	6.6	-
Tj = +7 °C	Pdh	190.8	kW	Tj = +7 °C	COPd	7.3	-
Tj = +12 °C	Pdh	193.9	kW	Tj = +12 °C	COPd	7.9	-
Tj = bivalent temperature	Pdh	182.1	kW	Tj = bivalent temperature	COPd	5.9	-
Tj = operation limit temperature	Pdh	---	kW	Tj = operation limit temperature	COPd	---	-
Bivalent temperature	Tbiv	-7	°C	Tj = operation limit temperature	TOL	---	°C
Power consumption in modes other than active mode				Heating water operating limit temperature	WTOL	85	°C
Off mode	Poff	0.040	kW	Supplementary heater			
Thermostat-off mode	Pto	0.010	kW	Rated heat output	Psup	34.5	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	-	---	m <sup>3</sup> /h
Capacity control	multi-stage			For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			
Sound power level							
indoors	Lwa	71	dB				
outdoors	Lwa	---	dB				
Annual energy consumption	Q <sub>HE</sub>	55204.0	kWh				

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

Model	TWW 330 WHR HeavyDuty 2L3
Air-to-water heat pump	no
Brine-to-water heat pump	no
Water-to-water heat pump	yes
Low-temperature heat pump	no
Equipped with a supplementary heater	no
Heat pump combination heater	no
Temperature application	middle (55°C - 47°C)
Climate conditions	average

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output at Tdesignh	Prated	158.9	kW	Seasonal space heating energy efficiency	$\eta_s$	203.9	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7 °C	Pdh	166.2	kW	Tj = -7 °C	COPd	3.97	-
Tj = +2 °C	Pdh	179.4	kW	Tj = +2 °C	COPd	5.3	-
Tj = +7 °C	Pdh	185.8	kW	Tj = +7 °C	COPd	6.2	-
Tj = +12 °C	Pdh	190.9	kW	Tj = +12 °C	COPd	6.9	-
Tj = bivalent temperature	Pdh	158.9	kW	Tj = bivalent temperature	COPd	3.5	-
Tj = operation limit temperature	Pdh	---	kW	Tj = operation limit temperature	COPd	---	-
Bivalent temperature	Tbiv	-7	°C	Tj = operation limit temperature	TOL	---	°C
Power consumption in modes other than active mode				Heating water operating limit temperature	WTOL	85	°C
Off mode	Poff	0.040	kW	Supplementary heater			
Thermostat-off mode	Pto	0.010	kW	Rated heat output	Psup	34.5	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	-	---	m <sup>3</sup> /h
Capacity control	multi-stage			For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			
Sound power level							
indoors	Lwa	71	dB				
outdoors	Lwa	---	dB				
Annual energy consumption	Q <sub>HE</sub>	64040.2	kWh				

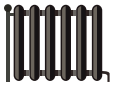
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TWW 330 WHR  
 HeavyDuty 2L3



55 °C

35 °C



A+++

A+++



71 dB



--- dB

■ 167  
 ■ 159  
 ■ 156  
 kW

■ 186  
 ■ 183  
 ■ 173  
 kW



2019

811/2013

TWW 330 WHR  
 HeavyDuty 2L3

**ErP Data**

	55 °C	35 °C
Energy class	A+++	A+++
$\eta$ [%]	203.9	270.9
$P_{rated}$ [kW]	159	183
$Q_{HE}$ [kWh/y]	64041	55204
SCOP [-]	5.10	6.77
$T_{bivalent}$ [°C]	-7	-7

CONTROLLER



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

Heating performance data	Heat recovery			
	Operating conditions	Qh	P	COP
	W45 / W80	339.6	75.9	4.47
	W30 / W70	252.4	62.5	4.04
	W25 / W60	280.8	51.5	5.45

**Normative data: water - water application**

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

Operating conditions	Qh	P	COP
1 W10 / W30-35	182.1	30.9	5.89
2 W10 / W30-35 ( MIN )	30.4	5.0	6.07
A W10 / Wxx-34	183.3	30.3	6.04
B W10 / Wxx-30	187.7	28.2	6.65
C W10 / Wxx-27	190.8	26.7	7.34
D W10 / Wxx-24	193.9	25.3	7.88
E W10 / Wxx-35	182.1	30.9	5.89
F W10 / Wxx-35	182.1	30.9	5.89

SCOP DATA EN 14825:2018	
<b>Source - Water [10°C] / Low Temperature [35°C]</b>	
SCOPon	6.81
SCOPnet	6.81
SCOP	6.77
η [ % ]	270.88
Label	A+++
Qh [ kWh ]	55204
Pdesignh [ kW ]	182.1
Tbivalent [ °C ]	-7.00

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

Operating conditions	Qh	P	COP
1 W10 / W47-55	158.9	45.4	3.50
2 W10 / W47-55 ( MIN )	26.5	7.4	3.60
A W10 / Wxx-52	166.2	41.9	3.97
B W10 / Wxx-42	179.4	33.9	5.29
C W10 / Wxx-36	185.8	30.7	6.24
D W10 / Wxx-30	190.9	28.3	6.95
E W10 / Wxx-55	158.9	45.4	3.50
F W10 / Wxx-55	158.9	45.4	3.50

SCOP DATA EN 14825:2018	
<b>Source - Water [10°C] / Medium Temperature [55°C]</b>	
SCOPon	5.13
SCOPnet	5.13
SCOP	5.10
η [ % ]	203.93
Label	A+++
Qh [ kWh ]	64040
Pdesignh [ kW ]	158.9
Tbivalent [ °C ]	-7.00

**Low temperature cooling W 12 / 7°C**

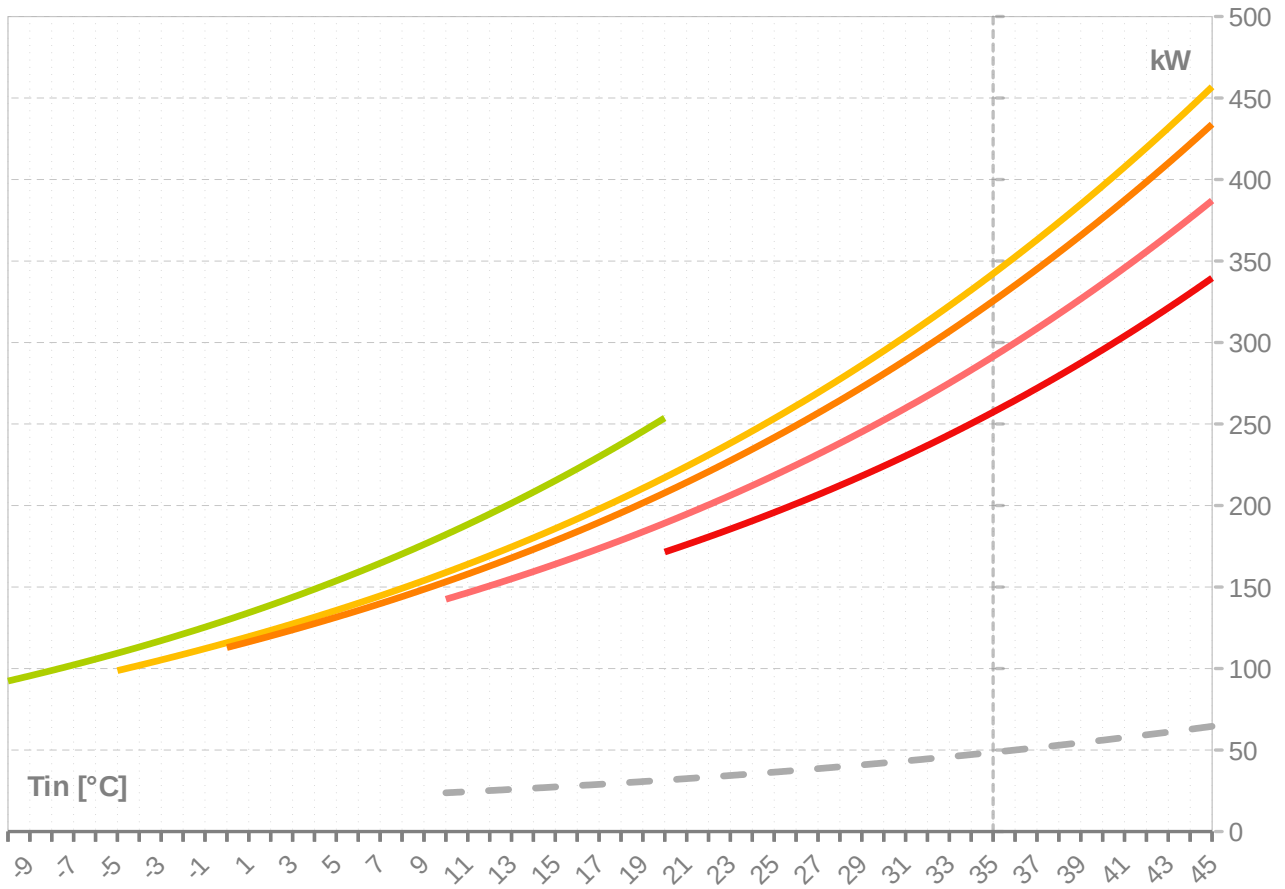
Operating conditions		Qc	P	EER	SEER DATA EN 14825:2018 [ W 12 / 7°C ]	
A	W30-35 / W12-7	96.5	32.7	2.95	SEERon	3.64
B	W26-xx / W12-7	101.6	30.3	3.35	SEER	3.61
C	W22-xx / W12-7	106.4	28.2	3.77	Qc [ kWh ]	53880
D	W18-xx / W12-7	108.8	27.2	4.00	η [ % ]	144.48

**Radiant cooling W 23 / 18°C**

Operating conditions		Qc	P	EER	SEER DATA EN 14825:2018 [ W 23 / 18°C ]	
A	W50-xx / W23-18	108.5	49.2	2.21	SEERon	5.48
B	W40-xx / W23-18	128.6	39.8	3.23	SEER	5.42
C	W30-35 / W23-18	146.7	32.7	4.49	Qc [ kWh ]	53880
D	W26-xx / W23-18	153.5	30.3	5.06	η [ % ]	216.70

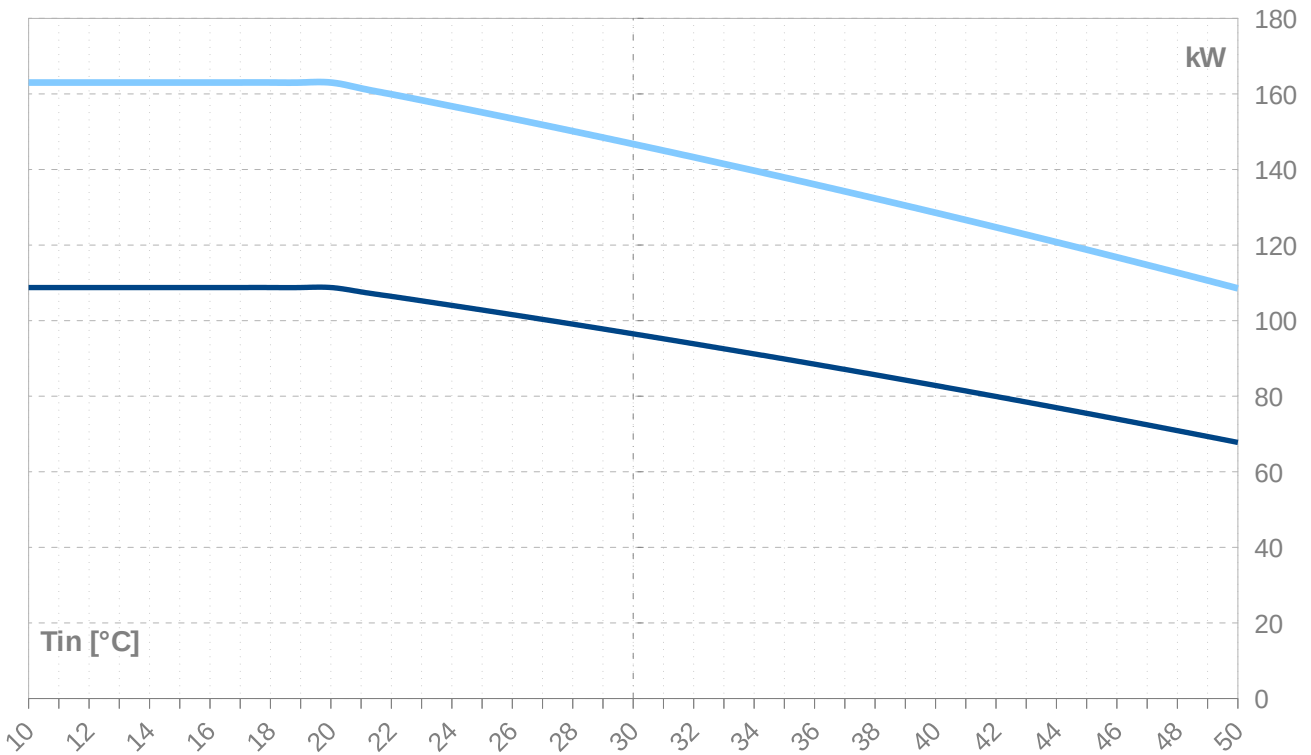
Performance lines - heating

- Qh-nom-35
- Qh-nom-55
- Qh-nom-60
- Qh-nom-70
- Qh-nom-80
- - - Qh-min-70



Performance lines - cooling

- Qc-nom-12-7
- Qc-nom-23-18





# WAMAK TWW 330 WHR HeavyDuty 2L3

Th -OU		55										
Ts -IN [°C]	Qh nom [kW]	Qh min [kW]	Qh max [kW]	Pin nom [kW]	Pin min [kW]	Pin max [kW]	COP nom kW / kW	Qc nom [kW]	Qc min [kW]	Qc max [kW]	I nom [A]	
45	<b>456.9</b>	76.1	456.9	<b>49.0</b>	7.9	49.0	<b>9.32</b>	411.4	68.6	411.4	88.0	
44	<b>444.1</b>	74.0	444.1	<b>48.9</b>	7.9	48.9	<b>9.09</b>	398.8	66.5	398.8	87.8	
43	<b>431.7</b>	71.9	431.7	<b>48.7</b>	7.9	48.7	<b>8.86</b>	386.5	64.4	386.5	87.6	
42	<b>419.5</b>	69.9	419.5	<b>48.6</b>	7.9	48.6	<b>8.64</b>	374.5	62.4	374.5	87.4	
41	<b>407.7</b>	67.9	407.7	<b>48.4</b>	7.8	48.4	<b>8.42</b>	362.8	60.5	362.8	87.2	
40	<b>396.1</b>	66.0	396.1	<b>48.3</b>	7.8	48.3	<b>8.21</b>	351.3	58.6	351.3	87.0	
39	<b>384.8</b>	64.1	384.8	<b>48.1</b>	7.8	48.1	<b>8.00</b>	340.2	56.7	340.2	86.9	
38	<b>373.8</b>	62.3	373.8	<b>48.0</b>	7.8	48.0	<b>7.79</b>	329.3	54.9	329.3	86.7	
37	<b>363.0</b>	60.5	363.0	<b>47.8</b>	7.7	47.8	<b>7.59</b>	318.6	53.1	318.6	86.5	
36	<b>352.5</b>	58.7	352.5	<b>47.7</b>	7.7	47.7	<b>7.39</b>	308.3	51.4	308.3	86.4	
35	<b>342.3</b>	57.0	342.3	<b>47.6</b>	7.7	47.6	<b>7.20</b>	298.1	49.7	298.1	86.2	
34	<b>332.3</b>	55.4	332.3	<b>47.4</b>	7.7	47.4	<b>7.00</b>	288.3	48.0	288.3	86.0	
33	<b>322.6</b>	53.8	322.6	<b>47.3</b>	7.7	47.3	<b>6.82</b>	278.7	46.4	278.7	85.9	
32	<b>313.1</b>	52.2	313.1	<b>47.2</b>	7.6	47.2	<b>6.63</b>	269.3	44.9	269.3	85.8	
31	<b>303.8</b>	50.6	303.8	<b>47.1</b>	7.6	47.1	<b>6.45</b>	260.2	43.4	260.2	85.6	
30	<b>294.8</b>	49.1	294.8	<b>47.0</b>	7.6	47.0	<b>6.28</b>	251.3	41.9	251.3	85.5	
29	<b>286.1</b>	47.7	286.1	<b>46.8</b>	7.6	46.8	<b>6.11</b>	242.6	40.4	242.6	85.4	
28	<b>277.6</b>	46.3	277.6	<b>46.7</b>	7.6	46.7	<b>5.94</b>	234.2	39.0	234.2	85.2	
27	<b>269.3</b>	44.9	269.3	<b>46.6</b>	7.6	46.6	<b>5.77</b>	226.0	37.7	226.0	85.1	
26	<b>261.2</b>	43.5	261.2	<b>46.5</b>	7.5	46.5	<b>5.61</b>	218.0	36.3	218.0	85.0	
25	<b>253.3</b>	42.2	253.3	<b>46.4</b>	7.5	46.4	<b>5.45</b>	210.2	35.0	210.2	84.9	
24	<b>245.7</b>	40.9	245.7	<b>46.3</b>	7.5	46.3	<b>5.30</b>	202.7	33.8	202.7	84.8	
23	<b>238.2</b>	39.7	238.2	<b>46.3</b>	7.5	46.3	<b>5.15</b>	195.3	32.6	195.3	84.7	
22	<b>231.0</b>	38.5	231.0	<b>46.2</b>	7.5	46.2	<b>5.00</b>	188.2	31.4	188.2	84.6	
21	<b>224.0</b>	37.3	224.0	<b>46.1</b>	7.5	46.1	<b>4.86</b>	181.2	30.2	181.2	84.5	
20	<b>217.2</b>	36.2	217.2	<b>46.0</b>	7.5	46.0	<b>4.72</b>	174.5	29.1	174.5	84.4	
19	<b>210.5</b>	35.1	210.5	<b>45.9</b>	7.4	45.9	<b>4.58</b>	167.9	28.0	167.9	84.3	
18	<b>204.1</b>	34.0	204.1	<b>45.9</b>	7.4	45.9	<b>4.45</b>	161.6	26.9	161.6	84.2	
17	<b>197.8</b>	33.0	197.8	<b>45.8</b>	7.4	45.8	<b>4.32</b>	155.4	25.9	155.4	84.1	
16	<b>191.8</b>	32.0	191.8	<b>45.7</b>	7.4	45.7	<b>4.19</b>	149.3	24.9	149.3	84.0	
15	<b>185.9</b>	31.0	185.9	<b>45.7</b>	7.4	45.7	<b>4.07</b>	143.5	23.9	143.5	84.0	
14	<b>180.1</b>	30.0	180.1	<b>45.6</b>	7.4	45.6	<b>3.95</b>	137.8	23.0	137.8	83.9	
13	<b>174.6</b>	29.1	174.6	<b>45.6</b>	7.4	45.6	<b>3.83</b>	132.3	22.1	132.3	83.8	
12	<b>169.2</b>	28.2	169.2	<b>45.5</b>	7.4	45.5	<b>3.72</b>	127.0	21.2	127.0	83.8	
11	<b>164.0</b>	27.3	164.0	<b>45.5</b>	7.4	45.5	<b>3.61</b>	121.8	20.3	121.8	83.7	
10	<b>158.9</b>	26.5	158.9	<b>45.4</b>	7.4	45.4	<b>3.50</b>	116.8	19.5	116.8	83.7	
9	<b>154.0</b>	25.7	154.0	<b>45.4</b>	7.3	45.4	<b>3.39</b>	111.9	18.6	111.9	83.6	
8	<b>149.2</b>	24.9	149.2	<b>45.3</b>	7.3	45.3	<b>3.29</b>	107.1	17.9	107.1	83.6	
7	<b>144.6</b>	24.1	144.6	<b>45.3</b>	7.3	45.3	<b>3.19</b>	102.5	17.1	102.5	83.6	
6	<b>140.1</b>	23.3	140.1	<b>45.3</b>	7.3	45.3	<b>3.09</b>	98.1	16.3	98.1	83.5	
5	<b>135.7</b>	22.6	135.7	<b>45.2</b>	7.3	45.2	<b>3.00</b>	93.8	15.6	93.8	83.5	
4	<b>131.5</b>	21.9	131.5	<b>45.2</b>	7.3	45.2	<b>2.91</b>	89.6	14.9	89.6	83.5	
3	<b>127.4</b>	21.2	127.4	<b>45.2</b>	7.3	45.2	<b>2.82</b>	85.5	14.2	85.5	83.4	
2	<b>123.4</b>	20.6	123.4	<b>45.2</b>	7.3	45.2	<b>2.73</b>	81.5	13.6	81.5	83.4	
1	<b>119.6</b>	19.9	119.6	<b>45.2</b>	7.3	45.2	<b>2.65</b>	77.7	12.9	77.7	83.4	
0	<b>115.8</b>	19.3	115.8	<b>45.2</b>	7.3	45.2	<b>2.57</b>	73.9	12.3	73.9	83.4	
-1	<b>112.2</b>	18.7	112.2	<b>45.1</b>	7.3	45.1	<b>2.48</b>	70.3	11.7	70.3	83.4	
-2	<b>108.7</b>	18.1	108.7	<b>45.1</b>	7.3	45.1	<b>2.41</b>	66.8	11.1	66.8	83.4	
-3	<b>105.2</b>	17.5	105.2	<b>45.1</b>	7.3	45.1	<b>2.33</b>	63.4	10.6	63.4	83.4	
-4	<b>101.9</b>	17.0	101.9	<b>45.2</b>	7.3	45.2	<b>2.26</b>	60.0	10.0	60.0	83.4	
-5	<b>98.7</b>	16.4	98.7	<b>45.2</b>	7.3	45.2	<b>2.19</b>	56.8	9.5	56.8	83.4	

-- attention: operating limits not reflected in performance table

ZR144KRE-TFD\_R513A\_6\_WHR

# WAMAK TWW 330 WHR HeavyDuty 2L3

Th -OU	60										
[°C]	Qh nom	Qh min	Qh max	Pin nom	Pin min	Pin max	COP nom	Qc nom	Qc min	Qc max	I nom
[°C]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	kW / kW	[kW]	[kW]	[kW]	[A]
45	<b>433.9</b>	72.3	433.9	<b>53.2</b>	8.6	53.2	<b>8.16</b>	384.6	64.1	384.6	93.0
44	<b>421.8</b>	70.3	421.8	<b>53.0</b>	8.6	53.0	<b>7.95</b>	372.7	62.1	372.7	92.9
43	<b>410.1</b>	68.3	410.1	<b>52.9</b>	8.6	52.9	<b>7.75</b>	361.0	60.2	361.0	92.7
42	<b>398.5</b>	66.4	398.5	<b>52.8</b>	8.5	52.8	<b>7.55</b>	349.6	58.3	349.6	92.5
41	<b>387.3</b>	64.6	387.3	<b>52.7</b>	8.5	52.7	<b>7.36</b>	338.5	56.4	338.5	92.4
40	<b>376.4</b>	62.7	376.4	<b>52.5</b>	8.5	52.5	<b>7.16</b>	327.6	54.6	327.6	92.2
39	<b>365.7</b>	60.9	365.7	<b>52.4</b>	8.5	52.4	<b>6.98</b>	317.0	52.8	317.0	92.1
38	<b>355.2</b>	59.2	355.2	<b>52.3</b>	8.5	52.3	<b>6.79</b>	306.7	51.1	306.7	92.0
37	<b>345.1</b>	57.5	345.1	<b>52.2</b>	8.5	52.2	<b>6.61</b>	296.7	49.4	296.7	91.8
36	<b>335.1</b>	55.9	335.1	<b>52.1</b>	8.4	52.1	<b>6.44</b>	286.8	47.8	286.8	91.7
35	<b>325.5</b>	54.2	325.5	<b>52.0</b>	8.4	52.0	<b>6.26</b>	277.3	46.2	277.3	91.6
34	<b>316.1</b>	52.7	316.1	<b>51.9</b>	8.4	51.9	<b>6.09</b>	267.9	44.7	267.9	91.4
33	<b>306.9</b>	51.1	306.9	<b>51.8</b>	8.4	51.8	<b>5.93</b>	258.9	43.1	258.9	91.3
32	<b>297.9</b>	49.7	297.9	<b>51.7</b>	8.4	51.7	<b>5.77</b>	250.0	41.7	250.0	91.2
31	<b>289.2</b>	48.2	289.2	<b>51.6</b>	8.4	51.6	<b>5.61</b>	241.4	40.2	241.4	91.1
30	<b>280.8</b>	46.8	280.8	<b>51.5</b>	8.3	51.5	<b>5.45</b>	233.0	38.8	233.0	91.0
29	<b>272.5</b>	45.4	272.5	<b>51.4</b>	8.3	51.4	<b>5.30</b>	224.8	37.5	224.8	90.9
28	<b>264.5</b>	44.1	264.5	<b>51.3</b>	8.3	51.3	<b>5.15</b>	216.9	36.1	216.9	90.8
27	<b>256.7</b>	42.8	256.7	<b>51.2</b>	8.3	51.2	<b>5.01</b>	209.2	34.9	209.2	90.7
26	<b>249.1</b>	41.5	249.1	<b>51.2</b>	8.3	51.2	<b>4.87</b>	201.6	33.6	201.6	90.6
25	<b>241.7</b>	40.3	241.7	<b>51.1</b>	8.3	51.1	<b>4.73</b>	194.3	32.4	194.3	90.5
24	<b>234.5</b>	39.1	234.5	<b>51.0</b>	8.3	51.0	<b>4.60</b>	187.2	31.2	187.2	90.4
23	<b>227.5</b>	37.9	227.5	<b>51.0</b>	8.3	51.0	<b>4.47</b>	180.3	30.0	180.3	90.3
22	<b>220.8</b>	36.8	220.8	<b>50.9</b>	8.2	50.9	<b>4.34</b>	173.6	28.9	173.6	90.3
21	<b>214.2</b>	35.7	214.2	<b>50.8</b>	8.2	50.8	<b>4.21</b>	167.0	27.8	167.0	90.2
20	<b>207.8</b>	34.6	207.8	<b>50.8</b>	8.2	50.8	<b>4.09</b>	160.7	26.8	160.7	90.1
19	<b>201.5</b>	33.6	201.5	<b>50.7</b>	8.2	50.7	<b>3.97</b>	154.5	25.7	154.5	90.1
18	<b>195.5</b>	32.6	195.5	<b>50.7</b>	8.2	50.7	<b>3.86</b>	148.5	24.8	148.5	90.0
17	<b>189.6</b>	31.6	189.6	<b>50.6</b>	8.2	50.6	<b>3.75</b>	142.7	23.8	142.7	90.0
16	<b>184.0</b>	30.7	184.0	<b>50.6</b>	8.2	50.6	<b>3.64</b>	137.0	22.8	137.0	89.9
15	<b>178.4</b>	29.7	178.4	<b>50.5</b>	8.2	50.5	<b>3.53</b>	131.6	21.9	131.6	89.9
14	<b>173.1</b>	28.8	173.1	<b>50.5</b>	8.2	50.5	<b>3.43</b>	126.2	21.0	126.2	89.8
13	<b>167.9</b>	28.0	167.9	<b>50.5</b>	8.2	50.5	<b>3.33</b>	121.1	20.2	121.1	89.8
12	<b>162.8</b>	27.1	162.8	<b>50.4</b>	8.2	50.4	<b>3.23</b>	116.0	19.3	116.0	89.8
11	<b>157.9</b>	26.3	157.9	<b>50.4</b>	8.2	50.4	<b>3.13</b>	111.2	18.5	111.2	89.7
10	<b>153.2</b>	25.5	153.2	<b>50.4</b>	8.2	50.4	<b>3.04</b>	106.4	17.7	106.4	89.7
9	<b>148.6</b>	24.8	148.6	<b>50.4</b>	8.2	50.4	<b>2.95</b>	101.9	17.0	101.9	89.7
8	<b>144.1</b>	24.0	144.1	<b>50.3</b>	8.2	50.3	<b>2.86</b>	97.4	16.2	97.4	89.7
7	<b>139.8</b>	23.3	139.8	<b>50.3</b>	8.2	50.3	<b>2.78</b>	93.1	15.5	93.1	89.6
6	<b>135.6</b>	22.6	135.6	<b>50.3</b>	8.1	50.3	<b>2.69</b>	88.9	14.8	88.9	89.6
5	<b>131.5</b>	21.9	131.5	<b>50.3</b>	8.1	50.3	<b>2.61</b>	84.8	14.1	84.8	89.6
4	<b>127.5</b>	21.3	127.5	<b>50.3</b>	8.1	50.3	<b>2.54</b>	80.9	13.5	80.9	89.6
3	<b>123.7</b>	20.6	123.7	<b>50.3</b>	8.1	50.3	<b>2.46</b>	77.0	12.8	77.0	89.6
2	<b>120.0</b>	20.0	120.0	<b>50.3</b>	8.1	50.3	<b>2.39</b>	73.3	12.2	73.3	89.6
1	<b>116.4</b>	19.4	116.4	<b>50.3</b>	8.1	50.3	<b>2.31</b>	69.7	11.6	69.7	89.6
0	<b>112.8</b>	18.8	112.8	<b>50.3</b>	8.1	50.3	<b>2.24</b>	66.2	11.0	66.2	89.6
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-2											
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-5											

-- attention: operating limits not reflected in performance table

**WAMAK TWW 330 WHR HeavyDuty 2L3**

Th -OU	[°C]	70									
		Ts -IN [°C]	Qh nom [kW]	Qh min [kW]	Qh max [kW]	Pin nom [kW]	Pin min [kW]	Pin max [kW]	COP nom kW / kW	Qc nom [kW]	Qc min [kW]
45	<b>387.1</b>	64.5	387.1	<b>63.1</b>	10.2	63.1	<b>6.13</b>	328.5	54.8	328.5	105.8
44	<b>376.4</b>	62.7	376.4	<b>63.1</b>	10.2	63.1	<b>5.97</b>	317.9	53.0	317.9	105.7
43	<b>366.0</b>	61.0	366.0	<b>63.0</b>	10.2	63.0	<b>5.81</b>	307.5	51.3	307.5	105.6
42	<b>355.8</b>	59.3	355.8	<b>63.0</b>	10.2	63.0	<b>5.65</b>	297.4	49.6	297.4	105.6
41	<b>345.8</b>	57.6	345.8	<b>62.9</b>	10.2	62.9	<b>5.50</b>	287.5	47.9	287.5	105.5
40	<b>336.2</b>	56.0	336.2	<b>62.8</b>	10.2	62.8	<b>5.35</b>	277.9	46.3	277.9	105.4
39	<b>326.7</b>	54.5	326.7	<b>62.8</b>	10.2	62.8	<b>5.20</b>	268.5	44.7	268.5	105.4
38	<b>317.6</b>	52.9	317.6	<b>62.7</b>	10.2	62.7	<b>5.06</b>	259.3	43.2	259.3	105.3
37	<b>308.6</b>	51.4	308.6	<b>62.7</b>	10.2	62.7	<b>4.92</b>	250.4	41.7	250.4	105.2
36	<b>299.9</b>	50.0	299.9	<b>62.7</b>	10.1	62.7	<b>4.79</b>	241.8	40.3	241.8	105.2
35	<b>291.4</b>	48.6	291.4	<b>62.6</b>	10.1	62.6	<b>4.65</b>	233.3	38.9	233.3	105.1
34	<b>283.2</b>	47.2	283.2	<b>62.6</b>	10.1	62.6	<b>4.52</b>	225.1	37.5	225.1	105.1
33	<b>275.1</b>	45.9	275.1	<b>62.6</b>	10.1	62.6	<b>4.40</b>	217.1	36.2	217.1	105.0
32	<b>267.3</b>	44.6	267.3	<b>62.5</b>	10.1	62.5	<b>4.28</b>	209.3	34.9	209.3	105.0
31	<b>259.7</b>	43.3	259.7	<b>62.5</b>	10.1	62.5	<b>4.16</b>	201.8	33.6	201.8	105.0
30	<b>252.4</b>	42.1	252.4	<b>62.5</b>	10.1	62.5	<b>4.04</b>	194.4	32.4	194.4	104.9
29	<b>245.2</b>	40.9	245.2	<b>62.4</b>	10.1	62.4	<b>3.93</b>	187.3	31.2	187.3	104.9
28	<b>238.2</b>	39.7	238.2	<b>62.4</b>	10.1	62.4	<b>3.82</b>	180.3	30.1	180.3	104.9
27	<b>231.4</b>	38.6	231.4	<b>62.4</b>	10.1	62.4	<b>3.71</b>	173.6	28.9	173.6	104.8
26	<b>224.8</b>	37.5	224.8	<b>62.4</b>	10.1	62.4	<b>3.60</b>	167.0	27.8	167.0	104.8
25	<b>218.5</b>	36.4	218.5	<b>62.4</b>	10.1	62.4	<b>3.50</b>	160.6	26.8	160.6	104.8
24	<b>212.2</b>	35.4	212.2	<b>62.4</b>	10.1	62.4	<b>3.40</b>	154.4	25.7	154.4	104.8
23	<b>206.2</b>	34.4	206.2	<b>62.4</b>	10.1	62.4	<b>3.31</b>	148.4	24.7	148.4	104.8
22	<b>200.4</b>	33.4	200.4	<b>62.3</b>	10.1	62.3	<b>3.21</b>	142.5	23.8	142.5	104.8
21	<b>194.7</b>	32.4	194.7	<b>62.3</b>	10.1	62.3	<b>3.12</b>	136.9	22.8	136.9	104.8
20	<b>189.2</b>	31.5	189.2	<b>62.3</b>	10.1	62.3	<b>3.03</b>	131.4	21.9	131.4	104.8
19	<b>183.8</b>	30.6	183.8	<b>62.4</b>	10.1	62.4	<b>2.95</b>	126.0	21.0	126.0	104.8
18	<b>178.7</b>	29.8	178.7	<b>62.4</b>	10.1	62.4	<b>2.87</b>	120.8	20.1	120.8	104.8
17	<b>173.6</b>	28.9	173.6	<b>62.4</b>	10.1	62.4	<b>2.78</b>	115.8	19.3	115.8	104.8
16	<b>168.8</b>	28.1	168.8	<b>62.4</b>	10.1	62.4	<b>2.71</b>	110.9	18.5	110.9	104.9
15	<b>164.0</b>	27.3	164.0	<b>62.4</b>	10.1	62.4	<b>2.63</b>	106.2	17.7	106.2	104.9
14	<b>159.5</b>	26.6	159.5	<b>62.4</b>	10.1	62.4	<b>2.55</b>	101.6	16.9	101.6	104.9
13	<b>155.0</b>	25.8	155.0	<b>62.4</b>	10.1	62.4	<b>2.48</b>	97.1	16.2	97.1	104.9
12	<b>150.7</b>	25.1	150.7	<b>62.4</b>	10.1	62.4	<b>2.41</b>	92.8	15.5	92.8	105.0
11	<b>146.5</b>	24.4	146.5	<b>62.5</b>	10.1	62.5	<b>2.35</b>	88.6	14.8	88.6	105.0
10	<b>142.5</b>	23.7	142.5	<b>62.5</b>	10.1	62.5	<b>2.28</b>	84.5	14.1	84.5	105.0
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-- attention: operating limits not reflected in performance table

# WAMAK TWW 330 WHR HeavyDuty 2L3

Th -OU	80										
[°C]	Qh nom	Qh min	Qh max	Pin nom	Pin min	Pin max	COP nom	Qc nom	Qc min	Qc max	I nom
[°C]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	kW / kW	[kW]	[kW]	[kW]	[A]
45	<b>339.6</b>	56.6	339.6	<b>75.9</b>	12.3	75.9	<b>4.47</b>	269.2	44.9	269.2	123.0
44	<b>330.3</b>	55.1	330.3	<b>75.9</b>	12.3	75.9	<b>4.35</b>	259.9	43.3	259.9	123.0
43	<b>321.3</b>	53.5	321.3	<b>76.0</b>	12.3	76.0	<b>4.23</b>	250.8	41.8	250.8	123.1
42	<b>312.5</b>	52.1	312.5	<b>76.0</b>	12.3	76.0	<b>4.11</b>	242.0	40.3	242.0	123.1
41	<b>303.9</b>	50.7	303.9	<b>76.0</b>	12.3	76.0	<b>4.00</b>	233.4	38.9	233.4	123.1
40	<b>295.6</b>	49.3	295.6	<b>76.1</b>	12.3	76.1	<b>3.89</b>	225.0	37.5	225.0	123.1
39	<b>287.5</b>	47.9	287.5	<b>76.1</b>	12.3	76.1	<b>3.78</b>	216.9	36.2	216.9	123.2
38	<b>279.6</b>	46.6	279.6	<b>76.1</b>	12.3	76.1	<b>3.67</b>	209.0	34.8	209.0	123.2
37	<b>271.9</b>	45.3	271.9	<b>76.2</b>	12.3	76.2	<b>3.57</b>	201.3	33.6	201.3	123.3
36	<b>264.5</b>	44.1	264.5	<b>76.2</b>	12.3	76.2	<b>3.47</b>	193.8	32.3	193.8	123.3
35	<b>257.3</b>	42.9	257.3	<b>76.2</b>	12.3	76.2	<b>3.37</b>	186.6	31.1	186.6	123.4
34	<b>250.3</b>	41.7	250.3	<b>76.3</b>	12.4	76.3	<b>3.28</b>	179.5	29.9	179.5	123.4
33	<b>243.4</b>	40.6	243.4	<b>76.3</b>	12.4	76.3	<b>3.19</b>	172.6	28.8	172.6	123.5
32	<b>236.8</b>	39.5	236.8	<b>76.4</b>	12.4	76.4	<b>3.10</b>	166.0	27.7	166.0	123.5
31	<b>230.4</b>	38.4	230.4	<b>76.4</b>	12.4	76.4	<b>3.01</b>	159.5	26.6	159.5	123.6
30	<b>224.2</b>	37.4	224.2	<b>76.5</b>	12.4	76.5	<b>2.93</b>	153.2	25.5	153.2	123.6
29	<b>218.1</b>	36.4	218.1	<b>76.6</b>	12.4	76.6	<b>2.85</b>	147.1	24.5	147.1	123.7
28	<b>212.3</b>	35.4	212.3	<b>76.6</b>	12.4	76.6	<b>2.77</b>	141.2	23.5	141.2	123.8
27	<b>206.6</b>	34.4	206.6	<b>76.7</b>	12.4	76.7	<b>2.69</b>	135.5	22.6	135.5	123.9
26	<b>201.1</b>	33.5	201.1	<b>76.7</b>	12.4	76.7	<b>2.62</b>	129.9	21.7	129.9	123.9
25	<b>195.7</b>	32.6	195.7	<b>76.8</b>	12.4	76.8	<b>2.55</b>	124.5	20.8	124.5	124.0
24	<b>190.6</b>	31.8	190.6	<b>76.9</b>	12.4	76.9	<b>2.48</b>	119.3	19.9	119.3	124.1
23	<b>185.6</b>	30.9	185.6	<b>76.9</b>	12.5	76.9	<b>2.41</b>	114.2	19.0	114.2	124.2
22	<b>180.7</b>	30.1	180.7	<b>77.0</b>	12.5	77.0	<b>2.35</b>	109.3	18.2	109.3	124.3
21	<b>176.0</b>	29.3	176.0	<b>77.1</b>	12.5	77.1	<b>2.28</b>	104.5	17.4	104.5	124.4
20	<b>171.5</b>	28.6	171.5	<b>77.2</b>	12.5	77.2	<b>2.22</b>	99.9	16.6	99.9	124.5
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-- attention: operating limits not reflected in performance table

# WAMAK TWW 330 WHR HeavyDuty 2L3

Tc -OU		W 12 / 7 °C										
°C	°C	Qc nom	Qc min	Qc max	Pin nom	Pin min	Pin max	EER	Qh nom	Qh min	Qh max	I nom
[°C]	[°C]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	kW / kW	[kW]	[kW]	[kW]	[A]
40	<b>82.8</b>	13.8	82.8	<b>39.8</b>	6.5	39.8	<b>2.08</b>	119.8	20.0	119.8	77.2	
39	<b>84.3</b>	14.0	84.3	<b>39.0</b>	6.3	39.0	<b>2.16</b>	120.4	20.1	120.4	76.3	
38	<b>85.7</b>	14.3	85.7	<b>38.2</b>	6.2	38.2	<b>2.24</b>	121.1	20.2	121.1	75.4	
37	<b>87.1</b>	14.5	87.1	<b>37.5</b>	6.1	37.5	<b>2.32</b>	121.8	20.3	121.8	74.6	
36	<b>88.5</b>	14.7	88.5	<b>36.7</b>	6.0	36.7	<b>2.41</b>	122.5	20.4	122.5	73.8	
35	<b>89.8</b>	15.0	89.8	<b>36.0</b>	5.8	36.0	<b>2.49</b>	123.2	20.5	123.2	73.0	
34	<b>91.2</b>	15.2	91.2	<b>35.3</b>	5.7	35.3	<b>2.58</b>	124.0	20.7	124.0	72.3	
33	<b>92.5</b>	15.4	92.5	<b>34.6</b>	5.6	34.6	<b>2.67</b>	124.7	20.8	124.7	71.5	
32	<b>93.9</b>	15.6	93.9	<b>34.0</b>	5.5	34.0	<b>2.76</b>	125.4	20.9	125.4	70.8	
31	<b>95.2</b>	15.9	95.2	<b>33.3</b>	5.4	33.3	<b>2.86</b>	126.1	21.0	126.1	70.2	
30	<b>96.5</b>	16.1	96.5	<b>32.7</b>	5.3	32.7	<b>2.95</b>	126.8	21.1	126.8	69.5	
29	<b>97.8</b>	16.3	97.8	<b>32.1</b>	5.2	32.1	<b>3.05</b>	127.6	21.3	127.6	68.9	
28	<b>99.1</b>	16.5	99.1	<b>31.5</b>	5.1	31.5	<b>3.15</b>	128.3	21.4	128.3	68.3	
27	<b>100.3</b>	16.7	100.3	<b>30.9</b>	5.0	30.9	<b>3.25</b>	129.0	21.5	129.0	67.7	
26	<b>101.6</b>	16.9	101.6	<b>30.3</b>	4.9	30.3	<b>3.35</b>	129.7	21.6	129.7	67.2	
25	<b>102.8</b>	17.1	102.8	<b>29.8</b>	4.8	29.8	<b>3.45</b>	130.5	21.7	130.5	66.6	
24	<b>104.0</b>	17.3	104.0	<b>29.3</b>	4.7	29.3	<b>3.56</b>	131.2	21.9	131.2	66.1	
23	<b>105.2</b>	17.5	105.2	<b>28.7</b>	4.7	28.7	<b>3.66</b>	131.9	22.0	131.9	65.6	
22	<b>106.4</b>	17.7	106.4	<b>28.2</b>	4.6	28.2	<b>3.77</b>	132.6	22.1	132.6	65.1	
21	<b>107.6</b>	17.9	107.6	<b>27.7</b>	4.5	27.7	<b>3.88</b>	133.3	22.2	133.3	64.7	
20	<b>108.8</b>	18.1	108.8	<b>27.2</b>	4.4	27.2	<b>4.00</b>	134.0	22.3	134.0	64.2	

Tc [°C]		W 23 / 18 °C										
0	°C	Qc nom	Qc min	Qc max	Pin nom	Pin min	Pin max	EER	Qh nom	Qh min	Qh max	I nom
[°C]	[°C]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	kW / kW	[kW]	[kW]	[kW]	[A]
40	<b>128.6</b>	21.4	128.6	<b>39.8</b>	6.5	39.8	<b>3.23</b>	165.9	27.6	154.3	77.7	
39	<b>130.5</b>	21.7	130.5	<b>39.0</b>	6.3	39.0	<b>3.34</b>	167.1	27.8	155.4	76.8	
38	<b>132.3</b>	22.1	132.3	<b>38.2</b>	6.2	38.2	<b>3.46</b>	168.2	28.0	156.6	76.0	
37	<b>134.2</b>	22.4	134.2	<b>37.5</b>	6.1	37.5	<b>3.58</b>	169.4	28.2	157.7	75.1	
36	<b>136.1</b>	22.7	136.1	<b>36.7</b>	6.0	36.7	<b>3.70</b>	170.6	28.4	158.9	74.3	
35	<b>137.9</b>	23.0	137.9	<b>36.0</b>	5.8	36.0	<b>3.83</b>	171.8	28.6	160.0	73.6	
34	<b>139.7</b>	23.3	139.7	<b>35.3</b>	5.7	35.3	<b>3.95</b>	172.9	28.8	161.2	72.8	
33	<b>141.5</b>	23.6	141.5	<b>34.6</b>	5.6	34.6	<b>4.08</b>	174.1	29.0	162.4	72.1	
32	<b>143.2</b>	23.9	143.2	<b>34.0</b>	5.5	34.0	<b>4.22</b>	175.3	29.2	163.5	71.4	
31	<b>145.0</b>	24.2	145.0	<b>33.3</b>	5.4	33.3	<b>4.35</b>	176.4	29.4	164.7	70.8	
30	<b>146.7</b>	24.5	146.7	<b>32.7</b>	5.3	32.7	<b>4.49</b>	177.6	29.6	165.9	70.1	
29	<b>148.4</b>	24.7	148.4	<b>32.1</b>	5.2	32.1	<b>4.63</b>	178.7	29.8	167.1	69.5	
28	<b>150.1</b>	25.0	150.1	<b>31.5</b>	5.1	31.5	<b>4.77</b>	179.9	30.0	168.2	68.9	
27	<b>151.8</b>	25.3	151.8	<b>30.9</b>	5.0	30.9	<b>4.91</b>	181.0	30.2	169.4	68.3	
26	<b>153.5</b>	25.6	153.5	<b>30.3</b>	4.9	30.3	<b>5.06</b>	182.1	30.4	170.6	67.7	
25	<b>155.1</b>	25.9	155.1	<b>29.8</b>	4.8	29.8	<b>5.21</b>	183.3	30.5	171.8	67.2	
24	<b>156.7</b>	26.1	156.7	<b>29.3</b>	4.7	29.3	<b>5.36</b>	184.4	30.7	172.9	66.7	
23	<b>158.3</b>	26.4	158.3	<b>28.7</b>	4.7	28.7	<b>5.51</b>	185.5	30.9	174.1	66.1	
22	<b>159.9</b>	26.7	159.9	<b>28.2</b>	4.6	28.2	<b>5.67</b>	186.6	31.1	175.3	65.6	
21	<b>161.5</b>	26.9	161.5	<b>27.7</b>	4.5	27.7	<b>5.83</b>	187.7	31.3	176.4	65.2	
20	<b>163.0</b>	27.2	163.0	<b>27.2</b>	4.4	27.2	<b>5.99</b>	188.7	31.5	177.6	64.7	

-- attention: operating limits not reflected in performance table

LEGEND:

Ts-IN: Temperature renewable source - inlet [°C]

Th-OU: Temperature heating - outlet (flow) [°C]

Tc-OU: Temperature cooling - outlet (flow) [°C]

Qh nom: Heating capacity nominal

Qh min: Heating capacity minimal

Qh max: Heating capacity maximal

Pin nom: Power input at nominal heating capacity

Pin min: Power input at minimal heating capacity

Pin max: Power input at maximal heating capacity

COP nom: coefficient of performance at nominal heating capacity

Qc nom: cooling / heat extraction capacity at nominal heating capacity

Qc min: cooling / heat extraction at minimal heating capacity

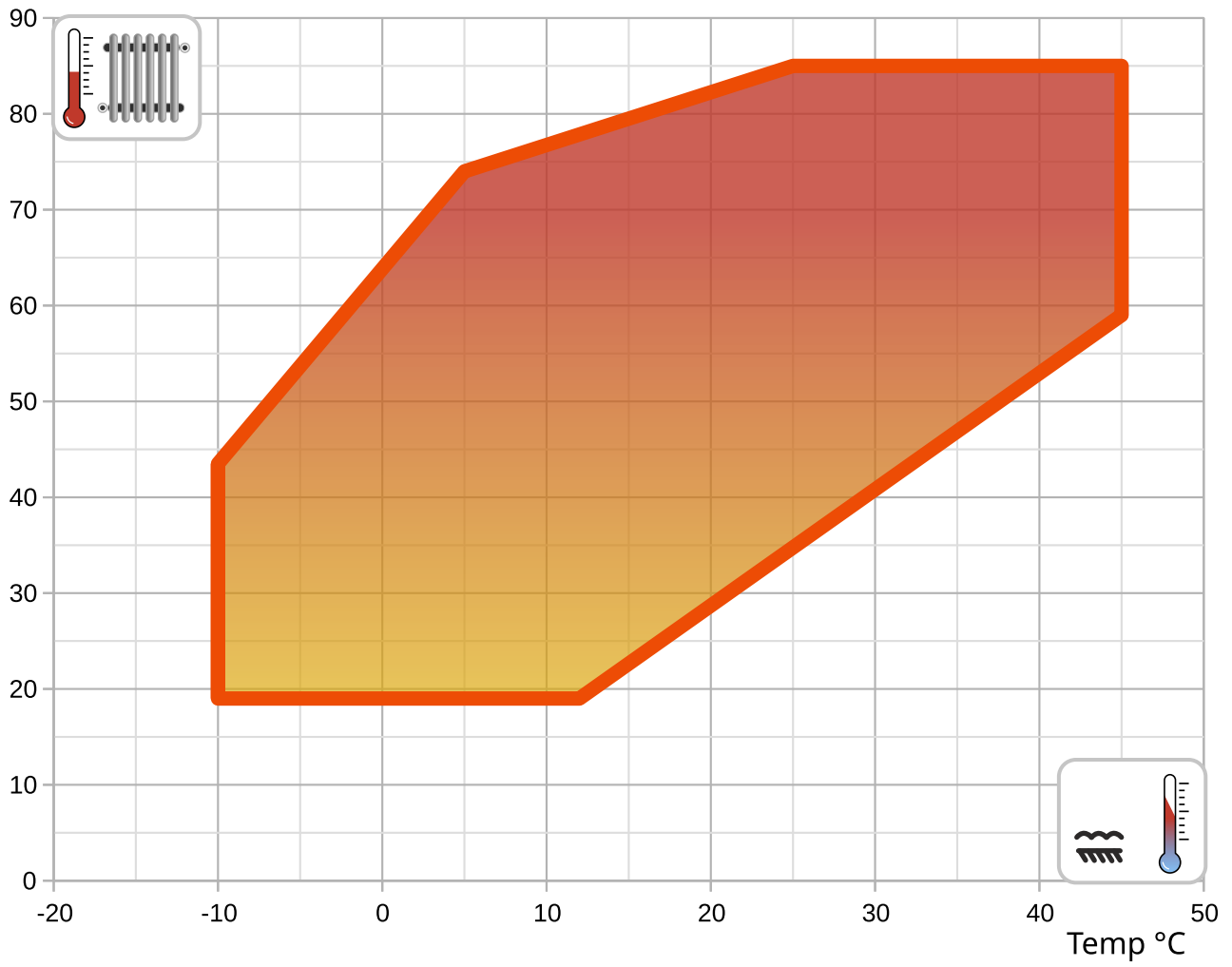
Qc max: cooling / heat extraction at maximal heating capacity

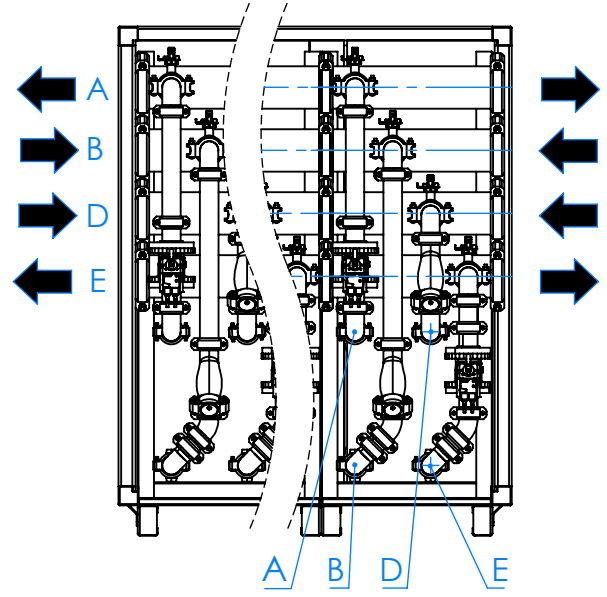
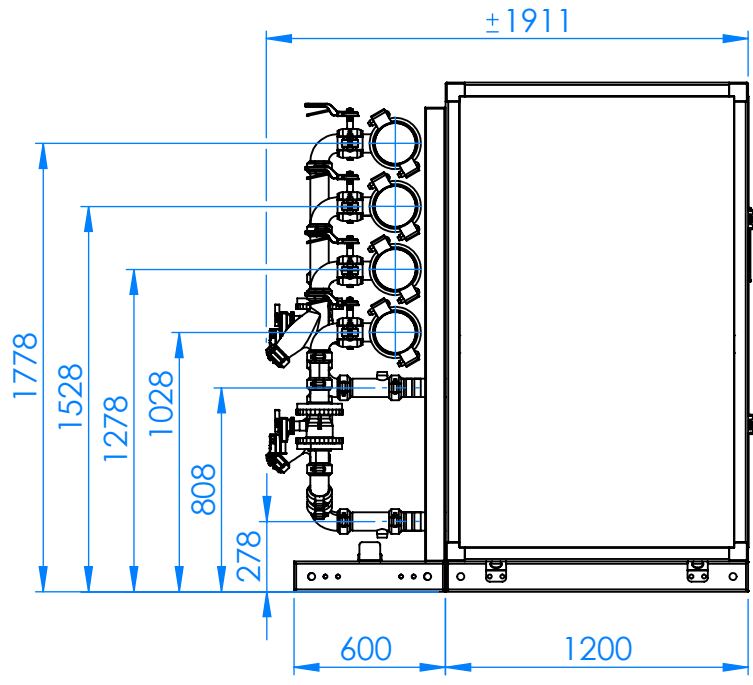
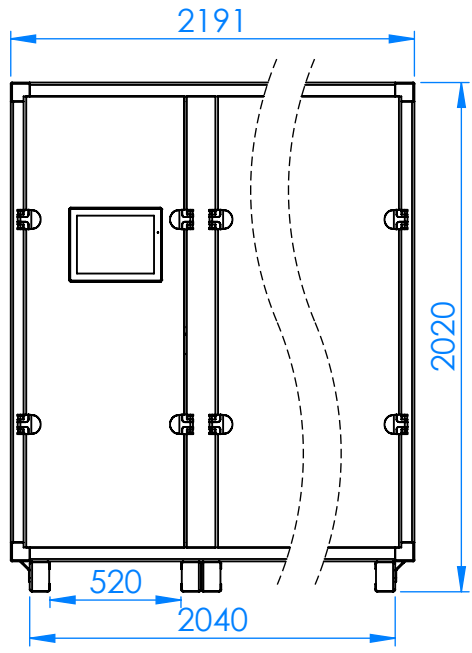
I nom: Current at nominal heating capacity

EER: energy efficiency ratio at nominal cooling capacity

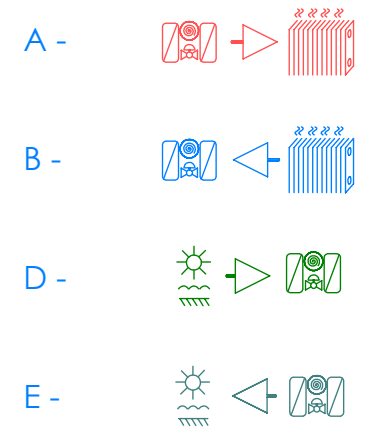
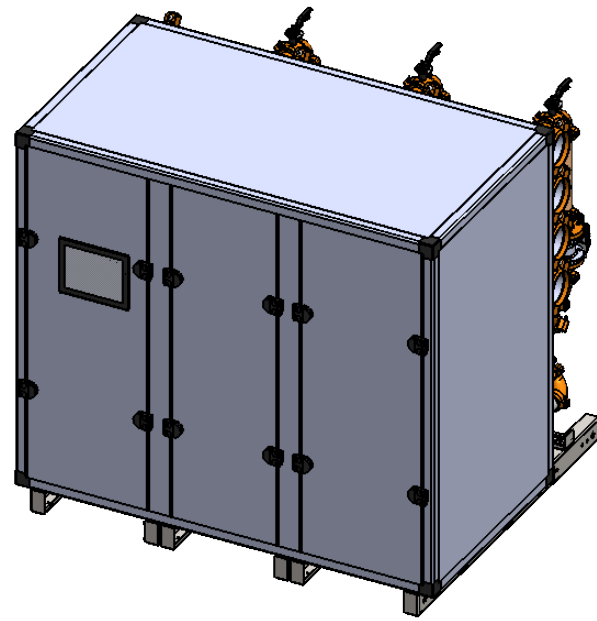
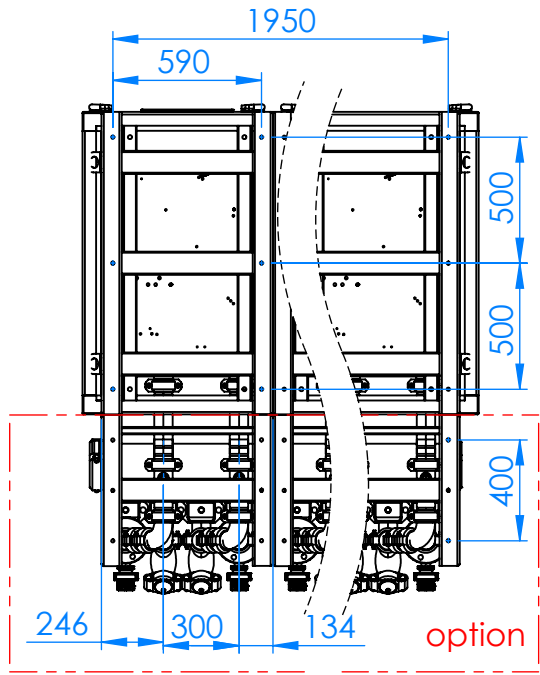
## Operating limits

Temp °C

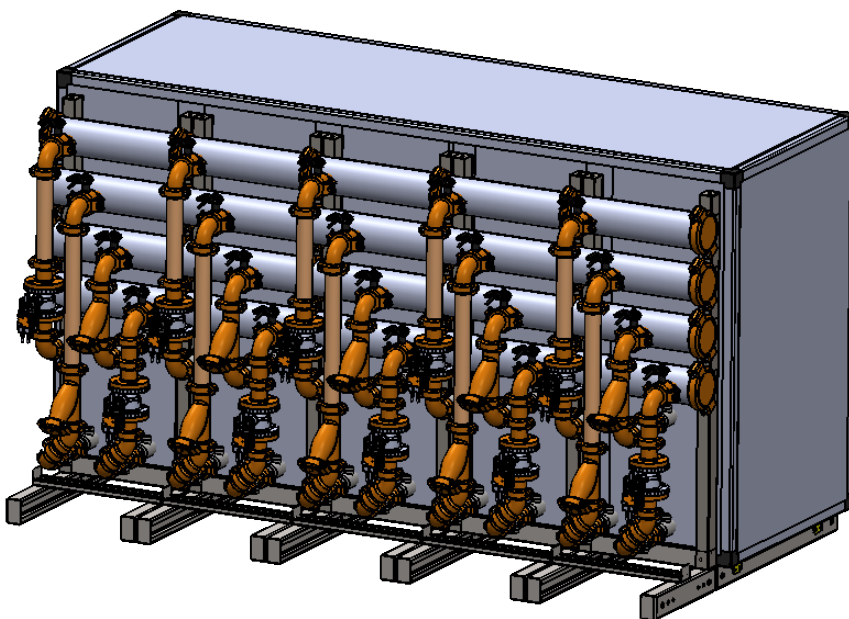
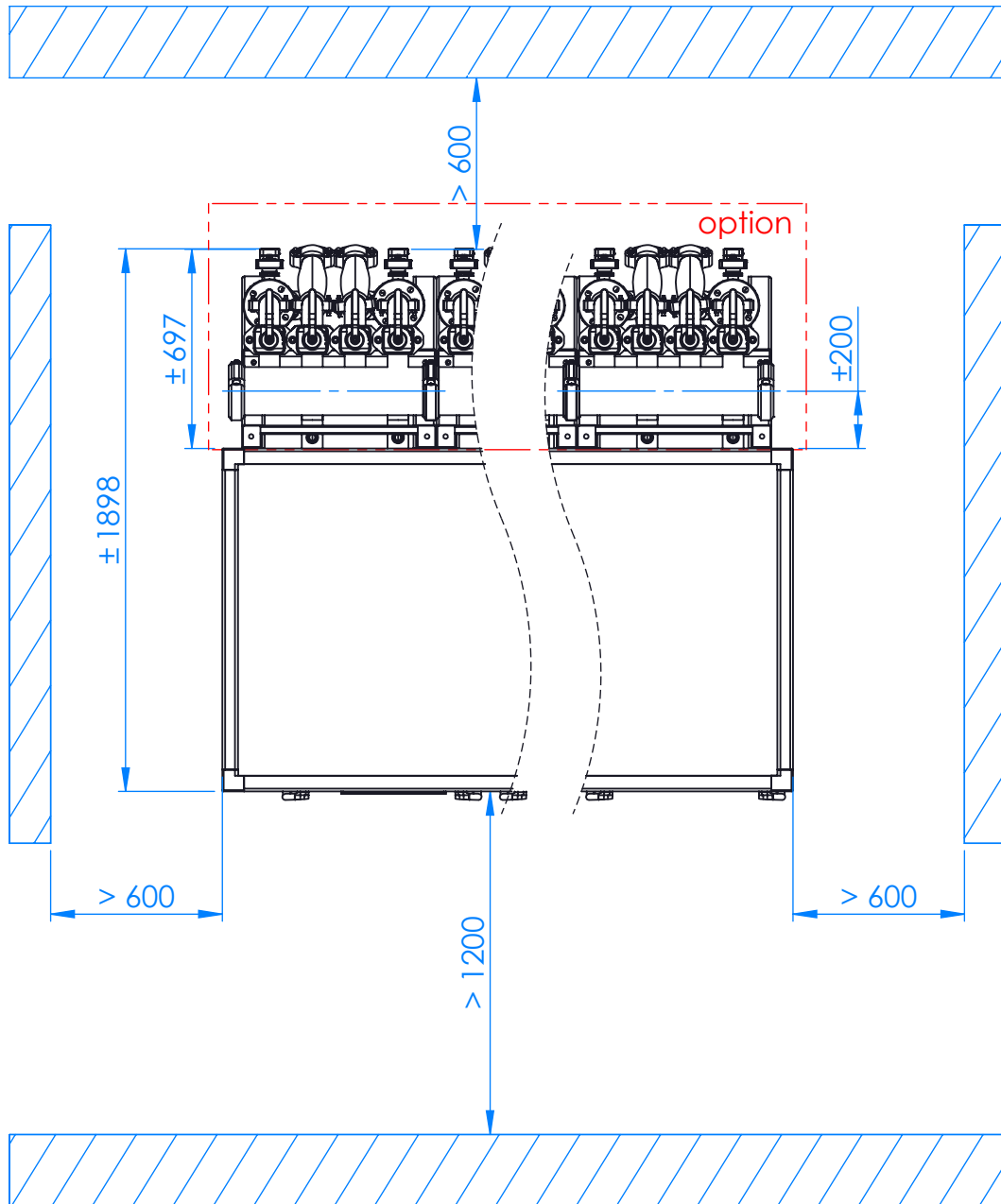


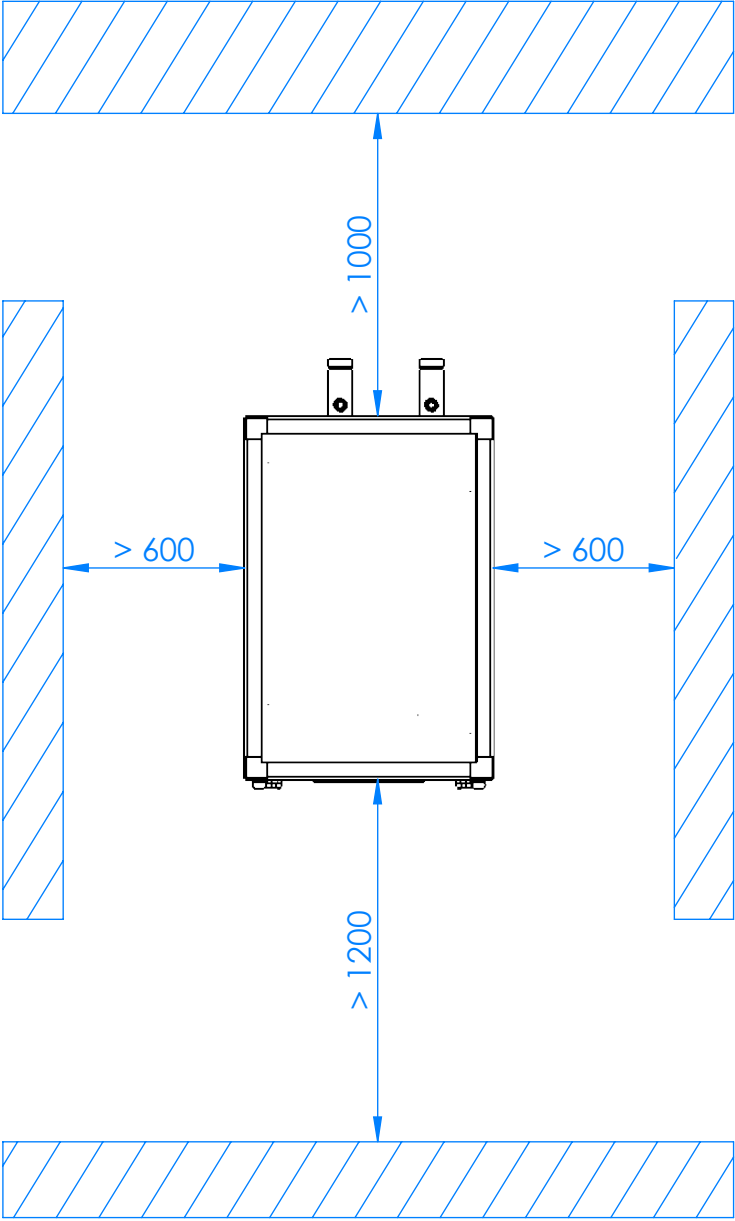


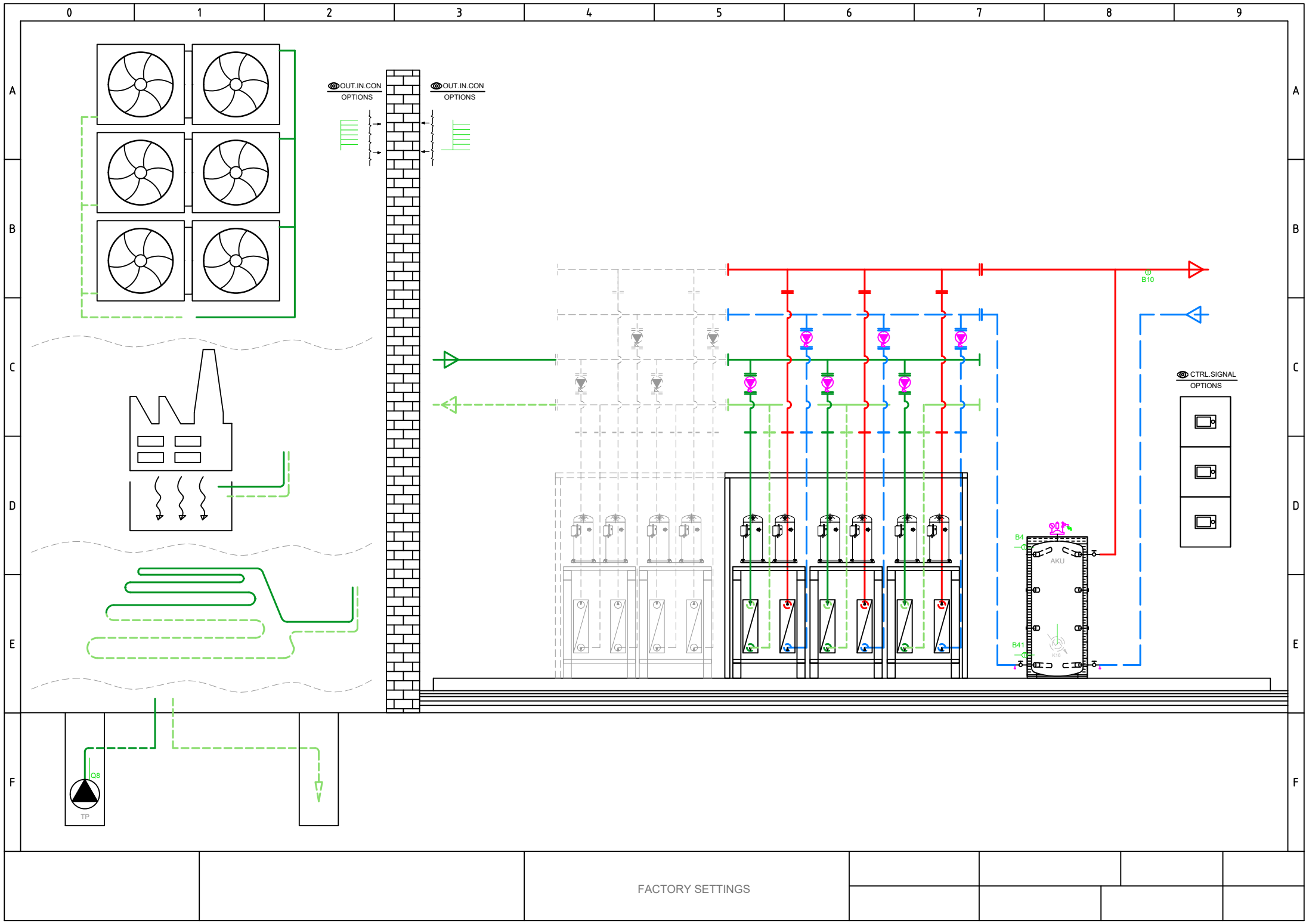
3xHD HD-M1











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

Main power supply 230V / 50 Hz  
Ground  
Neutral conductor

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

Q8 Source pump Q8

Q9 Condenser pump Q9

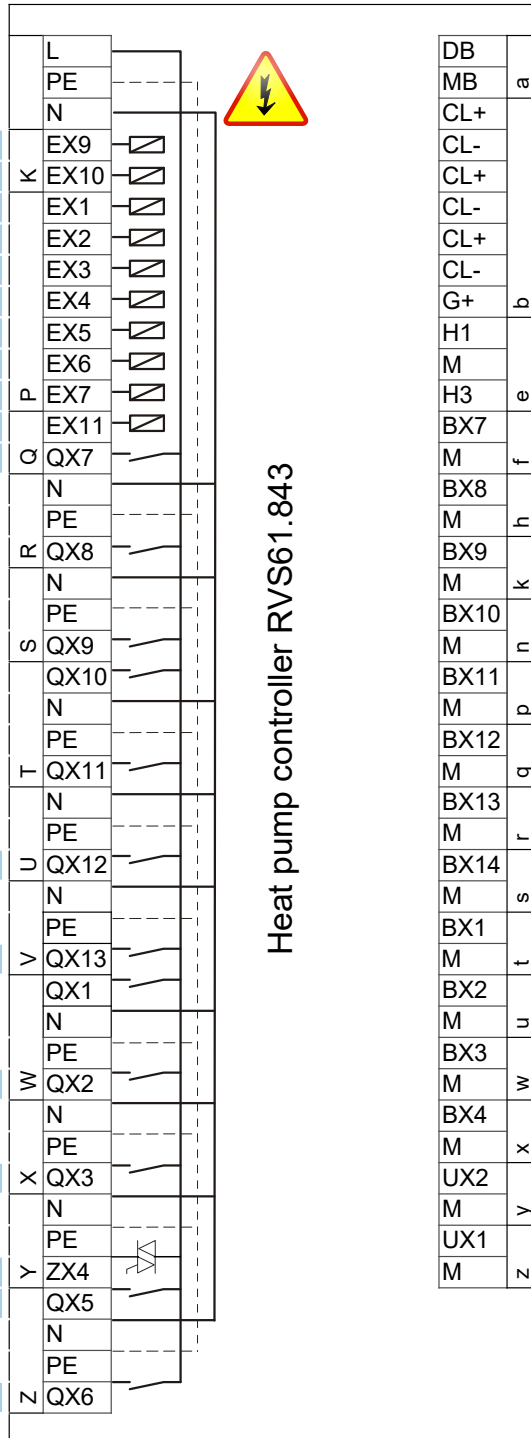
K10 Alarm output K10

K40 Crankcase heater K40

K81 Valve evaporator K81

K82 Valve EVI K82

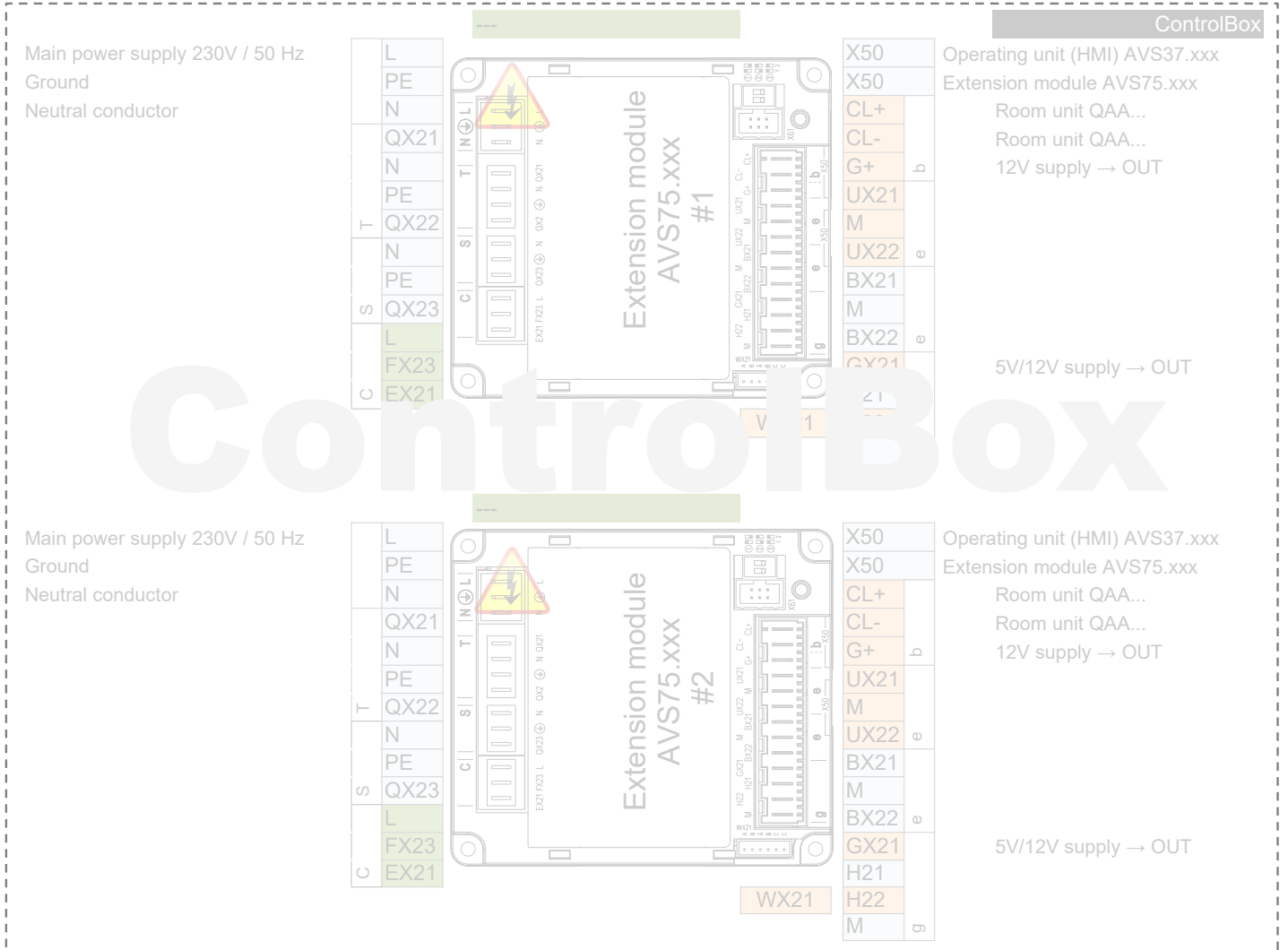
K2 Compressor stage 2 K2



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

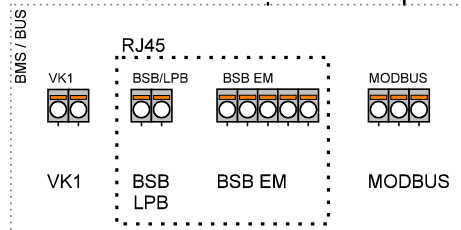
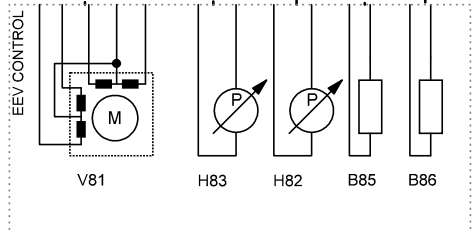
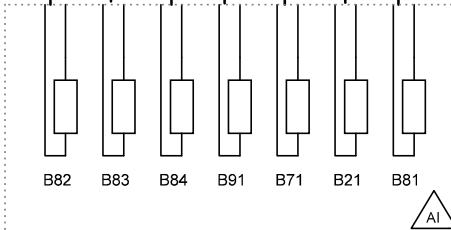
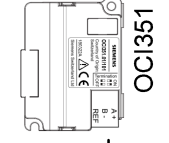
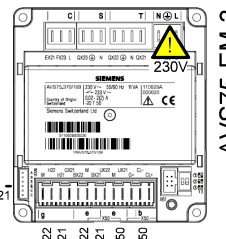
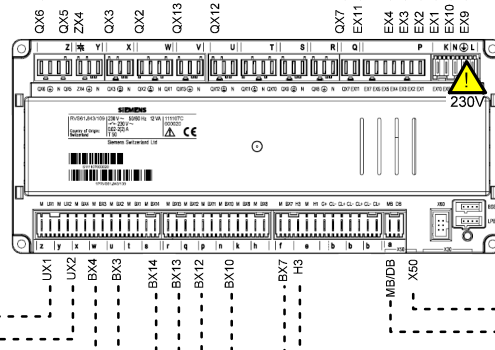
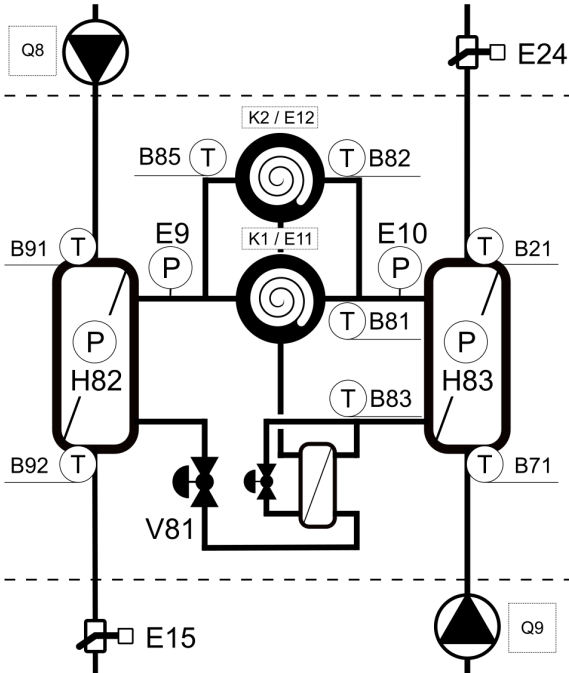
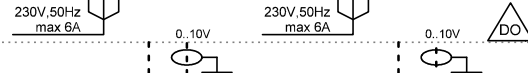
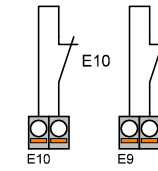
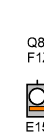
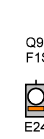
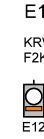
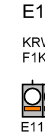
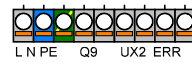
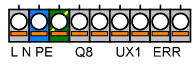
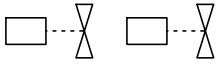
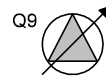
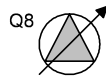


- AVS75.390
- AVS75.391
- AVS75.370



HEAT PUMP

EXTERNAL  
INTERNAL



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

Company  
Title

TBW-TWW

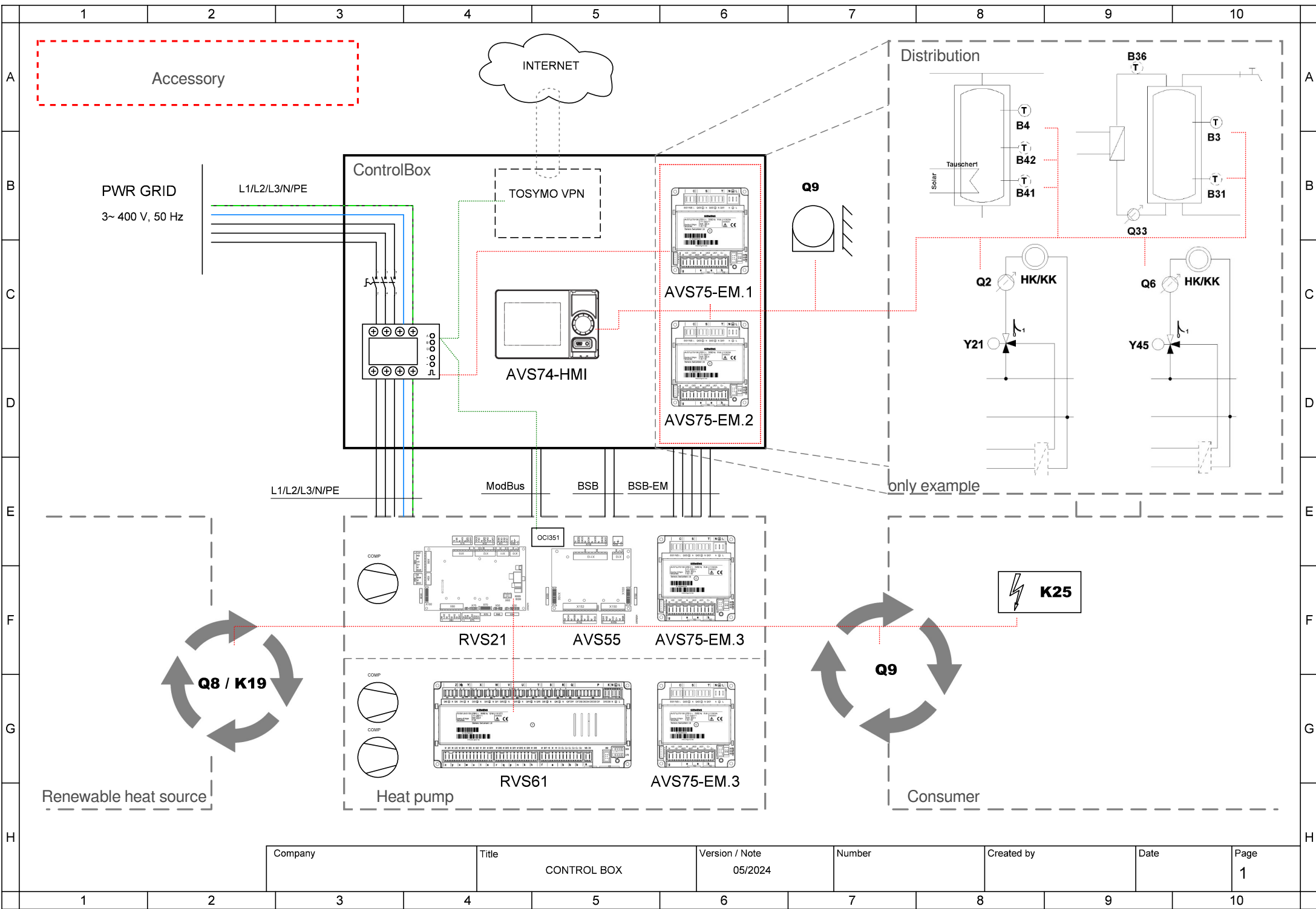
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05/2024

Number

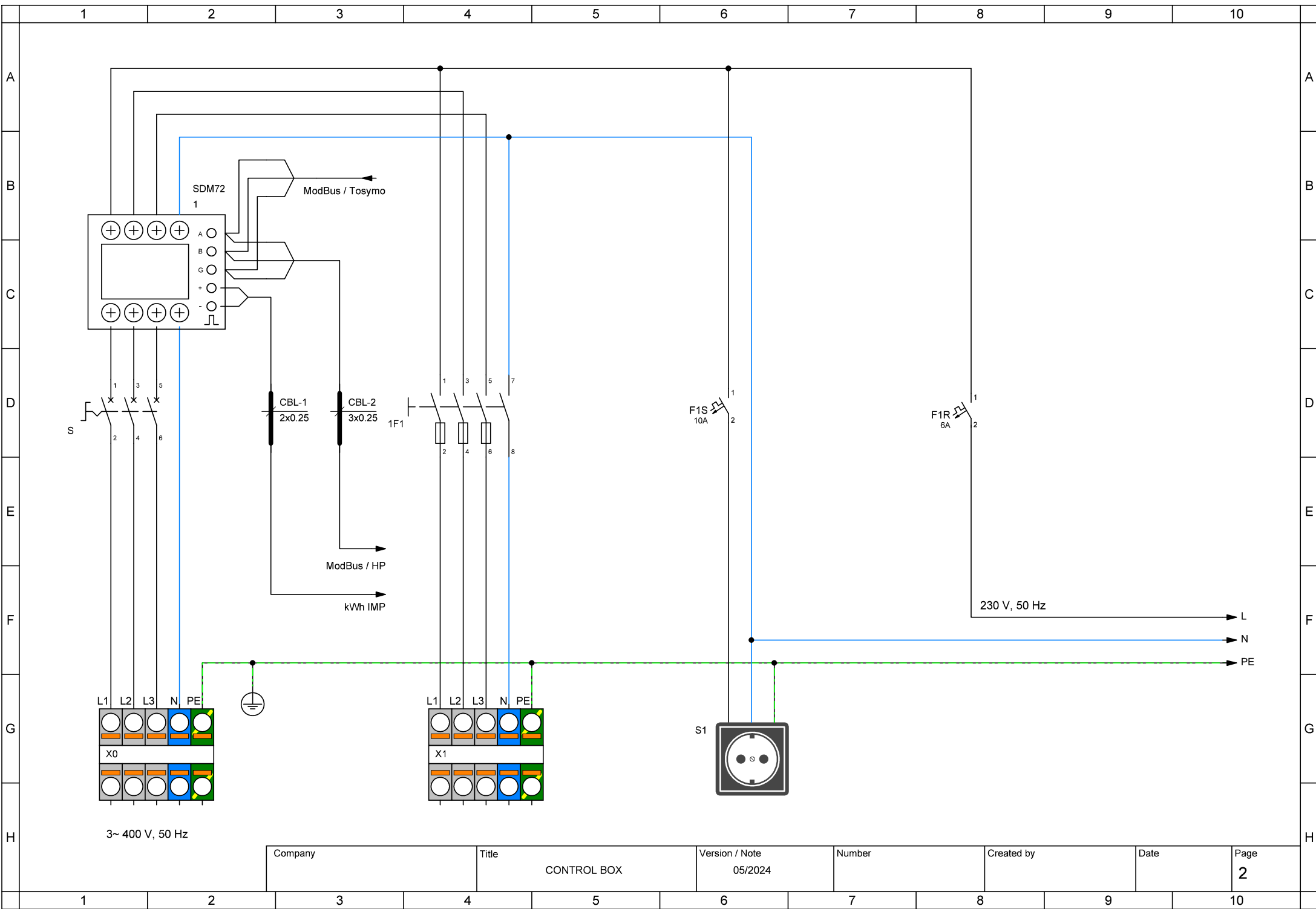
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Date

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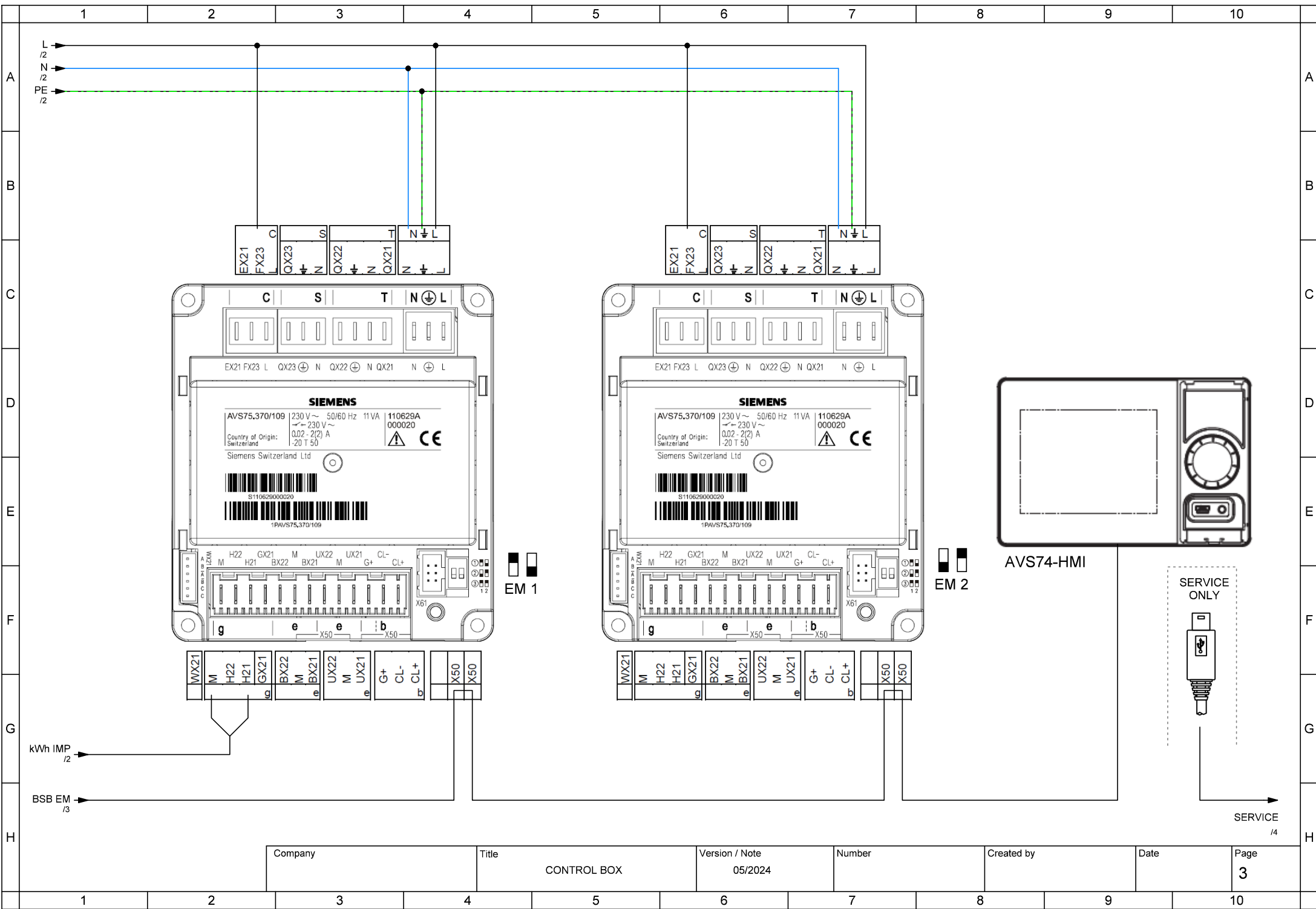


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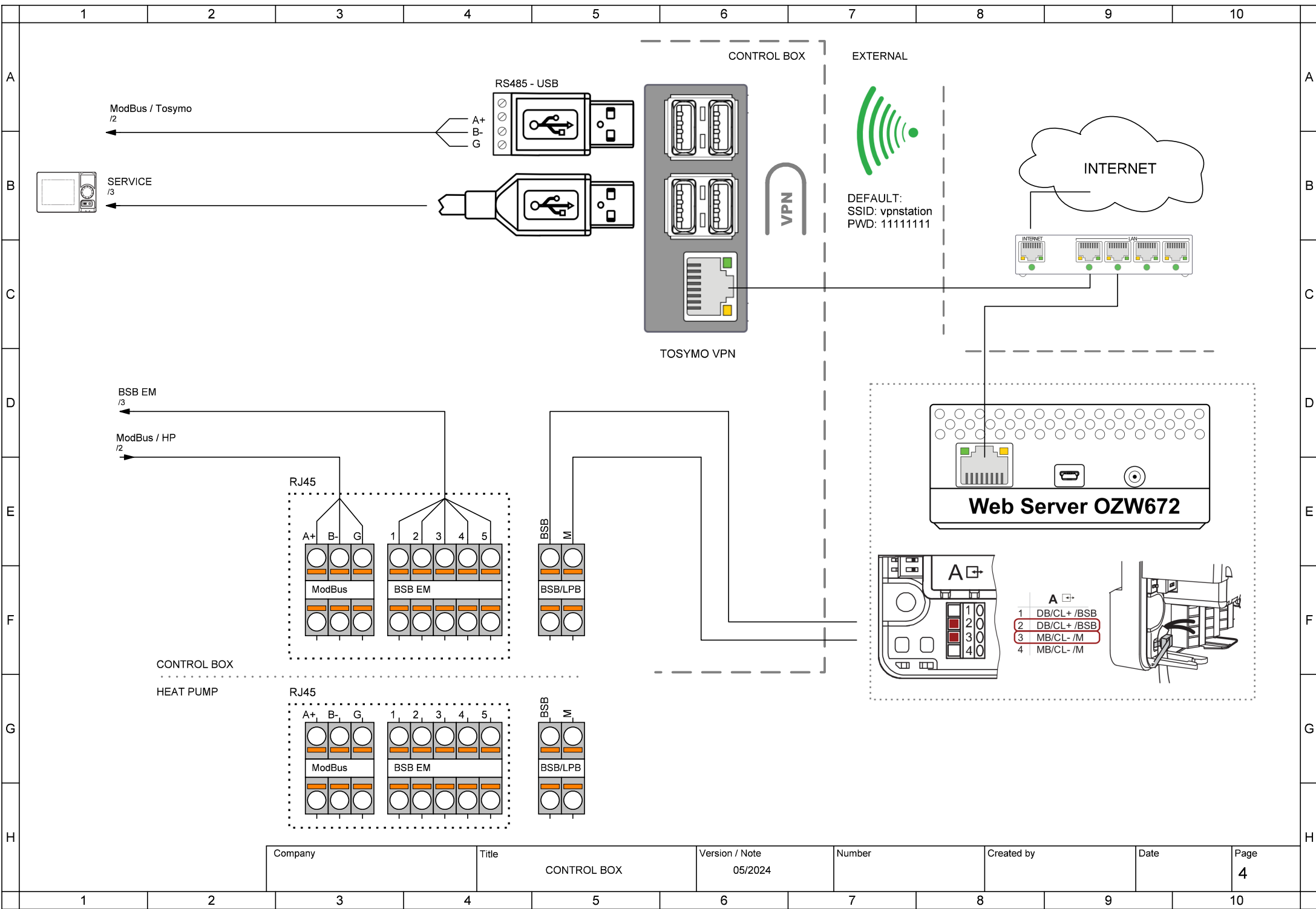


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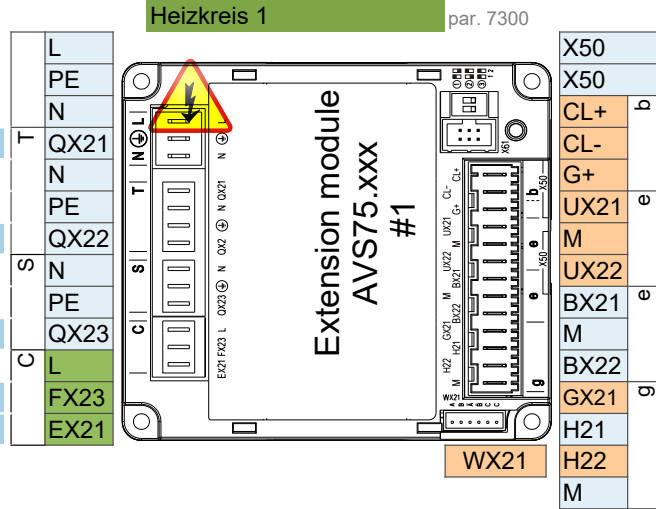
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Company	Title	Version / Note	Number	Created by	Date	Page
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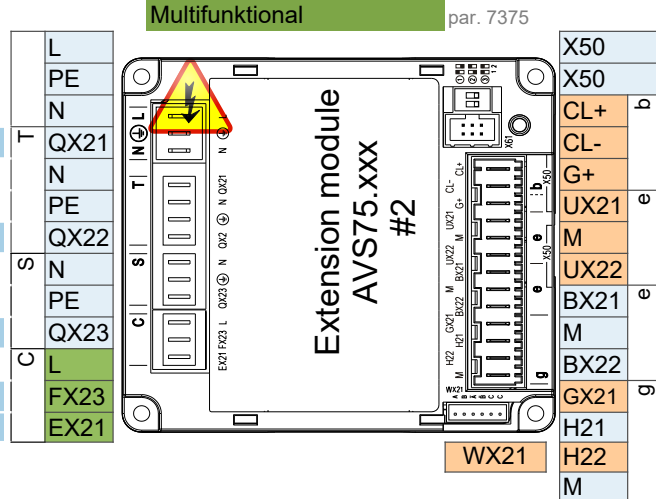
- AVS75.390
- AVS75.391
- AVS75.370

- 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



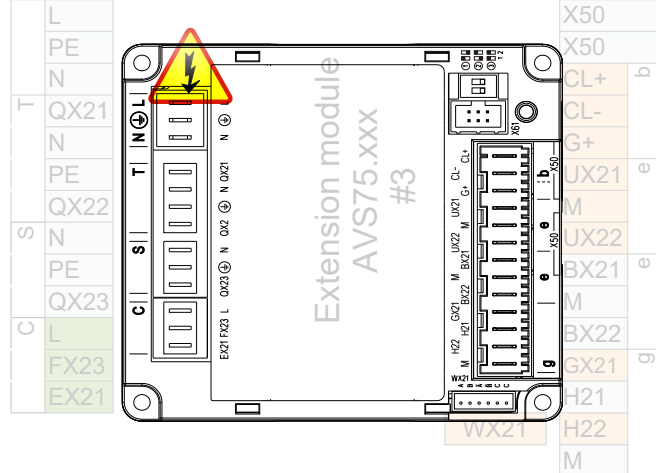
- Extension module AVS75.xxx  
 Room unit QAA...  
 Room unit QAA...  
  
**B1** Flow sensor 1  
  
 Pulse count

- 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