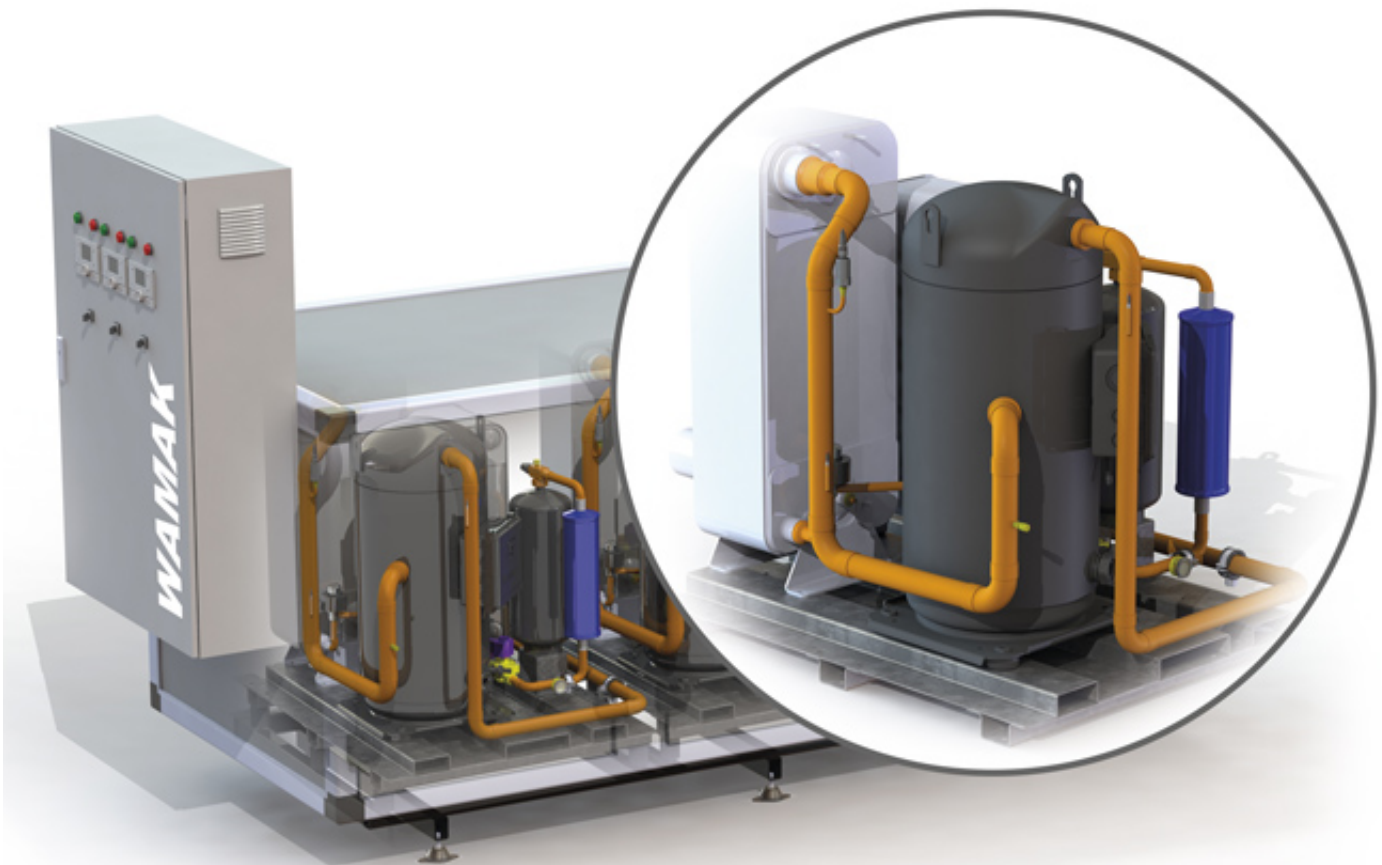
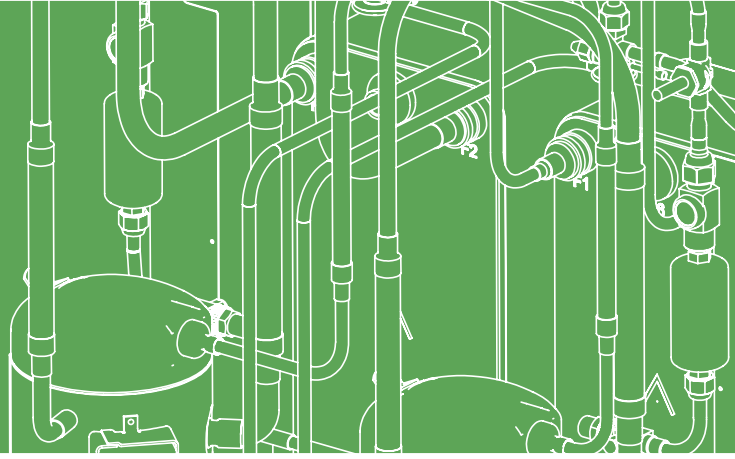


WAMAK

TBW 176 HD
Modul



Industrial heat pump module with
two compressors in single
refrigeration cycle brine - water /

water - water

Industrial heat pump module with two compressors in single refrigeration cycle brine - water / water - water

Heat pump module with a pair of compressors connected in single refrigeration cycle on a stable platform that can be placed in the HeavyDuty Modular Heat Heat Pump. Double high-absorption suspension with silicone washers ensures low noise and vibration levels of the hermetic Scroll compressor.

Stainless steel plate heat exchanger (1.4401) for heating circuit. Switchingboard with integrated safety elements and equithermal control of the heat pump is located in a separate cabinet. With electronic starter via built-in soft starter and electronic coolant injection with autoadaptivity.

Frame construction with a massive base plate on adjustable legs. Equithermal, digital control of the heat pump module allowing multi-stage operation with high redundancy and protection against system failure. For controlling the heating circuit with the mixer and for one heating circuit without a mixer. Temperature regulation for one DHW storage and control of electrical auxiliary heating. Simple extension of control up to 3 heating / cooling circuits via expansion modules or up to 16 circuits via system controllers for RVS heating. The standard version also includes solar control, as well as the possibility of cascading up to 16 devices.

Full-text control menu with features dependent on user instructions, information texts and status output signal. Diagnostic system with record history of operation. External temperature sensor, hotplate sensor, coolant temperature sensor, heat pump heat pump temperature sensor and return temperature sensor as well as source temperature sensor at probe and evaporator inlet, hot water sensor.

Optionally available with ModBus module as well WebControl control and monitoring via the Internet.

Technical information - heat pump

Type :	TBW 176 HD Modul	latest data update :	2020-02-17 15:23:10
Article code :	WAMTB176	Language :	English

Nominal performance data according to EN 14511

Heating capacity :	175.2 kW	Input :	37.27 kW
Refrigerating capacity :	137.93 kW	COP :	4.7

* Data at conditions B0°C/W35°C

Operating temperature limitations

Source temperature minimal :	-5°C	Flow temperature minimal :	+20°C
Source temperature maximal :	+25°C	Flow temperature maximal :	+60°C

Mechanical data

Width :	mm	Weight inside :	900 kg
Depth :	mm		
Height :	mm		

Noise emissions

Noise emissions inside Lp (1m) :	53 dB(A)
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Refrigerant circle parameters

Refrigerant :	R410a	Orifice inside :	EEV
Refrigerant volume :	21.7 kg		

Pipe dimensions, flow rates , pressure drops

Connecting dimensions – primary side :	4 VIC "	Pressure drop – primary side :	max 20 kPa
Connecting dimensions – secondary side :	3 VIC "	Pressure drop – secondary side :	max 20 kPa
Flow – primary side :	15.73 ~ 31.45 m ³ /hour	Recommended ΔT source :	3 K
Flow – secondary side :	10.83 ~ 21.65 m ³ /hour	Recommended ΔT consumer :	7 K

Electrical parameters

Main connection cable – dimension :	5x16 mm ²	Current – nominal :	69.76 A
Primary side cable – dimension :	5x1.5 mm ²	Current – maximal :	130.80 A
Voltage :	3 x 400 V	Softstart :	2 x MCD 201
Fuze :	160 A	Starting current :	2x63.05 A

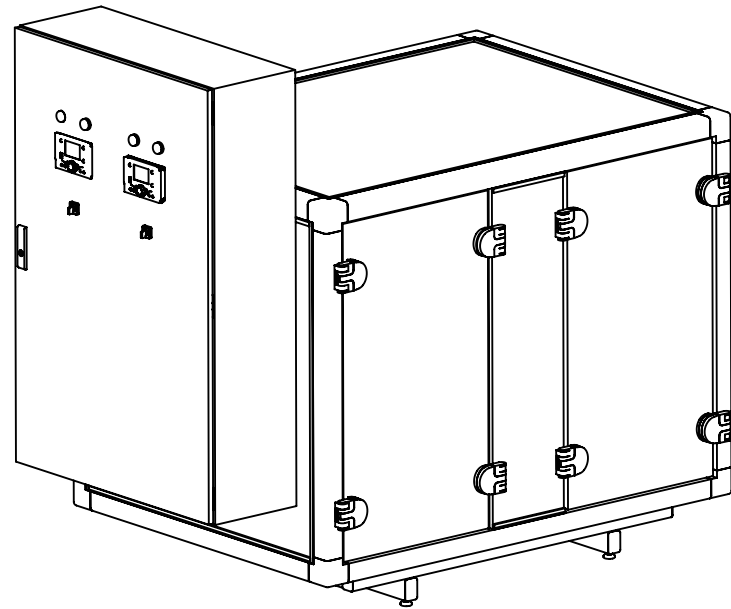
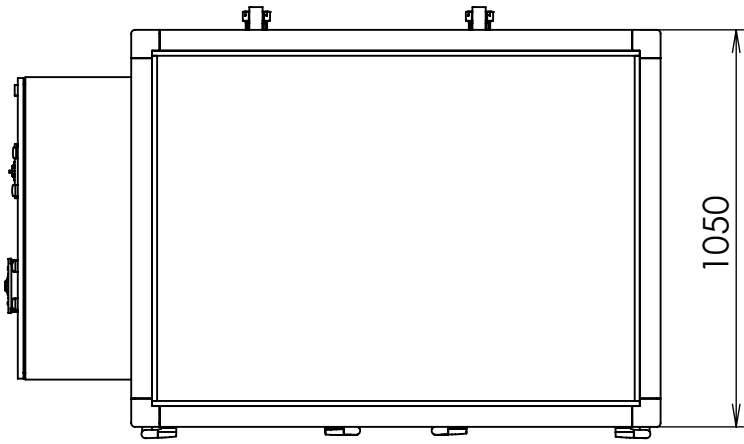
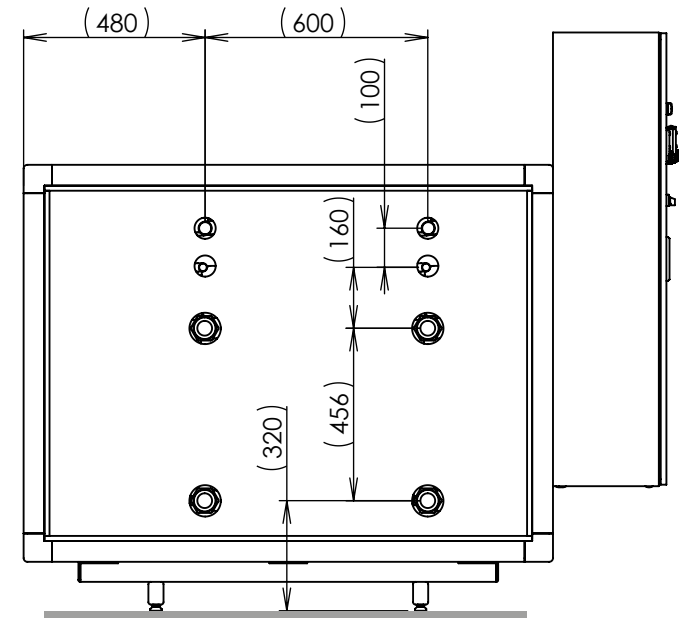
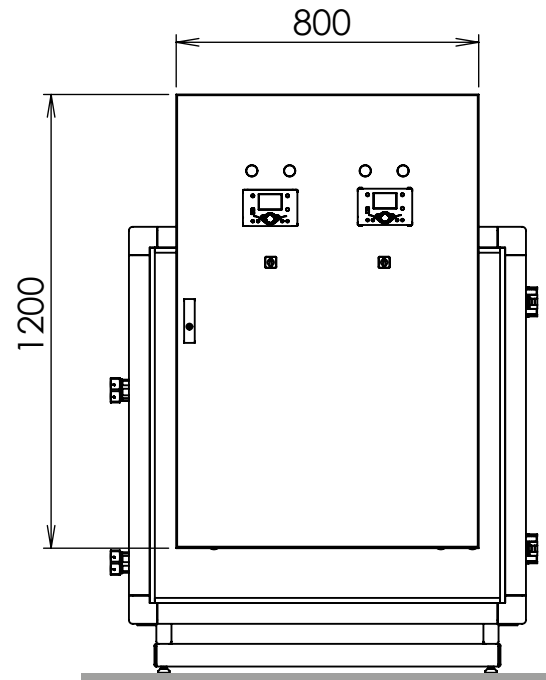
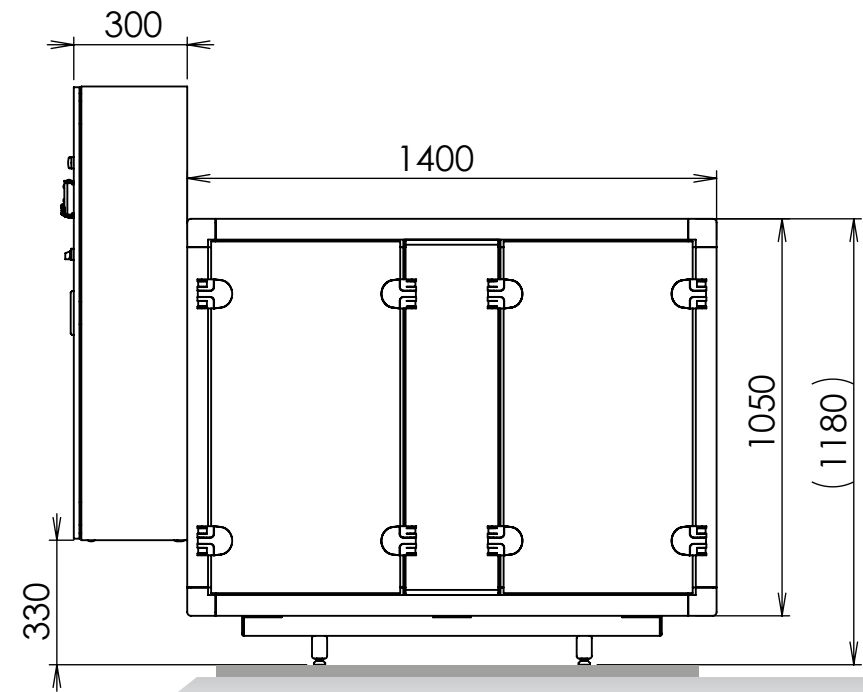
Features

Condenser circulator installed :	No	Installed HP controller :	SIEMENS RVS 61
Source circulator installed :	No	Control of mixed heating circuit :	Yes
Bivalent heater installed :	No	Control of direct pump heating :	Yes

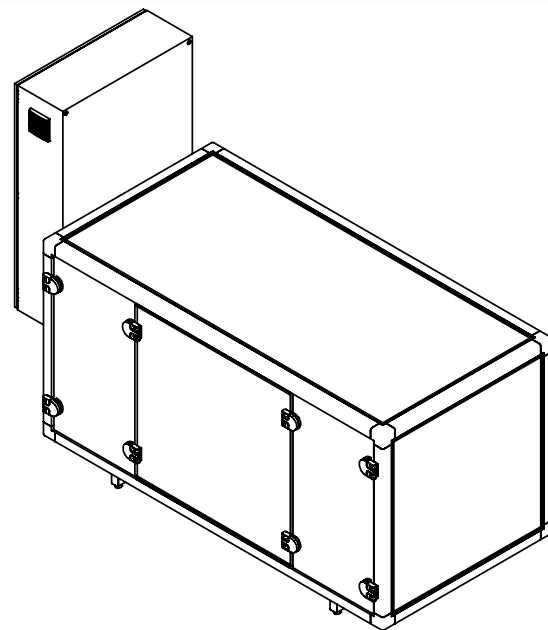
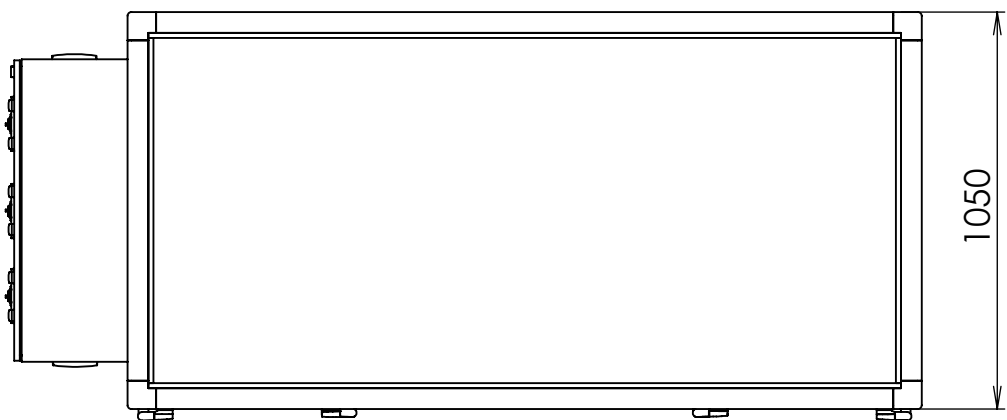
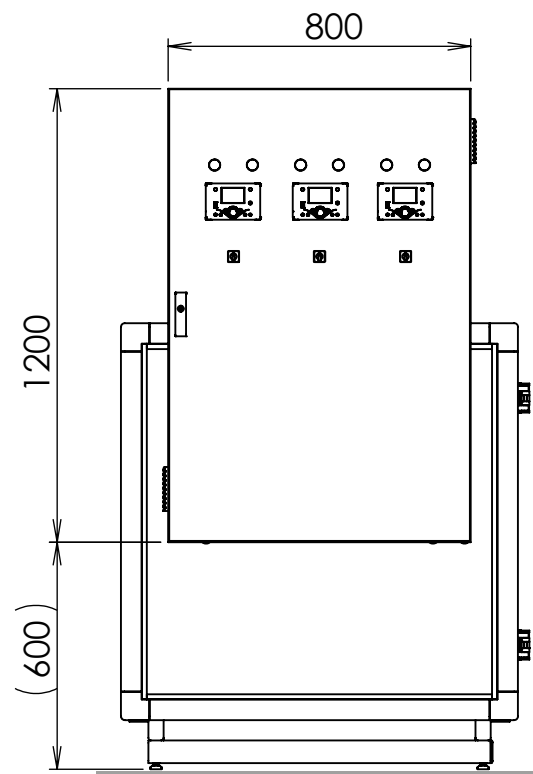
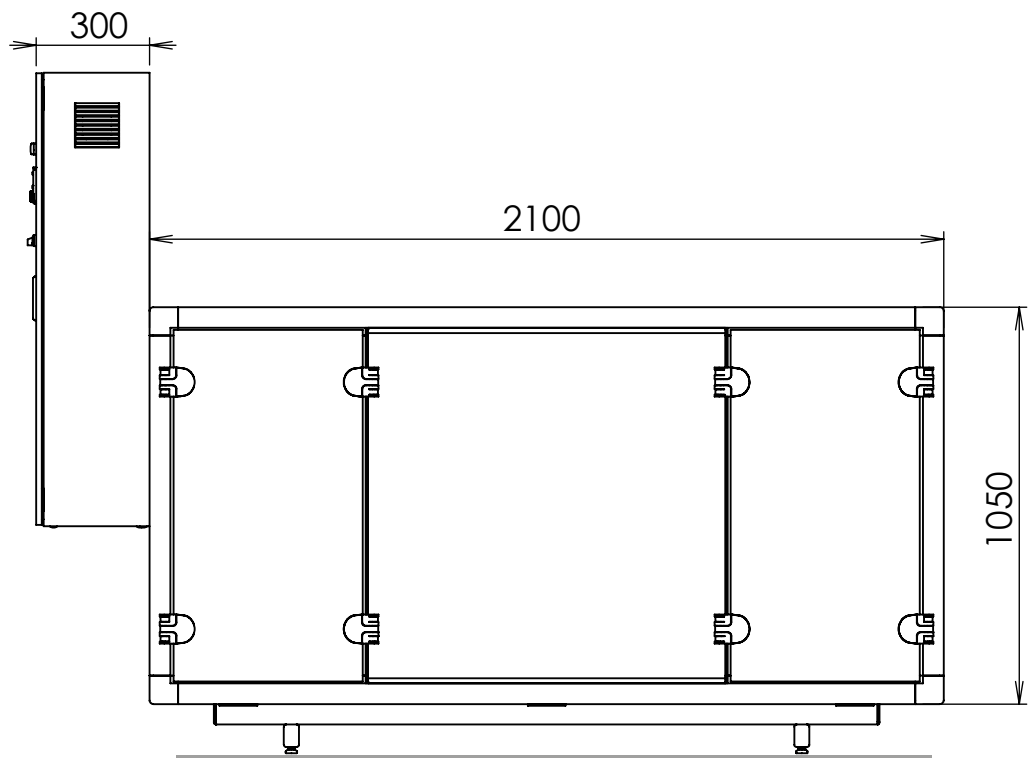
		circuit :	
Three way switching valve in delivery :	No	Active cooling :	optional
ModBus :	with extension module	Solar system control :	Yes
WebControl :	with WebServer-Module		

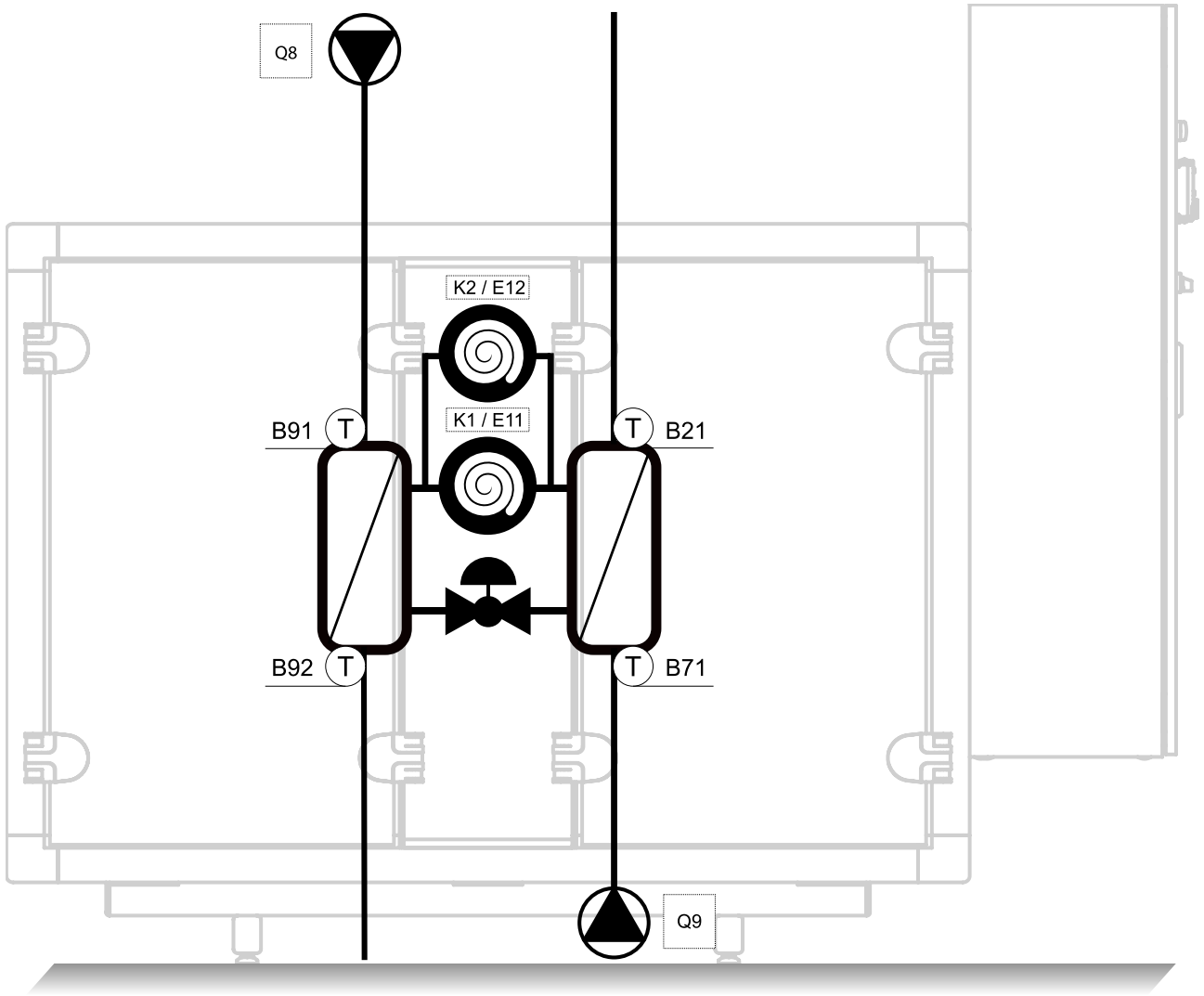
!!! Technical data subject to change without notice !!!

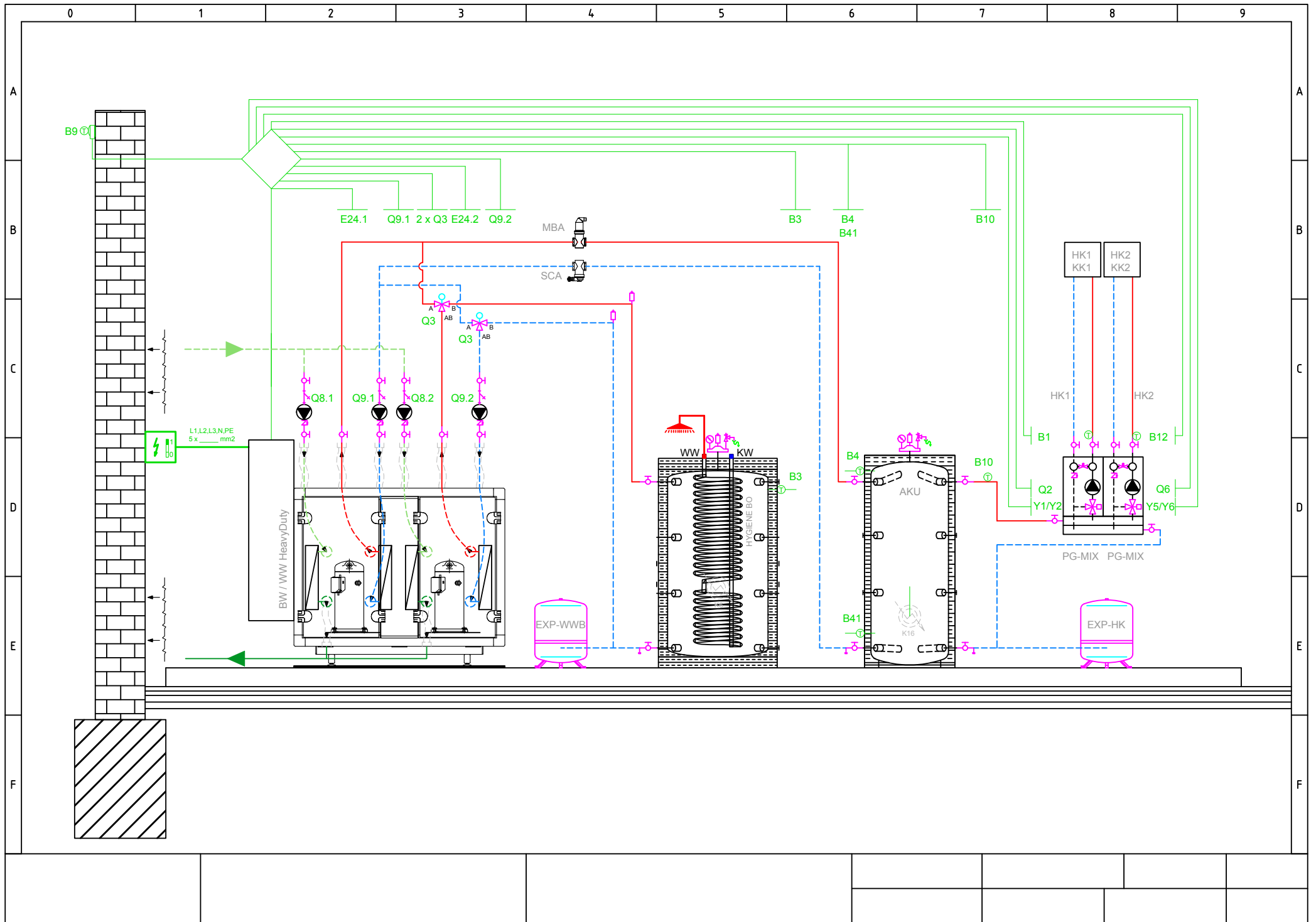
Source	Heating capacity / flow temperature (kW)			Power input / flow temperature (kW)			COP / flow temperature (-)		
	35	45	55	35	45	55	35	45	55
10	229,10	214,32	206,19	40,00	46,90	59,37	5,73	4,57	3,47
9	221,21	207,11	199,39	39,31	46,20	58,62	5,63	4,48	3,40
8	213,33	199,90	192,58	38,61	45,48	57,84	5,53	4,40	3,33
7	207,31	194,87	187,96	38,22	45,23	57,69	5,42	4,31	3,26
6	202,43	190,17	183,46	38,03	45,05	57,58	5,32	4,22	3,19
5	197,55	185,48	178,97	37,83	44,86	57,45	5,22	4,13	3,12
4	193,08	182,74	177,59	37,73	45,15	58,38	5,12	4,05	3,04
3	188,61	178,51	172,75	37,62	45,08	58,18	5,01	3,96	2,97
2	184,14	174,28	169,99	37,51	45,00	58,68	4,91	3,87	2,90
1	179,67	170,05	168,22	37,40	44,91	59,55	4,80	3,79	2,82
0	175,20	165,82	164,03	37,28	44,83	59,59	4,70	3,70	2,75
-1	172,78	164,96	163,19	37,63	45,67	60,21	4,59	3,61	2,71
-2	170,35	164,11	162,34	38,03	46,56	60,88	4,48	3,53	2,67
-3	167,93	163,25	159,62	38,44	47,49	60,87	4,37	3,44	2,62
-4	165,50	162,40	157,55	38,87	48,46	61,12	4,26	3,35	2,58
-5	163,08	161,55	154,79	39,32	49,49	61,13	4,15	3,26	2,53



2 x HD MODULE
int. code: HD1400









ENERG Y IJA
енергия - ενεργεια IE IA

WAMAK

TBW 176 HD Modul



55 °C

35 °C



A++

A++



61 dB



- dB

■ 164
■ **164**
■ 164
kW

■ 175
■ **175**
■ 175
kW



2015

811/2013

TBW 176 HD Modul

ErP Data

	55 °C	35 °C
Energy class	A++	A++
η [%]	140	188
P_{rated} [kW]	164	175
Q_{HE} [kWh/y]	103224	76999
SCOP [-]	3.50	4.69
$T_{bivalent}$ [°C]	-8	-10

	A+	A++
Energy class	A+	A++
η [%]	121	186
P_{rated} [kW]	164	175
Q_{HE} [kWh/y]	143146	92822
SCOP [-]	3.02	4.65
$T_{bivalent}$ [°C]	-8	-10

	A++	A++
Energy class	A++	A++
η [%]	187	187
P_{rated} [kW]	164	175
Q_{HE} [kWh/y]	49894	49793
SCOP [-]	4.68	4.68
$T_{bivalent}$ [°C]	-	-

CONTROLLER



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





SERVICE