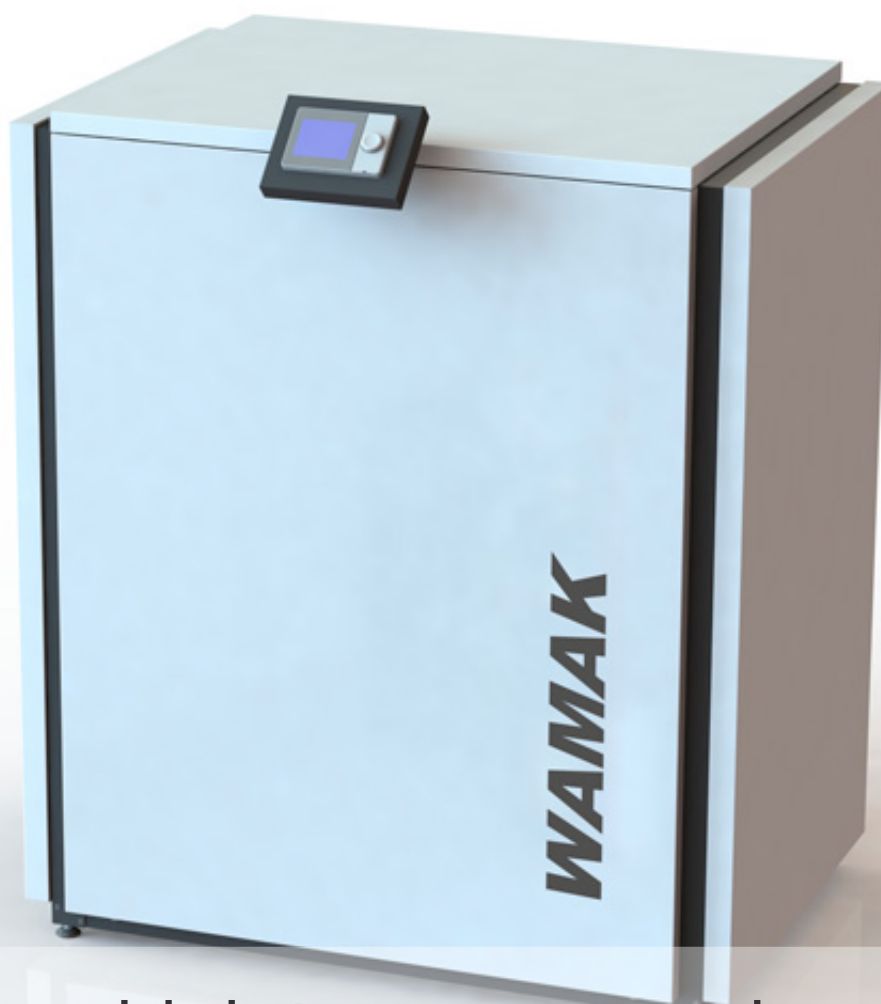
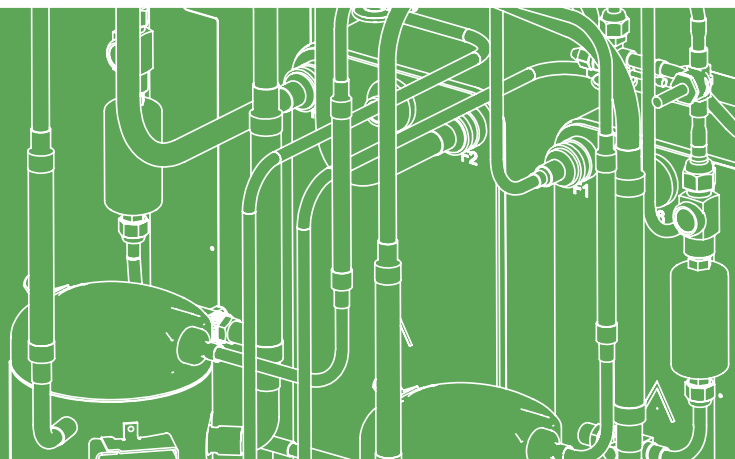


WAMAK

TWW 60 EVI



Tandem high temperature heat pump water - water

Tandem high temperature heat pump water - water

Heat pump with two scroll compressors in single refrigeration cycle and high flow temperature of up to 70°C. Stable frame construction and flexible outputs. Double high-absorption suspension with sylomer pads and adjustable feet base plates ensure low noise and vibration levels of the hermetic SCROLL compressors.

Stainless steel plate heat exchanger (1.4401) for heating circuit. Stainless plate plate heat exchanger (1.4401) for source circuit. Electrical switchboard with integrated safety elements and equithermal controller of the heat pump is located under the upper lid. With electronic starter via built-in soft starter and electronic expansion valve control with autoadaptivity.

Frame construction with a massive base plate on adjustable legs. Covering the epoxy-coated unit. The multi-layer sound insulation and vibration-eliminating profiles are glued from the inside of the cover. Equithermal, digital control of the heat pump with integrated cooling control function (passive cooling). For controlling two heating circuit with mixing unit. Using the cooling function (passive cooling) and the two cooling circuit with mixing units. Temperature regulation for DHW storage tank 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. 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, hotgas sensor, liquid refrigerant temperature sensor, heat pump flow and return temperature sensor as well as source output sensor, source return sensor, and hot water sensor.

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

Technical information - heat pump

Type :	TWW 60 EVI	latest data update :	2017-11-23 15:22:00
Article code :	WA001364	Language :	English

Nominal performance data according to EN 14511

Heating capacity :	60.40 kW	Input :	10.06 kW
Refrigerating capacity :	50.33 kW	COP :	6.0

* Data at conditions W10°C/W35°C

Operating temperature limitations

Source temperature minimal :	-5°C	Flow temperature minimal :	+20°C
Source temperature maximal :	+25°C	Flow temperature maximal :	+65°C (ΔT 10K=70°C)

Mechanical data

Width :	1100 mm	Weight inside :	425 kg
Depth :	750 mm		
Height :	1270 mm		

Noise emissions

Noise emissions inside Lp (1m) :	46 dB(A)
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Refrigerant circle parameters

Refrigerant :	R410a	Orifice inside :	EEV
Refrigerant volume :	9.9 kg	Orifice economizer :	0

Pipe dimensions, flow rates , pressure drops

Connecting dimensions - primary side :	2 "	Pressure drop - primary side :	max 20 kPa
Connecting dimensions - secondary side :	2 "	Pressure drop - secondary side :	max 20 kPa
Flow - primary side :	5.44 ~ 10.88 m ³ /hour	Recommended ΔT source :	4 K
Flow - secondary side :	3.74 ~ 7.47 m ³ /hour	Recommended ΔT consumer :	7 K

Electrical parameters

Main connection cable - dimension :	5x6 mm ²	Current - nominal :	23.78 A
Primary side cable - dimension :	5x1.5 mm ²	Current - maximal :	37.20 A
Voltage :	3 x 400 V	Softstart :	2 x MCI 25
Fuze :	40 A	Starting current :	2x31.73 A

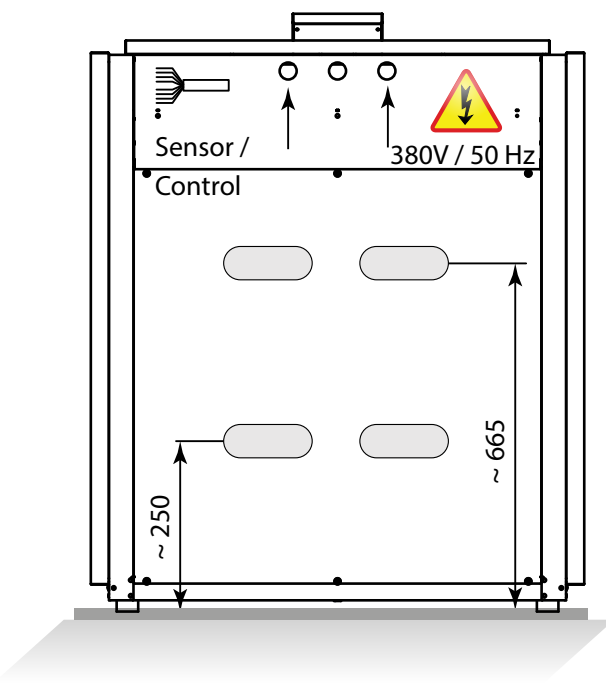
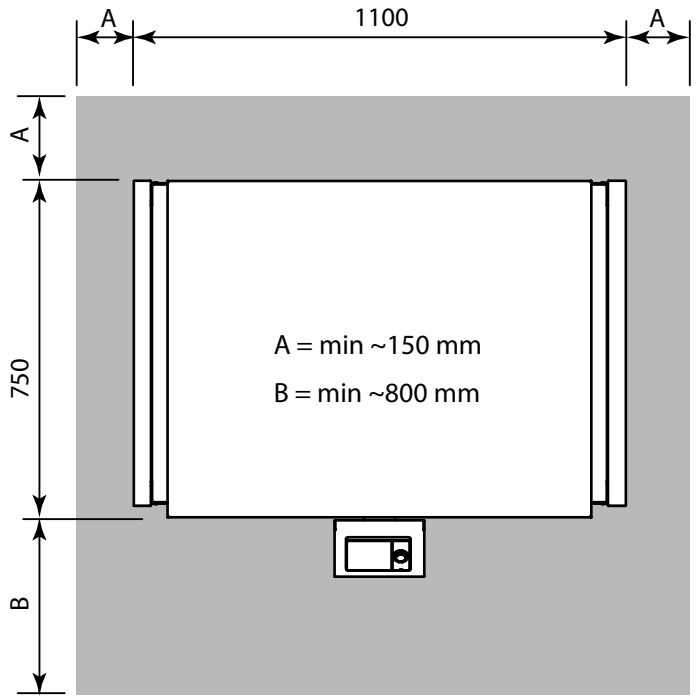
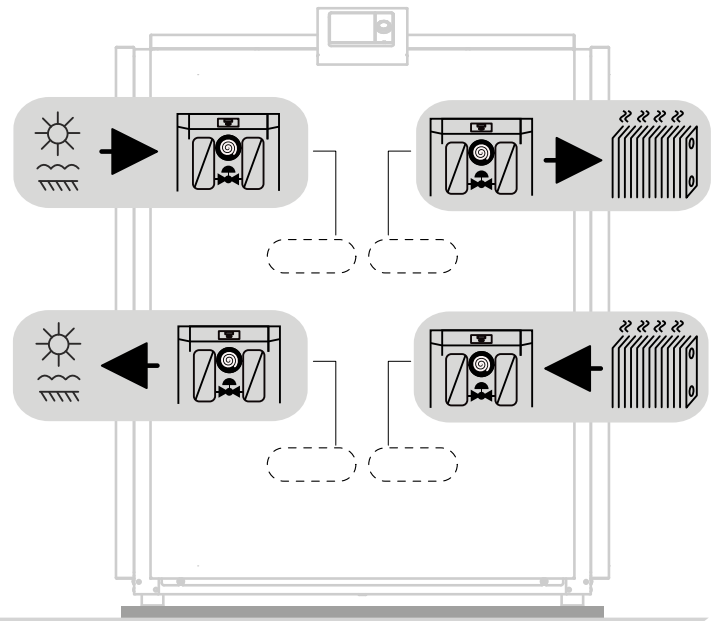
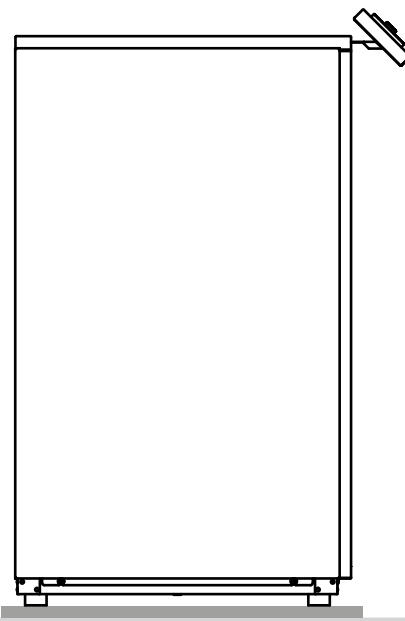
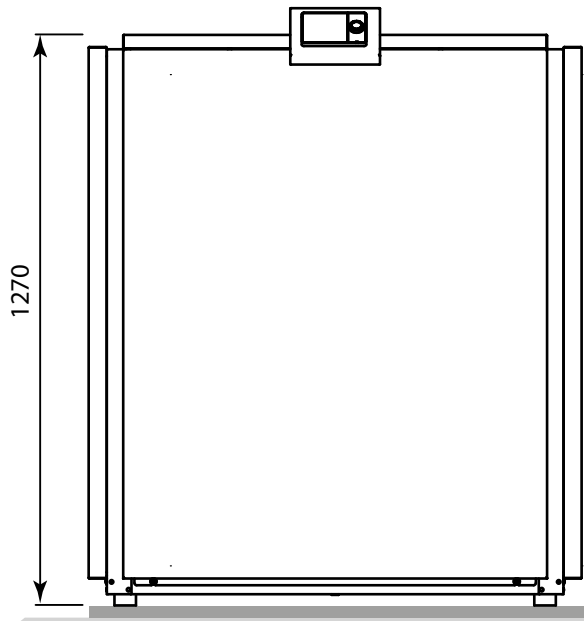
Features

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

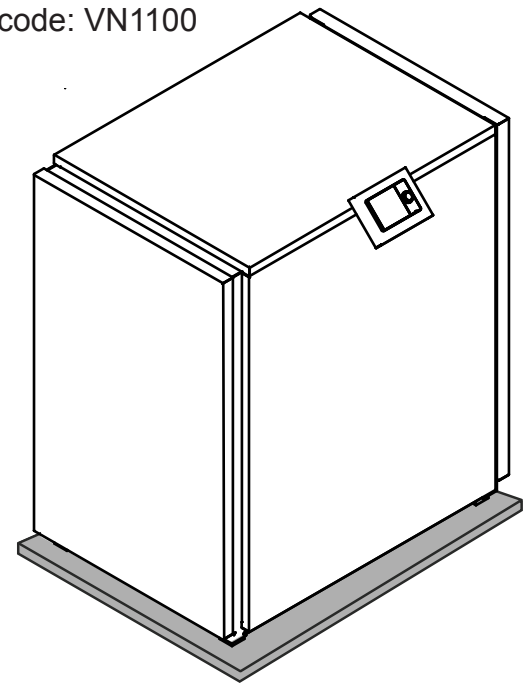
Bivalent heater installed :	No	Control of direct pump heating circuit :	Yes
Three way switching valve in delivery :	No	Active cooling :	optional
ModBus :	with extension module	Solar system control :	Yes
WebControl :	with WebServer-Module		

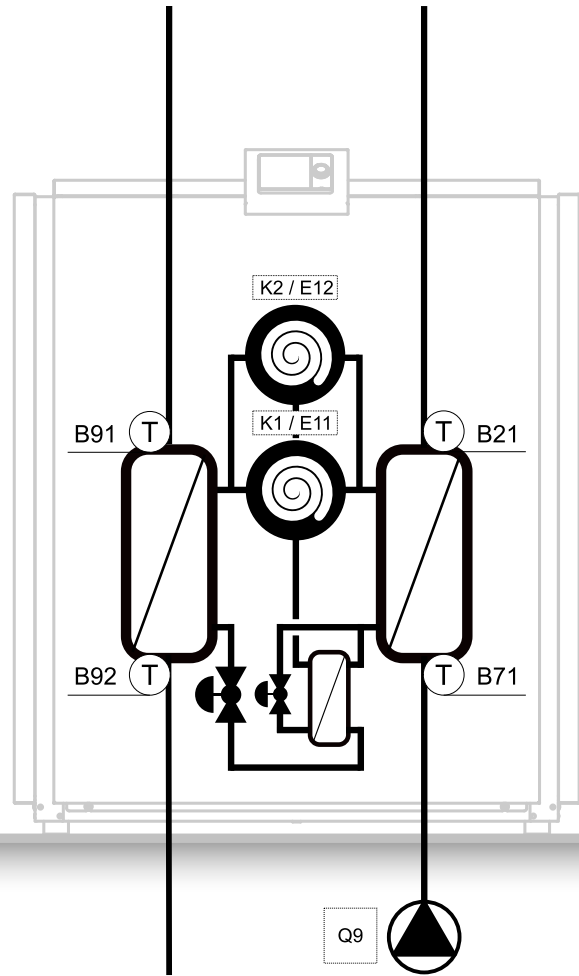
!!! Technical data subject to change without notice !!!

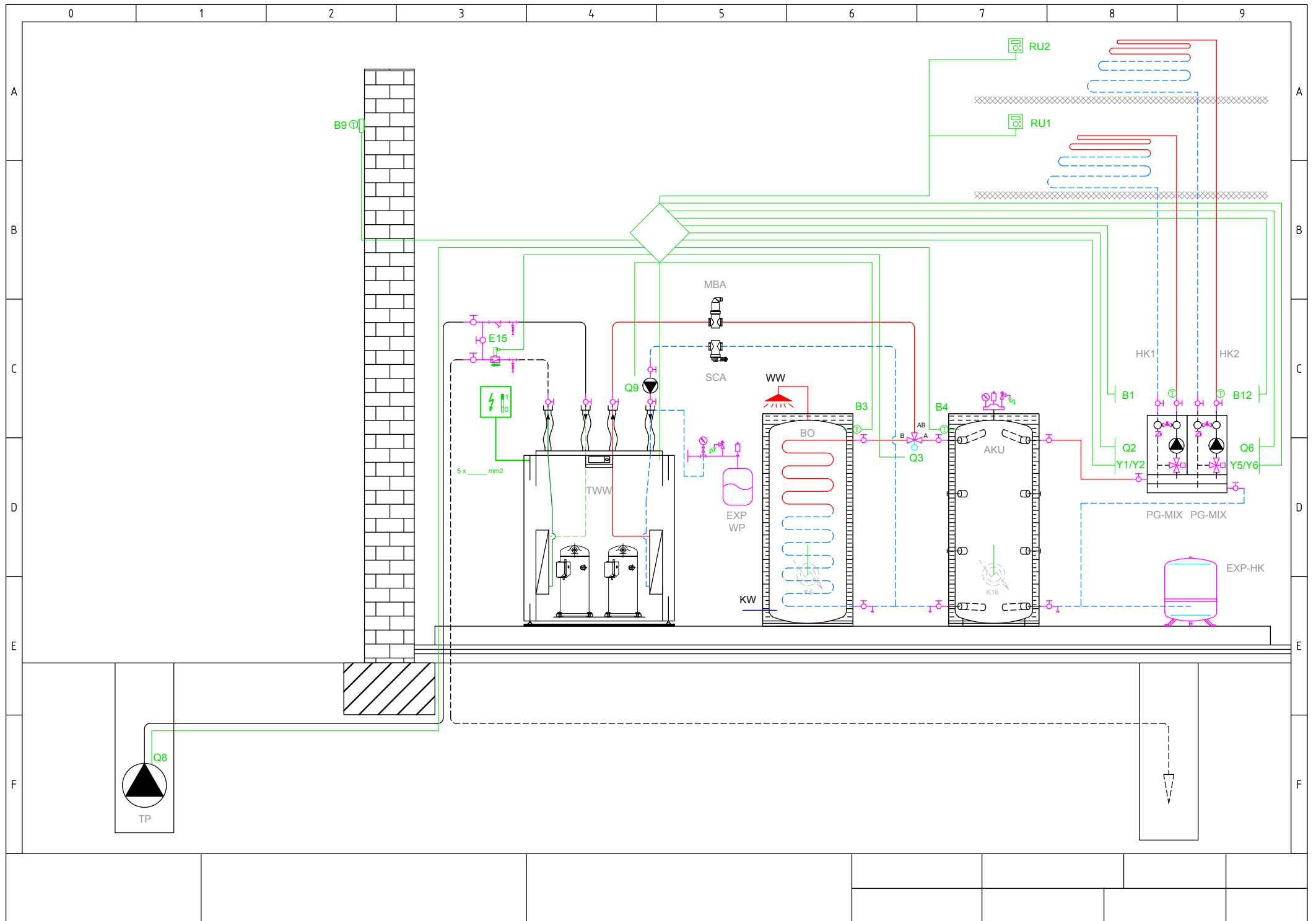
Source	Heating capacity / flow temperature (kW)				Power input / flow temperature (kW)				COP / flow temperature (-)			
	°C	35	45	55	65	35	45	55	65	35	45	55
20	77,80	80,94	80,94	80,45	10,43	13,32	16,20	19,31	7,46	6,08	5,00	4,17
19	76,10	78,52	78,52	78,52	10,46	13,32	16,16	19,28	7,28	5,90	4,86	4,07
18	74,90	76,35	76,35	76,59	10,53	13,29	16,13	19,21	7,11	5,75	4,73	3,99
17	73,20	74,17	74,41	74,65	10,52	13,25	16,09	19,14	6,96	5,60	4,62	3,90
16	71,51	72,24	72,48	72,96	10,48	13,22	16,02	19,11	6,82	5,47	4,52	3,82
15	69,34	70,31	70,55	71,27	10,40	13,18	15,99	19,04	6,67	5,33	4,41	3,74
14	67,41	68,37	68,61	69,34	10,34	13,06	15,96	18,97	6,52	5,24	4,30	3,66
13	65,47	66,44	66,92	67,65	10,25	12,90	15,89	18,90	6,39	5,15	4,21	3,58
12	63,78	64,51	65,23	66,20	10,20	12,73	15,85	18,83	6,25	5,07	4,11	3,52
11	62,09	62,82	63,54	64,75	10,15	12,56	15,82	18,76	6,11	5,00	4,02	3,45
10	60,40	61,12	62,09	63,06	10,07	12,39	15,75	18,70	6,00	4,93	3,94	3,37
9	58,95	59,68	60,64	61,61	10,03	12,38	15,72	18,63	5,88	4,82	3,86	3,31
8	57,50	57,98	59,05	60,40	10,00	12,36	15,65	18,56	5,75	4,69	3,77	3,25
7	56,05	56,78	57,50	58,95	9,96	12,35	15,58	18,46	5,63	4,60	3,69	3,19
6	54,60	55,33	56,29	57,74	9,89	12,34	15,55	18,39	5,52	4,48	3,62	3,14
5	53,39	54,12	55,08	56,53	9,86	12,30	15,48	18,32	5,42	4,40	3,56	3,09
4	51,94	52,67	53,88	55,33	9,77	12,29	15,41	18,25	5,31	4,29	3,50	3,03
3	50,74	51,46	52,91	54,36	9,72	12,28	15,37	18,15	5,22	4,19	3,44	3,00
2	49,29	50,25	51,70	53,39	9,63	12,28	15,31	18,08	5,12	4,09	3,38	2,95
1	48,13	49,04	50,74	52,19	9,59	12,27	15,27	18,01	5,02	4,00	3,32	2,90
0	46,87	48,03	49,77	51,46	9,50	12,24	15,20	17,94	4,93	3,92	3,27	2,87



int. code: VN1100





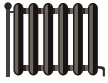




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WAMAK

TWW 60 EVI



55 °C

35 °C

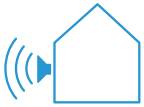


A++

A++



54 dB



- dB

■ 53
■ **53**
■ 53
kW

■ 60
■ **60**
■ 60
kW



2015

811/2013

TWW 60 EVI

ErP Data

	55 °C	35 °C
Energy class	A++	A++
η [%]	182	238
P_{rated} [kW]	53	60
Q_{HE} [kWh/y]	27229	20794
SCOP [-]	4.56	5.96
$T_{bivalent}$ [°C]	-7	-10

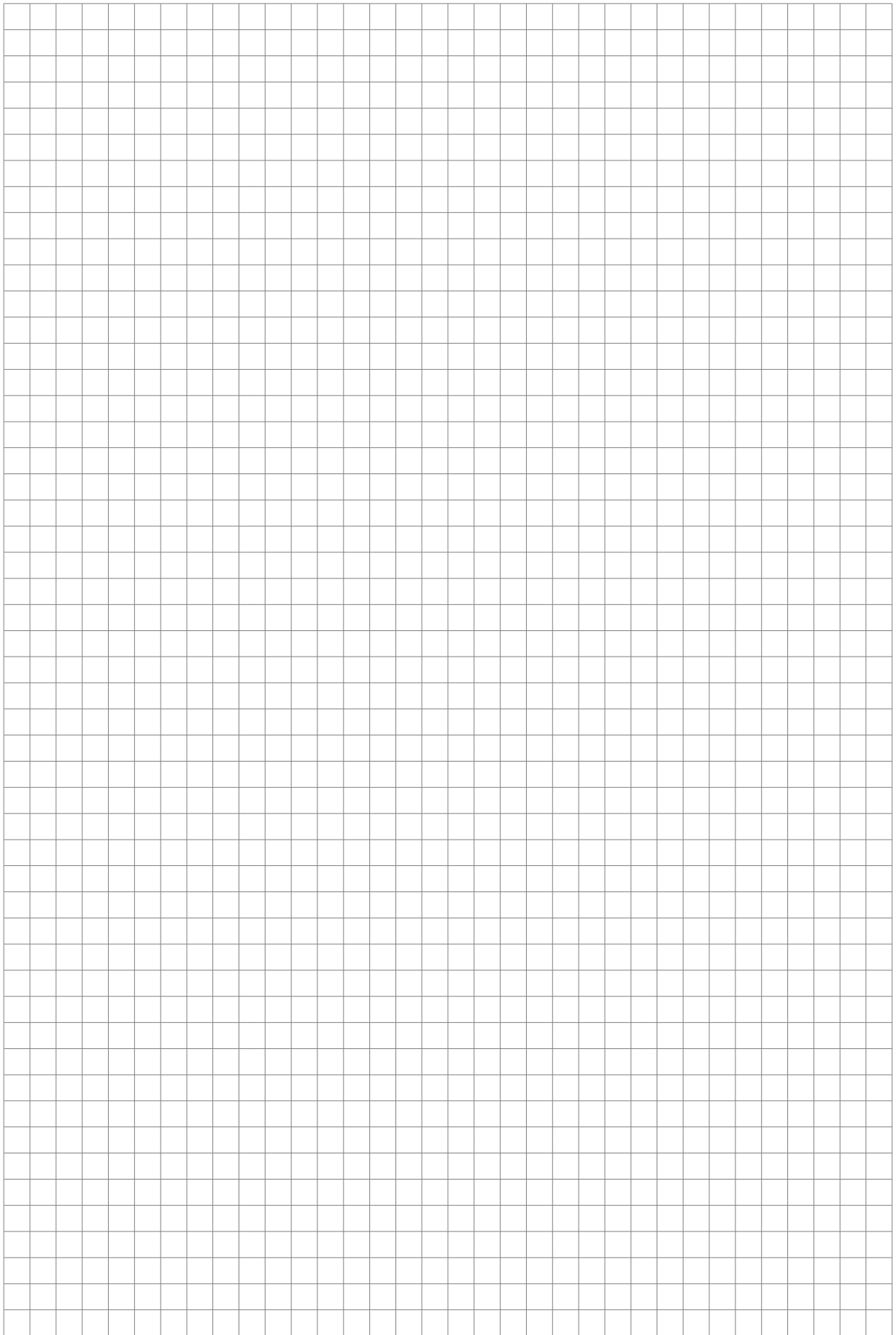
	55 °C	35 °C
Energy class	A++	A++
η [%]	160	236
P_{rated} [kW]	53	60
Q_{HE} [kWh/y]	37282	25156
SCOP [-]	3.99	5.91
$T_{bivalent}$ [°C]	-7	-10

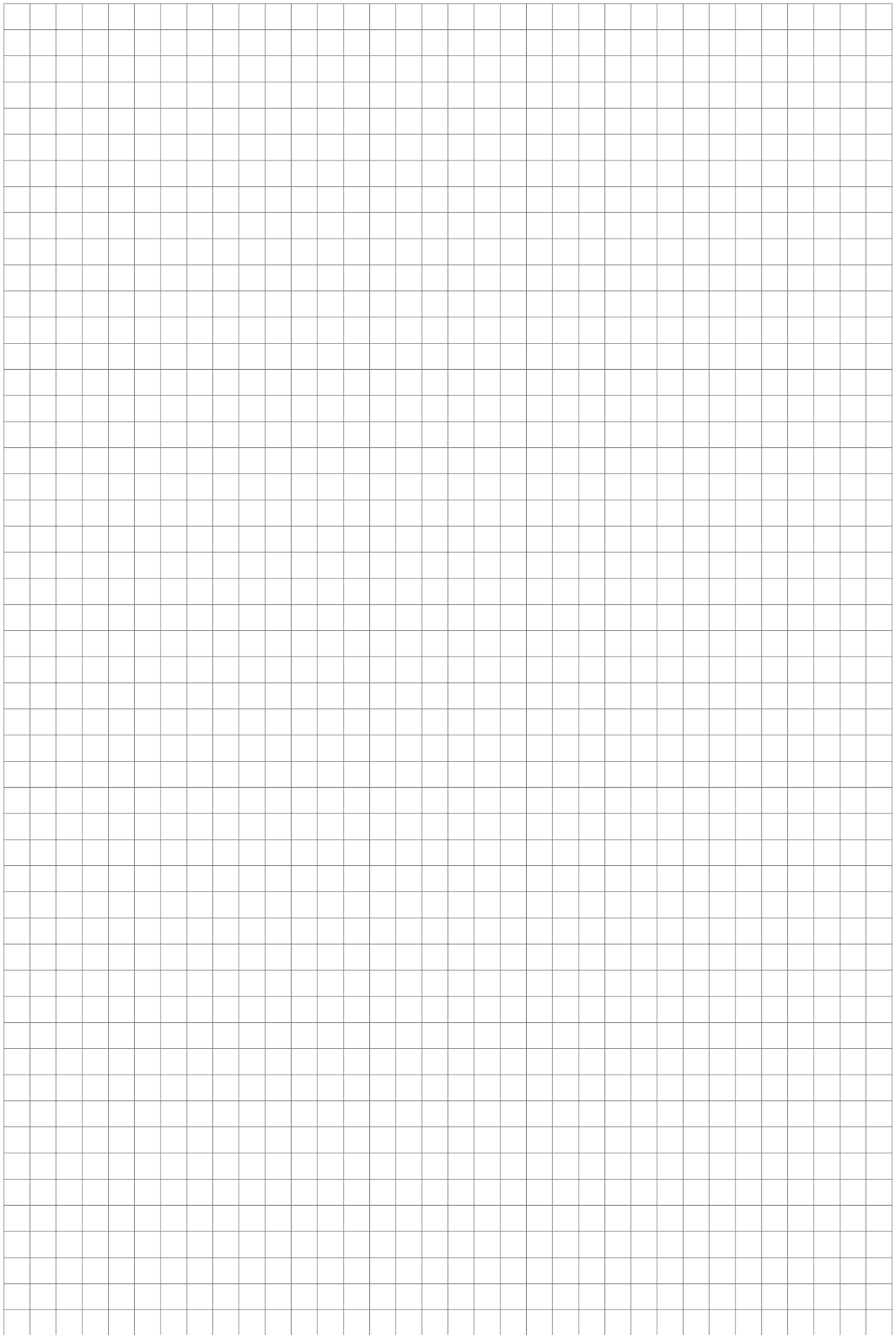
	55 °C	35 °C
Energy class	A++	A++
η [%]	236	237
P_{rated} [kW]	53	60
Q_{HE} [kWh/y]	13482	13447
SCOP [-]	5.91	5.93
$T_{bivalent}$ [°C]	-	-

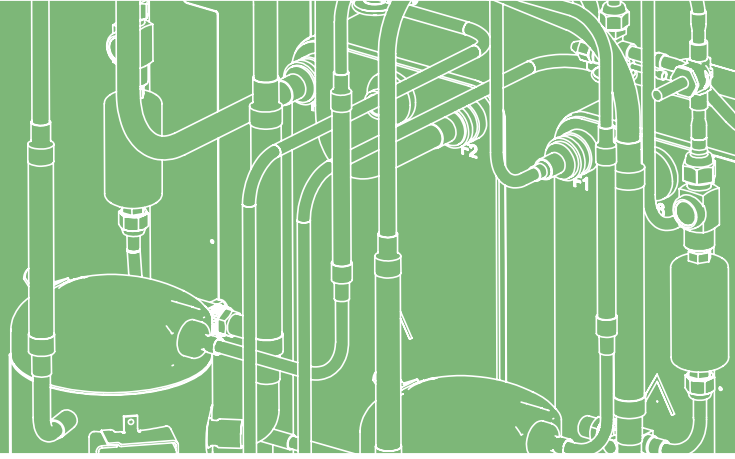
CONTROLLER



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







SERVICE