

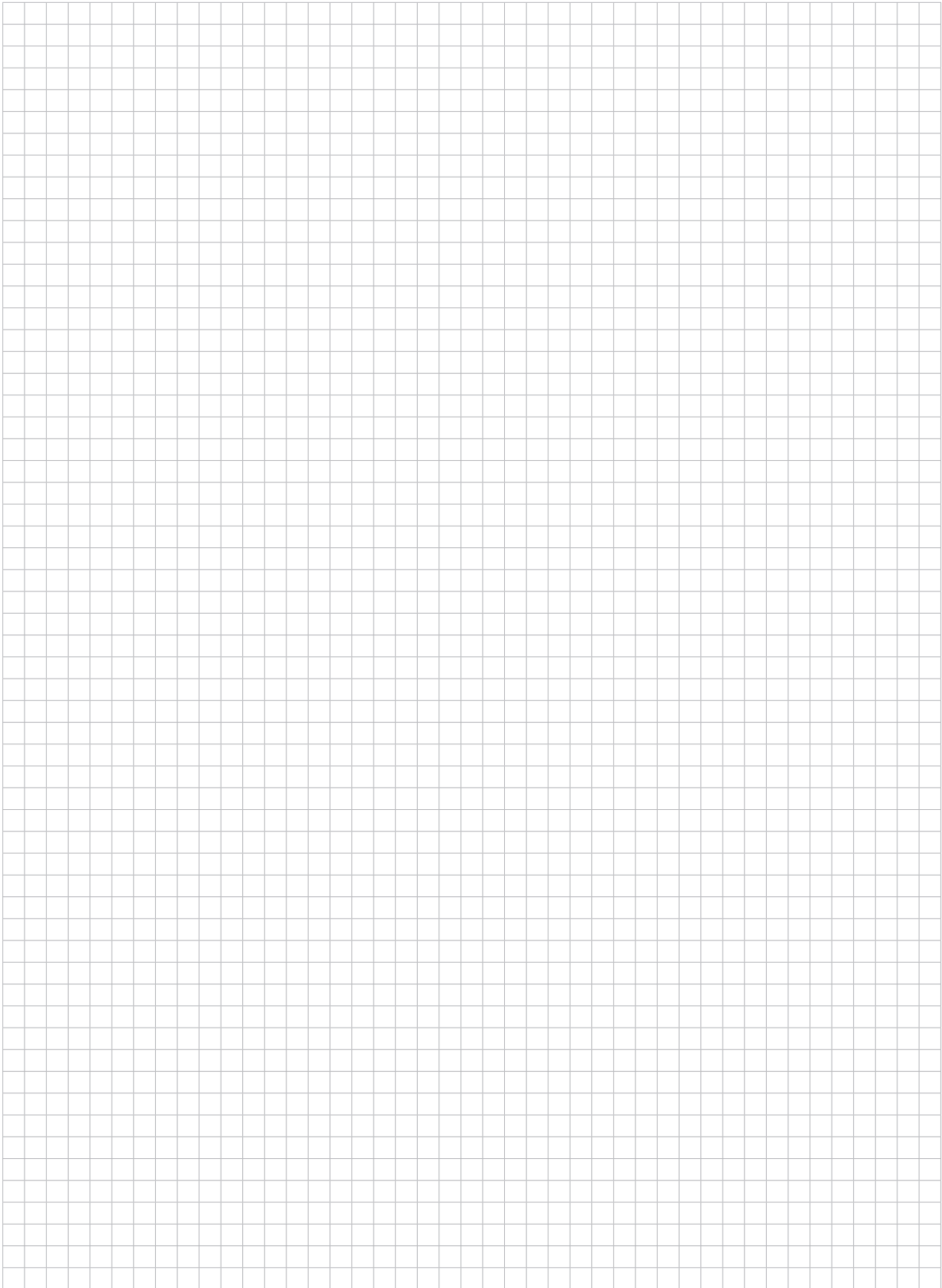
Optiheat Inverta TWW

OHI 4esr TWW
Brine/water



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Technical data

Optiheat Inverta TWW

OH I 4esr TWW, brine/water with Optiplus 3 controller

Heat pump type	OH I 4esr		
Model	All-in-One		
Controller	Optiplus 3		
WPZ test number	CH-HP-00610		

Standard performance data (as per EN 14511:2013, part load operation 60 Hz)			W35	W45	W55
Heat output	at B0	kW	3.8	3.5	3.2
COP	at B0	(-)	4.7	3.5	2.7
El. power consumption	at B0	kW	0.8	1.0	1.2
Cooling output	at B0	kW	3.0	2.5	2.0

Power range (at B0/W35)			W35	W45	W55
Minimum heat output	at B0	kW	2.0	1.8	1.6
Maximum heat output	at B0	kW	7.5	6.9	5.8

Energy class performance data ¹⁾			
Energy efficiency class 35 °C 55 °C			A+++ A++
Rated thermal output P _{rated} 35 °C 55 °C	kW		7.0 5.9
Energy efficiency η_s 35 °C 55 °C	%		198 136
SCOP (according to EN 14825) 35 °C 55 °C			5.1 3.6

Sound			
Sound power level ²⁾	L _{wa}	dB(A)	44 (at B0/W55)
Sound pressure level in 1 m ³⁾	L _{pa}	dB(A)	29 (at B0/W55)

Field of application, application limits			
Heat source temperature	min. max.	°C	-6 +20
Heat flow temperature	min. max.	°C	+25 +62

Vaporiser, brine side (at B0/W35)			
Volume flow minimum nominal standard ⁴⁾	m ³ /h		0.34 0.77 0.9
Pressure drop via heat pump	kPa	1	5
Free compression ⁵⁾	kPa	73	70
Medium water ethylene glycol	%		75 / 25
Built-in brine pump			UPM4 K 25-75 130

Condenser, heater side (at B0/W35)			
Volume flow minimum nominal standard ⁴⁾	m ³ /h		0.35 0.47 0.65
Pressure drop via heat pump	kPa	2	3
Free compression ⁵⁾	kPa	72	71
Medium water	%		100
Built-in heating pump			UPM4 25-75 130

Dimensions, connections, miscellaneous			
Dimensions	D x W x H	mm	700 x 600 x 1900
Total weight		kg	317
Heating circuit connection	IG	inch	1"
Heat source connection	IG	inch	1"
Cooling agent filling quantity	- kg		R-410A 1.35
Refrigeration oil filling quantity	l		0.4
GWP CO ₂ -e	- t		2088 2.8
Safety valve (brine / heating)	p	bar	3.0
Switching point brine pressure controller	p	bar	0.4

Technical data

Optiheat Inverta TWW

OHI 4esr TWW, brine/water with Optiplus 3 controller

Heat pump type	OHI 4esr
Model	All-in-One
Controller	Optiplus 3
WPZ test number	CH-HP-00610

Domestic hot water tank		
Net volume	l	220
DHW temperature in HP operation	°C	60
Capacity as per EN 16147 ⁶⁾ (equivalent tap temperature 40 °C)	l	310
Heat loss in stand-by mode as per EN 16147 ⁶⁾	kWh/24h	1.15
Max. operating pressure storage tank	bar	6

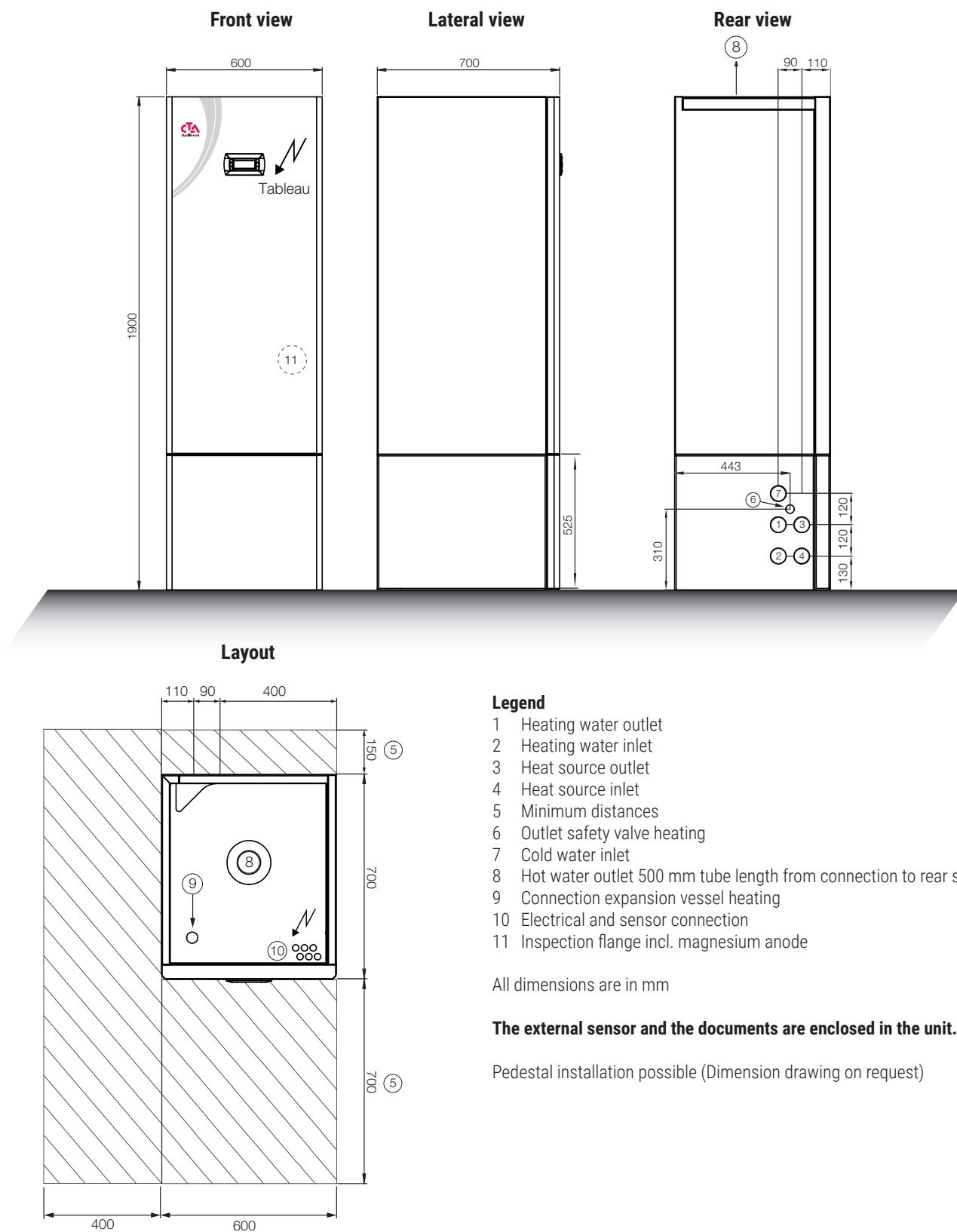
Electrical data		
Operating voltage	1 / N / PE / 230 V / 50 Hz	
External fuse protection unit	AT	13
Power el. emergency heating element 230 V	kW	2.5
Max. operating current unit / emergency heating element ⁷⁾	A	11.0 / 11.5
Starting current (soft start speed control)	A	7
Protection class	IP	20
Max. power consumption circulation pumps	kW	0.1
Max. power consumption total	kW	2.6

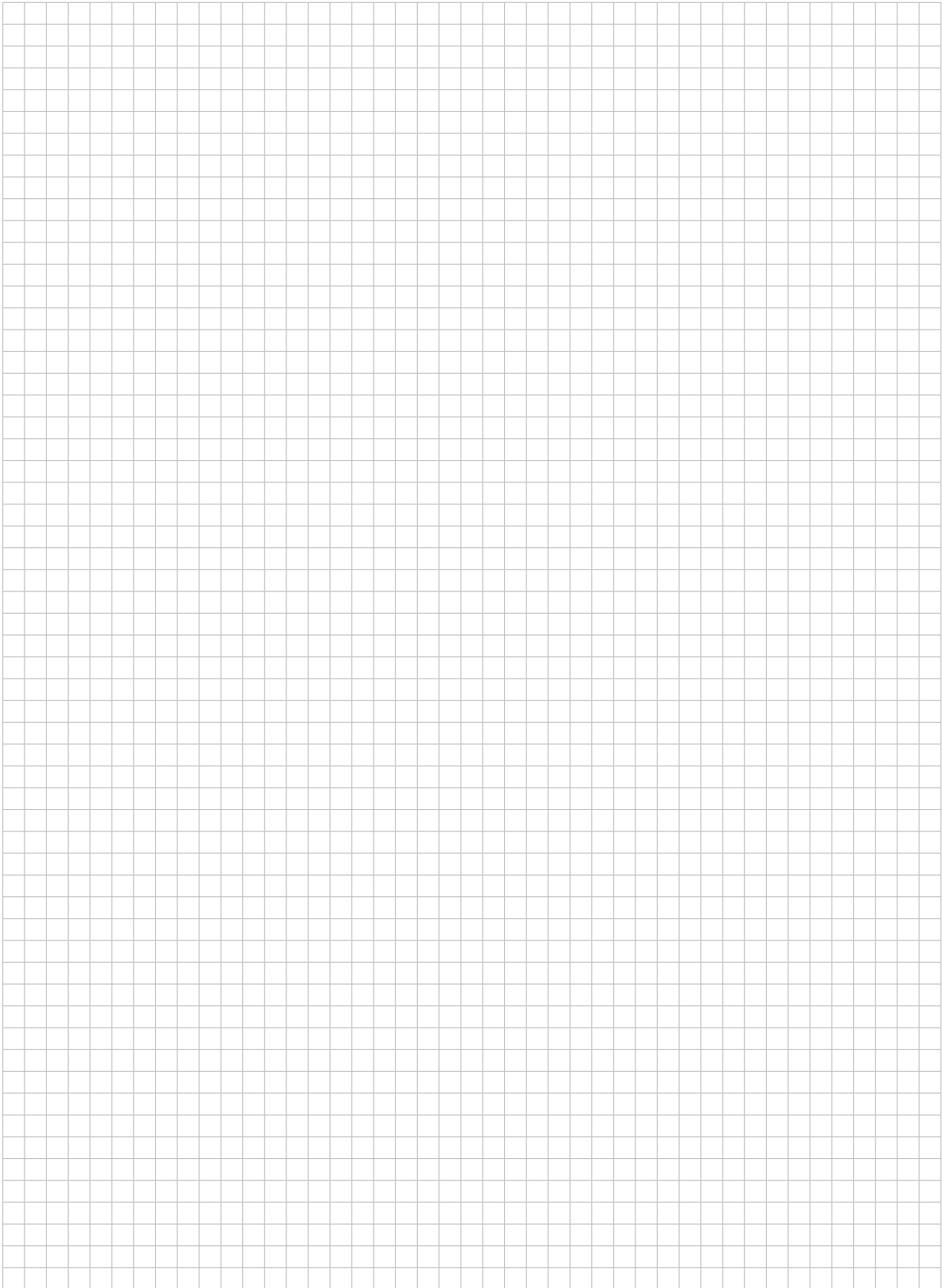
- 1) energy class for medium climate range / room heating
- 2) as per EN 9614-2 and EN 12102
- 3) sound pressure = free-field value
- 4) for installation planning: see diagram
- 5) free compression at highest pump rotation speed, pumps output-regulated
- 6) with DHW tank charged on 60 °C
- 7) heat pump operation and emergency heating element reciprocally locked

Observe local conditions and regulations.

Dimension drawings Optiheat Inverta TWW

OHI 4esr TWW





Power curves

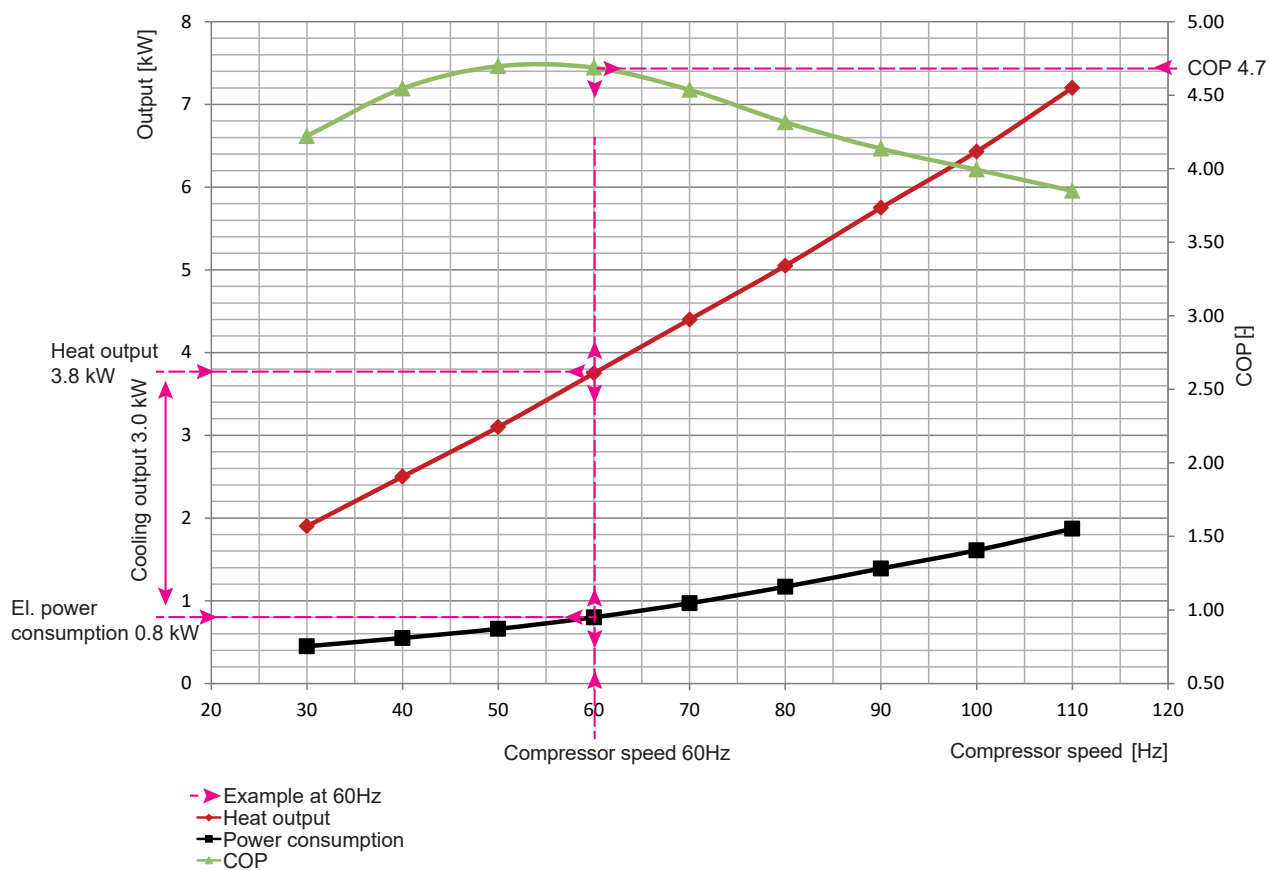
Optiheat Inverta TWW

OHI4esr TWW with Optiplus 3 controller

Volume flow source minimum / nominal (ΔT 3K EN 14511) / maximum 0.34 / 0.90 / 1.90 m³/h
 Volume flow heater minimum / nominal (ΔT 5K EN 14511) / maximum 0.35 / 0.65 / 1.30 m³/h

Performance specifications as per EN 14511

Heat output in kW

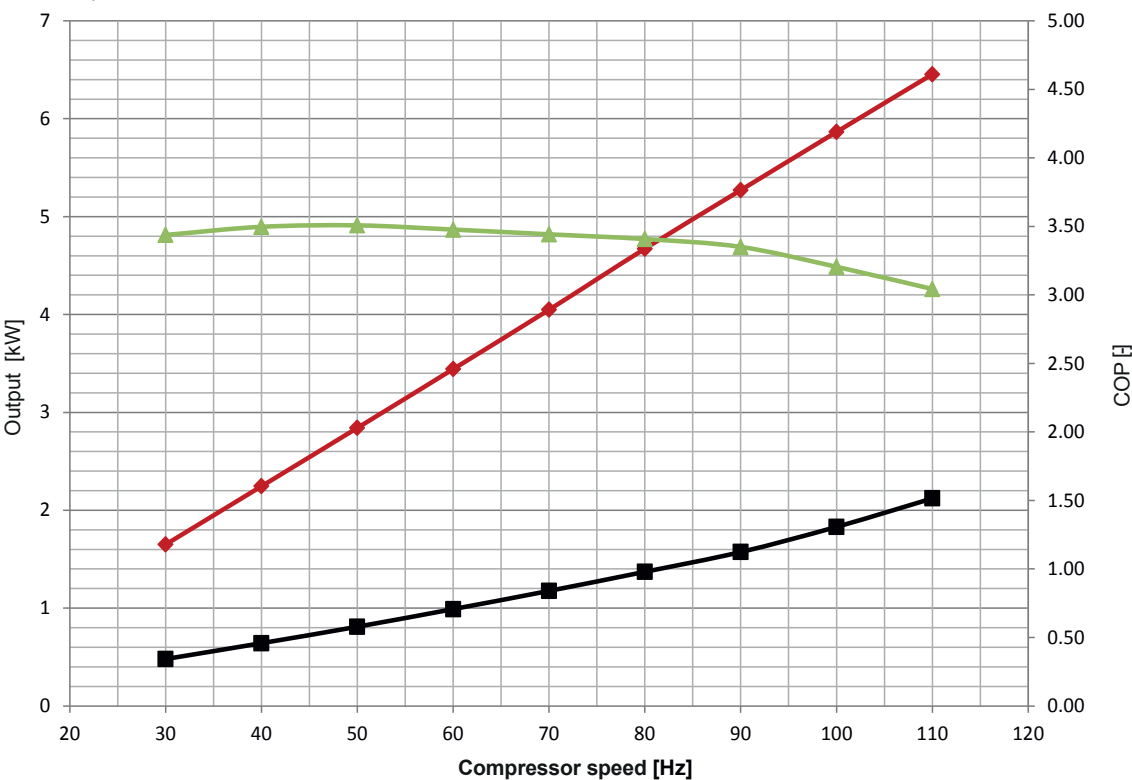


Power curves

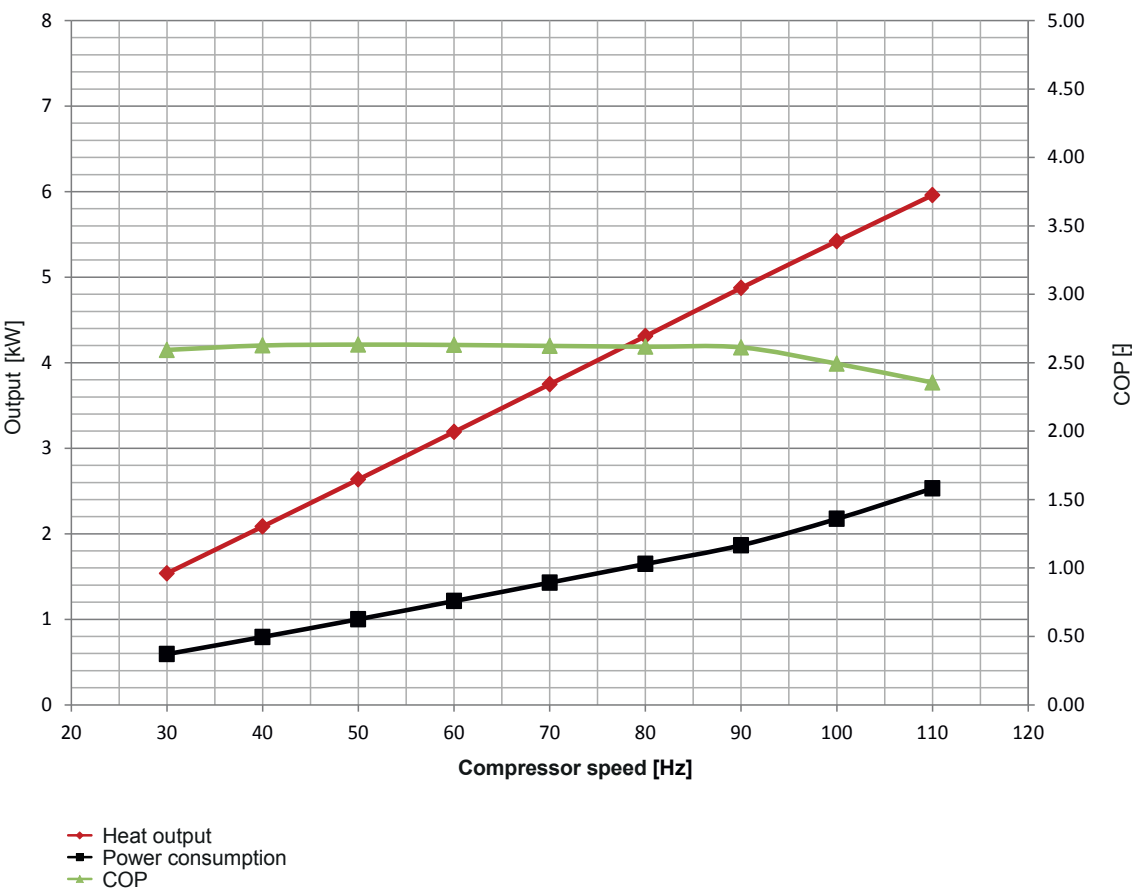
Optiheat Inverta TWW

OHI4esr TWW with Optiplus 3 controller

Heat output in kW at B0/W45



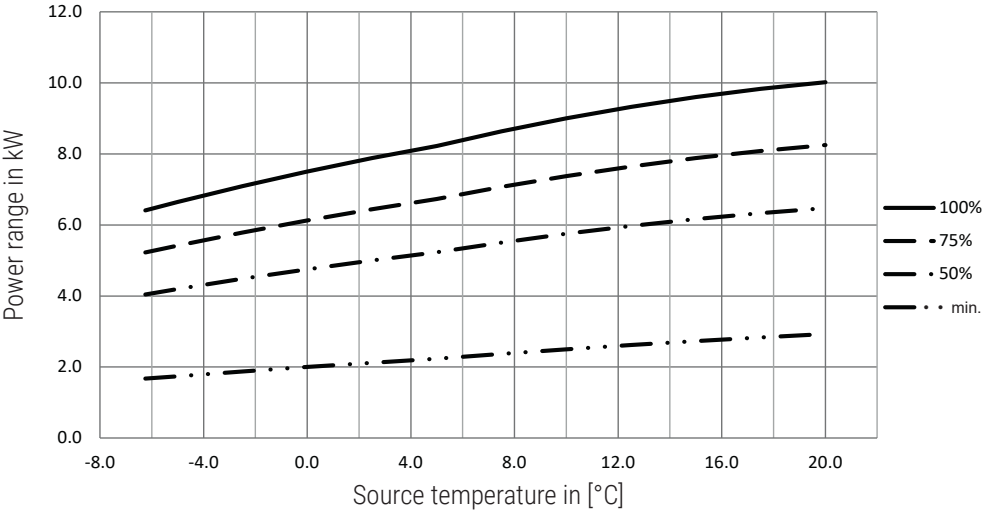
Heat output in kW at B0/W55



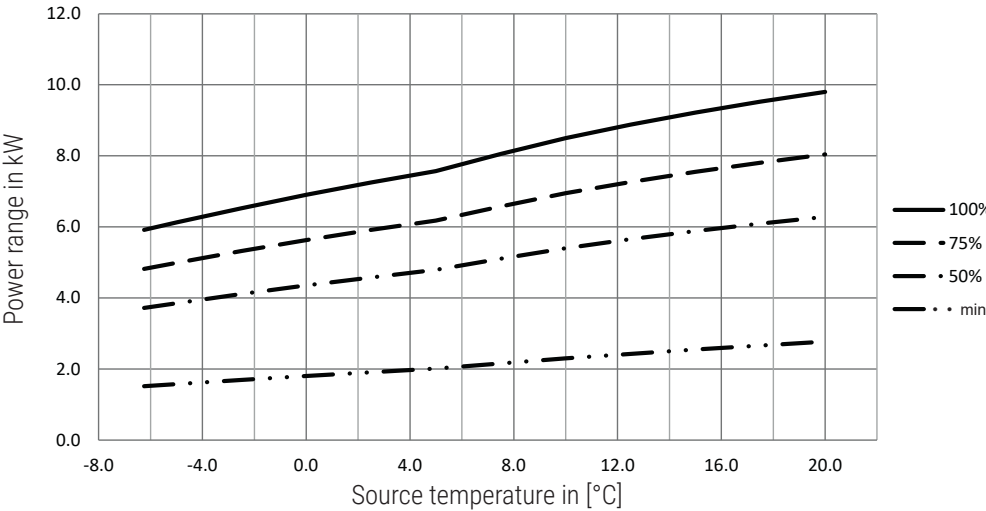
Heat output

Optiheat Inverta TWW OHI4esr TWW

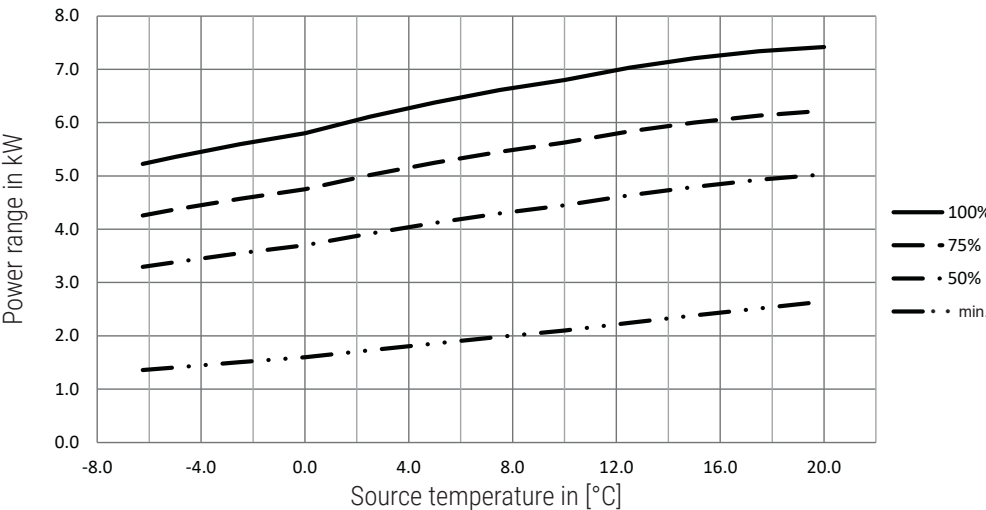
Heat output at flow temperature W35



Heat output at flow temperature W45

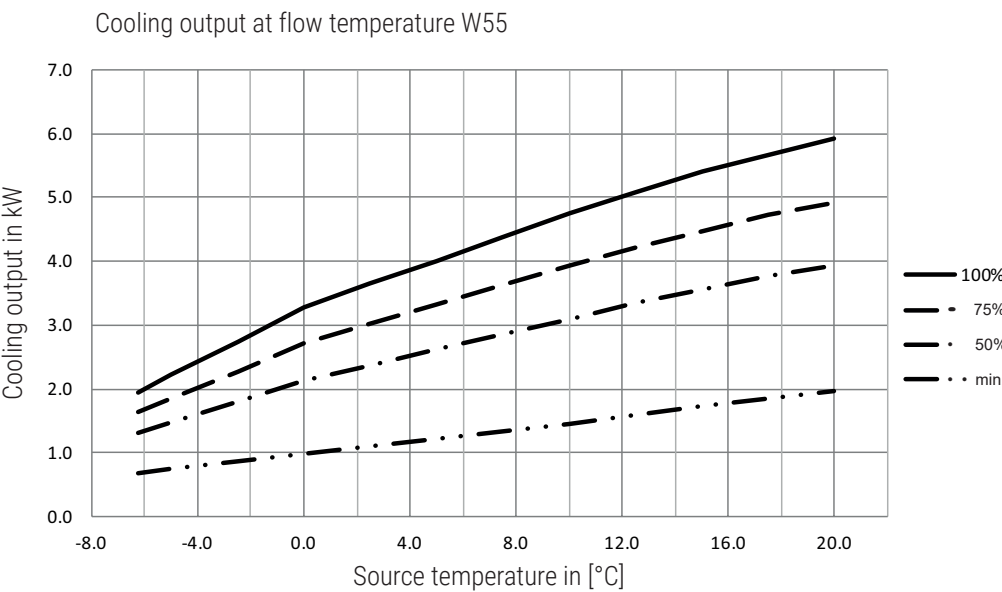
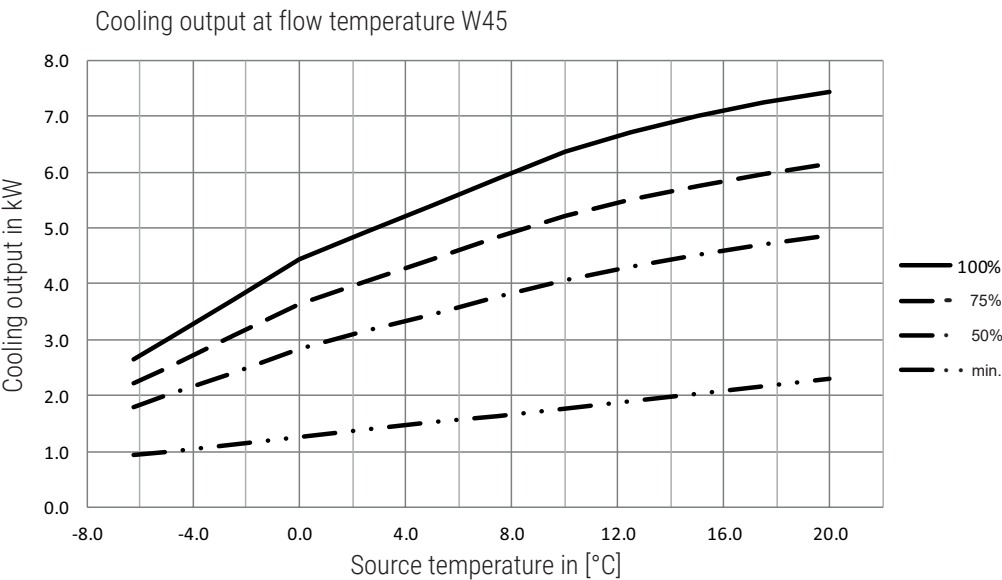
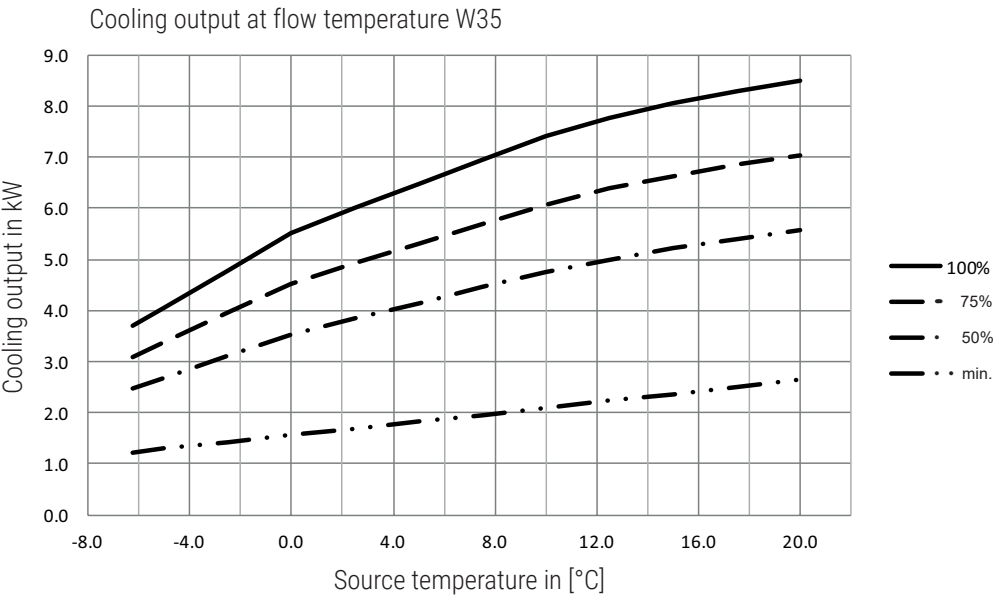


Heat output at flow temperature W55

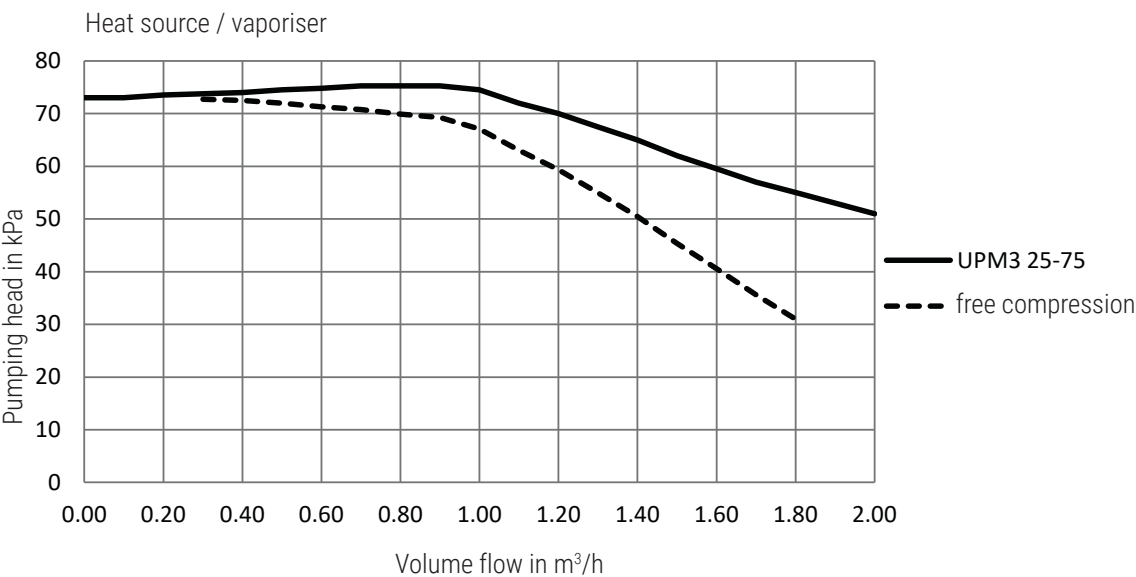
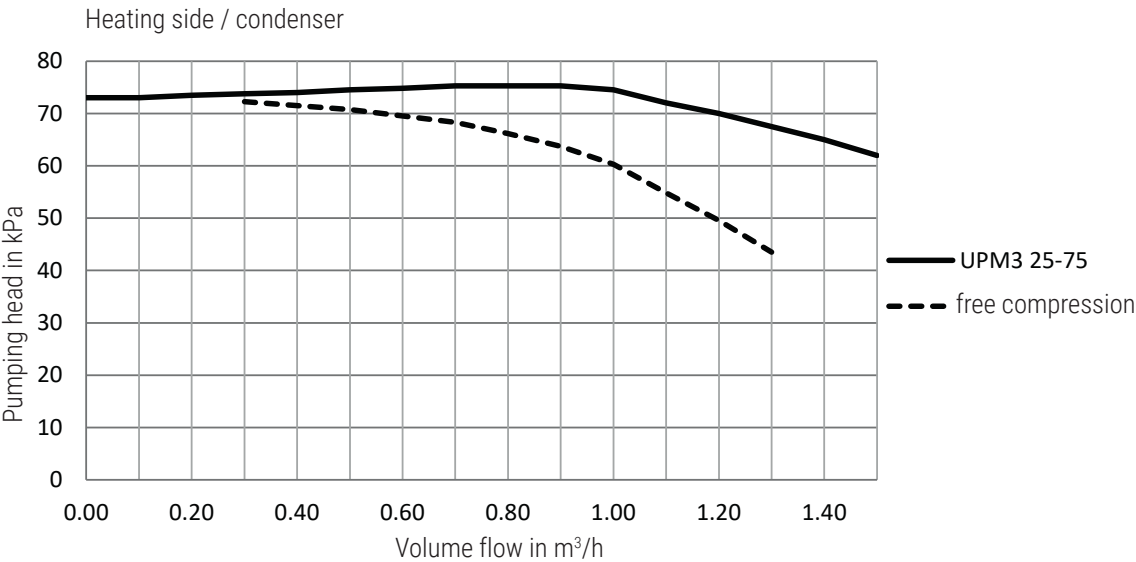
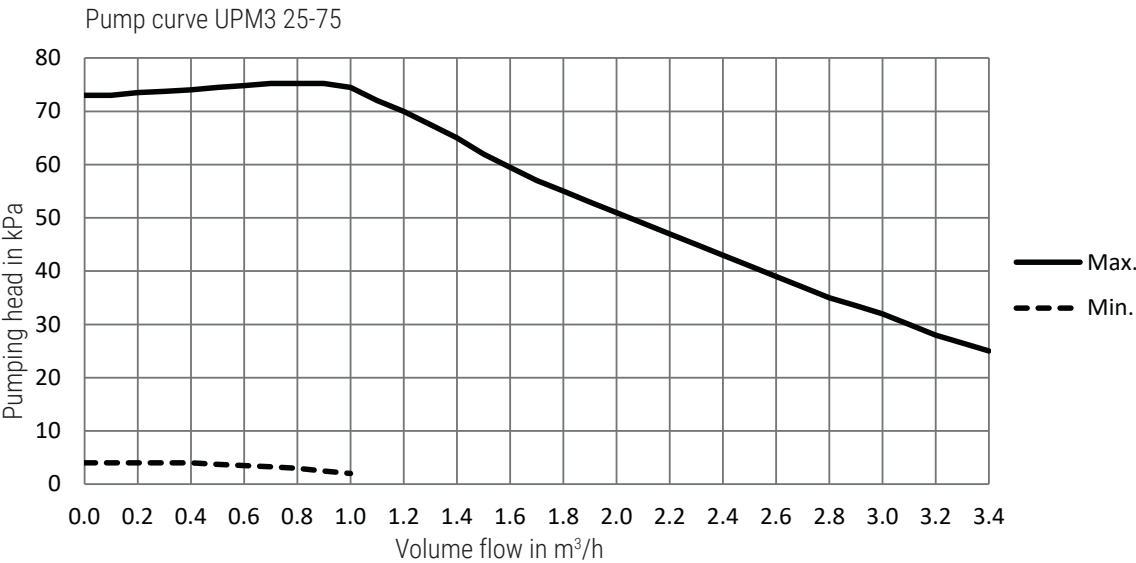


Cooling output

Optiheat Inverta TWW OHI4esr TWW

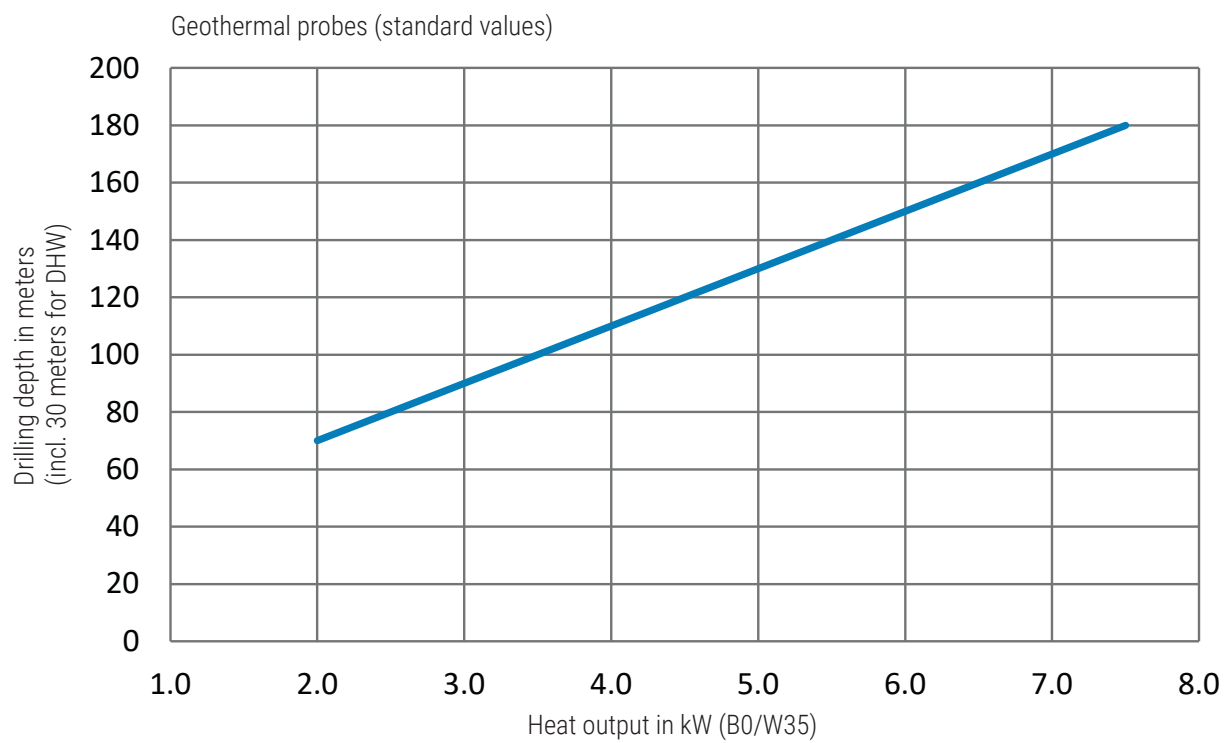


Volume flow and pressure loss circulation pump Optiheat Inverta TWW OHI4esr TWW



Standard values geothermal probes

Optiheat Inverta TWW OHI4esr TWW





NOTE Remark on the drilling depth: The additional geothermal probes requirements for hot water demand of 200 litres per day are included (total 30 meters).

Function description

Heat pump

Start the heat pump via the external temperature sensor (B9). This works directly in the heating circulation. The heat pump is switched on and off via the return flow temperature (B71) depending on the external temperature. The machine has a starting delay in order to prevent wobbling. The integrated electrical heating element (K25) can be used as emergency heating.

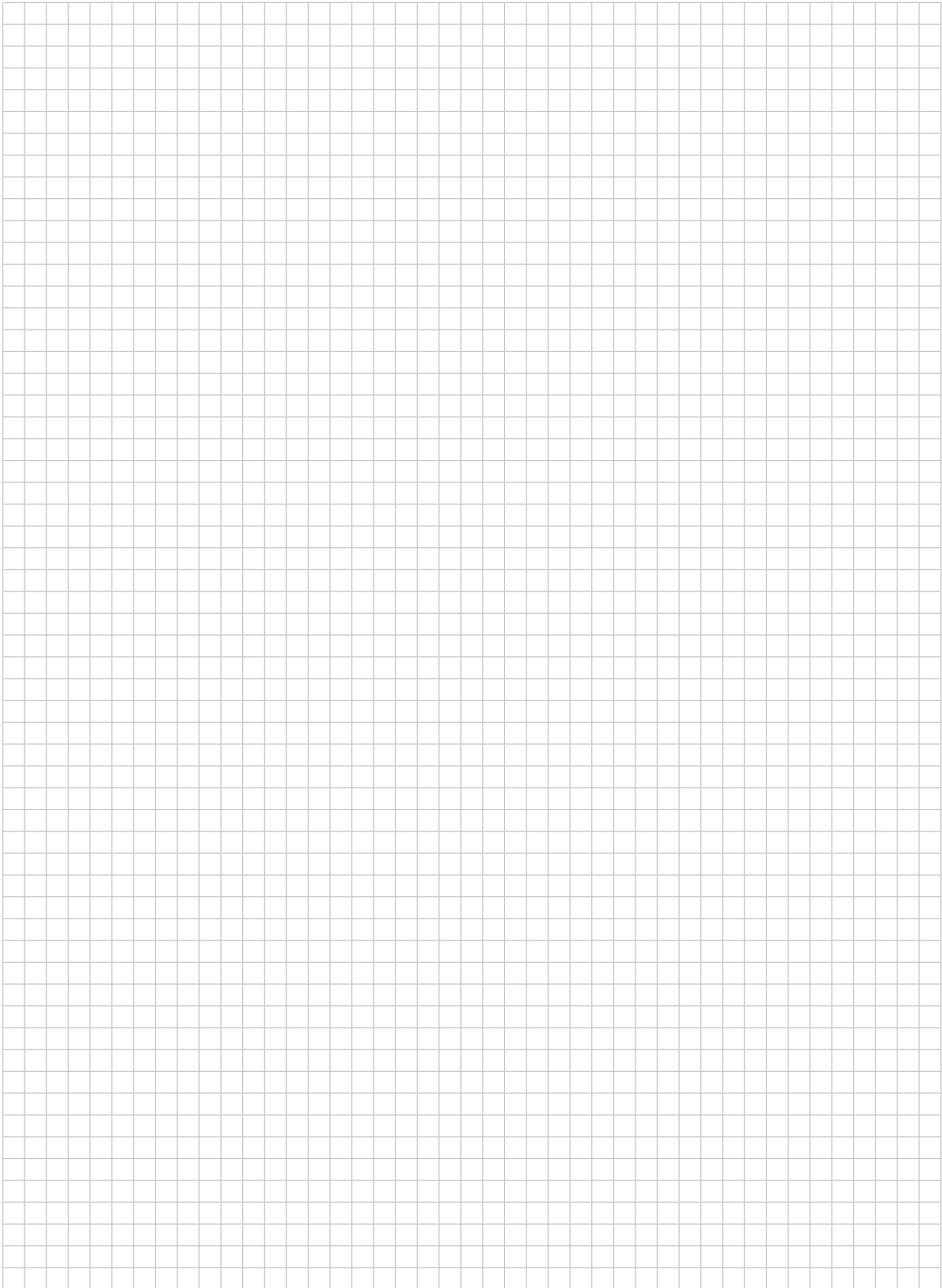
The condenser pump (Q9) is in operating during the entire heating period, DHW is charged according to the time program via the temperature sensor (B3), the deflector valve (Q3) is thus switched. The electrical heating element (K6) in the DHW storage is controlled by the heat pump controller.

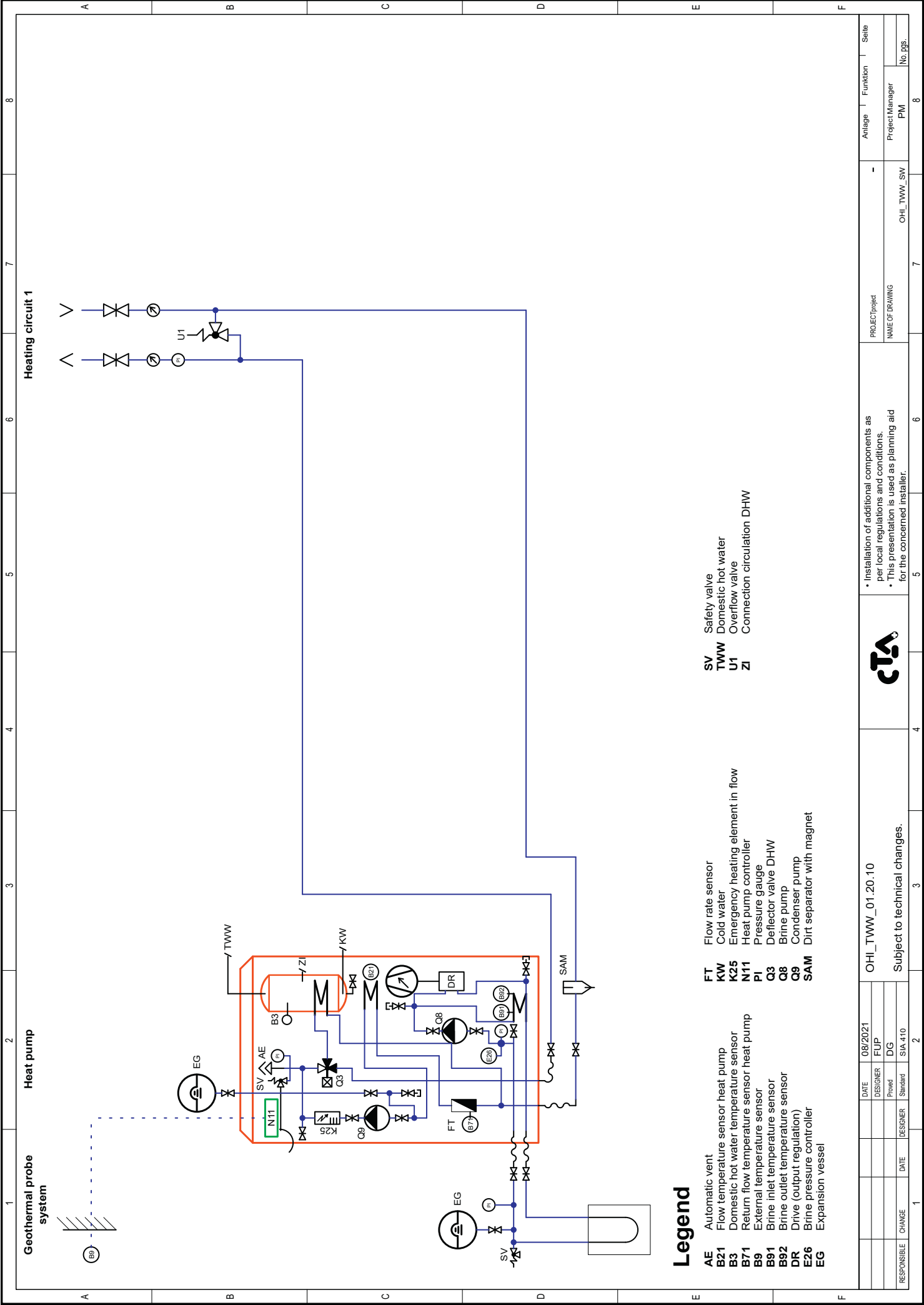
Free cooling

For passive cooling (free cooling), cooling is done without operating the cryogenic unit.

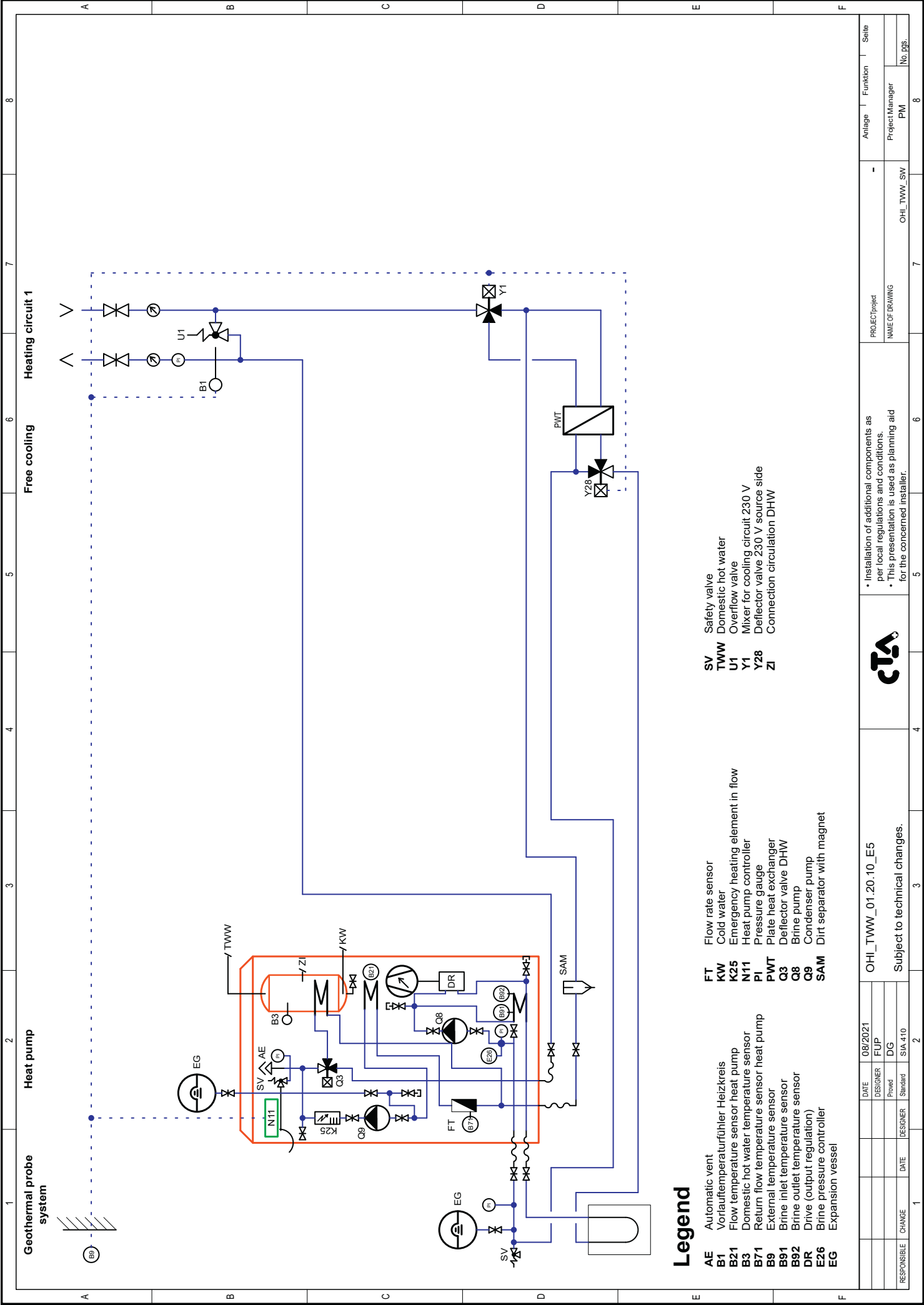
Heat is directly returned to the connected source (soil sensor or ground water). For cooling requirement, the source circuit is controlled by means of a deflector valve (Y28) via the plate heat exchanger (PWT).

The heat pump controller runs a cooling curve via the ambient temperature (B9), this is controlled with the connected mixer (Y1) and the flow temperature (B1). For available room thermostat valves, these must be adaptable for the cooling as well as the heating operation.





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Legend

- AE

Automatic vent
- B1

Vorlauftemperaturfühler Heizkreis
- B21

Flow temperature sensor heat pump
- B3

Domestic hot water temperature sensor
- B71

Return flow temperature sensor heat pump
- B9

External temperature sensor
- B91

Brine inlet temperature sensor
- B92

Brine outlet temperature sensor
- DR

Drive (output regulation)
- E26

Brine pressure controller
- EG

Expansion vessel
- FT

Flow rate sensor
- KW

Cold water
- K25

Emergency heating element in flow
- N11

Heat pump controller
- PI

Pressure gauge
- PWT

Plate heat exchanger
- Q3

Deflector valve DHW
- Q8

Brine pump
- Q9

Condenser pump
- SAM

Dirt separator with magnet
- SV

Safety valve
- TWW

Domestic hot water
- U1

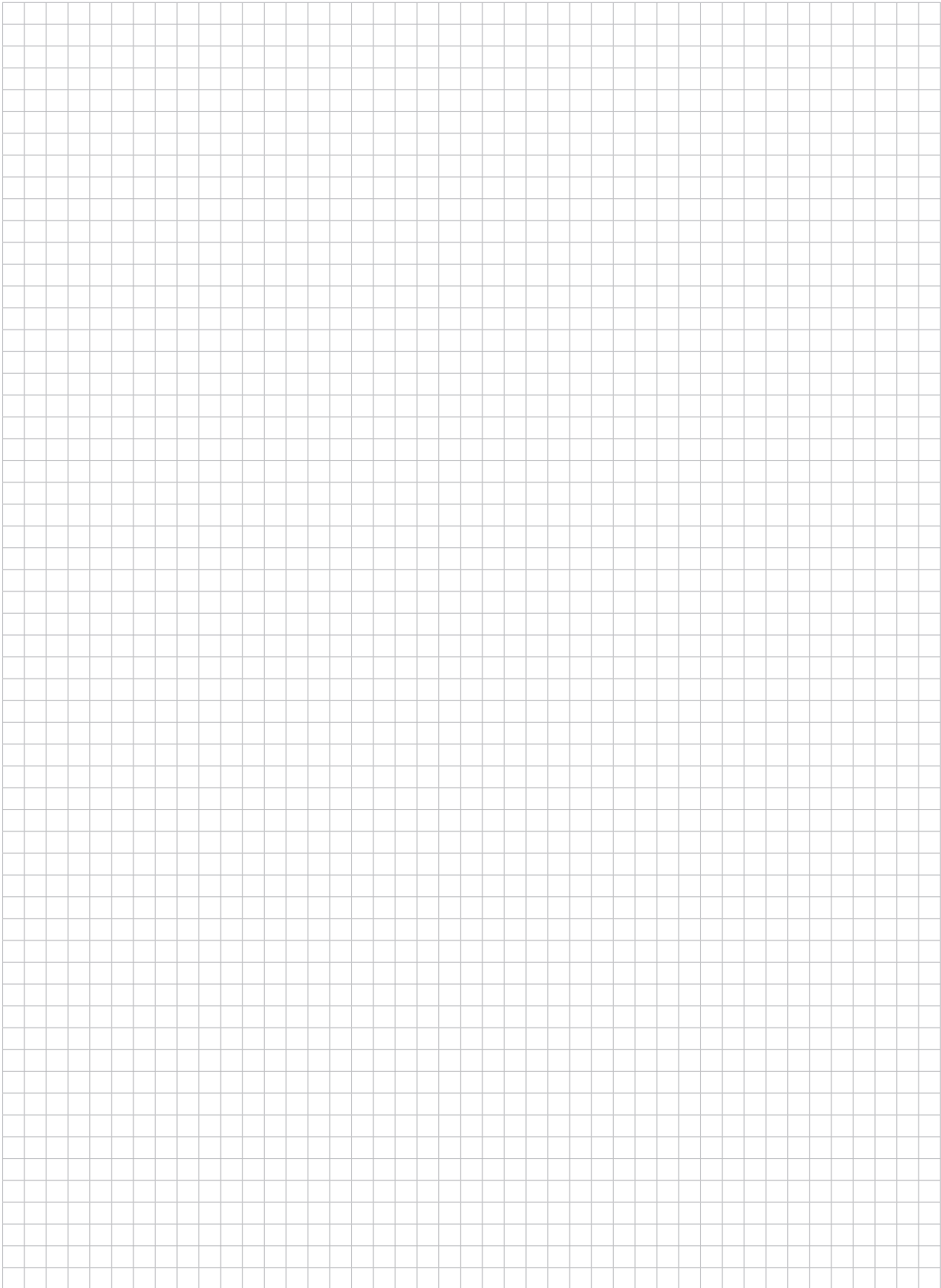
Overflow valve
- Y1

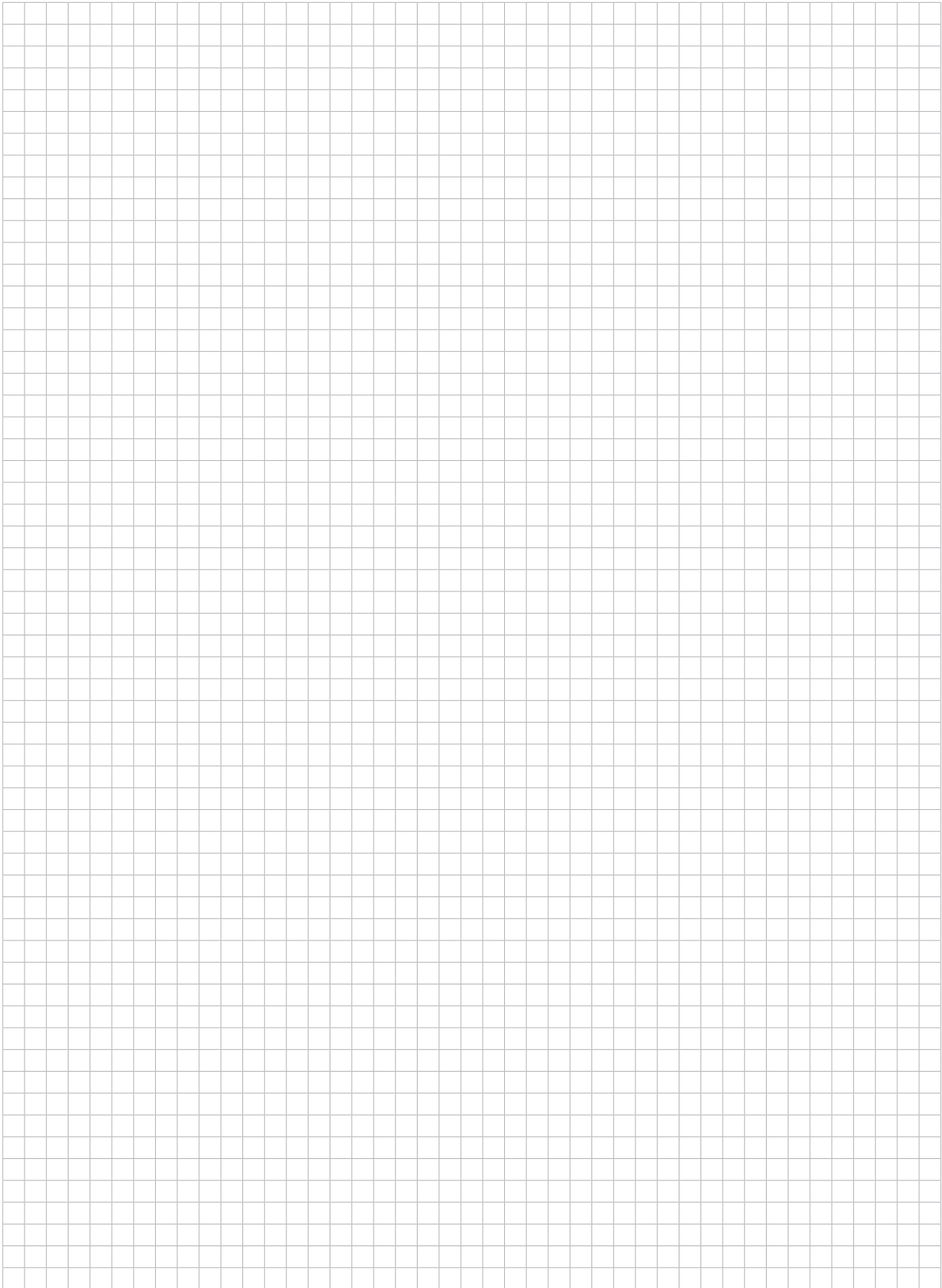
Mixer for cooling circuit 230 V
- Y28

Deflector valve 230 V source side
- ZI

Connection circulation DHW

		DATE		08/2021	OHL_TWW_01.20.10_E5				• Installation of additional components as per local regulations and conditions. • This presentation is used as planning aid for the concerned installer.		PROJECT	Project	Anlage	Funktion	Seite	
		DESIGNER		FUP							NAME OF DRAWING		OHL_TWW_SW		Project Manager	
		Powd		DG											PM	
		DATE		DESIGNER	Standard		SIA 410									
		CHANGE														No. pgs.





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