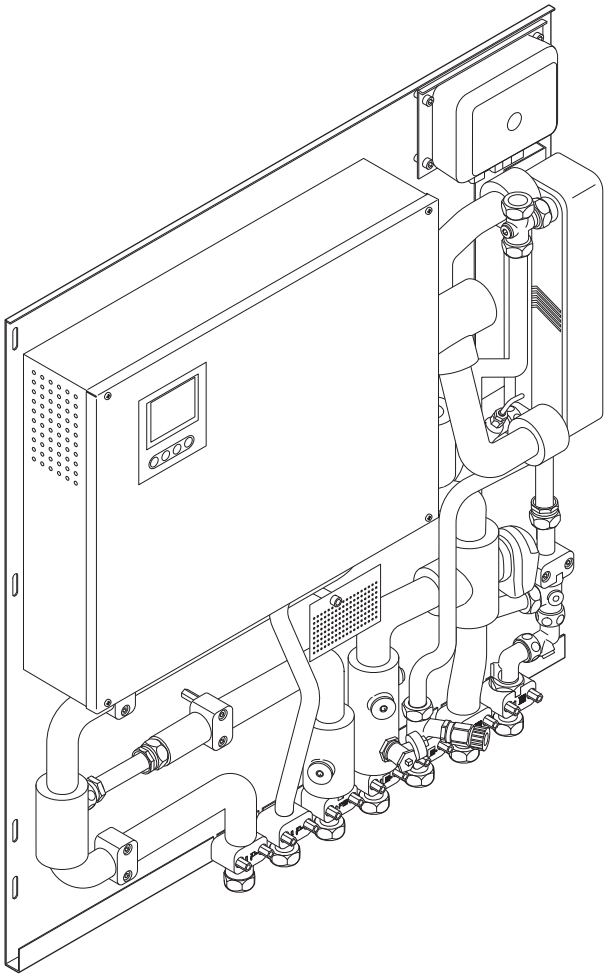
Uponor Combi Port E-Hybrid

EN Installation and operation manual



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2 Preface

This installation and operation manual describes how to install and operate the components of the system.

2.1 Safety instructions

Safety messages used in this document

Warning!

Risk of injury and damage. Ignoring warnings can cause personal injury and/or damage to products and other property.

Caution!

Risk of malfunctions. Ignoring cautions can cause the product to not operate as intended.

Note

Important information to the section in the manual.

Uponor uses safety messages in the document to indicate special precautions required for the installation and operation of any Uponor product.

Power

Warning!

Risk of electric shock if touching the components! The unit operates with a 400 V AC (electric heater), 230 V AC (control unit) voltage.

Warning!

In case of emergency, immediately disconnect the power.

Warning!

Required work must be performed by a qualified installer in accordance with local regulations. This includes electrical connections and installations, set up for operation and maintenance.

Warning!

The end user must never remove the cover of the electric heater.

Warning!

Danger to live from electric Schock!

- Before removing the cover of the electric heater, disconnect the power mains and secure it against being switched on again.
- Observe the regulations for electrical installations.

Technical constraints

Caution!

To avoid interference, keep data cables away from components bearing power of more than 50 V.

Safety measures

Note

For safe and proper use, obey the instructions given in this document. Keep them for future reference.

The installer and operator agree to comply with following measures regarding Uponor products:

- Read and obey the instructions and processes in the document.
- The installation must be performed by a qualified installer in accordance with local regulations.
- Uponor is not liable for modifications not specified in this document.
- Switch off all connected power supplies before starting any wiring work.
- Do not expose the Uponor components to flammable vapours or gases.
- Do not use water to clean electrical Uponor products/ components.

Uponor is not liable for damage caused by ignoring the instructions in this document or the applicable building code.

2.2 Standards and regulations

Note

The installation must be carried out in accordance with current local standards and regulations!

Planning and designing of the heating system must be performed in accordance with applicable global and country-specific standards and guidelines.

- Ensure that no aggressive substances, such as acids, lubricants, bleach, flux, strong liquid cleaning agents, contact sprays or concrete including its components, come into contact with the stainless steel manifold and manifold components.
- A water analysis is recommended for each installation. In the event of warranty claims, it is mandatory. It is essential that the heating circuits are regulated on the water side so that a sufficient hydraulic function of the individual heating circuits or the entire underfloor heating system is guaranteed!

For Combi Ports with an assembled water meter, **planning and implementation of the drinking water system** must be done in accordance with the Infection Protection Ordinance.

A few points to be high-lighted:

- Flush and disinfect the system before commissioning and handing over to the user.
- Provide the domestic hot water pipes with required thermal insulation strength.
- Insulate the drinking cold water pipes to secure that no heating in excess of the requirements takes place.

The installation of the electric heater must obey current EC, national regulations and any particular regulations specified by the local electricity supply company.

Observe:

- for example VDE 0100
- rating plate and technical specifications
- The appliance must be earthed.

2.3 Correct disposal of this product (Waste Electrical and Electronic Equipment)

Note

Applicable in the European Union and other European countries with waste separation systems.


This icon on the product, or in the related documents indicates that it should not be disposed with household waste. Please, recycle responsibly to support the sustainable use of resources and prevent possible harm to human health and/or the environment.

Household users should contact the retailer where they purchased this product, or their local government office, for details on where and how they can take it for recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. Do not dispose this product with other commercial waste.

3 System description

Domestic hot water:

In the heat interface unit, a comfortable hot water temperature of 40-60 °C is achieved even at low heating flow temperatures of 30-45 °C. The supply temperature to the heat exchanger is boosted to a suitable temperature by the electric heater.

Domestic heating:

This heat interface unit independently manages the hydraulic balancing between hot water and heating. The room temperature control is carried out in the underfloor heating system (pump group, thermostatic supply temperature valve, room thermostat).

Hygienic principle:

The system heats the drinking water only when there is a demand. When there is no demand, the hot water can cool down and extra heat transfer from hot water to cold water is stopped. This increases the hygiene of the drinking water system.

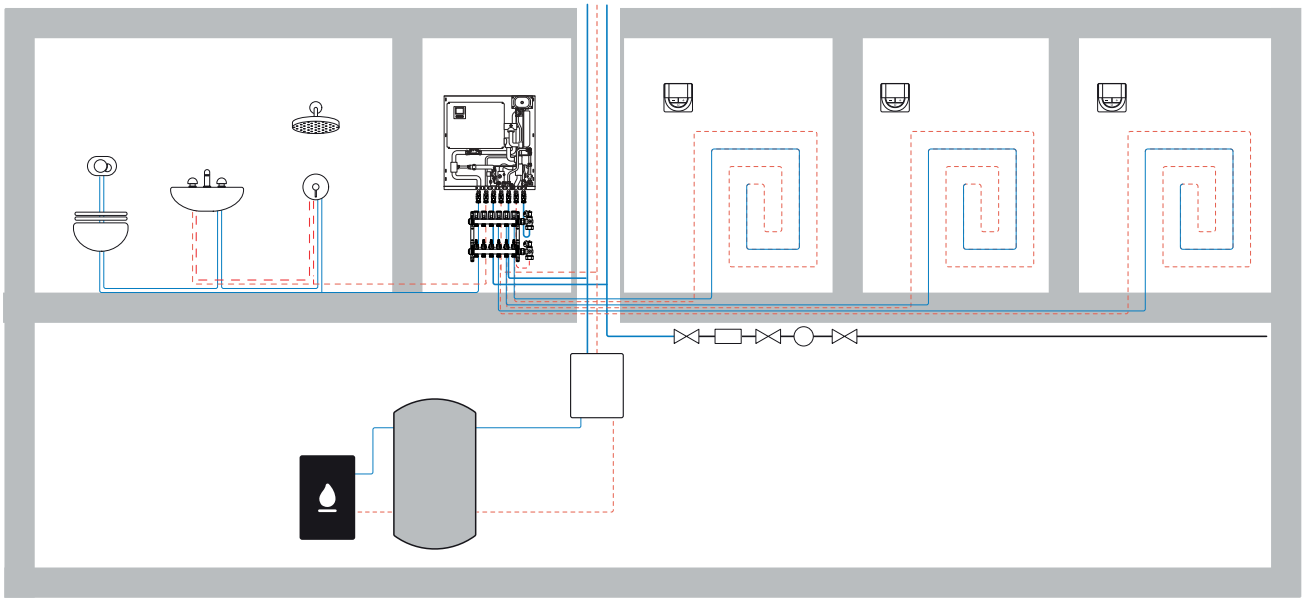
Control concept:

This heat interface unit is preset and operates via an internal control unit. You can operate the control unit through a website (accessible by WLAN) or through a ModBus connection. The desired domestic hot water temperature is set via the active display on the electric heater cabinet.

3.1 Operating principle

Note

The use of a buffer tank with the HIU is highly recommended. It reduces the needed heat source power and seperates the HIU hydraulics from the heat source.



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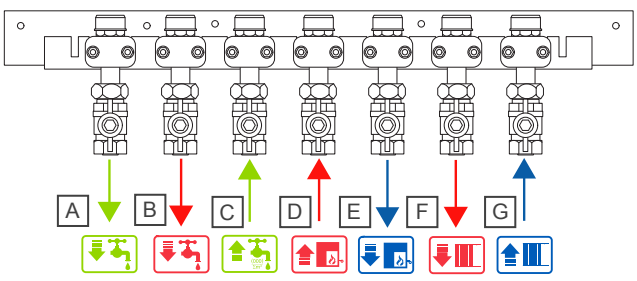
3.2 Connection description



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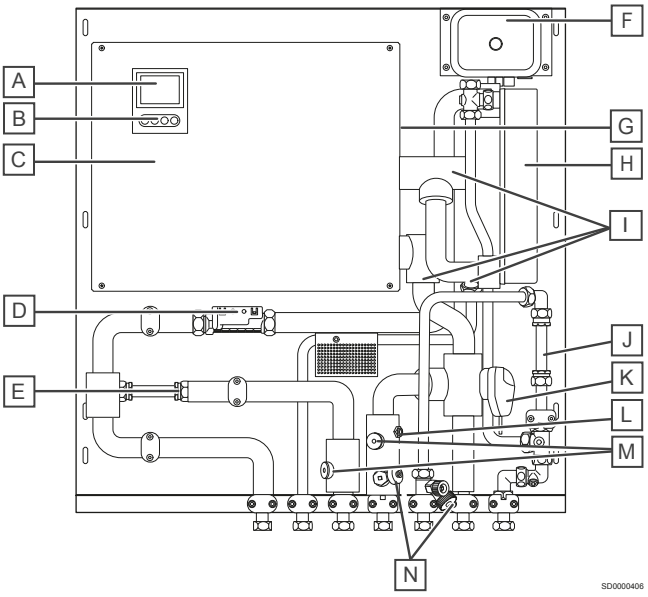
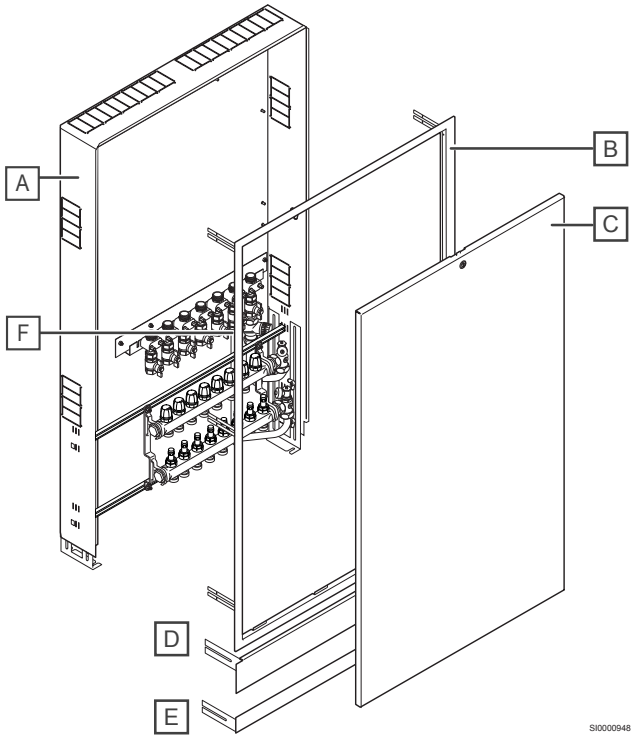
Item	Description
A	Cold water to apartment (PWC)
B	Domestic hot water to apartment (PWH)
C	Cold water from riser (PWC)
D	Heating supply (primary)
E	Heating return (primary)
F	Heating supply (secondary)
G	Heating return (secondary)

3.3 Components



Item	Description
A	Display
B	Operating buttons
C	Electric heater (booster)
D	Ultrasonic flow meter, Temperature sensor
E	Cold water meter distance piece
F	Controller
G	ON/OFF switch
H	Heat exchanger
I	Temperature sensor
J	Heat meter distance piece
K	Motor valve
L	Sensor pocket heat meter M10 x 1
M	Strainer
N	Draining and filling valve

A zone valve for hydraulic balancing is included in the cabinet with the manifolds.



Item	Description
A	Cabinet body
B	Frame
C	Door
D	Screed baffle plate
E	Supporting plate for dry construction
F	Zone valve

Dimensions of in-wall cabinet (width x hight x depth) in mm
Option 1: 810 x 1030 x 150
Option 2: 810 x 1390 x 150

3.4 Accessories

Uponor offers a variety of accessories that are compatible with the standard portfolio. The below accessories are optional, and their use completes the product portfolio. Subsequent chapters describe the application in more detail.

In-wall cabinet

Note

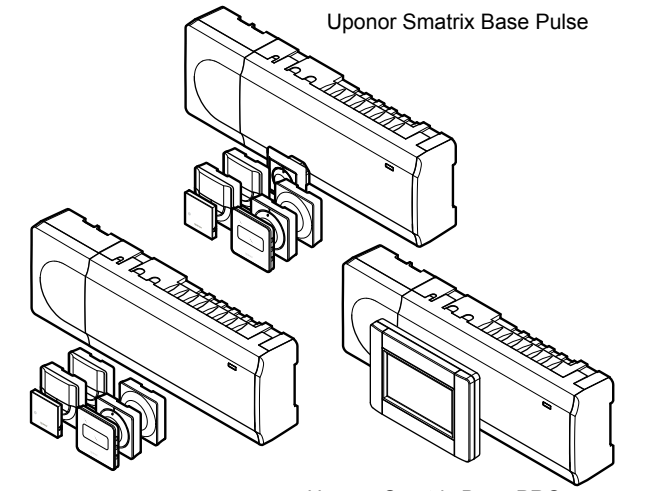
Manifolds for underfloor heating (UFH) and the ball-valve rail are pre installed in the cabinet. The manifolds are customised with 4, 6, 8, 10 or 12 loops.

Room temperature control

Note

Thermostats and remote control modules are not part of the Uponor Combi Port delivery. They must be ordered separately.

Uponor Smatrix



Uponor Smatrix is a fully equipped range of components for room temperature control, optionally via radio or wired. The unique auto-balancing technology eliminates the need for manual balancing of the loops. The smart system accurately determines and controls the exact energy needed for an optimal room temperature. The result is highly comfortable underfloor heating and cooling with reduced energy consumption.

Room control functions

This list shows available functions for the different systems.

Basic functions	Wave Pulse	Base Pulse	Base PRO
Autobalancing	✓	✓	✓
Cooling function	✓	✓	✓
Modularity	✓	✓	✓

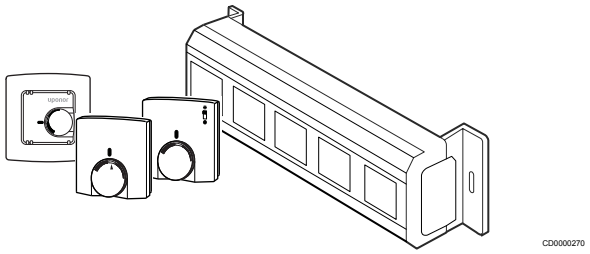
Installation and configuration functions	Wave Pulse	Base Pulse	Base PRO
Installation wizard	✓	✓	
Offline configuration	✓	✓	
Over-the-air updates	✓	✓	
Remote support	✓	✓	

Comfort functions	Wave Pulse	Base Pulse	Base PRO
Mobile app	✓	✓	
Smart notifications	✓	✓	
Trend visualization	✓	✓	✓
Multi home control	✓	✓	
Smart home integration	✓	✓	
Comfort settings	✓	✓	✓
ECO profiles	✓	✓	✓
Electrical underfloor heating control	✓	✓	
Ventilation integration	✓	✓	
Fan coil integration	✓		

Technical functions	Wave Pulse	Base Pulse	Base PRO
Uponor cloud services	✓	✓	
Data storage	✓	✓	✓
Pump management	✓	✓	✓
System diagnostics	✓	✓	✓
Heat pump (HP) integration	✓*)	✓*)	✓
Room bypass	✓	✓	✓
Room check			✓
KNX BMS integration			✓
Modbus RTU BMS integration			✓

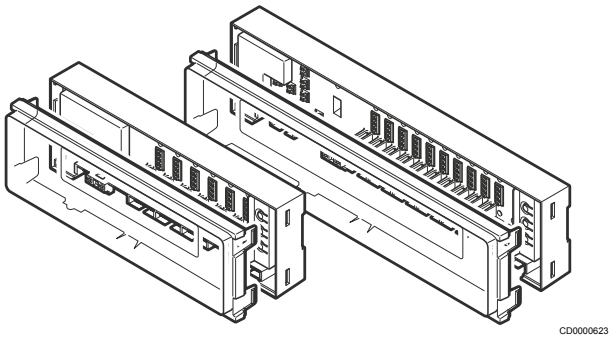
*) cloud connectivity with selected HP for dynamic heat curve adjustment

Uponor Base flexiboard



Uponor Base flexiboard is a 230 V control that enables individual room control for 6 or 8 rooms. There are also 2 variants with integrated pump logic available. This switches the circulating pump on or off as required and enables an energy-efficient operation.

Uponor Base X-60 and X-80



Uponor Base X-60 and X-80 are control units with autobalance function for 230 V standard wiring:

- Base X-60 supports up to 6 thermostats and 12 actuators 230 V.
- Base X-80 supports up to 10 thermostats and 12 actuators 230 V (also for cooling applications).

Available functions

This list shows available functions for the different systems.

Basic functions	X-80	X-60
Autobalancing	✓	✓
Time limit by-pass with autobalance	✓	✓
Heating/cooling switch	✓	
Input: condensation	✓	
Input: day/night switch	✓	✓

Technical functions	X-80	X-60
Pump relay	✓	✓
Boiler relay	✓	
Four wires thermostat connection	✓	✓
Works with three wires thermostat	✓	

Additional information

Note

Visit the Uponor download centre for more information regarding the installation and configuration of Uponor Smatrix and Uponor Base flexiboard.

Uponor Smatrix and Base controllers

www.uponor.com/services/download-centre

4 Prepare for installation

4.1 General information

Warning!

Escaping pressurised media can cause serious injury such as scalding or eye damage.

Depressurise the system before performing any installation work.

For retrofits to an existing system:

Drain the system or close the supply lines of the section and depressurise it.

Warning!

Risk of injury due to the heavy weight of the unit:

Do not perform the installation alone.

Always wear safety shoes during the assembly. The unit can be of considerable weight, depending on the configuration. If the station falls over, this could lead to injuries, particularly to the feet.

Caution!

Leaks can occur in the unit during transport or installation. Examine the nuts to make sure that they are correctly tightened before the connection to prevent property damages.

Before you install the heat interface unit (HIU), make sure that:

- the content of the package is complete as per the packaging list.
- you read and observe IOM (Installation and operation manual) for the HIU.
- the primary pipes are installed in the building site.
- the primary pipe installation is flushed and do a leak check.
- the power and ground cables are connected in the installation site.
- that a 400 V power supply is available close to the HIU.
- the HIU is installed in a dry and frost-free room with an ambient temperature lower than +40 °C.
- the HIU is protected from running and dripping water.
- the unit is installed in vertical position (not inclined, upside down or lying down).
- the HIU is always easy to access after the assembly.

4.2 Water analysis

A water analysis of the tap water must be checked before using the device. The limit values of domestic and heating water must be considered. The heating water quality must be as specified in VDI 2035.

4.3 Heating side

The heating water quality must be as specified in VDI 2035.

4.4 Drinking water side

The brazed plate heat exchangers are made up of embossed stainless steel plates (1.4404/1.4401 or SA240 316L/SA240 316).

Thus, it is necessary to consider the corrosion behaviour of both the stainless steel and the Vaclnox solder.

The heat exchangers in the heat interface units are made up of silicon dioxide coated (Sealix®) stainless steel plates. Before using the heat exchangers, the building services planner or installation company must check during system planning that corrosion protection and limescale formation have been adequately addressed in accordance with local regulations (e.g., DIN 1988-200 paragraph 12.3.2) and the available drinking water analyses. This verification must cover the following points:

- Selection of material.
- Corrosion-related changes in drinking water quality.
- Execution of the installation.
- Consideration of the anticipated operating conditions.

The below values for water ingredients must be fully obeyed:

Water ingredients	Value	Heat exchanger Vaclnox soldered
pH-value	-	6-9
Total Hardness	°dH	4-8,5
Filterable substances	mg/l	<30
Chloride	mg/l	<300
Free chlorine	mg/l	<1
Sulfate	mg/l	no restriction
electrical conductivity	µS/cm	no restriction
Iron dissolved	mg/l	no restriction

For more information, refer to the detailed chemical resistance list. You can request this list from Uponor Customer Service.

5 Installation

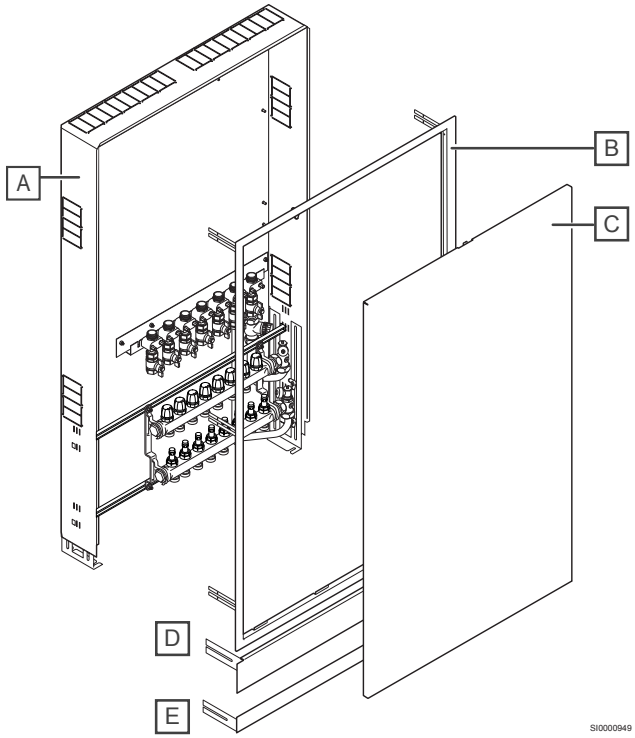
5.1 Mechanical installation

In-wall installation

Preparations

Note

For dimensions, refer to the chapter "Technical data".



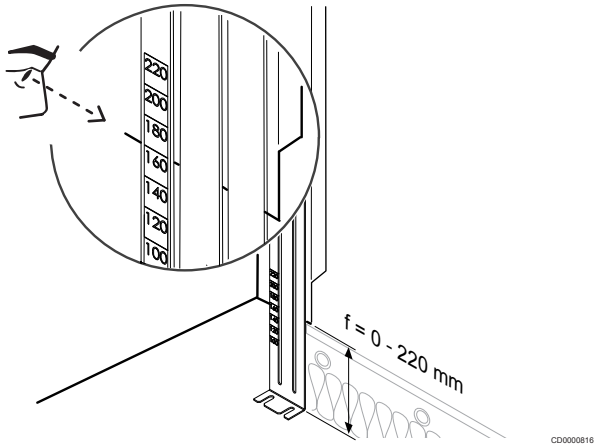
Item	Description
A	Cabinet body
B	Frame
C	Door
D	Screed baffle plate
E	Supporting plate for dry construction

1. Remove the frame and door from the cabinet body.
2. Keep the frame and door aside and use during installation.

Adjust the in-wall cabinet

The in-wall cabinets are adjustable inside the recess in height and depth.

The recess height is calculated as sum of the floor construction height and cabinet body height. Adjust the cabinet feet observing the floor construction height and the values shown on the feet.



Dimensions in-wall cabinet (width x height x depth mm)	Needed recess dimension (width x height x depth mm)
810 x 1030 x 150	(810 + 45) x (1030 + 25 + f) x 155
810 x 1390 x 150	(810 + 45) x (1390 + 25 + f) x 155

Install the in-wall cabinet

Caution!

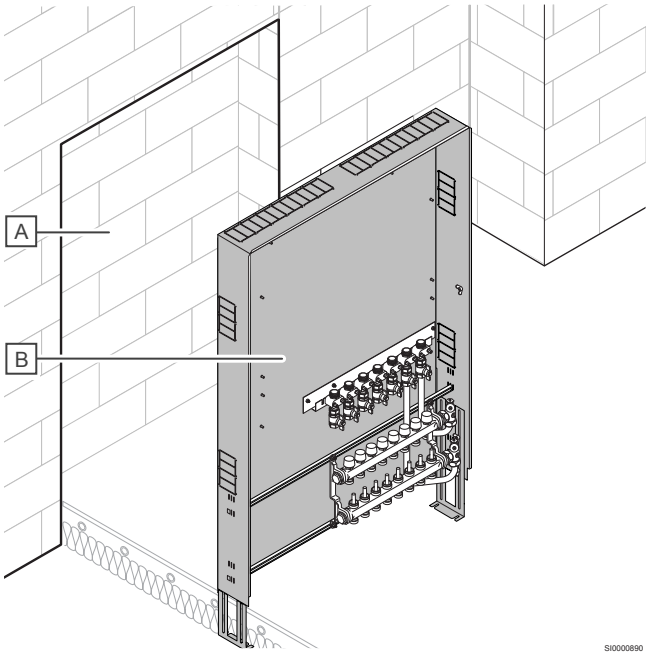
Adjust the depth of the cabinet body to the recess depth. The minimum depth is 150 mm.

Note

For free-standing installations: Refer to the illustration in chapter "Adjust the in-wall cabinet" and adjust the feet as necessary. Pay attention to the horizontal alignment.

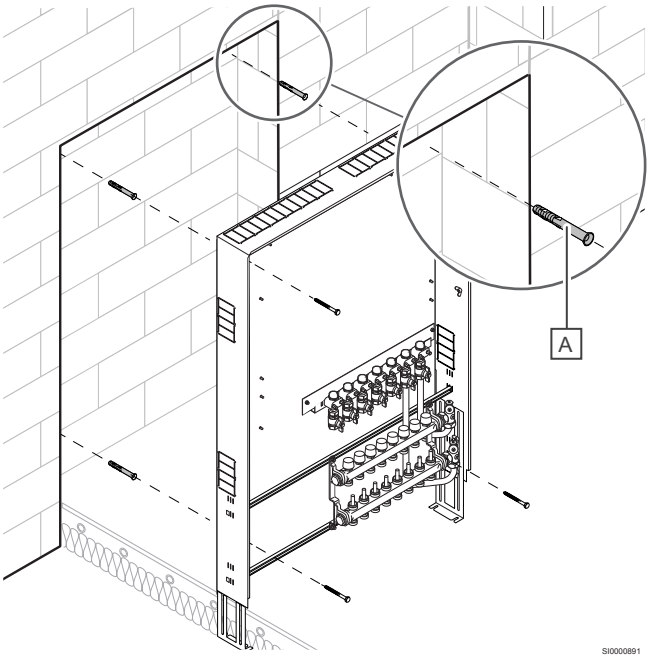
1. Put the marks on the wall recess to show where to drill the holes. Use the in-wall cabinet holes as a pattern.
2. Level up horizontally.

3. Adjust the depth of the cabinet body.



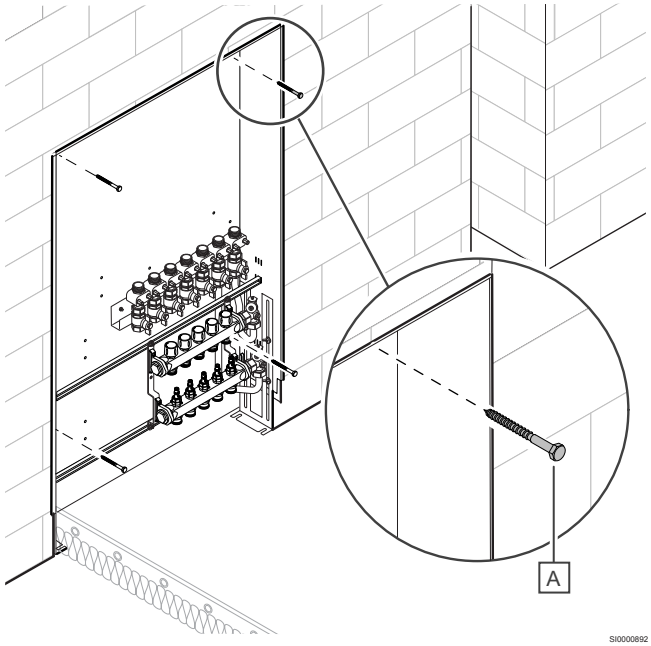
Item	Description
A	Wall recess
B	In-wall cabinet body

4. Drill holes to install the plugs.
5. Put the wall plugs into the drilled holes.



Item	Description
A	Wall plug (4 pcs)

6. Install the in-wall cabinet body into the wall recess with the hexagon screws.



Item	Description
A	Hexagon screw (4 pcs)

Connect the primary supply pipes

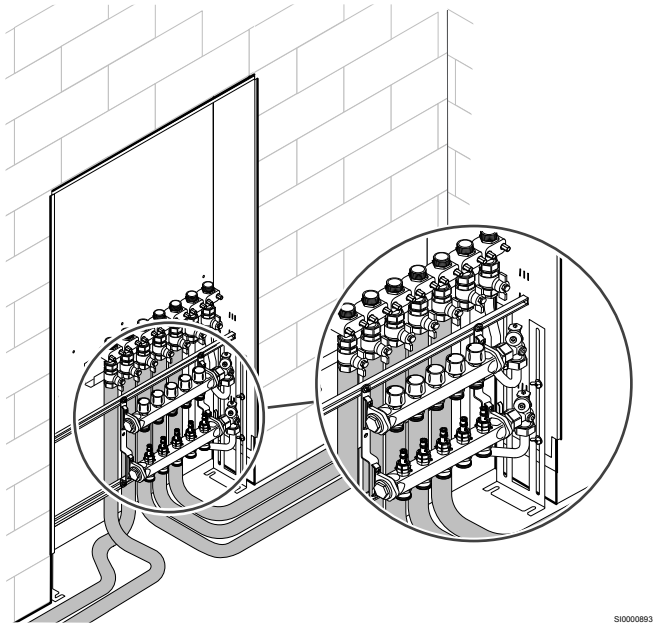
Note

Follow the planning documentation when you install the pipes.

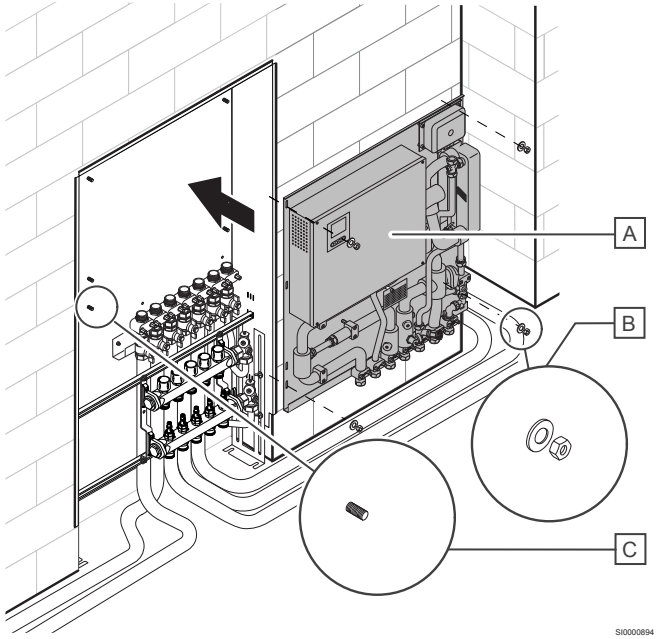
Note

Make sure to follow local regulations when you install and insulate the pipes.

1. Use the necessary fittings to connect the supply pipes to the ball valves.

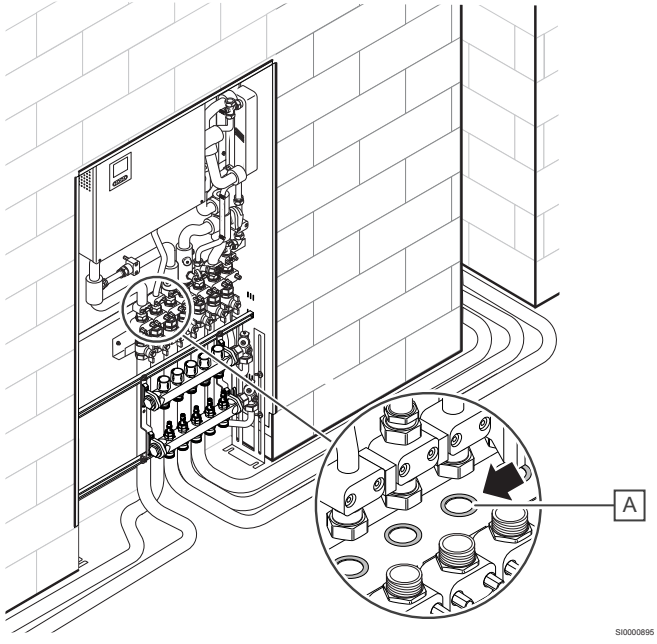


Install the heat interface unit



Item	Description
A	Heat interface unit
B	Hexagon nut (4 pcs)
C	Fixed bolts

1. Install the heat interface unit onto the fixed bolts in the cabinet wall.
2. Tighten with four hexagon nuts.
3. Put the flat gaskets on to the connection rail ¾" screw connection.



Item	Description
A	Flat gasket

Note

Do a damage check of the flat gasket/-s.

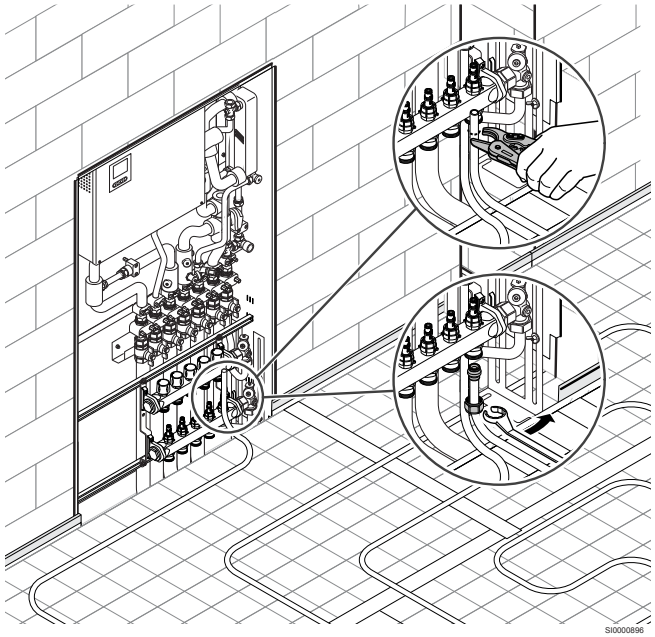
4. Tighten the ¾" swivel nuts.

Connect the pipes

Note

Follow the planning documentation when you install the pipes.

Connect the underfloor heating pipes to the manifold.



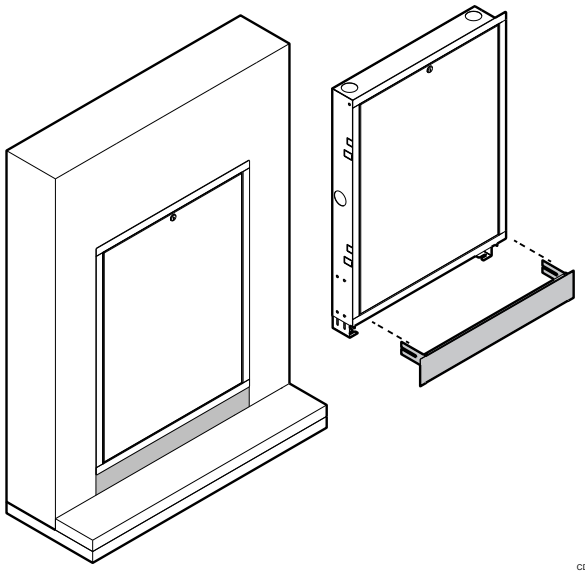
1. Cut the pipe to the necessary length.
2. Connect the pipe to the manifold with the compression fitting.

Screed baffle plate or supporting plate

For the in-wall cabinets two different plates are available, depending on the application the corresponding cabinet version should be used.

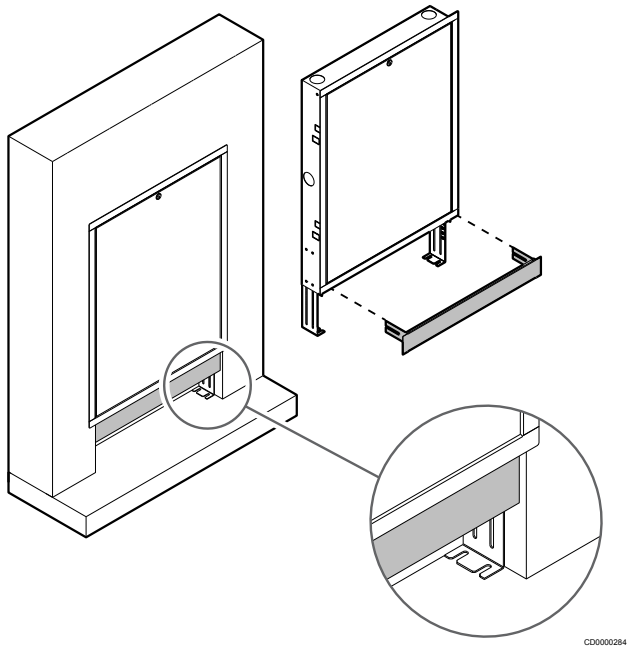
- **Wide** = screed baffle plate
- **Narrow** = supporting plate for dry construction

Screed baffle plate



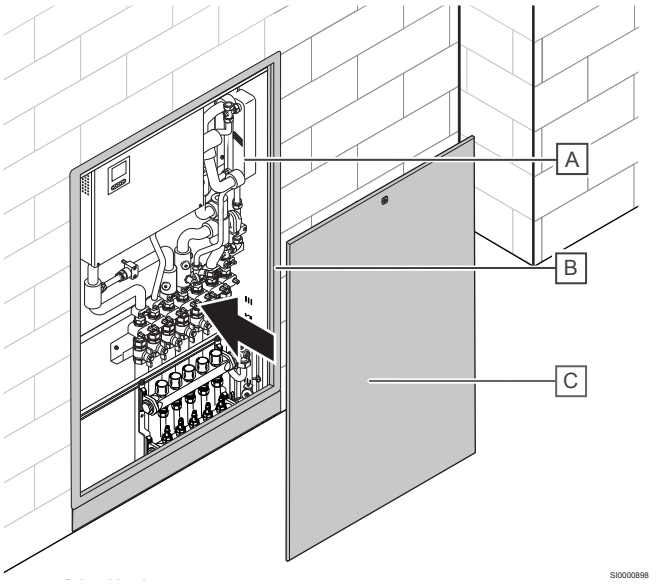
Screed baffle plate: The screed baffle is mounted from the front. It has two ends on the top of the finish floor and is visible after assembly.

Supporting plate



In-wall cabinet with supporting plate for dry construction. The supporting plate is mounted from the front and can later be covered with plasterboard.

Install the frame and door to the cabinet



Item	Description
A	In-wall cabinet
B	Frame
C	Door

1. Attach the frame to the cabinet body using wing nuts.
2. Align the two frame brackets with the recesses in the door and install it to the frame.

5.2 Electrical installation

Warning!

Risk of electric shock if touching the components! The unit operates with a 400 V AC (electric heater), 230 V AC (control unit) voltage.

Warning!

In case of emergency, immediately disconnect the power.

Caution!

All electrical components are connected at the factory and these connections must be retained. Exceptions are the power mains, neutral and earthing for the electrical heater.

Note

A safety valve must be installed in the hydraulic system, near the heat interface unit (HIU). No blocking elements like other valves or similar components are allowed in the line between safety valve and electric heater.

Note

When connecting the electric heater to the power mains, the required cable cross sections and fuse types specified in the electrical plan must be observed.

More information in chapter:

"Technical data"

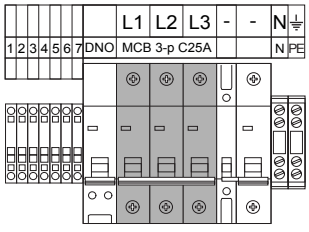
Note

Establish equipotential bonding by using a copper equipotential bonding conductor (cross-section at least 6 mm²). Connect the earthling clamp to a suitable equipotential bonding rail in the building.

Before connecting the electric heater to the power mains

Caution!

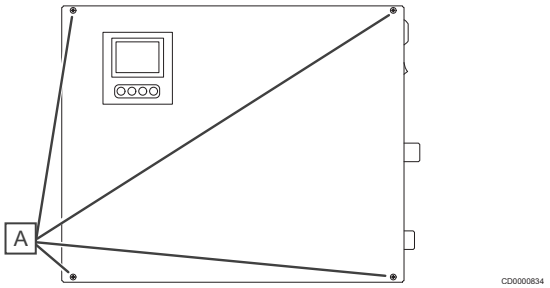
The display in the cover of the electric heater is connected to components in the cabinet body. Be careful when removing the cover.



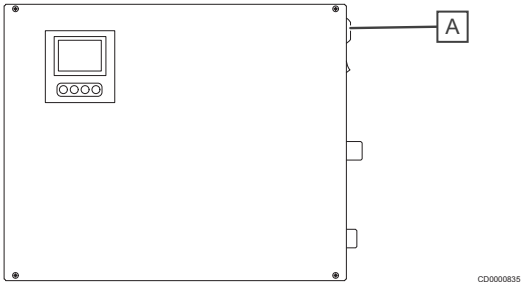
Item	Description
1, 2, 3	Power supply for build-in controller
4, 5, 6	Power supply for additional controls (optional)
L1, L2, L3	Power mains for the electric heater (MCBs)
N	Earthing
PE	Neutral

The electric heater is connected to the power mains through three-pole MCBs (Miniature Circuit Breaker). The MCBs have a remote voltage trigger to establish a safety circuit. The trigger responds to thermal overload and a signal from the safety thermostat activates the trigger. As a result the connection of all three power mains circuits to the device is cut.

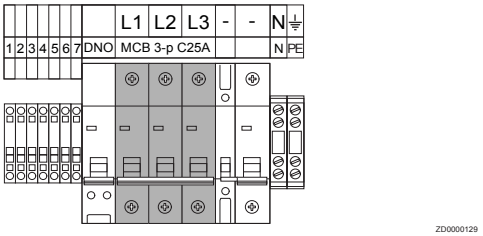
Connect the electric heater to the power mains



1. Remove the 4 screws (A) of the cover of the electric heater cabinet and carefully move the cover out of the way. Hold the door to prevent it from falling. For example, attach it with a strap on the top left side.



2. Route the power cable, neutral cable and earthing cable through the grommet (A) in the electric heater cabinet.

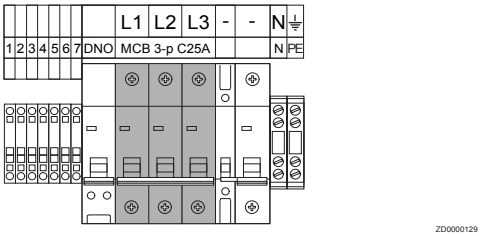


3. Connect the power cable the the three-pole MCBs (L1, L2, L3).

4. Connect the neutral cable to "N".

5. Connect the earthing cable to "PE".

Connect optional controlls (for example Uponor Smatrix)



Connect additional controllers (for example Uponor Smatrix) to slots 4, 5 and 6.

6 Finishing installation

Warning!

Leaks can cause personal injury and property damage.

Note

Follow the planning documentation when you install the pipes.

Read and obey the instructions to make sure the system operates correctly and safely, do not reduce the specified cable cross-sections. Replace the heat meter distance piece with the heat meter.

If a plastic distance piece is not to be replaced with an optional component, replace it with stainless steel **1.4401** pipe. For more information, speak to the manufacturer.

- Connect the hydraulics correctly.
- Use the supplied gaskets when you connect the pipes.
- Connect the heating supply, heating return and the hot and cold water.
- Install a filling and draining valve on-site at a serviceable central point to fill the central heating system.
- Refer to the planning documentation for installation instructions.

6.1 Visual inspection

Caution!

Incorrect installation can cause property damage.

Note

If an installation error is found during visual inspection, temporarily stop and correct the error.

Follow these steps to complete the installation:

1. Examine the complete installation:
   - 1.1. Make sure that the hydraulics are connected correctly.
   - 1.2. Clean the dirt collected on or around the unit during installation. Examine the strainers and flush/clean them if necessary.
   - 1.3. Examine the tightness of all gaskets on pipe and device connections and tighten them with 30 Nm, if necessary. Always lock the opposite side before you tighten the connections.
   - 1.4. Optional: Make sure that all electrical connections are correct, including the polarity of the mains connection. Make sure that the system is correctly grounded.
2. Make sure that the installation is filled/flushed and vented.
3. Fill in the setting log. See chapter: "Maintenance"

7 Operation

7.1 Electric heater

Warning!

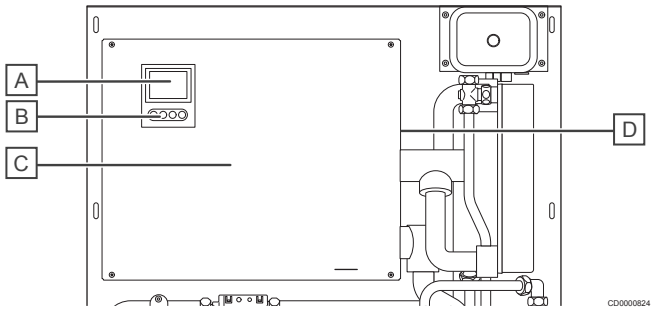
Operation without a sufficient water supply will destroy the electric heater.
Only start and operate electric heaters with a sufficient water supply.

Warning!

When the electric heater is in operation, do not close the ball valves on the drinking water side or on the heating side. If you close them, heat can build up and cause damage.

Note

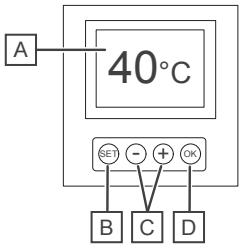
The SET-button underneath the display is for internal use only (protected by an access code).



Item	Description
A	Display
B	Operating buttons
C	Electric heater (booster)
D	ON/OFF switch

The electric heater is an electronically controlled, pressure-resistant and instantaneous water heater for a decentralised hot water supply. The electronic control regulates the heating power consumption depending on the selected target hot water temperature (set on the display). This means that the desired temperature is reached to the exact degree and kept constant despite pressure fluctuations.

As soon as you open the hot water tap, the instantaneous water heater starts automatically. When you close the tap, the heater automatically stops.



Item	Description
A	Display
B	SET-button (internal use only)
C	Decrease (-)/Increase (+)-button
D	OK-button

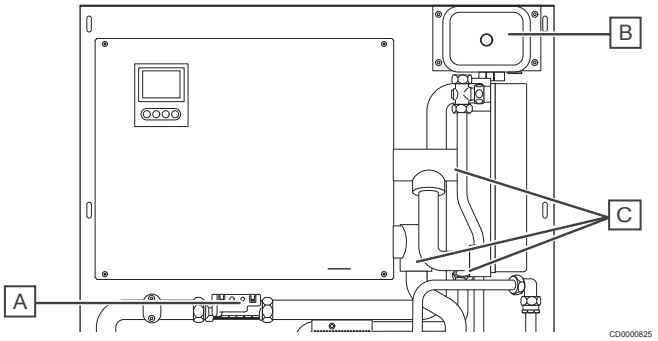
The currently set hot water target temperature is visible on the display (A). Change the target temperature by pressing the decrease (-)/increase (+)-buttons (C) and confirm the new target temperature by pressing the OK-button (D).

7.2 Controller, ultrasonic flow meter and temperature sensors

Note

Do not change the default settings for standard operation.

If changes are necessary, contact your installer.



Item	Description
A	Ultrasonic flow meter, Temperature sensor
B	Uponor Combi Port E-Controller
C	Temperature sensor

The controller controls the operation of the heat interface unit. The ultrasonic flow meter and the temperature sensors are important for its function.

Start up the controller

1. Push the button (green light) in the middle of the controller.
   The controller will be activ, the green light changes to blue.
2. Scan the first QR code on the controller to connect the controller to your mobile device.
3. Scan the second QR code on the controller to access the website in the browser of your mobile device.

Visit the Uponor download centre for more information regarding the Uponor Combi Port E-Controller.

www.uponor.com/services/download-centre

7.3 Cold water meter distance piece/Heat meter distance piece

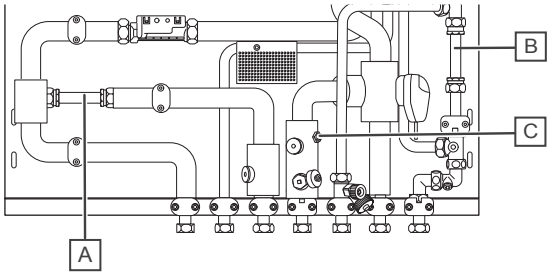
Note

The heat meter to be installed must have following specifications: **Qn = 1,5** 1,5-2 seconds. Construction length of **110 mm** and **¾"** external threaded connection.

Note

The cold water meter to be installed must have following specifications: **Qn = 1,5**, Operating pressure: **PN 10**, Construction length of **110 mm** and **¾"** external threaded connection.

A sensor pocket M10x1 is available for the flow sensor. When delivered, you must remove the plug with a hexagon socket wrench (6 mm).



Item	Description
A	Cold water meter distance piece
B	Heat meter distance piece
C	Sensor pocket

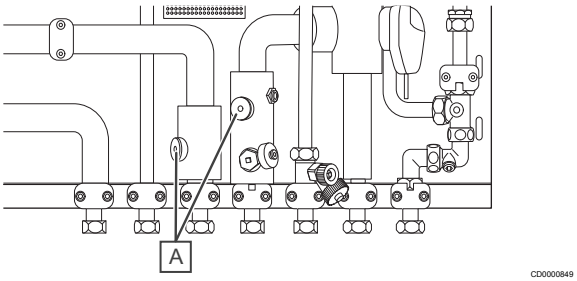
7.4 Strainer

Caution!

Shut-off the water supply, primary and secondary heating to the unit and release the pressure before any work with the strainer.

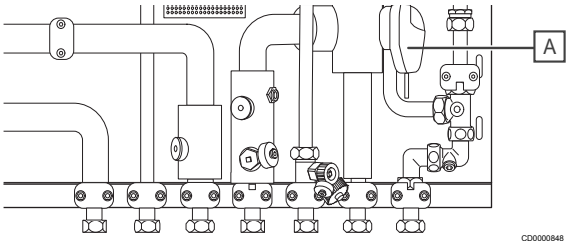
Note

To open the strainer, use an internal hexagon (**6 mm**).



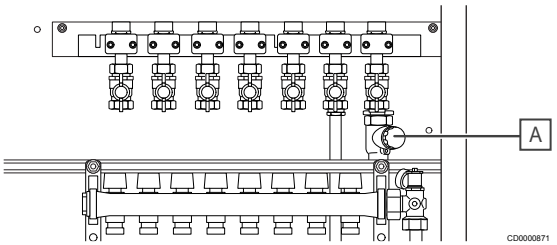
The strainer collects dirt and its filter can be removed for inspection and cleaning.

7.5 Motor valve

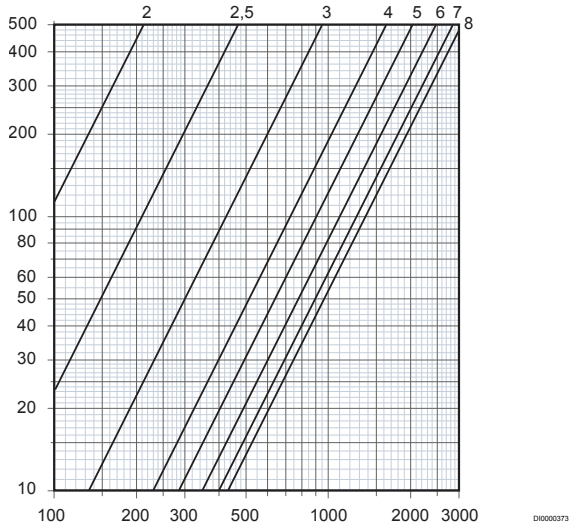


The motor valve (A) controls the switch between domestic hot water and the secondary heating. The motor valve is connected to the controller.

7.6 Zone valve



The zone valve (A) is part of the secondary heating line and regulates the flow to the secondary heating circuit.
The zone valve is not intended for use with an actuator.

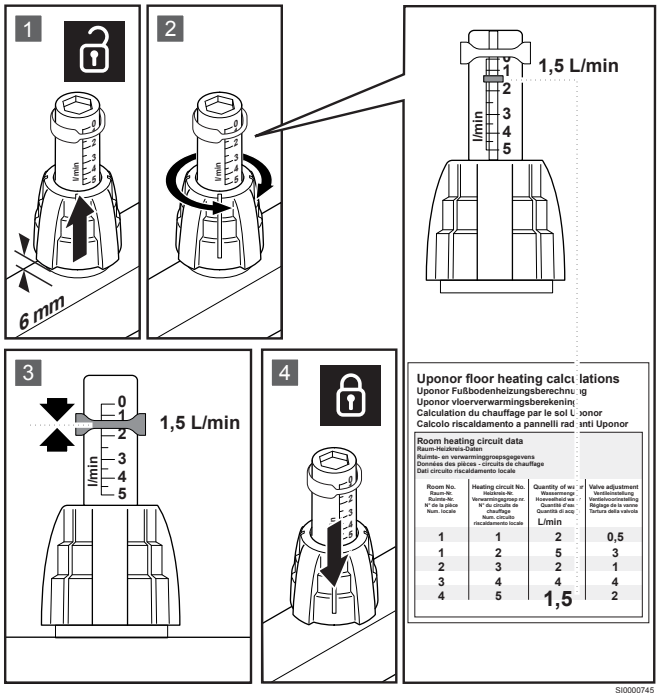


Item	Description
A	Pressure drop Δp [mbar]
B	Mass flow [kg/h]

7.7 Hydraulic balancing on the manifold

Warning!

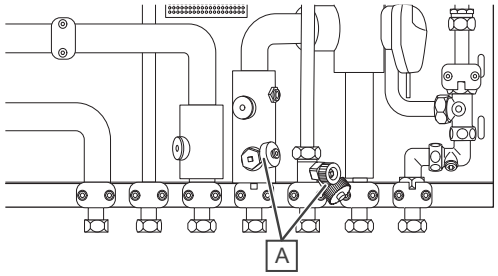
The pressure in the valves can cause personal injury.



SI0000745

1. Unlock the flowmeter. Pull the outer ring approximately 6 mm up.
2. Set the flowmeter to the system flow rate (l/min). Set each heating loop obeying the system calculation.
3. Mark the setting with the memory ring.
4. Lock the flowmeter. Push the outer ring down.

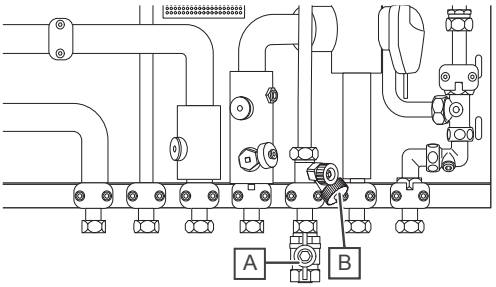
7.8 Draining and filling valve



CD0000847

The filling and draining valves (A) on the heat interface unit are used to fill and flush the system.

Flushing the system



CD0000853

1. Close the ball valve (A) in the primary heating return line.
2. Connect a hose to the filling and draining valve (B) in the heating return line.
3. Open the drain valve (B). Open the largest hot water tap to the highest possible temperature.
4. Flush the unit for 15 minutes.
5. Close the filling and draining valve (B).
6. Open the ball valve (A).

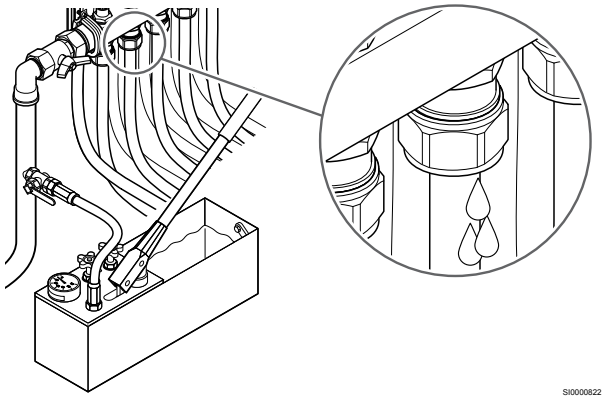
7.9 Tightness testing

Warning!

Leaks can cause personal injury and property damage.

Caution!

Pressure leaks can occur at usual operating pressure and must be repaired immediately.



SI0000822

The tightness test for heating and domestic water installations must obey country-specific regulations.

7.10 Complete the installation and handover

Caution!

Incorrect installation can cause property damage.

Do these steps to complete the installation:

1. Do a check of the settings.
2. Make sure the electric heater ON/OFF-switch is set to "ON".
3. Complete the acceptance protocol and document the adjusted settings (refer to chapter **"Setting log heat interface units"**).
4. Handover the documentation and the protocol to the house owner.

8 Maintenance

8.1 General information

Important information

Read and obey the instructions to make sure the system operates correctly and safely.

Obey the instructions to prevent risk and downtime and increase the system's reliability and life.

A visual inspection of the port unit is necessary at 3 to 6 month intervals.

Function and energy savings

The heat interface unit is a compact station that can operate in a system with several units or as a supplement to an existing heating system. It is designed for residential buildings and is used to supply, control and measure domestic cold water (PWC), domestic hot water (PWH) and space heating.

Hot water is only prepared on demand and not stored, which is the most convenient and hygienic way. This enables dispensing of large amounts of hot water. Restrictions are only imposed by the central heating.

Water heating

Caution!

All water pipes are filled and pressurised.

The cold water supply for the apartment is provided via the central house connection and distribution line.

The heat interface unit is equipped with a central shut-off ball valve for cold water (C).

All ball valves should be exercised (open-close) at regular intervals (about once per month).

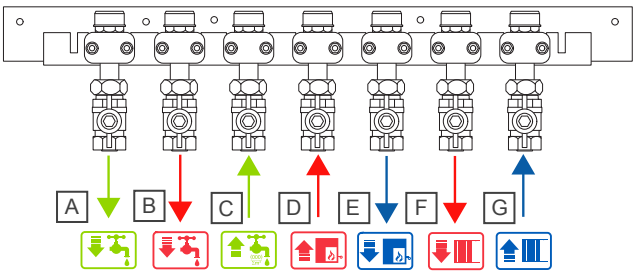
The ball valves (A) and (B) should only be closed for assembly/ disassembly reasons.

Water hygiene

Although the water system follows the flow principle, which is the most hygienic method of water heating, the water pipes should always be flushed if not used for a longer period.

The tapping duration should be around 1-2 minutes. The water must be allowed to run at least every 7 days for about 1-2 minutes (follow country specific regulations).

8.2 Turning off heat interface unit



If there is a malfunction, close the ball valves C, D and E.

Item	Description
A	Cold water to apartment (PWC)
B	Domestic hot water to apartment (PWH)
C	Cold water from riser (PWC)
D	Heating supply (primary)
E	Heating return (primary)
F	Heating supply (secondary)
G	Heating return (secondary)

If the system must be shut down for a longer period:

1. Set the electric heater to OFF.
2. Shut-off the cold water tap (C). Do not close ball valves D, E, F and G.
3. Keep the heat interface unit safe from frost.
4. When you start the unit again, let the hot water run for about five minutes (follow country specific regulations).

8.3 Setting log heat interface units

Date:	**Setting log heat interface units**					
Site:		Type:	Serial no:			
Component	**Description**			**Setting range**	**Factory setting**	**Set on site**
HP	Electric heater (booster)	SW_HP_BH 14:				
		-DHW temperature		40 - 60 °C	40 °C	
		Safety valve included in primary heating installation?		Y/N	--	
		Electric connections (3N 230 V/400 V AC) done according to local regulations?		Y/N	--	
ZA	Zone valve in residential heating circuit return line (TM)			0 - 1800 kg/h	1800 kg/h	

Component	**Description**
Heat exchanger	SXE8LAS H-40
Heat meter distance piece	110 mm x ¾", preparation for Qn 1,5 m³/h

9 Troubleshooting

Fault description	Cause	Solution
Hot water function		
Hot water temperature too low or fluctuating	**Central heating**	
	Heating circuit pump type not supported	Examine the central heating pump.
	Setting for heating circuit pump is not correct	Heating circuit pump setting: Constant pressure
	Pump performance too low	Examine the pump function (vent the pump for example).
	Mixing valve faulty	Examine the mixing valve function.
	Setting for heating circuit control is not correct	Do a check of the heating circuit control settings in the central heating controller.
	Heating circuit control faulty	Examine the heating control function.
	Air trapped in buffer storage	Release air from the buffer storage tank.
	Heat interface unit	
	Strainer in primary flow dirty	Clean the strainer in the primary flow.
	Insufficient differential pressure	Clean the capillary of the differential pressure controller (if available) and check that the differential pressure control is working.
	Air in the system	Release air from the system while dispensing.
	Insufficient heating volume flow passes through the heat exchanger	Do a check of the volume flow using heat meters.
	Heat meter type not supported	Use heat meter type with **Qn 1,5**.
	Insufficient heating volume flow	Increase differential pressure.
	Heat exchanger dirty	Examine the heat exchanger.
	Mixing valve defective	Examine the mixing valve function.
	Ball valves closed	Do a check if the ball valves are in open position
Waiting time for hot water is too long	Examine the pump setting in the central heating system.	Pump setting: constant pressure
Noise generation		
Noise generated in the station	Pipe clamps too tight	Examine the pipe clamps.
Heating function		
Heating system does not heat up	Supply temperature too low at the heat source	Do a check of the supply temperature.
	Flow rate is too low	Examine the pump settings in the central heating system.
	Heat meter type not supported	The heat meter type must be **Qn 1,5**.
	Air trapped in buffer storage	Vent the buffer storage tank.
	Insufficient differential pressure	Clean the capillary of the differential pressure controller (if available) and do a check that the differential pressure controller is working.
	Air in the system	Vent the system.
Underfloor heating not working well	Actuators on manifolds not or wrong connected	Examine the electrical connection of actuators.
		Do a check of the connection-order to the room-thermostats.
	Room temperature too low/too high	Do a check of temperature setting on room-thermostats.
		Do a check if manifold pre-setting is done. You see the flows on the flow meters installed at the manifold. When necessary, do a check of the pre-setting.
Electric heater		
The electric heater does not react after switching on the HIU or the display stays black.	The electric heater is not connected to the power supply.	Make sure power is supplied.
	The MCBs are tripped.	Switch on the MCBs.
	The control phase is not connected.	Check MCB's for at the outlets for connecting passage.
	The main switch ON/OFF is faulty.	Replace the defective component.
The electric heater does not heat enough.	One or two phases are not connected.	Check if all three phases go through to the electric heater.
	The power of the electric heater is too low.	Check the power setting of the electric heater.
	One of the **triacs** is defective	Replace the defective component.
The electric heater heats, but is very noisy.	There is air in the system.	Vent the system.
	The water flow is too low.	Make sure the ball valves below the electric heater are open.

Fault description	Cause	Solution
		Clean the filter before the electric heater.
	Possible build up of limescale in the heater.	Clean the electric heater. (This is not considered a valid reason for complaint within the warranty period.)
Controller		
Uponor Combi Port E-Hybrid does not heat enough	Controller button is flashing red	Contact the Uponor customer service.

10 Technical data

10.1 Technical specifications

Caution!

Electrical installation and servicing involving secured voltages of 400 V AC (electric heater) and 230 V AC (control unit) must be performed by a qualified electrician.

HIU	Value
Weight of HIU	approximately 30 kg
Medium	Heating water (refer to VDI 2035)
Operating temperature	5-85 °C

Domestic hot water	Value
Flow rate	12 l/min (at primary heating supply 38 °C, domestic hot water 50 °C)
Pressure drop	0,2 bar (at above flow rate)
Temperature	40-60 °C

Primary heating	Value
Temperature medium	max. 45 °C
Operating pressure	max. 6 bar
Flow rate	max. 1400 l/h
Pressure drop	max. 0,9 bar (at above flow rate)

Heating	Value
Max. operating pressure	6 bar
Pressure drop heating primary	0,6 bar

Electric heater	Value
Operating pressure	minimum: 0,4 bar maximum 6,0 bar (in high-rise buildings system separation is required)
Power output	14,4 kW
Power supply	3N 230 V/400 V AC
Protection class electrical	IP20
Required fuse/s	25 A
Minimum cable cross-section for three-phase power supply	5 x 4 mm²
Buil-in 3-p MCB (6 kA) with shunt trip release	25 A
Safety thermostat	activated at 80 °C

Controller	Value
Power supply	230 V AC, 50 Hz

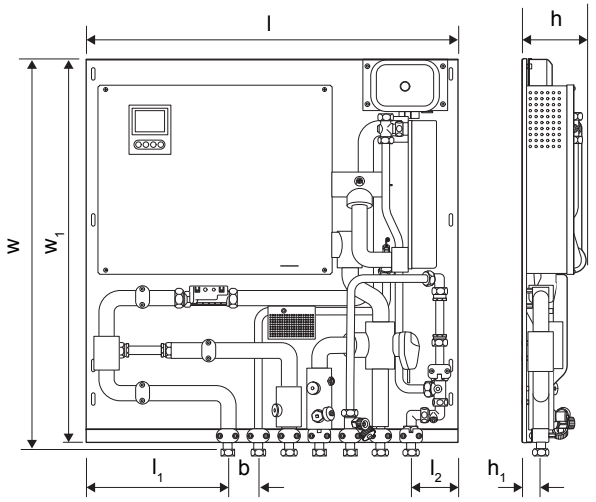
Material	Value
Fittings, domestic water	CW617N
Fittings, heating	CW617N, CW614N
Flat gaskets	refer to DVGW KTW, W270
Plate heat exchanger	1.4404 Stainless steel, silicon dioxide coated (Sealix®)
Pipes	1.4404 Stainless steel

10.2 Dimensional drawings

Note

The illustrations below show example setups. The individual modules can have different appearances.

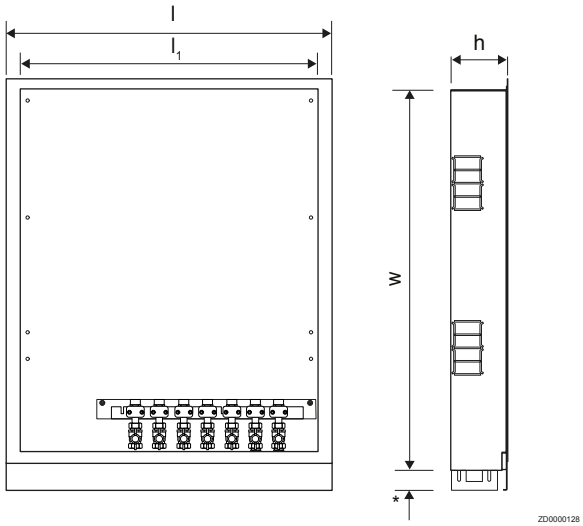
Dimensions HIU



l¹	l1¹	l2¹	b¹	w¹	w1¹	h¹	h1¹
790	300	100	65	833	815	147	40

¹All dimensions are given in mm.

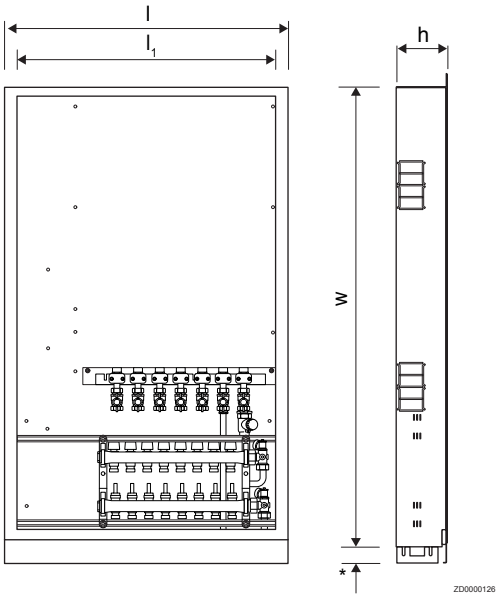
Dimensions short in-wall cabinet



l¹	l1¹	w¹	h¹
855	810	1030	150

¹All dimensions are given in mm.
* Floor construction height

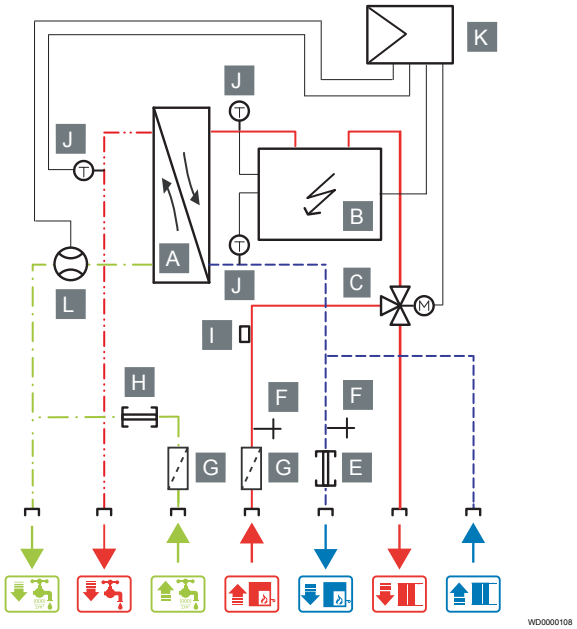
Dimensions high in-wall cabinet



l¹	l1¹	w¹	h¹
855	810	1390	150

¹All dimensions are given in mm.
* Floor construction height

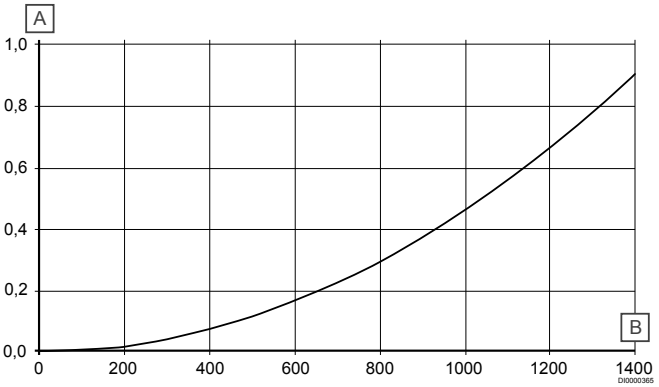
10.3 Hydraulic schemes



Item	Description
A	Heat exchanger
B	Electric heater (booster)
C	Motor valve
E	Heat meter distance piece
F	Draining and filling valve
G	Strainer
H	Water meter distance piece
I	Sensor pocket heat meter M10 x 1
J	Temperature sensor
K	Controller
L	Flow meter, Temperature sensor

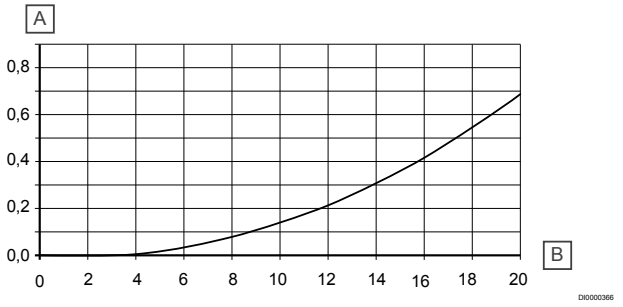
10.4 Pressure drop

Pressure drop - Heating side (primary)



Item	Description
A	Pressure drop [bar]
B	Primary heating demand [l/h]

Pressure drop - Domestic hot water side (secondary)

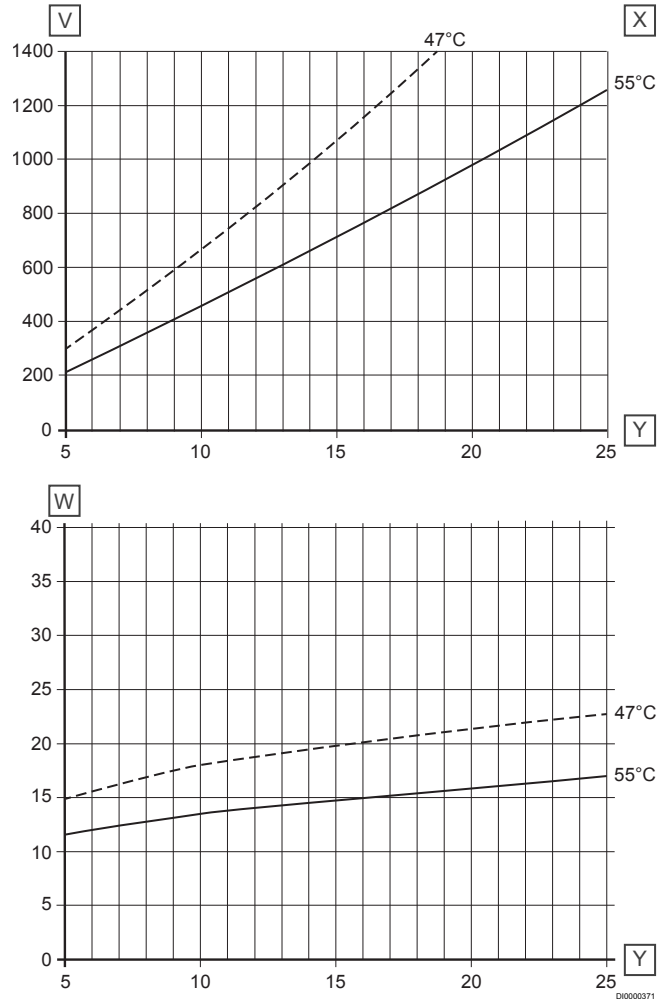


Item	Description
A	Pressure drop [bar]
B	Tapping capacity [l/min]

10.5 Performance curves

Performance curves and return temperatures 32 K

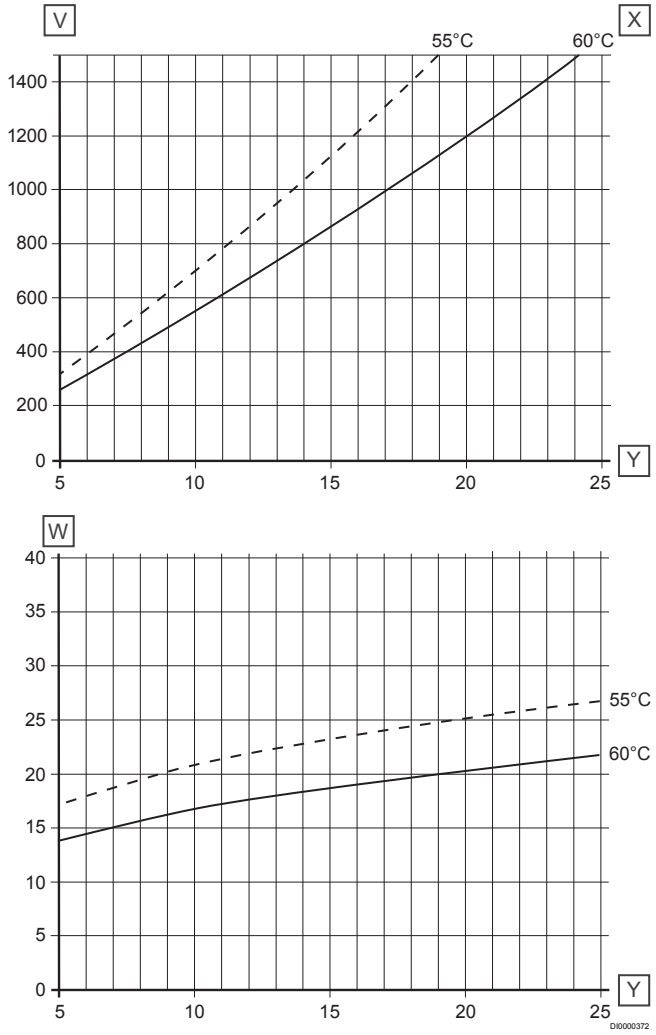
Cold water warming 32 K (10-42 °C)



Item	Description
V	Primary heating demand [l/h]
W	Return temperature [°C]
X	Primary heating supply temperatures
Y	Tapping capacity [l/min]

Performance curves and return temperatures 40 K

Cold water warming 40 K (10-50 °C)

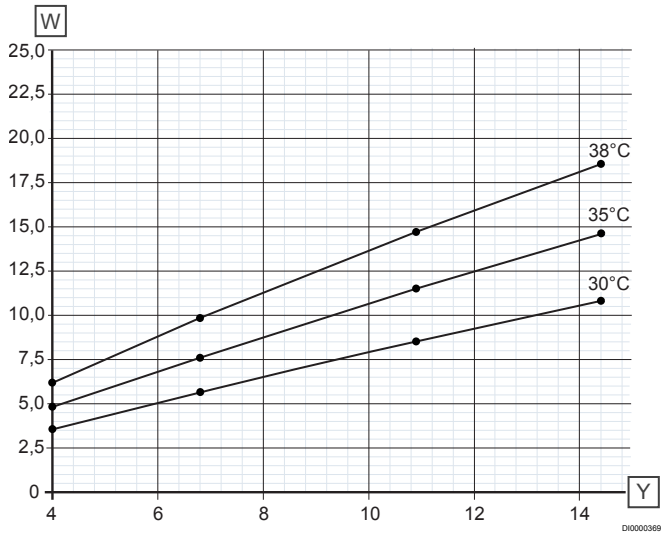


Item	Description
V	Primary heating demand [l/h]
W	Return temperature [°C]
X	Primary heating supply temperatures
Y	Tapping capacity [l/min]

10.6 Tapping capacity

Tapping capacity at water warming of 32 K

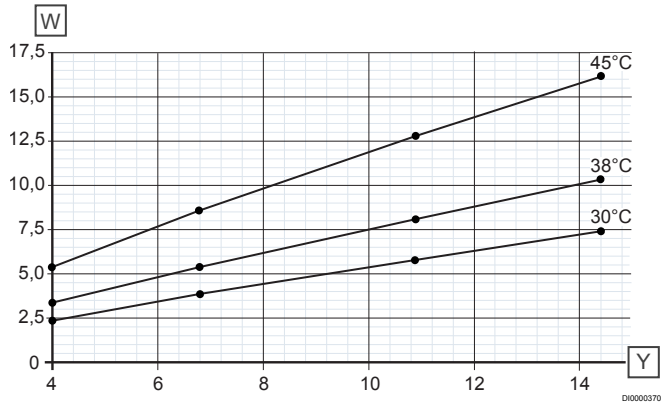
This diagram shows the tapping capacity [l/min] in relation to the power output of the electric heater at different primary heating water temperatures (input from heat pump 30/35/38 °C) and a water warming of 32 K for domestic cold water.



Item	Description
W	Tapping capacity [l/min]
Y	Power input needed [kW]

Tapping capacity at water warming of 40 K

This diagram shows the tapping capacity [l/min] in relation to the power output of the electric heater at different primary heating water temperatures (input from heat pump 30/38/45 °C) and a water warming of 40 K for domestic cold water.



Item	Description
W	Tapping capacity [l/min]
Y	Power input needed [kW]

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