Uponor Combi Port M-Pro

EN Installation and operation manual

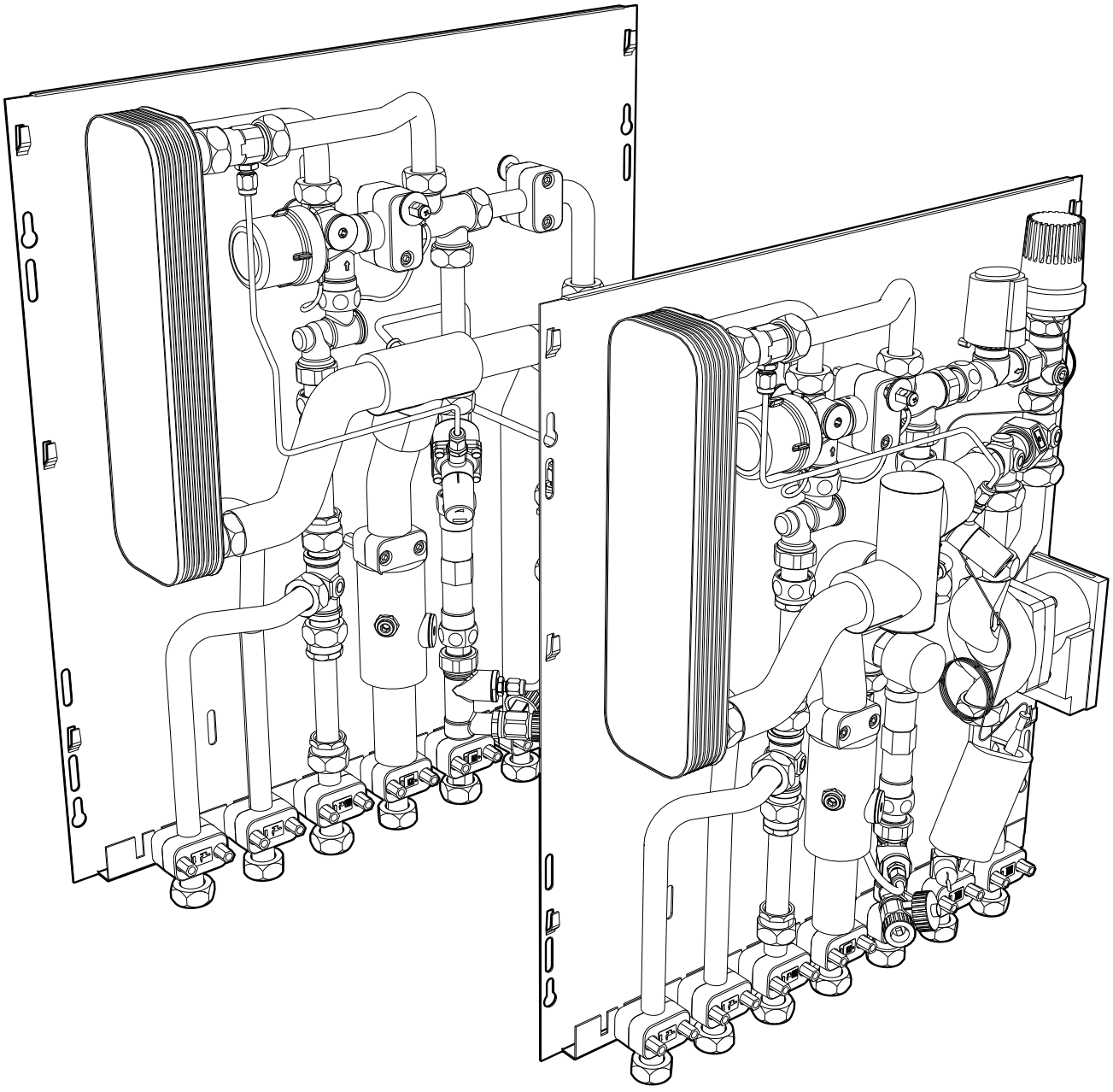

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Table of contents

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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

STOP	**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

STOP	**Warning!** Risk of electric shock if touching the components! The unit operates with a 230 V AC voltage.
STOP	**Warning!** Risk of electrical shock! Electrical installation and service behind secured 230 V AC covers must be carried out under the supervision of a qualified electrician.
STOP	**Warning!** Uponor system power supply: 230 V AC, 50 Hz. In case of emergency, immediately disconnect the power.
STOP	**Warning!** Prior to any work on the controller or the components connected to it, switch off the controller according to the regulations.

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.

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.

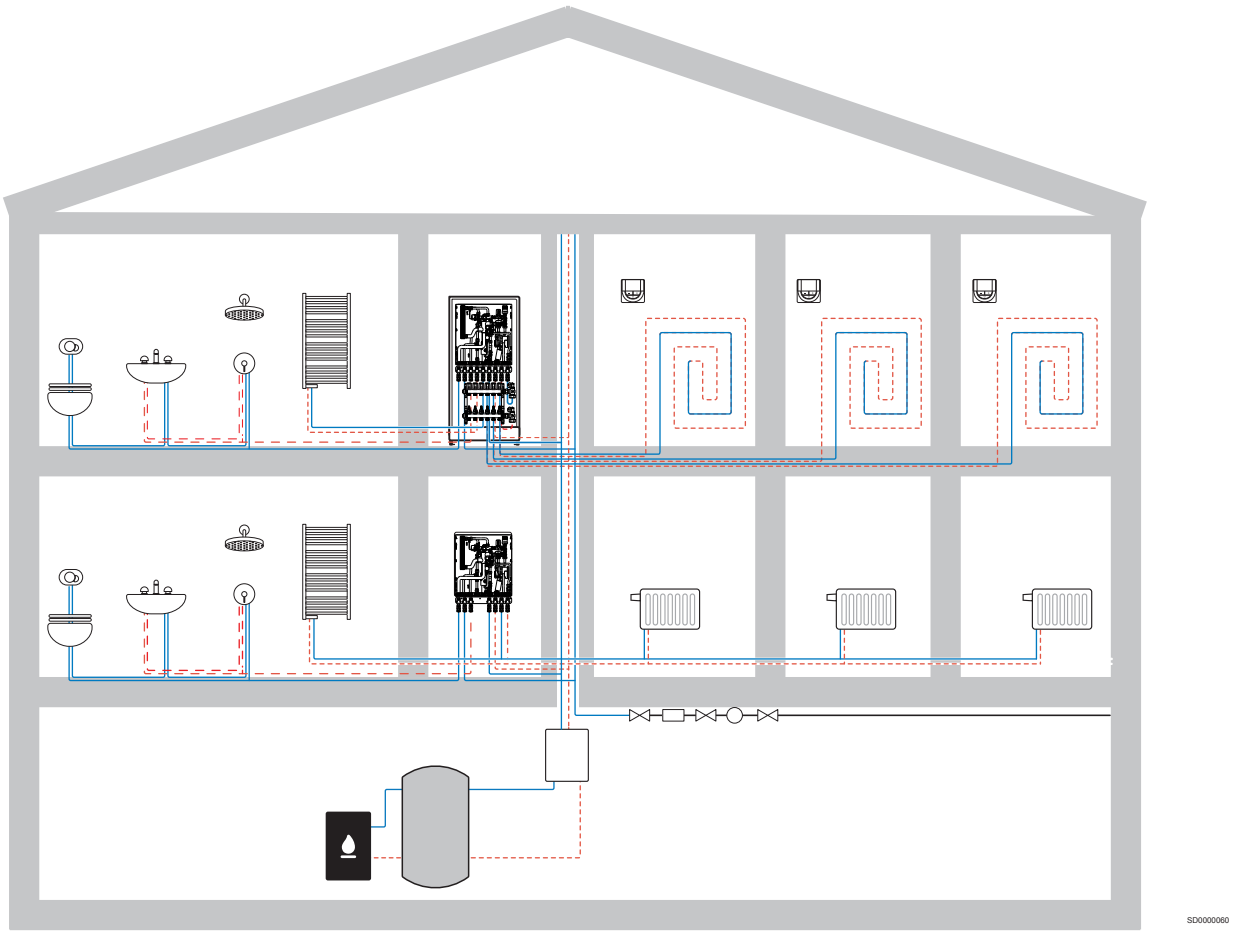
Household users should contact the retailer where they purchased this product, or their local government office, for details on where and how they can take it for recycling.

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

Combi Port M-Pro is a prefabricated heating cabinet suited for use in multifamily houses or large residential buildings due to enormous time and cost savings. The ready-to-install heat interface unit supplies domestic hot water and control of the domestic heating system, measurement of heating energy and cold water consumption.

3.1 Operating principle



3.2 Functional description

In the Combi Port M-Pro heat interface unit, the cold water is heated only when required in the flow-through principle via a stainless steel high performance plate heat exchanger. This always ensures a low return temperatures of the heating water. The energy is supplied by heating water with a flow temperature of at least 55 °C via the heating water flow.

Domestic hot water: The domestic hot water is generated only on demand. A mechanical proportional quantity control valve is controlling the process. When more hot water is required, the valve opens further to increase the flow of the heating water through the heat exchanger. This ensures a constant hot water temperature. If no hot water is needed, the valve stops the supply of heating water through the heat exchanger. It can cool down which is beneficial for the hygiene.

Domestic heating: A hydraulic balancing of the domestic heating circuit for hot water preparation within the heat interface unit can be carried out with the control valves. The room temperature control is carried out in the underfloor heating system in connection with either Uponor Smatrix or Uponor Base flexiboard.

The Combi Port M-Pro is available in two different versions, in-wall and on-wall installation, for most common situations. When delivered to the construction site the cabinet is ready for installation following the customer's speficications.

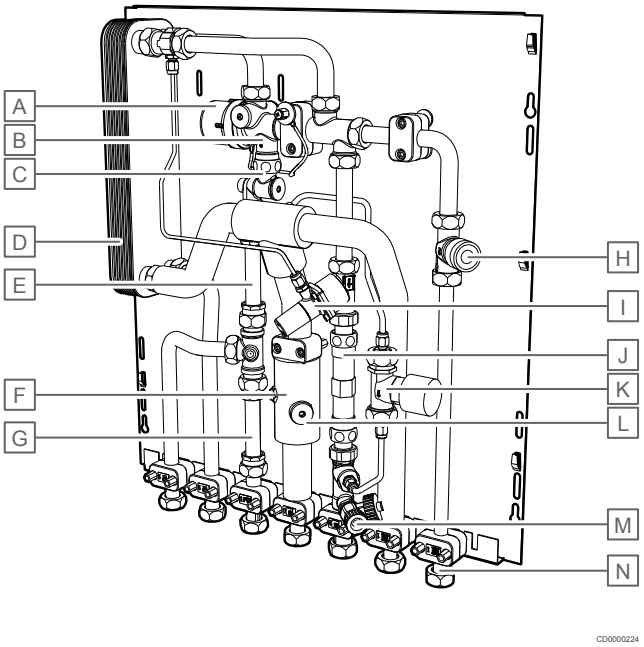
3.3 Components

Note

The following illustrations show example set-ups for all units. Individual components may vary in appearance.

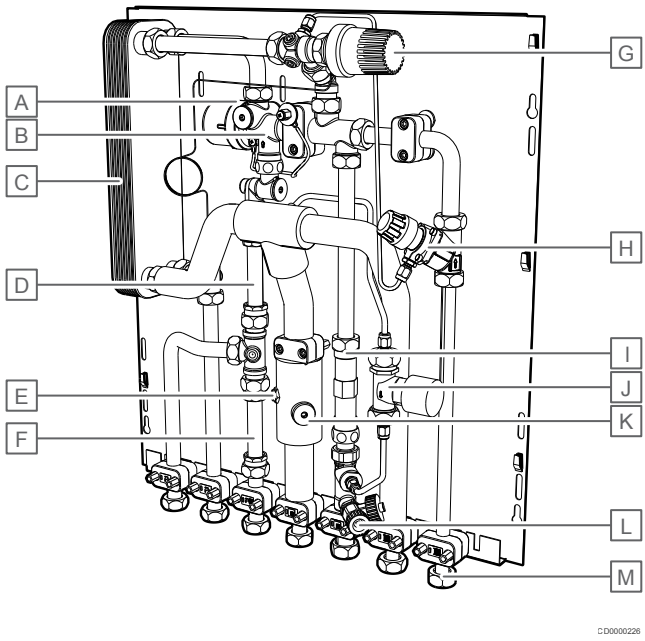
The Combi Port M-Pro units are divided into two groups, for radiator connections (RC) and for underfloor heating (UFH).

Combi Port M-Pro RC



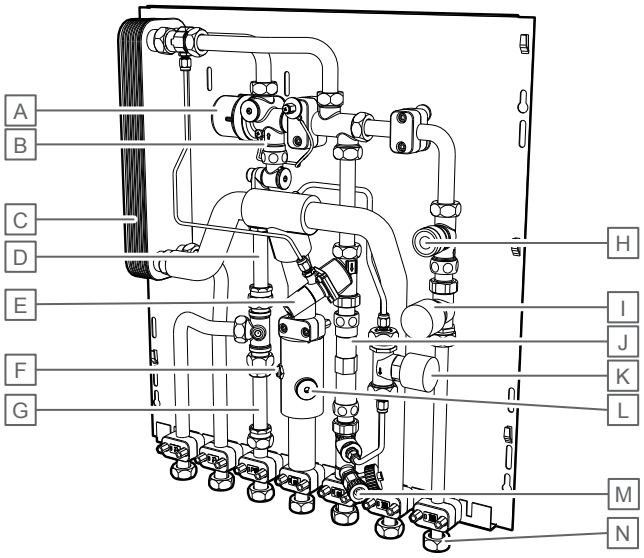
Item	Description
A	Proportional volume control (PM)
B	Cold water throttle disc
C	Strainer
D	Plate heat exchanger
E	Hot water meter distance piece
F	Sensor pocket heat meter
G	Cold water meter distance piece
H	Zone valve for limiting heating flow to apartment
I	Differential pressure regulator
J	Heat meter distance piece
K	Thermostatic lead module (BP)
L	Strainer
M	Draining and filling valve
N	Connection, ball valve

Combi Port M-Pro RC-TL



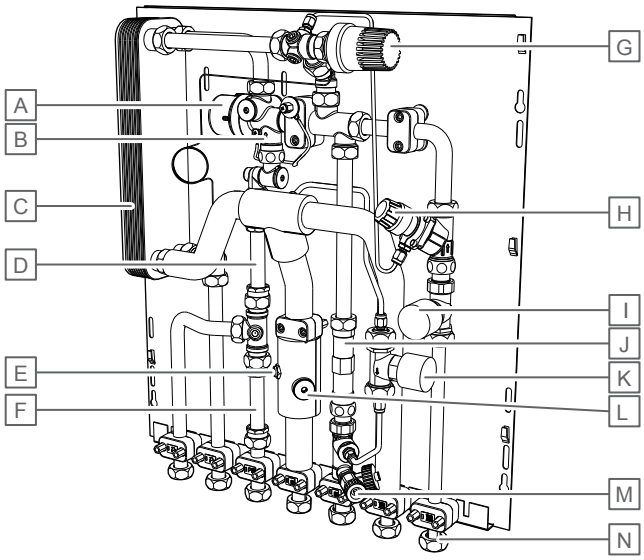
Item	Description
A	Proportional volume control (PM)
B	Cold water throttle disc
C	Plate heat exchanger
D	Hot water meter distance piece
E	Sensor pocket heat meter
F	Cold water meter distance piece
G	Thermostatic hot water temperature limiter (TL)
H	Differential pressure regulator
I	Heat meter distance piece
J	Thermostatic lead module (BP)
K	Strainer
L	Draining and filling valve
M	Connection, ball valve

Combi Port M-Pro RC-RL



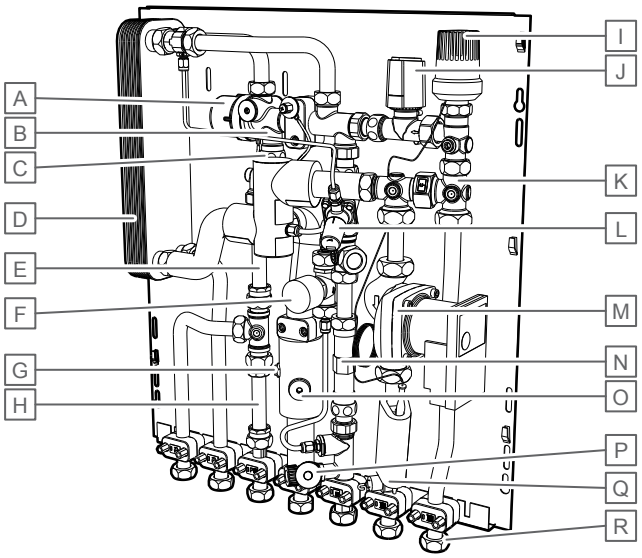
Item	Description
A	Proportional volume control (PM)
B	Cold water throttle disc
C	Plate heat exchanger
D	Hot water meter distance piece
E	Differential pressure regulator
F	Sensor pocket heat meter
G	Cold water meter distance piece
H	Zone valve for limiting heating flow to apartment
I	Return temperature limiter (RL)
J	Heat meter distance piece
K	Thermostatic lead module (BP)
L	Strainer
M	Draining and filling valve
N	Connection, ball valve

Combi Port M-Pro RC-TL-RL



Item	Description
A	Proportional volume control (PM)
B	Cold water throttle disc
C	Plate heat exchanger
D	Hot water meter distance piece
E	Sensor pocket heat meter
F	Cold water meter distance piece
G	Thermostatic hot water temperature limiter (TL)
H	Differential pressure regulator
I	Return temperature limiter (RL)
J	Heat meter distance piece
K	Thermostatic lead module (BP)
L	Strainer
M	Draining and filling valve
N	Connection, ball valve

Combi Port M-Pro UFH



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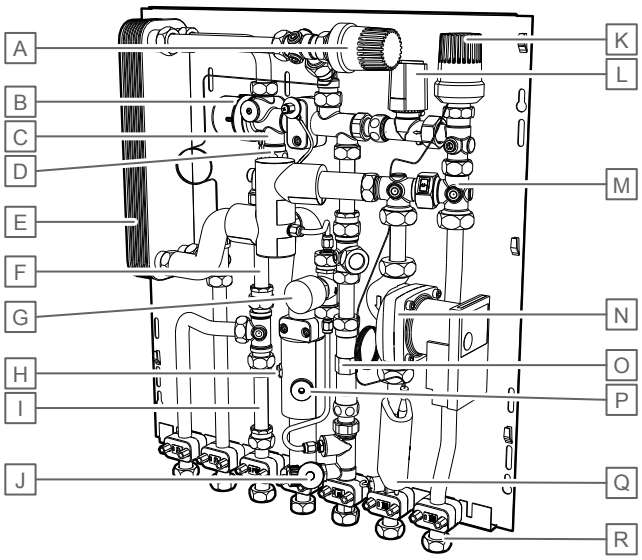
Item	Description
A	Proportional volume control (PM)
B	Cold water throttle disc
C	Strainer
D	Plate heat exchanger
E	Hot water meter distance piece
F	Thermostatic lead module (BP)
G	Sensor pocket heat meter
H	Cold water meter distance piece
I	Thermostatic regulation
J	Zone valve for limiting heating flow to apartment
K	Back flow preventer in the screw connection
L	Differential pressure regulator
M	Pump
N	Heat meter distance piece
O	Strainer
P	Draining and filling valve
Q	Safety temperature limiter
R	Connection, ball valve

Combi Port M-Pro UFH-TL



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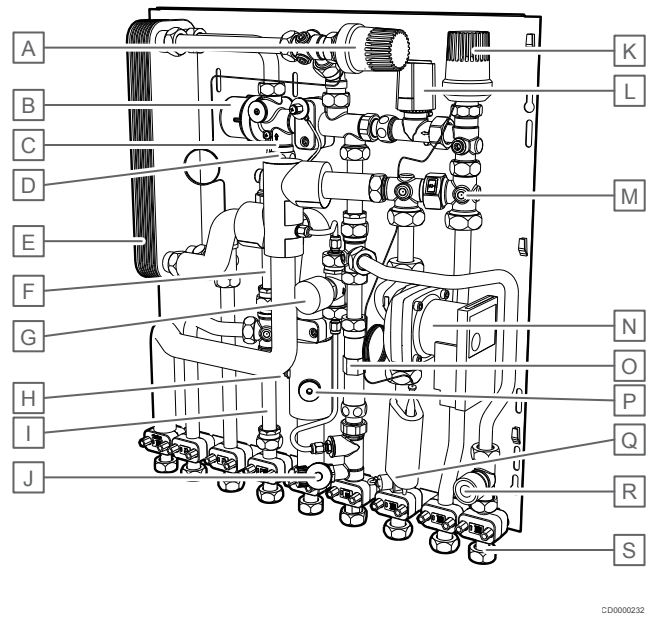
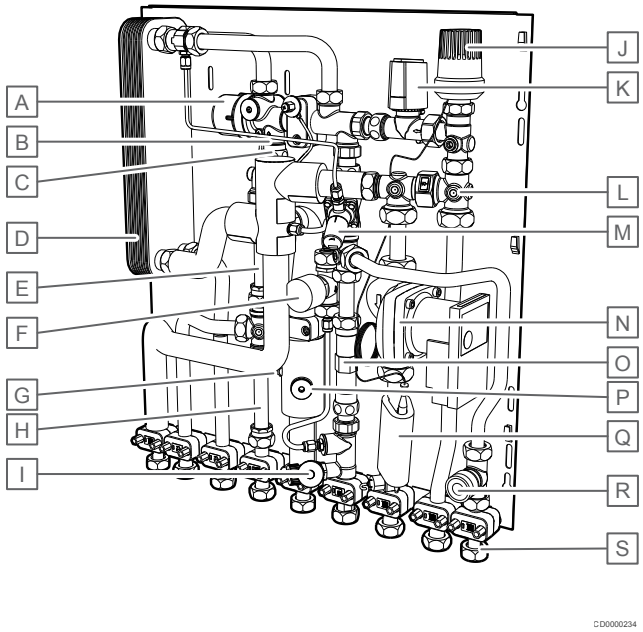
Item	Description
A	Thermostatic hot water temperature limiter (TL)
B	Proportional volume control (PM)
C	Cold water throttle disc
D	Strainer
E	Plate heat exchanger
F	Hot water meter distance piece
G	Thermostatic lead module (BP)
H	Sensor pocket heat meter
I	Cold water meter distance piece
J	Draining and filling valve
K	Thermostatic regulation
L	Zone valve for limiting heating flow to apartment
M	Back flow preventer in the screw connection
N	Pump
O	Heat meter distance piece
P	Strainer
Q	Safety temperature limiter
R	Connection, ball valve

Combi Port M-Pro UFH-TL-Additional heating



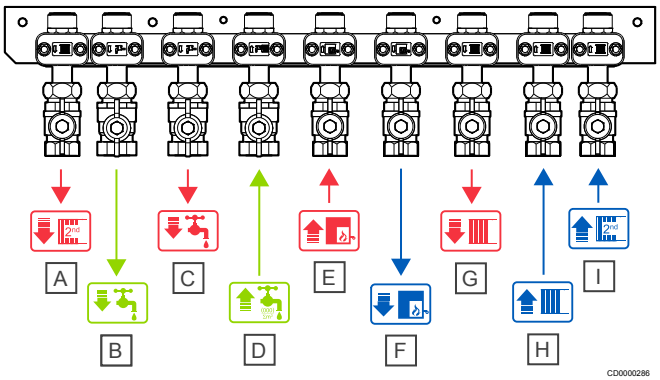
Item	Description
A	Thermostatic hot water temperature limiter (TL)
B	Proportional volume control (PM)
C	Cold water throttle disc
D	Strainer
E	Plate heat exchanger
F	Hot water meter distance piece
G	Thermostatic lead module (BP)
H	Sensor pocket heat meter
I	Cold water meter distance piece
J	Draining and filling valve
K	Thermostatic regulation
L	Zone valve for limiting heating flow to apartment
M	Back flow preventer in the screw connection
N	Pump
O	Heat meter distance piece
P	Strainer
Q	Safety temperature limiter
R	Zone valve for limiting heating flow to apartment
S	Connection, ball valve

Combi Port M-Pro UFH-Additional heating



Item	Description
A	Proportional volume control (PM)
B	Cold water throttle disc
C	Strainer
D	Plate heat exchanger
E	Hot water meter distance piece
F	Thermostatic lead module (BP)
G	Sensor pocket heat meter
H	Cold water meter distance piece
I	Draining and filling valve
J	Thermostatic regulation
K	Zone valve for limiting heating flow to apartment
L	Back flow preventer in the screw connection
M	Differential pressure regulator
N	Pump
O	Heat meter distance piece
P	Strainer
Q	Safety temperature limiter
R	Zone valve for limiting heating flow to apartment
S	Connection, ball valve

Connection description



Item	Description
A	Heating circuit supply (secondary, 2nd)
B	Cold water to apartment (CW)
C	Domestic hot water to apartment (DHW)
D	Cold water from riser (CW)
E	Heating supply (primary)
F	Heating return (primary)
G	Heating supply (secondary)
H	Heating return (primary)
I	Heating circuit return (secondary, 2nd)

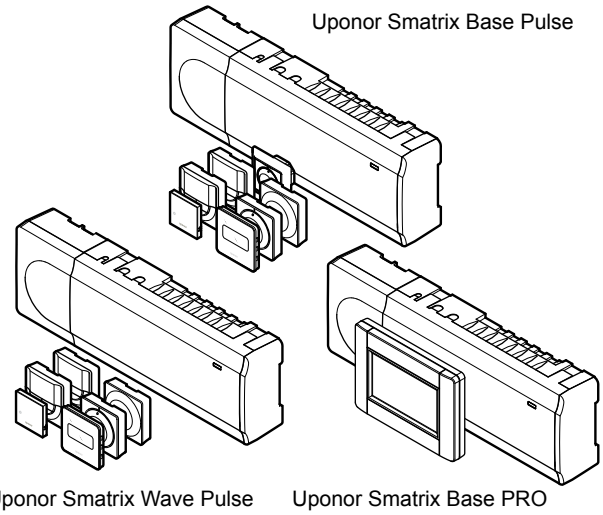
3.4 Optional components

Room temperature control

Note

Thermostats and remote control modules are not part of the 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	✓	✓	✓

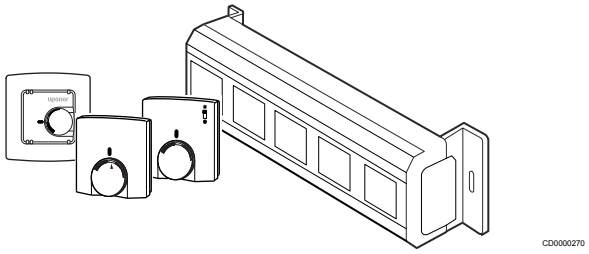
Installation and configuration functions	Wave Pulse	Base Pulse	Base PRO
Installation wizard	✓	✓	
Offline configuration	✓	✓	
Over-the-air updates	✓	✓	
Remote support	✓	✓	

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.

3.5 Spare parts

For spare parts to the Combi Port units, see separate price list.

4 Prepare for installation

4.1 General information

STOP	**Warning!** The fittings are under pressure. Escaping pressurized 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.
STOP	**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 in the unit may occur during transport or installation. Check the nuts to ensure that they are properly tightened before the connection to avoid property damages.

Before installing the heat interface unit ensure that:

- the primary pipes are laid in the building site.
- the primary pipe installation is flushed and checked for leaks.
- the power and ground cables are routed to the installation site.
- the unit can be installed in a dry and frost-free room with an ambient temperature lower than +40 °C.
- the unit can be installed upright (not inclined, upside down or lying down).
- the unit is always easy to access even after the assembly.

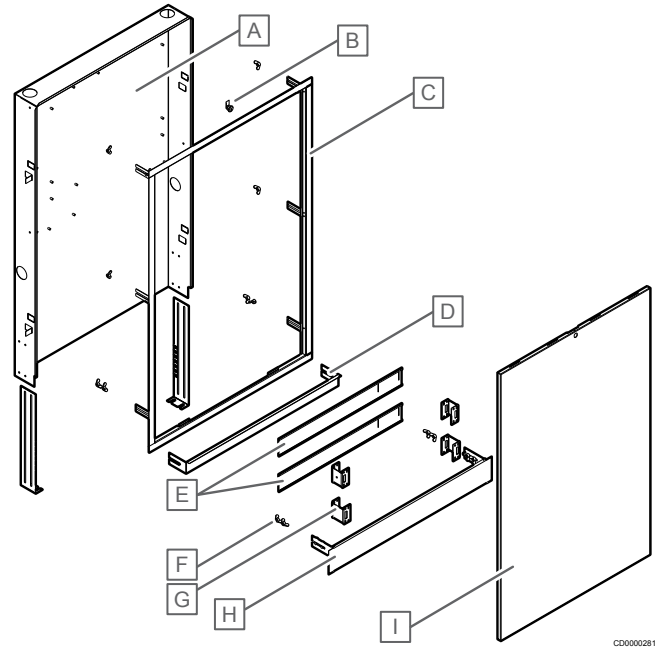
4.2 Water analysis

A water analysis of the tap water must be checked before using the device. The limit values can be found in our technical information. The heating water quality must be in accordance to VDI 2035. In case of warranty claims, the report must be presented.

5 Mechanical installation

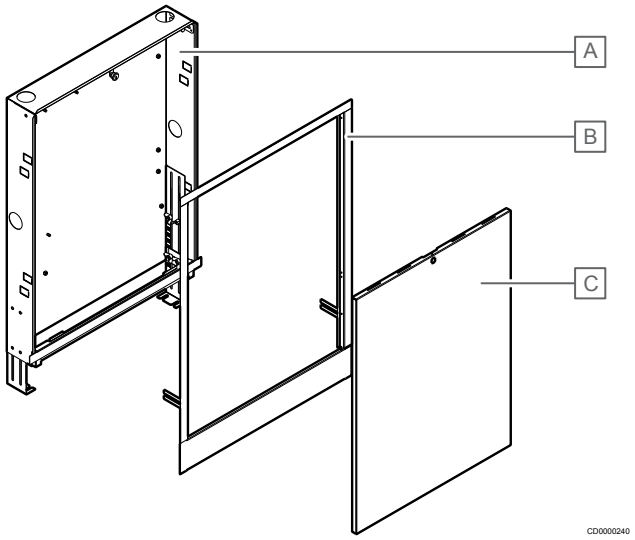
5.1 In-wall installation

Included parts



Item	Description
A	Cabinet body
B	Coin lock
C	Frame
D	Supporting plate for dry construction
E	Bracket without hole
F	Wingnut
G	Bracket with hole
H	Screed baffle plate
I	Door

Preparations



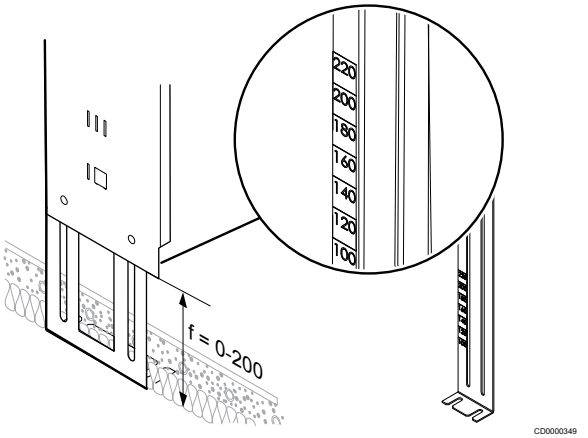
Item	Description
A	Cabinet body
B	Frame
C	Door

1. Dismount the frame and door.
2. Store the frame and door for later mounting.

Adjusting the in-wall cabinet

Hight and depth of the in-wall cabinets are adjustable inside the opening.

The opening height is calculated using the floor height and is measured from the bare floor. The specified floor installation height has to be set according to the values visible on the feet.

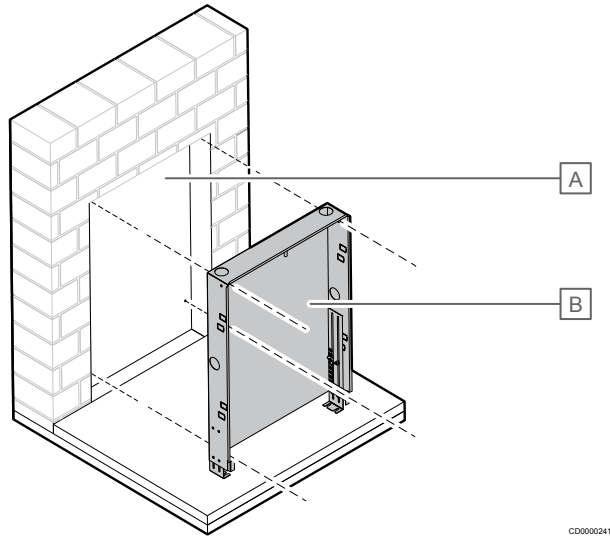


Dimensions of in-wall cabinet (width x hight x depth) in mm	Dimensions opening (width x hight x depth) in mm
610 x 840 x 110	630 x (840 + 30 + f) x 115
750 x 1190 x 110	770 x (1190 + 30 + f) x 115

Install the in-wall cabinet

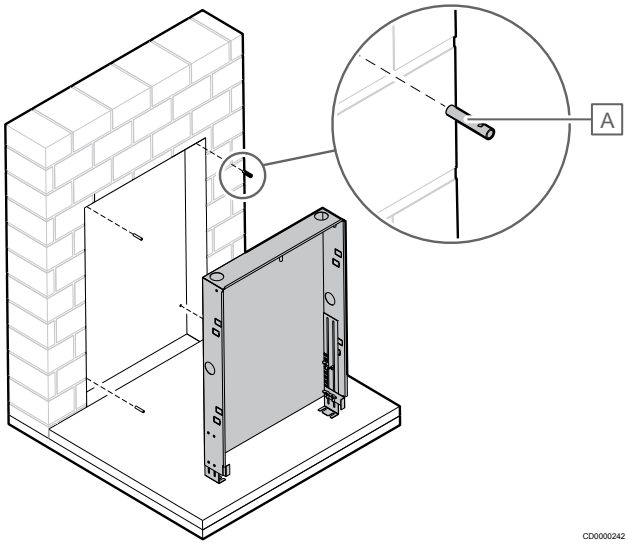
Note

For freestanding installations, set the height according to the table and adjust the feet accordingly. Pay attention to the horizontal alignment.



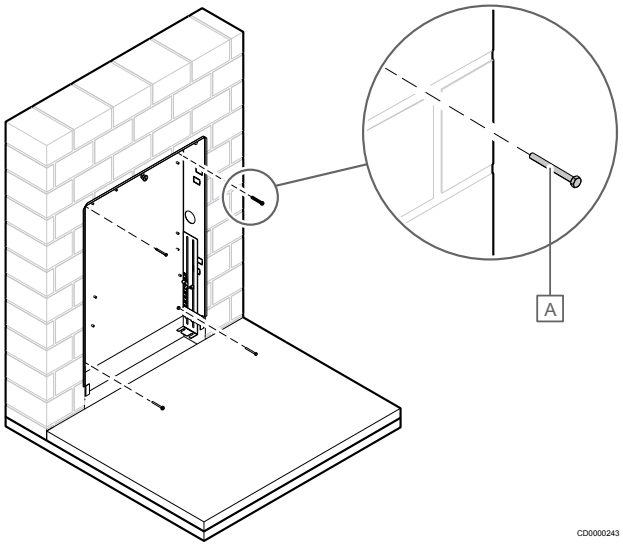
Item	Description
A	Wall aperture
B	In-wall mounted cabinet

1. Mark the hole positions in the wall opening using the in-wall cabinet holes as a pattern.
2. Drill holes suitable for the wall plugs.



Item	Description
A	Wall plug (4 pcs)

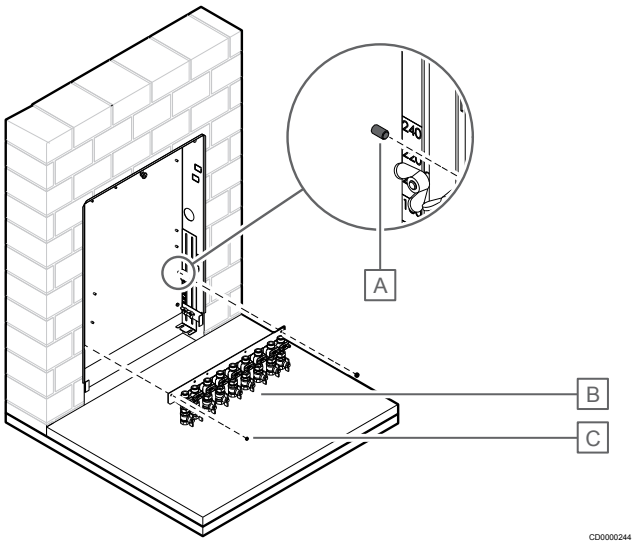
3. Mount the included wall plugs in the drilled holes and place the cabinet body in the wall opening.



Item	Description
A	Hexagon screws (4 pcs)

4. Secure the cabinet body to the wall opening with the included hexagon screws.

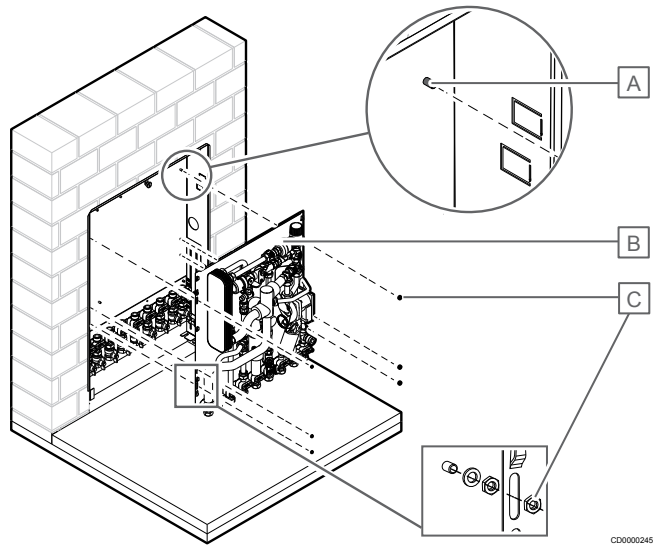
Install the connection rail



Item	Description
A	Fixed bolt
B	Connection rail
C	Nut (2 pcs)

1. Mount the connection rail to the fixed bolts on the cabinet wall with the included nuts. Tighten the nuts.
2. Connect all pipes to the screw connections.

Install the heat interface unit



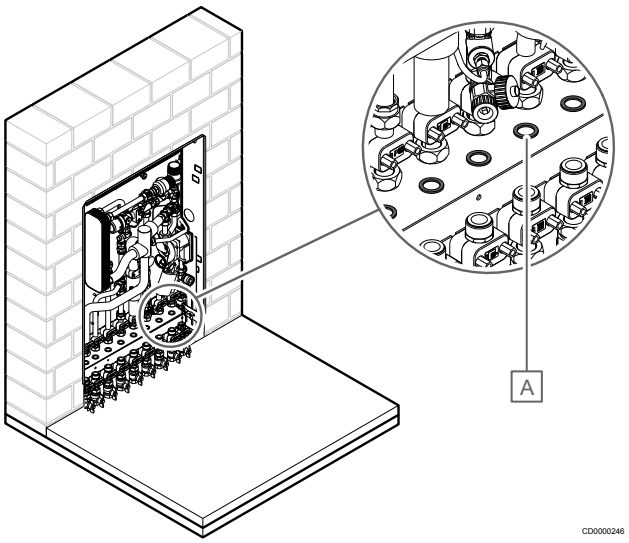
Item	Description
A	Fixed bolts
B	Heat interface unit
C	Hexagon nut (6 pcs)

1. Install the heat interface unit on the fixed bolts in the cabinet with the 6 included nuts.
2. Tighten the hexagon nuts.

Note

Check the flat gasket/-s for damage.

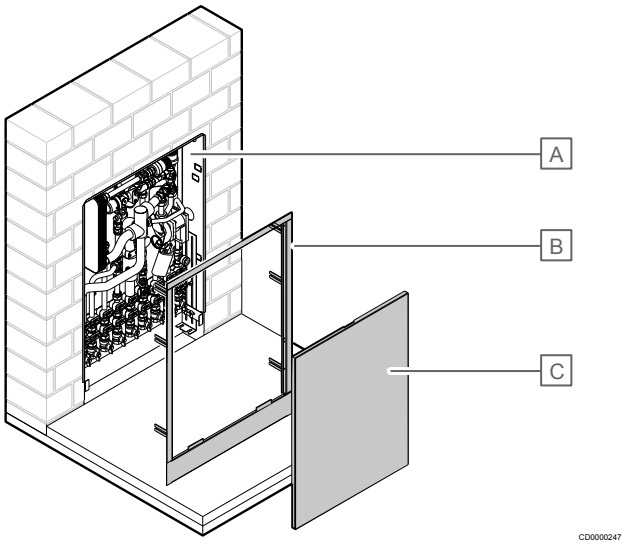
Place a flat gasket on each of the connection rail ¾" screw connections.



Item	Description
A	Flat gasket

4. Tighten the ¾" swivel nuts.

Install the frame and door to the cabinet



Item	Description
A	In-wall cabinet
B	Frame
C	Door

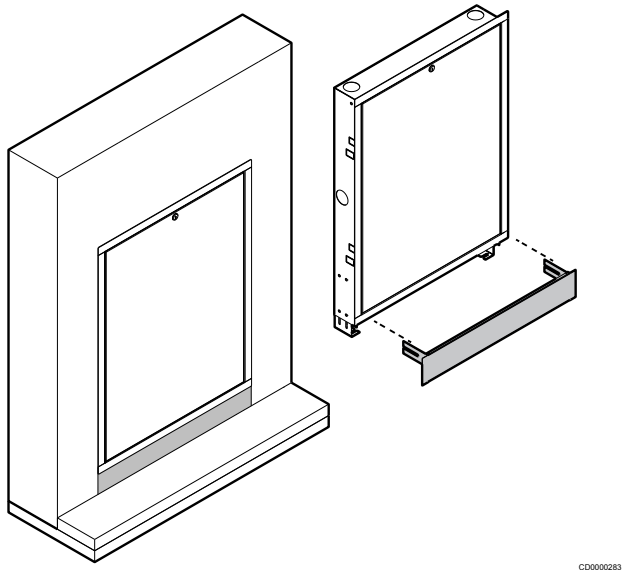
1. Attach the frame to the cabinet body using wing nuts.
2. Mount the door in the frame by fitting the two frame brackets into the recesses in the door.

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.

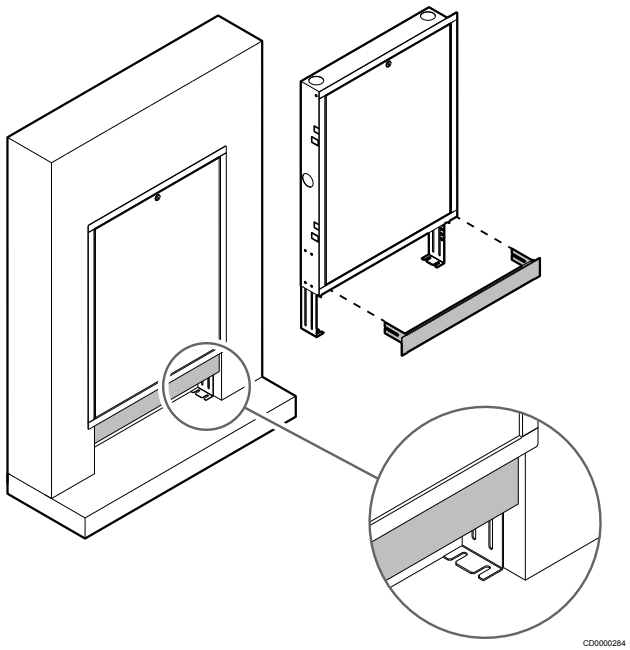
- **Wide** = screed baffle plate
- **Narrow** = supporting plate for dry construction

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.

5.2 On-wall installation

Note

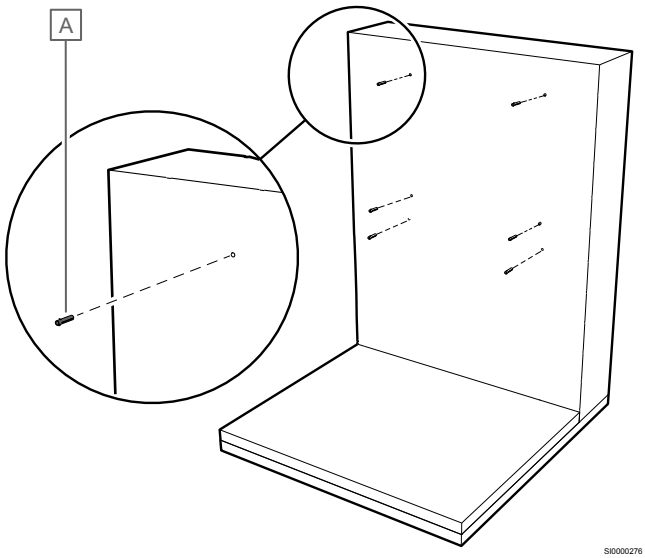
For disassembling the on-floor cabinet, leave **3 cm** space above and to the sides.

The on-wall mounted cabinets are equipped with venting systems to prevent unnecessary build-up of heat and condensation.

Note

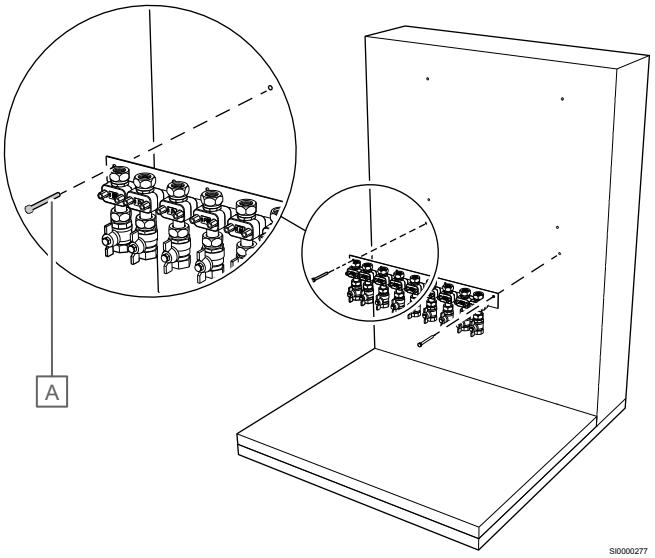
See the dimensional drawings for measurements. Pay attention to the horizontal alignment.

Assembling the on-wall connection rail



Item	Description
A	Wall plug (6 pcs)

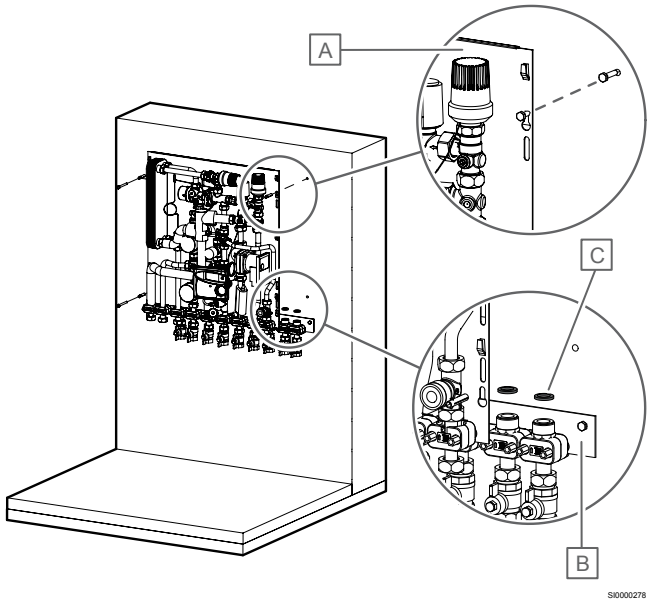
1. Mark the hole positions on the wall and drill holes using a **6 mm** drill.
2. Insert the wall plugs in the drilled holes.
3. Attach the on-wall rail to the wall using the hexagon screws.



Item	Description
A	Hexagon screw (2 pcs)

4. Connect all pipes to the on-wall rail.

Install the heat interface unit



Item	Description
A	Heat interface unit
B	Connection rail
C	Flat gasket

Note

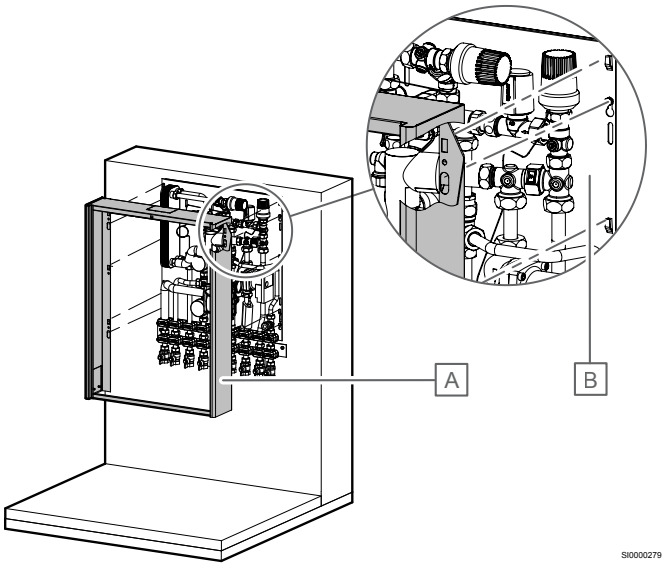
Check the flat gasket/-s for damage.

1. Mount the heat interface unit to the wall using the hexagon screws.
2. Place a flat gasket on each of the connection rail ¾" screw connections.
3. Tighten the ¾" swivel nuts.

Install the on-wall covering

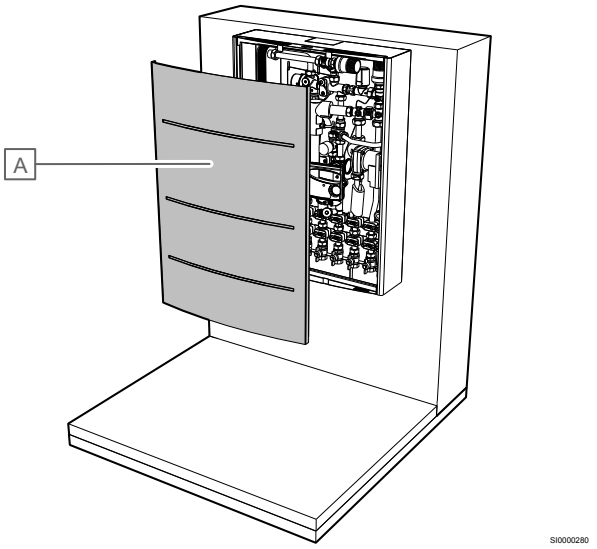
Caution!

Mount according to the condition of the walls and supports



Item	Description
A	Frame
B	Base sheet

1. Hang the on-wall frame on to the lateral strips of the base sheet.

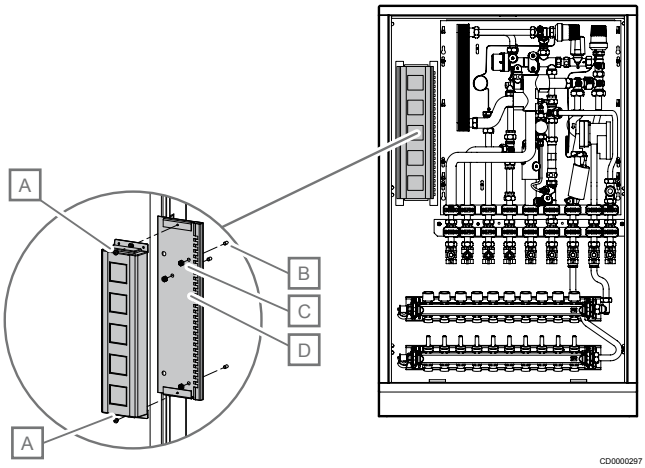


Item	Description
A	Door

5.3 Installation of optional components

In-wall installation

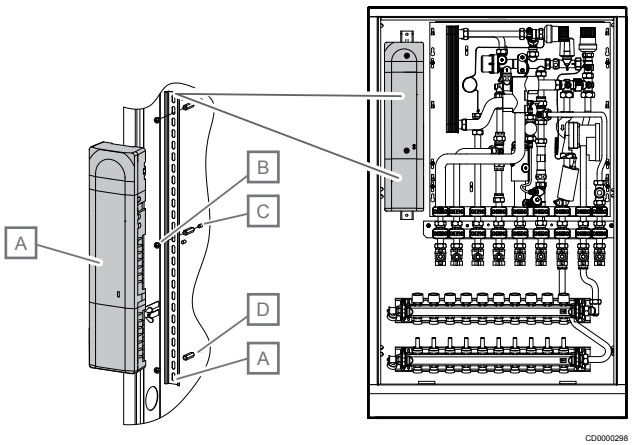
Uponor Base flexiboard



Item	Description
A	Uponor Base flexiboard room controller including screws
B	Bolt in wall cover
C	Nut
D	Mounting plate

1. Attach the mounting plate to the bolts.
2. Screw the nuts onto the bolts.
3. Attach the Uponor Base flexiboard room controller onto the mounting plate with the screws provided.

Uponor Smatrix

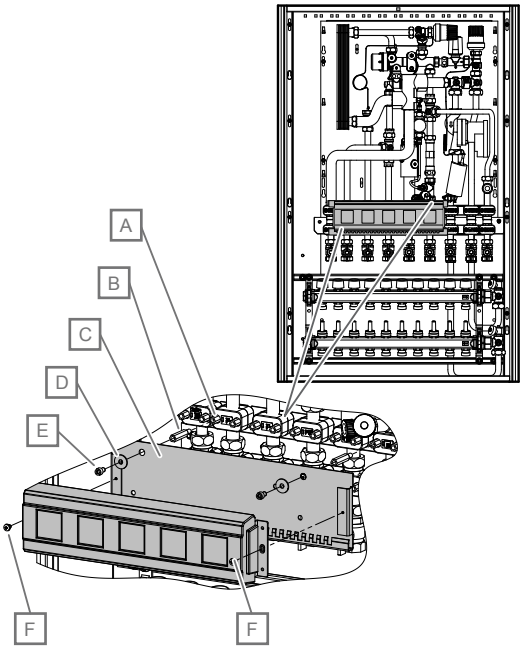


Item	Description
A	Uponor Smatrix Wave Pulse room controller
B	Bolts
C	Bolts
D	Distance nut

1. Fasten the distance nuts on the bolts.
2. Fasten the DIN rail with the bolts on the distance nuts.
3. Attach the Uponor Smatrix room controller to the DIN rail.

On-wall installation

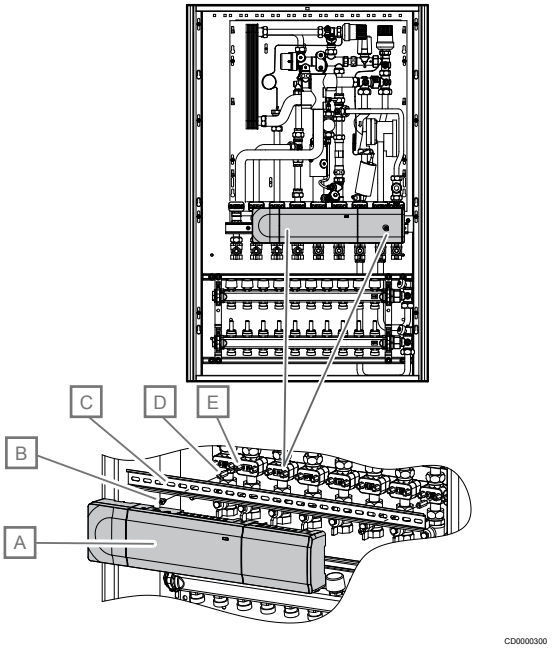
Uponor Base flexiboard



Item	Description
A	Distance nut
B	Distance bolt
C	Mounting plate
D	Washer
E	Bolt
F	Uponor Base flexiboard room controller including screws

1. Fasten the distance bolts on the distance nuts.
2. Mount the mounting plate using the washers and the bolts.
3. Attach the Uponor Base flexiboard room controller onto the mounting plate with the screws provided.

Uponor Smatrix



Item	Description
A	Uponor Smatrix Wave Pulse room controller
B	Bolts
C	DIN rail
D	Distance nut
E	Spacer

1. Mount the distance nuts on the bolts.
2. Fasten the DIN rail with the bolts on the distance nuts.
3. Attach the Uponor Smatrix controller to the DIN rail.

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
Uponor Base Flexiboard

www.uponor.com/services/download-centre

6 Finishing installation

Warning!

Leaks can cause personal injury and property damages.

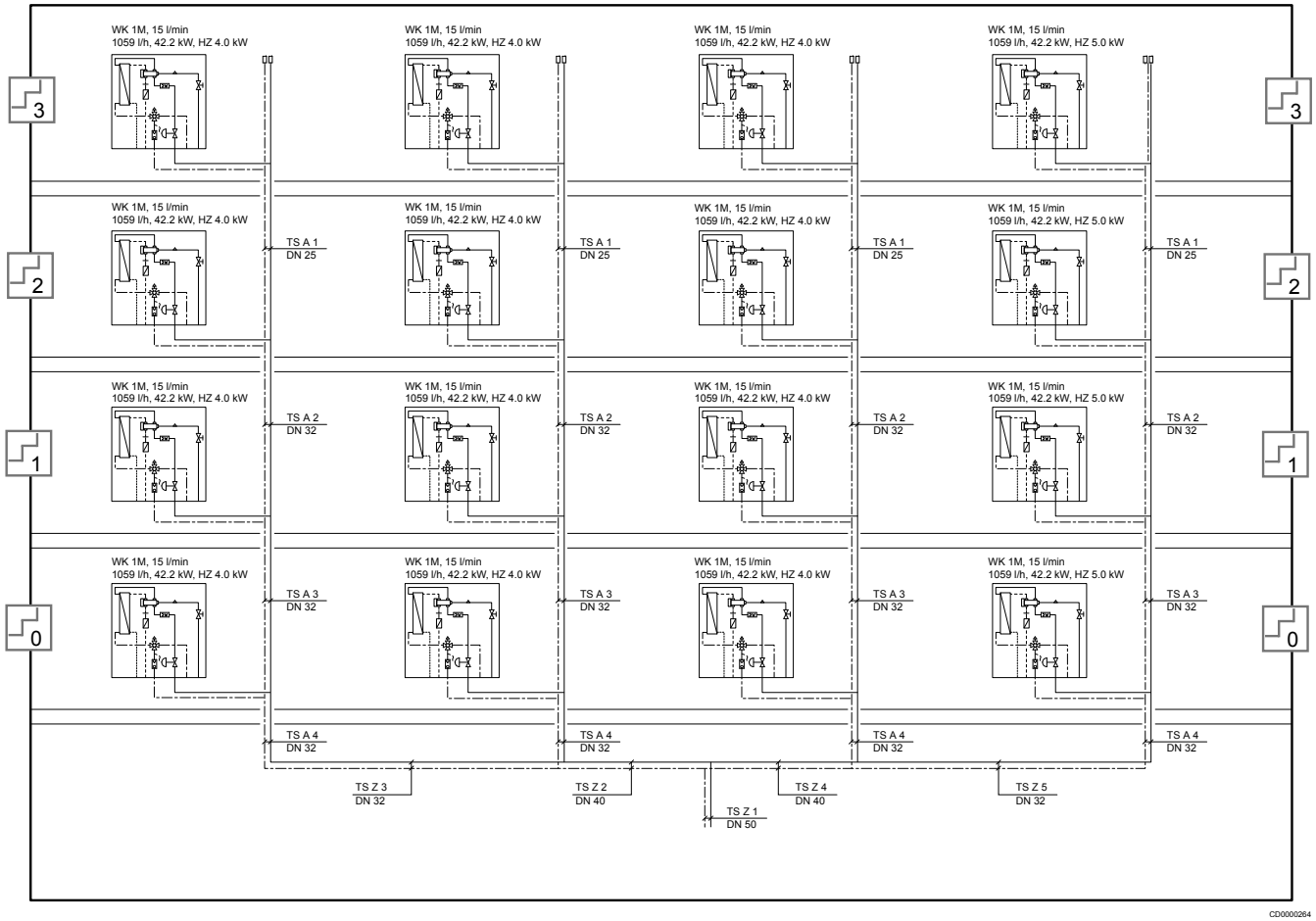
Note

Install the pipes in accordance with the planning documentation.

To ensure proper functionality for the heating system, 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** pipes. Contact manufacturer for more information.

- Connect the hydraulics correctly.
- When connecting the pipes, use the supplied gaskets.
- Connect the heating supply, heating return and the hot and cold water.
- Install a filling and draining valve on site at a suitable central point to fill the central heating system.
- See the hydraulic scheme as an installation guide example.



6.1 Visual inspection

Caution!

Incorrect finishing of the installation can lead to property damage.

Note

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

Finish the installation by following these steps:

1. Check the complete installation:
   - 1.1. Make sure that the hydraulics are connected correctly.
   - 1.2. Check that any dirt accumulated during installation and/ or dust on the unit has been removed properly. Check strainers and, if necessary, flush/ clean them.
   - 1.3. Check the tightness of all gaskets on pipe - and device connections and tighten them if necessary. When tightening connections, always lock the opposite side.
   - 1.4. Optional: Check that all electrical connections have been made correctly, including polarity of the mains connection and that earthing is assured.
2. Check that the installation is filled/ flushed and vented.

7 Operation

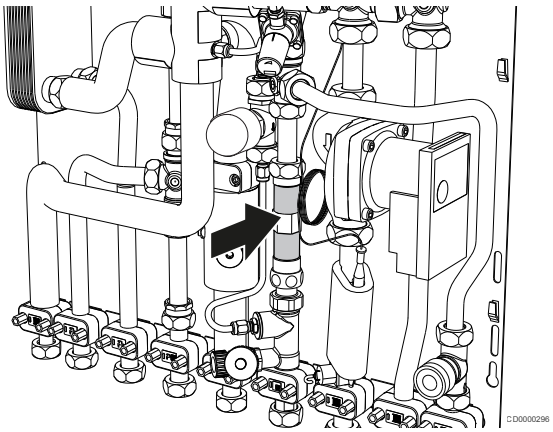
7.1 Heat meter distance piece

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

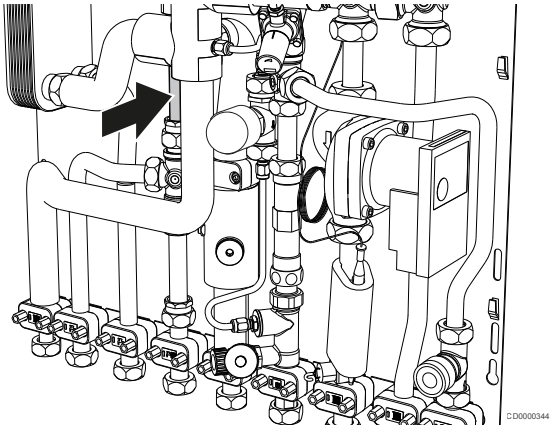
The heat meter distance piece is not suitable for continuous operation.



The heat meter distance piece is intended to be replaced with a heat meter to record energy consumption. The used heat meter has to have a fast scanning frequency that fully measures the volume flow rate every 3-4 secs, including kWh calculation.

7.2 Hot water meter distance piece

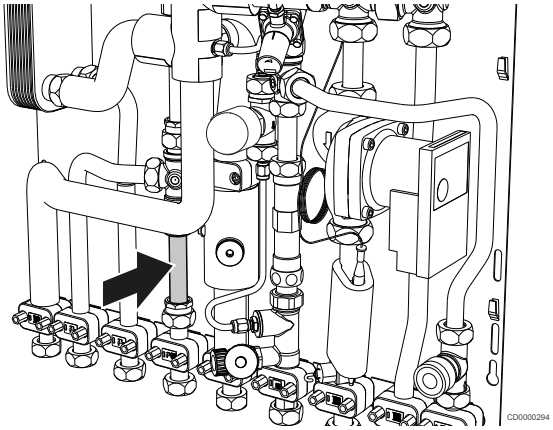
The hot water meter distance piece is intended to be replaced with a hot water meter to record water consumption.



7.3 Cold water meter distance piece

Note

Operating pressure: **PN 10**



The cold water meter distance piece (**110 mm x ¾"**) is intended to be replaced with a water meter that records the overall cold water consumption.

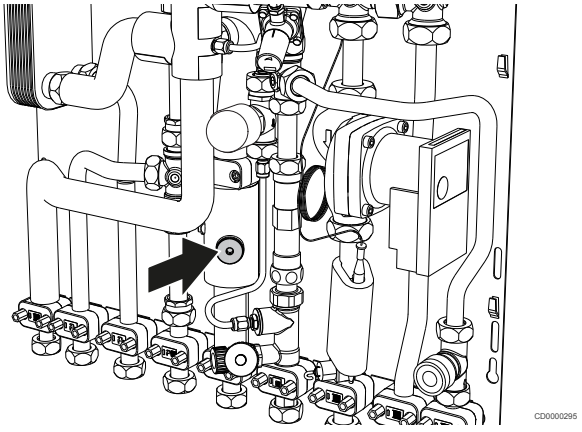
7.4 Strainer

Caution!

Shut off the water supply to the unit and relieve the pressure before any work with the strainer.

Note

To open the cold water/primary flow strainer, use internal hexagon (**6 mm**).



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

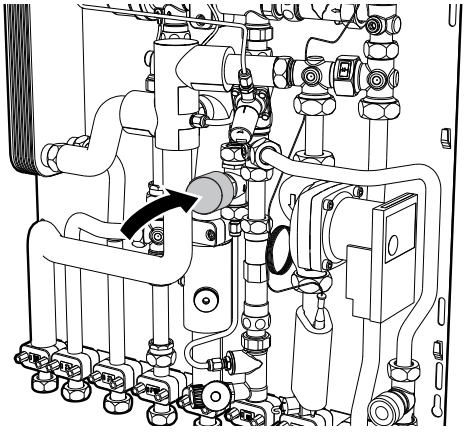
7.5 Thermostatic lead module (BP) (optional)

Note

A too high temperature setting can cause the heating water return temperature to rise.

Note

A too low temperature setting can lead to longer waiting times when preparing domestic hot water.



A thermostatic lead module (BP) is used to prevent the risers from cooling down when not dispensing.

1. Set the BP line temperature to approximately **15 K** below the heating supply temperature.

7.6 Thermostatic hot water temperature limiter (TL)

The domestic hot water temperature is limited through a thermostatically controlled hot water limiter.

Scales	1	2	3	4	5	6	7	8
WW temp. (35-70 °C)	35	40	50	55	60	**65**	65	70

Changing default settings

Caution!

Make sure not to bend or break the capillary line.

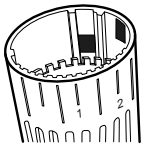
1. **Remove the thermostatic tip from the valve**

1.1. Using a welding wire, slide out the locking tabs next to the adjustment number, on the left and right, in the direction of the swivel nut.

1.2. If the valve tip is limited in an upward direction (valve can be closed), only one locking tab needs be to removed. Using a welding wire, slide out the locking tabs next to the adjustment number, on the left and right, in the direction of the swivel nut.

1.3. Remove the top part of the valve head and lift out the internal anchor using a strong round object.

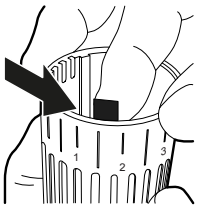
2. **Adjust the handwheel**



2.1. Line up the white marking on the toothed sleeve with the white alignment mark underneath the lettering.

2.2. Gently turn the handwheel to desired setting.

3. **Block the setting**



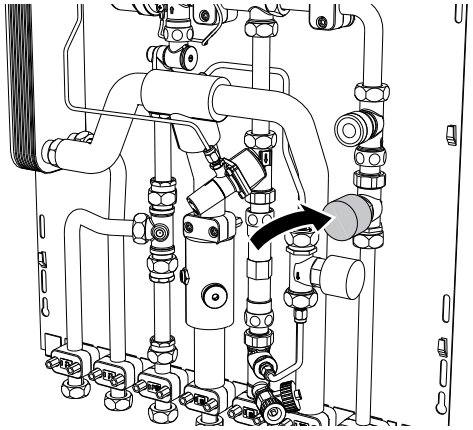
3.1. Insert the clips behind the number set on the handwheel.

3.2. Reinstall the handwheel to the set value so that it is blocked with the new setting.

4. **Install the thermostatic tip**

4.1. Screw the valve tip on to the valve and the standard setting is changed.

7.7 Return temperature limiter (RL)



The return temperature limiter has a setting scale printed on the handwheel. It is pre-set at the factory.

7.8 Differential pressure regulator

The differential pressure regulator protects other control valves, such as the proportional volume control or the radiator valves, from the excessive differential pressure and ensures the hydraulic balancing of the installation. The differential pressure regulator works independently and without auxiliary energy and is adjustable from the outside.

Combi Port M-Pro RC

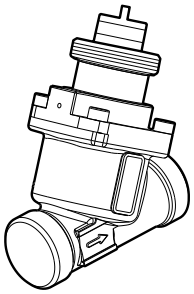
Caution!

An installed actuator can reduce the volume flow.

Caution!

The max. permitted differential pressure before the differential pressure regulator is **2,5 bar**.

For the Combi Port M-Pro RC, the differential pressure regulator is installed in the primary heating circuit to ensure the hydraulic balancing.



CD0000266

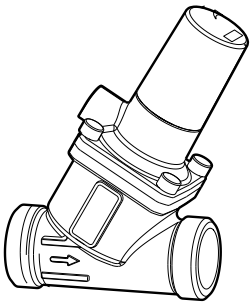
A 2-point actuator (**30 x 1,5**) can be attached to this valve for regulation. Setting range (**5–15 kPa**), see "Regulator flow settings" for the related diagram.

Combi Port M-Pro UFH

Caution!

The max. permitted differential pressure before the differential pressure regulator is **2,5 bar**.

For the Combi Port M-Pro UFH, the differential pressure regulator is installed in the primary heating circuit for the adjustment of the devices in the heating system. The setting can be changed directly at the regulator, the setting range is printed on the handwheel.

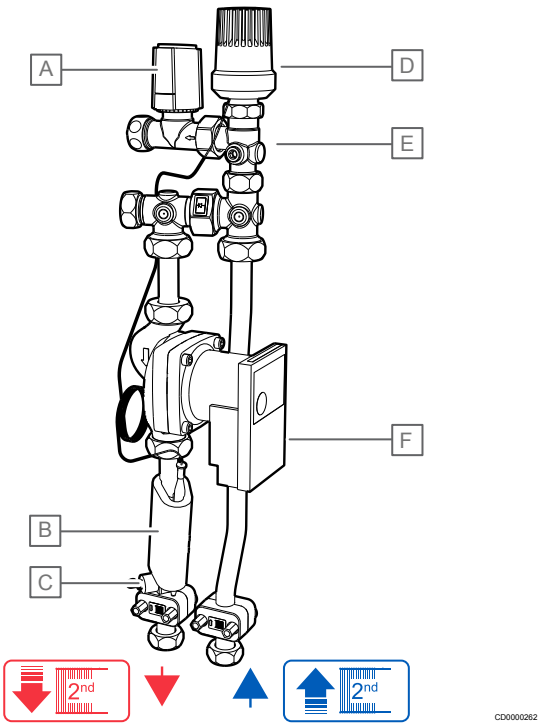


CD0000263

Setting range **(5-30 kPa)**, see "Regulator flow settings" for the related diagram.

7.9 Thermostatic regulated mixed circuit

The thermostatically regulated, mixed injection circuit provides control of the temperature in the secondary heating circuit. The following overview shows the position of the components. There is a check valve insert installed in the screw connection of the bypass (E).



CD0000262

Item	Description
A	Zone valve for limiting heating flow to apartment
B	Contact sensor
C	Safety temperature limiter
D	Thermostatic regulation
E	Corner valve housing with valve insert
F	Heating pump

Scale value	1	2	3	4	5	6	7
Flow temp. 20-50 °C	20	25	30	35	40	45	50

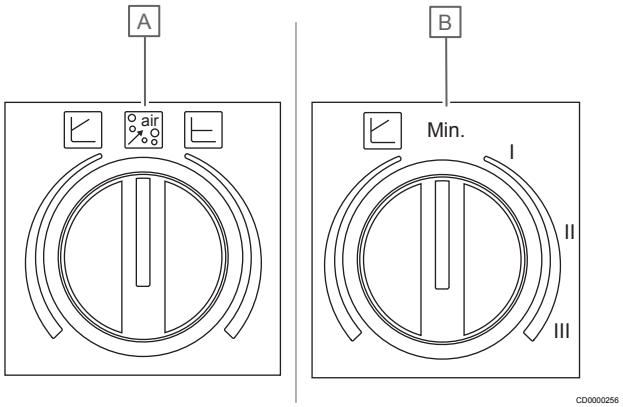
7.10 Heating pump settings

Note

Read the pump manufacturer's documentation.

Note

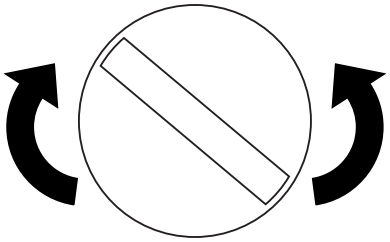
In the event of a power outage, all settings and displays are retained.



Item	Description
A	RKA = Pump with operating button for **Δp-v, Δp-c**
B	RKC = Pump with operating button for **Δp-v**, constant speed I, II, III

The delivered heating circulation pump can either switch between constant or variable curves, or be set to operate with a constant speed.

Regulation type settings

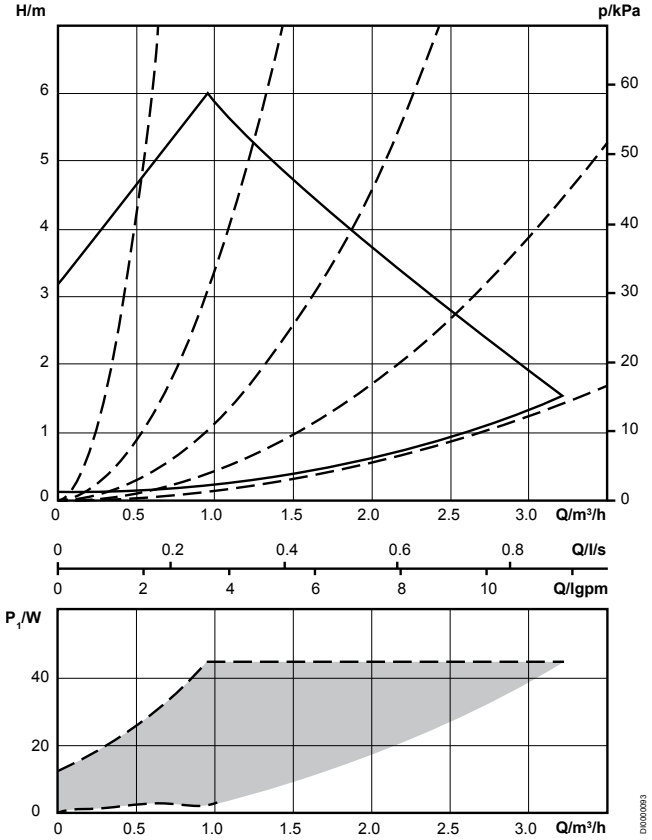


Set pump regulation type by turning the operating dial to the desired symbol.

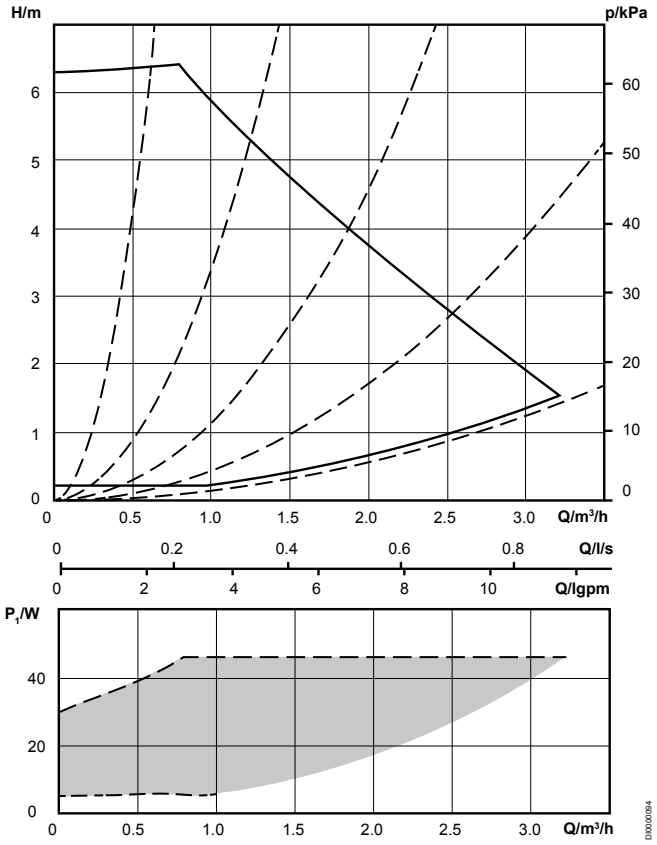
- Variable differential pressure (**Δp-v**):
  The variable mode (**Δp-v**) is positioned to the left of the centre position.
- Constant differential pressure (**Δp-c**):
  The constant mode (**Δp-c**) is positioned to the right of the centre position.
  Constant speed I, II, III:
  The constant speed mode is positioned to the right of the centre position.

Pump values

Variable values Δp-v



Constant values Δp-c



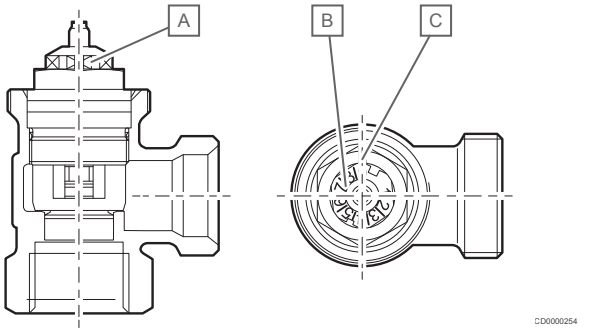
7.11 Zone valve

Note

It is possible to change the valve setting during operation without leakage.

Note

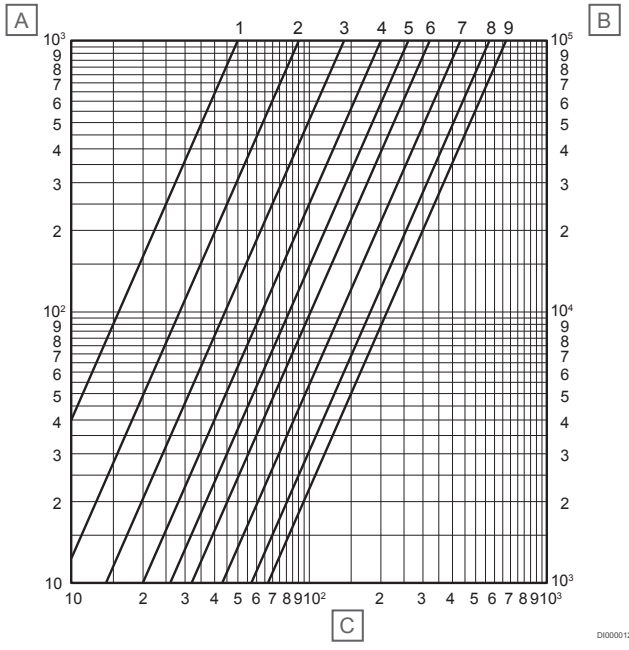
The required setting value must correspond to the marking. The default setting between **1-9** can be selected. Factory default settings = **7**.



Item	Description
A	Hexagonal 13 mm
B	Setting value
C	Mark

The temperature in the primary heating circuit can be regulated with the zone valve. The housing of this valve has a threaded connection (**30 x 1,5**) for a 2-point actuator.

Change setting value

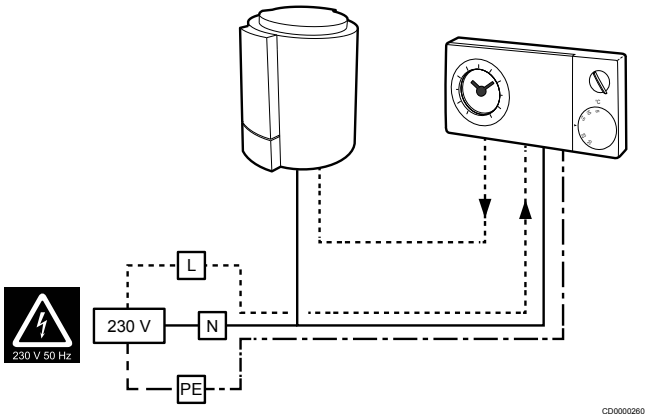


Item	Description
A	Pressure drop Δp [mbar]
B	Pressure drop Δp [Pascal]
C	Mass flux [kg/h]

Pre-setting	1	2	3	4	5	6	7	8	9
Kv value / 2 K P deviation	0,05	0,09	0,14	0,20	0,26	0,32	0,43	0,57	0,67

Adjust the value setting with a hexagonal (**SW 13 mm**) open-ended spanner or with a special key.

Actuator on the zone valve



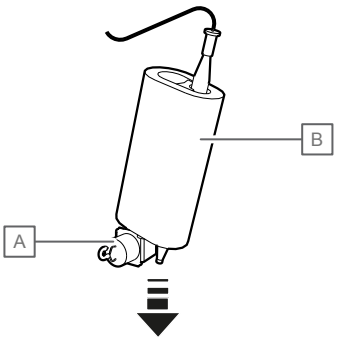
The thermal actuator is installed on the zone valve and is controlled by a room thermostat. All users can set the required room temperature here including night-time reduction.

The unit is EnEV compliant in this combination.

Description	Value
Operating voltage	230 V AC, 50/60 Hz
Operating line	1 W
Line	2 x 0,75 mm² (1x Blue / 1x Brown)

7.12 Pipe-clip-sensor safety temperature limiter

The safety temperature limiter (STW) prevents excessive temperatures and provides an emergency-off function for the secondary heating circuit.



Item	Description
A	Contact sensor / Thermostatic regulation
B	Pipe-clip-sensor safety temperature limiter

- Open the response temperature: **55 °C +/- 3 K**
- Close the reset: **45 °C +/- 4 K**
- Fasten and attach to the pipe with an oil flex cable **110 mm, 2 x 0,75 mm²**, length **1000 mm**.
- Protect supply cable ends with ferrules.

7.13 Cold water throttle disc

Note

The installed cold water throttle disc can be replaced if required. The colour indicates the maximum volume flow (see table below).

The cold water throttle disc is in the connection between the cold water connection of the proportional volume control and the strainer.

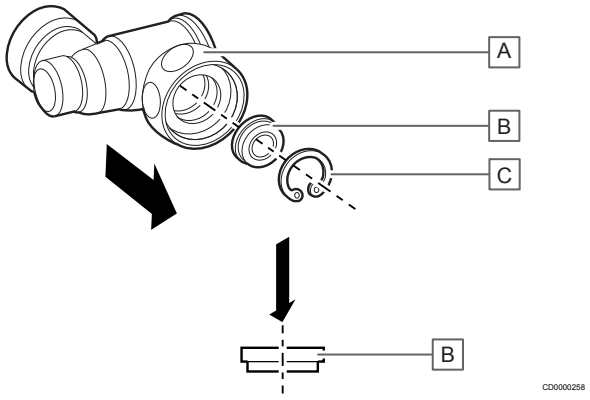
The throttle disc limits the amount of cold water to the heat exchanger and prevents the hot water supply from exceeding the calculated volume.

Cold water throttle disc colour	l/min
Black	6
White	8
Orange	9
Blue	10
Red	12
Green	15
Brown	17
Black	19
Purple	22

Replacing the throttle disc

Note

Observe the flow direction when replacing the throttle disc!



Item	Description
A	Strainer
B	Cold water throttle disc
C	Retaining ring

1. Disassemble the strainer.
2. Disassemble the retaining ring. Use special pliers for this.
3. Replace the throttle disc.
4. Install the retaining ring.
5. Install the strainer.

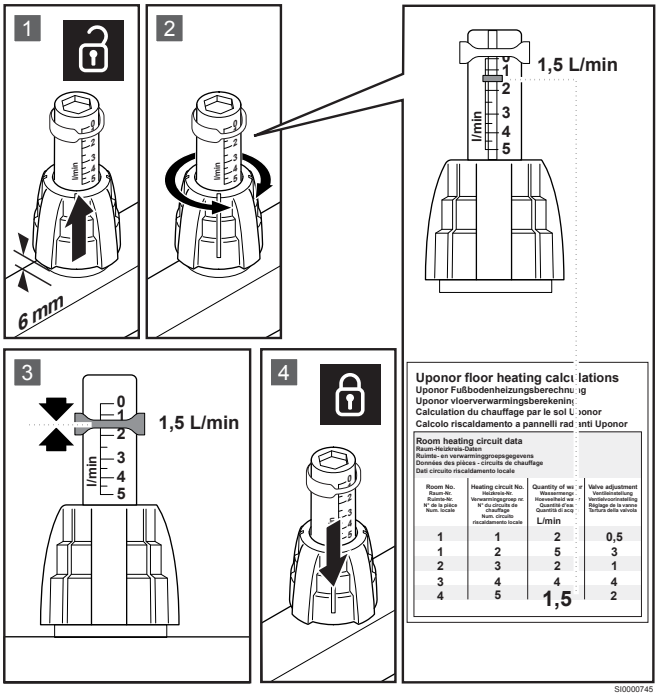
7.14 Hydraulic balancing on the manifold

Warning!

The pressure in the valves can cause personal injury.

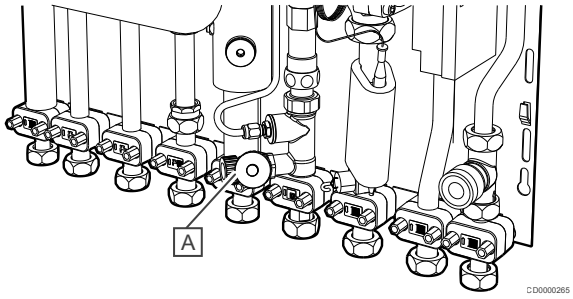
Caution!

Never turn the valves counter clockwise more than five (5) turns. When the cap is completely unscrewed, the valves will shoot out of the thread.



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.

7.15 Filling and flushing



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

Filling and flushing the system

1. Open the draining valve (A).
2. Fill and flush the system with heating water.

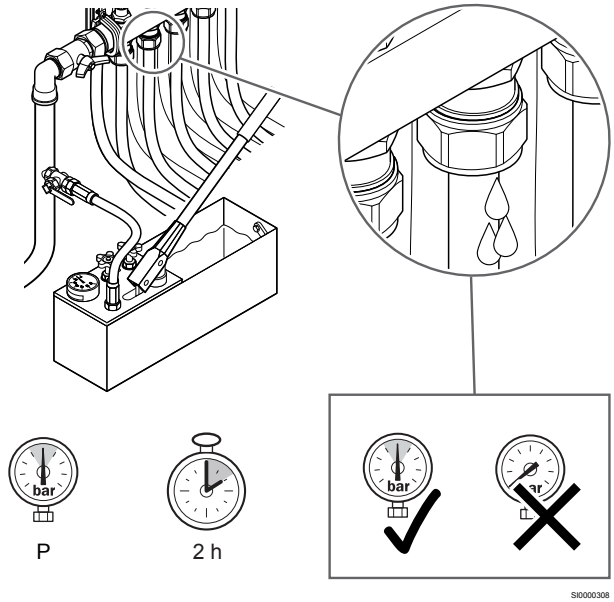
7.16 Tightness testing

Warning!

Leaks can cause personal injury and property damages.

Caution!

Pressure leaks may occur even at normal operating pressure and must be repaired immediately.



1. Test the heating circuit for two hours, refer to the applicable guidelines.
2. Repair any leaks immediately.

7.17 Finishing the installation and hand over

Caution!

Incorrect finishing of the installation can lead to property damage.

Follow these steps and finish the installation:

1. Check the settings.
2. Complete the acceptance/ finishing protocol.
3. Hand over the documentation and the protocol to the homeowner.

8 Maintenance

8.1 General information

Important information

Read and obey these instructions to ensure the safe and correct operation. This increases the reliability and lifespan of the system.

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 assigned to a residential unit and is used to measure and control central heating and heating of water.

The heat interface unit combines:

- water heating in the flow system via a plate heat exchanger (water heating is controlled without auxiliary energy)
- the recording of the energy consumption for central heating and hot water and, as an option, the amount of cold water
- heating control in the apartment with hydraulic balancing and energy saving by ECO-mode.

Hot water is only prepared when needed and not stored. This is one of the most convenient ways to heat water and 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 (B). As an option there is a shut-off ball valve for installation purposes.

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

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

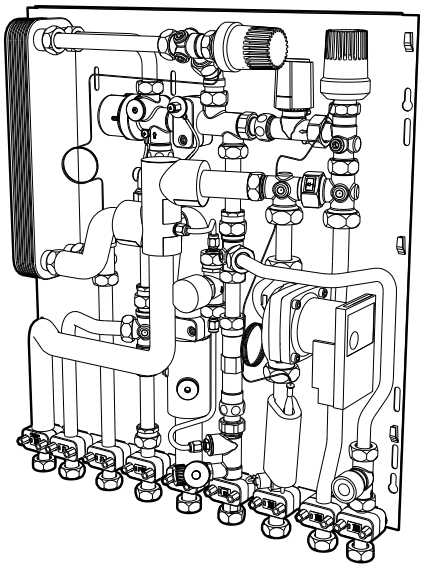
Water hygiene

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 then be around 1-2 minutes. The water must be allowed to run at least every 7 days for about 1-2 minutes.

8.2 Turning off heat interface unit

Ball valves C, D and E must be closed in the event of malfunctions. A visual inspection is required every 3 to 6 months.



A B C D E F G H I

CD0000255

Item	Description
A	Heating circuit supply (secondary, 2nd)
B	Cold water to apartment (CW)
C	Domestic hot water to apartment (DHW)
D	Cold water from riser (CW)
E	Heating supply (primary)
F	Heating return (primary)
G	Heating supply (secondary)
H	Heating return (primary)
I	Heating circuit return (secondary, 2nd)

If the system is shut down for a longer period of time:

1. Shut off ball valve B (cold water to appartment). Do not close ball valves D, E, F, G.
2. Protect the heating unit against frost.
3. On start-up, let the hot water run for about 5 minutes.

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**
Set zone valve for the flow rate	Setting value	1	2	3	4	5	6	7	8	9	1-9 continous	7	
	Kv value / 2 K P deviation	0,05	0,09	0,14	0,20	0,26	0,32	0,49	0,57	0,67			
BP	Thermostatic lead module, capillary 6 mm, Kvs 1,55										35-60 °C	45 °C	
DI	Differential pressure regulator the heating circuit										50-150 mbar	100 mbar	
TL	The thermostatic hot water temperature limiter, infinitely adjustable downwards										35-70 °C (limited to 60 °C)	6	
	Scale value 35-70 °C	1	2	3	4	5	6	7	8				
	Hot water temperature	35 °C	40 °C	45 °C	50 °C	55 °C	60 °C	65 °C	70 °C				
RL	Return temperature limiter, Kvs 1,55										0-40 °C	37,5 °C	
	Safety temperature limiter is fixed on a setting value											55 °C	
Component	**Description**										**Type**		
Cold water throttle disc	Colour	Green				Black							
	Max. flow l/min	15				19							
Exchanger	Type	GBS-240H-24 (CU)				GBS-240H-40 (CU)							
		GVH-228H-24 (Vaclnox)				GVH-228H-40 (Vaclnox)							
Heat meter distance piece	Heat meter line Qn 1,5 installation length, 110 mm x ¾"												

Other components/devices

Component	Description	Type	Not used
Installer, signature:	Installer, in capital letters:		Service partner:

9 Troubleshooting

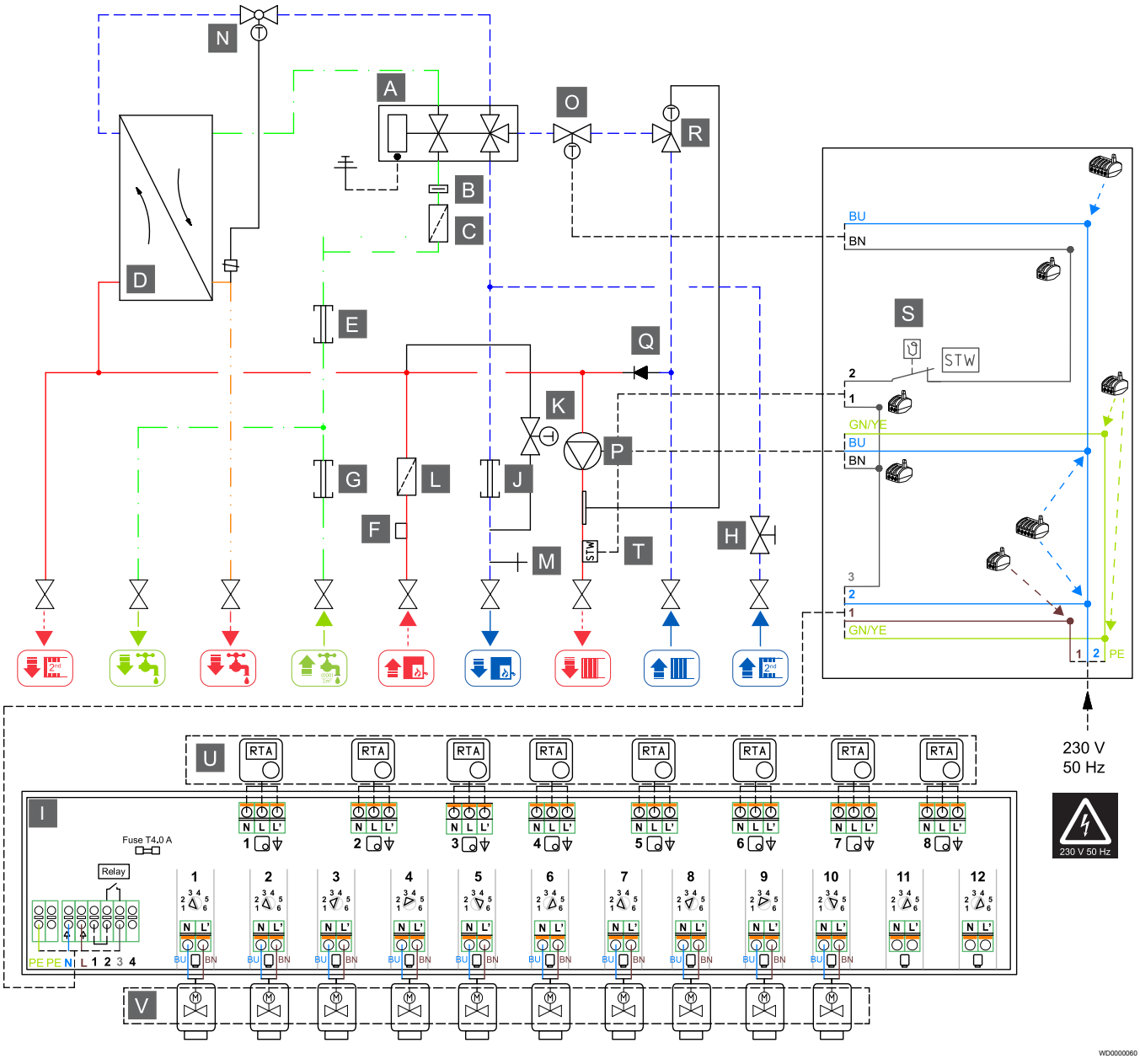
9.1 Fault description

Fault description	Cause	Solution
Hot water function		
Hot water temperature too low or fluctuating	**Central heating**	
	Buffer temperature too low	Buffer temperature must be **5-10 K** above hot water setpoint
	Heating circuit pump type not supported	The following pump type is supported: Wilo Stratos
	Setting for heating circuit pump is not correct	Heating circuit pump setting: Constant pressure
	Pump performance too low	Check the pump performance
	Mixing valve faulty	Check the mixing valve function
	Setting for heating circuit control is not correct	Check the heating circuit control setting
	Heating circuit control faulty	Check the heating control function
	Air trapped in buffer storage	Vent buffer storage tank
	Cold water pressure too low/too high	Cold water pressure at unit: **Min. 2 bar, Max. 4 bar**
	Heat interface unit	
	Strainer in primary flow dirty	Clean the strainer in the primary flow
	Strainer in cold water inlet dirty	Clean the strainer in the cold water inlet
	Insufficient differential pressure	Clean the capillary of the differential pressure control and check that the differential pressure control is working
	Air in the system	Vent the system while dispensing
	Insufficient heating volume flow passes through the heat exchanger	Check the volume flow during maximum dispensing using heat meters: Uponor Combi Port M-Pro - 24 approximately **500-600 l/h** Uponor Combi Port M-Pro - 40 approximately **800-900 l/h**
	Heat meter type not supported	Use heat meter type with **Qn 1,5** ultrasound
	Insufficient heating volume flow	Increase differential pressure
	Heat exchanger dirty	Clean the heat exchanger
	Thermostatic hot water temperature limiter setting is not correct	Check the thermostatic hot water temperature limiter is working and correctly set
	Proportional volume control does not switch over	Replace the proportional volume control
Waiting time for hot water is too long	Check the pump setting in the central heating system	Pump setting: Constant pressure
	The temperature setting on the thermostatic lead module (BP) is too low	Increase the temperature setting on the thermostatic lead module (BP) or in the line
	The capillary on the thermostatic lead module (BP) is dirty	Clean the capillary on the thermostatic lead module (BP) or in the line
	No thermostatic lead module (BP) available	Retrofit the thermostatic lead module (BP) or line
Noise generation		
Noise level increase in the station	Pipe clamps too tight	Loosen the pipe clamps
Whistling noises during dispensing	Cold water dirt collector is dirty	Clean the cold water strainer
	Cold water throttle disc is dirty	Clean the cold water throttle disc
Noise generated in the PM valve	Noise generated via a third route	Replace the inductor disc, spring and locking ring using a placement kit for PM valves, 3rd route
Heating function		
Heating system does not heat up	**General**	
	Supply temperature too low at the heat source	Check the supply temperature at the heat source
	Volumetric flow rate is too low	Check the fittings in the device
	Check the heat meter type	The heat meter type must be **Qn 1,5**
	Check the pump setting in the central heating system	Pump setting: Constant pressure
	Air trapped in buffer storage	Vent the buffer storage tank

Fault description	Cause	Solution
	Insufficient differential pressure	Clean the capillary of the differential pressure control and check that the differential pressure control is working
	Air in the system	Vent the system
	Radiator supply	
	Zone valve flow too low / too high	Check the Kv value on the zone valve
	Setting for room temperature controller is not correct	Check the setting for the room temperature controller
	Strainer is dirty	Clean the strainer
	Room temperature controller wiring is not correct	Check the wiring for the room temperature controller
	Actuator not connected to the zone valve	Actuator closed without current on the zone valve Connect this electrically
	Radiator thermostatic valves or return screw connections closed	Check the thermostatic valves and return screw connections
Heating system does not heat up	**Underfloor heating controlled by setpoint values**	
	Setting for set-point value control head not correct	Check the set-point value control head setting
	Actuator for "second safety" not connected electrically	Connect this electrically
	Setting Kv value of zone valve is not correct	Check the Kv value setting on the zone valve
	Regulating screw connection bypass closed	Check the regulating screw connection bypass
	Pump not connected	Check the pump connection
	Strainer is dirty	Clean the strainer
	Pump setting is not correct	Check the pump setting
	Underfloor heating, weather compensated	
	Controller setting is not correct	Check the controller setting
	Actuator for "second safety" not connected electrically	Connect this electrically
	Setting Kv value of zone valve is not correct	Check the Kv value setting on the zone valve
	Regulating screw connection bypass closed	Check the regulating screw connection bypass
	Sensor faulty	Check the sensor
	Pump not connected	Check the pump connection
No hot water and no heating	**No heating/no hot water**	
	Ball valves/locking devices closed	Open locking devices
	Central heating circuit pump not working	Check that the central heating circuit pump is working and correctly set
	Central strainer is dirty	Clean the central strainer
	Heating system is not working correctly	Check the heating system
	Buffer tank is not filled	Check the buffer tank filling

10 Technical data

10.1 Wiring diagram



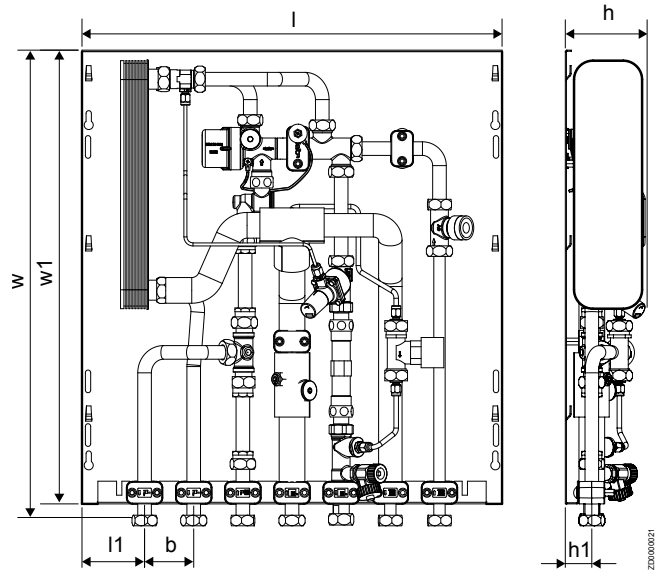
Item	Description
A	Proportional volume control (PM)
B	Cold water throttle disc
C	Strainer
D	Plate heat exchanger
E	Hot water meter distance piece
F	Sensor pocket heat meter
G	Cold water meter distance piece
H	Zone valve for limiting heating flow to apartment
I	Uponor Base flexiboard
J	Heat meter distance piece
K	Thermostatic lead module (BP)
L	Strainer

Item	Description
M	Draining and filling valve
N	Thermostatic hot water temperature limiter (TL)
O	Zone valve for limiting heating flow to apartment
P	Pump
Q	Check valve
R	Thermostatic regulation
S	Safety temperature limiter
T	Safety temperature limiter
U	Room temperature control
V	Zone valve for limiting heating flow to apartment

10.2 Dimensional drawings

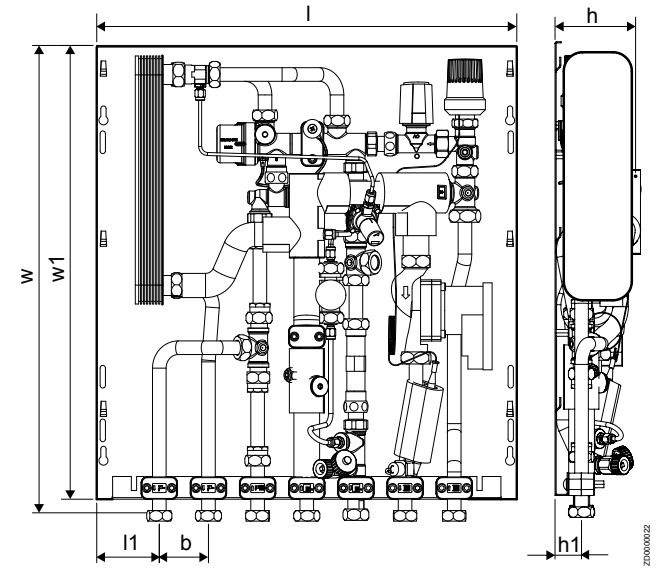
All dimensions are given in mm.

Combi Port M-Pro RC



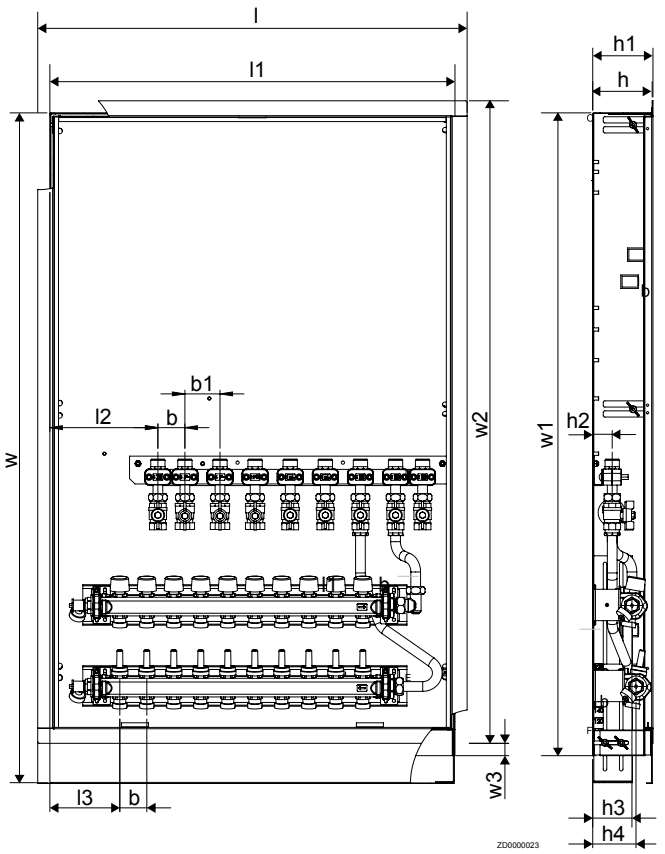
l	l1	w	w1	h	h1	b
555.5	82.75	618	600	108	35	65

Combi Port M-Pro UFH



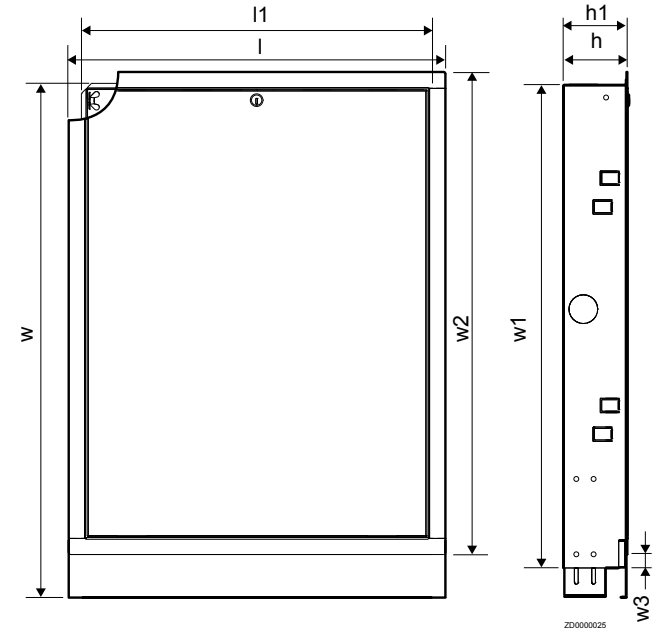
l	l1	w	w1	h	h1	b
555.5	82.75	618	600	107	35	65

In-wall cabinets

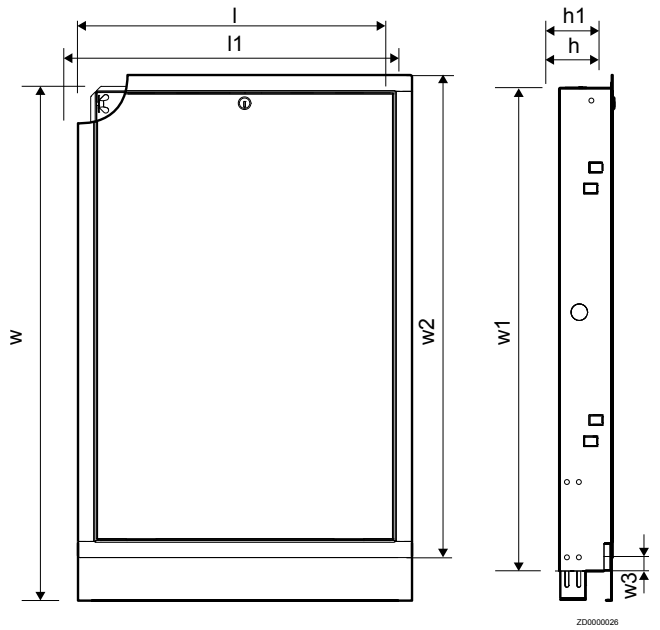


l	l_1	l_2	l_3	w	w_1	w_2	w_3
795	750	200	129	1240	1190	1189.5	22.85

h	h_1	h_2	h_3	h_4	b	b_1	
110	135	36	73	80	50	65	

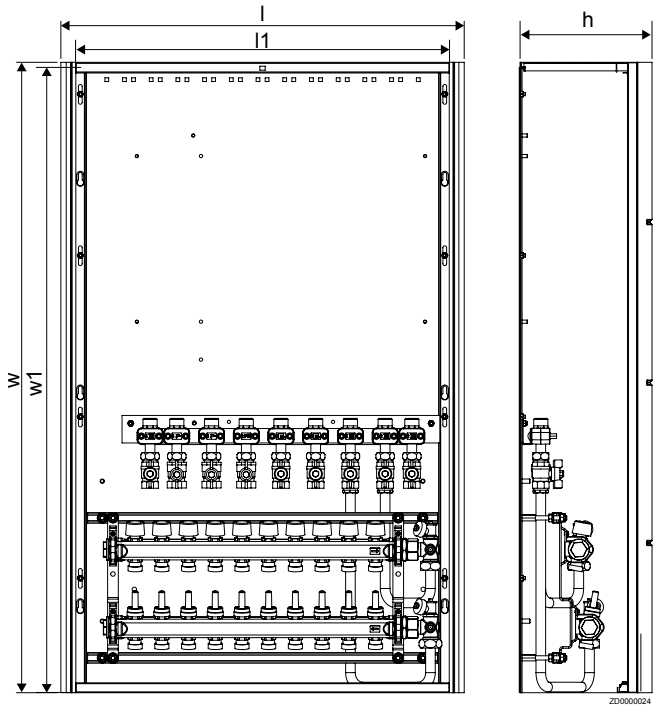


l	l_1	w	w_1	h	h_1	b	b_1
655	610	1090	840	110	135	839	23.35



l	l_1	w	w_1	h	h_1	b	b_1
795	750	1240	1190	110	135	1189.5	22.35

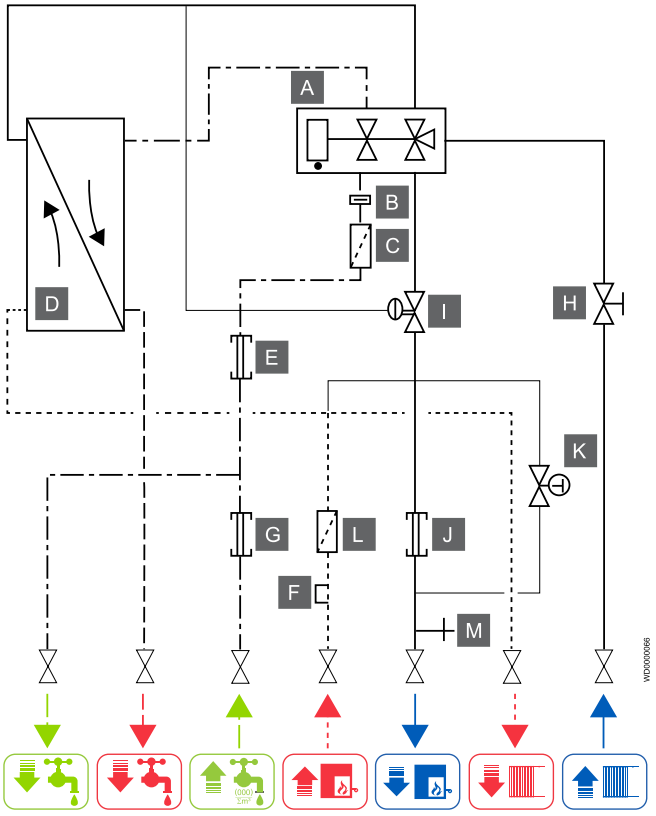
On-wall cabinet



l	l_1	w	w_1	h
755	700	1180	1170	247

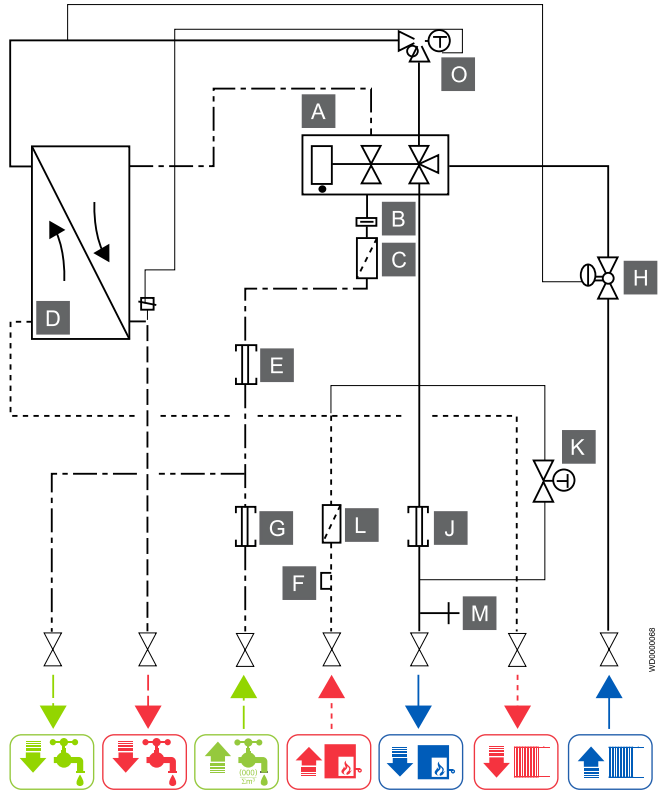
10.3 Hydraulic schemes

Combi Port M-Pro RC



Item	Description
A	Proportional volume control (PM)
B	Cold water throttle disc
C	Strainer
D	Plate heat exchanger
E	Hot water meter distance piece
F	Sensor pocket heat meter
G	Cold water meter distance piece
H	Zone valve for limiting heating flow to apartment
I	Differential pressure regulator
J	Heat meter distance piece
K	Thermostatic lead module (BP)
L	Strainer
M	Draining and filling valve

Combi Port M-Pro RC TL



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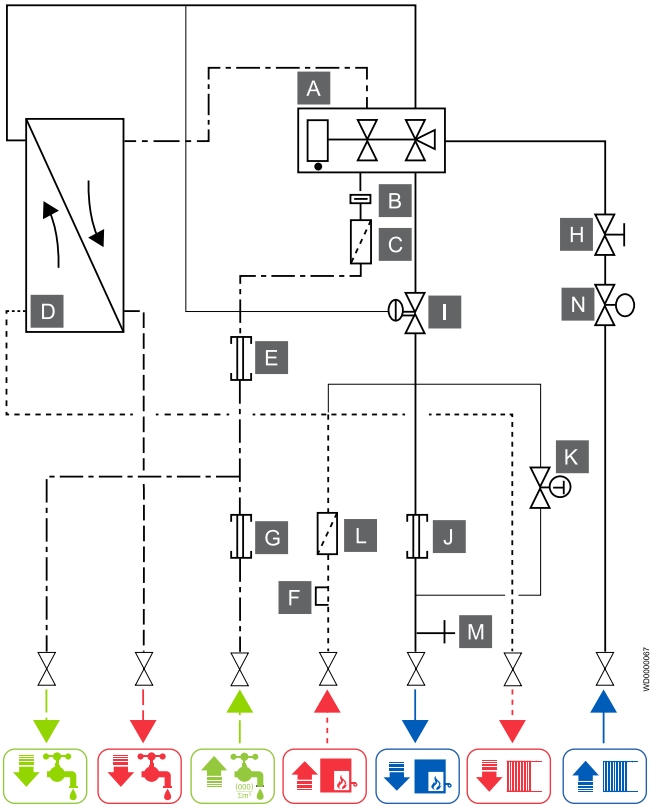
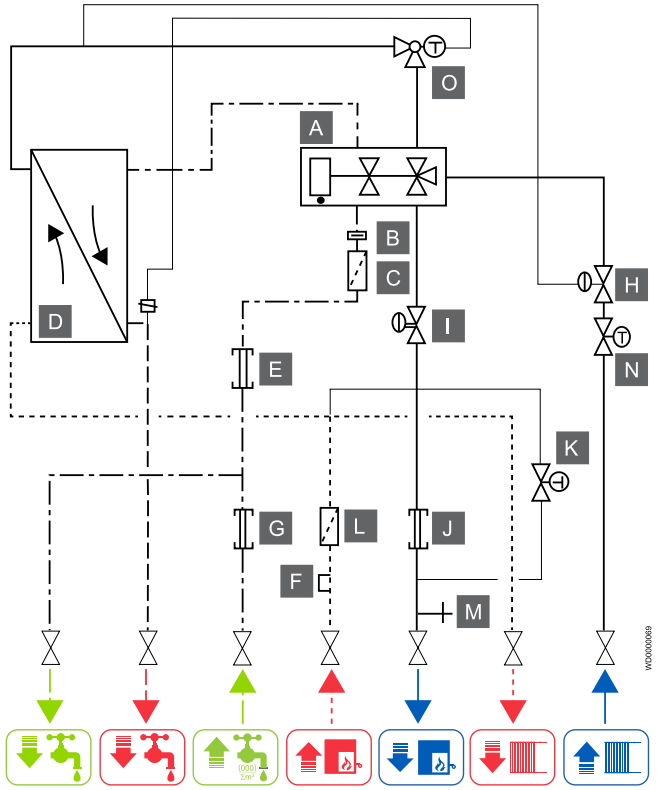
H	Zone valve for limiting heating flow to apartment
J	Heat meter distance piece
K	Thermostatic lead module (BP)
L	Strainer
M	Draining and filling valve
O	Thermostatic hot water temperature limiter (TL)

Combi Port M-Pro RC RL



Item	Description
A	Proportional volume control (PM)
B	Cold water throttle disc
C	Strainer
D	Plate heat exchanger
E	Hot water meter distance piece
F	Sensor pocket heat meter
G	Cold water meter distance piece
H	Zone valve for limiting heating flow to apartment
I	Differential pressure regulator
J	Heat meter distance piece
K	Thermostatic lead module (BP)
L	Strainer
M	Draining and filling valve
N	Return temperature limiter (RL)

Combi port M-Pro RC TL-RL



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D	Plate heat exchanger
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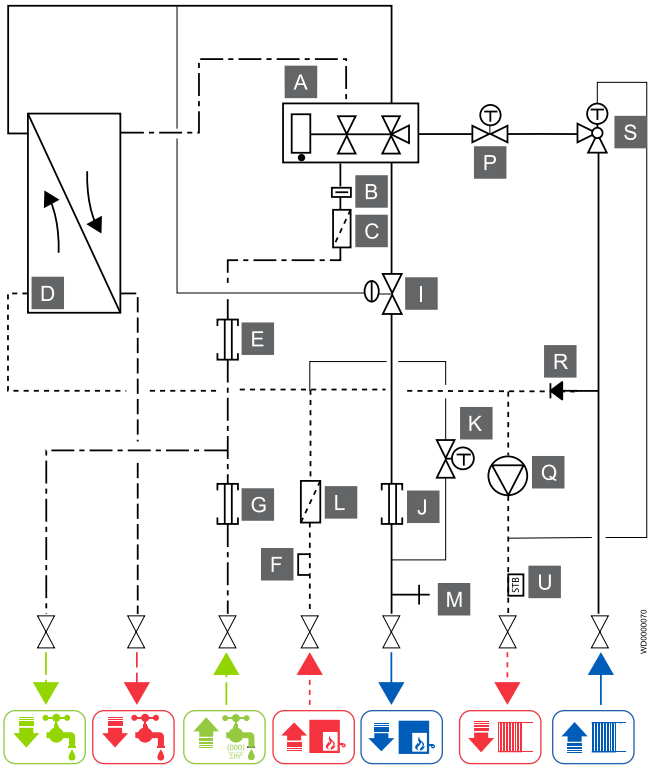
F	Sensor pocket heat meter
G	Cold water meter distance piece
H	Zone valve for limiting heating flow to apartment
I	Differential pressure regulator
J	Heat meter distance piece
K	Thermostatic lead module (BP)
L	Strainer
M	Draining and filling valve
N	Return temperature limiter (RL)
O	Thermostatic hot water temperature limiter (TL)

Combi port M-Pro UFH



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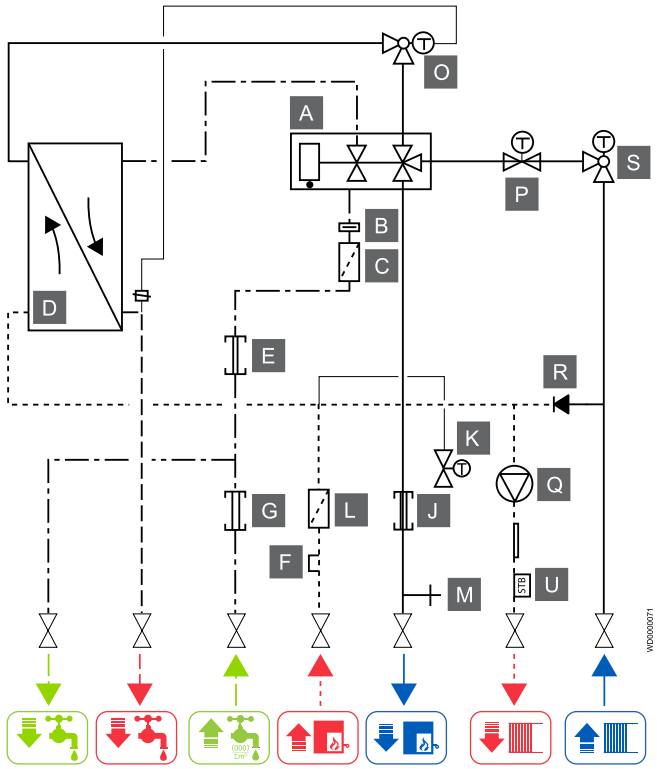
J	Heat meter distance piece
K	Thermostatic lead module (BP)
L	Strainer
M	Draining and filling valve
P	Zone valve for limiting heating flow to apartment
Q	Pump
R	Backflow preventer
S	Thermostatic regulation

Combi port M-Pro UFH-TL



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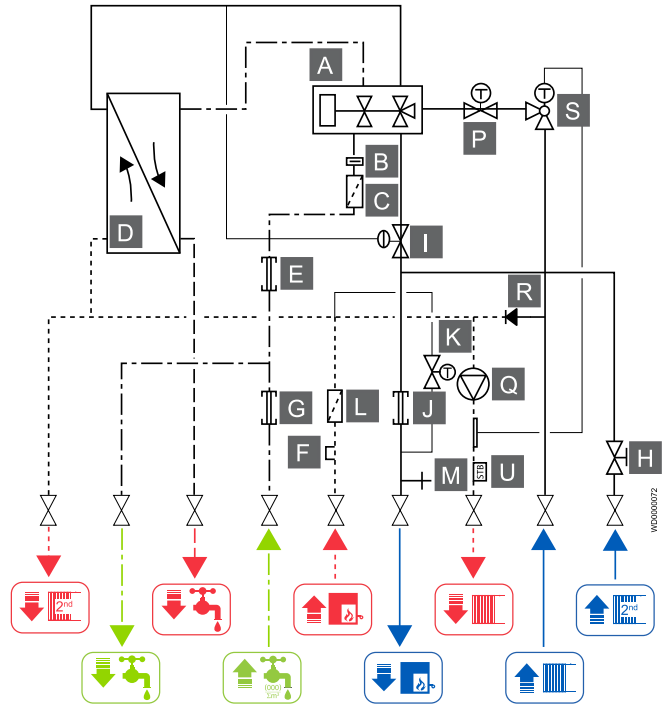
G	Cold water meter distance piece
J	Heat meter distance piece
K	Thermostatic lead module (BP)
L	Strainer
M	Draining and filling valve
O	Thermostatic hot water temperature limiter (TL)
P	Zone valve for limiting heating flow to apartment
Q	Pump
R	Backflow preventer
S	Thermostatic regulation

Combi port M-Pro UFH - additional heating



Item	Description
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G	Cold water meter distance piece
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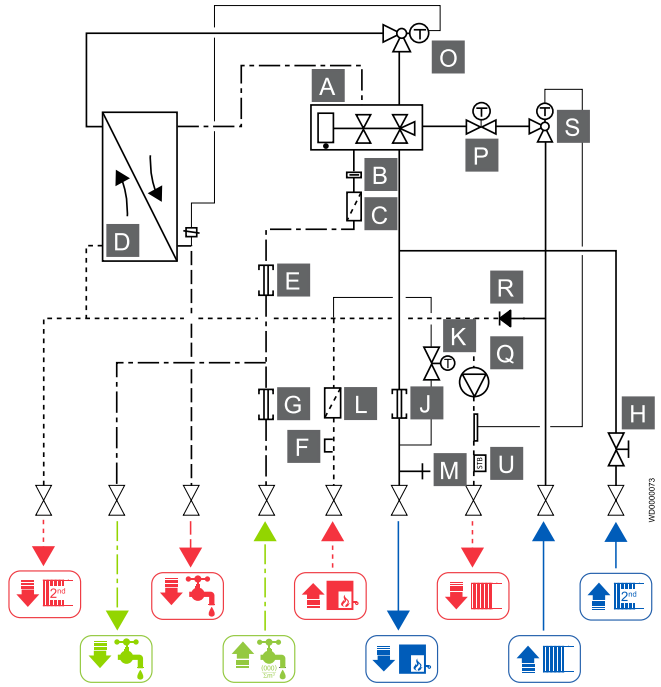
I	Differential pressure regulator
J	Heat meter distance piece
K	Thermostatic lead module (BP)
L	Strainer
M	Draining and filling valve
P	Zone valve for limiting heating flow to apartment
Q	Pump
R	Backflow preventer
S	Thermostatic regulation
U	Safety temperature limiter

Combi port M-Pro UFH-TL - additional heating



Item	Description
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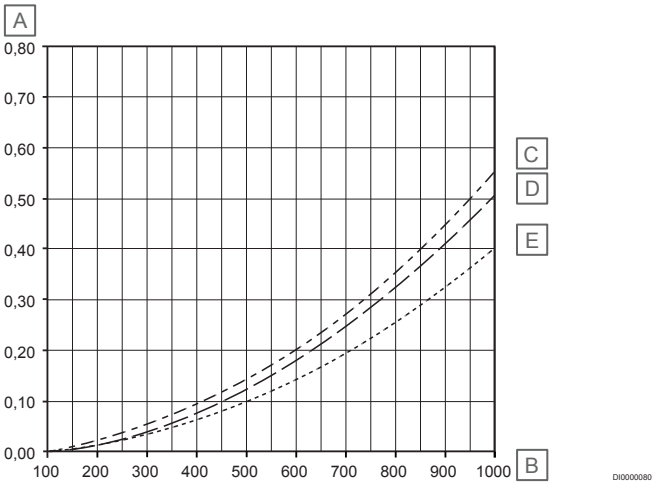
K	Thermostatic lead module (BP)
L	Strainer
M	Draining and filling valve
O	Thermostatic hot water temperature limiter (TL)
P	Zone valve for limiting heating flow to apartment
Q	Pump
R	Backflow preventer
S	Thermostatic regulation
U	Safety temperature limiter

10.4 Performance curves

Pressure drops with 24 plates (15 l/min)

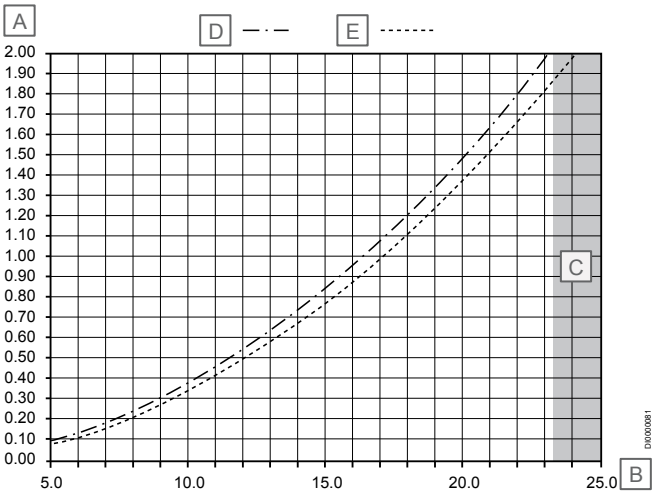
Heating side (primary)



Item	Description
A	Pressure drop in bar
B	Primary heating demand in litres/hour (l/h), max. 1000 l/h
C	dP station including TL
D	dP station including differential pressure control
E	dP station

Pressure drops including ball valve. Additional pressure drops, e.g. heatmeter with **Qn 1,5** of approximately **0,05 bar** and other internal/ external fixtures must be included.

Domestic hot water side (secondary)



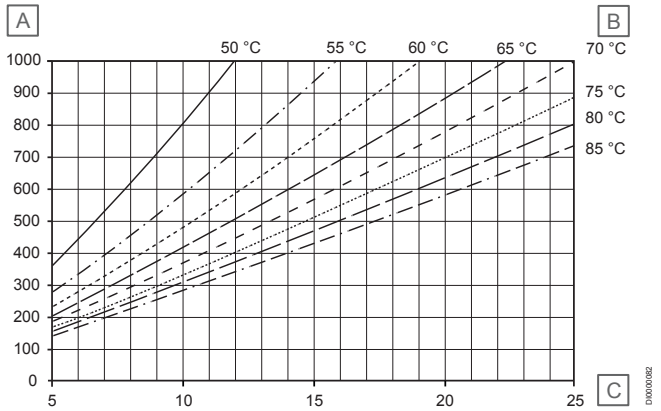
Item	Description
A	Pressure drop in bar
B	Tapping capacity in litres/minute (l/min)
C	Max range
D	dP station without throttle disc, including TL
E	dP station without throttle disc

Pressure drops at the throttle disc must be included in the calculation.

- 10 l/min = 0,65 - 0,85 bar
- 12 l/min = 0,68 - 0,88 bar
- 15 l/min = 0,70 - 0,90 bar
- 17 l/min = 0,75 - 0,95 bar
- 19 l/min = 1,00 - 1,20 bar

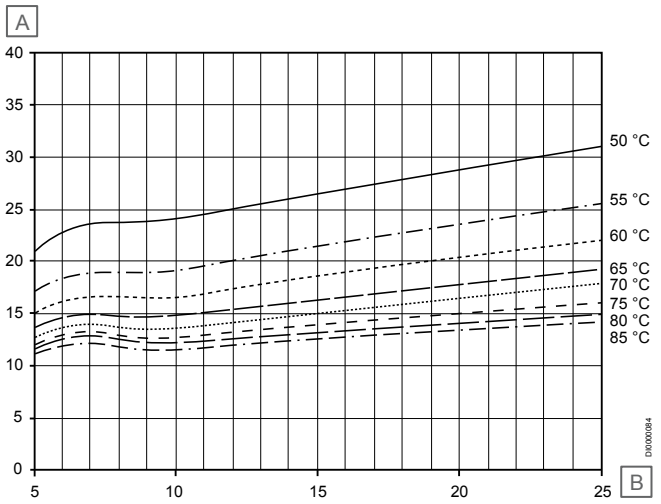
Performance curves and return temperatures with 24 plates (15 l/min)

Cold water warming 35 K (10-45 °C)



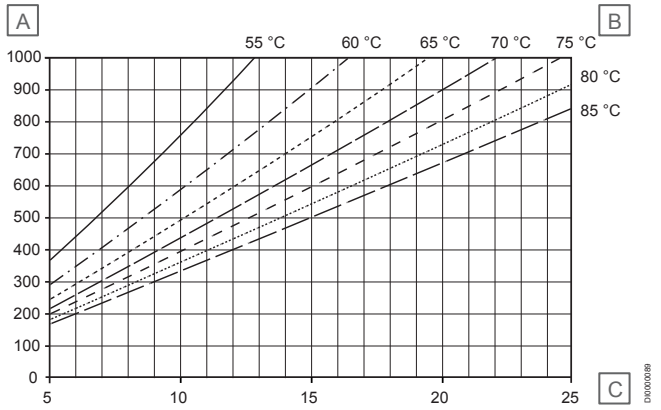
Item	Description
A	Primary heating demand in litres/hour (l/h), max. 1000 l/h
B	Primary heating supply temperatures
C	Tapping capacity in litres/minute (l/min)

Tapping capacity 35 K (10-45 °C)



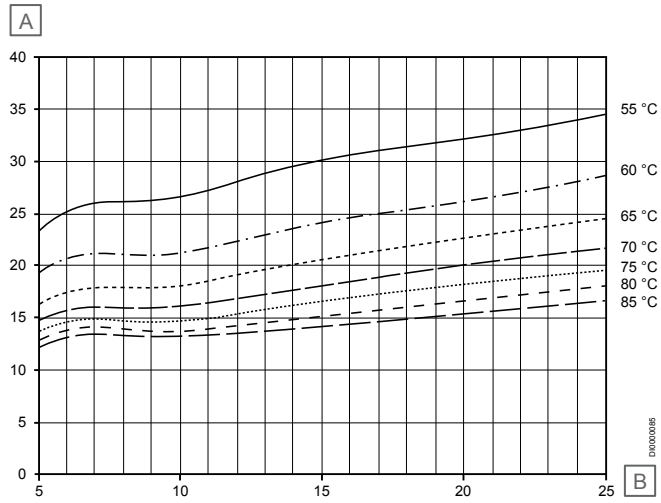
Item	Description
A	Return temperature °C
B	Tapping capacity in litres/minute (l/min)

Cold water warming 40 K (10-50 °C)



Item	Description
A	Primary heating demand in litres/hour (l/h), max. 1000 l/h
B	Primary heating supply temperatures
C	Tapping capacity in litres/minute (l/min)

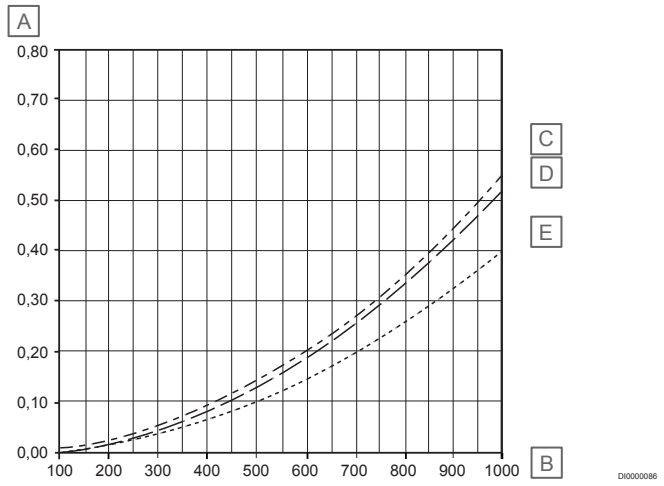
Tapping capacity 40 K (10-50 °C)



Item	Description
A	Return temperature °C
B	Tapping capacity in litres/minute (l/min)

Pressure drops with 40 plates (19 l/min)

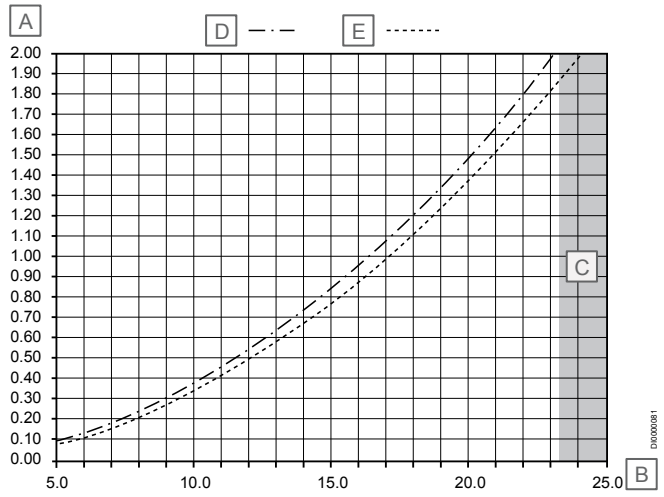
Heating side (primary)



Item	Description
A	Pressure drop in bar
B	Primary heating demand in litres/hour (l/h), max. 1000 l/h
C	dP station including TL
D	dP station including differential pressure control
E	dP station

Pressure drops including ball valve. Additional pressure drops, e.g. heat meter with **Qn 1,5** of approximately **0,05 bar** and other internal/ external fixtures must be included.

Domestic hot water side (secondary)



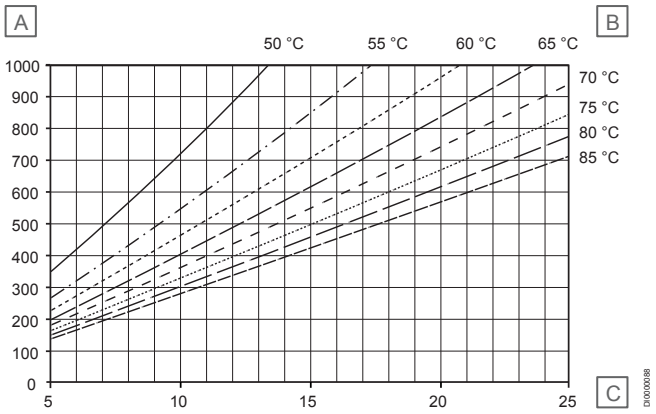
Item	Description
A	Pressure drop in bar
B	Tapping capacity in litres/minute (l/min)
C	Max range
D	dP station without throttle disc, including TL
E	dP station without throttle disc

Pressure drops at the throttle disc must be included in the calculation.

- 10 l/min = 0,65 - 0,85 bar
- 12 l/min = 0,68 - 0,88 bar
- 15 l/min = 0,70 - 0,90 bar
- 17 l/min = 0,75 - 0,95 bar
- 19 l/min = 1,00 - 1,20 bar

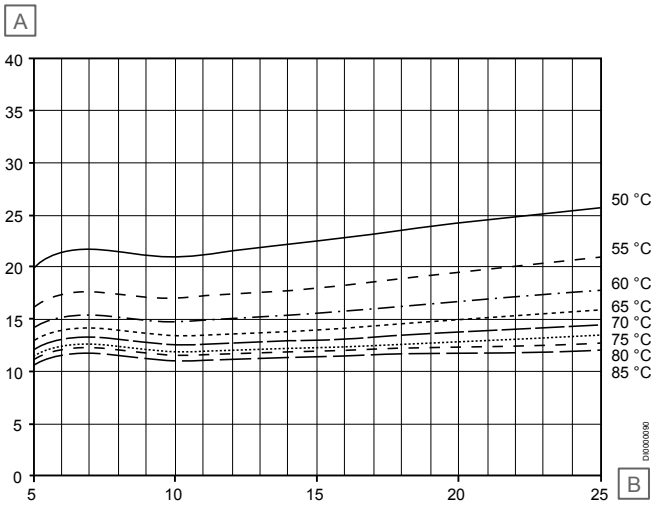
Performance curves and return temperatures with 40 plates (19 l/min)

Cold water warming 35 K (10-45 °C)



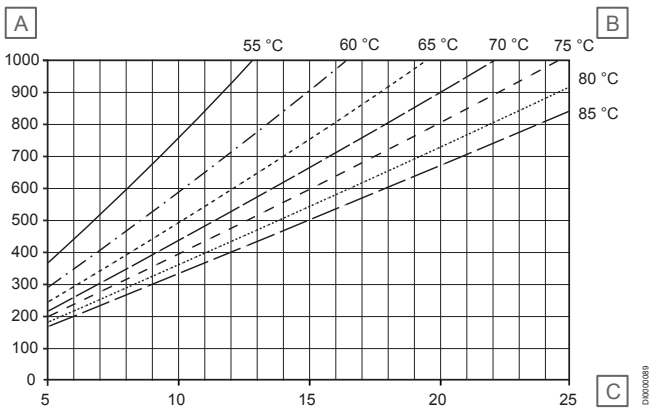
Item	Description
A	Primary heating demand in litres/hour (l/h), max. 1000 l/h
B	Primary heating supply temperatures
C	Tapping capacity in litres/minute (l/min)

Tapping capacity 35 K (10-45 °C)



Item	Description
A	Return temperature °C
B	Tapping capacity in litres/minute (l/min)

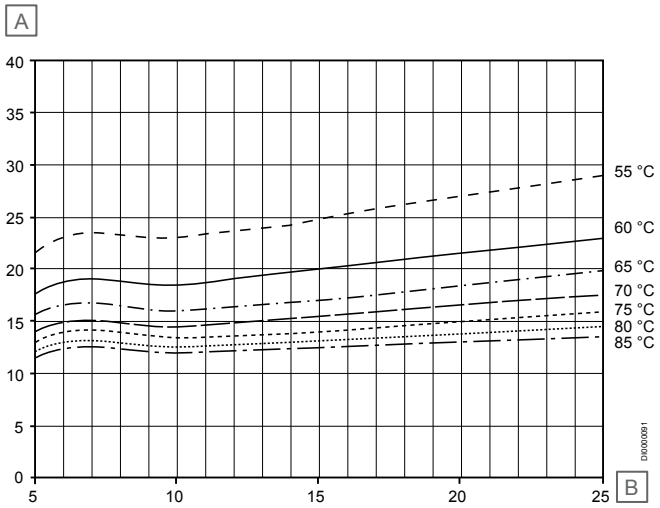
Cold water warming 40 K (10-50 °C)



Item	Description
A	Primary heating demand in litres/hour (l/h), max. 1000 l/h
B	Primary heating supply temperatures
C	Tapping capacity in litres/minute (l/min)

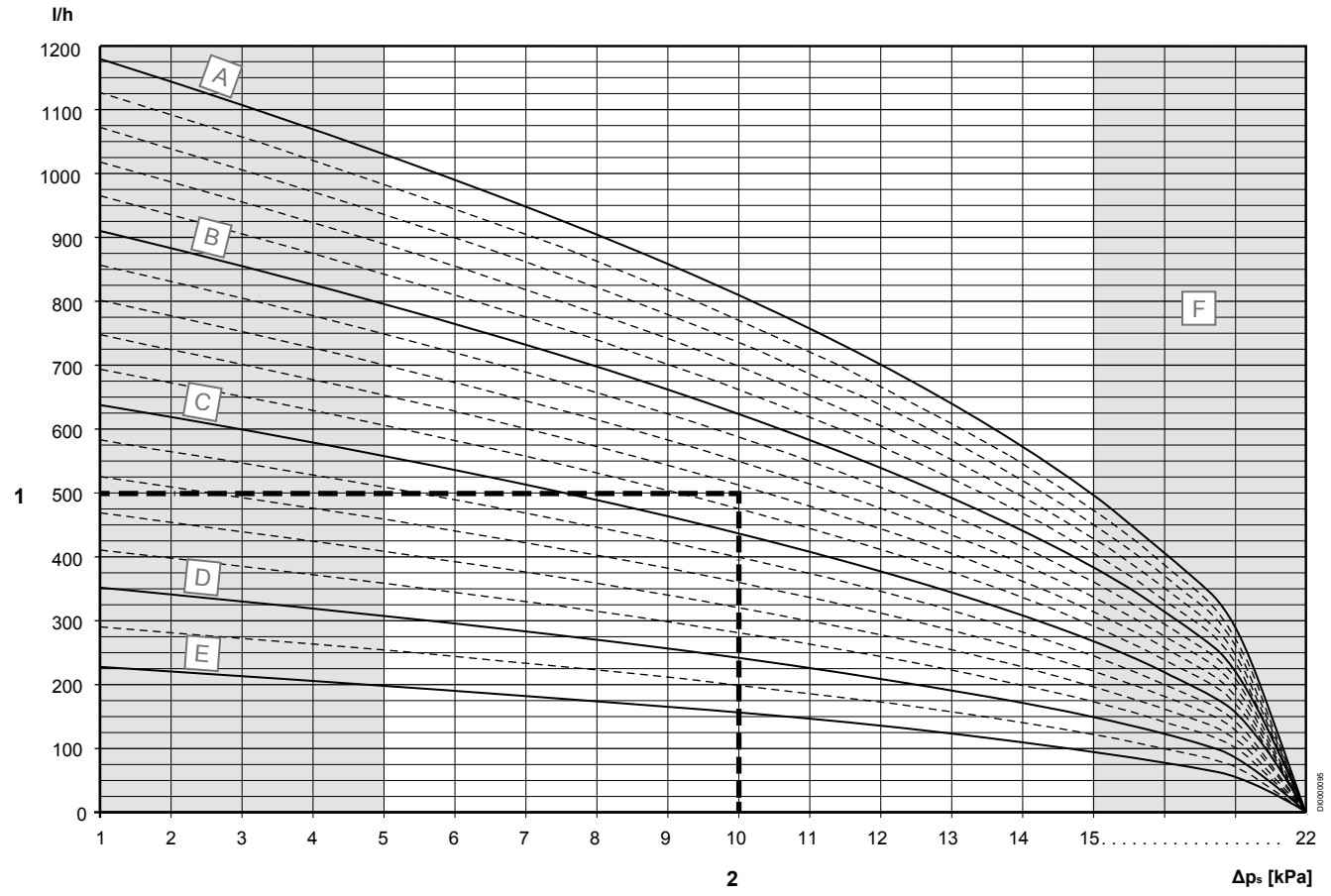
Item	Description
A	Return temperature °C
B	Tapping capacity in litres/minute (l/min)

Tapping capacity 40 K (10-50 °C)



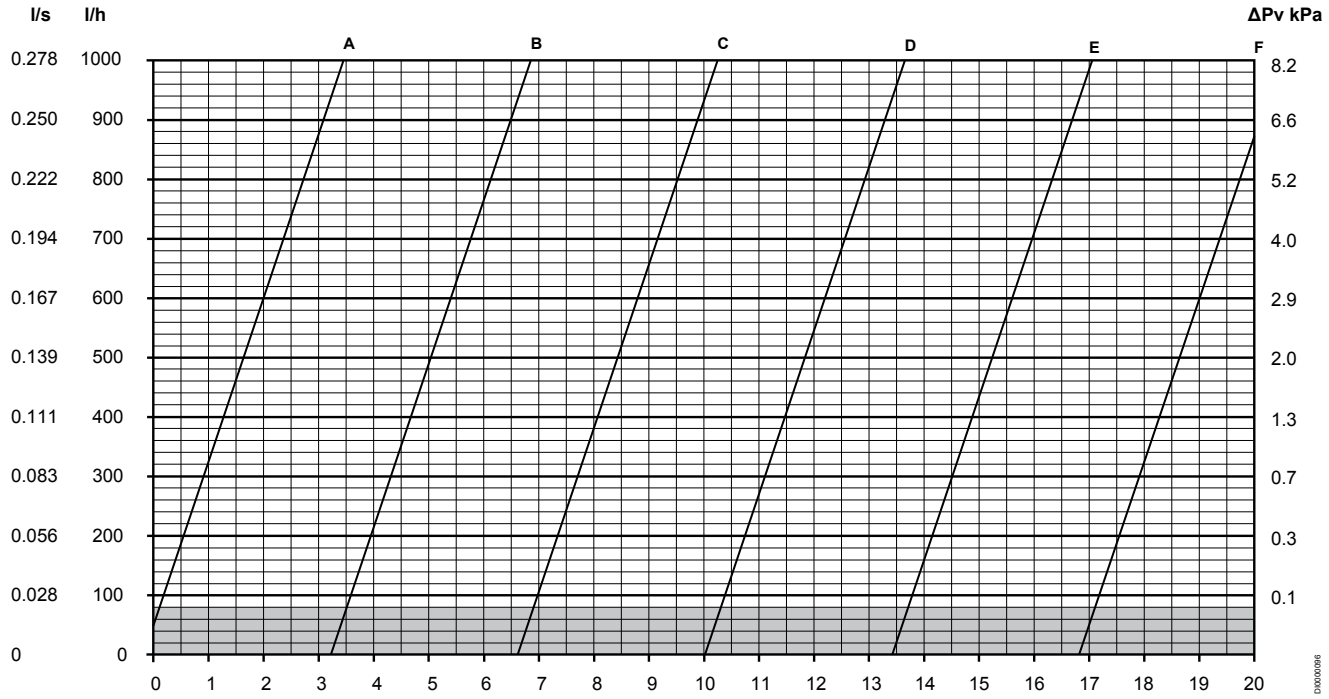
10.5 Regulator flow settings

Combi Port M-Pro RC



Item	Description
A	Preset 4
B	Preset 3
C	Preset 2
D	Preset 1
E	Preset 0,6
F	Outside range

Combi Port M-Pro UFH



Number of turns (default settings)

Item	Description
A	5 kPa
B	10 kPa
C	15 kPa
D	20 kPa
E	25 kPa
F	30 kPa

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