

Uponor

Uponor Combi Port B 1000/S 1000

EN Installation manual



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EN

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General information

Dear Customer,

Before installing the system, the installer must read, understand and comply with these installation and operating instructions. We reserve the right to make technical changes. Please keep these instructions for future use!

- 1 This unit and its accessories may only be installed by qualified specialist personnel.
- 2 The heating system must be planned and implemented in accordance with generally accepted engineering practices, as well as the DIN standards and VDI guidelines described below.

If necessary, please observe the applicable and comparable country-specific regulations and standards. (The list is not necessarily complete.)

DIN 18380	German construction contract procedures (VOB) - Part C
DIN 4109	Sound insulation in buildings
DIN EN 6946	Building components and building elements - Thermal resistance and thermal transmittance - Calculation method
DIN EN 12831	Heating systems in buildings - Method for calculation of the design heat load
DIN EN 128282	Heating systems in buildings - Planning of water-based heating systems
DIN EN 14868	Protection of metallic materials against corrosion
DIN EN 14336	Installation and commissioning of water based heating systems
VDI 2035	Prevention of damage in water heating installations
VDI 4704	Water heating installations - Water quality, pressure maintenance, deaeration - Trainings
VDI/DVGW 6023	Hygiene in drinking-water installations DIN EN 1717 with national supplements DIN 1988-100 Codes of practice for drinking water installations
TRGI	Technical Rules for Gas Installation
EneV	Energy Saving Directive

Please note that, according to EneV, the heating load of the building must be recalculated in the event of a major renovation of the heating system (boiler replacement). The system must be provided with equipment to enable automatic control according to time and temperature.

A water analysis is recommended for every drinking water delivery installation. In the case of warranty claims, water analysis is mandatory.

- 3 The necessary electrical connections, installation, commissioning and maintenance work may only be carried out by qualified specialist personnel. IEC 364 and/or CENELEC HD 384 or DIN VDE 0100, DIN VDE 0190 and IEC Report 446 or DIN VDE 0110 and EN 50178, EN 60204, EN 60335/Part 1 and Part 51 and/or local or national provisions must be satisfied.

Hazard warning: Before performing any work on the controller or the components connected to it, disconnect the controller from the power supply as instructed. The outlets are also in an inactive state under mains voltage.

We would also ask you to install the systems supplied by us according to the installation instructions. Our warranty shall be rendered void in the event of damage caused to the systems or to the heating system or building due to violation of these instructions. Refurbishments or alterations are only permitted after consultation with the manufacturer. The manufacturer accepts no liability for any damage resulting from improper use of the units.

- 4 This product comes in contact with our most precious foodstuff, drinking water. We therefore wish to point out some important installation and operating conditions.

The drinking water installation must be planned and implemented in accordance with the German Infection Protection Act, in particular Article 37 of the Drinking Water Ordinance, DIN 1988, DIN 50930 Part 6, DIN 2000, DIN 2001 and DIN 18381 as well as VDI 6003 and VDI/DVGW 6023 and the DVGW Worksheets quoted below, as well as generally accepted engineering practices. (The list is not necessarily complete.)

These are:

W 551	Drinking water heating and drinking water piping systems - Technical measures to reduce Legionella growth
W 553	Dimensioning of circulation-systems in central drinking water heating systems
W 291	Cleaning and disinfection of water distribution systems
DVGW W 557	Cleaning and disinfection of drinking water installations

Regulations of local water supply companies The applicable and comparable country-specific regulations and standards.

There are a few specific points that we would like to point out, but note that they are not necessarily complete.

- This system may only be installed by qualified specialist personnel.
- During installation, make sure that the open ends of the pipes are protected against dirt during work breaks.
- The safety equipment of the drinking water delivery installation must comply with DIN EN 806-2 and DIN 1988-200 or the comparable national regulations or standards.
- The system must be flushed and disinfected before being commissioned and handed over to the user.
- Hot drinking water pipes must be provided with the prescribed thermal insulation in accordance with EneV and DIN 1988-200.
- The drinking water pipes must be insulated in accordance with recognised engineering practices.
- The cold water pipes should not be insulated together with the heating pipes. Thermal separation or, preferably, spatial separation is required.

In the case of installations in the public sector (multi family homes, hotels, retirement homes, hospitals, sports halls, etc.) care must be taken to ensure that the heated drinking water temperature does not fall below 60°C and the circulating water re-entering the unit reaches a minimum temperature of 55°C. This requires accurate calculation and precise adjustment of the circulating line.

The system is maintained in compliance with DIN EN 806-5 or, outside Germany, in accordance with national regulations or standards.

Use-related wear of wearing parts, such as pumps, built-in valves (moving parts, PM valves, etc.) are not considered as defects.

We recommend a maintenance cycle especially for example for the built-in heat exchanger (test, dirt, sludge, lime), PM valve (functional test), dirt filter, shut-off valves (functional test), valves such as a thermostatic lead module, thermostatic hot water temperature limiter, zone valves, injection valve, differential pressure regulator, pump, volume measuring unit, thermal premixer or other parts.

- 5 Please instruct the system users properly and provide them with these installation and operating instructions together with the inventory documents.

Please check that the units are complete. Any screws that are loosened during transport should be retightened.

In the event of leaks that occur during the pressure test, be sure to depressurise the unit before replacing any affected components.

Never remove individual parts of the unit (or any other built-in components) while the system is still under pressure (risk of injury).

If you have any questions about correct operation or function, please contact your supplier. Of course you are also welcome to contact us directly anytime.

Validity of the instructions

These installation and operating instructions apply exclusively to the manufacturer's unit. The type can be found on the ID plate.

The ID plate is located on the base plate of the unit. The ID plate contains the following information.

- Sales
- Created by
- Device type
- Technical data
- Year built
- Serial number
- Order number
- Production location

ID plate (example)

Device type:	Combi Port B 1000
Hz-VI temperature:	max. 90°C
TWW flow rate:	Exchanger type 1; 12 l/min
Pressure level Hz/TWW:	PN 10/PN 6
Year built:	2015

Serial number: D-10-0026036
Order number: 102628
Made in Germany

Related documents and regulations

- Additional documents are valid in conjunction with these installation and operating instructions.
- When carrying out service work on the unit, it is essential to observe all instructions for supplementary components and components of the heating system.
- In all service work pay attention to:
 - the recognised technical rules for safe and professional operations
 - the statutory regulations for accident prevention
 - the statutory environmental protection regulations
 - the stipulations of employer's liability insurance associations
 - the relevant safety conditions of the DIN, EN, DVGW, DWGW, VDE and AGFW standards
 - the relevant national and EU regulations for other countries
 - and the relevant specifications for the recognised rules of engineering

Document retention

- You should keep these instructions and all other applicable documents in a safe place, so that they are always available.
- Make sure to hand over all the documents to the operator.

Correct operation

The heat interface unit is intended exclusively for drinking water heating, control of the downstream domestic heating system and the measurement of heating energy and cold water consumption for an apartment or similar unit.

Any other or further use is considered improper use. The manufacturer/supplier is not liable for resulting damages. The risk is borne solely by the user. Intended use also includes observance of all relevant documents and compliance with the inspection and maintenance conditions.

Under no circumstances should you deviate from the values given in the technical data.

Personnel and qualifications

The heat interface unit may be operated by the operator or by personnel authorised by the operator. Service work (assembly, commissioning and maintenance) on the heat interface unit requires specialist knowledge. In general, only authorised specialist tradesmen are allowed to carry out service work on the heat interface unit.

Operator

The operator is responsible for the correct operation of the heating system.

The operator must:

- have read and understood the operating instructions,
- have reached a statutory minimum age,
- ensure that the heating system is regularly maintained by an installer.

Specialised installers

The installer is authorised to carry out installation, commissioning and maintenance work (service and repair).

Authorised installers must have a recognised qualification or knowledge of the relevant area of expertise and are responsible for compliance with existing regulations, rules and guidelines.

Work on electrical equipment belonging to the system may only be carried out by a qualified electrician in accordance with the electrical engineering regulations. Only personnel with special knowledge and experience in hydraulics may work on hydraulic equipment.

Installation, commissioning and maintenance

For your own safety, please note that the installation, commissioning and maintenance of the heat interface unit must be carried out by sufficiently qualified personnel.

Basic safety information

Observe the following instructions for your own safety and the safety of your environment.

Danger from electric shock

Controllers and pumps are under mains voltage. Contact with live parts can be fatal or cause serious injury.

- Switch off the power supply immediately when working on electrical components.
- Work on the electrical system may only be carried out by qualified electricians.
- Never touch electrical components with wet or damp body parts.
- Never pull on electrical cables.

Avoid the risk of burning and scalding

The surfaces of individual components and the water at the tap can become very hot.

- Avoid contact with hot surfaces.
- Carefully check the water temperature with a gauge before touching it

Leaks

If leaks occur, you must follow the instructions below.

- Close all shut-off valves immediately.
- Repair the leak in the appropriate manner.

Avoid frost damage

Without hot water and power supplies, the heat interface unit is not protected against frost.

- Take the appropriate steps to ensure supply and notify the operator that the heat interface unit is in operation during a period of frost (even when the operator is away).
- Take the appropriate steps to ensure supply and notify the operator that a sufficient temperature must be maintained at the installation site of the heat interface unit and in the accommodation.
- Avoiding property damage due to improper maintenance
- Perform yearly maintenance on the station.

Information displayed on the device

- Observe the instructions displayed directly on the device.
- Maintain such displayed instructions in a fully legible state.

Material damage due to incorrect additional components, avoidance of spare and wearing parts, use of unauthorised components, spare parts and wear parts that have not been tested with the system can damage the heat interface unit.

The installation of non-approved components, spare parts and wear parts, as well as unauthorised modifications and alterations are considered to be improper and may restrict the function, safety and warranty. We accept no liability in such cases.

- Use only original parts from the manufacturer or spare parts approved by the manufacturer for replacement purposes.

Recommendations, optimum values for water

dH	<dH 0.11
pH value	>8.2 - >8.5 Heating water

Technical data

Materials

Fittings	Brass/dezincing resistant brass
Pipes	Stainless steel 1.4401
Heat exchanger	Stainless steel 1.4404/copper solder and diffusion

General information

Max. operating temperature	90°C
Operating pressure	PN10
Min. cold water pressure	approx. 2 bar
Max. cold water pressure	approx. 4 bar
Connections	3/4" or 1" IG, flat-sealing

Device and functional description

EN

Function description

The heat interface unit supplies a residential unit with hot water and heating. The drinking water is heated as required by means of a stainless steel plate heat exchanger using the through flow principle **1**. The great thermal length of the heat exchanger ensures very good cooling of the heating water and low return temperatures. The energy is supplied by heating water with a flow temperature of at least 55°C via the hot water supply line.

The drinking water temperature is controlled by a pressure-controlled proportional-quantity controller (PM valve **2**). The PM valve only opens when hot water is dispensed. Upon completion of dispensing, the valve stops the heating of the exchanger.

If constant flow temperatures are assumed, the same dispensing temperature is always achieved with the proportional flow control for small and large dispensing volumes.

Thanks to the thermostatic hot water temperature limiter **13**, a stable dispensing temperature can be achieved even with fluctuating flow temperatures (optional).

A thermostatic lead module **12** (optional) is used on the last unit on a line or at greater distances from the main line and prevents the risers from cooling down when not dispensing.

The unit can be balanced with the regulating **10** valve for the heating side. A 2-point actuator can be mounted on the valve, which is controlled by a room thermostat (optional).

The differential pressure controller **15** (optional) in the heat interface unit ensures correct hydraulic autobalancing. If this controller is not installed in the station, it must be incorporated in the pipeline.

Components and device connections

Basic equipment for narrow and wide version

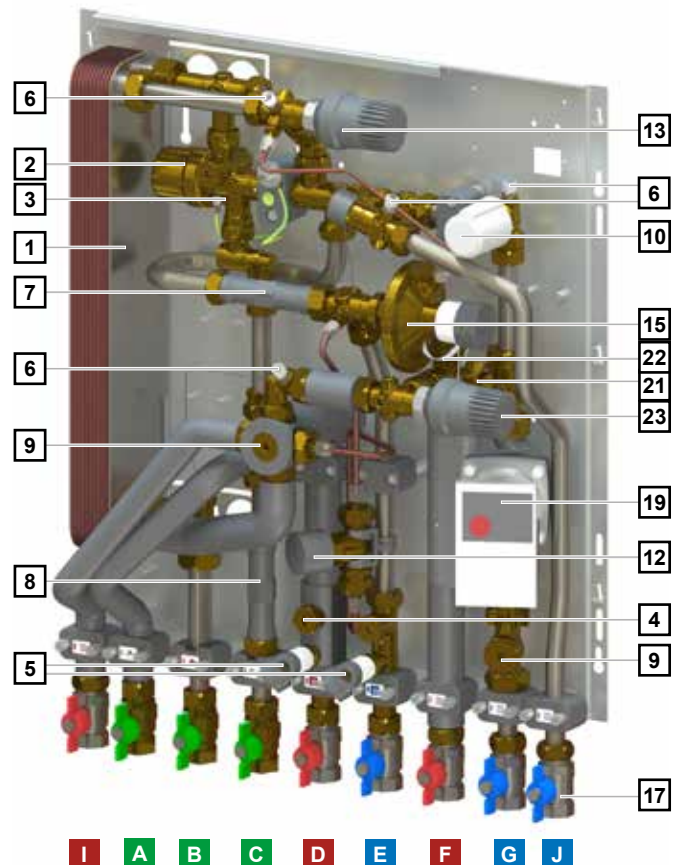
- 1 Plate heat exchangers
- 2 Proportional volume control (PV control)
- 3 Coldwater orifice plate (in screw connection)
- 4 Sensor pocket WMZ M10x1, submersible
- 6 Ventilation
- 7 WMZ adaptor
- 9 Dirt collector
- 10 Zone valve for limiting heating flow -for apartments

- B TWW in apartments
- C TW from pipeline
- D HZ-VL-PR
- E HZ-RL-PR
- F HZ-VL-SEK
- G HZ-RL-SEK
- I HZ-VL add-on HK
- J HZ-RL add-on HK

Additional components with extended equipment

- 5 Draining
- 8 Coldwater meter adaptor
- 12 Thermostatic lead module
- 13 Thermostatic hot water temperature limiter
- 15 Differential pressure regulator primarily in the station input
- 17 Isolating ball valve
- 19 Pump
- 21 Check valve
- 22 Control valve for bypass section
- 23 Thermostatic FBH regulation 20-50° C

- A TW in apartments

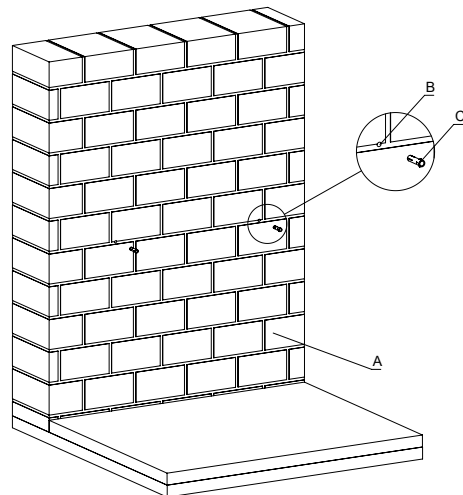


Note: The illustration shows a sample set-up. Individual modules may vary in appearance. The legend-based numbering is not continuous.

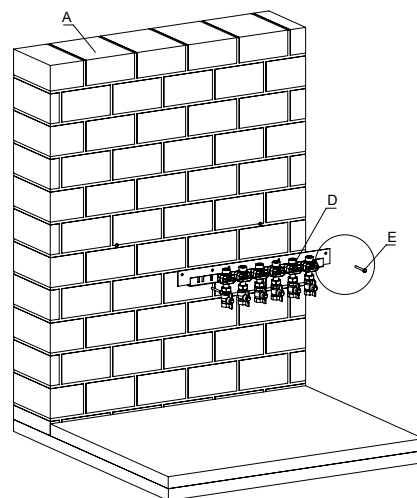
On-wall mounting

On-wall mounting rail

- 1 Mark the hole positions on the wall.
Note: see also the dimensional drawings on page 11.
Pay attention to horizontal alignment!
- 2 Drill holes.
- 3 Screw the on-wall mounting rail to the wall using the mounting material provided.



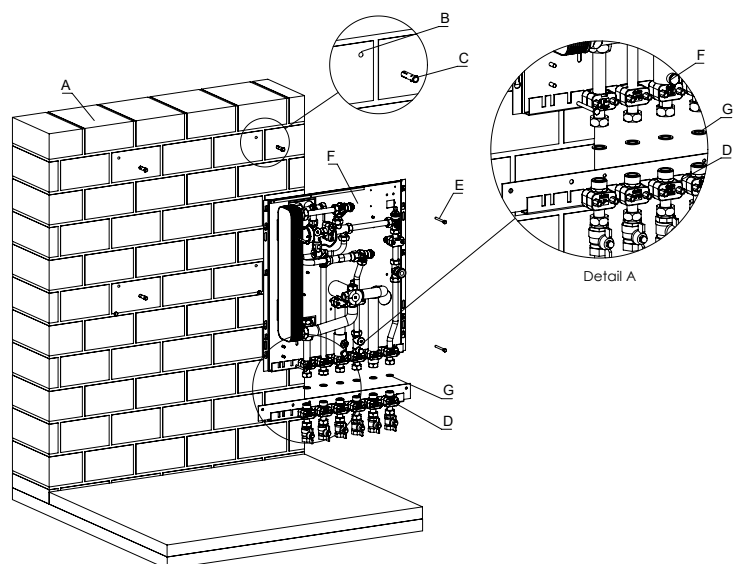
The connection rail is fixed to the wall and the piping to the on-wall mounting rail can be installed.



Installing the heat interface unit

Connecting the on-wall mounted rail and heat interface unit

- 1 Mark the hole positions on the wall.
Pay attention to horizontal alignment.
- 2 Drill holes.
- 3 Screw the heat interface unit to the wall using the mounting material provided.
- 4 The 3/4" screw connection of the heat interface unit must be joined to screw connections of the on-wall mounting rail (3/4" AG).
The flat seals provided must be inserted before joining.
The screw connections are to be tightened with lock nuts.
(detail A)



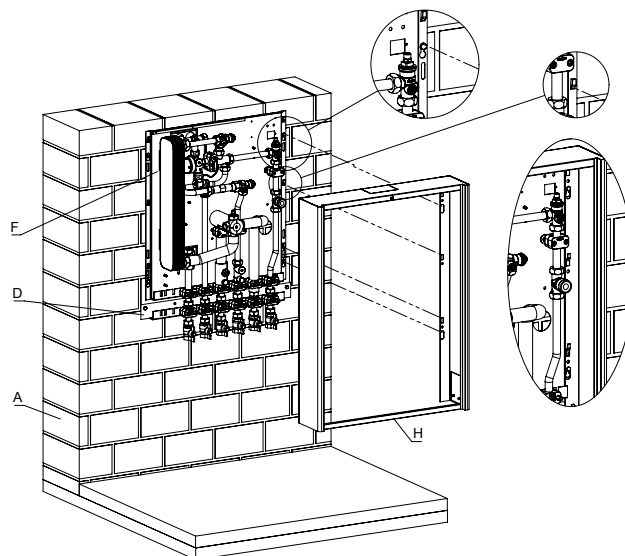
Please note:

The seal of the screw connections should be checked!

- | | | | |
|---|---------|---|---------------------|
| A | Masonry | E | Hexagonal bolt |
| B | Hole | F | Heat interface unit |
| C | Anchor | G | Seal |
| D | AP rail | H | AP covering |

Installing the on-wall covering

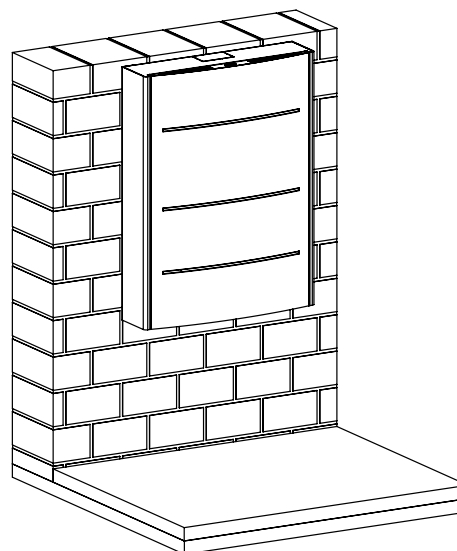
- 1 The covering is to be placed on the mounting of the base plate of the heat interface unit.



Start-up

Observe the following flushing instructions during commissioning:

- 1 Before filling the device, you must first thoroughly flush the entire heating system and the apartment heating system. Before commissioning, you must check the dirt collectors and, if necessary, flush/clean them.
- 2 Check the tightness of the flat-seal connections.
- 3 When tightening connections, always lock the opposite side. Vent the accumulated air in the heat interface unit by opening the vents. Observe the system operating pressure and top up if necessary.



Caution:

Mount according to the condition of the walls and supports!

Note:

The illustration shown is a schematic representation without any claim to completeness. All data provided without warranty.

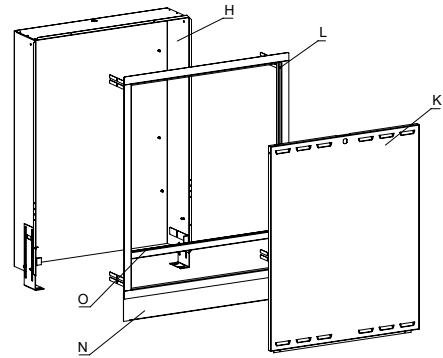
A	Masonry	I	Washer
B	Hole	J	Screed
C	Anchor	K	Door
D	AP rail	L	Frame
E	Hexagonal bolt	N	Screed impact plate
F	Heat interface unit	M	Bolt
G	Seals	O	Cross strut
H	Case	P	Bare floor

In-wall mounting

Preparation of an in-wall-mounted box for installation

Dismantle the frame and the door by drawing it out of the case.

Keep the parts for later installation.



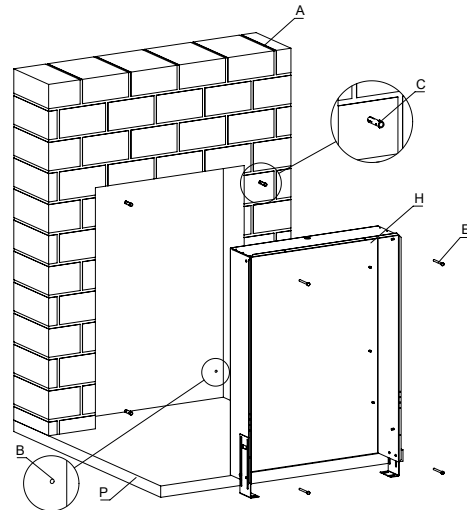
Installing an in-wall mounted box

- 1 Mark the hole positions in the wall aperture. Pay attention to horizontal alignment.

Note: For **freestanding installations**, set the height according to the table and adjust the feet accordingly.

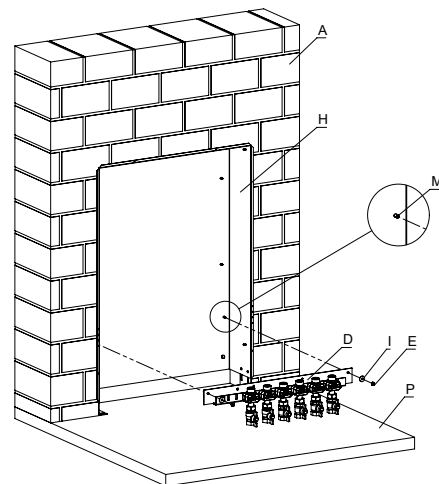
In the case of **wall-mounted installations** in cases, the incised metre mark must be observed.

- 2 Drill holes.
- 3 Screw the prepared case into the wall aperture using the mounting material provided.



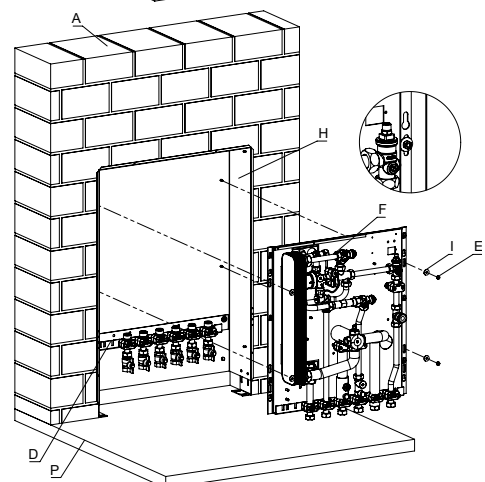
Mounting the connection rail

- 1 Mount the connecting rail on the bolts provided in the case (see dimensional drawing) using the mounting material provided.
- 2 The connection rail is fixed in the in-wall mounting case and the piping for the rail can be installed.



Installing the heat interface unit

- 1 Mount the heat interface unit on the bolts provided (see dimensional drawing) and on the case using the mounting material provided.

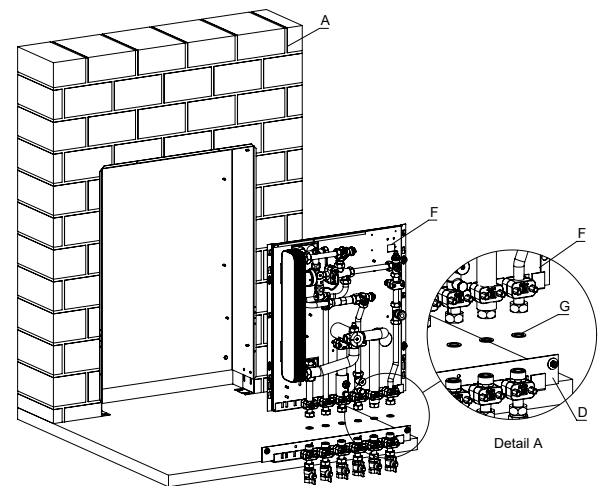


Connecting the connection rail and heat interface unit

- 1 The 3/4" screw connection of the heat interface unit must be joined to screw connections of the connection rail (3/4" AG).
- 2 The flat seals provided must be inserted before joining. The screw connections are to be tightened with lock nuts. (detail A)

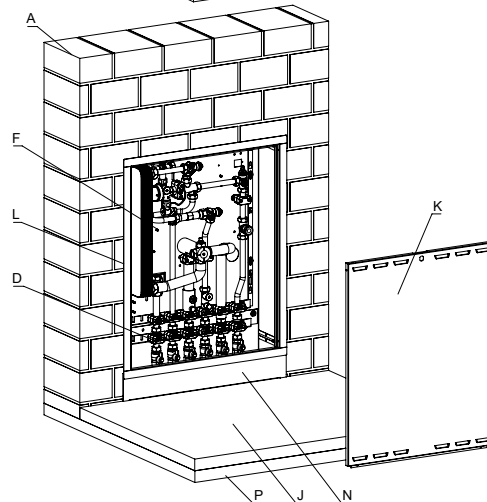
Please note:

The seal of the screw connections should be checked!



Installing the frame and door

- 1 Install the door and frame of the in-wall mounting box.
The screed can now be laid.

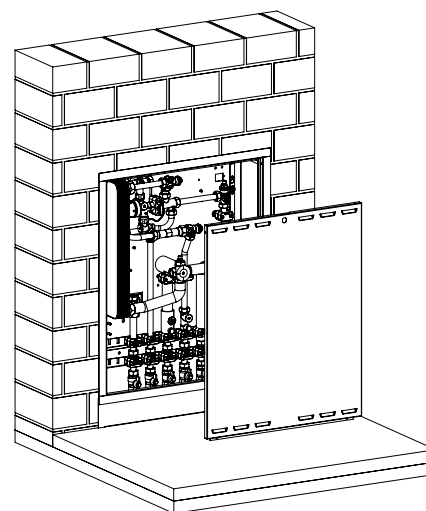


Start-up

Observe the following flushing instructions during commissioning:

- 1 Before filling the device, you must first thoroughly flush the entire heating system and the apartment heating system.
Before commissioning, you must check the dirt collectors and, if necessary, flush/clean them.
- 3 Check the tightness of the flat-seal connections.
- 4 When tightening connections, always lock the opposite side.
- 5 Vent the accumulated air in the heat interface unit by opening the vents.

Observe the system operating pressure and top up if necessary.

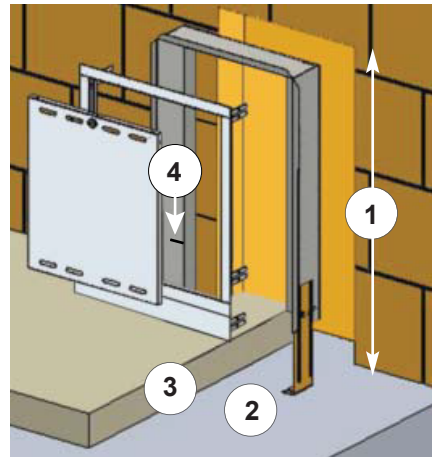


A	Masonry	I	Washer
B	Hole	J	Screed
C	Anchor	K	Door
D	AP rail	L	Frame
E	Hexagonal bolt	N	Screed impact plate
F	Heat interface unit	M	Bolt
G	Seals	O	Cross strut
H	Case	P	Bare floor

Recess dimensions

Wall-mounted versions should be aligned with the metre mark. This is incised on the case (4).

Sendzimir-galvanized in-wall-mounted box, frame and door, white powder-coated (similar to RAL 9016). Press-on door with chrome-plated pivot lock and horizontal ventilation openings to prevent the build-up of heat and condensation.
Installation depth: 150 mm



Box type	Recess dimensions W x H
WS-UP 61-85-15	650 x 870 mm

Version on feet

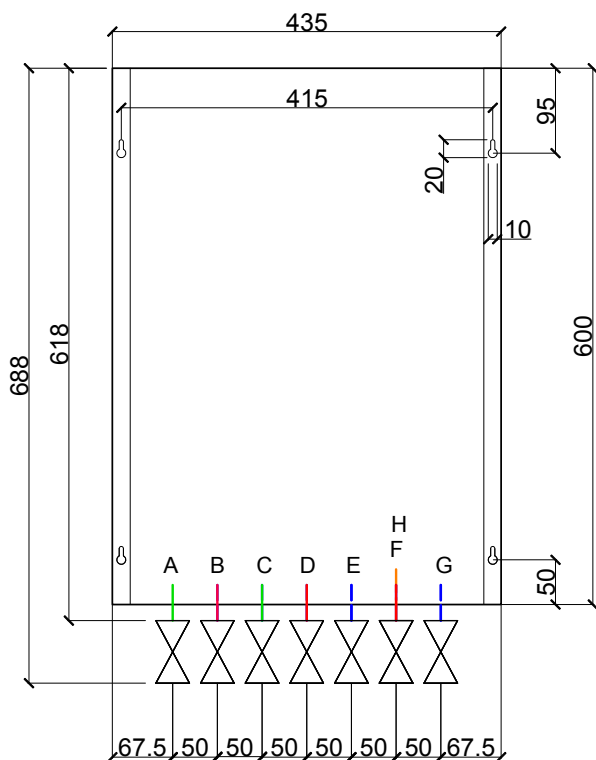
with height-adjustable feet/screed impact strip.

The recess height for the in-wall-mounted housing (1) is calculated according to the total height of the floor (3) and is measured from the bare floor (2) (see table). The specified floor installation height is set on the feet. This ensures that the screed ends below the frame so that this can be easily attached at a later point.

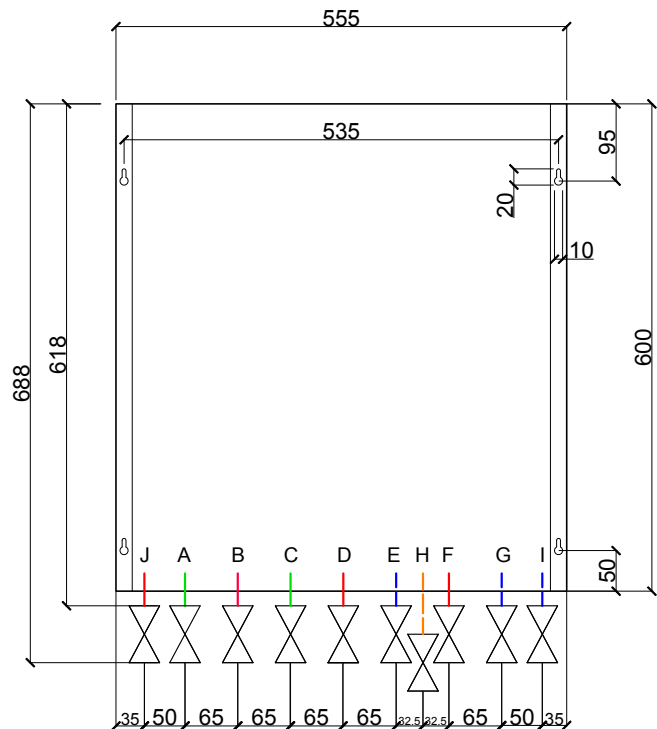
Cabinet type	Recess dimensions W x H
WS-UP 61-92-15 ST	650 mm x see Table A
WS-UP 61-120-15 ST	650 mm x see Table B
WS-UP 81-120-15 ST	850 mm x see Table B

	Floor construction (3)	Recess height (1)
A	180 mm	1030 mm
	160 mm	1010 mm
	140 mm	0990 mm
	120 mm	0970 mm
	100 mm	0950 mm
B	180 mm	1400 mm
	160 mm	1380 mm
	140 mm	1360 mm
	120 mm	1340 mm
	100 mm	1320 mm

Dimensional drawing, base plate, narrow version



Dimensional drawing, base plate, wide version



Start-up

Connecting the hydraulic system

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Risk of injury due to improper installation!

Leaking connections can cause personal injury.

- Make sure to connect the hydraulics correctly.
- When connecting the pipes, make sure to use the supplied seals.

To ensure the proper functioning of the heating system, you must not reduce the specified cable cross-sections. The connections for optional components (e.g. meters) are capped with black plastic adaptors in the device.

If the fittings are not to be replaced with optional components, you must replace the plastic fittings with stainless steel 1.4401 pipes. These can be obtained from your supplier.

- Make sure to connect the heating supply and return as well as the hot and cold water correctly.
- To fill the central heating system, install a filling and draining valve on site at a suitable central point.
- Observe the hydraulic diagram as an installation guide.

Connect the hydraulics in the following steps:

1 Prepare pipelines.

Prepare the pipelines according to your plan.

2 Install the pipelines.

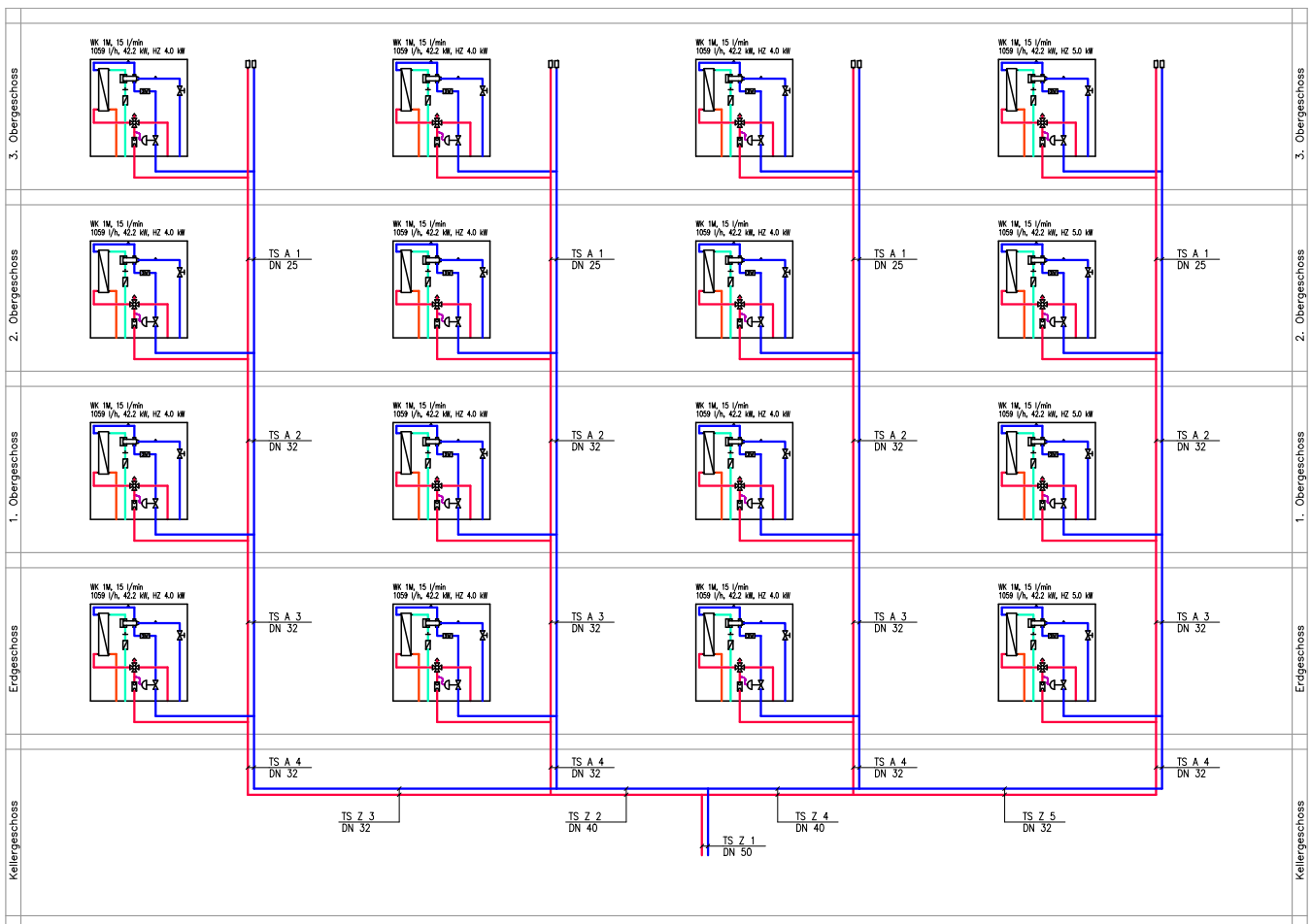
Install the pipelines in the heat interface unit according to your plan.

3 Insulate pipes according to national regulations.

Insulate the pipes with thermal insulation.

The heat interface unit is connected hydraulically.

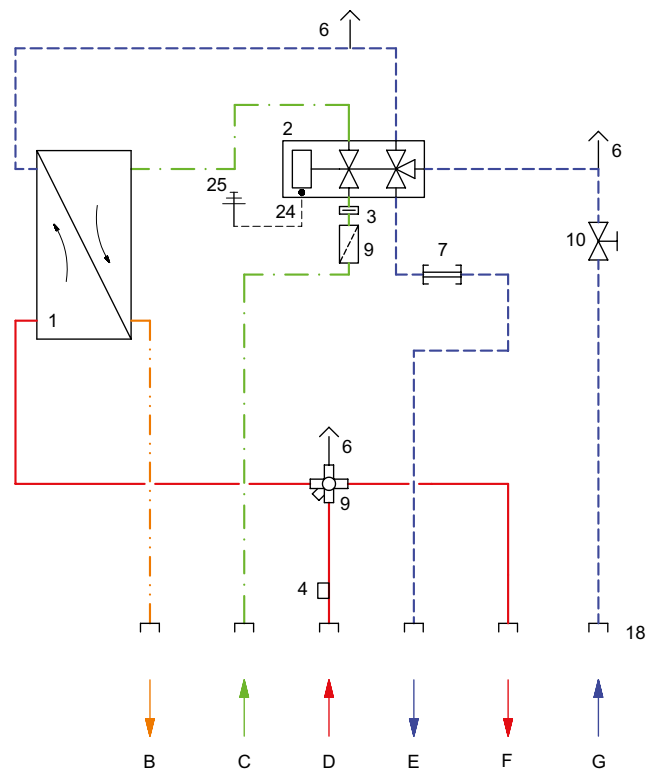
Sample application: Implementation with a flow rate up to 1 m³



Hydraulic schemes, narrow/wide version

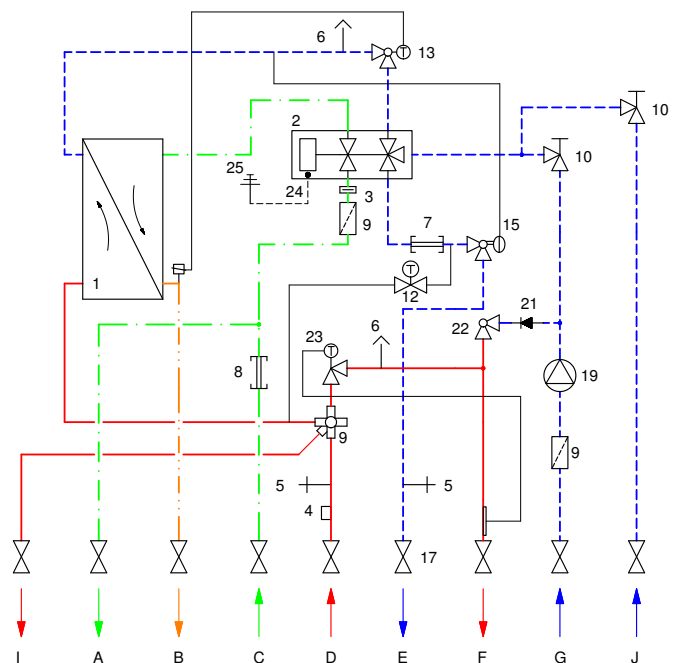
Basic equipment for narrow and wide version

- 1 Plate heat exchangers
 - 2 Proportional volume control (PV control)
 - 3 Coldwater orifice plate (in screw connection)
 - 4 Sensor pocket WMZ M10x1, submersible
 - 6 Ventilation
 - 7 WMZ adaptor
 - 9 Dirt collector
 - 10 Zone valve for limiting heating flow -for apartments
 - 18 Union nut
 - 24 Equipotential bonding connection
 - 25 Earthing on site
-
- B TWW in apartments
 - C TW from pipeline
 - D HZ-VL-PR
 - E HZ-RL-PR
 - F HZ-VL-SEK
 - G HZ-RL-SEK



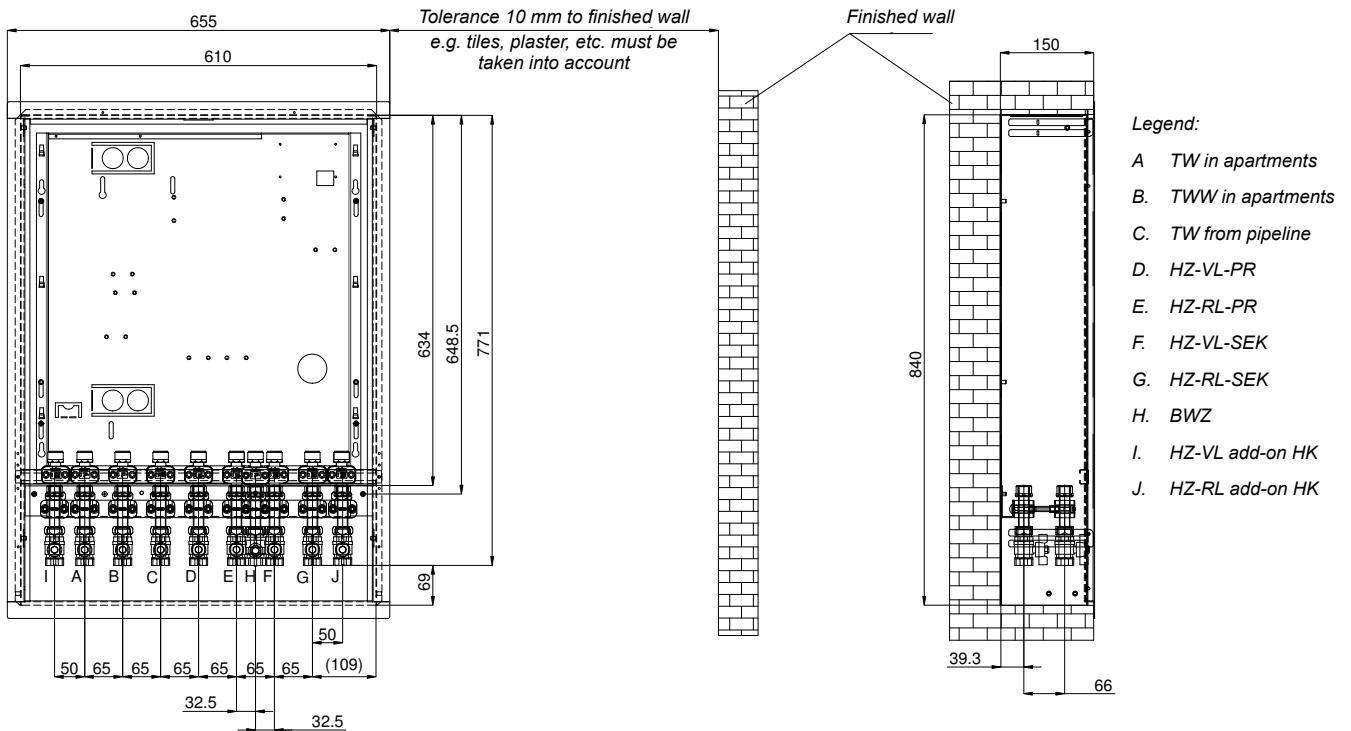
Equipment for narrow and wide version (cover page)

- 1 Plate heat exchangers
 - 2 Proportional volume control (PV control)
 - 3 Coldwater orifice plate (in screw connection)
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 - 13 Thermostatic hot water temperature limiter
 - 15 Differential pressure regulator primarily in the station input
 - 17 Isolating ball valve
 - 19 Pump
 - 21 Check valve
 - 22 Control valve for bypass section
 - 23 Thermostatic FBH regulation 20-50°C
 - 24 Equipotential bonding connection
 - 25 Earthing on site
-
- A TW in apartments
 - B TWW in apartments
 - C TW from pipeline
 - D HZ-VL-PR
 - E HZ-RL-PR
 - F HZ-VL-SEK
 - G HZ-RL-SEK
 - I HZ-VL add-on HK
 - J HZ-RVL add-on HK

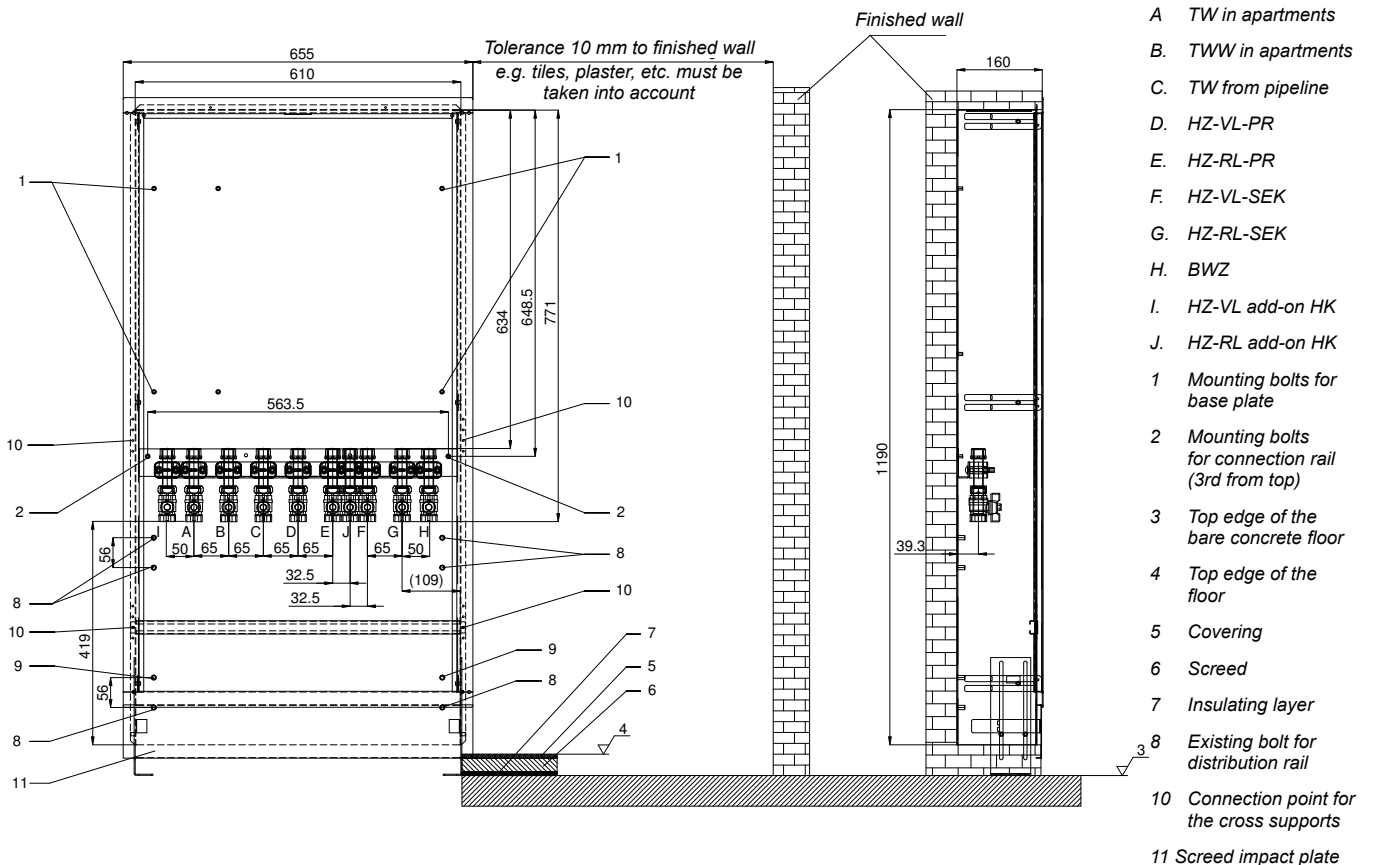


Dimensional drawings for narrow version

Dimensions for narrow version of in-wall-mounted distribution cabinet (width 610 mm - cabinet height 840 mm)

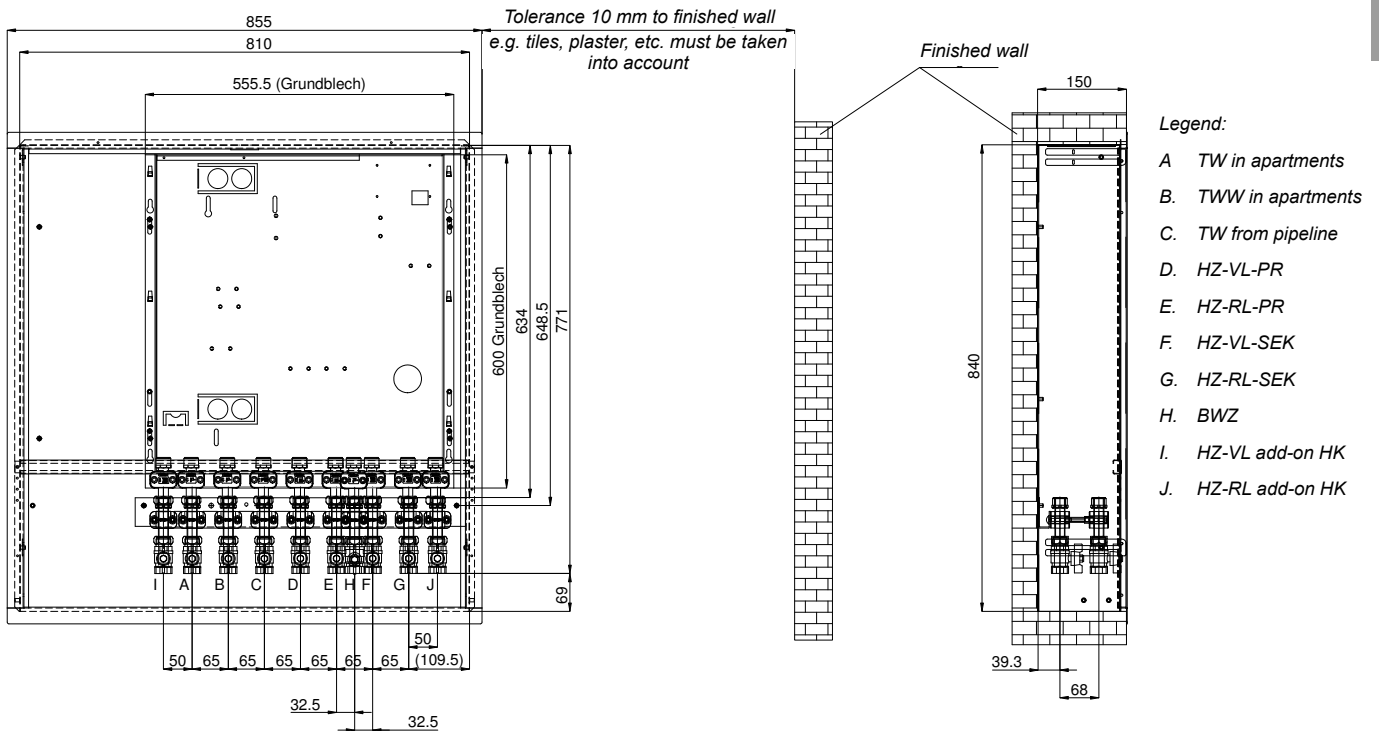


Dimensions for narrow version of in-wall-mounted distribution cabinet (width 610 mm - cabinet height 1190 mm)

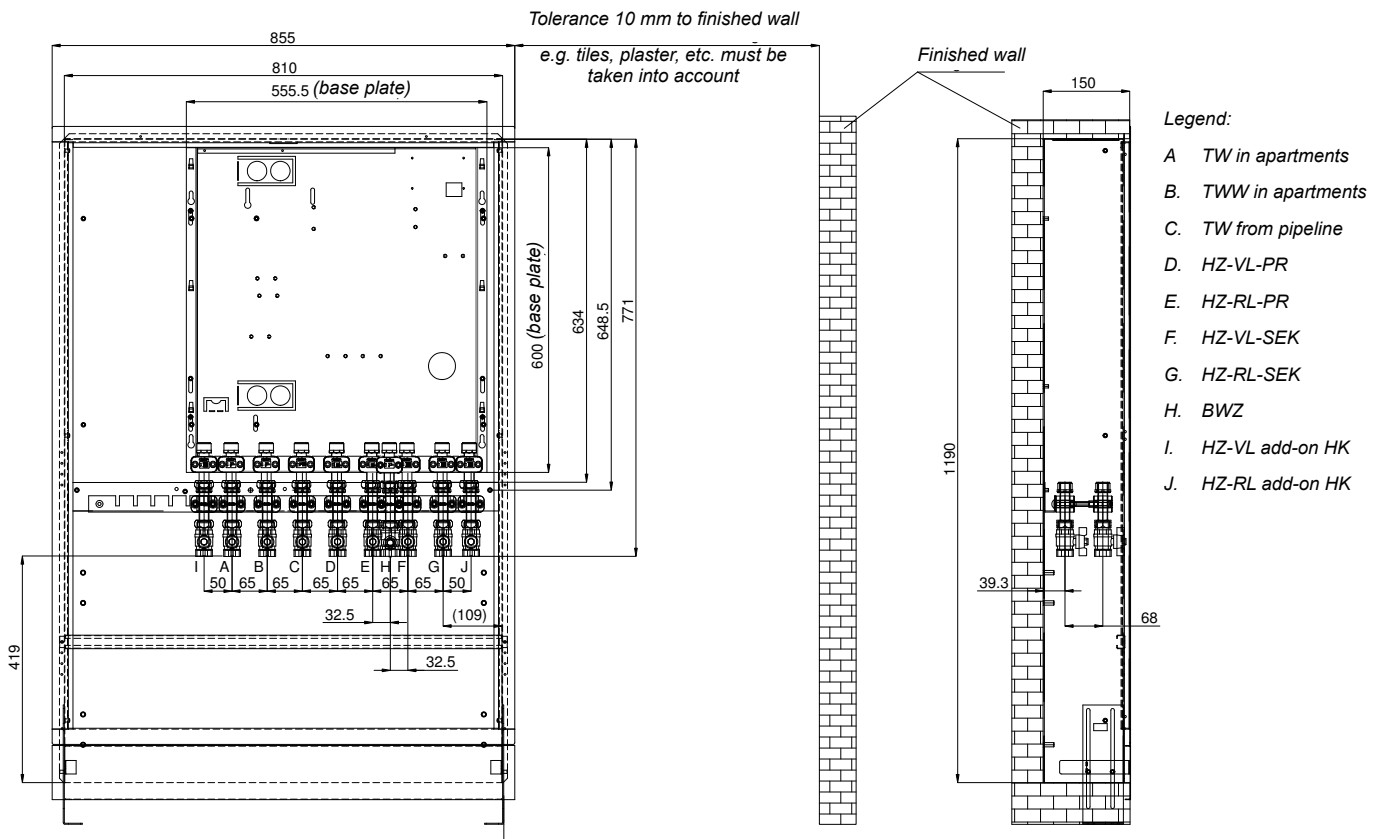


Dimensional drawings for wide version

Dimensions for wide version of in-wall-mounted distribution cabinet (width 810 mm - cabinet height 840 mm)



Dimensions for wide version of in-wall-mounted distribution cabinet (width 810 mm - cabinet height 1190 mm)



Installed parts

EN



Caution!

Property damage due to improper commissioning!

Improper commissioning can lead to damage to property.

- Only an authorised specialist can carry out commissioning.

Observe the following flushing instructions during commissioning:

Before filling the device, you must first thoroughly and carefully flush the entire heating system and the apartment heating system. Before commissioning, you must check the dirt collectors and, if necessary, flush/clean them. Check the tightness of the flat-seal connections in the heat interface unit. If necessary tighten the connections. When tightening connections, always lock the opposite side.

Vent the accumulated air in the heat interface unit by opening the venting screw. Observe the system operating pressure.

To commission the heat interface unit, follow these steps:

- 1 Testing the device prior to commissioning
- 2 Filling
- 3 Flushing
- 4 Venting
- 5 Checking settings
- 6 Completing the acceptance protocol (commissioning)
- 7 Handing over the device to the operator

Testing the device prior to commissioning

Prior to commissioning, you must verify proper installation through visual inspection as follows:

- Check that any dirt accumulated during installation and the dust on the unit have been removed properly.
- Check the seals on all pipes and device connections.
- Optional: Check that the electrical connections have been made correctly, that the polarity of the mains connection is correct and that grounding is assured.

If you find an installation error during visual inspection, you must temporarily stop commissioning and rectify the error.

At the end of each line, you must perform a line vent. This prevents the units from drawing in air, which can cause interference on the units.

To optimally vent the heat exchanger, this must be carried out during WW dispensing.

Fill/flush

To fill the heat interface unit, follow these steps:

- Fill the heat interface unit with heating water at one of the **filling and draining valves** **5**.

To flush the heat interface unit, follow these steps:

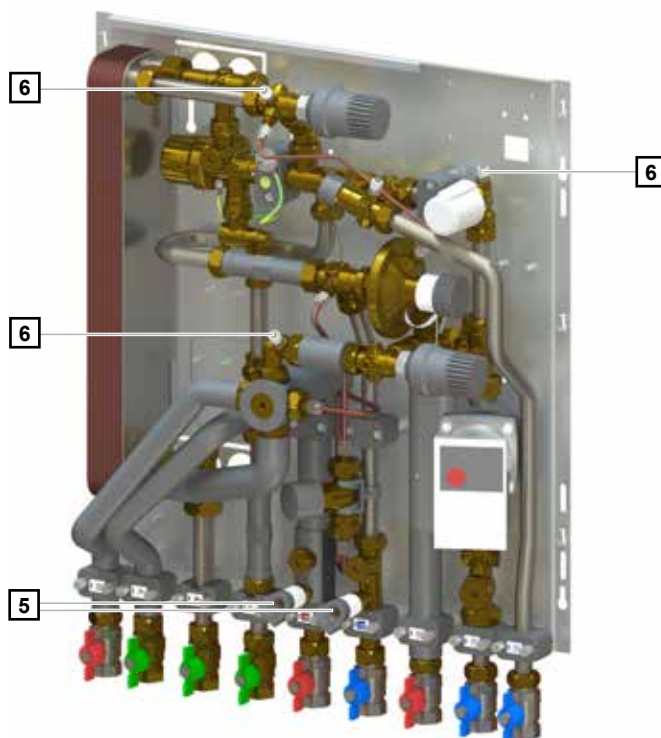
- Open the other filling and draining valve.
- Allow the heating water to drain into a suitable collecting vessel from the heat interface unit.

Venting

To vent the heat interface unit, follow these steps:

6 Ventilation valves

- Vent the heat interface unit at the ventilation vents.



8 Cold water apartment outlet

This meters the total cold water consumption of the apartment. An adaptor for the cold water meter 3/4" x 110 mm and a T-piece for the apartment outlet, mounted in the unit and checked for leaks.

Operating pressure: PN 10
Max. operating temperature: 90°C

15 Differential pressure regulator (DRG) in the station input

A higher set value means a higher pressure difference, possibly an equally high volume flow and possibly also flow tests by means of the downstream valves, e.g. the thermostatic valves.

A lower setting means a lower pressure difference, possibly a lower volume flow and possibly also less flow noise from the thermostatic valves, for example.

- Turn the hand wheel to set the desired setpoint continuously.

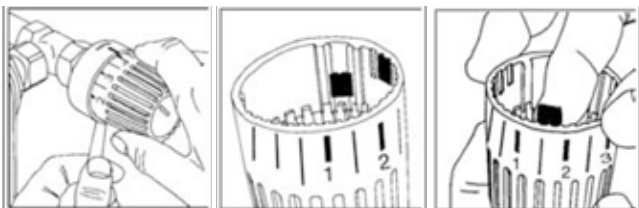
15 Adjustment range, narrow version: 50-300 mbar (default 200 mbar)

15 Adjustment range, wide version: 100-400 mbar (default 200 mbar)

12 Thermostatic lead module

- Set the line temperature at the thermostatic lead module to approx. 15 K below the mains supply temperature.
If the line maintenance temperature setting is too low, this can lead to longer waiting times when preparing domestic hot water.
If the values are set too high, this can cause the heating water return temperature to rise.

13 Thermostatic hot water temperature limiter

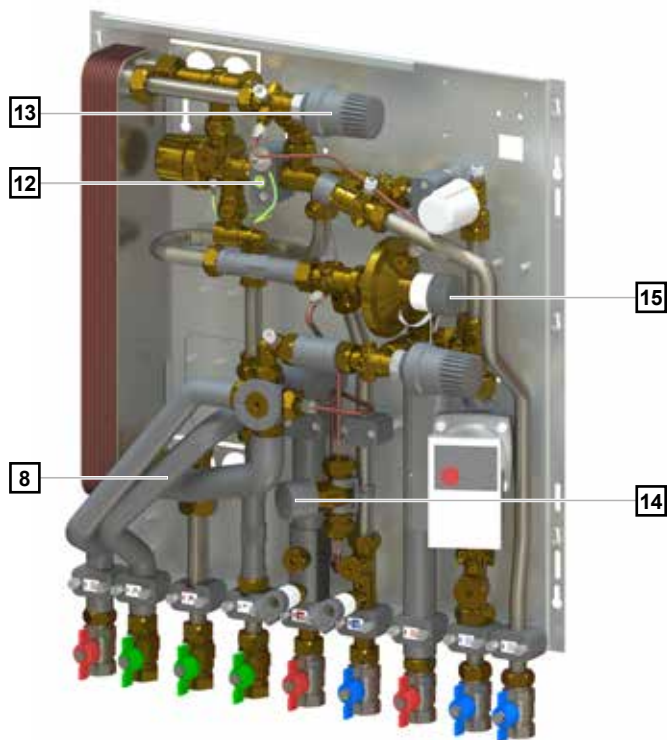


Changing the thermostatic hot water temperature limiter setting

Scale value	1	2	3	4	5	6	7	8
WW temp. 35-70°C	35	40	45	50	55	60	65	70

To change the default setting, follow these steps:

- 1 Remove the thermostatic tip from the valve.
 - Please note: Make sure not to bend or break the capillary line.
 - Using a welding wire, slide out the locking tabs next to the adjustment number on the left and right in the direction of the union nut. If the valve tip is only restricted in an upward direction (valve can be closed), then you only need to remove one locking tab.



- 2 Remove the top part of the valve head.
 - Lift out the internal anchor using a strong round object.
- 3 Adjust the hand wheel.
 - Line up the white marking on the toothed sleeve with the white alignment mark underneath the lettering.
 - Gently turn the hand wheel to setting 5.
 - Turn the hand wheel from setting 5 to the desired setting
Adjustment example: for 50°C set to scale value 4.
- 4 Block the setting.
 - Insert the clips behind the number set on the hand wheel.
 - Reinstall the hand wheel to the set value so that the hand wheel is blocked with the new setting.
- 5 Install the thermostatic tip.
 - Screw the valve tip onto the valve The standard setting is changed.

14 Return temperature limiter (RTB)

The valve has a setting scale. The setting range is printed on the cap. The cap can be secured with the grub screw. Grub screw with hexagon socket 1.5 mm.

Injection circuit (FPI/EPI)

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

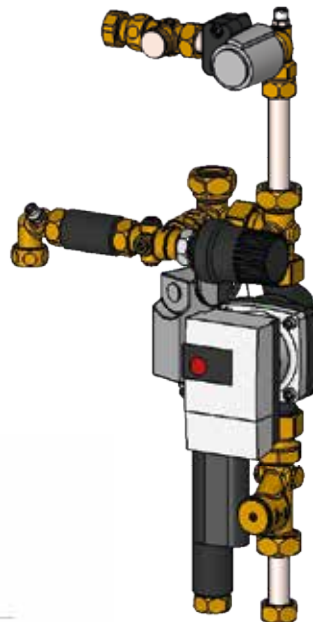
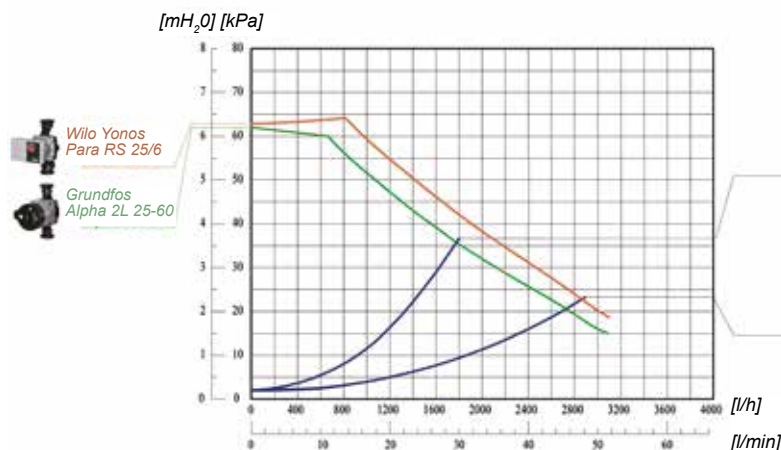
Injection circuit with thermostatic flow temperature control (FPI)

The following overview shows the position of the components.
The bypass is fully open on delivery.

There is an insert check valve mounted in the screw connection of the bypass.

The commissioning and adjustment work of the individual components are explained in detail below.

- 1 Set the circulation pump. A Wilo Yonos pump is installed in the injection circuit: Observe the installation instructions of the pump manufacturer.



Injection circuit with 3-point actuator without emergency function (EPI)

The structure, function and settings of the components in the EPI are identical to the injection circuit with thermostatic flow temperature control (FPI). The difference lies in the temperature control.

In the injection circuit with 3-point actuator without emergency function, the temperature is controlled by an external controller on the actuator. The necessary flow temperature sensor must be installed on the supply line of the constant-volume circuit as a contact sensor on the on-site control.

The drive pinion of the electromotive actuator is moved by applying the electrical operating voltage to Y1 or Y2 in Open or Closed direction. As soon as the voltage is switched off, the drive remains in its current position.

The drive also has a force-dependent shut-off function for overload and in the stroke limit positions.

The manual adjustment system allows the actuator to be moved to any desired position using an Allen key (3 mm).

If there is a control signal pending from the controller, this primarily determines the position. If the manually set position is to be maintained, the connection cable must be disconnected or the operating voltage switched off.

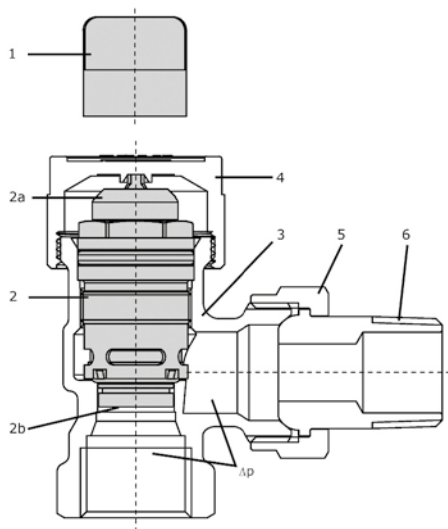
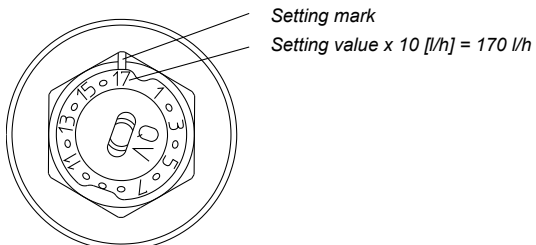
- Observe the operating instructions of the control unit for control purposes.
- Observe the following instructions for installing and mounting the actuator.

The electromotive actuators can be operated in any mounting position, except vertical mounting facing downwards.

10 AQ dynamic zone valve

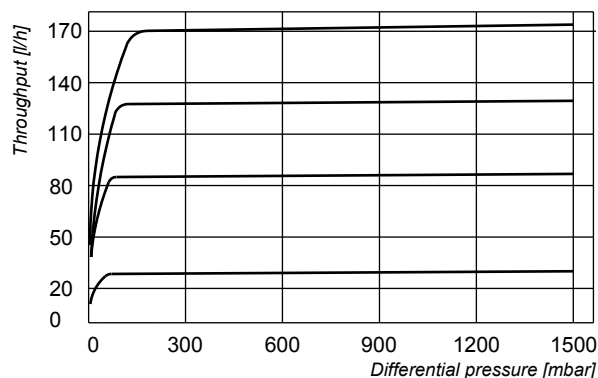
- This is adjusted by means of the pre-setting key on the hand wheel. This prevents the manipulation of the preset value by unauthorised persons.
- The valve is infinitely adjustable. It is possible to correct the setting value while the system is running.

10



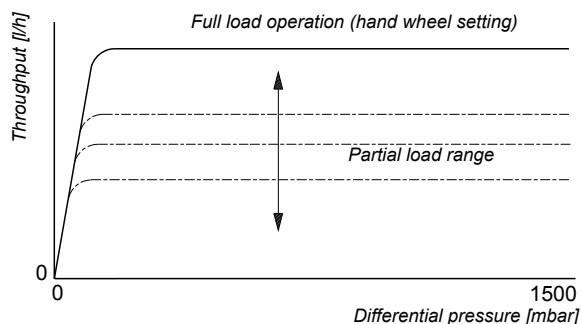
- 1 Pre-setting key
- 2 "QA" valve insert
- 2a Hand wheel
- 2b Filter screen
- 3 Housing
- 4 Protective cap
- 5 Union nut
- 6 Outlet
- Δp Differential pressure

Valve characteristic curves at various hand wheel presets in full load operation



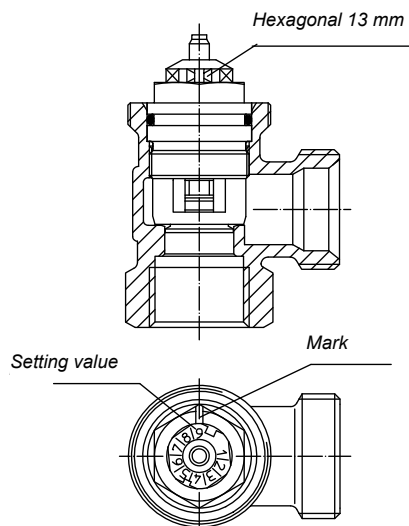
The hand wheel setting adjusts the maximum required flow (full load operation) of the valve. It cannot be exceeded. A thermostat or actuator mounted on the valve can be used to control the flow in partial load operation up to this max. flow.

Valve characteristic curves in partial load operation:



10 AQ static zone valve

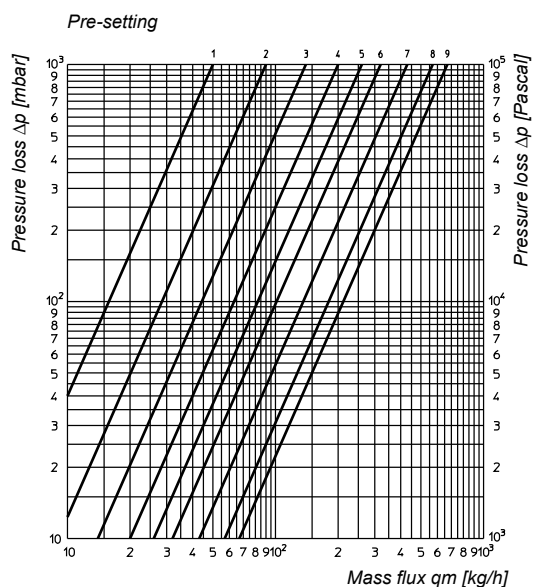
- Adjust the default setting according to the desired value with a SW 13 open-ended spanner or with a special key.
- Please note: The required setting value must correspond to the marking (see fig.). The default setting between "1" and "9" can be selected. It is possible to correct the setting while the system is running; water will not escape. Works pre-setting 7.



2 K P deviation

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

All nominal widths with 2K P deviation

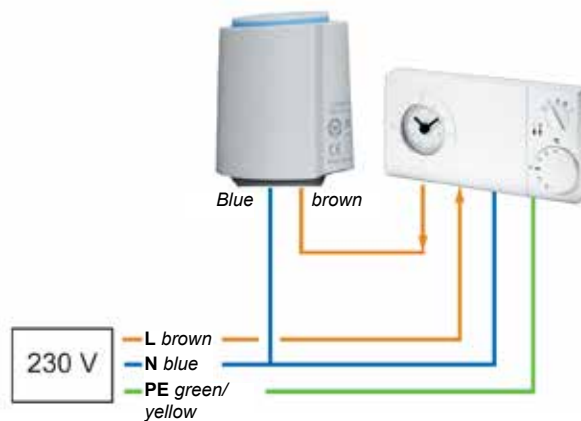


Actuator on the zone valve

The thermal actuator is mounted on the zone valve and controlled by a room thermostat located in the control room. All users can set the required room temperature here.

This can only be used with a version without pump module or system separation.

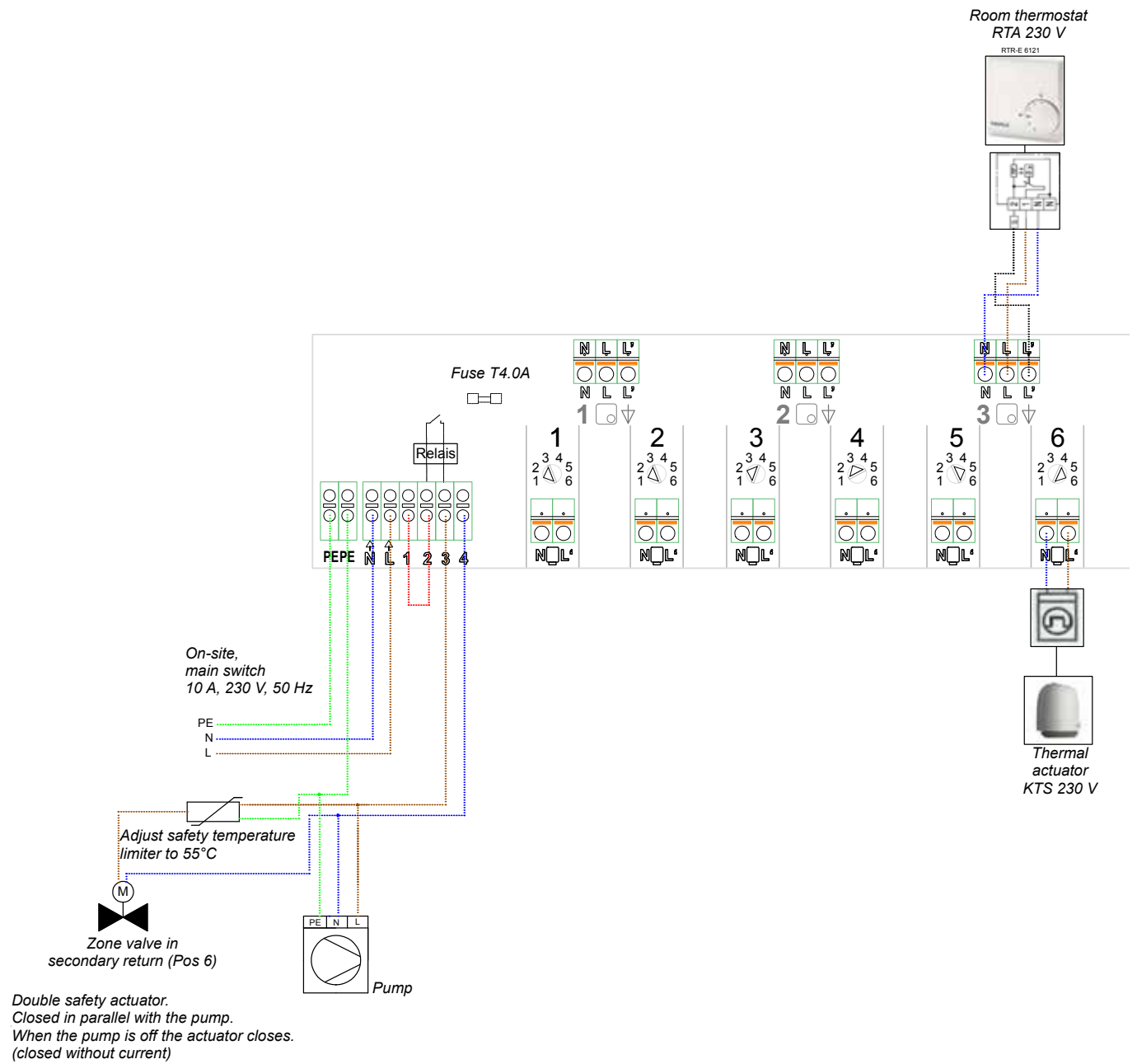
Operating voltage:	230 V AC 50/60 Hz
Operating line:	1 W
Line:	2 x 0.75 mm ² (1 x blue/1 x brown)



Electrics – Cabling

Connection example, constant value control

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Troubleshooting

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Fault description	Cause	Solution
Hot water function		
Hot water temperature too low or volatile	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 Yonos Para
	Setting for heating circuit pump is not correct	Heating circuit pump setting: Constant pressure
	Pump performance too low	Check pump performance
	Mixing valve faulty	Check mixing valve function
	Setting for heating circuit control is not correct	Check heating circuit control setting
	Heating circuit control faulty	Check 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
	Combination heat interface unit	
	Dirt collector in primary flow dirty	Clean the dirt collector in the primary flow
	Dirt collector in cold water input dirty	Clean the dirt collector in the cold water input
	Insufficient differential pressure	Clean the capillary of the differential pressure control, check 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: Combi Port B1000/WS-S1000-14: approx. 500-600l/h Combi Port B1000/WS-S1000-20: fill up with approx. 600-700l/h Combi Port B1000/WS-S1000-30: fill up with approx. 700-800l/h Combi Port B1000/WS-S1000-40: fill up with approx. 800-900l/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
PM valve does not switch over	Replace the PM valve	
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 is too low	Increase the temperature setting on the thermostatic lead module
	The capillary on the thermostatic lead module is dirty	Clean the capillary on the thermostatic lead module
	No thermostatic lead module available	Retrofit the thermostatic lead module
Noise generation		
Noise generated in the station	Pipe clamps too tight	Loosen pipe clamps
Whistling noises during dispensing	Cold water dirt collector is dirty	Clean the cold water dirt collector
	Cold water throttle valve is dirty	Clean the cold water throttle valve
Noise generated in the PM valve	Noise generated via a third route	Replace the MS disc, spring and locking ring using a replacement kit for PM valves, 3rd route

Fault description	Cause	Solution	
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 buffer storage tank	
	Insufficient differential pressure	Clean the capillary of the differential pressure control, check 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	
	Dirt collector is dirty	Clean the dirt collector	
	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 thermostatic valves and return screw connections	
	Heating system does not heat up	Underfloor heating controlled by setpoint values	
Setting for setpoint value control head not correct		Check setpoint value control head setting	
Actuator for "second safety" not connected electrically		Actuator for "second safety" closed without current 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 regulating screw connection bypass	
Safety temperature limiter(STB) contact open		Check the safety temperature limiter (STB) setting	
Pump not connected		Check the pump connection	
Dirt collector is dirty		Clean the dirt collector	
Pump setting is not correct		Check pump setting	
Water underfloor heating, weather compensated			
Controller setting is not correct		Check controller setting	
Actuator for "second safety" not connected electrically		Actuator for "second safety" connected without current 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 regulating screw connection bypass	
Safety temperature limiter(STB) contact open		Check the safety temperature limiter (STB) setting	
Probe faulty		Replace probe	
3-point actuator not connected correctly		Check the 3-point actuator connection	
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 the central heating circuit pump is working and correctly set	
	Central dirt collector is dirty	Clean the central dirt collector	
	Heating system is not working correctly	Check the heating system	
Buffer storage tank is not filled	Check buffer storage tank filling		

Occupant information

EN

Important information about these instructions

These user instructions contain important information for the occupant on the operation of the system with a heat interface unit.

Following these instructions will help avoid hazards and downtime and increase the reliability and life of the heat interface unit. To ensure the correct and safe operation of the heat interface unit, you must read and follow the user information.

Document retention

You should keep this information and all other applicable documents in a safe place, so that they are always available. Make sure to hand over all the documents to the next occupants of the apartment.

Commissioning and installation

The installation and commissioning of the heat interface unit may only be installed and commissioned by a **specialist installation company**.

After commissioning, the heat interface unit operates automatically.

Function and energy savings

The heat interface unit is a compact station and can be operated in a system with several units or as a supplement to an existing heating system. The heat interface unit is assigned to a residential unit and is used to measure and control central heating and hydronic heating.

The heat interface unit combines:

- hydronic heating in the flow system via a plate heat exchanger (water heating is controlled without auxiliary energy),
- the metering of the energy consumption for central heating and hot water and, as an option, the amount of cold water,
- the option of controlling an apartment heating system.

Hot water is only prepared as needed. Service water is not stored. This is one of the most convenient ways to heat fresh water. This enables you to dispense unlimited amounts of hot water. Restrictions are only imposed by the central heating.

The heating lines or heat exchangers are permanently maintained at a basic temperature, usually 45°C.

To ensure the entire system is operated in an energy-efficient way, this temperature should not be increased.

Hydronic heating

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

At your heat interface unit there is a central shut-off ball valve for cold water (**C**) and a shut-off ball valve for installation purposes for your apartment distribution line (optional).

If you intend to be away for more than 72 hours, we recommend shutting off the cold water ball valve (**C**) and depressurising the lines by opening a tap and closing it once all the water in the pipe has run out.

All ball valves should be turned at regular intervals (about once a month). In other words they should be closed and re-opened.

The ball valve of the apartment distribution system (cold water (**A**) (optional) and hot water (**B**)) is only to be closed for assembly purposes!

All water pipes are filled and pressurised.

Water hygiene

Although you have a hot water system that follows the flow principle, which is the most hygienic method of water heating, you should

always flush your water pipes if you have been away from your home for several days and no water has been taken from the system (e.g. when returning from holidays). You should let the water run for one or two minutes. The water must be allowed to run for about 1-2 minutes at least every 7 days.

Heating

The pipes of the apartment heating system usually come from your heat interface unit. It is possible to completely shut off all the heating pipes of each apartment in the heat interface unit. It is possible to run the heating all year round. You can influence your energy consumption by the way you choose to use the heating system.

Closing off the heat interface unit

In the event of malfunctions, the shut-off ball valves must be closed here. Ball valves **C**, **D** and **E** must be closed first. Ball valves must be closed in the event of malfunctions.

Caution: Make sure the system is protected against frost!

- A TW in apartments (optional)
- B TWW in apartments
- C TW from pipeline
- D HZ-VL-PR
- E HZ-RL-PR
- F HZ-VL-SEK
- G HZ-RL-SEK
- H Circulation (optional)

Malfunctions and maintenance

A visual inspection is required every 3 to 6 months.

The device seal must be checked.

If drops form or water leaks out, immediately contact the installation specialist.

Longer absences

If you plan to be away for more than 3 days, shut off the cold tap and, after your return, let the hot water run for about 5 minutes.

Set the heating to frost protection! Make sure not to close ball-valves **D**, **E**, **F** and **G**.



Setting log for the heat interface units

EN

Date:	Setting log for the heat interface unit																		
BV:	Type:				Serial no.:														
Component	Description										Setting range	Factory setting	Set on site						
Set zone valve type 1 to the flow rate	Setting value			1	2	3	4	5	6					1 - 6	4				
	Kv value with 2 K P deviation			0,055	0,170	0,313	0,446	0,56	0,65										
Set zone valve type 2 to the flow rate	Setting value			1	2	3	4	5	6	7	8	9					1 - 9 continuous	7	
	Kv value with 2 K P deviation			0,05	0,09	0,14	0,20	0,26	0,32	0,49	0,57	0,67							
Thermostatic lead module	Thermostatic lead module, capillary 6 mm, Kvs 1.55										35 - 60°C	45°C							
DRG-SE - S	Differential pressure regulator, station input, narrow version										50 - 300 mbar	100 mbar							
DRG-SE - B	Differential pressure regulator, station input, wide version										100 - 400 mbar	200 mbar							
DRG-WH	Differential pressure regulator										50 - 300 mbar	100 mbar							
DRG in pipeline	Differential pressure regulator in pipeline										min. 300 mbar	200 mbar							
Thermostatic hot water temperature limiter	The thermostatic hot water temperature limiter, infinitely adjustable downwards										35-70°C	6							
	Scale value 35-70°C			1	2	3	4	5	6	7/8	(limited to 60°C)								
	Hot water temperature			35°C	40°C	45°C	50°C	55°C	60°C	65/70									
RTB	Return temperature limiter, Kvs 1.55										0-40°C	37,5°C							
FPIH thermostatic tip (return)	Scale value			1	2	3	4	5	6	7					Regulatory range 20 - 50°C	Bypass fully open			
	Control temperature (approx.)			20°C	25°C	30°C	35°C	40°C	45°C	50°C									
EPIH	Weather compensated pump module EPIH, injection circuit, 3-point control										via controller								
STW	Safety temperature monitor must be set to approx. 50°C.										20 - 90°C	on site							
Bypass controller valve	Revolution	0,25	0,5	0,75	1	1,5	2	3	4					0,25 - 4	open 4				
	Kv value	0,06	0,126	0,19	0,25	0,42	0,819	1,236	1,7										
	Zeta value (3/4")	93250	21150	9300	5370	1900	500	220	116										
Component	Description										Type	not used							
Cold water throttle valve	Colour	red			green			brown		Black									
	max. vol. current l/min	12			15			17		19									
Heat exchanger	Type	GBS-240H-14			GBS-240H-20			GBS-240H-30		GBS-240H-40									
TWZ	Drinking water circulation, including analogue timer																		
WMZ	Heat meter line QN 1.5 installation length, 3/4" 110 mm																		
Electrical components for underfloor heating/static heating surfaces																			
KTS 230 V	Electric actuator KHY 230 V																		
Room thermostat 230 V	Room thermostat RTA																		
UTW	Timer thermostat																		
RMP 230 V	RMP 230 V Raummatic with pump logic																		
DHR 0321	Digital heating controller 3-point regulator																		
FBR 2	Remote control																		
Signature HZB		in capital letters HZB										Service partner							



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