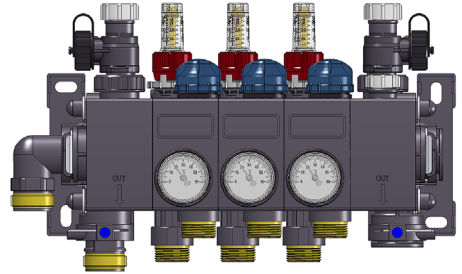


Operating instructions



Heating circuit manifold

ProCalida®

Type: CC 1



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1 About these operating instructions

These operating instructions describe the heating circuit manifold ProCalida® CC 1 (also referred to as "product" in these operating instructions). These operating instructions are part of the product.

- You may only use the product if you have fully read and understood these operating instructions.
- Verify that these operating instructions are always accessible for any type of work performed on or with the product.
- Pass these operating instructions as well as all other product-related documents on to all owners of the product.
- If you feel that these operating instructions contain errors, inconsistencies, ambiguities or other issues, contact the manufacturer prior to using the product.

These operating instructions are protected by copyright and may only be used as provided for by the corresponding copyright legislation. We reserve the right to modifications.

The manufacturer shall not be liable in any form whatsoever for direct or consequential damage resulting from failure to observe these operating instructions or from failure to comply with directives, regulations and standards and any other statutory requirements applicable at the installation site of the product.

2 Information on safety

2.1 Safety messages and hazard categories

These operating instructions contain safety messages to alert you to potential hazards and risks. In addition to the instructions provided in these operating instructions, you must comply with all directives, standards and safety regulations applicable at the installation site of the product. Verify that you are familiar with all directives, standards and safety regulations and ensure compliance with them prior to using the product.

Safety messages in these operating instructions are highlighted with warning symbols and warning words. Depending on the severity of a hazard, the safety messages are classified according to different hazard categories.



WARNING

WARNING indicates a potentially hazardous situation, which, if not avoided, can result in serious injury or equipment damage.

NOTICE

NOTICE indicates a hazardous situation, which, if not avoided, can result in equipment damage.

In addition, the following symbols are used in these operating instructions:



This is the general safety alert symbol. It alerts to injury hazards or equipment damage. Comply with all safety instructions in conjunction with this symbol to help avoid possible death, injury or equipment damage.

2.2 Intended use

This product may only be used for the distribution of media in surface heating systems and cooling systems in buildings. This product is suitable for operation with the following media:

- Heating water as per VDI 2035
- Water/glycol mixtures with a maximum of 50 % of glycol

Any use other than the application explicitly permitted in these operating instructions is not permitted and causes hazards.

Verify that the product is suitable for the application planned by you prior to using the product. In doing so, take into account at least the following:

- All directives, standards and safety regulations applicable at the installation site of the product
- All conditions and data specified for the product
- The conditions of the planned application

In addition, perform a risk assessment in view of the planned application, according to an approved risk assessment method, and implement the appropriate safety measures, based on the results of the risk assessment. Take into account the consequences of installing or integrating the product into a system or a plant.

When using the product, perform all work and all other activities in conjunction with the product in compliance with the conditions specified in the operating instructions and on the nameplate, as well as with all directives, standards and safety regulations applicable at the installation site of the product.

2.3 Predictable incorrect application

The product must never be used in the following cases and for the following purposes:

- Distribution of drinking water

2.4 Qualification of personnel

Only appropriately trained persons who are familiar with and understand the contents of these operating instructions and all other pertinent product documentation are authorized to work on and with this product.

These persons must have sufficient technical training, knowledge and experience and be able to foresee and detect potential hazards that may be caused by using the product.

All persons working on and with the product must be fully familiar with all directives, standards and safety regulations that must be observed for performing such work.

2.5 Personal protective equipment

Always wear the required personal protective equipment. When performing work on and with the product, take into account that hazards may be present at the installation site which do not directly result from the product itself.

2.6 Modifications to the product

Only perform work on and with the product which is explicitly described in these operating instructions. Do not make any modifications to the product which are not described in these operating instructions.

3 Transport and storage

The product may be damaged as a result of improper transport or storage.

NOTICE

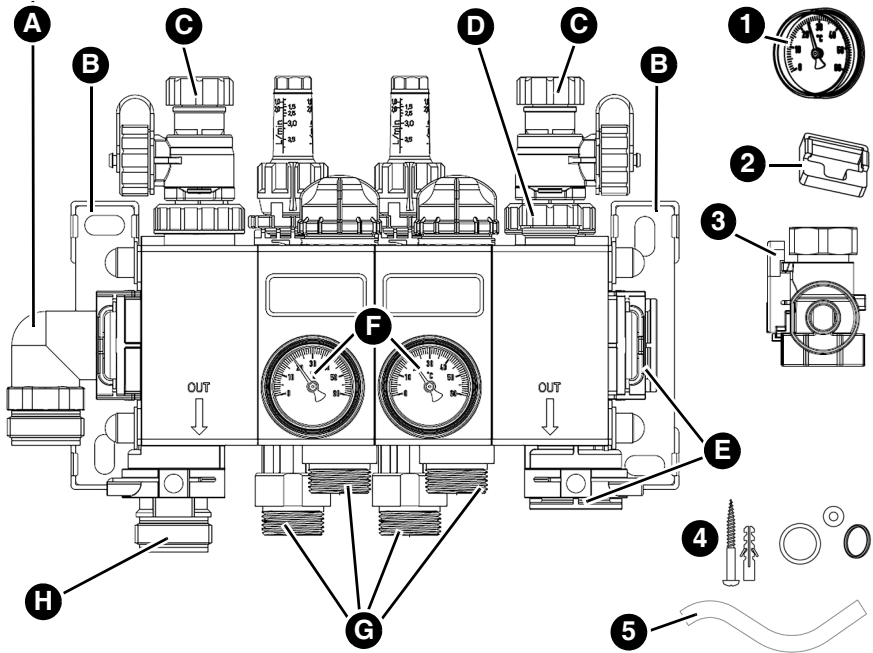
INCORRECT HANDLING

- Verify compliance with the specified ambient conditions during transport or storage of the product.
- Use the original packaging when transporting the product.
- Store the product in a clean and dry environment.
- Verify that the product is protected against shocks and impact during transport and storage.

Failure to follow these instructions can result in equipment damage.

4 Product description

4.1 Overview



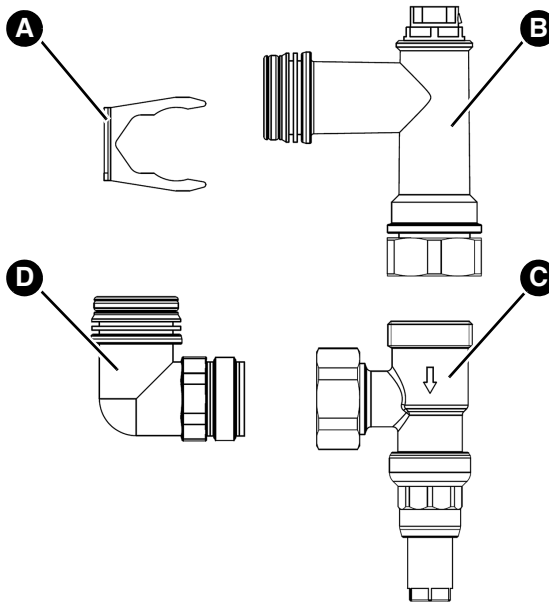
Standard version

- A. Plug-in elbow (G1e)
- B. Wall bracket with fully adjustable distance
- C. Filling/drain valve (KFE valve)
- D. Vent valve
- Optional: quick air vent
- E. Blind plug
- F. Thermometer (return)
- G. Heating circuit connection
- H. Plug-in connection piece (G1e)

Scope of delivery

- 1. Thermometer (flow)
- 2. 4 x insulation plate
- 3. 2 x shut-off valve
- 4. Fastening kit:
4 x washer
4 x screw 6 x 60
4 x dowel 8 x 51
2 x flat gasket
2 x O ring (spare part)
- 5. Hose

4.2 Overview bypass valve kit (optional)



A. Clamp (2x)

B. Angular connection piece with vent valve G $\frac{1}{2}$

C. Bypass valve

D. Plug-in elbow (G1e)

4.3 Dimensions

Heating circuits	2	3	4	5	6	7	8	9	10	11	12
Distance A 1	304	354	404	454	504	554	604	654	704	754	804
Distance A 2	340	390	440	490	540	590	640	690	740	790	840
Distance B	260	310	360	410	460	510	560	610	660	710	760

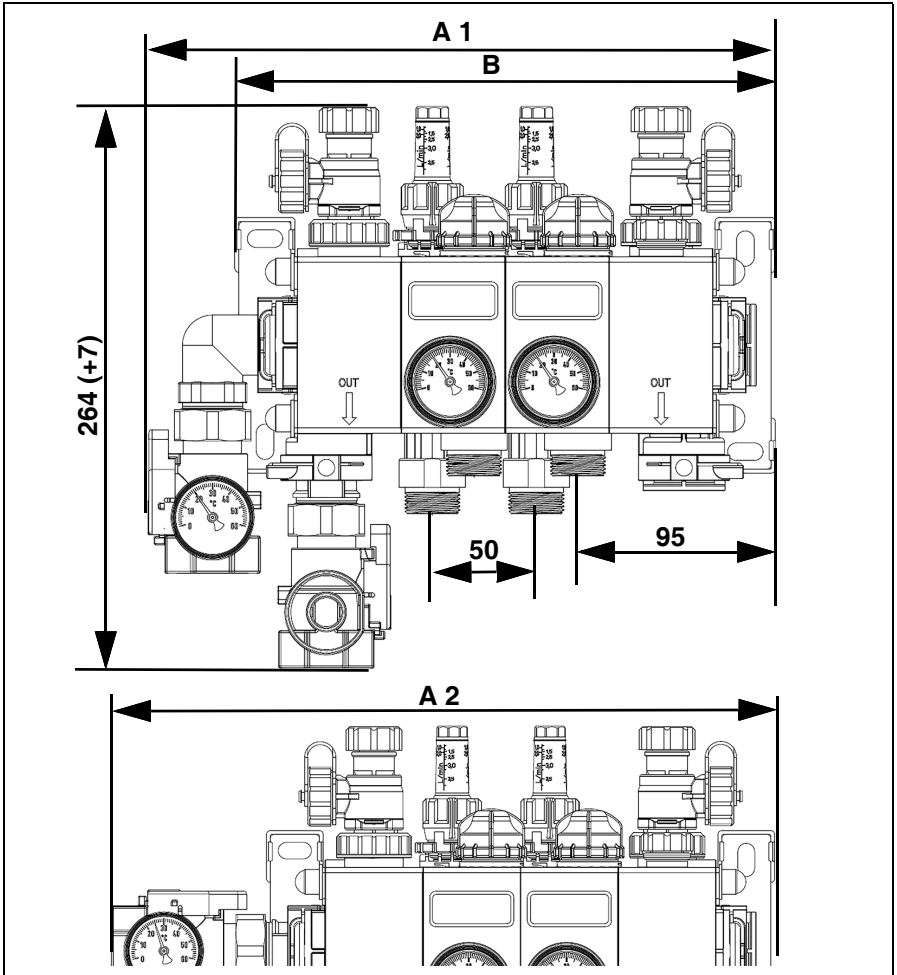


Fig. 1: Dimensions in mm

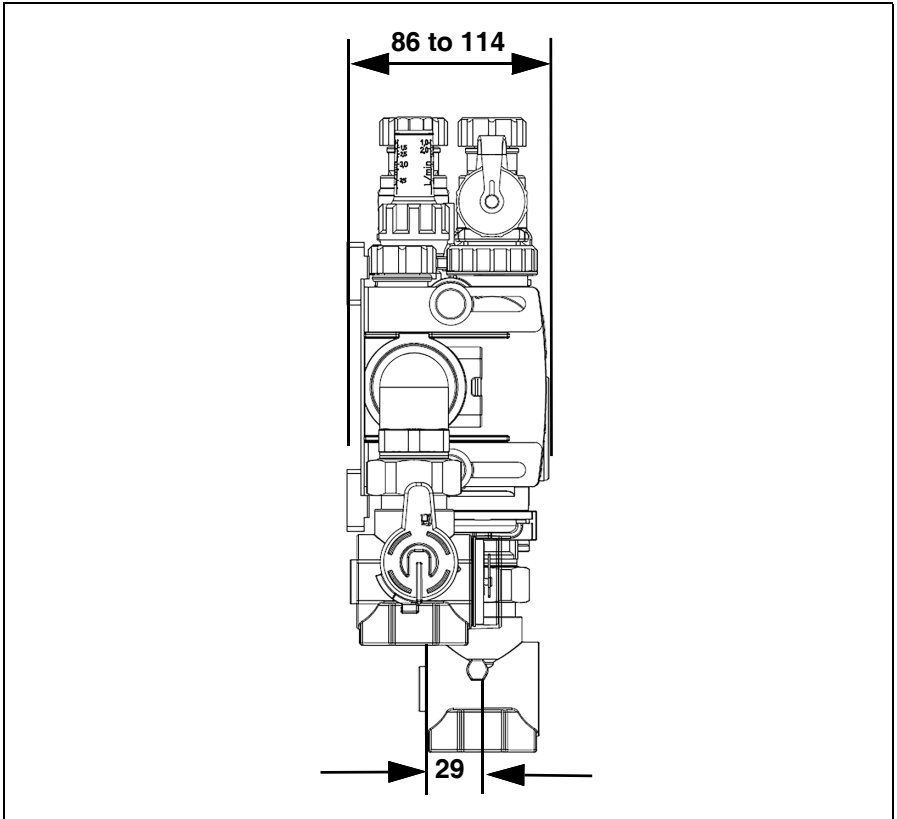


Fig. 2: Dimensions in mm

4.4 Dimensions with bypass valve (optional)

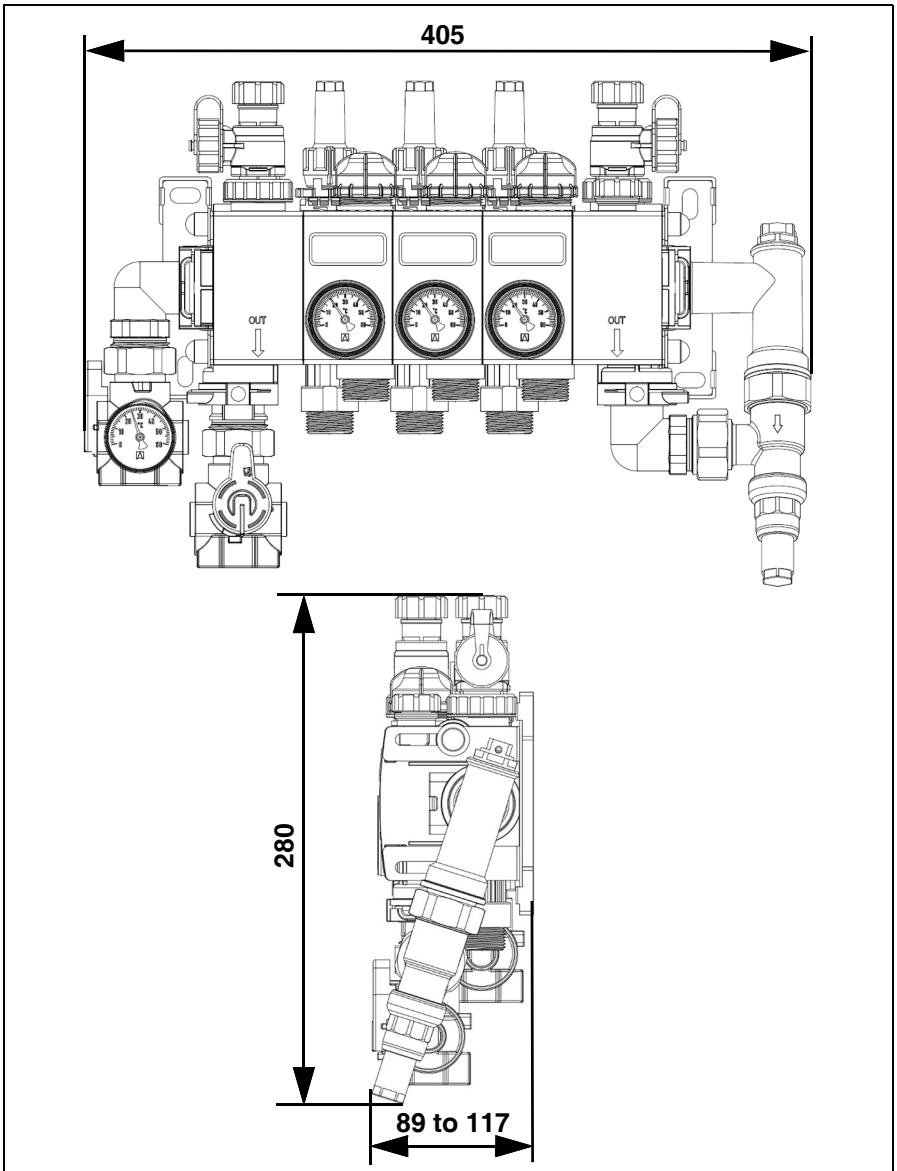


Fig. 3: Dimensions in mm

4.5 Technical specifications

Parameter	Value
Main connection	G1 female thread
Heating circuit connection	G $\frac{3}{4}$ eurocone
Operating temperature	60 °C maximum
Operating pressure	6 bar maximum
Test pressure	10 bar at 20 °C
Available sizes	2 to 12 heating circuits

4.6 Charts

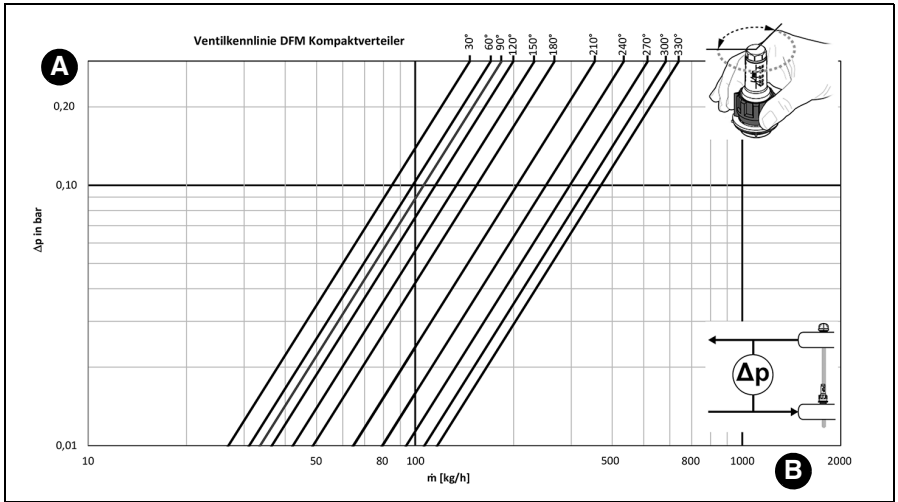


Fig. 4: Pressure loss curves depending on flow stream and opening angle of manifolds with flow meter. Pressure loss at return valve considered.

A. Pressure loss [bar]

B. Flow stream [kg/h]

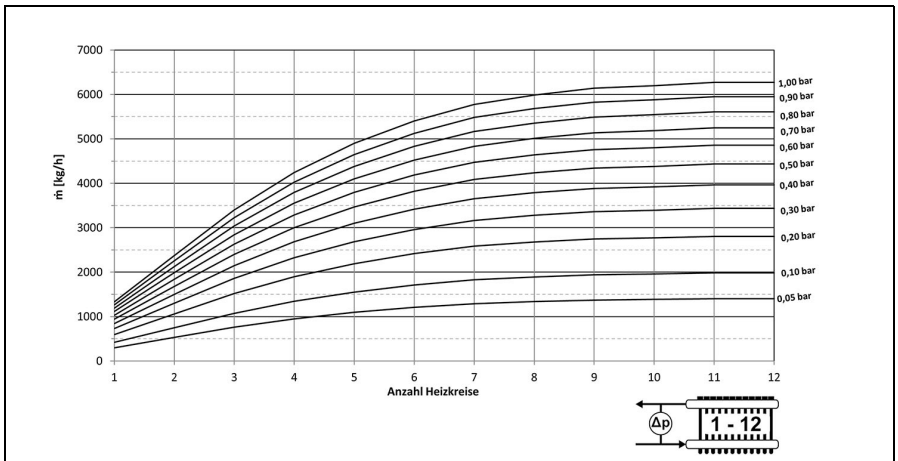


Fig. 5: Chart total pressure loss with flow meter.

5 Mounting

NOTICE

INCORRECT HANDLING

Dirty or damaged O rings can cause leaks of the product.

- Verify that the O rings are clean and free from damage during mounting.

Failure to follow these instructions can result in equipment damage.

Unless otherwise specified, all information on mounting relates to the following installation type:

- Connection at left side
 - Main connection from the bottom
 - Flow top, return bottom
- ⇒ Verify that all work on the opened product is performed in a clean environment.

If you install the product in an existing system, observe the information in chapter "Retrofitting the product".

5.1 Preparing mounting

Only mount the product after having completed all pipe assembly work, all welding work and all soldering work.

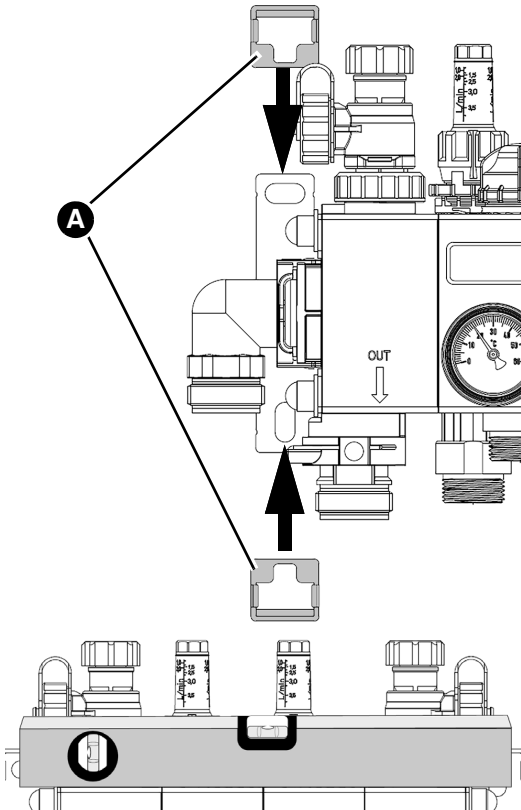
- Flush the lines of the system before installing the product.

If you install the product in an existing system, observe the information in chapter "Retrofitting the product".

5.2 Mounting the product

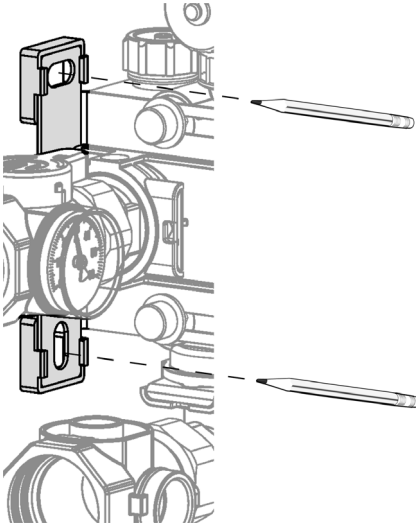
The product must be fastened with a wall bracket on the left and a wall bracket on the right.

⇒ Verify that the enclosed dowels are suitable for the intended wall.

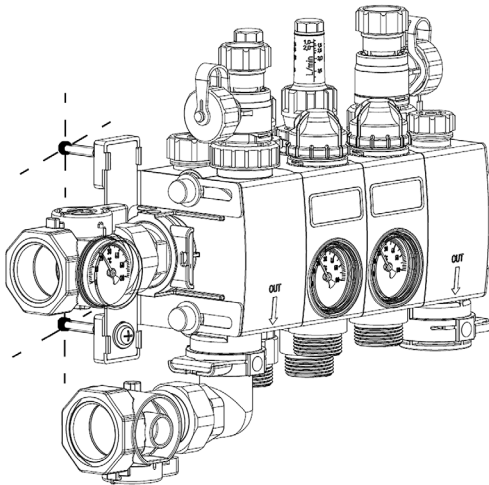


1. Push the insulation plates (A) onto the left and the right wall bracket.

2. Hold the product to the wall and align it with a level.



3. Mark the position of the drill holes of both wall brackets.
4. Drill the marked holes (drill $\text{\O} 8 \text{ mm}$).



5. Mount the product using the enclosed dowels, washers and screws.

5.3 Mounting the shut-off valve

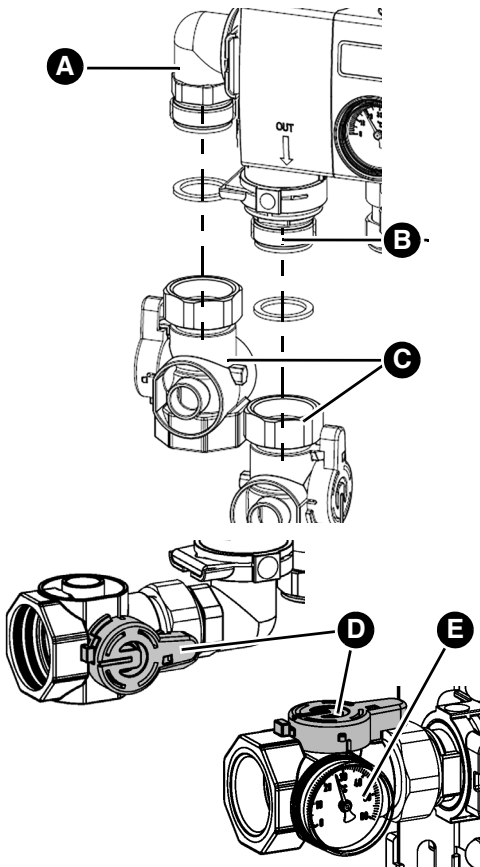
NOTICE

INCORRECT HANDLING

Dirty or damaged seals can cause leaks of the product.

- Verify that the seals are clean and free from damage during mounting.

Failure to follow these instructions can result in equipment damage.

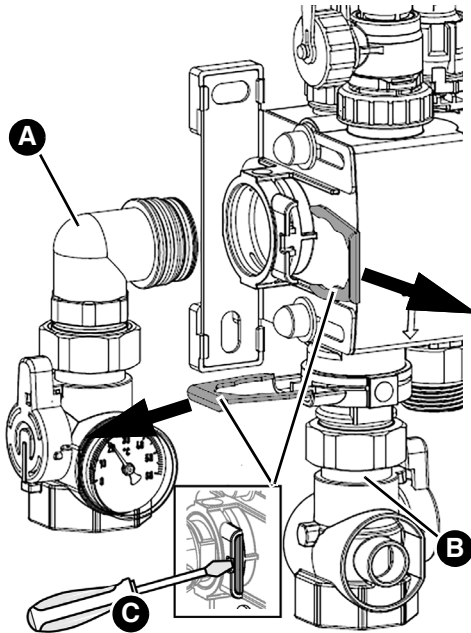


1. Screw the shut-off valves (C) to the plug-in elbow (A) and the plug-in connection piece (B) with a maximum of 70 Nm.

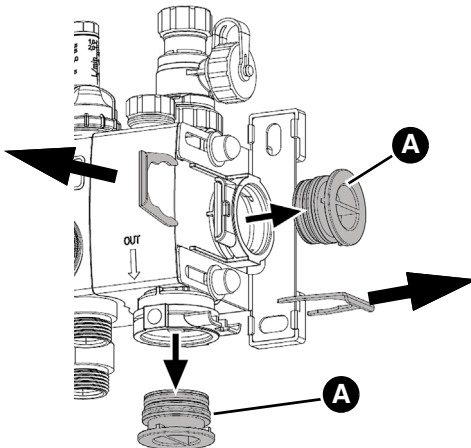
- Verify that the lever handles (D) of the shut-off valves can be properly operated.

2. Mount the thermometer (E) to the shut-off valve of the flow.

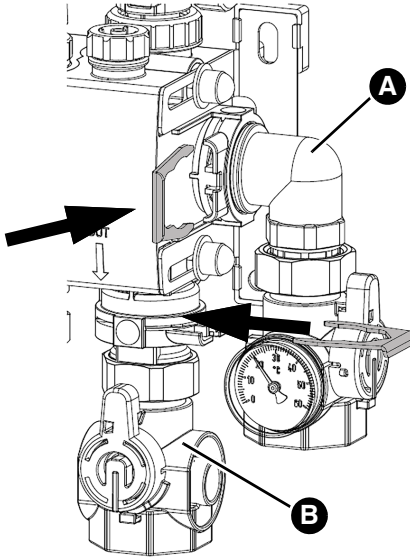
5.4 Inverting the connections (example from left to right)



1. Remove the clips with a screwdriver (C).
2. Remove the plug-in elbow (A) and the plug-in connection piece (B) from the left connection segment.

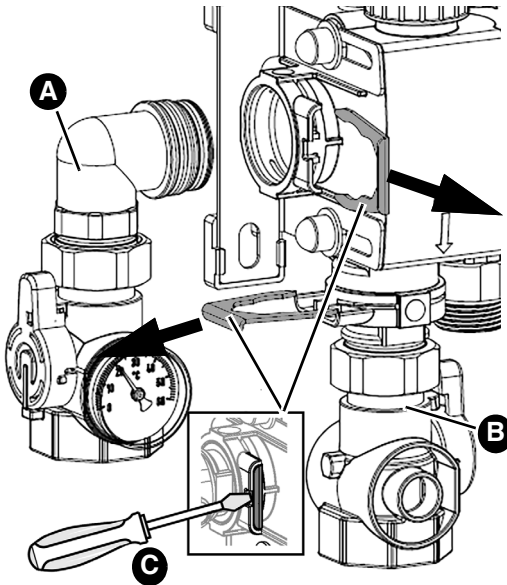


3. Remove the clips with a screwdriver.
4. Remove the blind plug (A) with a screwdriver from the right connection segment.
5. Grease the O rings of the connection segments and blind plugs. Avoid contamination of the O rings.

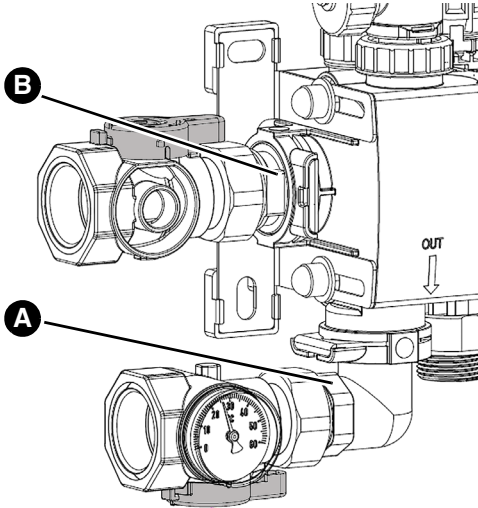


6. Push the plug-in elbow (A) and the plug-in connection piece (B) into the right connection segment.
7. Secure the plug-in connection piece (A) and the plug-in connection piece (B) with the clips.
8. Close the unused connections with the blind plugs.
9. Secure the blind plugs with the clips.

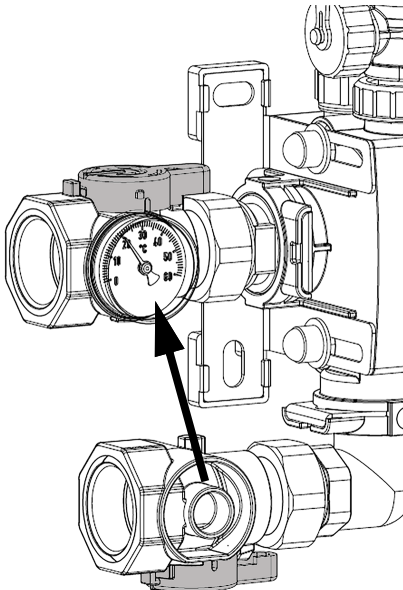
5.5 Converting the connections from vertical to horizontal



1. Remove the clips with a screwdriver (C).
2. Remove the plug-in elbow (A) and the plug-in connection piece (B) from the connection segment.
3. Grease the O rings of the connection segments. Avoid contamination of the O rings.



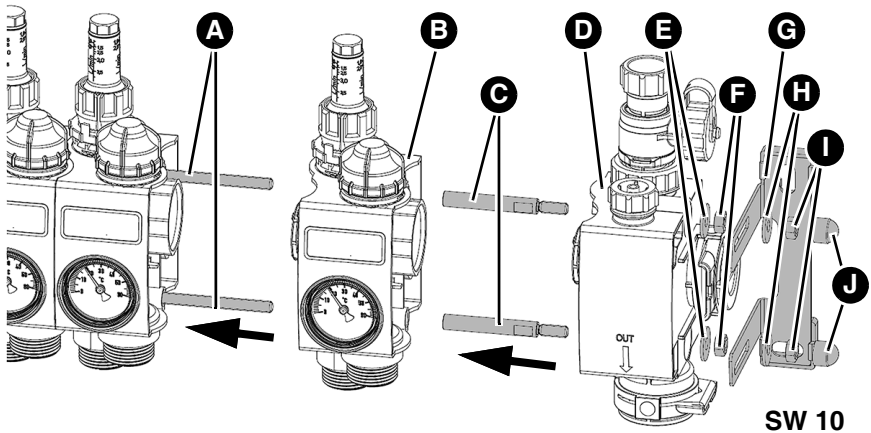
4. Interchange the plug-in elbow (A) and the plug-in connection piece (B).
5. Plug the plug-in elbow (A) and the plug-in connection piece (B) into the connection segment.
6. Secure the plug-in connection piece (A) and the plug-in connection piece (B) with the clips.



7. Remove the thermometer and fasten it to the shut-off valve of the flow.

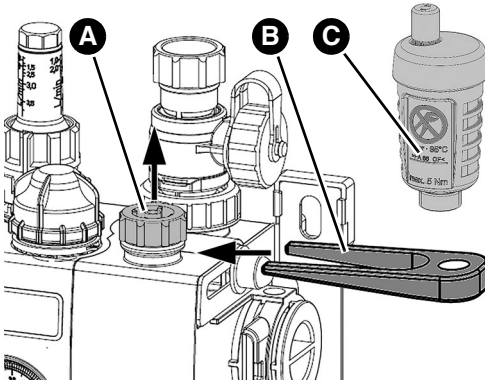
5.6 Extending heating circuits (optional)

If required, the product can be extended to up to 14 heating circuits.



1. Remove the cover caps (J).
2. Unscrew the nuts (I) (spanner size 10) and remove the washers (H).
3. Remove the wall bracket (G).
4. Unscrew the nuts (F) with a socket spanner (spanner size 10) and remove the washers (E).
5. Remove the right connection segment (D).
6. Screw the extensions (C) (included with the extension segment) onto the threaded rods (A) (~ 3 Nm).
7. Grease the O rings of the extension segment. Avoid contamination of the O ring.
8. Push the extension segment (B) onto the threaded rods (A).
9. Push the right connection segment (D) onto the extensions (C) and fasten the connection segment (D) with washers (E) and nuts (F).
10. Push the connector (G) to the extensions (C) and fasten the washers (H) and nuts (I).
11. Adjust the wall distance parallel to the first wall bracket and tighten the nuts (I).
12. Fit the cover caps (J).

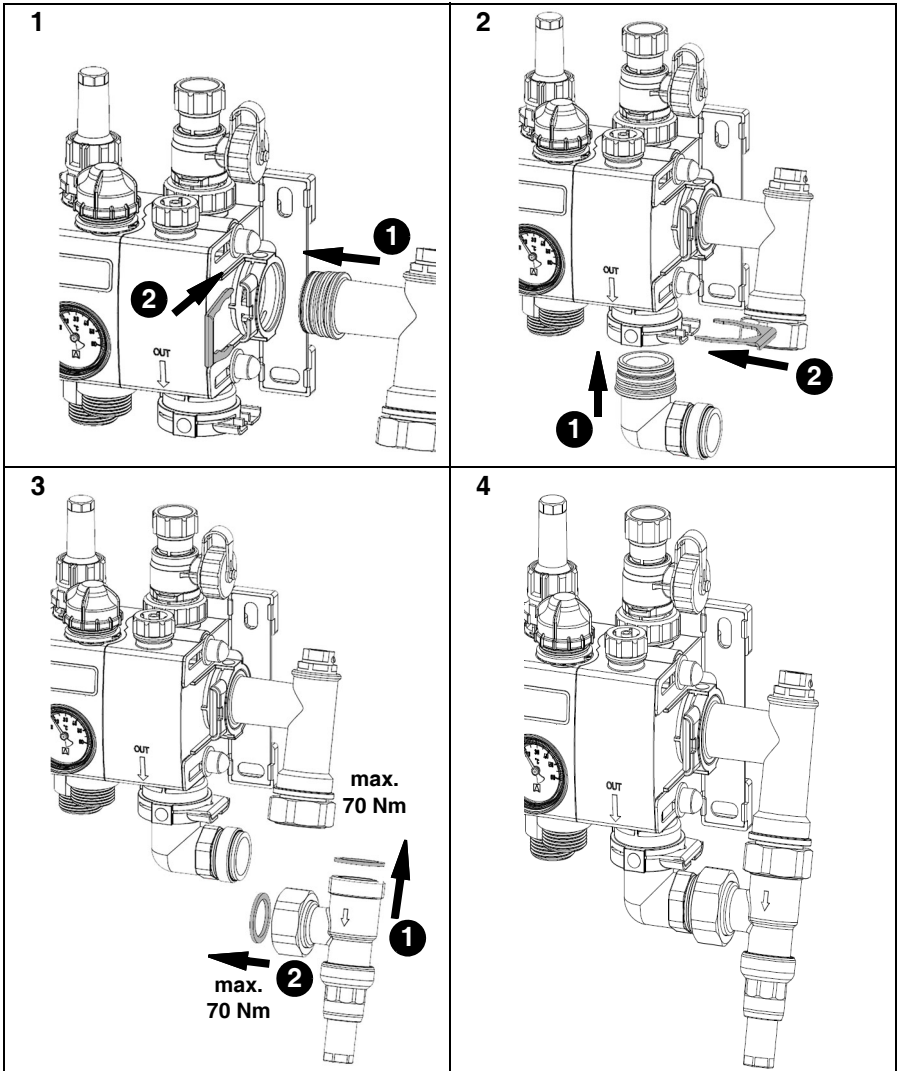
5.7 Mounting a quick air vent (optional)



1. Loosen the vent valve (A).
2. Remove the vent valve with the enclosed special tool (B).
3. Screw in the quick air vent (C).
 - Observe the operating instructions for the quick air vent.

5.8 Mounting the bypass valve kit (optional)

The bypass valve kit can be mounted to the left or the right side of the products.



5.9 Retrofitting the product



WARNING

HOT MEDIA

Media in heating systems are under high pressure and can have temperatures of more than 100 °C.

- Verify that the medium has cooled down before opening the system and mounting the product.
- Verify that the system has been unpressurised and drained before opening the system and mounting the product.

Failure to follow these instructions can result in death, serious injury or equipment damage.

⇒ Verify that the medium in the system and the application area of the product are compatible.

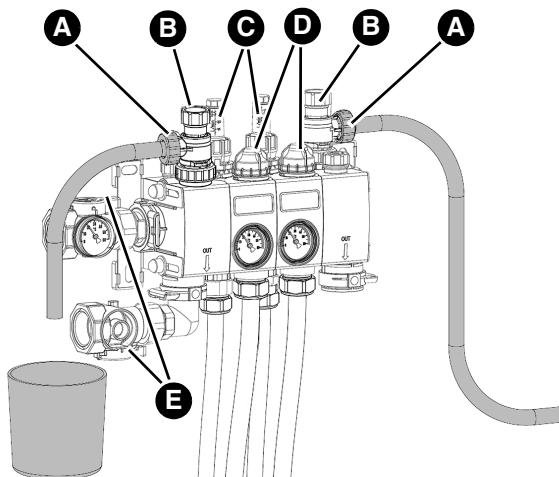
When the system has cooled down and is unpressurised, you can mount the product.

1. Drain the system.
2. Flush the lines of the system.
3. Mount the product as described in chapter "Mounting the product".

6 Commissioning

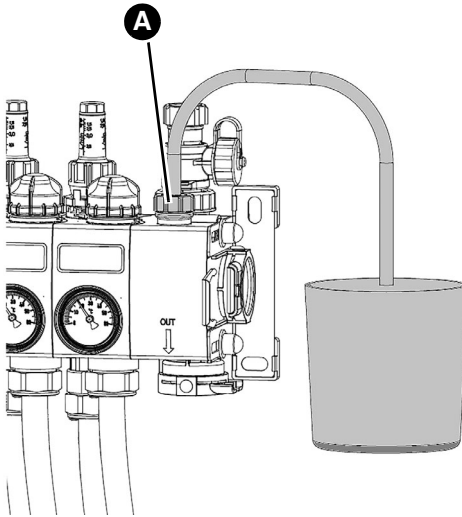
Prerequisite for commissioning is a complete installation of all components. The system must be vented during and after filling.

6.1 Flushing and filling the system



1. Close the shut-off valves (E).
2. Connect a hose each to both filling/drain valves (A).
3. Close all valves (C, D).
4. Open the filling/drain valves (A) with the hand wheel (B).
5. Open the flow valve (C) of the first heating circuit.
6. Open the return valve (D) of the first heating circuit.
7. Flush and fill the heating circuit with a maximum of 6 bar.
8. Close the valves of the filled heating circuit.
9. Repeat steps 4 to 7 for each additional heating circuit.
10. Close the filling/drain valves (A) with the hand wheel (B).
11. Perform a tightness test (see "Performing the pressure test and the function test").

6.2 Venting the system

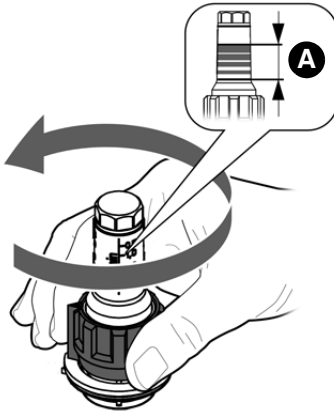


1. Connect the enclosed hose to the vent valve (A).
2. Vent the system via the vent valve (A).

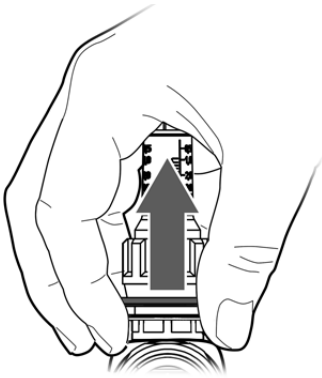
6.3 Performing the pressure test and the function test

1. Perform a pressure test with 6 bar.
 - The system pressure must remain constant for at least two hours (maximum pressure drop 0.2 bar).
2. Perform a leak test after the two hours have passed.
3. Fill the system with water until the operating pressure is reached.
4. During filling, verify that all connections are tight.

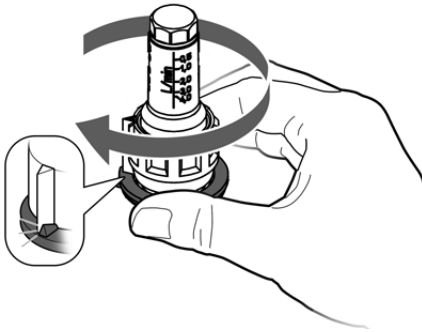
6.4 Adjusting the flow valves



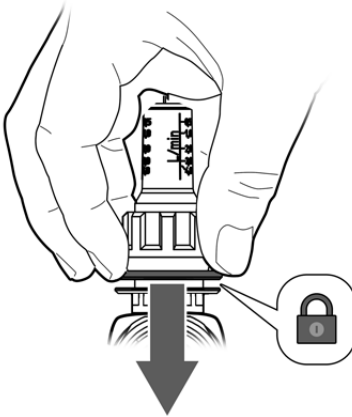
1. Open the flow valve until the calculated water volume (A) is indicated at the flow meter.



2. Pull the adjustment ring up to unlock.



3. Turn the adjustment ring all the way to the mechanical stop of the flow valve.



4. Push the adjustment ring down to lock.

7 Maintenance

Perform a visual inspection for tightness at least once per year.

8 Troubleshooting

Malfunctions may only be repaired by the manufacturer or by a specialised company.

9 Decommissioning, disposal

Dispose of the product in compliance with all applicable directives, standards and safety regulations.

1. Dismount the product (see chapter "Mounting", reverse sequence of steps).
2. Dispose of the product.

10 Returning the device

Get in touch with us before returning your product (service@afriso.de).

11 Warranty

See our terms and conditions at www.afriso.com or your purchase contract for information on warranty.

12 Spare parts and accessories

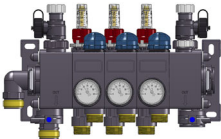
NOTICE

UNSUITABLE PARTS




- Only use genuine spare parts and accessories provided by the manufacturer.

Failure to follow these instructions can result in equipment damage.

Product

Product designation	Part no.	Figure
Heating circuit manifold ProCalida® CC 1 2-HK	81482	
Heating circuit manifold ProCalida® CC 1 3-HK	81483	
Heating circuit manifold ProCalida® CC 1 4-HK	81484	
Heating circuit manifold ProCalida® CC 1 5-HK	81485	
Heating circuit manifold ProCalida® CC 1 6-HK	81486	
Heating circuit manifold ProCalida® CC 1 7-HK	81487	
Heating circuit manifold ProCalida® CC 1 8-HK	81488	
Heating circuit manifold ProCalida® CC 1 9-HK	81489	
Heating circuit manifold ProCalida® CC 1 10-HK	81490	
Heating circuit manifold ProCalida® CC 1 11-HK	81491	
Heating circuit manifold ProCalida® CC 1 12-HK	81492	

Spare parts and accessories

Product designation	Part no.	Figure
ProCalida® CC 1 extension kit 1 HK	81481	
Pressure gauge RF50/10bar for ProCalida KFE	81276	
Quick air vent kit G $\frac{3}{8}$	80833	
Bypass valve kit ProCalida CC	42461	