



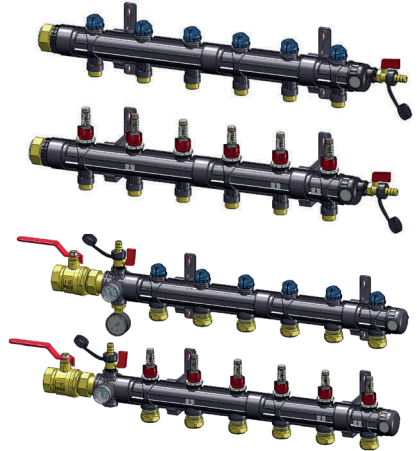
AFRISO

EN

Technik für Umweltschutz

Messen. Regeln. Überwachen.

Operating instructions



Heating circuit manifold

ProCalida® IN 1 1/2



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Version: 04.2025.0

ID: 900.000.0476

1 About these operating instructions

These operating instructions describe the heating circuit manifold ProCalida® "IN 1½" (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 in conjunction with the following media:

- Heating water as per VDI 2035
- Water/glycol mixtures with a maximum admixture of 50 %
- Water/bioethanol mixtures with a maximum admixture of 40 %

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, 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

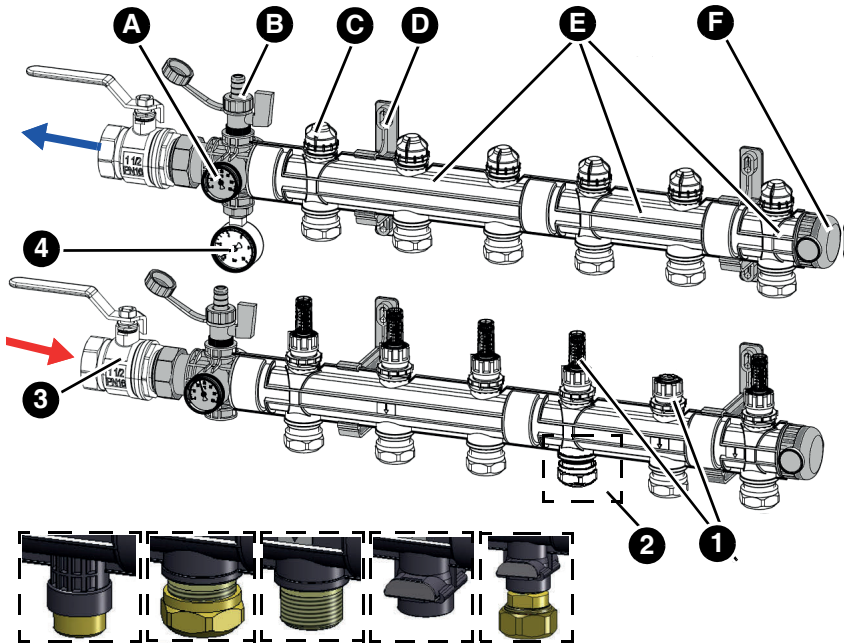
INCORRECT HANDLING

- 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



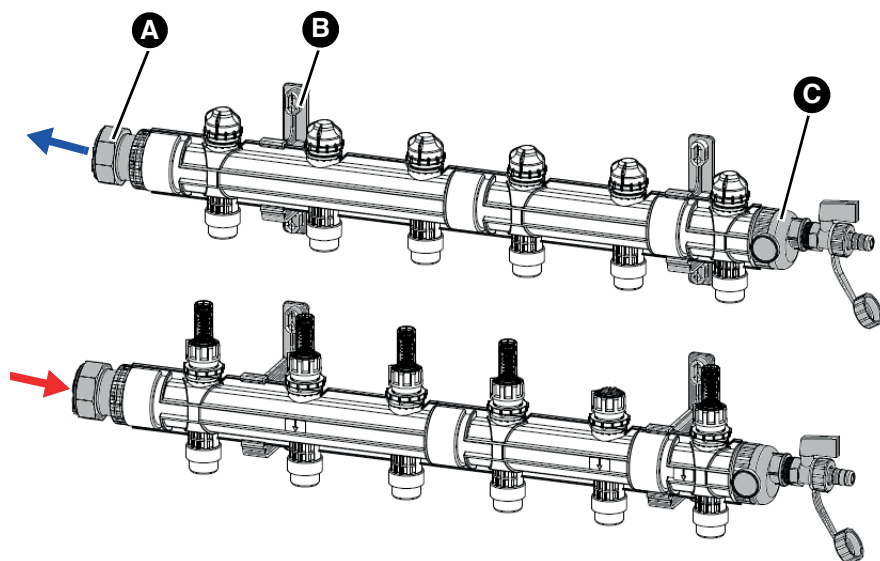
Standard version

- A. Thermometer
- B. Boiler filling and drain valve KFE
- C. Stroke valve
- D. Holder
- E. Heating circuit (versions)
 - 3 heating circuits (HK)
 - 2 heating circuits (HK)
 - 1 heating circuit (HK)
- F. End cap

Accessories (optional)

- 1. Flow meter or shut-off valve
- 2. Connections
 - G¾
 - Compression fitting (KRV) 25
 - G1
 - Plug connection (STA) 32
- 3. Ball valve G1½
- 4. Pressure gauge with mounting valve

Fig. 1: ProCalida® IN G1½ with universal base package (with multi-way union) and ball valve kit



Standard version

- A. Connection piece G1½
- B. Holder
- C. End cap with boiler filling and drain valve KFE G¾

Accessories (optional)

see figure 1

Fig. 2: ProCalida® IN G1½ with standard base package

4.2 Dimensions

	Heating circuits (20 maximum)					
ProCalida IN	2	3	4	5	6	Each additional heating circuit
Universal "X" in mm	310	410	510	610	710	+ 100
Standard "X" in mm	350	450	550	650	750	+ 100

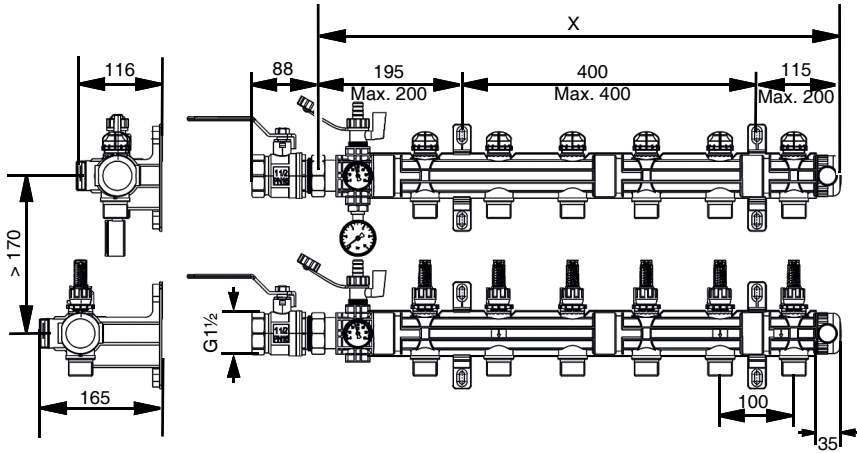


Fig. 3: Dimensions in mm ProCalida® IN G1½ with the universal base package (with multi-way union) and ball valve kit

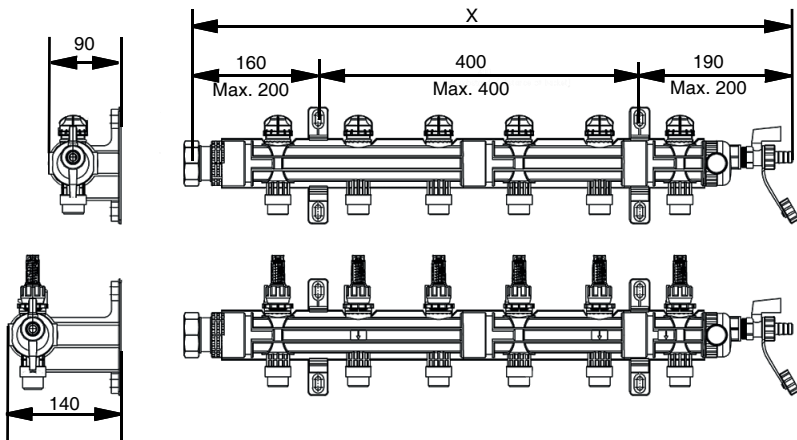


Fig. 4: Dimensions in mm ProCalida® IN G1½ with the standard base package

4.3 Technical specifications

Parameter	Value
Main connection	G1½ or welded connection (optional)
Possible heating circuit connections	G¾ eurocone Screwed pipe connection for pipe Ø 25 x 2.3/2.5 G1 flat-sealing Plug connection with screwed pipe connection Ø 32 x 2.9 or Ø 40 x 3.7
Test pressure (24 h < 30 °C)	6 bar maximum
Operating temperature and pressure	6 bar maximum at 60 °C 5 bar maximum at 70 °C 4 bar maximum at 80 °C 3 bar maximum at 90 °C
Tightening torque	50 Nm maximum G¾ eurocone 70 Nm for all other versions
Number of heating circuits	2 ... 20
Ambient conditions	
Ambient conditions operation	0 ... 60 °C
Temperature of the medium	-20 ... 90 °C
Ambient conditions storage	-25 ... 70 °C
Flow meter	Standard 4 ... 20 l/min Optional 7 ... 32 l/min
K _{VS} value flow and return valve	2.1 m³/h

4.4 Charts

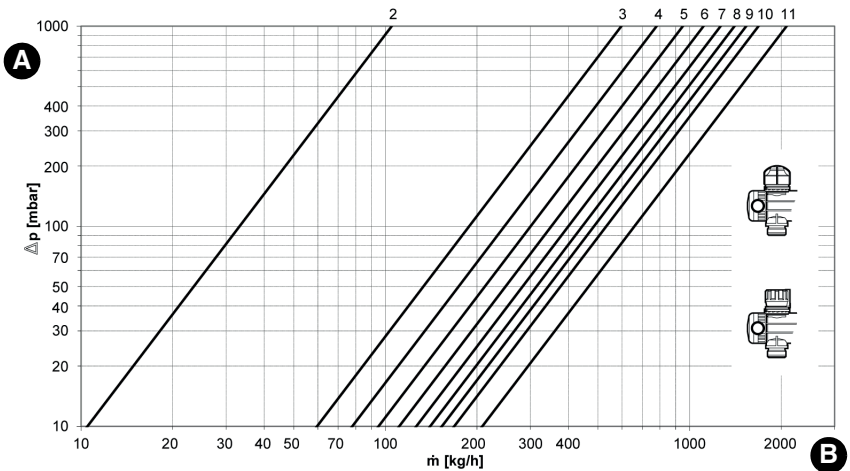


Fig. 5: Determining the flow rate

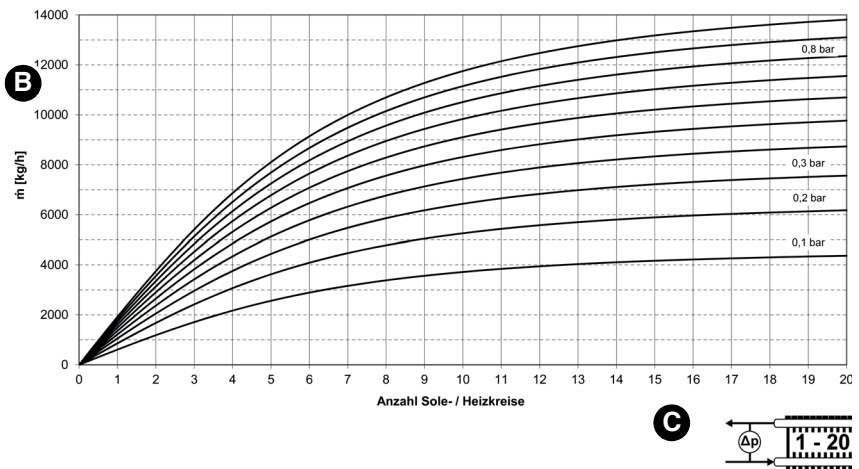


Fig. 6: Chart total pressure loss with shut-off valve

A. Pressure loss [mbar]

C. Number of heating circuits

B. Flow stream [kg/h]

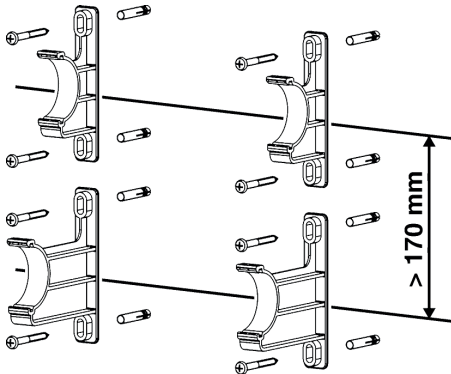
5 Mounting

The product is mounted to the wall.

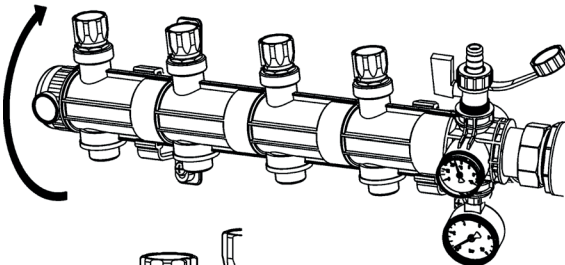
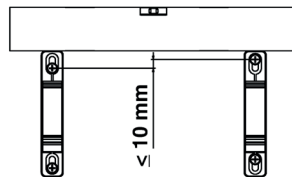
⇒ Verify that there is no pressure in the system.

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

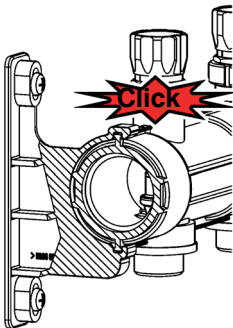
5.1 Mounting the product



1. Fasten the bracket.



2. Place the product into the bracket.
- The product must snap in (click).
3. Connect the pipes of the heating circuit to the connections of the product.



5.2 Retrofitting the product



WARNING

HOT LIQUID

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

- Verify that the heating water 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.

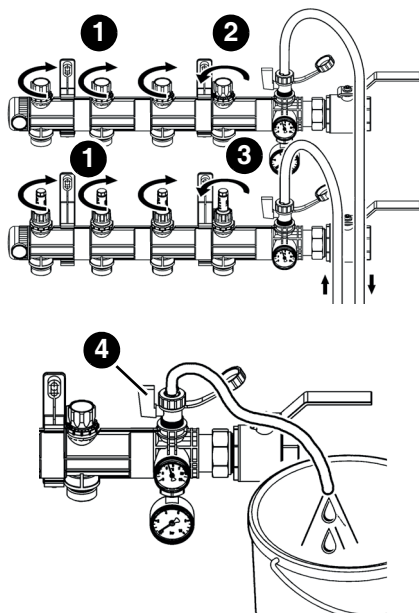
1. Drain the system.
2. Flush the lines of the system.

Mount the product as described in chapter "Mounting the product".

6 Commissioning

⇒ Verify that all components are completely installed.

6.1 Flushing, filling and venting the system



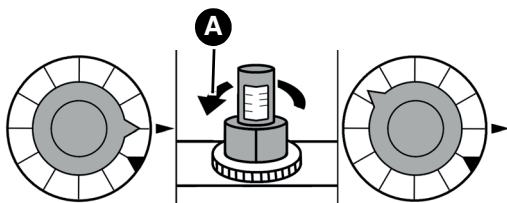
1. Connect a hose to the boiler filling and drain valve KFE.
2. Open the boiler filling and drain valve KFE for filling and flushing.
3. Open the return valve of the first heating circuit (2).
4. Slightly open the flow valve of the first heating circuit (3).
5. Close all other valves (1).
6. Fill the heating circuit with a maximum of 5 bar and flush it.
7. Fully open the flow valve as soon as water flows into the heating circuit.
8. Close the flow valve and the return valve of the filled heating circuit.
9. Repeat this procedure for all other heating circuits.
10. Vent the system at the boiler filling and drain valve KFE (4).

6.2 Performing the pressure test and the function test

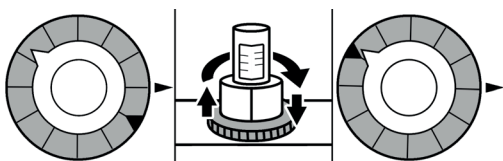
1. Perform a pressure test with 6 bar.
 - The system pressure must remain constant for at least two hours (maximum pressure drop 0.2 bar)
2. Perform a leak test after the two hours have passed.
3. Fill the system with water until the operating pressure is reached.
4. During filling, verify that all connections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

6.3 Adjusting the flow valves

6.3.1 With flow meter



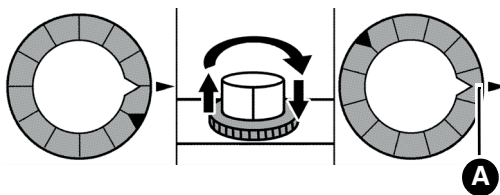
1. Open the flow valve until the calculated water volume (A) is indicated at the flow meter.



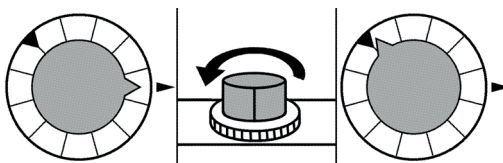
2. Turn the ring all the way to the mechanical stop of the flow valve.

6.3.2 Without flow meter

⇒ Use the "Determining the flow rate" to determine the value to be adjusted.



1. Close the flow valve.
2. Set the adjustment value (A) via the ring.



3. Open the flow valve.

7 Maintenance

The product is maintenance-free.

8 Troubleshooting

Any malfunctions that cannot be removed by means of the measures described in this chapter may only be repaired by the manufacturer.

Problem	Possible reason	Repair
Whistling noise in heating circuit manifold	Differential pressure too high	Readjust circulation pump
		Verify correct rating of circulation pump with regard to total system
		Use bypass valve at the heating circuit manifold
Other malfunctions	-	Contact the AFRISO service hotline

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.