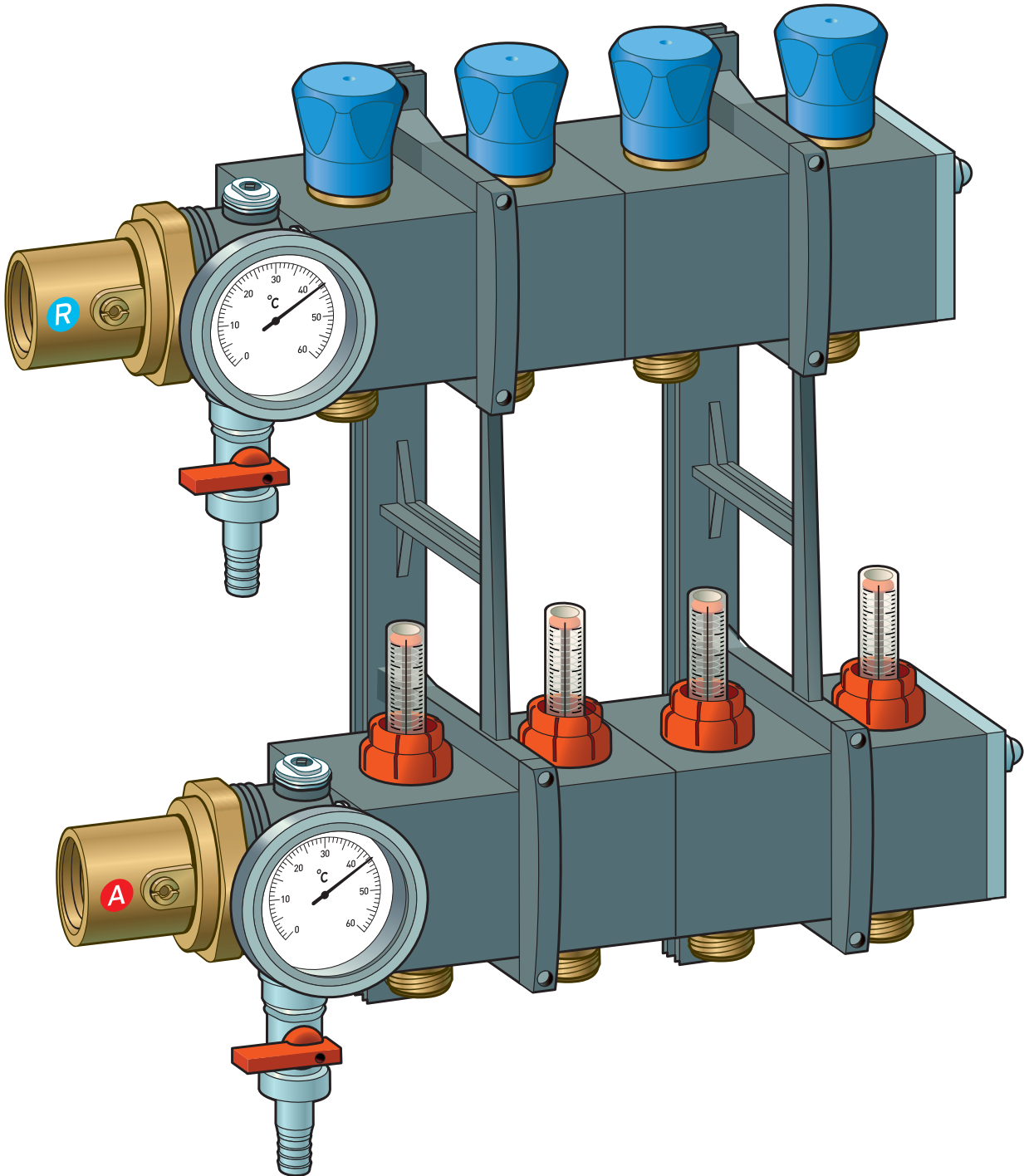


HENCO
INSTALLATION AND COMMISSIONING MANUAL
COMPOSITE MANIFOLD



Composite manifold

Introduction

The composite manifold can be applied in installations for heating and cooling. This series of manifolds is manufactured out of a special composite material for use in low temperature installations.

Two versions

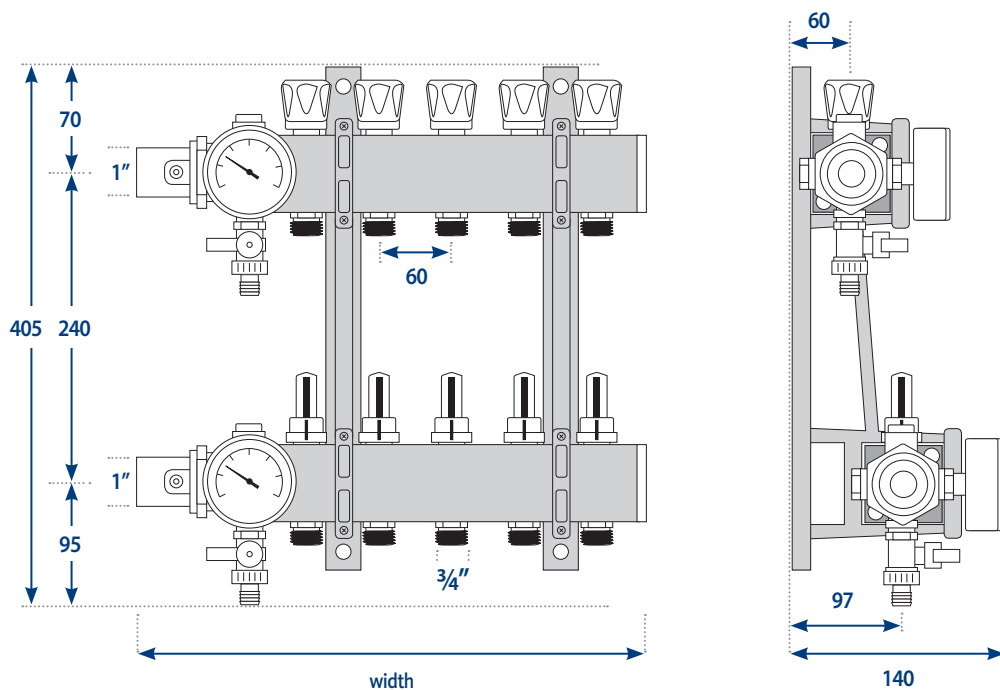
The manifold can be preassembled in 2 versions. The first version has settable flow meters for **static balancing** while the second

version works with AFC valves (Active Flow Control) for **dynamic balancing**. All the other components are similar in both versions: a return manifold with presettable thermostatic valves, a manual air vent, drain and filling valves, shut-off valves and thermometers on supply and return.

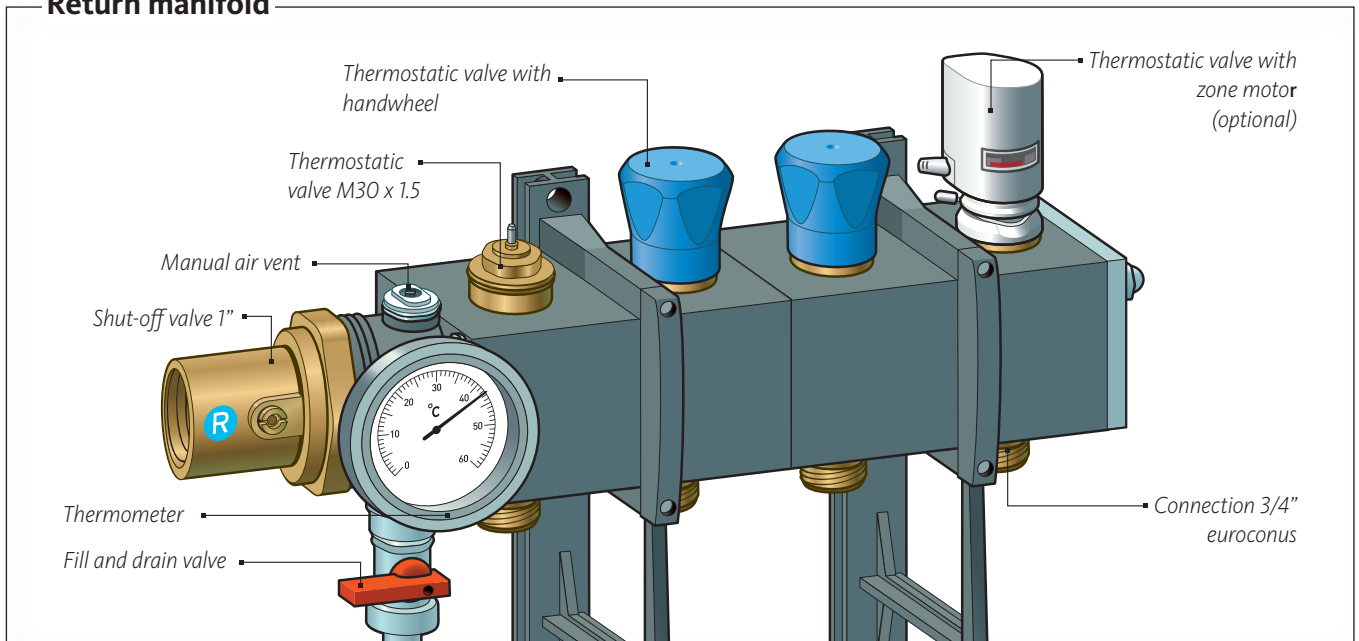
Dimensions

The **width** of the manifold depends on the number of groups and is measured from the beginning of the shut-off valve until the end of the last group.

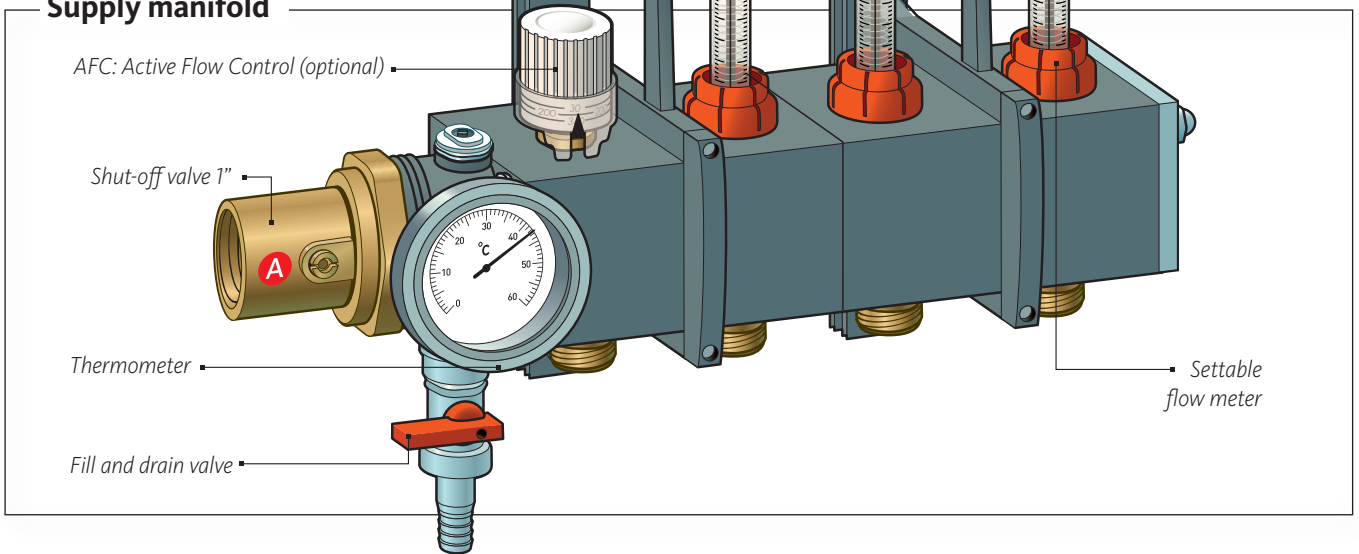
Outlets	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Width (mm)	170	230	290	350	410	470	530	590	650	710	770	830	890	950	1010	1070	1130	1190	1250	1310
Weight (kg)	2,3	2,9	3,5	4,1	4,6	5,2	5,8	6,4	7	7,6	8,2	8,8	9,4	10	10,6	11,2	11,8	12,4	13	13,6



Return manifold



Supply manifold

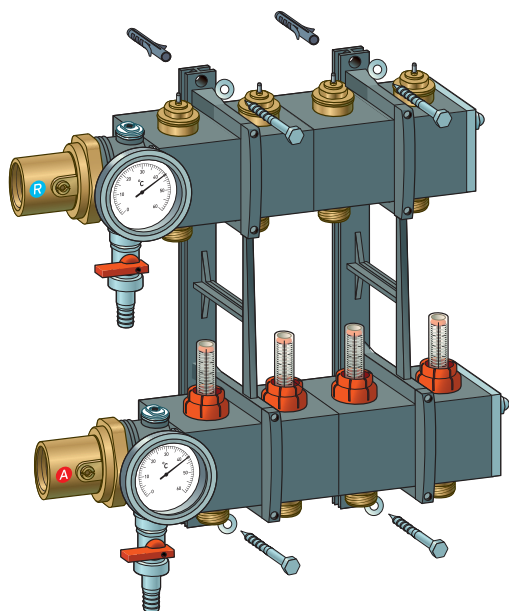


Technical specifications

Medium:	water or water glycol solutions
Max. percentage of glycol:	30%
Max. working pressure:	4 bar
Max. cold test pressure:	6 bar
Temperature range:	5 - 55°C
Flow meter scale:	1 - 5 l/min
Thermometer scale:	0 - 60°C
Manifold connections:	1" F
Groups:	3/4" M - euroconus
Centre distance:	60 mm

1. Installation

Mount the manifold against the wall with the supplied plugs and screws.

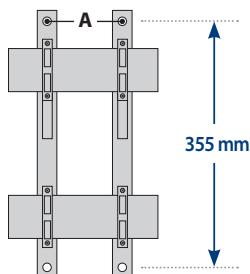


Distance between the brackets

The number of brackets used per manifold depends on the number of groups.

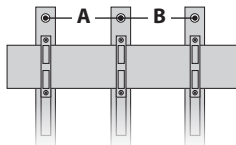
2 brackets A (mm)

2 groups	60
3 groups	60
4 groups	120
5 groups	180
6 groups	240
7 groups	300
8 groups	360
9 groups	420
10 groups	480



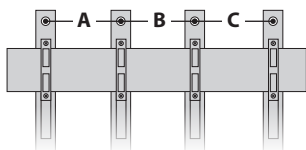
3 brackets A B

11 groups	240	300
12 groups	300	300
13 groups	300	360
14 groups	360	360
15 groups	360	420
16 groups	420	420
17 groups	420	480
18 groups	480	480



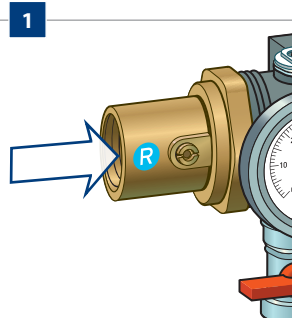
4 brackets A B C

19 groups	300	360	360
20 groups	360	360	360

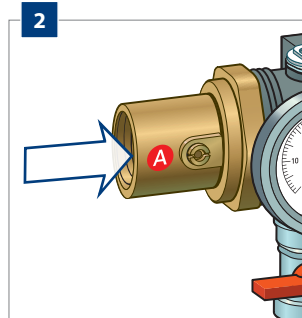


2. Connection

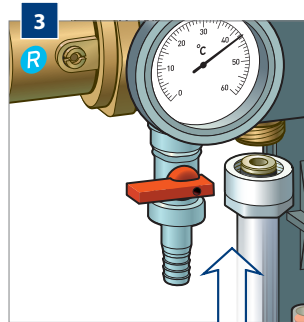
Connect the primary side to the boiler/chiller and connect the underfloor heating pipes on the secondary side.



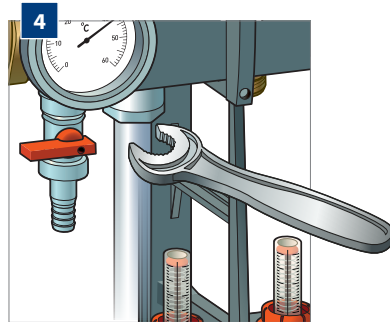
Connect the **primary pipe** to the shut-off valve of the **return manifold**.



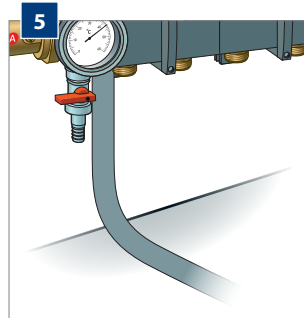
Connect the **primary pipe** to the shut-off valve of the **supply manifold**.



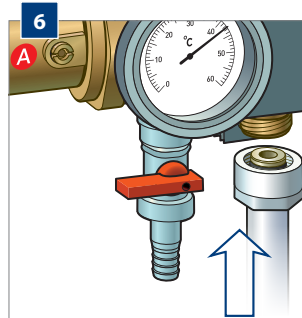
Connect the **underfloor heating pipe** on the **return manifold**.



Fasten the **connection** using the **composite key** supplied together with the manifold.



Install the underfloor heating pipe. Avoid creating tension by making a perpendicular, but flowing curve.

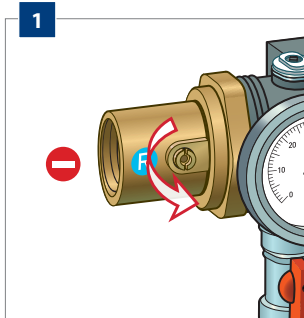


Cut the pipe to the **exact length** and then connect it to the **supply manifold**.

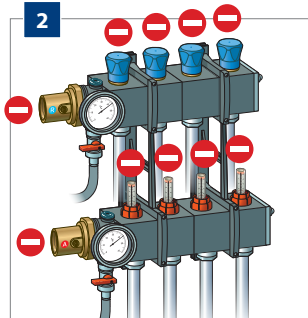
Repeat steps 3 to 6 for all groups of the manifold.

3. Filling

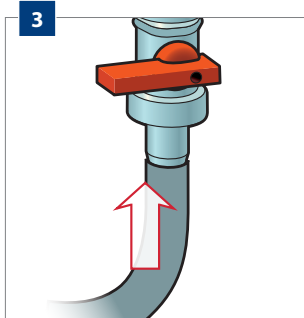
Fill the underfloor heating pipes.



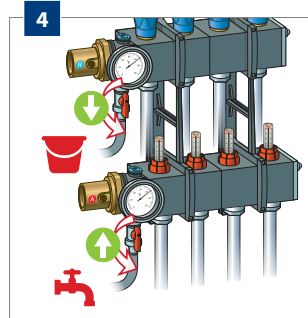
Close the **shut-off valve** on the **primary side**.



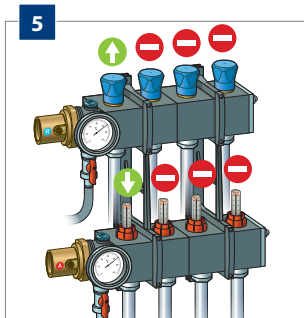
Close **all groups** using the thermostatic valves and the flow meters.



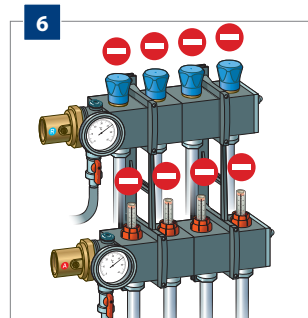
Connect the **fill and drain pipes** to the tailpieces of the fill and drain valves on the **supply and return manifold**.



Open the **fill and drain valves** and fill using the **supply manifold**.



Fill the **first group** by opening the thermostatic valve and the flow meter. Make sure all the air is removed.

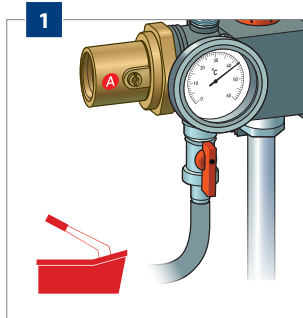


Close the **first group**.

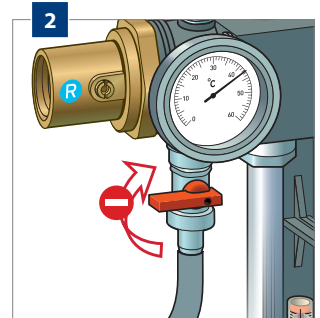
Repeat steps 5 and 6 for all groups.

4. Pressure test

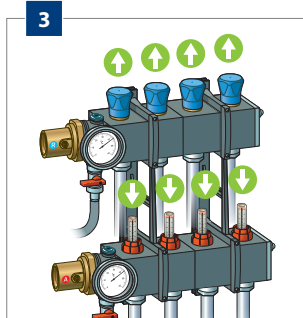
Check the system for leakages and fill in the pressure test report.



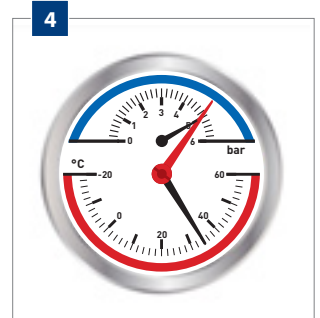
Connect the **pressure pump** to the fill and drain valve of the **supply manifold**.



Close the **fill and drain valve** on the **return manifold**.



Open **all groups**.



Pressurize the **whole circuit** to a minimum of 4 bars and a maximum of 6 bars (according to norm NEN-EN 1264-4).



Check the operation and confirm that there are no leaks in the **pressure report**.

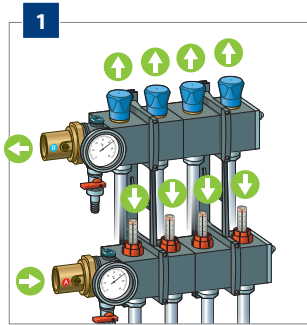
You will find the pressure report on the supply's box.

5. Balancing

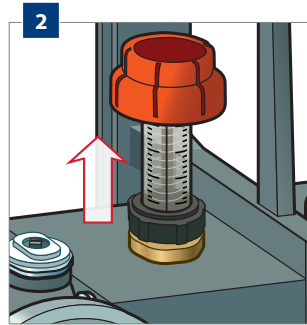
Set the calculated flow per group to guarantee an optimal comfort.

Depending on the version you choose this happens statically or dynamically.

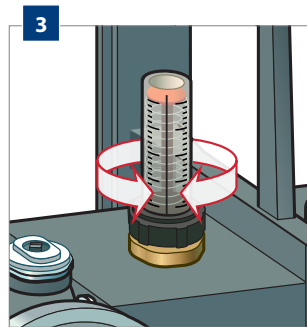
Static balancing



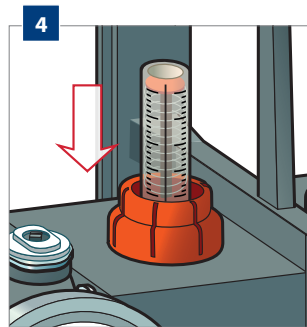
1 Open all groups and make sure the installation runs under normal working conditions.



2 Remove the **red cap** from the flow meter.



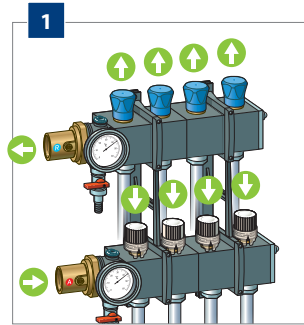
3 Set the calculated flow by turning the **black ring** in the desired direction.



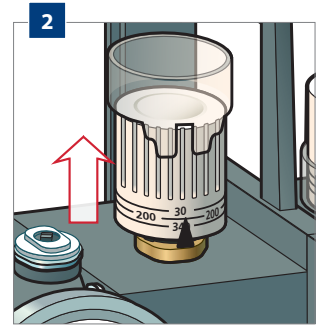
4 Reposition the **red cap** back over the flow meter to prevent the settings from changing.

Repeat steps 2 to 4 for all groups of the manifold.

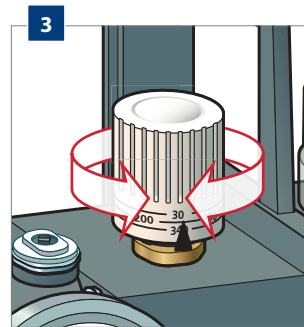
Dynamic balancing



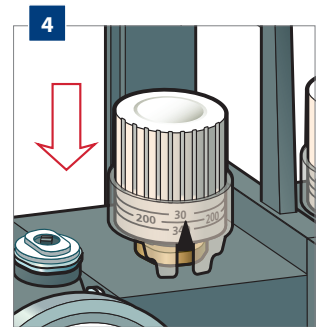
1 Open all groups and make sure the installation runs under normal working conditions.



2 Remove the **transparent locking cap**.



3 Set the calculated flow by turning the **handwheel** to the desired value.



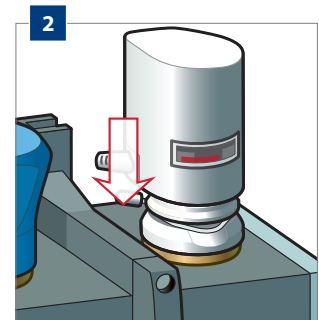
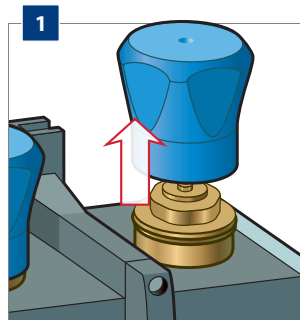
4 Reposition the **transparent locking cap** to prevent the settings from changing.

Repeat steps 2 to 4 for all groups of the manifold.

Mounting zone motors (optional)

It's possible to control the temperature in each room separately by mounting zone motors on each group.

- 1** Remove the handwheel from the thermostatic valve.
- 2** Mount the zone motor by hand on the thermostatic valve.



Tips & recommendations

Which safety precautions should you follow, how to disassemble the manifold and what to do in case of failure?

Safety precautions

Read and understand this manual before use.

- ▶ The manifold should be installed by a qualified installer.
- ▶ The water temperature in the manifold can reach 55°C. Avoid direct contact with the skin at all times.
- ▶ HENCO is not responsible for damage or accidents that come from incorrect use.
- ▶ The manifold is intended for wall mounting with the supplied screws and plugs.
- ▶ It is important to use the correct pipes which ensure the perfect working of the installation.

Tips to disassemble the manifold

Follow the steps below when disassembling the manifold.

- 1 Remove the water from the manifold.
- 2 Disassemble the primary pipes.
- 3 Remove the manifold from the wall.
- 4 Bring the manifold to a recycling point.

First aid during failure

Failure	Cause	Solution
The underfloor heating doesn't work or doesn't give off any heat.	The flow meters and/or the thermostatic valves are still in a closed position.	Open the thermostatic valves and flow meters.
	The shut-off valve is in a closed position.	Open the shut-off valve.
	The central heating has no heat demand.	Create heat demand in the central heating installation.
All groups are open but there is no flow in the manifold.	There's too much resistance in the pipe circuit. Possible reasons: <ol style="list-style-type: none">1. Outlet length over-dimensioned2. Contamination in the system3. Incorrect assembly	<ol style="list-style-type: none">1. Check whether the maximum length of the groups has been exceeded.2. Rinse the installation.3. Consult your installer.



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