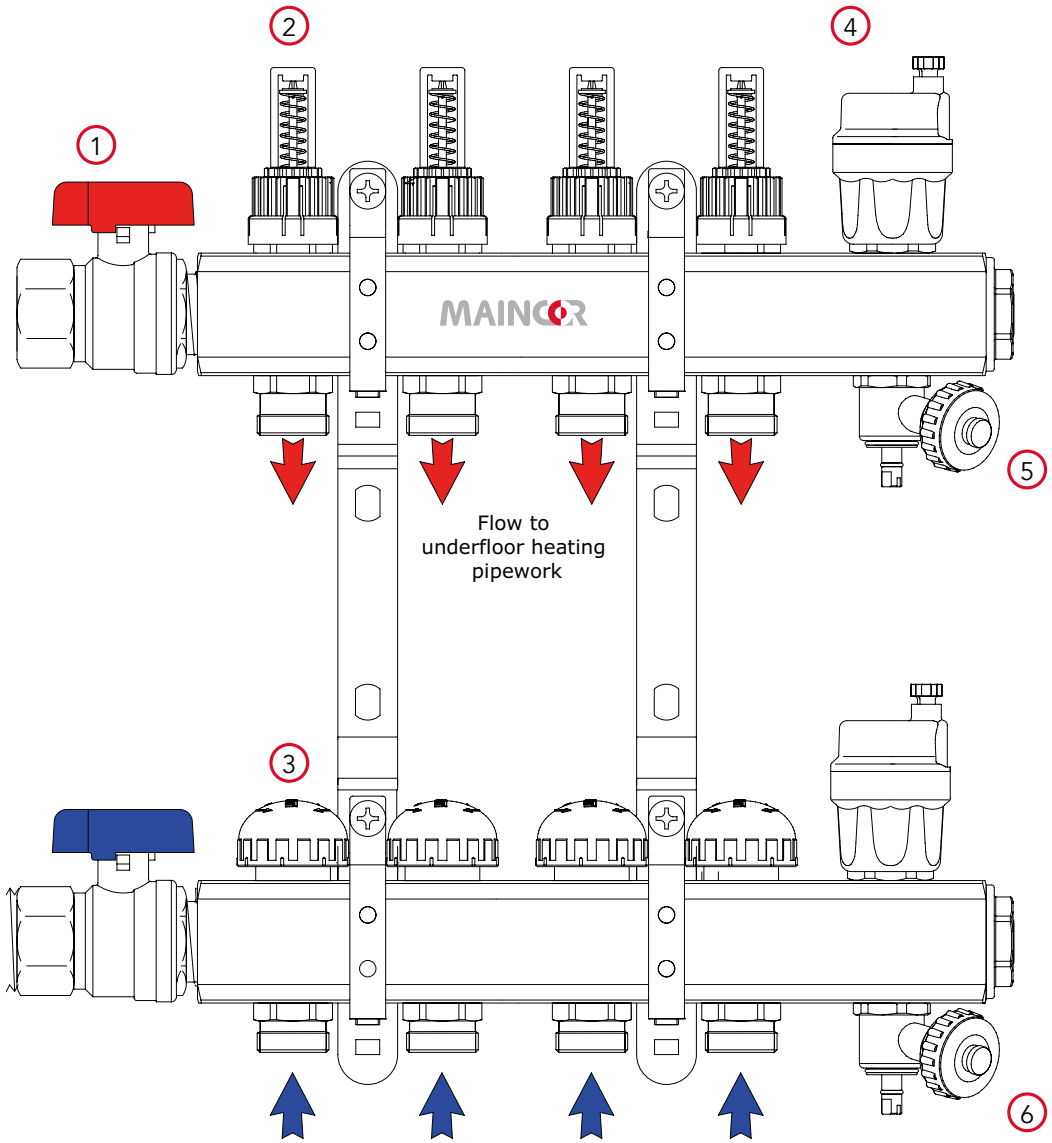
COMMISSIONING

Filling, Testing and Commissioning Information

All filling, testing and commissioning is carried out at the manifold.

Prior to the screed or floor covering being laid, the UFH manifold is to be filled and a pressure test applied. The system is to be left under pressure while any floor covering is being laid to ensure that if a pipe is damaged during works, it is identified via the pressure test gauge.

The diagram below shows the main components of the manifold.



Return from underfloor heating pipework

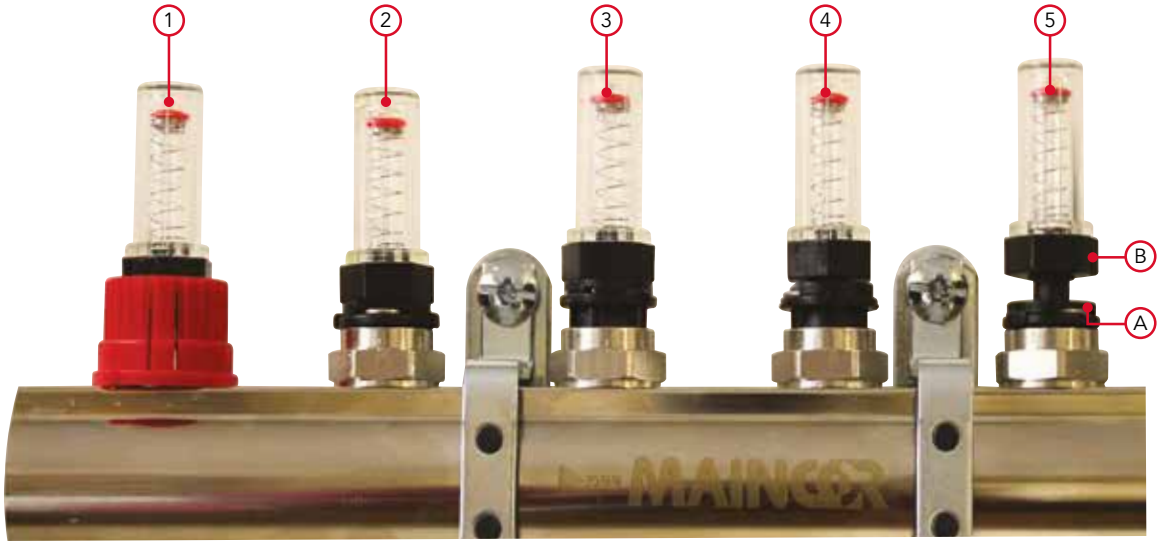
Key:

1. Ball Valve
2. Combined lockshield and Flowmeter
3. Return Isolation Valve
4. Automatic Air Vent
5. Fill Point
6. Drain Point

COMMISSIONING

Filling and Testing Information

Unlike many other manufacturers, the Maincor flow meters offer a double regulation function which allows isolation and flow balancing of each circuit. ⚠ ***Prior to filling it is essential to understand how the double regulation feature works.***



Combined Isolation Valve and Flow Meter Adjustment

1. Shows the circuit with the red locking collar in position (as supplied)
2. Shows the isolation valve and flow meter both closed.
3. Shows the isolation valve open and the flow meter closed.
4. Shows the isolation valve and flow meter both open.
5. Shows the isolation valve closed and the flow meter open.

First remove the red locking collar with a flat face screwdriver.

To open the isolation valve, turn the bottom section (A) anti clockwise approx. 3.5 turns until you meet resistance.

To open the flow meter, turn the black nut (B) anti clockwise approx. 3 turns to fully open, until resistance is met.

Filling

We recommend filling each circuit separately, opening the return isolation valves and double regulating valves each time and closing them again when the circuit is full as per the instructions below:

1. Isolate the manifold via the ball valves.
2. Connect a hose to the return manifold (the bottom manifold bar) via the drain point. The discharge hose should be run to a bucket or drainage point.
3. Connect mains pressure water to the flow manifold (the top manifold bar) via the fill point.
4. Close all of the return valves by turning the blue adjustable heads clockwise.
5. Open both sections of the double regulating valve and the corresponding return isolation valves. Begin filling the first circuit.
6. Once the water flowing from the discharge hose is flowing smoothly all air has been removed from the circuit.
7. Close this circuit and fill the next circuit following the same procedure.

Testing

1. Once filled, the system should be pressure tested in accordance with EN1264-4:2009 between 4-6bar.
2. The system should be left under pressure whilst fixing a floor or laying the screed.

COMMISSIONING

Commissioning and System Start Up Information

Commissioning

1. In order to commission the system the heat source needs to be operating to deliver the required temperature water to the manifold and the primary and secondary pumps need to be operating.
2. To adjust the flow meters, follow the adjustment procedure above. The actual required flow will depend on the heat requirement of the room and the amount of pipe in the floor. Most modern buildings insulated to current building regulations will require around 50-60W/m². As a general guide, we recommend that the following flow rates are set (when using 16mm pipe at 200mm centres):

Coil	Required Heat Output (W/m²)		
	50	70	100
50m	0.96 l/m	1.34 l/m	1.92 l/m
75m	1.44 l/m	2.01 l/m	2.88 l/m
100m	1.92 l/m	2.68 l/m	3.84 l/m
120m	2.30 l/m	3.22 l/m	

16mm pipe at 200mm centres.

Coil	Required Heat Output (W/m²)		
	50	70	100
40m	0.57 l/m	0.80 l/m	1.14 l/m
60m	0.86 l/m	1.21 l/m	1.72 l/m
80m	1.14 l/m	1.60 l/m	2.28 l/m

12mm pipe at 150mm centres.

3. Replace the red locking ring once the flow meters are set.
4. The underfloor heating pipework will not corrode in any way since it's plastic, however, it is recommended that a suitable inhibitor is added to avoid the corrosion of primary pipework, the heat source and any other towel rails or radiators on the system.
5. Initial setting of the thermostatic blending valve (after the initial system start-up/screed drying period) should provide the following temperatures:
   - Screeded/dry screed board floors: 35-45°C
   - Timber/floating floors: 45-55°C

System Start Up

1. For screed floors, ensure a minimum of 21 days have elapsed since laying the concrete screed, or seven days if an anhydrite floor screed is utilised.
2. Wooden floors can be switched on quite early, but should not be allowed to reach too high a temperature too soon. Wood being a natural material requires that both the floor and deck and joists must be treated with care until temperature and humidity have stabilised.
3. Where water temperature controls are utilised, ensure they are set the minimum setting (typically 25-30°C) and that room thermostats and flow meters are set to design condition, as this will aid gradual drying of the floor and structure. System responses will be very slow on initial start-up.
4. After the heating has been running for the recommended time at minimum setting (3 days for solid concrete floors and 1 day for wooden suspended floors), gradually raise the water temperature to the design setting for a further 4 days.
5. Once running normally there should be a 7-8°C temperature drop across the circuits.
6. Once all action are complete, turn down all thermostats so that the system stops. Now turn up one thermostat and ensure the correct actuator or actuators have opened for that particular room. After its determined that the thermostat is controlling the correct actuator, turn the thermostat down and repeat the process for all other thermostats on a room by room basis.