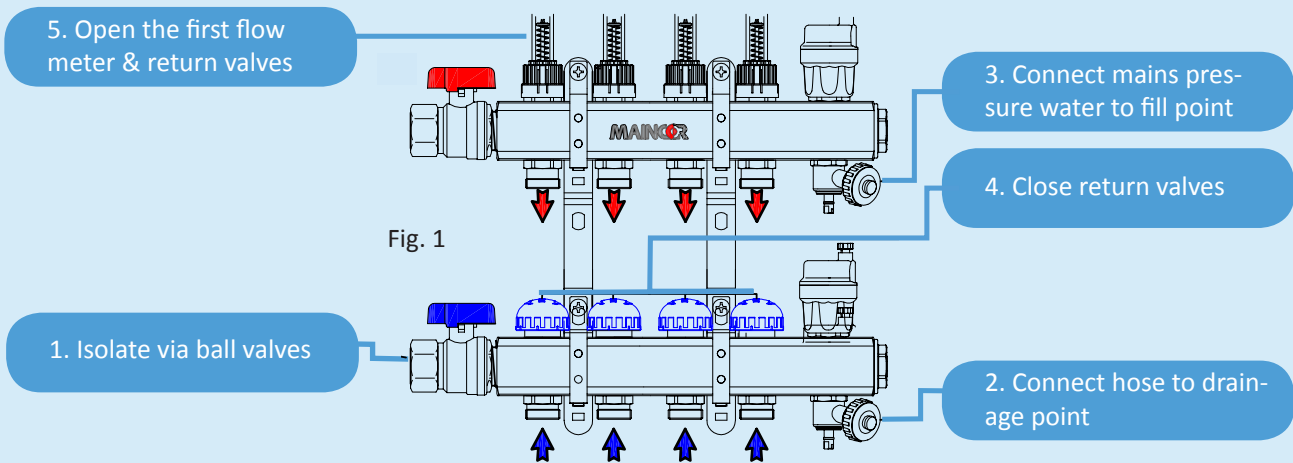


Filling, Testing & Balancing

The underfloor heating system must be filled, tested and commissioned prior to handing over the property to the client.

Filling

1. Isolate the manifold via the ball valves.
2. Connect a hose to the return manifold (the bottom manifold bar) via the drain/fill 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 a second drain/fill point.
4. Close all of the return valves by turning the blue adjustable heads clockwise.



5. Open the first flow meter (see fig 2.) and the first of the return valves. Begin filling the first circuit.

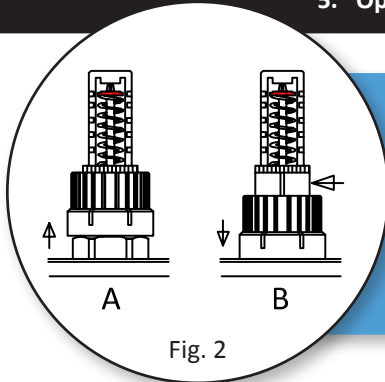


Fig. 2

The flow meters are designed for isolating and regulating the flow around each UFH circuit. The position of the white cap determines whether adjustment will either isolate or open a circuit, or balance the circuit.

1. The flow meters arrive closed, first lift the white cap (A) and turn anti clockwise until you meet resistance. This will open the circuit.
2. Push white cap down and adjust the black nut to balance the flow (B)
3. Once the correct flow has been achieved push up the white locking ring to lock the flow.

6. Once the water flowing from the discharge hose is flowing smoothly, all the air has been removed from the circuit. Close this circuit and fill the next following the same procedure.

Testing

7. Once the system has been filled and fully vented of air, the system is to be pressure tested to twice the normal system working pressure. **The pressure should not exceed 6 bar.**
8. The system should be left under pressure whilst fixing a floor or laying the screed.

Commissioning

9. 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.
10. To adjust the flow meters follow the adjustment procedure above (blue box) 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:

Coil	Required heat output (W/m ²)		
	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	2.89 l/m
100m	1.92 l/m	2.68 l/m	3.84 l/m
120m	2.30 l/m	3.22 l/m	