



Installation and Commissioning Instructions Topway Plus Type 2 Manifold



Reduced Installation time



Minimal tooling required



High quality raw materials



Stable material costs



Precision regulation



100% tested prior to packaging

Topway Plus Type 2 Manifold Installation & Commissioning Instructions

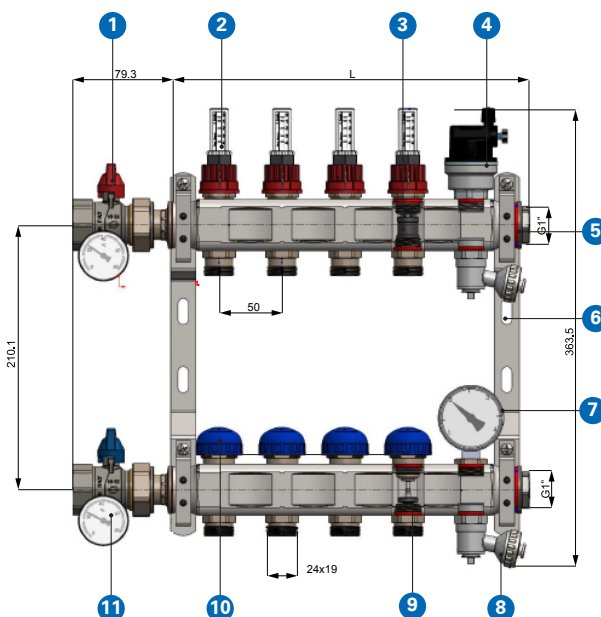
1. Description

The Topway Plus Type 2 manifold is a pre-assembled stainless steel manifold for use with underfloor and wall hung radiator systems available with between 2 and 12 ways. Complete with flowmeters as standard.

The 1" pre-assembled Topway manifold is suitable for use with a combined mixing valve and circulating pump set such as the Emmeti T2 UFH Heat Pump Control Group, 1" M3V-HE Control group and TM3-R Mixing Units.

1.1 Components

1. Ball valves with temperature gauge (available separately)
2. Two stage flowmeter
3. Flow rail
4. Tecno-Varia automatic air vent, ½"
5. 1" male plugs
6. Offset mounting brackets, 210mm centres.
7. 0-6bar Pressure gauge c/w ½" x ¼" reducing bush.
8. ½" Drain/fill valve
9. Return rail for heating system from 2 to 12 ways with electrothermic bodies designed for attachment of the electrothermic heads
10. Electro-thermic body (Control T electro-thermic head available separately)
11. Temperature gauge 0°C – 80°C



1.2 Technical Data

Max. temperature on primary circuit	90 °C
Maximum operating pressure	6 bar
Temperature gauge range	0 - 80 °C
Manifold size	1"
Primary connections	G1"
Manifold connections	M 24x19

Type		2 ways	3 ways	4 ways	5 ways	6 ways	7 ways	8 ways	9 ways	10 ways	11 ways	12 ways
1"	L mm	185	235	285	335	385	435	485	535	585	635	685

2. Installation

2.1 Mounting

Topway Plus Type 2 manifolds can be wall-mounted using the brackets provided with suitable fixings. Alternatively they can be mounted within an Emmeti cabinet. Manifolds should be centrally located and installed at least 300mm from the floor.

The automatic air vent, pressure gauge, drain / fill valves and blanking caps are supplied loose with the manifold and should be assembled to the manifold prior to filling. These are fitted with o-ring seals and do not require any further jointing measures.

To ensure adequate installation space please refer to 1.2 Technical Data. A range manifold cabinets are also available.

Any additional components such as ball valves or mixing group will need to be accounted for.

2.2 Electrical connections

The Domestic Building Services Compliance Guide recommends the use of a separate flow temperature high limit thermostat' for systems connected to a high temperature water supply (i.e. more than 60°C) to ensure that the water temperature in an underfloor heating system does not rise above the temperature recommended for the floor. Emmeti UK offer 2 over-temperature protective devices for this purpose, codes: U9132330, U9132340.

Emmeti UK also offer the EWC Wiring Centre range designed specifically for the connection of electrical components in underfloor heating systems:

- Code U9360010
- EWC-1 230V 8-way wiring centre with on-off switch
- Code U9360020
- EWC-1 24V 8-way wiring centre with on-off switch
- Code U9370001
- EWC-2 230V 8-way wiring centre
- Code U9370002
- EWC-2 230V 12-way wiring centre
- Code U9380001
- EWC-4 230V 4-way wiring centre

2. Installation

This allows the connection of the mains power supply, thermostats and actuators with electrical interlock terminals for the boiler and manifold pump as required by Building regulations Part L. Wiring diagrams are provided with the above items.

Please ensure that the electrical wiring of the installation and connections to and from electrical system components are in accordance with BS 7671, the latest edition of the IET Wiring Regulations.

Over temperature thermostats, codes: U9132330, U9132340

2 over temperature protective thermostats are available. High temperature (40-70°C) U91322340 for direct manifold protection and Low temperature (20-40°C) U9132330 for overall floor protection. These are designed to be connected in series to the circulating pump, zone valve or heat source to 'lock out' in the event of an over temperature situation.

The sensing element can be trapped between the rubber mounting pad in the support bracket and the surface of the flow rail, or fitted in a designated pocket for example on the TM3-R mixer assembly.

Maximum suggested thermostat setting: 45/50 °C for cement slabs; for other materials refer to the maximum values as stated by the supplier, and not more than 55°C (EN 1264-4).

EWC-1 wiring centre, codes: U9360010, U9360020

EWC-2 wiring centre, codes: U9370001, U9370002

EWC-4 wiring centre, code: U9380001

Wall mounting – Install the wiring centre adjacent to the Topway Plus Type 2 manifold so that the electrical cables from the electrothermic heads can reach the wiring centre, ideally on the lower face of the centre.

Cabinet mounting – where the Topway Plus Type 2 manifold is installed in a Metalbox manifold cabinet, the wiring centre can be installed above or to one side of the manifold providing all electrothermic head cables can reach the centre. Make the electrical connections to the centre as shown in the installation leaflet.

2.3 Hydraulic connections

Connect the primary flow and return pipes to the 1" female connections and each of the individual circuits. It is strongly recommended that only fittings with a parallel thread are used and that a gasket or o-ring is used to make the seals watertight. The use of jointing paste and hemp or similar sealing materials is not recommended as this may interfere with the correct operation of the manifold. Emmeti UK offer a range of ball valves and other fittings with o-ring seals suitable for this purpose.

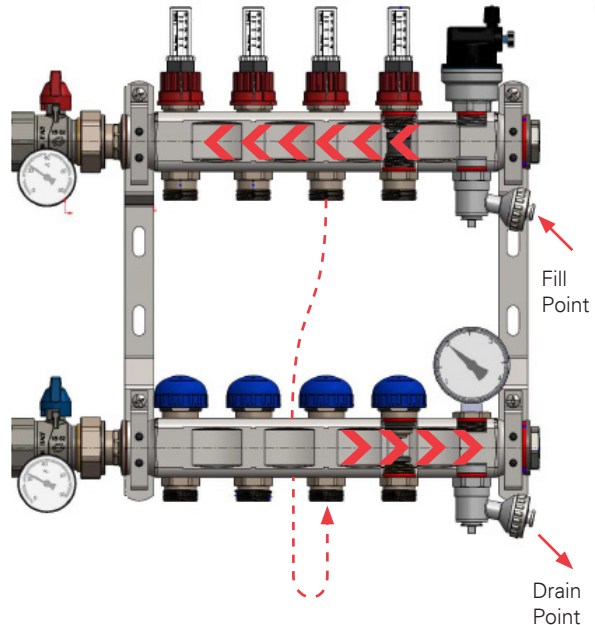
2.4 Filling and testing

To fill the system, close the main flow and return isolators, isolate all circuits via the two stage flowmeter. Attach a mains water fed hose to the top manifold and a hose to drain/bucket on the bottom manifold, begin filling each circuit individually by opening the combined lockshield and flowmeter until water runs uninterrupted through the hose at the bottom manifold. This circuit is now full of water and free of air. Isolate the circuit and move to the next to repeat the process.

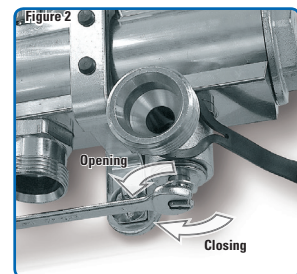
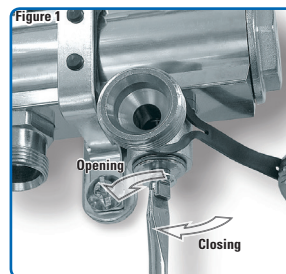
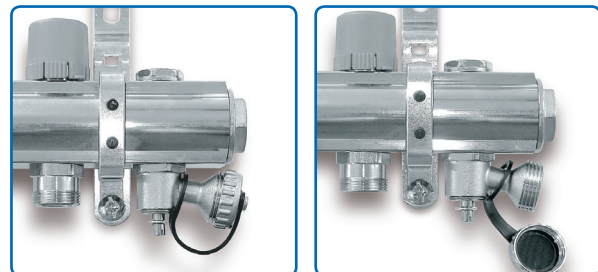
We recommend filling each circuit separately, opening the relative valves and two stage flowmeter each time and closing them again when the operation is completed. Once filled the system should be pressure tested in accordance with EN1264-4:2009 for UFH (between 4 and 6 bar) or EN 14336:2006 for

radiator systems (30% greater than working pressure for a minimum of 2 hours).

Commissioning Instructions overleaf, show the procedure for setting up the designed flow rates using the Emmeti flowmeters.



2.5 Drain/Fill valve operation



To operate the Drain/Fill valves, first remove the 3/4" cover, attach a hose via a 3/4" hose adapter to the valve and run the hose to a suitable fill or drain point.

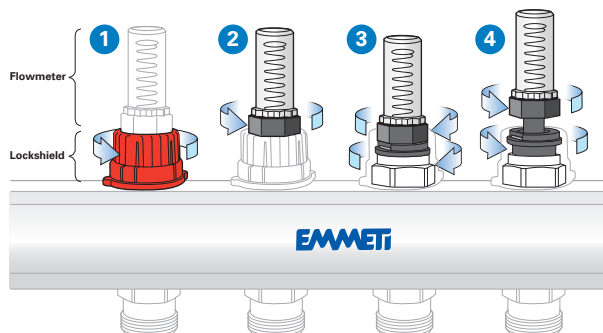
To open the valve use either a slotted screwdriver or open ended spanner, turning anticlockwise to open and clockwise to close.

Replace the 3/4" cover when filling or draining is complete.

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Section 3. Commissioning Instructions

3.1 Flowmeter Adjustment



1. First stage lockshield open only.
Red collar turned anti-clockwise only.
2. Second stage flowmeter open only.
Flowmeter turned anti-clockwise only.
3. First stage lockshield and second stage flowmeter both in closed position.
4. First stage lockshield and second stage flowmeter both in fully open position

The combined lockshield and flowmeter is a two stage device. The lockshield provides individual port isolation and the flowmeter regulates flow rate.

To fully open the port for filling and flushing:

First stage: to open the lockshield rotate the collar anticlockwise approx. 3.5 turns.

Second stage: rotate the black nut on the flowmeter anticlockwise approx. 3 turns.

Locking the flow rate:

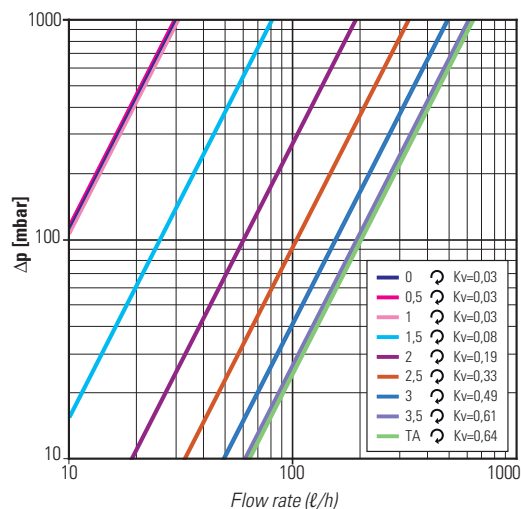
Once the manifold flow rates have been set, pop up the collar to lock the setting.

Range of measurement	0-4 l/min
Maximum operating pressure	6 bars
Max. operating temperature	90 °C
Kv = 0.15 (1 l/min) -0.55 (4 l/min)	
Kv max off scale	= 0.9
Precision	±10% fs
fs	Bottom of scale

Cleaning the flowmeter tube

Turn the red collar clockwise, until the isolating function is fully closed. Remove the flowmeter tube by securing the black spanner flats, then using either hand pressure or a 17mm ring spanner, gently unscrew the flowmeter tube anticlockwise. Clean the tube and screw it back on. Turn the red collar anticlockwise until the isolating valve is fully open again.

Flow meter pressure drop with return electro-thermic body fully open

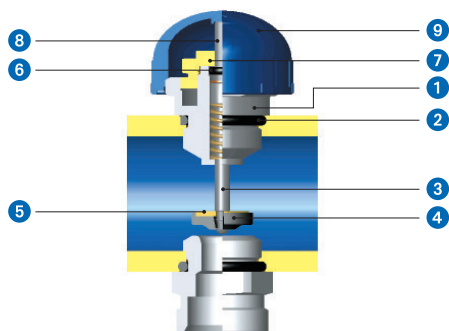


no. of turns for opening adjustment device ②

TA = All open. The above values refer to water temperature 15 °C;

$\Delta p = \Delta p_{\text{flow}} + \Delta p_{\text{return}}$

3.2 Electrothermic Body (for electro-thermic heads)



- 1 Shutter in brass EN 12164 CW614N
- 2 EPDM o-ring
- 3 Bolt in brass EN 12164 CW614N
- 4 Gasket in EPDM
- 5 Brass gasket EN 12164 CW614N
- 6 O-ring for shutter EPDM
- 7 Collar in brass EN 12164 CW614N with nickel finish
- 8 Bolt in stainless steel AISI 304
- 9 Cap in blue ABS (RAL 5005)

The blue cap is designed to be used for installation and commissioning, not for permanent isolation if you are not replacing the cap with an electrothermic head. Please use code 01306112.

