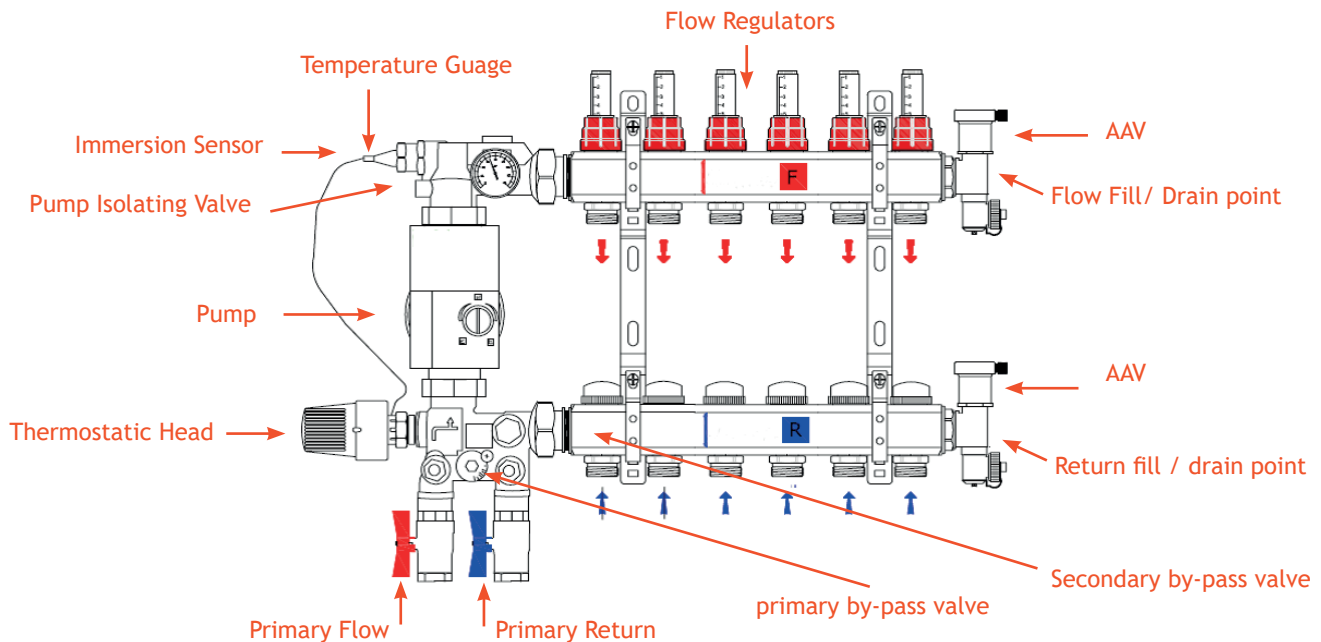


## MANIFOLD & CONTROL SET SET UP



### Preliminary Checks

Before Filling and Pressurising the manifold and control set, it is recommended that the following points are checked:

1. The pump connecting nuts, plugs, probe holder and fittings must be tightened properly.
2. The pump must be installed in the correct orientation.
3. Manifolds must be installed correctly: flow manifolds must be mounted on top and the return manifold on the bottom

### Plant Filling

Note: Fill the system with clean water, free of impurities and dirt. Before filling with water ensure that the ambient temperature is not below 6°C approx. If it is, do not fill unless the system is to be started immediately to stop freezing.

Filling operations must be carried out on each individual circuit. Before proceeding close Primary Flow and Return Isolators, also close the Pump Isolating Valve.

1. Connect the filling hose to the Flow Fill/Drain Point
2. Connect the outlet pipe to the Return Fill/Drain Point
3. Shut all circuits except the one to be filled, by using the appropriate valves on both Flow and Return Manifolds.
4. Start the Filling operation.
5. Once the water is free of air coming out of the outlet pipe shut the circuit.

Repeat steps 4 and 5 for all circuits, on completion of filling all loops, open Primary Flow and Return Isolators, also open the Pump Isolating Valve.

## Thermostatic Head

The WARMUS Manifold Control set temperature is controlled with the supplied thermostatic head, allowing for a fixed- point regulation in which the flow temperature, detected by the remote immersion sensor, is kept constant to the value set through the thermostatic control knob.

## Primary By-pass Valve

The high temperature primary by-pass allows for a re-circulation of hot water on the return to the boiler. As such, the return water temperature is higher. The by-pass is adjustable from 0 position to “Kv 20”: 0 position indicates completely closed by-pass (see Fig. 5a), while “Kv 20” denotes its maximum achievable opening. Bypass opening is recommended in presence of boilers requiring re-circulation for optimal operation, and in the event of several UFH mixing kit units being installed in the same building and powered by a single boiler. The adjustment of the primary by-pass can be done by loosening the locking crosshead screw and using a 10-mm Allen key to align the desired value printed on the selector plate to the reference carving. If this requires adjustment consult the paperwork that is attached to the Control Pack. Once the setting has been completed, tighten the crosshead again to lock the selector.

WARMUS recommend the installation of full bore auto by-passes at each Manifold.

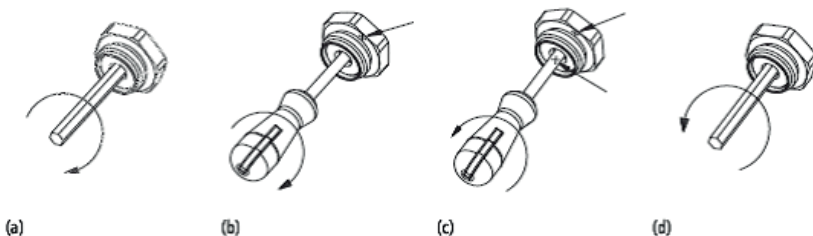
## Secondary By-pass Valve

The secondary by-pass valve can be used to perform a preliminary regulation of the amount of recirculation water flowing to the mixing area. A fine adjustment is performed automatically by the thermostatic head.

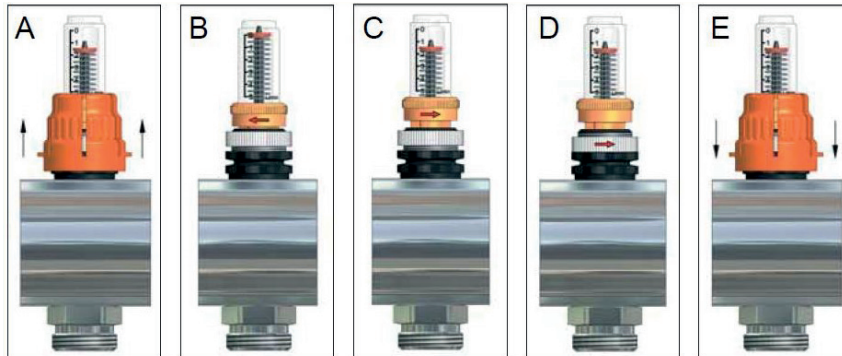
This is normally already set by WARMUS prior to being despatched from the Warehouse, but if it needs setting, use the following method.

The secondary balancing by-pass is equipped with double micrometric adjustment and position memory in the event of temporary closing. To correctly adjust and balance the circuit, apply the following procedure with reference to below:

- 1) Remove the cover.
- 2) Use a screwdriver to unscrew the dowel screw inside the hexagonal groove, then remove it and put it aside.
- 3) Use a 5 mm Allen key to close the by-pass completely (Fig. a).
- 4) Put the dowel screw back into the groove, then screw it until mechanical stop (Fig b). Index the Screwdriver and unscrew the dowel screw 2 complete revolutions of screwdriver as (Fig. c)
- 5) Open the by-pass by using the 5 mm Allen key until mechanical stop is hit (Fig. d). It will now be possible to close the by-pass completely, but not to open it beyond the upper limit set by the dowel screw adjustment;
- 6) Replace the cover.



## Flow rate adjustment



The flow meters allow for adjustment and balancing of each loop and keep memory of the selected position in case of temporary closure due to maintenance operations.

The flow meter also features a position memory system, in order not to lose the correct regulation in case of momentary closure of the branch.

The spyglass with graduated scale can be removed during operation, thanks to a reverse seal system.

To perform a correct adjustment, use the following procedure

- 1) Remove the red cover as in Fig A.
- 2) Set the flow meter into the closed position by turning the upper lock ring in the direction indicated by the arrow in FIG B. nb in the closed position, the indicator will show no flow rate.
- 3) Open the device by turning the same lock ring in the opposite direction FIG C and check the correct flow rate through the spyglass
- 4) Screw the lower lock ring in the direction indicated in FIG D until hitting the mechanical stop.
- 5) Replace the red cover to lock in the set position FIG E.