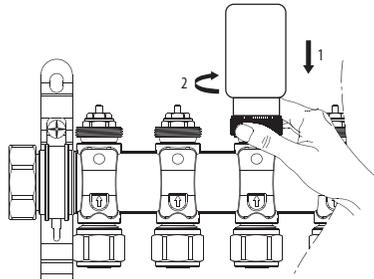


### Installation



- 1 Attach the Auto Balancing Actuator to underfloor heating manifold thermostatic valves, on the return bar. When installing the THB23030 ensure it is fully tightened onto the manifold. Actuator is in fully open position, out of the box, for easy installation.

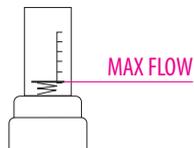
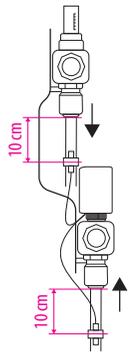
- 2 Attach the two pipe temperature sensors, one on the flow pipe and the other to the return pipe.

Ensure the actuator temperature pipe sensors are placed facing forward to the flow and return pipes 10 cm down from the manifold.

- 3 Connect the actuator power cable to the control wiring center or the thermostat. Please note, the THB23030 requires 230V connection power supply.

- 4 Fully open the flowmeters or shut-off valves on the supply manifold bar.

- i Now actuator is ready for the calibration procedure. The actuator requires first to be calibrated to the manifold valve to ensure optimum performance before use, this may take up to 15 minutes.



- 5 Power on the Auto Balancing Actuator, if connected to a thermostat set the demand temperature to maximum. The LED will flash at 0.25 Hz for two minutes. After that the actuator will open and close the valve to find the correct motor pin position.

- 6 Next, the actuator will slowly open the valve at 2 minute intervals until heated water is detected in the flow pipe, this is the calibrated valve open point (VOP).

- i Note: It is important that the flow manifold water temperature is not falling during this period, so ensure the flow temperature is at maximum / higher temperature during the calibration period (>35°C).

- 7 Once the VOP has been found the actuator will restrict the water flow to this minimum point when the  $\Delta T$  is needed to rise and open beyond this point when the  $\Delta T$  is needed to fall keeping the UFH circuit in balance.

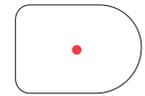
### Normal Operation

Once calibrated the Auto Balancing Actuator when powered on will flash the LED for two minutes before fully opening the valve.

The ABA will then begin to modulate the flow by slightly opening / closing the valve once every two minutes to keep the  $\Delta T$  between the flow and return at 7°C, however if the flow temperature is below 30°C then the  $\Delta T$  will be lower (4°C  $\Delta T$ ) as the floor will be unable to achieve a higher value at low flow temperatures.



Actuator motor works



Actuator stays at balancing point

### Re-calibration

Before starting the re-calibration procedure, disconnect the actuator from the power source. To re-calibrate, apply power to the actuator and wait at least 20 seconds then switch off the actuator within 1 minute of the power on. Wait until the LED goes out. The actuator will now perform the calibration at the next power on.