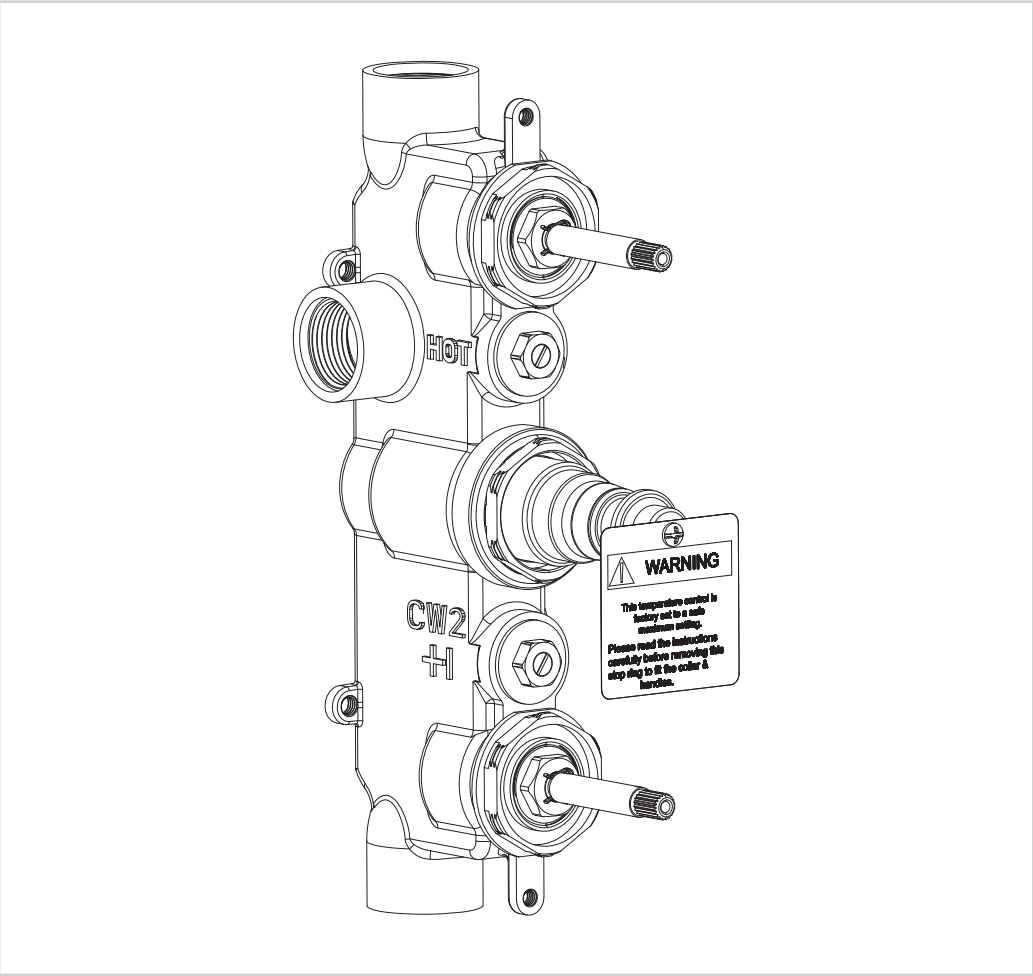


2 Outlet Thermo Valve NO COLLARS Portrait

PRODUCT CODES:

WLBP2000R



IMPORTANT INFORMATION BEFORE YOU START

Please read carefully and keep this information for further reference.

All products manufactured and supplied by Crosswater are safe provided they are installed, used correctly and receive regular maintenance in accordance with these instructions. If you are in any doubt about your ability to install this product safely you must employ the services of an experienced qualified plumber.

The thermostatic valve has been designed to be compliant with the relevant UK standards applicable to this type of product governed by Type 2 TMV and WRAS. The valve is tested against BS EN 1111.

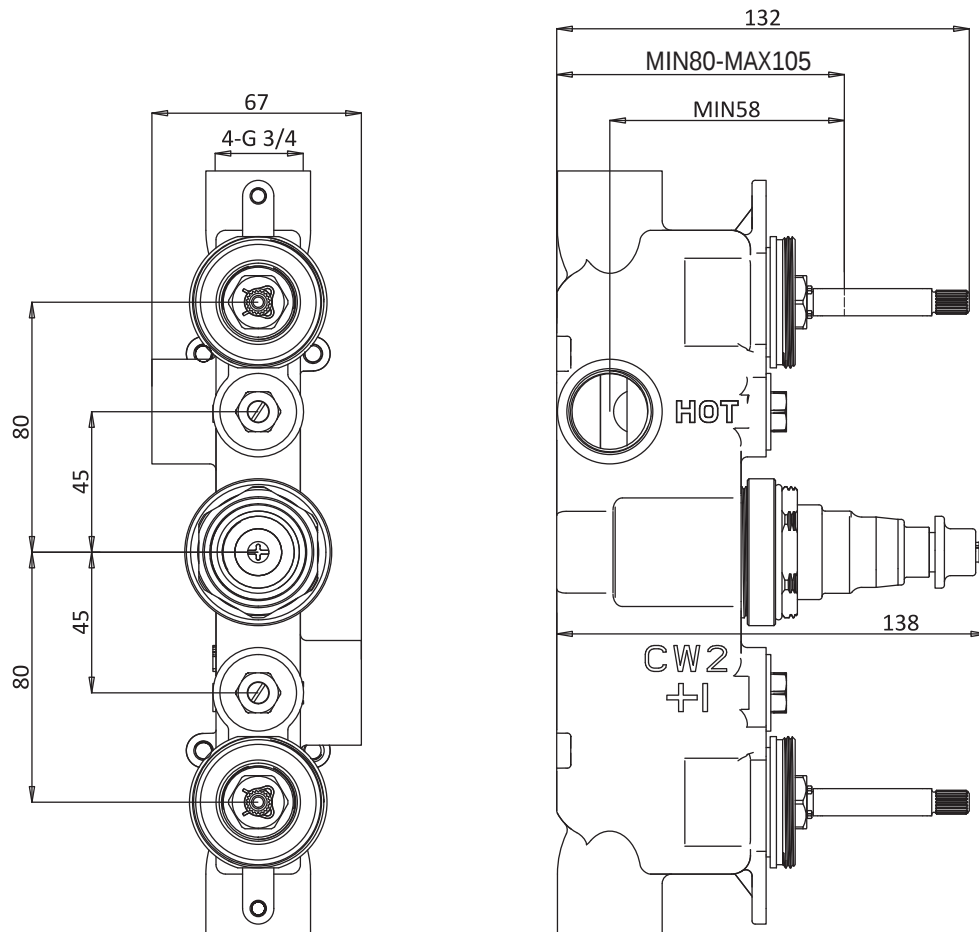
Operating pressure range: It is recommended that the minimum operating pressure of the valve is 0.5 bar. This thermostatic valve is suitable for use with all water systems up to a maximum operating pressure of 5.0 bar (beyond which we recommend pressure reducing valves to be fitted.)

The thermostatic valve has two outlets which are independently controlled. The two open outlets allow for additional fittings (e.g. Bodyjets, hand shower) to benefit from thermostatically controlled supply. Any such outlets must have a stopcock-flow control. The list below shows the recommended limits for correct operation:

	High Pressure
Maximum Static Pressure - Bar	10
Flow Pressure, Hot & Cold - Bar	0.5 to 5
Hot Supply Temperature - °C	55 to 65
Cold Supply Temperature - °C	Equal to or less than 25°

The valve is required to be installed in accordance with Type 2 TMV requirements. Please install them strictly in accordance with the instructions of this manual.

DIMENSIONS



NOTE: ALL DIMENSIONS IN MILLIMETRES



IMPORTANT INFORMATION

Please read carefully and keep this information for further reference.

The product should be installed in compliance with the Water Regulations.

Where the supplies are unbalanced, i.e. Hot water from cylinder tank / cold from the mains, approved check valves must be fitted in the supply pipes.

For further details contact your Local Water Authority.

BEFORE YOU START

Important Pre-Installation Notes

Remove all packaging and check the fitting for damage before starting installation.

Warning: Before starting any installation please consider the following: before drilling into walls, check that there are no hidden electrical wires, cables or water supply pipes. This can be checked with the aid of an electronic detector.

If power tools are used do not forget to:-

Wear eye protection

Unplug equipment after use

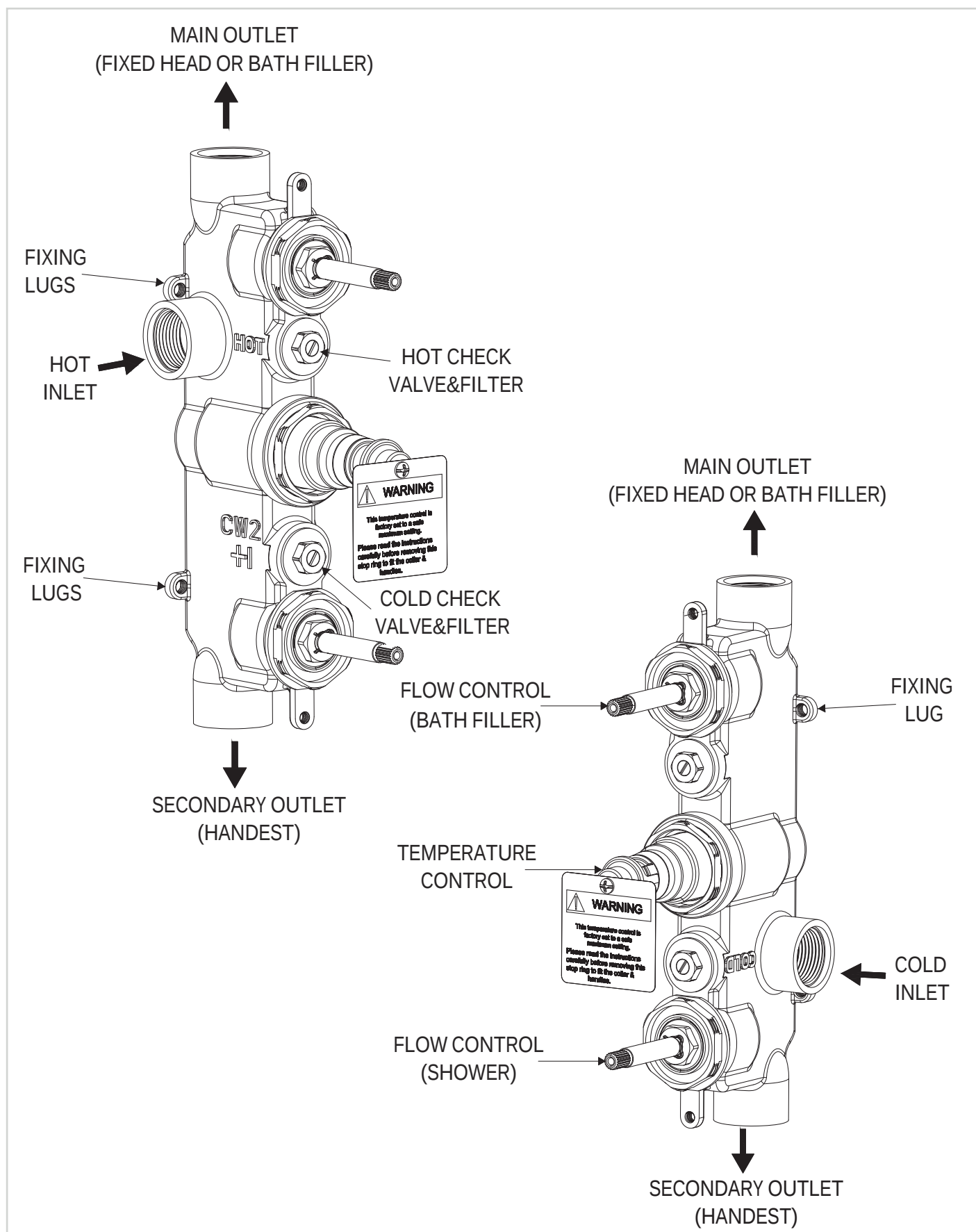
Important:

Remember to turn off the mains water supply before connecting to any existing pipe work. Fitting isolating valves to the inlet feeds is recommended for ease of maintenance.

Warning: Before installing the new fitting it is essential that you thoroughly flush through the pipework in order to remove any remaining swarf, solder, etc. Failure to carry out this procedure could cause problems or damage to the workings of the fitting.

Take care when handling the 'flexible connecting pipes', do not bend, twist or crush them. Only tighten the pipes by hand. Do not crush or kink the shower hose, this could damage the hose and cause leaks.

PARTS IDENTIFICATION



INSTALLATION

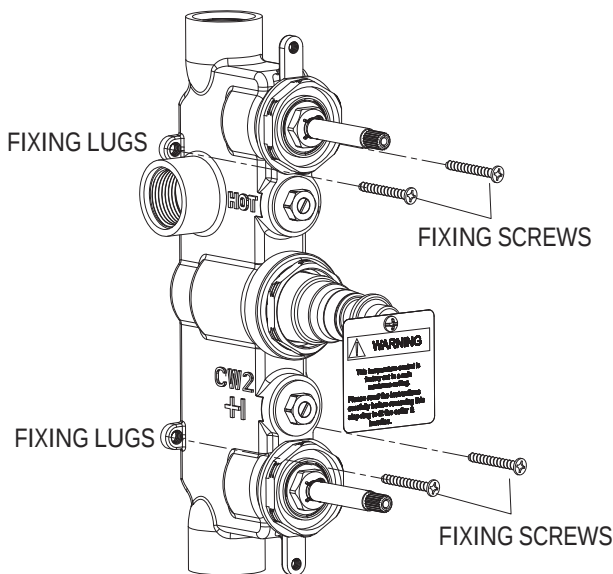


FIG. 1 FITTING PLASTIC DUST COVER

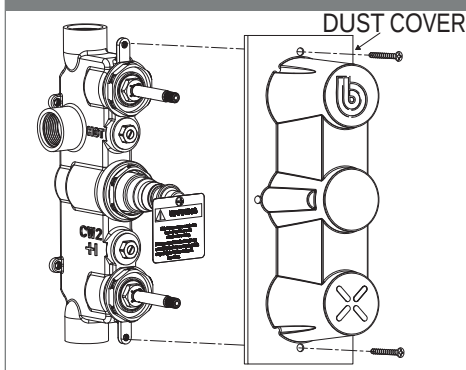
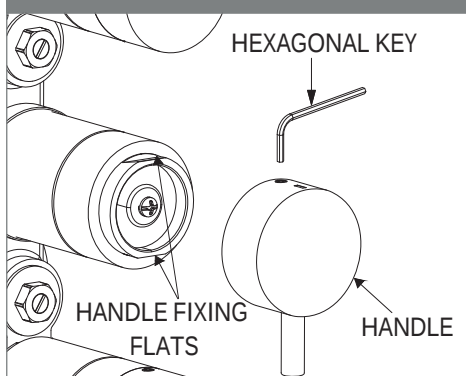


FIG. 2 FITTING CONTROL HANDLES



NB. Cover plate shown for illustration purposes only. It is supplied separately various styles available.

NOTES:

Please read these instructions carefully and keep in a safe place for future reference. The installation must comply with all Local/National Water Supply Authority Regulations/Byelaws and Building and Plumbing Regulations (UK: BS 8558). This valve is a mixing device and therefore requires the water supplies to be reasonably balanced, otherwise we recommend a pressure reducing valve to be fitted.

The valve is fitted with integral WRAS approved single check valves cartridges which command the water supply, therefore the thermostatic valve is protected against cross-flow due to unbalanced line pressures as required by the Water Supply (Water Fittings) Byelaws 1999. Fitting isolating valves to the inlet feeds is recommended for ease of maintenance.

INSTALLATION

Remember to turn off the mains water supply before connecting to any existing pipe work.
Warning! Please check for any hidden pipes and cables before drilling holes in the wall.

Position the valve onto the wall and mark the position of the fixing lugs (x4). Make sure the valve is set back from the front face of the wall by the appropriate depth to allow for plasterboard, filling and tiling etc. (min. 80mm to max. 105mm see dimension page).

Mount casting to the wall using suitable fixings.

Always leave access to the four front cartridges for servicing. Once the valve has been secured to the wall, the black plastic dust cover can be temporarily attached to the valve with the screws supplied. This will protect the valve while the rest of the work is completed (see fig 1).

Do not use tapered threaded adaptors or excessive thickness of sealing tape as this may damage the valve body and result in a concealed leak within the wall cavity.

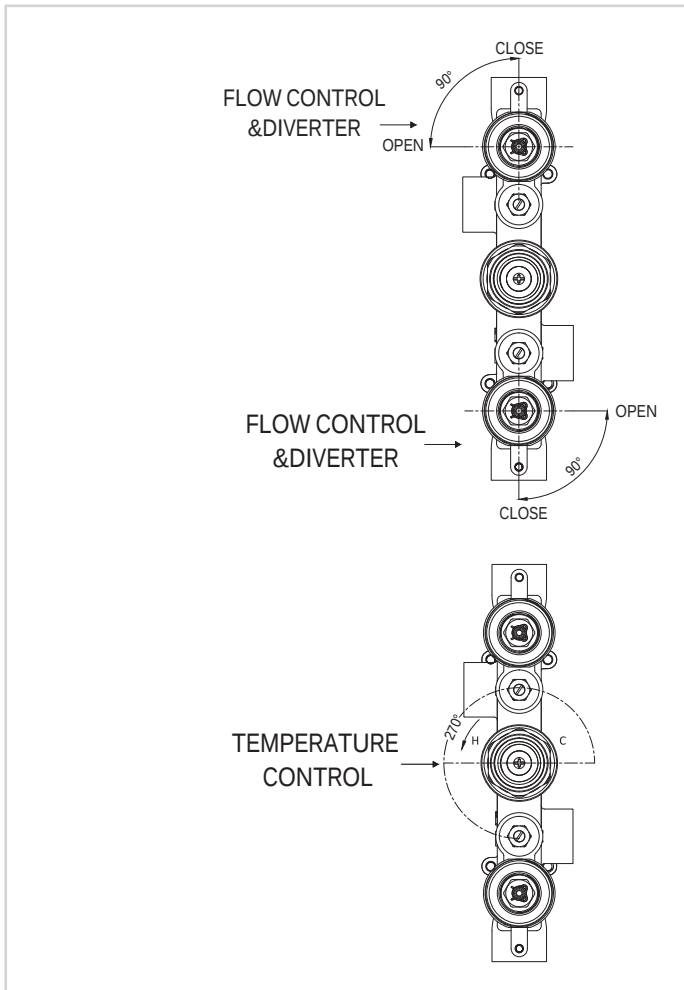
Blank off and seal the open outlet if it is not required. Remove the plastic dust cover.

Turn on supplies and test all connections for watertightness.

Remove Hot and Cold check valves, and flush out the installation, clean the filters and refit.

Apply a narrow bead of clear silicone sealant around the back edge of the cover plate and carefully press into position. Fit the control knobs by lining up the flat surface of the valve cover with the grub screw on the handle, tighten the screw with the supplied hexagonal key (see fig 2).

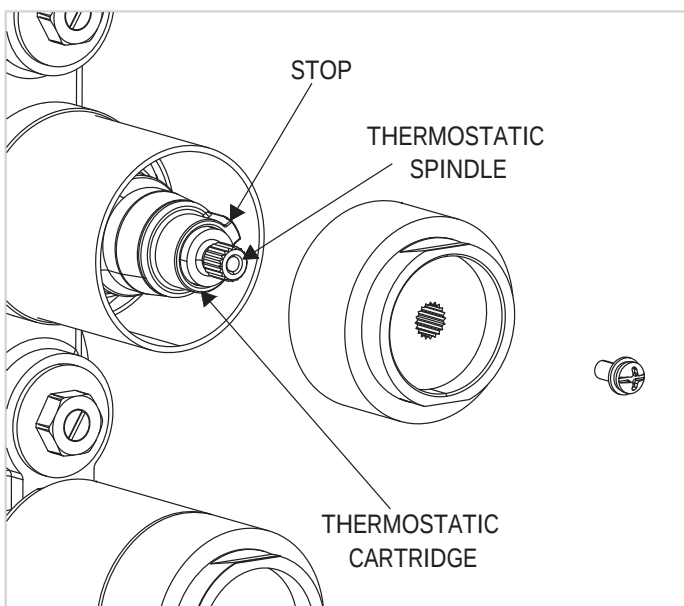
OPERATION



1. Turn the flow control & diverter handle to increase/decrease the water flow and switch the outlet.

2. Turn the temperature control handle to increase/decrease the water temperature.

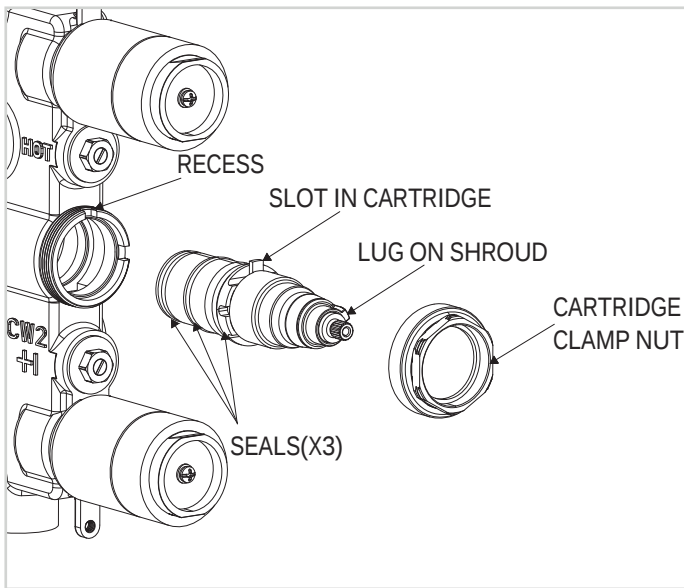
TEMPERATURE SETTING



To set the temperature, remove the handle and unscrew the centre screw of the thermostatic control cover. Rotate the exposed thermostatic spindle (clockwise for cold, and anti-clockwise for hot) until the maximum desired showering temperature is set (42°C-suggested maximum "pre-set" temperature).

Then line up the screw head on the back of the thermostatic control cover with the stop on the cartridge. Push the control cover onto the splines and tighten the centre screw, refit the handle. The thermostat is now set to its new temperature and can only be increased or decreased by repeating this process.

MAINTENANCE



NOTE: Remember to turn off the mains water supply before carrying out any maintenance of the cartridge. To avoid damage, please remove all chrome parts before any maintenance takes place.

THERMOSTATIC CARTRIDGES

The concealed thermostatic valve should give trouble-free service, but in the event of failure, servicing is straight forward.

TO REMOVE THE THERMOSTATIC CARTRIDGE.

Undo the cartridge clamp nut (take note of the orientation of the cartridge) and pull the cartridge out using the temperature control knob to aid removal. Wash the cartridge with clean running water and make sure that any trapped debris has been removed. Dry and lightly grease the seals (only use silicone grease) and replace the cartridge making sure that as before the recess on the body of the valve is aligned with the slot in the raised central section of the plastic cartridge. This is to make sure the lug on the shroud is in the required 2 o'clock position as shown.

FLOW CONTROL CARTRIDGE

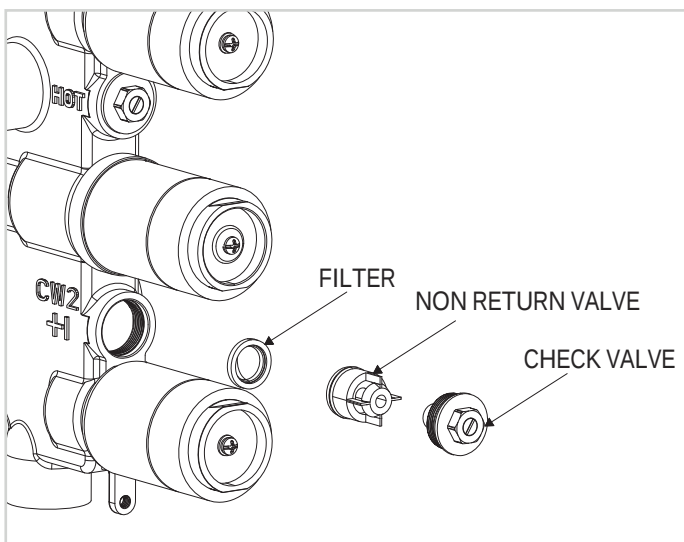
The Flow Control Cartridge uses ceramic discs which normally last indefinitely unless debris manages to get between them. Wash the cartridge with clean running water, dry and lightly grease the seal.

FILTERS/CHECK VALVES

The check valves stop cross flow between the hot and cold supplies.

TO CLEAN THE CHECK VALVES.

Undo and remove the check valve. Using a pair of pliers remove the non-return valve and filter. Wash the filter with clean running water, dry and lightly grease the seals.



TROUBLESHOOT

SYMPTOM	SOLUTION
After installation the shower runs HOT or COLD and will not mix.	Hot and cold supplies are plumbed the wrong way round. The hot and cold supplies need to be redone to the correct inlets as marked and described in the installation instruction.
Shower will not run hot enough when first installed.	Maximum temperature needs adjusting, see 'temperature setting'.
Cold water tracking through the valve into the hot water system.	Check and clean the check valve cartridges and filters located under the check valves.
Very low flow or no flow (gravity).	Check hot and cold feeds (the valve will shut down if either the hot or cold supply fails).

Operating Conditions of Use.

Before installation the on-site service or conditions of use must be checked. The table below contains details of the Requirements for operation. If your water supply cannot meet these conditions then the valve cannot be guaranteed to operate as a Type 2 valve.

Valves cannot operate effectively where a hot or cold pressure system crosses the boundaries of the two ranges. In the case where operating conditions such as these exist; either the hot or cold pressure will require to be reduced or boosted so as to be within a selected range.

Dynamic operating flow pressure above 5 bar will require the installation of a pressure reducing valve.

Operating conditions of use pressure/temperature, hot & cold. (Table 1 from 1111)

Parameter	High Pressure
Maximum Static Pressure (Bar)	10
Flow Pressure, Hot & Cold (Bar)	0.5 to 5
Hot Supply Temperature (°C)	55 to 65
Cold Supply Temperature (°C)	Equal to or Less than 25°

NOTE: Valves operating outside these conditions of use cannot be guaranteed to operate as Type 2 valves

Designation of use HP-S

If water supply is fed by gravity then supply pressure should be verified to ensure the conditions of use are appropriate

Recommended outlet temperatures

The Kiwa Type 2 approval scheme recommends the following set maximum mixed water outlet temperatures for use in all premise: 44 or 46°C for bath fill. 41°C for showers. 41°C for washbasins. 38°C for bidets.

It is not a safe bathing temperature for adults or children

The British Burn Association recommends 37 to 37.5°C as a comfortable bathing temperature for children. In premises covered by the Care Standards Act 2000, the maximum mixed water outlet temperature is 43°C.

Table 2: Mixed Water Temperature	Mixed Water Temperature °C (at point of discharge)
Shower	41 Max

Valve Installation

The thermostatic mixing valve will be installed in such a position that maintenance of the TMV and its valves and the commissioning and testing of the TMV can be undertaken.

- The fitting of isolation valves is required as close as is practicable to the water supply inlets of the thermostatic mixing valve.
- The fitting of strainers is recommended as close as is practicable to the water supply inlets of the thermostatic mixing valve.

The installation of thermostatic mixing valves must comply with the requirements of the Water Supply (Water Fittings) Regulations 1999.

Commissioning and Testing

Commissioning notes for Thermostatic Mixing Valves.

The first step in commissioning a thermostatic mixing valve is to check the following:

The designation of the thermostatic mixing valve matches the application.

The supply pressures are within the valves operating range.

The supply temperatures are within the valves operating range.

Isolating valves (and strainers preferred) are provided.

If all these conditions are met, proceed to set the temperature as stipulated in the manufacturer installation instructions.

The mixed water temperature at the terminal fitting must never exceed 46°C.

It is a requirement that all Type 2 valves shall be verified against the original set temperature results once a year. When commissioning/testing is due the following performance checks shall be carried out.

Measure the mixed water temperature at the outlet.

Carry out the cold-water supply isolation test by isolating the cold-water supply to the TMV, wait for five seconds if water is still flowing check that the temperature is below 46°C. If there is no significant change to the set outlet temperature ($\pm 2^\circ\text{C}$ or less change from the original settings) and the fail-safe shut-off is functioning, then the valve is working correctly, and no further service work is required.

Notes

If there is a residual flow during the commissioning or the annual verification (cold water supply isolation test), then this is acceptable providing the temperature of the water seeping from the valve is no more than 2°C above the designated maximum mixed water outlet temperature setting of the valve.

Temperature readings should be taken at the normal flow rate after allowing for the system to stabilise. The sensing part of the thermometer probe must be fully submerged in the water that is to be tested. Any TMV that has been adjusted or serviced must be re-commissioned and re-tested in accordance with the manufacturers' instructions.

Testing Method

The valve should be tested to ensure correct operation at commissioning and thereafter at stated intervals decided by the user but never at greater than 12 monthly intervals.

The testing will only require a normal thermometer with a scale greater than 65°C . The temperature sensitive element of the thermometer should always be fully inserted into the water flow.

Measure the mixed water temperature. Carry out a cold fail-safe shut-off test by using the isolation valve to shut off the water to the cold supply.

Wait 5 seconds, if water is still flowing check that the water temperature is below 46°C . The flow should stop or reduce to a trickle. Open cold water isolation valve and measure mixed water temperature.

If there is no significant change from the original settings and fail-safe shut-off is functioning, the valve is working correctly and no further service is required.

If the outlet temperature has drifted by more than 2°C , or if the fail-safe function does not work, a full service or re-commissioning is required.

The manufacturer of this valve recommends that in these circumstances you contact him for advice as servicing should only be undertaken by competent persons.

If there is a residual flow during the commissioning or the annual verification (cold water supply isolation test), then this is acceptable providing the temperature of the water seeping from the valve is no more than 2°C above the designated maximum mixed water outlet temperature setting of the valve.

Water Supply (Water Fittings) Regulations 1999

This valve complies with the requirements of the above Regulations and installation should be carried out in strict compliance with them.

CARE

Crosswater thermostatic shower valves should be treated with care. Do not use abrasive cleaners as this may cause damage. We recommend cleaning the valve with a soft damp cloth. We strongly advise against the use of all cleaning products.