

## Maintenance

### TMV3 Application:

To comply with current NHS guidelines the Easifit valve should be tested against the original performance results 6-8 weeks after installation. If the temperatures have remained set to within 2°C and the fail-safe function is operating correctly, then a six monthly cycle of performance testing can be implemented.

### TMV2 Application:

The performance of the Easifit valve should be checked on an annual basis and verified against the original installation performance. If the water or installation conditions are more severe, this check should be carried out more frequently.

## Performance Checks

Performance checks that should be carried out at routine maintenance times are:

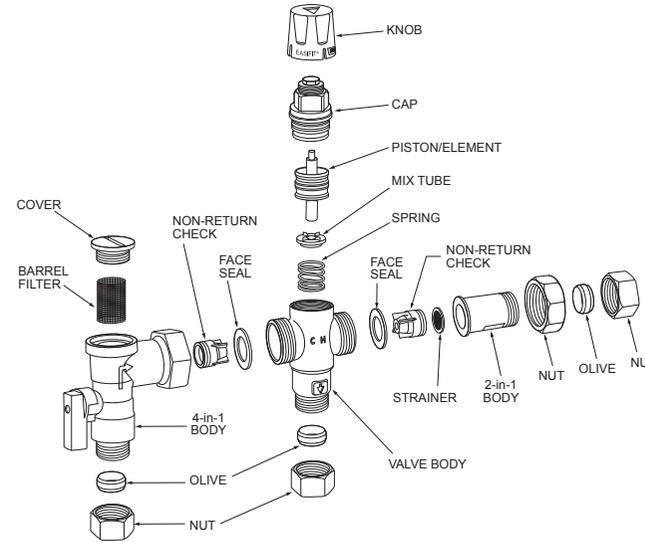
1. Check the set temperature using a hand-held digital thermometer.
2. Carry out the cold and hot water isolation test.
3. If there is no significant change to the set outlet temperature (2°C or less change from the original settings) and the fail-safe shut off is functioning, then the valve is working correctly and no further service work is required.

## Cleaning the Valve

1. Isolate the hot and cold supplies and remove the valve body from the installation. Note the orientation of the parts as they are removed so that they can be re-assembled in the correct manner. See the exploded diagram in the next column.
2. Remove the strainers fitted in the inlet connections. Check for damage and then rinse in clean potable water.
3. To clean the internals of the main valve body, first remove the adjuster knob (lever off), and then carefully remove the valve headwork by unscrewing the large hex nut of the cap.
4. Slide the piston/thermostatic element out of the valve body, clean all internal surfaces with clean running water or a weak solution of scale remover approved for use with potable water.
5. Using a WRAS approved silicone based waterproof grease, very lightly lubricate the 'O' ring around the external surface of the piston assembly.

6. After cleaning, re-assemble the Easifit valve. Exercise, re-set and test the valve as laid out in the commissioning section.

## Components



**NOTE**  
When re-assembling the mixing valve, ensure that the components are replaced in the correct order (as illustrated).  
Use only WRAS Approved silicon based waterproof grease.

The **RELIANCE** Essentials range

# Easifit Thermostatic Mixing Valve

## Installation and Maintenance Instructions



A TMV3 and TMV2 approved thermostatic mixing valve which has been manufactured to NHS model engineering specification D08 and BS 7942, along with BSEN 1111.

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## Reliance Worldwide Corporation (UK) Ltd

Reliance Worldwide Corporation (UK) Ltd is part of the Australian based group of companies collectively known as Reliance Worldwide Corporation, with the UK brand known as Reliance Water Controls. Reliance Worldwide Corporation (UK) Ltd is a specialist in the design, distribution and technical support for temperature and flow controls.

### Installation

Before installing the Easifit TMV2/3 thermostatic mixing valve, ensure that the designation of the valve matches the application: flow rates, dynamic pressures, and temperatures must be within the limits stated as valves operating outside of these conditions of use cannot be guaranteed to operate correctly, as either a TMV2 or TMV3 valve.

The valve must be installed in accordance with the Water Supply (Water fittings) Regulations 1999 and any relevant building regulations, specific to the application.

The valve must also be installed in an easily accessible position for commissioning and future maintenance.

**Note:** the Easifit TMV2/3 is not suitable for use with PEX pipe (PEX requires an insert outlet connection, which could potentially restrict the valve's element and prevent it from controlling temperature and providing fail-safe operation).

### Working Parameters & Specifications

	TMV3	TMV2
Factory temperature setting:	38°C	38°C
Working temperature range:	38°C-46°C	38°C-46°C
Maximum adjustable temperature range:	30°C-48°C	30°C-48°C
Temperature, hot supply:	55°C-65°C (max 85°C)	52°C-65°C (max 85°C)
Temperature, cold supply:	5°C-25°C	5°C-25°C
Minimum hot to mix differential temperature:	10°C	10°C
Temperature stability:	+/- 2°C	+/- 2°C
Maximum static pressure:	10.0 bar	10.0 bar
Maximum working pressure:	5.0 bar	5.0 bar
Minimum working pressure:	0.2 bar	0.2 bar
Maximum pressure inlet differential:	10:1	10:1
Minimum flow rate:	1 L/min	1 L/min

Please note: If water supply is fed by gravity then supply pressures should be verified to ensure the conditions of use are appropriate for the valve.

### Approved specification and standards

Code	Operating Pressure	Application	Recommended Temperature		Maximum Temperature	
			TMV2	TMV3	TMV2	TMV3
HP-S	High pressure	Shower	41°C	41°C	43°C	43°C
HP-W	High pressure	Washbasin	41°C	41°C	43°C	43°C
LP-S	Low pressure	Shower	N/A	41°C	N/A	43°C
LP-W	Low pressure	Washbasin	N/A	41°C	N/A	43°C

Notes:

- For hand wash basins it is assumed washing will be under running water.
- A thermostatic mixing valve having multiple designations (ie. it is capable of satisfying the requirement of this specification for more than one application) should be re-set on site to suit the applicable designation.
- The mixed water temperature must never exceed 46°C (or for TMV2, Building Regulations allow up to 48°C) at a terminal fitting. This is the maximum water temperature for the bath; it takes into account the allowable temperature tolerances inherent in the thermostatic mixing valve and temperature losses in metal baths. It is not a safe bathing temperature for adults or children. The British Burns Association recommends 37°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.

Standards covered by this valve range include:

- NHS Model Engineering Specification D08
- BS 7942
- BS EN 1111

### Commissioning

Please ensure that the commissioning of the valve is done under normal operating conditions. The Easifit thermostatic mixing valve is supplied factory set at 38°C.

To alter this setting proceed as follows:

- Remove the blue cover knob (lever off).
- With both the hot and cold supplies turned fully on and the terminal fitting open, test and record the hot and cold inlet temperatures. Adjust the temperature to the required setting using the adjuster recess in the top of the cover knob to turn the small hexagon protruding from the top of the cap (the spindle). Turn clockwise to decrease or anti-clockwise to increase the mixed water temperature. A digital hand-held thermometer should be used to measure the outlet temperature correctly. See the table above for temperatures

suitable for different applications.

3. Once the correct outlet temperature has been achieved the valve's temperature stability should be checked: firstly at a high flow rate, and then at a low flow rate (ensure this is no less than the valve's minimum flow rate of 1 L/min).

4. The valve's internal mechanism should be exercised at least 3 times by alternately isolating the hot and cold supplies. This will cause the piston to travel its full stroke and will ensure that the valve is operating correctly. If the set temperature has drifted after this operation, then the commissioning operation should be repeated.

5. Once the valve has been commissioned a fail-safe shut off test should be performed:

i. Isolate the cold supply. The flow should reduce to a trickle or no flow within 2 seconds.

ii. Restore the cold supply and check that the set temperature has not altered.

iii. Repeat the test for the hot supply.

6. If either fail-safe function does not operate, ensure that supply pressures and temperatures are within the valve's normal operating parameters. In addition, check that the hot supply temperature is at least 10°C above the valve's set mixed outlet temperature i.e. hot to mix differential temperature. If this is not the case then the valve will be slow to shut down on cold water failure.

7. For optimum performance it is recommended that the dynamic pressures be as close to equal as possible. If the dynamic pressures are outside a 10:1 ratio then a pressure reducing valve should be fitted to the higher supply pressure or, if preferred, the lower supply pressure boosted.

8. When the Easifit valve has been set and tested, re-fit the cap. A record of the commissioning settings should be made for comparison with future performance checks.

**Please note:** If there is a residual flow on cold shut off, then this is acceptable providing the temperature of the seeping water is no more than 2°C above the designated maximum outlet temperature setting or if the total flow is no more than 120 mL in one minute.