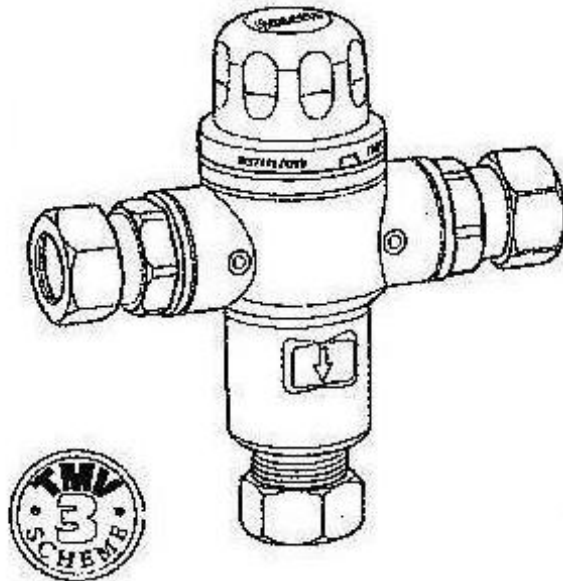


## T&D-8 Thermostatic Mixing Valve

The T&D-8 is a type 3 thermostatic mixing valve which has been manufactured to NHS model engineering specification DO8 and is approved under the TMV3 scheme.



### *Approved specifications*

Code	Operating Pressure	Application
HP-S	High Pressure	Shower – Maximum temperature 41°C
HP-W	High Pressure	Wash Basin – Maximum temperature 41°C
HP-B	High Pressure	Bidet – Maximum temperature 38°C
LP-S	Low Pressure	Shower – Maximum temperature 41°C
LP-W	Low Pressure	Wash Basin – Maximum temperature 41°C
LP-B	Low Pressure	Bidet – Maximum temperature 38°C

### *Working parameters and specifications*

Factory temperature setting:	38°C
Temperature setting range:	38-46°C
Temperature Hot Supply:	52-65°C
Temperature Cold Supply:	5-20°C
Minimum hot to mix differential Temperature:	10°C
Temperature stability	+2°C
Working pressure, static:	Low pressure 0.2-1 bar
Working pressure, dynamic:	High pressure 1-5 bar
Maximum pressure loss ratio:	10:1
Flow rate, minimum:	4 lpm
Flow rate@ 1 bar pressure loss:	21 lpm

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## **T&D-8 Thermostatic Mixing Valve**

### ***Installation***

Before installing the Thorne and Derrick T&D-8 valve ensure that the designation of the valve matches the application, flow rates, dynamic pressures and temperatures must be within the limits stated. The valve must be installed in accordance with current regulations, specific to the application. Isolations valves must be fitted adjacent to the hot and cold water inlet supplies to the Thorne and Derrick T&D-8 valve.

The Thorne and Derrick T&D-8 valve includes integral check valves and strainers, it can be installed in any orientation provided that the hot and cold supplies are connected to the appropriate indicated inlets. The Thorne and Derrick T&D-8 valve should be fitted with the supplied union type adaptors.

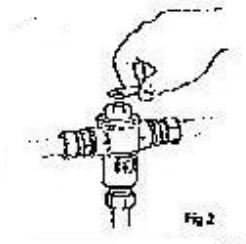
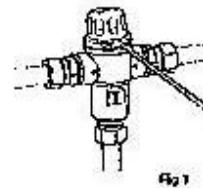
The valve should not be installed until the system has been flushed free of all debris.

The Thorne and Derrick T&D-8 thermostatic mixing valve contains temperature sensitive components. Soldering near the union adaptors or main valve body must be avoided.

### ***Commissioning***

Please ensure that the commissioning of the valve is done under normal operating conditions. The Thorne and Derrick T&D-8 thermostatic mixing valve is supplied factory set at 38°C. To alter this setting proceed as follows:

1. Remove the cover cap (Fig 1)
2. With both the hot and cold supplied turned fully on and the terminal fitting open, adjust the temperature to the required setting. Using the adjuster tool supplied turn the adjuster clockwise to decrease or anti-clockwise to increase the temperature (Fig 2). A digital hand held thermometer should be used to measure the outlet temperature correctly. The outlet supply for TMV3 applications must be set to a specific temperature for each individual application.



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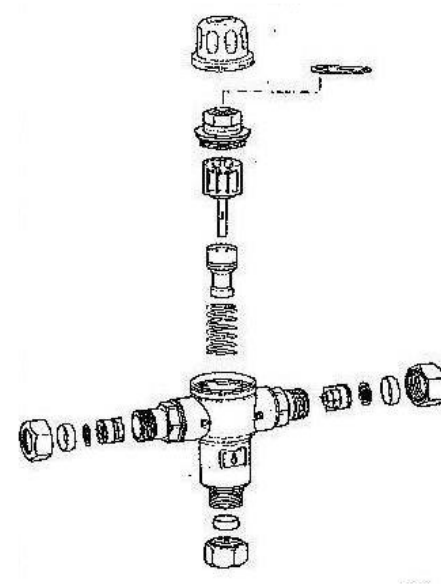
## T&D-8 Thermostatic Mixing Valve

3. Once the correct outlet temperature has been achieved the valves internal mechanism should be exercised at least 3 times by alternatively 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. Once the valve has been commissioned a fail-safe shut off test should be performed.
  - a. Isolate the cold supply. The flow should reduce to a trickle within a second or two depending on the site conditions.
  - b. Restore the cold supply and check that the set temperature has not altered.
  - c. Repeat the test for the hot supply.

If either fail-safe function does not operate, ensure that supply pressures and temperatures are within the valves normal operating parameters. In addition, check that the hot supply temperature is at least 10°C above the valves 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.

For optimum performance it is recommended that the dynamic pressures be as close to equal as possible. if the dynamic 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.

When the Thorne and Derrick T&D-8 has been set and tested, refit the cap. A record of the commissioning settings should be made for comparison with future performance checks.



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## **T&D-8 Thermostatic Mixing Valve**

### *Maintenance*

To comply with current NHS guidelines the Thorne and Derrick T&D-8 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.

### *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 fail-safe shut off tests.
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 by undoing the adaptor union nuts. Make note of the orientation of the parts as they are removed so that they can be reassembled in the correct manner.
2. Remove the check valves and strainers fitted in the adaptors and check for damage, rinse in clean potable water.
3. To clean the internals of the main valve body, first remove the cap, and then carefully remove the valve headwork by unscrewing the large hex nut.

4. Slide the piston and thermostat assembly out of the valve body and clean all internal surfaces and 'O' rings with a weak solution of scale remover approved for use with potable water.
5. Using a WRAS approved silicone based waterproof grease, lightly lubricate the 'O' ring in the body and the external surface of the piston.
6. After cleaning, re-assemble the Thorne and Derrick T&D-8 valve. Exercise, reset and test the valve as laid out in the commissioning section.

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