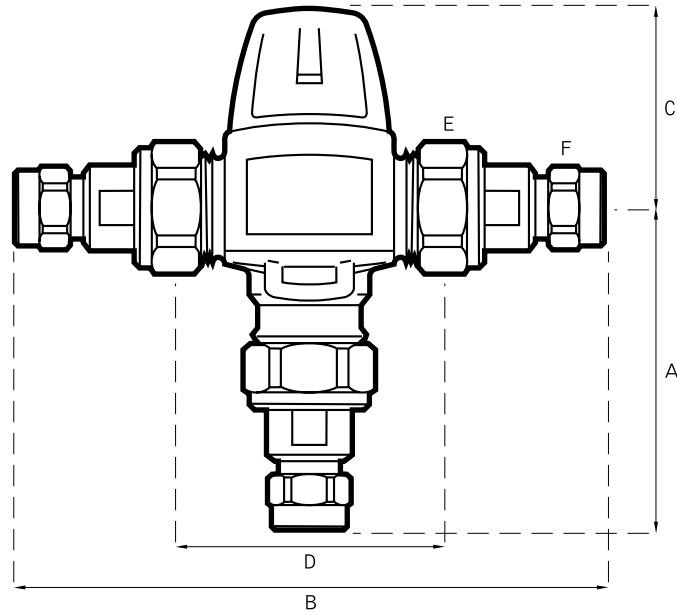


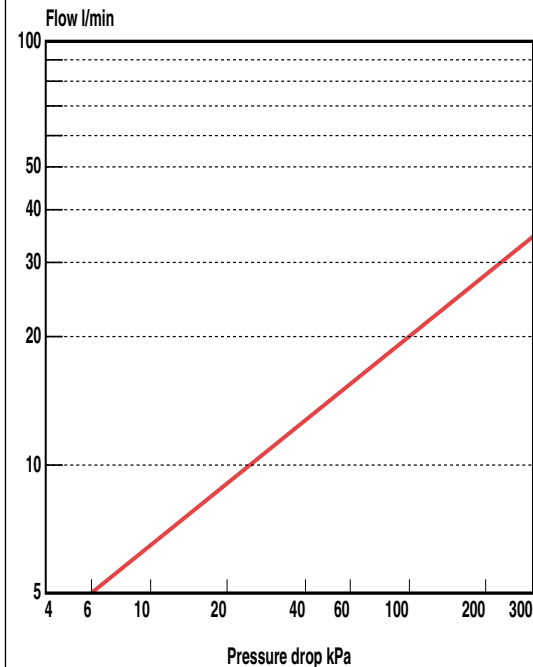
## Dimensions



	A	B	C	D	E	F	KV	WT
Trimix 15 (15mm)	95	152	49	70	1" BSP	15	1.2	0.95
Trimix 22 (22mm)	98	154	49	70	1" BSP	22	1.2	0.95

All dimensions in millimetres

## Performance



# TRITON

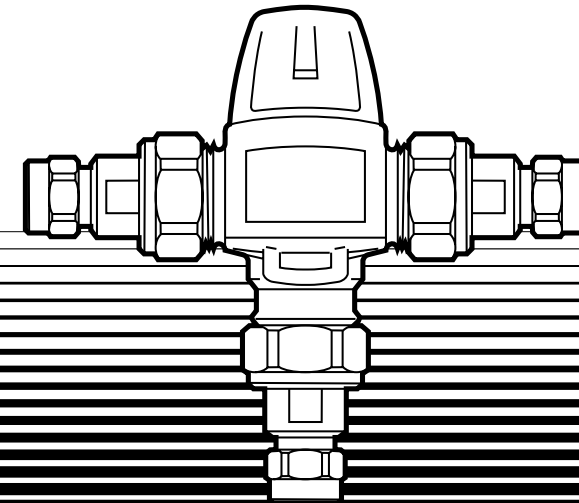
### Specification advisory service

For technical advice on site suitability and installation, or to ensure product suitability for commercial and multiple installations please contact Triton's specification advisory service prior to installation on (024) 7632 5491, send a fax on (024) 7632 4504 or e.mail to [technical@triton.plc.uk](mailto:technical@triton.plc.uk)



2180361A July 2002

## Trimix Thermostatic Mixing Valve



### Installation, Commissioning and In Service Instructions

### TRITON STANDARD GUARANTEE

Triton Plc guarantee this product against all mechanical defects arising from faulty workmanship or materials for a period of one year from the date of purchase, provided that it has been installed by a competent person in full accordance with the installation and operating instructions.

Any part found to be defective during this guarantee period we undertake to repair or replace at our option without charge so long as it has been properly maintained and operated in accordance with the operating instructions, and has not been subject to misuse or damage.

This product must not be taken apart, modified or repaired except by a person authorised by Triton Plc. This guarantee applies only to products installed within the United Kingdom and does not apply to products used commercially.

This guarantee does not affect your statutory rights.

#### What is not covered:

**1** Breakdown due to: a) use other than domestic use by you or your resident family; b) wilful act or neglect; c) any malfunction resulting from the incorrect use or quality of gas or water or incorrect setting of controls; d) faulty installation.

**2** Repair costs for damage caused by foreign objects or substances.

**3** Total loss of the product due to non-availability of parts.

**4** Compensation for loss of use of the product or consequential loss of any kind.

**5** Call out charges where no fault has been found with the unit.

**6** The cost of repair or replacement of sprayheads, hoses, riser rails and/or wall brackets, or any other accessories installed at the same time.

**7** The cost of routine maintenance, adjustments, overhaul modifications or loss or damage arising therefrom, including the cost of repairing damage, breakdown, malfunction caused by corrosion, furring, pipe scaling, lime scale, system debris or frost.

### Service Policy

In the event of a complaint occurring, the following procedure should be followed:

**1** Telephone Customer Service on (024) 7637 2222 (08457 626591 in Scotland and in Northern Ireland), having available the model number and power rating of the product, together with the date of purchase.

**2** Triton Customer Service will be able to confirm whether the fault can be rectified by either the provision of a replacement part or a site visit from a qualified Triton service engineer.

**3** If a service call is required it will be booked and the date of call confirmed. In order to expedite your request, please have your postcode available when booking a service call.

**4** It is essential that you or an appointed representative (who must be a person of 18 years of age or more) is present during the service engineer's visit and receipt of purchase is shown.

**5** A charge will be made in the event of an aborted service call by you but not by us, or where a call under the terms of guarantee has been booked and the failure is not product related (i.e. scaling and furring, incorrect water pressure, installation faults).

**6** If the product is no longer covered by the guarantee, a charge will be made for the site visit and for any parts supplied.

**7** Service charges are based on the account being settled when work is complete, the engineer will then request payment for the invoice. If this is not made to the service engineer or

settled within ten working days, an administration charge will be added.

### Replacement Parts Policy

**Availability:** It is the policy of Triton to maintain availability of parts for the current range of products for supply after the guarantee has expired. Stocks of spare parts will be maintained for the duration of the product's manufacture and for a period of five years thereafter.

In the event of a spare part not being available a substitute part will be supplied.

**Payment:** The following payment methods can be used to obtain spare parts:

**1** By post, pre-payment of pro forma invoice by cheque or money order.

**2** By telephone, quoting credit card (MasterCard or Visa) details.

**3** By website order, [www.tritonshowers.co.uk](http://www.tritonshowers.co.uk)

Triton Plc, Shepperton Park, Caldwell Road, Nuneaton, Warwickshire CV11 4NR

**Customer Service**  
☎ (024) 7637 2222  
**Scottish and Northern Ireland Customer Service**  
☎ 08457 626591  
**Trade Installer Hotline**  
☎ (024) 7632 5491  
☎ (024) 7632 4564  
[www.tritonshowers.co.uk](http://www.tritonshowers.co.uk)  
E mail: [technical@triton.plc.uk](mailto:technical@triton.plc.uk)

### Triton Trimix Thermostatic Mixing Valve.

This valve is suitable for sinks, washbasins, bidets, showers and bath applications.

#### Product approval

Independently tested for 'TMV3 Scheme' certification by WRc Evaluation and Testing Centre Ltd.

All Triton products are designed and constructed in accordance with the latest product safety standards.

Designed to comply with Water Fittings Scheme operated by the Water Research Centre.

#### Company approval

Triton is registered by The British Standards Institute and all Triton products are designed, tested and manufactured under Quality Management Systems certified to BS EN ISO 9001:1994 and Environmental Management Systems approved to ISO 14001.

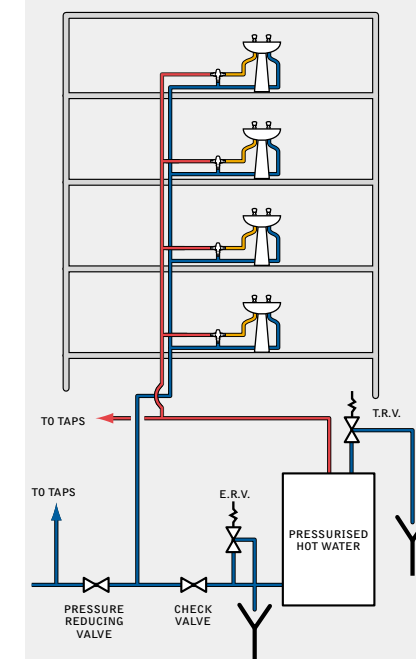
#### Materials of construction

Body: DZR brass  
Seals: 70 EPDM  
Spring: Stainless steel  
Fittings: DZR brass  
Thermostat: Copper/brass  
Valve cap: Plastic

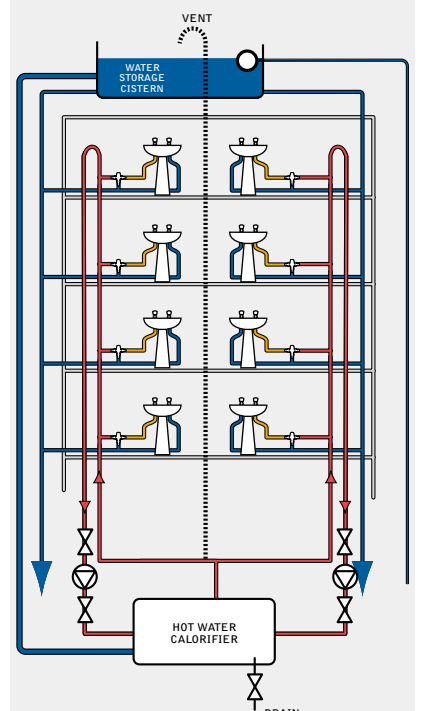
(All materials are WRc approved)

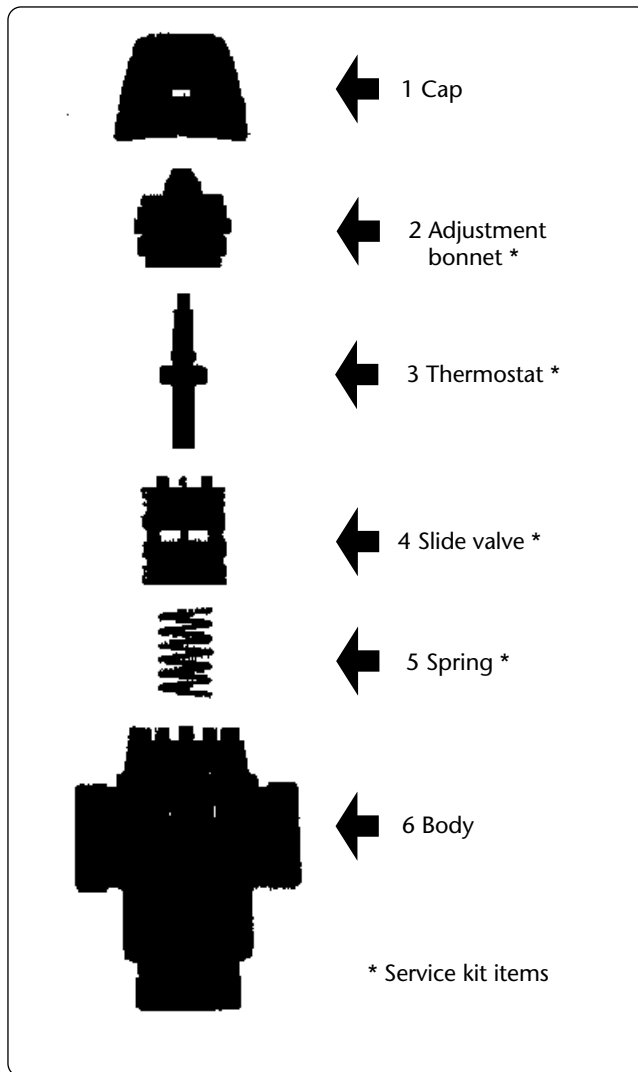
### Site requirements

Schematic view of a typical multi-storey buildings unvented mains pressure system (not to scale)



Schematic view of a typical multi-storey buildings gravity fed hot and cold water system (not to scale)





## Applications

The Triton Trimix Thermostatic Mixing Valve is specially designed to comply with the latest Department of Health Guidelines and the DO8 Specification.

The Triton Trimix 15mm is approved for designations HP-W, LP-W, LP-B, HP-B, LP-S & HP-S.

The Triton Trimix 22mm is approved for designations HP-W, LP-W, LP-B, HP-B, LP-S, HP-S, HP-T44 & HP-T46.

The Trimix can be fitted to single or multiple outlets provided that both flow rates and pressures are adequate. Also to comply with Department of Health Guidelines, thermostatic mixing valves should be fitted within two metres of any outlet they are supplying.

## Installation

The Trimix should be installed in accordance with standard plumbing procedures and in correctly sized pipework using approved connectors. The valve is supplied with three 'tails', two of which are fitted with integral non-return valves. These should be fitted to the hot and cold inlets. The plain tail is for use on the outlet connection. The valve may be preceded by isolating ball valve strainers. The use of isolating ball valve strainers enables servicing work to be carried out easily and prevents an ingress of scale which can cause damage to the internal components and may cause incorrect temperatures to occur, which could result in accidental scalding.

The valves may be fitted in either horizontal or vertical pipework and should be fitted in such a manner as to facilitate easy service and removal of integral parts when necessary. They are suitable with draw off taps or can be used with electronic or air operated flow controls and spouts.

Trimix valves should be connected to the water supply with the flow in the direction of the arrows on the body.

Water temperatures and pressures should be in accordance with the National Health Service Model Engineering specification as set out below:

Operating pressure range	Pressure systems	
	Low	High
Maximum pressure – bar	10	10
Flow pressure, hot and cold – bar	0.2 to 1	1 to 5
Hot supply temperature -°C	52 to 65	52 to 65
Cold Supply temperature -°C	5 to 20	5 to 20

## Commissioning

When the mixing valve has been installed correctly in the pipework the valve mechanism should be exercised at least five times before operating. To exercise the valve, the top cover (item 1) should be removed with a tool.

To calibrate the valve, first ensure the water supply temperatures and pressures are in the correct range as set out above. Open the discharge tap and allow the water to flow for one minute. Measure the temperature at the discharge point using a suitable thermometer and if the temperature is too hot adjust the control knob clockwise until the correct temperature is obtained. To check that the correct temperature has been obtained turn off the outlet tap and wait for approximately ten seconds, open the outlet tap and measure the discharge temperature again.

Adjust the temperature setting as necessary. Finally, check the operation of cold water failure shut down to prevent scalding. Turn off the cold water and the valve will shut down in fail safe mode. Fail safe shut off time will be between two-three seconds.

Open the cold supply and re-check the mixed water temperature discharging from the tap after approximately five seconds duration of flow. This procedure may be repeated at least two further times to ensure correct performance of the valve. After fail safe shutdown very low flow may occur when the mixing valve has cooled down – this is normal and is not cause for alarm. Once satisfied the temperature is set correctly, replace the top cover. The valve is now ready for use.

After carrying out the above operations, the following temperatures should be recorded:

- hot and cold water supplies
- mixed water at the largest draw-off flow rate
- mixed water at a smaller, measured draw off flow rate
- mixed water after the cold supply is isolated until flow ceases, noting particularly the maximum and final temperatures.

Mixed water temperature		
Application	Abbreviated designation	Mixed water temp. °C
Bidet	-HP-B, LP-B	38 max
Shower	-HP-S, LP-S	41 max
Washbasin	-HP-W, LP-W	41 max
Bath (44°C Fill)	-HP-T44	44 max
Bath (46°C Fill)	-HP-T46	46 max

## In Service Tests

In service tests are designed to regularly monitor and record the performance of the valve as deterioration in performance can indicate the need for servicing of the valve and/or water supply. In service tests should be carried out using the same measuring equipment used for commissioning (or equipment to the same specification). The hot and cold water supply temperatures and mixed water temperatures should be checked and recorded as set out in (a) to (c) above. If the mixed water temperature has changed significantly from the previous test results (e.g. >1°C) the change should be recorded. Before re-adjusting the mixed water temperature check:

- any in-line or integral strainers are clean
- any in-line or integral check valves or other anti-back siphonage devices are in good working order
- any isolating valves are in good order.

With an acceptable mixed water temperature check and record the temperature as set out in (d) above. If the final mixed water temperature exceeds the corresponding value from the previous test results by more than 2°C the need for servicing is indicated.

If the checks set out in (a) to (c) above are unsatisfactory then a Service Kit should be fitted. Instructions are included in the Service Kit. After servicing the

commissioning procedure detailed previously should be carried out.

## Frequency of In-Service Testing

In service tests should be carried out with a frequency which identifies a need for service work before an unsafe water temperature can result.

When deciding upon the frequency of in-service tests consideration must be given to local water conditions as scale or the ingress of relatively small amounts of dirt can seriously affect the performance of all thermostatic mixing valves.

In-service tests should initially, under normal conditions, be carried out six to eight weeks and twelve to fifteen weeks after commissioning. If no significant changes (e.g. 1°C) in mixed water temperatures are recorded between commissioning and the above in-service tests then next in-service tests can be deferred to twenty four to twenty eight weeks after commissioning.

If small changes (e.g. 1 to 2°C) in mixed water temperatures are recorded in only one of these periods, necessitating adjustment to the mixed water temperature, then the next in-service test can be deferred to twenty four to twenty eight weeks after commissioning.

If small changes (e.g. 1 to 2°C) in mixed water temperatures are recorded in both of these periods, necessitating adjustment of the mixed water temperature, the next in-service test should be carried out at eighteen to twenty one weeks after commissioning.

If significant changes (e.g. >2°C) in mixed water temperatures are recorded in either of these periods, necessitating service work, then the next in-service test should be carried out at eighteen to twenty one weeks after commissioning.

The general principal to be observed after the first two or three in-service tests is that the intervals of future tests should be set to those which previous tests have shown can be achieved with no more than a small change in mixed water temperature.

The above guidance on commissioning and in service testing of valves is generally in accordance with the National Health Service Model Engineering Specification DO8.

## Specifications

Factory set temperature	43°C
Temperature setting range	35°C-48°C
Temperature, hot supply	95°C* max 52°C min
Temperature, cold supply	20°C max 5°C min
Temperature stability	+/- 2°C
Static pressure	10 bar max
Operating pressure	0.2 bar min, 5 bar max
Maximum pressure loss ratio (either supply)	10:1

**Note:** optimum performance is achieved with equal pressures

\*TMV3/DO8 specifies 65°C max

