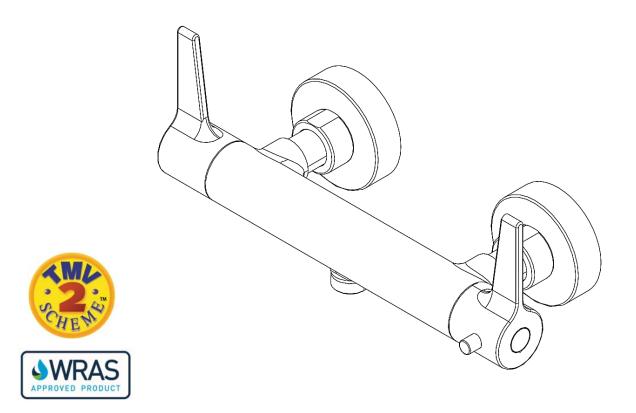
Design Utility Lever Bar Mixer

Installation Instructions & User Guide



Please keep these instructions for future reference and request of replacement parts

Thank you for choosing Bristan, the UK's leading taps and showers expert. We have designed this product with your enjoyment in mind. To ensure that it works to it's full potential, it needs to be fitted correctly. These fitting instructions have been created to give you all of the Information you need and, if you need any further help, please do not hesitate to give us a call on 0844 701 6273.

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#### **Important Safety Information**

- Please read these instructions thoroughly and retain for future use.
- All products manufactured and supplied by Bristan are safe provided they are installed correctly, used correctly and receive regular maintenance in accordance with these instructions.
- If you are in any doubt about your ability to install this shower valve safely you must employ the services of an experienced qualified plumber.
- This shower valve needs to be installed in accordance with, and meet the requirements of the Water Supply (Water Fittings) Regulations 1999 and Scottish Byelaws 2004.
- **Warning:** Do not operate the shower value if you suspect it is frozen. Do not site the shower value where it might be subjected to freezing conditions.
- Do not crush or kink the shower hose as this could damage the hose and cause leaks.
- Remove all packaging and check the contents 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
  - Wear eye protection
  - Unplug equipment after use
- Fitting Isolating valves to the inlet feeds is required for ease of maintenance.
- **Warning:** Before installing the new shower value 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 shower value.
- It is recommended that when installing the shower valve, full access is provided for servicing purposes.
- This shower valve **must not** be modified in any way as this will invalidate the guarantee.

### **General Information**

This product has been tested to the Water Regulations Advisory Scheme (WRAS) and satisfies the requirements of the Water Supply (Water Fittings) Regulations 1999 and current Scottish bylaws.

For full Installation Requirements & Notes (IRN) please visit <u>www.wras.co.uk/directory</u>.

This product is designed to be used within systems designed to BS 6700.

BS 6700 recommends the temperature of stored water should never exceed 65°C. A stored water temperature of 60°C is considered sufficient to meet all normal requirements and will minimise the build up of lime scale in hard water areas

If the shower value is installed at low pressure (tank fed), then the minimum distance from the highest installed position of the shower value to the underside of the cold tank should be at least 2 metres to ensure adequate performance.

**Note:** Nominally equal (balanced) inlet supply pressures are recommended for optimum performance.

This shower value should be installed in compliance with the Water Supply (Water Fittings) Regulations 1999 and the current Scottish Bylaws 2004.

If in doubt, contact a registered plumber or your Local Water Authority or the Secretary of the Institute of Plumbing, address as follows:-

The Institute of Plumbing , 64 Station Lane, Hornchurch, Essex, RM12 6NB Tel: 01708 472791

Recommended Usage			
Domestic	~	Heavy Commercial	
Light Commercial		Health Care	Χ



### **Specifications**

Inlet Connections: 15mm Compression with 150mm between centres.

Minimum working pressure: 0.2 bar Maximum working pressure: 5.0bar Maximum static Pressure: 10.0bar

Note: Static pressure is the build up of pressure when the valve is closed.

Nominally equal (balanced) inlet supply pressures are required for optimum performance. If pressures are unequal, then a pressure reducing valve should be used.

Maximum recommended imbalance between hot and cold supply should not exceed a ratio of 5:1

#### Supply Requirements:

Minimum cold water supply temperature: 5°C

Maximum cold water supply temperature: 25°C

Maximum hot water supply temperature: 80°C

(a maximum hot water supply of 60-65°C is recommended for ablutionary purposes).

**Maximum Outlet Temperature:** Factory pre-set to 38°C with push button override to 42°C-43°C. (can be re-set to suit site conditions or personal preference).

**Note:** If the temperature is re-set to suit different site conditions the valve will work adequately however the TMV2 scheme will not apply.

The inlet hot water temperature must be at least 10°C above the required blend temperature (e.g. outlet temperature 43°C: Minimum hot supply 53°C).

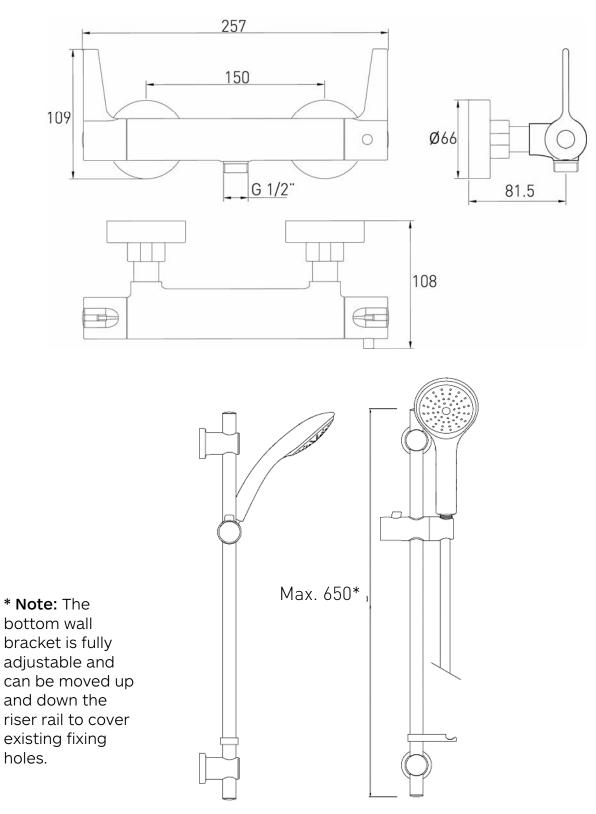
#### System Requirements:

Gravity fed hot & cold (Equal pressures) Gravity fed hot & mains cold (Different pressure, maximum ratio 5:1) Unvented systems Instantaneous water heater (combination boiler) Pumped system

Note: When using a pumped system we recommend that an essex flange is used.

Valve operating outside these conditions of use cannot be guaranteed to operate as type 2 valves.

### Dimensions



All dimensions are in mm's and are approximate.

### **Installation Requirements**

This shower valve must be installed in compliance with current water regulations. If you have any doubts about the water regulation requirements contact your local water services provider or use the services of a professional plumber.

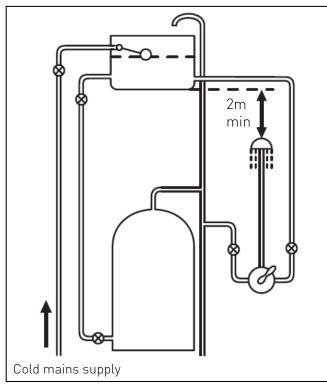
This shower valve is suitable for use with the following water supply systems.

• Gravity Fed Hot and Cold (pressure Balanced)

• Gravity Fed Hot and Mains Cold (differential pressure – see Specification section on page **5**.

- Instantaneous Water Heater (combination boiler)
- Unvented System
- Pumped System

#### Gravity Fed Hot and Cold



Important: If you install this shower valve with a gravity fed system, there must be a minimum head (vertical distance) from the underside of the cold water storage tank to the shower valve position of at least 2 metres.

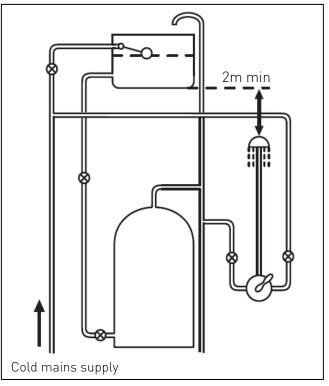
Note: Pumped system (with Essex flange) If you install this shower valve to a

pumped gravity fed system where the minimum head (vertical distance) from the underside of the cold water storage tank to the top of the hot water cylinder is less than 1 metre we recommend an Essex flange is used as shown on page **08**.

#### Flushing Pipework

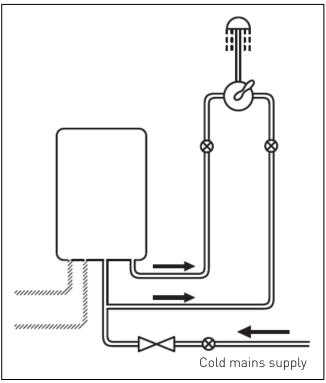
Important: Before connecting the shower valve (see Installation on pages 11-15), supply pipework must be flushed to clear debris before connecting the shower valve. Debris will reduce the performance and life of the shower.

#### Gravity Fed Hot and Mains Cold

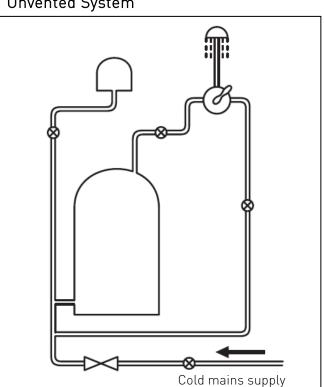


### **Installation Requirements**

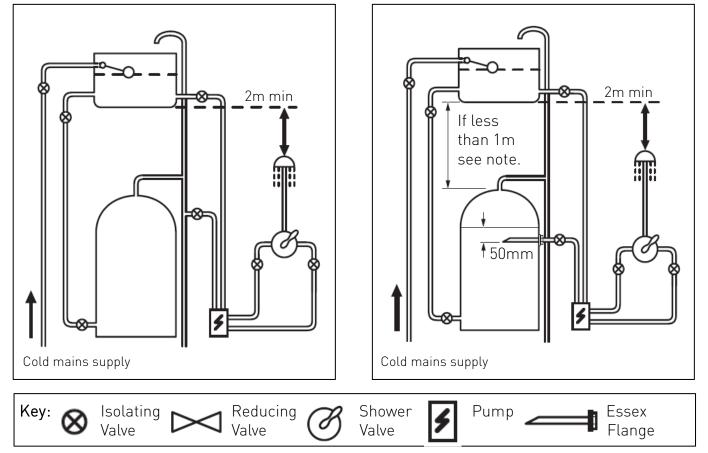
#### Instantaneous Water Heater



#### Pumped System



#### Pumped System (with Essex flange)



#### Installation Requirements

These fittings need to be installed in accordance with the following Installation Requirements and Notes (IRN) to ensure they meet the requirements of the Water Supply (Water Fittings) Regulations 1999 and the Scottish Byelaws 2004.

**IRN R001:** See text of entry for Installation Requirements or Notes.

**IRN R040 - Schedule 2-15 (1):** The fitting shall be installed so that its outlet discharges above the spill-over level of any fixed appliance as indicated below:-

#### For backflow protection in domestic or installations up to, and including, Fluid Category 3.

If the fitting cannot be installed as indicated in the table opposite it shall be installed as either **a** or **b** below:

**a**: with an approved double check valve assembly or some other no less effective backflow prevention device immediately upstream of the inlet.

**b**: so that it draws water by gravity only from a cistern, or cylinder having a permanently open vent pipe, and the distributing pipe supplies no other fitting (other than draining tap) at a lower level.

#### For backflow protection in premises or installations up to, and including Fluid Category 5.

The vertical distance of the outlet above the spill-over level shall be not less than 20mm or twice the diameter of the inlet pipe to the fitting, which ever is the greater. If the fitting cannot be installed as indicated it shall be installed with a backflow prevention arrangement suitable for the Fluid Category.

Size of tap or combination fitting.	Vertical distance of outlet above spill-over level.
1. Not exceeding 1/2 in	20mm
<b>2.</b> Exceeding 1/2 in but not exceeding 3/4 in	25mm
<b>3.</b> Exceeding 3/4 in	70mm

### **Installation Requirements**

#### Conditions of use for type 2 valves.

	Low Pressure	High Pressure
Maximum Static Pressure (Bar)	10	10
Flow Pressure, Hot & Cold (Bar)	0.1 to 1.0	0.5 to 5
Hot Supply Temperature (°C)	55 to 65	55 to 65
Cold Supply Temperature (°C)	Equal to or Less than 25	Equal to or Less than 25

This valve has been approved for use in the following designations;

Code	Operating Pressure	Application
HP-S	High Pressure	Shower

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

#### Recommended Outlet temperatures

We recommend the following set maximum mixed water outlet temperatures for use in all premises:

41°C for showers;

# The mixed water temperatures must never exceed 46°C.

The maximum mixed water temperature can be 2°C above the recommended maximum set outlet temperatures.

**Note:** 46°C is the maximum mixed water temperature from the bath tap. The maximum temperature takes account of the

allowable temperature tolerances inherent in thermostatic mixing valves and temperature losses in metal baths.

# Warning: It is not a safe bathing temperature for adults or children.

The British Burns 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.

The thermostatic mixing valve (TMV) 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.

**Note:** The frequency of In-Service tests – 1 year max.

The fitting of isolation values is required as close as is practical to the water supply inlets of the thermostatic mixing value.

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



### Installation

This Thermostatic Mixer Valve (TMV) should be installed in compliance with Water Regulations (refer to General Information section). For further details contact your Local Water Authority.

This TMV is suitable for use with the following systems:

- Gravity Fed Hot & Cold (Nominally Equal Pressure)
- Gravity Fed Hot & Mains Cold (Differential Pressure, Max ration 5:1)
- Unvented Systems
- Instantaneous Water Heater (Combination Boiler)
- Pumped System

Note: On Gravity systems the minimum distance from the underside of the cold water storage tank to the shower valve must be at least 2 metres.

M Warning: Before installing the thermostatic mixer valve 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 mixer valve.

### Installing the Fast Fit Kit

1. Identify all components are present prior to starting installation.

2. Using the template supplied with the fast fit kit mark out the position for the pipework and the fixings supplied.

**Note:** The Pipe centres required for this Thermostatic Mixing Valve are 150mm.



 $^{\prime}$  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

**3.** Drill suitable holes in the wall surface at the marked positions to accommodate the supply pipework and fixings.

**4.** Terminate the pipework in the wall ensuring that there is at least 26mm of 15mm diameter pipework protruding from the finished wall surface (See Fig.1).

**IMPORTANT:** The water supply pipes to the thermostatic Mixer Valve must be with the Hot on the left and the Cold on the right when viewed from the front.

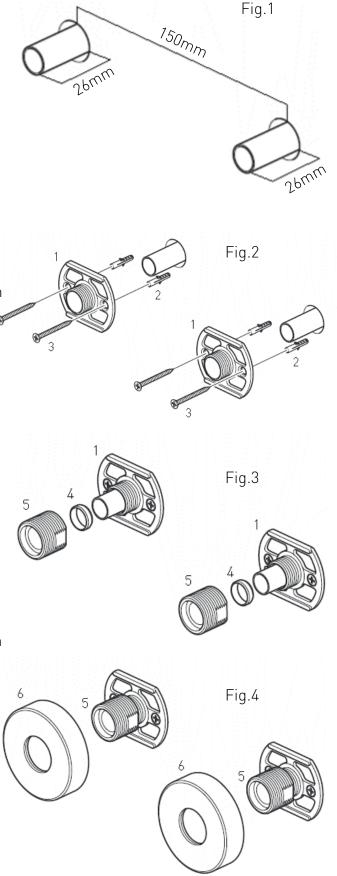
5. Place the wall plates (1) over the supply pipes.Using the wall plugs (2) and screws (3) provided fix the wall plates to the wall (See Fig.2).

**6.** Place the olives (4) onto the protruding pipework (See Fig.3).

**IMPORTANT:** The pipework **must not** protrude past the olive (4) by more than 5mm.

7. Holding the flat edges of the wall plate (1) with a 47mm spanner screw the fixing bridge (5) onto the wall plate (1) using a 22mm spanner. Repeat this step on both sides (See Fig.3).

**8.** Screw the covers (6) over the wall plates / fixing bridges (5), so they are flush against the finished wall surface (See Fig.4).

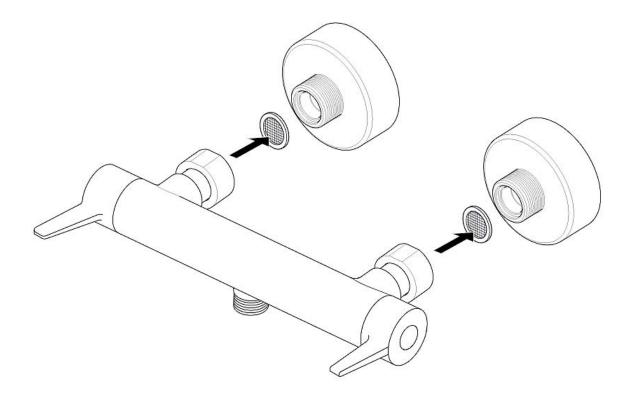


### Installing the Thermostatic Mixer Valve

1. Place the filter washers into the connectors.

**2.** Position the shower valve against the connectors and carefully tighten the shower valve fixing nuts onto the connectors. **Do not overtighten**.

**Note:** Take care not to damage the finish of the shower valve fixing nuts. Protect the chromium plated surfaces with a cloth.



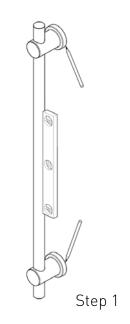
### Installing the Adjustable Riser

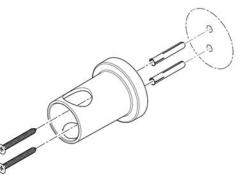
- Position the assembled riser rail onto the wall surface, bearing in mind the highest maximum position required for the handset. With the riser rail vertical, mark the position of the wall brackets onto the wall surface.
- Position the bottom wall bracket onto the marked position on the wall surface, ensure it is vertical and mark the centres of the fixing holes onto the wall.
  Existing fixing holes maybe used as the bottom wall bracket is fully adjustable.

Remove the bottom wall bracket and drill suitable holes into the wall surface and insert wall plugs supplied.

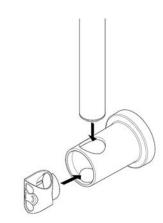
Re-position the bottom wall bracket and secure to the wall using the fixing screws supplied.

3. Insert the plastic bracket insert as shown into the wall bracket and push the riser rail down through the wall bracket, ensuring the two holes in the riser rail are at the top. The wider diameter holes should face the forward.





Step 2



Step 3

### Installing the Adjustable Riser Cont.

- 4. Push the hose retainer (first) and slider down the riser rail, ensuring they are the correct way up, as shown opposite.
- Attach top wall bracket. Push the top wall bracket onto the riser rail, ensuring the rail is still vertical and mark the centres of the fixing holes in the top wall bracket onto the wall surface.

Remove the top wall bracket and drill suitable holes and insert the wall plugs supplied.

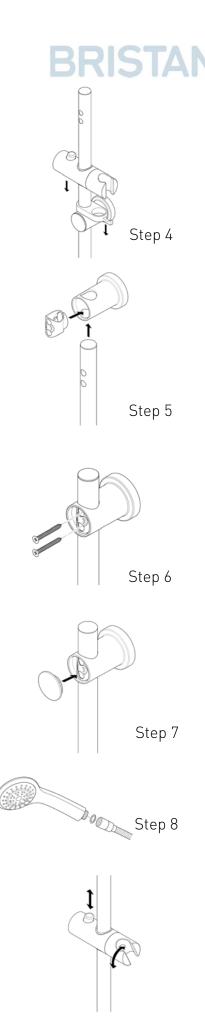
- 6. Insert the plastic bracket insert into the top wall bracket and refit the top wall bracket and secure to the wall using the fixing screws provided.
- 7. Push-fit the wall bracket caps into position to cover the fixing holes
- 8. Attach shower hose

Screw the shower hose (nut end) onto the shower valve outlet (not supplied), ensuring the rubber washer is fitted.

Screw the shower hose (cone end) onto the shower head ensuring the rubber washer is fitted. Place the shower head into the slider.

## Adjusting the height and angle of the slider

Pressing in the button on the slider will allow the user to adjust the position of the slider either higher or lower. To adjust the angle of the showerhead twist the slider bracket until the desired position is reached.



### Operation

### Flow Control

The flow control handle (on the left) increases and decreases the flow rate through the thermostatic mixer value. The more the handle is turned the greater the flow rate.

### Temperature Control

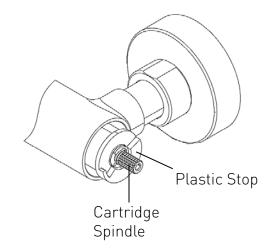
The temperature control handle (on the right) allows the user to adjust the temperature up to 38° C, however this can be overridden by simply pressing the button on the temperature handle in and continuing to turn the control handle until the desired temperature is achieved. The user can then override the temperature to a maximum of 46°C.

### **Temperature Setting**

The temperature can be adjusted to suit different site conditions or personal preference by following the

steps below.

- Using a flat bladed tool remove the Handle end cap and loosen the retaining screw.
- Remove the handle by pulling it from the valve spindle.
- Turn the flow of water on to the maximum temperature and wait a few minutes to allow the temperature to stabilize.
- Turn the cartridge spindle in the required direction to increase or decrease the set temperature. Anti-clockwise to increase the temperature, clockwise to decrease.
- Turn the flow of water off.
- Replace the handle, retaining screw and handle cover cap.



### Commissioning

Commissioning notes for Thermostatic Mixing Valves

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

1. The designation of the thermostatic mixing valve matches the application.

**2.** The supply pressures are within the valves operating range.

**3.** The supply temperatures are within the valves operating range.

**4.** Isolating valves (and strainers preferred) are provided.

If all these conditions are met, proceed to set the temperature as stipulated in the setting section.

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

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 the water is still flowing check that the temperature is below 46°C.

If there is no significant change to the set outlet temperature (+/-2°C or less change from the original setting) 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 stabilize.

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 instructions in the setting section.

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

### Maintenance

#### General Cleaning

Your fitting has a high quality finish and should be treated with care to preserve the visible surfaces. All surfaces will wear if not cleaned correctly, the only safe way to clean your mixer valve is to wipe with a soft damp cloth. Stains can be removed using washing up liquid. All bath cleaning powders and liquids will damage the surface of your fitting, even the non – scratch cleaners.

**Note:** Never use abrasive detergents or disinfectants or those containing alcohol, hydrochloric acid or phosphoric acid.

### Flow Valve Maintenance

If your shower valve begins to drip it may be due to the flow valve letting water pass through the valve.

Isolate both hot and cold water supplies to the mixer valve by either:

• Turning the water supply off at the mains stopcock or

• Turning off the isolation valves to the mixer valve.

1. Remove the flow control cover cap, loosen the screw and pull the handle off the valve spindle.

**2.** Using a suitable spanner unscrew the valve out from the body and check its condition.

**3.** Clean the valve and replace if necessary.

**4.** Push the handle back onto the valve spindle and replace the handle, screw and handle cover cap.

#### Cartridge Maintenance

We advise that the shower valve is regularly serviced in hard water areas to maintain optimum performance (see Map of Hard Water Regions in England and Wales overleaf).

Isolate both hot and cold water supplies to the mixer valve by either:

• Turning the water supply off at the mains stop cock or

• Turning off the isolation valves to the mixer valve.

1. Remove the temperature control cover cap, loosen the screw and pull the handle off the cartridge spindle

2. Remove the plastic stop. **Important**: Take note of the position of the plastic stop and handle – they must be refitted in the same positions.

**3.** Unscrew the thermostatic cartridge from the body.

4. Place the cartridge in a bowl and carefully add hot water (just off the boil) and vinegar to de-scale the cartridge. Leave in the solution until the water has cooled and rinse with clean water.

**5.** Grease the seals with a silicon grease supplied by Bristan (part number: SP-495-0002) and carefully refit.

**6.** Reset the maximum temperature and refit the handle, screw and handle cover cap.

### Troubleshooting

Symptom	Cause	Remedy
No flow or low flow rate and / or varying temperatures.	Partially closed stop or service valve in water supply pipework to the mixer valve.	Open stop or service valve.
	Instantaneous water heater cycles on and off as the flow rate or pressure is too low.	Increase water flow rate or pressure through system
		Contact the boiler manufacturer.
	Head of water is below the minimum distance required.	Refer to the specifications section.
	Inlet filter is partially blocked.	Clean or replace, flush through pipework before refitting.
	Hot or cold water being drawn off elsewhere causing pressure changes or instantaneous boiler changes.	Do not use other water outlets when using the shower valve.
	Make sure the maintained inlet pressures are nominally balanced and sufficient.	If pressures are unbalanced then a pressure reducing valve should be used.
	Airlock or partial blockage of the pipework.	Flush through pipework to ensure removal of debris and any airlocks.
	No hot or cold water reaching the shower valve.	Check hot and cold feeds (the valve will shut down if either the hot or cold supply fails).
Water leaking from showerhead.	This is normal for a short time after turning off.	Adjust the angle of the showerhead as necessary to vary draining time.
	Shower flow control valve failing to close fully, possibly due to water borne debris.	Remove flow control valve assembly and check. Refer to maintenance section (page 18) before dismantling shower valve.
	Flow control valve seals damaged.	Check condition of flow control valve and replace as necessary (refer to maintenance section (page 18).

### Troubleshooting

Symptom	Cause	Remedy
Maximum water temperature too hot or cold.	Maximum water temperature set incorrectly.	Reset maximum water temperature. Refer to 'Setting/Commissioning' sections.
Outlet water temperature too hot / cold.	Inlet filter is partially blocked.	Check insert filters for any blockages and clean as necessary.
	Installation conditions outside operating parameters.	Refer to Installation Requirements (pages 07-10).
		Service shower valve as recommended. Refer to maintenance section (page 18).
Water temperature too cold – maximum water temperature incorrectly set.	Hot water temperature is less than 10°C above the required blend temperature.	Adjust hot water temperature or wait for water to reheat if stored system is used.
	Instantaneous water heater not igniting because water flow rate is too low.	Increase water flow rate through the system.
		Check cartridge inlet filters and clean or replace. Refer to maintenance section (page 18).
		Contact the boiler manufacturer.
	Instantaneous water heater not igniting because water pressure is to low.	Refer to General Information for system requirements.
		Increase water pressure through system.
		Contact the boiler manufacturer.
Only hot or cold water from Thermostatic Mixing Valve outlet.	Inlet water supplies are reversed (hot to cold supply).	Check the connections are the correct way round. Hot on the left and cold on the right when viewed from the front. Rework pipework as necessary.
	Inlet filter is partially blocked.	Clean or replace, flush through pipework before refitting.



#### Notes

Please use this space to add any notes you or your installer may have regarding the plumbing system / installation of this product.

#### **Bristan Guarantee**

At Bristan, we want to make things as easy as possible for our customers. That's why we design products that are easy to fit and use, and that are quality tested to make sure they won't let you down. It's also why we offer solid guarantees on all products, effective from the date of purchase, to give you peace of mind.

All Bristan taps are covered by a **5 year guarantee**. This also includes **2 years labour cover** which means that, in the unlikely event that there is a problem in the first 2 years after purchase, we'll send one of our expert engineers to fix it.

\*Labour is provided by an approved Bristan Care engineer or appointed representative. The guarantee only applies to products with a manufacturing fault. There will be a call out charge for any incidents where no fault has been found with the product, or if the issue is due to poor installation or maintenance.

#### Guarantee Terms and Conditions

This guarantee is in addition to your statutory and other legal rights and is subject to the following conditions:

- The product was purchased within the United Kingdom or Republic of Ireland.
- The guarantee applies solely to the original purchaser with proof of purchase.
- The installation must allow ready access to all products for the purpose of inspection, maintenance or replacement.

- Repair under this guarantee does not extend the original expiry date. The guarantee on any replacement parts or products ends at the original expiry date.
- Any part found to be defective during the guarantee period will be replaced without charge, providing that the product has been installed in accordance with the instructions given in this guide and used as the manufacturer intended.

The guarantee does not cover:

- Damage or defects caused by:
  - general wear and tear (including special non-chrome finishes; components such as filters, seals, '0' rings and washers)
  - incorrect installation
  - repair using non- Bristan parts
  - accidental or wilful misuse
  - corrosion and the use of inappropriate cleaning products.
  - system debris including the build up of limescale (which can be controlled through regular servicing and maintenance).
- Compensation for loss of use of the product or consequential loss of any kind.

In the interests of continuous product improvement, Bristan reserves the right to alter product specifications without notice.



The Bristan Product Guarantee does not affect your statutory rights as a consumer.

#### •Need help?

If this product does not function correctly when first used, contact **Bristan Care Customer Service on 0844 701 6273** where our expert team of advisors will be able to offer you help and advice.

#### • Problems during the guarantee period

In the unlikely event that you encounter any problems with the product during the guarantee period, contact **Bristan Care Customer Service on 0844 701 6273** with your proof of purchase and we will work to resolve the problem quickly.

#### Bristan Care Customer Support

Bristan customers also benefit from the support of Bristan Care, our comprehensive customer support package which offers:

#### Technical support hotline

(Tel: **0844 701 6273**) with access to fully trained advisors who can offer installation advice, talk you through quick maintenance checks, or recommend the best course of action to fix any problems with a product

#### Expert advice

Find easy to follow 'how to' video guides and technical FAQs online at www.bristan.com. Our guides take you step-by-step through many product installations and you can find plenty of easy guides to quick product fixes and servicing.

#### Spare parts

We hold thousands of spares and we keep them for discontinued products for over seven years. Spares can easily be ordered online at www.bristan.com and are dispatched the same day.

#### Expert plumbing engineers

If we can't solve the problem over the 'phone or with a spare part, then we'll send out one of our Bristan Care engineers to take a look. Bristan Care engineers provide free support for products that are within guarantee, but are also available to service products that are out of guarantee for a small charge. For details, please call customer services on **0844 701 6273**.



This booklet covers product code DUL2 SHXARFF C

> Helpline 0844 701 6273

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