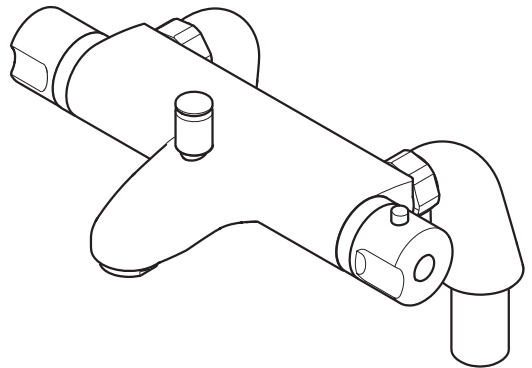


BRISTAN

Installation Instructions

Thermostatic Bath Shower Mixer



Models covered:

DUL3 THBSM C, AS2 THBSM C



Please keep this booklet for future reference.

Installer, when you have read these instructions please ensure you leave them with the user.



Contents

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 its 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 contact us.

Important Safety Information.....	3
General Information	4
Specifications	5
Dimensions.....	6
Installation Requirements	7
Prior to Installation	8
Installation	9
Temperature Setting	10
Commissioning.....	11
Maintenance	12-13
Troubleshooting.....	14-15
Notes.....	16-17
Guarantee	18-19

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, 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.**
- This product needs to be installed in accordance with, and meet the requirements of the Water Supply (Water Fittings) Regulations 1999 and Scottish Byelaws 2004.
- 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 this product 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 tap.
- This product 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 bylaws. For full Installation Requirements & Notes (IRN) please visit www.wras.co.uk/directory.

This product has been designed and tested to comply with BS EN1287:1999 (LP) and BS EN 1111:1999 (HP) Thermostatic Mixing Valves Standards.

BS 8558 recommends hot water should be stored and distributed at a temperature of not less than 60°C which will help minimise the build-up of lime scale in hard water areas.

If installing this product on a low pressure (tank fed) system please see specification table on page 5 to determine the minimum distance required from underside of the cold water tank to the outlet.

These Thermostatic Mixing Valves 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.

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
RM12 6NB
Phone: 01708 472791

Specifications

Product Code	Working pressure		Inlet	Minimum distance from cold water tank to outlet (metres)
	Min	Max		
DUL3 THBSM C	0.5	5.0	3/4" BSP Threaded Tail	5
AS2 THBSM C	0.5	5.0	3/4" BSP Threaded Tail	5

Maximum static pressure- 10.0 bar

Maximum outlet temperature- factory preset to 38°C

System Requirements:

Gravity fed hot & cold (Equal pressures)

Gravity fed hot & cold (Differential pressure, maximum ratio 5:1)

Unvented systems

Instantaneous water heater (Combination boiler)

Pumped Systems

Note: When using a Pumped System, we recommend that an Essex Flange is used.

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).

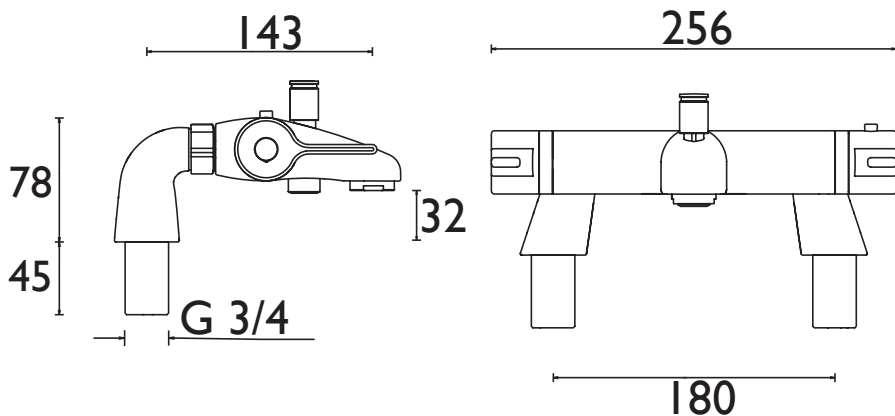
Note: The inlet hot water temperature must be at least 10°C above the required blend temperature (e.g. outlet temperature 43°C: Minimum hot supply 53°C).

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

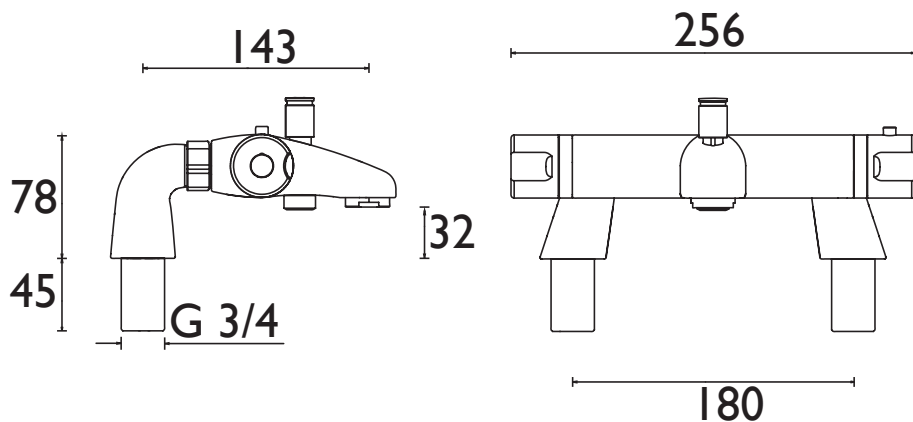
Valves Operating outside of these conditions of use cannot be guaranteed as type 2 valves.

Dimensions

Design Utility Lever Thermostatic Bath Shower Mixer



Assure Thermostatic Bath Shower Mixer Chrome



Dimensions are approximate and in millimetres.

Installation Requirements

Conditions of use for Type 2 (Thermostatic mixer) valves

	High Pressure	Low Pressure
Maximum Static Pressure (Bar)	10	10
Flow Pressure, Hot & Cold (Bar)	0.5 to 5	0.1 to 1.0
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

Note: Valves operating outside these conditions cannot be guaranteed by the Scheme to operate as Type 2 valves.

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

The BuildCert TMV scheme recommends 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.

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

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

Prior to Installation

Identify all components prior to stating installation.

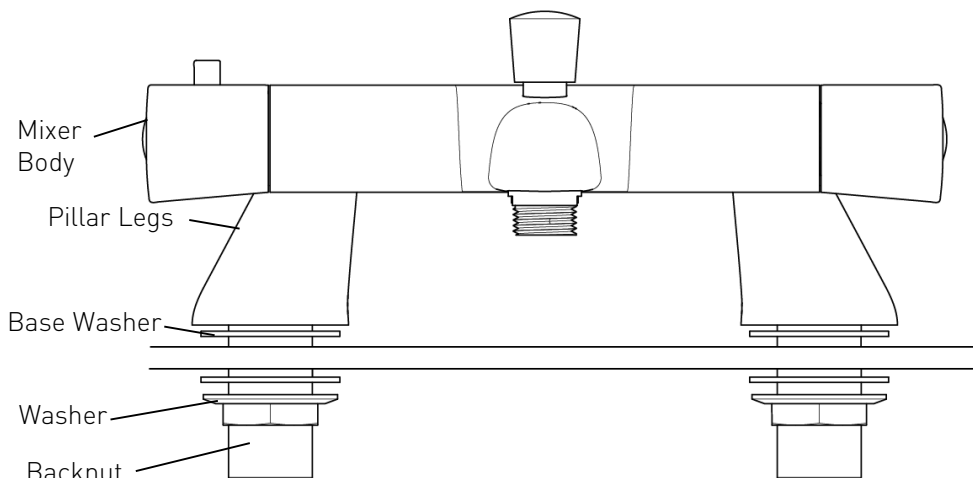
- | | |
|--------------------|----------------------|
| 1. Mixer Body x1 | 4. Washers x2 |
| 2. Pillar Legs x2 | 5. Back Nuts x2 |
| 3. Base Washers x2 | 6. Filter Washers x2 |

This mixing valve should be installed in compliance with current water regulations.
For further details contact your Local Water Authority.

This mixing valve is suitable for the following systems:
Gravity Fed Hot & Cold (Equal Pressures)
Unvented Systems
Gas Combination Boiler
Pumped System (Equal Pressures)

Note: On gravity systems the minimum distance from the underside of the water tank / cylinder to the mixing valve must be at least 5 metres.

Before connecting the mixing valve, thoroughly flush through the water supply pipes to remove any remaining swarf, debris. Failure to do so may result in damaging the product.

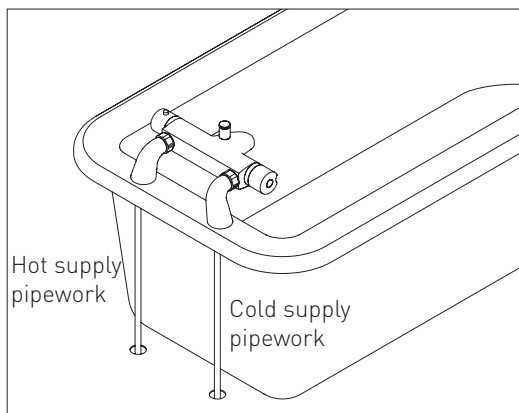
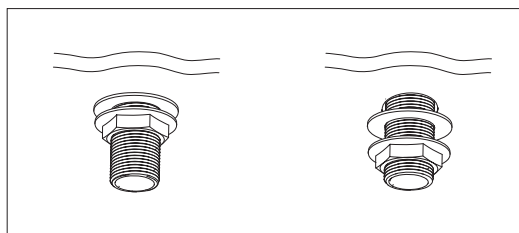
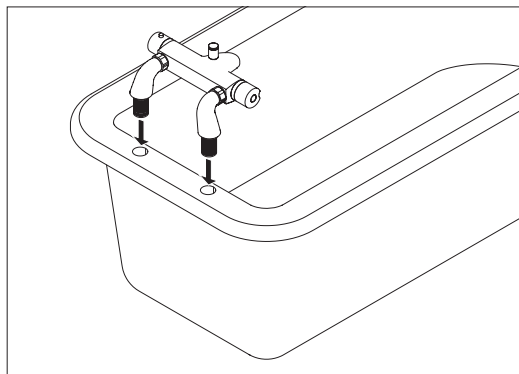


Installation

1. Place filter washers into the pillars and screw the pillar legs onto the mixer body.
2. Place the mixer body onto the bath ensuring the base washers are fitted to the threaded legs of the pillars.
3. Push the washers onto the threaded pillar legs and screw the backnuts onto the threaded pillar legs and tighten fully against the underside of the bath.
4. Connect the hot and cold water supplies to the pillar legs ensuring the hot supply on the left and the cold supply on the right (when viewed from the front).
5. Turn on both water supplies letting the water run at both hot and cold settings for a few minutes to check all joints and connections for any leaks.

Important: Access must be made available to the water supplies and fixings for future maintenance / servicing.

To change from bath to shower mode pull the diverter knob up. To revert back to bath fill push the diverter knob back down.



Temperature Setting

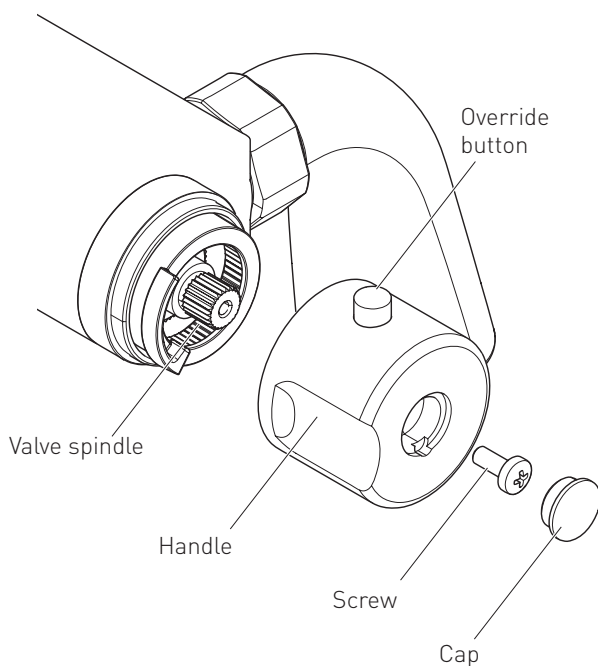
The temperature is factory set at 38°C, however this may be overridden by simply pressing the temperature override button in when the handle reaches the stop and continuing to turn the handle.

To reset the maximum temperature the following should be carried out.

1. Remove the end cap.
2. Unscrew the handle screw.
3. Remove the handle.
4. Turn the valve spindle in the required direction.

To increase the temperature turn the spindle anti-clockwise
To decrease the temperature turn the spindle clockwise.

5. Replace the handle, tighten the screw and push fit the cap back into position.



Commissioning

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 fitted.

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 ($\pm 2^{\circ}\text{C}$ 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.

Note: 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 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 product 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 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 servicing / replacement

Before carrying out any maintenance, turn off the both water supplies or close any isolating valves.

Remove the cap and loosen the screw.

Pull the handle off from the valve spindle.

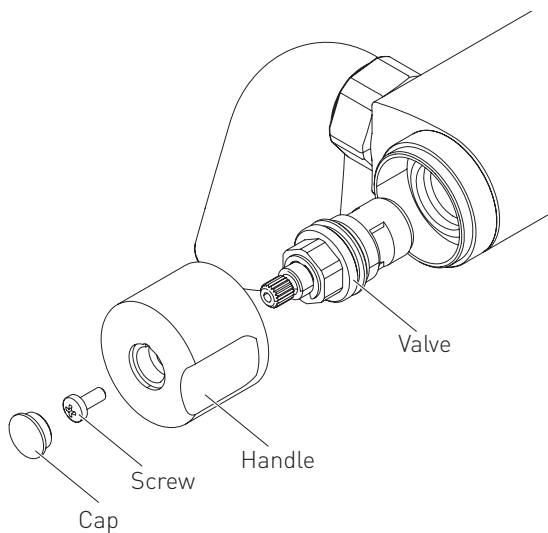
Remove the valve using a suitable spanner.

Clean the valve thoroughly under cold water to remove any build up of limescale or debris.

If necessary replace the valve using parts supplied by Bristan only.

Replace the valve and push the handle onto the valve spindle.

Tighten the screw and push-fit the cap into position.



Maintenance

Thermostatic Cartridge servicing / replacement


Turn off both the hot and cold water supplies to the mixing valve and close any stop / service valves.

Remove the cap and loosen the screw.

Pull the handle off from the valve spindle.

Remove the temperature stop, remembering the position when removed.

Unscrew the cartridge and clean / replace with a new cartridge supplied by Bristan.

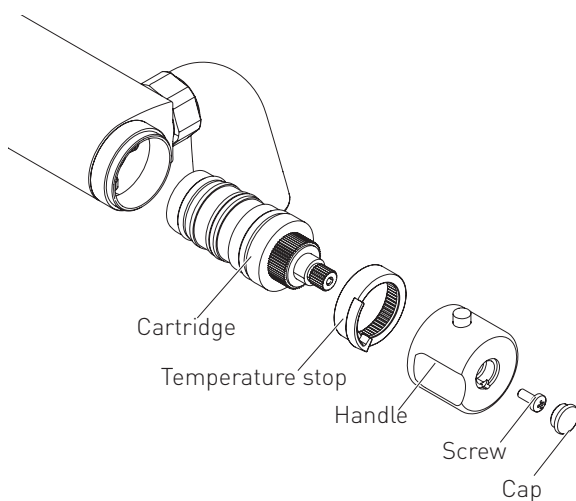


Cartridge

Re-fit cartridge and temperature stop in the same position when removed.

Push the handle onto the valve spindle.

Tighten the screw and push-fit the cap into position.



Troubleshooting

Symptom	Cause	Remedy
Maximum water temperature too hot or cold.	Maximum water temperature set incorrectly.	Reset maximum water temperature. Refer to 'Commissioning' section.
Outlet water temperature too hot / cold.	Inlet filter is partially blocked.	Check inlet filters for any blockages and clean as necessary.
	Installation conditions outside operating parameters.	Service shower valve as recommended. Refer to maintenance section.
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.	<p>Increase water flow rate through the system.</p> <p>Check cartridge inlet filters and clean or replace. Refer to maintenance section.</p> <p>Contact the boiler manufacturer.</p>
	Instantaneous water heater not igniting because water pressure is too low.	<p>Refer to 'Specification' for system requirements.</p> <p>Increase water pressure through system.</p> <p>Contact the boiler manufacturer.</p>

Troubleshooting

Symptom	Cause	Remedy
Only hot or cold water from TMV 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.
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 'Specification' 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).

Notes

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

Notes

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

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.

Bristan's Bathroom Taps are covered by a **5 year guarantee**. This also includes **5 year labour cover** * (subject to registration) which means that, in the unlikely event that there is a problem in the first year 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 product 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, 'O' 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.

Guarantee & Service Policy

• 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 advisers 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 **Bristan Care Customer Service on 0844 701 6273**.

Part Numbers: THBSM
Issue: D1

BRISTAN

Bristan Group Ltd.
Birch Coppice Business Park
Dordon
Tamworth
Staffordshire
B78 1SG
Web: www.bristan.com
Email: enquire@bristan.com

A Masco Company

Useful contact details:

Customer Service:

0844 7016273

Customer Service Email:

Customercare@bristan.com

Customer Service Fax:

0844 7016275

Reception:

0844 7016274

Join us on...

