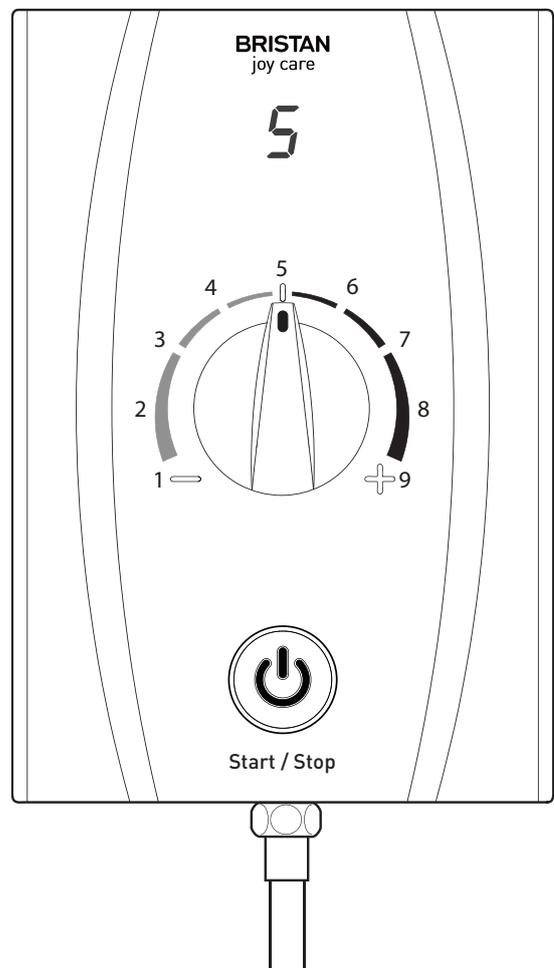


# BRISTAN

## Installation Instructions and User Guide

Joy Care Electric Shower



Please keep this booklet for future reference.

Installer, when you have read these instructions please ensure you leave this document and the Large Print User Guide with the end user.

# Contents

Welcome to your new Bristan electric shower.

Featuring a contemporary design with lots of features, Bristan's electric shower collection has been designed to be easy to fit and to use.

It has also been designed and tested in the UK to all of the relevant British Standards.

These instructions contain all of the necessary installation and operating information, so please read them thoroughly and keep for future reference.

These instructions are for your guidance to a safe and successful installation which we recommend is carried out by a suitably qualified person and must conform with current I.E.E Wiring Regulations (BS7671) and Building Regulations (Part P and Part G).

**Note:** An Installation Template & Quick-Start Guide are provided separately with this shower.

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# Important Safety Information

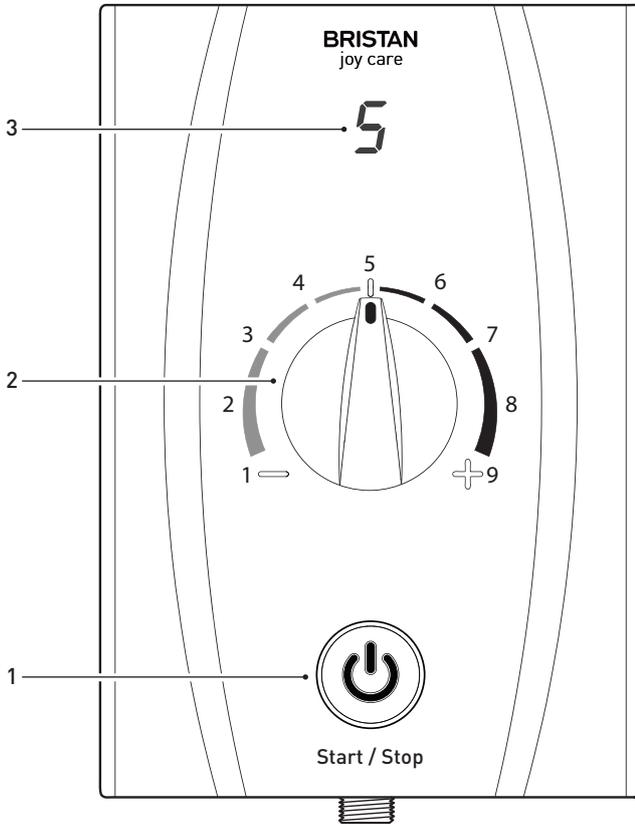
- Please read these instructions thoroughly and retain for future use.
- All products manufactured and supplied by Bristan are safe provided they are installed, used correctly and receive regular maintenance in accordance with these instructions.
- **If you are in any doubt about your ability to install this product safely you must employ the services of an experienced qualified plumber/ electrically qualified person.**
- **⚠ Warning:** Do not operate the shower unit if you suspect it is frozen. Do not site the shower unit where it might be subjected to freezing conditions.
- Do not install this shower unit in a room/environment without adequate ventilation or an extractor fitted. This is required to prevent condensation forming within the unit.
- Do not operate the shower unit if the showerhead or spray hose has been damaged or is blocked.
- Do not block the flow of water from the showerhead, by placing it (smothering it) on your hand or any other part of your body or foreign object.
- Do not operate the shower if the water stops flowing during use or if the water is leaking from the shower unit itself. Turn off at the mains electrical supply and refer to the Troubleshooting section (see page 30) or contact Bristan Customer Services.
- Do not crush or kink the shower hose, this could damage the hose, cause leaks and activate the pressure relief device (PRD).
- Installations subject to regular and rapid changes in the water supply pressures should be avoided.
- The BEAB Care Mark is invalid if the product is installed or used outside of the manufacturer's installation instructions.
- To comply with the BEAB Care Mark isolation valves should be installed as close as possible to the shower.
- This appliance must be permanently connected to the water mains and not connected by a hose-set.

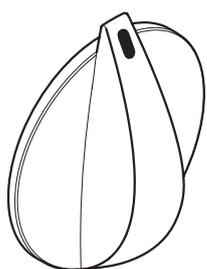
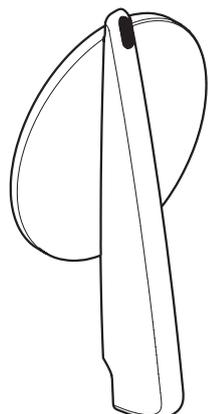
# General Information

- Always switch off the power at the consumer unit and isolate the electrical supply before making any electrical connections or if you have to remove the cover of an installed unit.
- The unit **must** be mounted on the finished wall surface (usually tiled). Under no circumstances must you tile up to or seal around the unit as this may prevent air circulating and condensation escaping.
- This shower unit **must not** be modified\* in any way as this will invalidate the guarantee.  
\* Except for top left pipe entry (see page 12) where the product has been designed to be modified by the installer.
- You **must not** fit a “water saving” handset (whereby the flow of water can be restricted or turned off) to the shower, otherwise this can result in scalding and/or unit failure.
- **⚠ Important:** To comply with BEAB Care Mark (for use in Healthcare and special needs environments) the factory set maximum temperature of 41°C **must not** be altered. If the maximum set temperature is altered the shower will still continue to work; however it will no longer comply with the BEAB care mark.
- **⚠ Important:** Before using the shower for the first time the commissioning purge sequence **must** be carried out. Failure to perform this operation may cause serious damage to the shower and invalidate the guarantee.
- **⚠ Warning:** This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of appliance in a safe way and understand the hazards involved.
- Children shall not play with the appliance.
- Cleaning and maintenance shall not be made by children without supervision.



# Product Features



 <p><b>Dial Control</b></p>	 <p><b>Lever Control</b></p>
<p>JOYTHC85 W JOYTHC95 W JOYTHCK85 W JOYTHCK95 W</p>	<p>JOYTHCKH85 W JOYTHCKH95 W</p>

## 1. Push Button Start/Stop Button

Press once to start the shower, press once again to stop the shower.

If audible sounds are enabled a single short beep will be heard when the button is pressed to turn the shower on. A single long beep will be heard when the button is pressed to turn the shower off.

**Stand-By Mode** indicated by the light around the STOP/START Button being on, denoting the shower is powered and ready to start.

## 2. Temperature Control

Adjustable temperature control.

### Temperature Control Device

The Temperature Control Device will activate if the water inside the water heater gets too hot. The Temperature Control Device will switch off the power to the heating elements. Once the unit cools down to a safe temperature the elements will come on again and reheat the water within the water heater and the whole cycle will repeat itself until the temperature is manually reduced.

### Warm-Up Indication

The light around the START/STOP Button will flash as the water heats up. Once the light stops flashing and stays on, the shower has reached your selected temperature and is ready to use.

If audible sounds are enabled two short beeps will be heard once the shower is at the correct temperature.

### Phased Shut Down & Indication

When the shower is turned off, water will continue to flow and the light around the START/STOP Button will flash for a short period while the heater cools down to approximately 30°C, before automatically turning off. This helps reduce limescale build-up.

If audible sounds are enabled short beeps will be heard until the shower has turned off.

### Maximum Temperature Setting (See page 17)

The shower enables the installer / user to set a maximum temperature. Once the maximum set temperature is achieved the temperature will not increase even if the temperature control dial is increased.

## 3. Temperature Setting Indicator

The Digital Display shows a number between 1 (cooler) and 9 (warmer) depending upon temperature [2] dial setting, and maximum temperature setting.

### Time Out Setting (See page 19)

The time out setting will ensure the shower turns off if the user fails to manually turn the shower off. The Time Out setting is pre set to 30 minutes but can be altered prior to installation to either 5, 10 or 20 minutes. The warning is three short beeps followed by a 2 second pause, repeated for a minute, before the shower times out.

# Specifications

## Specifications

### Plumbing Connections

**Inlet connection:** 15mm Push fit

**Outlet connection:** 1/2" BSP male threaded

### Water inlet entry points

**Left hand side:** Top, Bottom, Rear (bottom)

**Right hand side:** Bottom, Rear (bottom)

### Operating Pressures

**Minimum working pressure:** 0.5 Bar

**Maximum working pressure:** 10.0 Bar

**Static pressure range:** 0.2 - 10.0 Bar

**Note:** To meet the BEAB Care Mark a minimum operating pressure of 1.0 bar is required.

### Supply Requirements

**Minimum inlet water temperature:** 5°C

**Maximum inlet water temperature:** 20°C

### System Requirements

Suitable for mains cold water pressure only

### Electrical cable entry points

**Left hand side:** Top, Bottom, Rear (bottom)

**Right hand side:** Bottom, Rear (bottom)

Recommended Usage			
Domestic	✓	Heavy Commercial	✗
Light Commercial	✓	Health Care	✓

### Product Fiche

Model	JOYTHC85 W	JOYTHC95 W	JOYTHCK85 W	JOYTHCK95 W	JOYTHCKH85 W	JOYTHCKH95 W
Declared Load Profile	XS	XS	XS	XS	XS	XS
Water Heating Energy Efficiency Class	A	A	A	A	A	A
Water Heating Energy Efficiency (%)	38.1	38.1	38.1	38.1	38.1	38.1
Annual Electricity Consumption (kWh)	484	485	484	485	484	485
Sound Power Level (dB)	15	15	15	15	15	15

Outlet Water Temperature		
Application	Abbreviated Designation	Maximum Set Temperature*
Shower	-IW-S	41°C

\* At point of discharge

### Require a drainage pump?

We recommend the Whale Instant Match Varispeed with an external flow sensor (SDP134T and SDS223T), for more information contact Whale technical helpline 0845 0694 253

# Electrical Requirements

**⚠ Warning: This appliance MUST be earthed!**

Rating at 240V	Rating at 230V
8.5kW	7.8kW
9.5kW	8.7kW

The Electrical Installation and Circuit Protection of this shower must comply with current I.E.E Wiring Regulations (BS 7671) and Building Regulations (Part P). We recommend that this product is installed by a qualified electrician prior to use. The following notes are for guidance only.

**Important:** You **must** switch off the power at the consumer unit, isolate the electrical circuit and verify the earth before making any electrical connections.

The shower must only be connected to a 230-240V AC supply. The electrical rating of your shower is on the pack or on the rating plate label.

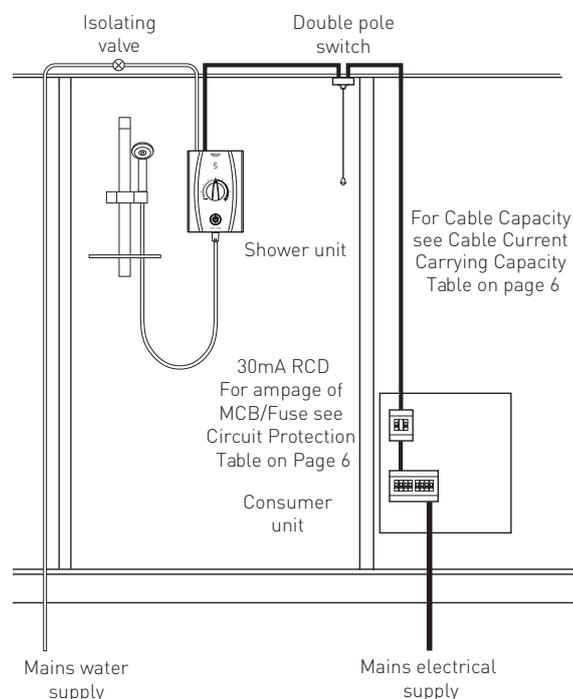
The shower must be connected to its own independent electrical supply. It **must not** be connected to a ring main, spur, power socket, or lighting circuit.

If you don't have a spare fuse way or the rating at the main fuse box is below 80A, you should seek advice from an electrician and may need a new consumer unit - specifically for the shower.

A separate and permanently connected cable must be taken from the consumer unit directly to the shower via a 45 Amp double pole switch with a minimum contact separation gap of 3mm in live (L) and neutral (N) poles.

The isolating switch can be a ceiling mounted pull cord switch within the bathroom or wall mounted in an adjacent room. The power switch must be easily accessible and identifiable as the supply to the shower.

**Note:** Voltage drop in the supply to the premises, due to heavy local demand, will affect the performance of your shower. To gain the optimum power possible from this shower unit try to find the shortest possible route from the consumer unit to the shower to run your cable.



# Electrical Requirements cont.

It is a requirement that a residual current device (RCD) formerly known as an earth leakage circuit breaker (ELCB) with a tripping current of 30mA, is incorporated in the circuit. This may be part of the existing consumer unit or a separate unit.

For close circuit protection DO NOT use a rewirable fuse. Instead use a suitably rated Miniature Circuit Breaker (MCB) or Cartridge Fuse.

Please refer to the Circuit Protection Table.

Circuit Protection Table		
Unit Rating (@ 240V)	Circuit Protection Device	
	MCB	Cartridge Fuse
8.5kW	40A	45A
9.5kW	40/45A	45A

The current carrying capacity of the cable must be at least that of the shower Circuit Protection Device.

Please refer to the Cable Current Carrying Capacity Table.

Cable Current Carrying Capacity Table (for Twin and Earth PVC Insulated Cable)		
Current Carrying Capacity		
In an insulated wall	In conduit or trunking	Clipped direct or buried in a non insulated wall
6mm <sup>2</sup> 32A	6mm <sup>2</sup> 38A	6mm <sup>2</sup> 46A
10mm <sup>2</sup> 43A	10mm <sup>2</sup> 52A	10mm <sup>2</sup> 63A
<b>Note:</b> Cable selection is dependant on derating factors		

On installation of the appliance the impedance measurement of the Neutral and Earth back to the supply source is to be less than 1.0 Ohms. This is in line with the general installation requirements of the UK Network and will generally present no problem within the UK Network.

In domestic installations you must ensure that the electrical supply and existing fuse board are adequately rated.

Do not turn on the electrical supply until the plumbing has been completed and the shower cover re-fitted.

# Water Requirements

**This fitting needs 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.**

The fitting shall be installed so that its outlet discharges above the spill-over level of any fixed appliance as indicated on the illustration below.

**For backflow protection in premises or installations up to, and including Fluid Category 3 and 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.

If the shower is to be installed in a hard water area, we recommend that an in-line scale inhibitor is fitted which will prolong the life of the shower. Please refer to your supplier for advice.

**⚠ Warning: The shower must not be installed in an area subject to freezing conditions. Do not use if you suspect the shower is frozen, this will damage the shower unit.**

**The shower must be connected to a mains water supply only with a minimum working inlet pressure of 0.05MPa (0.5bar) at a minimum flow rate of 8 litres per minute.**

**Minimum static inlet pressure 0.02MPa (0.2bar).**

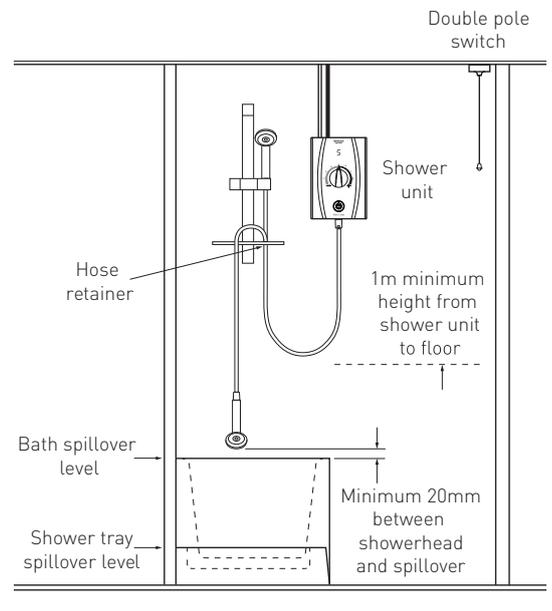
**The maximum static inlet pressure must not exceed 1.0MPa (10bar).**

A minimum working inlet pressure of 0.1MPa (1bar) at a minimum flow rate of 8 litres per minute is recommended for full Beab Care Mark performance.

If it is intended to operate the shower at pressures above the maximum stated, a suitable pressure reducing valve (PRV) should be used.

Water regulations stipulate that the showerhead be 'constrained by a fixed or sliding attachment (hose retainer) so that it can only discharge water at a point not less than 20mm above the spill over level of the bath or shower tray or other fixed appliance'.

If a showerhead can sit within a bath, basin or shower tray, you must fit a double check valve in the supply pipe work to prevent back siphonage. If the showerhead can sit within a WC then the air gap should be a type AUK3 not less than 20mm or twice the diameter of the inlet pipe to the fitting, whichever is the greater.



# Fixing Your Shower to the Wall

**Warning:** Please check for any hidden pipes and cables before drilling holes in the wall.

Remove the 4 cover retaining screws and lift off the cover.

**Do not try to remove the control knobs from the cover. They are an integral part of the cover and must not be removed.**

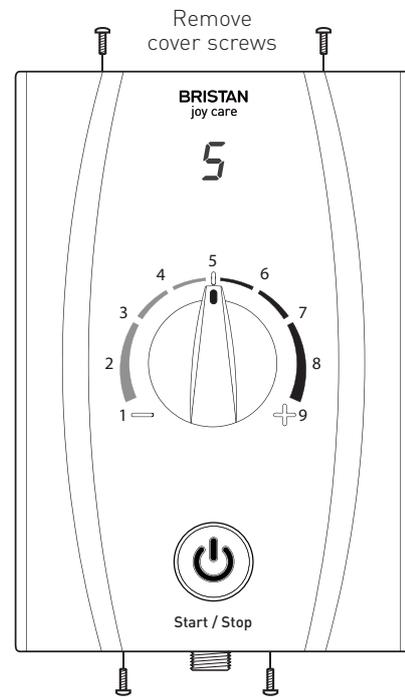
If you are fitting the unit to a partition wall or a wall of particularly friable (crumbly) substrate, you will need appropriate fixings for the wall type.

Select the position for the shower unit over a bath or shower tray using the installation template provided.

**Important:** The shower unit must be fitted to a flat, waterproof surface. Under no circumstances should the shower unit be attached to a wall and then tiled up to the edges. The unit must be fixed on top of the wall surface.

**Important:** Use a spirit level to ensure the template is level.

Mark the 3 fixing points with a suitable pencil through the paper. Remove the template from the wall and drill the wall to suit the wall fixings to be used.



## Tips:

A piece of insulation or masking tape positioned where holes are to be drilled and before marking out the exact position for the fixing holes will help stop the drill bit from wandering, particularly on a tiled surface.

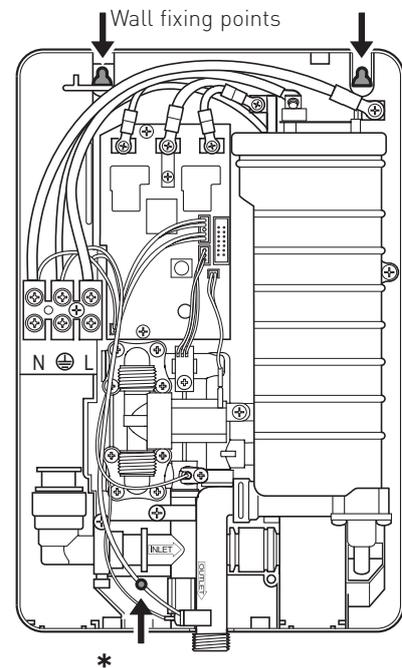
When working near a basin, bath or shower insert plug or cover waste to prevent losing small parts.

Take care not to drop tools/equipment into basin, bath or shower during shower installation.

**Note:** The unit can be hung temporarily on the top screws to help with the positioning of the pipe work etc.

\* The bottom screw should only be fitted during final installation.

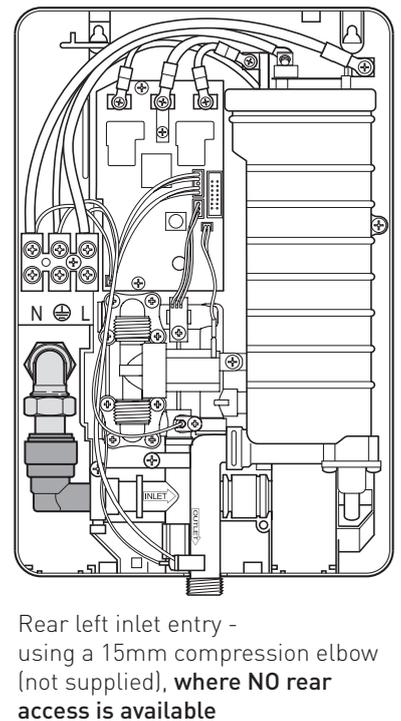
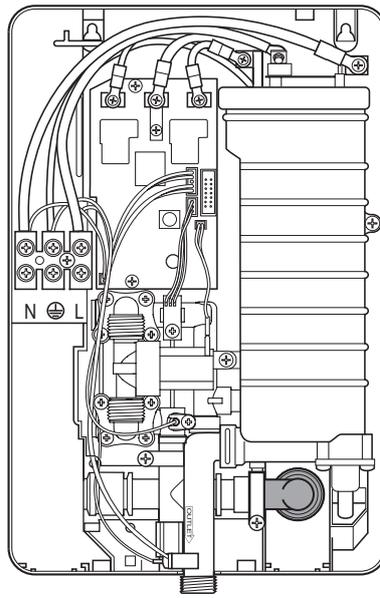
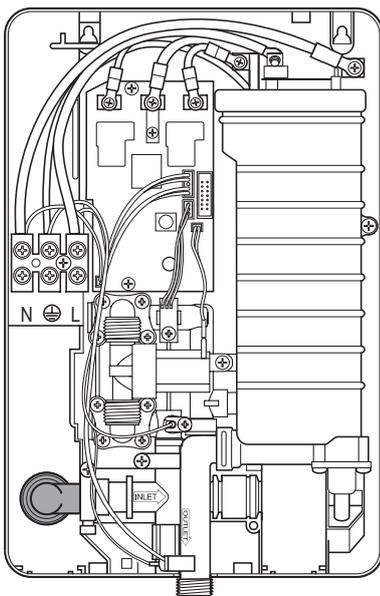
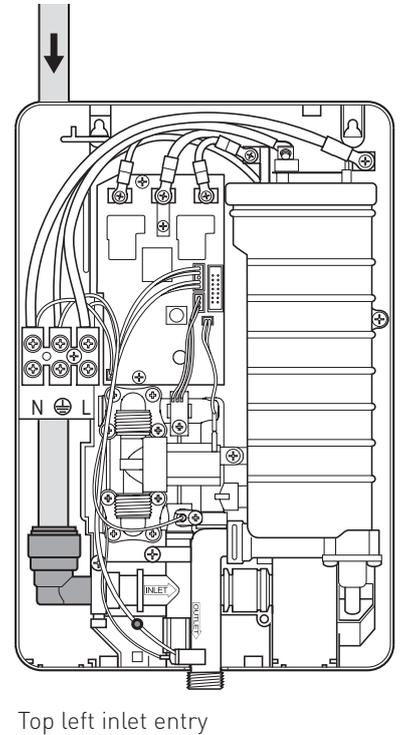
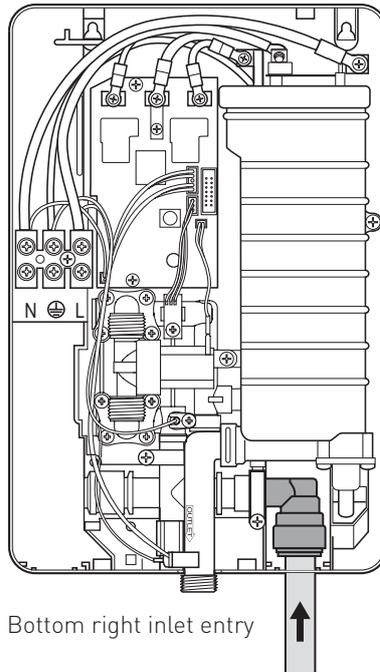
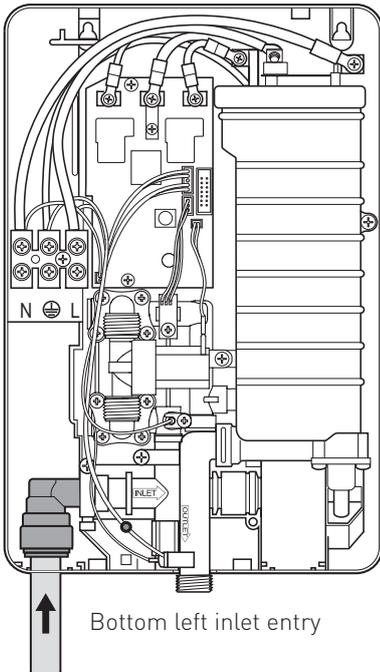
**Important:** Under no circumstances should this shower unit be recessed (it must be fitted onto the finished wall surface) or tiled up to or sealed around the unit as this may prevent air circulating and any condensation escaping.



# Plumbing Connections

## Inlet Entry Options

Select the inlet option most suited to your situation.



# Plumbing Connections cont.

**⚠ Warning:** The outlet of the shower acts as a vent and must not be blocked, restricted or connected to any tap/ closure device other than the handset supplied.

Do not solder within 300mm of the shower unit or allow solder or flux to fall onto the casings.

**Important:** An additional independent stop valve complying with the current water regulations must be fitted in the mains water supply as a means of isolating the supply to the unit for servicing and/or maintenance work.

It is essential that all pipe work is flushed through to remove debris and swarf that could otherwise damage the unit. Once the pipe work has been flushed through, turn off the water supply at the stop valve.

Connect the mains water supply to the inlet port of the shower using 15mm copper pipe (BS EN1057) or 15mm plastic pipe (with insert).

**Do not** use stainless steel pipe work.

If using chrome plated pipe ensure that the first 25mm of plating is carefully removed to allow push-fit fitting to grip the inlet pipe.

## Inlet Entry Options

The pipe work can enter the shower unit from 6 different positions. Bottom left, Bottom right, Top left, Rear left, Rear right or Rear left - using an elbow (as shown on page ).

### To top or bottom left positions

The shower unit should come supplied with the inlet connection set for a bottom left position. To change it to a top left position: swivel the inlet connector elbow from facing downward to facing upward.

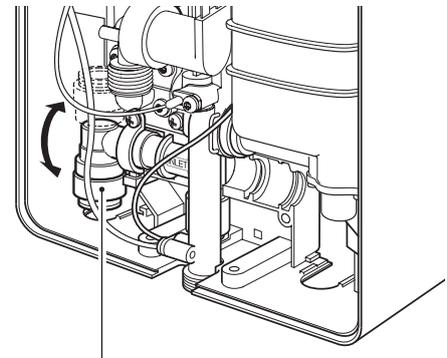
### To bottom right position

Unfasten the screw (5) securing the inlet connector elbow clamp (6), remove the tab from the slot and keep until the inlet pipe is repositioned. Lift the outlet connection (7) up out of the way from its position at the bottom of the unit. Pull the inlet connector elbow towards you and over to the right hand side with the inlet entry point facing down. Refit the clamp tab (6) into the slot on the right, refasten the screw (5) and replace the outlet connection (7).

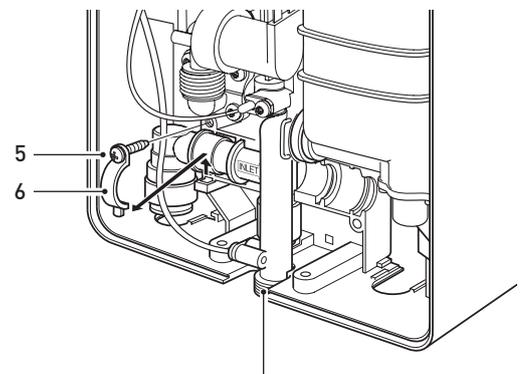
### To rear entry positions

Swivel the inlet connector elbow to face a rear entry pipe connection.

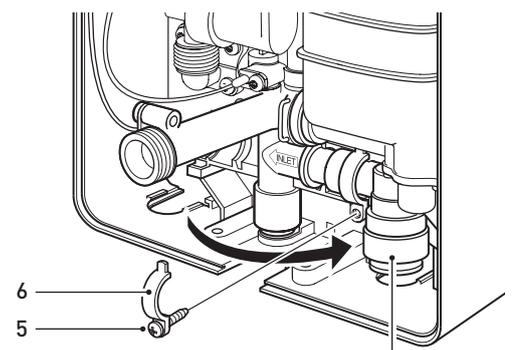
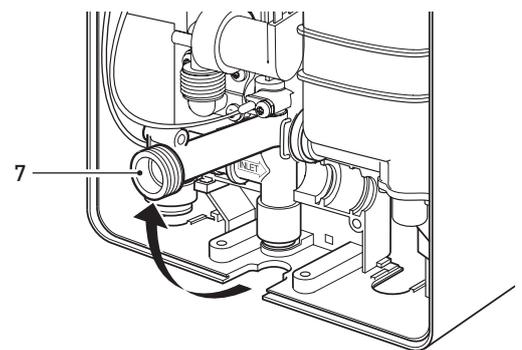
**If the pipe work entry is from the rear,** ensure that there is space left around the push-fit elbow for future servicing or alternatively access is possible from the rear. Bring the cold water pipe to the shower position and connect to the inlet elbow.



Inlet connector elbow (left side, up, down or rear)



Outlet connection 7



Inlet connector elbow (right side back or rear)

# Plumbing Connections cont.

## Hole Cover Fitting

**Top left entry:** Depending on your choice of cold-water entry direction, you may need to remove thin areas of plastic cover to facilitate pipe work entry down through the top left of the unit.

**Bottom entry:** Depending on your choice of cold-water entry direction, fit 'hole covers' to the pipe work slots at the bottom of the unit.

**Note:** The grey areas shown are tabs that can be removed to allow 6mm cable entry only.

## Water Connection

The inlet pipe connection into the elbow is a self-seal push-fit type. All burrs and rough edges must be removed from the end of the pipe before connecting.

To release the pipe work from the push-fit type fitting, press and hold the collet against the elbow and pull the pipe out of the elbow.

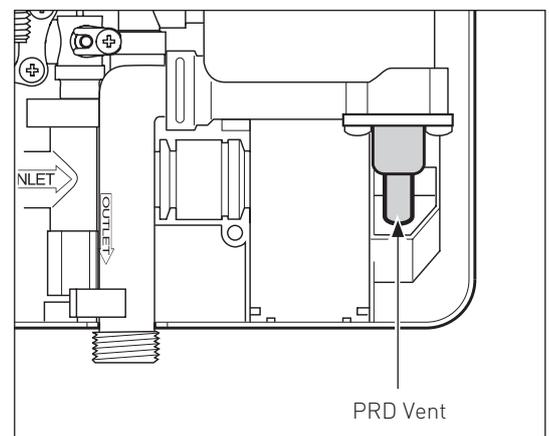
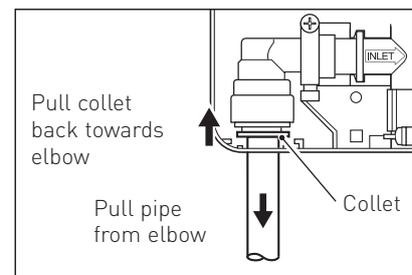
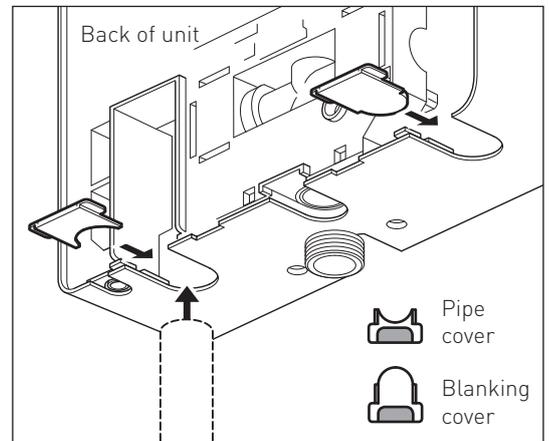
Turn on the water supply and inspect for water leaks at the shower inlet. Once inspected-turn off the water supply.

## Pressure Relief Device (PRD)

A pressure relief device is designed into this shower. The pressure relief device provides protection should an excessive build up of pressure occur within the shower unit. It is advisable to position the shower unit over a bath or shower tray in the unlikely event the device should discharge.

Do not use the shower with a damaged or kinked shower hose or blocked handset. This may trigger the PRD which will discharge through the vent in the bottom right hand corner (shown).

In the event of the PRD activating, water will be discharged from the vent. If this happens, switch off the electricity and water supplies to the shower and contact Customer Services.



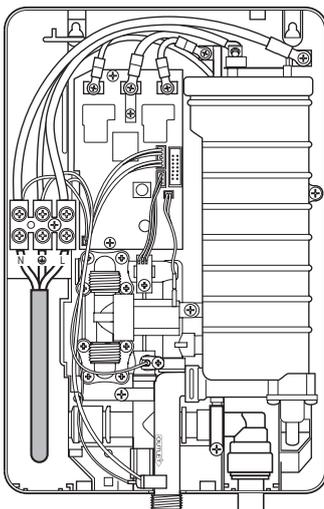
# Electrical Connections

**⚠ Warning: This appliance and all connecting metal pipe work must be earthed.**

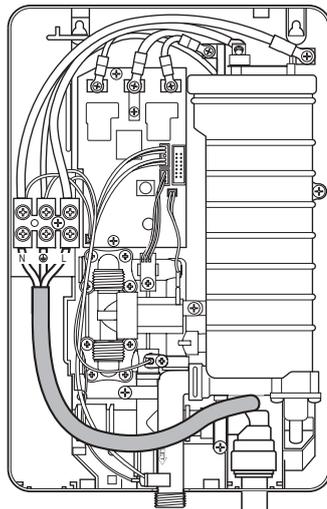
- Ensure that an earth continuity conductor is securely and permanently connected to all exposed metal parts of other services and appliances within the room where the shower is installed.
- All cables **must** conform to the relevant tables within the current I.E.E Wiring Regulations (BS 7671). The electrical supply cable must be either recessed or in a conduit/trunking as detailed in the current I.E.E Wiring Regulations (BS 7671). Refer to pages 7 and 8.

## Electrical Connection Entry Point Options

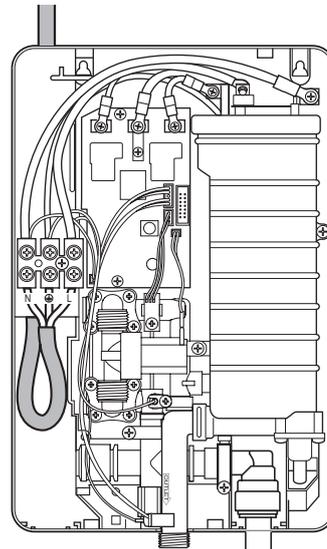
Select the cable inlet option most suited to your situation.



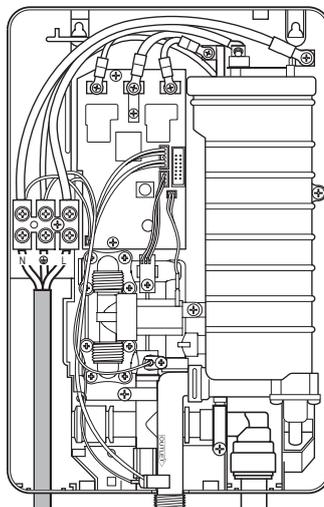
Rear bottom left cable entry



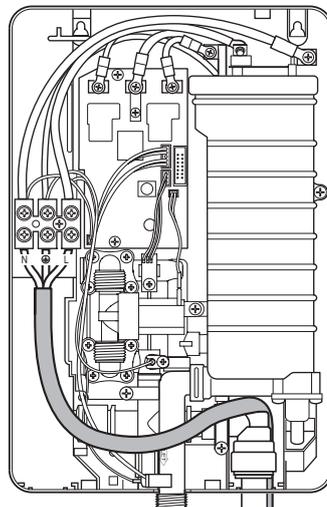
Rear bottom right cable entry



Top left cable entry



Bottom left \* cable entry



Bottom right \* cable entry

**Note:** Depending on cable size and entry point used it may be necessary to strip back outer cable sheath sufficiently to allow cables to be directed to the terminal connection block within the unit.



Pipe cover



Blanking cover

**\*Note:** When feeding cable through bottom entry points remove highlighted grey tab on pipe/blanking cover if using 6mm cable.

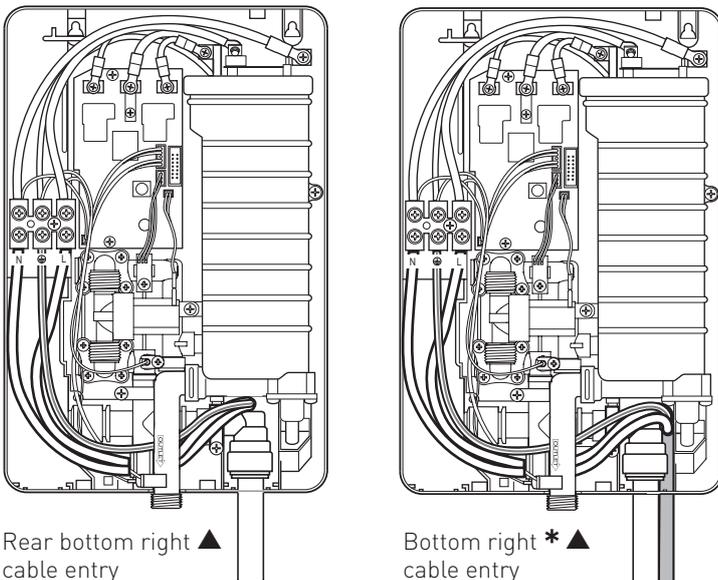
For 10mm cable remove the pipe/blanking cover entirely.

# Electrical Connections cont.

## Electrical Connection Entry Point Options - continued

Alternatively, if preferred, it is possible to route the cable from the rear bottom right or bottom right positions as shown below by stripping the sheath back further.

Select the cable inlet option most suited to your situation.



**Note:** Depending on cable size and entry point used it may be necessary to strip back outer cable sheath sufficiently to allow cables to be directed to the terminal connection block within the unit.



Pipe cover

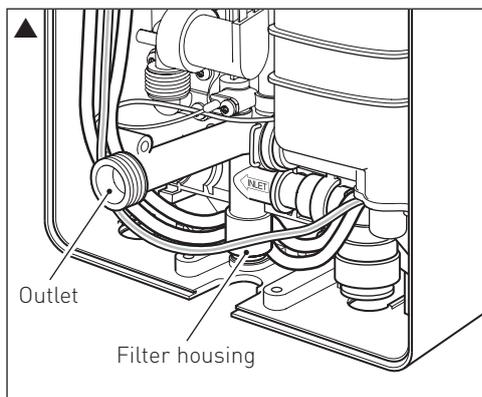


Blanking cover

**\*Note:** When feeding cable through bottom entry points remove highlighted grey tab on pipe/blanking cover if using 6mm cable.

For 10mm cable remove the pipe/blanking cover entirely.

▲ **Note:** We recommend that the blue (neutral) and brown (live) cables are fed under the filter housing. Position the earth cable under the outlet on top of the filter housing.



# Electrical Connections cont.

**Switch OFF the electricity supply at the consumer unit.**

The power cable entry point is shown on the diagram.

Electrical connection to be made at the terminal block as follows:

Earth cable to the terminal marked with the Earth symbol 

Neutral cable to the terminal marked **N**

Live cable to the terminal marked **L**

**Important: Terminals must be fully tightened onto the cables ensuring that no cable insulation is trapped under the screws. It must be metal to metal. Loose connections can result in the cables overheating, ensure all terminal screws are fully tightened.**

The supply cable earth conductor must be sleeved. The supply cable must be secured by routing through conduit or in trunking or by being embedded in the wall in accordance with current I.E.E Regulations.

 **Warning: Do not switch on power to the shower unit until the cover and the cable to connection (8) have been fully fitted.**

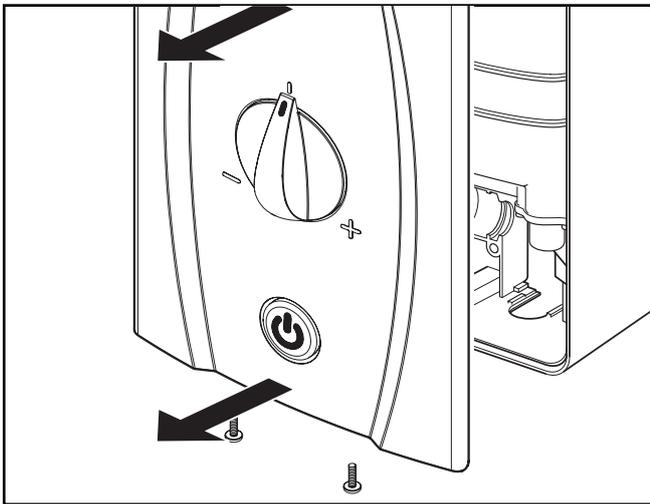
# Installer Settings

The temperature control has been factory pre-set to 41°C (at dial position 5) to meet BEAB care mark. The maximum set temperature can be adjusted to suit user preference between 38-45°C. If the maximum temperature is adjusted from the factory set 41°C the shower will no longer meet the BEAB care mark.

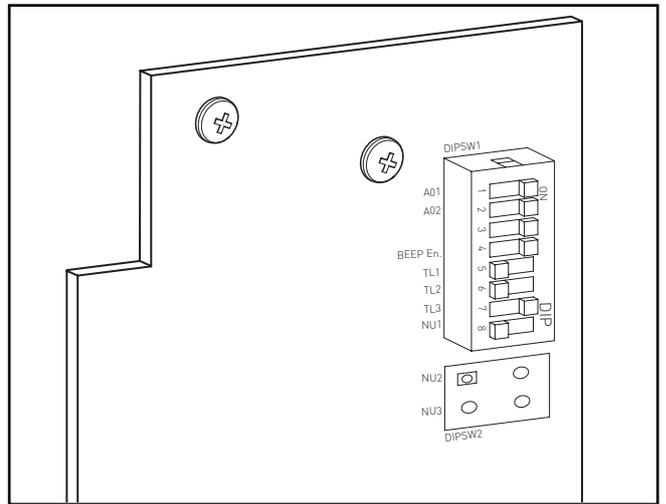
To adjust the maximum set temperature follow the steps below (Refer to page 18 for full switch settings).

## Setting the Maximum Temperature

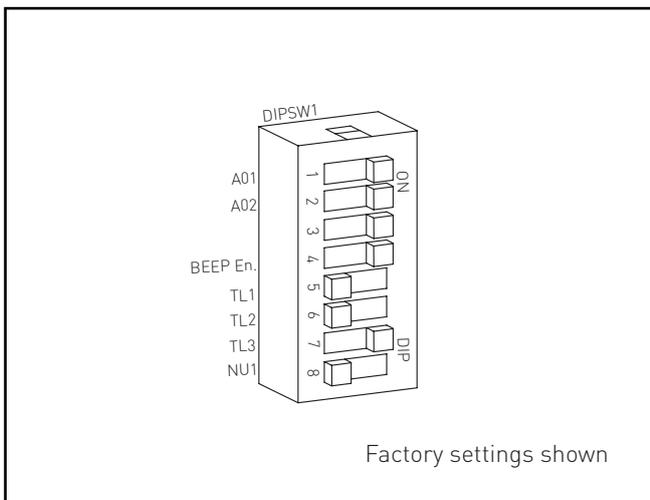
Before removing the front cover to adjust the maximum set temperature or any user options isolate the mains electricity supply to the shower.



Remove front cover. Loosen the top and bottom fixing screws and pull front cover from the shower.

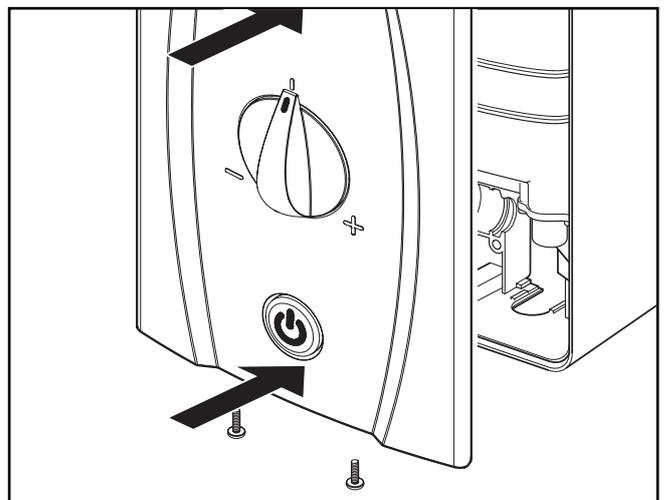


Locate the 8 way Dip switch on the control PCB. This is found on the back of the front cover.



Factory settings shown

Set the Dip switch to the required position to set the maximum temperature and optional user settings. See pages 17-19 for switch positions.



Replace front cover. Position the front cover onto the shower and secure the top and bottom fixing screws, taking care to ensure the cable is not trapped.

# Installer Settings

Max Temperature	TL1 / TL2 / TL3	Switch Position
38°C	ON / ON / ON	
39°C	OFF / ON / ON	
40°C	ON / OFF / ON	
41°C (BEAB CARE) Factory Set	OFF / OFF / ON	
42°C	ON / ON / OFF	
43°C	OFF / ON / OFF	
44°C	ON / OFF / OFF	
45°C	OFF / OFF / OFF	

# Installer Settings

## User Settings

Before operating the shower for the first time there are some optional user settings which must be set in accordance with the intended user.

### Auto Shut Off (Time Out)

This setting ensures the shower is shut off if the user fails to manually turn the shower off. This setting can be set to either 5, 10, 20 or 30 minutes (Factory set= 30 minutes, see below for switch settings).

## Audible Sounds

This setting ensures the user can hear beeps for each function on the shower.

**On** - Single short beep.

**Warm up complete** - Two short beeps

**Off** - Single long beep.

**Phased shutdown** - Short beeps until shower shuts down.

**Error / Fault**

If an error code is displayed on the shower a continuous tone will be heard. (See troubleshooting on page 30 for error codes).

**Time Out**

The warning is three short beeps followed by a 2 second pause, repeated for a minute, before the shower times out.

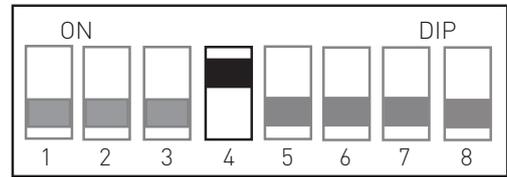
Auto Shut Off	A01 / A02	Switch Position
5 Minutes	OFF / OFF	
10 Minutes	ON / OFF	
20 Minutes	OFF / ON	
30 Minutes (Factory Set)	ON / ON	

**ON**
**OFF**

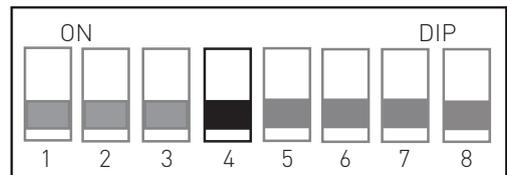
# Installer Settings

## Audible Sounds

**ON = Switch 4 ON  
(Factory Set)**

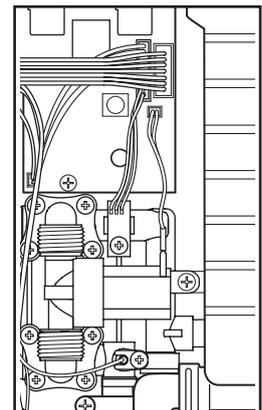
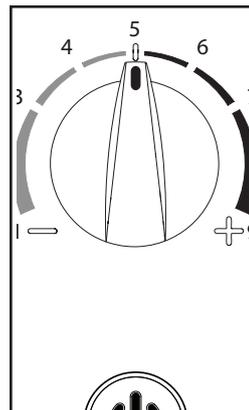
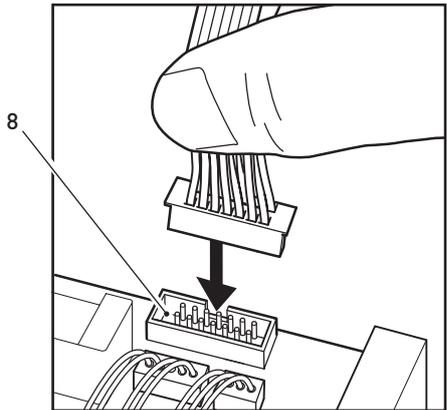
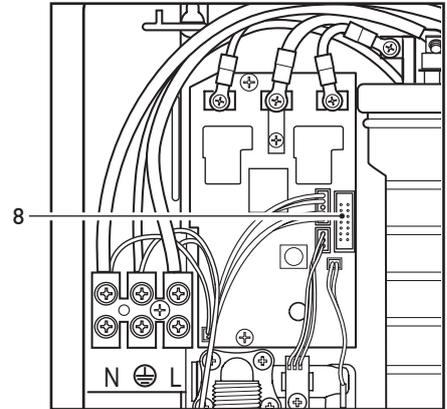


**OFF = Switch 4 OFF**



# Fixing the Front Cover

- Plug in the cable from the cover to the connection (8) inside the unit.
- Rotate the temperature control knob to position 5 marked on the front cover.
- Locate cover in position ensuring wiring is not trapped.
- Secure using the 4 cover fixing screws supplied and fit screw covers.



# Fixing Your Riser Rail to the Wall

## Fitting the Riser Rail

Before proceeding with fitting the rail, identify each of the items supplied using the illustration on the right.

The Slider should not be removed from the rail during fitting. The underside of the slider has a button to release the slider and allows the height to be adjusted.

Slide the soap dish onto the bottom end of the rail. Position a wall bracket onto each end of the rail, ensuring the hole through the top of the rail lines up with the hole in a wall bracket.

Position the rail on the wall, bearing in mind the different heights of people likely to use the shower and the length of the hose when connected to the shower and passed through the retaining hole in the soap dish. Mark the wall to indicate the upper fixing screw position.

**Warning:** Please check for any hidden pipes and cables before drilling holes in the wall.

### Tips:

A piece of insulation or masking tape positioned where holes are to be drilled and before marking out the exact position for the fixing holes will help stop the drill bit from wandering, particularly on a tiled surface.

When working near a basin, bath or shower insert plug or cover waste to prevent losing small parts.

Take care not to drop tools/equipment into basin, bath or shower during shower installation.

Drill the wall at the marked fixing position to suit the wall fixings to be used, loosely fix the rail (with the large hole on the side shown) and wall bracket. Check that the rail is hanging vertically using a spirit level.

Slide the lower wall bracket onto the rail and mark its required position onto the wall.

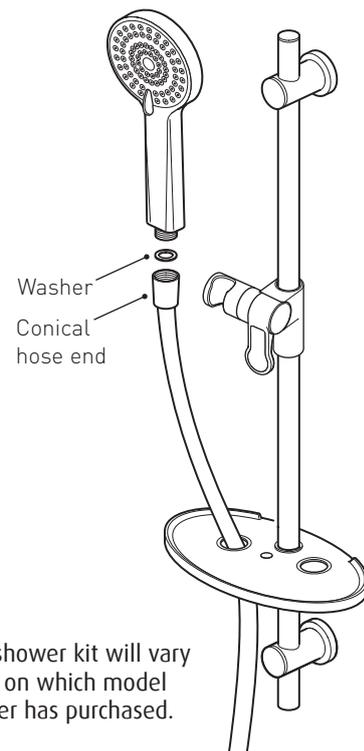
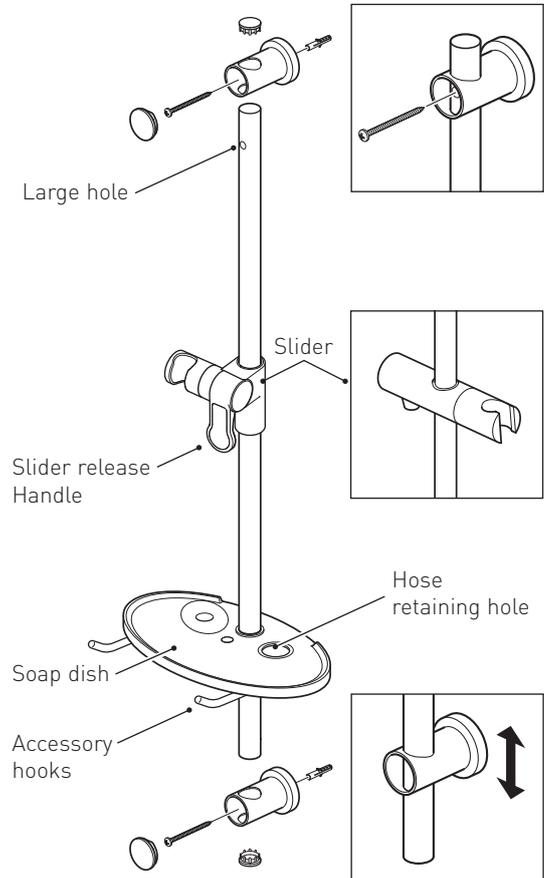
**Note:** The lower wall bracket does not fix to the riser tube and can be positioned along the riser tube so as to cover either an existing riser hole in the wall or over a tile joint.

Remove the lower bracket from the rail and unscrew the upper bracket from the wall. Mark and drill the lower wall bracket fixing position and fix the bracket to the wall. Slide the rail down through the lower wall bracket and reattach the upper bracket.

Check that the rail is perfectly vertical and tighten the upper fixing screw. Insert end caps into the wall brackets at both ends of the rail.

When fitting the hose, it should pass through the hole of the soap dish.

**Note:** The conical hose end and not the handset handle, fits into the slider. Ensure the washer is fitted between the hose and the handset handle. The slider moves more freely on the rail if gripped next to the rail, rather than at the handset.



# Commissioning - Testing the System

**⚠ Warning:** Before using the shower for the first time, it should receive a final flush through to remove any remaining debris that may be in the pipe work or hose and to ensure the heater unit contains water before the electrical elements are switched on.

Remove the showerhead from the hose and if not already attached, attach the hose to the outlet port and ensure that the outlet hose mesh filter is fitted.

The temperature control knob (2) must be set to number 5.

Turn on the water supply and inspect for water tightness.

Turn on the mains electrical supply to the shower.

## Purge Procedure

Before using this shower for the first time the purge procedure should be carried out. The following step should be followed;

1. Ensure Unit is isolated from the electricity supply.
2. Remove front cover.
3. Set Dip Switch 'NU1' to 'On' and set the Front Face dial to '1'.
4. Replace the cover.
5. Restore power to Unit, and press START/STOP button. 'FC' will flash on the display.
6. Commissioning / Purge Sequence will now resume.
  - a) 10s no water flows
  - b) 30s running water
  - c) 10s pulsing water
  - d) 30s running water
  - e) Shower will display 'FC' permanently on when the Commissioning / Purge Sequence is complete.
7. Isolate shower from the electricity supply.
8. Remove Front Cover and restore Dip Switch to original settings.
9. Replace Front Cover, restore power to Unit. Shower is now ready for normal use.

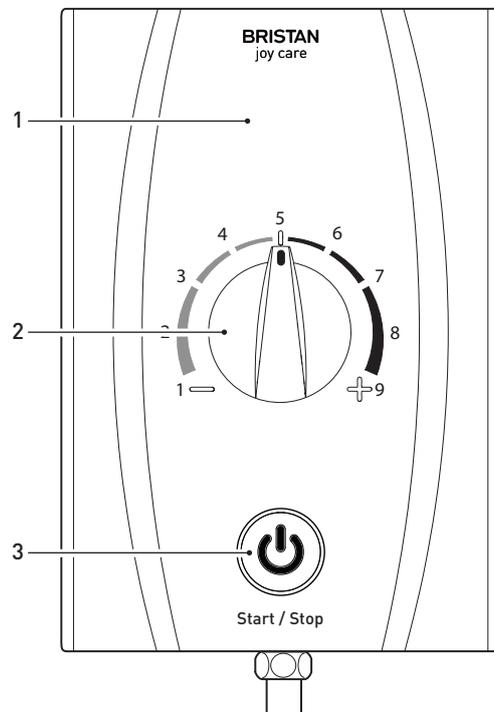
Once you are satisfied that the system has been flushed through thoroughly, press the START/STOP button (3) to stop the flow.

**Note:** If the letters LP appear on the front panel in the display area (1) this indicates low water supply pressure to the unit. Please switch off unit until water pressure increases before continuing to use the shower.



Re-fit the showerhead to the hose, insert hose rubber washer to seal the joint; please ensure that the hose passes through the larger hole in the soap dish. The showerhead is attached to the riser rail by inserting the conical hose end into the movable slider.

Your shower is now ready for first use.



# In-Service Testing

## Commissioning and In-Service Tests

### D.1. Commissioning

#### D.1.1 Purpose

Since the installed supply conditions are likely to be different from those applied in the laboratory tests it is appropriate, at commissioning, to carry out some simple checks and tests on each instantaneous water heater to provide a performance reference point for future in-service tests.

#### D.1.2 Procedure

##### D.1.3 With the appliance turned off check that:

- a) The designation of the appliance matches the intended application.
- b) The water supply temperature is within the range 5 to 20°C.
- c) The terminal voltage at the appliance is within the range  $230 \pm 10\%$ .

**D.1.4** Turn on the appliance and if the maximum outlet water temperature is adjustable, adjust this in accordance with the manufacturer's instructions to the maximum permitted for the application. Then carry out the following sequence;

- a) Record the supply voltage at the terminals of the appliance;
- b) Record the outlet water temperature and the flow rate resulting from the setting;
- c) Reduce the water supply flow rate at the inlet of the appliance by at least 50% or to the lowest value at which the appliance continues to deliver an output of heated water, whichever is the greater;
- d) Record the outlet water temperature and the reduced;  
The outlet water temperature should not exceed 43°C for a shower.
- e) Record details of the equipment, thermometers etc. used for the measurements.

### D.2. In-Service Tests

#### D.2.1 Principle

The purpose of in-service tests is regularly to monitor and record the performance of the instantaneous water heater. Deterioration in performance can indicate the need for service work on the appliance and/or the water supplies.

#### D.2.2 Procedure

## Commissioning and In-Service Tests

**D.2.3** Using the measuring equipment recorded in D.1.4 or equipment to the same specification and with the appliance turned off check that:

- a. The water supply temperature is within the range 5 to 20°C;
- b. The terminal voltage at the appliance is within the range  $230 \pm 10\%$

**D.2.4** If the set maximum outlet water temperature has changed significantly from the previous test results (e.g. > 1 K), record the change and before re-setting the maximum outlet water temperature check:

- a) That the outlet fittings are not blocked and are free of scale;
- b) That any in-line or integral strainers are clean;
- c) Any in-line or integral check valves or other backflow prevention devices are in good working order;
- d) Any isolating valves are fully open.

**D.2.5** With an acceptable outlet water temperature, complete the following procedure:

- a) Record the supply voltage at the terminals of the appliance;
- b) Record the outlet water temperature and the flow rate resulting from the setting;
- c) Reduce the water supply flow rate at the inlet of the appliance by at least 50% or to the lowest value at which the appliance continues to deliver an output of heated water, whichever is the greater pressure;
- d) Record the outlet temperature and the reduced flow rate;

**NOTE:** The outlet water temperature should not exceed 43°C for a shower.

- e) Record details of the equipment, thermometers etc. used for the measurements.

**D.2.6** If at step D.2.5 b) the outlet water temperature is greater than the values given in the note to D.2.5 d) then service work is indicated.

### D.3 Frequency of in-service tests

#### D.3.1 General

In-service tests should be carried out with a frequency which identifies a need for service work before an unsafe water temperature can result. In the absence of any other instruction or guidance on the means of determining the appropriate frequency of in-service testing, the following procedure may be used:

# In-Service Testing cont.

## Commissioning and In-Service Tests

**D.3.1.1** 6 to 8 weeks after commissioning, conduct the tests given in D.2.2.

D.3.1.2 12 to 15 weeks after commissioning, conduct the tests in D.2.2.

D.3.1.3 Depending on the results of D.3.1.1 and D.3.1.2 several possibilities exist:

a) If no significant changes (e.g.  $\leq 1$  K) in outlet water temperatures are recorded between commissioning and D.3.1.1, or between commissioning and D.3.1.2 the next in-service test can be deferred to 24 to 28 weeks after commissioning;

b) if small changes (e.g. 1 to 2 K) in outlet water temperatures are recorded in only one of these periods, necessitating adjustment of the outlet water temperature, then the next in-service test can be deferred to 24 to 28 weeks after commissioning;

c) If small changes (e.g. 1 to 2 K) in outlet water temperatures are recorded in both of these periods, necessitating adjustment of the outlet water temperature, then the next in-service test should be carried out at 18 to 21 weeks after commissioning;

d) If significant changes (e.g.  $> 2$  K) in outlet water temperatures are recorded in either of these periods, necessitating service work, then the next in-service test should be carried out at 18 to 21 weeks after commissioning or earlier.

D.3.1.4 The general principle to be observed after the first 2 or 3 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 outlet water temperature.

# Operating the Shower

Please ensure the commissioning procedure has been carried out. If you did not fit this shower yourself and you are about to use it for the first time, check with the installer to ensure he or she has run the commissioning procedure as described on page 23.

## To Start the Shower

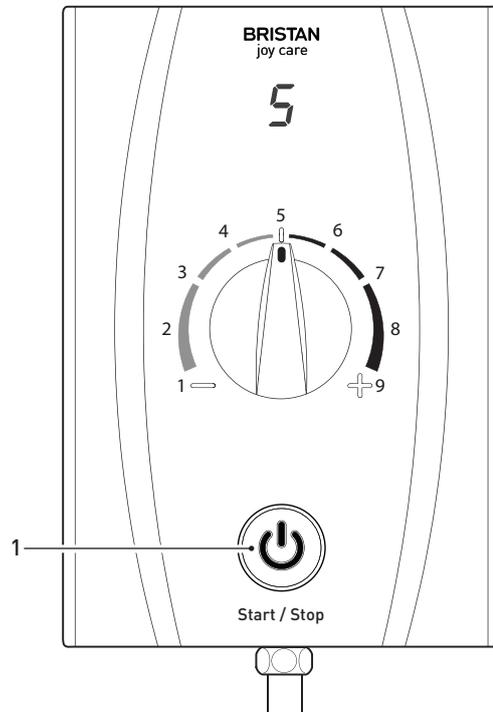
Press the START/STOP button (1). (If enabled a single short beep is heard).

The light around the START/STOP Button will flash as the water heats up. Once the light stops flashing and stays on (and if enabled, two short beeps are heard), the shower has reached your selected temperature and is ready to use.

During periods of high ambient temperatures (e.g. hot summer days), it may be necessary to select a lower power setting in order to achieve your ideal shower temperature.

It is always advisable to test the water temperature with your hand before stepping under the shower. Please note that there is always a delay of a few seconds between you selecting a temperature setting and the selected water temperature starting to flow.

If the user adjusts the Temperature Control, the shower will stabilise to the new temperature.



## To Stop the Shower

Press the START/STOP button (1). (If enabled a single long beep is heard).

**Phased Shut Down:** When the shower is turned off, water will continue to flow and the light around the START/STOP Button will flash for a short period (if enabled short beeps will be heard until the shower turns off) while the heater cools down to approximately 30°C, before automatically turning off. This ensures the shower is ready for the next user and helps reduce the build-up of limescale in the heater.

**Note:** Do not use the isolation switch (pull cord) to stop the shower, use the START/STOP button (1).

### Operating the Controls

Temperature Control		Dial Position / Temperature								
		1	2	3	4	5	6	7	8	9
		37°C	38°C	39°C	40°C	41°C	42°C	43°C	44°C	45°C

---

**Power Control**

Press once to start shower

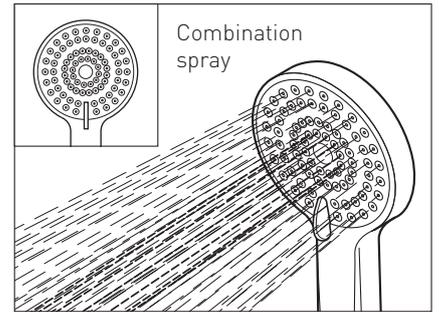
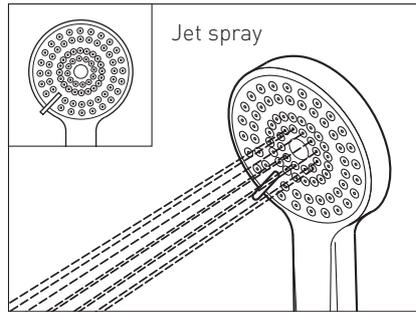
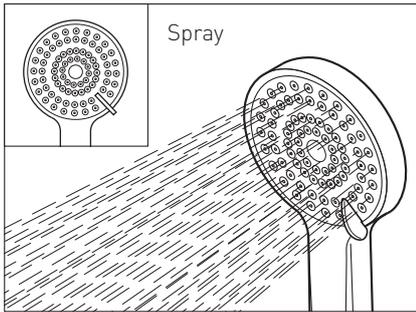
Press again to turn off shower

# Operating the Shower cont.

## Adjusting the Showerhead

Your showerhead has 3 spray modes - spray, jet spray and combination. Simply rotate the spray head one way or the other until it 'clicks' into the desired spray pattern.

**Note:** The spray head mode may need to be altered during winter conditions (low flow conditions) to achieve a satisfactory spray.



# Maintenance

## General Cleaning

**Before attempting to clean your shower unit you must switch off the power at the isolating switch. Do not remove the cover.**

Do not use abrasive cleaners or solvents to clean this unit. The shower unit and accessories should be cleaned with a soft, clean, damp cloth.

## Cleaning the Showerhead

Your showerhead has a rub-clean pad for easy cleaning. Simply rub your fingers across the rubber spray jets regularly and before you turn the shower on to remove any scale or debris.

The hardness of the water in your area will determine how often you should clean your showerhead. Build up of scale in particularly hard water areas combined with constant use means you may need to clean your showerhead once a week. To ensure continued performance of your electric shower the showerhead needs to be regularly descaled.

## Cleaning the Filter

Periodically remove the inlet filter and rinse under clean running water. First isolate the electrical and water supply to the unit.

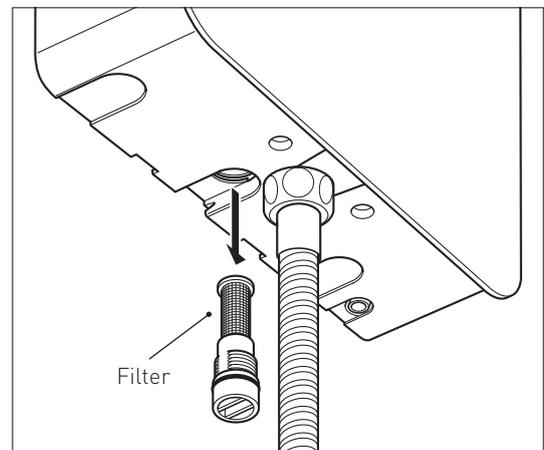
**To remove:** Turn anti-clockwise using a large flatblade screwdriver.

**Note:** A small amount of water will be discharged when the filter is removed - this is normal.

**To clean:** Wash under clean running water. Refit the filter and gently tighten.

## Cleaning the Outlet Hose Mesh Filter

Periodically remove the outlet hose from the shower and clean by rinsing the mesh filter under cold running water. Refit the mesh filter and re-connect the outlet hose.



# Maintenance cont.

## BEAB care Maintenance Schedule

To meet the requirements of the BEAB care mark regular routine maintenance is required to the inlet filter. The first service should be carried out 6 months after installation. The service should then be carried out yearly to ensure the filter is clean to ensure there are no restrictions to the shower.

Please refer to 'Cleaning the filter' section on page 28 on how to remove and clean the inlet filter and shower hose filters.

Once the service has been carried out the engineer should complete the below table.

Service (Yearly)	Date of Service	Engineer Name	Signature	Comments
6 Months				
1st Year				
2nd Year				
3rd Year				
4th Year				
5th Year				
6th Year				
7th Year				
8th Year				
9th Year				
10th Year				

# Troubleshooting

Symptom	Possible Cause/s	Action/Remedy
Letters 'LP' appear on front panel.	Low pressure water supply to the shower unit.	Turn unit off and wait until water pressure increases before using again.
	Water Isolating Valve partially closed	Open water isolating valve fully.
	Low water flow through showerhead.	Clean the showerhead. Refer to 'Maintenance' section on page 28.
	Outlet water temperature thermistor faulty.	Check that the thermistor cable assembly (four black wires) is fully inserted into the connector on the Power Supply board. If problem persists, call Customer Services on 0844 701 6273.
	TCO has been activated.	Turn unit off and wait 5 minutes for unit to cool before using again. If problem persists contact Customer Services on 0844 701 6273.
	Other Fault	Call Customer Services on 0844 701 6273.
Error 'E1' displayed on front panel.	Heated water remaining in shower due to stop without shutdown cycle.	Wait for water in shower to cool down or carry out the Purge procedure described on page 23 before using again.
	Insufficient water flowing through the shower. Possible blockage.	Remove filter / showerhead and clean. Refer to 'Maintenance' section on page 28.
	Outlet water temperature thermistor faulty.	Call Customer Services on 0844 701 6273.
	Other Fault	Call Customer Services on 0844 701 6273
Error 'E2' displayed on front panel.	Inlet thermistor or Outlet thermistor faulty.	Check that the thermistor cable assembly (four black wires) is fully inserted into the connector on the Power Supply board. If problem persists, call Customer Services on 0844 701 6273.
	Fault with Temperature Control Dial.	Call Customer Services on 0844 701 6273.
Error 'E3' displayed on front panel.	Solenoid valve stuck open or closed.	Check that the cables connecting the solenoid to the Power Supply board are fully connected at each end (blue & brown wires). If problem persists, call Customer Services on 0844 701 6273.
	Possible blockage.	Remove filter / showerhead and clean. Refer to 'Maintenance' section on page 28.
	Water isolating valve closed.	Open water isolating valve fully.
	Faulty flow sensor.	Check that the cables connecting the Flow Sensor to the Power Supply board are fully connected at each end (red, blue & yellow wires). If problem persists, call Customer Services on 0844 701 6273.

# Guarantee

## Guarantee

Thank you for purchasing a Bristan product. This product has been designed and tested, in the UK, to the highest standards.

Guarantee: 5 Years parts.

1 Year labour (subject to registration).

This guarantee applies to products purchased within the United Kingdom or Republic of Ireland.

This is provided that:

1. The guarantee registration card is completed and returned within ten days complete with a copy of proof of purchase. Proof of purchase is required for any servicing requirements.
2. The product is installed and operated in accordance with our instructions, the I.E.E Wiring Regulations, and Building Regulations (Part P), and has not been misused or damaged.

This in no way affects your statutory rights as a consumer.

The information on the Guarantee card helps Bristan to process any claims and contact you about your product and its maintenance if required. The registration of your personal details is purely for Bristan use and the remaining information helps us to make products for the future.

Should a complaint arise, products are guaranteed against faulty workmanship and materials for a period of 12 months from the date of purchase, when in domestic use (second year guarantee is parts only). For your guarantee to be valid, your shower must be installed by a competent person, in accordance with the instruction manual.

Bristan will repair or replace (at our option), free of charge, any faulty components during the guarantee period, provided it has been maintained and operated in accordance with our instructions, and has not been misused or damaged.

Modification or repair of this product by person(s) not authorised by Bristan will invalidate this guarantee.

This guarantee does not affect your statutory rights.

## Service Policy

### Replacement Parts Policy

#### Important:

In the event of product or component malfunction, DO NOT tamper with or remove the product from site. Telephone the Customer Services Department and be prepared with the date of purchase, model number and a clear description of the complaint.

Our service staff are fully qualified to advise on correct installation procedures and will be able to diagnose whether the fault will require a replacement part or a visit from a Bristan engineer.

If required, a service call will be booked and either yourself or an appointed representative (who should be a person of 18 years or over) must be present during the visit.

All site visits to product within the guarantee period will be carried out free of any parts or labour charges provided the conditions of the guarantee have been adhered to (the second year guarantee is parts only).

All site visits to product out of guarantee will be subject to charges for parts and labour. Charges will also be levied on cancelled appointments, unless advised to Bristan at least 24 hours in advance of the agreed date and time.

Should a product be discontinued, spare parts stocks will be maintained, but in the event of a part becoming unavailable Bristan reserve the right to supply a substitute of equal quality.

Please visit: [www.bristan.com/sparesfinder](http://www.bristan.com/sparesfinder) in order to find spare parts for this product.

Opening times: Please refer to the Bristan website.

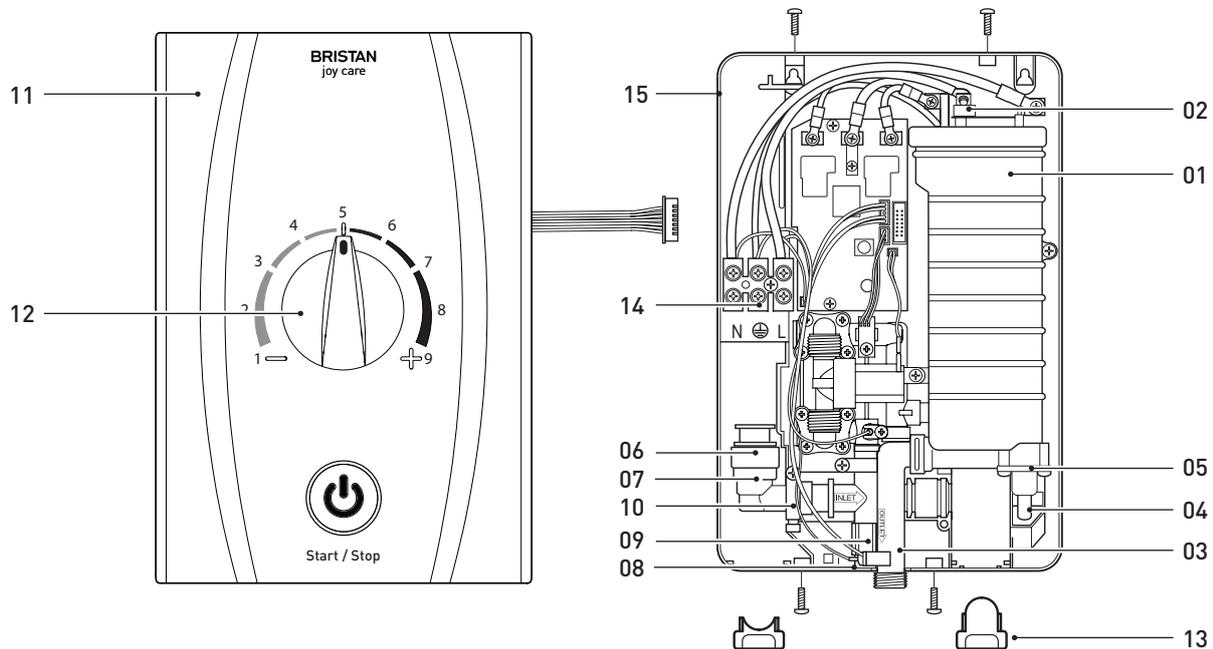
Customer Service:

**Tel: 0844 7016273 • Fax: 0844 7016275**

**E-mail: [enquire@bristan.com](mailto:enquire@bristan.com)**

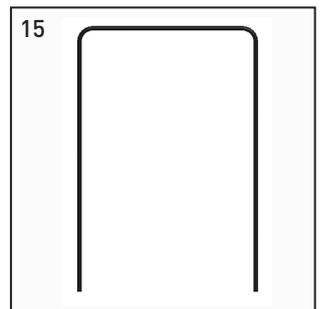
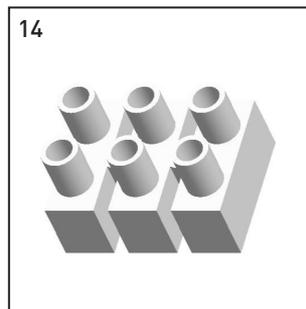
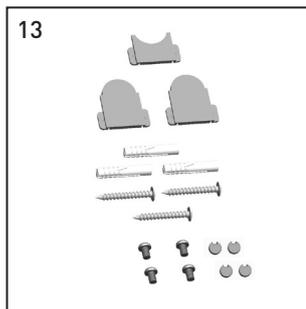
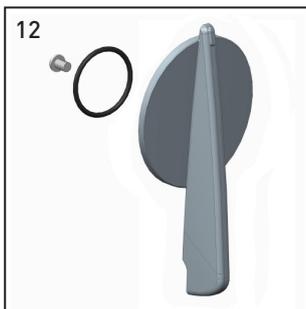
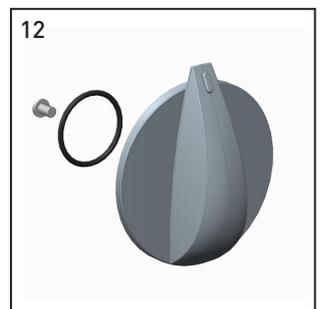
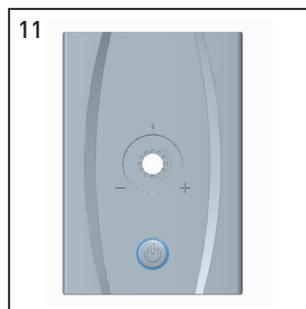
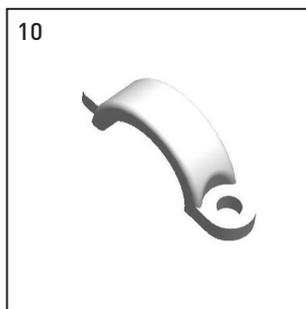
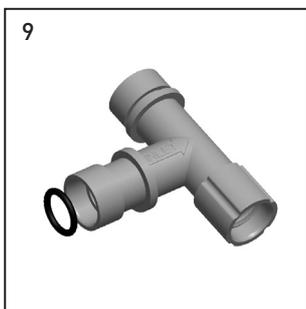
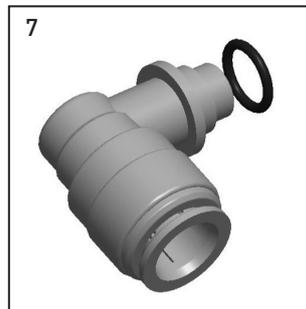
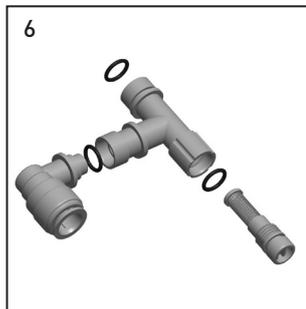
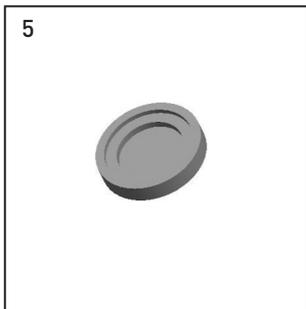
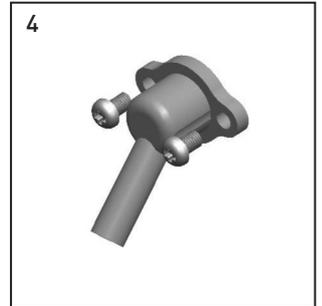
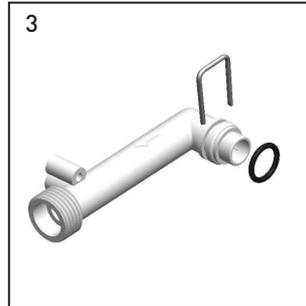
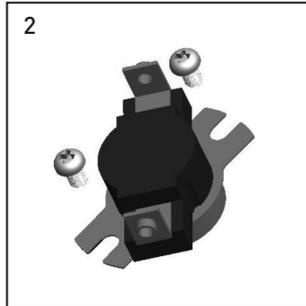
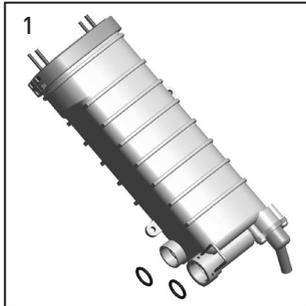
# Spare Parts

Please visit: [www.bristan.com/sparesfinder](http://www.bristan.com/sparesfinder) in order to find spare parts for this product.

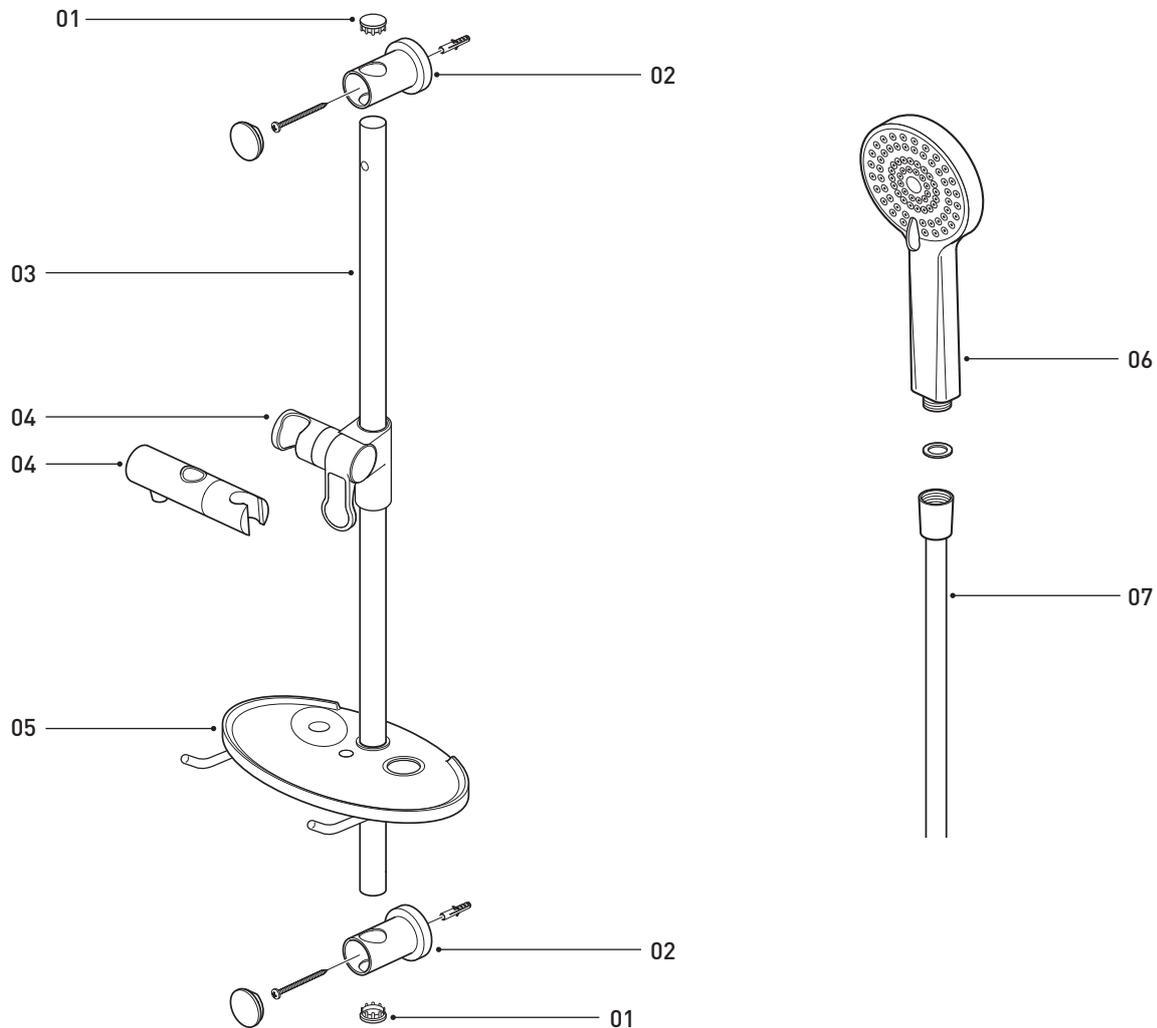


No.	Part No.	Description	Parts List	Quantity
01	245-300-3-85	Heat Exchange Unit Ass. 8.5 kW	Heat Exchange Unit 8.5 kW x1, Metal Clip x1, inc. O-rings x2	1
01	245-300-3-95	Heat Exchange Unit Ass. 9.5 kW	Heat Exchange Unit 9.5 kW x1, Metal Clip x1, inc. O-rings x2	1
02	131-307-S	Thermal Cut Out Ass.	Thermal Cut Out x1, inc. Screws x2	1
03	131-315-S-2	Outlet Pipe Ass. (with hole)	Outlet Pipe x1, Metal Clip x1, inc. O-ring x1	1
04	131-309-S	Pressure Relief Diaphragm Housing Ass.	Pressure Relief Diaphragm Housing x1, inc. Screws x2	1
05	131-308	Pressure Relief Diaphragm	Pressure Relief Diaphragm x1	1
06	131-400-S	Water Inlet Ass.	Inlet Elbow x1, Swivel Inlet Pipe x1, Filter x1, inc. O-rings x3	1
07	131-406-S	Inlet Elbow Ass.	Inlet Elbow x1, inc. O-ring x1	1
08	131-404-S	Filter Ass.	Filter x1, inc. O-ring x1	1
09	131-402-S	Swivel Inlet Pipe Ass.	Swivel Inlet Pipe x1, inc. O-ring x1	1
10	131-401	Inlet Pipe Clamp	Inlet Pipe Clamp x1	2
11	245-02-750-S	Joy Care Front Cover - WHITE	White Front Cover x1	1
12a	245-02-753-S	Control Dial Ass.	Control Dial x1, inc. O-ring x1, Screw x1	1
12b	245-02-759-S	Control Lever Ass.	Control Lever x1, inc. O-ring x1, Screw x1	1
13	245-600-S-G	Fixing Kit Ass. - Grey	Full Shield x2, Half Shield x1, Wall Screw x3, Wall plug x3, Screw Covers x4	1
14	131-607	Wire Terminal	Mains Terminal Block x1	1
15	131-501	Rubber Seal	Front Cover Seal x1	1

# Spare Parts



# Spare Parts cont.



No.	Part No.	Description	Parts List	Quantity
01a	1408A0A	Riser Rail End Cap Chrome	Riser Rail End Cap x1	2
01b	1408A0A MC	Riser Rail End Cap Matt Chrome	Riser Rail End Cap x1	2
02a	11043A0A	Wall Bracket Ass. Chrome	Wall Brackets x2, Wall Bracket End Caps x2, Screws x2, Wall Plugs x2	1
02b	11043A0A MC	Wall Bracket Ass. Matt Chrome	Wall Brackets x2, Wall Bracket End Caps x2, Screws x2, Wall Plugs x2	1
03a	207041-012MC	650mm Riser Rail Ass. Matt Chrome	650mm Riser Rail x1, Riser Rail End Caps x2	1
03b	207041-012C 1M	1000mm Riser Rail Ass. Chrome	1000mm Riser Rail x1, Riser Rail End Caps x2	1
04a	1625A0A	Slider/Handset Holder	Slider/Handset Holder x1	1
04b	T4401	Lever Slider/Handset Holder	Lever Slider/Handset Holder x1	1
05	11046A0A	Soap Dish	Soap Dish x1	1
06a	61000018	Handset Chrome	Handset x1	1
06b	61000018 MC	Handset Matt Chrome	Handset x1	1
07a	63000008	1.5m Hose Ass.	1.5m Hose x1, Rubber Washers x2	1
07b	HOS 200CN01 C	2m Hose Ass.	2m Hose x1, Rubber Washers x2	1

# Notes

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

Part Number: FI ES JOY CARE
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Issue: D5
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# BRISTAN

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