

unichrome

TRITON



HUMBER Dual Control

**Mixer shower
Fixed head**



**Installation
and
Operating
Instructions**

INSTALLERS PLEASE NOTE THESE INSTRUCTIONS ARE TO BE LEFT WITH THE USER

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To check the product suitability for commercial and multiple installations, please contact Triton's specification advisory service before installation.

Telephone: 0844 980 0730

Facsimile: 0844 980 0744

E mail: technical@tritonshowers.co.uk

INTRODUCTION

This book contains all the necessary fitting and operating instructions for your Unichrome Humber dual control mixer shower. Please read them carefully.

Read through the whole of this book before beginning your installation.

The shower installation must be carried out by a suitably competent person and in sequence of this instruction book.

Care taken during the installation will make sure a long and trouble free life from the shower.

This thermostatic shower valve has been independently tested and approved to all the requirements of NHS Estates Model Engineering Specification D08 Thermostatic Mixing Valves (Healthcare Premises) to the following designations and for the following applications:

HP-S Shower with supply pressures of 1 – 5 Bar and unrestricted flow rate.

LP-S Shower with supply pressures of 0.2 – 1 Bar and unrestricted flow rate.

For best performance within the specified running pressure range a minimum flow of 8 litres per minute should be available to both inlets.

The valve is suitable for fully modulating type combination boilers and multi-point hot water heaters. It is also suitable for thermal storage, unvented systems and pumped gravity systems.

The valve unit can be fitted in any orientation. For a wall mounted showerhead installation, the plumbing will be simplified if the outlet is fitted upwards.

The valve is supplied with an integral single check valve and integral large area filter on each inlet.

Inlet connections are by compression fittings for 15mm copper pipe.

This valve unit is supplied with a mounting bracket to suit installation in a chased out cavity in a solid wall, a stud partition wall, dry lined wall or fixing to a shower cubicle or panel. It is also supplied with an attached tiling shroud which provides protection for the unit.

SAFETY WARNINGS

- 1** Layout and sizing of pipework **MUST** be such that when other services are used, pressures at the shower control inlets do not fall below the recommended minimum.
- 2 DO NOT choose a position where the shower could become frozen.**
- 3** The outlet of this appliance **MUST NOT** be connected to any form of tap or fitting not recommended by the manufacturer.
- 4** The showerhead cartridge **MUST** be cleaned regularly to remove scale and debris.
- 5** Conveniently situated isolating valves in each inlet supply **MUST** be fitted as an independent method of isolating the shower should maintenance or servicing be necessary.
- 6** If it is intended to operate the shower in areas of hard water it is advisable to fit a scale inhibitor (see **note** below).
- 7** If it is intended to operate the shower outside the guidelines laid out in the requirements then see **note** below.

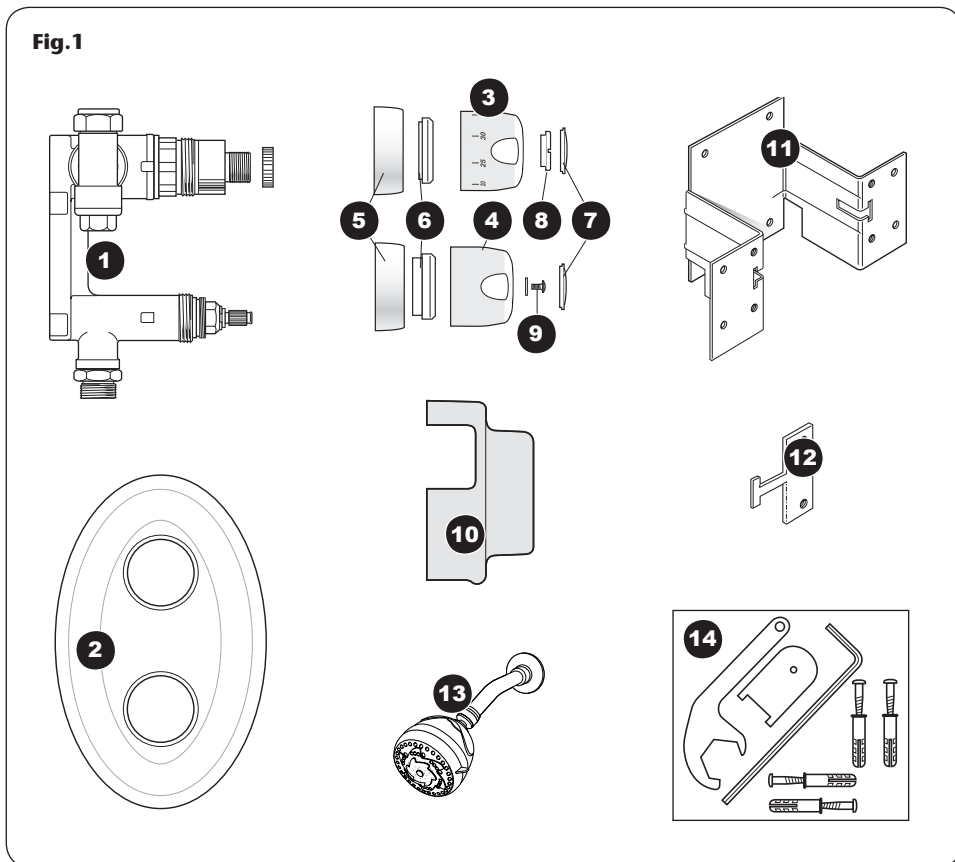
Note: In the event of items 2, 6 and 7, contact Customer Service for advice.

Replacement parts can be ordered from Triton Customer Service. See 'spare parts' for details and part numbers.

Due to continuous improvement and updating, specification may be altered without prior notice.

MAIN COMPONENTS and PACK CONTENTS

Fig.1



Ref Description

- 1** Mixer valve body
- 2** Face plate
- 3** Temperature control knob
- 4** On/off control knob
- 5** Trim rings
- 6** Brass retaining rings
- 7** Finishing caps

Ref Description

- 8** Locknut
- 9** Screw and washer
- 10** Tiling shroud
- 11** Mounting bracket
- 12** Flat bracket – 2 off
- 13** Fixed head assembly
- 14** Tool and screw pack

SITE REQUIREMENTS

The installation must be in accordance with local Water Company Regulations.

Minimum running water pressure: 0.2 bar.

Maximum running water pressure: 5 bar.

Maximum static water pressure: 10 bar.

For best performance within the specified running pressure range a minimum flow of 8 litres per minute should be available to both inlets.

While the mixer valve is operational (open outlet), inlet pressures must not be capable of exceeding 7 bar. For effective operation of the internal seals, the maximum static pressure must not be exceeded.

Note: On sites where the running pressure is above 5 bar, the use of a suitably sized pressure reducing valve fitted in the cold mains supply pipework can provide nominally equal pressures at the mixer valve.

For ideal performance of this shower both the hot and cold water supplies to the shower valve should be fed at nominally equal pressures.

The pipework should be installed such that the flow is not significantly affected by other taps and appliances being operated elsewhere on the premises.

Note: Where thermal store/combi boilers or multi-point heaters are used, if excessive draw-offs take place the boiler may not be able to maintain an adequate output temperature. This could result in the shower temperature becoming noticeably cooler.

Water temperature requirements

Maximum hot water temperature 80°C

Recommended maximum 65°C

Minimum hot water temperature 52°C

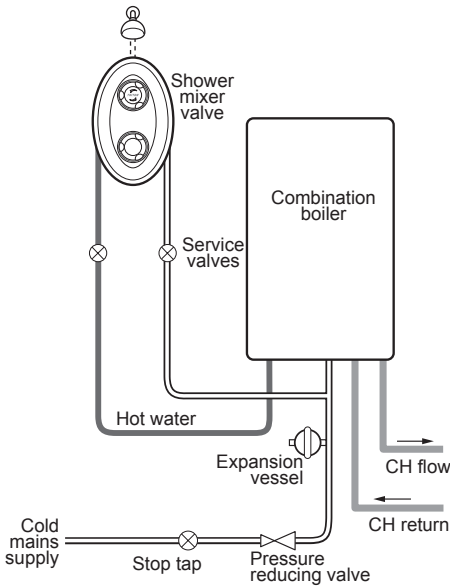
Maximum cold water temperature 20°C

BS 6700 recommends that 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 affects of scale in hard water areas.

DO NOT use jointing compounds on the pipework.

Fig.2 (diagrammatic view – not to scale)



TYPICAL SUITABLE INSTALLATIONS

a) Instantaneous gas-heated systems, e.g. combination boilers (fig.2)

The shower control must be installed with a multipoint gas water heater or combination boiler of a fully modulating design (i.e. to maintain relatively stable hot water temperatures).

A drop tight pressure reducing valve must be fitted if the supply pressures exceed 5 bar running.

An expansion vessel (shown in **fig.2**) must be fitted, and regularly maintained, to make sure the shower mixer is not damaged by excess pressures. This may already be installed within the boiler (check with manufacturer) and is in addition to the normally larger central heating expansion vessel.

The layout and sizing of pipework must be such that nominally equal inlet supply pressures are achieved and the effects of other draw-offs are minimised. The hot supply temperature must remain a minimum of 10°C hotter than the required blend temperature for best performance.

b) Unvented mains pressure systems (fig.3)

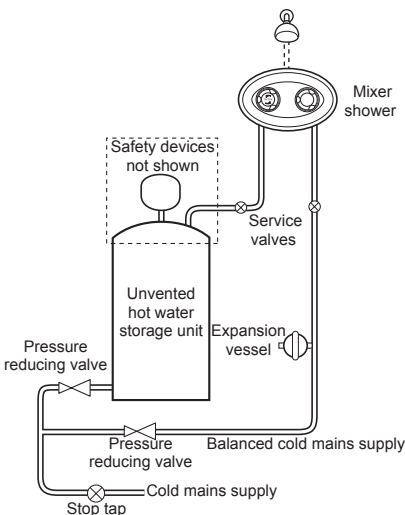
The shower control can be installed with an unvented, stored hot water cylinder.

For systems with no cold water take off after the appliance reducing valve, it will be necessary to fit an additional drop tight pressure reducing valve when the mains pressure is over 5 bar. The drop tight pressure reducing valve must be set at the same value as the unvented package pressure reducing valve.

Note: An additional expansion vessel (**fig.3**) may be required if a second pressure reducing valve is installed. This does not apply to packages with a cold take off after the pressure reducing valve to the cylinder.

The layout and sizing of pipework must be such that nominally equal inlet supply pressures are achieved and the effects of other draw-offs are minimised.

Fig.3 (diagrammatic view – not to scale)



c) Mains pressurised thermal store systems (fig.4)

Packages of this type, fitted with a tempering valve (blender valve) can be used. A drop tight pressure reducing valve must be fitted if the supply pressures exceed 5 bar running.

An expansion vessel (shown in **fig.4**) must be fitted, and regularly maintained, to ensure the unit is not damaged by excess pressures. This may already be installed externally or internally within the thermal store (check with thermal store manufacturer).

d) Gravity fed systems (fig.5)

The shower control MUST be fed from a cold water cistern and hot water cylinder providing nominally equal pressures. There must be a minimum of two metres head of water. The minimum head distance is measured from the base of the cold water cistern to top of the fixed head shower arm (**fig.5**).

DO NOT use jointing compounds on pipework.

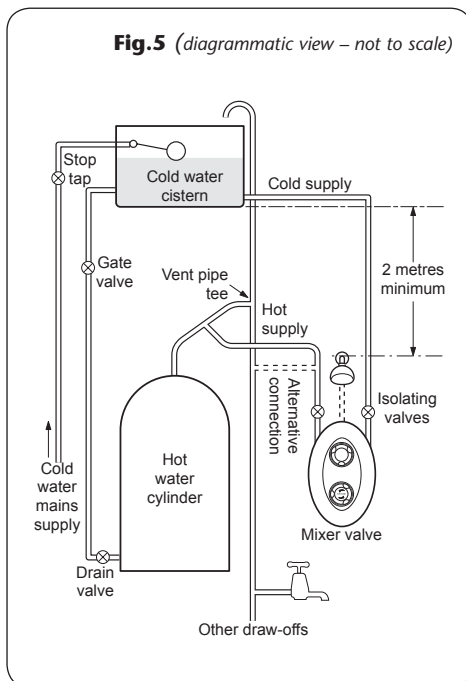
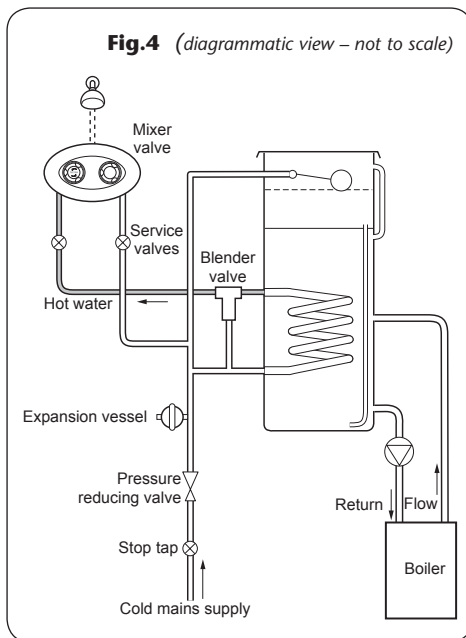
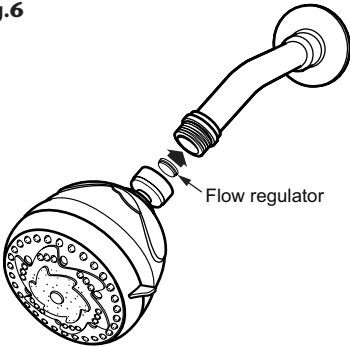


Fig.6



TEMPERATURE ADJUSTMENT RANGE

The mixed water temperature can be adjusted from cold through to a top limit (which can be preset during installation – factory set at approximately 39°C) with full anti-scald protection throughout the range.

INSTANTANEOUS WATER HEATERS APPLIANCE CAPABILITIES

In order to provide the best performance from the shower when connected to an instantaneous water heater, the appliance must be capable of raising the temperature of the incoming water by 45°C (81°F) and delivering a flow rate of not less than 8 litres per minute.

A flow regulator is supplied for fitting into the fixed head which controls the maximum flow through an instantaneous water heater and the shower valve to 8 litres per minute. To fit the flow regulator, unscrew the adjustable head from the fixed arm. Insert the flow regulator, flat face up, into the end of the fixed arm (**fig.6**). Refit the adjustable head to the fixed arm assembly.

With the flow regulator fitted and when the system is in use, the On/Off flow control should be turned fully anti-clockwise to the full flow setting.

PREPARING THE MIXER VALVE

Check the contents to make sure all parts are present.

Make sure the supplied metal fixing bracket, tiling shroud, cranked spanner, lock nut key and Allen key are all to hand.

Before installing, make sure all the openings on the valve are carefully covered to stop the ingress of any debris, etc.

The valve unit is supplied with a mounting bracket for installing into a chased out cavity in a solid wall, a stud partition wall, dry lined wall or fixing to a shower cubicle or panel. It is also supplied with an attached tiling shroud which provides protection for the valve both for transit and on site. It should be left in place until the installation is complete.

The hot and cold water pipes should not be permanently attached to the wall closer than 2m from the valve prior to installation. This allows for final adjustment of the valve position.

SITING OF THE SHOWER

WARNING!

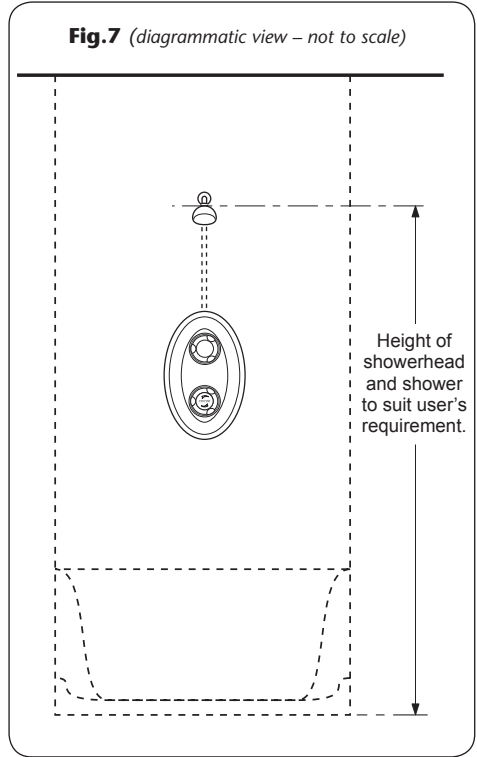
The shower must not be positioned where it will be subjected to freezing conditions.

Refer to **(fig.7)** for correct siting of the shower.

Position the shower and showerhead on the wall so that all controls can be comfortably reached while using the shower.

The valve unit can be fitted in any orientation. For a wall mounted showerhead installation, the plumbing will be simplified if the outlet is fitted upwards.

Fig.7 (diagrammatic view – not to scale)



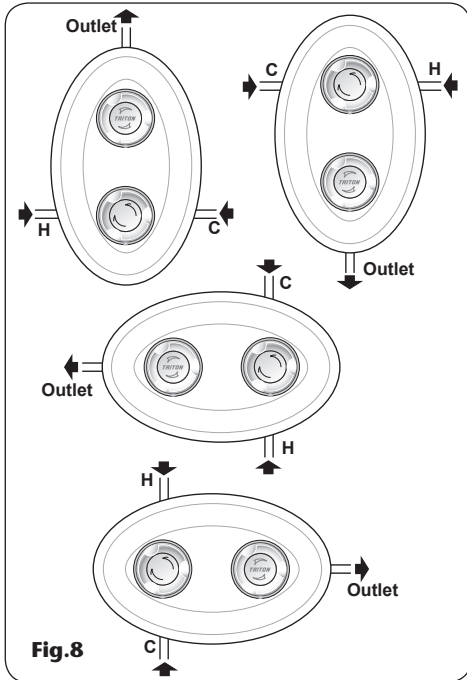


Fig. 8

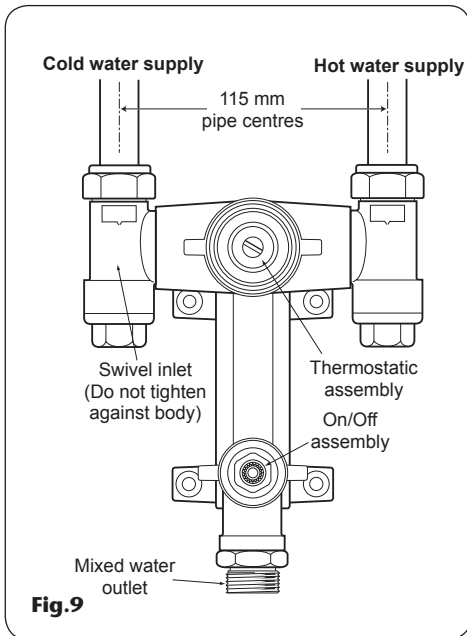


Fig. 9

INSTALLATION

a) General conditions

Note: The outlet of the shower MUST NOT be connected to any tap or fitting not recommended by Triton Plc.

DO NOT use jointing compounds on any pipe fittings for the installation.

Use only the compression fittings supplied.

DO NOT solder fittings near to the shower unit as heat can transfer along pipework and damage components.

Note: Suitable isolating valves (complying with Water regulations) MUST be fitted on the hot and cold water supplies to the shower as an independent means of isolating the water supplies should maintenance or servicing be necessary.

When connecting pipework avoid using tight 90° elbows. Swept or formed bends will give the best performance.

The valve unit can be fitted in any orientation (**fig. 8**), but for a wall mounted showerhead installation, the plumbing will be simplified if the outlet is fitted upwards. Access to the integral strainers will also be improved with this layout.

The hot water inlet is identified with a red mark, the cold water inlet with a blue mark. The swivel inlets allow for either rising or falling hot and cold water supplies. Note the swivel inlets have 'O' seals to the body and do not require PTFE tape or other means of sealing.

Gently screw the swivel inlets into the body of the valve unit and stop as resistance is felt. Then back off by up to 1.5 turns to align the inlet with the hot and cold supply pipes.

IMPORTANT: The swivel inlets MUST NOT be tightened against the valve body to make a seal (**fig. 9**).

The Triton dual control mixer valve includes a mounting bracket which allows the installer to mount the shower into a solid, stud partition or other hollow wall structures. The bracket can also be used for fitting in a shower cubicle or panel providing the back of the cubicle or panel is accessible.

Dual control mixer

When installing into a stud partition or other hollow wall structure the installer may wish to consider building rear supports or other options. Such options are beyond the scope of this guide.

Before installing, make sure the available depth of recess or cavity is at least 65 mm (**fig.10**) measured from the face of the wall upon which the mounting bracket is screwed (excluding the tile thickness).

The allowance for varying thickness of tiles up to 10 mm is accommodated by a limited degree of tolerance between the control knobs and their trim rings.

If the valve unit is to be fitted behind an existing wall panel, use the supplied self-adhesive template as a guide when cutting the opening.

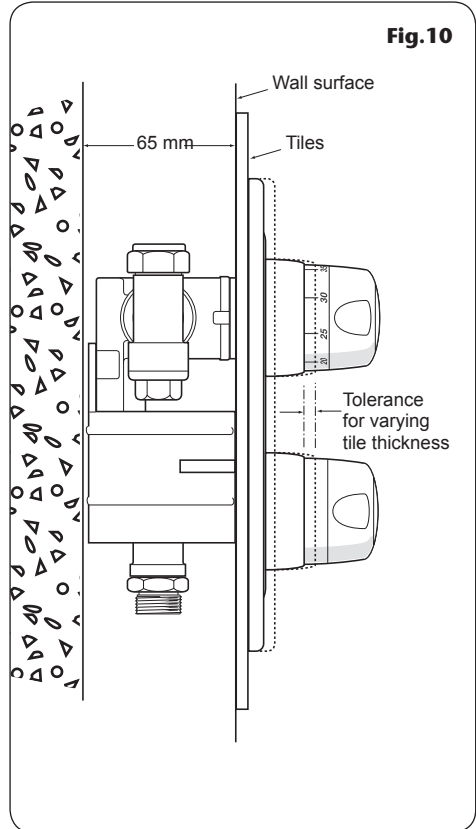


Fig.11

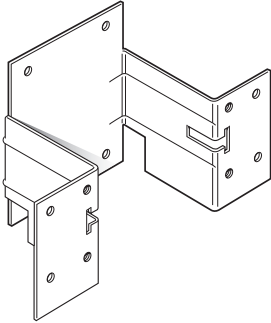


Fig.12

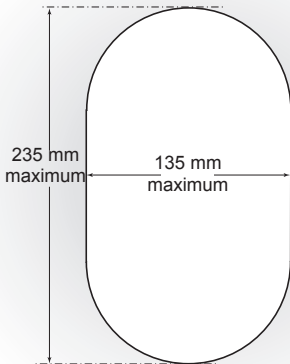
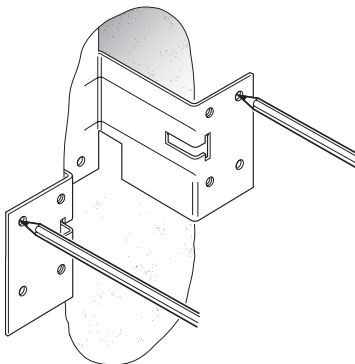


Fig.13



b) Valve installation in solid wall

Remove the tiling shroud, if fitted, from the valve unit. The shroud is retained by a 2.5 mm hex socket screw; replace the screw in the valve immediately to avoid it being lost.

Decide on the shower position and determine whether the hot and cold water supplies will enter the shower from the top (falling) or bottom (rising) or rear.

The building depth should be at least 70 mm deep from the surface of the wall. It is recommended to use the supplied mounting bracket (**fig.11**) at all times when installing the shower valve. It provides the correct visible amount of shower control through the faceplate when the installation is complete. There is limited tolerance between the control knobs and trim rings to allow for varying thickness of tiles up to 10 mm.

As a guide for the size of hole, place the tiling shroud on the wall and trace around it (**fig.12**).

Remove the plaster and brickwork to the required depth and chase out any additional areas of the wall to allow for the pipework to and from the valve.

Offer the mounting bracket up to the wall and mark the four outer plain holes (**fig.13**). Remove the bracket then drill and plug the wall. Screw the bracket to the wall. Route the pipework to valve position.

Flush out the pipework in accordance with Water Regulations.

Offer the valve up to the mounting bracket, and secure using the four screws provided.

Proceed to 'Connecting supply pipes' section.

c) Valve installation in a hollow wall

The wall mounting bracket supplied with the shower is suitable for use on a plasterboard wall of 10 mm to 15 mm thickness.

Decide on the shower position and determine whether the hot and cold water supplies will enter the shower from the top (falling) or bottom (rising) or rear.

The hollow cavity should be at least 65 mm deep from the surface of the wall. It is recommended to use the supplied mounting bracket (**fig.14**) at all times when installing the shower valve. It provides the correct visible amount of shower control through the faceplate when the installation is complete. There is limited tolerance between the control knobs and trim rings to allow for varying thickness of tiles up to 10 mm.

Mark the route of the incoming and outgoing pipework. As a guide for the size of hole, place the tile shroud on the wall and trace around it (**fig.12**).

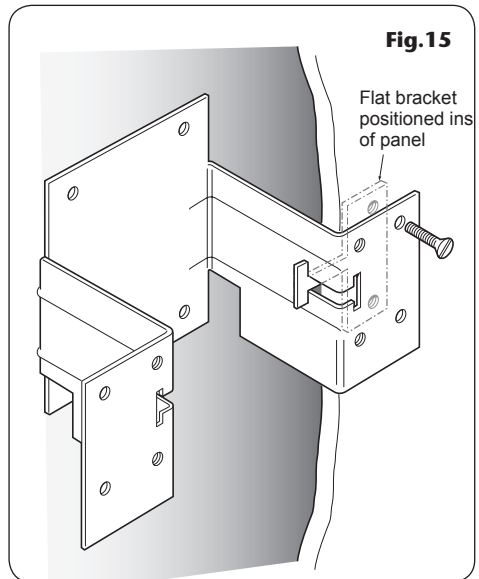
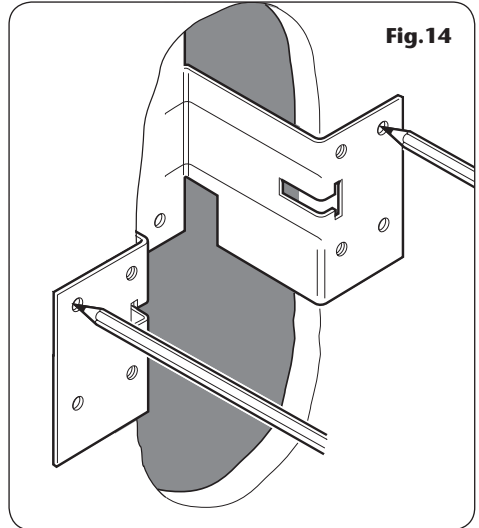
Take out the plasterboard and offer the mounting bracket up to the wall and mark the four outer plain holes (**fig.14**). Remove the bracket and drill the wall.

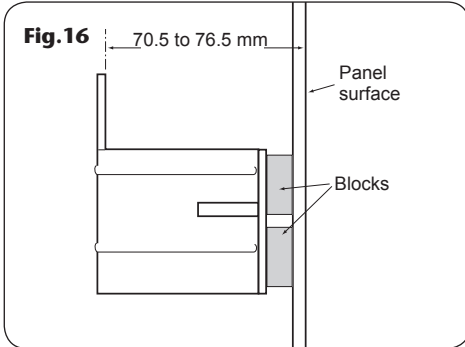
Two additional flat brackets are supplied for hollow wall fixing. Slide the 'T' piece section through the slot either side of the mounting bracket then insert it into the wall cavity. Position the two flat brackets in line with the outer holes (**fig.15**). Secure using the bolts provided. Route the pipework to the valve position.

Flush out the pipework in accordance with Water Regulations.

Offer the valve up to the mounting bracket and secure using the four screws provided.

Proceed to 'Connecting supply pipes' section.





d) Valve installation in a panel or cubicle

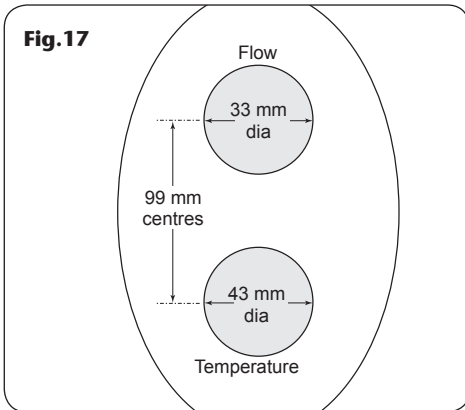
To use the wall mounting bracket supplied with a shower cubicle or a laminated panel, wooden blocks are required to increase the depth of the bracket. These blocks need to increase the depth of the bracket to between 70.5 mm and 76.5 mm from the finished surface (**fig.16**).

Decide on the shower position and determine whether the hot and cold water supplies will enter the shower from the top (falling) or bottom (rising) or rear.

Mark the route of the incoming and outgoing pipework. Only the two holes for the controls knobs require to be cut out of the panel or cubicle. Use the supplied template as a guide (**fig.17**).

After cutting the two holes, fit the valve to the mounting bracket and secure using the four screws provided.

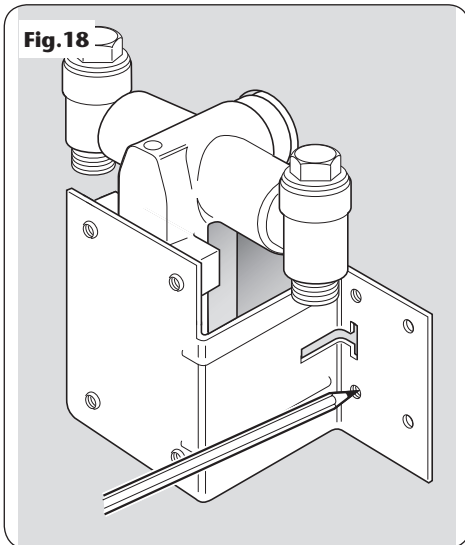
Offer the valve and mounting bracket up to the back of the panel making sure the thermostatic and On/Off assemblies fit through the openings. Mark the four inner tapped holes (**fig.18**). Remove the valve and bracket and drill the panel and wooden blocks. Route the pipework to valve position.



Flush out the pipework in accordance with Water Regulations.

Fit the mounting bracket together with the valve to the panel and secure using the bolts and washers provided.

Proceed to 'Connecting supply pipes' section.



CONNECTING THE SUPPLY PIPES

Gently screw the swivel inlets into the body of the valve unit and stop as soon as resistance is felt. Then back off by up to 1.5 turns to align the inlet with the hot and cold supply pipes.

IMPORTANT: The swivel inlets **MUST NOT** be tightened against the valve body to make a seal.

Connect the hot water supply to the inlet marked RED, and connect the cold water supply to the inlet with the BLUE mark.

Remember the swivel inlet has an 'O' ring seal and that no other sealing means is required.

Tighten the compression fittings with the cranked spanner, supplied for when access is restricted.

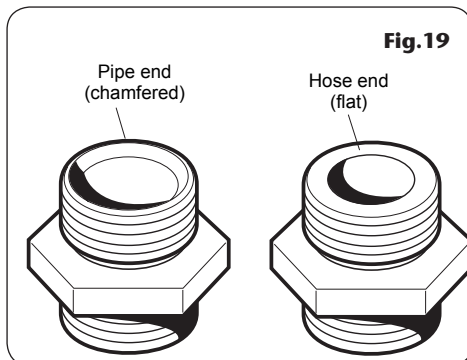
Make sure the On/Off assembly is turned to the off position by temporarily fitting the On/Off control and turning clockwise until resistance is felt.

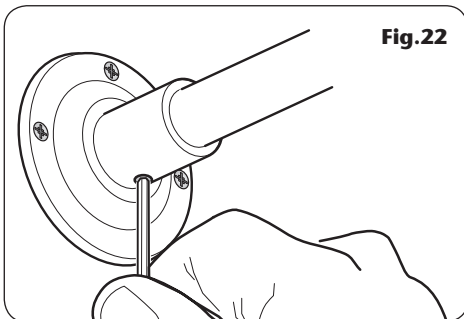
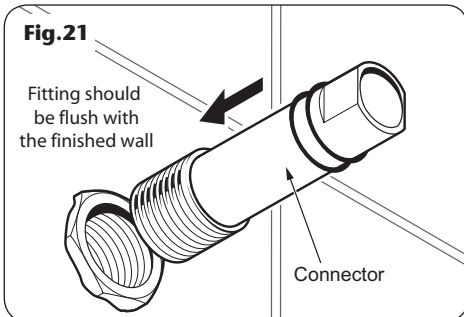
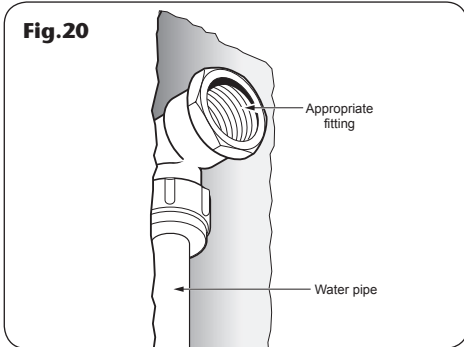
Open the supplies and test for leaks in the pipework upstream of the valve.

OUTLET ADAPTOR

The mixed water outlet adaptor needs to be removed and replaced using PTFE tape to give a watertight seal.

Note: The outlet adaptor is reversible with one side suitable for connection to a flexible hose – flat end (**fig.19**), and the other is a chamfered end for a 15 mm compression fitting (**fig.19**).





FITTING THE FIXED HEAD

Complete the pipework leading to the shower arm with a 15 mm x 1/2" BSP female thread elbow (**fig.20**) or similar. Finish the wall so that it is flush with the fitting.

Note: This fitting is not supplied as variations in installations require the selection of a suitable solder or compression fitting.

Screw the supplied male-thread connector into the female fitting (**fig.21**) using PTFE tape to give a watertight joint.

Slide the arm onto the connector temporarily, and mark the position of the three retaining screws. Remove the arm then drill and plug the holes using the wall plugs supplied. *(The wall plugs provided are suitable for most brick walls — use an appropriate masonry drill, but if the wall is plasterboard or soft building block, you must use special wall plugs and a suitable drill bit).*

Refit the fixed arm onto the connector and secure in place using the screws supplied.

Tighten the grub screw in the base of the arm using an Allen key (**fig.22**).

Slide the cover trim onto the arm and push fit into place before fitting the showerhead.

USING THE TILING SHROUD

WARNING!

Check there are no hidden cables or pipes before drilling holes for wall plugs. Use great care when using power tools near water. The use of a residual current device (RCD) is recommended.

The tiling shroud will need a section removed (**fig.23**) to accommodate the mounting bracket.

Replace the tiling shroud over the mixer valve.

Plaster or tile up to the edge of the shroud. Note that if the tiles are accurately cut to match the profile of the shroud, then the faceplate will seal around the hole in the tiles, and the valve unit will be able to be removed from the mounting bracket without the need to break any tiles.

Make sure the grout lines around the valve are flush with the tiles in order to provide a smooth sealing surface for the faceplate.

FITTING THE FACEPLATE AND KNOBS

Unscrew the faceplate retaining rings from the valve unit (if fitted).

See (**fig.24**) for the assembly of parts. Position the faceplate over the valve unit and place the trim rings onto the faceplate making sure the indicator notch is in the 12 o'clock position. It must be in this position regardless in which orientation the unit is mounted.

Secure by screwing on the two brass faceplate retaining rings.

Gently tighten the rings by hand until the faceplate clamps gently against the wall.

DO NOT overtighten or the faceplate may distort. The faceplate incorporates a silicon sponge seal which will seal against a smooth wall.

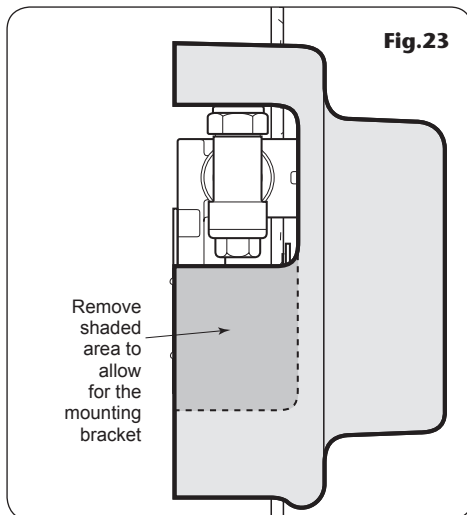
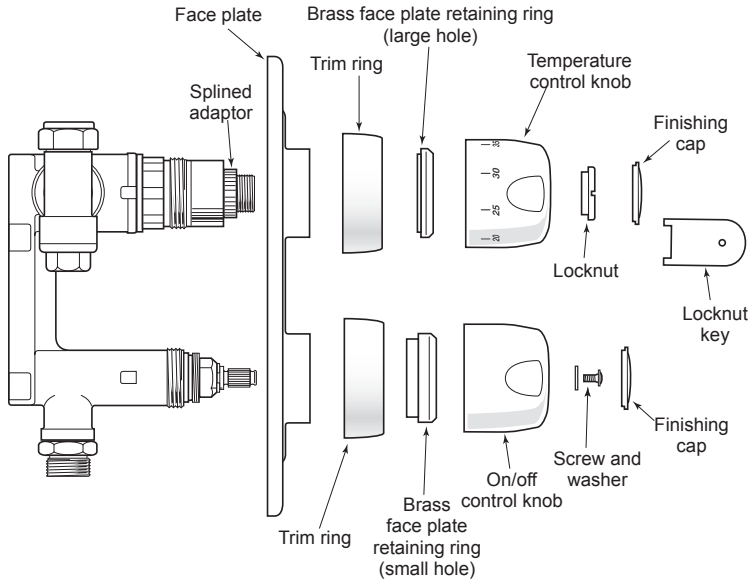


Fig.24



Should the wall surface be uneven or has deep grout lines or other imperfections, then these must be filled in, or use a bead of silicon sealant around the joint between the faceplate and the wall.

DO NOT apply this until the knobs have been assembled onto the mixer valve and finally completed.

Temperature control knob assembly

Place the temperature knob temporarily onto the splined adaptor, and rotate fully anti-clockwise. Remove the knob and reposition onto the splined adaptor again, but this time making sure the '40' mark on the scale lines up with the indicator notch on the trim ring. It must be held firmly but not overtight. Make sure the knob does not foul on the trim ring.

Screw the locknut down against the knob and tighten using the key supplied. Do not fit the finishing cap just yet as when the commissioning is carried out, the maximum temperature adjusting screw may have to be altered.

On/Off control knob assembly

Place the splined On/Off knob onto the splined shank and secure with the washer and fixing screw.

Push fit the finishing cap onto the on/off knob. Note the cap with the red and blue arrows fits on the temperature control knob and the plain cap fits on the On/Off knob. The caps are not interchangeable.

Note: Should the knobs and faceplate require cleaning then care must be taken not to scratch them in the process. Wash away any surface dust with the shower spray before cleaning with soapy water.

IMPORTANT: DO NOT use abrasive cleaners and solvents or the surfaces may become damaged.

COMMISSIONING

The following conforms to NHS Estates Model Engineering Specification D08 for when the mixer has been installed in healthcare premises.

IMPORTANT: Make sure that all supply pipework has been flushed through before commissioning.

Make sure that both hot and cold water supplies are fully open and at (or near to) their design temperature and pressures and are within the requirements as stated.

Set the temperature control to the maximum temperature setting – rotate the knob fully anti-clockwise until resistance is felt.

Open the On/Off control by turning it anti-clockwise. If a fixed head has been installed, placing a burst polythene bag over the shower head will catch and deflect the spray during commissioning.

Allow the shower to run at maximum temperature setting until the water temperature has stabilised. Should the temperature rise in an uncontrolled manner, then the hot and cold supplies are probably reversed. This must be corrected before proceeding further.

The mixer valve is factory set to provide a maximum outlet temperature of 39°C but this should be checked on site to make sure the setting has not been altered and also to make sure of user safety.

Should the maximum temperature require adjustment, remove the temperature knob finishing cap (if it has been placed in position when assembling the temperature controls previously) using a sharp blade or pen knife tip. Adjust the small slotted screw in the centre of the spindle (**fig.25**) – anti-clockwise to increase the temperature, clockwise to decrease the temperature.

The maximum temperature should not exceed 41°C.

After setting the maximum temperature, turn the shower on and off several times and check the maximum setting is correct. Record the commissioning data on the maintenance record at the rear of this book in order for the in-service performance of the mixer valve to be assessed.

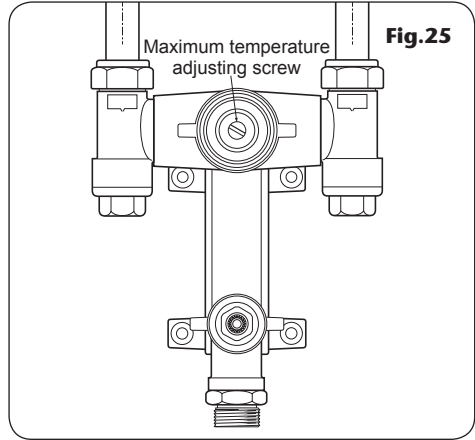
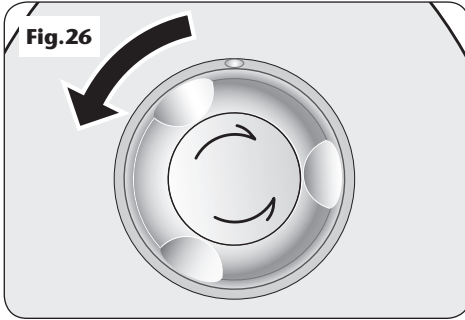


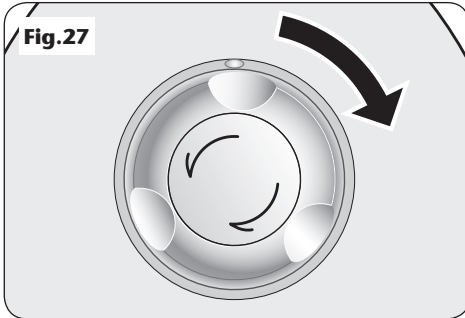
Fig.25



Finally, check the thermal shut off facility of the valve by performing a thermal shut off test. Shut off the cold supply. The flow from the shower should stop immediately or reduce to a trickle in which case the water temperature should be less than 43°C.

In either case there is no risk of scalding.

If, however, the temperature is above 43°C then it is likely there is contamination in the valve stopping it from shutting off the hot supply. In this case refer to the maintenance section or contact Customer Service.



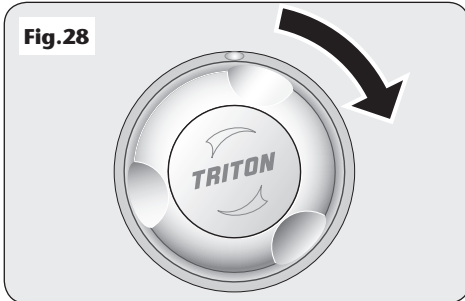
In domestic installations where D08 specification is not required, the maximum temperature setting should not exceed 45°C.

OPERATING THE SHOWER

To start the shower, rotate the On/Off control fully anti-clockwise (**fig.26**) for maximum flow.

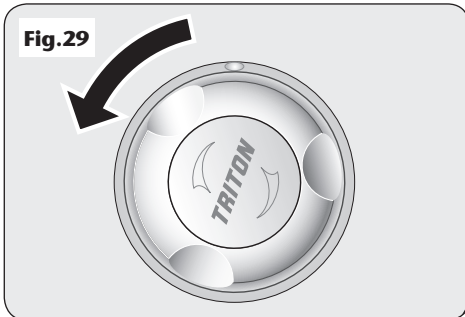
To stop the water flow, rotate the On/Off control fully clockwise (**fig.27**) until resistance is felt.

To adjust the water temperature, rotate the temperature control clockwise in the direction of the blue symbol (**fig.28**) for a cooler shower, or anti-clockwise in the direction of the red symbol (**fig.29**) for a hotter shower.



ADJUSTING THE SHOWERHEAD

Five showerhead patterns are available. Adjust the spray pattern by turning the bezel on the showerhead in either direction until the desired pattern is obtained.



CLEANING

WARNING!

DO NOT use 'powerful' abrasive or solvent cleaning fluids when cleaning the shower as they may damage the plastic fittings.

Before cleaning, turn off the unit at the isolating valve to avoid the shower being accidentally switched on.

IT IS IMPORTANT TO KEEP THE SHOWERHEAD CLEAN TO MAINTAIN THE PERFORMANCE OF THE SHOWER. The hardness of the water will determine the frequency of cleaning. For example, if the shower is used every day in a very hard water area, it may be necessary to clean the showerhead on a weekly basis.

Sprayplate removal

There is no need to remove the showerhead from the shower arm.

Using the removal tool supplied (**fig.30**), locate the raised 'bosses' into the recesses in the sprayplate. Hold in firmly and twist anti-clockwise (**fig.31**). This movement may turn the cartridge assembly as well until it reaches a 'stop'.

Hold the cartridge firmly and continue to twist anti-clockwise. Having loosened the sprayplate, it can be unscrewed and removed completely.

Clean the sprayplate with a suitable brush or preferably leave it to soak overnight in a mild proprietary descaler. Make sure all traces of scale are removed and thoroughly rinse in clean water afterwards.

Before replacing the sprayplate, turn on the water supply at the isolating valve and direct the showerhead toward the waste water outlet.

Turn the temperature control to COLD.

Start the shower and set to maximum flow. This operation will flush out any loose scale deposits in the unit and showerhead. Stop after about thirty seconds.

Refit the sprayplate by screwing clockwise. Use the tool to screw the sprayplate tight.

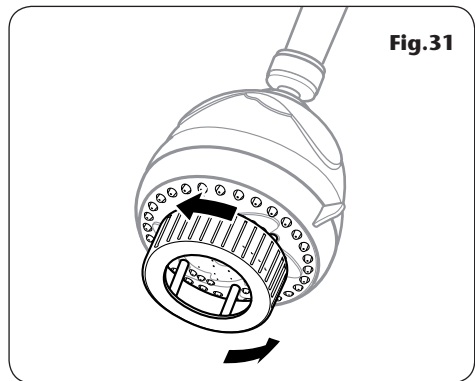
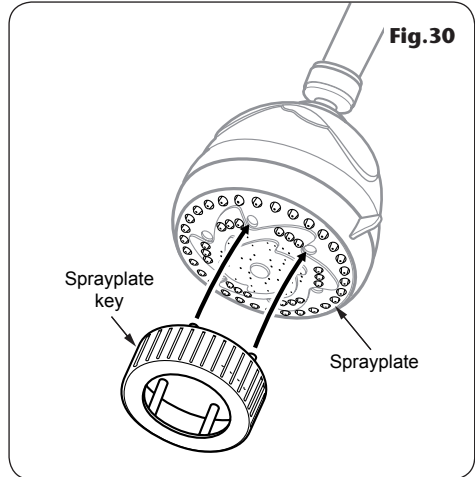
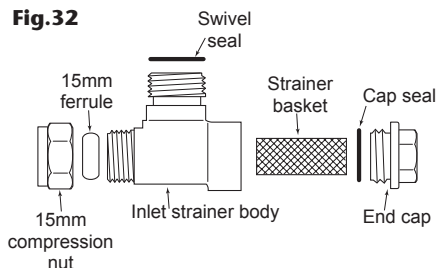


Fig.32



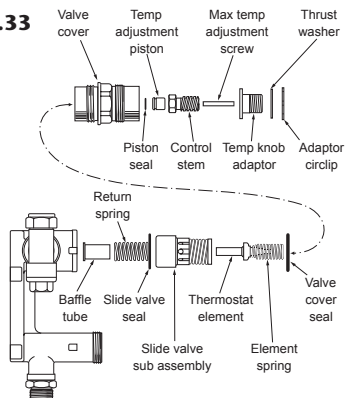
MAINTENANCE

The following maintenance procedure must be carried out for commercial and health care premises, but is not necessarily required for domestic installations.

Maintenance of the unit is required to give continued performance after installation and that it continues to provide scald prevention.

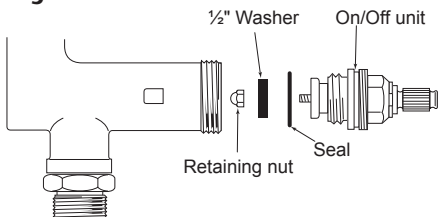
The frequency of routine maintenance of the internal of the valve will depend mainly on the water supply condition. Local knowledge will dictate suitable intervals. In addition, the following precautions should be noted:

Fig.33



- a) Initially check the strainer baskets (**fig.32**) for debris once every three months and clean if necessary. This period can be increased, if needed, once the general condition and cleanliness of the water is established. Where the water supplies come from beneath (rising) the mixer valve, lifting out the strainer basket may not remove all of the trapped debris. Full flushing out may be necessary if debris is found or suspected.
- b) Perform a thermal shut off test every three months, and check the maximum temperature setting. See the 'Commissioning' section for the details of this test and readjustment of the maximum temperature setting if required.

Fig.34



- c) If the maximum water temperature varies by more than 2°C from the commissioned setting then make check the strainers are clean and that the isolating valves are fully open. Test the non-return valves as described below. If these tests do not highlight the reason for the temperature variation, then follow the procedure below for investigating failure of the thermal shut off test.
- d) If the mixer valve fails the thermal shut off test then remove the knobs, faceplate and control valve cover. Check the internal surface for scaling. If the body requires descaling then it should be removed from the pipework to carry this work out – the valve should be able to be removed through the aperture without breaking tiles. All rubber parts must be removed before descaling. The slide valve seal (**fig.35**)

WARNING!

When cleaning the external faceplate and knobs, NEVER use cleaners containing abrasives or solvents as they may damage the chrome plating. Use only soap and a soft cloth.

located inside the body should always be replaced with a new seal after removal. Maintenance kits are available which contain 'O' rings and/or the thermostatic element. Smear all 'O' rings with silicon grease prior to installing them. Torque the valve cover to 13 Nm. This is to prevent inadvertently unscrewing the cover during temperature adjustment. **DO NOT overtighten the valve cover or the mounting arrangement may be damaged.**

- e) Replace the 'O' rings every three years; maintenance kits with spare 'O' rings are available. Smear silicon grease on all 'O' rings before assembling. At the same time, replace the slide valve assembly (**fig.33**). Lightly smear the outside diameter with silicon grease before installing.
- f) Replace the thermostatic element (**fig.33**) at least once every six years, or more often if problems are experienced or in installations where water is particularly hard.
- g) The On/Off mechanism (**fig.34**) has a ½" tap washer which should be replaced when it is found to be leaking. Remove the trim plate and unscrew the On/Off assembly. The washer is retained by a small nut. When replacing, do not overtighten – torque to 25 Ncm. Make sure the On/Off assembly is torqued down to 13 Nm to stop the user from accidentally unscrewing the assembly during flow control. **DO NOT overtighten the assembly or the mounting arrangement may be damaged.**
- h) The non-return valves (NRVs) prevent cross-flow between hot and cold supplies under unequal pressure conditions. They are designed for long life with no maintenance. Their function can be tested as follows:
To test the NRV on the hot side, shut off the hot supply and make sure the cold supply is open. Be prepared for leakage of trapped water in the pipe and remove the strainer basket on the hot side. Evidence of continuing leakage from the strainer body is coming through the hot supply NRV.
To test the NRV on the cold side, shut off the cold supply and make sure the hot

supply is open. Be prepared for leakage of trapped water in the pipe and remove the strainer basket on the cold side. Evidence of continuing leakage from the strainer body is coming through the cold supply NRV.

If either NRV is leaking then the inlet elbow – complete with NRV and strainer basket, should be replaced. It is not possible to satisfactorily remove the NRV itself from the elbow and should not be attempted.

IN-SERVICE TESTING

Periodic testing should be undertaken to check whether deterioration has occurred in the performance of the mixer valve.

A thermal shut off test, as described under maintenance, should be carried out. If water coming from the shower head is at a temperature of more than 2°C above the maximum mixed water temperature setting then the valve unit is due for maintenance.

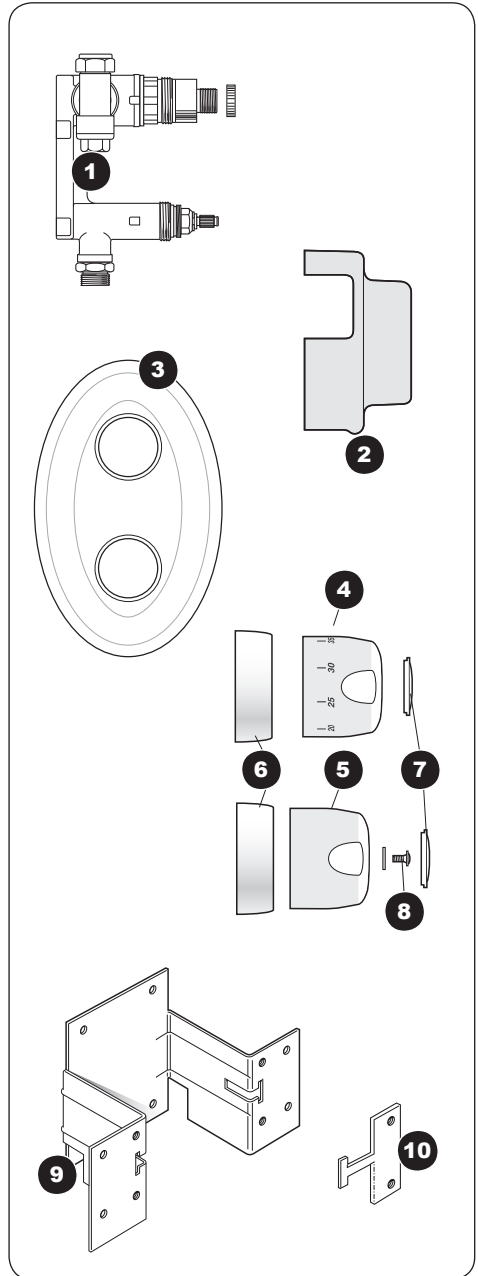
Note: A thermostatic mixing valve in need of maintenance can be undetectable in normal use and only becomes apparent when a disruption occurs in the hot or cold water supply temperatures or pressures.

The frequency of in-service testing depends upon the water condition passing through the unit. In-service testing should be between six to twelve months, but less than six month intervals in areas of hard water.

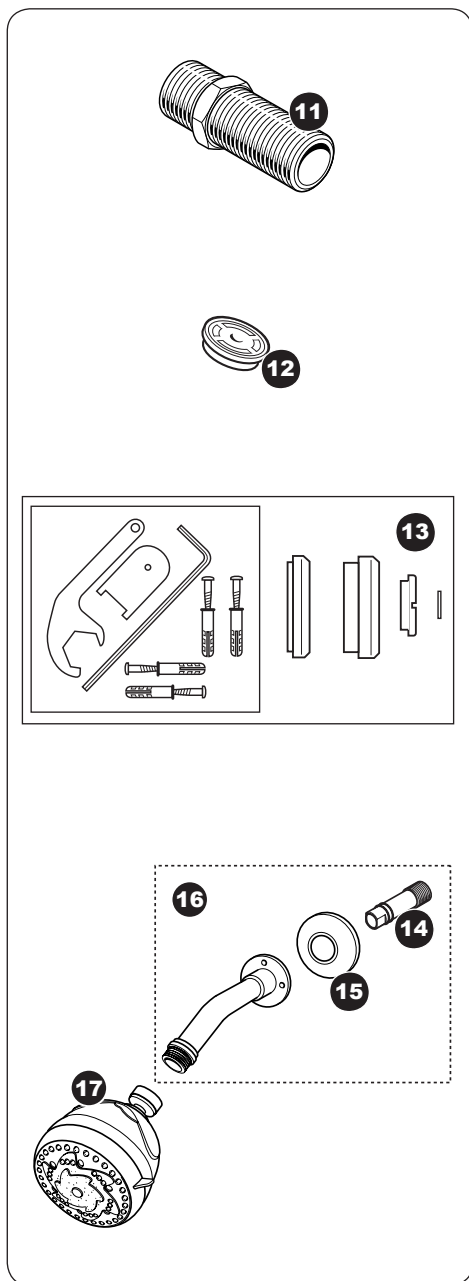
Experience of local conditions and the in-service testing record will dictate the frequency of in-service testing.

SPARE PARTS

Ref.	Description	Part No.
1	Valve unit comprising: spline adaptor tiling shroud button screw	7102447
2	Tiling shroud	7102446
3	Faceplate	7102444
4	Temperature knob	7052432
5	On/Off knob	7052430
6	Trim rings	7052427
7	Finishing caps	83306310
-	Finishing caps & faceplate chrome	7102568
8	Button screw	20800680
9	Mounting bracket	7012435
10	Flat bracket	7012436
-	Bracket assembly (comprising 9 & 10)	83306290



SPARE PARTS



<i>Ref.</i>	<i>Description</i>	<i>Part No.</i>
11	Nutted all thread connector	7032915
12	Flow regulator	22009590
13	Utilities pack comprising: tool and screw pack brass retaining rings locknut button screw washer mounting bracket flat bracket	7102523
–	‘O’ ring maintenance kit	83306300
14	Connector	83308520
15	Cover trim	83308530
16	Shower arm (complete)	88400007
17	5 mode fixed showerhead	88600007

FAULT FINDING

<i>Symptom</i>	<i>Cause</i>	<i>Action/cure</i>
1 Water too hot.	1.1 Not enough cold water flowing through shower.	1.1.1 Turn the temperature control clockwise.
	1.2 Increase in the ambient cold water temperature.	1.2.1 Turn the temperature control clockwise.
	1.3 High volume of cold water being drawn off elsewhere.	1.3.1 Reduce the simultaneous demand from the supply – make sure supply pressures are within specification.
	1.4 Dirty filters.	1.4.1 Clean – refer to maintenance section.
	1.5 Internal parts failure.	1.5.1 Replace – refer to maintenance section.
2 Water too cold.	2.1 Not enough hot water flowing through the shower.	2.1.1 Turn the temperature control anti-clockwise.
	2.2 Decrease in the ambient cold water temperature.	2.2.1 Turn the temperature control anti-clockwise.
	2.3 Insufficient hot water supplies from the heating appliance.	2.3.1 Make sure hot water appliance is set to deliver correct hot water output temperature.
	2.4 Hot water supply blocked or restricted.	2.4.1 Turn off shower and consult a competent plumber or contact Triton Customer Service.
	2.5 Dirty filters.	2.5.1 Clean – refer to maintenance section.
	2.6 Internal parts failure.	2.6.1 Replace – refer to maintenance section.
3 Water does not flow or shower pattern collapses when another outlet is turned on.	3.1 Water supplies cut off.	3.1.1 Check water elsewhere in property and if necessary contact local water company.
	3.2 Shower unit blocked.	3.2.1 Inspect filters – refer to maintenance section. Clean if necessary.
	3.3 Blockage in pipework.	3.3.1 Turn off the shower and consult a suitably competent plumber.
	3.4 Showerhead blocked.	3.4.1 Clean showerhead.
	3.5 Reduced flow rate when other outlets in use.	3.5.1 Reduce the simultaneous demand at other outlets. 3.5.2 Make sure service valves are fully open.
4 Shower will not shut off.	4.1 Debris damage to On/Off washer.	4.1.1 Replace washer – refer to maintenance section.
	4.2 On/Off washer worn.	4.2.1 Replace washer – refer to maintenance section.

Any maintenance or repair to the shower must be carried out by a suitably qualified person.

Service Policy

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

- 1 Telephone Customer Service on 0844 980 0750 having available, your details including post code, the model number and power rating of the product, together with the date of purchase.
- 2 Based on information given over the telephone, a Triton Customer Service Advisor will attempt to diagnose the fault and confirm whether a site visit from a qualified service engineer is required.
- 3 All products attended to by a Triton service engineer must be installed in full accordance with the Triton installation guide applicable to the product. (Every product pack contains an installation guide, however, they can also be bought via our Customer Service Spares Department).
- 4 Our engineer will require local parking and if a permit is required this must be available to the engineer on arrival at the call.
- 5 It is essential that you or an appointed representative (who must be over 18 years of age) is present for the duration of the service engineer's visit. If the product is in guarantee you must produce proof of purchase.
- 6 Where a call under the terms of guarantee has been booked and the failure is not product related (i.e. scaling and furring, incorrect water pressure, pressure relief device operation or electrical/plumbing installation fault) a charge will be made. A charge will also be issued if nobody is at home when the service engineer calls or adequate parking/permit is not available.
- 7 If the product is no longer covered by the guarantee an up front fixed fee will be charged before the site visit.
- 8 Should proof of purchase not be available on an "in-guarantee" call, or should the service engineer find that the product is no longer under guarantee, the engineer will charge the same fixed price and the customer will be expected to pay the engineer before he leaves. If payment is not made on the day an administration charge will be added to the fixed charge.
- 9 If a debt is outstanding from a previous visit, or from any other Triton purchase, Triton reserves the right to withhold service until the debt has been settled.
- 10 Triton takes the health, safety and wellbeing of its employees very seriously and expects customers to treat all staff members with respect. Should any employee feel threatened or receive abuse, either verbally or physically, Triton reserves the right to withhold service and will support the employee with a legal prosecution.

Replacement Parts Policy

Availability: It is the policy of the manufacturer to maintain parts availability for the duration of production and a period of five years thereafter, in accordance with industry standards.

Spare parts are available via our website, www.tritonshowers.co.uk, or by telephoning Triton Customer Service Spares Department. Payment should be made by credit/debit card (excluding American Express or Diners Card).

Payment can also be made by pre-payment of a pro forma invoice by cheque or money order.

TRITON STANDARD GUARANTEE

Triton guarantee this product against all mechanical defects arising from faulty workmanship or materials for a period of three years for domestic use only, from the date of purchase, provided that it has been installed by a competent person in full accordance with the fitting instructions.

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

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

What is not covered:

- 1 Breakdown due to: **a)** use other than domestic use by you or your resident family; **b)** wilful act or neglect; **c)** any malfunction resulting from the incorrect use or quality of water or incorrect setting of controls; **d)** faulty installation.
- 2 Repair costs for damage caused by foreign objects or substances.
- 3 Total loss of the product due to non-availability of parts.
- 4 Compensation for loss of use of the product or consequential loss of any kind.
- 5 Call out charges where no fault has been found with the appliance.
- 6 The cost of repair or replacement of showerheads, hoses, riser rails and/or wall brackets or any other accessories installed at the same time.
- 7 The cost of routine maintenance, adjustments, overhaul modifications or loss or damage arising therefrom, including the cost of repairing damage, breakdown, malfunction caused by corrosion, furring, pipe scaling, limescale, system debris or frost.

Triton Showers
Triton Road
Nuneaton
Warwickshire CV11 4NR

Triton is a division of Norcros Group (Holdings) Limited

Customer Service: ☎ 0844 980 0750

Trade Installer Hotline: ☎ 0844 980 0730

Fax: 0844 980 0744

www.tritonshowers.co.uk

E-mail: serviceenquiries@tritonshowers.co.uk