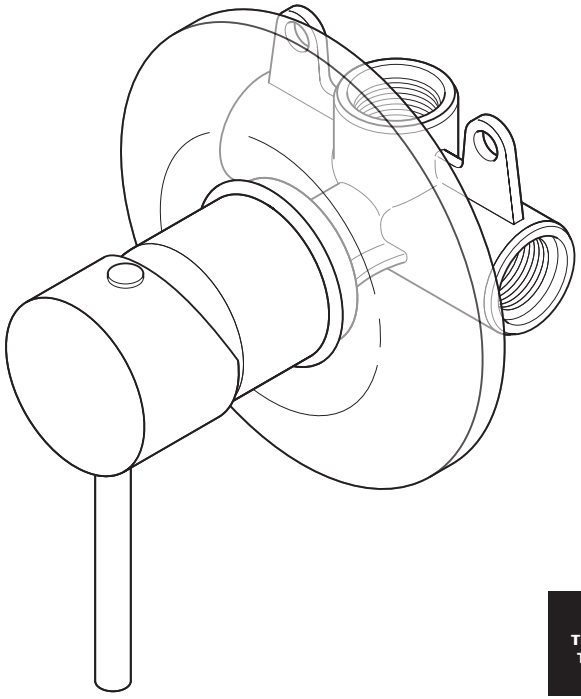
TRITON

# MANUAL MIXER SHOWER



**CAUTION!**

**THIS PRODUCT IS NOT THERMOSTATICALLY CONTROLLED**

## Installation and operating instructions

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

2180586B July 2009

## *CONTENTS* *Page*



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 manual 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 give a long and trouble free life from your shower.

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

The mixer shower MUST NOT be subjected to water temperatures above 80°C. This mixer shower is designed for use with traditional low pressure 'gravity' water systems, using a cold water cistern and hot water cylinder as well as for the higher pressure systems found in the UK up to a maximum of 5 bar running pressure.

**IMPORTANT:** When installing this mixer with a combi-boiler or multipoint water heater, flow limiters may be installed in the supply pipework.

This mixer shower 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.

**IMPORTANT:** Before installing with a gas instantaneous water heater, make sure it is capable of delivering hot water at a minimum switch-on flow rate of 3 litres per minute. At flow rates between 3 and 8 litres per minute, the appliance must be capable of raising the water temperature to a minimum of 52°C. Water temperature at the mixer inlet must remain relatively constant when flow rate adjustments are made (refer to the water heater operating manual to confirm compatibility with this mixer shower).

Suggested inlet connections are by compression fittings for 15 mm copper pipe.

## *SAFETY WARNINGS*

**WARNING!**

**Please be aware that this mixer shower is not thermostatic and will not prevent water from flowing from the showerhead should there be a loss of one supply to the mixer.**

***a.*** 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.

***b.*** DO NOT choose a position where the shower could become frozen.

***c.*** Do not connect this mixer shower to any form of tap or fitting not recommended by the manufacturer.

***d.*** The showerhead must be regularly cleaned to remove scale and debris.

***e.*** 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.

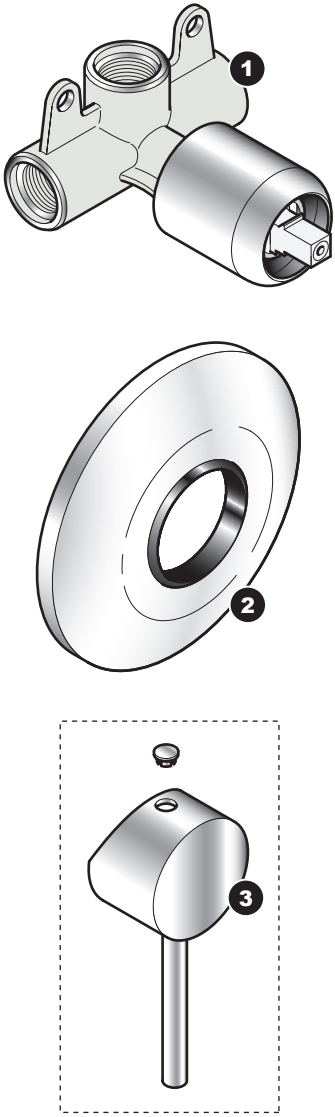
***f.*** If it is intended to operate the shower in areas of hard water (above 200 ppm temporary hardness), a scale inhibitor may have to be fitted. For advice on a scale inhibitor, please contact Customer Service.

***g.*** DO NOT operate the shower outside the guidelines as laid out in *'site requirements'*.

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

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

**Fig.1**




## *MAIN COMPONENTS*

1. Mixer shower body
2. Trimplate
3. Control lever and finishing cap

## *SITE REQUIREMENTS*

The installation must be in accordance with Water Regulations and Bylaws.

*Running water pressure:*

Gravity fed – 0.1 bar min.
1.0 bar max.

Mains fed – 1.0 bar min.
5.0 bar max.

*Maximum static water pressure:*

Gravity and mains – 10 bar

DO NOT connect the mixer shower to a gravity hot supply and a mains cold supply (or vice versa).

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

While the mixer shower 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 shower.

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 systems and instantaneous gas water 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 effects of scale in hard water areas.

## *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 prevent the shower mixer being 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.

### *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

**Fig.2** *(diagrammatic view – not to scale)*

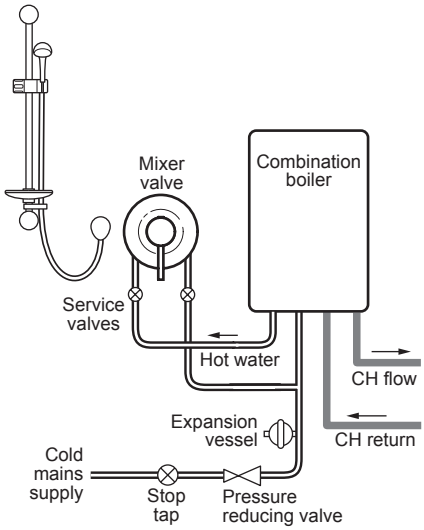



**Fig.3** *(diagrammatic view – not to scale)*

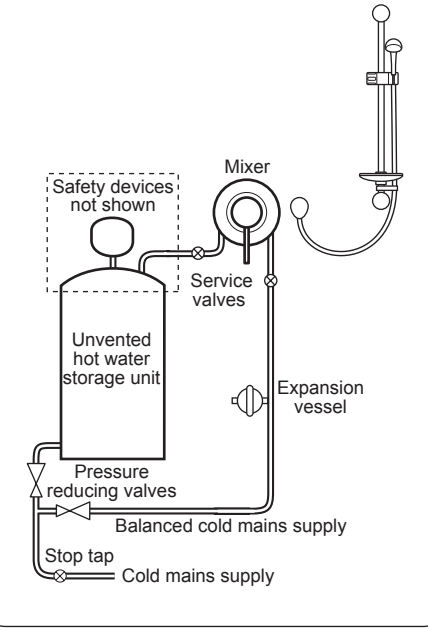


**Fig.4** *(diagrammatic view – not to scale)*

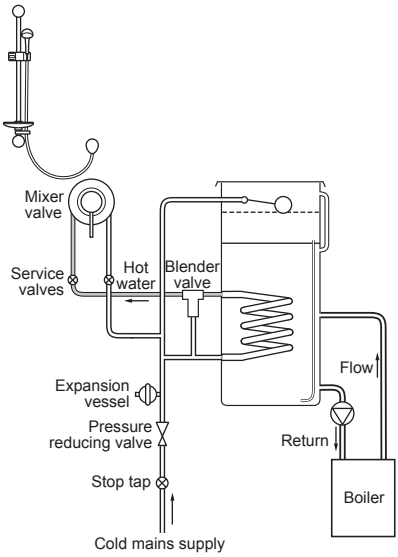
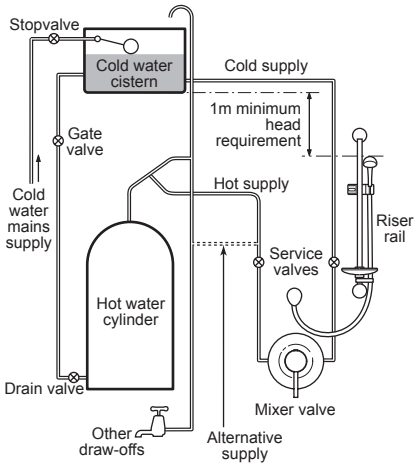



**Fig.5** *(diagrammatic view – not to scale)*




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.

### *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 prevent the unit being 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 one metre head of water. The minimum head distance is measured from the base of the cold water cistern to the top of the showerhead.

If required, a twin impeller pump may be installed to increase the water pressure.

### *e) Pumped gravity fed systems* (fig.6)

The mixer unit may be used with a gravity fed system with a pump to boost pressures. Refer to the pump installation guide to establish the minimum head requirements for automatic operation of the pump.

## GETTING STARTED

Check the contents to make sure all parts are present.

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

The hot and cold water pipes should not be permanently attached to the wall closer than 2 metres from the mixer before installing to allow final adjustment of the mixer unit position.

## SITING OF THE SHOWER

**WARNING!**

**The shower must not be positioned where it will be subject 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 showerhead and riser rail can be positioned either side of the shower.

**Note:** When planning the bulkhead position, consideration should be given to the following points:
When attached to the bulkhead, the hose should not restrict the full vertical movement of the showerhead on the riser rail.
When planning the pipe route from the mixer to the bulkhead, note that the mixer outlet is at the top. Make sure the pipework to the bulkhead does not interfere with the hot or cold pipes into the mixer.

**Fig.6** *(diagrammatic view – not to scale)*

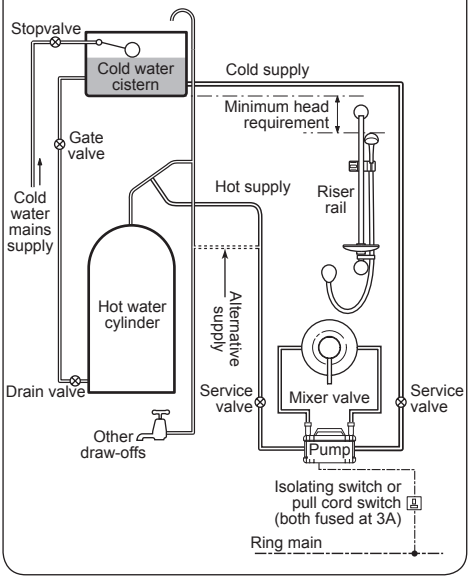



**Fig.7** *(diagrammatic view – not to scale)*

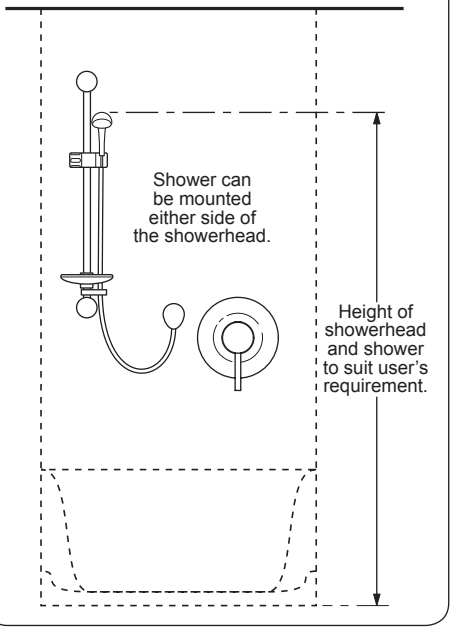
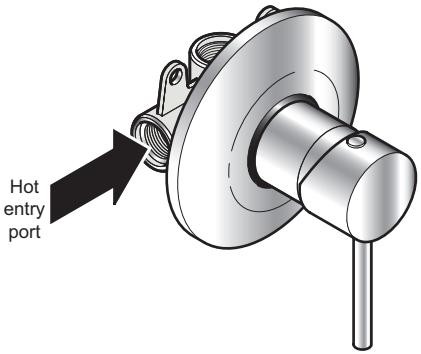


Fig.8




## INSTALLATION

### General conditions

**Note:** The outlet of the shower must not be connected to anything other than the hose and showerhead supplied.

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

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

**Note:** Suitable isolating valves (complying with Water Regulations and Bylaws) 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.

**IMPORTANT:** The water circuit should be installed such that the flow is NOT significantly affected by other taps and appliances being operated elsewhere on the premises. Water pressure MUST NOT fall below specification of the shower.

Hot water pipe entry must be made to the left-hand side inlet **(fig.8)**.

The inlets allow for either rising, falling or rear entry hot and cold water supplies. Connections to the mixer are made using ½" BSP threaded fittings (not supplied)

### Instantaneous gas water heaters

For 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 to a minimum of 52°C (125°F) and delivering a flow rate of not less than eight litres per minute.

## BUILDING-IN DEPTH

The allowance for varying thicknesses of tiles up to 10 mm is accommodated by the front trimplate **(fig.9)**. The maximum tolerance between the trimplate and mixer body is 30 mm.

The following are typical thicknesses and are given as a guide only:

| | |
|---|---|
| Tile | 6 – 10 mm |
| Adhesive | 2 – 3 mm |
| Plasterboard | 9.5 – 12.5 mm |
| Plaster finish | 2 – 3 mm |

Maximum tile thickness to be 10 mm.

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

Make sure the available building-in depth is at least 55 mm measured from the face of the wall.

## SOLID WALL, HOLLOW WALL AND PANEL MOUNTING

The building-in depth for the valve is typically 45 mm from plaster finish **(fig.10)** but this is dependant upon tile and adhesive thicknesses.

Decide upon the shower position and determine whether the hot and cold water supplies will enter from the top (falling), bottom (rising) or rear **(fig.11)**.

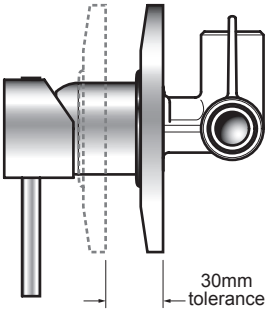
Mark the hole outline position onto the wall. Remove the plaster and brickwork (or plasterboard) to the depth required and chase out any additional areas of wall to allow for incoming pipework and access to the mixer and the outlet pipework to the bulkhead.

The separation between pipe inlets needs to be at least 130 mm **(fig.12)**. Allow a degree of play in the incoming pipework to aid when fitting the valve.

Offer the valve to the wall, centralise and mark the two locating holes.

Drill and plug the holes (use an appropriate masonry drill, but if the wall is plasterboard or a soft building block, use special wall plugs and a suitable drill bit).

Fig.9



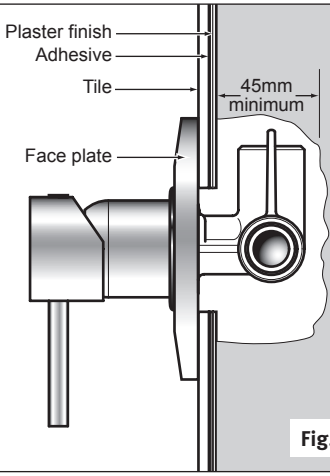




Fig.10

Fig.11

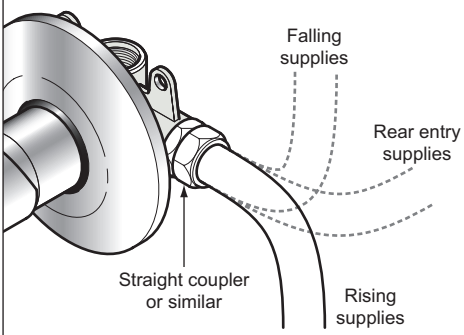


**Fig.12**

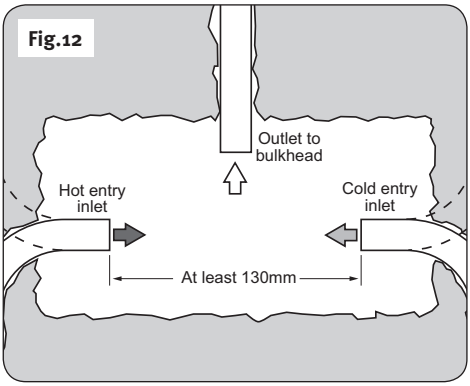



**Fig.13**

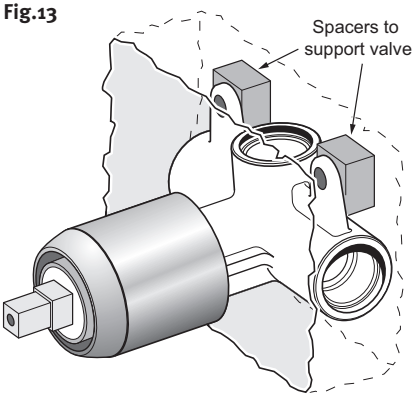
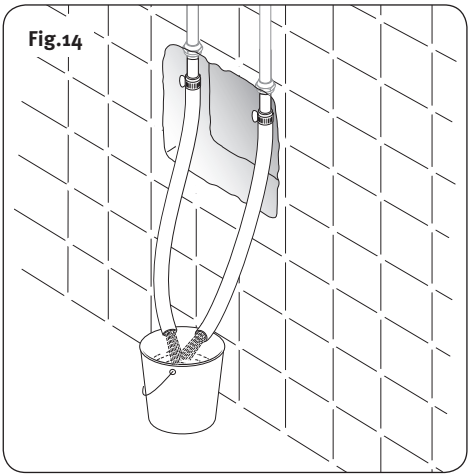



**Fig.14**



When fitting, the installer may wish to build spacer blocks to help support the valve **(fig.13)**.

**Note:** It is preferable to flush the pipework **(fig.14)** to clear the system of debris and check for leaks before connecting to the mixer.

Offer the mixer up to the locating holes and secure using the screws provided.

Complete the pipework to the mixer valve marking off the length to enter the straight couplers (not supplied) or similar.

**Note:** Enough free play must be left in the pipework to allow withdrawal from the compression fittings.

DO NOT secure the incoming pipes within 2 metres of the shower mixer.

Remove the mixer and cut the pipes to length.

Refit the mixer to the wall. Slide the inlet nut and olives onto the supply pipes.

Tighten the inlet nuts to the straight couplers and tighten the wall screws.

## FITTING THE BULKHEAD PIPEWORK

Complete the outlet pipework ending in a 15 mm x ½" BSP female thread elbow **(fig.15)** or similar.

**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.16)** using PTFE tape to give a watertight joint.

**Note:** The male-thread connector supplied has a shoulder. If fitting into a flush wall, make an extra 8 mm allowance for this shoulder at the finished surface. The connector can be cut to size if required.

The threaded connector should protrude from the finished wall surface between 8 mm and 13 mm.

## LEAK TESTING

Fit a hose to the bulkhead threaded connector and direct it to waste.

Push the control lever down to close it. Open the isolating valves to the shower. Open the flow control by lifting the control lever upwards and flush through.

Turn the control fully to the left (HOT) and then fully to the right (COLD).

Push the control lever fully down to close off the water supply.

Check for any leaks and remedy if necessary.

Turn off the water supplies.

## MAKING GOOD

Make good the incoming and outlet pipe channelling and around the bulkhead outlet.

**IMPORTANT:** When plastering around the valve be sure to leave enough space to allow access to the mixer for future servicing and/or maintenance requirements **(fig.17)**. Do not plaster the unit in place.

Make sure the grout lines are flush with the tiles in order to provide a smooth sealing surface for the outer cover.

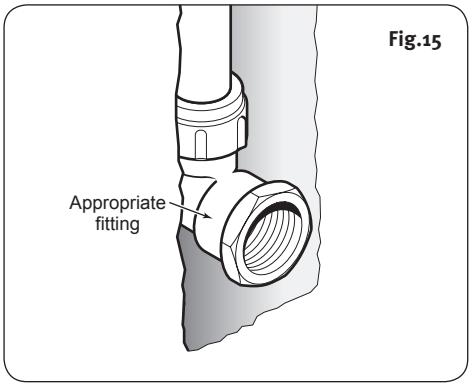


Fig.15

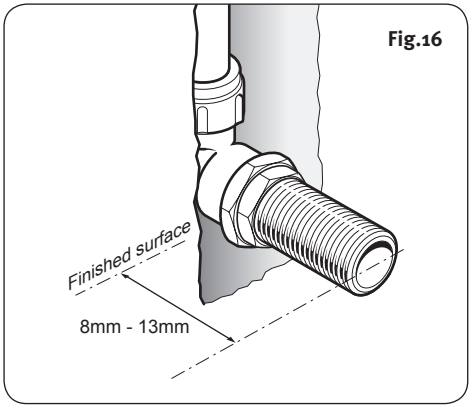


Fig.16

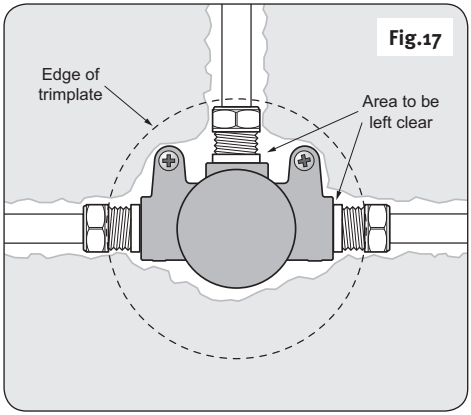
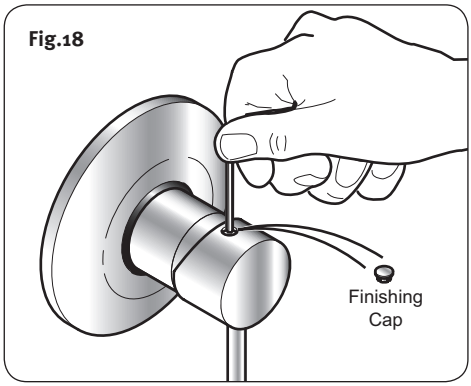
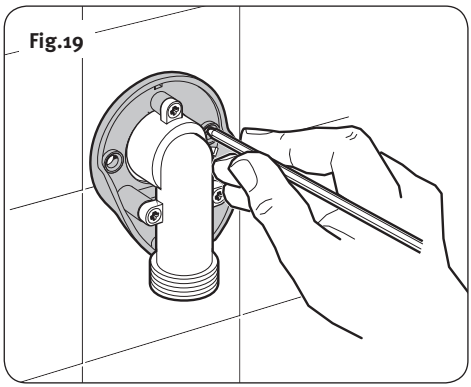
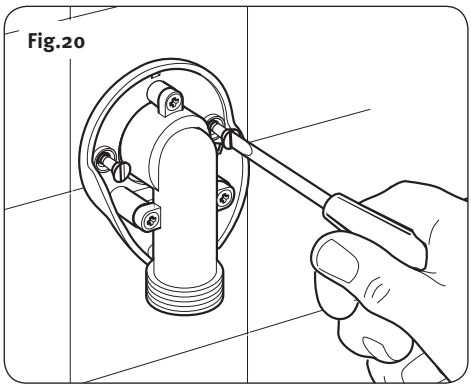


Fig.17




## FITTING THE TRIMPLATE

Fit the trimplate over the valve and slide tight to the wall. Make sure the seal in the opening stays in place as it slides over the valve body. A smear of liquid soap on the seal will ease this procedure.

## FITTING THE CONTROL LEVER

Makes sure the trimplate is in place before fitting the control lever.

Push the control lever onto the valve. Using an Allen key, secure the lever to the valve by tightening the screw within the topside of the lever **(fig.18)**. Insert the finishing cap.

## BULKHEAD ASSEMBLY

Screw the bulkhead elbow to the bulkhead body with the three screws supplied.

Screw the completed assembly onto the threaded connector temporarily to mark the position of the two fixing holes **(fig.19)** for securing the bulkhead to the wall.

**Note:** If screw thread protrudes too far out of the wall, it can be cut to the correct length using a hacksaw.

Unscrew and remove the bulkhead assembly. Check the location of the pipe in the wall before drilling.

Drill and plug the holes. (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).

If fitting to a hollow wall structure, it may be preferable to secure the bulkhead by applying a bead of silicon seal to the back of the bulkhead.

Apply PTFE tape to the threaded connector.

Screw the bulkhead assembly onto the threaded connector until tight to the wall and the two fixing holes are aligned. Secure to the wall with the two screws supplied **(fig.20)**.

Finish by clipping the cover onto the bulkhead, making sure the protruding legs locate in the bulkhead body.

At this point, refer to the ‘commissioning procedure’ to establish the correct maximum shower temperature.

## *COMMISSIONING*

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

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

Check the mixer can supply the maximum hot and maximum cold water demands.

## *OPERATING THE SHOWER*

**WARNING!**

**Please be aware that this mixer shower is not thermostatic and will not prevent water from flowing from the showerhead should there be a loss of one supply to the mixer.**

To start the shower, pull the control lever upwards for maximum flow **(fig.21)**. To stop the water flow, push the control lever down **(fig.21)**.

To adjust the water temperature, turn the control lever clockwise for a hotter shower and anti-clockwise for a cooler shower **(fig.22)**.

## *CLEANING*

Do not use abrasive or solvent cleaning fluids. The shower unit, riser rail, hose, etc. should be cleaned using a soft cloth and warm water.

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.

**Fig.21**

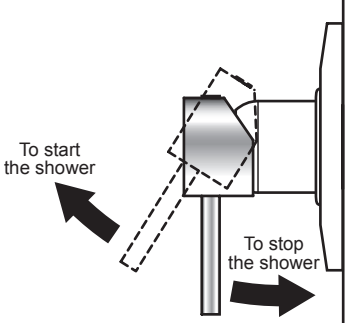
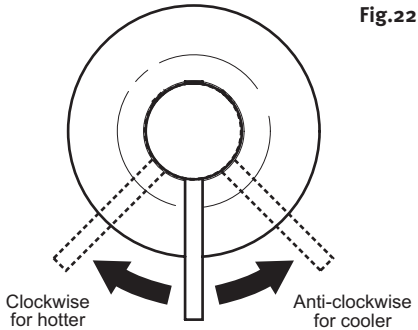
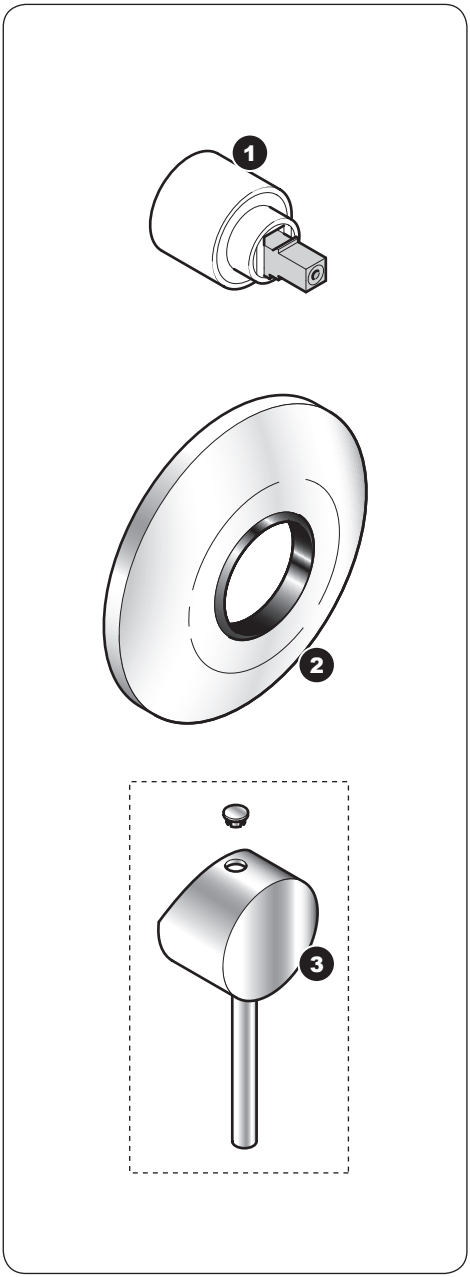



**Fig.22**



## *SPARE PARTS*




| *Ref.* | *Description* | *Part No.* |
|---|---|---|
| **1.** | Ceramic valve assembly | 83308590 |
| **2.** | Trimplate | 83308600 |
| **3.** | Lever and finishing cap | 86100032 |

## *FAULT FINDING*

**The following can be carried out by a competent person**

| *Problem/Symptom* | *Cause* | *Action/Cure* |
|---|---|---|
| **1** Water too hot. | **1.1** Not enough cold water flowing through shower. | **1.1.1** Turn the control lever anti-clockwise. |
| | **1.2** Increase in the ambient cold water temperature. | **1.2.1** Turn the control lever anti-clockwise. |
| | **1.3** Cold water supply blocked. | **1.3.1** Turn off shower and consult a competent plumber or contact Customer Service. |
| | **1.4** High volume of cold water drawn off elsewhere. | **1.4.1** Reduce the simultaneous demand from the mains supply. |
| **2** Water too cold. | **2.1** Not enough hot water flowing through shower. | **2.1.1** Turn the control lever clockwise. |
| | **2.2** Decrease in the ambient cold water temperature. | **2.2.1** Turn the control lever clockwise. |
| | **2.3** Insufficient hot water supplies from the heating system. | **2.3.1** Make sure heating appliance is set to maximum or has sufficient stored hot water.<br>**2.3.2** Make sure heating appliance is igniting by trying a hot water tap elsewhere. |
| | | **2.4.1** Turn shower off and consult a competent plumber or contact Customer Service. |
| **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 house and if necessary contact local water company. |
| | **3.2** Blockage in pipework. | **3.2.1** Turn the shower off and consult a suitably competent plumber. |
| | **3.3** Showerhead blocked. | **3.3.1** Clean showerhead. |
| | **3.4** System not capable of supplying multiple outlets at the same time. | **3.4.1** Reduce the simultaneous demand.<br>**3.4.2** Check stop or service valve is fully open.<br>**3.4.3** Check if sufficient water pressure. |
| **4** Water too cold. | **4.1** Running pressure in excess of maximum recommended. | **4.1.1** Fit a pressure reducing valve. |
| **5** Shower controls noisy while in use. | **5.1** Running pressure in excess of maximum recommended. | **5.1.1** Fit a pressure reducing valve. |
| **6** Shower will not turn off. | **6.1** Debris in ceramic valve assembly. | **6.1.1** Replace the ceramic valve assembly. |

## UK 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 five 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 electricity, gas or water or incorrect setting of controls; ***d)*** failure to install in accordance with this installation guide.
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. Call out charges where the water supply cannot be isolated, this includes consequential losses arising from unserviceable supply valves.
7. The cost of repair or replacement of pressure relief devices, showerheads, hoses, riser rails and/or wall brackets, isolating switches, electrical cable, fuses and/or circuit breakers or any other accessories installed at the same time.
8. 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.

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*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**