TRITON

THAMES
(Exposed)
Thermostatic concentric mixer shower

Installation and Operating Instructions

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

2180368F June 2008

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

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INTRODUCTION

This book contains all the necessary fitting and operating instructions for your Triton Thames concentric 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 the 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, the supplied flow limiters must be installed in the inlet elbows.

This mixer shower is suitable for fully modulating type combination boilers and multi-point hot water heaters. 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).*

This mixer shower is supplied with an integral large area filter in each inlet elbow. Inlet connections are by compression fittings for 15mm copper pipe.

SAFETY WARNINGS

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.

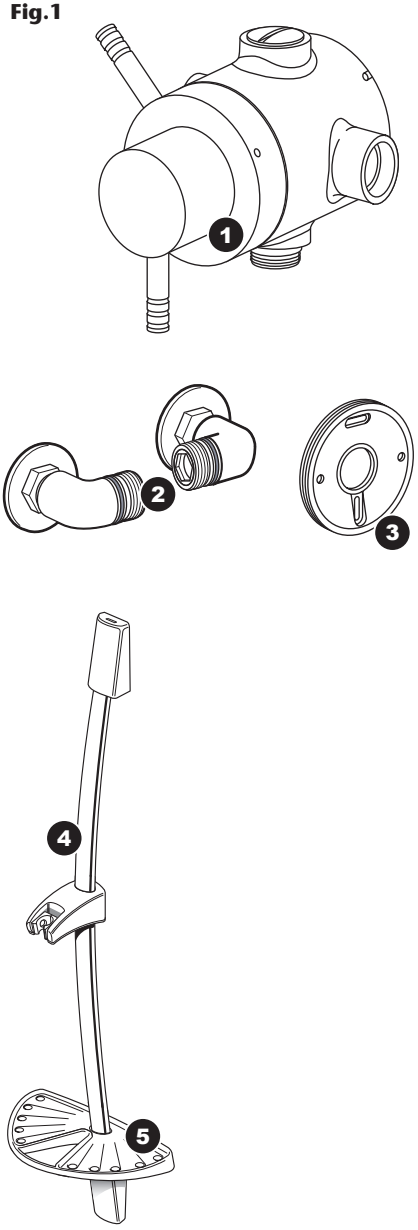
f. If it is intended to operate the shower in areas of hard water (above 200 ppm temporary hardness), a scale inhibitor may have to be fitted. For advice on the Triton scale inhibitor, please contact Customer Service.

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

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

MAIN COMPONENTS

Fig.1



1. Mixer shower body

2. Inlet elbow including:
- Inlet nut
- Olive
- Rear pipe trim

– Flow limiters (HP systems only)

3. Fixing bracket

4. Riser rail kit

5. Soap dish

All dimensions listed in this fitting book regarding the product and installation are approximate.

*All kits are for illustration purposes only and are not supplied unless otherwise stated.

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

BS6700 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.

Temperature adjustment range

The mixed water temperature can be adjusted from cold through to a top limit which must be preset during installation with full anti-scald protection throughout the range (35°C to 40°C) providing the hot water temperature at the inlet remains 10°C above the outlet temperature.

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

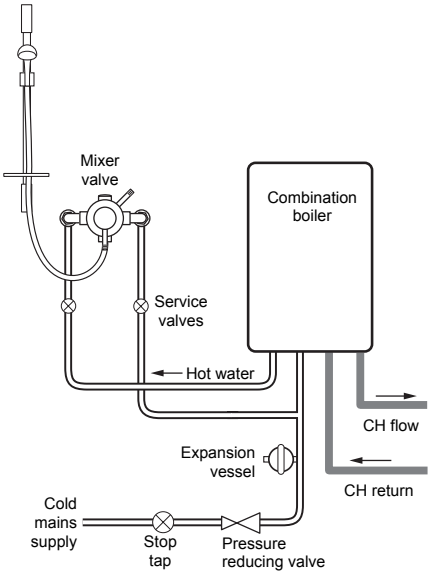
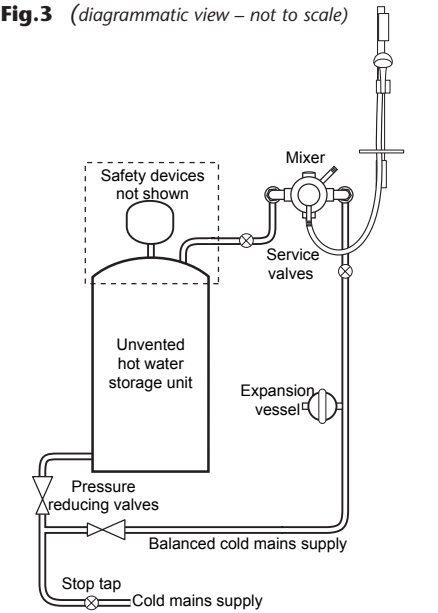


Fig.3 *(diagrammatic view – not to scale)*



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 ensure 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.

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 one metre head of water. The minimum head distance is measured from the base of the cold water cistern to top of the showerhead **(fig.5)**.

e) Pumped gravity fed systems (fig.6)

The shower control can be used with a gravity fed system in conjunction with a pump to boost pressures as shown **(fig.6)**.

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

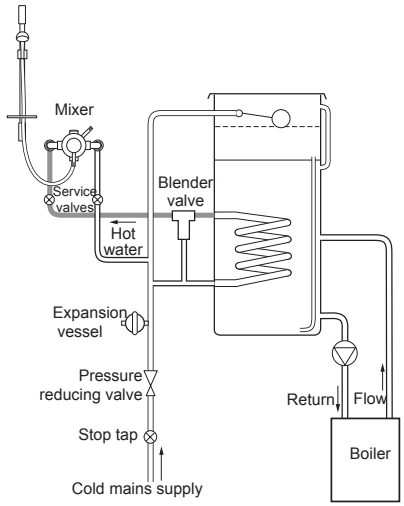


Fig.5 *(diagrammatic view – not to scale)*

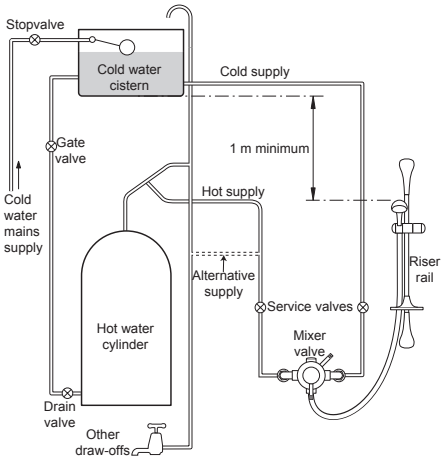


Fig.6 *(diagrammatic view – not to scale)*

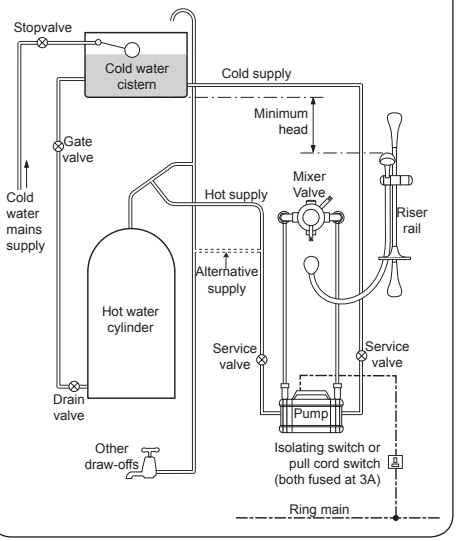
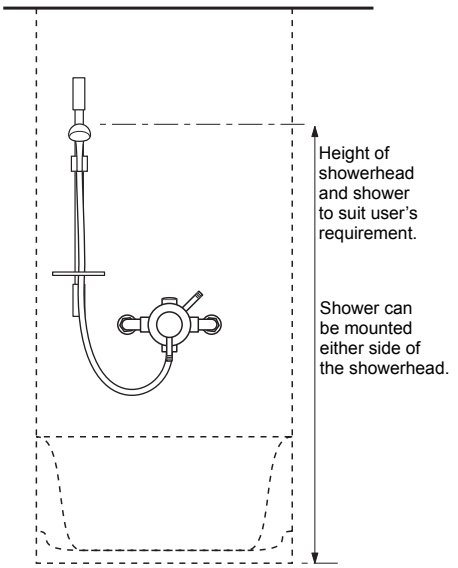


Fig.7 *(diagrammatic view – not to scale)*



GETTING STARTED

Check the contents to ensure all parts are present.

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

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 whilst using the shower. The showerhead and riser rail can be positioned either side of the shower.

IMPORTANT: The hot entry port is on the left-hand side of the mixer body marked by an orange label.

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. Use only the compression fittings supplied.

DO NOT solder fittings near the mixer unit as heat can transfer along the pipework and can damage seals and thermostatic 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).**

IMPORTANT: The inlet elbows contain filters that may become blocked if debris is not flushed through before fitting.

The inlet elbows allow for either rising, falling or rear entry hot and cold water supplies. The elbows have 'O' seals **(fig.9)** to the body and do not require PTFE tape or other means of sealing.

High Pressure Systems

If installing the mixer with a combi boiler or multipoint water heater, the two flow limiters supplied MUST be inserted into the inlet elbows. To fit the flow limiters use an allen key to unscrew the retaining nut on each inlet elbow **(fig.10)**. Insert the flow limiter and refit the retaining nut.

Instantaneous Gas Water Heaters

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

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

Fig.8

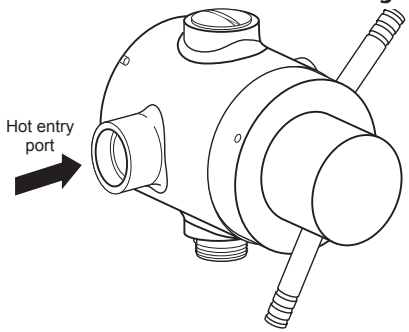


Fig.9

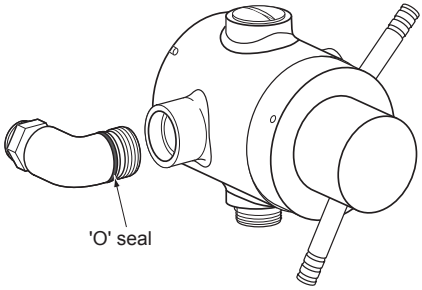
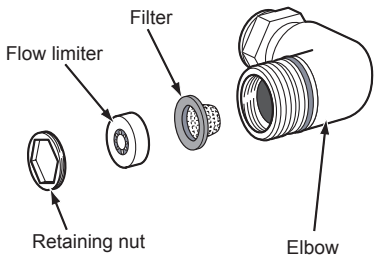
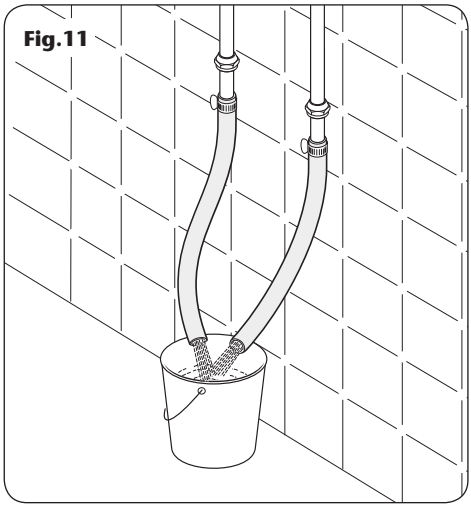
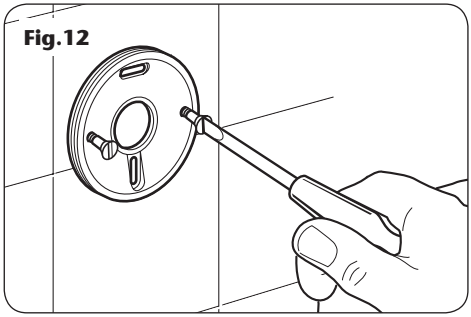
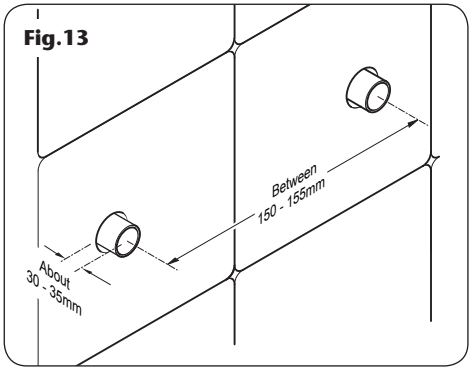


Fig.10









RISING OR FALLING SUPPLIES

Decide on the position of the shower and direction of pipe entry and then complete the pipework to the shower area.

The final separation between pipe centres needs to be between 150mm and 155mm. The hot and cold water pipes should not be permanently attached to the wall within one metre of the valve to allow for final adjustment of the valve position.

Mark the position of the four locating screws for the mounting plate, although if installing to a solid brick wall using two diagonal holes will usually be enough.

It is preferable to flush the pipework (fig.11) to clear the system of debris and check for leaks before connecting to the mixer.

Drill and plug the holes using the wall plugs provided. *(The wall plugs provided are suitable for most brick walls — 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).*

Fit the mounting plate onto the wall using the screws supplied **(fig.12)**. Slide the inlet nut onto supply pipes followed by the olive.

REAR ENTRY SUPPLIES

Using a spirit level, mark the route of incoming hot and cold water supply pipes at a distance of between 150mm and 155mm between centres. The hot and cold water pipes should not be permanently attached to the wall within one metre of the valve to allow for final adjustment of the valve position.

Remove the plaster and brickwork to the required depth to conceal the supply pipework.

Note: Pipework installed in solid walls must be given enough free play inside a cavity to allow entry into the inlet elbows for tightening, before fixing the mixer unit to the finished wall surface.

Install the hot and cold pipework (hot pipe enters from the left), making sure that the finished pipework projects from the front face of the tiled surface of the wall by about 30 – 35 mm **(fig.13)**.

IMPORTANT: The inlet elbows contain filters that may become blocked if debris is not flushed through before fitting.

Make good the wall and complete the tiling.

Mark the four fixing holes, although if installing to a solid brick wall using two diagonal holes will usually be sufficient.

Drill and plug the holes using the wall plugs provided.

Fit the mounting plate onto the wall using the screws provided. Slide the trims and inlet nuts onto the supply pipes followed by the olive **(fig.14)**.

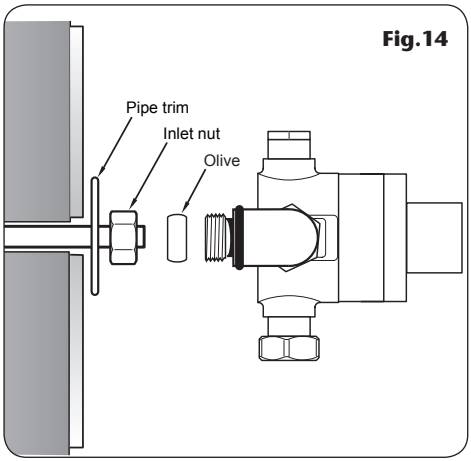


Fig.14

FITTING THE MIXER

IMPORTANT: Flush the pipework to clear the system for debris and check for leaks before connecting to the mixer.

Offer the mixer to the pipework and mounting plate. Make sure that the mixer body grub screws are slack, allowing the body to move freely on the mounting plate.

Level the mixer and tighten the grub screws to secure to the mounting plate. Tighten the inlet nuts.

LEAK TESTING

Fit a hose to the outlet and direct it to waste. Turn the flow control fully clockwise to close it. Open the isolating valves to the shower. Open the flow control by turning fully anti-clockwise and flush through.

Turn the temperature control fully anti-clockwise (HOT) and then fully clockwise (COLD).

Turn the flow control fully clockwise to close off the water supply.

Check for any leaks and remedy if necessary.

Turn OFF the water supplies

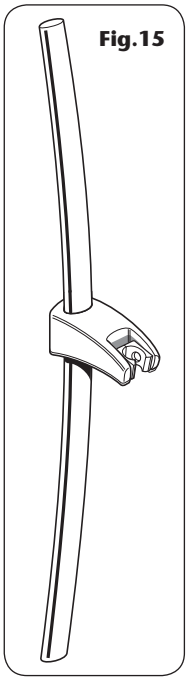


Fig.15

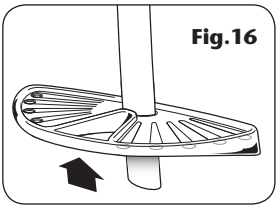


Fig.16

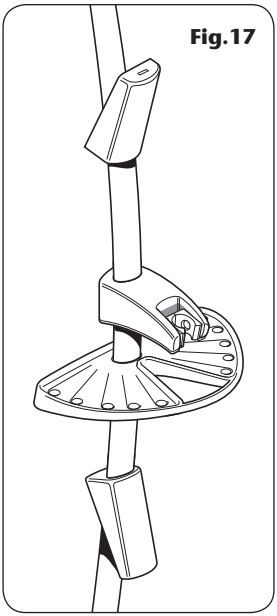


Fig.17

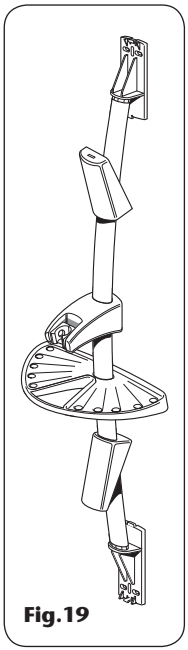


Fig.19

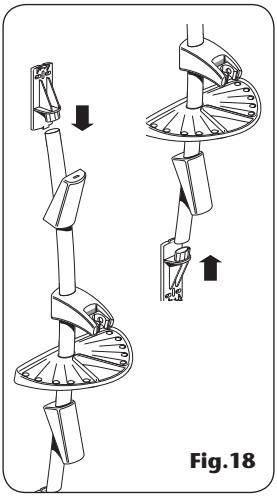


Fig.18

*FITTING THE RISER RAIL

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.

Decide the position for the rail on the wall within the shower area. Proceed as follows:

The showerhead holder is supplied already attached to the riser rail unit and the angle of the holder dictates the rail top and bottom. The correct orientation of the rail is when the showerhead holder is sloping DOWN **(fig.15)**.

Slide the supplied soap dish onto the riser rail below the showerhead holder **(fig.16)**.

Slide the top and bottom finishing trims onto the riser rail **(fig.17)**.

Push the two fixing brackets into the ends of the riser rail **(fig.18)**.

Offer the rail assembly to the wall **(fig.19)**. Using the brackets as templates, mark two upper holes and two lower holes. Note there are four provisions for screws per bracket — select the two most suitable for your requirements. Make sure the rail is aligned vertically.

Drill and plug the wall. *(The wall plugs provided are suitable for most brick walls — use an appropriate masonry drill, but if the wall is plasterboard or a soft building block, use suitable wall plugs and a suitable drill bit).*

Screw to the wall with the fixing screws supplied.

Slide the finishing trims onto the brackets. Make sure the lug on each rail bracket end engages into the slot on the fatter end of each trim before push fitting the thinner ends in place **(fig.20)**.

To remove a trim, push a small screwdriver or similar through the slot in the trim end and carefully pull away from the wall bracket.

Slide the soap dish down the rail so that its bracket engages on top of the lower finishing trim.

Adjusting the showerhead holder

The holder is supplied already attached to the rail unit. To adjust the height, press the button underneath the holder to release the locking mechanism **(fig.21)**. Still pressing the button, move the holder up or down to suit the user's requirement.

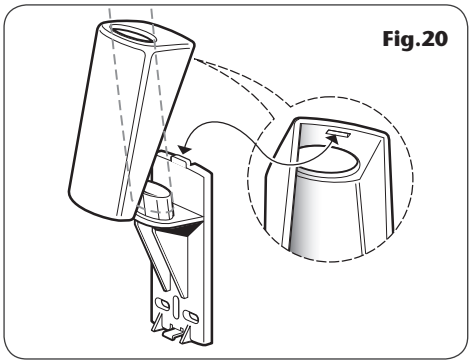
HOSE AND SHOWERHEAD

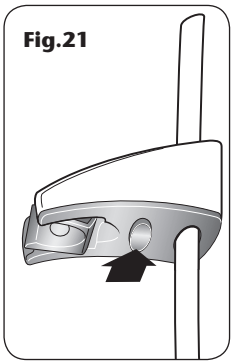
Feed the flexible hose through the soap dish opening **(fig.22)** so the dish acts as a retaining ring (Water Regulations).

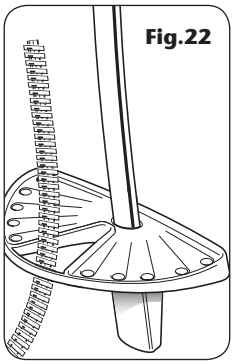
Screw the flexible hose to the bulkhead and showerhead, making sure the supplied washers are in place at both ends of the flexible hose **(fig.23)**.

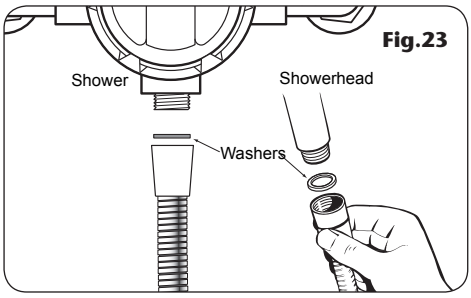
Place the showerhead into the holder and check that it fits correctly **(fig.24)**.

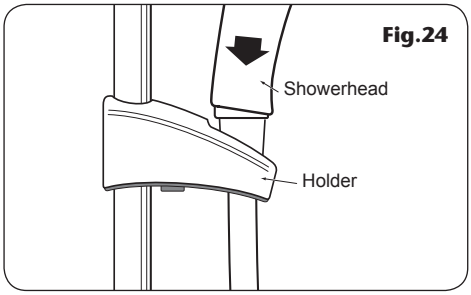
IMPORTANT: It is the conical end of the hose which grips into the holder. The showerhead will not fit in the holder without the hose attached.











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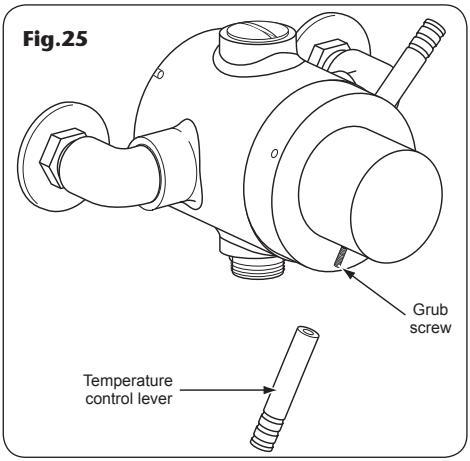
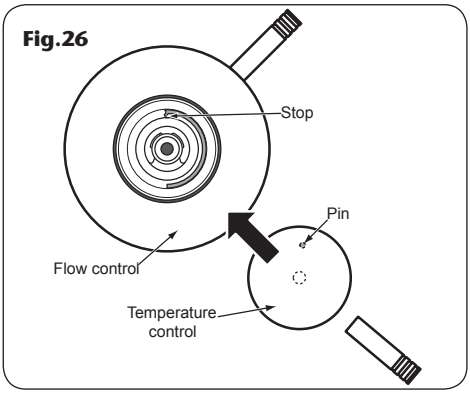




COMMISSIONING

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 their design temperature and pressures and are within the requirements as stated.

Make sure the temperature control is at the maximum temperature setting, i.e. rotated fully anti-clockwise and the showerhead is directed to waste.

Start the water flow by turning the flow control anti-clockwise and allow the shower to run at the maximum temperature setting until the water temperature has stabilised. Rotate the temperature control anti-clockwise until the desired maximum showering temperature is reached.

The mixers have a temperature stop to prevent accidental rotation to higher temperatures. This is adjustable to provide a maximum temperature of 35°C – 45°C.

ADJUSTING THE MAXIMUM TEMPERATURE SETTING

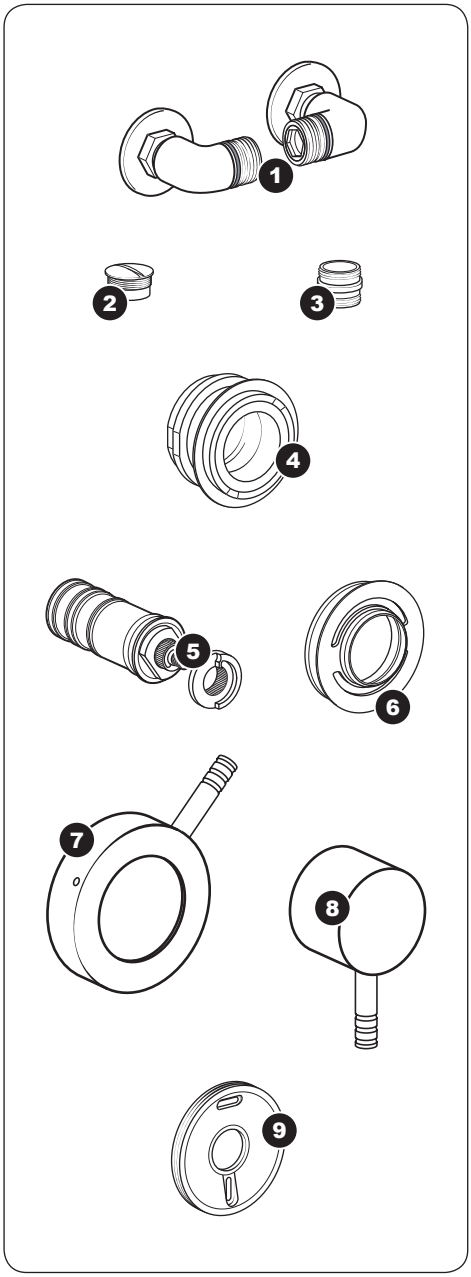
Remove the temperature control by first unscrewing the temperature lever and then loosening the grub screws **(fig.25)**. Pull off the temperature control to expose the valve spindle.

Turn the flow control fully anti-clockwise. With a steady flow running, adjust the temperature valve spindle by hand until the desired temperature is reached.

Carefully refit the temperature control so that the pin on the inside of the control butts up to the stop on the valve itself **(fig.26)**. Secure the temperature control in place with the grub screw and refit the control lever.

SPARE PARTS

Ref.	Description	Part No.
1.	Elbow (pair) w/ cover trims	83307690
2.	Plug	83307800
3.	Outlet connector	83307700
4.	Slide valve	83307780
5.	Thermostatic cartridge w/ temperature stop	83307770
6.	Upper flange	83307790
7.	Flow control assembly	83307850
8.	Temperature control assembly	83307860
9.	fixing bracket	83307670
–	Flow limiter	83307760
Riser rail kit		
10.	Brackets (pair)	22010430
11.	Trims	22010740
12.	Riser rail	22010750
13.	Showerhead holder	22010730
14.	Soap dish	83307240



FAULT FINDING

The following can be carried out by a competent person

Problem/Symptom	*Cause*	*Action/Cure*
1 Water too hot.	**1.1** Temperature control incorrectly commissioned.	**1.1.1** Refer to commissioning section.
	1.2 Not enough cold water flowing through shower.	**1.2.1** Turn temperature control anti-clockwise.
	1.3 Increase in the ambient cold water temperature.	**1.3.1** Turn temperature control anti-clockwise.
	1.4 Cold water supply blocked.	**1.4.1** Turn off shower and consult a competent plumber or contact Triton Customer Service.
	1.5 High volume of cold water drawn off elsewhere.	**1.5.1** Reduce the simultaneous demand from the mains supply.
2 Water too cold.	**2.1** Temperature control incorrectly commissioned.	**2.1.1** Refer to commissioning section.
	2.2 Not enough hot water flowing through shower.	**2.2.1** Turn the temperature control clockwise. (Override max. temperature stop if necessary).
	2.3 Decrease in the ambient cold water temperature.	**2.3.1** Turn the temperature control clockwise. (Override the maximum temperature stop if necessary).
	2.4 Insufficient hot water supplies from the heating system.	**2.4.1** Make sure heating appliance is set to maximum or has sufficient stored hot water.
		2.4.2 Ensure heating appliance is igniting by trying a hot water tap elsewhere.
	2.5 Hot water supply blocked or restricted.	**2.5.1** Turn off shower and consult a competent plumber or contact Triton Customer Service.
	2.6 Flow limiter not fitted (HP systems only).	**2.6.1** Fit the supplied flow limiter in the showerhead *(see 'instantaneous gas water heaters' on page 7)*.
3 High water flow and/or poor performance on a mains fed system.	**3.1** Restricters not fitted.	**3.1.1** Fit the supplied restricters in the inlet elbows *(see 'high pressure systems' on page 7)*.
4 Water does not flow or shower pattern collapses when another outlet is turned on.	**4.1** Water supplies cut off.	**4.1.1** Check water elsewhere in house and if necessary contact local water company.
	4.2 Shower unit blocked.	**4.2.1** Inspect the filters. Clean if necessary.
	4.3 Blockage in pipework.	**4.3.1** Turn off the shower and consult a suitably competent plumber.
	4.4 Showerhead blocked.	**4.4.1** Clean the showerhead.
	4.5 System not capable of supplying multiple outlets at the same time.	**4.5.1** Reduce the simultaneous demand.
		4.5.2 Make sure stop or service valve is fully open.
		4.5.3 Check if there is sufficient water pressure.

FAULT FINDING

The following is recommended for a professional qualified installer only

Problem/Symptom	*Cause*	*Action/Cure*
5 Water too cold.	**5.1** Running pressure in excess of maximum recommended.	**5.1.1** Fit a pressure reducing valve.
6 Shower controls noisy when in use.	**6.1** Running pressure in excess of maximum recommended.	**6.1.1** Fit a pressure reducing valve.
7 Shower will not shut off.	**7.1** Pipework not flushed before connecting the unit (seals damaged). **7.2** Seals damaged.	**7.1.1** Renew flow control seals.

Service Policy

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

1. Telephone Customer Service on 0870 067 3333 (0845 762 6591 in Scotland and in Northern Ireland), 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 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.

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Triton is a division of Norcros Group (Holdings) Limited

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