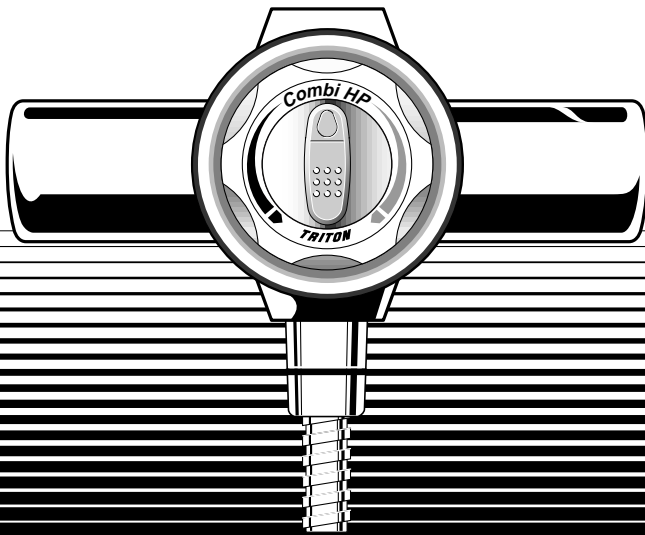


TRITON

. Combi HP thermostatic mixer shower .



Installation and Operating Instructions

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

COMBI HP THERMOSTATIC MIXER SHOWER

TRITON



*A **NORCROS** Company*

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INTRODUCTION

This book contains all the necessary fitting and operating instructions for your Triton combi high pressure thermostatic mixer shower. Please read them carefully.

Please 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 ensure a long and trouble free life from your shower.

This shower is designed to comply with the thermal performance requirement of BS 1415 part 2.

Thermostatic mixers will automatically maintain your chosen temperature, even if taps are turned on elsewhere in the house, and shut off if either the hot or cold water supply fails.

It will work on the higher pressure systems found in the U.K. up to a maximum of 5 bar running pressure.

The valve **MUST NOT** be subjected to temperatures in excess of 80°C.

The valve is suitable for fully modulating type combination boilers and multi-point hot water heaters. Also suitable for thermal storage and unvented systems.

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 sprayhead cartridge must be cleaned regularly to remove scale and debris.
- 5** Conveniently situated isolating valves 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 site requirements then see note below.

NOTE: In the event of items 2, 6 and 7, contact Triton Customer Service for advice.
Tel: (01203) 372222.

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.

KEY TO MAIN COMPONENTS

- | | | |
|------------------------|--|----------------------------|
| 1 Inlet nuts & olives | 9 Temperature knob | 16 Flush mount plate |
| 2 Inlet elbows | 10 Knob trim | 17 Flush mount cover |
| 3 Valve housing | 11 Max. temperature
override button | 18 Trim ring |
| 4 Outlet adaptor | 12 Cover | 19 Cartridge fixing screws |
| 5 Outlet nut & olive | 13 Inlet trims | 20 Nut covers |
| 6 Outlet blanking plug | 14 Outlet trim | 21 Pipe trims |
| 7 Cartridge assembly | 15 Outlet blanking trim | 22 Hexagonal nut |
| 8 Flow knob | | 23 Shroud (flush fit only) |

Fig.1

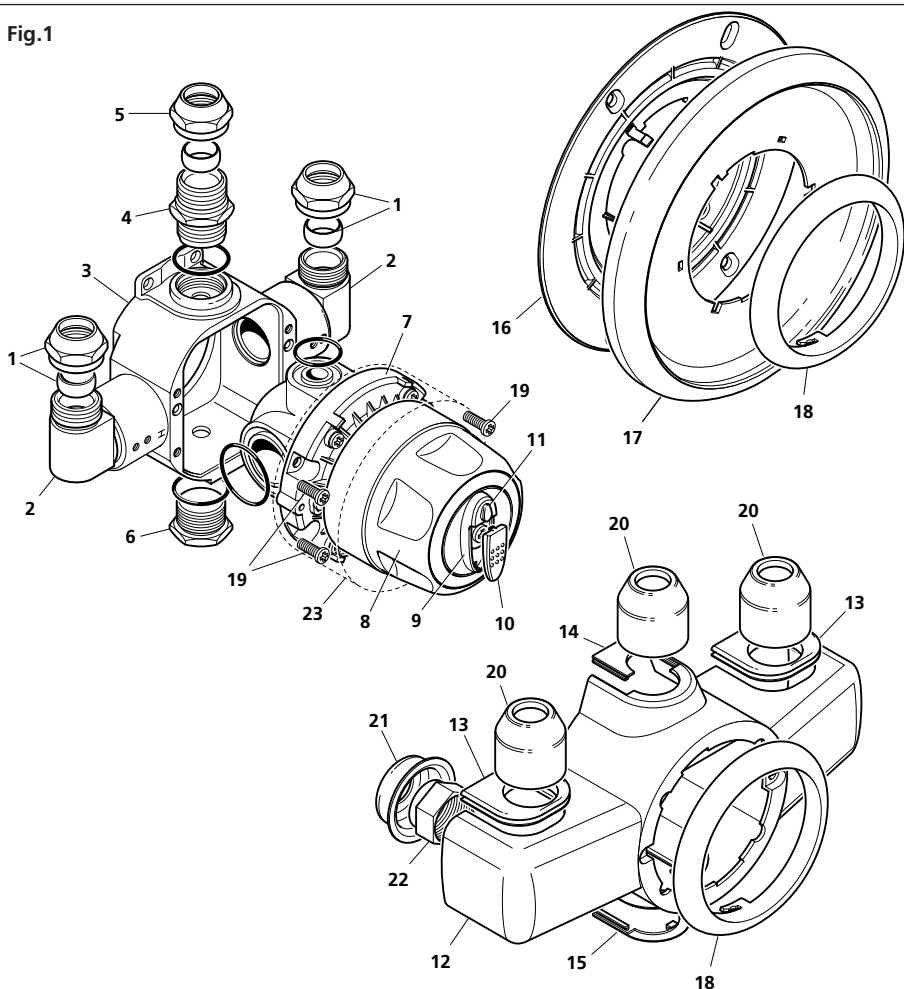


Fig.2 diagrammatic view (not to scale)

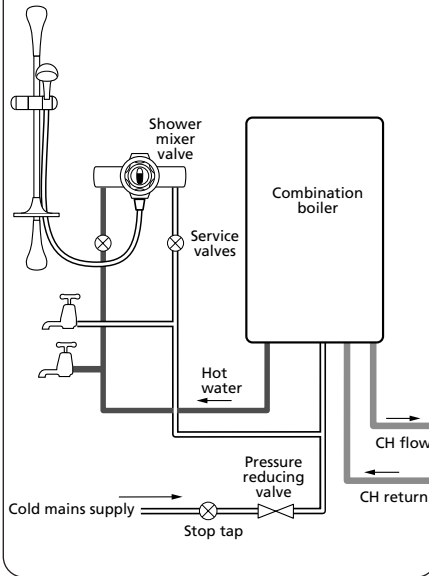
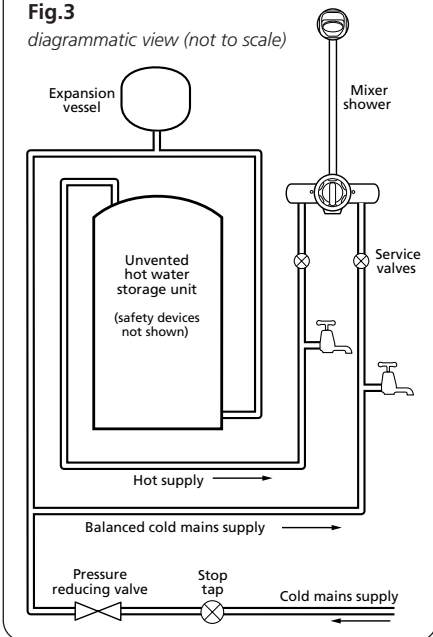


Fig.3 diagrammatic view (not to scale)



SITE REQUIREMENTS

The installation must be in accordance with local Water Company Byelaws and BS6700.

Minimum running water pressure: 1 bar.

Maximum running water pressure: 5 bar.

Maximum static water pressure: 10 bar.

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

Whilst 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. This should be installed as indicated on the appropriate diagrams illustrated on these pages, and set to within the specification of the valve.

For optimum performance of this shower both 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.

For effective thermostatic control the temperature of the hot water entering the mixer should remain a minimum of 10°C above the selected output temperature.

DO NOT use jointing compounds on pipework.

Fig.2 shows a typical combination boiler installation.

Fig.3 depicts an unvented mains pressurised hot water storage system.

Fig.4 illustrates a thermal storage indirect fired hot water installation.

PREPARING THE MIXER VALVE

Before commencing the installation, make sure all the apertures on the valve are carefully covered to prevent ingress of any debris etc. NOTE: It is not necessary to remove the control knobs at any stage.

SITING OF THE SHOWER

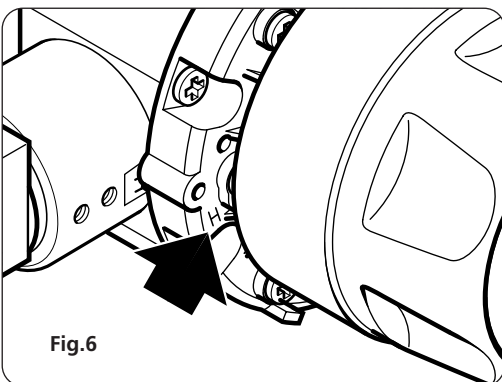
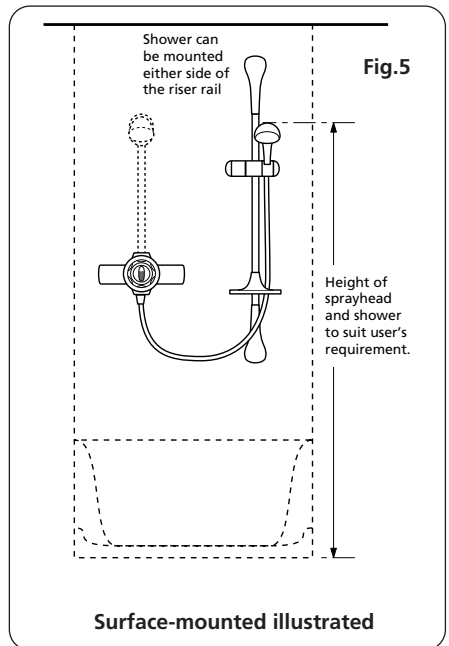
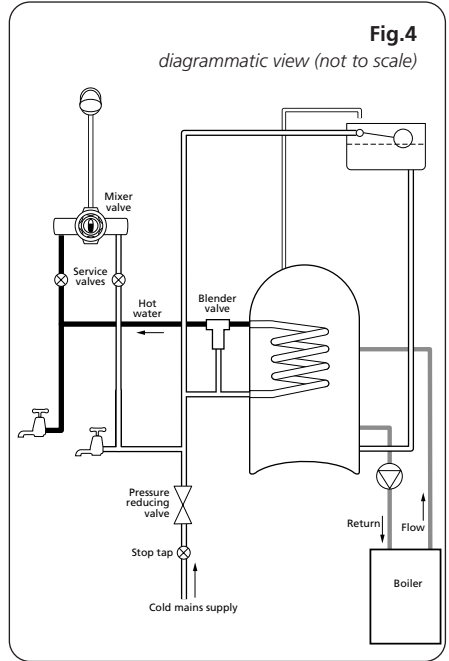
WARNING: THE SHOWER MUST NOT BE POSITIONED WHERE IT WILL BE SUBJECT TO FREEZING CONDITIONS.

Refer to fig.5 for correct siting of the shower.

Position the shower and sprayhead on the wall so that all controls can be comfortably reached whilst using the shower. The sprayhead and riser rail can be positioned either side of the shower.

NOTE: Pipe entry for both surface-mounted and flush-fitted valves can be from the top, bottom or rear.

Important: The hot entry port is on the left hand side of the valve and is marked on the valve with a letter 'H' (fig.6).



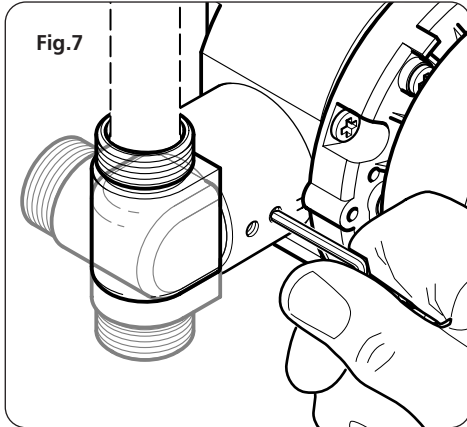


Fig.7

FITTING THE SHOWER TO THE WALL

SURFACE-MOUNTED

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.

DO NOT solder fittings within the vicinity of the shower unit, as heat transfer can damage components.

NOTE: Suitable isolating valves (complying with Water Byelaws) **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 ensure optimum 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.

The hot water pipe entry must be on the left.

RISING & FALLING SUPPLIES

Procedure

Complete the pipework to the shower area having decided on the position of the shower and direction of pipe entry.

NOTE: The final separation between pipe centres needs to be approximately 153mm but absolute accuracy is not essential as the inlet elbows are adjustable between 146mm and 160mm.

FLUSH THE PIPEWORK TO CLEAR THE SYSTEM OF ALL DEBRIS AND CHECK FOR LEAKS.

Important: The inlet elbows contain flow limiters and check valves that may

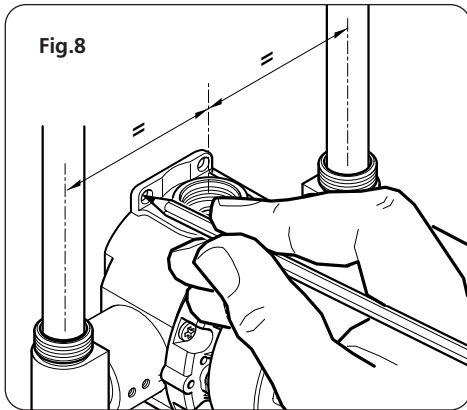


Fig.8

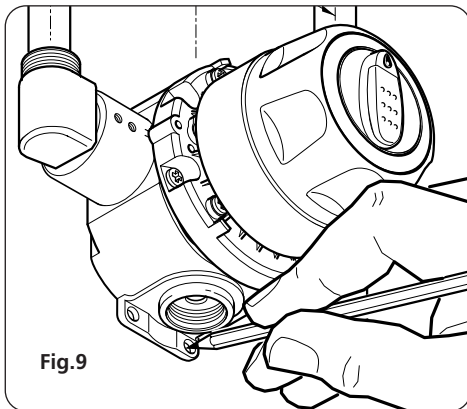


Fig.9

be damaged if debris is not flushed through prior to fitting.

Where this is not possible refer to flushing procedure on page 20.

Clip the pipework to the wall surface so that the pipe centres are 21mm off the wall.

Offer the valve, together with the inlet elbows, to the pipework ensuring the inlet elbow grub screws (fig.7) are slack allowing the inlet elbows to be rotated to the correct orientation and move freely in and out of the valve housing.

Ensuring that the valve housing is central between the two pipes, mark two diagonal fixing holes (fig.8 & 9).

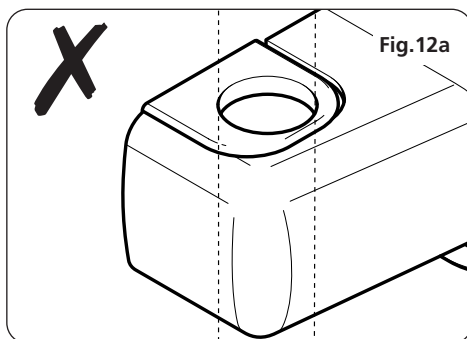
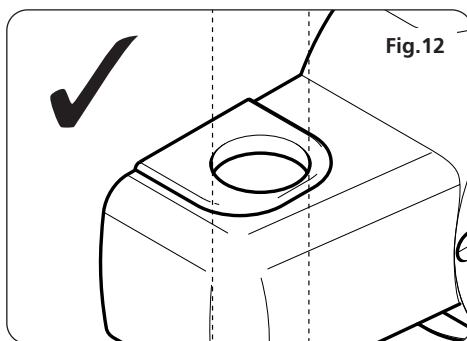
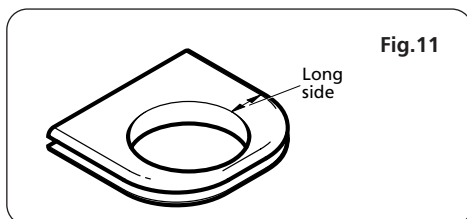
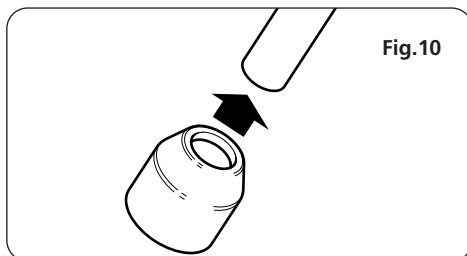
Remove the valve. Drill and plug the holes using the wall plugs provided.

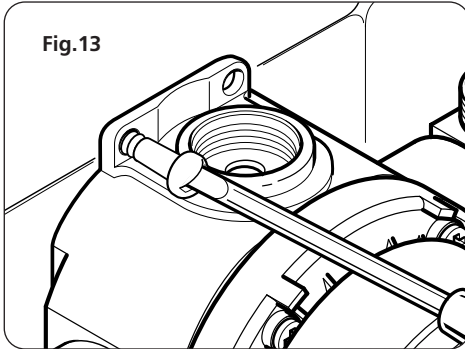
Fit the nut covers on to the pipes (fig.10).

NOTE: Slide the pipes into the small diameter end of the nut cover. (It will not fit if inserted from the other end). Then slide the inlet nuts and olives onto the pipes, followed by the inlet trims.

NOTE: The holes in the inlet trims are offset to allow for adjustable inlet pipe separation widths. If the pipe centre separation is 153mm or less then have the short side of the inlet trims between the pipes. If the pipe separation gap is 153mm or greater then have the long side of the inlet trims between the pipes (fig.11). If in any doubt try the cover to see if it fits properly (i.e. no visible gaps between the inlet trims and the cover - see fig.12). If there is a gap (fig.12a) then reverse the trim. While trying the cover ensure that the inlet nuts are sitting in the holes in the inlet trim holes so that the inlet trims are at the correct separation.

Having orientated the inlet trims correctly, refit the valve to the pipework **ensuring that the hot inlet port (marked with the letter 'H' on the valve housing) is connected to the hot pipework which**

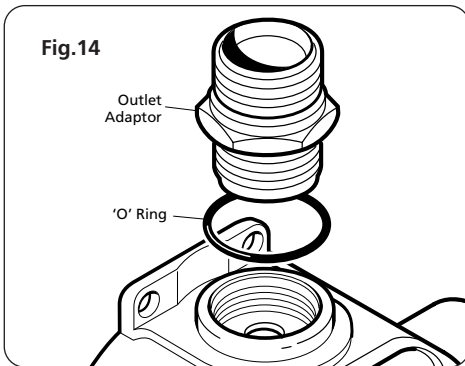




must be on the left.

Screw to the wall with the two screws supplied (fig.13). Tighten the inlet nuts and inlet elbow grub screws.

If a fixed head is to be used then the outlet adaptor needs to be fitted into the top outlet hole in the valve housing (fig.14). The adaptor is sealed with an 'O' ring. Ensure the adaptor is fitted with the *hose end* in the valve housing (fig.15). Fit the blanking plug into the bottom outlet hole using an 'O' ring to seal it.



If a riser rail is to be used then the outlet adaptor needs to be fitted into the bottom outlet hole in the valve housing. The adaptor is sealed with an 'O' ring.

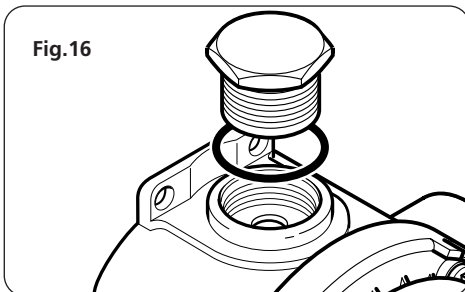
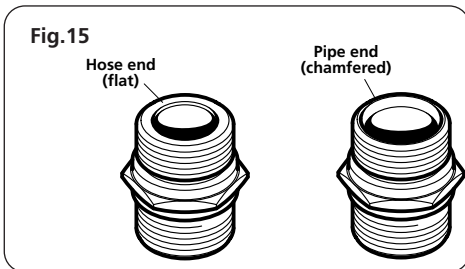
Ensure the adaptor is fitted with the *pipe end* in the valve housing (fig.15). Fit the blanking plug into the top outlet hole using an 'O' ring to seal it (fig.16).

If fitting a fixed head refer to '*Fitting the fixed head*' and complete the outlet pipework as follows: Determine the required height of pipe and cut to size if necessary. Slide nut cover onto the pipe, followed by nut and olive. Insert pipe into outlet adaptor, place outlet trim onto the adaptor (fig.17) and fully tighten the compression nut. Before fixing the fixed head backplate to the wall, connect a hose to the pipework and direct to waste.

If fitting a riser rail connect the shower hose to the outlet and direct to waste.

Open the isolating valves to the shower and flush through ensuring that the flow control is opened fully and the temperature control is rotated to HOT and then to COLD (if necessary depress the max. temperature override button). Check for any leaks and remedy if necessary.

Slide the outlet blanking trim onto the cover where it is required i.e. bottom outlet for fixed head, top outlet for a hose (fig.18).



Fit the cover on and secure with two screws (fig.19). Locate the lugs on the trim ring in the holes on the cover (fig.20) and twist clockwise. Finally, pull nut covers over nuts. Complete the fitting of the shower accessories by referring to the appropriate section.

REAR ENTRY SUPPLIES

Procedure

NOTE: The final separation between pipe centres needs to be approximately 153mm (fig.21) but absolute accuracy is not essential as the inlet elbows are adjustable between 146mm and 160mm.

Using a spirit level, mark the route of incoming hot and cold water supply pipes at a distance of 153mm centres.

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

NOTE: It is advisable that pipework installed in solid walls be provided with sufficient free play inside a cavity to enable entry into the inlet elbows for tightening, prior to fixing the valve to the finished wall surface

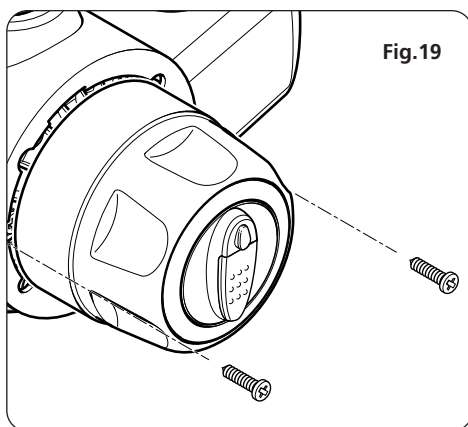
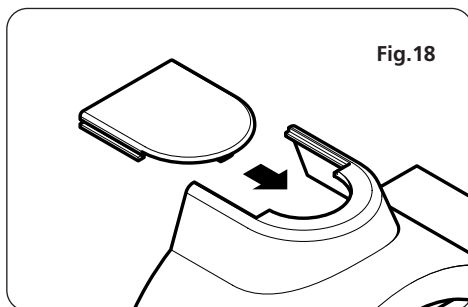
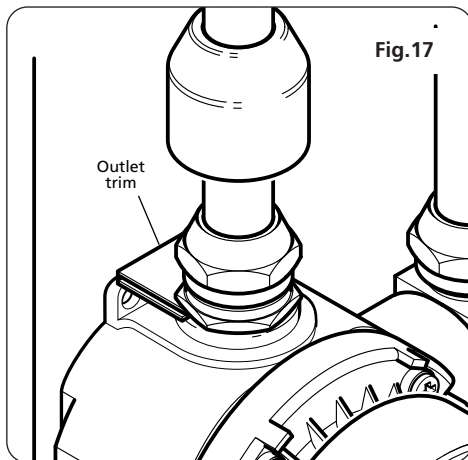
Install the hot and cold pipework (**the hot pipe must enter from the left**) ensuring that the finished pipework projects from the front face of the tiled surface of the wall by 9.5mm (fig.22).

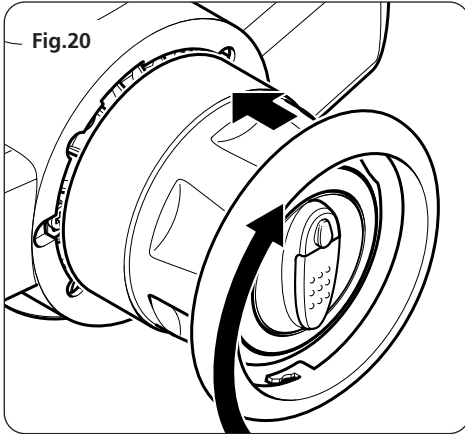
Allow for two circular recesses measuring 32mm diameter by 14mm depth, to accept the rear entry pipe trims (fig.21).

FLUSH THE PIPEWORK TO CLEAR THE SYSTEM OF ALL DEBRIS AND CHECK FOR LEAKS.

Important: The inlet elbows contain flow limiters and check valves that may be damaged if debris is not flushed through prior to fitting.

Where this is not possible refer to flushing procedure on page 20.





Make good the wall and complete the tiling ensuring that the rear entry pipe trims (fig.22) are sealed in with either silicon sealant or grouting. NOTE: Failure to fit the rear entry pipe trims could result in ingress of water into the wall cavity.

Offer the valve, together with the inlet elbows, to the pipework ensuring the inlet elbow grub screws are slack allowing the inlet elbows to be rotated to the correct orientation and move freely in and out of the valve housing (fig.7).

Ensuring that the valve is central between the two pipes, mark two diagonal fixing holes (fig.23 & 24).

Remove the valve. Drill and plug the holes using the wall plugs provided or if fitting into a hollow wall structure use suitable cavity wall fixings.

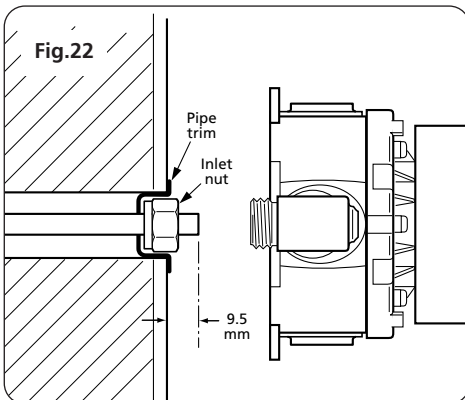
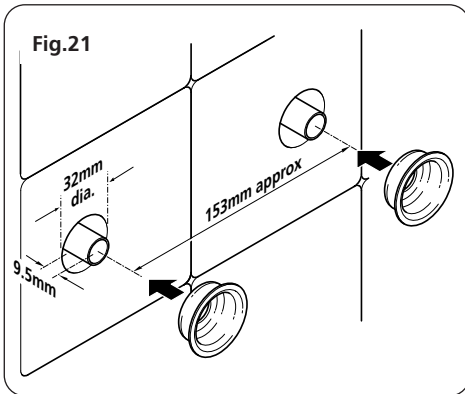
Using two hexagonal nuts (supplied), refit the valve to the pipework **ensuring that the hot inlet port (marked with the letter 'H' on the valve housing) is connected to the hot pipework which must be on the left.**

Tighten the inlet nuts with the spanner supplied (fig.25) then tighten the inlet elbow grub screws.

Screw to the wall with the screws supplied.

If a fixed head is to be used then the outlet adaptor needs to be fitted into the top outlet hole in the valve housing (fig.14). The adaptor is sealed with an 'O' ring. Ensure the adaptor is fitted with the *hose end* in the valve housing (fig.15). Fit the blanking plug into the bottom outlet hole using an 'O' ring to seal it.

If a riser rail is to be used then the outlet adaptor needs to be fitted into the bottom outlet hole in the valve housing. The adaptor is sealed with an 'O' ring. Ensure the adaptor is fitted with the *pipe end* in the valve housing (fig.15).



Fit the blanking plug into the top outlet hole using an 'O' ring to seal it (fig.16).

If fitting a fixed head refer to '*Fitting the fixed head*' and complete the outlet pipework as follows:

Determine the required height of pipe and cut to size if necessary. Slide nut cover on to the pipe, followed by nut and olive. Insert pipe into outlet adaptor, place outlet trim onto the adaptor (fig.17) and fully tighten the compression nut. Before fixing the fixed head backplate to the wall, connect a hose to the pipework and direct to waste.

If fitting a riser rail, connect the shower hose to the outlet and direct to waste.

Open the isolating valves to the shower and flush through ensuring that the flow control is opened fully and the temperature control is rotated to HOT and then to COLD (if necessary depress the maximum temperature override button). Check for any leaks and remedy if necessary.

Slide the outlet blanking trim onto the cover where it is required i.e. bottom outlet for fixed head, top outlet for a hose (fig.18).

Fit the inlet blanking trims on the underside of the cover (fig.26).

Fit the outlet trim over the outlet adaptor (fig.17) and slide the cover on. Secure the cover with two screws (fig.19). Locate the lugs on the trim ring in the holes on the cover (fig.20) and twist clockwise.

Complete the fitting of your shower accessories by referring to the appropriate section.

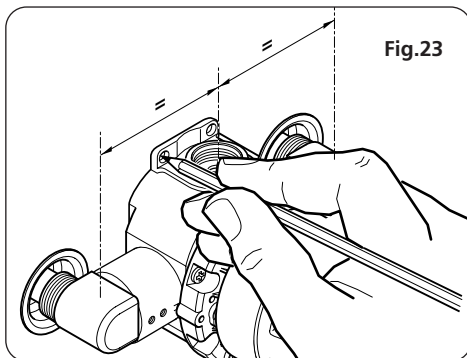


Fig.23

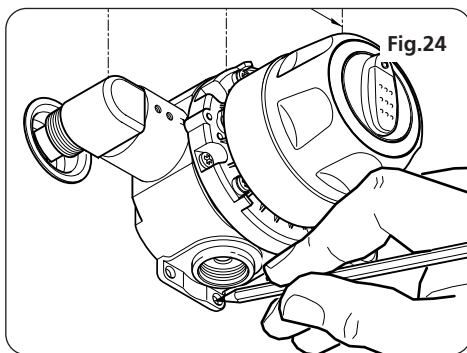


Fig.24

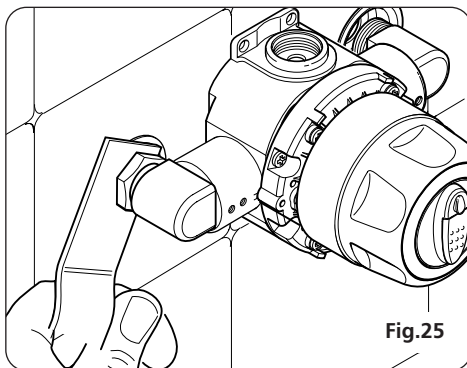


Fig.25

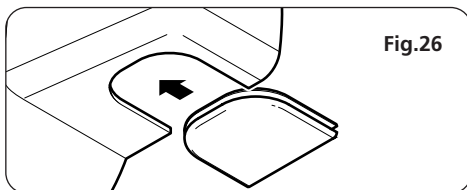


Fig.26

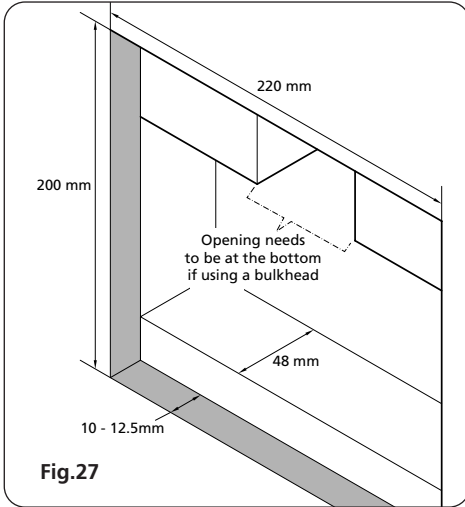


Fig.27

NOTE: The flush-fitted shower valve comes complete with a built-in pvc shroud. **DO NOT** remove it. It is important that when making good the wall after installation, the plastering/sealing must be made tight up to the shroud in order to prevent ingress of water.

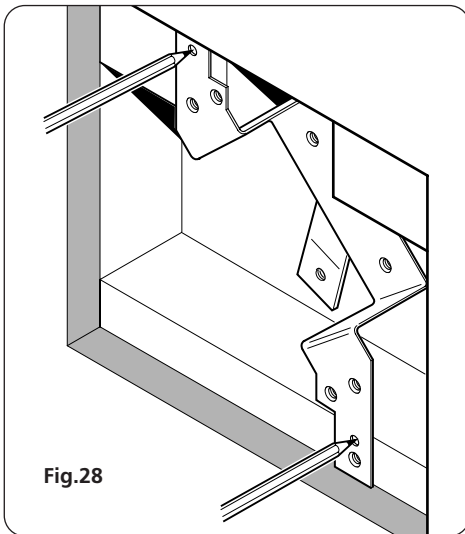


Fig.28

FITTING THE SHOWER TO THE WALL

FLUSH-FITTED

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.

DO NOT solder fittings within the vicinity of the shower unit, as heat transfer can damage components.

NOTE: Suitable isolating valves (complying with Water Byelaws) **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 ensure optimum 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 valve.

The hot water pipe entry must be on the left.

The Triton mixer valve includes a wall 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 providing the back of the cubicle is accessible.

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

SOLID WALL

The building depth for the shower into a solid wall is between 57 and 66 mm. The building in depth calculation must include the thickness of the plaster and tiles. This dimension determines how much of the shower control is visible through the concealing plate when the installation is completed.

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.

NOTE: The final separation between pipe centres needs to be approximately 153 mm but absolute accuracy is not essential as the inlet elbows are adjustable between 146 mm and 160 mm.

Remove the plaster and brickwork to the depth shown in fig.27 and chase out any additional areas of wall to facilitate pipework to and from the valve.

Offer the mounting bracket up to the wall and mark the two plain fixing holes (fig.28). Drill and plug then screw bracket to the wall.

NOTE: The valve can be fitted to the mounting bracket if required or secured directly to the wall with the screws supplied.

If a fixed head is to be used then the outlet adaptor needs to be fitted into the top outlet hole in the valve housing (fig.14). The adaptor is sealed with an 'O' ring. Ensure the adaptor is fitted with the *hose end* in the valve housing (fig.15). Fit the blanking plug into the bottom outlet hole using an 'O' ring to seal it.

If a bulkhead outlet is to be used then the outlet adaptor needs to be fitted into the bottom outlet hole in the valve housing. The adaptor is sealed with an 'O' ring. Ensure the adaptor is fitted with the *hose end* in the

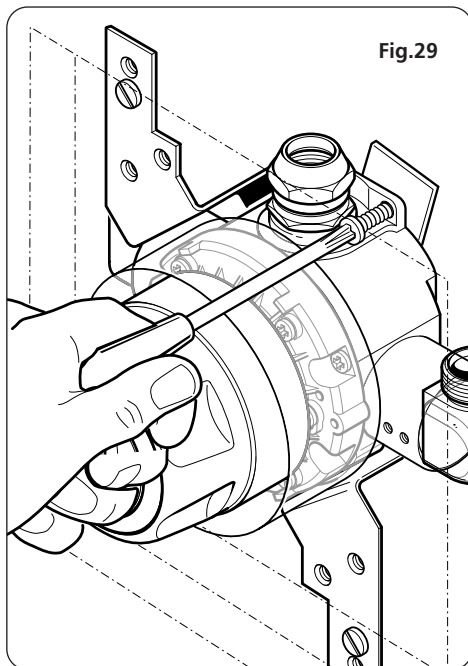


Fig.29

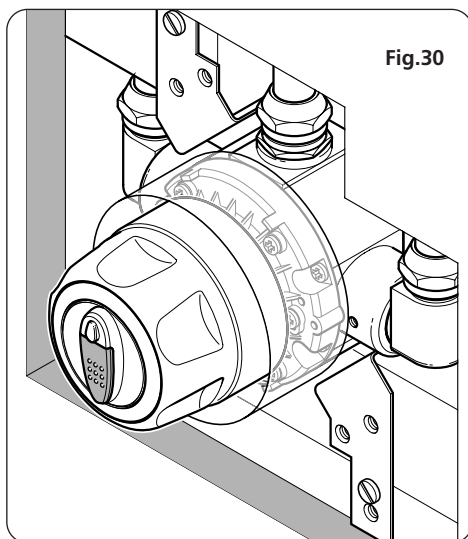


Fig.30

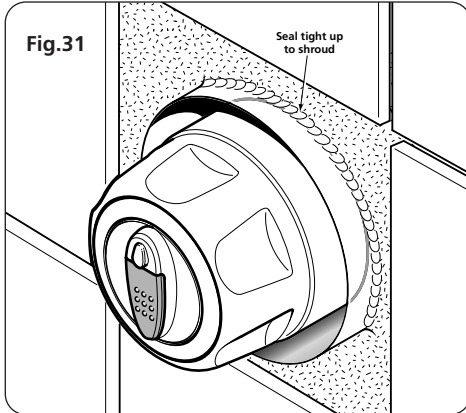


Fig.31

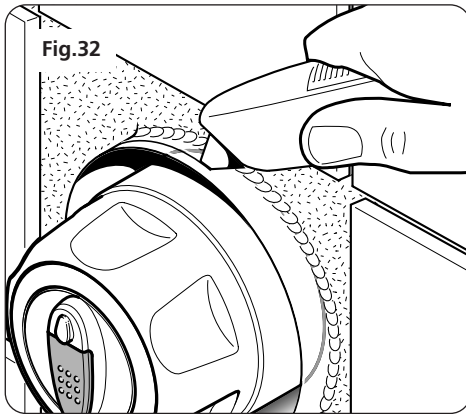


Fig.32

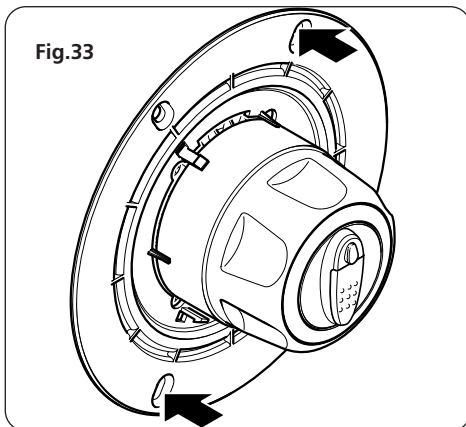


Fig.33

valve housing (fig.15).

Fit the blanking plug into the top outlet hole (fig.16) using an 'O' ring to seal it.

Ensure the inlet elbows are orientated the correct way. Offer the valve up to the mounting bracket (fig.29) or wall surface, and secure using the screws provided. Complete the pipework to the shower marking off the length to enter the elbows. Remove the valve and cut the pipes to length.

FLUSH THE PIPEWORK TO CLEAR THE SYSTEM OF ALL DEBRIS AND CHECK FOR LEAKS.

Important: The inlet elbows contain flow limiters and check valves that may be damaged if debris is not flushed through prior to fitting.

Where this is not possible refer to flushing procedure on page 20.

Refit the valve to the mounting bracket/wall surface and pipework (fig.30). Tighten the inlet nuts and inlet elbow grub screws.

If fitting a fixed head, refer to 'Fitting the fixed head' and complete the outlet pipework. Before fixing the fixed head backplate to the wall connect a hose to the pipework and direct to waste.

If fitting a riser rail kit, refer to 'Fitting the bulkhead' and complete outlet pipework.

Before fitting the bulkhead to the wall connect the shower hose and direct it to waste.

Open the isolating valves to the shower and flush through ensuring that the flow control is opened fully and the temperature control is rotated to HOT and then to COLD (if necessary depress the max. temperature override button). Check for leaks and remedy if necessary.

Make good the wall surface and ensure the plastering/sealing is taken tight to the pvc shroud (fig.31). Should the

shroud protrude beyond the wall surface, trim flush with a sharp knife (fig.32).

Offer the flush mount plate up to the finished tile surface and ensuring that the valve and the plate are aligned, mark the 'arrowed' fixing holes (fig.33). Remove the flush mount plate then drill and plug holes.

Break off the alignment tabs on the flush mount plate (fig.34). Place a ring of silicon sealant round the plate so that the plate seals against the wall. Fix the plate to the wall using the screws provided. Wipe off any excess sealant.

Fit the flush mount cover (fig.35). Locate the lugs on the trim ring in the holes on the cover (fig.36) and twist clockwise.

Complete the fitting of your shower accessories by referring to the appropriate section.

HOLLOW WALL

The wall mounting bracket supplied with the shower is suitable for use on a plasterboard wall of $\frac{3}{8}$ or $\frac{1}{2}$ inch in thickness.

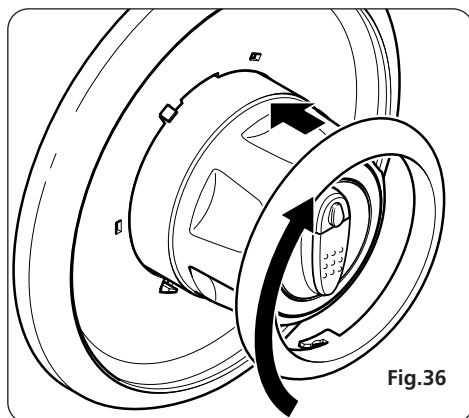
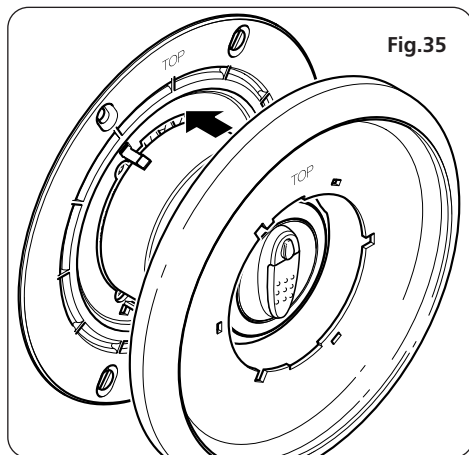
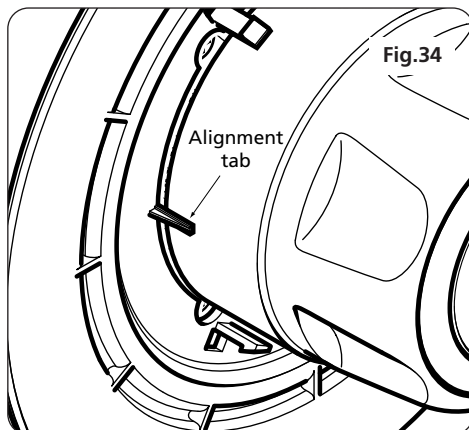
Decide on the shower position and determine whether the hot and cold water supplies will enter the shower from the top (falling) or bottom (rising) or rear.

Mark an opening as shown in fig.37 plus the route of inlet and outlet pipework.

NOTE: The final separation between pipe centres needs to be approximately 153mm but absolute accuracy is not essential as the inlet elbows are adjustable between 146mm and 160mm.

Take out the plasterboard and offer the mounting bracket up to the wall (fig.38). Mark the outer fixing holes and drill. Insert the wall bracket into wall cavity and fix using the bolts and washers provided (fig.39).

If a fixed head is to be used then the outlet adaptor needs to be fitted into the top



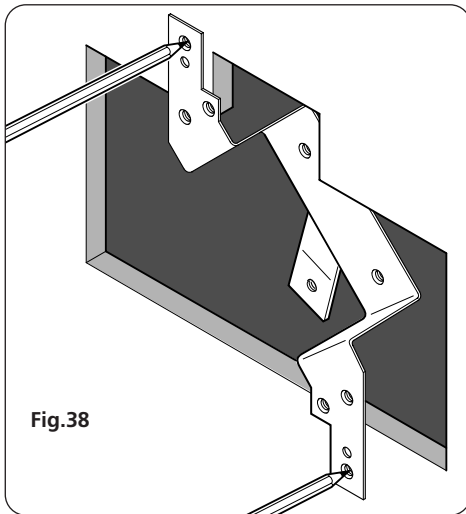
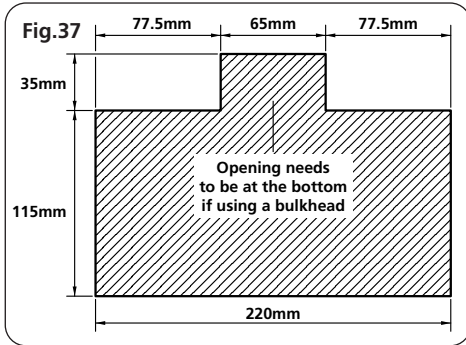


Fig.38

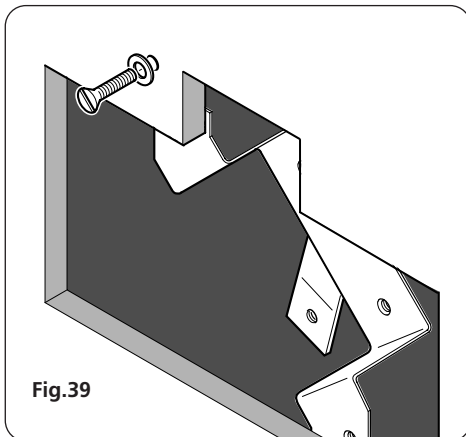


Fig.39

outlet hole in the valve housing (fig.14). The adaptor is sealed with an 'O' ring. Ensure the adaptor is fitted with the *hose end* in the valve housing (fig.15). Fit the blanking plug into the bottom outlet hole using an 'O' ring to seal it.

If a bulkhead outlet is to be used then the outlet adaptor needs to be fitted into the bottom outlet hole in the valve housing. The adaptor is sealed with an 'O' ring (fig.14). Ensure the adaptor is fitted with the *hose end* in the valve housing (fig.15). Fit the blanking plug into the top outlet hole (fig.16) using an 'O' ring to seal it.

Ensure the inlet elbows are oriented the correct way. Offer the valve up to the mounting bracket and secure using the screws provided (fig.40).

Complete the pipework to the shower marking off the length to enter the elbows. Remove the valve and cut the pipes to length.

FLUSH THE PIPEWORK TO CLEAR THE SYSTEM OF ALL DEBRIS AND CHECK FOR LEAKS.

Important: The inlet elbows contain flow limiters and check valves that may be damaged if debris is not flushed through prior to fitting.

Where this is not possible refer to flushing procedure on page 20.

Refit the valve to the mounting bracket and pipework. Tighten the inlet nuts and inlet elbow grub screws.

If fitting a fixed head refer to '*Fitting the fixed head*' and complete the outlet pipework. Before fixing the fixed head backplate to the wall connect a hose to the pipework and direct to waste.

If fitting a riser rail kit refer to '*Fitting the bulkhead*' and complete the outlet pipework.

Before fitting the bulkhead to the wall

connect the shower hose and direct it to waste.

Open the isolating valves to the shower and flush through ensuring that the flow control is opened fully and the temperature control is rotated to HOT and then to COLD (if necessary depress the maximum temperature override button).

Check for leaks and remedy if necessary.

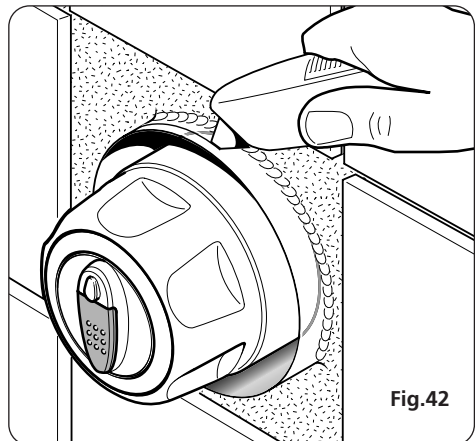
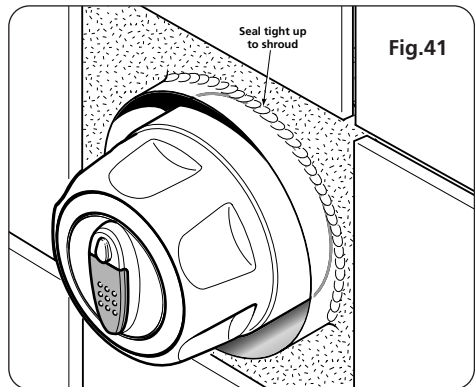
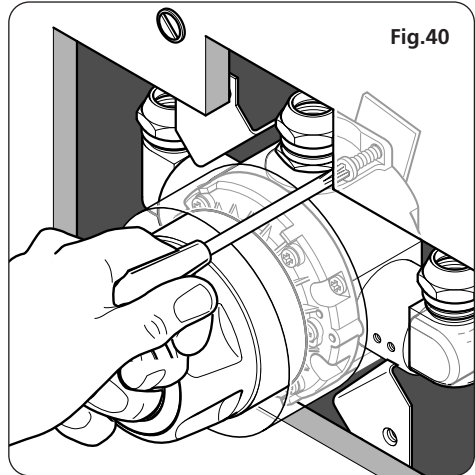
Make good the wall surface and ensure the plastering/sealing is taken tight to the pvc shroud (fig.41). Should the shroud protrude beyond the wall surface, trim flush with a sharp knife (fig.42).

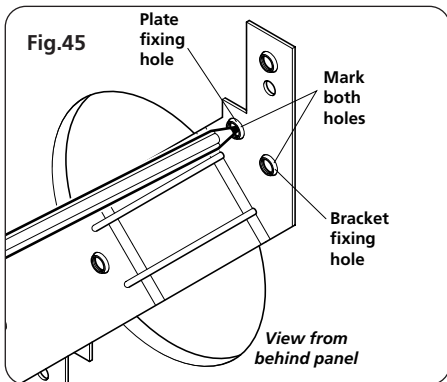
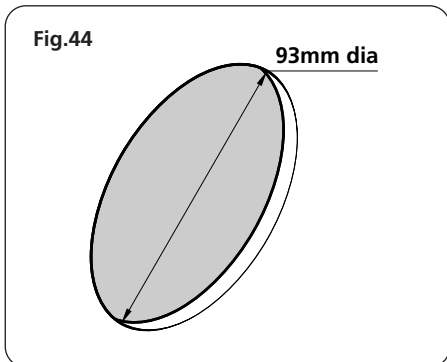
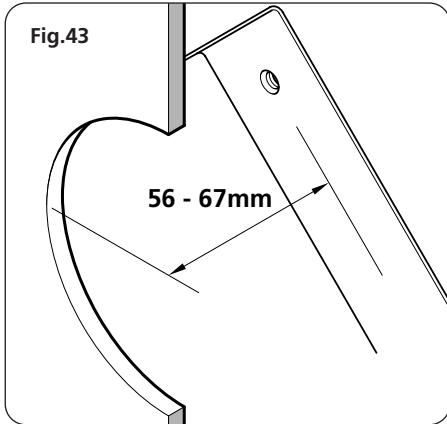
Offer the flush mount plate up to the finished surface and ensuring that the valve and the plate are aligned, mark the 'arrowed' fixing holes (fig.33). Remove the flush mount plate then drill and plug the holes.

Break off the alignment tabs on the flush mount plate (fig.34). Place a ring of silicon sealant round the plate so that the plate seals against the wall. Fix the plate to the wall using the screws provided. Wipe off any excess sealant.

Fit the flush mount cover (fig.35). Locate the lugs on the trim ring in the holes on the plate (fig.36) and twist clockwise.

Complete the fitting of your shower accessories by referring to the appropriate section.





SHOWER CUBICLE OR PANEL

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 56 and 67 mm from the finished surface (fig.43).

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 wall for an opening of approximately 93 mm diameter (fig.44).

Cut the opening and offer the mounting bracket up to the back of the panel (fig.45). Mark the inner fixing holes and drill the panel and wooden support blocks.

If a fixed head is to be used then the outlet adaptor needs to be fitted into the top outlet hole in the valve housing (fig.14). The adaptor is sealed with an 'O' ring. Ensure the adaptor is fitted with the *hose end* in the valve housing (fig.15). Fit the blanking plug into the bottom outlet hole using an 'O' ring to seal it.

If a bulkhead outlet is to be used then the outlet adaptor needs to be fitted into the bottom outlet hole in the valve housing. The adaptor is sealed with an 'O' ring.

Ensure the adaptor is fitted with the *hose end* in the valve housing (fig.15). Fit the blanking plug into the top outlet hole (fig.16) using an 'O' ring to seal it.

Ensure that the inlet elbows are orientated the correct way. Offer the valve up to the mounting bracket and secure using the screws provided.

Fix the mounting bracket together with the valve to the panel using two bolts in the innermost fixing holes (fig.46).

Complete the pipework to the shower marking off the length to enter the elbows. Remove the valve and mounting bracket and cut the pipes to length.

FLUSH THE PIPEWORK TO CLEAR SYSTEM OF DEBRIS AND CHECK FOR LEAKS.

Important: The inlet elbows contain flow limiters and check valves that may be damaged if debris is not flushed through prior to fitting.

Where this is not possible refer to flushing procedure on page 20.

Refit the valve and mounting bracket and connect the pipework. Tighten the inlet nuts and inlet elbow grub screws.

If fitting a fixed head refer to 'Fitting the fixed head' and complete the outlet pipework. Before fixing the fixed head backplate to the wall connect a hose to the pipework and direct to waste. If fitting a riser rail kit, refer to 'Fitting the bulkhead' and complete the outlet pipework. Before fitting the bulkhead to the wall connect the shower hose and direct it to waste.

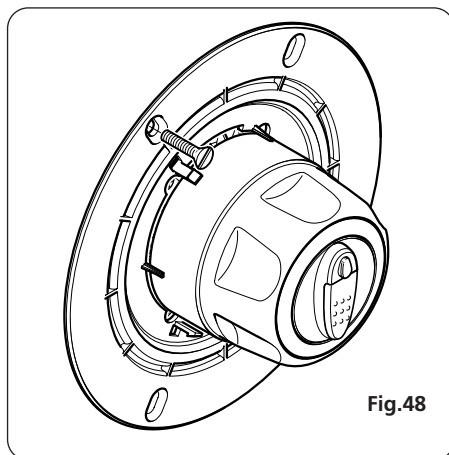
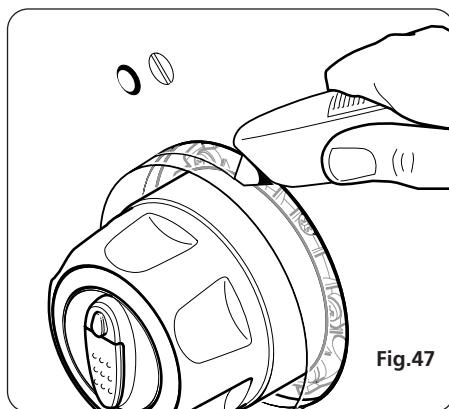
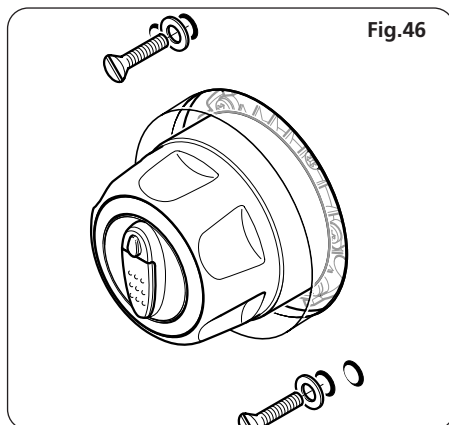
Open the isolating valves to the shower and flush through ensuring that the flow control is opened fully and the temperature control is rotated to HOT and then to COLD (if necessary depress the max. temperature override button). Check for any leaks and remedy if necessary. Seal tight around the shroud.

Should the pvc shroud protrude beyond the panel surface, trim flush with a sharp knife (fig.47).

Place a ring of silicon sealant round the flush mount plate so that the plate seals against the wall. Offer the flush mount plate up to the finished surface and ensuring that the valve and the plate are aligned, secure using the two bolts provided in the outer fixing holes (fig.48).

Break off the alignment tabs on the flush mount plate (fig.34) and fit the flush mount cover (fig.35). Locate the lugs on the trim ring in the holes on the plate (fig.36) and twist clockwise.

Complete the fitting of your shower accessories by referring to the appropriate section.



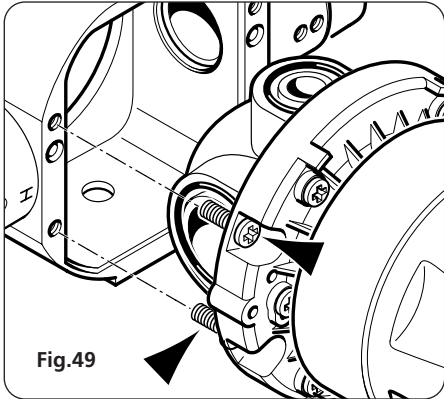


Fig.49

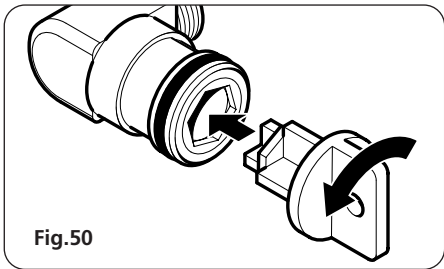


Fig.50

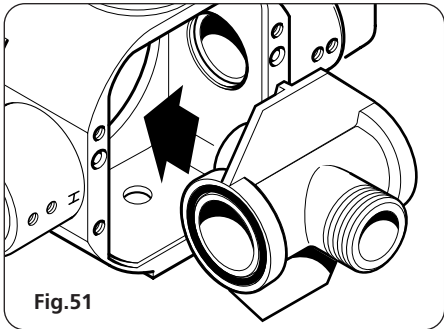


Fig.51

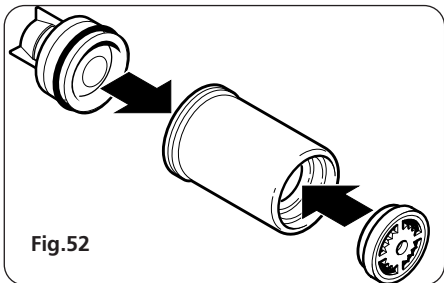


Fig.52

FLUSHING PROCEDURE

REMOVAL AND/OR FITTING OF CHECK VALVES AND FLOW LIMITERS FOR MAINTENANCE.

Important. It is preferable to flush the pipework before installing the valve. Where this is not possible the following procedure should be adhered to.

NOTE: Flushing cartridges and replacement check valve tools are available from Triton Customer Service.

Flushing procedure

- 1 Isolate the supplies.
- 2 Remove the trim ring by twisting anti-clockwise.
- 3 Remove the valve cover.
- 4 Remove the four screws (fig.49) holding the valve cartridge, and carefully remove the cartridge assembly from housing.
- 5 Insert the plastic tool provided into the inner sleeve located inside the elbow and twist anti-clockwise (fig.50). Take care not to damage the check valve. *NOTE: The sleeve may stick, in which case it must be carefully hooked out using a suitable tool such as an allen key.*
- 6 Push the flushing cartridge into the housing (fig.51). Ensure a hose is attached to the flushing cartridge outlet and is directed to waste, then flush the pipes clean.
- 7 Wash out the sleeve, check valve and flow limiter. Take care not to damage them.
- 8 Replace the flow limiter and check valve into the sleeve ensuring they are in the correct way (fig.52).
- 9 Refit sleeve into the elbow. Carefully replace the valve cartridge and refit the cover.
- 10 Reinststate supplies and test the valve operation.

NOTE: It may be necessary to service the check valves at regular intervals to prevent cross flow of water.

FITTING THE FIXED HEAD**SURFACE-MOUNTED**

Complete the outlet pipework from the valve. Place top end of the pipe through the hole in the bottom of the backplate and slide the backplate down the pipe (fig.53).

Fit the elbow to the outlet pipe using the nut and olive supplied (fig.54).

Fit the fixed head assembly (fig.55) to the elbow using PTFE tape to seal the joint. At this point, carry out the leak test procedures detailed in the fitting of the valve.

After the pipework is tested remove the fixed head assembly and slide the backplate up into position and mark the three fixing holes (fig.56). Slide the backplate back down. Drill and plug the holes using the plugs supplied.

Slide the backplate back up into position and secure to the elbow using two screws (fig.57). Fix the backplate to the wall with the three screws supplied.

Refit the fixed head assembly with the gaiter (fig.58).

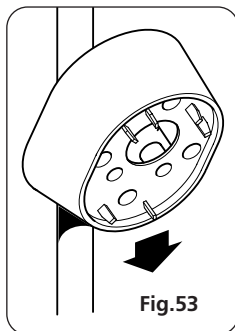
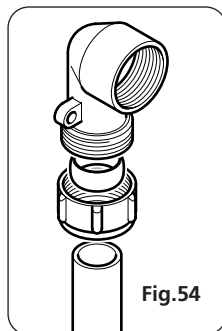
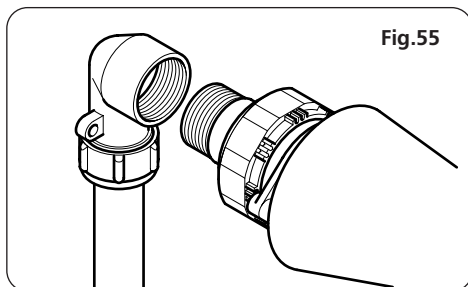
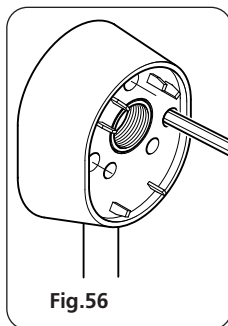
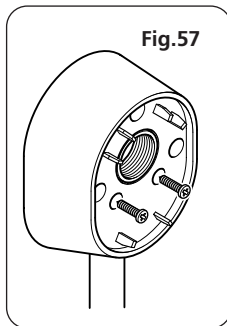
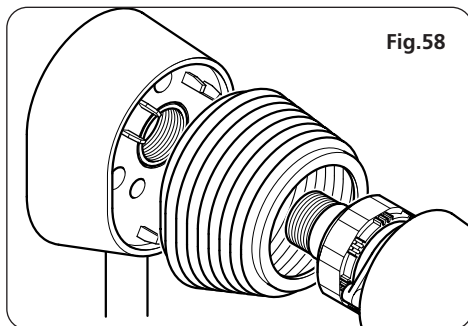
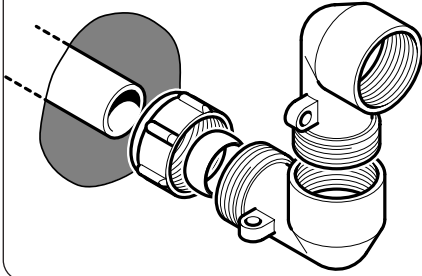
**Fig.53****Fig.54****Fig.55****Fig.56****Fig.57****Fig.58**

Fig.59

**FITTING THE FIXED HEAD****FLUSH-FITTED**

Complete the outlet pipework from the valve.

Fit the elbow to the outlet pipe using a standard compression nut and olive (fig.59). Fit the second elbow to the first ensuring it is fully screwed home. Use PTFE tape to seal the joint.

Fit the fixed head assembly to the elbow using PTFE tape to seal the joint (fig.60). At this point carry out the leak test procedures detailed in the fitting of the valve.

After the pipework is tested remove the fixed head assembly and make good the wall. Offer up the backplate and mark the three fixing holes (fig.61). Drill and plug the holes using the plugs supplied.

Secure the backplate to the elbow using two screws (fig.62). Fix the backplate to the wall with the three screws supplied.

Refit the fixed head assembly with the gaiter (fig.63).

Fig.60

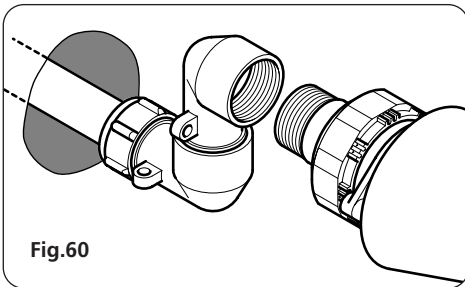


Fig.61

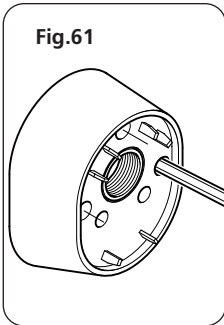


Fig.62

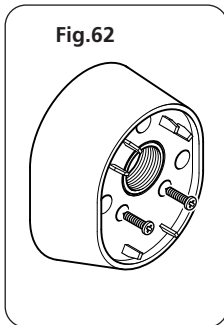
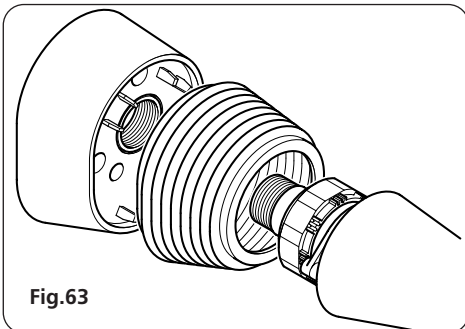


Fig.63



FITTING THE BULKHEAD

Complete the outlet pipework ending in a $\frac{1}{2}$ " x 15mm male thread to compression elbow or straight connector with suitable thread length (fig.64).

NOTE: This fitting is not supplied as variations in installations necessitates selection of the most appropriate fitting. Make good the wall.

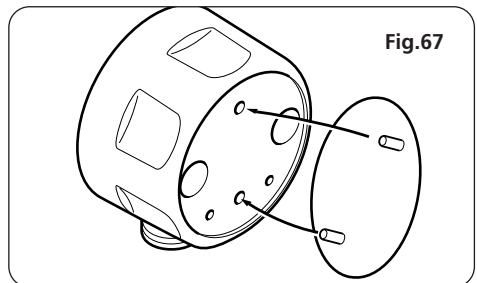
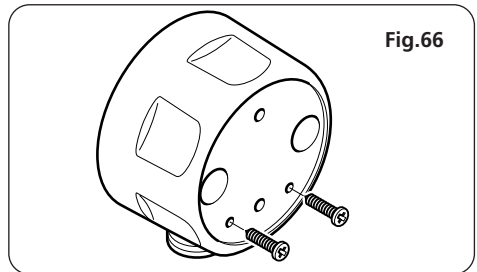
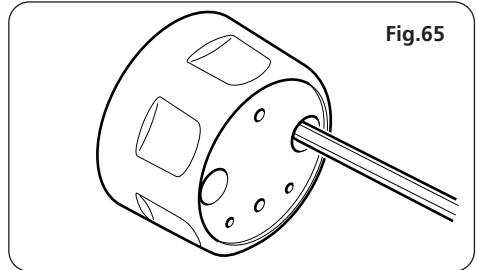
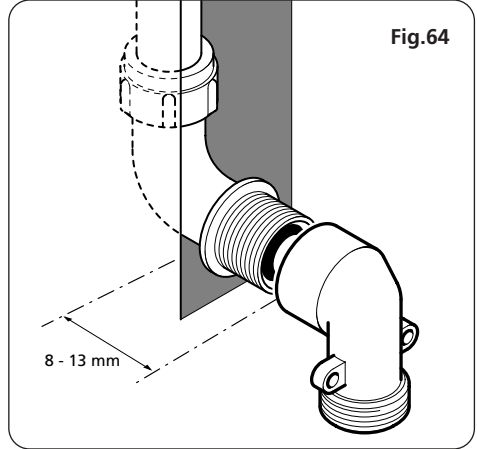
Screw the bulkhead elbow to the outlet using PTFE tape to seal the thread.

Slide the bulkhead over the elbow, offer up to the wall and mark the two fixing holes (fig.65) for securing the bulkhead to the wall.

Remove the bulkhead then drill and plug the holes using the plugs supplied.

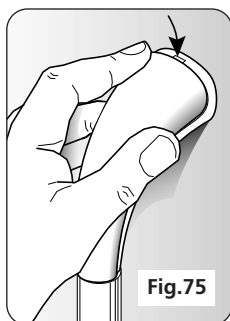
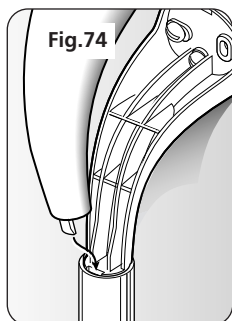
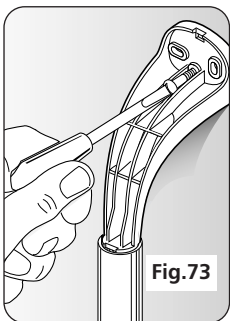
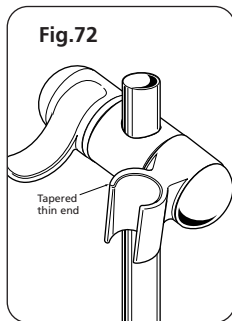
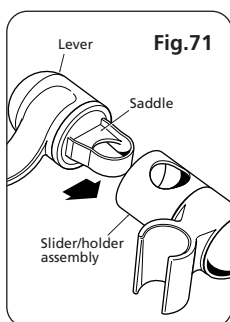
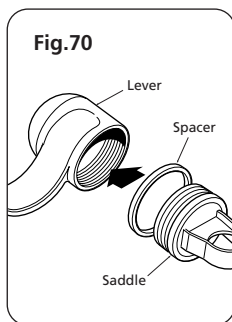
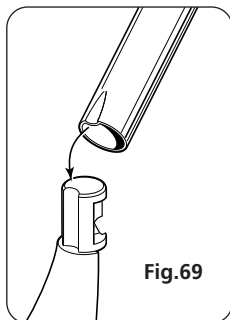
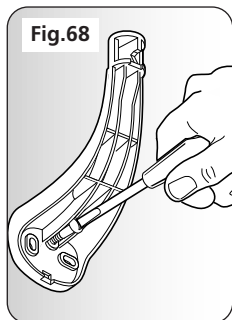
Refit the bulkhead and secure to the elbow using two screws (fig.66).

Secure the bulkhead to the wall using the two fixing screws supplied. Push on the trim disc ensuring the two location lugs locate in the small holes as shown (fig.67).



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:

A Offer one of the two brackets to the wall for the lower position only. Note there are three holes in the brackets but two screws will usually be sufficient. However, the centre hole must be used so mark this and either of the other two. Drill and plug the wall. Replace the bracket to the wall and secure to the wall with the screws supplied (fig.68). Locate the rail onto this lower bracket ensuring the rail engages fully on the bracket. Ensure the indent in the riser rail engages into the cut-out on the bracket end (fig.69).

B Locate the second bracket on top of the rail. Again mark the centre hole plus one of the other two holes. Ensure the rail is vertical. Remove the bracket and rail. Drill and plug the wall.

C With the saddle, spacer and lever parts to hand, screw the saddle 2 or 3 turns into the lever (fig.70). Place the saddle and lever into the slider/holder assembly (fig.71) so that the holes align, then slide onto the rail (fig.72). Tighten to the rail by turning the lever. When tight, the lever should be facing forwards and not pointing to the wall. If not, slacken off and remove from the rail. Rotate the saddle and lever 180° within the slider/holder assembly then replace onto the rail and tighten. Ensure the tapered thin end of the spray head holder is in the uppermost position.

D Place the rail onto the installed lower

bracket. Replace the upper bracket onto the rail and secure the bracket to the wall with the screws supplied (fig.73).

E Place a trim cover onto each bracket ensuring the large protrusion at the narrow end of the trim cover, engages into the slot between the rail and bracket (fig.74) before pushing and clicking the other end into place (fig.75). Should the need arise, the trim covers can be removed by inserting a screwdriver into the slot and carefully levering off the trim.

F Snap the soap dish onto the rail (fig.76) below the holder assembly. Prise open the soap dish collar and fit onto the rail (fig.77) below the dish. Note the collar is slightly tapered and should be fitted 'thinner section' uppermost. Ensure it locates firmly in the soap dish (fig.78) so that it holds the dish at the required height on the rail.

FITTING THE HOSE AND SPRAYHEAD

Feed the flexible hose through the appropriate soap dish aperture (fig.79) in order that the dish acts as a retaining ring (Water Supply Byelaw 17).

Screw the flexible hose to the shower outlet and sprayhead (fig.80) ensuring the supplied washers are in place at both ends of the flexible hose.

Place the sprayhead into the holder (fig.81) and check that it fits correctly. NOTE: The holder is slightly tapered and the sprayhead and hose will only fit from one direction.

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

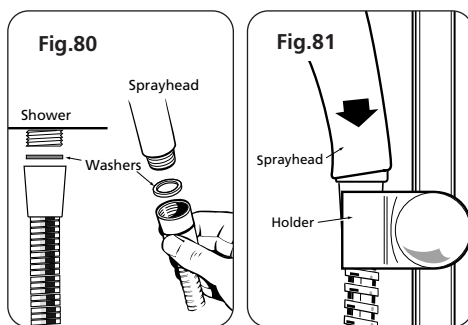
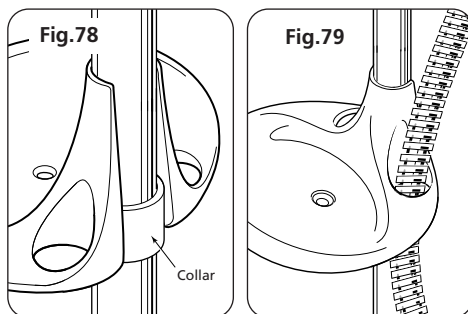
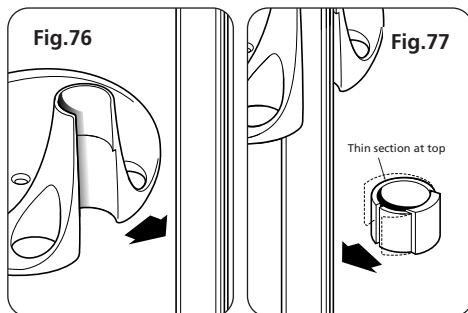
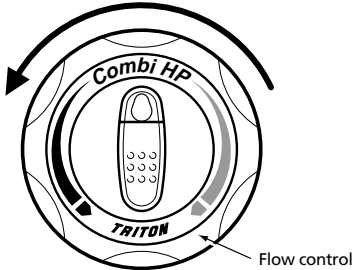


Fig.82



OPERATING THE SHOWER

Ensure all plumbing supplies are connected and turned on.

Procedure

To start the shower, rotate the outer knob (flow control) anti-clockwise (fig.82).

To adjust the temperature, rotate the inner knob (temperature control, fig.83). The temperature disc is coloured for ease of use. The temperature disc ranges from cold to hot.

Once at the preferred temperature, no further adjustment is required, providing the hot and cold water supplies remain constant.

To stop the shower, return the flow control to the stop position by rotating clockwise (fig.84). This automatically stops the water flow.

As a safety measure the shower has a built-in maximum temperature stop to prevent accidentally exceeding the highest desired temperature. The stop comes in a factory set position. (If adjustment is required see 'Adjusting the maximum temperature stop' on page 29).

To override this stop, depress the button (fig.85) and turn the control clockwise to the higher settings. To return to the normal temperature range just turn the temperature control anti-clockwise until it is past the maximum temperature stop.

Ensure that the temperature control is in the normal temperature range when the shower is turned off.

Fig.83

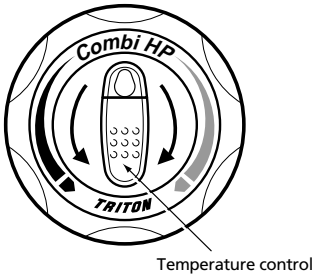


Fig.84

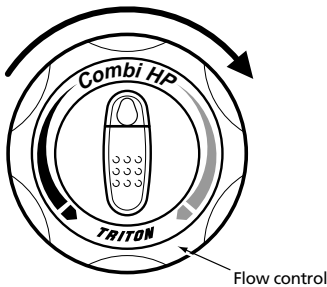
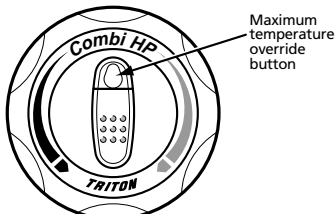


Fig.85



ADJUSTING THE SPRAYHEAD

Four sprayhead patterns are available (fig.86). Adjustment is by turning the bezel on the sprayhead in either direction until the desired pattern is obtained.

Maxi

A full spray perfect for a relaxing shower.

Ultra

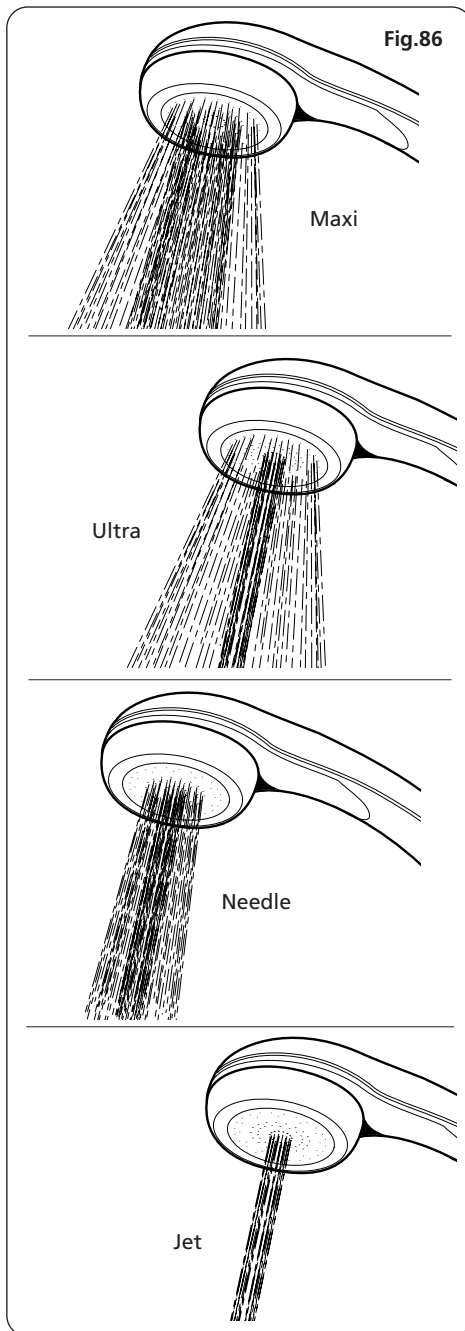
A focused spray for a refreshing, satisfying shower.

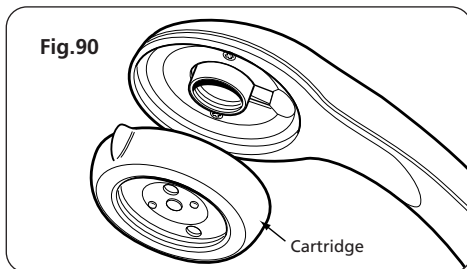
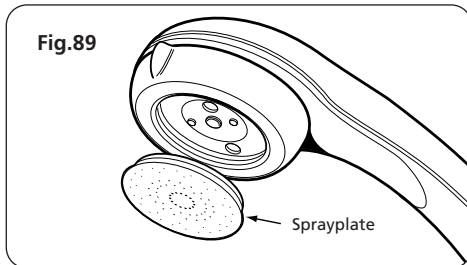
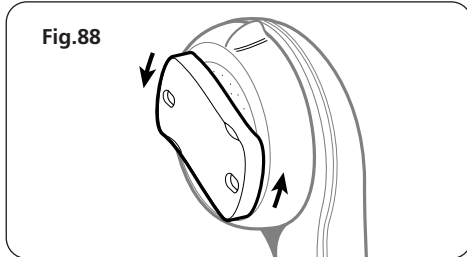
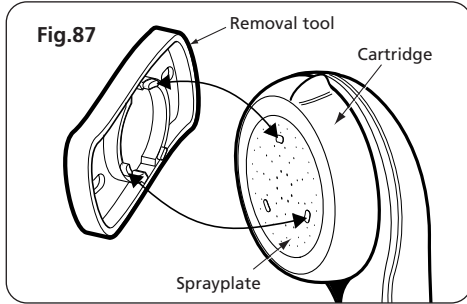
Needle

A tingling, fine spray for a highly invigorating shower.

Jet

A concentrated spray for an exhilarating shower.



CLEANING

It is recommended that the shower unit, riser rail, hose etc. be cleaned using a soft cloth and that the use of abrasive or solvent cleaning fluids be avoided.

IT IS MOST IMPORTANT TO KEEP THE SPRAYHEAD CLEAN IN ORDER TO MAINTAIN THE PERFORMANCE OF THE SHOWER.

The hardness of the water will determine the frequency of cleaning.

Sprayplate and cartridge removal

There is no need to remove the sprayhead from the hose.

Using the removal tool supplied (fig.87), locate the three raised 'bosses' into the three recesses in the sprayplate. Hold in firmly and twist anti-clockwise (fig.88). 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 sufficiently, it can be unscrewed and removed completely (fig.89). To remove the cartridge, hold firmly and turn anti-clockwise until it unscrews from the sprayhead (fig.90).

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

Refit the sprayplate and cartridge by screwing both in clockwise. Use the tool to screw in the sprayplate tight.

WARNING

Do not use 'powerful' abrasive or solvent cleaning fluids when cleaning the shower as they may damage the plastic fittings

ADJUSTING THE MAXIMUM TEMPERATURE STOP

As a safety measure the shower has a built-in maximum temperature stop to prevent you accidentally exceeding your highest desired temperature. This is set in the factory to provide a maximum temperature of 42°C based on the hot and cold water supplies being 65°C and 15°C respectively at nominally equal pressures.

Procedure

To adjust the maximum temperature stop, first rotate the temperature knob to the '12 o'clock' position.

Remove the temperature knob trim using a thin bladed screwdriver (fig.91).

Unscrew the central fixing screw (fig.92) and remove the temperature control knob (fig.92). Then remove the temperature control disc (fig.92) together with the wavy washer.

The control disc houses the maximum temperature stop mechanism (fig.93).

To increase the temperature stop setting, reposition the temperature stop mechanism clockwise within the arc of the grooves (fig.93). To decrease the temperature stop setting, reposition the stop mechanism anti-clockwise within the arc of the grooves.

When the stop mechanism is set at the preferred position, refit the temperature control disc ensuring the name 'Triton' is at the bottom.

Replace the wavy washer, then refit the temperature control knob *ensuring* it is replaced in the same attitude as when removed (i.e. '12 o'clock' position).

Refit the central screw and replace the knob trim.

Important: Only adjust the maximum temperature stop when the hot water is at its usual supply temperature.

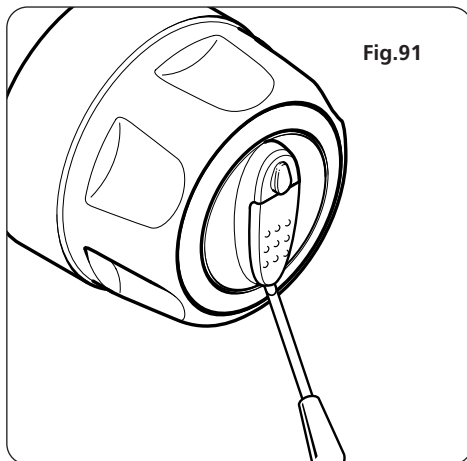


Fig.91

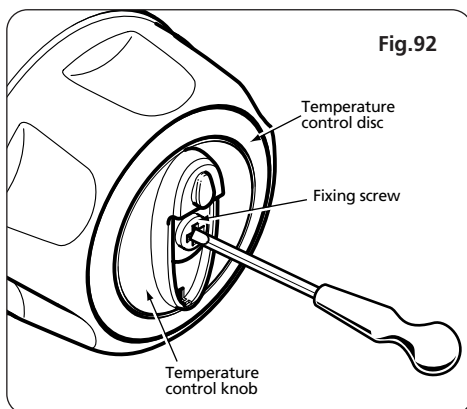


Fig.92

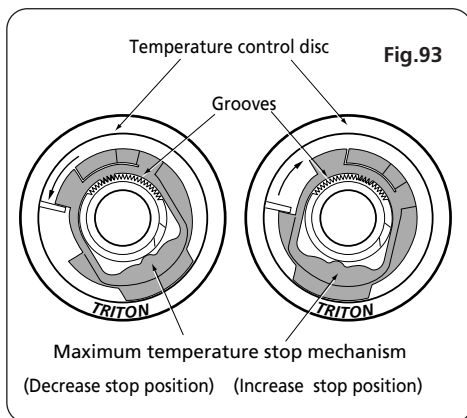
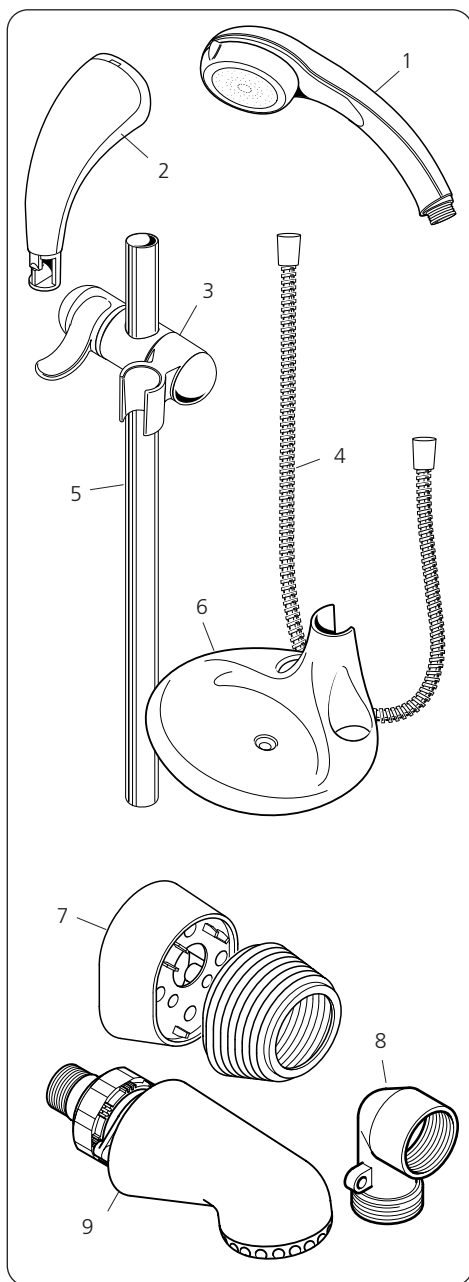


Fig.93

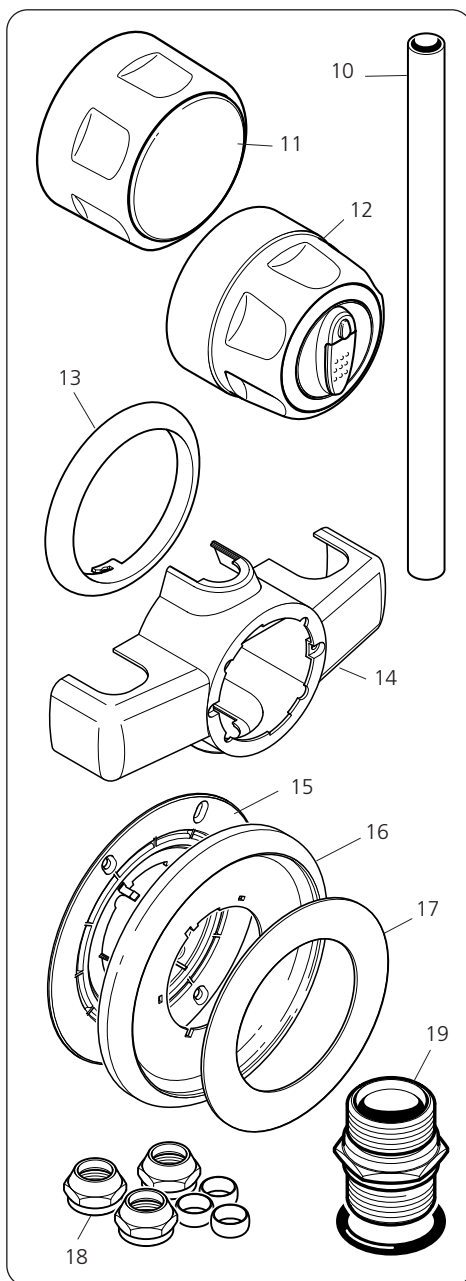
SPARE PARTS



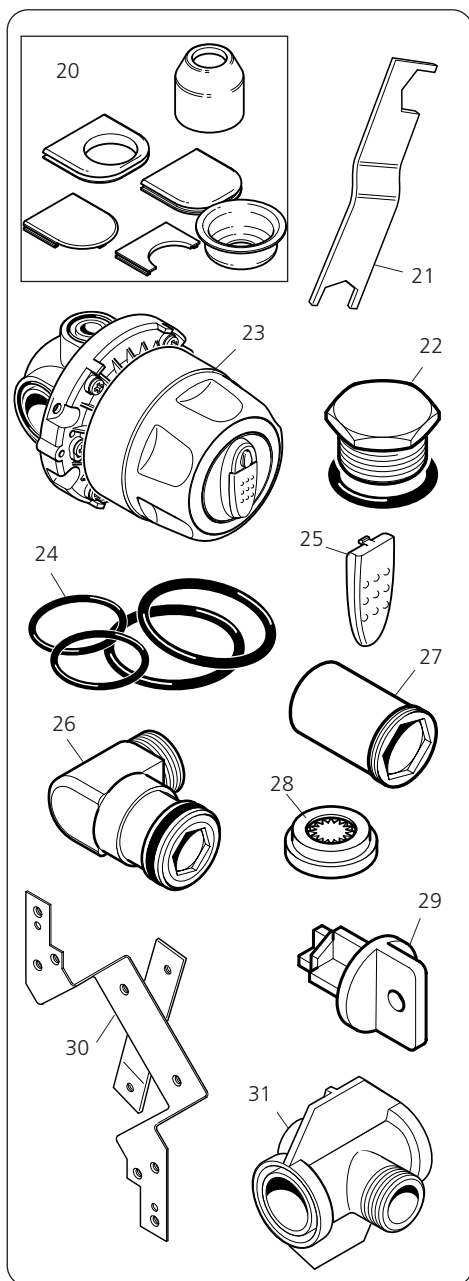
Ref.	Description	Part No.
1	4 mode sprayhead white/chrome white white/gold	22008260
		22008280
		22008270
2	Brackets – pair white	83306160
3	Sprayhead holder white	83306190
4	Flexible hose white chrome effect gold effect	22003960
		22007500
		22007450
5	Riser rail – 430mm anodised chrome white anodised gold	7042409
		7042411
		7042410
6	Soap dish white	22008960
7	Fixed head backplate and gaiter	83303730
8	Fixed head elbow	7051501
9	Fixed head white trim chrome effect trim gold effect trim	83303750
		83303740
		83303760

SPARE PARTS

Ref.	Description	Part No.
10	Outlet pipe white chrome effect gold effect	7021521 7021522 7021523
11	Bulkhead assembly white chrome effect gold effect	83303780 83303770 83303790
12	Knob sets	83304810
13	Trim ring white chrome effect gold effect gold effect – flush	7051441 7051442 7051443 7051477
14	Surface-mounted cover white chrome effect gold effect	7051444 7051445 7051446
15	Flush mount plate	7051447
16	Flush-fitted cover white chrome effect gold effect	7051448 7051449 7051450
17	Trim disc (use with flush gold effect)	7051451
18	Inlet & outlet nuts	83303660
19	Outlet adaptor chrome effect gold effect	83303840 83303860



SPARE PARTS



Ref.	Description	Part No.
20	Trim sets	
	white	83303680
	chrome effect	83303670
	gold effect	83303690
21	Spanner	7011766
22	Outlet blanking plug	83303870
23	Cartridge assembly	83304820
24	Cartridge 'O' rings	83304830
25	Temperature knob trim	7051466
26	Inlet elbow assembly	83303830
27	Check valve/sleeve assembly	83303810
28	Flow limiter	22003530
29	Check valve tool	7051476
30	Wall bracket	7011453
31	Flushing cartridge	7052032
	(available on request)	
-	PVC shroud (flush fit only)	7052165
-	Screw pack	83303800
-	Extended control lever	
	(Can be fitted easily to make the controls easier to use. Available on request from Triton Customer Service).	

FAULT FINDING

<i>Problem/symptom</i>	<i>Cause</i>	<i>Action/cure</i>
1 Water too hot.	1.1 Not enough cold water flowing through shower. 1.2 Increase in the ambient cold water temperature. 1.3 Cold water supply blocked or cut off. 1.4 High volume of cold water being drawn off elsewhere. 1.5 Flow limiters not fitted. 1.6 Dirty flow limiters and check valves.	1.1.1 Turn the temperature control anti-clockwise. 1.2.1 Turn the temperature control anti-clockwise. 1.3.1 Turn shower off and consult a competent plumber or contact Triton Customer Service. 1.4.1 Reduce the simultaneous demand from mains supply. 1.5.1 If not fitted, contact Customer Service. 1.6.1 Clean – refer to page 20.
2 Water too cold	2.1 Not enough hot water flowing through shower. 2.2 Decrease in the ambient cold water temperature. 2.3 Insufficient hot water supplies from the heating appliance. 2.4 Hot water supply blocked or restricted. 2.5 Running pressure in excess of maximum recommended. 2.6 Flow limiters not fitted. 2.7 Dirty flow limiters and check valves.	2.1.1 Turn the temperature control clockwise. (Override the max. temperature stop if necessary). 2.2.1 Turn the temperature control clockwise. (Override the max. temperature stop if necessary). 2.3.1 Ensure heating appliance is set to maximum hot water output. 2.3.2 Ensure heating appliance is igniting by trying a hot water tap elsewhere. 2.4.1 Turn shower off and consult a competent plumber or contact Triton Customer Service. 2.5.1 Fit a pressure reducing valve. 2.6.1 If not fitted, contact Customer Service. 2.7.1 Clean – refer to page 20.
3 Water does not flow or shower pattern collapses when another outlet is turned on.	3.1 Water supplies cut off. 3.2 Shower unit blocked. 3.3 Blockage in pipework. 3.4 Sprayhead blocked. 3.5 System not capable of supplying multiple outlets at the same time.	3.1.1 Check water elsewhere in house and if necessary contact local water company. 3.2.1 Inspect flow limiters and check valves – refer to page 20. Clean if necessary. 3.3.1 Turn the shower off and consult a suitably competent plumber. 3.4.1 Clean sprayhead. 3.5.1 Reduce the simultaneous demand. 3.5.2 Ensure stop or service valve is fully open. 3.5.3 Check if sufficient mains pressure.
4 Shower controls noisy whilst in use.	4.1 Running pressure in excess of maximum recommended.	4.1.1 Fit a pressure reducing valve
5 Shower will not shut off	5.1 Pipework not flushed before connecting the unit ('O' rings damaged).	5.1.1 Renew cartridge (internal seals are not serviceable).

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

TRITON STANDARD GUARANTEE

Triton Plc guarantee this product against all mechanical and electrical 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 Plc. 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; 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) faulty installation.

2 Repair costs for damage caused by foreign objects or substances.

3 Call out charges where no fault has been found with the appliance.

4 The cost of repair or replacement of pressure relief devices, sprayheads, 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 as these do not form the mechanical and electrical components contained within the unit.

5 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, lime scale, system debris or frost.

Service Policy

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

1 Telephone Customer Service on 024 7637 2222 (0345 626591 in Scotland and in Northern Ireland), having available the model number and power rating of the product, together with the date of purchase.

2 Triton Customer Service will be able to confirm whether the fault can be rectified by either the provision of a replacement part or a site visit from a qualified Triton service engineer.

3 If a service call is required it will be booked and the date of call confirmed. In order to expedite your request, please have your postcode available when booking a service call.

4 It is essential that you or an appointed representative (who must be a person of 18 years of age or more) is present during the service engineer's visit and receipt of purchase is shown.

5 A charge will be made in the event of an aborted service call by you but not by us, or 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, electrical installation faults).

6 If the product is no longer covered by the guarantee, a charge will be made for the site visit and for any parts supplied.

7 Service charges are based on the account being settled when work is complete, the engineer will then request payment for the invoice. If this is not made to the service engineer or settled within 10 working days, a £10 administration charge will be added.

Replacement Parts Policy

Availability: It is the policy of Triton to maintain availability of parts for the current range of products for supply after the guarantee has expired. Stocks of spare parts will be maintained for the duration of the products' manufacture and for a period of five years thereafter.

In the event of a spare part not being available a substitute part will be supplied.

Payment: The following payment methods can be used to obtain spare parts:

1 By post, pre-payment of pro forma invoice by cheque or money order.


2 By telephone, quoting credit card (MasterCard or Visa) details.

Triton Plc, Shepperton Park, Caldwell Road,
Nuneaton, Warwickshire. CV11 4NR


Customer Service

 **024 7637 2222**

Scottish and Northern Ireland Customer Service

 **0345 626591**

Installer Hotline

 **024 7632 5491**
Fax: 024 7632 4564