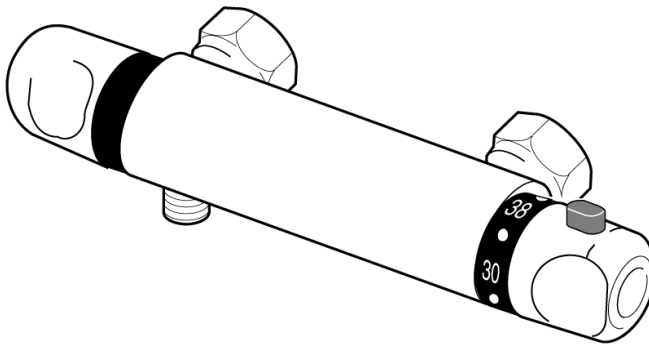


# Gainsborough

## INSTALLATION INSTRUCTIONS and GUARANTEE

### SENATOR MIXER SHOWER



#### GUARANTEE

The guarantee is at the  
back of this book.

**PLEASE READ AND UNDERSTAND THESE INSTRUCTIONS BEFORE STARTING WORK**

Please leave with the user

GBH005 Issue.1

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## SECTION ONE - INTRODUCTION

**1:1** The Senator shower valve is thermostatically controlled. It blends hot and cold water to provide a constant temperature shower. The built-in thermostatic cartridge compensates for variations in inlet water temperature and pressure. Should either of the HOT or COLD supplies fail, the valve will shut down almost instantly to avoid any risk of scalding. The flow rates can be

adjusted by separate controls.

**1:2** Please read these instructions carefully and make sure you understand them before commencing work. Make a list of all the materials required and obtain these before starting work. Check that you have all the necessary tools; in particular spanners big enough to hold and tighten the 22mm compression fittings and valve union nuts. It is acceptable to use adjustable spanners, with the jaws correctly set, and these will need to have a jaw opening of at least 35mm (1<sup>3</sup>/<sub>8</sub>"'). When tightening the valve union nuts pieces of packing, such as cardboard, should be placed between the spanner and nut to prevent damage to the chrome finish.

The shower must be installed in accordance with the Water Supply (Water Fittings) Regulations 1999 or the Water Byelaws 2000 Scotland.

## SECTION TWO - SPECIFICATION

Feature	
Preset maximum temperature	38°C
Flow Control	1 <sup>3</sup> / <sub>4</sub> turns
Inlet connections	<sup>3</sup> / <sub>4</sub> " BSP Female union nut & <sup>3</sup> / <sub>4</sub> " BSP nipple adapter supplied
Inlet connection centres	150mm
Outlet connection	<sup>1</sup> / <sub>2</sub> " Male BSP hose
Min. dynamic inlet pressure	1m (0.1 bar)
Max. static pressure	8 bar
Max. recommended inlet temperature	65°C*
Min. hot inlet temperature	10°C above required
blend temperature	blend temperature

\*Above 65°C air can be expelled from the water, which can cause poor performance, particularly with pumped systems, where damage to the pump could occur.

## SECTION THREE - INSTALLATION

The Senator shower valve is suitable for the following installations.

High pressure storage systems, pumped systems and gravity fed systems.

### IMPORTANT NOTES

**3:1** The hot and cold feeds must be at nominally the same pressure. The valve must **not** be fed from a low pressure (gravity system) hot supply and a mains pressure cold supply.

**3:2** The Senator shower valve should only be fed from a gravity system where the bottom of the cold water storage tank is at least 1 metre above the shower head at full showering height.

**3:3** All pipework should be as short and direct as possible, using swept bends rather than elbows where practical, to avoid trapping air. Do not tee off the upper surface of a hot water pipe, especially near to a hot water cylinder, as this will often contain air bubbles which will adversely affect the operation of the valves. Where the shower is fed from a gravity system the use of 22mm diameter pipework is strongly recommended.

**3:4** The shower must be installed in accordance with the Water Supply (Water Fittings) Regulations 1999 or the Water Byelaws 2000 Scotland. The Water Regulations Guide provides guidance on meeting the Regulations.

**3:5** If used with a combination boiler, the boiler must be capable of raising the temperature of 8 l/min of incoming cold water by 35°C, and must be a fully modulating boiler.

## GENERAL

Important Guidance Notes and diagrams are referred to below.

### Guidance Note G16.13

**3:6** Every storage tank (or cistern) must comply with the requirements of this Guidance Note to ensure the water is not contaminated. Plumber's merchants can supply screened air inlets and screened overflow assemblies.

### Guidance Notes G11.1, G11.2 AND G11.3

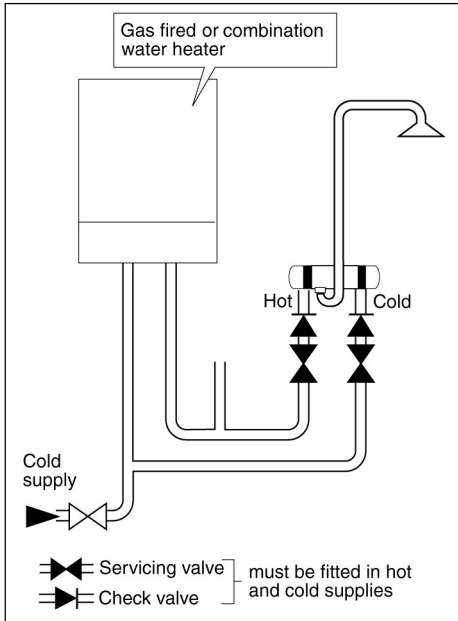
**3:7** Servicing valves must be provided on the hot and cold supplies to the valve. This is to avoid wastage of water in emptying tanks when the shower has to be serviced or replaced. This is also part of our warranty terms. If servicing valves are not fitted, you may incur charges for "draining and refilling" tanks if this is necessary. "Gate" valves are ideal with gravity systems, where pressures are low, because they do not impose any restriction - other types of valve can do so. The servicing valves should be reasonably accessible; in an airing cupboard or under a bathroom unit for instance.

**3:8** Do not put any valve in the vent pipe from a hot water cylinder. This pipe must allow the water in the cylinder to expand as it heats, otherwise an explosion could occur.

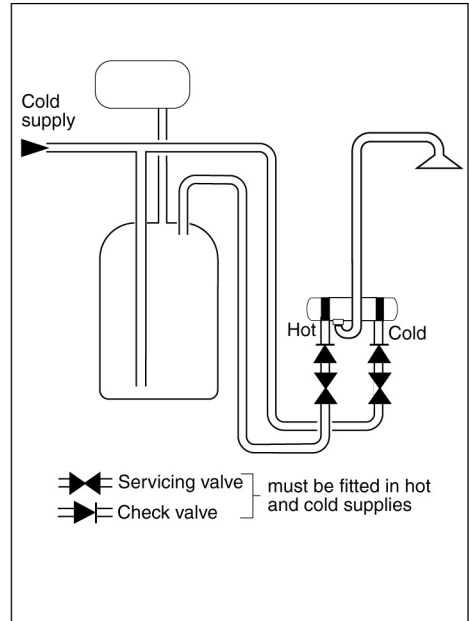
**3:9** We recommend a cold storage tank of at least 50 gallons (318 litres) for pumped systems.

**3:10** Combination tanks, where a small cold water tank is incorporated above a hot water cylinder, are usually too small to supply enough water for a shower.

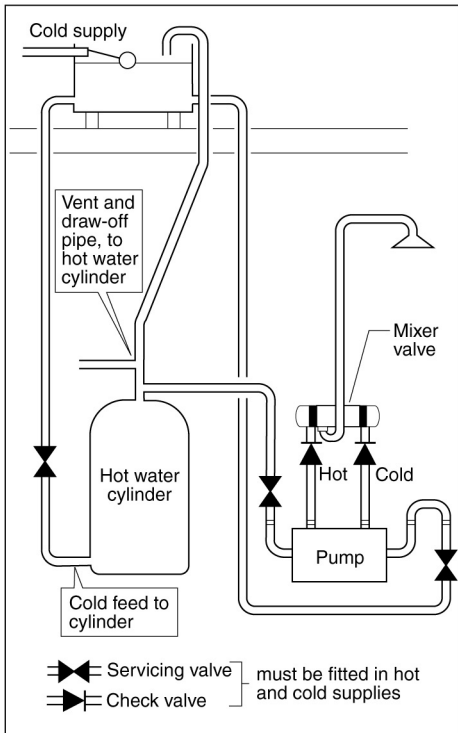
**3:11** The valves must be installed with the outlet pointing downwards, the HOT water coming in on the left and the COLD water coming in on the right. The valve will not operate if the connections are reversed.



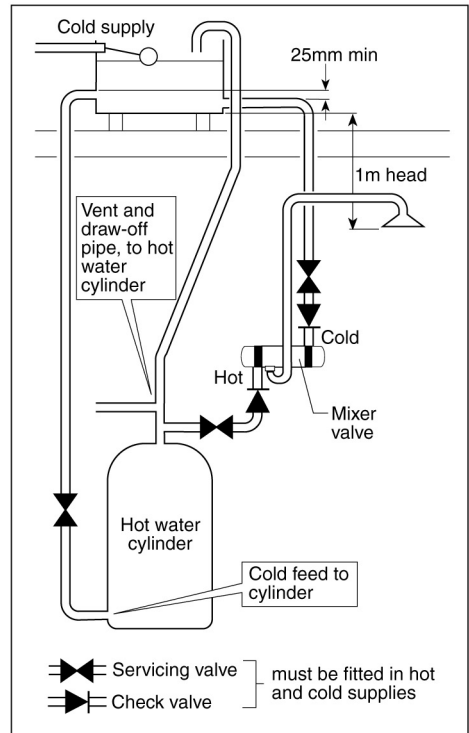
Typical combi water system



Typical high pressure water system



Typical pumped water system



Typical gravity fed water system

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**Important**

Modern solder fluxes are EXTREMELY CORROSIVE and can damage the valves. It is ESSENTIAL that all pipework is THOROUGHLY FLUSHED THROUGH before connecting the valve. This is so that flux, debris and swarf, which could permanently damage the valve, are removed from the pipes.

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**3:12** Plan the whole installation before you start. Cut the necessary pipework to length, assemble and offer up to the installation before making any soldered joints.

**3:13** Carry out any cutting with a pipe cutter in preference to a hacksaw, to minimise swarf. Always remove sharp edges.

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**FITTING THE SHOWER**

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**Important**

THE SENATOR IS HELD IN POSITION BY THE PIPEWORK. IT IS ESSENTIAL THAT THE PIPEWORK IS RIGIDLY SUPPORTED CLOSE TO THE VALVE.

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There are basically two ways the valve can be installed.

**Method 1**

Water supply pipes buried within the wall.

**Method 2**

Water supply pipes behind a panel, studwork wall or solid wall.

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**METHOD ONE**

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**Water supply pipes are buried within the wall**

**3:14** Offer the valve up to the wall and mark the required position of the hot and cold inlet connections. When positioning the valve make sure to take into account the intended position of the accessories riser rail.

**3:15** Establish the depth of channels required in the wall by assembling the fittings as shown in figure 3.16. Ensure the cover plate is fully screwed up to the hexagon on the  $\frac{3}{4}$ " BSP nipple adaptor.

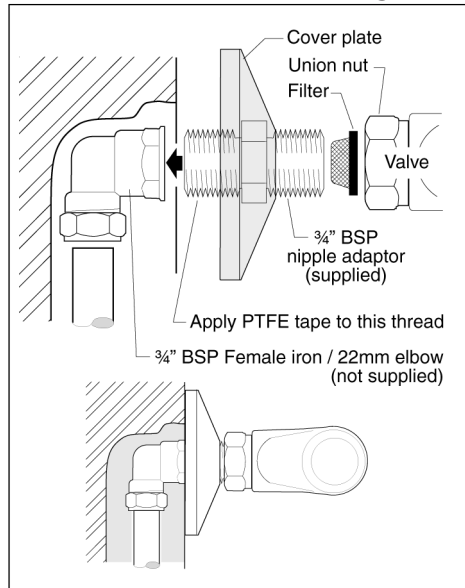
**Ensure there are no services such as gas, water pipes, electrical or telephone cables beneath the surface of the wall before chasing out or drilling.**

Chase out wall.

**3:16** Assemble the pipework

The compression end of a  $\frac{3}{4}$ " female iron/22mm elbow is connected to the end of the pipework. If 15mm diameter pipework has been used it must be adapted to 22mm either by using a 22mm/15mm Yorkshire fitting in reverse, or by fitting a 22mm/15mm reducing set into the 22mm compression fitting on the elbow. Screw the  $\frac{3}{4}$ " BSP nipple adaptor supplied into the threaded end of the elbow, without the cover plate. Seal the threads between the nipple and elbow by wrapping PTFE tape around the male thread on the nipple. See figure 3:16.

**NB. Hot on the left, Cold on the right.**



**Figure 3:16** Connecting pipework (method 1)

**3:17** Flush out the pipework.

Fully screw the cover plate up to the hexagon section on the  $\frac{3}{4}$ " BSP nipple adaptor. Insert the filters into the union nuts on the valve and screw the union nuts onto the nipple adapters. NB If the filter supplied is not flat, the "top hat" section must go into the nipple adapter.

Check the system for leaks with the mixer valve shut off and servicing valves open.

**IT IS ESSENTIAL THAT ALL THE CONNECTIONS ARE COMPLETED AND CHECKED FOR LEAKS BEFORE "PLASTERING" IN.**

**3:18** Check the position of the valve with cover plates fitted, and secure pipework.

**3:19** Turn off servicing valves. Remove valve and cover plates and plaster in pipework.

**3:20** Fit cover plates and valve.

## METHOD TWO

### Water supply pipes behind a panel, studwork wall or solid wall.

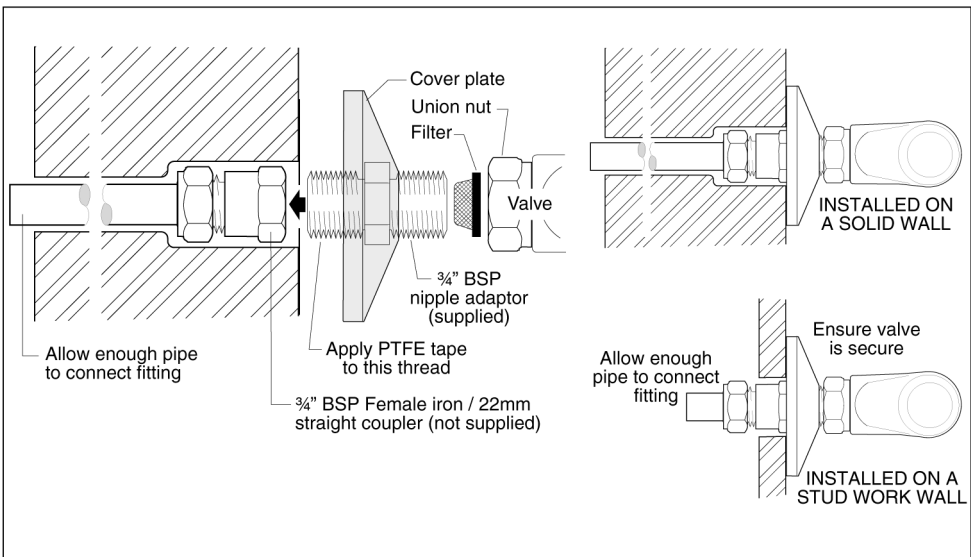
This method requires good access behind the wall or panel.

**3:21** Offer the valve up to the wall and mark the required position of the hot and cold inlet connections. When positioning the valve make sure to take into account the intended position of the accessories riser rail.

**Ensure there are no services such as gas, water pipes, electrical or telephone cables beneath the surface of the wall before drilling.**

**3:22** On plasterboard (studwork) or panel walls, make two holes on 150mm centres to accommodate the compression fitting. See figure 3:22.

**3:23** On rendered brick or block wall, drill two 23mm diameter holes on 150mm centres with counterbores to accept the compression fitting. If 15mm pipework is used, drill 16mm holes. See figure 3:22



**figure 3:22** Connecting pipework (method 2)

**3:24** Cut two pieces of pipe equal in length to the thickness of the wall, plus an allowance for connection at the rear of the wall. Fit a 22mm  $\frac{3}{4}$ " female iron straight coupler to one end of each pipe. If 15mm diameter pipework has been used it must be adapted to 22mm either by using a 22mm/15mm Yorkshire fitting in reverse, or by fitting a 22mm/15mm reducing set into the 22mm compression fitting on the coupler. The  $\frac{3}{4}$ " BSP nipple adapter supplied (without the cover plate fitted) is screwed into the threaded end of the straight coupler. Seal the threads between the nipple and coupler by wrapping PTFE tape around the male thread on the nipple.

Fully screw the two cover plates up to the hexagon sections on the  $\frac{3}{4}$ " BSP nipple adapters. Temporarily block the open ends of both pipes and pass through the wall until the cover plates are flat against the wall. Secure in position against the wall. See figure 3.22.

**3:25** Fit the pipework at the rear of the wall and secure rigidly.

**NB. Hot on the left, Cold on the right.**

**3:26** Flush out the pipework, fit the valve, outlet connection downwards, without cover plates and check system for leaks.

Remove the valve, fit cover plates refit valve.

## FITTING THE ACCESSORIES

(where supplied)

**3:27** Remove the covers from the two end brackets.

**3:28** Assemble the riser rail into the two end brackets and decide on the best position of the riser rail in relation to the heater unit. See figure 3.28.

**3:29** Mark the position of the top screw hole and remove the riser rail from the wall. Drill

and plug the screw hole.

**3:30** For most brick walls use 6.5 dia. masonry drill, but if your wall is plasterboard or soft building block, you should use special wallplugs obtainable from most hardware suppliers.

**3:31** Secure the top end bracket using the screw provided.

**3:32** Assemble the handset holder onto the riser rail and slot into bottom end bracket.

**3:33** Slot riser rail into top end bracket and mark the position of the bottom screw hole. Remove bottom end bracket and riser rail sub-assembly, drill and plug hole, then replace and screw to wall.

**3:34** Clip, or slide, the finishing covers onto the top and bottom end brackets depending on the precise design.

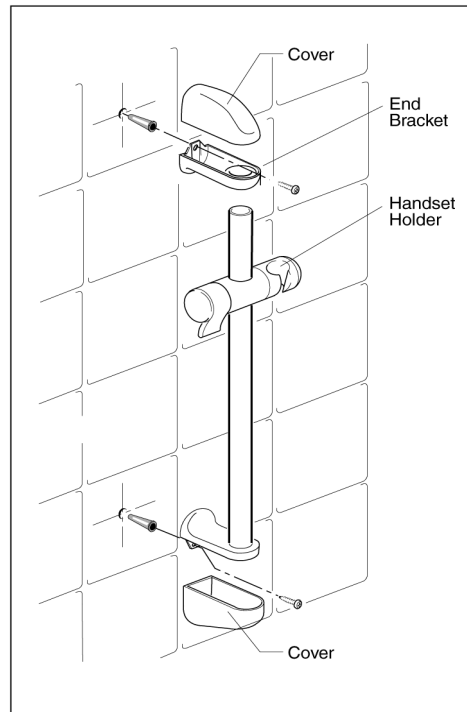


figure 3:28 Riser rail

## SECTION FOUR - ADJUSTING MAXIMUM TEMPERATURE

**4:1** This mixer valve has been calibrated at the factory using balanced pressure hot and cold supplies and a hot water supply temperature of 65°C.

**4:2** When the installation conditions of the mixer valve are different to the factory settings, the temperature of the mixed water obtained from the mixer valve may not correspond exactly with the temperatures shown on the valve.

**4:3** If required, the valve can be adjusted to ensure that the indicated temperature is the same as the temperature obtained from the mixer. To do this, carry out the following steps:-

See figure 4:1

1. Rotate the temperature control knob so that the water issuing from the mixer is at 38°C.
2. Without moving the temperature control knob, remove the screw cover from the end of the knob and unscrew the fixing screw.
3. Remove the control knob, without removing the white plastic ring found underneath.
4. While keeping the red temperature limit button pushed in, replace the temperature control knob so that the 38 temperature is in line with the dot on the mixer body.
5. Replace the fixing screws and refit the screw cover.

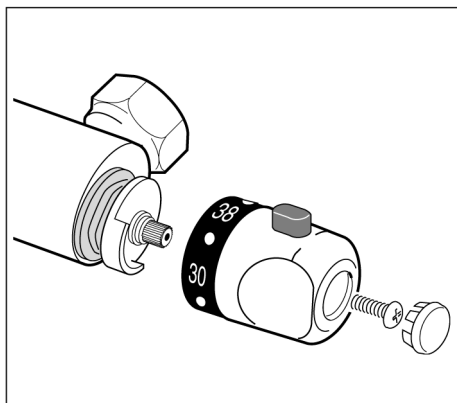


figure 4:1

## SECTION FIVE - CLEANING

**5:1** Wipe all surfaces with a soft damp, clean cloth. Then polish with a soft dry duster. If you find it necessary to use a cleaning agent, ALWAYS use NON-ABRASIVE type.

## SECTION SIX - FAULT FINDING

In the unlikely event of a problem, consult the trouble shooting chart below and follow the order below. If you are unable to remedy the problem, CONTACT YOUR INSTALLER IN THE FIRST INSTANCE. Do not attempt any plumbing work unless you are competent to do so.

<b>Fault</b>	<b>Solution</b>
After installation shower will only run HOT or COLD	(a) Hot and Cold supplies are plumbed in the wrong way round. (b) One filter is blocked. Turn off servicing valves, remove mixer valve and clean filters.
Low or reduced flow.	(a) Debris/scale in shower handset. Clean handset. (b) Servicing valves not fully open. Open valves. (c) Filters partly blocked. turn off servicing valves, remove mixer valve and clean filters.
Maximum temperature too low or too high.	Re-adjust temperature. See section 4.





# Mixer Shower



## 2 Year Guarantee

If a defect should arise in this product within 2 years of purchase which is attributable to faulty design, materials or workmanship, the product will be repaired or replaced at our discretion, free of charge. This guarantee is subject to proper use and installation in accordance with these instructions and the terms and conditions outlined below.

### TERMS AND CONDITIONS

**1** This guarantee covers normal use of the shower and does not cover damage as a result of fair wear and tear, wilful damage, negligence, misuse, failure to follow instructions, accident or use in abnormal conditions.

**2** This guarantee will only cover your shower if it has been serviced or repaired by an authorised Gainsborough Service Engineer.

**3** Gainsborough will repair or replace free of charge only defective components or accessories, but will not be under any obligation to replace the whole product.

**4** If a claim for repairs or replacement is made and in Gainsborough's opinion the defect is not due to faulty materials or workmanship, then Gainsborough reserves the right to charge the customer at the current hourly rate and list services in respect of any service engineer's time and any replacement parts.

**5** Where Gainsborough makes a replacement, the defective parts shall be returned to Gainsborough and shall become the property of Gainsborough.

Please retain this guarantee in a safe place together with evidence of date of purchase for inspection in the event that it is necessary to claim during the manufacturer's guarantee period.

Name of product and model no:

Date of purchase:

Place of purchase:

**Gainsborough**  
SHOWERS

**Seafield House, Claylands Avenue,  
Dukeries Industrial Estate,  
Worksop S81 7BQ.**

**Telephone: 01909 471520**

**Fax: 01909 471593**