BOOST

A 5700 .. A 5701 ..

Installation Manual for Built-in Shower Mixer

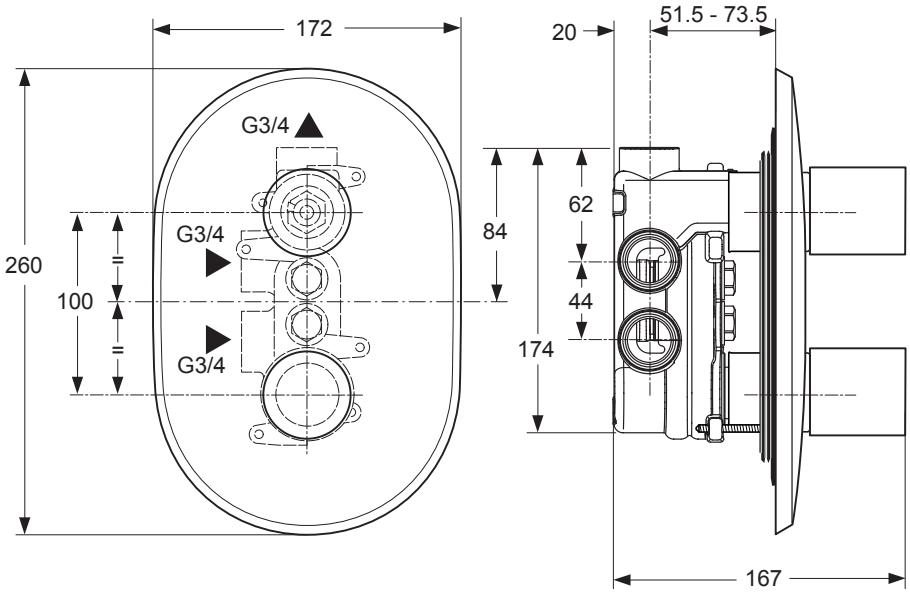


Fig.1

Dimensions (in millimetres) may vary within permitted tolerances

Please read these instructions carefully before commencing installation and familiarise yourself fully with the assembly details, the exploded diagram (Fig.2) and list of components which are numbered and referred to in the instructions.

INSTALLER

After installation pass to user for future reference

SPARE PARTS

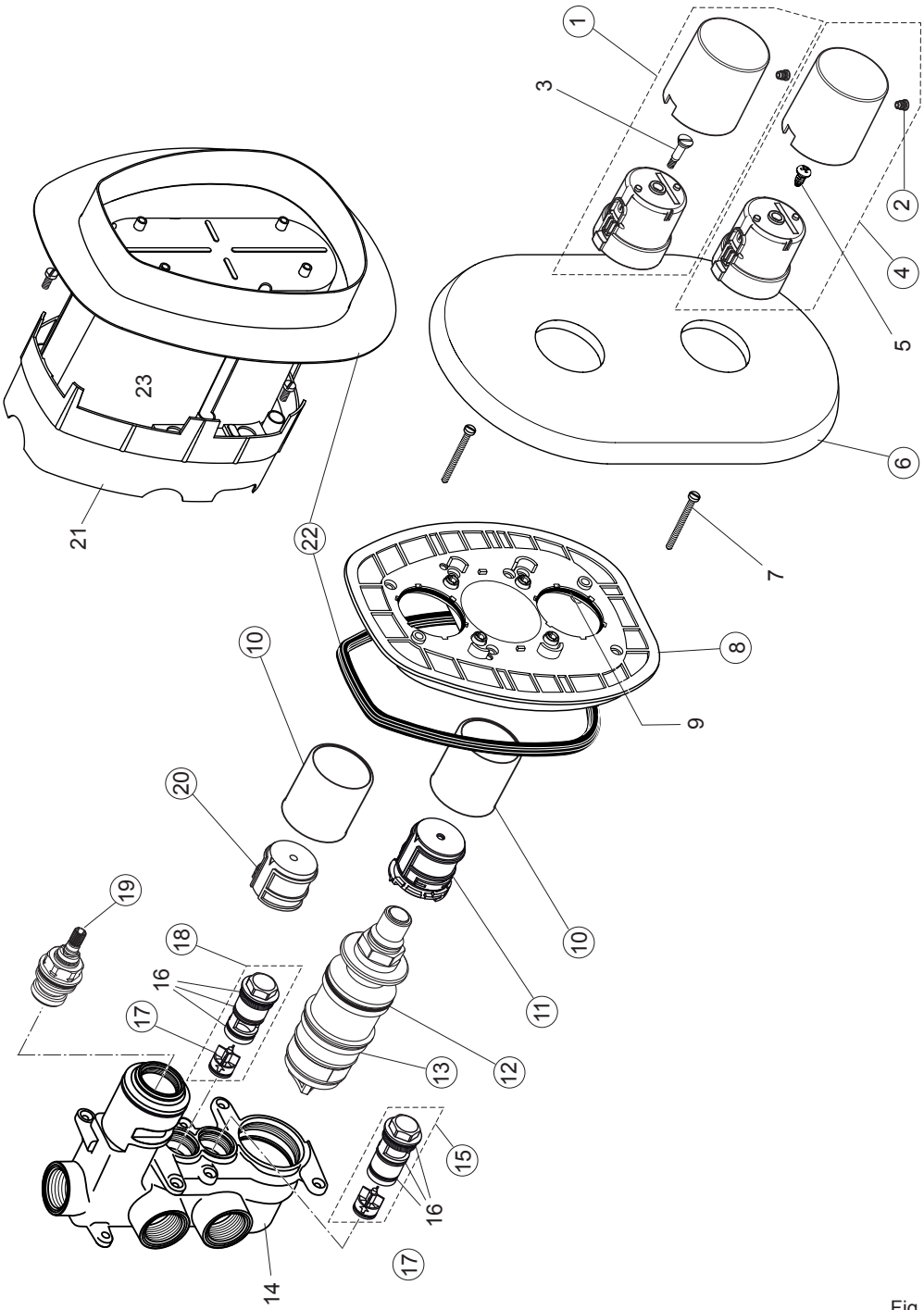


Fig.2

1	A 963 851 AA
2	A 961 095 NU
4	A 963 852 AA
6	A 963 853 AA
8	A 963 509 NU
10	A 963 426 AA
11	A 963 427 NU
12	A 860 607 NU
13	A 963 855 NU
15	A 960 588 NU
17	A 860 415 NU
18	A 960 589 NU
19	A 963 284 NU
20	A 963 432 NU
22	A 963 510 NU

General Information

The Boost is intended for use with traditional UK gravity fed HOT water systems.
The Boost is designed to use a gravity HOT WATER Supply and mains pressure COLD WATER supply. The product uses a venturi principle to enable the cold water to boost the pressure of the blended water. This makes the Boost a real alternative to an electric shower in most circumstances being able to give a higher flow rate and better feel of water delivery pressure. The product can even be installed in systems with a small negative hot head of water (i.e. where the handset is slightly above feed tank water level).
The product is available in both exposed and concealed versions.

The Boost Valve whilst not thermostatic does include a high limit thermostat which will shut the valve down to a dribble in the event of the outlet temperature getting excessively high > 46°C, resulting from any destabilising supply conditions.

Principle of Operation

The Boost's Venturi principle cartridge uses the energy present in the cold water supply to induce a higher than natural flow through the gravity tank fed hot side of the fitting. This results in a shower performance which is better than a normal gravity tank shower solution and can in fact deliver a shower when the hand spray is level with or even slightly above the hot water source level. The venturi principle of linking the ratio of hot water to that of the cold water means that reasonably stable temperatures will be achieved even when the cold flow pressure changes as a result of other fittings being used. The cartridge is also fitted with a thermal element shut down device to almost stop the flow in the event of excessive temperatures being achieved e.g. due to say, a cold water starvation condition. The low flow rate during the thermal shut down condition is for safety insufficient to shower under, however it allows the user to see that the fitting has not been turned off and also allows the mechanism to reset when the cold water supply is restored.

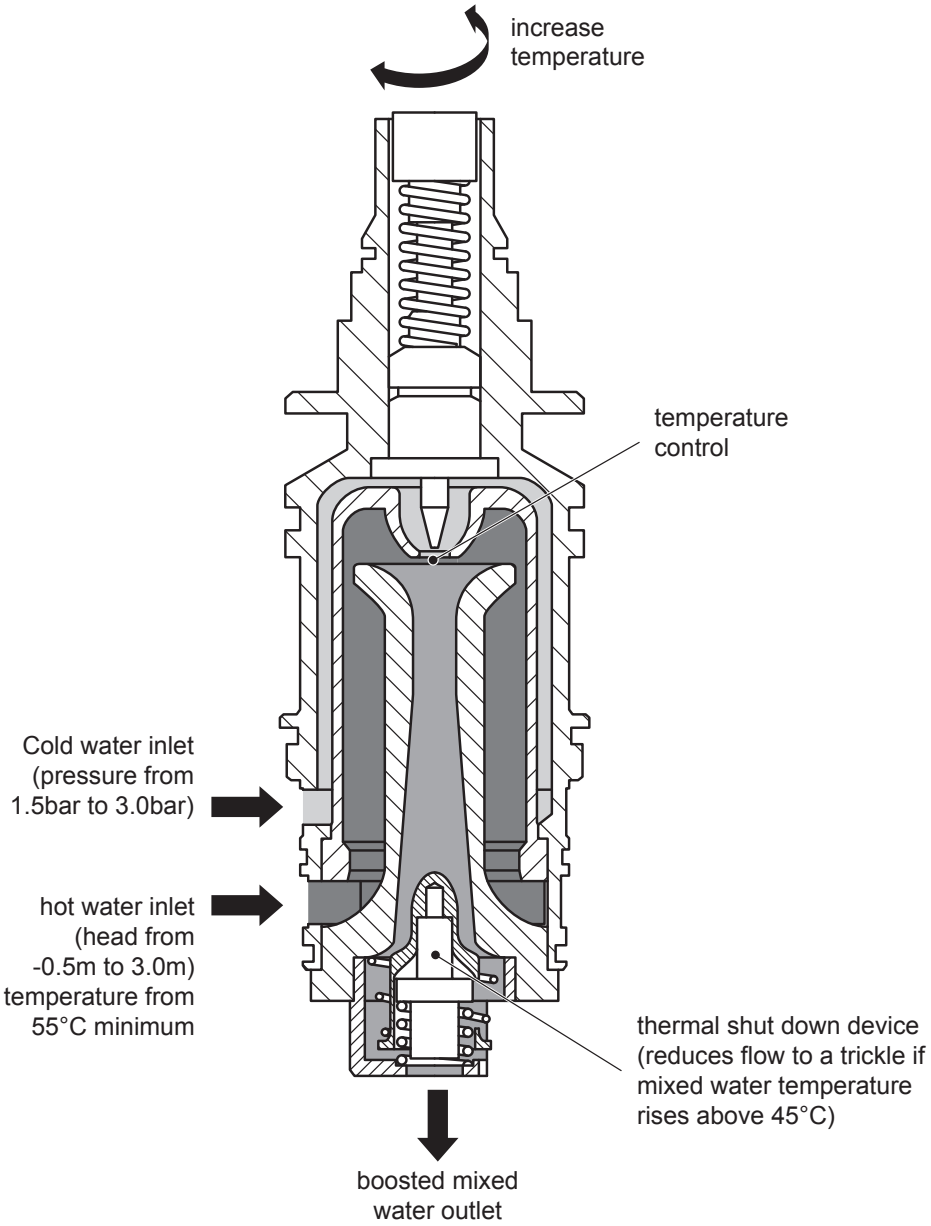


Fig.3 Venturi Cartridge

Installation Criteria

The hot and cold water inlets and the shower outlet are to suit ¾" plumbing.

It is extremely important that the Hot supply is free from unnecessary restrictions, it should be plumbed from the cylinder to the valve with ¾" pipe work with the minimum possible changes of direction. We would recommend swept bends in preference to 90° fittings and the shortest possible pipe runs. A direct connection to the Hot water cylinder is ideal, alternatively make the Boost connection the first draw off the cylinder thereby making it less susceptible to other hot draw offs. If possible high level (above the ceiling) pipe work should be avoided, if this is not possible care must be taken to ensure said pipe work is vented to prevent air locking due to the bubbles present in hot water. Both the Hot and cold water supplies must be fitted with check valves in order for the product to perform correctly, they are also required to comply with water regulations. The separate check valves provided should be positioned in the fittings supply pipe work at locations which would facilitate easy access for servicing, should this prove necessary. NB: It is not necessary for them to be adjacent to the fitting but it is necessary that they are installed in the fittings supply pipe work.

We highly recommend thorough flushing of the new pipe work prior to finally connecting the valve. This will wash out any debris resulting from the installation work which could adversely affect the durability of the fitting. It is particularly important to ensure no plumbing debris can foul the check valves as this would result in cross flow.

We also strongly recommend fitting full bore isolation valves on both supplies upstream of the check valves to facilitate future maintenance.

The cold water supply should be at mains pressure and of 1.5 bar or more. This can be plumbed in 15mm pipe work, again a check valve should be included.

The Shower Kit (Hose and Hand Spray) is also a low resistance design, this is necessary to give maximum venturi benefit.

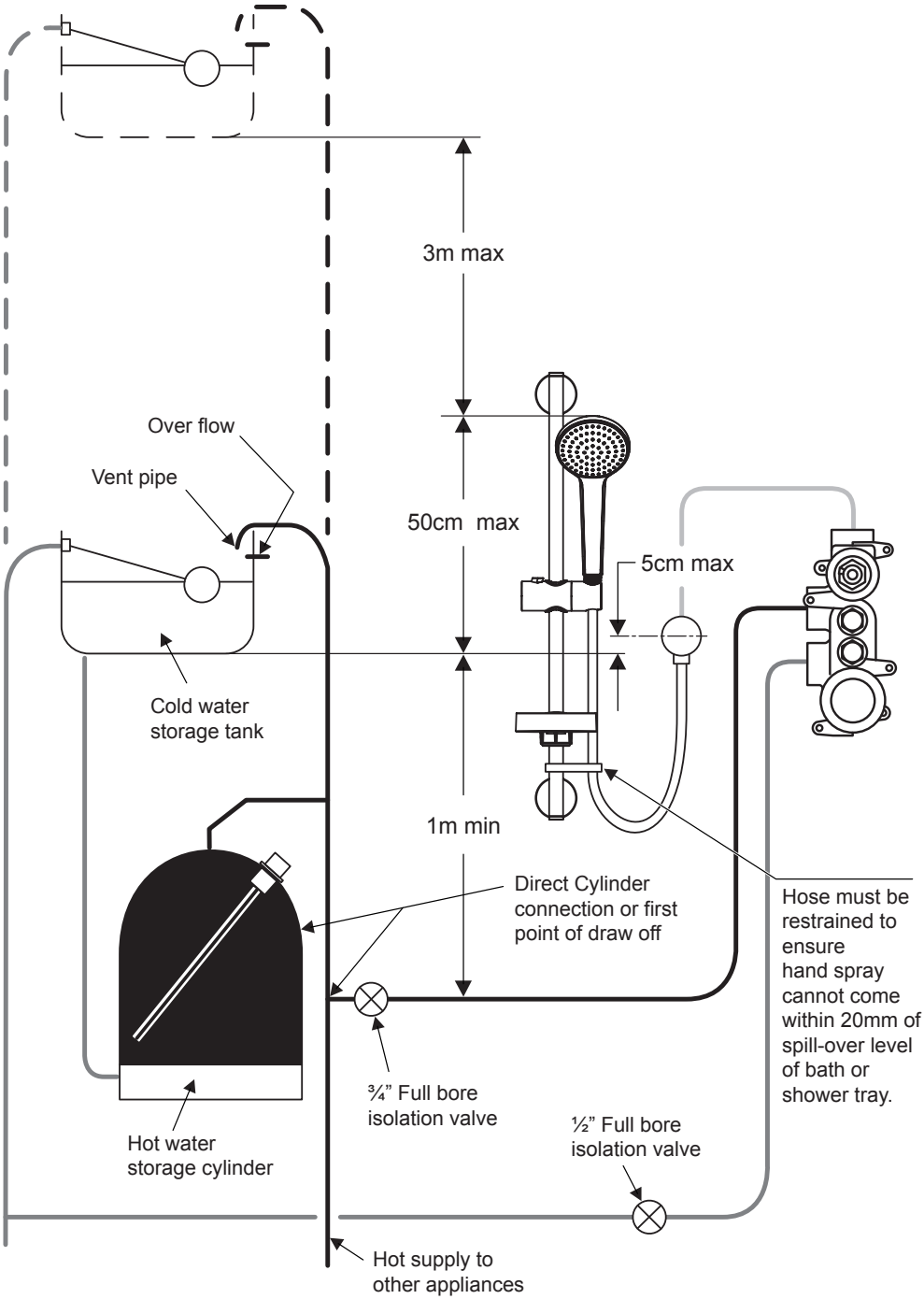


Fig.4 schematic plumbing diagram

Technical dimension

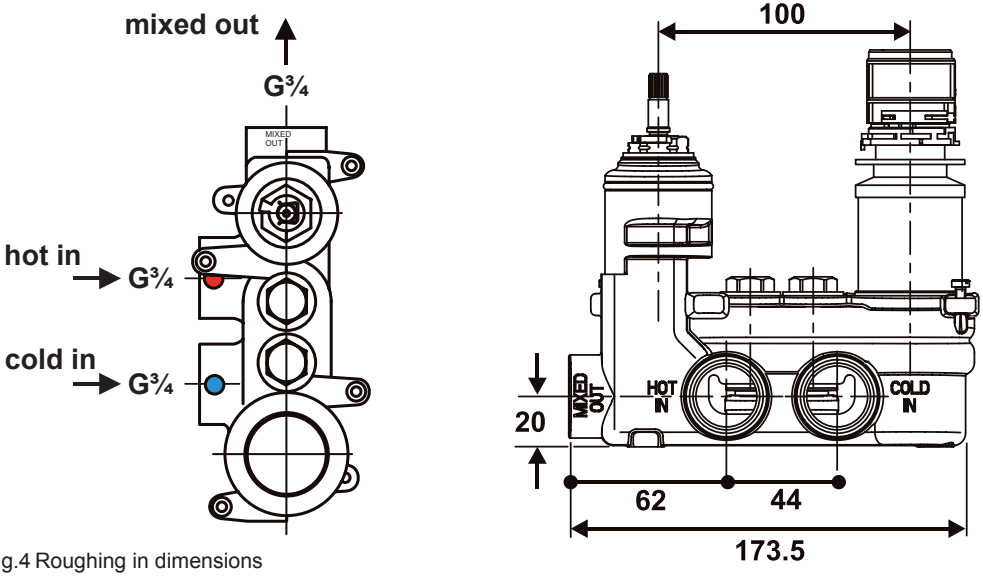


Fig.4 Roughing in dimensions

Connections on the built-in mixer body are G¾ (female) and are marked “hot in”, “cold in” and “mixed out” on the body casting.
For satisfactory flow performance, the pipework should be a 22mm copper on the hot water supply and at least a 15mm copper on the cold water supply.
The connectors should be jointed to the valve body using traditional fibre plus jointing compound.
(If PTFE tape is used special care must be taken to ensure the joint is water tight before plastering the wall).

Under no circumstances should soldered joints be used near the valve body as this will damage the fitting.
It is recommended that isolation valves be fitted upstream of the valve body.
The valve is supplied ready for installation as shown in figure 4.

Building - in

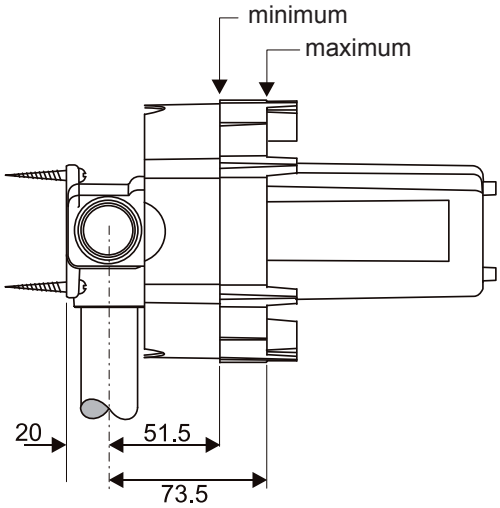


Fig.5 Build in depth

1. This Boost valve is designed to be recessed into the wall. The depth of the recess should be measured from the finished wall surface to the rear of the valve body. There is an adjustment of 22mm and the recess depth is in the range 71.5mm minimum to 93.5mm maximum. The minimum and maximum depths are marked on the plaster guard.

2. Chase out wall for mixer body and pipe work.

3. Remove plaster guard.

4. Connect the pipe work and remember not to solder near the valve body. **Check for leaks!**

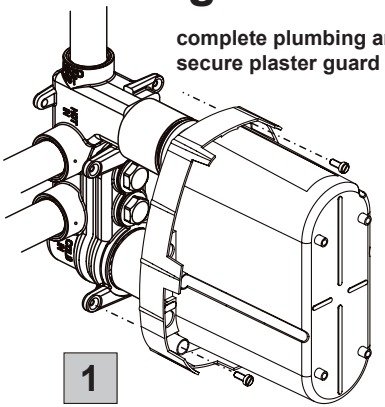
5. Replace the plaster guard and check that the valve is level. The four bosses on the front of the plaster guard allow a spirit level to be placed on or against it. Check also that the valve is parallel to the wall surface.

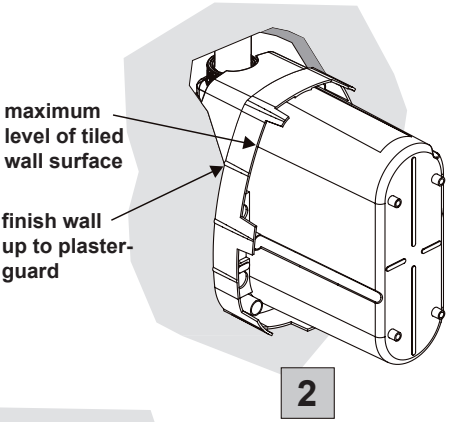
6. Make good the wall by plastering around the valve up to the plaster guard.

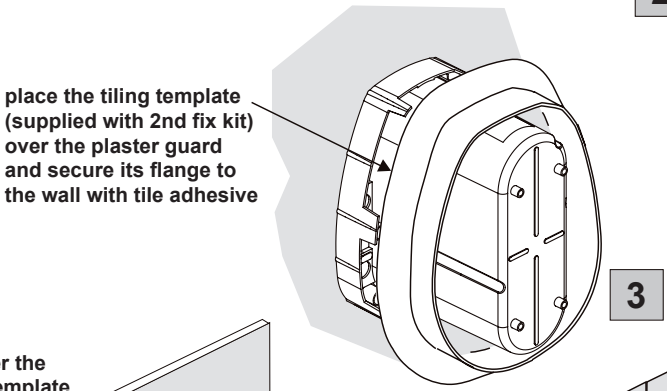
7. Once the plaster has set the wall can be tiled using the tiling template. This should be located by placing it over the plaster guard and attached to the wall using tile adhesive. After the tile adhesive is cured remove the plaster guard.
(See page 10 for illustrations)

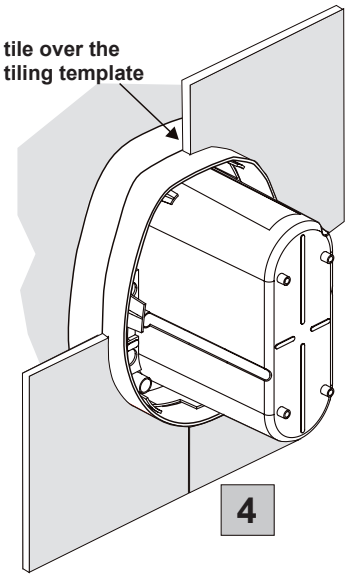
8. The pipe work and valve body must now be flushed out otherwise the Boost cartridge filters could become blocked resulting in reduced or erratic performance. To do this, remove the check valve housing (18) from the hot side as described on page 16. Turn on the hot supply until all debris has been purged from the system then replace the check valve. Repeat the procedure for the cold side. After flushing check and clean the strainer elements in the isolating valves.

Plastering and tiling









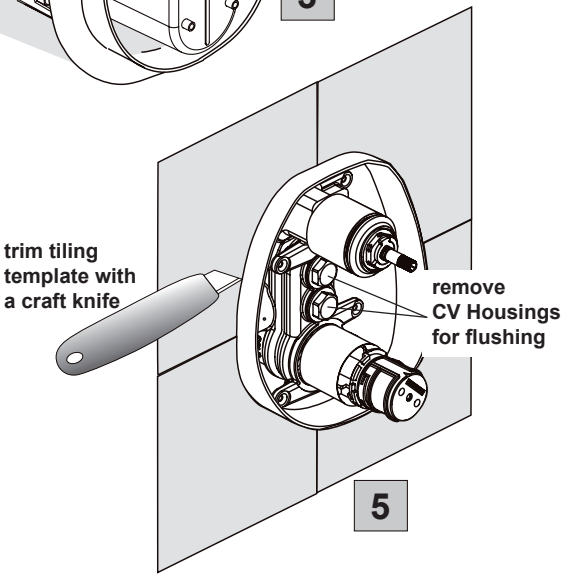


Fig.6

Fitting the faceplate and handles

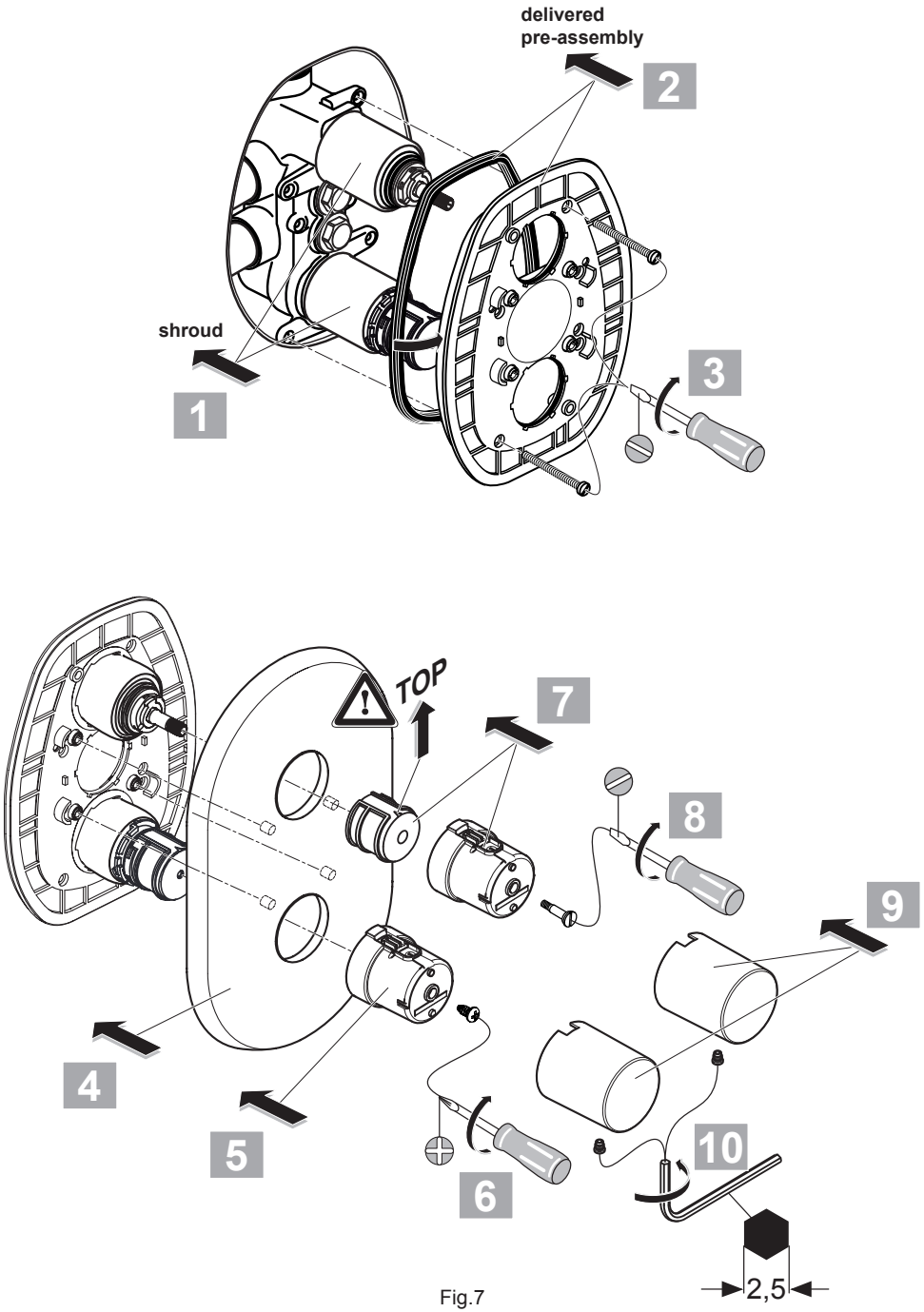


Fig.7

Operation

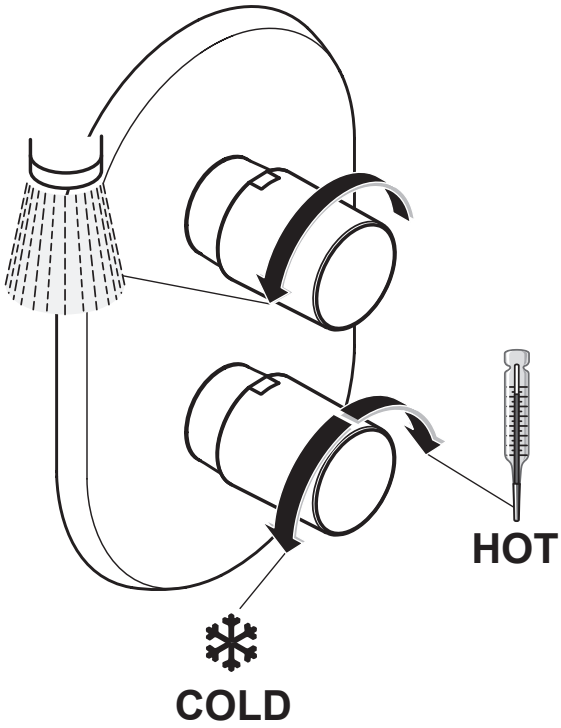


Fig.8

Operating Conditions

Operating Range	
Maximum static pressure - bar	10
Dynamic (flow) pressure cold - bar	1.5 to 3.0
Dynamic (flow) pressure hot - metres	-0.5 to +3.0
Cold supply temperature	5°C to 20°C
Hot supply temperature (see charts 1&2)	variable 55°C to 70°C
Flowrate (see chart 5)	variable

The charts 1 & 2 below indicate the hot water requirement for cold water pressures 1.5 – 2.0 bar and 2.0 – 3.0 bar.

Hot water requirement when cold water pressure is 1.5 - 2.0 bar

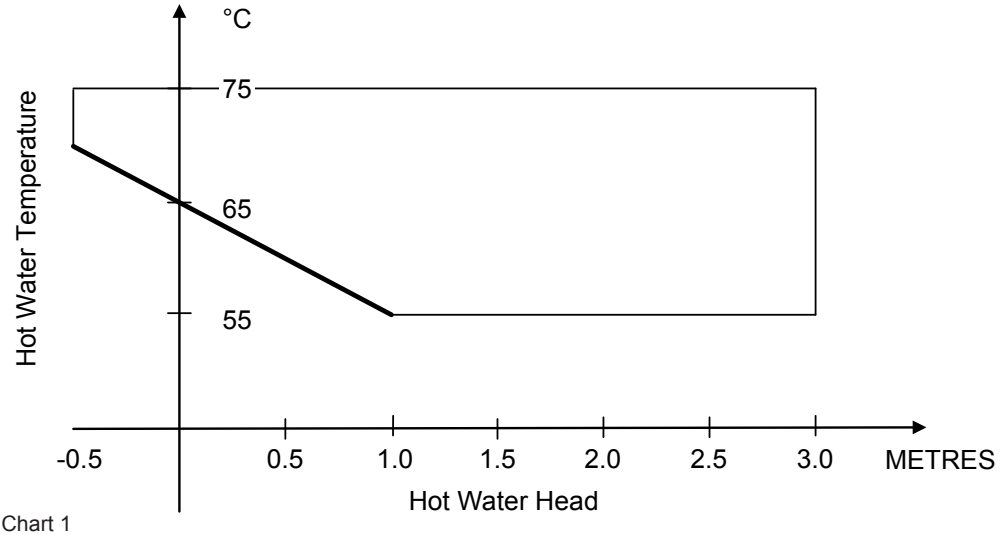


Chart 1

Hot water requirement when cold water pressure is 2.0 - 3.0 bar

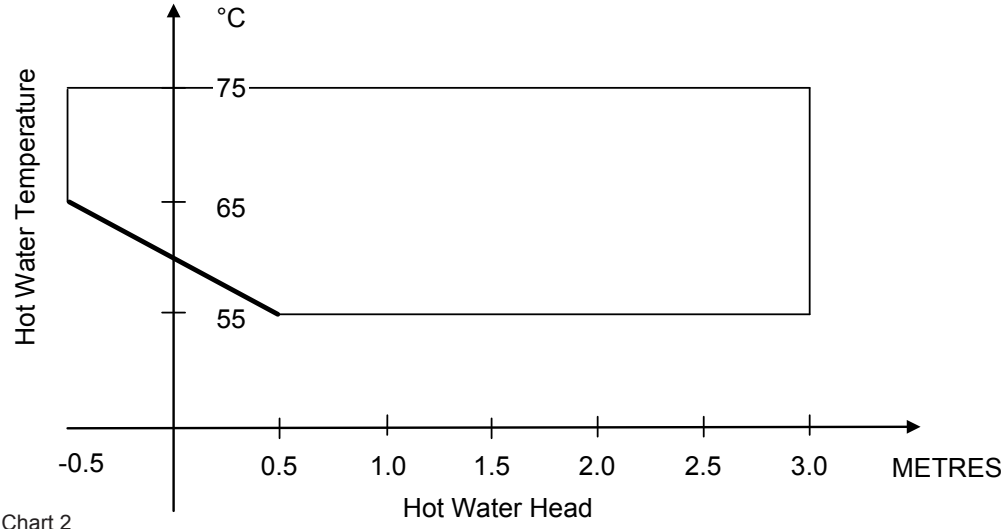
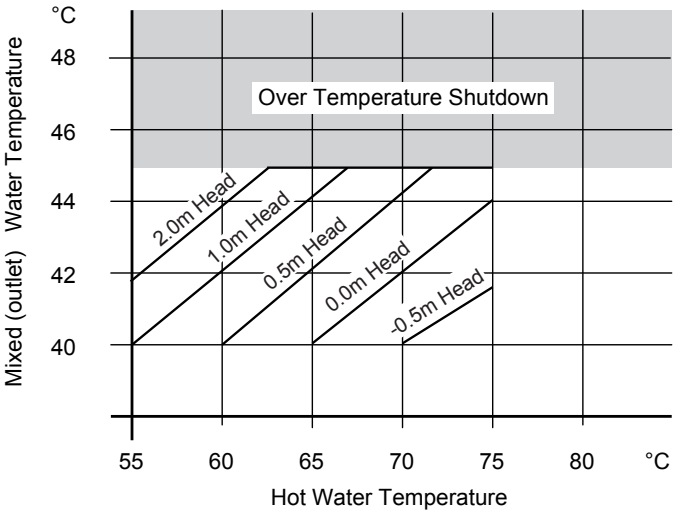


Chart 2

Charts 3,4 & 5 give anticipated performance data temperature expectations and flow performance

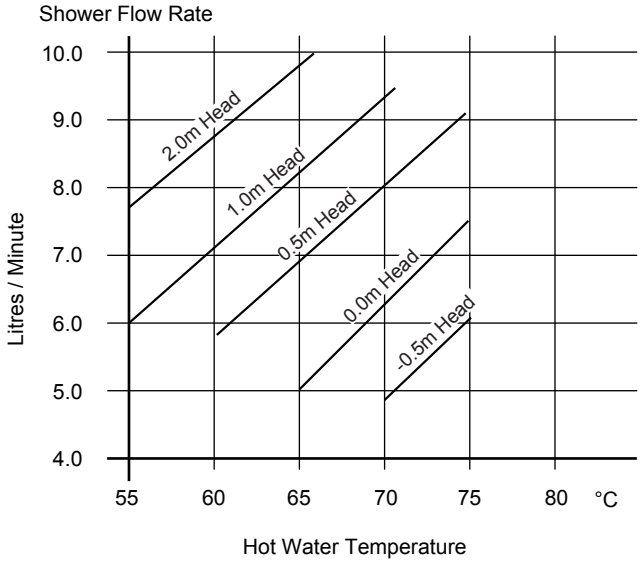
TREVI BOOST- Maximum Mixed Water Temperature at Various Hot Water Heads with Cold Water flow pressure at 1.5 BAR



Note: Maximum temperatures are approximate and may vary slightly due to installation conditions

Chart 3

TREVI BOOST- Flow Rates at 40°C Cold Water flow pressure at 1.5 BAR



Note: Flow Rates given are approximate and may vary slightly due to installation conditions

Chart 4

Maintenance

Before carrying out any maintenance on the product both water supplies must be isolated.

Only with both supplies Isolated should you undertake either the Boost cartridge or Flow control valve removal. We would expect long trouble free performance from both the boost cartridge and the flow control valve. Should you need to replace them see the spares section of these instructions.

Water bourne debris could lead to cross flow at the check valves, this could manifest as a dripping cistern overflow. If your supply is prone to debris it may be advisable to fit a strainer on the incoming cold supply.

If the hand spray becomes blocked or restricted with lime scale this could lead to reduction in the venturi effect and consequently a cooler showering experience. Keep the hand spray clear of lime scale, if you replace it you should ensure the selected spray has a comparable / appropriate flow performance to avoid loss of performance.

If the hose becomes kinked this will similarly adversely effect the venturi performance. Try to avoid kinking the hose, should a replacement become necessary ensure that a large bore hose of similar performance is used as a replacement to avoid performance problems.

Cartridge replacement

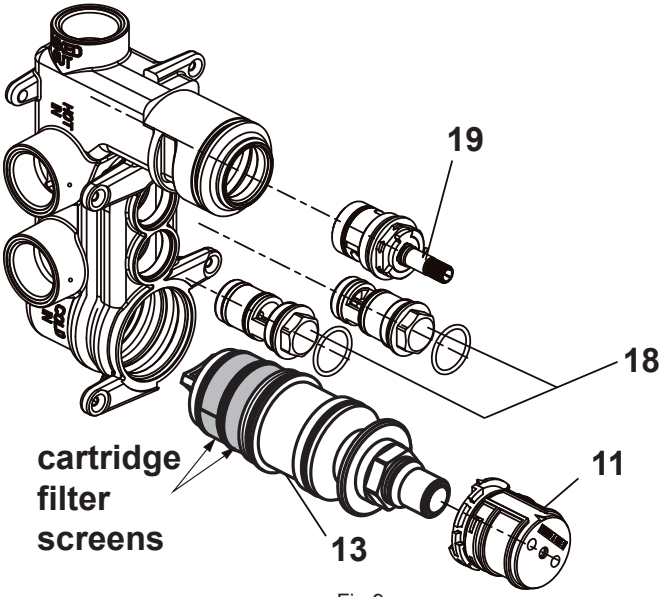


Fig.9

Servicing the Boost valve is a simple matter as all key working parts are in the form of replaceable cartridges.

In all cases the hot and cold supplies must be turned off before commencing work.

To aid this process it is strongly recommended that the valve be installed with the isolating valves as close as possible to it, consistent with the need for them to be easily accessible to the servicing engineer.
To access all the cartridges first remove the handles and face-plate (Fig.7) which can be prised off. The black plastic back-plate can then be unscrewed.

FLOW CONTROL CARTRIDGE

The flow control cartridge (19) can be accessed by removing the flow control handle. It is then a simple matter of unscrewing it using a 22mm spanner. (Remember to turn off the water supplies using the isolating valves.) Care should be taken when fitting the replacement cartridge not to allow its greased seals to become contaminated with plaster or other grit as this can prevent proper seating.

BOOST CARTRIDGE

Remove the temperature control handle and the shroud. The temperature adjustment carrier (11) can then be removed as described in figure 10 by sliding the serrated lever clockwise and pulling the carrier off.

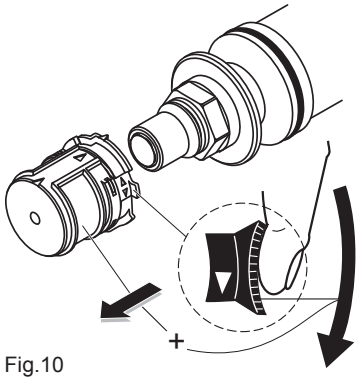


Fig.10

The Boost cartridge (13) can then be unscrewed, using a 24mm deep socket. It is usually unnecessary to fit a new Boost cartridge. Most problems occur because debris from the pipe work has blocked the cartridge filter screens, usually as a result of the pipework not being flushed at the time of installation.
The cylindrical filter screens can be removed for cleaning by removing the o-rings from the cartridge and sliding the screens off.
Do not attempt to refit the cartridge with the filter screens missing.
Any small particles of grit in the water supply will cause the mechanism to jam. (Place all components which have grease on them on a clean piece of paper to avoid picking up grit).
Grease the cartridge o-rings with silicone grease when they have been refitted.

If the cartridge is to be replaced, fit the new one at this stage. The valve is assembled in reverse order.

CHECK VALVES

This shower valve is fitted with check valves on both hot and cold inlets. These are necessary to prevent cross flow through the fitting between hot and cold supplies. The check valves should normally operate without any problems but it is possible, if large pieces of installation or other debris get into a check valve, that it could become blocked. This would show itself as reduced or erratic flow.
It is a simple procedure to inspect the check valves. Remove the face plate and unscrew each of the check valve housings in turn using a 17mm socket (18). If debris is blocking the check valve it will have to be carefully cleared out and the valve washed clean. The check valve mechanism is delicate and must treated gently.
In the event of them becoming damaged by this process replacements may be purchased by calling Customer Care

It is essential that the hot and cold check valves are not mixed up otherwise the boost cartridge will not function correctly. However, if inlet connections to the valve have been transposed the problem can be resolved by transposing the check valves.

Ideal Standard International BVBA
Chaussée de Wavre, 1789 - box 15
1160 Bruxelles
Belgium

0312 / A 866 463
(+ E 965 476 00)
Made in Germany

www.idealstandardinternational.com