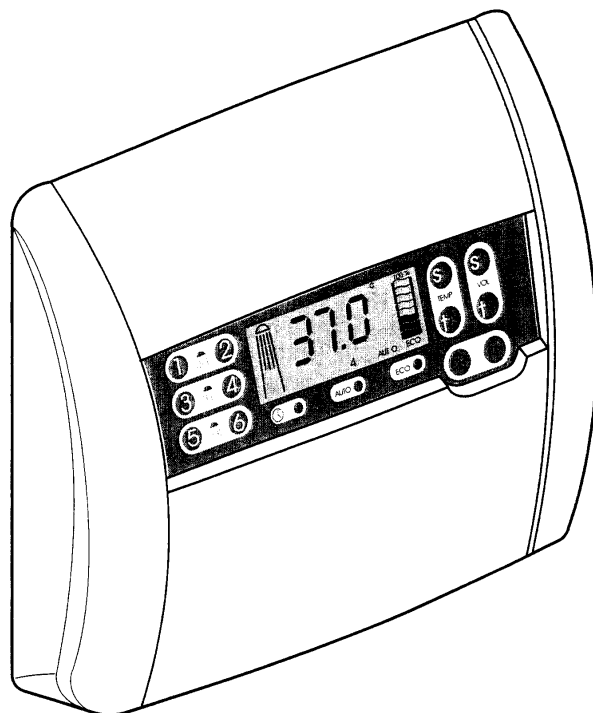
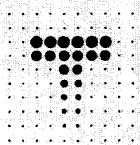


TREVI ELECTRONIC



INSTALLER

After installation pass to user for future reference



TREVI SHOWERS

Installation instructions

**A7000 Trevi Electronic exposed
thermostatic shower/shower mixer (700)**

**A7100 Trevi Electronic built-in
thermostatic shower/shower mixer (710)**

**A7200 Trevi Electronic built-in
thermostatic bath/shower mixer (720)**

GENERAL NOTES

The Trevi Electronic thermostatic shower and shower/bath mixers are supplied for built-in pipework installations, and are therefore suitable for concealed pipework only. Flow control is by ceramic disc cartridge and there are internal check valves fitted on both supply connections. Whilst all models are splashproof and designed for a long service life they MUST NOT be installed in conjunction with a steam bath.

WATER SUPPLIES

Trevi Electronic thermostatic shower and shower/bath mixers are designed for installation on open vented systems, unvented mains pressure systems or modulating instantaneous water heaters and combination boilers. They are also suitable for all fully pumped applications. It is recommended that hot and cold water supplies are reasonably balanced for both low pressure and high pressure unvented systems for optimum performance. The mixers will however, operate at unequal pressures up to a ratio of 5 to 1. Trevi showers are designed to operate on supply pressures between 0.1 bar and 5 bar. The hot water temperature is expected to be between 60°C and 65°C (BS6700), if the temperature exceeds this then an expansion relief check valve is recommended on the cold supply and should be fitted as close to the shower valve as possible. Expansion relief check valves can be purchased from Trevi Showers.

WATER BYELAWS INSTALLATION REQUIREMENTS

The following Installation Requirement Notes (IRN'S) apply to the Trevi Shower fittings listed in the water fittings directory.

**A7000 Trevi Electronic (700)
A7100 Trevi Electronic (710)
A7200 Trevi Electronic (720)
IRN No.s 101,103,109,111**

Installation Requirements

As the incorrect installation of water fittings may result in contravention of Water Byelaw Requirements the following "Installation Requirements & Notes (IRN'S)" are intended as guides to water undertakers, consumers, installers and their customers. The IRN'S relate to the new Byelaws implemented by water undertakers from 1st January 1989. For further information see the "Installation Supply Byelaws Guide."

WATER RESEARCH CENTRE "WATER FITTINGS AND MATERIALS DIRECTORY" IRN 101 - Byelaw 25

Water supplies shall be at reasonably balanced pressures and taken from a common source (both from storage by gravity or both from the supply pipe). Where the fitting is installed in domestic premises supplies may be taken from separate sources provided a check valve or some other no less effective backflow prevention device is fitted immediately upstream of both hot and cold water inlets.

IRN 103 - Byelaw 17

Multiple inlet fittings installed in domestic premises shall be installed in accordance with IRN 101 and with a double check valve assembly or some other no less effective backflow prevention device fitted at the connection to the shower hosepipe.

A single check valve or vacuum breaker may be fitted in place of the double check valve if single check valves are fitted at each inlet fitting. Alternatively the fitting shall be supplied in accordance with IRN 109 unless the shower head is constrained above the spill-over level of the bath, washbasin or shower tray.

IRN 109 - Byelaws 16 & 18

The fitting shall be installed so that its outlet discharges above the spill-over level of any fixed appliance as indicated in the following table:

Size of tap or combination fitting	Vertical distance of point of outlet above spill-over level
1. not exceeding 1/2"	20mm
2. exceeding 1/2" but not exceeding 3/4"	25mm
3. exceeding 3/4"	70mm

If the fitting cannot be installed as indicated in the table it shall be installed:

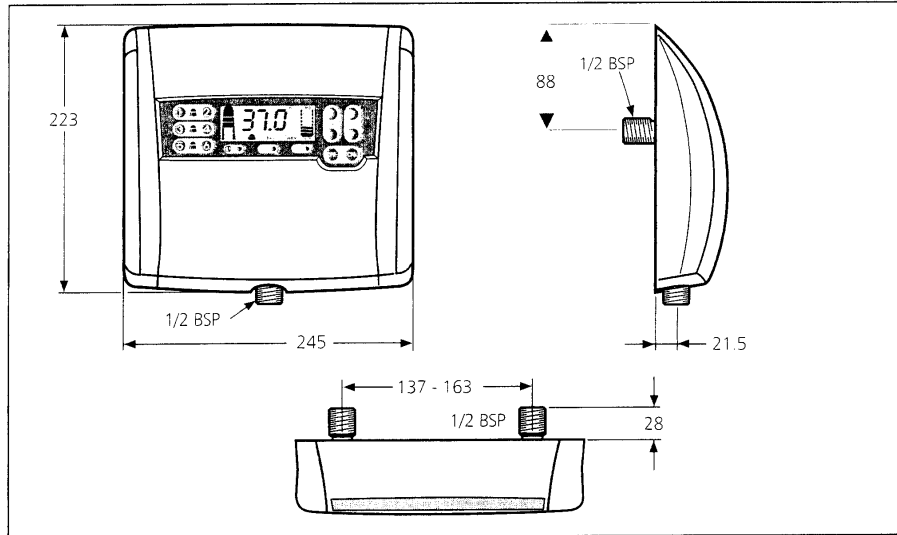
- A. with a "listed" double check valve assembly or some other no less effective backflow prevention device immediately upstream of the inlet, or
- B. so that it draws water by gravity only from a cistern, cylinder or tank having a permanently open vent pipe, the vertical distance between the point at which the pipe or pipes supply water to the fittings are connected to the supply and the spill-over level of any fixed appliance is not less than 25mm and the pipe or pipes supply(ies) no other fitting (other than a drain tap) at a lower point.

IRN 111 - Byelaws 29, 58 and 73

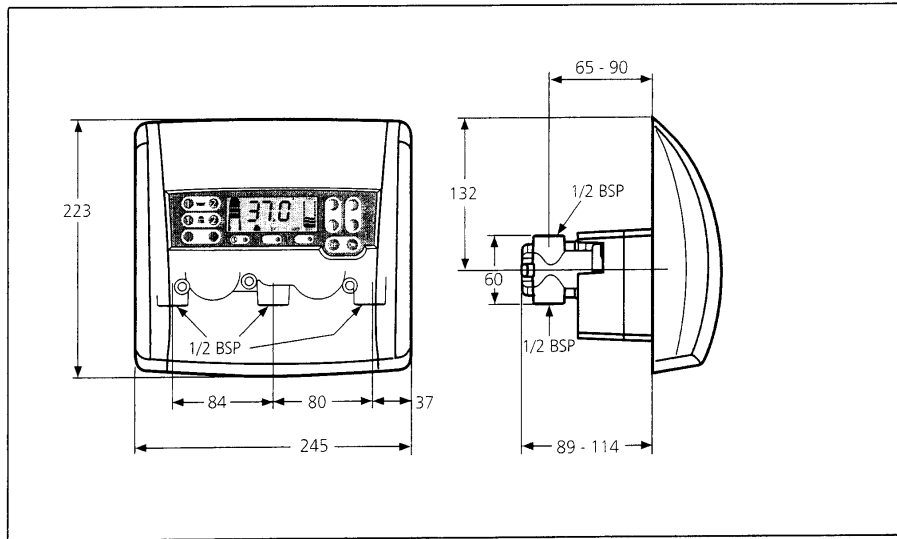
The fitting is to be installed as to be readily accessible for examination, repair, replacement or operation.

BACKFLOW PREVENTION DEVICE means either a Type A or Type B air gap, a check valve, a double check valve assembly, a combination of check valve and vacuum breaker, a pipe interrupter, or some other water fitting or arrangement of water fittings designed to prevent backflow or backsiphonage of water.

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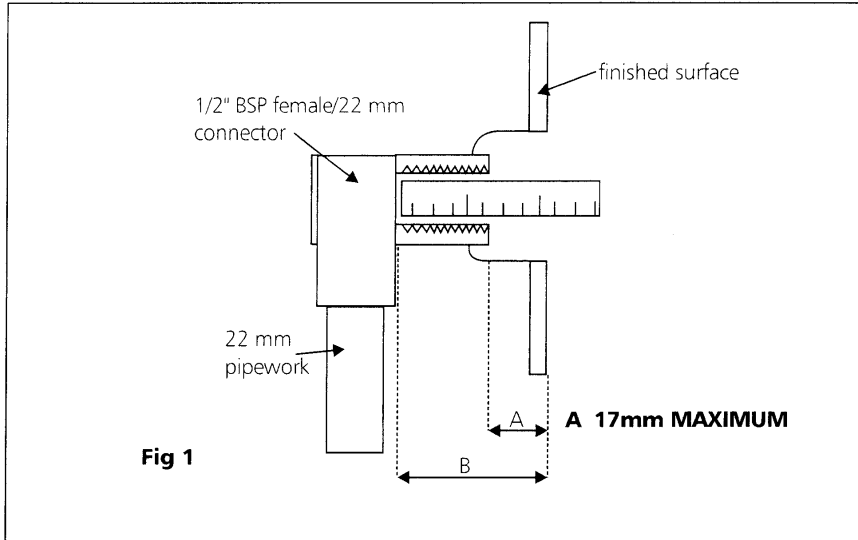
TREVI ELECTRONIC EXPOSED A7000 (700)

TREVI ELECTRONIC SHOWER BUILT-IN A7100 (710)
AND TREVI ELECTRONIC SHOWER/BATH BUILT-IN A7200 (720)

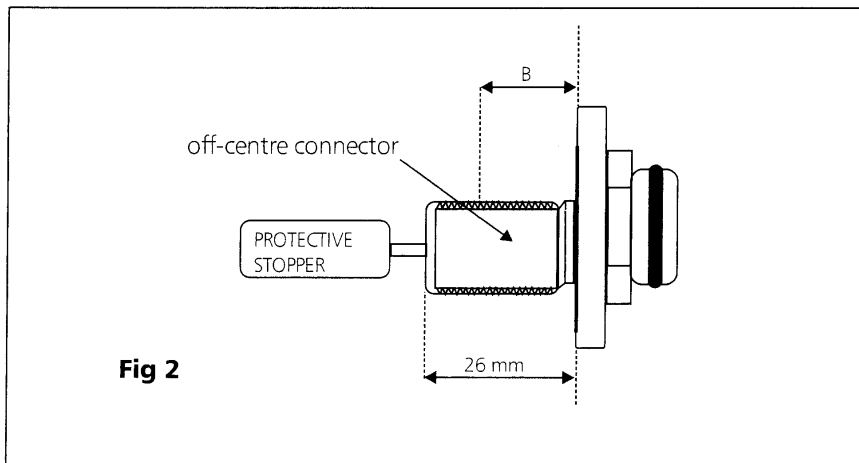


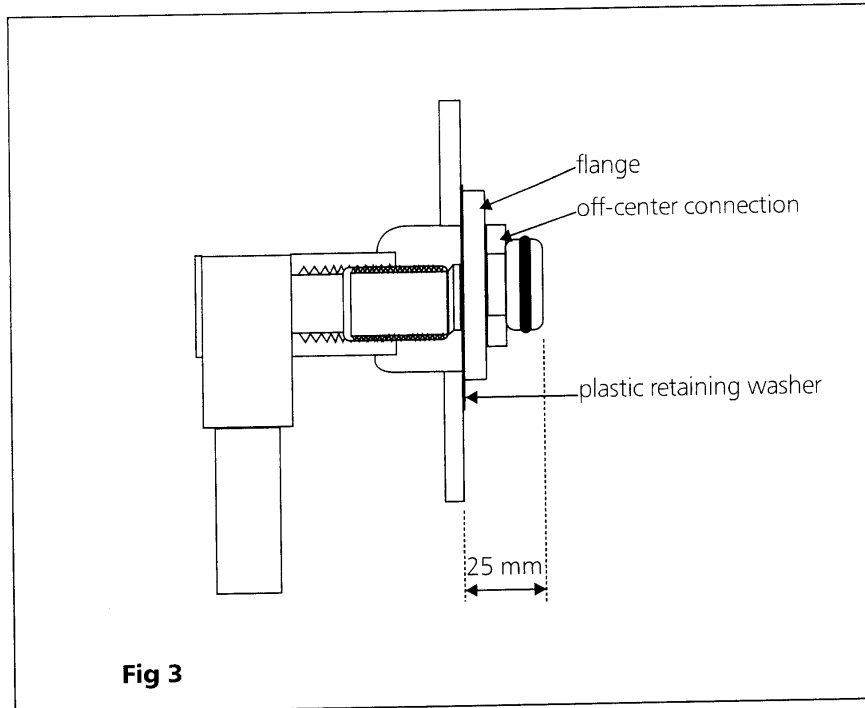
All dimensions are shown in millimeters.

Dimensions shown may vary within permitted tolerances.

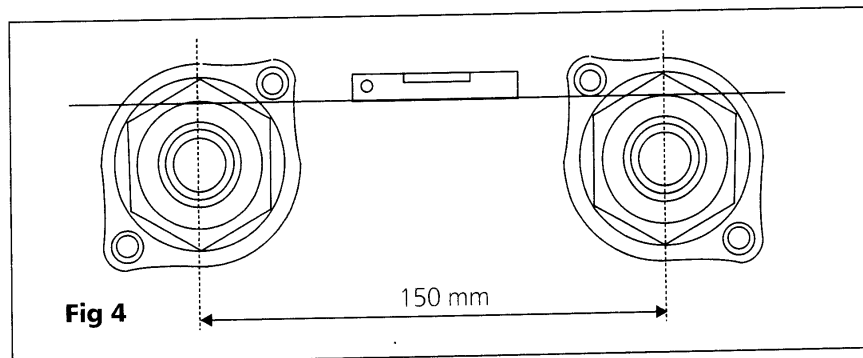


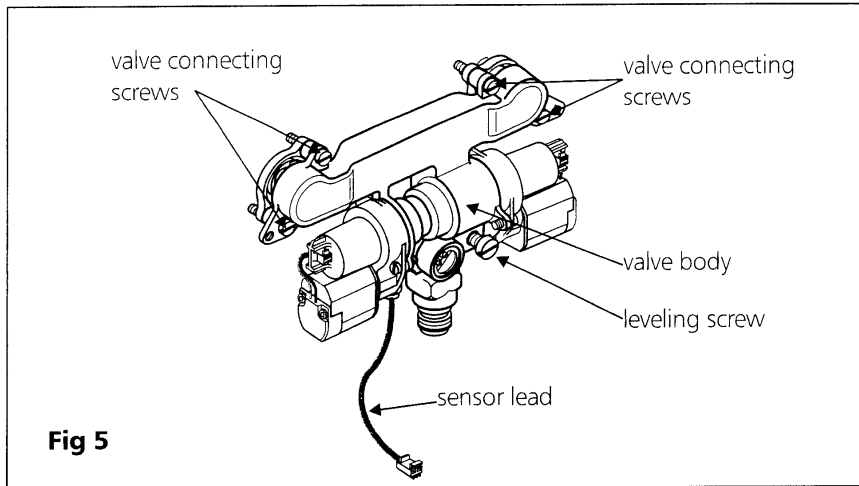
- 1 Unscrew the four valve connection screws and remove the off-centre connections from the body.
- 2 Measure the depth from the wall surface to the end of the thread in the 1/2" BSP female/22 mm connector (B). (**Fig 1**).
- 3 If this is less than 26 mm then cut the length of the threaded portion of the off-centre connector leaving the protective stopper in place to prevent debris entering the non return valves. (**Fig 2**).
- 4 Remove any debris then remove the protective stopper.



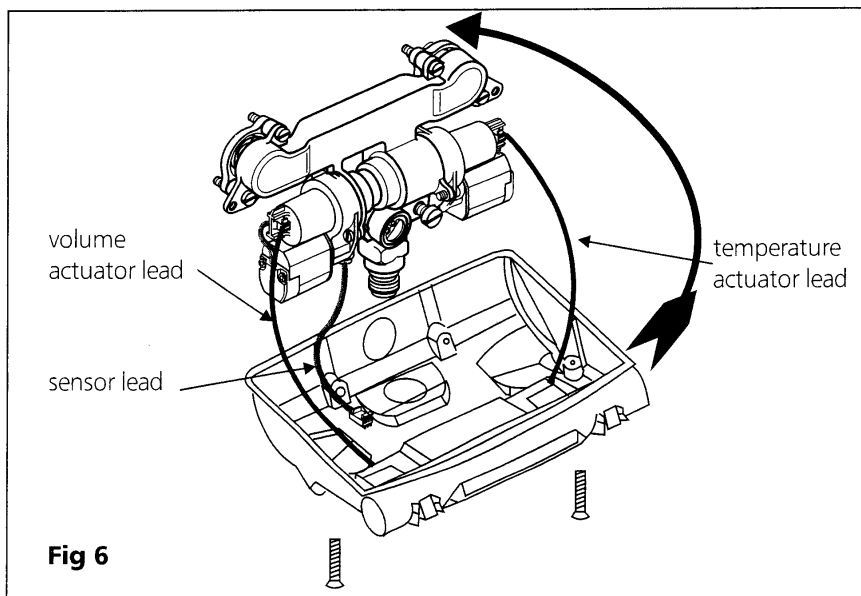


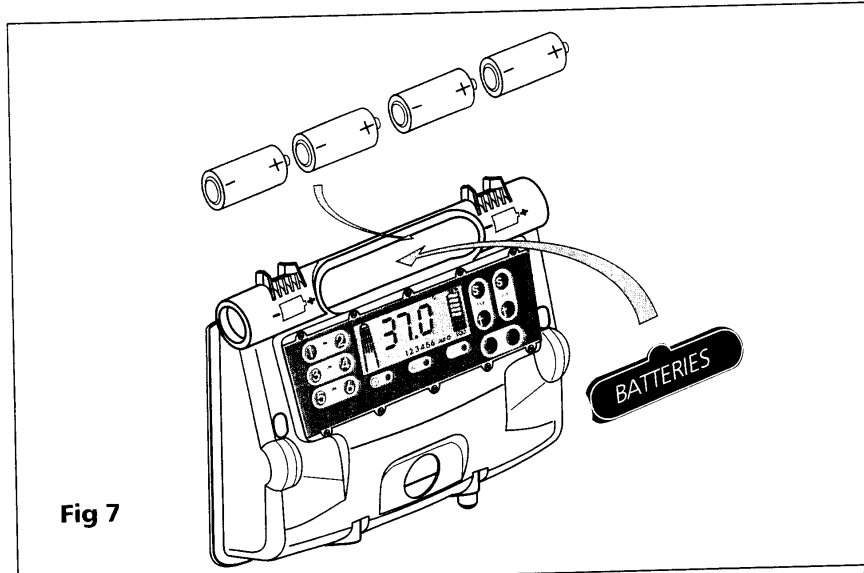
- 1 Screw the off-centre connectors into the 1/2" BSP female/22 mm connectors so that the flange and the off-centre connector finishes flush with the tiled surface. (**Fig 3**).
- 2 It is important that the off-centre connectors are horizontal and have 150 mm between centres in order that the valve body will fit correctly. (**Fig 4**).



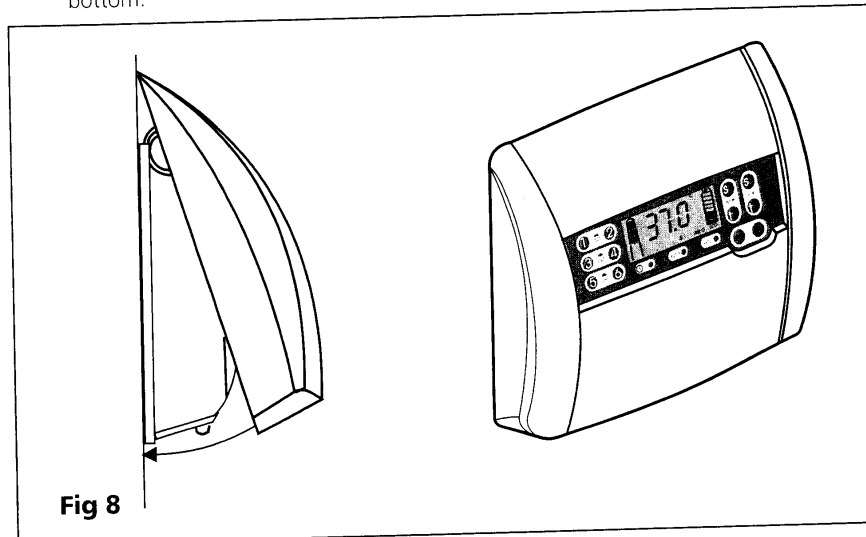


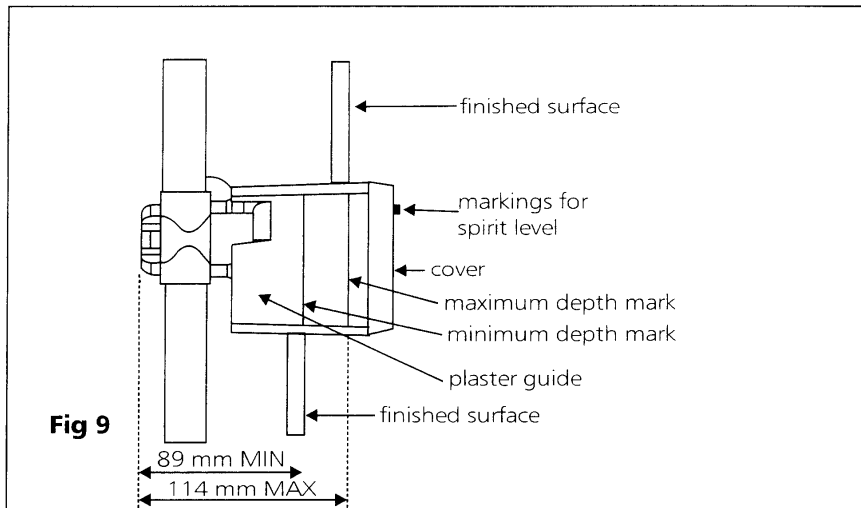
- 1 Slide the valve body onto the spherical heads of the off-centre connection and secure in place using the four valve connection screws.(**Fig 5**). The valve body is now set vertical using the leveling screw.
- 2 Position the electronic control box as in **Fig 6**, attach the actuator cables and connect the sensor cable.
- 3 Position the electronic control box over the valve body and secure using the two fixation screws.



A7000 EXPOSED INSTALLATION**Fig 7**

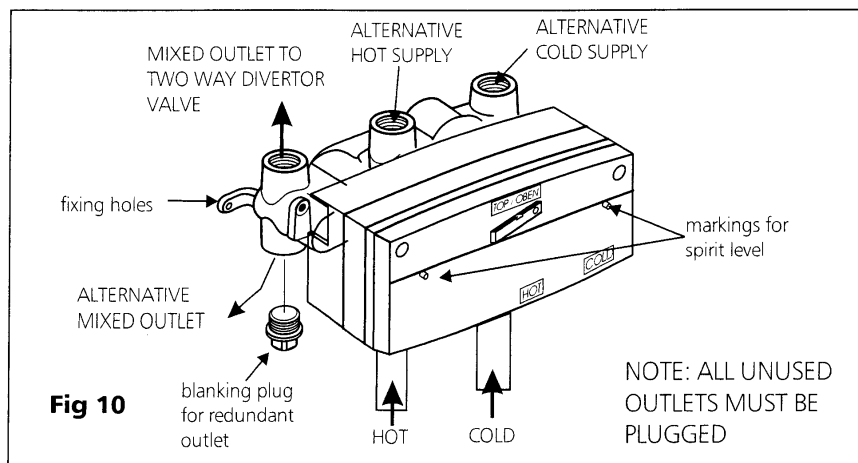
- 1 Remove the battery cover and fit the batteries checking for correct polarity then refit the battery cover. The unit will now run an automatic test and bleep twice upon completion.
- 2 Connect the shower hose. (Not shown).
- 3 Fit the cover by attaching the cover at the top and snapping it into place at the bottom.

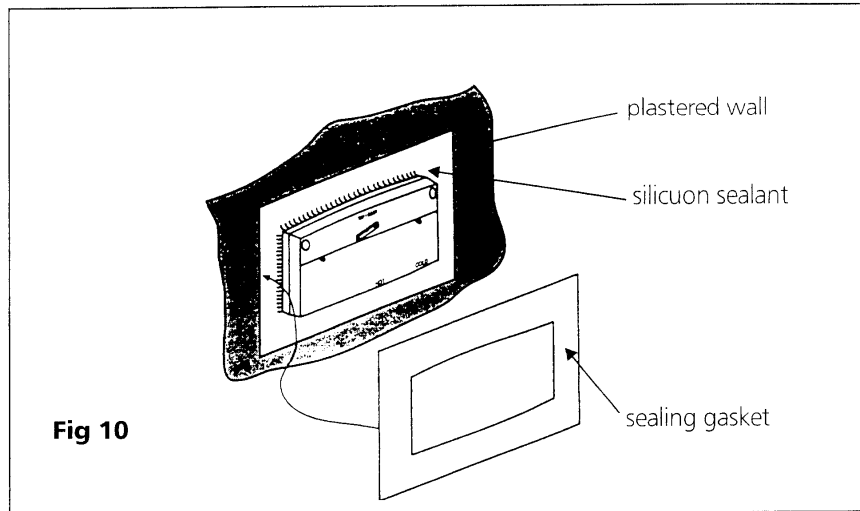
**Fig 8**



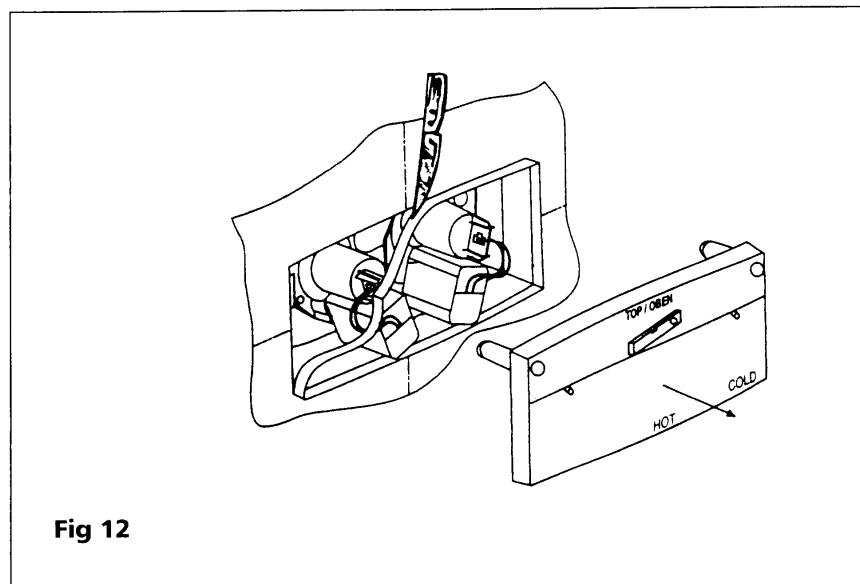
- 1 Connect 22mm pipework to the unit using 1/2" BSP female/22 mm compression connectors. The unit with the plaster guide and cover can then be secured to the wall using the fixing holes in the valve body. Lugs are fitted on the front of the unit to assist in setting the unit horizontal.
- 2 All unused outlets must be plugged.
- 3 **ALL UNITS MUST BE FITTED IN CONJUNCTION WITH A TWO WAY DIVERTOR VALVE WHICH IS NOT SUPPLIED WITH THE UNIT**
- 4 Once water supplies are connected and the unit secured to the wall the unit can be tested for leaks before the unit is plastered into place.

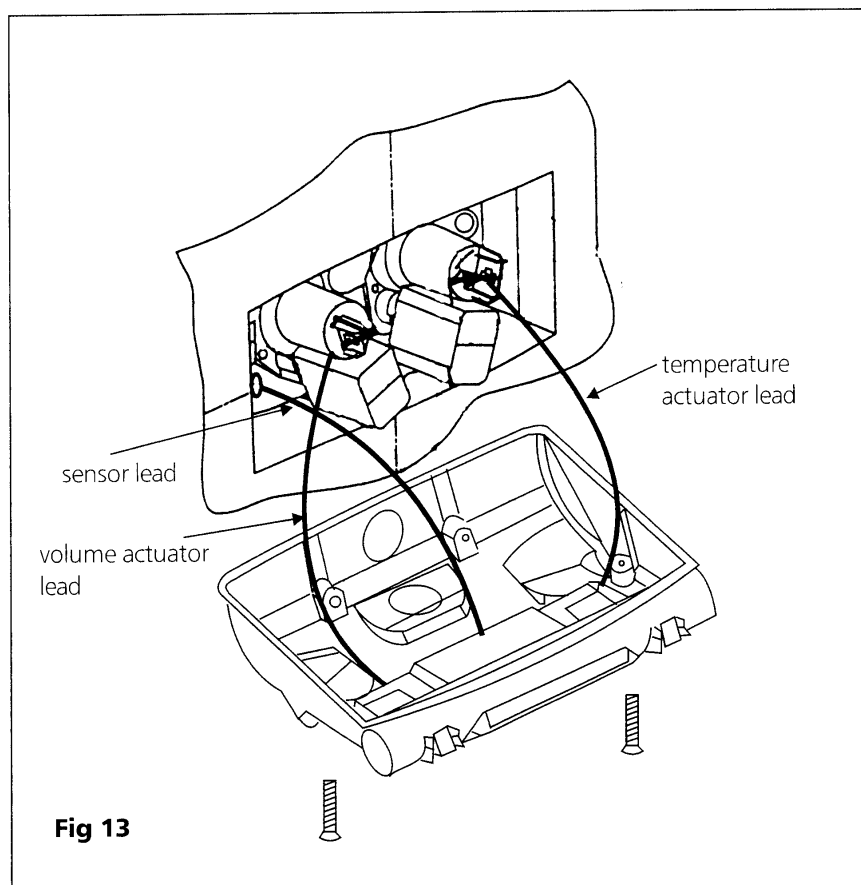
Never solder pipework directly in contact with the unit.





- 1 Once the plastered wall has dried apply a bead of silicon sealant around the plaster guide and push the sealing gasket into place as **Fig 11**. The wall can now be tiled.
- 2 Remove the cover from the plaster guide and trim the excess projecting edge of the plaster guide, **Fig12**.





- 1 Remove the electronic control box from the cover by prising the keypad on the left and right out of the cover simultaneously.
- 2 Position the electronic control box as Fig 13. Connect the temperature and volume actuator leads to the actuator units in the valve body.
- 3 Connect the temperature sensor from the valve body into the socket in the electronic control box.
- 4 Hold the electronic control box over the valve body and secure using the two fixation screws supplied.

NOTE: It may be necessary to apply a bead of silicon sealant between the top edge of the electronic control box and the tiled surface depending upon the width and depth of the grouted joints.

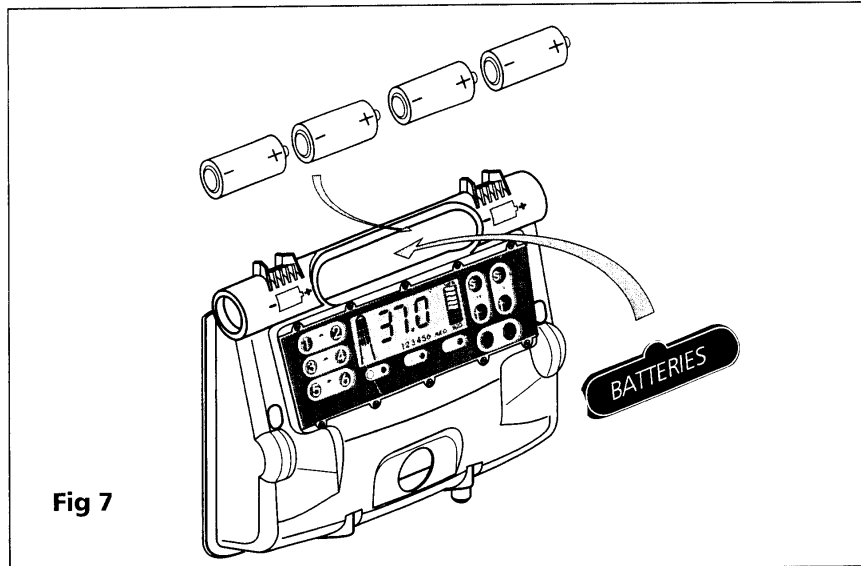


Fig 7

- 1 Remove the battery cover and fit the batteries checking for correct polarity then refit the battery cover. The unit will now run an automatic test and beep twice upon completion.
- 2 Fit the cover by attaching the cover at the top and snapping it into place at the bottom.
- 3 Set the bath fill level as described on page 18

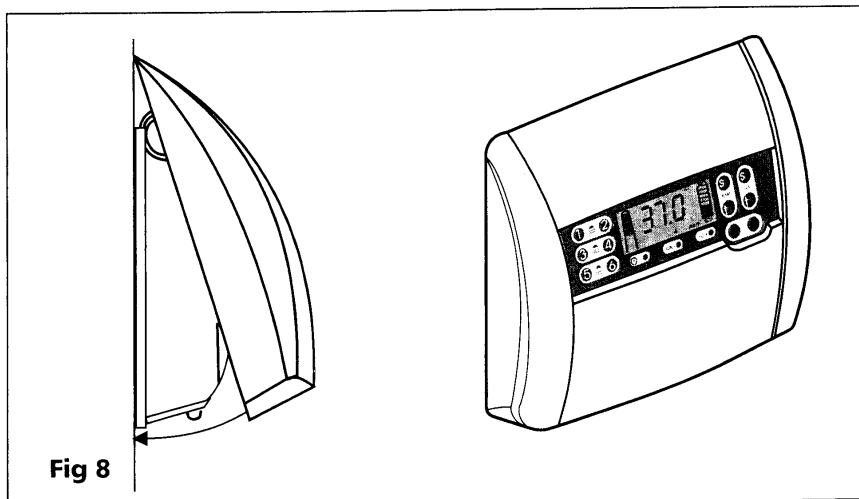
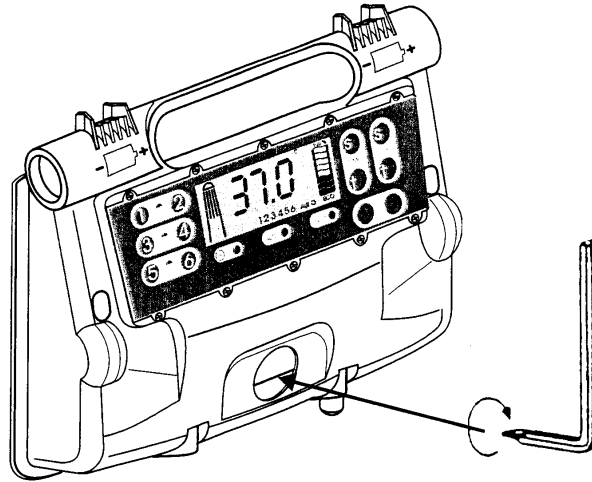
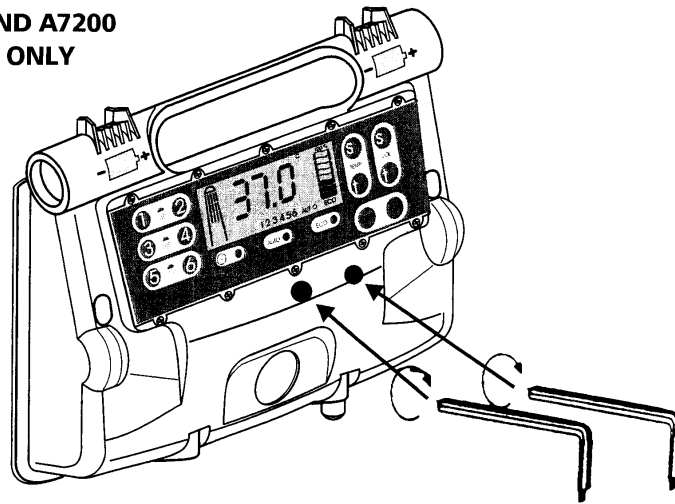


Fig 8

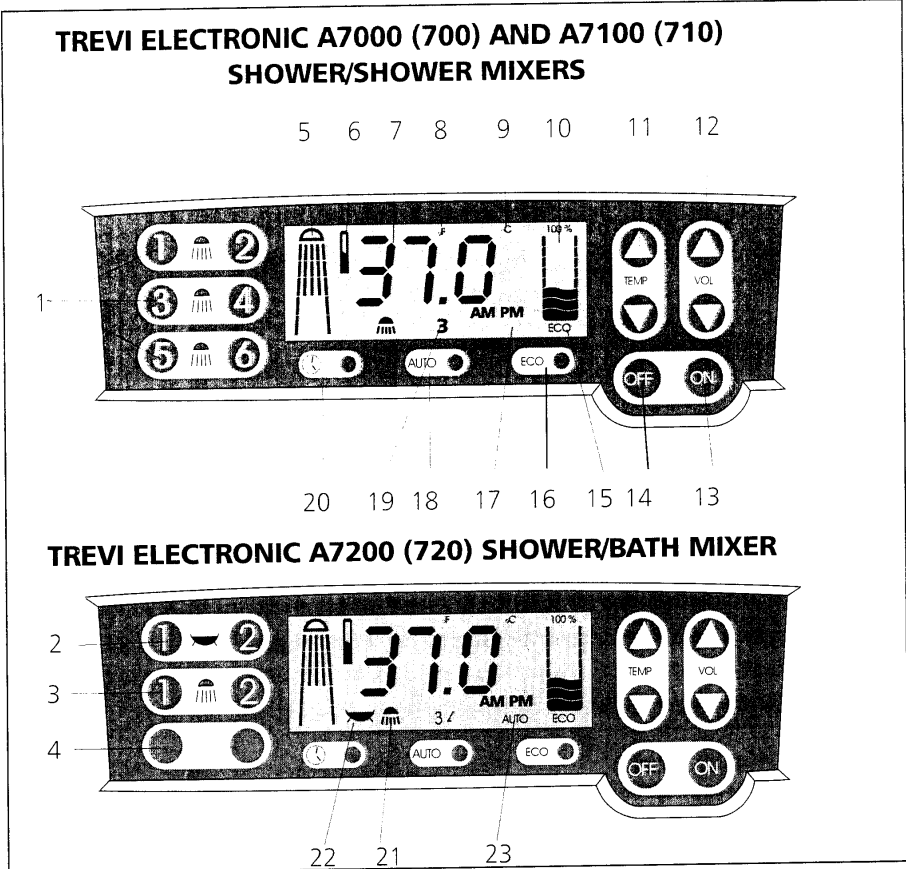
A7000 MODEL ONLY**Fig 9**

Should the unit fail to switch off, isolation valves are built into all the units. With the exposed A7000 model a single isolation valve is located on the front as **Fig 9**.

With the built-in units A7100 and A 7200 two isolation valves are located on the front of the units as **Fig 10**. An isolation key is supplied with each unit for this purpose.

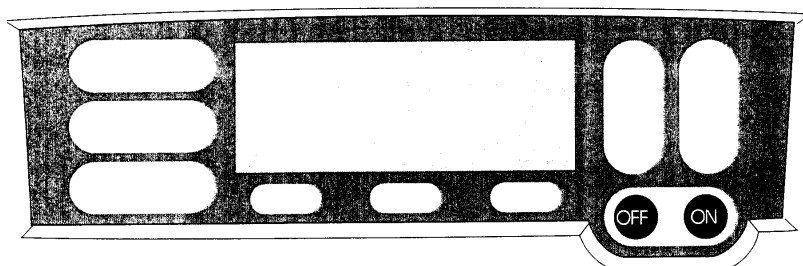
**A7100 AND A7200
MODELS ONLY****Fig 10**

13 OPERATING INSTRUCTIONS



- | | | | |
|----|--------------------------------|----|--------------------------------|
| 1 | Program button | 13 | On button |
| 2 | Bath filling program button | 14 | Off button |
| 3 | Shower program button | 15 | ECO indicator |
| 4 | Hot/cold addition button | 16 | ECO program button |
| 5 | Flow intensity indicator | 17 | Index for 12 hour time mode |
| 6 | Low battery indicator | 18 | Standard program button |
| 7 | Temperature display | 19 | Program number indicator |
| 8 | Degrees fahrenheit display | 20 | Time display button |
| 9 | Degrees centigrade display | 21 | Shower display indicator |
| 10 | Water consumption indicator | 22 | Bath filling display indicator |
| 11 | Temperature adjustment buttons | 23 | Automatic filling indicator |
| 12 | Flow adjustment buttons | | |

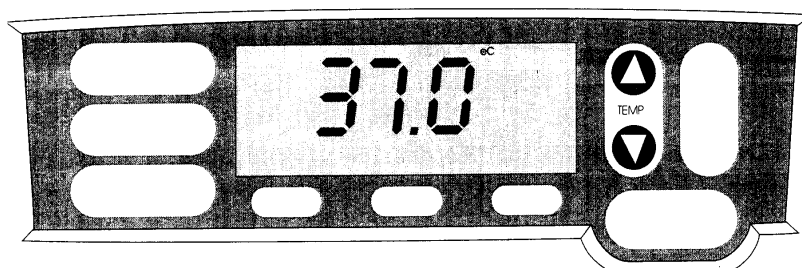
TURNING THE UNITS ON AND OFF



Pressing the **ON** button starts the units
 The temperature display flashes until the set water temperature has been reached.
 Pressing the **OFF** button stops the units.

NOTE: When the hot water supply is exhausted the temperature display will start to flash.

TEMPERATURE ADJUSTMENT



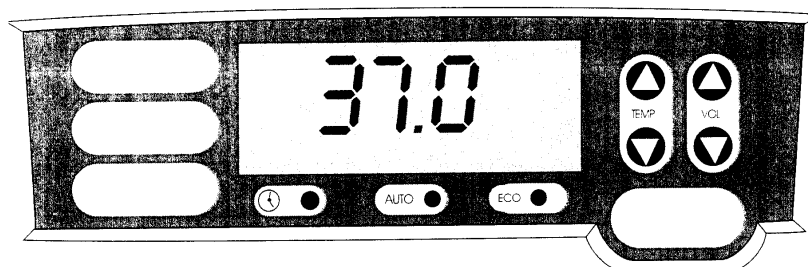
Pressing the **TEMP** buttons raises or lowers the desired temperature on the display.
 The temperature can be adjusted when the units are in the ON or OFF modes.

NOTE: Scald-proofing at high temperatures.

The temperature will rise up to 43°C, to obtain temperatures above this up to 48°C the **TEMP** button has to be kept depressed. The temperature will slowly rise to a maximum of 48°C but will automatically return to 43°C after a period of TWO MINUTES

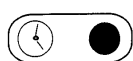
15 OPERATING INSTRUCTIONS

TIME SETTING AND DISPLAY

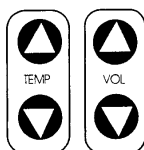


Pressing the **TIME** button displays the time in place of the temperature display and after a short duration reverts back to the temperature display. This can be carried out whilst the units are in either the ON or OFF modes.

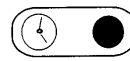
TO SET THE TIME the **TIME** button must be pressed for approximately 4 seconds. The unit will then bleep and the time display will flash. The hour display is altered by pressing the up or down arrows on the **TEMP** button. The minute display is altered by pressing the up and down arrows on the **VOL** button. By pressing the **TIME** button the time setting is saved.



1



2



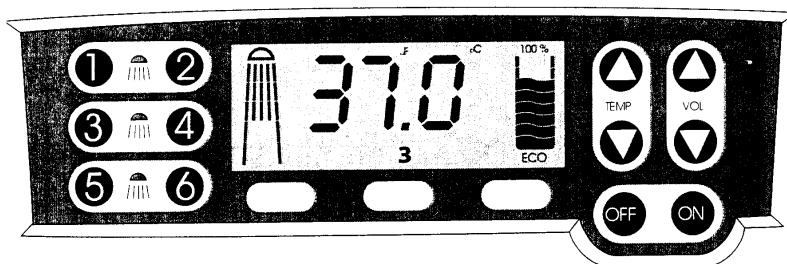
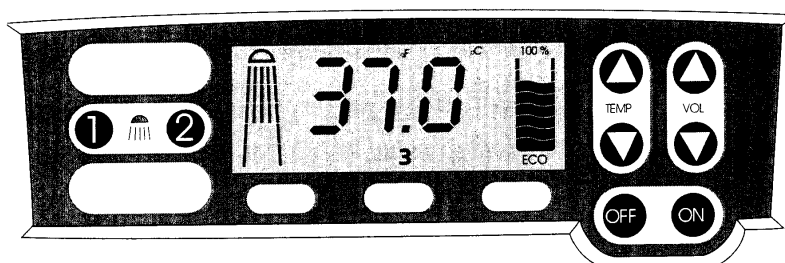
3

SWITCHING BETWEEN THE 24 HOUR AND THE 12 HOUR DISPLAY MODE can only be carried out when the units are turned **OFF**. To do so both the **TIME** and the **ECO** buttons have to be pressed **simultaneously**, the switch over is acknowledged by a bleep. A switch back is carried out in the same manner.



TO CONTINUOUSLY DISPLAY THE TIME both the **TIME** and the **AUTO** buttons have to be pressed **simultaneously** with the units turned **OFF**. A switch back is carried out in the same manner.



SHOWER/SHOWER MODELS**SHOWER/BATH MODEL****ENTERING SHOWER PROGRAMS**

With each of the shower buttons **1** to **6** for the shower/shower models and **1** and **2** on the shower/bath model both temperature and volumes can be saved but only in the OFF mode.

Select both desired temperature and volume required and press a program button for approximately 3 seconds until the unit beeps. This can then be repeated for different temperatures and volumes for all the other program numbers.

NOTE: Temperatures above 43°C cannot be stored.

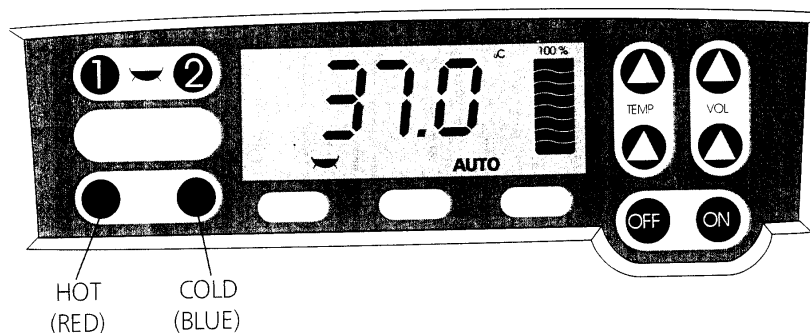
USING PRESET SHOWER PROGRAMS

The display shows the number, temperature and volume settings of the last program used. To use an alternative button, press an alternative program button. The respective value will be displayed along with the program number.

NOTE: Changing programs is possible whilst the shower is turned ON and it is possible to alter both the temperature and volume during the showering period.

17 OPERATING INSTRUCTIONS

SHOWER/BATH MODEL ONLY



The shower/bath mixer has two bath filling programs and a program for adding extra hot and cold water to the bath. With bath filling programs the volume/wave indicator is used to set the required water level in the bath.

THE INITIAL SETTING OF THE WATER LEVEL in the bath has to be carried out before any programming. To set up the initial maximum water level in the bath, fit the plug into the bath waste, set the diverter to the bath mode then press the up arrow of the **VOL** buttons for approximately 10 seconds when the bath will start to fill. Once the desired water level is achieved press the **OFF** button. The integrated electronic circuitry stores this information and then allows automatic filling of the bath.

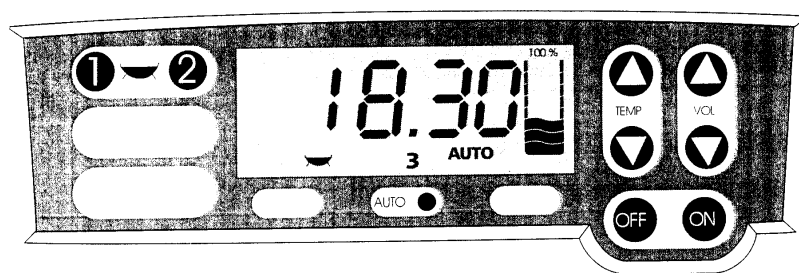
PROGRAMMING OF THE BATH can now be carried out. Use the **VOL** buttons to set up the required water level and the **TEMP** buttons to set up the corresponding temperature. The program button **1** is now pressed for approximately 3 seconds until the unit beeps in acknowledging that the program has been saved. This can then be repeated for program **2**.

NOTE: When the bath is filled the bleeper is made active. The bleep can be stopped by pressing the OFF button, alternatively it will be automatically stopped after approximately 5 minutes.

ADDING HOT AND COLD WATER to the bath is carried out using the **RED** and **BLUE** buttons that are located under the shower program buttons. To add hot water the **RED** button is pressed and held then the **ON** button is pressed.

To add cold water the **BLUE** button is pressed and held then the **ON** button is pressed. To turn off the extra hot or cold water the **OFF** button is pressed.

NOTE: The extra hot water will be added at a maximum of 48°C.

PROGRAMMING AUTOMATIC FILLING**SHOWER/BATH MIXER ONLY**

PROGRAMMING AUTOMATIC FILLING at a preset time, up to 24 hours in advance for either program **1** or **2** can be achieved as follows:

- 1 Select either program **1** or program **2**.
- 2 Set the time by pressing the **AUTO** button for approximately 4 seconds. The LCD display will show a time display. For the initial display will be 00:00 there after the time of the previous program will be displayed.
- 3 Use the **TEMP** buttons to set the hours and the **VOL** button to set the minutes.
- 4 Press the **AUTO** button to save the settings in the memory.

NOTE: The AUTO symbol on the display will flash to indicate that the automatic filling procedure is activated.

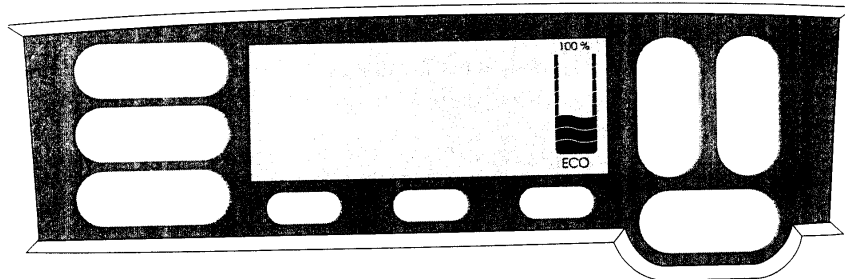
If the filling procedure is to be repeated at the same time the following day, press the **AUTO** button and the **AUTO** symbol starts flashing. Check the filling time and if correct press the **AUTO** button again.

If you want to cancel the **AUTO** filling function, press the **AUTO** button and hold for approximately 4 seconds whilst the **AUTO** symbol is flashing.

NOTE: When a filling procedure has finished the AUTO symbol disappears.

19 OPERATING INSTRUCTIONS

CONSUMPTION INDICATOR

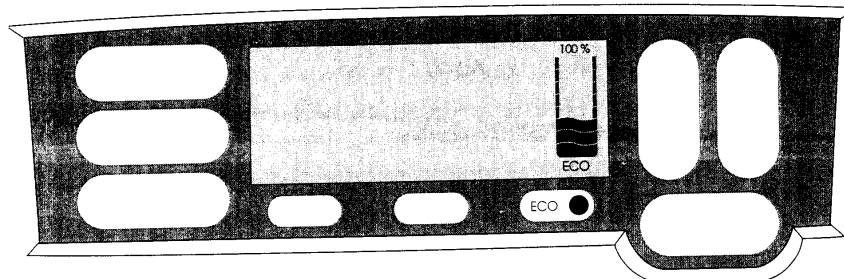


This indicates how much water you have used when having a shower. At maximum jet intensity one wave disappears approximately every 25 seconds. The waves all disappear after 3.5 minutes but the shower does not stop. At low jet intensity, and hence reduced water flow, the waves disappear more slowly.

The indicator makes it possible to monitor personal consumption of water.

NOTE: Measurement is not accurate to the litre/min.

ECO FUNCTION FOR SHOWER PROGRAMS

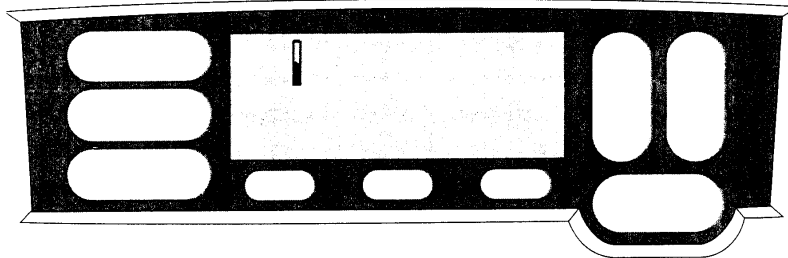


If the **ECO** button is pressed when the unit is turned off for 5 seconds the water consumption indicator shows the **ECO** symbol. In this mode there is a beep after each wave disappears and when all waves have disappeared there is a multiple beep.

If the **ECO** button is pressed for another 5 seconds the shower will switch off after all the waves have disappeared. The unit will then not operate for a period of 2 minutes, at which time all the waves will be again displayed. Activation of this limiter mode is indicated by the flashing **ECO** symbol.

To cancel this mode press the **ECO** button for 5 seconds when the **ECO** symbol will disappear.

BATTERY INDICATOR

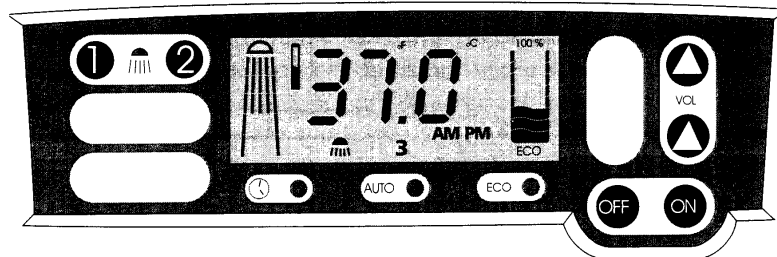


Approximately 2 weeks before the batteries run down the **BATTERY** symbol will appear on the display. The batteries should now be replaced.

NOTE: If the batteries are not changed the battery symbol will start to flash. From that moment the unit will only operate for more several times after which the unit will no longer function.

The use of rechargeable batteries is not recommended.

SETTING MINIMUM FLOW RATE



Depending upon the pressure of the system and the type of shower head fitted, the intensity on the lowest setting may be too extreme. If so, turn the unit **ON** and allow the shower to run until the temperature display no longer flashes, then press the **OFF** button. Press the program buttons **1** and **2** simultaneously for approximately 8 seconds, the unit will turn on and the volume can be adjusted by pressing the **VOL** button until the desired flow rate is achieved. When the correct setting has been achieved press the **OFF** button. The unit will now calibrate itself and will be ready for operation after approximately 10 seconds.

NOTE: When a shower pump is used the minimum flow rate may need to be adjusted in order to operate the flow switches at the minimum volume setting.

REPLACEMENT OF COMPONENTS

In order to replace components first remove the cover by holding at the bottom and pulling forwards. Remove the batteries which are located under the back rubber battery cover. Unscrew the shower hose (Trevi A7000 (700) shower/shower mixer only). Remove the two electronic control fixation screws and fold the electronic box forward, disconnect the two cable connectors from the actuating unit, the sensor lead cable by pressing the latch on top of the connector and pulling.

NOTE: Before components are replaced it is essential that both the hot and cold supplies are isolated.

REPLACEMENT OF 1/2" CARTRIDGE (VOLUME CONTROL)

Remove the two screws which hold the volume actuator unit in place then pull the unit from the body. Undo the clamping screw and remove the gear wheel. The 1/2" cartridge can now be removed. Replace with a new cartridge and tighten to a torque of 20Nm. Turn on the water supplies and check for leaks. Re-fit the gear wheel and tighten up the clamping screws then turn the top part clockwise to the closed position, turn on the water supplies and check for leaks. Re-connect the electronic control unit and batteries.

NOTE: The minimum flow must be re-set as described on page 20.

REPLACEMENT OF THERMOSTATIC CARTRIDGE

Remove the two screws that hold the temperature actuator unit in place, then pull the unit from the body. Unscrew the temperature adjuster and remove the thermostatic cartridge. Replace with a new cartridge and tighten to a torque of 20Nm. Re-connect the water supplies and check for leaks. Screw on the temperature adjuster manually until a slight resistance is felt (it is not necessary to align the temperature adjuster). Re-fit the actuator unit control and tighten up, connect and fit the electronic box and batteries.

NOTE: After changing the thermostatic cartridge the unit must be calibrated as follows:

Turn on the unit in programme 1 mode until the temperature display stops flashing then allow to run for a further 20 seconds.

Then with the unit turned off press the buttons **5** and **6** (for both shower/shower mixers only) or the blue and red button (shower/bath mixer only) simultaneously for approximately 5 seconds when the unit will beep. The unit will now adjust itself between hot and cold to find the basic setting. Once the basic setting has been found the unit will switch off automatically. At this stage press the **OFF** button. After a self-test period of approximately 20 seconds the unit will be ready for use.

REPLACING THE MIXED WATER TEMPERATURE SENSOR

Remove the cover, batteries and electronic control box as previously described. Unscrew the temperature sensor and replace with a new one, this should be tightened hand tight only approximately 2Nm. Re-connect electronic control box, batteries and cover.

NOTE: The hot and cold water services do not require isolation to replace the sensor but the sensor will have to be calibrated, as changing the sensor may cause temperature deviations up to 3°C. Calibration is carried out as follows:

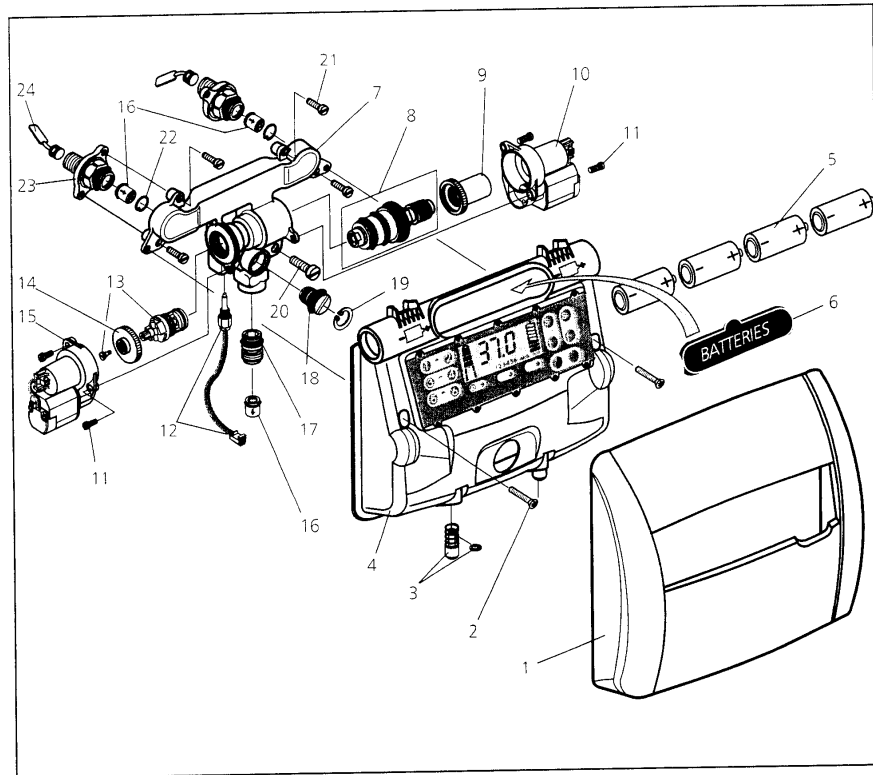
Set the temperature display to 37°C and turn the unit on, wait until the temperature has stabilised (display no longer flashes) and measure the water temperature with a thermometer. Stop the unit after making a note of the temperature, the deviation from 37°C will give the new temperature deviation which will be required to calculate the new correction value. Press the **3** and **4** buttons simultaneously for 5 seconds until there is a bleep. The display will now show the original correction value. Now deduct from this display value the previous temperature deviation using the temperature buttons. Once this has been carried out press the **OFF** button. The correction value will be accepted and the unit will perform a self-test for approximately 10 seconds.

REPLACING THE ELECTRONIC CONTROL BOX

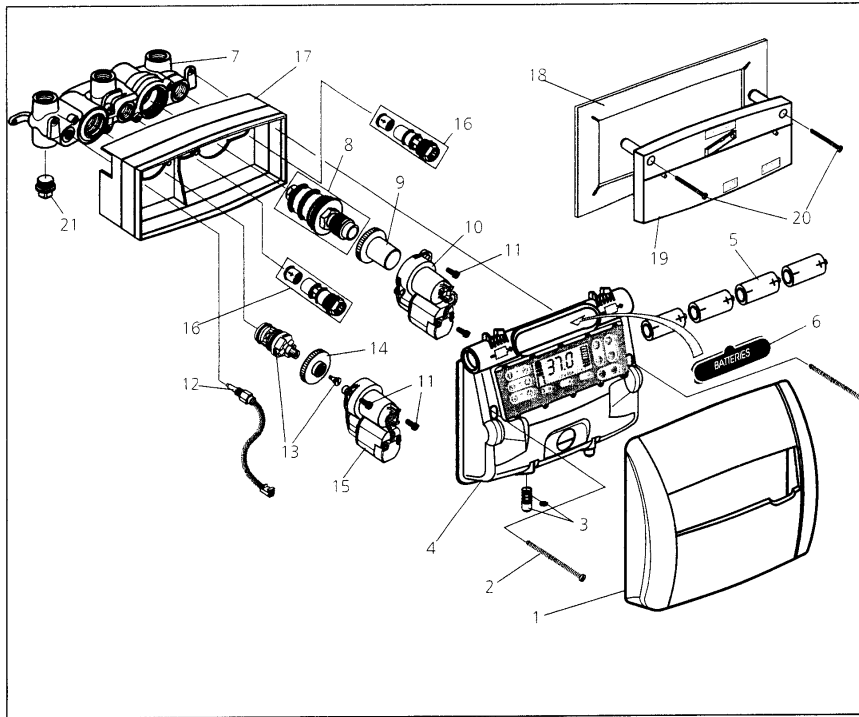
Remove the cover, batteries and electronic control box as previously described. Replace the electronic box, batteries and cover.

NOTE: Upon fitting a replacement control box the 1/2" cartridge, thermostatic cartridge and the temperature sensor will all need to be calibrated as previously described otherwise the unit will not function correctly.

A7000 SPARES LIST



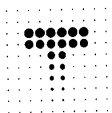
- | | | | |
|----|----------------------------------|----|-------------------------|
| 1 | Cover plate | 13 | 1/2" cartridge |
| 2 | Electronic control fixing screws | 14 | Gear wheel |
| 3 | Cover retaining catch | 15 | Actuator unit |
| 4 | Electronic control unit | 16 | Non-return valve |
| 5 | Batteries | 17 | Shower outlet connector |
| 6 | Battery cover | 18 | Isolation valve |
| 7 | Valve body | 19 | Circlip |
| 8 | Thermostatic cartridge | 20 | Leveling screw |
| 9 | Temperature adjuster | 21 | Valve connection screws |
| 10 | Temperature actuator unit | 22 | Circlip |
| 11 | Actuator fixation screws | 23 | Inlet/valve connectors |
| 12 | Sensor cable | 24 | Protective plugs |



- | | | | |
|----|----------------------------------|----|----------------------------|
| 1 | Cover plate | 11 | Actuator fixation screws |
| 2 | Electronic control fixing screws | 12 | Sensor cable |
| 3 | Cover retaining catch | 13 | 1/2" cartridge |
| 4 | Electronic control unit | 14 | Gear wheel |
| 5 | Batteries | 15 | Actuator unit |
| 6 | Battery cover | 16 | Non-return valve assembly |
| 7 | Valve body | 17 | Plaster guide/mounting box |
| 8 | Thermostatic cartridge | 18 | Sealing gasket |
| 9 | Temperature adjuster | 19 | Mounting box cover |
| 10 | Temperature actuator unit | 20 | Mounting box cover screws |

Constant flashing temperature display	No hot water or hot water has been used up	Check water supplies and temperature
Temperature too low	Thermostat filters clogged	Remove and clean filters or replace cartridge
	Air lock in pipework	Remove air lock
Temperature too hot	No cold water	Check water supplies
	Thermostatic filters blocked	Remove and clean filters or replace cartridge
	Air lock in pipework	Remove air lock
Temperature inaccurate	Sensor maladjusted	Adjust sensor as described on page 22
	Sensor faulty	Replace sensor
Err 1	Connector leads to temperature or volume/flow actuators not fitted	Connect leads Connect lead
Err 2	Sensor leads not fitted	Connect lead
Err 3	Connector on thermostat actuator not connected	Connect lead
	Temperature sensor not connected	Connect lead

Err 4	Water supplies were not connected when calibrating the thermostatic cartridge	Calibrate the thermostatic cartridge as page 21 with the water supplies connected
No display	No batteries are fitted	Insert the batteries in the battery compartment
	Batteries not inserted correctly	Check the batteries for correct polarity
	Batteries flat Battery symbol display and simultaneous bleep have been ignored for a lengthy period of time	Insert new batteries checking for correct polarity
	Poor battery contacts	Clean the battery terminals or replace the batteries
No response when buttons are pressed	Micro-processor fault	Dis-connect the batteries briefly
		Replace the micro-processor
Shower/bath unit: When filling the bath the unit switches off after a few seconds	The unit is still set at the minimum factory setting	Set the desired water level as page 17
Water does not flow through outlets	Volume/temperature cartridge blocked	Remove obstruction
	Volume cartridge faulty	Remove and replace, re-set as page 21
	Temperature cartridge filters blocked	Clean filters
	Temperature cartridge faulty	Remove and replace, re-set as page 21
	Pipework incorrectly connected to valve body	Check hot and cold supplies



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