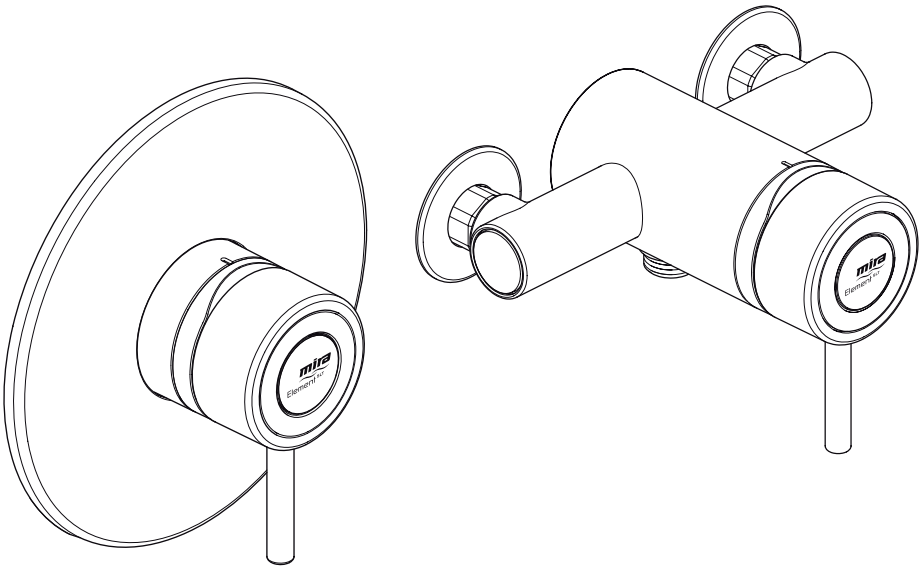
mira

Element SLT



MIRA ELEMENT SLT

THERMOSTATIC MIXER

INSTALLATION AND USER GUIDE

These instructions must be left with the user.

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INTRODUCTION

Thank you for purchasing a quality Mira product. To enjoy the full potential of your new product, please take time to read this guide thoroughly, having done so, keep it handy for future reference.

The Mira Element SLT thermostatic mixer is a thermostatic shower control with a single lever for on/off and temperature control. A Mid Flow Overide feature allows up to 30% reduction in flow at low pressures and a Temperature Overide warns when moving into a hotter temperature zone.

A 14 L/Min flow regulator is supplied for high pressure systems to reduce excessive shower force.

The thermostatic mixer incorporates a wax capsule temperature sensing unit, which provides an almost immediate response to changes in pressures or temperature of the incoming water supplies to maintain the selected temperature. An adjustable maximum temperature stop is provided which limits the temperature to a safe level. Inlet filters are fitted to protect the thermostatic cartridge.

Mira Element SLT Exposed: Thermostatic Mixer for connection to rising, falling or rear entry pipework, supplied with L14A shower fittings.

Mira Element SLT Built-in: Thermostatic Mixer for connection to concealed pipework, supplied with L14D BIV shower fittings or BIR showerhead arm and deluge head.

These products have been certified as Type 2 valves under the BUILDCERT TMV2 scheme. They also comply with the Water Supply (water fittings) Regulations 1999.

If you experience any difficulty with the installation or operation of your new thermostatic mixer, please refer to **'Fault Diagnosis'**, before contacting Mira Showers. Our contact details can be found on the back cover of this guide.

Guarantee

For **domestic installations**, Mira Showers guarantee the Mira Element SLT against any defect in materials or workmanship for a period of **five** years from the date of purchase (shower fittings for one year).

For **non-domestic installations**, Mira Showers guarantee the Mira Element SLT against any defect in materials or workmanship for a period of **one** year from the date of purchase.

For terms and conditions refer to the back cover of this guide.

Recommended Usage

Application	Valve with Fittings
Domestic	✓
Light Commercial	✓
Heavy Commercial	×
Healthcare	×

Patents and Design Registration

Patents:

GB: 2 291 693, 2 392 225, 2 421 297, 2 422 886

Euro: 1 672 257 DE FR GB IT NL SE

USA: 7 240 850

Patent Applications:

GB: 0621637.8, 2 456 271

Euro: 07015846.4

USA: 2006-0124758-A1, 2007-0221740-A1

World: WD 2008/053207

Design Registration:

000555768-0006, 000555768-0007

SAFETY : WARNINGS

Mira thermostatic mixers are precision engineered and should give continued safe and controlled performance, provided:

1. They are installed, commissioned, operated and maintained in accordance with manufacturer's recommendations.
2. Type 2 Valves are only used for applications covered by their approved designations, refer to section: **'Type 2 Valves'**.
3. Periodic attention is given, when necessary, to maintain the product in good functional order.

Caution!

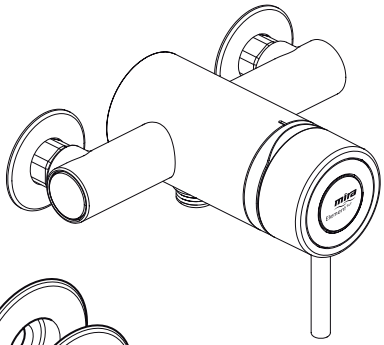
1. Read all of these instructions.
2. Retain this guide for later use.
3. Pass on this guide in the event of change of ownership of the installation site.
4. Follow all warnings, cautions and instructions contained in this guide.
5. Anyone who may have difficulty understanding or operating the controls of any shower should be attended whilst showering. Particular consideration should be given to the young, the elderly, the infirm or anyone inexperienced in the correct operation of the controls.
6. Rapid/Excessive movement of the flow and / or temperature control levers may result in momentary unstable blend temperatures.
7. Care is required when adjusting flow or temperature, make sure that the temperature has stabilised.
8. When this product has reached the end of its serviceable life, it should be disposed of in a safe manner, in accordance with current local authority recycling, or waste disposal policy.

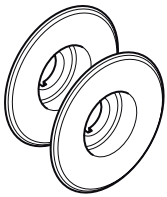
PACK CONTENTS

Tick the appropriate boxes to familiarise yourself with the part names and to confirm that all of the parts are included.

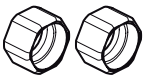
Exposed Thermostatic Mixer

❑ 1 x Thermostatic Mixing Valve





❑ 2 x Concealing Plates



❑ 2 x Compression Nuts



❑ 2 x Olives



❑ 2 x Wall Plugs



❑ 2 x Fixing Screws



❑ 1 x 2.5 mm Hexagonal Key



❑ 1 x 14 L/Min Flow Regulator



❑ 1 x Multi Tool

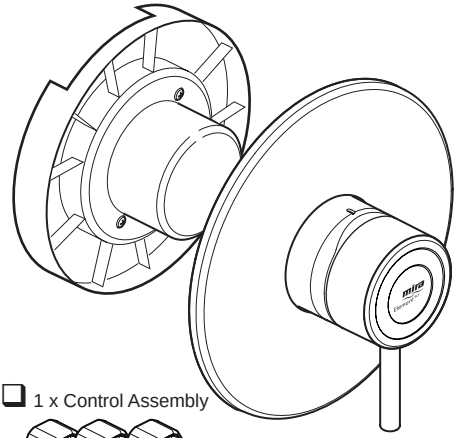
Documentation

❑ 1 x Guarantee Registration Document

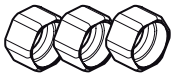
❑ 1 x Installation Template

Built-in Thermostatic Mixer

❑ 1 x Thermostatic Mixing Valve
(attached to the building-in shroud)



❑ 1 x Control Assembly



❑ 3 x Compression Nuts



❑ 3 x Olives



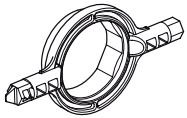
❑ 6 x Wall Plugs



❑ 6 x Fixing Screws



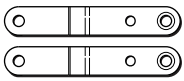
❑ 1 x 2.5 mm Hexagonal Key



❑ 1 x Multi Tool



❑ 1 x 14 L/Min Flow Regulator



❑ 2 x Securing Brackets



❑ 4 x Bracket Securing Screws



❑ 2 x M5 x 40 mm
Securing Screws



❑ 1 x M4 x 8 mm
Hexagonal Screw

Not Illustrated

❑ 1 x RAC Assembly
(BIV models only)

Documentation

❑ 1 x Guarantee Registration Document

SPECIFICATIONS

For Type 2 Valves, the supply conditions specified in section: **'Type 2 Valves - Application'** take precedence over the operating parameters which follow.

Pressures

- Max Static Pressure: **10 Bar**.
- Max Maintained Pressure: **5 Bar**.
- Min Maintained Pressure (Gravity System): **0.1 Bar** (0.1 bar = 1 Metre head from cold tank base to showerhead outlet).
- **Note!** For gravity fed or other low pressure systems (0.5 bar or below) do not fit the outlet flow regulator.
- For optimum performance supplies should be nominally equal.

Flow Regulator Installation

Flow regulators are supplied with this product and should be fitted in high pressure systems to either;

- Reduce excessive force and flow rate.
- Reduce noise through the mixer due to high or unequal pressures.
- Stabilise incoming supply temperatures.

Important! The fitting of flow regulators will invalidate any TMV2 compliance due to minimum flow rate requirements. Do not fit the flow regulator in TMV2 applications.

Temperatures

- Factory Pre-set (Blend) Shower: **41°C**.
- Note! Due to variations in site conditions the maximum temperature may need adjustment.
- Temperature Overide set at **5°C** below Factory Preset.
- Optimum Thermostatic Control Range: **35°C to 43°C** (achieved with supplies of 15°C cold, 65°C hot and nominally equal pressures).
- Recommended Hot Supply: **60°C to 65°C Note!** The mixing valve can operate at higher temperatures for short periods without damage, however this could detrimentally affect thermostatic performance. For safety and performance reasons it is recommended that the maximum hot water temperature is limited to 65°C.
- Cold Water Range: up to **25°C**.
- Minimum Recommended Differential between Hot Supply and Outlet Temperature: **12°C**.

Thermostatic Shut-down

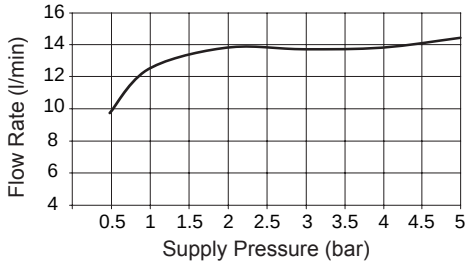
- For safety and comfort the thermostat will shut off the mixing valve **within 2 Seconds** if either supply fails (achieved only if the blend temperature has a minimum differential of 12°C from either supply temperature).

Connections

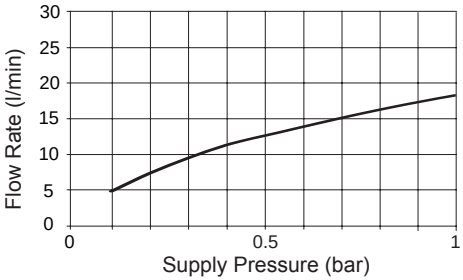
- Inlets: 15 mm Compression.
- Outlet: ½" BSP Flat Face / 15 mm Compression
- Standard connections are: **hot - left, cold - right, outlet - bottom (EV models), top (BIV and BIR models)**.

Flow Rates

Typical flow rates on high pressure systems (1 to 5 Bar) with 14 L/Min flow regulator fitted - Mira Element SLT with L14A Shower Fittings.

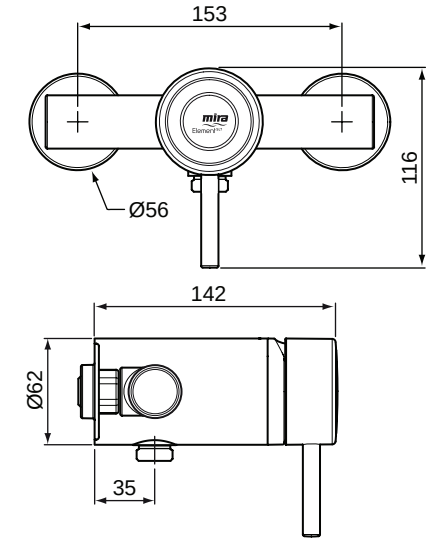


Typical flow rates on low pressure systems (0.1 to 1 Bar) without flow regulator fitted - Mira Element SLT with L14A Shower Fittings

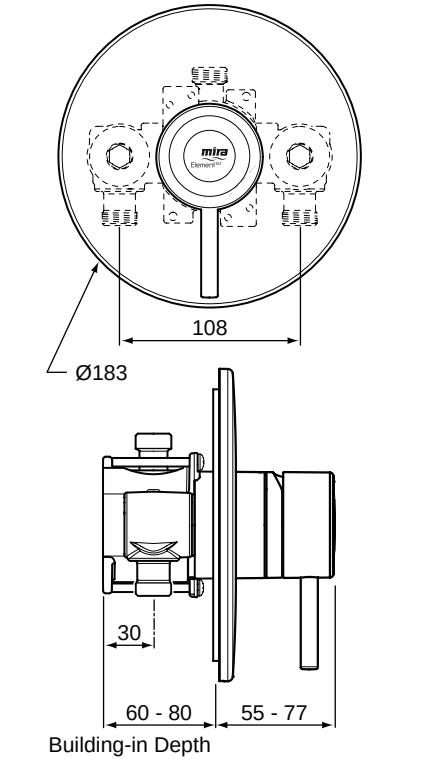


Dimensions

Exposed Thermostatic Mixer



Built-in Thermostatic Mixer



All dimensions in mm

INSTALLATION

Suitable Plumbing Systems

Gravity Fed:

The thermostatic mixer must be fed from a cold water cistern (usually fitted in the loft space) and a hot water cylinder (usually fitted in the airing cupboard) providing nominally equal pressures.

Mains Pressurised Instantaneous Hot Water System (Combination Boiler):

The thermostatic mixer can be installed with systems of this type with balanced pressures. (Recommended Minimum Maintained Pressure: **1.0 Bar**).

Unvented Mains Pressure System:

The thermostatic mixer can be installed with an unvented, stored hot water system.

Pumped System:

The thermostatic mixer can be installed with an inlet pump (twin impeller). The pump must be installed in a suitable location and in accordance with its instructions.

General

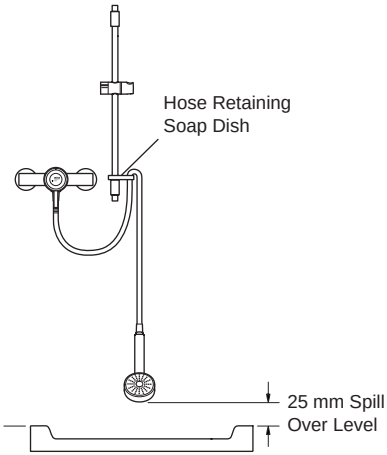
Installation must be carried out in accordance with these instructions, and must be conducted by designated, qualified and competent personnel.

The installation must comply with the "Water Supply Regulations 1999 (Water Fittings)" or any particular regulations and practices, specified by the local water company or water undertakers.

Note! Make sure that all site requirements correspond to the information given in section: **'Specifications'**. For Type 2 Valves see also supply conditions in section: **'Type 2 Valves'**.

1. The Mixer must not be installed in an area where it may freeze.
2. For stud partitions alternative fixings may be required.
3. Isolating valves **must** be installed close to the Mixer for ease of maintenance.
4. Pipework must be rigidly supported and avoid any strain on the connections.
5. Pipework dead-legs should be kept to a minimum.
6. Decide on a suitable position for the Mixer. The position of the Mixer and the Shower Fittings must provide a minimum gap of 25 mm between the spill-over level of the shower tray/ bath and the showerhead (refer to illustration). This is to prevent back-siphonage. For further information on the installation of your **Shower Fittings**, refer to the Fittings Installation and User Guide.

   Note! Only use Shower Fittings recommended by the manufacturer or supplier.

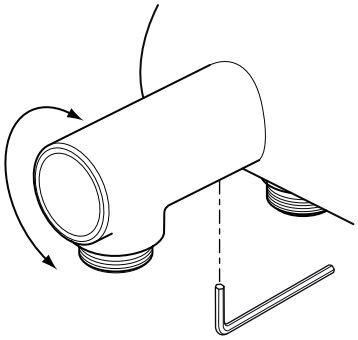


Exposed Thermostatic Mixer

Installing the Thermostatic Mixer

1. The thermostatic mixer can be installed with rear, rising or falling supply inlets. Decide on the most appropriate method for your installation and if necessary, loosen the grubscrews and rotate the inlet elbows to suit.

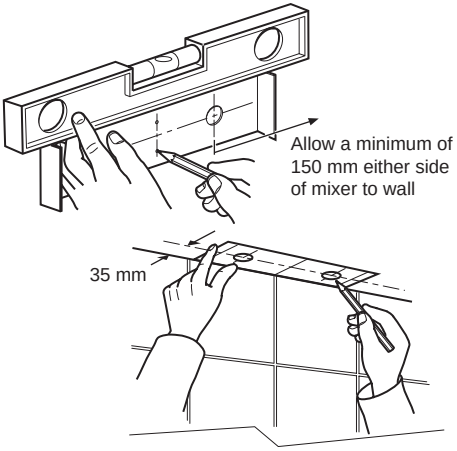
Important! Make sure that the elbows are pushed fully onto the mixer before tightening the grubscrews, **do not** overtighten.



2. Use the installation template to mark the positions of the holes for the backplate and the pipe centres.

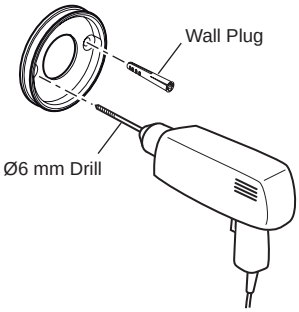
For rising or falling supplies the pipe positions should be set 35 mm from the centre of pipe to the finished wall at 153 mm centres.

Note! Allow a minimum of 150 mm either side of the mixer to allow servicing of the hot and cold inlet filters.



3. For solid walls drill the holes for the backplate with a 6 mm diameter drill and insert the wall plugs.

Note! For other types of wall structure alternative fixings may be required (not supplied).



4. For Rear Entry Supplies Only:

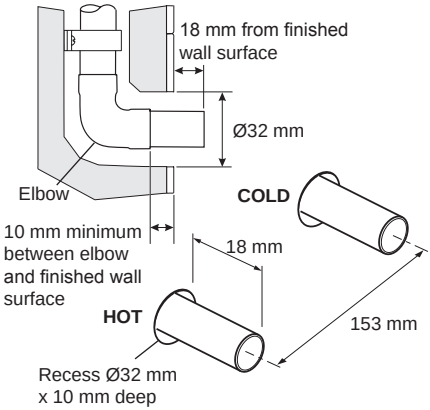
a) Drill the holes for the supply pipes at 153 mm centres.

b) Recess the inlet holes Ø32 mm x 10 mm deep to allow for the concealing plates.

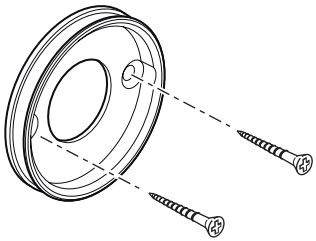
Note! Depth must be sufficient to prevent the concealing plates fouling on the plumbing elbows.

5. Fit the supply pipework: **Hot - Left, Cold - Right.** For rear entry supplies the inlet pipework should extend 18 mm from the finished wall surface, for rising or falling supplies the centre of the pipe should be set 35 mm from the finished wall surface.

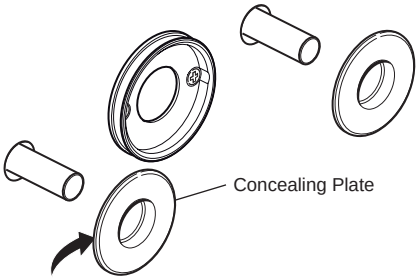
Note! If it is not possible to install the mixer with this pipework configuration complete the installation then refer to section: **'Reversed Inlet Supplies'**.



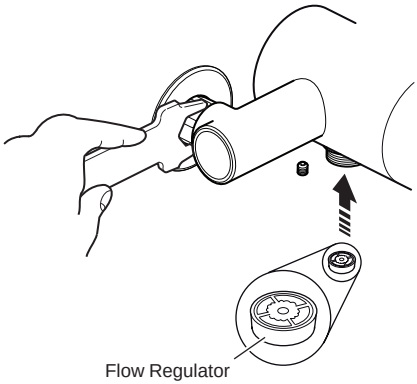
6. Remove the backplate from the mixer by loosening the grubscrew with a 2.5 mm hexagonal key.
7. Secure the backplate to the wall using the screws.



8. **For Rear Entry Supplies Only:**
   Fit the concealing plates over the inlet pipes.
   Note! Apply silicone sealant to the back face of the flange.



9. **Caution! It is essential at this point that the supply pipework is thoroughly flushed through before connection to the mixer.** Failure to do so may result in product malfunction and will not be covered under the guarantee.
10. Fit the compression nuts and olives onto the pipework.
11. Align the mixer with the pipework and fit onto the backplate.
12. Tighten the compression nuts onto the mixer with a suitable spanner.
    Caution! Take care not to damage the chrome surfaces.
13. Tighten the grubscrew to secure the mixer to the backplate.
14. Fit the shower fittings, refer to your shower fittings installation and user guide for instructions.
    Note! For high pressure systems (above 0.5 bar) make sure that the flow regulator (supplied) is fitted inside the outlet nipple (refer to illustration).
    Important! The fitting of this flow regulator will invalidate any TMV2 low pressure compliance due to the minimum flow rate requirements. Do not fit the flow regulator in TMV2 low pressure applications.



Note! Make sure that the flow regulator (supplied) is fitted inside the outlet nipple in the orientation shown.

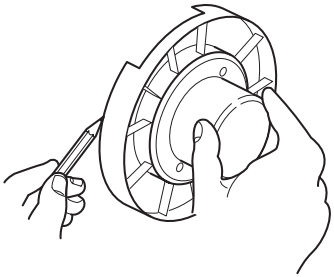
15. Turn on the hot and cold water supplies and check for leaks.
16. Before using the shower, refer to section: **'Commissioning'**.

Built-in Thermostatic Mixer

Solid Wall or Stud Partition Fixing using Rear Mountings

1. Determine the route for the hot and cold supply pipework and for the outlet pipework. When connecting to the BIV Shower Fittings it is recommended that the outlet be positioned above and to one side of the mixer. This is to prevent the flexible hose from obstructing the shower controls.
2. Remove the two shroud screws then remove the building-in shroud from the mixer.

   Note! Refit the shroud screws to the mixer.
3. Determine the position of the mixer and draw around the building-in shroud.

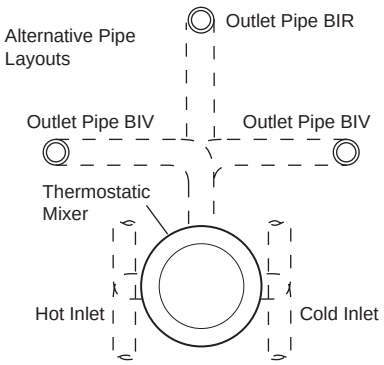


4. Mark the routes for the supply pipework at 108 mm centres (**Hot - Left, Cold - Right**).

   Falling Supplies: For falling supplies loosen the grubscrew on each elbow using the 2.5 mm hexagon key (supplied). Remove the elbows and install on opposite sides. Retighten the grubscrews.

   Caution! Do not overtighten.

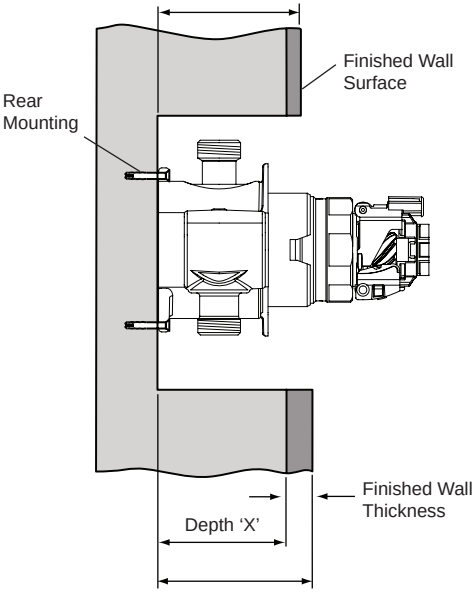
   Note! Make sure that the 'O' seals are correctly fitted and that the filter caps can be accessed from the front (i.e. hexagonal key facing forward).



5. Cut away the plasterboard and/or brick work to the required depth.

   Important! This depth 'X' will depend on the finished wall thickness e.g. tiles or facia board. Refer to the table for this measurement.

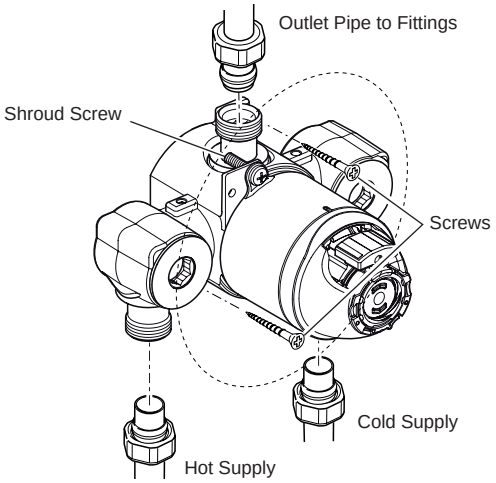
   For stud partitions depth 'X' refers to the distance from the rear mounting e.g. timber noggin, to the front of the wall (before tiling).



Finished Wall Thickness (e.g. tile and adhesive)	Wall Cutout Depth 'X'
4 mm	76 - 55 mm
6 mm	74 - 55 mm
8 mm	72 - 55 mm
10 mm	70 - 55 mm
12 mm	68 - 55 mm
14 mm	66 - 55 mm
16 mm	64 - 55 mm
18 mm	62 - 55 mm
20 mm	60 - 55 mm

6. Make sure that the mixer is level and central in the hole and square to the finished wall surface (or the control components will not fit correctly), then mark the positions of the fixing screw holes on the wall.
7. For solid walls drill two Ø6 mm holes for the wall plugs.
8. Fit the hot and cold supply pipes (**Hot - Left, Cold - Right**).
9. **Caution! It is essential at this point that the supply pipework is thoroughly flushed through before connection to the mixer.** Failure to do so may result in product malfunction and will not be covered under the guarantee.
10. Insert the wall plugs and attach the mixer to the wall with the screws provided.

    Note! For stud partition installations alternative fixings may be required (not supplied) to fix the mixer to the rear face of the wall cavity or to a timber noggin.
11. Make sure that the olives are fitted and connect the hot and cold supply pipes, then tighten the compression nuts.



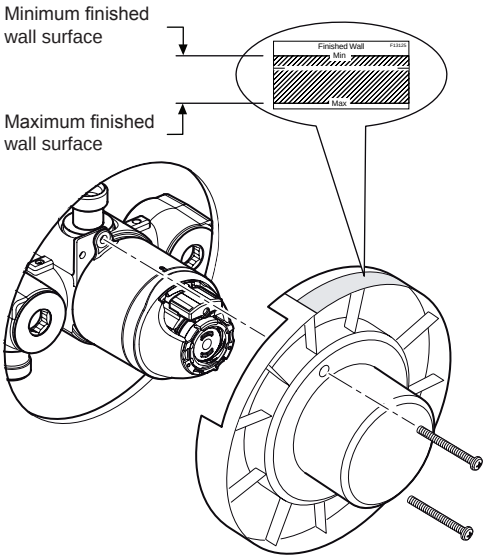
12. Connect the outlet pipework and install the RAC assembly or BIR assembly, **before** continuing with the installation of the mixing valve.

    RAC assembly, go to section: '**Installation, RAC Assembly'**.

    BIR assembly, refer to your shower fittings installation and user guide then continue with instruction 13.

13. Turn on the water supplies and check for leaks.
14. Remove the two shroud screws and refit the building-in shroud to the mixer.
15. Using the 'Finished Wall Indicator' on the building-in shroud as a guide, finish the wall, e.g. tiles.

    Caution! Make sure that the finished wall is within the maximum and minimum limits and to an even depth (no greater than 2 mm variation) or the control components will not fit correctly.



16. Remove the building-in shroud and secure the chrome trim to the mixer using two of the bracket securing screws.
17. Fit the concealing plate and control assembly, refer to section: **'Control Assembly'**.

Panel Fixing using Securing Brackets

Note! For laminated panels the mixer must be positioned from the rear of the panel.

Panel thickness must be between 4 and 12 mm (if a thicker panel is used, it will be necessary to recess the securing brackets into the rear of the panel).

Important! Make sure that there is a minimum clearance of 64 mm behind the laminated panel to conceal the mixer.

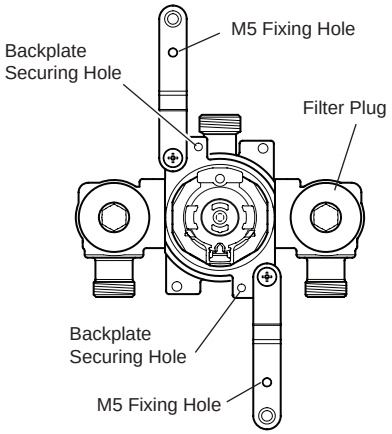
1. Refer to section: **'Solid Wall or Stud Partition Fixing using Rear Mountings'** and follow build instructions 1 to 4.
2. Carefully cut out the laminated panel.
3. Fit the securing brackets to the mixer.

   Important! The securing brackets must be fixed vertically, as illustrated.

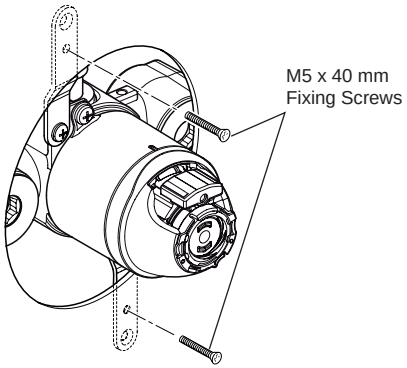
   Important! Make sure that the correct holes are used, otherwise the backplate cannot be fitted.
4. Position the mixer on the front of the panel, make sure that it is level and central in the hole, then mark the position of the M5 fixing holes.

   Important! Make sure that the correct holes are used (refer to illustration).

   Note! Make sure that the Filter Plugs are positioned so that they can be removed for servicing.



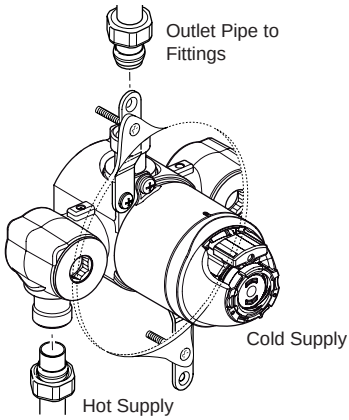
5. Drill the two Ø5.5 mm holes for the fixing positions (countersink the holes at the front).
6. Fit the hot and cold supply pipes (**Hot - Left, Cold - Right**)
7. **Caution! It is essential at this point that the supply pipework is thoroughly flushed through before connection to the mixer.** Failure to do so may result in product malfunction and will not be covered under the guarantee.
8. Secure the mixer with the M5 x 40 mm screws as shown.



9. Make sure that the olives are fitted, connect the hot and cold supply pipes and tighten the compression nuts.
10. Connect the outlet pipework and install the RAC assembly or BIR assembly, **before** continuing with the installation of the mixing valve.

    RAC assembly, go to section: '**Installation, RAC Assembly'**.

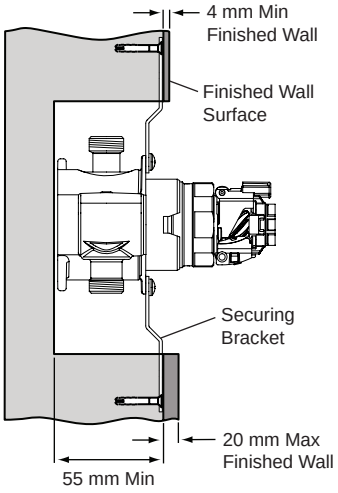
    BIR assembly, refer to your shower fittings installation and user guide then continue with build instruction 11.



11. Turn on the water supplies and check for leaks.
12. Fit the concealing plate and control assembly, refer to section: **'Control Assembly'**.

Solid Wall or Stud Partition Fixing using Securing Brackets

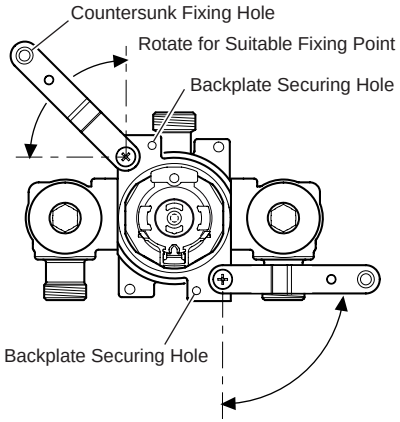
1. Refer to section: **'Solid Wall or Stud Partition Fixing using Rear Mountings'** and follow build instructions 1 to 4.
2. Remove the plasterboard and/or brick work to a minimum depth of 55 mm.



3. Fit the securing brackets to the mixer with the bracket securing screws.

   Important! Make sure that the correct holes are used, otherwise the backplate cannot be fitted.

   Note! The securing brackets can be rotated for suitable fixing points.



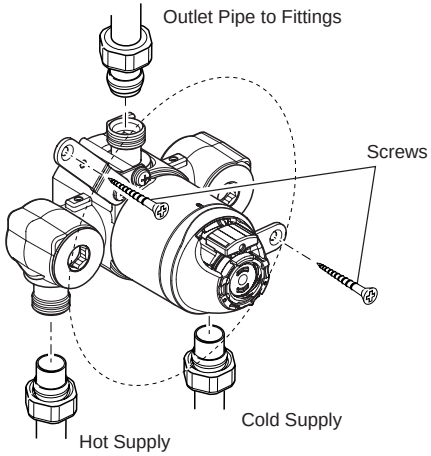
Note! Securing Brackets shown in preferred position to allow the Compression Nuts to be tightened.

4. Make sure that the mixer is level and mark the positions for the countersunk fixing holes on the wall.
5. For solid walls drill two Ø6 mm holes for the wall plugs. **Caution!** Do not drill into pipes in the wall.
6. Fit the hot and cold supply pipework (**Hot - Left, Cold - Right**).
7. **Caution! It is essential at this point that the supply pipework is thoroughly flushed through before connection to the mixer.** Failure to do so may result in product malfunction and will not be covered under the guarantee.
8. Insert the wall plugs and attach the mixer to the wall with the screws provided.

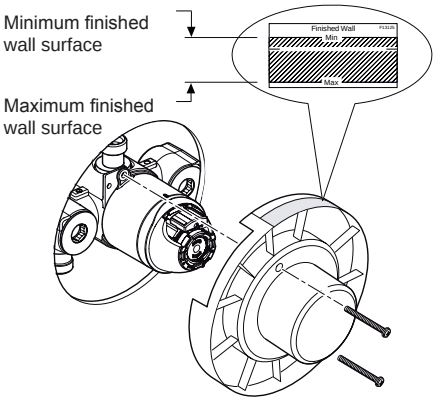
   Note! For stud partition installations alternative fixings may be required (not supplied).
9. Make sure that the olives are fitted, connect the hot and cold supply pipes and tighten the compression nuts.
10. Connect the outlet pipework and install the RAC assembly or BIR assembly, **before** continuing with the installation of the mixing valve.

    RAC assembly, go to section: 'I**nstallation, RAC Assembly'**.

    BIR assembly, refer to your shower fittings installation and user guide then continue with build instruction 11.
11. Turn on the water supplies and check for leaks.



12. Remove the two shroud screws and refit the building-in shroud to the mixer.

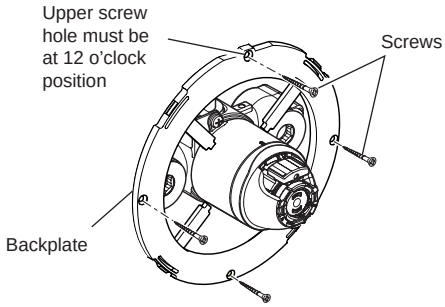


13. Using the 'Finished Wall Indicator' on the building-in shroud as a guide, finish the wall, e.g. tiles.

Caution! Make sure that the finished wall is within the maximum and minimum limits and to an even depth (no greater than 2 mm variation) or the control components will not fit correctly.

14. Remove the building-in shroud and secure the chrome trim to the mixer using two of the bracket securing screws.

15. Fit the concealing ring over the mixer and mark the positions of the four fixing holes in the orientation illustrated. The upper screw hole should be located horizontally above the valve in 12 'o'clock position.



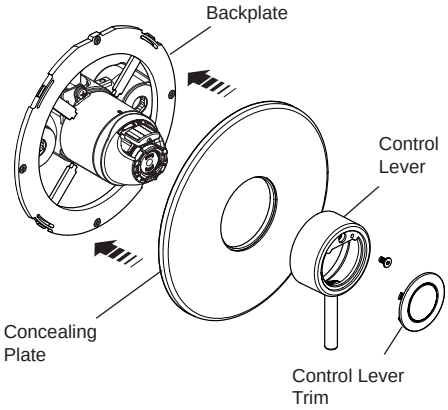
16. For solid walls drill four Ø6 mm holes for the wall plugs. For other types of wall structure alternative fixings may be required (not supplied).

17. Insert the wall plugs and attach the concealing ring to the wall with the screws provided.

18. Fit the concealing plate over the mixer making sure the slot is in the 6 o'clock position then gently push until it clips onto the concealing ring.

19. Fit the control lever to the mixer using the M4 x 8 securing screw, use the 2.5 mm hexagonal key (supplied) to ensure it is tightened fully.

20. Clip the control lever trim onto the control lever.



21. Before using the shower, refer to section: **'Commissioning'**.

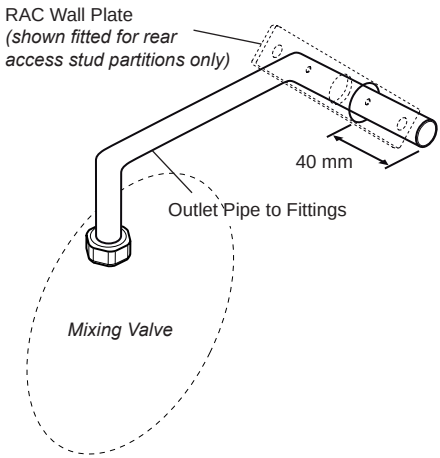
Installation of the RAC Assembly

1. Before the RAC assembly can be fitted you must have first installed your built-in shower control and have connected the inlet and outlet pipework.

   Important! Make sure that the outlet pipework protrudes through a Ø25 mm hole in the wall or stud partition by at least 40 mm.

   Note! For stud partition installations where access to the rear of the partition is possible, fit the RAC wall plate over the outlet pipework on the inside of the partition.

   For stud partition installations where access to the rear of the wall is not possible, follow instructions for solid wall installations, making sure that suitable wall fixings (not supplied) are used to secure the wall plate to the outside of the stud partition.

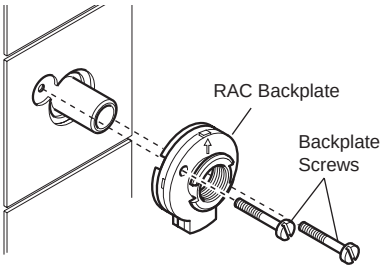


2. Temporarily cap off the outlet pipe, turn on the water supplies and check for leaks.
3. Determine the finished wall position e.g. tile thickness. Turn off the water supply, carefully uncap the outlet pipe and cut to length, the outlet pipe must protrude through the **finished wall surface** by 21–23 mm.

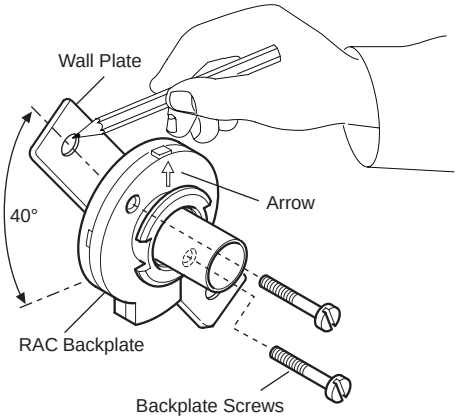
   Note! Remove any burrs from the pipes before proceeding.
4. For solid wall installations or stud partition installations **without** rear access go to build instruction 9.

   For stud partition installations with access to the rear of the partition continue with build instruction 5.
5. Finish the wall, e.g. tiles.
6. Place the RAC backplate over the outlet pipe with the arrow pointing up. The screw holes should be at 45° to the horizontal.
7. Mark the positions of the two RAC backplate fixing holes and drill two Ø5.5 mm holes.

   Caution! Make sure that you do not drill into pipework in the wall.
8. Hold the RAC wall plate in position on the rear of the partition, insert the two backplate screws and secure the RAC backplate to the wall plate. Make sure that the foam seal abuts the finished wall surface. Go to instruction build 18.



9. Loosely attach the RAC backplate to the RAC wall plate, using the two backplate screws provided.
10. Place the RAC backplate/wall plate assembly over the outlet pipe with the arrow pointing vertically up. The screw holes should be at 40° to the horizontal.
11. Mark the positions of the two RAC wall plate fixing holes.



12. Remove the assembly from the wall and separate the backplate from the wall plate.

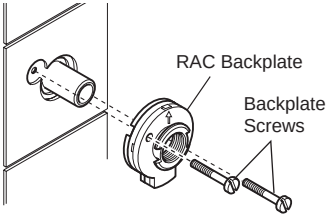
13. For solid walls drill two Ø6 mm holes for the wall plugs. For other types of wall structure alternative fixings may be required (not supplied). If necessary, make a recess 6 mm deep to accept the wall plate for flush fitting of the outlet to the wall surface.

14. Fit the two wall plugs supplied and secure the wall plate with the wall plate screws.

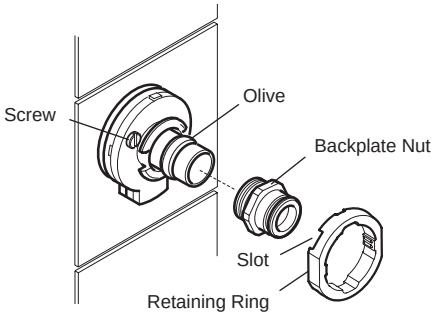
15. Make sure that there is clearance behind the wall plate and temporarily fit the two backplate screws into the wall plate. This will prevent the fixing holes from becoming blocked with plaster or grout.

16. Finish the wall, e.g. tiles.

17. Place the backplate over the outlet pipe with the arrow pointing vertically up and tighten the two backplate screws. Make sure that the foam seal abuts the finished wall surface.

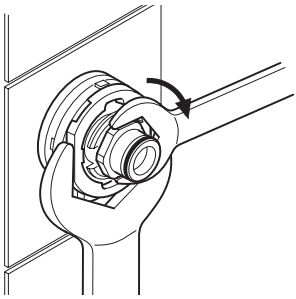


18. Check that the blue 'O' seal is fitted inside the backplate nut. Fit the olive and the backplate nut over the outlet pipe, do not tighten the nut fully at this point.

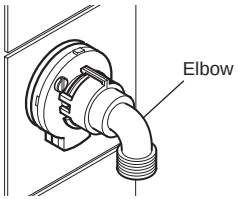


19. Check that the second 'O' seal (black) is fitted to the outside of the backplate nut. Press the elbow onto the backplate, make sure that the clips on the elbow engage with the backplate.

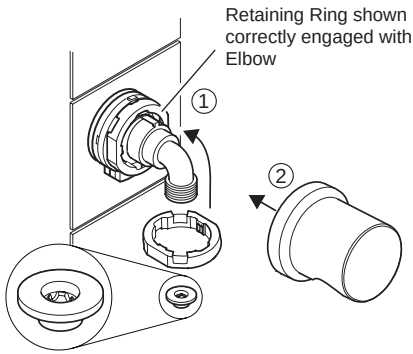
20. To prevent the backplate from turning while tightening the nut, fit the retaining ring over the backplate nut making sure the slots engage with the screws on the backplate, hold the retaining ring with a wrench while tightening the backplate nut. Remove the retaining ring after use.



21. Check that the second 'O' seal (black) is fitted to the outside of the backplate nut. Press the elbow onto the backplate, make sure that the clips on the elbow engage with the backplate.



22. Slide the retaining ring over the elbow and engage with the elbow clips. **Note!** The retaining ring must be engaged correctly to lock the elbow to the backplate, rotate the retaining ring to the postition illustrated.



Note! For high pressure systems (above 0.5 bar) make sure that the flow regulator (supplied) is fitted inside the elbow in the orientation shown.

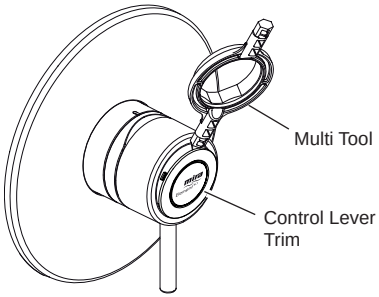
23. Press the shroud over the elbow, make sure that it engages with the lugs on the backplate.

24. This completes the installation of the RAC assembly.

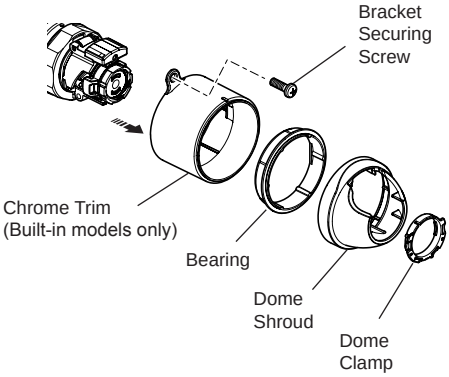
REVERSED INLET SUPPLIES

The Mira Element SLT thermostatic mixer is supplied with inlet connections **Hot - Left, Cold - Right** as standard. If the hot and cold water supply pipes have been reversed during installation the thermostatic cartridge must be removed and rotated 180°.

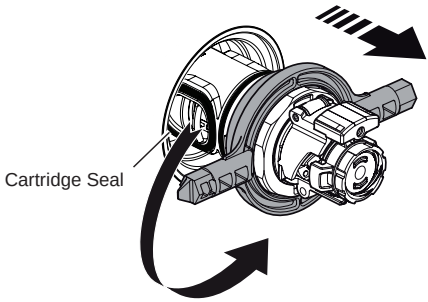
1. Isolate the hot and cold water supplies and operate the control lever to relieve pressure and drain any residual water.
2. Use the slotted end of the multi tool (supplied) inserted into the recess at the top of the control lever to prise the control lever trim away.



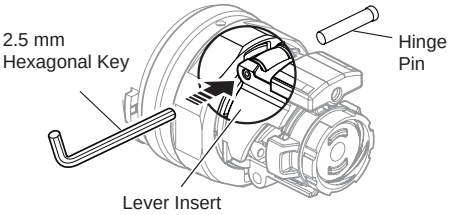
3. Use the 2.5 mm hexagon key (supplied) to remove the securing screw then remove the control lever.
4. **Built-in Models only:**
   - **a).** Carefully unclip the chrome concealing plate from the backplate. **Note!** Use the multi tool in the cutout at the bottom of the concealing plate to lever off.
   - **b).** Remove the two trim securing screws.
5. Use your finger or a small screwdriver to rotate the dome clamp 90° in an anti-clockwise direction, remove the dome clamp from the dome shroud.



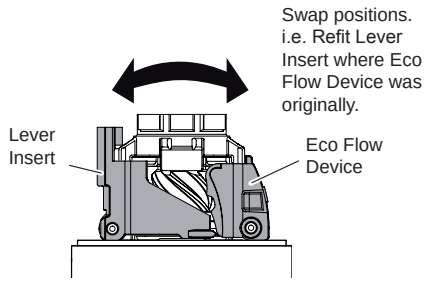
6. Remove the dome shroud, bearing and chrome trim if fitted (Built in Models only).
7. Fit the multi tool onto the cartridge nut and turn anticlockwise. Unscrew fully and pull the cartridge from the mixer body.



8. Use the 2.5 mm hexagonal key or a suitable sized screw driver to push the hinge pin from left to right, releasing the lever insert (refer to illustration).

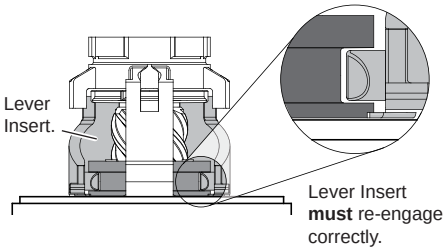


9. Repeat the procedure to remove the eco flow device.
10. Rotate the cartridge 180°.
11. Refit the eco flow device in the location that the lever insert was originally removed from, pushing the hinge pin in from right to left.



12. Repeat the procedure to refit the lever insert making sure that it re-engages correctly with the cartridge.

Note! When the pin is fitted correctly it will be flush with the Lever Insert.



13. Make sure that the two cartridge inlet seals are fitted and carefully push the cartridge into the body, aligning the cartridge lugs into the body slots.

Note! Check that the cartridge lug stamped 'H' is aligned with the hot inlet supply.

Important! Take care when fitting the cartridge as damage to the cartridge inlet seals may result in dripping from the shower head.

14. Tighten the nut by turning the multi tool clockwise.

Note! Please ensure it is tightened fully.

15. Reassemble in reverse order.

16. Before using the Shower, refer to section: **'Commissioning'**.

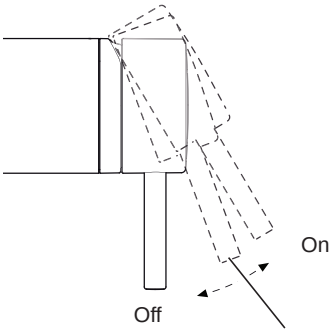
OPERATION

The Mira Element SLT thermostatic mixer is a thermostatic shower control with a single control lever for flow and temperature control.

Note! You will notice a subtle 'click' when both overriding the flow to full flow and the temperature to maximum. This feature has been designed to give subtle user feedback.

The control lever operates in the following sequence:

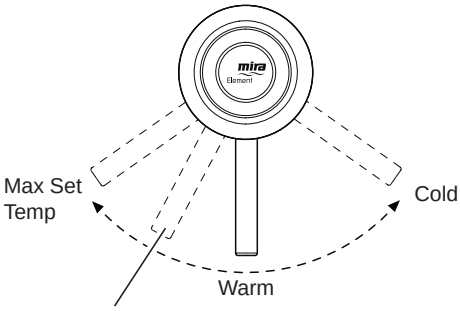
Flow Control:



Mid Flow Overide - Reduces water flow by up to 30% (dependant on inlet pressures) and can be overridden by increasing flow to full.

Note! Due to the inclusion of the 14 L/Min outlet flow regulator, the reduction in flow at high pressure will be less significant.

Temperature Control:



Temperature Overide - approximately 5°C below Max Set Temperature.

COMMISSIONING

Maximum Temperature Setting

Before using the shower the maximum temperature must be checked to make sure that it is at a safe level. It has been preset to approximately 41°C at the factory but due to variations in site conditions the maximum temperature may need adjustment.

The Temperature Overide is set at approximately 5°C below the Maximum Set Temperature.

Note! Make sure that the hot water temperature is at least 55°C and that there is sufficient supply.

For Type 2 installations the maximum blend temperature is determined by the application, refer to section: **'Type 2 Valves - Application'**.

1. Turn on the shower to the maximum temperature (i.e. fully anticlockwise) and allow the temperature to stabilise.

   If the temperature is too hot or too cold, adjust as follows:
2. Use the slotted end of the multi tool (supplied) to prise the control lever trim away from the control lever.
3. Insert the 2.5 mm hexagon key (supplied) into the recess in the centre of the cartridge and engage with the temperature adjusting screw.
4. Rotate the hexagon key until the required maximum temperature is obtained at the shower. Turn anticlockwise to increase the temperature, or clockwise to decrease the temperature (¼ turn = approximately 1°C).
5. Once the desired maximum blend temperature has been achieved turn off the shower.
6. Check that the showering temperature is correct.
7. Refit the control lever trim.

TYPE 2 VALVES

Application

The approved designations for Type 2 Valves are as follows:

Models	Designation
Mira Element SLT	LP-S, HP-S

Important! The fitting of any flow regulator will invalidate TMV2 compliance due to the minimum flow rate requirements. Do not fit flow regulators in TMV2 applications.

Conditions of use for Type 2 Valves

Operating Pressure Range	High Pressure	Low Pressure
Maximum Static Pressure (bar)	10	10
Maintained Pressure, Hot and Cold (bar)	0.5 to 5	0.1 to 1
Hot Supply Temperature (°C)	55 to 65	55 to 65
Cold Supply Temperature (°C)	≤25	≤25

Valves operating outside these conditions cannot be guaranteed to operate as Type 2 Valves.

Recommended Outlet Temperatures

The BuildCert TMV scheme recommends the following set maximum mixed water outlet temperatures for use in all premises:

44°C for bath fill, but see notes below;

41°C for showers;

41°C for washbasins;

38°C for bidets.

The mixed water temperatures must never exceed 46°C.

The maximum mixed water temperature can be 2°C above the recommended maximum set outlet temperatures.

Note! 46°C is the maximum mixed water temperature from the bath tap. The maximum temperature takes account of the allowable temperature tolerances inherent in thermostatic mixing valves and temperature losses in metal baths.

It is not a safe bathing temperature for adults or children.

The British Burns Association recommends 37 to 37.5°C as a comfortable bathing temperature for children. In premises covered by the Care Standards Act 2000, the maximum mixed water outlet temperature is 43°C.

The thermostatic mixing valve will be installed in such a position that maintenance of the TMV and its valves and the commissioning and testing of the TMV can be undertaken.

The fitting of isolation valves is required as close as practicable to the water supply inlets of the thermostatic mixing valve.

Commissioning notes for Thermostatic Mixing Valves

The first step in commissioning a thermostatic mixing valve is to check the following:

The designation of the thermostatic mixing valve matches the application.

The supply pressures are within the valves operating range.

The supply temperatures are within the valves operating valve.

Isolating valves (and strainers preferred) are provided.

If all of these conditions are met, proceed to set the temperature as specified in section: **'Commissioning'**.

Important! The mixed water temperature at the discharge point must never exceed 46°C

It is a requirement that all TMV2 approved valves shall be verified against the original set temperature results once a year. When commissioning/testing is due the following performance checks shall be carried out.

Measure the mixed water temperature at the outlet.

Carry out the cold water supply isolation test by isolating the cold water to the TMV, wait for five seconds if water is still flowing check that the temperature is below 46°C.

If there is no significant change to the set outlet temperature (±2°C or less change from the original settings) and the fail-safe shut off is functioning, then the valve is working correctly and no further service work is required.

Notes! If there is a residual flow during the commissioning of the valve or the annual verification (cold water supply isolation test), then this is acceptable providing the temperature of the water seeping from the valve is no more than 2°C above the designated maximum mixed water outlet temperature setting of the valve.

Temperature readings should be taken at the normal flow rate after allowing for the system to stabilise.

The sensing part of the thermometer probe must be fully submerged in the water that is to be tested.

Any TMV that has been adjusted or serviced must be re-commissioned and re-tested in accordance with the instructions given in this guide.

The installation of thermostatic mixing valves must comply with the requirements of the Water Supply (Water Fittings) Regulations 1999.

FAULT DIAGNOSIS

If you require a Mira trained service engineer or agent, refer to section: **'Customer Services'**.

Fault Diagnosis

Symptom:

- Only hot or cold water from the mixer outlet.
- Outlet temperature too hot / too cold.

Cause / Rectification:

- Inlets reversed (hot supply to cold supply).
- No hot water reaching mixer.
- Check the filters for any blockage.
- *Installation conditions outside operating parameters, refer to sections:* ***'Specifications'*** *and* ***'Commissioning'****.*
- *If the temperature is too cold and you have a combination type boiler it may not be producing sufficiently hot water at desired flow rate (refer to* ***'Specifications'****). Fit flow regulator (supplied) to shower valve outlet. For more information contact Mira Showers or visit the website.*

Symptom:

- Fluctuating or reduced flow rate.

Cause / Rectification:

- *Check the showerhead, hose and filters for any blockage and clean.*
- *Make sure that the maintained inlet pressures are nominally balanced and sufficient, refer to section:* ***'Specifications'****.*
- *Make sure that the inlet temperature differentials are sufficient, refer to section:* ***'Specifications'****.*
- *Flow regulator fitted incorrectly.*
- *Air lock or partial blockage in the pipework.*

Symptom:

- Water leaking from showerhead.

Cause / Rectification:

- Normal for a short period after shut off.
- Check that the pressures are not in excess of the specifications for the product.
- Renew the thermostatic cartridge.

MAINTENANCE

General

This Product is precision engineered and should give continued safe and controlled performance, provided:

1. It is installed, commissioned, operated and maintained in accordance with manufacturers recommendations.
2. Periodic attention is given, when necessary, to maintain the product in good functional order.

The Mira Element SLT thermostatic mixer is designed to need only minimal maintenance in normal use. The only serviceable parts are the inlet filters which should be checked and cleaned every 12 months. If a malfunction occurs with the thermostatic cartridge then this will necessitate a complete cartridge replacement.

Note! The cartridge contains no internally serviceable parts.

If you require a Mira trained engineer or agent, refer to section: **'Customer Service'**.

Lubricants

Silicone based lubricants must only be used on the rubber seals.

Caution! Oil based or other lubricant types may cause rapid deterioration of seals.

Cleaning

The chrome plated parts should be cleaned using a mild washing up detergent or soap solution, rinsed and then wiped dry with a soft cloth.

Warning! Many household cleaners contain abrasive and chemical substances, and should not be used for cleaning plated or plastic fittings.

Do not use descalents on this product.

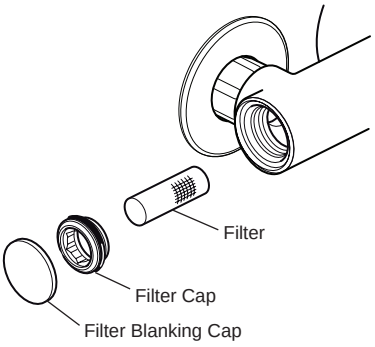
Inlet Filters

The inlet filters should be checked and cleaned as necessary every 12 months.

Note! The inlet filters must not be removed except for cleaning. If the thermostatic mixer is operated without the inlet filters fitted the warranty on the product will be void.

Exposed Models

1. Isolate the hot and cold water supplies and operate the control lever to drain any residual water.
2. Using the multi tool (supplied) to assist, carefully remove the filter blanking caps then unscrew the filter caps with the multi tool or a 12 mm hexagonal wrench. Remove the filters.

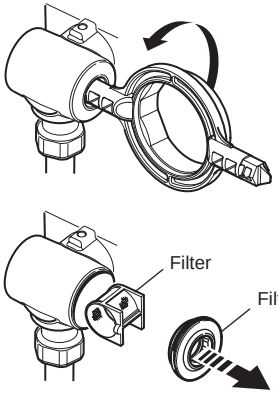


3. Clean the filters under a jet of water to remove any lodged particles.
4. Refit the filters and tighten the filter caps.
   Note! Make sure that the 'O' seal is fitted correctly and not damaged.
5. Turn on the hot and cold water supplies and check for leaks.
6. Refit the filter blanking caps.

Built-in Models

Note! Refer to illustrations in section: **'Control Assembly (Built-in Models)'**.

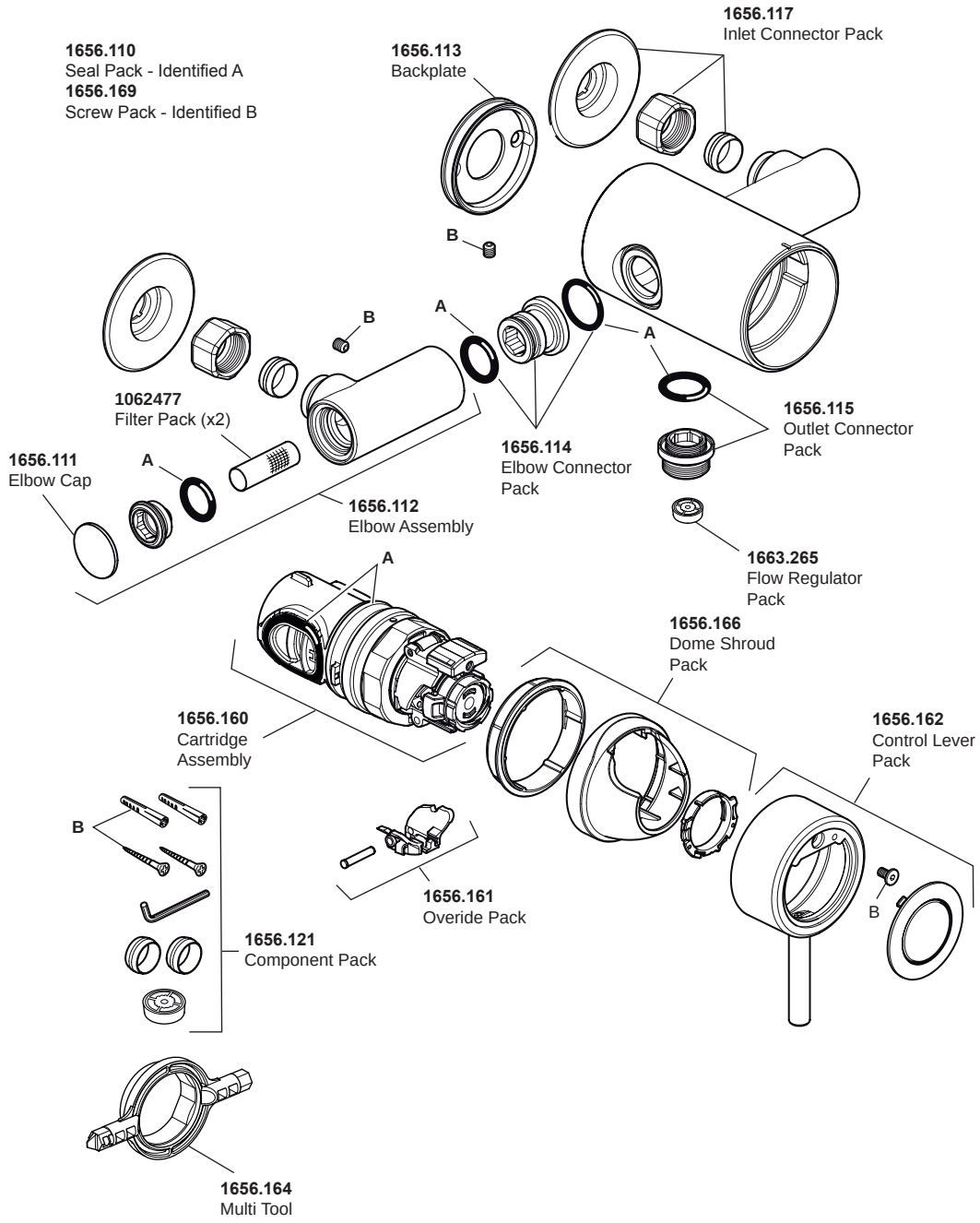
1. Isolate the hot and cold water supplies and operate the control lever to drain any residual water.
2. Use the slotted end of the multi tool (supplied) or a suitably sized screwdriver inserted into the recess to prise the control lever trim away from the control lever.
3. Use a 2.5 mm hexagonal key to remove the control lever securing screw then remove the control lever.
4. Carefully unclip and remove the concealing plate from the backplate.
   Note! Use a screwdriver in the cutout to assist separation.
5. Unscrew the filter caps with the multi tool (supplied) or a 12 mm hexagonal wrench and remove the filters.
   Note! Use pliers to carefully remove the filters.



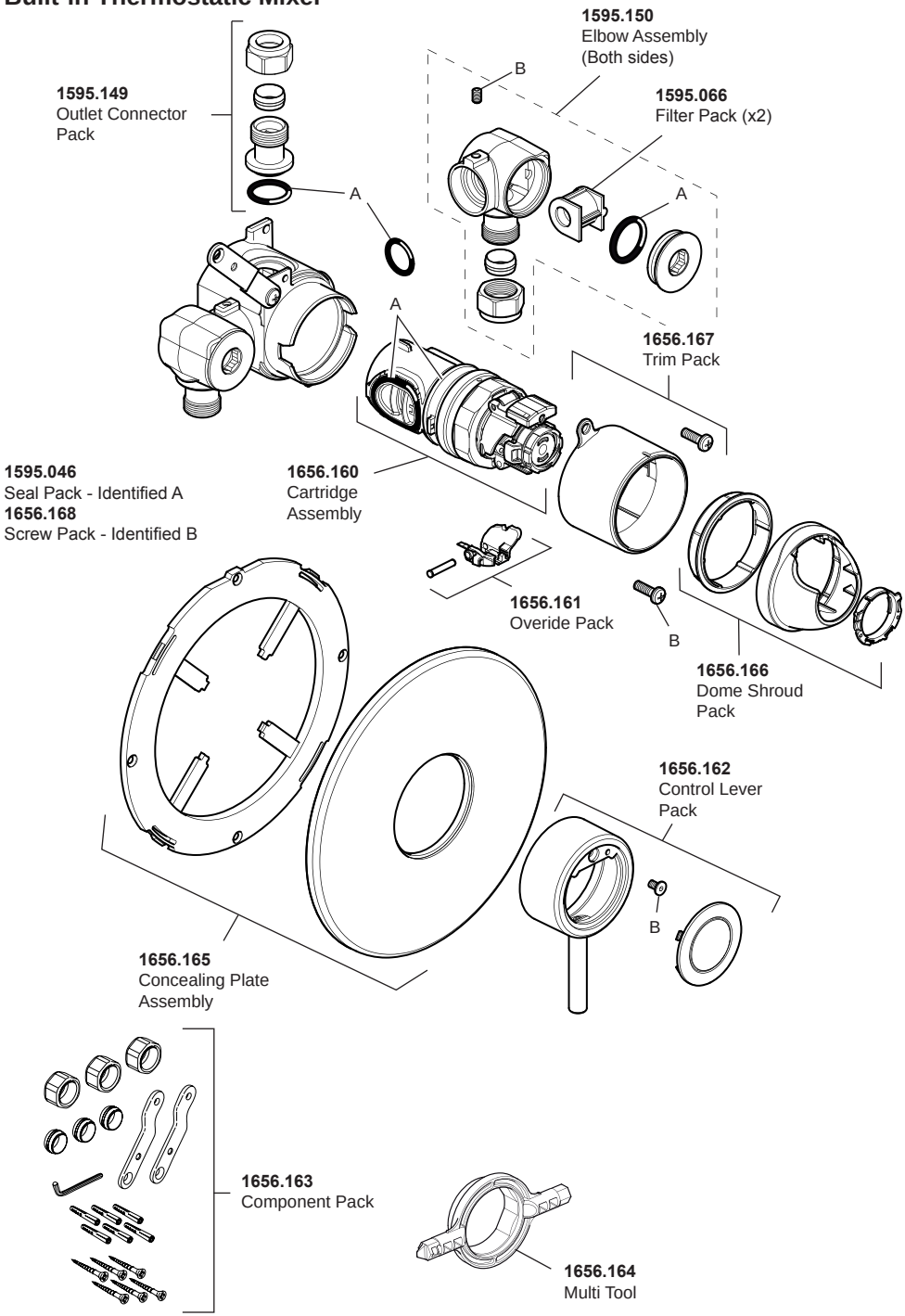
6. Clean each of the filters under a jet of water to remove any lodged particles.
7. Refit the filters and tighten the filter caps.
   Note! Make sure that the seal is fitted correctly and not damaged.
8. Turn on the hot and cold water supplies and check for leaks.
9. Reassemble in reverse order.

SPARE PARTS

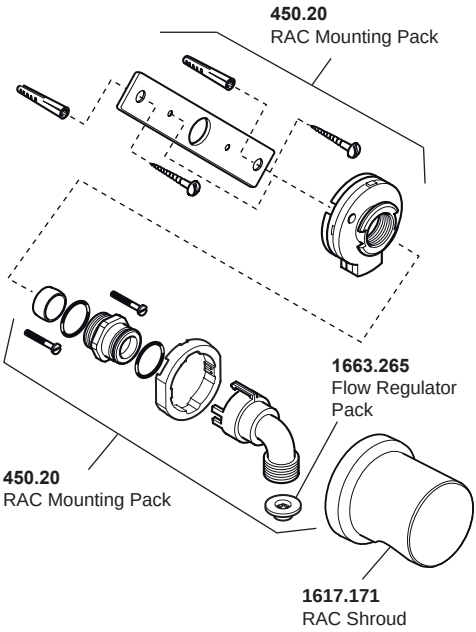
Exposed Thermostatic Mixer



Built-in Thermostatic Mixer



RAC Assembly



ACCESSORIES

Genuine Mira accessories can be purchased direct from Customers Services (our contact details can be found on the back cover of this guide) or from approved stockists or merchants.



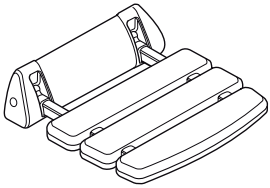
Eco Showerhead
White - 2.1668.001
Chrome - 2.1668.002
The Eco shower head gives you an invigorating shower, but reduces water consumption and heating costs.



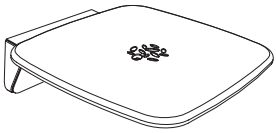
Everclear Showerhead
White - 2.1616.030
Chrome - 2.1616.031
Mira's new Everclear range has been specially designed for hard water areas and reduces the risk of lime scale build up.



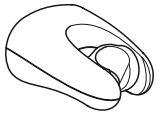
Wall Mounted Soap Dish
White - 1.1540.278
Chrome - 1.1540.279
Wall mounted for use anywhere in, or outside the showering area.



Shower Seat
White - 2.1536.128
White/Chrome - 2.1536.129
For use in or out of the showering area. **Note!** Must be installed onto a solid wall.
Shower seat folds up when not in use



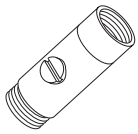
Premium Shower Seat
White/Chrome - 2.1731.001
White/Chrome - 2.1731.002
Stylish, slim-line and robust shower seat for use in or outside of the shower area. Folds up when not in use.
Maximum User Weight - 150kg (23.5 stone) **Note!** Must be installed onto a solid wall.



Showerhead Holder
White - 2.1605.149
Chrome - 2.1605.150
If you're looking for additional flexibility in your shower, the Mira Logic Showerhead Holder is the perfect solution. Makes showering easier for children, provides a useful additional holder for your Showerhead which fixes to the wall at the desired height.



Mira Standard Grab Bars
300 mm - 2.1605.070
450 mm - 2.1605.071
600 mm - 2.1605.072
Premium grade, highly polished, stainless steel grab bars.
Note! Must be installed onto a solid wall.



Outlet Double Check Valve (DCV-H)
Chrome - 1.0.110.55.1
DCV-H: An outlet double check valve, designed to prevent the backflow or backsiphonage of potentially contaminated water, through shower controls which are fitted with a flexible hose as part of the outlet shower fitting.

NOTES

CUSTOMER SERVICE

Guarantee

Your product has the benefit of our manufacturer's guarantee which starts from the date of purchase.

To activate this guarantee, please return your completed registration card, visit our website or free phone 0800 0731248 within 30 days of purchase (UK only).

Within the guarantee period we will resolve defects in materials or workmanship, free of charge, by repairing or replacing parts or product as we may choose.

This guarantee is in addition to your statutory rights and is subject to the following conditions:

- The guarantee applies solely to the original installation under normal use and to the original purchaser only. The product must be installed and maintained in accordance with the instructions given in this user guide.
- Servicing must only be undertaken by us or our appointed representative. **Note!** if a service visit is required the product must be fully installed and connected to services.
- Repair under this guarantee does not extend the original expiry date. The guarantee on any replacement parts or product ends at the original expiry date.
- For shower fittings or consumable items we reserve the right to supply replacement parts only.

The guarantee does not cover:

- Call out charges for non product faults (such as damage or performance issues arising from incorrect installation, improper use, lack of maintenance, build up of limescale, frost damage, corrosion, system debris or blocked filters) or where no fault has been found with the product.
- Water or electrical supply, waste and isolation issues.
- Compensation for loss of use of the product or consequential loss of any kind.
- Damage or defects caused if the product is repaired or modified by persons not authorised by us or our appointed representative.
- Routine maintenance or replacement parts to comply with the requirements of the TMV 2 or TMV 3 healthcare schemes.
- Accidental or wilful damage.
- Products purchased ex-showroom display.

What to do if something goes wrong

If your product does not function correctly when you first use it, contact your installer to check that it is installed and commissioned in accordance with the instructions in this manual.

If this does not resolve the issue, contact our Customer Services Team who will offer you or your installer help and advice.

If you experience problems, check in this manual to see if simple home maintenance is required. If you require further assistance call our Customer Services Team.

Extended Guarantees

A selection of protection plans are available that enable you to cover repair bills for the life of your policy (excludes Eire). Ring 01922 471763 for more details.

Helpdesk Service

Our Customer Services Team is comprehensively trained and can offer help and advice, spare parts, accessories or a service visit.

We will need you to have your model name or number, power rating (if applicable) and date of purchase. As part of our quality and training programme calls may be recorded or monitored.

Mira Showers Website (www.mirashowers.co.uk)

From our website you can register your guarantee, download additional user guides, diagnose faults, purchase our full range of accessories and popular spares, refer to our FAQ's and request a service visit.

Spares and Accessories

We maintain extensive stocks of genuine spares and accessories and aim to provide support throughout the product's expected life.

Payment can be made by phone at time of order using most major Credit or Debit cards and we aim to despatch orders within 2 working days. Items purchased from us are guaranteed for 12 months from date of purchase. For safety reasons spares exposed to mains voltages should only be fitted by competent persons.

Returns – items can be returned within one month of date of purchase, providing that they are in good condition and the packaging is unopened. If you wish to return any items please notify us in writing within seven days of receipt.

Service / Repairs

We have a nationwide team of Service Technicians can carry out service or repair work to your product within the guarantee period and beyond. You have the assurance of a fully trained Technician, genuine spare parts and a 12 month guarantee on any chargeable work done.

Payment should be made directly to the Service Technician who will accept most major Credit or Debit cards.

To Contact Us

UK

Telephone: 0844 571 5000

E-mail: technical@mirashowers.com

Fax: 01242 282595

By Post: Mira Customer Services Dept, Cromwell Road, Cheltenham, Gloucestershire, GL52 5EP

Eire

Telephone: 01 459 1344

E-mail: sales@modernplant.ie

Fax: Dublin 01 459 2329

By Post: Modern Plant Ltd (Dublin), Otter House, Naas Road, Clondalkin, Dublin 22

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FM 14648

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