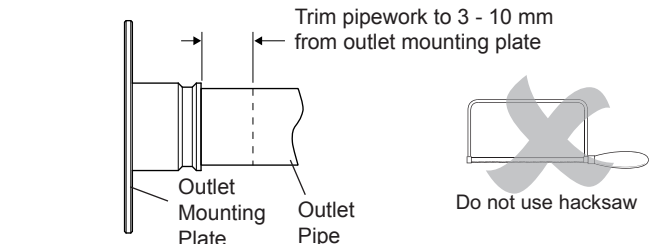


OUTLET INSTALLATION

Note! For BRD and BIV models see instructions below, for BIR models see separate Installation Guide.

Installation of Outlet for BRD Model

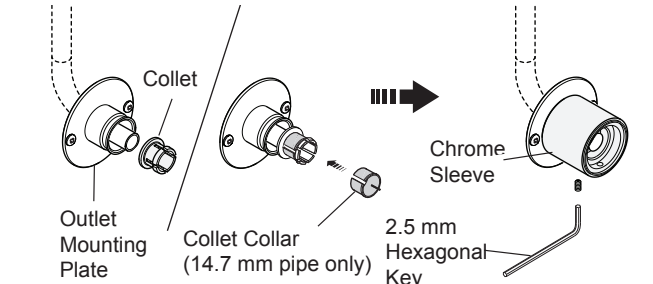
1. Holding the pipe to prevent it from retreating into the wall, slide the Outlet Mounting Plate over the outlet pipe.
2. Mark and drill holes for the screws.
3. Using a pipe cutter, trim the shower outlet pipework to 3 - 10 mm from the outer edge of the outlet mounting plate. Deburr the pipework. **Note!** **DO NOT** use a hacksaw as the sharp edges may damage the seals in the mixer valve.



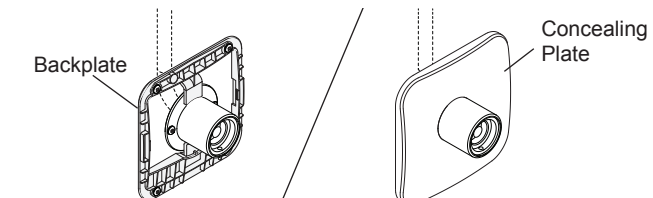
4. Push the Collet over the end of the outlet pipe and into the outlet mounting plate.

For 14.7 mm pipework in Ireland the collet collar must be fitted as shown to prevent leakage.

With the ridged section facing out from the wall push the adapters over the collets. **Note!** **DO NOT** use the adapters if using 15 mm copper pipe



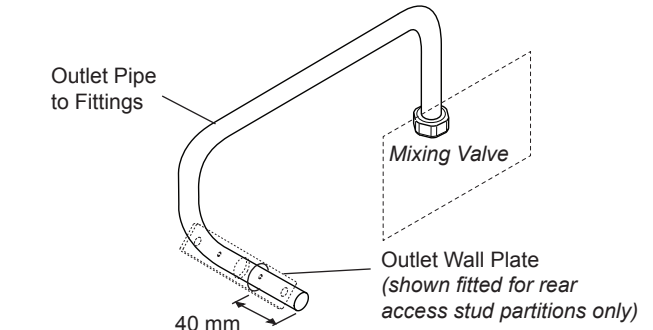
5. With the grubcrew holes facing down slide the Chrome Sleeve over the outlet pipe.
6. Tighten the grubcrew (2.5 mm hexagonal key) nearest the wall to secure the chrome sleeve.



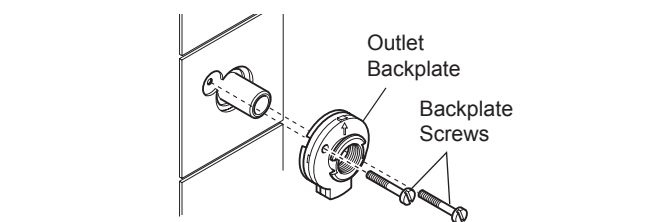
7. Slide the Backplate over the chrome sleeve.
8. To prevent leaks into the wall, apply silicone sealant all around the edge of the backplate then fix to the wall using the screw holes appropriate for your installation. **Note!** Ensure the backplate is level, use a spirit level on the top edge of the backplate to assist.
9. Slide the Concealing Plate without the Mira Adept logo over the chrome sleeve until it clips into place.
10. This completes the installation of the outlet assembly.

Installation of Outlet for BIV Model

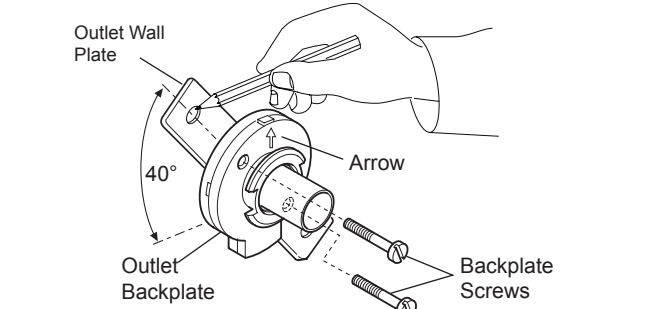
1. Before the outlet assembly can be fitted you must have first installed your built-in shower control and have connected the inlet and outlet pipework. **Important!** Make sure that the outlet pipework protrudes through a Ø25 mm hole in the wall or stud partition by at least 40 mm. **Note!** For stud partition installations where access to the rear of the partition is possible, fit the outlet wall plate over the outlet pipework on the inside of the partition.



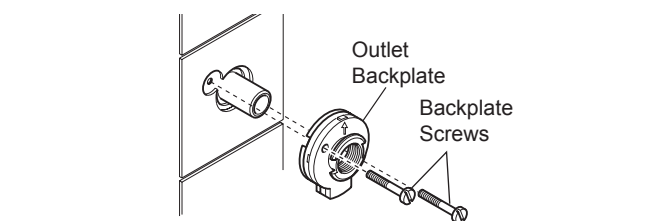
2. For stud partition installations where access to the rear of the wall is not possible, follow instructions for solid wall installations, making sure that suitable wall fixings (not supplied) are used to secure the wall plate to the outside of the stud partition.
3. Temporarily cap off the outlet pipe, turn on the water supplies and check for leaks.
4. 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.
5. For solid wall installations or stud partition installations **without** rear access go to build instruction 9.
6. For stud partition installations with access to the rear of the partition continue with build instruction 5.
7. Finish the wall, e.g. tiles.
8. Place the outlet backplate over the outlet pipe with the arrow pointing up. The screw holes should be at 45° to the horizontal.
9. Mark the positions of the two outlet backplate fixing holes and drill two Ø5.5 mm holes. **Caution!** Make sure that you do not drill into pipework in the wall.
10. Hold the outlet wall plate in position on the rear of the partition, insert the two backplate screws and secure the outlet backplate to the wall plate. Make sure that the foam seal abuts the finished wall surface. Go to instruction build 18.



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

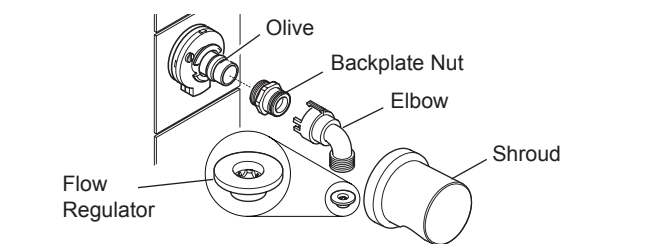


14. Remove the assembly from the wall and separate the backplate from the wall plate.
15. For solid walls drill two Ø6 mm holes for the wall plugs. For other types of wall structure alternative fixings may be required (not supplied). If necessary, make a recess 6 mm deep to accept the wall plate for flush fitting of the outlet to the wall surface.
16. Fit the two wall plugs supplied and secure the wall plate with the wall plate screws.
17. 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.
18. Finish the wall, e.g. tiles.
19. 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.



20. Check that the blue 'O' seal is fitted inside the backplate nut. Fit the olive and the backplate nut over the outlet pipe and tighten the nut.
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. Press the shroud over the elbow, make sure that it engages with the lugs on the backplate.
23. This completes the installation of the outlet assembly. **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.



FITTINGS

Please refer to the Fittings Installation and User Guide.

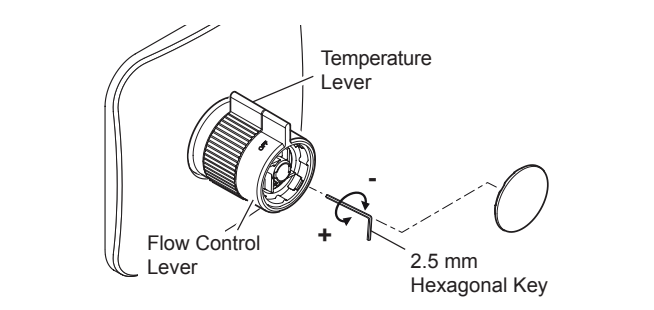
COMMISSIONING

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.

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

Turn on the mixer to the maximum temperature and maximum flow and allow the temperature to stabilise. If the temperature is too hot or too cold adjust as follows:

1. Carefully remove the concealing cap from the control.
2. Insert the 2.5 mm hexagonal key into the centre of the spindle and engage with the recessed temperature adjusting screw.
3. Rotate the hexagonal key until the required maximum temperature is obtained at the shower. Anticlockwise to increase the temperature, or clockwise to decrease the temperature (¼ turn = approximately 1°C).
4. Once the desired maximum blend temperature has been achieved turn off the mixer by rotating either the hub or flow control (depending on model) fully clockwise. **Note!** Do not remove the hub.
5. Refit the concealing cap.
6. Check that the shower temperature is correct.

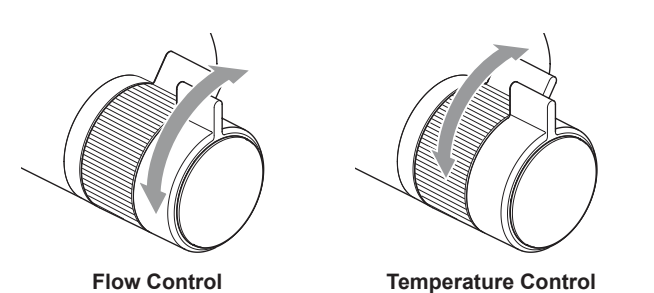


OPERATION

Having completed the installation, make sure the user is familiar with the operation of the shower. **Mira Adept** thermostatic mixers have separate controls for on/off and temperature.

The controls operate in the following sequence:

- | | |
|-------------------------------|-------------------------------|
| Flow Control (anti-clockwise) | Temp Control (anti-clockwise) |
| • Off | • Full Hot |
| • Reduced Flow Override * | • 41° |
| • Full Flow | • Full Cold |



* Reduced Flow Override - reduces water flow by up to 30% (dependant on inlet pressures) and can be overridden by increasing flow to full.

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). Installation error, supply pipework requires rework.
- No hot water reaching mixer.
- Check the filters for any blockage refer to section 'USER MAINTENANCE'.
- Installation conditions outside operating parameters, refer to sections: 'SPECIFICATION' 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 'SPECIFICATION'). Make sure flow regulator is fitted. 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.
- Make sure that the maintained inlet pressures are nominally balanced and sufficient, refer to section: 'SPECIFICATION'.
- Make sure that the inlet temperature differentials are sufficient, refer to section: 'SPECIFICATION'.
- Air lock or partial blockage in the pipework.
- Low flow causing combination boiler to cycle. Operate shower at full flow.
- Remove 12 L/min flow regulator if used with a gravity fed system, see Fittings Installation and User Guide.

Symptom:

- Water leaking from the 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 cartridge.

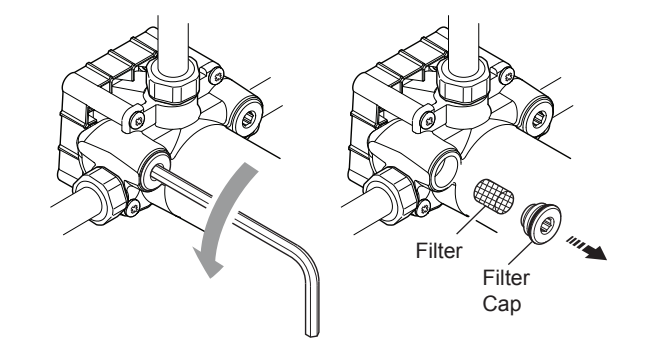
USER MAINTENANCE

Filter Replacement and Cleaning

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.

1. Follow steps 1 - 4 from section - Valve Installation Procedure to remove controls.
2. Isolate the water supply and drain down the shower.
3. Carefully unclip and remove the concealing plate from the backplate. **Note!** Use a screwdriver in the cutout to assist separation.
4. 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.



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

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.

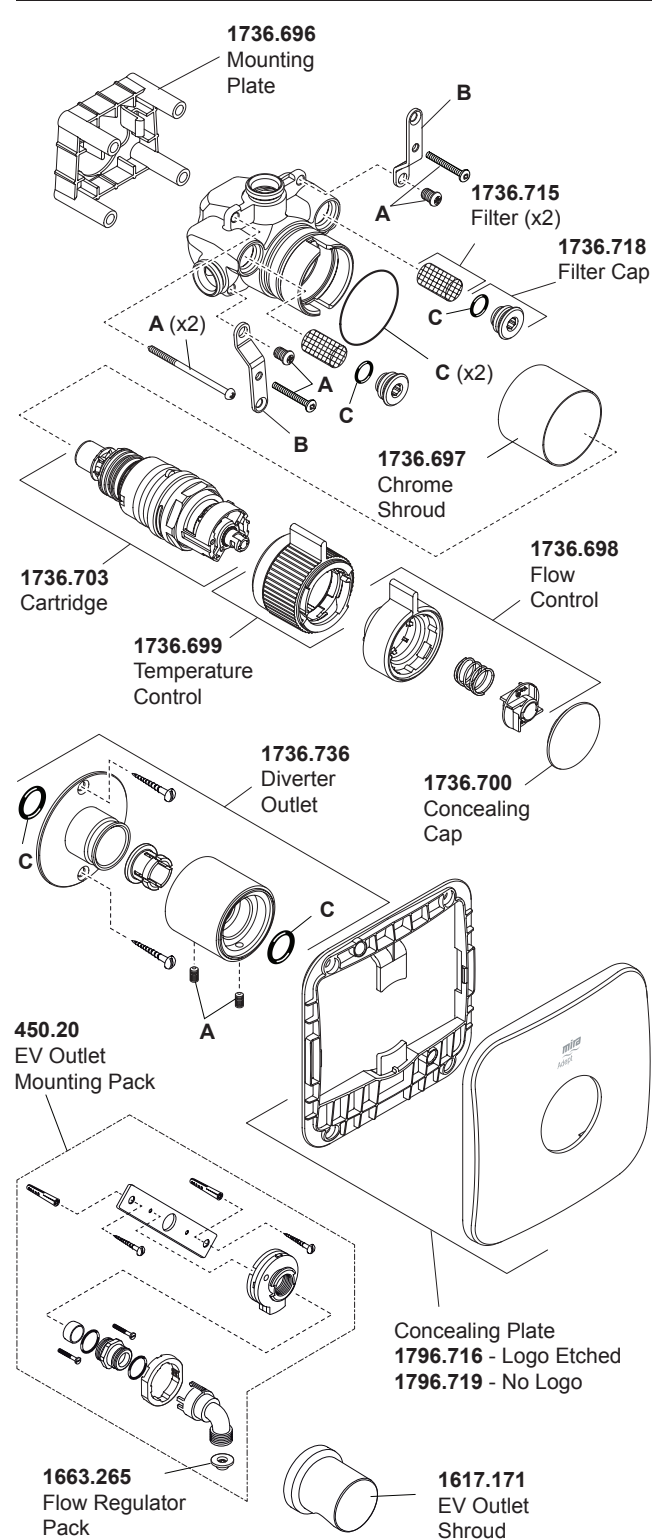
Cleaning

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.

SPARE PARTS



- 1736.721 Screw Pack - Components Identified 'A'
- 1736.722 Component Pack - Components Identified 'B'
- 1736.708 Seal Pack - Components Identified 'C'

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, inappropriate cleaning, 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 work correctly refer to this manual for fault diagnosis and check that it is installed and commissioned in accordance with our instructions.

If this does not resolve the issue, contact us for help and advice.

Extended Guarantees

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

- Helpdesk Service** - Ring our Customer Services Team for product advice, to purchase spare parts or accessories or to set up service visit. You can contact us via phone or e-mail, details below. Please provide your model name, power rating (if applicable) and date of purchase.
- Mira Showers Website (www.mirashowers.co.uk)** Visit our website to register your guarantee, download user guides, diagnose faults, purchase our full range of accessories and popular spares, or request a service visit.

Spares and Accessories - We hold the largest stocks of genuine Mira spares and accessories. Contact us for a price or visit our website to purchase items from our accessory range and popular spares.

Service/Repairs - No one knows our products better than our nationwide team of Service Technicians. We can carry out service or repair work to your product both during and after the guarantee period. Ask about our fixed price service repairs.

To Contact Us

0844 571 5000

Fax: 01 242 282595

E-mail: Visit www.mirashowers.co.uk/contactus

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

To Contact Us: Eire Only

01 459 1344

Fax: Dublin 01 459 2329

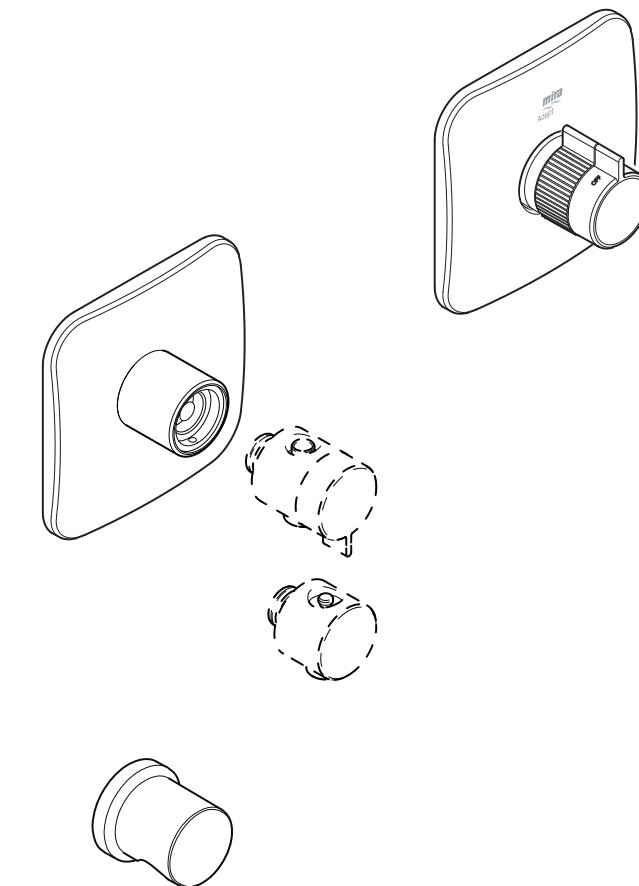
E-mail: sales@modernplant.ie

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

Mira is a registered trade mark of Kohler Mira Limited. The company reserves the right to alter product specifications without notice.



Mira Adept Thermostatic Mixer



Installation and User Guide
Showering perfection



These instructions must be left with the user

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 Adept is a thermostatic mixing valve.

Thermostatic mixers incorporate 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.

Guarantee

For **domestic installations**, Mira Showers guarantee the products listed in this guide 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 products listed in this guide 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	✓
Heavy Commercial	✗
Light Commercial	✓
Healthcare	✗

Patents and Design Registration

Design Registration:	001312649-0001 to 001312649-0022	
Patents:	GB:	2 422 886
	Euro:	1 672 257 DE, FR, GB, IT, NL, SE
	USA:	8 167 215
Patent Application:	UK:	1214568.6 2 491 044
	Euro:	07015846.4
	USA:	US-2010-0219255-A1
	PCT:	GB 2011 / 050810
		GB 2012 / 051147

SAFETY WARNINGS

WARNING - This product can deliver scalding temperatures if not installed, operated or maintained in accordance with the instructions, warnings and cautions contained in this guide.

The function of a thermostatic mixing valve is to deliver water consistently at a safe temperature. In keeping with every other mechanism, it cannot be considered as functionally infallible and as such, cannot totally replace a supervisors vigilance where that is necessary. Provided it is installed, commissioned and maintained within manufacturers recommendations, the risk of failure, if not eliminated, is reduced to the minimum achievable.

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

- They are installed, commissioned, operated and maintained in accordance with the manufacturer's recommendations.
- Periodic attention is given, when necessary, to maintain the product in good functional order.

Caution!

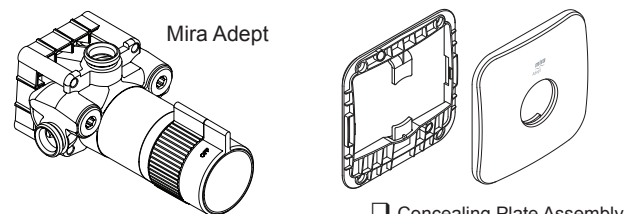
- DO NOT install the product in a position in which service access is restricted.
- Read all of these instructions. Retain this guide for later use.
- Installation must be carried out in accordance with these instructions, and must be conducted by designated, qualified and competent personnel.
- Pass on this guide in the event of change of ownership of the installation site.
- Follow all warnings, cautions and instructions contained in this guide.
- Make sure that you fully understand how to operate this shower before use, read all operating instructions and retain this guide for future reference.

- This product is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning the use of the product by a person responsible for their safety.
- 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.
- Children should be supervised to ensure that they do not play with the product.
- DO NOT perform any unspecified modifications to the shower or its accessories. When servicing only use genuine Kohler Mira replacement parts.
- Only Mira recommended outlet fittings should be used.
- DO NOT operate the temperature control rapidly, allow 10 – 15 seconds for the temperature to stabilise before use.
- Care is required when adjusting flow or temperature, make sure that the temperature has stabilised.
- Care is required if the product is turned off and back on during showering as this may result in unstable temperature. Ensure temperature has stabilised before re-using product.
- Sunburn or skin conditions can increase your sensitivity to hot water. Make sure that you set the shower to a cooler temperature.
- DO NOT fit the product where it may be exposed to freezing conditions. DO NOT operate if the appliance is frozen, allow the appliance to thaw and check for leaks before using.
- Insulate any pipework that could be exposed to freezing conditions.
- 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.
- If you experience any difficulty with the installation of your new shower, then please refer to "**Fault Diagnosis**", before contacting Kohler Mira Limited. Our telephone and fax numbers can be found on the back cover of this guide.

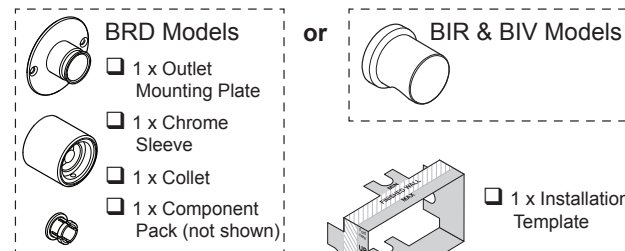
PACK CONTENTS

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

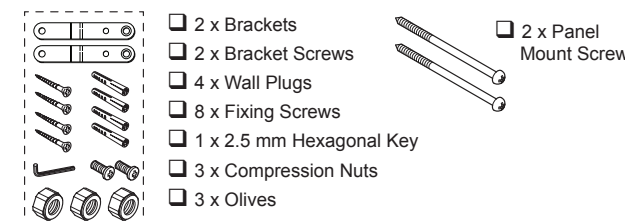
1 x Thermostatic Built In Mixing Valve



1 x Outlet



Component Pack



Documentation

1 x Installation and User Guide
 1 x Accessory Guide (If Applicable)
 1 x Fittings Guide
 1 x Guarantee Brochure

SPECIFICATION

Pressures

- Max Static Pressure: **10 Bar**.
- Max Maintained Pressure: **5 Bar**.
- Min Maintained Pressure (Gravity System): **0.1 Bar (0.5 Bar** for models with Eco Showerhead). (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 (where applicable).
- For optimum performance supplies should be nominally equal.

Temperatures

- Factory Pre-set (Blend) Shower: **41°C**.
- 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: 15 mm Compression
- Standard connections are:
 - hot - left, cold - right**
 - outlet - top**

WARNING! This product does not allow for reversed inlets and will deliver dangerously unstable temperatures if fitted incorrectly.

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. **Note:** It is recommended to remove the 12 L/min flow regulator on low pressure systems, see Fittings Installation and User Guide.

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**).

Note! On combination boiler systems we recommend that the thermostatic mixer is operated in the maximum flow position in order to achieve the minimum flow rate required to ignite and run the boiler.

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

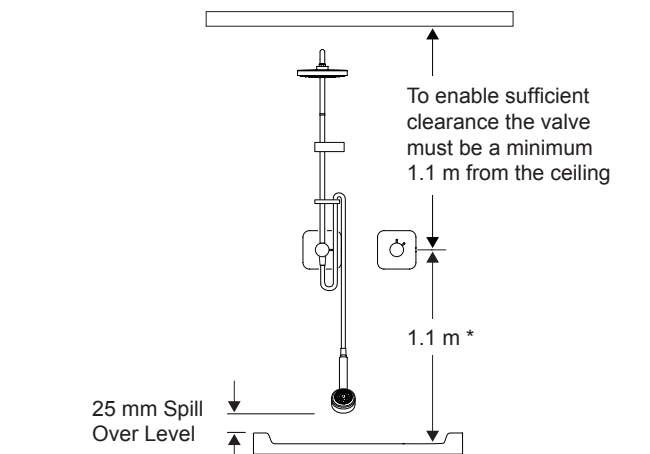
Installation must be carried out in accordance with these instructions, and must be conducted by designated, qualified and competent personnel.

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 the TMV2 Requirements Manual.

- The Mixer must not be installed in an area where it may freeze.
- Provision must be made to prevent water ingress back into the water structure.

- Isolating valves **must** be installed close to the mixer for ease of maintenance.
- Pipework must be rigidly supported and avoid any strain on the connections.
- 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 handset (refer to illustration). This is to prevent back-siphonage.



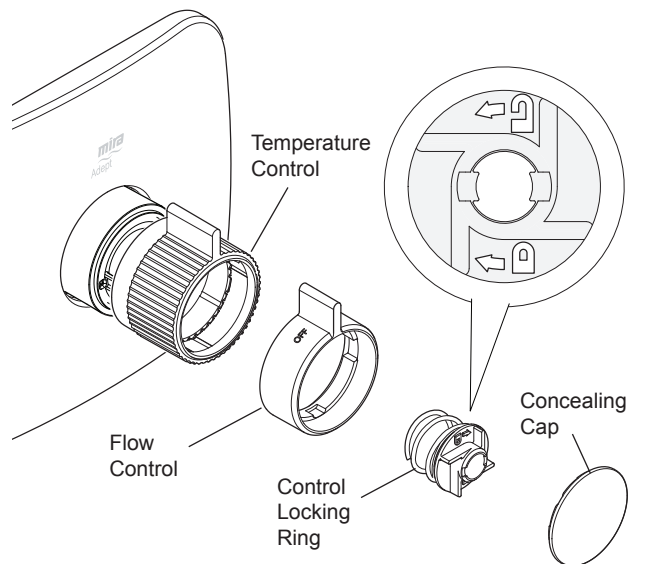
* Recommended height for installation

VALVE INSTALLATION PROCEDURE

Determine your wall type, Panelled / Partition or Solid Wall.

Prepare the Mixer Valve for installation:

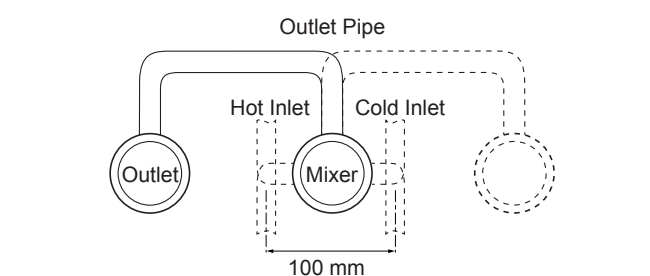
- Remove the Concealing Cap.
- Twist the Control Locking Ring (coloured red) anti-clockwise to release from the valve.
- Slide the Flow Control off the valve.
- Turn the Temperature Lever clockwise to the 1 o'clock position then slide the lever off the valve.



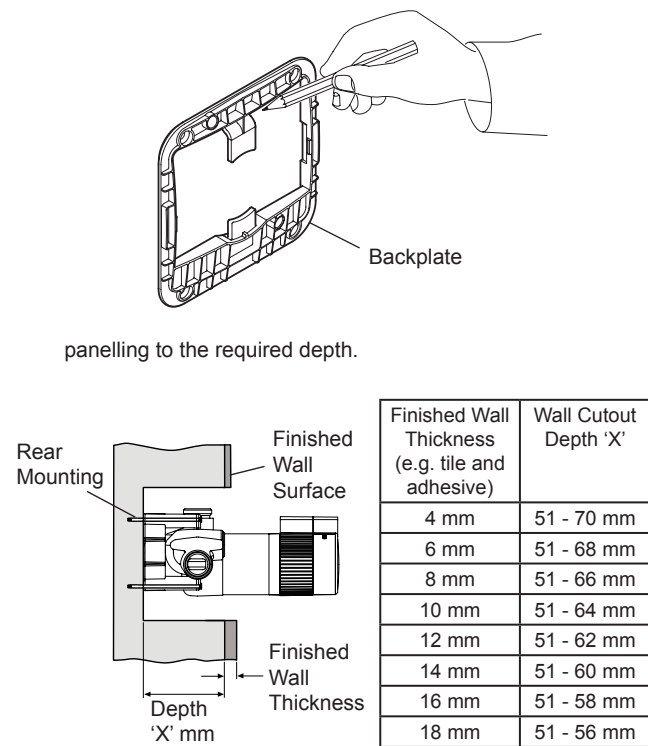
REAR MOUNT, SOLID WALL OR PARTITION

Note! The valve should be securely fixed to a timber noggin or similar arrangement.

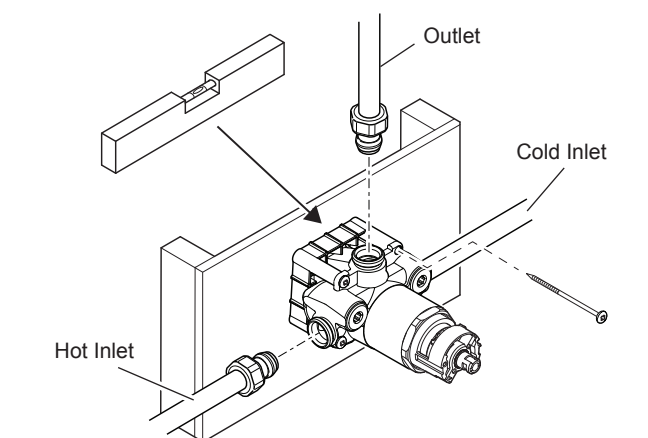
- Determine the desired position of the mixer valve, the route for the hot and cold supply pipework and where the outlet will be located. For BRD products the riser rail should be the centerpoint of the installation, therefore the mixer valve should be mounted to the side of the riser rail.
- Place the Backplate in the position where the mixer valve is to



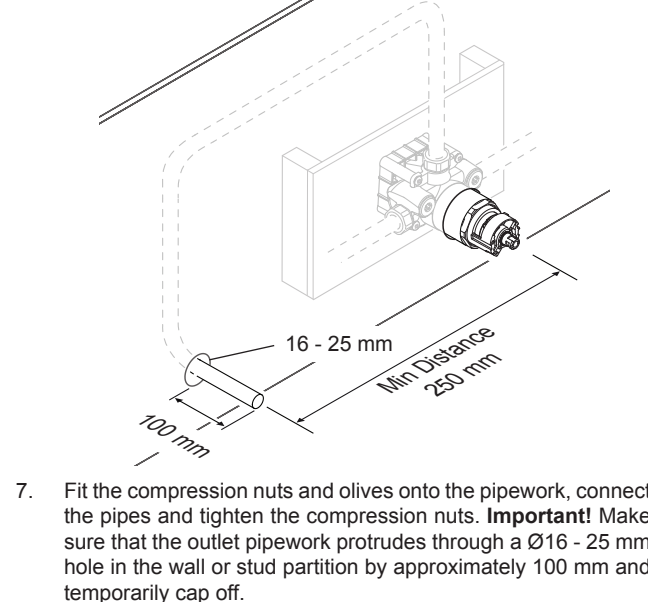
- Using the 'Finished Wall Indicator' on the Installation Template as a guide, finish the wall, e.g. tiles. **Caution!** Make sure that the finished wall is within the maximum and minimum limits and to an even depth (no greater than 2 mm variation) or the control components will not fit correctly.
- Carefully cut away the marked section of plasterboard or



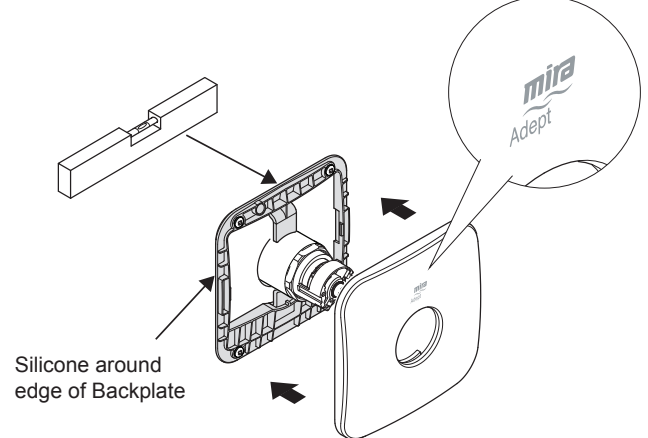
- With the outlet port facing up place the Mixer Valve square, central and level in the hole, mark the positions of the fixings holes on the wall. Using a minimum of 2 screws (supplied), screw the mixer valve to the wooden noggin.



- Install the inlet and outlet pipework (**Hot - Left, Cold - Right, Outlet - Top**).
- It is essential at this point that the supply pipework is thoroughly flushed. **Caution!** Failure to do so may result in product malfunction and will not be covered by the guarantee.



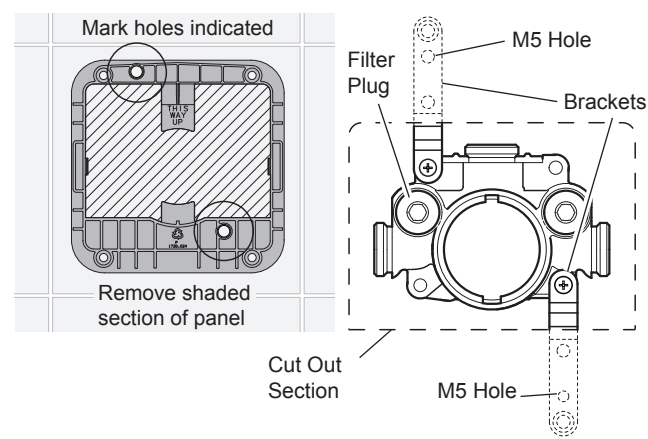
- To prevent leaks into the wall, apply silicone sealant all around the edge of the backplate then fix to the wall using the screw holes appropriate for your installation. **Note!** Ensure the backplate is level, use a spirit level on the top edge of the backplate to assist.
- Slide the Concealing Plate with the Mira Adept logo over the mixer valve until it clips into place.



- Replace controls in the reverse order of removal.
- Proceed to section - '**Outlet Installation**'.

PANEL FIXING USING SECURING BRACKETS

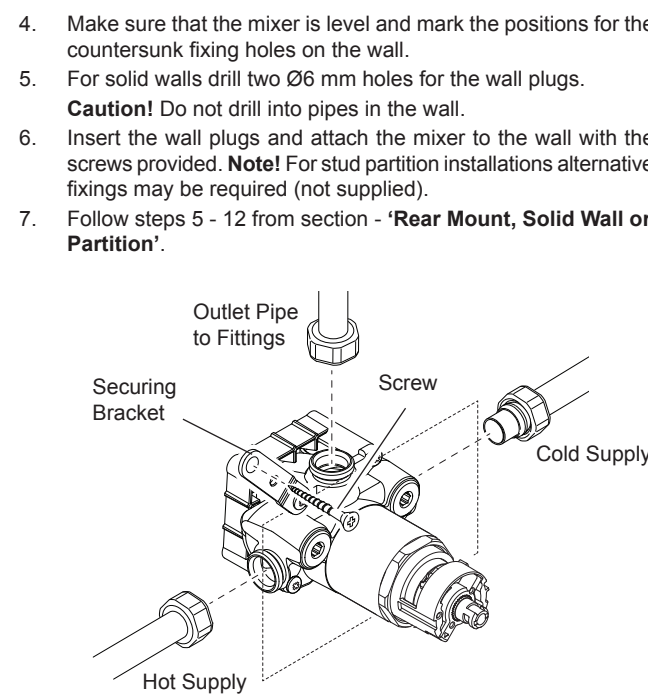
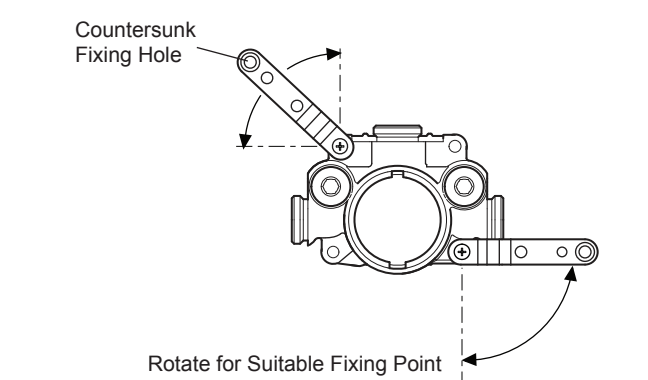
- Follow steps 1 - 2 from previous section.
- Mark the holes indicated then drill and countersink 2 x Ø5.5 mm holes through the panel.



- Carefully cut out the laminated panel.
- Fit the securing brackets to the mixer with the M6 x 8 screws. **Important!** The securing brackets must be fixed vertically, as illustrated. Make sure that the correct holes are used.
- Secure the mixer with the M5 x 40 screws making sure it is level. **Important!** Make sure that the correct holes are used (refer to illustration).
- Follow steps 5 - 7 from section - '**Rear Mount, Solid Wall or Partition**'.
- Follow steps 9 - 12 from section - '**Rear Mount, Solid Wall or Partition**'.

SOLID WALL OR STUD PARTITION FIXING USING SECURING BRACKETS

- Follow steps 1 - 2 from section - '**Rear Mount, Solid Wall or Partition**'.
- Remove the plasterboard and/or brick work to a minimum depth of 60 mm.
- Fit the securing brackets to the mixer with the bracket securing screws. **Important!** Make sure that the correct holes are used, **Note!** The securing brackets can be rotated for suitable fixing points.
- Make sure that the mixer is level and mark the positions for the countersunk fixing holes on the wall.
- For solid walls drill two Ø6 mm holes for the wall plugs. **Caution!** Do not drill into pipes in the wall.
- 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).
- Follow steps 5 - 12 from section - '**Rear Mount, Solid Wall or Partition**'.



- Fit the compression nuts and olives onto the pipework, connect the pipes and tighten the compression nuts. **Important!** Make sure that the outlet pipework protrudes through a Ø16 - 25 mm hole in the wall or stud partition by approximately 100 mm and temporarily cap off.