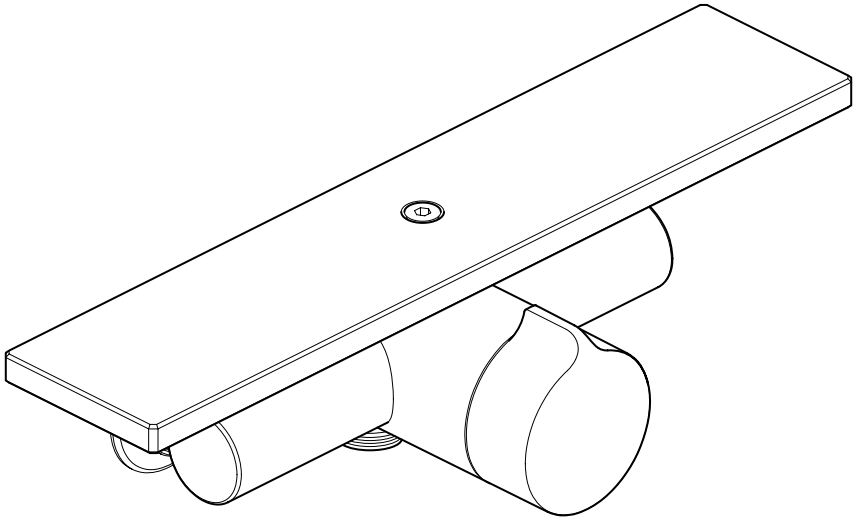


# ***mira***



## **SHOWERS**



MIRA BIJOU AND MIRA ORDO

THERMOSTATIC MIXERS

INSTALLATION & 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 Bijou and Mira Ordo are thermostatic mixing valves with a single control knob for on/off and temperature control.

The Mira Bijou has a 300 mm clear glass storage shelf and is supplied complete with Mira L14A Shower Fittings.

The Mira Ordo has a 235 mm black glass storage shelf and is supplied complete with Mira Energise Shower Fittings.

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.

These products have been certified as Type 2 valves under the BUILDCERT TMV2 scheme. These products 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 Kohler Mira Ltd. Our contact details can be found on the back cover of this guide.

## Guarantee

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

For **non-domestic installations**, Mira Showers guarantee the Mira Bijou and Mira Ordo 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, 2 340 210, 2 392 225,  
2 421 297

France: 0 694 721

Germany: 695 13 455.8

Euro: 1 672 257 DE, FR, GB, IT, NL, SE

USA: 7 240 850

### Patent Applications:

Euro: 03254070.0

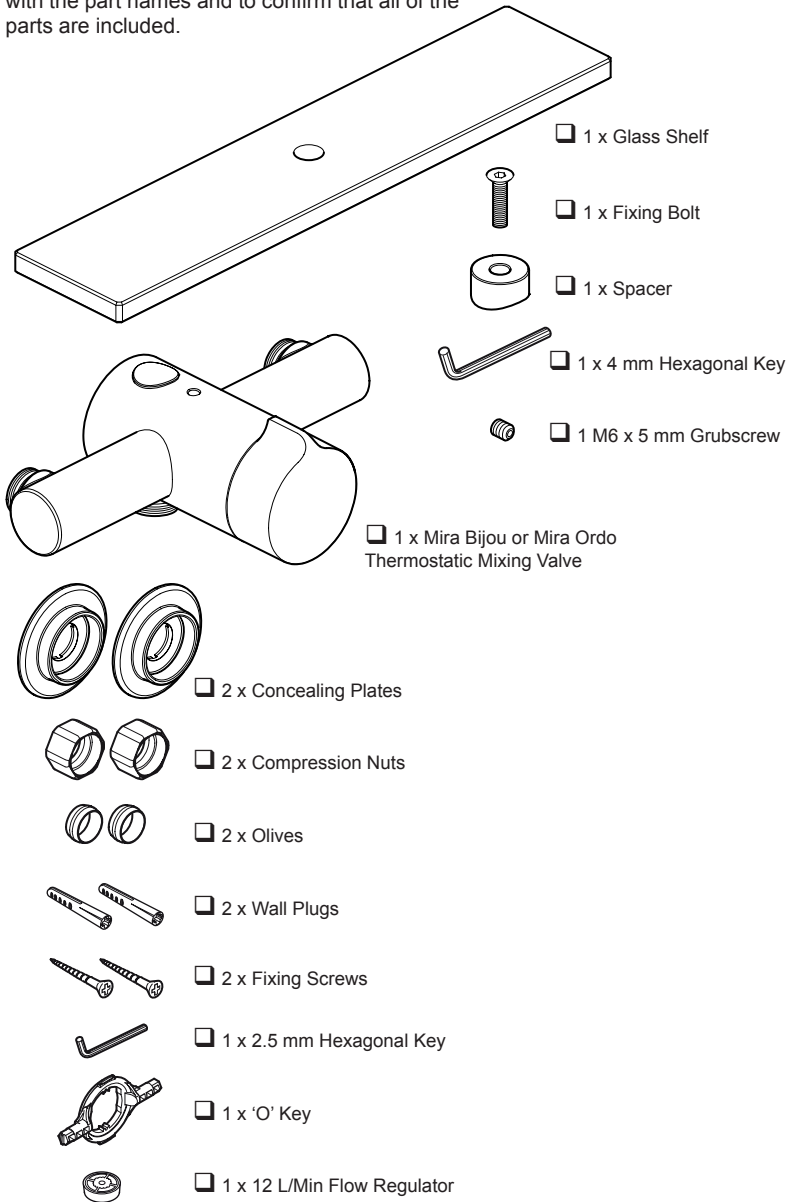
USA: 2006-0124758-A1, 2007-0221740-A1

### Design Registration:

000882022-0001,0002

# PACK CONTENTS

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



## Documentation

- 1 x Guarantee Registration Document
- 1 x Installation Template

## 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 the manufacturer's recommendations.
2. 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.

## 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 shower handset outlet.)  
**Note!** For gravity fed / other low pressure systems (0.5 bar or below) do not fit the outlet flow regulator.
- 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**.

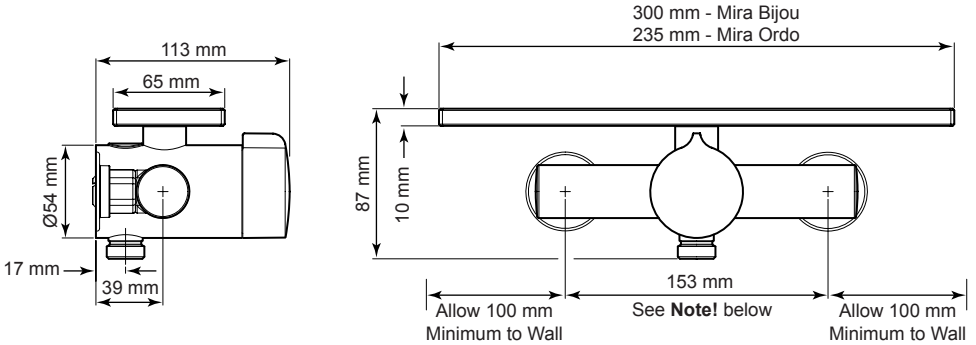
### Thermostatic Shut-down

- 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: ½" BSP Flat Face.
- Standard connections are: **hot - left, cold - right, outlet - bottom**.

## Dimensions



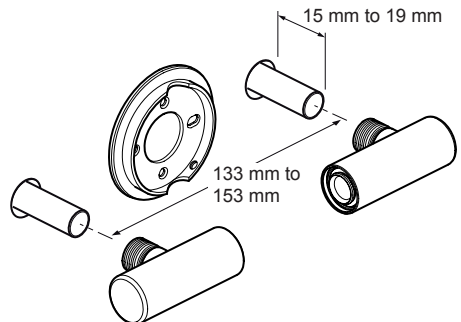
**Note!** If you are retro-fitting your mixing valve onto existing pipework, an **Adjustable Elbow Pack** is available if required, refer to section: 'Accessories'.

## ACCESSORIES

### 1663.012 Adjustable Elbow Pack:

This comprises extendable elbows and an adjustable backplate. It is designed to allow the mixing valve to be retro-fitted onto pipework extending 15 mm to 19 mm from the finished wall surface, and with pipe centres of between 133 mm and 153 mm.

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



# 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.

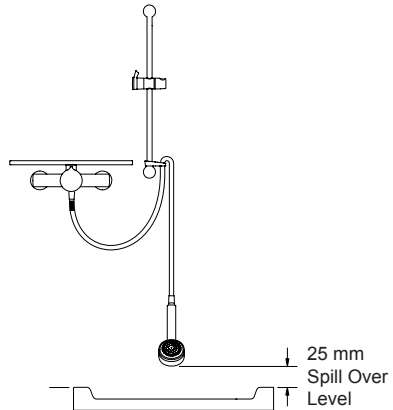
The installation must comply with the "Water Supply Regulations 1999 (Water Fittings)" or any particular regulations and practices, specified by the local water company or water undertakers.

**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.

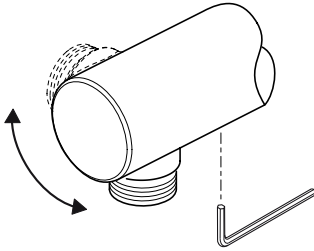


## Installing the Thermostatic Mixer

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

**Important!** Make sure that the elbows are pushed fully onto the mixer before tightening the grub screws.

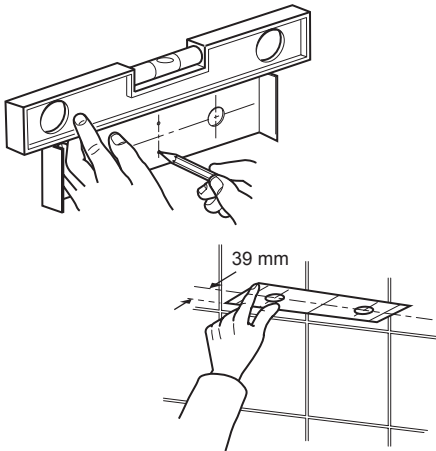
**Caution!** Do not overtighten the grub screws.



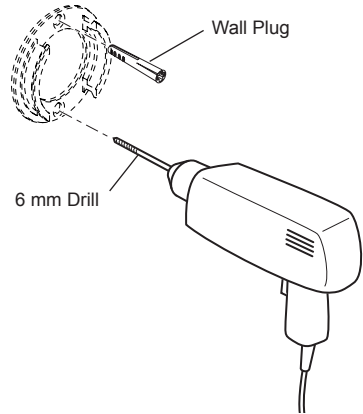
2. Use the installation template to mark the positions of the holes for the backplate and the pipe centres.

For rising supplies the pipe positions should be set 39 mm from the centre of pipe to the finished wall at 153 mm centres.

**Note!** If you are retro-fitting your mixing valve onto existing pipework, an **Adjustable Elbow Pack** is available if required, refer to section: 'Accessories'.



3. For solid walls drill the holes for the backplate with a 6 mm drill and insert the wall plugs (supplied). For other types of wall structure alternative fixings may be required (not supplied).



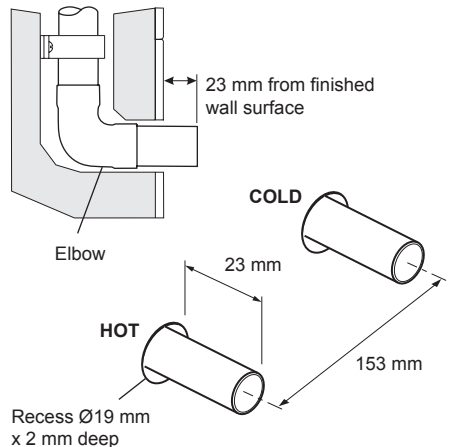
4. **For Rear Entry Supplies Only:**

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

**Note!** Recess the inlet holes  $\text{Ø}19 \text{ mm}$  x 2 mm deep to allow for the concealing plates.

5. Fit the supply pipework: **Hot - Left, Cold - Right**. The inlet pipework should extend 23 mm from the finished wall surface.

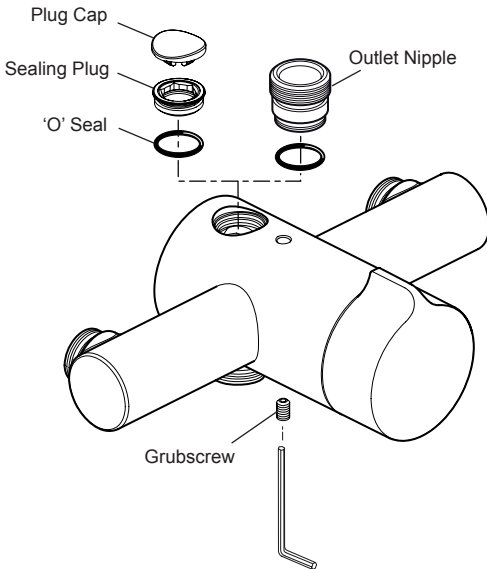
**Note!** If it is not possible to install the mixer with this pipework configuration follow instruction 6.



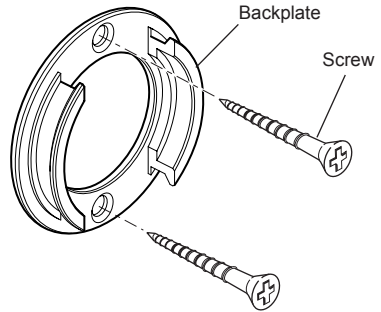


## 6. Reversed Inlet Supplies Only:

- a) Using a suitable tool, carefully remove the plug cap from the centre of the sealing plug to reveal keyway.
- b) Remove the sealing plug using the 'O' key (supplied) or a 12 mm hexagonal key.
- c) Remove the outlet nipple using the 'O' key (supplied) or a 12 mm hexagonal key.
- d) Refit the sealing plug and outlet nipple in the opposite outlets and tighten.  
**Note!** Make sure that the 'O' seals are correctly fitted.
- e) Remove the grub screw using a 3 mm hexagonal key (not supplied) and fit in the opposite side of the mixer body.
- f) Rotate the mixer 180°.
- g) The control knob will have to be realigned, i.e. removed and turned through 180°, this can be completed after commissioning.

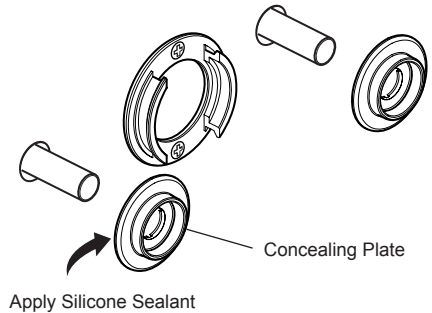


7. Remove the backplate from the mixer by loosening the grub screw with a 2.5 mm hexagonal key (supplied).
8. Secure the backplate to the wall using the screws (supplied).



## 9. For Rear Entry Supplies Only:

- a) Fit the concealing plates over the inlet pipes.  
**Note!** Apply silicone sealant to the back face of the flange.

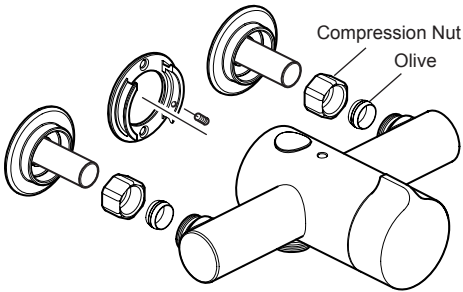


10. **Caution!** It is essential at this point that the supply pipework is thoroughly flushed through before connection to the mixer. Failure to do so may result in product malfunction and will not be covered under the guarantee.

11. Fit the compression nuts and olives onto the pipework.
12. Align the mixer with the pipework and fit onto the backplate.
 

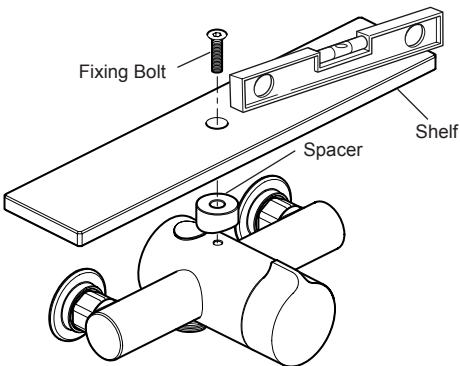
**Important!** Make sure that the hot and cold inlets on the mixer correspond with the hot and cold inlet supplies.
13. Tighten the compression nuts onto the mixer with a suitable spanner.
 

**Caution!** Take care not to damage the chrome surfaces.
14. Tighten the grub screw to secure the mixer to the backplate.



15. Fit the spacer and shelf onto the mixer. Use a spirit level to make sure that the shelf is level and tighten the fixing bolt using a 4 mm hexagonal key (supplied).
 

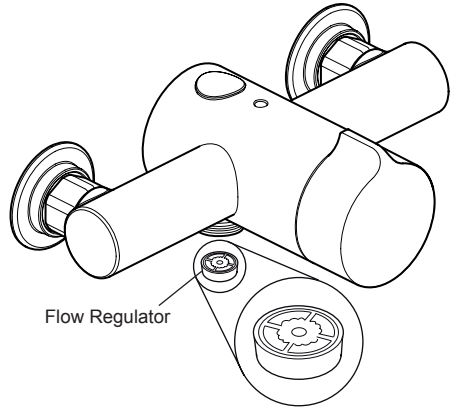
**Caution!** Do not overtighten.



16. Fit the shower fittings, refer to your shower fittings installation and user guide for instructions.

**Note!** For user comfort on high pressure systems, a 12 litre/minute flow regulator (supplied) can be fitted inside the outlet nipple. Make sure that the flow regulator is fitted correctly (refer to illustration).

**Important!** The fitting of this flow regulator will invalidate any TMV2 compliance due to the minimum flow rate requirements, **do not** fit the flow regulator in these applications.



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

# 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.

**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 mixer to the maximum temperature and maximum flow (i.e. fully anticlockwise) and allow the temperature to stabilise.

If the temperature is too hot or too cold adjust as follows:

2. Carefully remove the concealing cap from the control knob.

3. Loosen the control knob grub screw with the 2.5 mm hexagonal key (supplied) and pull off the control knob.

4. Unscrew the hub retaining screw with a 2.5 mm hexagonal key.

**Note!** Do not remove the hub.

5. Insert the 2.5 mm hexagonal key into the centre of the spindle and engage with the recessed temperature adjusting screw.

6. Rotate the hexagonal key until the required maximum temperature is obtained at the shower. Rotate anticlockwise to increase the temperature, or clockwise to decrease the temperature (¼ turn = approximately 1°C).

7. Once the desired maximum blend temperature has been achieved turn off the mixer by rotating the hub fully clockwise.

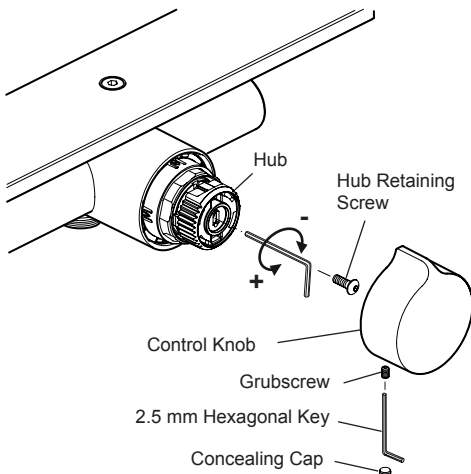
**Note!** Do not remove the hub.

8. Refit the hub retaining screw.

9. Refit the control knob with the grub screw at the bottom and retighten the grub screw.

10. Refit the concealing cap.

11. Check that the shower temperature is correct.

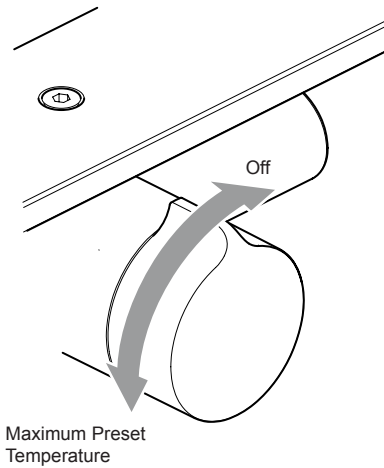


## OPERATION

The **Mira Bijou** and **Mira Ordo** are thermostatic mixing valves which have a single sequential control knob for on/off and temperature control.

The control knob operates anti-clockwise in the following sequence:

- Off
- On
- Cold
- Warm
- Maximum Preset Temperature



## USER MAINTENANCE

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**'.*
- 

#### 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: '**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.*

### 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.

### In-service Tests

The principal means for determining the continuing satisfactory performance of the mixing valve is the in-service test.

Follow the procedure detailed in the flow diagram "In-service Test Procedure".

#### Frequency of In-service Tests - Commercial (non-domestic installations)

Check for correct blend setting every 6 months.

Follow the procedure detailed in the flow diagram "In-service Test Procedure", every 12 months.

# TYPE 2 VALVES

## Application

The approved designations for Type 2 Valves are as follows:

Models	Designation
Mira Bijou, Mira Ordo	LP-S, HP-S

The permitted application details are:

Designation	Operating Pressure Range	Application	Mixed Water Temp <sup>†</sup>
LP-S	Low Pressure	Shower	41°C Max
HP-S	High Pressure	Shower	41°C Max

<sup>†</sup> Mixed water temperature at discharge point.

**Important!** For TMV2 installations the mixed water temperature at the discharge point should never exceed 46°C.

In order to achieve the safe water temperatures expected of a Type 2 Valve it is essential that the valve is used only for the applications covered by its approved designations, with the appropriate water supply pressures and temperatures, and it is commissioned, maintained and serviced in accordance with the recommendations contained in this guide (refer to the section '**Maintenance, In-Service Tests**' for in service test frequency that must be used as a minimum guide in Type 2 installations).

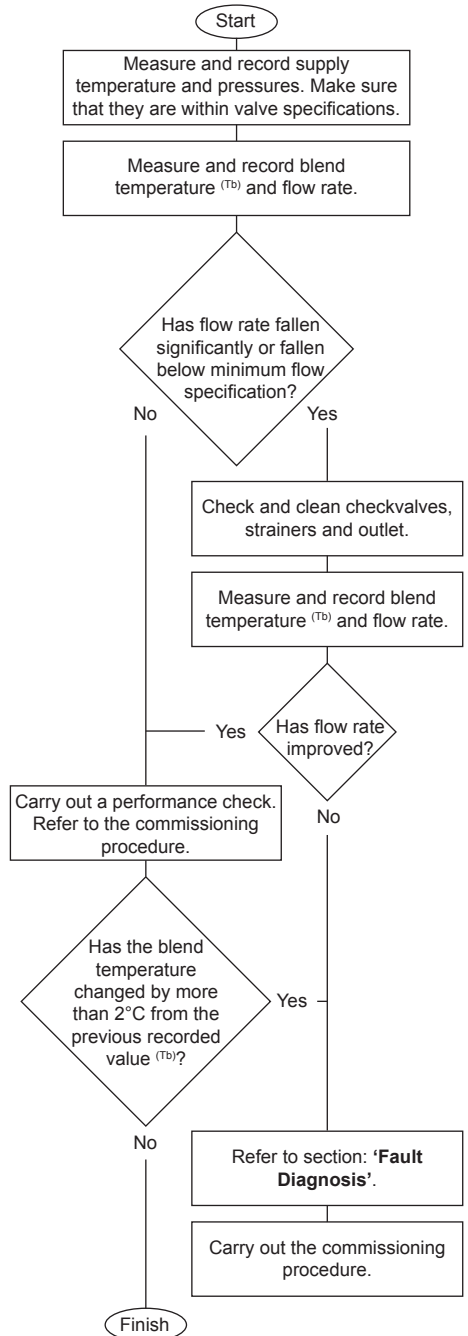
## Supply Conditions

For applications where a Type 2 Valve is required, the supply conditions must comply with the values in the Table below. Note that both hot and cold supply pressures must lie within the same pressure range.

Operating Pressure Range	High Pressure	Low Pressure
Maximum Static Pressure (bar)	10	10
Maintained Pressure, Hot and Cold (bar)	1 to 5	0.2 to 1
Hot Supply Temperature (°C)	55 to 65	55 to 65
Cold Supply Temperature (°C)	≤25	≤25

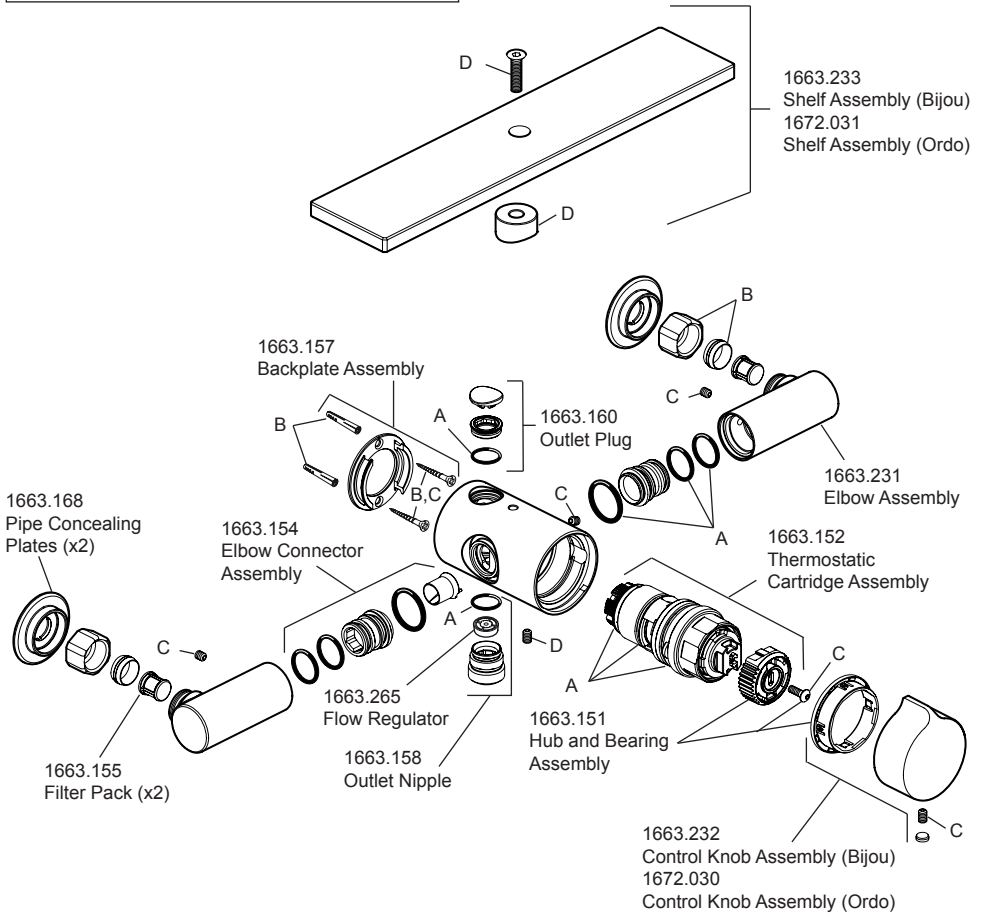
Valves operating outside these conditions cannot be guaranteed to operate as Type 2 Valves.

## Flow Diagram, In-service Test Program



**Note!** All measurements and results should be recorded in the Log Book.

# SPARE PARTS



- 1663.159 Seal Pack - components identified 'A'
- 1663.161 Component Pack (valve) - components identified 'B' (also includes 2.5 mm hexagonal Key)
- 1663.162 Screw Pack - components identified 'C'
- 1663.234 Component Pack (shelf) - components identified 'D'

**Note!** All spare parts supplied individually unless stated otherwise.

# CUSTOMER SERVICE

## Guarantee of Quality

Mira Showers guarantee your product against any defect in materials or workmanship, provided that it is installed and maintained in accordance with the instructions given in this guide.

To validate the guarantee, please return your completed registration card within 30 days of product installation.

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

To be free of charge, service work must only be undertaken by Mira Showers or our approved agents.

Service under this guarantee does not affect the expiry date of the guarantee.

The guarantee on any exchanged parts or product ends when the normal product guarantee period expires.

### Not covered by this guarantee:

Planned maintenance, or replacement parts required to comply with the servicing requirements of the TMV 2 and TMV 3 healthcare schemes (where applicable).

Damage or defects arising from incorrect installation, improper use or lack of maintenance, including build-up of limescale.

Damage or defects if the product is taken apart, repaired or modified by any persons not authorised by Mira Showers or our approved agents.

This guarantee is in addition to your statutory and other legal rights.

## What to do if something goes wrong

If when you first use your shower, it doesn't function correctly, first contact your installer to check that installation and commissioning are satisfactory and in accordance with the instructions in this manual. We are on hand to offer you or your installer any advice you may need.

Should this not resolve the difficulty, simply contact our Customer Services Team who will give every assistance and, if necessary, arrange for our service engineer to visit. If the performance of your shower declines, consult this manual to see whether simple home maintenance is required. Please call our Customer Services Team to talk the difficulty through, request a service under guarantee if applicable, or take advantage of our comprehensive After-Sales service.

As part of our quality and training programme calls may be recorded or monitored.

Our Customer Services Team is comprehensively trained to provide every assistance you may need: help and advice, spare parts or a service visit.

## Spare Parts

We maintain an extensive stock of spares and aim to provide support throughout the product's expected life.

Genuine Mira spares can be purchased direct from Customer Services or from approved stockists or merchants (locations on request).

Spare parts will normally be despatched within two working days. Payment can be made using most major Credit or Debit cards at the time of ordering. Should payment by cheque be preferred, a pro-forma invoice will be sent.

All spares are guaranteed for 12 months from date of purchase. Spares that have been supplied directly from us can be returned within one month from date of purchase, providing that they are in good order and the packaging is unopened.

**Note!** Returned spares will be subject to a 15% restocking charge and authorisation must be obtained before return. Please contact our Customer Services Team.

**Note!** In the interests of safety, spares requiring exposure to mains voltages must only be fitted by competent persons.

## Service / Repairs

Our Service Force is available to provide a quality service at a reasonable cost. You will have the assurance of a Mira trained engineer/agent, genuine Mira spare parts and a 12 month guarantee on the repair.

Payment should be made directly to the engineer/agent who will accept most major Credit or Debit cards or a cheque supported by a banker's card.

## To Contact Us

England, Scotland, Wales and Northern Ireland

### Mira Showers Customer Services

Telephone: 0870 241 0888, Mon to Fri 8:00 am - 5:30 pm  
Sat 8:30 am - 3:30 pm

E-mail: [technical@mirashowers.com](mailto:technical@mirashowers.com)

Fax: 01242 282595

By Post: Cromwell Road, Cheltenham,  
Gloucestershire, GL52 5EP

## Eire

### Modern Plant Ltd (Dublin)

Telephone: 01 459 1344, Mon to Fri 9:00 am - 5:00 pm

E-mail: [sales@modernplant.ie](mailto:sales@modernplant.ie)

Fax: Dublin 01 459 2329

Post: Otter House, Naas Road,  
Clondalkin, Dublin 22

### Modern Plant (Cork)

Telephone: 021 496 8755, Mon to Fri 9:00 am - 5:00 pm

E-mail: [cork@modernplant.ie](mailto:cork@modernplant.ie)

Fax: 021 496 8607

Post: Tramore Road, Cork



5 013181 039818 >

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The company reserves the right to alter  
product specifications without notice.

[www.mirashowers.com](http://www.mirashowers.com)

**mira**  
SHOWERS



FM 14648