mira 722 series thermostatic mixing valves

INSTALLATION ADVICE
Installer. This leaflet is the property of the customer and must be left with the user.

Important Points
In the UK, hot and cold supplies MUST originate from a cold water cistern and must NOT be connected directly to the cold water main.

Certain types of instantaneous water heaters can be used, but we must first be consulted. There is an approved layout which must be followed. All information necessary is available on request.

Pressures
Minimum static to discharge point e.g. spray head 9kPa (3ft head). *The absolute minimum head is 2ft. In such cases short pipe runs must be used and good plumbing practice followed. Under these conditions the flow rate will be approximately 3.5 litres per minute (and the performance of thermostatic controls could be slightly impaired). Maximum static 825 kPa (120lbf/in²).

Note: Minimum pressures with minimum pipe runs requires vertical distance from bottom of cold cistern to discharge point to be 0.92m (3ft). Due allowance must be made for longer pipe runs.

Where hot and cold pressures are unequal the ratio between them must not exceed 5:1 e.g. higher pressure must not be more than five times lower pressure.

Layout and sizing of pipework must be such that when other services are used, pressures at inlets do not fall below recommended minimum.

Supply lines should be flushed until water is clear, before mixing valve is connected.

Where insufficient pressure exists, or a more forceful spray required, certain types of pumps can be used, but we must first be consulted. There is an approved layout which must be followed. All information necessary is available on request.

Connections Inlets/outlet: ½ in BSP
Connect HOT water to inlet marked RED and COLD water to inlet marked BLUE. Connections, when facing mixing valve, are hot left, cold right.

Installation. Mira 722, 722L, 722E
1. Backplate (055 08) is attached to base by bayonet type fitting. Turn to remove (Figure 1). Fix backplate to wall using wall screws (611 37) provided, with guide lines vertical or horizontal (Figure 1). Re-fit base to backplate.

2. Refer Connections within Important Points before connecting supplies. Assemble inlet union elbow fittings as shown in Figure 2. Where pipe concealing plates are used, guide these over elbow threads. Hold back firmly on mixing valve when tightening inlet connections.

3. Check position of outlet, if necessary re-position drain plug.

4. Shower Fittings
Where being installed, refer separate leaflet P1069/3 ‘Shower Fittings’.

1. Supplied with additional fittings so that it can be built into a wall, including a building in shroud for protection and guidance during installation and wall finishing.

2. The DEPTH of concealment MUST be such that the FINAL wall face (plaster, tiles, etc.) rests on the RIDGE width of the building in shroud (Figure 5).

3. When wall has been chased out to correct depth (Figure 3), remove shroud. Keep shroud for later use.

4. Back plate (052 09) is attached to base by bayonet type fitting. Turn to remove (Figure 1). Fix back plate in recess using wall screws (611 37) provided, with guide lines vertical or horizontal (Figure 4). Re-fit base to back plate.

5. Supplies
Check position of outlet; if necessary re-position drain plug. Connect HOT water to inlet marked RED. Connect COLD water to inlet marked BLUE. Support inlet pipes rigidly. Hold back firmly on mixing valve when tightening inlet connections.

722 (exposed) valves are being supplied as bottom outlet, with the drain plug in the top.
722B (concealed valves are being supplied as top outlet with drain plug in bottom.

Always connect HOT water to RED inlet, COLD water to inlet marked BLUE.

The drain plug can be re-positioned to obtain the correct outlet position. REFER TO CHART BELOW.

Shower Fittings. Refer separate leaflet P1069/3

Flow control is incorporated in the mixing valve, eliminating the need for check valves on the inlets. No form of flow control should be fitted on the outlet.

Conveniently situated isolating valves for servicing purposes should be fitted.

Installations must comply with requirements of local water authority by-laws.

Mira 722L, 722LB (low capacity) also Mira 722E, 722EB (lever action) models are installed similarly as described for Mira 722, Mira 722B models.

6. Shower Fittings
Where being installed, refer separate leaflet P1069/3 ‘Shower Fittings’.

7. Re-fit shroud, hold in place by re-fitting shroud transit screw (Figure 5).

8. Plaster and tile up to sides to shroud, so that FINAL wall face rests on the RIDGE width of the building in shroud. When set, remove shroud transit screw and remove shroud or cut around it at wall surface.
9. Fit nameplate and flow control knob bolt (supplied loose in fittings packet). Angle mounting bracket assembly (075 06) over temperature regulating lever and attach to back plate with bracket screws (060 90), so that its plastic ends are 'left and right' not 'top and bottom' (Figure 6). Do not overtighten screws.

10. Angle-concealing plate (076 01) over temperature regulating lever and locate it in position on mounting bracket (Figure 6). Then press so it snaps into position.

**Panel Mounting. Mira 722B, 722LB and 722EB**

1. Suitable for fitting into panels up to 10mm (3/8in) thick.
2. The building in shroud is not used when panel mounting, so remove and discard this part.
3. Cut panel to dimension shown in (Figure 8).
4. Remove back plate (052 09) (Figure 1) and fit to clamping bracket (118 72) with clamping bracket screws (609 78) and nuts (621 30) (Figure 8), which are available as optional extras.
5. Feed the mixing valve through the panel hole, from the back, and connect inlet supplies.
6. Supplies
   - Connect Hot water to inlet marked RED.
   - Connect COLD water to inlet marked BLUE.
   - Hold back firmly on mixing valve when tightening inlet connections. Note: It is essential that inlet and outlet pipes are rigidly supported.
7. Check position of outlet, if necessary re-position drain plug.
8. **Shower Fittings**
   - Where being installed, refer separate leaflet 1069/3 'Shower Fittings'.
9. Fit mounting bracket assembly (075 06) and concealing plate (076 01) as described within Installation Mira 722B, 722LB and 722EB, paragraphs 9 and 10.

**Clamping bracket**

**Clamping bracket screws and nuts**

**Operation and Maintenance Advice (including G72 Series)**

**Operation**

Turn flow control knob anti-clockwise until desired force of water is obtained.

Turn temperature regulating assembly lever until desired temperature of water is obtained.

Maximum temperature of water at discharge point can be regulated so that water at too high a temperature is not obtained at discharge point e.g. spray head.

To check maximum temperature. Ensure an adequate supply of HOT water is available at a temperature in excess of that required from the mixing valve, turn on flow control and move lever to position 5.

Check temperature with thermometer at discharge point. For shower use, recommended temperature setting is approximately 40°C (110°F).

**Re-setting Maximum Temperature**

Remove flow control knob bolt (610 80), nameplate and flow control knob (039 09). Unscrew 2 attachment screws (602 26) and remove temperature regulating assembly (800 01) from cover (Figure 9).

Grip larger protruding spline by hand, rotating it (clockwise) to increase temperature (anti-clockwise to decrease temperature) until desired maximum temperature is obtained at discharge point.

Set lever on scale to position 5 (Figure 10). Hold in this position and replace onto cover, aligning attachment screw holes with 2 holes in cover. Replace attachment screws, do not overtighten.

Replace flow control knob, nameplate and bolt.

**Maintenance**

If a new mixing valve fails to operate satisfactorily it is usually the result of incorrect installation and the installer should be consulted. The Diagnosis Chart which follows will assist you in identifying the reason why your new mixing valve is not operating satisfactorily.

Refer **Important Points** within Installation Advice for conditions within which mixing valve should be installed.

If the mixing valve has operated satisfactorily for a time and no longer gives satisfaction, it is possible that service is necessary. Please note that the internal parts should be kept clean and such work is not included within the guarantee. The Servicing Procedures advice which follows will assist you in the method of maintenance. Our experience has shown that due to the simplicity of design, the average user is capable of cleaning the internal parts, replacing seals, or if necessary, fitting a replacement cartridge assembly.

You may, if you wish, choose to engage the services of a suitably qualified person locally.

**Gold Plated Products**

Gold is softer than chrome and its abrasive resistance much less. When cleaning, or using tools during servicing, extra care should be taken.

**Cleaning**

Gold plated fittings should be cleaned with a soft cloth and if necessary a mild washing up detergent or soap solution and then rinsed and rubbed dry.

**Warning**

Many modern household cleaners contain mild abrasives, as well as chemicals and should never be used for cleaning gold, or chrome plated fittings.

**Servicing Procedure**

Refer Figure 13 below for identification of parts and sequence of assembly.

**Concealed models (722B & G72B). Remove concealing fittings.**

722B—Prise off concealing plate (from centre, not ends). Unscrew bracket screws and lift off assembly mounting bracket (Figure 11).

G72B—Unscrew adjusting screws and lift off concealing plate (Figure 12).

**Dismantling — All models**

1. Turn off water supplies to mixing valve. Open flow control to release built-up pressure, then remove flow control knob bolt, nameplate and flow control knob.
2. Unscrew 2 attachment screws and pull or prise off temperature regulating assembly.
3. Unscrew 4 cover screws and pull off cover. Do not lose cover joint, invariably found stuck in recess of base. Push out thermostat assembly from cover or remove from position on port assembly.
4. Lift outside spring of flow control spindle (‘E’ models only).
5. Slacken off head assembly with an adjustable spanner.
6. Pull off port sleeve from port assembly. (If stuck, wrap a piece of cloth around sleeve to assist removal. Do not resort to use of metal grips.) Pull port assembly from base. If necessary, as an extra grip, replace control knob and bolt onto flow control spindle.
7. Totally remove head assembly and screw out flow control spindle.

Cleaning/Replacement of Parts

8. Parts may be cleaned using a proprietary inhibited scale solvent e.g., Kettle descalent. Note: Care must be taken not to allow solvent to come into contact with bathroom fittings and surfaces.

9. Check that lugged actuator within retaining ring of thermostat coil is free to move.

10. Polish mating surfaces of port pillar and sleeve with metal polish e.g., Brasso.

11. Check all seals and replace if necessary. Remove seals by cutting with razor blade or sharp knife. Do not damage seal grooves. Lightly smear all seals, also threads of spindle with petroleum jelly or similar grease. Sets of seals in packaged form (935 15) are available direct from Service Department.

12. If the cartridge assembly is beyond repair, please contact Walker Croswellier's Service Department by letter or telephone for the current price of a replacement cartridge assembly. Please be sure to quote the nameplate details of the mixing valve. Also refer to (Figures 14, 15 & 16) for assistance in correct identification of cartridge assemblies.

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Diagnosis Chart

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Possible Reason</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hot water supplied by the mixing valve when the temperature control is in the cold position or vice versa.</td>
<td>Mixing valve installed with hot water connected to the cold water inlet. Hot water should normally be connected to left inlet when facing unit.</td>
<td>Request installer to investigate and rectify. (Also refer 'Reversed Inlets')</td>
</tr>
<tr>
<td>Only cold and warm water obtainable with a high pressure spray in the cold position and a lower pressure spray in the warm position.</td>
<td>Cold water inlet fed directly from cold water mains supply. Both hot and cold supplies should originate from the cold water cistern.</td>
<td>Request installer to investigate and rectify.</td>
</tr>
<tr>
<td>Mixing valve operates satisfactorily until other domestic services are brought into use.</td>
<td>As the thermostat compensates for normal variations in pressure, it is likely that the plumbing design is such that excessive reductions in pressure are occurring.</td>
<td>Request installer to investigate and rectify.</td>
</tr>
<tr>
<td>Leaks from shower fittings of pipework.</td>
<td>Unions or joints require tightening.</td>
<td>Request installer to rectify.</td>
</tr>
<tr>
<td>Persistent leak from shower head (not to be confused with dripping which can occur for a while after shower has been in use).</td>
<td>Seals have become damaged by foreign matter in water supplies.</td>
<td>A set of seals with instructions may be purchased. If leak continues, fit a replacement cartridge assembly.</td>
</tr>
</tbody>
</table>
Symptom: Flow of water from the shower head is insufficient for satisfactory use.

Possible Reason: Minimum pressure requirements not observed. Vertical distance from bottom of cold water cistern to shower head should be 3ft minimum.

Spray plates are blocked by foreign matter in water supply.

Partial blockage or airlock in pipework.

Shower head in use (not of our manufacture) unsuitable for low pressures.

Action: Request installer to investigate and rectify.

Remove and clean spray plates by brushing out flutes.

Request installer to investigate and rectify.

Fit shower head of our manufacture.

Temperature satisfactory at first but fails before the shower is completed.

Possible Reason: Hot water storage temperature is not maintained. The mixing valve must be supplied with hot water which is always well in excess of the mixed temperature required.

Action: Ensure hot water storage temperature is adequately maintained, preferably at least 20°C above the showering temperature.

Maximum temperature obtainable is either too high or too low.

Possible Reason: Maximum temperature requires re-setting.

Action: Re-set the maximum temperature by following the instructions on page 3.

No temperature control after period of satisfactory use.

Possible Reason: Build up of deposits on internal parts.

Action: Clean internal parts - refer ‘Servicing Procedure’.

Identification of Cartridge Assemblies

The cartridge assembly is the combined port and thermostat assemblies, which are supplied for user service as a complete replacement cartridge assembly.

Cartridge assemblies for Mira 722 Series can be used for G72 Series thermostatic mixing valves. If ordering other spare parts for G72 with the exception of as below, order as for Mira 722 Series.

Important. When ordering a replacement cartridge assembly be sure to quote the nameplate detail of the mixing valve. Refer Figures 14, 15 and 16 which illustrate the differences between standard, low capacity (L) and lever action (E) cartridge assemblies. Identity of the removed cartridge assembly can be checked from Figures 14, 15 and 16.

Note. Thermostatic assemblies are common to standard, low capacity (L) and lever action (E) models. Figures 14, 15 and 16 illustrate the port assemblies only and identify the differences.

Parts List

When ordering spare parts quote, type of mixing valve, code number and name of component.

001 01 Cover
003 03 Base
030 17 Union elbow (2)
039 00 Flow control knob
041 02 Flow control lever (722E)
044 60 Nameplate (722)
044 61 Nameplate (722E)
044 62 Nameplate (722M)
044 63 Nameplate (722L)
050 01 Inside spring (722E)
050 02 Outside spring (722E)
052 09 Backplate
055 08 Backplate
064 01 Conical plate
068 00 Drain plug
069 01 Pipe concealing plate (2)
556 17 Nipple adaptor (2)
606 26 Screw - attachment (2)

Standard Models (902 21)

Square ports (722, 722B, G72 & G72B)

Low capacity (L) models (902 23)

Triangular ports (722L, 722LB, G72L & G72LB)

G72 Series Spares Only

(1) and lever action (E) models (902 25) 722E, 722EB, G72E & G72EB

Models

Cartridge assembly (722 reversed)
Cartridge assembly (722L, 722M)
Cartridge assembly (722L, 722LB)
Cartridge assembly (722E, 722EB)

Cartridge assembly (722L, 722LB, G72L & G72LB)

Cartridge assembly (722E reversed)

Cartridge assembly (722E, 722EB)

All G72 models

001 01 Cover
003 01 Body
610 07 Cover screws (4)

Cartridge assembly (722LB, G72LB)

Nameplates

043 01 Nameplate (722, G72B)
043 02 Nameplate (722L, G72LB)
043 03 Nameplate (722E, G72EB)

* Refer Reversed Inlets below

Part numbers for complete replacement ‘reversed’ cartridge assemblies for Mira 722 or G72 Series are

Standard Models
902 22

Low Capacity Models
902 24

Lever Action Models
902 26

Reversed Inlets

REVERSED INLETS. (Refer item 1 of Diagnosis Chart). This can usually be corrected by crossing the inlet supplies at a convenient point e.g. in the roof space. If this is not possible, a ‘reversed’ cartridge assembly is obtained from Service Department, identified by the absence of the ridge mid-way on the port sleeve.

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