Installation

1. Install valve in a location where it may be easily cleaned, adjusted or repaired.

2. Inlets are clearly marked on valve body casting. Connect hot water to inlet marked “HOT” and cold water to inlet marked “COLD.”

3. Included angle checkstops must be installed on both supply lines.

4. Use solder or pipe cement sparingly. Flush supply pipes before connecting valve. Flush outlet pipe and valve once valve is connected.

Maximum operating pressure is 125 PSI (860 KPA) for hot and cold water. Maximum hot to cold water pressure differential is 5%.

Note: Should piping be exposed to excessive hot or cold conditions, it may be necessary to insulate piping to prevent freezing or scalding water.

IMPORTANT: THESE SYSTEMS ARE DESIGNED TO PROVIDE MIXED WATER FROM 60 TO 90°F (15 TO 32°C) FOR EMERGENCY EQUIPMENT APPLICATIONS ONLY IN ACCORDANCE WITH ASSE 1071.

Note: Please provide valve serial number (stamped on cover of valve) when ordering parts.
Adjustment and Service
Guardian thermostatic mixing valves may be easily cleaned, adjusted and repaired. Servicing may be possible without disconnecting valve.

To Reset Adjustable High Temperature Limit Stop:

1. Loosen set screw. Remove snap cap, pointer screw, washer, and pointer.
2. Activate emergency fixture.
3. Temporarily place pointer on pointer rod and turn handle to the left, allowing cold water to flow. Then, slowly adjust handle to the right until the required maximum temperature is reached. Note: Temperatures above 90°F are not recommended. Consult a medical advisor for correct temperature settings.
4. Once maximum temperature has been reached, remove pointer and replace on pointer rod such that its right edge rests against the stop screw located on the right side of the cover.
5. Tighten set screw and replace washer, pointer screw, and snap cap. Hold a thermometer under water flow to verify maximum temperature has been set appropriately. Then set desired operating temperature.

Troubleshooting

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Component Type</th>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leak at pointer rod.</td>
<td>Packings and Gaskets</td>
<td>MU-5A</td>
<td>O-Ring</td>
</tr>
<tr>
<td>Leak between valve cover and body.</td>
<td>Packings and Gaskets</td>
<td>TM-21/50</td>
<td>Flange Packing</td>
</tr>
<tr>
<td>Valve outlet temperature will not mix consistently.</td>
<td>Port Sleeve Assembly</td>
<td>TGM-1/50M or RK3800A</td>
<td>Port Sleeve Assembly or Repair Kit</td>
</tr>
<tr>
<td>After cleaning or replacing port sleeve assembly, valve will not hold temperature.</td>
<td>Thermostat Group</td>
<td>TGM-2/50 or RK3800A</td>
<td>Thermostat Group or Repair Kit</td>
</tr>
<tr>
<td>Hot water bypass into cold line.</td>
<td>Checkstops</td>
<td>RK3800B</td>
<td>Checkstop Kit</td>
</tr>
<tr>
<td>Supplies cannot be shut off completely.</td>
<td>Checkstops</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leak at checkstop bonnet.</td>
<td>Checkstops</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If installed on a circulated hot water system, verify the valve is piped according to Required Piping Method on page 3.

See page 5 for complete parts breakdown and parts kits.

Note: This is a control system which must be cleaned and maintained regularly (see Maintenance Guide and Record card included with valve shipment).
**Required Piping Method**

Required when hot water must be circulated to a thermostatic mixing valve that is a substantial distance from the hot water source. Recommended hot water inlet temperature is 135°F (57°C).

![Diagram of G3800LF Thermostatic Mixing Valve](image)

- **G3800LF**
- **G3850LF**

This unit must be cycled each time the emergency equipment is inspected (See ANSI Z358.1, Maintenance and Training Section).

1. Set the thermostatic mixing valve to full hot. (primary thermostatic mixing valve on the G3850LF)
2. Activate emergency equipment and allow temperature to reach set point.
3. Turn (primary) thermostatic mixing valve to full cold and wait ten seconds.
4. Turn (primary) thermostatic mixing valve to full hot and wait ten seconds.
5. Verify outlet temperature does not exceed 90°F (32°C).
6. Turn (primary) thermostatic mixing valve to full cold and wait ten seconds.
7. If necessary, adjust high temperature limit stop (see page 2). Then set (primary) mixing valve to desired operating temperature and deactivate emergency equipment.

_The G3850LF Redundant Thermostatic Mixing Valve has been factory set at 90°F (32°C). This set point can be adjusted with a 3/8" wrench (see above). Twisting the adjustment screw clockwise will increase the temperature. Maximum set point is 100°F (38°C)._
**To Dismantle Valve:**
Shut off hot and cold water supplies to valve. Loosen set screw. Remove snap cap, pointer screw, washer, pointer and friction spring (see Figure 1). Remove cover screws and cover (thermostat and gears are attached to cover).

When reassembling, insert flange packing into valve body and replace cover and cover screws. Then replace friction spring, pointer, washer, screw, and snap cap.

After replacing parts, pointer must be reset. Refer to page 2 instructions “To Reset Adjustable High Temperature Stop.”

**To Clean Port Sleeve Assembly:**
Screw (twist) the check nut away from valve body towards port sleeve assembly. Then twist port sleeve nut away from port sleeve assembly (towards valve body) to release port sleeve and thimble (Figure 2).

Clean with non-corrosive agent and soft cloth. DO NOT USE ABRASIVES. Wash parts thoroughly after cleaning and reassemble.

Install port sleeve with elongated holes nearest the check nut and tighten port sleeve nut against port sleeve assembly. DO NOT OVERTIGHTEN. Tighten check nut against valve body. Driving ball on thermostat group should then be inserted into ball socket for final reassembly (Figure 1).

**To Replace Pointer Rod With Gear:**
Loosen set screw and remove snap cap, pointer screw, washer, pointer and friction spring (Figure 1). Remove cover screws and cover. Then remove coil sleeve stud and thermostat group. Replace pointer rod with gear, and reassemble.

**To Replace or Clean Thermostat Group:**
See “To Replace Pointer Rod with Gear” (above) to disassemble valve. Clean any collected deposits from thermostatic coil with brush and non-corrosive cleaning solution.
Thermostatic Mixing Valve Parts

Checkstop Parts

Repair Kits

Lockable Pointer (suffix “LTR”)

Notes:

1. After installing new parts, the adjustable high temperature limit stop must be reset (see page 2).

2. All G3800LF and G3850LF valves are furnished with lockable pointers.

Note: This is a control system which must be cleaned and maintained regularly (see Maintenance Guide and Record card included with valve shipment).
Flow Capacities

CAUTION: ALL THERMOSTATIC MIXING VALVES HAVE LIMITATIONS. THEY WILL NOT PROVIDE THE DESIRED ACCURACY OUTSIDE OF THEIR FLOW CAPACITY RANGE. CONSULT THE CAPACITY CHART AND DO NOT OVERSIZE. MINIMUM FLOW MUST BE NO LESS THAN SHOWN ABOVE.

IMPORTANT: THESE SYSTEMS ARE DESIGNED TO PROVIDE MIXED WATER FROM 60 TO 90°F (15 TO 32°C) FOR EMERGENCY EQUIPMENT APPLICATIONS ONLY IN ACCORDANCE WITH ASSE 1071.

Limited Warranty
Guardian Equipment warrants the original purchaser that its products will be free from defects in materials and workmanship under normal usage conditions, and when properly installed and maintained according to manufacturer’s instructions for a period of two years from date of shipment. During the warranty period, Guardian Equipment will (at its discretion) repair or replace any product or part thereof, which shall be returned, freight prepaid to Guardian’s factory and determined by the manufacturer to be defective in materials or workmanship. There are no warranties, expressed or implied, which extend beyond verbiage contained herein. There are no implied warranties of merchantability or fitness for a particular purpose. Guardian Equipment will not be held liable for labor, incidental or consequential damages. Any alteration or improper installation or improper use of the product will void this limited warranty.

Note: This is a control system which must be cleaned and maintained regularly (see Maintenance Guide and Record card included with valve shipment).