Watts LF-MMV-M1-UT

Watts LF-MMV-M1-UT Thermostatic Mixing Valve User Manual

Model: LF-MMV-M1-UT

1. Product Overview

The Watts LF-MMV-M1-UT is a 1-inch thermostatic mixing valve designed to precisely control water temperature. It features FPT (Female Pipe Thread) union connections and allows for an adjustable temperature range from 80 degrees to 120 degrees Fahrenheit, with a flow rate capacity of 0.5 to 12 GPM. This valve utilizes a solid wax hydraulic principle thermostat to ensure dependable mixing of hot and cold fluids, providing a consistent and safe mixed water temperature. It also incorporates integral check valves and filter washers to prevent cross-flow and restrict mixed water flow if the cold water supply is compromised, enhancing safety.

Figure 1: Watts LF-MMV-M1-UT Thermostatic Mixing Valve. This image displays the brass valve body with three ports and union connections, topped by a light-colored adjustment cap.

2. Safety Information

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Always follow local plumbing codes and regulations during installation and operation.

- Ensure all water supplies are shut off before installation or maintenance.
- Wear appropriate personal protective equipment (PPE) such as gloves and eye protection.
- Do not exceed the maximum operating pressure of 150 PSI.
- Verify that the mixed water temperature is safe for its intended application, especially in domestic hot water systems to prevent scalding.
- Installation should be performed by a qualified professional in accordance with all applicable codes.

3. Setup and Installation

Proper installation is crucial for the optimal performance and safety of the thermostatic mixing valve. Refer to the diagram below for typical installation orientation.

3.1 Pre-Installation Checks

1. Inspect the valve for any signs of damage.
2. Ensure all necessary plumbing fittings and tools are available.
3. Confirm the water supply lines (hot and cold) are clearly identified.

3.2 Installation Steps

1. **Shut off Water Supply:** Turn off the main water supply to the area where the valve will be installed.
2. **Drain Lines:** Open nearby faucets to drain residual water from the pipes.
3. **Connect Valve:**
    - Connect the hot water supply to the designated hot inlet (typically marked 'H' or 'HOT').
    - Connect the cold water supply to the designated cold inlet (typically marked 'C' or 'COLD').
    - Connect the mixed water outlet to the distribution system (typically marked 'M' or 'MIX').

    The valve features FPT union connections for ease of installation and removal.
4. **Secure Connections:** Use appropriate pipe sealant or PTFE tape on all threaded connections to ensure a watertight seal. Tighten connections securely but do not overtighten.
5. **Restore Water Supply:** Slowly turn on the main water supply and check for leaks.
6. **Purge Air:** Open faucets downstream to purge air from the system until water flows smoothly.

4. Operating Instructions

The Watts LF-MMV-M1-UT valve is designed for automatic temperature regulation. Once installed, its primary operation involves setting the desired mixed water temperature.

4.1 Temperature Adjustment

1. **Locate Adjustment Cap:** The valve has an adjustment cap on top.
2. **Adjust Temperature:** Rotate the adjustment cap to increase or decrease the mixed water temperature. A thermometer should be used at the point of use to verify the desired temperature.
3. **Verify Temperature:** Allow water to flow for a few minutes to stabilize the temperature before making final adjustments. The adjustable range is 80°F to 120°F.

The valve's internal thermostat automatically adjusts the hot and cold water flow to maintain the set temperature, even with fluctuations in supply pressures or temperatures.

5. Maintenance

Regular maintenance is generally not required for this thermostatic mixing valve under normal operating conditions. However, periodic checks can ensure continued optimal performance.

- **Annual Temperature Check:** It is recommended to annually verify the mixed water temperature with a thermometer to ensure it remains within the desired and safe range.

- **Inlet Strainers/Check Valves:** The valve includes integral filter washers and check valves. If flow issues or inconsistent temperatures occur, these components may need inspection and cleaning. This typically requires shutting off water, disassembling the union connections, and carefully removing and cleaning the screens/check valve components.
- **Leak Inspection:** Periodically inspect all connections for any signs of leaks. Address any leaks immediately.

6. Troubleshooting

Common Issues and Solutions

Problem	Possible Cause	Solution
Inconsistent Mixed Water Temperature	Fluctuations in supply pressure/temperature, clogged strainers, or valve malfunction.	Verify supply pressures are stable. Clean inlet strainers. If problem persists, valve may require professional inspection or replacement.
No Hot Water or Too Cold Mixed Water	Hot water supply issue, cold water cross-flow, or valve stuck.	Check hot water heater. Inspect check valves for proper function. Ensure valve is not stuck in cold position.
No Cold Water or Too Hot Mixed Water	Cold water supply issue, hot water cross-flow, or valve stuck.	Check cold water supply. Inspect check valves. Ensure valve is not stuck in hot position.
Reduced Flow Rate	Clogged inlet strainers or debris in the valve.	Shut off water, disassemble union connections, and clean inlet filter washers.
Leaks at Connections	Improperly tightened connections, damaged threads, or insufficient sealant.	Shut off water, re-apply pipe sealant/PTFE tape, and re-tighten connections. Replace damaged fittings if necessary.

7. Specifications

Attribute	Detail
Model Number	LF-MMV-M1-UT
Brand	Watts
Material	Brass
Inlet Connection Type	National Pipe Tapered (FPT Union Connections)
Nominal Size	1 inch
Adjustable Temperature Range	80°F to 120°F (26.7°C to 48.9°C)
Flow Rate	0.5 to 12 GPM (Gallons Per Minute)
Maximum Operating Pressure	150 PSI (10.3 bar)

Attribute	Detail
Number of Ports	3
Valve Type	Thermostatic Mixing Valve
Certifications/Specifications Met	ASSE 1017, ASSE 1069, ASSE 1070
Item Weight	2.94 pounds
Package Dimensions	7.3 x 5.5 x 2.4 inches

8. Warranty and Support

For specific warranty information and technical support, please refer to the official Watts website or contact Watts customer service directly. Keep your purchase receipt for warranty claims.

Watts Customer Service: For assistance with installation, operation, or troubleshooting, please visit theWatts official website or consult your local distributor.

Documents - Watts – LF-MMV-M1-UT

no relevant documents