

Series LFMMV

Thermostatic Tempering Valves

Sizes: 1/2", 3/4", 1"

⚠ WARNING



Read this Manual **BEFORE** using this equipment.

Failure to read and follow all safety and use information can result in death, serious personal injury, property damage, or damage to the equipment.



Keep this Manual for future reference.

⚠ WARNING

FAILURE TO COMPLY WITH PROPER INSTALLATION AND MAINTENANCE INSTRUCTIONS COULD CONTRIBUTE TO THE VALVE FAILURE, RESULTING IN INJURY AND/OR DEATH.

TO ENSURE THE ACCURATE AND RELIABLE OPERATION OF THIS PRODUCT, IT IS ESSENTIAL TO:

- Properly design the system to minimize pressure and temperature variations.
- This valve is not factory preset and can be adjusted to deliver scalding temperatures. **Check outlet temperature to ensure it does not exceed 105°F (41°C).** Make sure temperature limit stop is properly re-set to maximum 105°F (41°C) following valve maintenance or repair. Tampering with limit stop in any way may result in scalding temperature causing serious bodily harm and/or death.

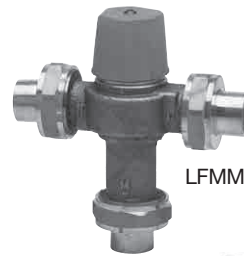
⚠ WARNING

Need for Periodic Inspection and Yearly Maintenance: Periodic inspection and yearly maintenance by a licensed contractor is required. Corrosive water conditions and/or unauthorized adjustments or repair could render the valve ineffective for service intended. Regular checking and cleaning of the valve's internal components and check stops helps assure maximum life and proper product function. Frequency of cleaning and inspection depends upon local water conditions.

⚠ WARNING

You are required to consult the local building and plumbing codes prior to installation. If the information in this manual is not consistent with local building or plumbing codes, the local codes should be followed. Inquire with governing authorities for additional local requirements.

Triple Listed!
ASSE 1017,
ASSE 1069 & ASSE 1070



LFMMV-UT-M1



LFMMV-QC-M1



Installation Instructions

Valve should be installed and adjusted by a licensed contractor in accordance with local codes and ordinances. Further, this valve should be installed in a location where it is accessible for cleaning, service or adjustment.

1. Close both the hot and cold water shutoff valves upstream nearest to the intended installation.
2. Bleed the remaining water from the system.
3. Connect the water supply to valve as shown in Figure 1, 2 or 3 depending on application. Supply piping must be flushed clean before making connections to the valve.
4. Valve can be installed in any position. The inlet hot supply is to be connected to the "H" side of the valve, the cold supply side to the "C" side and the mixed water outlet to the "M" side.
5. Make sure union nuts are placed over tailpieces prior to soldering or threading to pipe.
6. For valves with Quick-Connect tailpieces refer to "Quick-Connect Installation" instructions below

NOTICE

To prevent damage to valve from excessive heat during soldering, remove unions and gaskets from valve body prior to soldering.

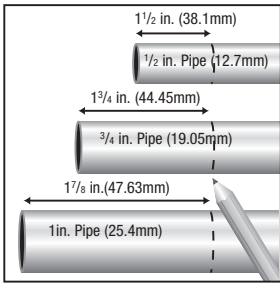
7. After soldering, flush piping and install valve using filter washer on hot and cold water inlet and fiber washer on the mixed water outlet.
8. Start-up: Open cold water supply, then hot water supply. Inspect for leaks.
9. Adjust temperature to desired setting (see Temperature Adjustment Section). Watts recommends a maximum temperature of 105°F (41°C) for shower and bathing fixtures.

*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

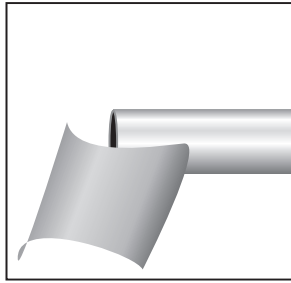
WATTS®

Quick-Connect Installation

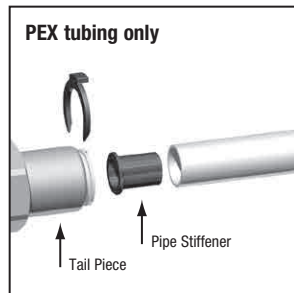
To Connect



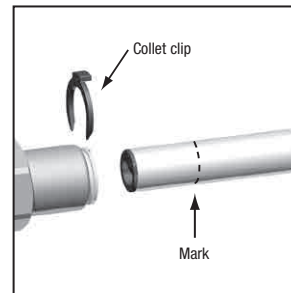
1. Mark pipe as shown. This is pipe insertion depth.



2. Clean pipe end.

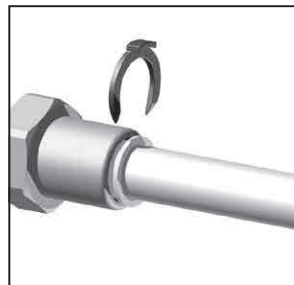


3. If using PEX tubing, insert pipe stiffener (provided) into end of pipe.

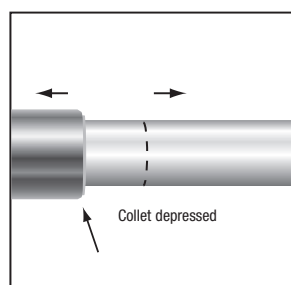


4. Push tubing into tailpiece up to mark.
5. Insert collet clip.

To Disconnect



1. Remove collet clip.



2. Depress collet.
3. Pull tubing from tailpiece.

Figure 1 – Typical ASSE 1069 Application

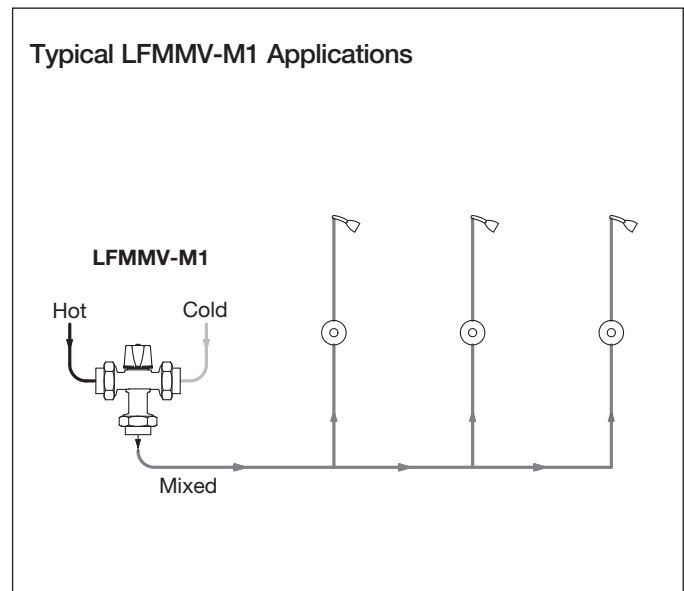


Figure 2 – Typical ASSE 1070 Application

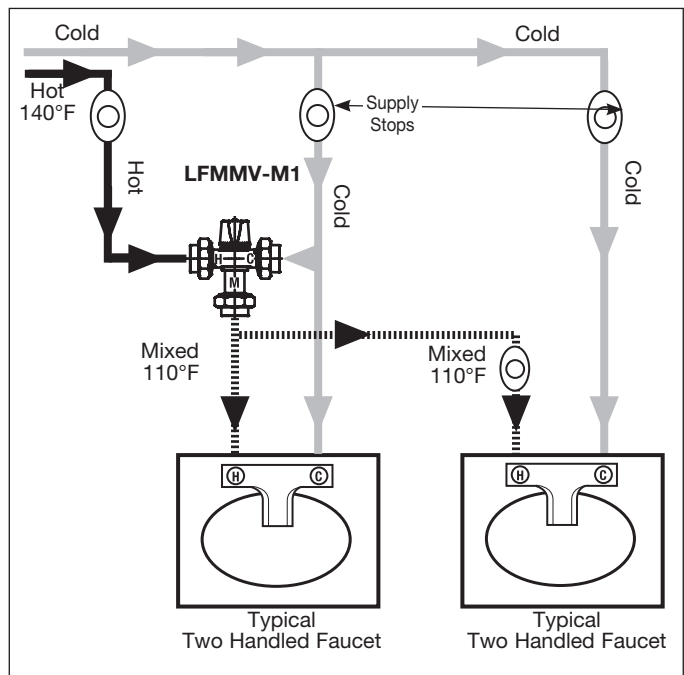
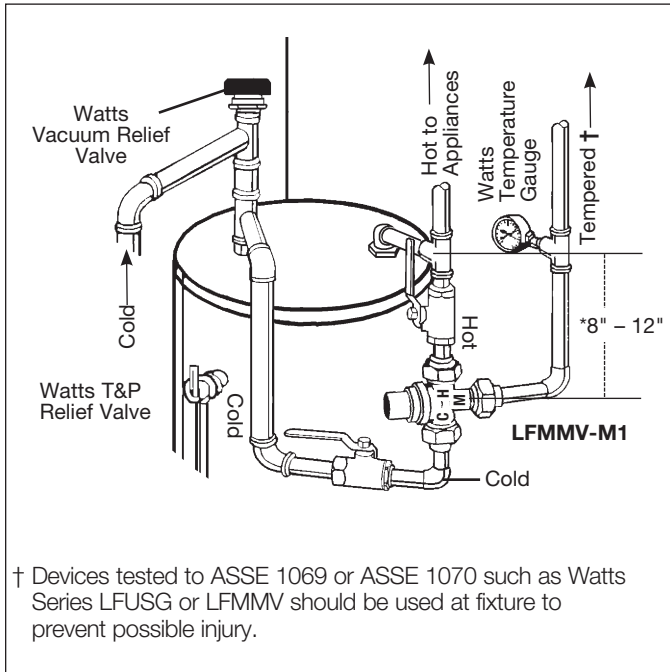


Figure 3 – Typical ASSE 1017 Application



Pressure — Temperature — Flow Rate

Minimum Supply Pressure Static: 30psi (207 kPa)
Inlet Temperatures: hot inlet, 120°F – 180°F (49°C – 82°C), cold inlet, 39°F – 85°F (4°C – 29°C)
Hot Water Inlet to Outlet Differential Temperature: 5°F (3°C)
Temperature Out: Field range: 80°F – 120°F (27°C – 49°C), adjustable; Accurate within ±3°F (1.7°C)†
Maximum Temperature: 200°F (93°C)
Maximum Pressure: 150psi (1034 kPa)
Minimum Flow: 0.5 gpm (1.9 lpm) @ .08psi (0.55 kPa)†
Maximum Flow: 20 gpm (76 lpm) @ 125psi (862 kPa)†
Maximum Pressure Differential between Hot & Cold Water Supplies: 25% maximum differential

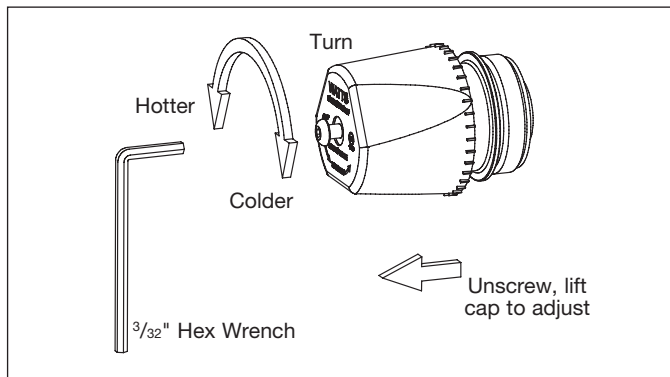
Listing: ASSE 1017, ASSE 1069, ASSE 1070 and IAPMO cUPC
 † When tested in accordance with ASSE 1017, ASSE 1069, ASSE 1070 and IAPMO cUPC.



NOTICE

To prolong the life of the series LFMMV when used in an ASSE 1017 application, it is recommended that it be trapped as shown; i.e. the hot water inlet to the LFMMV should be 8"-12" (200-305mm) below the hot water supply feed.

Figure 4 – Temperature Adjustment

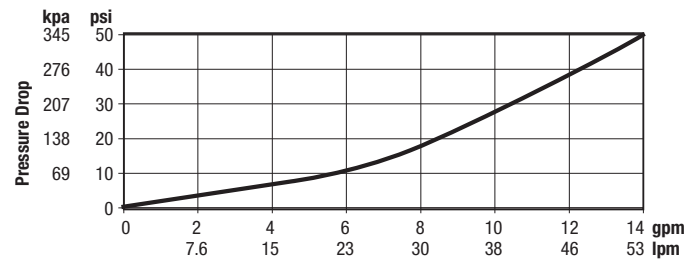


1. Let the water flow for at least two minutes to allow supply temperature to stabilize.
2. Calibrate the mixed water outlet temperature by placing a thermometer in the mixed water stream.
3. To adjust the setting of the valve, loosen locking cap screw with hex wrench, see Figure 4. Cap must be lifted 1/4" to adjust temperature. To increase the temperature, turn counterclockwise. To decrease temperature turn clockwise.
4. Lower handle and tighten screw.
5. Check outlet temperature.

NOTICE

It is recommended that shutoff valve(s) be installed on the inlet(s) to facilitate service of the LFMMV-M1 valve.

Capacity*



Flow curves are for reference. Actual flows may vary depending on system temperatures and/or pressures.

*Flow curve with integral inlet filters and check valves

Watts LFMMV-M1 Troubleshooting Guide

Problem & Cause

Answer

<p>A. Unable to reach required set point or set point difficult to set</p> <ul style="list-style-type: none"> A.1 Supply temperatures not within specified limits A.2 Hot and cold supplies reversed A.3 Filters are blocked by debris 	<ul style="list-style-type: none"> A.1 Check differential temperature between hot and cold supplies and outlet 5°F (-15°C) minimum required A.2 Reinstall valve with supplies connected to marked inlets A.3 Clean filters
<p>B. Unable to achieve required flow</p> <ul style="list-style-type: none"> B.1 Too much pressure drop at fixture B.2 Checks valve/filters blocked by debris 	<ul style="list-style-type: none"> B.1 Measure supply pressures and check against flow chart. Look for restrictions in valve or piping B.2 Clean check valves/filters
<p>C. Valve does not maintain required temperature or temperature changes over time</p> <ul style="list-style-type: none"> C.1 Fluctuation in supply pressures C.2 Check valve/filters blocked by debris C.3 Recirculation loop not piped properly 	<ul style="list-style-type: none"> C.1 Stabilize water pressures with pressure regulating or balancing valves C.2 Clean check valves/filters C.3 Pipe recirculated tempered water return so it connects to hot water source and cold side of Tempering valve (see Product Guide for piping details)
<p>D. Discharge temperature too hot or cold</p> <ul style="list-style-type: none"> D.1 Valve not calibrated properly 	<ul style="list-style-type: none"> D.1 Readjust valve temperature per installation instructions
<p>E. Hot water from cold water tap or cold from hot</p> <ul style="list-style-type: none"> E.1 Check valves fouled 	<ul style="list-style-type: none"> E.1 Clean check valves/filters
<p>F. Valve is noisy</p> <ul style="list-style-type: none"> F.1 Water velocity is too high F.2 Valve not sized properly 	<ul style="list-style-type: none"> F.1 Reduce water velocity with pressure regulating valves F.2 Check flow required versus rated flow capacity of valve
<p>G. No flow from valve</p> <ul style="list-style-type: none"> G.1 Hot or cold water supply failure or shutoffs closed G.2 Check valve/filters blocked by debris 	<ul style="list-style-type: none"> G.1 Open shutoffs or restore hot and cold supply G.2 Clean check valves and filters
<p>H. Flow from valve fluctuates</p> <ul style="list-style-type: none"> H.1 Fluctuation in supply pressures H.2 Check valve/filters blocked by debris 	<ul style="list-style-type: none"> H.1 Stabilize water pressure with pressure regulating valves H.2 Clean check valves and filters

⚠ WARNING

For valves with CPVC or PEX end connections, do not exceed the tubing manufacturers pressure and temperature ratings. Refer to the tubing manufacturers product specifications for that information.

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
For more information: www.watts.com/prop65

Limited Warranty: Watts Regulator Co. (the "Company") warrants each product to be free from defects in material and workmanship under normal usage for a period of one year from the date of original shipment. In the event of such defects within the warranty period, the Company will, at its option, replace or recondition the product without charge.

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The remedy described in the first paragraph of this warranty shall constitute the sole and exclusive remedy for breach of warranty, and the Company shall not be responsible for any incidental, special or consequential damages, including without limitation, lost profits or the cost of repairing or replacing other property which is damaged if this product does not work properly, other costs resulting from labor charges, delays, vandalism, negligence, fouling caused by foreign material, damage from adverse water conditions, chemical, or any other circumstances over which the Company has no control. This warranty shall be invalidated by any abuse, misuse, misapplication, improper installation or improper maintenance or alteration of the product.

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