

Installation Instructions

⚠ 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

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.

⚠ WARNING

FAILURE TO COMPLY WITH PROPER INSTALLATION AND MAINTENANCE INSTRUCTIONS COULD CONTRIBUTE TO THE VALVE FAILURE.

This Hot Water Master Tempering Valves cannot be used for tempering water temperature at fixtures. Severe bodily injury (i.e., scalding or chilling) and/or death may result depending upon system water pressure changes and/or supply water temperature changes. ASSE standard 1016, 1069 or 1070 listed devices should be used at fixtures to prevent possible injury.

These Hot Water Tempering Valves are designed to be installed at or near the boiler or water heater. They are not designed to compensate for system pressure fluctuations and should not be used where ASSE standard 1016, 1069 or 1070 devices are required. These valves should never be used to provide "anti-scald" or "anti-chill" service.

The components of the system must be of materials with a construction capable of withstanding the high limit output temperatures of the water heating source.

⚠ 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.

ATTENTION INSTALLER:

After installation, please leave this Instruction Sheet for occupant's information.



LFLM490-1



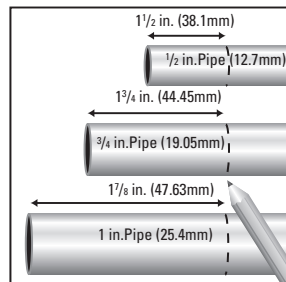
LFLM490-5



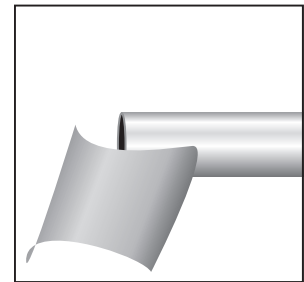
Advanced Thermal
Activation

Quick-Connect Installation ■

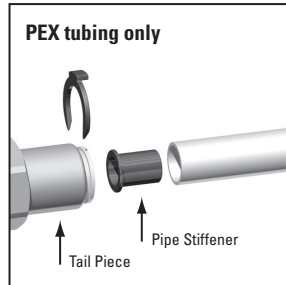
TO CONNECT



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

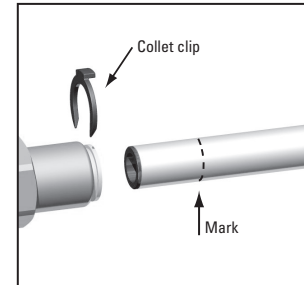


2. Clean pipe end.



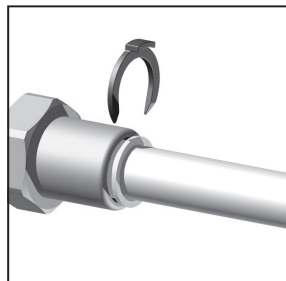
PEX tubing only

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

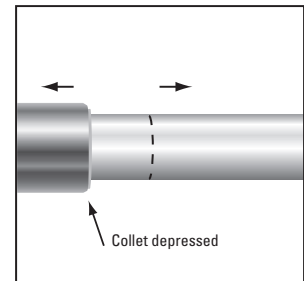


4. Push tubing into tailpiece up to mark.
5. Insert collet clip.

TO DISCONNECT



1. Remove collet clip.



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

Installation Instructions ■

Flush all pipes thoroughly before installation. Installation and field adjustment are the responsibility of the installer.

1. Close both hot and cold water shutoff valves upstream of the tempering valve.
2. Bleed pressure from the system.
3. Route copper tubing or piping to fit valve dimensions.
4. For valves with Quick-Connect tailpieces refer to "Quick-Connect Installation" instructions.
5. Remove tailpieces from the valve and make sure union nuts are over the tubing/piping before connecting to the tailpiece.

NOTICE

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

6. Flush piping again, install valve using filter gasket on hot and cold water inlets and fiber gasket on mixed water outlet.
7. Turn on the cold and hot water. If a leak is observed, tighten connections as necessary to stop leak before proceeding.

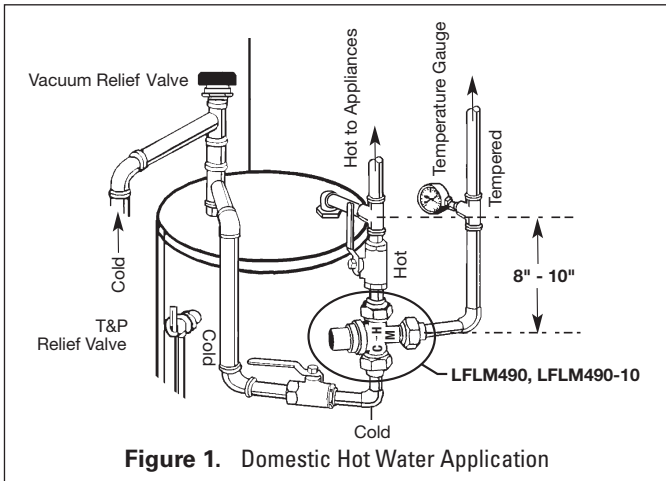


Figure 1. Domestic Hot Water Application

NOTICE

To prolong the life of the series LFLM490 or LFLM490-10 valves, it is recommended that the hot water inlet to the valve should be 8-10" (200-305mm) below the hot water inlets.

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

Warranty ■

The Seller warrants that the equipment manufactured by it and covered by this order or contract is free from defects in material and workmanship and, without charge, equipment found to be defective in material or workmanship will be repaired, or at Seller's option replaced F.O.B. original point of shipment, if written notice of failure is received by Seller within one (1) year after date of shipment (unless specifically noted elsewhere), provided said equipment has been properly installed, operated in accordance with the Seller's instructions, and provided such defects are not due to abuse or decomposition by chemical or galvanic action. THIS EXPRESS WARRANTY IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES, GUARANTEES, OR REPRESENTATIONS, EXPRESS OR IMPLIED. THERE ARE NO IMPLIED WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE. The Seller assumes no responsibility for repairs made on the Seller's equipment unless done by the Seller's authorized personnel, or by written authority from the Seller. The Seller makes no guarantee with respect to material not manufactured by it.

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To Adjust Temperature (Figure 2) ■

LFLM490 is factory pre-set to 120°F (49°C) and LFLM490-10 is factory set to 90°F (31°C) outlet temperatures under the following conditions:

Cold inlet: 60° - 70°F (16 - 21°C)
Hot inlet: 140° - 145°F (60 - 63°C) Supply Pressures: 45psi (310 kPa)

1. Let the water flow for at least two minutes to allow supply temperature to stabilize.
2. Place a thermometer in the outlet water stream.
3. Loosen handle screw with hex wrench.
4. Handle must be lifted 1/4" to adjust temperature. Rotate handle clockwise to decrease temperature and counter-clockwise to increase the temperature.
5. Lower handle and tighten screw.
6. Check for outlet temperature.

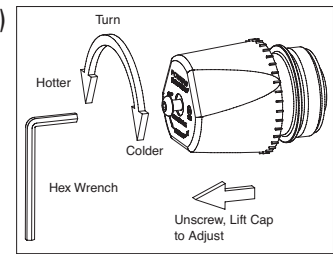


Figure 2.

Temperature Adjustment

NOTICE

Pressure differential between hot & cold water supplies must be less than 25%.

Troubleshooting ■

Fluctuating or erratic hot water temperature at fixture:

Unbalanced Pressure. Install balancing or throttling valve at the hot and cold water supplies and adjust accordingly for demand.

Hot water backing up into cold water line:

Hot water pressure is higher than cold water pressure. Examine check valves for dirt & debris, clean as necessary.

Cannot adjust water temperature to desired temperature:

Install balancing or throttling valve at the hot and cold water supplies and adjust accordingly for demand.

High pressure drop through the tempering valve:

Valve undersized. Install larger thermostatic tempering valve.

Insufficient hot water during peak demand:

Check flow requirement during peak demand period. Use larger thermostatic tempering valve.

Repair Kit ■

Model	Part #	Description
LFLM490	490-090	Plunger/Motor Assembly
LFLM490-10	490-190	Plunger/Motor Assembly

⚠ 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.