

HydroGuard® Thermostatic Tempering Valves LFLM495

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

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

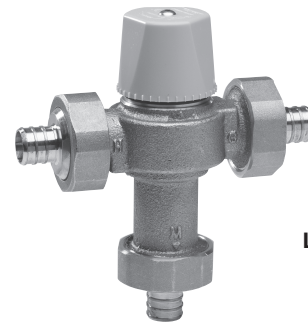
Need for Periodic Inspection and Yearly Maintenance: Periodic inspection and yearly maintenance by a licensed contractor is required. Corrosive water conditions and/or unauthorized adjustments or repair could render the valve ineffective for service intended. Regular checking and cleaning of the valve's 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.

⚠ WARNING

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

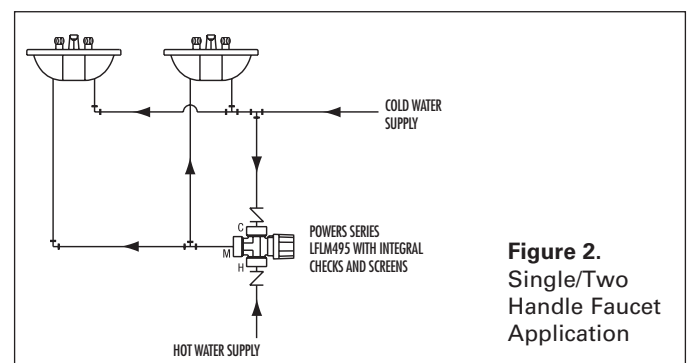
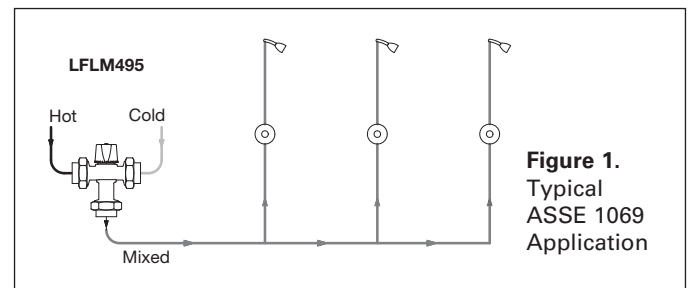


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Installation ■

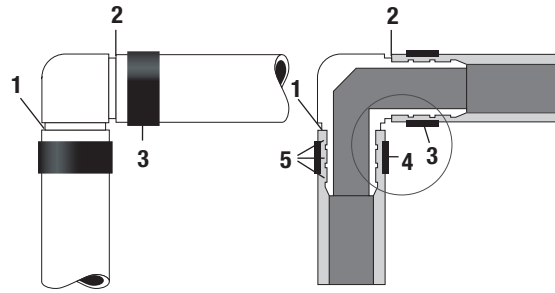
1. Locate suitable place for the tempering valve. Valves should be accessible for service and adjustment, and be as close to the point of use as possible.
2. Bleed pressure from the system.
3. Route copper tubing or piping to fit valve dimensions.
4. For valves with PEX tailpieces see instructions on the next page.
5. Remove tailpieces from the valve and make sure union nuts are over the tubing/piping before connecting to the tailpiece.
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 any leaks are observed, tighten connections as necessary to stop leak before proceeding.



Making a Good CrimpRing™ Connection ■

1. Cut the pipe to length, making sure that you have a good square cut. A rough, jagged, or uneven cut will result in a weakened joint.
2. Next slide the correctly sized CrimpRing™ over the end of the pipe and down about 2".
3. Then slide the pipe over the fitting until the pipe touches the fitting shoulder.
4. Now slide the CrimpRing™ over the end of the pipe until it is 1/8" to 1/4" from the end of the pipe. This positions the ring so that it is directly over the two ribs closest to the end of the fitting.
5. Now position the tool so that it is at a 90° angle to the pipe, and its jaws completely cover the ring.
6. Close the jaws completely.
7. Check to see that the "Go" slot of the Go/No-Go gauge slides across the CrimpRing™. If the CrimpRing™ doesn't fit through the "Go" slot then the ring wasn't compressed sufficiently. Cut out the joint, calibrate the tool, and make a new connection.

Illustration of a Good CrimpRing™ Connection

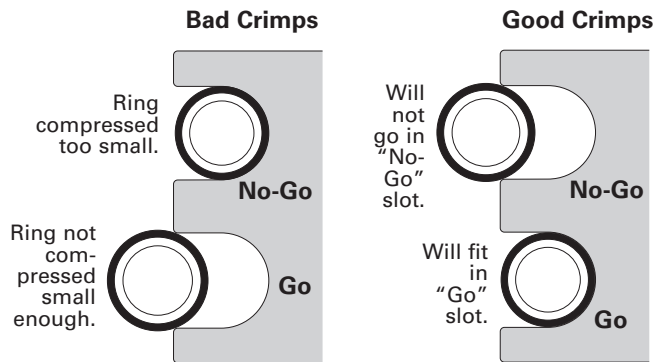


1. Fitting Shoulder location.
2. Pipe is cut square and stops at the fitting shoulder.
3. CrimpRing™ is positioned 1/8"–1/4" from end of the pipe, directly over two end ribs of fitting.
4. CrimpRing™ is evenly compressed over the pipe, and shows no evidence of uneven distortion.
5. The WaterPEX® material is uniformly compressed between the brass ribs, resulting in a leak-free, quality joint.

Installer Tip 1. Try a slight squeeze of the CrimpRing™ with the channel-lock pliers to keep it in place. Then you use your crimp tool to make the final connection. You'll find this especially helpful in vertical installations.

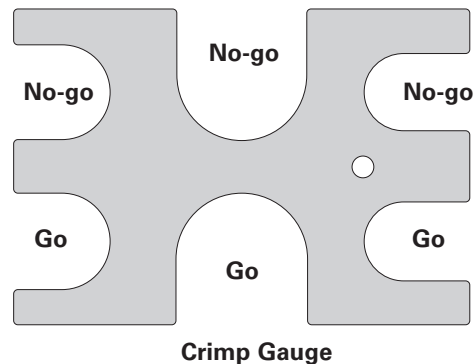
Using a CrimpRing™ Gauge ■

Using the CrimpRing™ Gauge (Go/No-Go gauge) helps ensure a quality joint. It has six openings, two for each size of pipe it fits. These are for 3/8", 1/2", and 3/4" (10, 15, 20mm) pipe sizes. See the following illustrations for guidance on how to use this important tool. Always check every joint you make.



1. Check each connection by pushing the crimp gauge onto the crimped copper ring at the appropriate "Go" slot. If it won't fit through, the ring wasn't compressed enough. If the ring fits through the "No-Go" slot, the ring was compressed too much. If your connection fails this test, cut out the bad joint and start over. **Don't try to run it through the crimp tool a second time.** If the gauge "hangs up" where the tool jaws closed (you'll see a small mark there), test the joint at a different point before you fail the connection and make the connection over.
2. You must hold the gauge at a 90° angle to the ring to perform a good test.
3. Always check to make sure you're using the right size opening in the gauge for the size pipe you're installing.
4. Push the gauge right onto the crimped ring; don't slide it!
5. Don't change the gauge opening. It is manufactured to 0.002 tolerance to help protect your good reputation. Buy a new gauge if your old one is damaged.

How to Test a CrimpRing™ Connection



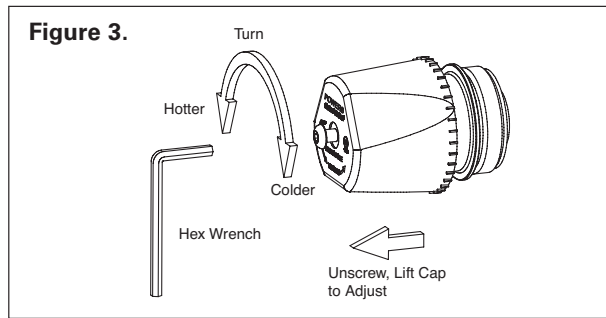
Making a Good Cinch Clamp Connection ■

Place PEX cinch clamp nub between tool jaws and ratchet the clamp until the PEX Cinch Clamp Tool auto-releases. This action will assure that the PEX cinch clamp is fully clamped.



Other ASTM F2098 and F1807 Crimp Ring may be used. Follow manufacturer's instructions carefully.

To Adjust Temperature (Figure 3) ■



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 $\frac{1}{4}$ " 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.

NOTICE

Pressure Differential between Hot & Cold Water Supplies must be less than 25%.

NOTICE

It is recommended that shutoff valve(s) be installed on the inlet(s) to facilitate service of the LFLM495 valve.

Repair Kit ■

Model	Part #	Description
LFLM495	495 100	Plunger/Motor Assembly

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.

⚠ 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.

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.

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

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