INSTALLATION GUIDE

TANKLESS WATER HEATER VALVE ISOLATION KIT

APPLICATION

Legend Tankless Water Heater Isolation Valve Kits are designed for installation between tankless water heaters and their cold inlet and hot outlet plumbing connections. Each assembly features union connections, full-port, positive-shutoff ball valve design and integral drain valves with capped hose-thread connections. They are available with ¾" or 1" FNPT, copper sweat, copper press, F1807 PEX or PERT tubing barb and F1960 cold-expansion PEX or PERT tubing barb, cold inlet and hot outlet connections.

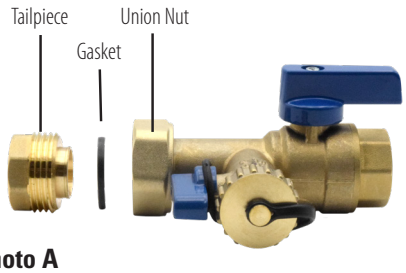

Photo A

INSTALLATION

1. This kit shall be installed in accordance with local code requirements. In the event that these instructions conflict with code requirements, the code shall take precedence.

2. Remove the COLD water isolation **inlet** valve assembly (identified by the blue handles) from the packaging. Disassemble the union connection by loosening the union nut and removing the tailpiece and gasket. Ensure that all components are present: tailpiece, gasket, union nut and steel nut retaining ring (installed onto the valve's body).
NOTE: The union nut is permanently mounted to the valve assembly. **See Photo A.**

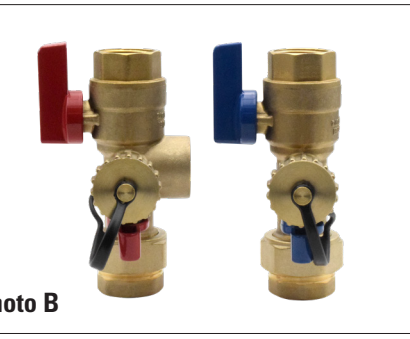
Photo B

3. Connect the valve assembly to the inlet supply line. Make sure to position the valve assembly in such a way that all handles are accessible and can be operated without obstruction: **See Photo B.**

Pipe (MNPT): Use the correct PTFE thread sealer (tape or paste) on the pipe nipple's external threads. Follow standard industry practice for making threaded pipe joinery, including hand-engagement and wrench make-up.

Copper Tubing Sweat: Use the appropriate flux and solder and verify that the each isolation valve is in the open position before sweating onto copper tubing. Follow standard industry practice for making a correct solder joint, including directing the flame heat onto the connection only, away from the valve's seats.

F1807 PEX or PERT Barb: Use the correct copper crimp ring or stainless steel cinch ring and associated tool. Follow the tool manufacturer's instructions for making a crimp- or cinch- connection.

F1960 PEX or PERT Cold-Expansion: Use the correct cold expansion ring and associated power tool, with a rotating head.

Copper Press: Verify that the o-ring is in properly placed the press socket. Using type K, L, or M hard drawn copper, make a square cut and deburr the end of the tube. Measure and mark the proper insertion depth (11/16" for 3/4" & 7/8" for 1") on the end of the copper. Insert the copper into the press socket and press according to the tool manufactures recommendations.

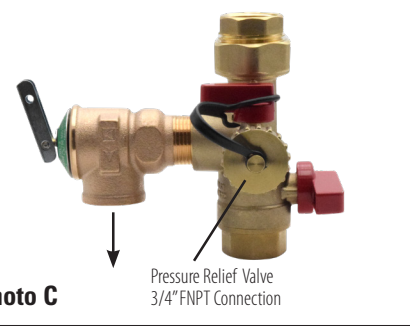

Photo C

4. Using the water heater's recommended thread sealer, thread and tighten the tailpiece onto the water heater's COLD water inlet (or HOT water outlet, if installing the HOT water isolation valve assembly).

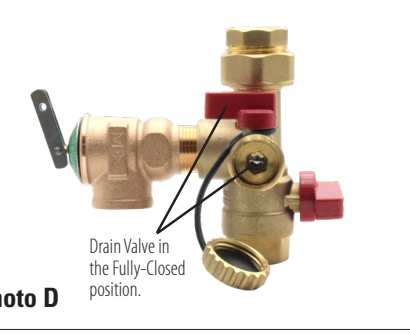

Photo D

5. Verify that the gasket is positioned onto the bottom of the tailpiece. Re-connect the union nut to the now-installed tailpiece. Using the appropriate wrenches, brace the tailpiece and tighten the union nut.
6. Remove the HOT water isolation **outlet** valve assembly (identified by the red handles) and the pressure relief valve from the packaging. Apply Teflon* tape to the male threads of the pressure relief valve. In accordance with the water heater manufacturer's or local code requirements, install and tighten the pressure relief valve into the ¾" FNPT connection located next to the drain valve. Position the outlet of the pressure relief valve downward. **See Photo C.** ***IMPORTANT!*** Please see the additional installation instructions for the pressure relief valve located on the back of these instructions.
7. Repeat steps one through five to install the HOT water isolation outlet valve assembly onto the hot water outlet connection of the water heater.

Installation is complete.

OPERATION

1. When the system is pressurized, under normal operating conditions, make sure the drain valves of both HOT and COLD isolation valve assemblies remain in the CLOSED position, where both handles are perpendicular to the drain valve hose outlet.
2. Make sure both drain valve hose thread caps are hand-tightened. Wrench tightening is not required.
3. CAUTION! Before unthreading the hose caps for any reason, make sure the drain valves are CLOSED. Unthread slowly, to allow any built-up pressure to disperse. After removing the cap, inspect the cap's gasket for damage. Replace as necessary.
4. Isolation valve handles should be in the FULL-OPEN position under normal operating conditions. Both red and blue handles should be parallel with the valve body and piping or tubing.

MAINTANENCE

De-scaling and flushing:

Follow the tankless water heater manufacturer's specific instructions for flushing and de-scaling. While each tankless water heater's procedure may differ, the basic operation of the Legend isolation valve assemblies remains the same:

- Both HOT outlet and COLD inlet isolation valves must be closed whenever the HOT and COLD drain valves are uncapped and opened, unless otherwise suggested by the water heater's maintenance procedure.
- Before removing the tethered caps of the drain valves to attach hoses, ALWAYS verify that the drain valves are completely closed. The tethered caps are designed to keep debris from entering the drain valves' ends. They are not designed to contain continuous pressure. See Steps 1 and 3 of the Operation instructions and Photo D on the first page.
- Open both HOT and COLD isolation valve handles after flushing, restoring normal operating conditions. When both isolation valve handles are in the open position, pressurized media is present at the drain valves. Therefore, both HOT and COLD drain valves MUST remain closed and capped during system operation!

Operational testing:

Follow the tankless water heater manufacturer's specific instructions for operational performance and diagnostic testing. The full-port design of the integrated isolation and drain valves permit tankless water heater testing and purging procedures such as:

- Firing rate testing
- Flow rate testing
- Supply temperature testing
- Air purging

Overall inspection:

Annually inspect all connections for signs of leakage. Correct as necessary.

ANSI Z21.22 COMPLIANT PRESSURE RELIEF VALVE INSTALLATION, OPERATION, AND MAINTANENCE

NOTE: These instructions apply to the ANSI Z21.22 compliant pressure relief valve included in the Tankless Water Heater Isolation Valve kit. They are intended to accompany step 6 one page two.

Installation:

1. When tightening the pressure relief valve into the hot water isolation valve, make sure to place the wrench's jaws on the relief valve's wrench flats. Applying force on any other part of the valve's body may cause irreparable damage.

2. **Do not** install any manually operated shutoff valves between the relief valve's inlet or outlet connections and associated water heater or discharge piping connections. Install the relief valve's inlet connection directly into the tankless hot water heater isolation valve's designated connection only. An unobstructed flow path must exist between the pressure relief valve and water heater in order for the relief valve to function properly.

3. The outlet connection of the pressure relief valve must face downward, requiring a vertical discharge pipe. **In accordance with IPC code requirement 504.6,** install a suitable-length nipple as a discharge pipe, into the female NPT outlet of the pressure relief valve:

   A. Do not reduce the ¾" nominal pipe size (NPS) at any length of the piping.
      The end of the discharge pipe must not be threaded and must remain open and unobstructed.
   B. The discharge piping must not contain low points, which may trap water. The piping must allow complete drainage.
   C. The discharge piping must discharge into a suitable open drain and must not be allowed to freeze.
      Please consult IPC 504.6 for additional details.

Operation:

In the event that the tankless water heater and its piping system exceed designed pressure limits, the pressure relief valve will automatically open, discharging large amounts of very hot water. As described in step three of the installation instructions, correctly installed discharge piping and drainage are critical in avoiding a scalding danger or water damage.

Maintenance:

Annually inspect the end of the discharge piping for signs of relief valve leakage. Carefully lift the spring-loaded lever and center it horizontally against the identification disc, allowing hot water to flow from the end of the discharge pipe, into the drain. **CAUTION!** Discharged water is extremely hot and can scald! Avoid contact with the water. After a few seconds, flip the lever back down, closing the valve. If the pressure relief valve fails to flow water when opened or fails to reseat when closed, contact a qualified installer for valve replacement. Legend Valve & Fitting, Inc. cannot be responsible for failures as a result of improper installation practice, abuse, mis-application, extended service life or a combination thereof. All Legend products are designed and manufactured for installation by trained professional, licensed contractors. Please contact the **Legend Technical Department** at 800-752-2082 with questions or comments.