

INSTALLATION AND OPERATING INSTRUCTIONS

TMV Series Thermostatic Mixing Valve

TYPICAL APPLICATIONS:

Armstrong TMV Series Thermostatic Mixing Valves are specifically designed for mixing hot and cold water on hot water distribution systems. Using an advanced thermostatic element and proportional flow design, the valve reacts to temperature changes by closing or opening its inlet ports and ensures a stable mixed-water temperature at the outlet. Installed at the hot water source and adjusted by the installer, the TMV accurately limits the hot water supply and maintains the temperature at a desired setting.

Armstrong TMV Series valves provide the ultimate in performance, combined with energy savings and comfort when used in domestic hot water systems. The precise temperature control and superior flow characteristics also make the TMV ideal for radiant heating systems and a variety of applications where the temperature of the heat source is higher than the required supply temperature.



TECHNICAL DATA	
Maximum Working Pressure	125 psi (862 kPa)
Maximum Working Temperature	180°F (82°C)
Hot Water Inlet Temperature Range	120°F – 180°F (49°C – 82°C)
Cold Water Inlet Temperature Range	41°F – 70°F (5°C – 21°C)
Outlet Temperature Range	100°F – 140°F (38°C – 60°C)
Adjustment Accuracy	± 2°F (± 1°C)
Factory Temperature Setting	120°F (50°C)

MATERIALS OF CONSTRUCTION	
Body	Brass ASTM B-124 86C 37700
Handwheel	High strength polymer
Shutter	Brass ASTM B-124 86C 37700
Springs	Stainless Steel
Stem	Brass ASTM B-124 86C 37700
O-Rings	EPDM
Tail Piece	Brass ASTM B-124 86C 37700

INSTALLATION:

1. Prior to installation, provisions should be made to flush the piping of any debris or other foreign materials to ensure proper system operation.

CAUTION: Failure to follow the above instruction can permit foreign material to impede the operation of this device and lead to its premature failure.

NOTE: Steps 2 - 4 refer to models with SWEAT (Solder) connections.

2. Prior to soldering, remove union tailpieces and gaskets from the valve, to prevent valve damage. Ensure that union nuts are placed over piping.
3. Solder the valve body in line using 95/5 (95% tin, 5% antimony) type solder or equal. Always follow local plumbing codes for installation best practices.
4. After soldering, ensure that piping is properly flushed and install the valve with supplied gaskets using the union connections.
5. The Armstrong TMV is an ASSE 1017 approved device, which has to be installed at the hot water source. It should never be installed to deliver tempered water directly to the point of use water fixtures.

WARNING: Water temperature in excess of 120°F (49°C) is dangerous and will cause scalding, severe injury or death. This valve is not to be used as an anti-scald device in point of use installations where the end user can change its settings.

CAUTION: Installation of this device must be performed by a licensed installer in order to ensure that the appropriate device has been selected. Improper installation may result in scalding, severe injury or death.

- For proper connection of Armstrong's TMV Series thermostatic mixing valves, connect the hot and cold water inlets, as well as the mix outlet, as indicated on the valve body.

The hot water supply (inlet) line must be attached to the connection identified with a plus "+" symbol, while the cold water supply (inlet) line connection is marked with a minus "-" symbol. The outlet port for the mixed temperature water is marked with "MIX" and must be connected to the supply line leading to the domestic hot water fixtures.

- To maintain the TMV's precise temperature mixing control and avoid plugging the internal valve components by debris, Armstrong recommends installing an in-line filter upstream of the TMV.
- For typical domestic hot water installations refer to Figures 1 and 2 below.

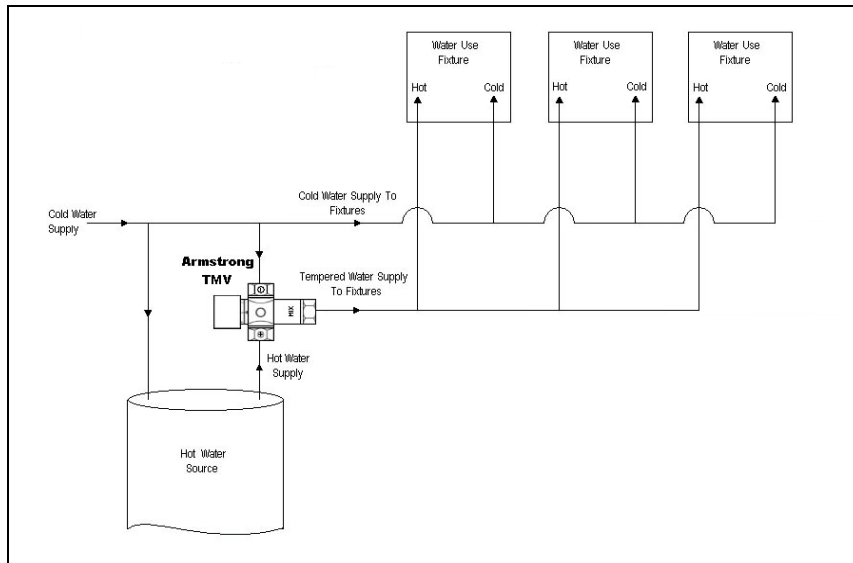


Fig. 1 Typical Domestic Hot Water Installation without Recirculation

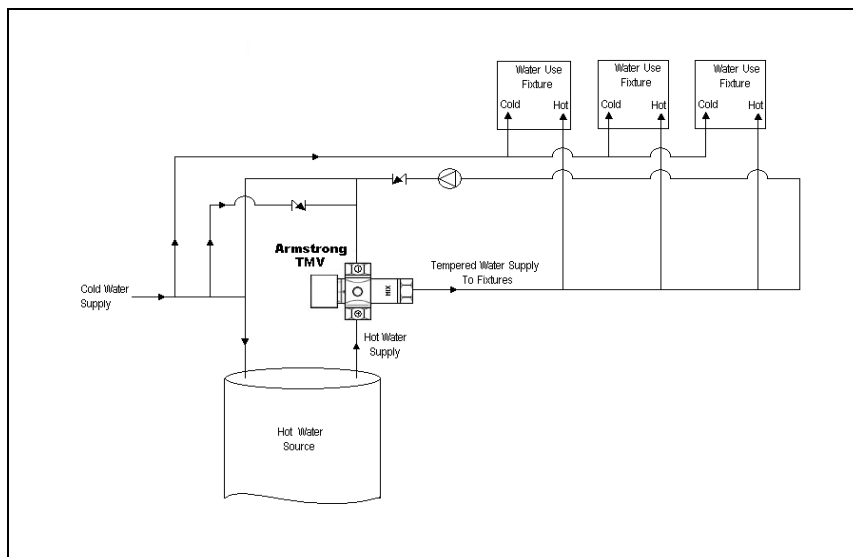


Fig. 2 Typical Domestic Hot Water Installation with Recirculation

OPERATION:

1. The Armstrong TMV is designed to function effectively within the specified ASSE 1017 temperature range. The hot water inlet temperature must be between 120°F and 180°F (50°C and 82°C) and cold water inlet temperature must fall between 41°F and 70°F (5°C and 21°C).
2. With its five adjustment positions, the Armstrong TMV thermostatic mixing valve can be set to deliver temperatures from 100°F to 140°F (38°C to 60°C). Refer to Table 1 for the adjustment positions and their equivalent mixing temperatures.

Note: Armstrong TMV is factory preset to 120°F (49°C).

Position	Mixing Temperature
1	100°F (38°C)
2	110°F (44°C)
3	120°F (49°C)
4	130°F (55°C)
5	140°F (60°C)

Table 1 Adjustment positions and temperatures

3. To adjust and set the desired mixed water temperature on the Armstrong TMV, lift and rotate the white plastic handle to the desired position and then release the handle (see Fig. 3). It will lock into place by engaging the splines located on the top of the valve body. These splines hold the handle firmly in place, preventing the valve setting from being changed accidentally.



Fig. 3 Thermostatic mixing valve adjustment

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