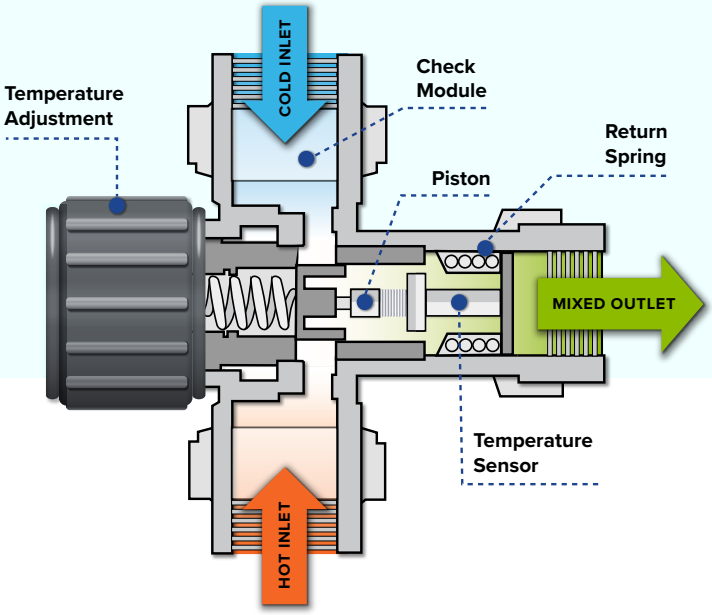
CALIFORNIA ENERGY-SMART HOMES ALL-ELECTRIC

Thermostatic Mixing Valves

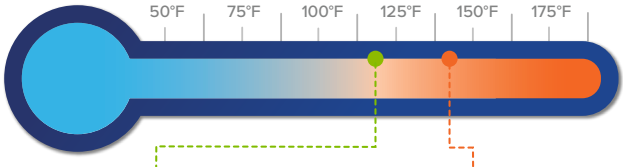
What is a Thermostatic Mixing Valve?

A **thermostatic mixing valve** is a valve that precisely blends hot and cold water to a pre-set, consistent, and safe temperature even if water pressure or flow fluctuates.



Why Use a Thermostatic Mixing Valve?

Thermostatic mixing valves provide optimal water storage and delivery temperatures



120°F

Deliver water at 120 degrees or less to avoid scald hazards.

140°F

Store water at 140 degrees or more to kill Legionella bacteria.

Safety:

- Prevent scalding by maintaining a safe water temperature.
- Allow water to be stored at high temperatures (140°F) to kill Legionella bacteria, which can cause Legionnaire's disease, a severe form of pneumonia.

Energy Efficiency:

- Increase the capacity and energy efficiency of a domestic hot water system.
- Allow the heat pump component of a hybrid system to do more of the heating instead of the electric resistance that engages when domestic hot water storage is low. Heat pumps are up to four times more efficient than electric resistance, so this method reduces the energy consumption of the system.

How to Select a Thermostatic Mixing Valve

Step 1: Selection

After meeting the manufacturer's recommendations, select the appropriate type of thermostatic mixing valve that meets the project's budget and needs.

Mechanical thermostatic mixing valves have an internal device that expands or contracts with heat to regulate flow through the valve. Mechanical thermostatic mixing valves require manual adjustments and calibration during installation to deliver temperatures at 120°F or less.

Electronic thermostatic mixing valves have digital temperature sensors that communicate with the controller to regulate flow through the valve. Electronic thermostatic mixing valves offer precise control, easier adjustment for installers or homeowners, and do not require calibration during installation.

Step 2: Sizing

Size the thermostatic mixing valve to manage the home's domestic hot water system flow rate. Select a thermostatic mixing valve with an appropriate flow rate based on the faucets, showers, and other end uses in the home. To meet all code requirements, ensure the selected thermostatic mixing valve complies with ASSE 1017 plumbing guidelines.

Sample Pricing:*

Type	Electronic Valve	Mechanical Valve	Balancing Valve**
Cost	$500-$2,500	$60-$300	$60-$200
Certification	ASSE 1017	ASSE 1017	ASSE 1070

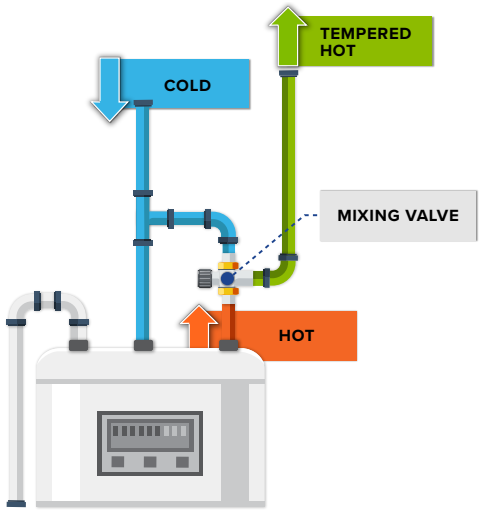
**Pricing based on information provided by manufacturers and may vary depending on the model selected.*

***Not a Thermostatic Mixing Valve*

Installation and Maintenance

Install thermostatic mixing valves at the hot water outlet of the domestic hot water storage tank. Plumb cold water directly into the valve so the thermostatic mixing valve can balance the temperature of the delivered domestic hot water. This reduces the scalding hazard of the domestic hot water system.

Smaller, point-of-use, balancing valves installed at faucets and showerheads can provide final temperature control throughout the home. Supplemental check-valves can also prevent crossflow of hot and cold water through the valve. **Be sure to install and adjust the valve to comply with local codes and ordinances.** Follow manufacturer provided installation and periodic maintenance instructions specific to the valve.



For more information about California Energy-Smart Homes please contact us at:

Toll-free: (833) 987-3935
Email: caenergysmarthomes@trccompanies.com
Website: caenergysmarthomes.com

Pacific Gas and Electric Company

The California Energy-Smart Homes Program is funded by California utility customers and administered by Pacific Gas and Electric Company (PG&E) and supported by the state's other investor-owned utilities (IOUs) under the auspices of the California Public Utility Commission. Customers who choose to participate in this program are not obligated to purchase any additional goods or services offered by TRC or any other third party.