WHY YOUR PROFESSIONAL INSTALLER RECOMMENDS AN EXPANSION TANK

- It protects your new water heater and maximizes its product lifetime.
- It reduces the stress on your hot water system and its various components including pipes, fittings, fixtures, and even your appliances.
- It may be required to meet your local plumbing and safety codes.

BRADFORD WHITE®
WATER HEATERS
Built to be the Best™

★ AMERICAN MADE ★
★ AMERICAN OWNED ★ WHOLESALE ONLY ★

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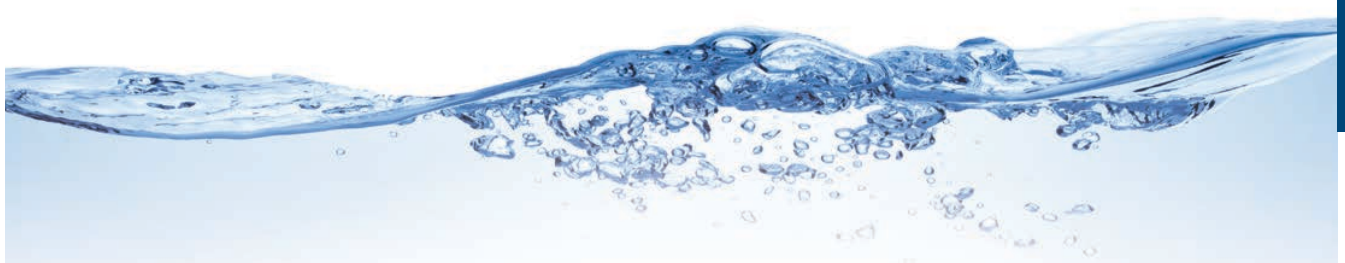
HOMEOWNERS

Why Your Professional Installer Recommends a Thermal Expansion Tank

BRADFORD WHITE®
WATER HEATERS

Built to be the Best™



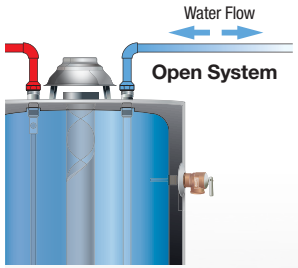
Thermal Expansion and Your Water Heater

Thermal expansion is the term used to describe the expansion of water volume due to heating.

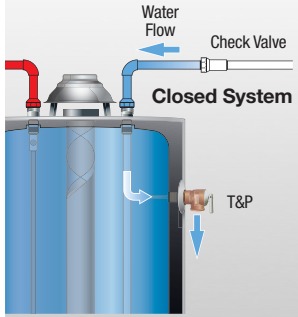
All water heaters, regardless of heat-source (gas, oil, electric, solar or indirect), can experience thermal expansion. In every tank-type water heater, cold water is heated as it enters the water heater tank. This increases the overall water volume and pressure inside the tank, which must be relieved to avoid the potentially negative effects of thermal expansion.

Under Pressure with No Place to Go

In the past, domestic hot water systems were “open” systems. So when the volume of heated water exceeded tank capacity, it simply flowed back out to the city main or water well.



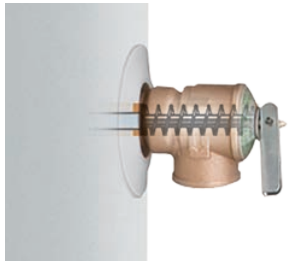
But today’s plumbing regulations require the integration of backflow preventers or check valves, primarily to keep the water in your home from the possibility of contaminating the water supply. As a result, present-day hot water systems are considered “closed” systems.



In a closed system, and without taking the proper precautions, the expanded water has no place to go. The resulting pressure increase will cause your water heater’s temperature and pressure (T&P) relief valve to trigger, expelling the additional pressure and water volume through the valve.

T&P Valves – EMERGENCY EXIT ONLY

Your water heater’s temperature and pressure (T&P) relief valve is designed as a safety device to be used primarily in emergency



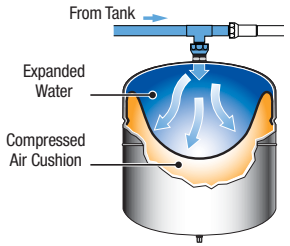
cases, not on a regular, daily basis to relieve pressure caused by typical thermal expansion. Relying solely on the T&P valve to accommodate for thermal expansion wastes water and energy, and may cause the valve to prematurely fail.

The Negative Effects of Thermal Expansion

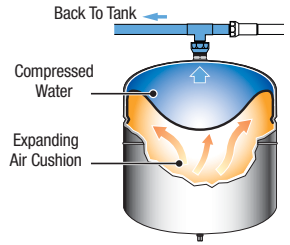
Even before the T&P relief valve is triggered (usually at 150 psi), excessive pressure levels caused by thermal expansion can exert forces that have negative effects on your hot water system, such as:

- *Premature product failure*
- *Damaged or collapsed center flue*
- *Decreased product performance, efficiency, and product life*
- *Damage to water heater connections and your home’s piping system*
- *Decreased life of your home’s water fixtures and appliances*
- *Noisy water hammer in your home’s pipes*

EXPANSION TANKS – A SIMPLE SOUTION TO THERMAL EXPANSION



Sometimes the simplest solution is the best solution. A thermal expansion tank is a small, pre-pressurized tank with a compressible air cushion (diaphragm) that is installed on the supply side (cold water inlet) of a water heater. If the heating and thermal expansion of water creates excess pressure within the water heater, excess water is forced into the expansion tank, keeping pressure levels within the normal operating range of the water heater.



As the pressure within the water heater normalizes (typically after there’s a call for hot water within the home), the water within the expansion tank is forced back into the water heater by the diaphragm, and the potentially harmful effects of thermal expansion are eliminated.