

WATER HEATER SAFETY TANK

Please read the entire Owner's Manual and Installation Instructions for your water heater safety tank before installing the tank!

HOW YOUR WATER HEATER SAFETY TANK WORKS

Your water heater safety tank is a specifically designed pressure absorbing device. It protects your entire plumbing system, including your water heater, from over pressurization caused by thermal expansion. As water is heated, it expands, and since water is not compressible, a rapid increase of pressure in the water heater and throughout the entire plumbing system results. This increase in pressure is known as thermal expansion, occurring every time your water heater heats water, when the expanded water is not allowed to return to the supply line.

Common problem signs of high pressure caused by thermal expansion:

- High surges when opening faucets
- Relief valve on water heater opening to release high pressure ~**DANGER: NEVER PLUG RELIEF VALVE.**
- Frequent faucet washer failure rate.
- Short water heater life.
- Problem deformities with pipes and fittings.

Your water heater safety tank operates as a collection point to accept thermally expanded water (figure 1). As water enters the tank (figure 2), the diaphragm is pressed downward, compressing the captures air cushion in the tank. The air volume is specifically engineered to control pressure well below the water heater pressure relief valve setting. As water is used (figure 3), the thermally expanded water is expelled from the tank back into the piping system by the compressed air cushion.

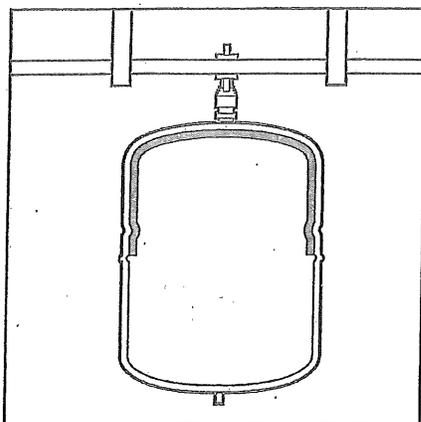


Figure 1

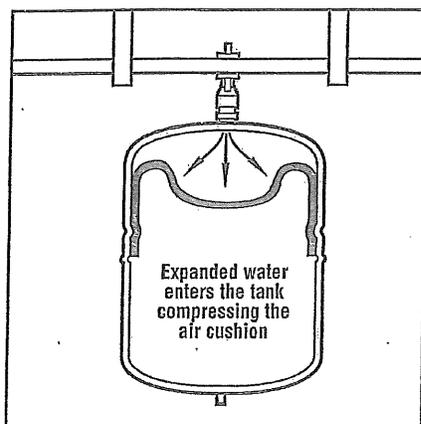


Figure 2

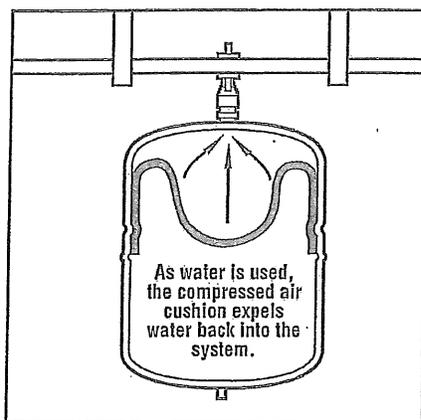
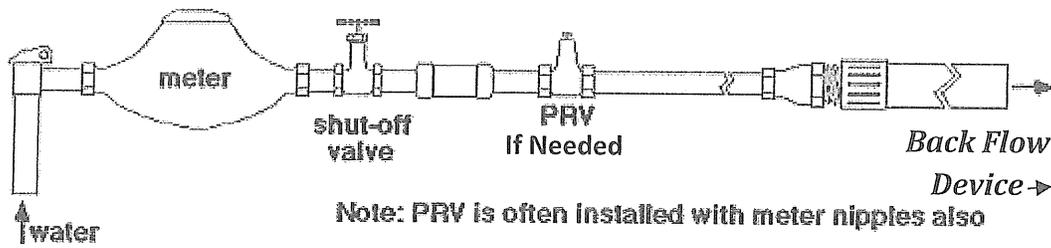


Figure 3

PRE-INSTALLATION CHECK LIST

1. Remove tank from box and inspect for any damage. If damage is evident return immediately to place of purchase.
2. Use pressure gauge or tire to verify pre-charge pressure in the tank. Pre-charge should measure (+5 psi above line pressure coming into home).
3. Locate position in piping system to install your water heater safety tank. The ideal position is anywhere on the cold water line leading to the water heater after the shut-off valve.
4. Utilize proper pipe hangers and supports to handle a possible future waterlog condition of the tank. This support must handle a weight of approximately 40 lbs.



Low hazard /
dual check or
better

Note: PRV is often installed with meter nipples also

Water Heater Installation

An important consideration when a water heater is installed, whether new or replacement is the need for an expansion tank. Under normal circumstances, when the water in a water heater expands the volume can be absorbed by some of the water in the cold water piping and back flowing into the municipal water system. In the case where a backflow preventer (check valve) has been installed, the house water system cannot release the excess volume by back flowing to the municipal water system. This situation could result in damage to the house water system. Illinois State Plumbing Code requires the installation of an "expansion tank" on the cold water side of the water heater in this situation. **Important! Expansion tank pressure must be 3lbs above house pressure or it will not work.** See the illustration below:

Thermal Expansion Tank

