

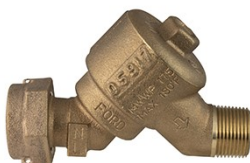
CROSS CONNECTION CONTROL

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Cross Connection Control and Backflow Preventers

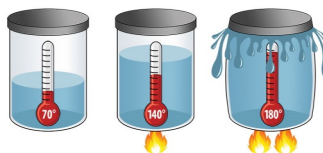
A cross connection is any temporary or permanent connection between the potable (drinking) water supply and a source of contamination or pollution (such as a garden hose fertilizer sprayer, an irrigation system, or a coolant system). Backflow, which is an undesirable reversal of flow from the cross connection source into the potable water supply caused by back-pressure or backsiphoning, can occur and contaminate the potable water system.

To prevent backflow from occurring, a backflow preventer is installed on your potable water service at the location of your meter. Types of mechanical backflow preventers are the reduced-pressure principle assembly, double-check assembly, pressure vacuum breaker assembly, and the residential dual check valve. *Backflow prevention is a requirement of Florida Statute 62-555.360 Cross-Connection Control for Public Water Systems.*

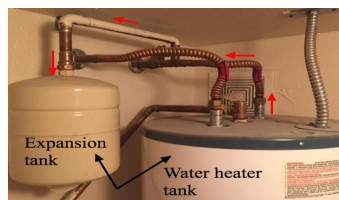


Thermal Expansion

A volume of water heated within a hot water heater tank expands under a process known as thermal expansion. Prior to the installation of backflow protection devices to protect the potable water system from contamination and pollution, the expanded water volume in your internal plumbing system resulting from heating was able to freely backflow into the potable water system. With the installation of a backflow preventer at the water service connection to protect the potable water system, the plumbing system becomes closed off where the expanded water volume is no longer able to freely backflow and be absorbed by the potable water system.



Because water is an incompressible fluid, when it expands within a closed plumbing system without provisions for thermal expansion, it creates high pressure which could cause damage to the hot water heater tank and plumbing piping over time. Current Florida Building Code requires that internal plumbing systems with hot water heater tanks have a thermal expansion tank installed. The thermal expansion tank provides storage for the expanded water volume so that the plumbing system does not encounter high pressure caused by the heated water expansion. Additionally, water heaters are required to have a temperature and pressure relief valve installed, which provides a secondary safety measure for thermal expansion in the event that the thermal expansion tank fails.



What You Need to Know

- Cross connections and the potential for backflow necessitates the need for backflow prevention to protect our potable water supply.
- The installation and maintenance of backflow prevention devices and assemblies are required in the State of Florida.
- Thermal expansion caused by the heating of water within the hot water heater tank can result in high pressure within an internal plumbing system lacking a thermal expansion tank.

How You Can Ensure Your Plumbing System is Protected from Thermal Expansion

- Verify that a thermal expansion tank is installed on your water heater and is in good, working condition.
- Verify that the temperature and pressure relief valve installed on your water heater is in good, working condition.
- If in doubt, contact a licensed plumber.
- We appreciate your cooperation. The City will continue in its unwavering commitment to protect our potable water system for our residents.
- For additional information regarding backflow prevention and frequently-asked questions, please visit our website at <https://www.melbourneflorida.org/departments/public-works-utilities/cross-connection-control>