

Installation of Backflow Prevention Device

BUILDING SERVICES



Clearances. CSA B64 10-11 requires the minimum clearances:

Centerline Height above Floor: Between 750mm (30") to 1500mm (60")

Above the Device: 300mm (12") In Front of Device: 750mm (30") Behind the Device: 20mm (7/8")

Lead Free Requirements: All devices installed must be lead free and meet CSA B64.0-11 & CSACSA B125.3-12 for lead free via the NSF/ANSI 372 states that devices used for conveying or dispensing water to be used for human consumption through drinking or cooking shall not contain a weighted average lead content in excess of 0.25%.

Support 7.3.4: All backflow devices and piping are required to be supported from lateral movement, this must not obstruct the shutoffs, test cocks, or most importantly obstruct the relief valve on an RP.

Installation: Backflow devices are required to be installed horizontally. Pre-approval is required if the device is to be installed in a vertical position as documentation is required to prove that the device can be installed vertically.

Bypasses: No bypasses around the premise protection device is permitted.

Connections: All plumbing connections must be downstream of the premise protection device, or a device will need to be installed on the connection.

Accessibility: Backflow preventer and vacuum breaker shall be installed in readily accessible areas to facilitate inspection, field testing, and maintenance.

RP relief port drain:

- Must be equal in size to the drain connection fitting (2" RP needs a 2" drain line) unless otherwise noted in the manufactures accessory approvals,
- Be rigid pipe, and slope downward from the backflow preventer,
- Requires an air gap 2 times the pipe diameter or minimum 1" whichever is larger (2" RP requires an 4" air gap) unless otherwise noted in the manufactures accessory approvals
- ❖ **Note a drain shall be provided unless a drain is unreasonable to install, a letter from the owner indicating that they are aware that the drain will not be installed is required. The town of Collingwood shall not be held responsible for property damage due to relief port activation.**

RPs: must not be installed in a below grade pit or vault. DCVA's can be installed below grade if the pit can be maintained in a dry condition, all test cocks must be plugged using a means that is waterproof.

Thermal Expansion 7.6.1.16: Premise protection creates a closed loop and to protect against thermal expansion, a suitably sized diaphragm type expansion tank or an auxiliary thermal expansion relieve valve must be installed. See diagrams.

Labeling: As per by-law [2017-056](#) all pipe work before the backflow device must be permanently and clearly labeled, "**no connections permitted**".

Test Tag & Reporting: Once the water is turned back on

- A valid town of Collingwood test tag must be attached to or near the backflow device
- Provide a copy of the test report to the town of Collingwood Backflow Prevention Officer

Backflow for Sprinkler Systems:

- If a backflow device is required to be replaced on an existing sprinkler system, calculations must be provided from an engineer specializing in sprinkler systems design to ensure that the device being installed will not increase friction loss for the system resulting in lower flow rates.
- Alternatively, provide the original engineers design noting the model of the backflow device that was originally installed and the info on the new device to be installed showing they are the same.

Trap Seal for Drains Directly Connected to Plumbing System:

- If a drain is provided that is directly connected to the plumbing system a trap must be provided and the trap seal must be maintain by installing one of the items listed below.
- Provide a mechanical trap seal primer of min 3/8 in inside diameter as per 7.4.5.5 to provide water to prime the trap.
Or
- Provide a BMEC approved mechanical trap seal that does not utilize water to ensure trap seal.

Annual Testing In accordance with [By-law No. 2017-056, Backflow Prevention By-Law](#), premise owners are required to have their premise protection device tested annually by a qualified contractor. The cross connection control testing and inspection report for the device shall be submitted to the Backflow Prevention Officer at (705)-445-1581 extension 3321 or visit the Town website, [Backflow Prevention Program](#).

Thermal Expansion Relieve Valve

7.6.1.16.(1) Thermal Expansion. Protection against thermal expansion shall be required when a *check valve* is required by Article 7.6.1.10., a *backflow preventer* is required by Article 7.6.2.2., or a pressure reducing valve is required by Article 7.6.3.3.

A-7.6.1.16.(1) Thermal Expansion. Closed water systems with no expansion to public water systems need to accommodate thermal expansion using one of the following:

- (i) an expansion tank designed for use on the cold or hot potable water system

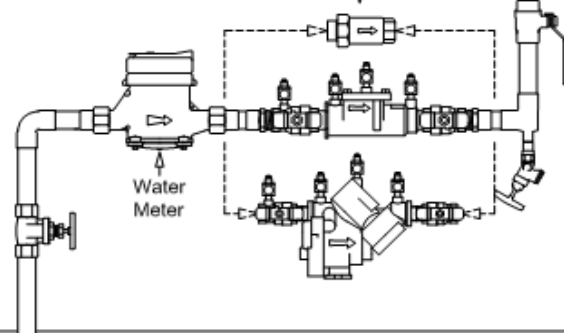
INFORMATION ONLY

The installation of a Backflow Preventer on the Water Distribution Piping entering the building creates a closed system in turn creating a situation where the hot water tank can increase pressure within the system through thermal expansion.

Combination Thermal Expansion Relief/Ball Valves are specifically designed to provide both a cold water supply shut-off to the hot water tank while also providing protection against any increase in water pressure caused by thermal expansion.

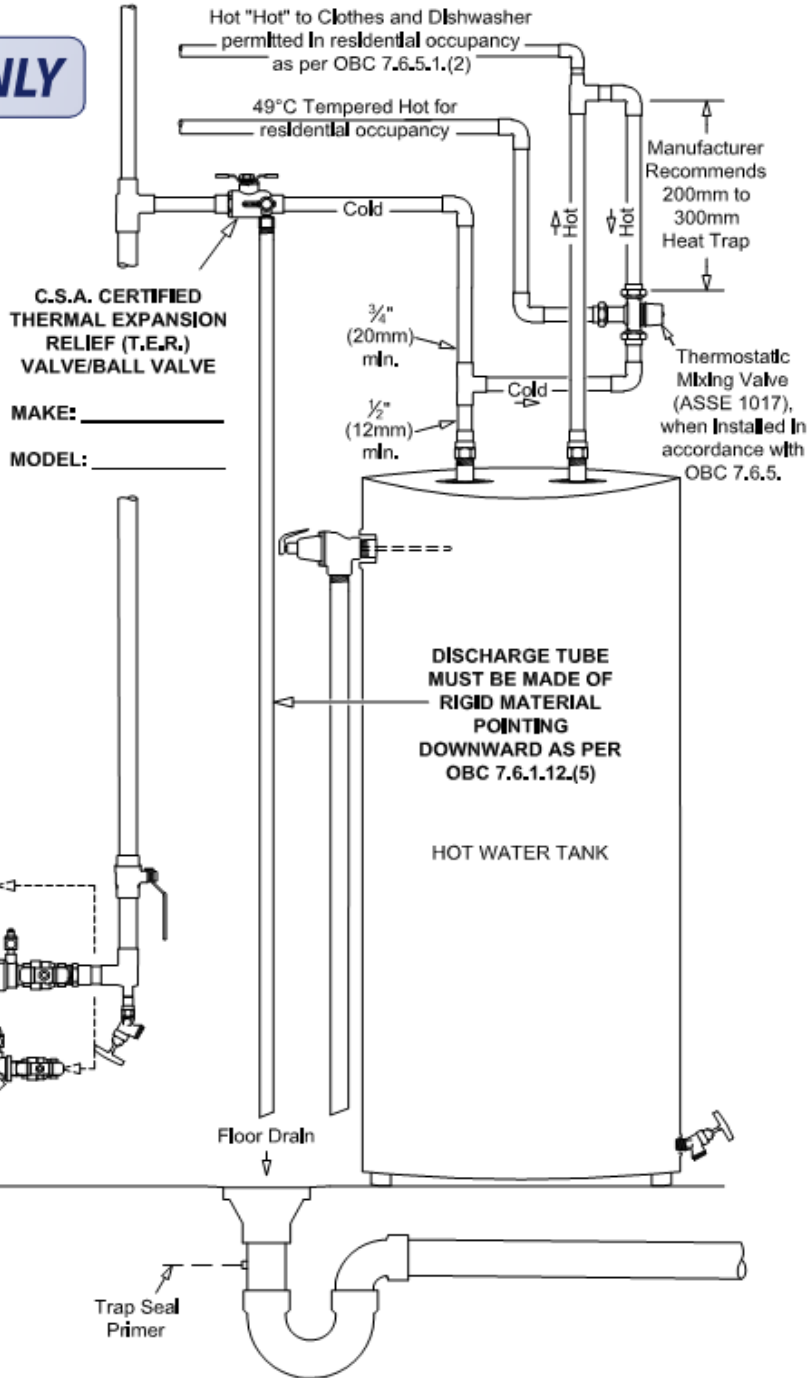
TYPE OF BACKFLOW PREVENTER

- Du.C.
- D.C.V.A.
- R.P.



SIZE OF WATER SERVICE

- 1" (25mm)
- ¾" (20mm)
- ½" (12mm)



The information listed above has been provided for convenience only and is not in substitution of applicable by-laws, codes or other applicable laws. You must satisfy yourself that any existing or proposed construction complies with the Ontario Building Code, as amended.
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Thermal Expansion Tank (Suspended)

7.6.1.16.(1) Thermal Expansion. Protection against thermal expansion shall be required when a *check valve* is required by Article 7.6.1.10., a *backflow preventer* is required by Article 7.6.2.2., or a *pressure reducing valve* is required by Article 7.6.3.3.

A-7.6.1.16.(1) Thermal Expansion. Closed water systems with no expansion to public water systems need to accommodate thermal expansion using one of the following:

- (l) an expansion tank designed for use on the cold or hot potable water system

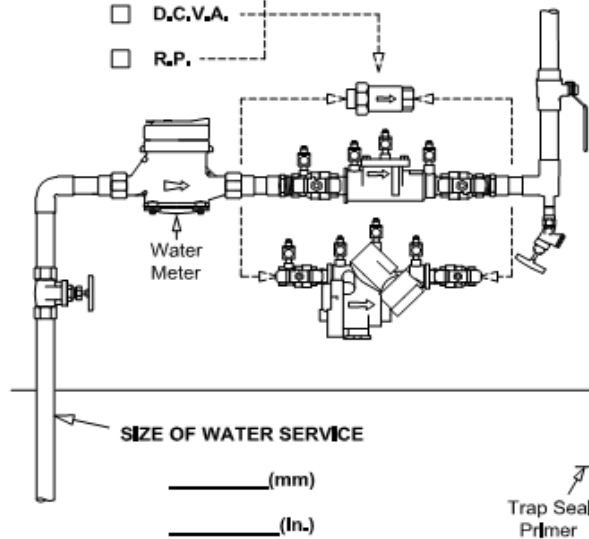
INFORMATION ONLY

The installation of a Backflow Preventer on the Water Distribution Piping entering the building creates a closed system. In turn, creating a situation where the hot water tank can increase pressure within the system through thermal expansion.

Thermal Expansion Tank absorbs any increase in water pressure caused by thermal expansion prolonging T&P Relief Valves. Tank is pre-charged below incoming supply pressure.

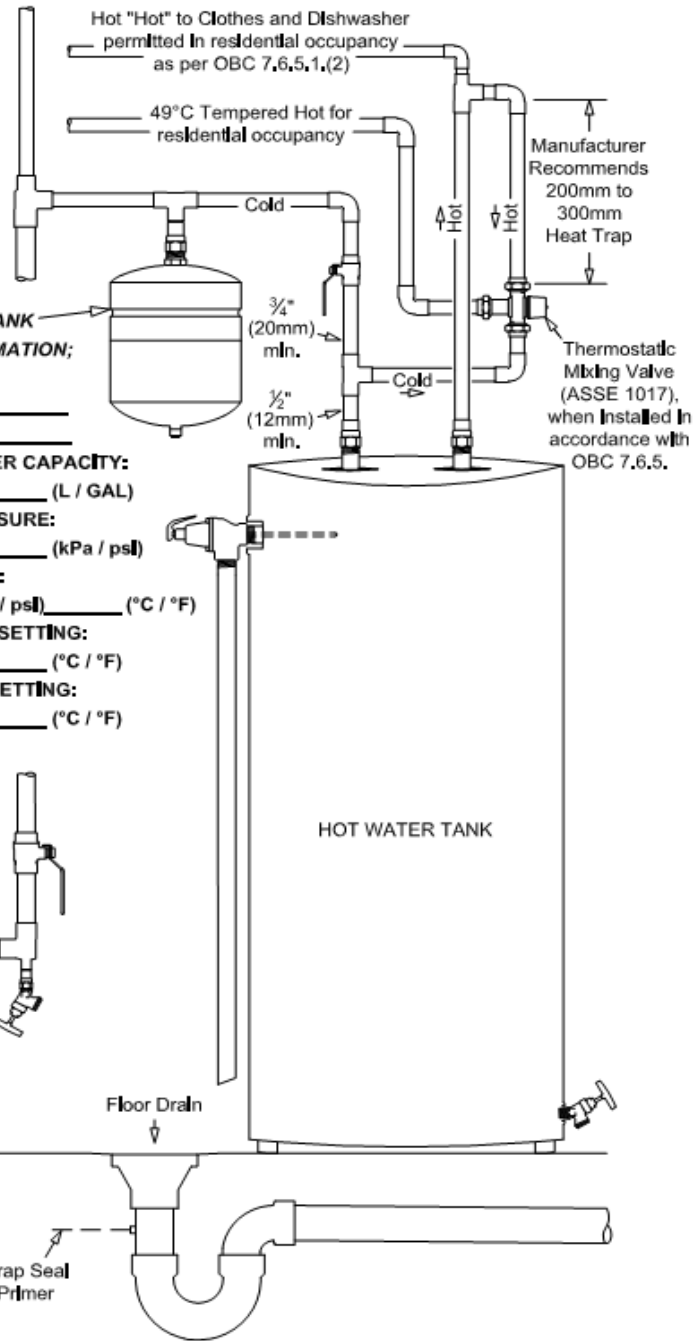
TYPE OF BACKFLOW PREVENTER

- D.U.C.
- D.C.V.A.
- R.P.



THERMAL EXPANSION TANK SIZING INFORMATION;

MAKE: _____
 MODEL: _____
 WATER HEATER CAPACITY: _____ (L / GAL)
 SUPPLY PRESSURE: _____ (kPa / psf)
 RELIEF VALVE: _____ (kPa / psf) _____ (°C / °F)
 INITIAL TEMP. SETTING: _____ (°C / °F)
 FINAL TEMP. SETTING: _____ (°C / °F)



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