



# Pressure Relief Valves on Pressure Tanks

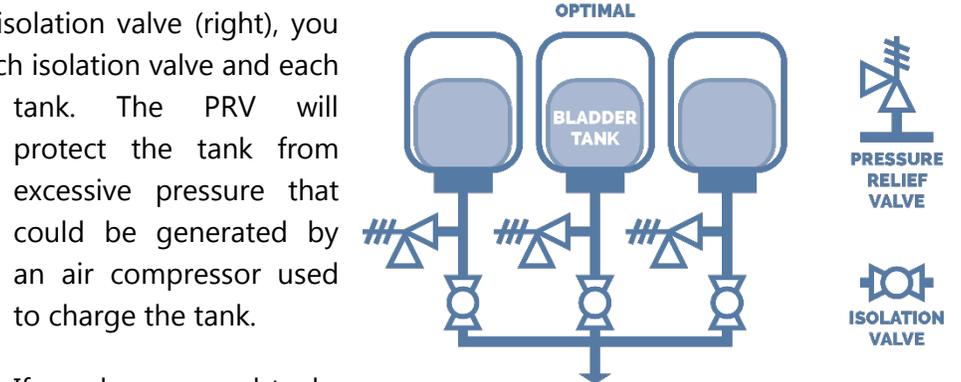
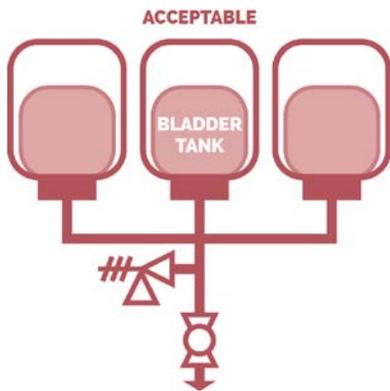
331-429 • Updated July 2016

**Pressure relief valves (PRV)** protect pressure tanks and other equipment from catastrophic failure if the pressure in the system exceeds safe limits. PRVs relieve pressure by opening at a set pressure to exhaust air or water when normal operating controls fail or during abnormal system conditions.

In Washington, water systems must safeguard all pressure tanks with an appropriate pressure relief valve. **You must install PRV valves on top of the pressure tank or on piping as close to the tank as possible. There must be no valves between the PRV and the pressure tank.**

Your system may use a group of small bladder pressure tanks to meet design requirements.

If each pressure tank has an isolation valve (right), you must install a PRV between each isolation valve and each tank. The PRV will protect the tank from excessive pressure that could be generated by an air compressor used to charge the tank.



If you have several tanks together without intervening valves (left), you can use one PRV to protect the tanks. This will reduce costs but may make tank repairs or maintenance more difficult.

## How to Ensure You Have Approved and Properly Installed Pressure Relief Valves

- ◆ No valves may be between the PRV and the pressure tank.
- ◆ The PRV must meet state Department of Labor and Industries' design requirements (WAC 296-104 Board of Boiler Rules).
- ◆ Pressure tanks smaller than 37.5 gallons gross volume (5 cubic feet) must be protected by a properly sized and installed PRV manufactured in accordance with a recognized national standard. We strongly recommend the use of an ASME Section VIII PRV for pressure tanks smaller than 37.5 gallons gross volume.
- ◆ Pressure tanks equal to or larger than 37.5 gallons gross volume must be protected by a properly sized and installed PRV manufactured according to ASME Section VIII. "V" and "HV" PRVs are not acceptable in cold-water domestic water service applications.
- ◆ An approved ASME Section VIII safety device for unfired pressure vessels can be identified by a "UV" stamp on the PRV valve body or the manufacturer's ID tag. If there is no "UV" stamp, it is not an approved safety device.
- ◆ The PRV discharge must run full size to a safe location and free of obstructions, caps or plugs.
- ◆ Any discharge line installed on a PRV must slope down to ensure water drains out of the line or the valve.
- ◆ You may install PRVs in other locations to protect pumps, lines, and facilities.

## For more information

We offer many publications online at <http://www.doh.wa.gov/drinkingwater>.

Contact our nearest regional office from 8 a.m. to 5 p.m. Monday through Friday. If you have an after-hours emergency, call (877) 481-4901.

**Eastern Region, Spokane Valley (509) 329-2100** Adams, Asotin, Benton, Chelan, Columbia, Douglas, Ferry, Franklin, Garfield, Grant, Kittitas, Klickitat, Lincoln, Okanogan, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman, and Yakima counties.

**Northwest Region, Kent (253) 395-6750** Island, King, Pierce, San Juan, Skagit, Snohomish, and Whatcom counties.

**Southwest Region, Tumwater (360) 236-3030** Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Kitsap, Lewis, Mason, Pacific, Skamania, Thurston, and Wahkiakum counties.