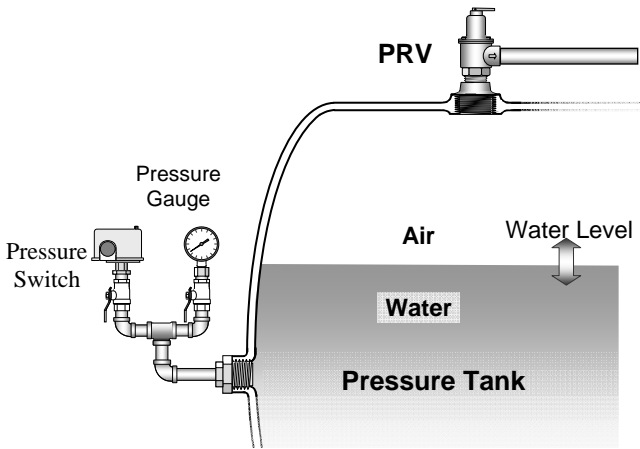


# Drinking Water Tech Tips: Pressure Relief Valves on Pressure Tanks

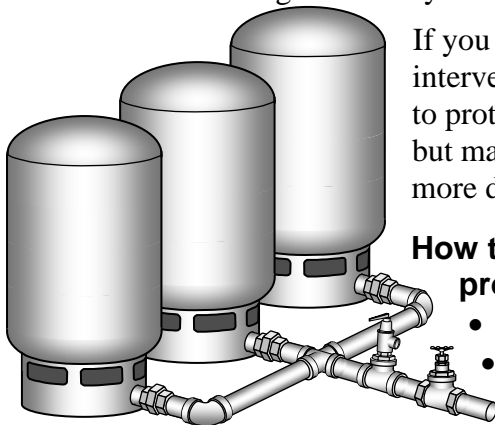


Pressure relief valves (PRV) protect pressure tanks and other equipment from catastrophic failure if the pressure in the system exceeds safe limits. PRVs relieve pressure by opening at a set pressure to exhaust air or water when normal operating controls fail or during abnormal system conditions.

In Washington, water systems must safeguard all pressure tanks with properly sized, ASME-approved pressure relief valves. 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 tank has an isolation valve (right), you must install a PRV between the valve and the tank. The PRV will protect the tank from excessive pressure that could be generated by the air compressor used to charge the tank.

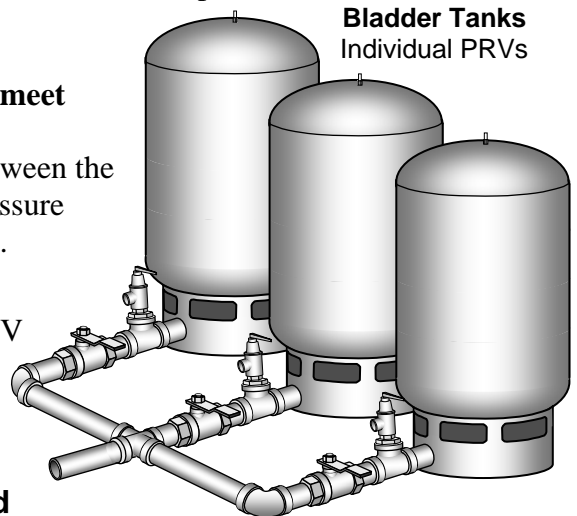


**Bladder Tanks**  
One PRV with no shutoff valves

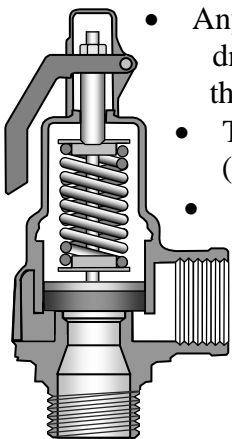
If you have several tanks together without intervening valves (left), you can use one PRV to protect the tanks. This will reduce costs but may make tank repairs or maintenance more difficult.

## How to ensure you have approved and properly installed pressure relief valves

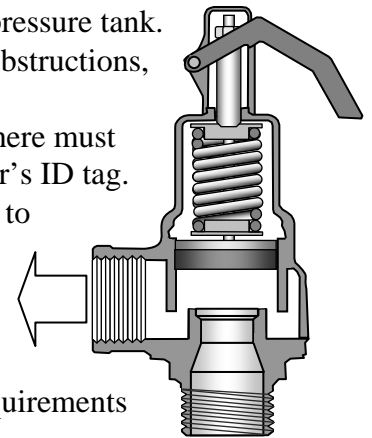
- There must be no valves between the PRV and the pressure tank.
- The PRV discharge line must be open and free of obstructions, such as caps or plugs.
- To be ASME-approved for unfired pressure vessels, there must be a "UV" stamp on the PRV valve or the manufacturer's ID tag.
- You must direct discharge from the PRV to a safe point to prevent employee injuries or equipment damage.
- Any discharge line installed on a PRV must slope down to ensure water drains out of the line or the valve. If water accumulates, it could corrode the spring and damage the PRV.
- The PRV must meet state Department of Labor and Industries' design requirements (WAC 296-104 Board of Boiler Rules).
- You must use adequately sized PRVs, set for the appropriate operating pressure.
- You may install PRVs in other locations to protect pumps, lines, and facilities.



**Bladder Tanks**  
Individual PRVs



**Closed PRV**  
Normal operating conditions



**Open PRV**  
Relieving excess pressure

## For more information

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