

## Hazard Alert – Water Supply Bladder Tank

Pressurized bladder tanks are installed almost everywhere where water is supplied by a pump. When the system consists of a bladder tank, pressure regulating switch, pressure relief and a pressure gauge after a pump, the pump will only run when needed.

### Hazard Summary

Water tanks as part of a system using a well, pond or stream as the water source for residences, cabins or mobile camps have two purposes. The first is creating enough pressure that the water will flow through the lines at a nominal rate of around 60 psi. The second is to store water so that the pump does not, on-demand, have to try to pump water from the supply. Instead, the water stored in the tank is pushed under pressure to the rest of the water system.

Improperly operated or maintained pressure vessels can fail catastrophically, resulting in death, injury and extensive damage.

There is potential danger from pressure vessels if they are not properly installed, operated, inspected, tested or repaired. The higher the operating pressure and the larger the vessel, the more energy will be released in a rupture and the more severe the consequences.



### Factors in Pressure Vessel Failure

The following conditions and factors have played major roles in pressure vessel accidents:

- Failure to install the pressure relief valve.
- Operation above the maximum allowable working and test pressures.
- Improper operation of relief devices due to faulty maintenance and failure to test regularly.
- Failure of the vessel due to fatigue from repeated pressurization, general thinning from corrosion or erosion, localized corrosion, stress corrosion cracking, holes and leaks.
- Failure to inspect frequently enough.
- Vessel exposure to fire.



### Recommended Precautions

- Read owners' manual before attempting to install, operate or service any pressure tank.
- Have a qualified person install the system.
- Install a pressure relief valve capable of passing the full pump volume and ensure it is preset as per the tank manufacturer's instructions.
- Read the owners' manual and rules for safe operation and installation instructions carefully. Failure to follow these rules and instructions could cause serious bodily injury and/or property damage.
- Install system according to local codes.
- To avoid possible equipment failure, severe injury and property damage. Do not allow pump, tank or piping system to freeze.