



LuntMarymor

Plumbing · Hydronics · Fire

Pressure Regulating Systems

What is Water Pressure?

The downward force of water upon itself and other materials, caused by the pull of gravity.

In other words: the energy that drives the water through the pipes.

This energy is expressed in terms of pressure, and measured in "psi" (pounds per square inch).

55psi is considered in the mid-range of normal water pressure.

The normal pressure for your property will depend on its physical relation to the water source supply (tanks and reservoirs). If your home is at a higher elevation relative to a tank's location, you will have lower pressure. Conversely, the lower your home is located downhill from the tank, the higher the pressure. Water pressures in flatland areas are based on reservoir water levels, assisted by the use of booster pumps.

High water Pressure:

Excessive water pressure (above 80psi) puts unnecessary strain on the water heater, water lines and fixtures, which can result in leaks. Higher pressures could rupture pipes, damage fixtures, and injure the people using them.

You may notice symptoms of high pressure:

- "Rattling" pipes may occur when a faucet, dishwasher or washing machine shuts off. This is caused by a high-pressure water hammer.
- Water heater pressure relief valve malfunctions.
- Reoccurring leaks.

What to do? What to do?

Most plumbing codes require water pressure reducing valves on domestic systems where the municipal water main's pressure exceeds 80psi.

High water pressures waste water. Many municipalities today not only charge homeowners and businesses high rates for water consumption, but also charge consumers equally high rates for the disposal of wastewater. Furthermore, reducing water consumption; reduces the excess energy required for heating additional hot water.

Need additional reasons to install a Pressure Reducing System?

Water Savings: Twice as much water flows through a system at 150psi pressure than at 50psi. Much of this additional water is waste.

Energy Savings: If less water flows through the system, then less energy is needed to heat domestic hot water. Calculations show that a Watts water pressure reducing valve can save as much as 30% on domestic water heating costs.

Wastewater Savings: When the community's wastewater treatment load is reduced, cost benefits accrue to both the environment and your bottom line. Many municipalities pro-rate sewer usage fees based upon the water meter reading.

What is a Pressure Reducing System?

A Pressure Reducing System consists of a Pressure Reducing Valve (also known as "PRV") in conjunction with an Expansion Tank. The PRV is installed directly after the water meter, and it automatically reduces the pressure from the water supply main to a lower, more sensible pressure.

Water entering the valve from municipal mains is constricted within the valve body and directed through the inner chamber. Even if the supply water pressure fluctuates, the pressure reducing valve ensures a constant flow of water at a functional pressure, as long as the supply pressure does not drop below the valve's preset pressure.

A properly sized valve prevents noisy operation or premature valve failure. Water pressure reducing valves should be selected based on flow and pressure ranges, not the size of the pipe to which they will be attached.



An expansion tank is a small tank used in closed water heating systems and domestic hot water systems to absorb excess water pressure caused by thermal expansion as water is heated. The expansion tank usually contains a rubber diaphragm which divides the tank in two sections. One side contains a small volume of air, which is compressed so that it is equal and opposite to the water pressure. The other side of the tank contains water, which is open connected to the plumbing system. Anytime the water pressure rises, it will push against the diaphragm, and gently compress the air. The compressibility of the air cushions the pressure shock, and relieves pressure in the system that could otherwise damage the plumbing system.

***Excessive water pressure? The solution is a phone call away!
Lunt Marymor has extensive experience in the design and installation
of appropriately sized Pressure Reducing Systems.***

What to do if I have low water pressure?

Less than 30psi is considered in the low-range of normal water pressure.

If your house is located in a low-pressure area (i.e., in the hills, near a water utility's tank), the only way of increasing pressure is to install a booster system.

If your normal adequate water pressure decreases slowly, over time, these could be some potential causes:

- Reduced water flow/volume due to deteriorating galvanized lines. This usually occurs as a result of mineral deposits building up inside the domestic water supply piping which restrict the flow of water
- Plugged faucet aerators (faucet screens)



***If you experience drops in water pressure, our expert
Journeymen will provide you with Code approved
solutions to your low water pressure problems!***