Res Tech Support

Operation & Maintenance

High Water Pressure, Thermal Expansion, and T&P Relief Valve Dripping

Dear Homeowner,

This article, the website, videos, and other documents contain *supplementary information* and are not intended to replace the printed Instructions. For complete details, read and follow the printed Installation Instructions that came with your water heater or parts kit. The printed Instructions and product labels contain model-specific information, important warnings, and safety notices.

Based on the symptoms you described during your call, we believe the following information may be helpful. For additional help, **click here** to find a service technician in your area. Please read the safety information in the Owner's Manual and the labels on the water heater before attempting any of these procedures.

You may notice one or more of these conditions if your home's water pressure is too high:

- Drips from your water heater's T&P relief valve pipe or from faucets;
- Hammering noises coming from the water pipes (water hammer);
- Premature wear of faucet gaskets, toilet valves, and/or other devices connected to the plumbing system, including the water heater;
- In extreme cases: ruptured hoses and/or water supply lines.

Checking Water Pressure

Use a pressure gauge with a recording hand to check your home's water pressure over a 24-hour period. If the water pressure is over 80 PSI, have a service technician install a pressure reducing valve and adjust the pressure to 50-60 PSI.

	
Use a water pressure gauge to check your home's water pressure.	**Install a pressure reducing valve if your home's water pressure is over 80 PSI.**

Thermal Expansion

The water in your water heater expands when heated putting pressure on the tank and the plumbing system. This *thermal expansion* may cause drips from your water heater's T&P relief valve discharge pipe.

Electric water heaters only: if there are several gallons of water on the floor around the T&P relief valve discharge pipe, this is not thermal expansion. Turn the water heater's circuit breaker off or remove the fuses, and contact a service technician to check the thermostats and elements. **Click here** to find a service technician in your area.

Thermal expansion may cause water to surge from a faucet when the tap is first turned on, or the faucet may drip if no water has been used for more than 30 minutes. Thermal expansion increases pressure in the water pipes, damaging plumbing, appliances, and the water heater. A water heater tank that is continuously exposed to thermal expansion may have a considerably shorter lifespan.

To reduce the pressure in your plumbing system, install a thermal expansion tank on the cold water line.

We recommend watching this video for help understanding thermal expansion tanks.

Almost all homes need a thermal expansion tank to protect the plumbing system. A thermal expansion tank works in conjunction with a pressure reducing valve to protect your home's plumbing system from damage caused by too much pressure. Thermal expansion tanks must be sized according to the water heater's tank capacity and pressurized to match the home's incoming water pressure. Install the thermal expansion tank according to the manufacturer's instructions. Have a service technician install the thermal expansion tank if you cannot perform the work safely. Please note the need for a thermal expansion tank is not a water heater defect and not covered under your water heater's warranty.

Install a thermal expansion tank to protect your plumbing system and water heater.

Water Hammer

Water hammer is a pressure surge that travels back and forth through the piping system when the water is shut off abruptly producing loud hammering or banging noises. Single lever faucets and/or automatic solenoid valves (dishwashers, washing machines, etc.) are the main causes of water hammer, and how quickly the valve is closed directly relates to the intensity of the noises or vibrations. High water main pressures can also cause an increased water line flow rate and may ultimately lead to water hammer. It should also be noted that poorly secured water pipes may contribute to water hammer noise. Water hammer may damage various parts of your water heater, but the most common damaging effects are an expanded tank shell, a collapsed flue tube, or inverted or deformed tank heads. Damage from water hammer may occur over time or be the result of an instantaneous, one-time event in the water main. Water hammer is not a water heater issue, but rather a plumbing issue.

The only effective way to control water hammer is to install water hammer arrestors. Water hammer arrestors absorb the pressure surges caused by water hammer and may prevent the loud noises and vibrations often associated with the condition. Have a service technician install water hammer arrestors if you cannot perform the work safely. **Click**

here to find a service technician in your area. Please note the need for water hammer arrestors is not a water heater defect and not covered under your water heater's warranty.

Install water hammer arrestors to help prevent water hammer.

For additional help, **click here** to find a service technician in your area.

Please take a moment to tell us how we did today.
