



Technical Bulletin

Discharging Relief Valves

Models Affected: All

More and more housing developments are being constructed in areas where the local water utility is supplying extremely high water pressure. To cope with this higher pressure, contractors install water pressure reducing valves in the service. These reducing valves are available with or without a back flow preventor. In the case where the reducing valve does not permit back flow, every degree rise in the temperature, pressure increases from four (4) to six (6) pounds per square inch (PSI) in the water heater tank. Under these conditions the tank would be subject to a minimum of 240 PSI with a 60 degree rise in water temperature ($4 \times 60 = 240$) and minimum 400 PSI with a 100 degree rise in water temperature ($4 \times 100 = 400$). Since the tank is designed to withstand a test pressure of 300 PSI, it can be easily understood that the tank could rupture without a temperature and pressure relief valve installed.

To correct a discharging relief valve problem:

- Replace the water inlet pressure reducing valve with a valve that has a back flow by-pass built into it. This will permit the water to expand back into the main supply when heated.
- Or, if codes require a back flow prevention device a properly sized thermal expansion tank should be installed in the supply side piping of the water heater.

The above does not only apply to areas with extremely high main distribution water pressure, but will also occur in areas where the utility requires a check valve in front of the water meter, or where codes require backflow prevention devices installed in the water service.

If you have any questions or concerns related to discharging relief valves, contact our Product Service & Support Department immediately at:

1-800-999-9515