Primary Fluid Systems

Pressure Safety Relief Valve vs. Pressure Relief Valve

PSV Pressure Safety Relief Valve (PSV) is the term used to describe a relief device on a compressible gas or fluid. A Pressure Safety Relief valve is designed to open suddenly. When the set pressure of the PSV is reached, the valve opens almost fully. PSVs require that the outlet of the valve be larger than the inlet, based on an understanding of engineering flow calculations of compressible gas/fluids. The pressure is often much lower downstream of the PSV, so when the compressible gas/fluid is relieved the gas/fluid will expand. The expanding gas/fluid requires a larger pipe for flow of the same mass at a lower pressure, and the gas/fluid will occupy a larger volume. Pressure Safety Relief valves are also stamped, wire tag sealed, and certified to ASME/API standards. Once the valve has relieved/popped due to over-pressure conditions, it must be taken out of service and returned to the factory to be refurbished, reset, and wire tag sealed.

Pressure Relief Valve (PRV) is the term used to describe a relief device on a non-compressible liquid. A pressure relief valve opening is proportional to an increase in the system pressure. For example, the valve will open gradually if the pressure is increased gradually. Since the applications are non-compressible liquids, the pressure relief valve does not require the outlet to be larger than the inlet to handle gas/fluid expansion; hence both connection sizes are the same. PRVs are also not ASME/API stamped, and do not need to be returned to the factory to be refurbished.

Primary Fluid Systems manufactures Pressure Relief Valves, and not Pressure Safety Relief Valves.