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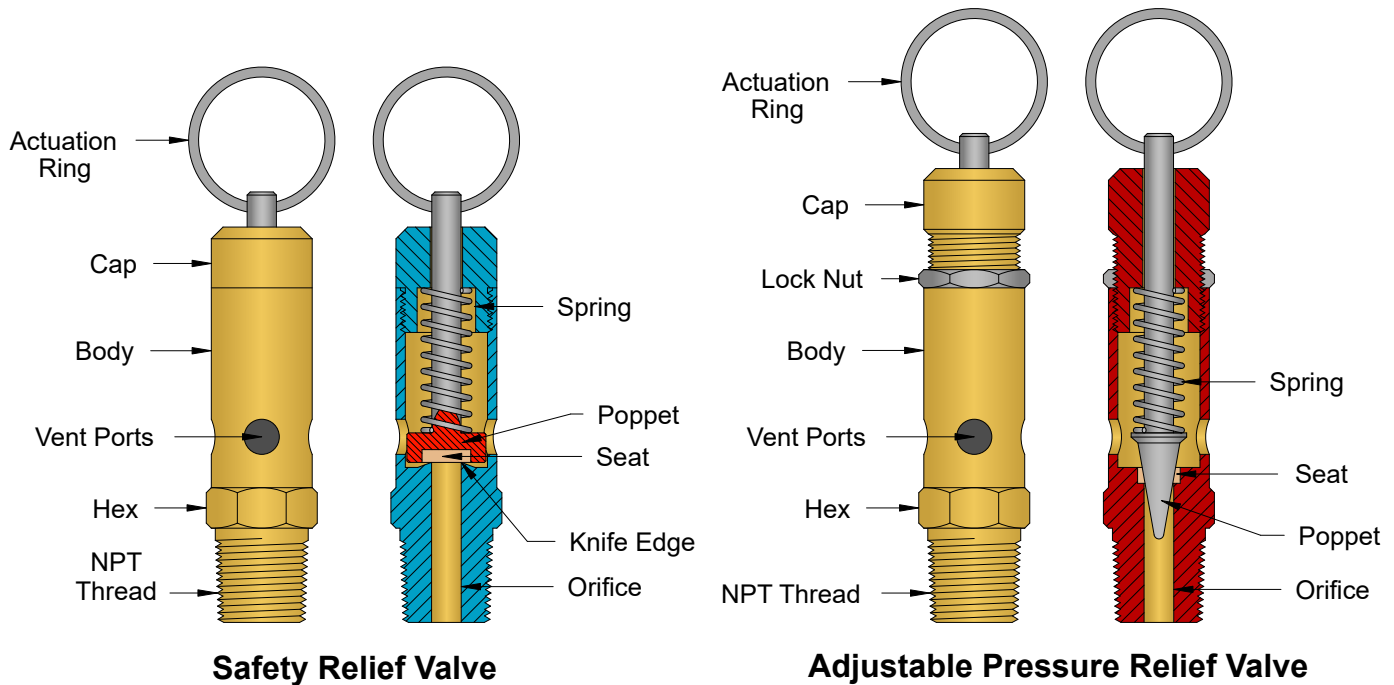
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Pressure Relief Valves for Compressed Air

by Brian S. Elliott

An important safety consideration when operating a compressed air system is that of over-pressurization. In the event that pressure is built to a level that exceeds the structural limits of the equipment, a catastrophic failure may occur. The sudden release of the compressed air from, for an example, a 120 gallon receiver would be akin to a medium yield explosive device. There have been many instances of these kinds of failures and the resulting destruction can be modestly described as significant. To avoid this type of failure, safety relief valves, like the one illustrated below and to the left, are typically applied to various components throughout the system. Typically, these valves are installed on pumps, aftercoolers, oil sumps and receivers.

Other situations call for the controlled release of pressure, this is the purview of the adjustable pressure relief valve as illustrated below and to the right. Note that the poppet is in the form of a taper plug. This arrangement allows the relief valve to bleed over pressure at slow and precise rate. On the other hand, the safety valve has a large, flat poppet that will open quickly and remain open until the pressure drops below the valve's cracking pressure.



Safety Relief Valve

Adjustable Pressure Relief Valve

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