

Buckling Pin Relief Valve (BPRV)

Key Benefits

- Not affected by pulsing line pressure or temperature changes
- Clean lift at set pressure (no simmering)
- No metal shards on lifting
- Low downtime due to fast replacement of pin
- Operates close to MOP
- Opens in milliseconds
- No fugitive emissions
- Pin not subject to fatigue
- High capacity
- Wider size range compared to conventional relief valves
- Capable of full flow



Advanced protection on a variety of safety critical applications

Elfab's Buckling Pin Relief Valves (BPRV) offer cost-effective solutions for the overpressure protection of various applications within industrial markets such as Petrochemical, Oil and Gas, Food Processing, Energy and Pharmaceuticals. Each BPRV is uniquely designed and manufactured under the highest quality standards to meet your individual specifications.

The BPRV utilises Euler's law of compressed columns to provide the necessary technology to design a suitable pin. Buckling Pins have two simple positions; straight (valve closed) or buckled (valve open), giving a clear visual indication of the state of the product. At a set pressure, the pin buckles instantaneously allowing the pressure to be released. The optional proximity switch provides the operator with the ability to connect the valve to their control systems by interpreting the valve state.

Reduced downtime installation and maintenance

Regardless of the design or size, resetting the device after operation takes only a few minutes as the pin is retained by a single nut, and the valve does not need to be removed from the line. This ensures quick start up of process and reduction in downtime costs by approximately 90%. Unlike other forms of pressure relief devices, the critical component, the pin, is located externally and is isolated from the process. Therefore, it is not affected by process conditions such as medium or temperature.

Due to the two simple states (straight or buckled) and few moving parts, Elfab's BPRV's are almost maintenance free and not subject to annual replacement. Replacement rupture pins are almost void of human error as it is virtually impossible to install a pin incorrectly.

Unique designs dependent on specifications

Elfab's BPRV's come in a range of standard designs and burst pressures allowing for ease of installation and compatibility with various applications.

Suitable for liquid, gas or vapour applications with a wide variety of body trim materials, making Elfab's buckling pins an excellent solution for your pressure relief needs.