



**A sanitary relief valve for the brewing, beverage, food processing and pharmaceutical industries.**

The Crosby Style PVR pressure/vacuum relief valve is a sanitary valve designed specifically for the brewing, beverage, food processing and pharmaceutical industries. This valve provides over-pressure protection in three modes of self-actuated operation:

1. Relieves excess air or gas pressure;
2. Relieves excess liquid pressure in the absence of air or gas blanketing; and
3. Designed to prevent formation of a vacuum that could cause the vessel to buckle.

The pressure/vacuum relief valve is manufactured in accordance with ASME Code Section VIII requirements. Valve capacities on compressible fluid are certified by the National Board of Boiler and Pressure Vessel Inspectors.

The valve body and all internal parts are designed to operate after exposure to process fluids and to withstand direct flushing and cleansing of sterilizing agents, caustics, water or steam. Further, the configuration of each valve piece permits complete drainage after valve operation and/or flushing, and minimizes crevices which might trap contaminants or promote freezing in cold environments.

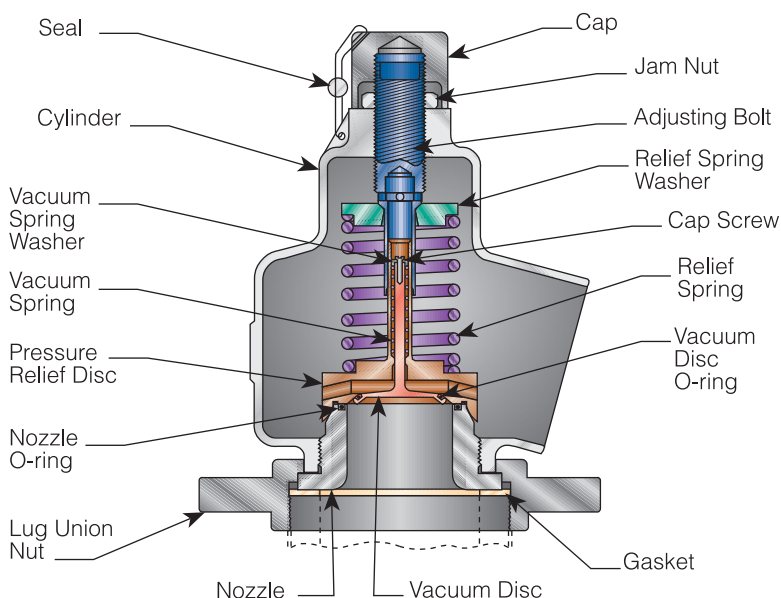
Crosby's PVR is a versatile design featuring reliable and trouble-free operation. The valve set pressure may be adjusted by the stainless steel adjusting bolt which is also the pressure relief disc guide. The pressure relief disc in turn guides the vacuum disc and spring. Vacuum relief set pressure is pre-set at the factory and is non-adjustable.



The cap is sealed with a lead seal to prevent tampering. Tight shutoff is provided by standard Viton® O-ring seats on both discs. All valve materials are corrosion resistant and all exposed surface finishes are controlled to enhance the sanitary features of the valve.

If your process requires a custom designed pressure relief, vacuum relief, or pressure/vacuum relief valve manufactured to ASME standards, contact your sales representative.

## Specifications



### Materials of Construction

Part Name	Material
Lug Union Nut	Cast Bronze
Nozzle	Stainless Steel
Nozzle O-ring	Viton®
Pressure Relief disc	Cast Bronze
Vacuum Disc	Stainless Steel
Vacuum Disc O-ring	Viton®
Vacuum Spring Washer	Stainless Steel
Vacuum Spring	Stainless Steel
Relief Spring Washer	Brass
Relief Spring	Stainless Steel
Adjusting Bolt	Stainless Steel
Jam Nut	Stainless Steel
Socket Head Cap Screw	Stainless Steel/Nylok
Cylinder	Cast Bronze
Cap	Brass
Nameplate	Stainless Steel
Nameplate Adhesive	Mod. Methacrylate
Seal/Wire	Lead/Stainless Steel
Gasket	White Nitrile 4660

### Size (Style)

- 3" (PVR-3)
- 4" (PVR-4)

### Set Pressure Range<sup>1</sup>

14.5 psig to 125 psig

### Temperature Range

-15°F to 400°F

### Standard Connections

- Lug union nut inlet connection. Other connections may be designed to specific customer requirements.
- The outlet must be open to the atmosphere to assure valve cleanliness and proper performance.

### Available Options

- Flanged inlet connection -RF or FF
- Tapered inlet pipe (internal or external)
- Female pipe inlet connection
- Tri-clamp inlet sanitary connector (Ladish)
- Proximity switch

### Standard Materials

- Bronze cylinder, stainless steel and bronze trim with Viton® seats.
- Alternate materials may be provided to meet special customer requirements.
- Connection gasket is per customer specification.

### Weight (including lug union nut)

- 3" – 28 lbs. approximate
- 4" – 46 lbs. approximate

### Typical Operating Characteristics

Example – 3" size

Set – pressure relief 25 psig  
vacuum relief 2" W.C.

Capacity:

Liquid – 400 gpm at 25 psig set pressure and 10% overpressure.

Gas – 1989 SCFM at 25 psig set pressure and 10% overpressure.

Vacuum – 45 SCFM 2" W.C. vacuum set pressure with 8" W.C. total pressure drop.

### Optional Operating Characteristics

Specifications shown above are current Crosby standards. Please contact your local sales representative for applications requiring special design or operating characteristics.

### Note

1. Short springs and cylinders are furnished for set pressures to 25 psig in 3" size and 27 psig in 4" size.

Long springs and cylinders are furnished for pressure ranges 26 to 125 psig in 3" size and 28 to 125 psig in 4" size.

Dimensions and drawings are available.