

## Pressure Safety Valve + Rupture Disc

Rupture discs and Safety valves may be used independently as primary safety devices or in conjunction.

Possible combinations are:

- Disc and PSV in **parallel**: the disc is a second safety device in order to increase equipment safety (usually the rupture pressure of the disc is slightly above the setting of the valve).  
Typical application: liquefied gas tanks
- Disc **downstream** a PSV in order to protect the PSV from corrosive chemicals present in the vent duct
- Disc **upstream** a PSV: this solution allows combining the positive aspects of both devices: tightness of the disc and re-closure of the valve. In addition the disc protects the valve from corrosive or scaling process fluids, reducing the maintenance required by the more expensive and sensitive device. Main advantages are:
  - ★ Protection of the valve from aggressive or scaling fluids
  - ★ Avoid leakage due to valve scaling or corrosion (very important for dangerous fluids)
  - ★ Reduce maintenance (cleaning, calibration)
  - ★ Reduce the cost of the valve by using less expensive materials
  - ★ Test the correct performance of the valve without plant shut-down and valve dismounting

The rupture pressure of the discs is the same of the setting of the valve; build up of pressure in the space between the disc and the valve must be monitored and avoided

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