CROSBY

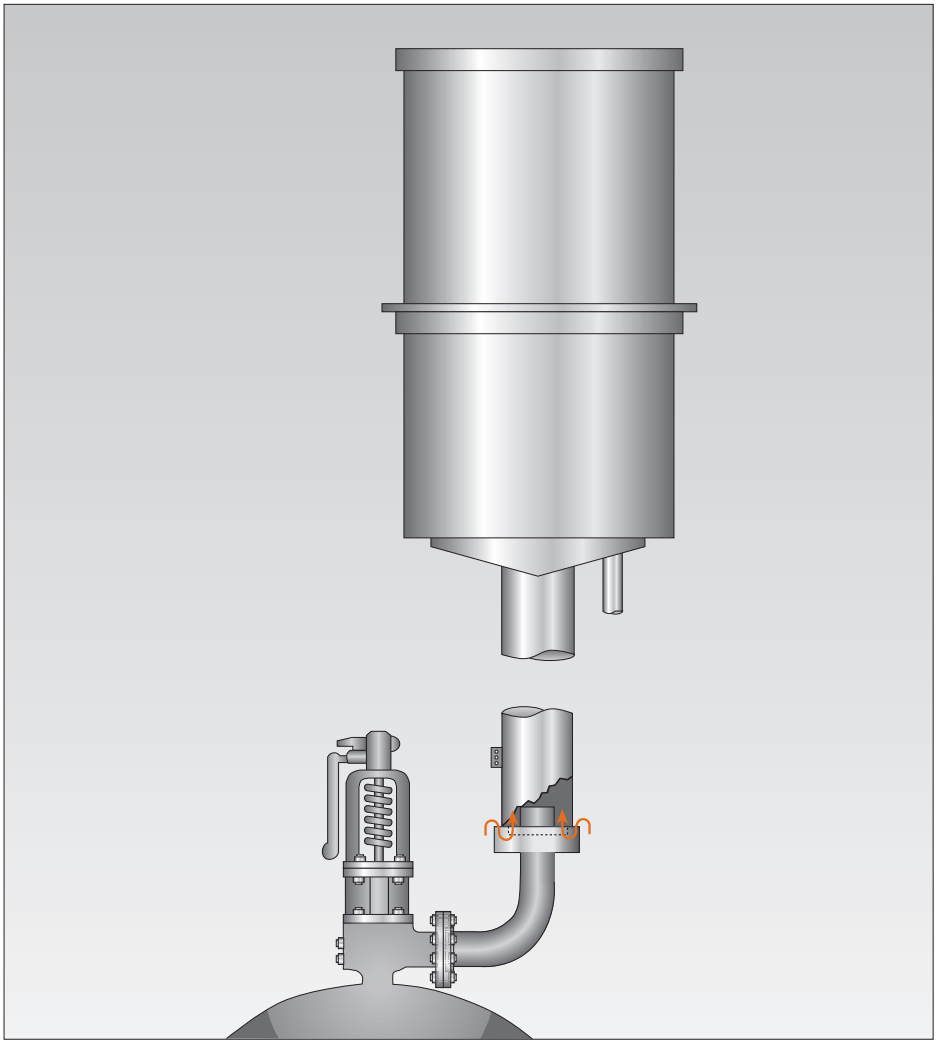
For reducing pressure relief valve discharge noise to safe levels.

During conditions when pressure relief valves are called upon to operate, the valve discharge noise can be intense, reaching levels which may be considered harmful to operating personnel, i.e. levels above those prescribed by Federal, State or Local regulations.

Pressure relief valves are designed for rapid full lift operation. The resulting discharge generated noise has distinct characteristics for which the silencer is specifically designed. Silencers safely handle the shock wave occurring when the pressure relief valve first opens and efficiently attenuate the steady state noise which follows.

The illustration (right) shows a typical safety valve as used on boiler systems with a standard open drip pan elbow arrangement discharging into an unattached vent stack that is in turn connected to a silencer.

It is sometimes desirable to have a closed discharge system between the pressure relief valve and silencer. It is important to remember that high back pressure and high stresses resulting from improperly designed installations can adversely affect the performance of the pressure relief valve. As a minimum, pressure relief valve installations should meet the requirements of the applicable codes and ASME B31.1 (non-mandatory rules for the design of safety valve installations).



tyco Flow Control

The picture on the right shows a typical Crosby H Series boiler safety valve with the open drip pan elbow arrangement. In the background, the separate discharge stack and silencer installation has been completed. Notice the silencer and discharge stack must be supported by the super structure, and not the safety valve.

Specification Data for Silencer Sizing

The following data is required in order to size and select the proper silencer and to verify pressure relief valve performance and compliance with specified noise requirements:

- **Fluid**
  - Steam, Air or Gas _____
  - Molecular Weight _____
  - Specific Gravity _____
- **Valve Information**
  - Manufacturer _____
  - Size and Style _____
  - Upstream Pressure (Set Pressure) _____
  - Upstream Temperature (Relieving Temperature) _____
  - Capacity (Actual - not Code derated) _____
  - Code: ASME Sec I, Sec. VIII, API, etc. _____
- **Construction Details**
  - Connection Type (Open, Closed) _____
  - Size Connection _____
  - Multiple Inlets _____
  - Allowable Backpressure _____
  - Expansion Joint _____
  - Drain Connection _____
  - Primer/Painting Requirements _____
- **Acoustic Data**
  - Code: OSHA, Local, Other _____
  - Silencer Outlet Level:

  _____ dBa measured @ _____ distance