

TECHNICAL DATA

## Storage Tank Equipment

# Pressure/Vacuum Relief Valves



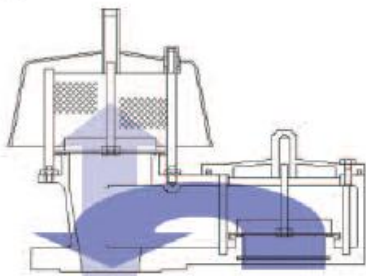
### Application:

Direct acting pressure / vacuum relief valves, or breather valves are special types of relief valves which are specifically designed for tank protection. The range includes pressure only, vacuum only and combined pressure / vacuum valves, all available with flanged outlets or vented to atmosphere. Pressure / vacuum relief valves are used extensively on bulk storage tanks, including fixed roof tanks with floating covers, to minimise evaporation loss. The valves prevent the build up of excessive pressure or vacuum which can unbalance the system or damage the storage vessel.

### Principle of Operation

The valves have a cast body which is flanged for connection to the storage tank. A weather hood protects the pressure exhaust port and a mesh cover is fitted to prevent the ingress of foreign matter for valves vented to atmosphere. Piped-away versions are also available throughout the range.

Both the pressure and vacuum sides of the valve incorporate a pallet and diaphragm assembly which rest on an 'O' ring seal to prevent leakage. This 'O' ring can be removed and the seat machined optically flat, producing a metal to metal seating arrangement if required. The weight of the pallet pushes the diaphragm against the seat to keep it closed. When the pressure or vacuum increases, the pallet and diaphragm lifts and air/gas is allowed to flow.



### Benefits

- Pressure / vacuum relief valves provide high gas flow from a compact valve size
- Range of sizes and materials to suit a wide range of applications
- Wide range of pressure and vacuum settings to provide maximum tank protection whilst ensuring minimum gas loss
- Valve sizing service assists optimum valve performance/cost specification

### Elmac Expertise

Elmac have been manufacturing protection equipment since 1948, and bring enhanced levels of flame and explosion protection to a diverse range of applications. **Elmac Technologies®** offers considerable technical leadership and using test facilities along with CFD capabilities, employs research teams renowned for developing solutions for the most challenging of industrial applications.