

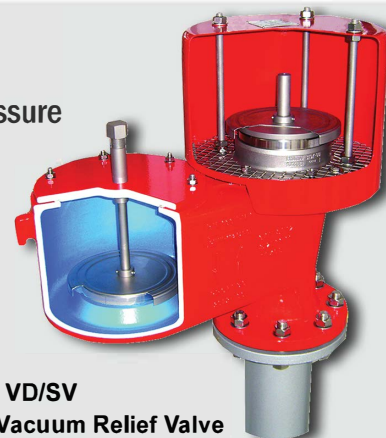
PROTEGO[®]

PRESSURE / VACUUM RELIEF VALVES

EXCEED EPA METHOD 21 TEST WITH LESS THAN 100 PPM LEAK RATES AT 90% OF SET PRESSURE

SPECIAL FEATURES AND ADVANTAGES:

- Less Than 100 ppm Leak Rate in EPA Method 21 Testing at 90% of Set Pressure
- 10% Overpressure Technology (Opens Later, Reseats Earlier)
- Frost-Proof Pallet Design
- Significantly Reduced Vapor Losses
- Reduced Nitrogen Blanketing Gas Losses
- Increased Design Flexibility
- Lowest Cost of Ownership



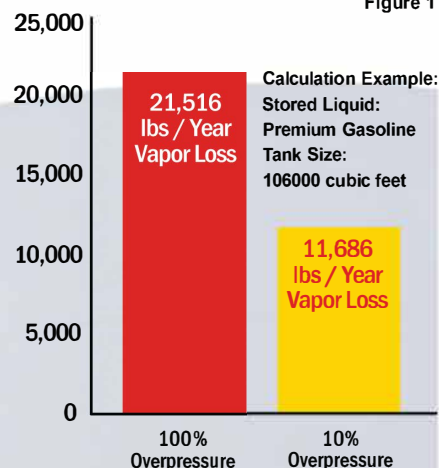
PROTEGO[®] VD/SV
Pressure / Vacuum Relief Valve

PROTEGO[®] Pressure / Vacuum Relief Valves require only 10 % overpressure to reach full lift. This means that our valves open at higher pressures and reseal earlier resulting in less vapor losses

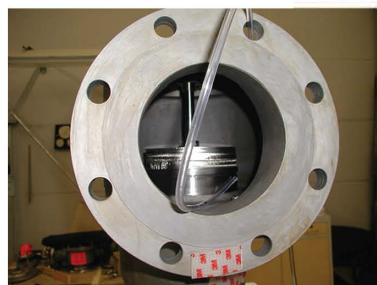
Knowing your blowdown (reseating pressure of the pallet) will prevent excessive Nitrogen losses in applications where the set pressure is relatively close to the Nitrogen regulators set pressure. Avoid interaction of the regulator with the pressure relief pallet by knowing the reseating values (blowdown). Save operational headaches, waste of expensive Nitrogen (blanketing gases) and protect your assets.

To meet the goal of emission reduction, PROTEGO[®] full lift vents utilize 10% overpressure technology. This means that the vent only requires 10% above the set pressure to reach full performance. Therefore, set pressures closer to the Maximum Allowable Working Pressure (MAWP) can be safely used. According to API 2000, the typical overpressure rating of a weight-loaded conservation vent is 80% - 100%. Since the use of higher set pressures can reduce emissions and vapor losses significantly (API 2521), the PROTEGO[®] 10% full-lift technology vents are a major benefit to process plant operation.

Figure 1: Vapor saving potential for 10% full lift type valve compared with 100% overpressure valve. Using a full lift type technology valve (valve requiring only 10% overpressure to reach full lift and provide full performance) can result in additional 44% vapor saving.



PROTEGO[®] Pressure / Vacuum Relief Valve scores less than 100 ppm leak rate in EPA Method 21 test



To prove the superior technology of the PROTEGO[®] vents, we conducted a test in our research facility according to the EPA (Environmental Protection Agency) Method 21. Figure 2 indicates the location of our test probe, which was located directly at the sealing surface between the valve pallet and seat. The tests have proven that PROTEGO[®] is the only vent manufacturer offering weight loaded vents which can comply with these stringent regulations. PROTEGO[®] can offer weight loaded vents which have the same sealing and opening characteristics of pilot operated vents.

Figure 2: Location of test probe in EPA Method 21 test setup located directly at sealing surface

PROTEGO[®]: the cost efficient solution for your high end application

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