

PROTEGO® Vents

“State of the Art Technology”

Don't let \$\$\$ flow out of your tank vents!

Reduce Vapor Losses with PROTEGO®'s Unique
State Of The Art “10% Full Lift Type” Technology.



*PROTEGO® VD/SV
Conservation vent*



*PROTEGO® VD/SV-PA
Conservation vent with Pipe-Away connection*

Challenge

Companies are now strongly focusing on emission reduction in order to comply with EPA regulations. Reduction of emissions not only minimizes vapor losses but also reduces blanketing gas losses (typically nitrogen). Reduction of both vapor evaporative losses and blanketing gas losses results in significant capital savings.

Solution

To meet the goal of reduced emissions, “full-lift-type” conservation vents should be utilized, which require an overpressure of only 10% above the set pressure to reach full performance. This means that set pressures closer to the Maximum Allowable Working Pressure (MAWP) can be safely used. According to API 2000 the typical overpressure rating of weight-loaded conservation vent is 80% - 100%. Since the alternative use of higher set pressures can reduce emissions and vapor losses significantly (API 2521), the “full-lift-type” technology vent pallet (10% overpressure rating) is a beneficial design to convert to in process plant operation and storage.

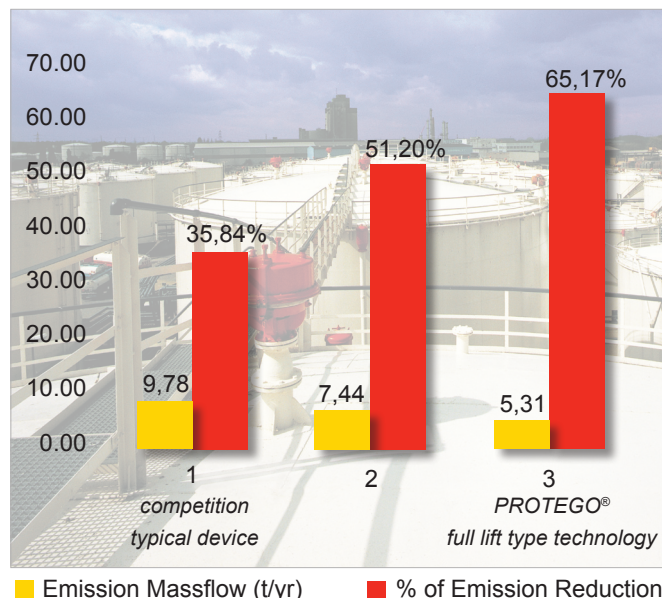


for safety and environment

Example of cost saving results

- Figure 1 shows calculations based on the VDI 3479 guideline demonstrating the vapor saving potential for retrofitting vents to compare a 100% (1), 40% (2) and 10% PROTEGO full lift type technology (3) (Figure 1: yellow = vapor mass loss, red = % of emission reduction).
- In low-pressure storage, typical set pressures of nitrogen blanketing regulators are 0.72" wc. If the MAWP of the tank is 2" WC a 100% overpressure pallet has to be set at 1" WC. Considering the "blow down", the vent closes below 0.72" WC and floats if the nitrogen regulator has opened once. This results in expensive nitrogen bleeding. Experimental results on a TUV certified flow test facility show that this problem does not occur if "full lift type" technology is used. The details of experimental tests can be provided if PROTEGO® provides you with our recommended vent solution.

Figure 1: vapor saving potential for a tank farm



- Start to cut costs and losses and help to protect the environment.**
- For design purposes we can provide you with K-Factors for all of our vents.**
- Also check our catalog for other vent solutions.**
- Specialty applications for Polymers (Styrene, Acrylates) and Solidifying Products (DMT, Phenol).**

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