

PROTEGO® Solutions for Alcohol Applications

PROTEGO® offers various solutions for the protection of storage tanks for ethanol and other alcohols. Please note that the solutions presented here are just examples; we work closely with our customers to provide tailored safety solutions for their specific operational needs and to comply with local regulations and standards.



EXAMPLES OF THE PROTECTION OF FREE-STANDING ALCOHOL STORAGE TANKS WITH EMERGENCY RELIEF VALVE

Other solutions for fire case venting could be a bursting discs or frangible roof-to-shell connection which would replace the requirements for an Emergency Relief Valve.



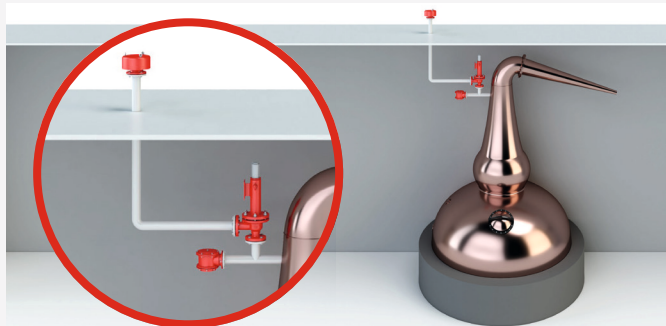
- End-of-line Deflagration Flame Arrester PROTEGO® LH/AD
- Emergency Relief Valve PROTEGO® ER/VH

- Pressure/Vacuum Relief Valve PROTEGO® VD/TS, atmospheric deflagration-proof
- Emergency Relief Valve PROTEGO® ER/VH
- The PROTEGO® VD/TS with integrated Flame Arrester provides certified explosion protection and flow capacity as well as ease of maintenance

- Deflagration-proof Vacuum Relief Valve PROTEGO® SV/E
- Emergency Relief Valve PROTEGO® ER/VH
- Pressure Relief Valve PROTEGO® P/EBR-E, deflagration- and endurance burning-proof for alcohols
- Endurance burning-proof required depending on local standards and regulations

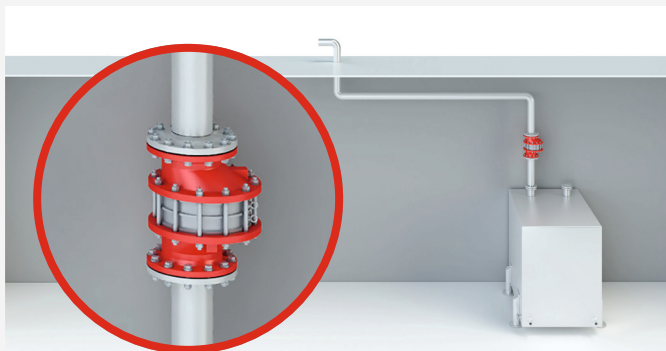
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EXAMPLES OF THE PROTECTION OF ROOFED ALCOHOL STORAGE TANKS

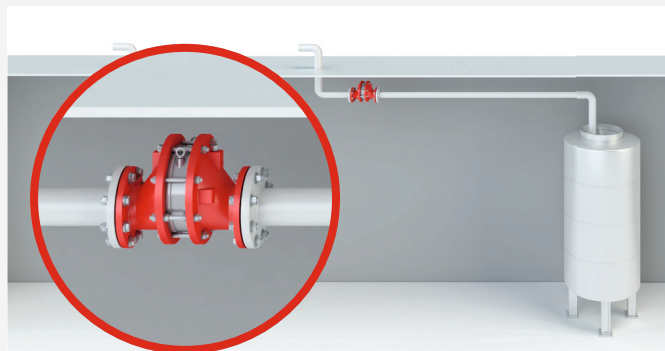


Protection of Stills

- Deflagration-proof, end-of-line Deflagration Flame Arrester PROTEGO® LH/AD
- Pressure Relief Valve PROTEGO® DZ/E-F and deflagration-proof Vacuum Relief Valve PROTEGO® SV/E
- Rapid opening of the Vacuum Valve with PROTEGO® 10% technology provides maximum protection for the still against vacuum collapse.



- Protection of roofed spirit receiver vessels with eccentric Detonation Flame Arrester PROTEGO® DA-E-IIB3.
- The location of PROTEGO® DA-E is not restricted.



- Protection of roofed spirit receiver vessels with eccentric Deflagration Flame Arrester PROTEGO® FA-E-IIB3 (L/D ratio ≤ 50).
- When using a Deflagration Flame Arrester, the maximum possible run-up distance from the ignition source to the installation location of the Flame Arrester (L/D ratio) must be observed.



- Deflagration-proof Vacuum Relief Valve PROTEGO® SV/E
- Detonation Flame Arrester PROTEGO® DR/ES or PROTEGO® DR/ES-V with integrated Check Valve
- The venting line is designed to provide venting to a safe location and is protected with a deflagration proof end-of-line Flame Arrester PROTEGO® LH/AD.
- In-line Pressure Relief Valve PROTEGO® D/PAL for emergency relief venting.



- Deflagration-proof Vacuum Relief Valve PROTEGO® SV/E
- Detonation Flame Arrester PROTEGO® DR/ES or PROTEGO® DR/ES-V with integrated Check Valve
- The venting line is designed to provide venting to a safe location and is protected with a deflagration proof end-of-line Flame Arrester PROTEGO® LH/AD or an endurance burning proof end-of-line Deflagration Flame Arrester PROTEGO® BE/HR-E for alcohols. Endurance burning-proof required depending on local standards and regulations.

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