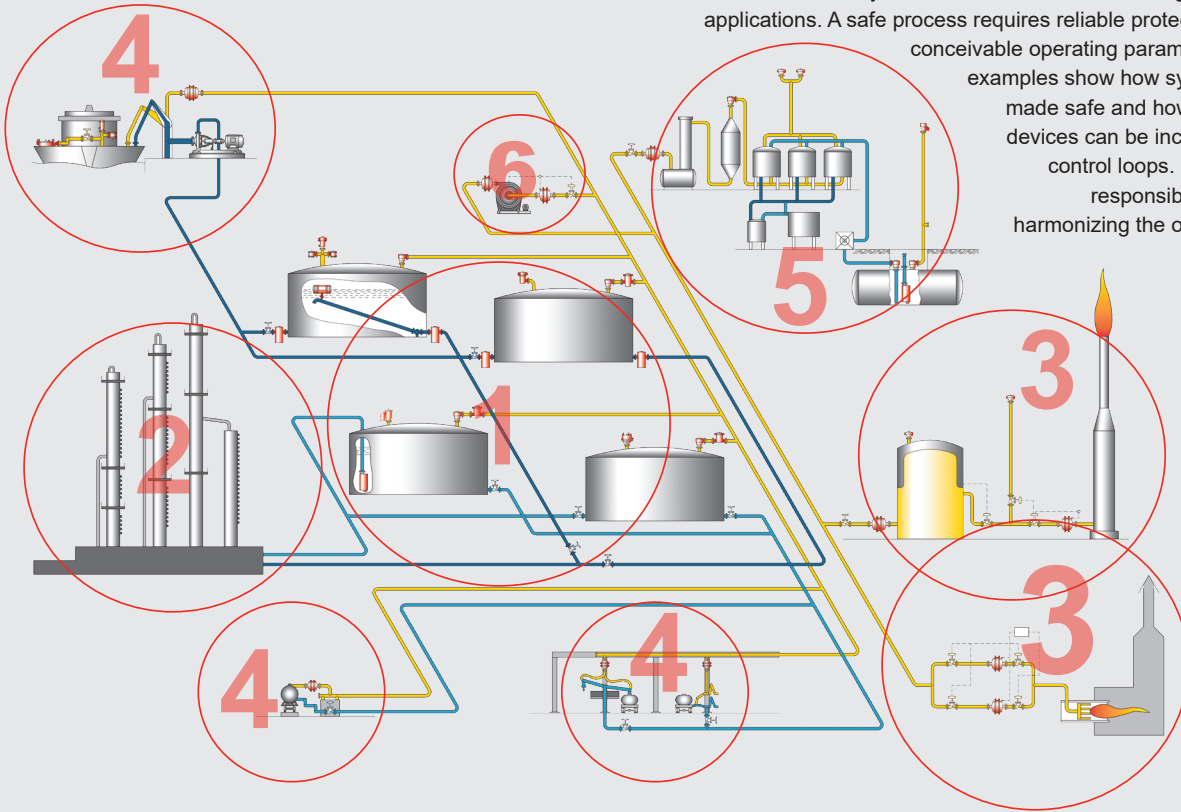


# PROTEGO® Product Overview

For more product information please visit our website: [www.protego.com](http://www.protego.com)

## PROTEGO® Applications

PROTEGO® safety devices are used in a wide range of industrial applications. A safe process requires reliable protection for every conceivable operating parameter. Practical examples show how systems can be made safe and how PROTEGO® devices can be incorporated into control loops. Engineers are responsible for properly harmonizing the overall system.



### PROTEGO® devices offer safety and environmental protection

- ① In Storage Tank Farms for Refineries and Chemical Plants
- ② In Processing Systems for Chemical and Pharmaceutical Industries
- ③ In Vapour Combustion Systems and Flares
- ④ In Ship Building and Loading Systems
- ⑤ In Vapour Recovery Units
- ⑥ As integrated Component of Equipment, Machines and Vessels

➡ **Valves** \_\_\_\_\_ page 2 - 5

➡ **Flame Arresters** \_\_\_\_\_ page 6 - 7

➡ **Tank Accessories** \_\_\_\_\_ page 8

➡ **Equipment for Cryogenic Storage Tanks** \_\_\_\_\_ page 9

➡ **Special Solutions** \_\_\_\_\_ page 10 - 11



for safety and environment

# PROTEGO® Valves

with and without integrated flame arrester unit

## Pressure / Vacuum Relief Valves

### Advantages of PROTEGO® 10% technology

- Pressure conservation very close to the maximum allowable tank pressure
- Minimization of product losses
- Reduction of vapour emissions

## Diaphragm Valves

Due to the flexible diaphragm, these valves are used in weather-related low temperatures and in sticky, polymerizing media.

PROTEGO® diaphragm valves are the only valves worldwide which are frostproof down to temperatures of  $-40^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$ ) (e.g. PROTEGO® UB/ ... series).

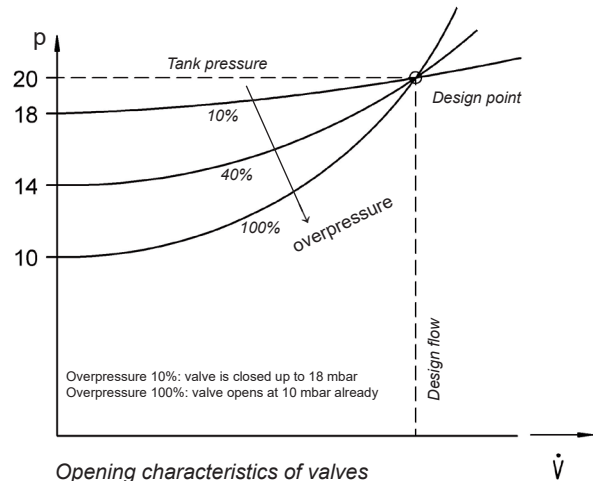
## Pilot operated Valves

### Special Features and Advantages

- in accordance with API 2000 recommendations
- increased set pressure up to 1034 mbar (15psig)
- blow down < 7%
- optimised flow performance

## Emergency Relief Valves


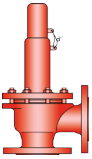

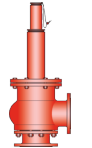

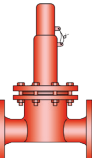
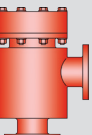
- used where the overpressure relief valves designed for normal operation fail to satisfy suddenly occurring venting requirements
- used as an emergency pressure relief valve on storage tanks, vessels, silos, and process engineering equipment in the event of a fire

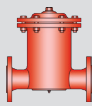
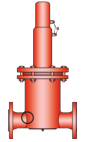
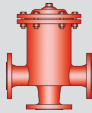
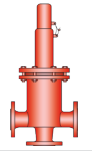

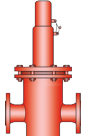
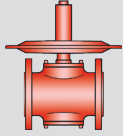


Opening characteristics of valves with different overpressure levels

# PROTEGO® Pressure/Vacuum Relief Valves

in-line














	Type	Size	Pressure setting		○ = X =
			positive or negative setting range	mbar / inch W.C.	
<b>Pressure or Vacuum Relief Valves</b>					
	DZ/E	25 - 300 1" - 12"	±2.0 up to ±60 ±0.8 up to ±24		○
	DZ/E-F	25 - 300 1" - 12"	±60 up to ±500 ±24 up to ±200		X
	DZ/EA	50 - 150 2" - 6"	±5 up to ±50 ±2 up to ±20		○
	DZ/EA-F	50 - 150 2" - 6"	±60 up to ±500 ±24 up to ±200		X
	DZ/T	25 - 300 1" - 12"	±2.0 up to ±60 ±0.8 up to ±24		○
	DZ/T-F	25 - 300 1" - 12"	±60 up to ±500 ±24 up to ±200		X
	R/KSM	50 - 200 2" - 8"	±5 up to ±100 ±2 up to ±40		○







	Type	Size	Pressure setting		○ = X =
			positive setting range	negative setting range	
<b>Pressure and Vacuum Relief Valves</b>					
	DV/ZT	40 - 150 1½" - 6"	upper valve pallet ±2.0 up to ±60 ±0.8 up to ±24	lower valve pallet ±3.5 up to ±50 ±1.4 up to ±20	○
	DV/ZT-F	40 - 150 1½" - 6"	+60 up to +500 +24 up to +200	-3.5 up to -50 -1.4 up to -20	X
	DV/ZU	40 - 150 1½" - 6"	+2.0 up to +60 +0.8 up to +24	-3.5 up to -50 -1.4 up to -20	○
	DV/ZU-F	40 - 150 1½" - 6"	+60 up to +500 +24 up to +200	-3.5 up to -50 -1.4 up to -20	X
	DV/ZW	40 - 150 1½" - 6"	+2.0 up to +60 +0.8 up to +24	-3.5 up to -50 -1.4 up to -20	○
	DV/ZW-F	40 - 150 1½" - 6"	+60 up to +500 +24 up to +200	-3.5 up to -50 -1.4 up to -20	X
<b>Blanketing Valve</b>					
	ZM-R	15 - 100 ½" - 4"	up to +500 up to +200	up to -200 up to -80	○

○: weight loaded  
x: spring loaded












# PROTEGO® Pressure/Vacuum Relief Valves











## end-of-line

	Type	Size	pressure setting	
			positive setting range mbar / inch W.C.	negative setting range mbar / inch W.C.
<b>Pressure Relief Valves, weight pallet type</b>				
	P/EL	50 - 80 2" - 3"	+3.5 up to +210/ <b>+1.4 up to +84</b>	
	P/ELR	80 - 100 3" - 4"	+3.5 up to +210/ <b>+1.4 up to +84</b>	
	SD/BS-H	80-200 3" - 8"	+5 up to +210/ <b>+2 up to +84</b>	
	D/SVL	50-300 2" - 12"	+2.0 up to +60/ <b>+0.8 up to +24</b>	
	ER-V-LP	200-700 8" - 28"	+3.4 up to +15/ <b>+1.36 up to +6</b>	
	ER/V	200-700 8" - 28"	DN 200-350: +5 up to +40/ <b>+2 up to +16</b> DN 400-700: +5 up to +25/ <b>+2 up to +10</b>	
	ER/VH	200-700 8" - 28"	DN 200-350: >+40 up to +60/ <b>&gt;+16 up to +24</b> DN 400-700: >+25 up to +60/ <b>&gt;+10 up to +24</b>	
	ER/V-F	200-700 8" - 28"	>+60 up to +500/ <b>&gt;+24 up to +200</b>	
	D/KSM	50-200 2" - 8"	+5.0 up to +100/ <b>+2.0 up to +40</b>	
<b>Vacuum Relief Valves, weight pallet type</b>				
	SV/E-1-0	50 - 300 2" - 12"		-2.0 up to -60 / <b>-0.8 up to -24</b>
	SV/T-0-H	80 - 250 3" - 10"		-7.0 up to -50 / <b>-2.8 up to -20</b>
	V/KSM	50-200 2" - 8"		-5.0 up to -100 / <b>-2.0 up to -40</b>
	V/SV	40 - 300 1½" - 12"		-2.0 up to -60 / <b>-0.8 up to -24</b>

	Type	Size	pressure setting	
			positive setting range mbar / inch W.C.	negative setting range mbar / inch W.C.
<b>Pressure and Vacuum Relief Valves, weight pallet type</b>				
	PV/EL	50 - 80 2" - 3"	+2.0 up to +210/ <b>+0.8 up to +84</b>	-3.5 up to -35 / <b>-1.4 up to -14</b>
	PV/ELR	80 - 100 3" - 4"	+2.0 up to +210/ <b>+0.8 up to +84</b>	-3.5 up to -50 / <b>-1.4 up to -20</b>
	VD/SV	40 - 300 1½" - 12"	+2.0 up to +60 / <b>+0.8 up to +24</b>	-2.0 up to -60 / <b>-0.8 up to -24</b>
	VD/SV-PA(L)	50 - 300 2" - 12"	+2.0 up to +60 / <b>+0.8 up to +24</b>	-2.0 up to -60 / <b>-0.8 up to -24</b>
	VD/KSM	50 - 200 2" - 8"	+5.0 up to +100 / <b>+2.0 up to +40</b>	-5.0 up to -100 / <b>-2.0 up to -40</b>
	VD/KSM-PA	50 - 200 2" - 8"	+5.0 up to +100 / <b>+2.0 up to +40</b>	-5.0 up to -100 / <b>-2.0 up to -40</b>

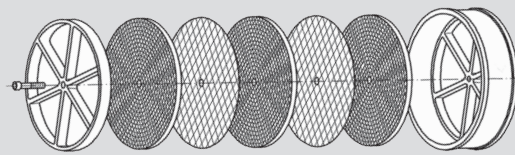
## PROTEGO® Pressure/Vacuum Relief Valves with Flame Arrester, end-of-line

Type	Size	Pressure setting		○ = X =	Explosion group		Approvals
		positive setting range mbar / inch W.C.	negative range mbar / inch W.C.		ATEX	NEC	
<b>Pressure Relief Valves, Pallet Type</b>							
	P/EB	50 - 80 2" - 3"	+3.5 up to +210/ <b>+1.4 up to +84</b>	○ / X	IIA	D	ATEX
	P/EB-E	50 - 80 2" - 3"	+3.5 up to +210/ <b>+1.4 up to +84</b>	○ / X	IIB1	-	ATEX
	P/EBR	80 - 100 3" - 4"	+3.5 up to +210/ <b>+1.4 up to +84</b>	○ / X	IIA, IIB3	D, C	ATEX
	P/EBR-E	80 - 100 3" - 4"	+3.5 up to +210/ <b>+1.4 up to +84</b>	○ / X	IIB1	-	ATEX
	D-SVL-EB	200 10"	+2.0 up to +60/ <b>+0.8 up to +24</b>	○ / X	IIA	D	ATEX
	BE/HR-D	150 - 200 6" - 8"	+2.0 up to +35/ <b>+0.8 up to +14</b>	○ / X	IIA	D	ATEX
<b>Vacuum Relief Valves, Pallet Type</b>							
	SV/E	50 - 300 2" - 12"	-2.0 up to -60/ <b>-0.8 up to -24</b>	X	IIB3, IIB, IIC	C B B	ATEX IMO
<b>Pressure/Vacuum Relief Valves, Pallet Type</b>							
	PV/EB	50 - 80 2" - 3"	+2.0 up to +210/ <b>+0.8 up to +84</b>	○ / X	IIA	D	ATEX
	PV/EB-E	50 - 80 2" - 3"	+2.0 up to +210/ <b>+0.8 up to +84</b>	○ / X	IIB1	-	ATEX
	PV/EBR	80 - 100 3" - 4"	+2.0 up to +210/ <b>+0.8 up to +84</b>	○ / X	IIA, IIB3	D C	ATEX
	PV/EBR-E	80 - 100 3" - 4"	+2.0 up to +210/ <b>+0.8 up to +84</b>	○ / X	IIB1, IIB3	- C	ATEX

Type	Size	Pressure setting		○ = X =	Explosion group		Approvals
		positive setting range mbar / inch W.C.	negative setting range mbar / inch W.C.		ATEX	NEC	
<b>Pressure/Vacuum Relief Valves, Pallet Type (Continuation)</b>							
	VD/SV-AD and VD/SV-ADL	80 - 150 3" - 6"	+3.5 up to +35/ <b>+1.4 up to +14</b>	-2.0 up to -35/ <b>-0.8 up to -14</b>	X	IIB3	C ATEX
	VD/SV-HR	80 - 100 3" - 4"	+3.5 up to +35/ <b>+1.4 up to +14</b>	-2.0 up to -35/ <b>-0.8 up to -14</b>	○ / X	IIA, IIB3	D, C ATEX
	VD/SV-HRL	100-150 4" - 6"	+3.5 up to +35/ <b>+1.4 up to +14</b>	-2.0 up to -35/ <b>-0.8 up to -14</b>	○ / X	IIA	D ATEX
	VD-SV-EB	150 - 200 6" - 8"	+2.0 up to +60/ <b>+0.8 up to +24</b>	-2.0 up to -60/ <b>-0.8 up to -24</b>	○ / X	IIA	D ATEX
	VD/TS	50 - 300 2" - 12"	+3.5 up to +50/ <b>+1.4 up to +20</b>	-2.0 up to -25/ <b>-0.8 up to -10</b>	X	IIB3	C ATEX
<b>Pressure/Vacuum Relief Valves, Diaphragm Valves</b>							
	UB/SF	80 - 150 3" - 6"	+3.5 up to +140/ <b>+1.4 up to +56</b>	-3.5 up to -35/ <b>-1.4 up to -16</b>	○ / X	IIB3	C ATEX
	UB/DF	80 - 150 3" - 6"	+3.5 up to +140/ <b>+1.4 up to +56</b>		○ / X	IIB3	C ATEX
	UB/VF	80 - 150 3" - 6"		-3.5 up to -35/ <b>-1.4 up to -16</b>	X	IIB3	C ATEX
<b>Pressure Relief Valves, High Velocity Valve</b>							
	DE/S	80 - 150 3" - 6"	+100 up to +500/ <b>+40 up to +200</b>		○ / X	IIB3, IIB	C B ATEX
	DE/S-MK VI	80 - 150 3" - 6"	+60 up to +350/ <b>+24 up to +140</b>		○ / X	IIB3, IIC	C, B ATEX IMO

○ = endurance burning proof  
X = prevent flashback in case of atmospheric deflagrations

# PROTEGO® Flame Arresters



PROTEGO® flame arrester unit (modular design)

## Special features and advantages of PROTEGO® Flame Arresters:

- modular flame arrester unit enables each individual FLAMEFILTER® discs to be replaced and cleaned
- service-friendly design
- minimum pressure loss and associated low operating and life-cycle cost

Depending on the location of installation, the flame arresters must fulfill various protective tasks:

At the opening of a system part to the atmosphere  
 → **End-of-line flame arrester**

At the opening of an equipment onto a connecting pipe  
 → **Pre-volume flame arrester**

In the pipe  
 → **In-line flame arrester**
















## PROTEGO® Detonation Flame Arresters









	Type	Size DN	Design cc = concentric ec = eccentric	Explosion-group		Approvals
				ATEX	NEC	
for stable detonation						
	DA-G	G ½ - G 2	straight through, cc	IIA, IIB3, IIC	D, C, B	ATEX
	DR/SV	G ½ - G ¾	straight through, cc	IIA	D	ATEX
	DA-E	25-300 1" - 12"	straight through, ec	IIA, IIB3	D, C	ATEX
	DA-SB	50-600 2" - 24"	straight through, cc	IIA, IIB3, IIC	D, C, B	ATEX
	DA-SB-PTFE	50-100 2" - 4"	straight through, cc	IIA	D	ATEX
	DR/ES	G ¼ - G ¾	90-degree	IIA, IIB3, IIC	D, C, B	ATEX
	DR/ES	25-200 1" - 8"	90-degree	IIA, IIB3	D, C	ATEX
	DR/ES-V	40-200 1 ½" - 8"	90-degree	IIA, IIB3	D, C	ATEX
	DR/ES-PTFE	40-150 1 ½" - 6"	90-degree	IIA	D	ATEX
	DR/SBW	50-400 2" - 16"	straight through, cc	IIA, IIB3	D, C	ATEX
	BR/TS	80 3"	90-degree	IIB3, IIB	C, B	ATEX

	Type	Size DN	Design cc = concentric ec = eccentric	Explosion-group		Approvals
				ATEX	NEC	
for stable detonation / for liquid detonation						
	LDA-W	25-300 1" - 12"	straight through	IIA, IIB3	D, C	ATEX
	LDA-WF(W)	25-250 1" - 10"	straight through	IIA, IIB3	D, C	ATEX
	LDA	25-250 1" - 10"	vertical	IIA, IIB3	D, C	ATEX
	LDA-F	25-250 1" - 10"	vertical	IIA, IIB3	D, C	ATEX
	EF/V	25-250 1" - 10"	vertical	IIB3	C	ATEX
	TS/P TS/E TS/W		vertical	IIA, IIB3, IIC	D, C, B	ATEX
for unstable detonation						
	DA-UB	50-600 2" - 24"	straight through, cc	IIA, IIB3	D, C	ATEX
	DA-CG	50-600 2" - 24"	straight through, cc	IIA, IIB3	D, C	USCG
	DREU	25-150 1" - 6"	90-degree	IIA, IIB2, IIB3	D, C, C	ATEX
	DA-UCG	50-400 2" - 16"	straight through, cc	IIA	D	ATEX, USCG

## PROTEGO® Deflagration Flame Arresters, and Vent Caps, end-of-line



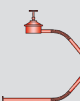
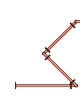
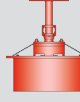
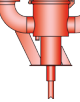

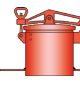
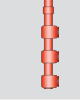


## PROTEGO® Deflagration Flame Arresters, in-line

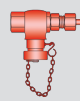
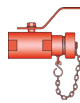

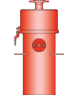

	Type	Size DN	Explosion group		Approvals
			ATEX	NEC	
Deflagration flame arrester, end-of-line					
	BE/AD	15 - 50 ½" - 2"	IIB3, IIC	C B	ATEX
	LH/AD	50 - 800 2" - 32"	IIB3, IIC	C B	ATEX
Deflagration flame arrester, short time burning proof, end-of-line					
	LH/AD-T	50 - 800 2" - 32"	IIB3, IIC	C B	ATEX
Deflagration flame arrester, endurance burning proof, end-of-line					
	EB	25 - 800 1" - 32"	IIA, IIB	D B	ATEX
	EB-DN/DN2	20 - 700 ¾" - 28"	IIA, IIB	D B	ATEX
	EB-Z	15 - 32 ½" - 1¼"	IIA	D	ATEX
	BE/HK	20 - 80 ¾" - 3" 20 - 32 ¾" - 1¼"	IIA, IIB3	D C	ATEX
	BE/HK-E	20 - 80 ¾" - 3"	IIB1, IIB3	- C	ATEX
	BE/HR	80 - 100 3" - 4"	IIA, IIB3	D C	ATEX
	BE/HR-E	80 - 100 3" - 4"	IIB1, IIB3, IIB	- C B	ATEX IMO
	BE/HR 400	150 - 200 6" - 8"	IIA	D	ATEX
	LH/EB	150 - 400 6" - 16"	IIA1 (I)	-	ATEX
Vent caps, end-of-line, without flame arrester unit					
	EH/O	20 - 80 ¾" - 3"			
	EH/OS	100 - 600 4" - 24"			
	E/KS	50 - 200 2" - 8"			

	Type	Size DN	Design cc = concentric ec = eccentric	Explosion group		Approvals
				ATEX	NEC	
In-line deflagration flame arrester						
	FA-E	25 - 300 1" - 12"	straight through, ec	IIA1 (I)	-	ATEX
	FA-E	25 - 300 1" - 12"	straight through, ec	IIA, IIB3, IIC	D, C, B	ATEX
	FA-CN	40 - 300 ½" - 12"	straight through, cc	IIA1 (I)	-	ATEX
	FA-CN	25 - 300 1" - 12"	straight through, cc	IIA, IIB3	D, C	ATEX
	FA-CN	40 - 300 ½" - 12"	straight through, cc	IIC	B	ATEX
	FA-G	G ½ - G 2	straight through, cc	IIA, IIB3, IIC	D, C, B	ATEX
	FA-I	50 - 1000 2" - 40"	straight through, cc	IIA, IIB3	D, C	ATEX
	FA+PTFE	50 - 150 2" - 6"	straight through, cc	IIA	D	ATEX

# PROTEGO® Tank Accessories and Special Equipment

Tanks in tank farms and large vessels not only need to be equipped with flame arresters or pressure and vacuum valves but; in addition they need special equipment, which similar meets high requirements to operate safely.

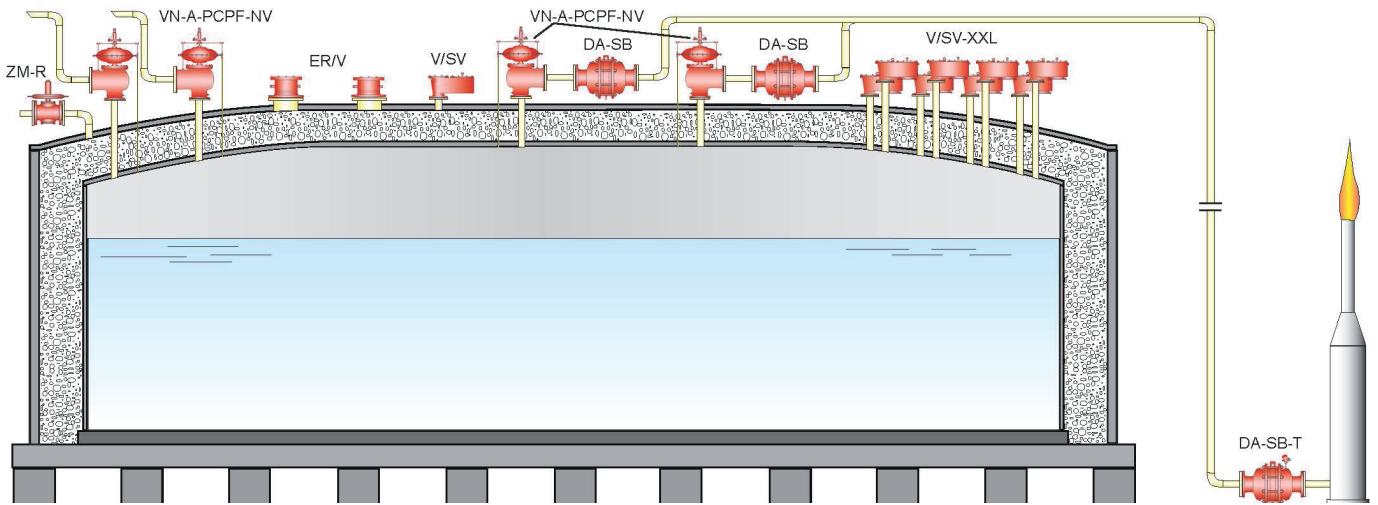
	Type	Size	Description
<b>Floating Suction Unit</b>			
	SA/S		Floating Suction Unit
	SA/DA		Floating Skimmer System
<b>Floating Roof Tank Equipment</b>			
	SE/K	80 - 100 3" - 4"	Floating Roof Drainage System with Metal Hose Joint
	SE/CK	80 - 150 3" - 6"	Floating Roof Drainage System with Swivel Joints
	D/SR D/SR-W	80 - 150 3" - 6"	Roof Drain Valves
	AL/DK	200 8"	Vent Valve, Lift-actuated
<b>Gauging and Sampling Equipment</b>			
	PF/K PF/TK PS/KF	100 - 200 4" - 8"	Gauge Hatch with flange
	PS/K PS/TK	100 - 200 4" - 8"	Gauge Hatch with welded nozzle
	PU-IIA	25 - 50 1" - 2"	Gauging Pipe, deflagration proof
	PR/0	25 - 150 1" - 6"	Gauging and Sampling Pipe, verifiable
	VP/HK with PS/E und PG/H	100 - 150 4" - 6"	Gauging and Sampling Device with accessories

	Type	Size	Description
<b>Deflagration proof Special Valves</b>			
	ZE/WU	15 - 25 G½" - G1"	Sampling and Air Bleed Valve, deflagration proof
	ZE/TK	15 - 25 G½" - G1"	Condensate Drain Valve, deflagration proof
<b>Air-Drying Devices</b>			
	LA	50 - 150 2" - 6"	Air-Drying Device
	LA/V	50 - 150 2" - 6"	Air-Drying Device with Check Valve
<b>In-Tank Valve</b>			
	SI/F	50 - 200 2" - 8"	In-Tank Valve

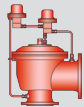
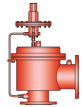
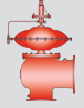
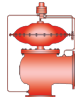





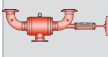


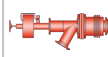
Floating Suction Unit PROTEGO® SA/S

# PROTEGO® Equipment for Cryogenic Storage Tanks



Propylene Storage Tank (exemplary)

Type	Size	Pressure setting	
		positive setting range mbar / inch W.C.	negative range mbar / inch W.C.
<b>Pressure and Vacuum Relief Valves, pilot-operated</b>			
	PM/(D)S	80 - 300 3" - 12"	+10 up to +300 / +4.0 up to +120     -3.0 up to -7 / -1.2 up to -2.8
	PM-HF	80 - 300 3" - 12"	+10 up to +1034 / +4.0 up to +413.6     -2.2 up to -7 / -0.88 up to -2.8
	VN-A-PCPF	100 - 300 4" - 12"	+20 up to +1034 +8.0 up to 413.6     -2.0 up to -7 / -0.8 up to -2.8
	VN-A-PCPM	50 - 300 2" - 12"	+20 up to +1034 +8.0 up to 413.6     -2.0 up to -7 / -0.8 up to -2.8
<b>Vacuum Relief Valves, weight pallet type</b>			
	V/SV-XL	300 12"	-2.0 up to -16 / -0.8 up to -6.4
	V/SV-XXL	300 12"	-2.0 up to -16 / -0.8 up to -6.4
	V/SV	40 - 300 1½" - 12"	-2.0 up to -60 / -0.8 up to -24

Type	Size	Description
<b>Change-Over Valve</b>		
	WV/T	80 - 250 3" - 10"
<b>In-Tank Valves</b>		
	NB/AP	150 - 200 6" - 8" In-Tank Valve Fast Action Bottom Drain Valve with pneumatic actuator
	ITV-S ITV	150 - 600 6" - 24" In-Tank Valve
	SI/DP	150 - 300 6" - 12" In-Tank Valve Internal Safety Valve



Cryogenic Storage Tank

## PROTEGO® Special Solutions

Whatever complex and extreme your application, we will find a solution for you. We are specialists, not only specializing in what we have already developed, but also in developing the dedicated solutions you may require.

Tailored valves and devices are our day-to-day business. We will see to that, you can be sure:

- Venting of pipelines
- Internal safety valve
- Super-heated PROTEGO® valves and devices
- Applications for acetylene
- Applications for ethylene oxide
- Applications for alcohols
- Applications for polymers (e.g. acrylates and styrene)



*Pipeline Venting: PROTEGO® BE/SRL - Gas Liquid Separator*



*Acetylene Applications: PROTEGO® DA-SB-AC*





*Internal Safety Valve PROTEGO® SI/DP*



*DMT Applications: Superheated Valves and Flame Arresters*

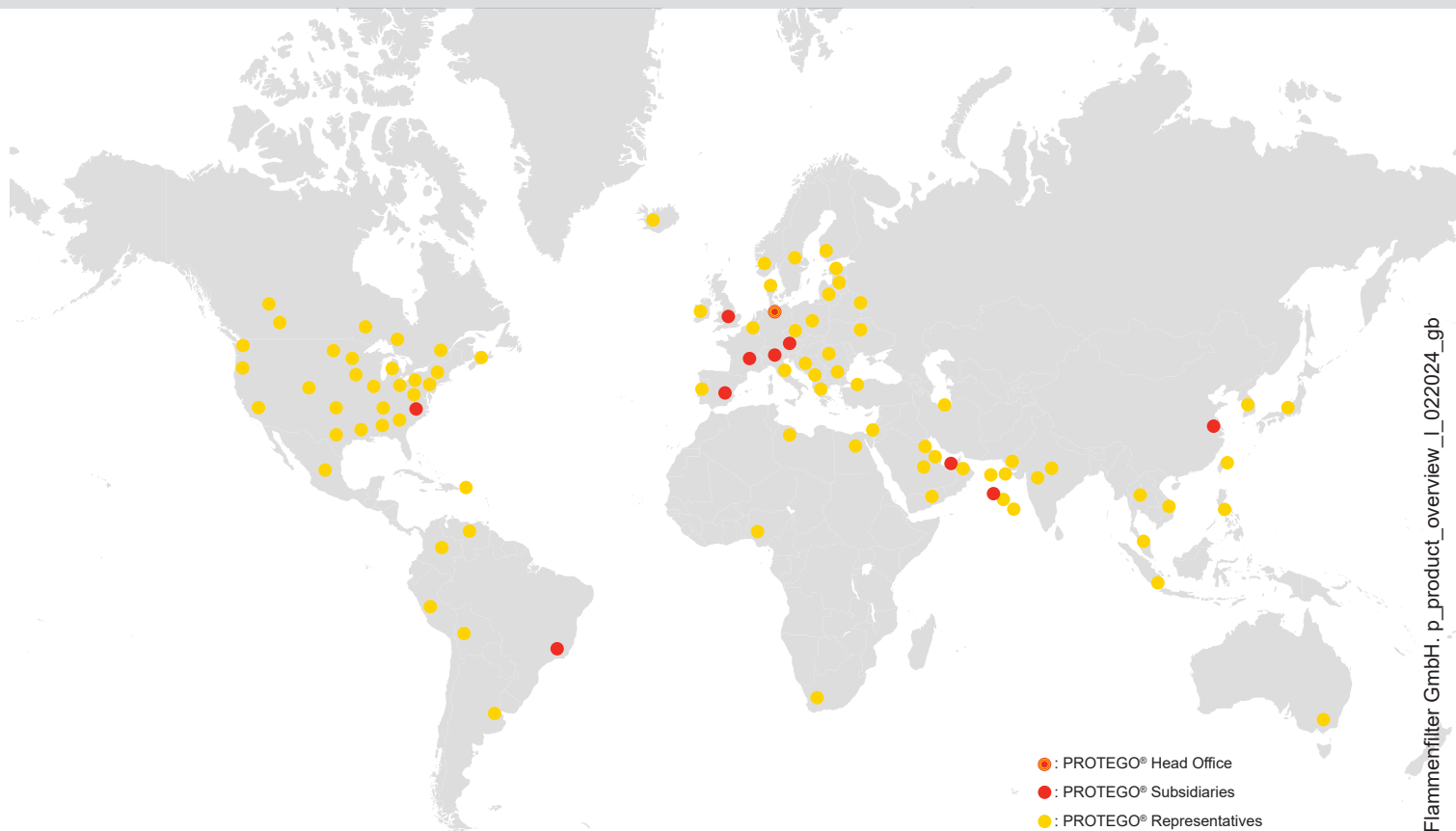


*Ethylene Oxide Applications: PROTEGO® DA-SB-EO*



*Acrylate Applications: PROTEGO® UB/SF*





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for safety and environment