Vapor and Flame Control Equipment

100 YEARS
IN BUSINESS

- Flame Arresters
- Conservation Vents
- Emergency Relief Vents
- Hatches
- Tank Blanketing Valves
- Ancillary Equipment

PROTECTOSEAL®
Safety Without Compromise

Ensuring Safety for 100 Years and Counting

With over a century of experience in manufacturing vapor and flame control equipment, Protectoseal offers unmatched expertise and capabilities to meet even the most demanding requirements. Our knowledgeable sales representatives and highly skilled engineering and design teams are dedicated to delivering optimal solutions tailored to your specific application.

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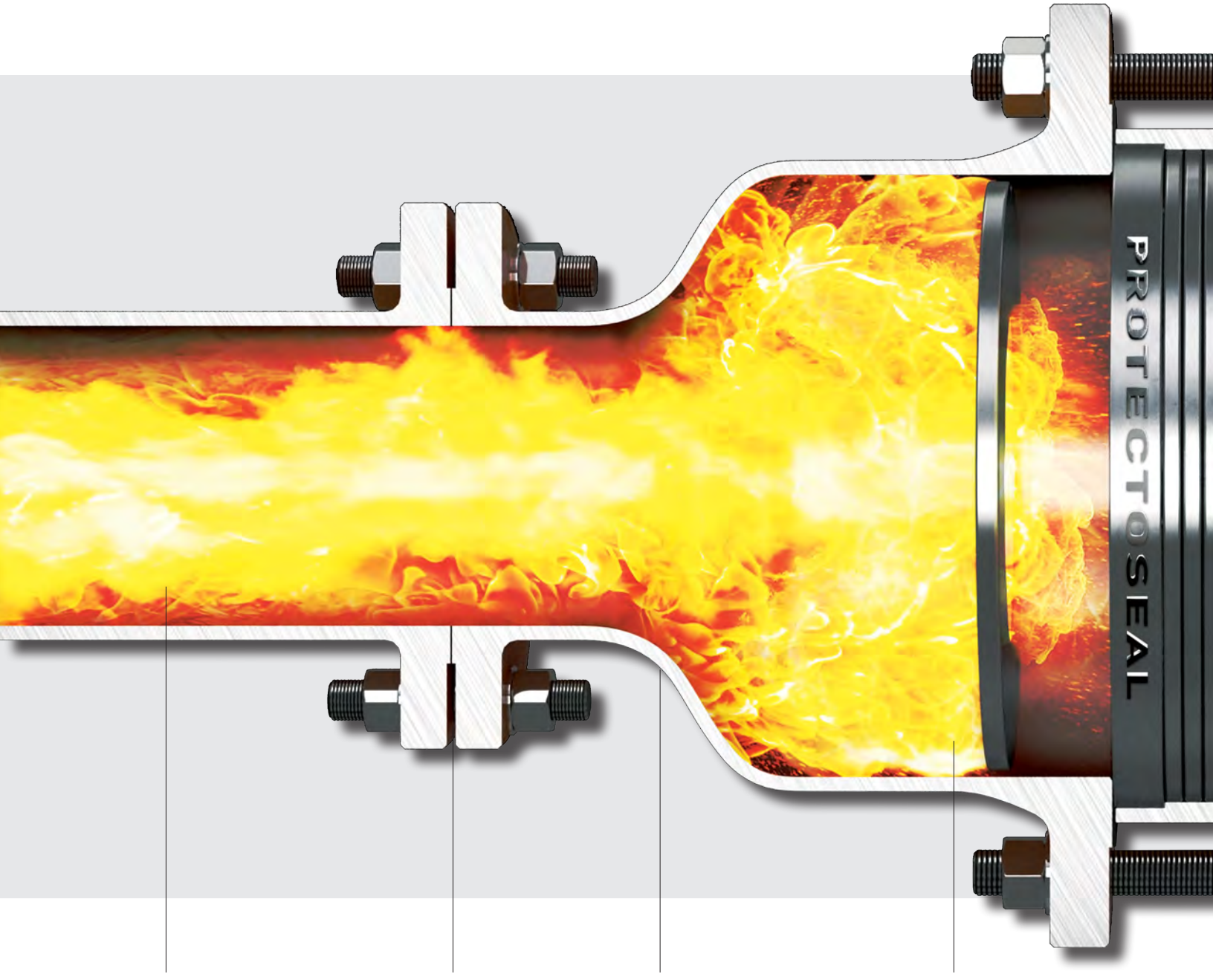
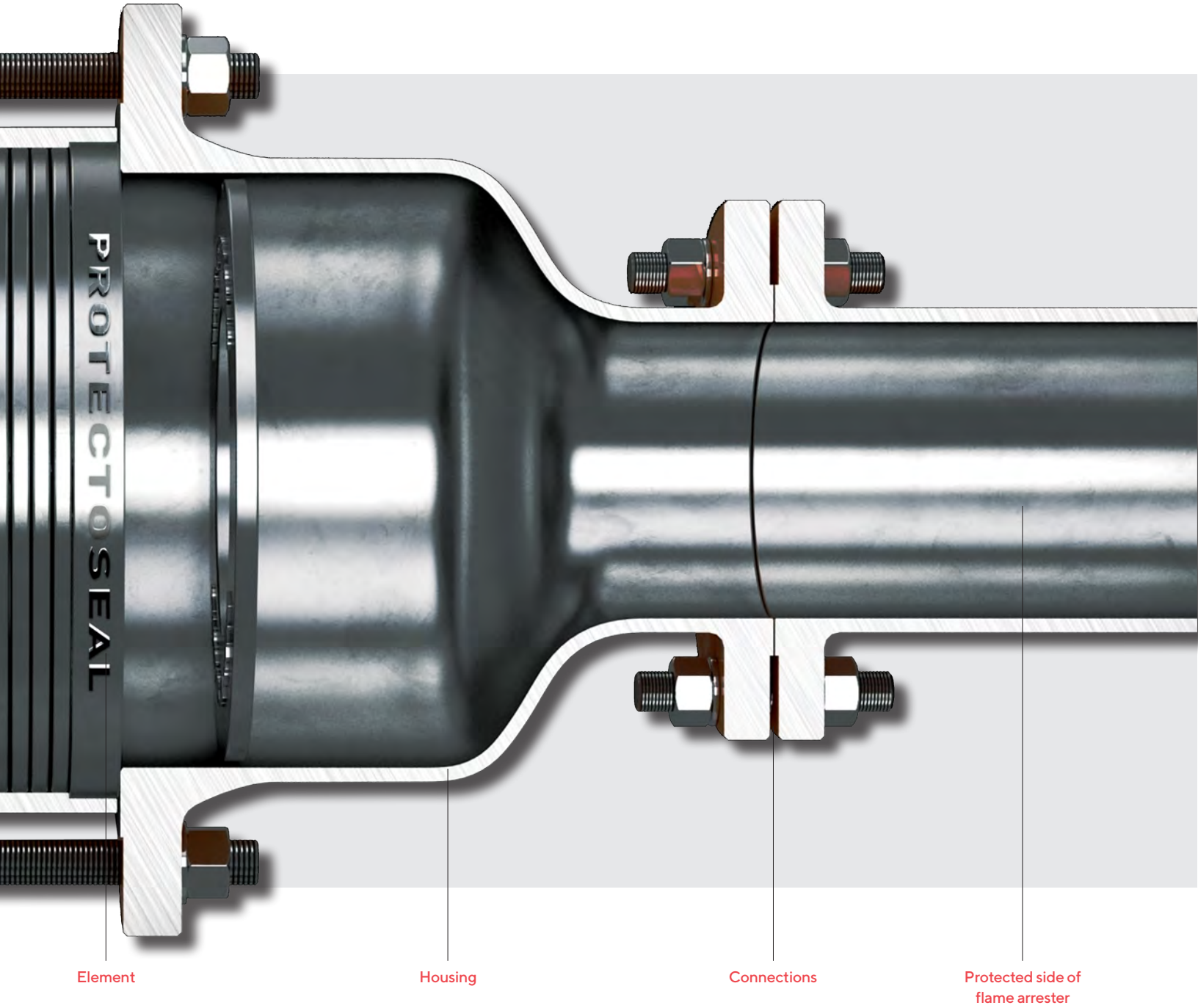
Construction of a Flame Arrester



Typically a flame arrester comprises a housing, an element assembly, and connection(s) to secure it to pipework or equipment. The flame arrester element assembly is the critical device that quenches the flame. The majority of element designs incorporate a "filter," comprising small apertures or cells, through which the process gas can flow but which prevent transmission of a flame.

The filter breaks down the flame front into smaller 'flamelets' that are cooled and consequently extinguished by the arrester element. Materials used for the "filter" element include crimped metal ribbons, woven wire gauze, and sintered or honeycombed materials. Due to their design and construction, the element assembly will cause a pressure drop, which is an obstruction to process flow.



Element

Housing

Connections

Protected side of flame arrester

In order to mitigate this increased resistance to flow, the element area is usually larger than the cross-sectional area of the pipework. The housing of the flame arrester can be integral to, or separate from, the element assembly. The end connections are typically flanged or screwed to match the adjoining pipework.

Other applications may require a different type of flame arrester, including dynamic flame arresters (high-velocity vent valves), hydraulic flame arresters (liquid seal), and other more specialized devices.

End-of-Line Deflagration Flame Arresters

AVC End-of-Line Deflagration Flame Arrester

The AVC protects against deflagration and prevents the spread of external fires in piping systems. It incorporates innovative sintered gauze technology that ensures the secure passage of gas or vapor while extinguishing flames effectively. The flame arrester effectively cools combustion products at the element surface for added safety. Ideal for hydrogen applications.

Gas Group: B, C, and D | IIC, IIB, IIA1, and IIA

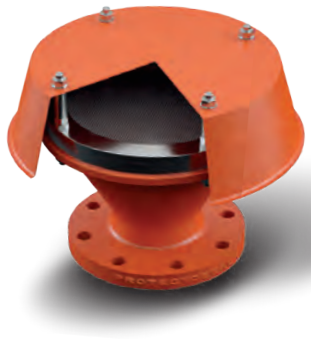
Sizes: 1" (DN 25) through 16" (DN 400)

Flange Pattern: Mates with 150# ANSI or DIN PN16

Certifications/Approvals: ATEX Directive 2014/34/EU

Material of Construction

- Carbon Steel
- Stainless Steel



EHB End-of-Line Deflagration Flame Arrester

The EHB protects against deflagration and prevents the spread of external fires in piping systems. It is intended for high-temperature applications and uses cutting-edge E-Flow Technology to provide superior performance, efficiently cooling combustion products at the element surface. This lightweight flame arrester boasts superior flow capacity and minimal pressure drop.

Gas Group: C and D | IIB3, IIB2, IIB1, IIA1, IIA

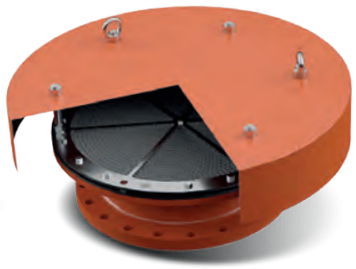
Sizes: ½" (DN 15) through 24" (DN 600)

Flange Pattern: Mates with 150# ANSI or DIN PN16

Certifications/Approvals: ATEX Directive 2014/34/EU

Material of Construction

- Carbon Steel
- Stainless Steel
- Hastelloy



ERB End-of-Line Deflagration Flame Arrester

The ERB protects against deflagration and prevents the spread of external fires in piping systems. It incorporates cutting-edge E-Flow® technology to provide superior performance, efficiently cooling combustion products at the element surface. Patented RE-Flow® technology enables downward venting and self-draining of the arrester element.

Gas Group: C and D | IIB3, IIB2, IIB1, IIA1, IIA

Sizes: ¼" (DN10) through 3" (DN 80)

Flange Pattern: Mates with 150# ANSI, DIN PN16, NPT (F), or BSP (F)

Certifications/Approvals: ATEX Directive 2014/34/EU

Material of Construction

- Stainless Steel

ESA End-of-Line Deflagration Flame Arrester

The ESA protects against deflagration and prevents the spread of external fires in piping systems. It incorporates cutting-edge E-Flow® technology to provide superior performance, efficiently cooling combustion products at the element surface. Equipped with a control/monitoring system, it promptly detects temperature spikes and enacts secondary protective measures such as inerting and shut-off valves.

Gas Group: D | IIA1 and IIA

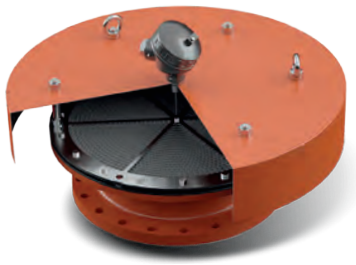
Sizes: ½" (DN 15) through 24" (DN 600)

Flange Pattern: Mates with 150# ANSI or DIN PN16

Certifications/Approvals: ATEX Directive 2014/34/EU

Material of Construction

- Carbon Steel
- Stainless Steel
- Hastelloy



EVA End-of-Line Deflagration Flame Arrester

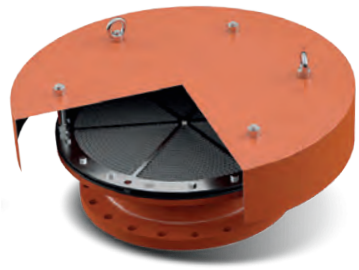
The EVA protects against deflagration and prevents the spread of external fires in piping systems. It incorporates cutting-edge E-Flow® technology to provide superior performance, efficiently cooling combustion products at the element surface. Ideal for installation at the end of a pipeline or exit vent.

Gas Group: D | IIA1 and IIA

Sizes: ½" (DN 15) through 24" (DN 600)

Flange Pattern: Mates with 150# ANSI or DIN PN16

Certifications/Approvals: ATEX Directive 2014/34/EU



Material of Construction

- Carbon Steel
- Stainless Steel
- Hastelloy

EVB End-of-Line Deflagration Flame Arrester

The EVB protects against deflagration and prevents the spread of external fires in piping systems. It incorporates cutting-edge E-Flow® technology to provide superior performance, efficiently cooling combustion products at the element surface. Ideal for installation at the end of a pipeline or exit vent.

Gas Group: C and D | IIB3, IIB2, IIB1, IIA1, and IIA

Sizes: ½" (15mm) through 24" (DN 600)

Flange Pattern: Mates with 150# ANSI or DIN PN16

Certifications/Approvals: ATEX Directive 2014/34/EU

Material of Construction

- Carbon Steel
- Stainless Steel
- Hastelloy

SV End-of-Line Deflagration Flame Arrester

The SV protects against deflagration and prevents the spread of external fires in piping systems. Designed for simple installation at pipeline ends or on atmospheric vents, it offers a lightweight and cost-effective solution for various applications. Ideal for use in gas purging, sample lines, and instrumentation lines.

Gas Group: C and D | IIB3, IIB2, IIB1, IIA1, and IIA

Sizes: ½" (15mm) through 2" (DN 50)

Flange Pattern: Mates with NPT (F) or BSP (M)

Certifications/Approvals: ATEX Directive 2014/34/EU

Material of Construction

- Aluminum/Zinc Alloy

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End-of-Line Deflagration Flame Arresters

(Continued)

670 End-of-Line Deflagration Flame Arrester

The 670 protects against deflagration and prevents the spread of external fires in piping systems. Designed for easy mounting to the end of a tank nozzle leading directly to the atmosphere, it allows vapors to escape and air to be drawn into the tank through its specially designed grid assembly.

Gas Group: D | IIA1 and IIA

Sizes: 1" (DN 25) through 4" (DN 100)

Flange Pattern: Mates with 125# ANSI, 150# ANSI, DIN PN16, or NPT (F)

Certifications/Approvals: UL

Material of Construction

- Aluminum
- Stainless Steel

670E End-of-Line Deflagration Flame Arrester

The 670E protects against deflagration and prevents the spread of external fires in piping systems. Designed for easy mounting to the end of a tank nozzle leading directly to the atmosphere, it allows vapors to escape and air to be drawn into the tank through its specially designed grid assembly.

Gas Group: C and D | IIB3, IIA1, and IIA

Sizes: 1" (DN 25) through 6" (DN 150)

Flange Pattern: Mates with 125# ANSI, 150# ANSI, DIN PN16, or NPT (F)

Certifications/Approvals: ATEX Directive 2014/34/EU

Material of Construction

- Aluminum
- Carbon Steel
- Stainless Steel

860 End-of-Line Deflagration Parallel Plate Flame Arrester

The 860 protects against deflagration and prevents the spread of external fires in piping systems. Designed for easy installation at the end of a vent pipe, it allows vapors to escape into the atmosphere while enabling air to be drawn into the tank through its specially designed grid assembly.

Gas Group: D | IIA1 and IIA

Sizes: 2" (DN 50) through 8" (DN 200)

Flange Pattern: Mates with 125# ANSI, 150# ANSI, DIN PN16, or NPT (F)

Certifications/Approvals: UL and FM

Material of Construction

- Aluminum
- Stainless Steel

860 End-of-Line Deflagration Parallel Plate Flame Arrester

Vent Pipe

Fig. 1

The 860 End-of-Line Deflagration Parallel Plate Flame Arrester lets tanks breathe normally and stops the flashback of an atmospheric deflagration.

In-Line and Vent-Line Deflagration Flame Arresters

LCA In-Line Concentric Deflagration Flame Arrester

The LCA protects against deflagration and prevents fire spread with cutting-edge E-Flow® technology. This bi-directional flame arrester limits flames or explosions to the immediate area, halting continuation into the protected line. The flame arrester effectively cools combustion products at the element surface for added safety.

Gas Group: D | IIA1 and IIA

Sizes: 2" (DN 50) through 24" (DN600)

Flange Pattern: Mates with 150# ANSI or DIN PN16

Certifications/Approvals: ATEX Directive 2014/34/EU

Material of Construction

- Carbon Steel
- Stainless Steel
- Hastelloy

LCB In-Line Concentric Deflagration Flame Arrester

The LCB protects against deflagration and prevents fire spread with cutting-edge E-Flow® technology. This bi-directional flame arrester limits flames or explosions to the immediate area, halting continuation into the protected line. The flame arrester effectively cools combustion products at the element surface for added safety.

Gas Group: C and D | IIB3, IIB2, IIB1, IIA1, and IIA

Sizes: ½" (DN 15mm) through 12" (DN 300)

Flange Pattern: Mates with 150# ANSI or DIN PN16

Certifications/Approvals: ATEX Directive 2014/34/EU

Material of Construction

- Carbon Steel
- Stainless Steel
- Hastelloy

LEA In-Line Eccentric Deflagration Flame Arrester

The LEA protects against deflagration and prevents fire spread with cutting-edge E-Flow® technology. This bi-directional flame arrester limits flames or explosions to the immediate area, halting continuation into the protected line. Its eccentric housing design prevents condensation buildup, making it perfect for close installation near other objects or walls. The flame arrester effectively cools combustion products at the element surface for added safety.

Gas Group: D | IIA1 and IIA

Sizes: ½" (DN 15) through 16" (DN400)

Flange Pattern: Mates with 150# ANSI or DIN PN16

Certifications/Approvals: ATEX Directive 2014/34/EU

Material of Construction

- Carbon Steel
- Stainless Steel
- Hastelloy

LEB In-Line Eccentric Deflagration Flame Arrester

The LEB protects against deflagration and prevents fire spread with cutting-edge E-Flow® technology. This bi-directional flame arrester limits flames or explosions to the immediate area, halting continuation into the protected line. Its eccentric housing design prevents condensation buildup, making it perfect for close installation near other objects or walls. The flame arrester effectively cools combustion products at the element surface for added safety.

Gas Group: C and D | IIB3, IIB2, IIB1, IIA1, and IIA

Sizes: ½" (DN 15) through 4" (DN100)

Flange Pattern: Mates with 150# ANSI or DIN PN16

Certifications/Approvals: ATEX Directive 2014/34/EU

Material of Construction

- Carbon Steel
- Stainless Steel
- Hastelloy

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Additional materials available upon request.

In-Line and Vent-Line Deflagration Flame Arresters

(Continued)

DFC In-Line Concentric Deflagration Flame Arrester

The DFC protects against deflagration and prevents fire spread with cutting-edge E-Flow® technology. This bi-directional flame arrester limits flames or explosions to the immediate area, halting continuation into the protected line. The flame arrester effectively cools combustion products at the element surface for added safety.

Gas Group: B, C, and D | IIC and IIB

Sizes: 1" (DN 25) through 4" (DN 100)

Flange Pattern: Mates with 150# ANSI or DIN PN16

Certifications/Approvals: ATEX Directive 2014/34/EU

Material of Construction

- Carbon Steel
- Stainless Steel

MB-IB In-Line Deflagration Flame Arrester

The MB-IB protects against deflagration and prevents fire spread within piping systems. This microbore flame arrester limits flames or explosions to the immediate area, halting continuation into the protected line. The flame arrester effectively cools combustion products at the element surface for added safety. Ideal for gas sampling and analysis equipment.

Gas Group: C | IIB3

Sizes: ½" (DN 15) through ¾" (DN 20)

Flange Pattern: Mates with NPT (F) or BSP (F)

Certifications/Approvals: ATEX Directive 2014/34/EU

Material of Construction

- Carbon Steel
- Stainless Steel

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4950 Vent-Line/In-Line Deflagration Parallel Plate Flame Arrester

The 4950 protects against deflagration and prevents fire spread within piping systems. This vertical, circular plate-type flame arrester limits flames or explosions to the immediate area, halting continuation into the protected line. It allows vapors to safely discharge while permitting air to enter the pipe. Ideal for open vent pipes, bleed lines, and vapor conveyance systems.

Gas Group: D | IIA1 and IIA

Sizes 1" (DN 25) through 12" (DN 300)

Flange Pattern: Mates with 125# ANSI, 150# ANSI, or DIN PN16

Certifications/Approvals: UL and FM

Material of Construction

- Aluminum
- Stainless Steel

Fig. 2

The 4950 is usually placed just before the 8540H or with short sections of open vent outlet piping. This flame arrester is designed to withstand confined deflagration, where a flame front moves at a speed slower than sound within confined spaces like pipe walls or vent bodies.

Additional materials available upon request.

In-Line Unstable Detonation Flame Arresters

UCA In-Line Unstable Concentric Detonation Flame Arrester

Featuring Protectoseal's Patented HEDS® Technology

The UCA protects against confined deflagrations, stable detonations, and unstable detonations with patented HEDS® and cutting-edge E-Flow® technology. This bi-directional flame arrester boasts superior flow capacity and minimal pressure drop for efficient operations.

Gas Group: D | IIA1 and IIA

Sizes: 1" (DN 25) through 24" (DN 600)

Flange Pattern: Mates with 150# ANSI or DIN PN16

Certifications/Approvals: ATEX Directive 2014/34/EU

Material of Construction

Carbon Steel Stainless Steel Hastelloy

UCB In-Line Unstable Concentric Detonation Flame Arrester

The UCB protects against confined deflagrations, stable detonations, and unstable detonations with patented HEDS® and cutting-edge E-Flow® technology. This bi-directional flame arrester boasts superior flow capacity and minimal pressure drop for efficient operations.

Gas Group: C and D | IIB3, IIB2, IIB1, IIA1, and IIA

Sizes: 1" (DN 25) through 12" (DN300)

Flange Pattern: Mates with 150# ANSI or DIN PN16

Certifications/Approvals: ATEX Directive 2014/34/EU

Material of Construction

Carbon Steel Stainless Steel Hastelloy

UEA In-Line Unstable Eccentric Detonation Flame Arrester

Featuring Protectoseal's Patented HEDS® Technology

The UEA protects against confined deflagrations, stable detonations, and unstable detonations with patented HEDS® and cutting-edge E-Flow® technology. This bi-directional flame arrester ensures optimal flow capacity with minimal pressure drop. Its eccentric housing design prevents condensation buildup, making it perfect for close installation near other objects or walls.

Gas Group: D | IIA1 and IIA

Sizes: 1" (DN 25) through 16" (DN400)

Flange Pattern: Mates with 150# ANSI or DIN PN16

Certifications/Approvals: ATEX Directive 2014/34/EU

Material of Construction

Carbon Steel Stainless Steel Hastelloy

HEDS®

(High Energy Dissipation System)

Protectoseal's HEDS® technology is a novel and patented technology used in our line of In-Line Unstable Detonation Flame Arresters. It establishes a new standard for performance by ensuring full protection against deflagration, stable detonation, and unstable detonation.

HEDS® technology combines our patented High Energy Dissipation System and E-Flow® technology. This combination reduces shock waves and extinguishes flames, effectively mitigating the effects of an explosion by preventing it from spreading.

25000 In-Line Unstable Concentric Detonation Flame Arrester

The 25000 protects against confined deflagrations, stable detonations, and unstable detonations. This bi-directional flame arrester is designed to withstand high-speed, high-pressure flame fronts. Ideal for intricate piping setups in vapor recovery or tank systems.

Gas Group: D | IIA1 and IIA

Sizes: 2" (DN 50) through 18" (DN 450)

Flange Pattern: Mates with 150# ANSI or DIN PN16

Certifications/Approvals: USCG and UL

Material of Construction

- Carbon Steel
- Stainless Steel
- Hastelloy

26000 In-Line Unstable Concentric Detonation Flame Arrester

The 26000 protects against confined deflagrations, stable detonations, and unstable detonations. This bi-directional flame arrester is designed to withstand high-speed, high-pressure flame fronts. Ideal for intricate piping setups in vapor recovery or tank systems.

Gas Group: C and D | IIB3, IIB2, IIB1, IIA1, and IIA

Sizes: 2" (DN 50) through 12" (DN 300)

Flange Pattern: Mates with 150# ANSI or DIN PN16

Certifications/Approvals: USCG and FM

Material of Construction

- Carbon Steel
- Stainless Steel
- Hastelloy

35000 In-Line Unstable Concentric Detonation Flame Arrester

The 35000 protects against confined deflagrations, stable detonations, and unstable detonations. This bi-directional flame arrester is designed to withstand high-speed, high-pressure flame fronts. Ideal for intricate piping setups in vapor recovery or tank systems.

Gas Group: D | IIA1 and IIA

Sizes: 2" (DN 50) through 8" (DN 200)

Flange Pattern: Mates with 150# ANSI or DIN PN16

Certifications/Approvals: USCG

Material of Construction

- Carbon Steel
- Stainless Steel
- Hastelloy

36000RP In-Line Unstable Concentric Detonation Flame Arrester

The 36000RP protects against confined deflagrations, stable detonations, and unstable detonations. This bi-directional flame arrester is designed to withstand high-speed, high-pressure flame fronts. Ideal for intricate piping setups in vapor recovery or tank systems.

Gas Group: C and D | IIB3, IIB2, IIB1, IIA1, and IIA

Sizes: 2" (DN 50) through 8" (DN 200)

Flange Pattern: Mates with 150# ANSI or DIN PN16

Certifications/Approvals: USCG

Material of Construction

- Carbon Steel
- Stainless Steel
- Hastelloy

Additional materials available upon request.

End-of-Line Conservation Vents with Flame Arresters

FAB Valve® End-of-Line Pressure and Vacuum Relief Vent and Flame Arrester

The FAB Valve® is a patented valve designed to provide comprehensive pressure and vacuum relief, while also protecting against deflagrations. Featuring innovative E-Flow® technology and replaceable crimped-ribbon elements, this valve ensures exceptional flow capacity with minimal pressure drop. Its compact, lightweight design makes installation effortless, while enabling convenient in-situ inspection and maintenance.

Gas Group: C and D | IIB3, IIA1, and IIA

Sizes: 2" (DN 50) through 12" (DN 300)

Flange Pattern: Mates with 150# ANSI or DIN PN16

Certifications/Approvals: ATEX Directive 2014/34/EU

Material of Construction

- Carbon Steel
- Stainless Steel

830 End-of-Line Pressure and Vacuum Relief Vent and Flame Arrester

The 830 is designed to provide comprehensive pressure and vacuum relief, while also protecting against deflagrations. Featuring a certified test report for guaranteed performance, this vent boasts a patented "air-cushion" pallet design that limits leakage to no more than 1 SCFH at 90% of the set point. With automatic condensate drainage and a swing-bolt design for easy maintenance, the 830 is a reliable choice for maintaining optimal storage conditions.

Gas Group: D | IIA1 and IIA

Sizes: 2" (DN 50) through 10" (DN 250)

Flange Pattern: Mates with 125# ANSI, 150# ANSI, DIN PN16, or NPT (F)

Certifications/Approvals: FM and UL

Material of Construction

- Aluminum
- Stainless Steel

830E End-of-Line Pressure and Vacuum Relief Vent and Flame Arrester

The 830E is designed to provide comprehensive pressure and vacuum relief, while also protecting against deflagrations. Featuring a certified test report for guaranteed performance, this vent boasts a patented "air-cushion" pallet design that limits leakage to no more than 1 SCFH at 90% of the set point. With automatic condensate drainage and a swing-bolt design for easy maintenance, the 830 is a reliable choice for maintaining optimal storage conditions.

Gas Group: D | IIA1 and IIA

Sizes: 2" (DN 50) through 6" (DN 150)

Flange Pattern: Mates with 125# ANSI, 150# ANSI, DIN PN16, or NPT (F)

Certifications/Approvals: ATEX Directive 2014/34/EU

Material of Construction

- Aluminum
- Stainless Steel

PROTECTOSEAL®
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End-of-Line Conservation Vents

8540H End-of-Line Pressure and Vacuum Relief Vent

Spring Loaded, 9540

The 8540H offers efficient pressure and vacuum relief, ensuring the tank's vapor space stays within safe limits and minimizing evaporation losses. 100% tested, flow curves provided from our certified lab and featuring our Protectoseal patented "air-cushion" pallet design that limits leakage to no more than 1 SCFH at 90% of the set point. With automatic condensate drainage and a swing-bolt design for easy maintenance, the 8540H is a reliable choice for maintaining optimal storage conditions.

Sizes: 2" (DN 50) through 12" (DN 300)

Flange Pattern: Mates with 125# ANSI, 150# ANSI, or DIN PN16

Material of Construction

- Aluminum
- Carbon Steel
- Stainless Steel
- Hastelloy

5200G End-of-Line Weatherhood Free Vent

The 5200G provides open access to a tank's vapor space with continuous pressure and vacuum venting. The vent features a new and improved economical design that is easy to install and maintain. Additionally, it comes equipped with a protective mesh screen to prevent debris from compromising the tank opening.

Sizes: 2" (DN 50) through 12" (DN 300)

Flange Pattern: Mates with 125# ANSI, 150# ANSI, or DIN PN16

Material of Construction

- Aluminum
- Carbon Steel
- Stainless Steel

6240 End-of-Line Vacuum Relief Vent

Spring Loaded, 9240

The 6240 offers efficient vacuum relief, ensuring the tank's vapor space stays within safe limits. 100% tested, flow curves provided from our certified lab and featuring our Protectoseal patented "air-cushion" pallet design that limits leakage to no more than 1 SCFH at 90% of the set point. With automatic condensate drainage and a swing-bolt design for easy maintenance, the 6240 is a reliable choice for maintaining optimal storage conditions.

Sizes: 2" (DN 50) through 12" (DN 300)

Flange Pattern: Mates with 125# ANSI, 150# ANSI, or DIN PN16

Material of Construction

- Aluminum
- Carbon Steel
- Stainless Steel
- Hastelloy

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Additional materials available upon request.

End-of-Line Conservation Vents

(Continued)

16240 Side-Mounted Vacuum Relief Vent

Spring Loaded, 19240

The 16240 offers efficient vacuum relief, ensuring the tank's vapor space stays within safe limits, and has a side-mount design for seamless installation. Featuring a certified test report for guaranteed performance, this vent boasts a patented "air-cushion" pallet design that limits leakage to no more than 1 SCFH at 90% of the set point. With automatic condensate drainage and a swing-bolt design for easy maintenance, the 16240 is a reliable choice for maintaining optimal storage conditions.

Sizes: 2" (DN 50) through 12" (DN 300)

Flange Pattern: Mates with 125# ANSI, 150# ANSI, or DIN PN16

Material of Construction

- Aluminum
- Carbon Steel
- Stainless Steel
- Hastelloy

51700 Hinged Emergency Pressure Relief Manhole Vent

8540H End-of-Line Pressure and Vacuum Conservation Vent

20 Pilot Operated Tank Blanketing Valve (1")

In-Line and Pipe-Away Conservation Vents

8740 In-Line Pressure and Vacuum Relief Vent

The 8740 offers efficient pressure and vacuum relief within tank house installations. Designed to reduce evaporation losses, this vent ensures safe operation as it directs vapors for discharge through outlet pipes. Featuring a certified test report for guaranteed performance, this product boasts a patented "air-cushion" pallet design that limits leakage to no more than 1 SCFH at 90% of the set point. With automatic condensate drainage for easy maintenance, the 8740 is a reliable choice for maintaining optimal storage conditions.

Sizes: 2" (DN 50) through 4" (DN 100)

Flange Pattern: Mates with 125# ANSI, 150# ANSI, or DIN PN16

Material of Construction

- Aluminum
- Stainless Steel

17800 Pipe-Away Pressure Relief Vent

Spring Loaded, 19800

The 17800 offers efficient pressure relief in applications where hazardous vapors must be piped away rather than released into the atmosphere. Featuring a certified test report for guaranteed performance, this vent boasts a patented "air-cushion" pallet design that limits leakage to no more than1 SCFH at 90% of the set point. With automatic condensate drainage and a swing-bolt design for easy maintenance, the 17800 is a reliable choice for maintaining optimal storage conditions.

Sizes: 2" (DN 50) through 12" (DN 300)

Flange Pattern: Mates with 125# ANSI, 150# ANSI, or DIN PN16

Material of Construction

- Aluminum
- Carbon Steel
- Stainless Steel
- Hastelloy

18540D Pipe-Away Pressure and Vacuum Relief Vent

Spring Loaded, 19540

The 18540D offers efficient pressure and vacuum relief in applications where hazardous vapors must be piped away rather than released into the atmosphere. Featuring a certified test report for guaranteed performance, this vent boasts a patented "air-cushion" pallet design that limits leakage to no more than 1 SCFH at 90% of the set point. With automatic condensate drainage and a swing-bolt design for easy maintenance, the 18540D is a reliable choice for maintaining optimal storage conditions.

Sizes: 2" (DN 50) through 12" (DN 300)

Flange Pattern: Mates with 125# ANSI, 125# ANSI, 150# ANSI, or DIN PN16

Material of Construction

- Aluminum
- Carbon Steel
- Stainless Steel
- Hastelloy

Additional materials available upon request.

Non-Metallic Conservation Vents

Non-Metallic Vents provide pressure and/or vacuum relief for hazardous vapors that would otherwise damage conventional metallic vents and components.

Fiberglass Reinforced Plastic Vents

Availability:

8540H, 18540D, 7800, 17800, 6240, 16240, 53300, 4980, 7300D

These vents are extremely durable due to their one-piece housing and seamless hand lay-up construction, ensuring the vent's integrity over a long lifespan. They are reinforced with glass fibers and made with a carefully selected plastic resin to offer maximum resistance to strong corrosive substances. The standard resin used in construction is Derakane 470®.

Thermoplastic Resin Vents

Availability:

8540H, 18540D, 7800, 17800, 6240, 16240, 17800, 18540

These vents are extremely durable due to their one-piece housing and seamless hand lay-up construction, ensuring the vent's integrity over a long lifespan. They are reinforced with glass fibers and made with a carefully selected plastic resin to offer maximum resistance to strong corrosive substances. The standard plastics used in construction are PVC, CPVC, PP, PE, and PVDF.

Options

Optional product features and manufacturing processes that add incremental value to Conservation Vents, Emergency Vents and Tank Blanketing products.

PROSHIELD™ Coating

Availability:

8540H, 18540D, 7800, 6240, 16240, 17800, 51700, 52600, 53300

PROSHIELD™ is Protectoseal's specially developed coating that helps prevent buildup inside pressure/vacuum relief vents and flame arresters. In tough applications, like those involving resins or chemicals, buildup can clog equipment and reduce safety. PROSHIELD™ creates a smooth, protective surface that keeps equipment cleaner for longer, making it easier to maintain and helping it perform reliably over time.

PURE-TECH™ High Purity Tank Equipment

Availability:

8540H, 18540D, 17800, 20, 30

Protectoseal's exclusive PURE-TECH™ line includes pressure/vacuum relief vents and tank blanketing valves specifically designed for clean liquid storage. Engineered to meet stringent cleanliness standards, PURE-TECH™ is ideal for pure water and pure chemical applications (non-food grade), ensuring system integrity in critical environments.

Proximity Switches

Availability:

8540H, 18540D, 7800, 17800, 6240, 16240

Protectoseal's Proximity Switches deliver advanced monitoring for your pressure/vacuum relief vents and emergency relief vents, helping ensure continuous, reliable performance. These sensors detect in real time whether the vent is open or closed. This proactive system allows operators to respond quickly to potential issues.

Clamp-On Steam Jackets

Availability:

8540H, 18540D, 17800, 6240, 16240, 8740, 51700, 52500, 53300, 9240, 9540, 19240, 19540, 19800

Protectoseal's Clamp-On Steam Jackets are specially designed to work with pressure/vacuum relief vents, emergency relief vents, and select flame arresters, offering reliable protection against vapor crystallization and freezing. Ideal for tanks storing temperature-sensitive liquids such as Naphthalene, Maleic Anhydride, DMT, or Phthalic Anhydride.

Additional materials available upon request.

Emergency Pressure Relief Vents

ERV Hinged Emergency Pressure Relief Manhole Vent

The ERV is a reliable solution for emergency pressure relief in the face of external fire incidents. Specifically designed for easy installation on tank manhole openings, this vent serves as a reliable means of releasing large volumes of vapor that exceed the capacity of a standard operating vent. To ensure leak-tight sealing under normal operating conditions, the ERV features a PTFE insert between the pallet and seat

Sizes: 8" (DN 200) through 24" (DN 600)

Flange Pattern: Mates with 125# ANSI, 150# ANSI, DIN PN16, or API

Material of Construction

- Carbon Steel
- Stainless Steel

7800 End-of-Line Emergency Pressure Relief Vent

Spring Loaded, 9800

The 7800 is a reliable solution for emergency pressure relief in the face of external fire incidents. Designed to minimize evaporation losses, this vent comes with a certified test report ensuring specified settings and leakage performance. With innovative features such as the patented "air-cushion" seating made from FEP film, this unit boasts a leakage rate of less than 1 SCFH of air at 90% of the set point.

Sizes: 2" (DN 50) through 24" (DN 600)

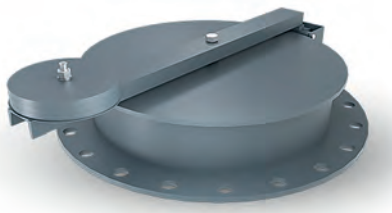
Flange Pattern: Mates with 125# ANSI, 150# ANSI, DIN PN16, or API

Material of Construction

- Aluminum
- Carbon Steel
- Stainless Steel
- Hastelloy

51700 Hinged Emergency Pressure Relief Manhole Vent

The 51700 is a reliable solution for emergency pressure and vacuum relief in the face of external fire incidents. Engineered with a unique hinge design for increased pressure relief capacity, this unit is tailored for easy installation on storage tank manhole openings. This vent comes with a certified test report ensuring specified settings and leakage performance. With innovative features such as the patented "Air-Cushioned Seating" made from FEP film, this unit boasts a leakage rate of less than 1 SCFH of air at 90% of the set point.



Sizes: 12" (DN 300) through 24" (DN 600)

Flange Pattern: Mates with 125# ANSI, DIN PN16, or API

Material of Construction

- Carbon Steel
- Stainless Steel

52600 Emergency Pressure and Vacuum Relief Vent

The 52600 is a reliable solution for emergency pressure and vacuum relief in the face of external fire incidents. Designed for easy installation on the manhole opening of storage tanks, this vent comes with a certified test report ensuring specified settings and leakage performance. With innovative features such as the patented "air-cushion" seating made from FEP film, this unit boasts a leakage rate of less than 1 SCFH of air at 90% of the set point.

Sizes: 16" (DN 400) through 24" (DN 600)

Flange Pattern: Mates with 125# ANSI, DIN PN16, or API

Material of Construction

- Carbon Steel
- Stainless Steel

53300 Emergency Pressure Relief Manhole Vent

The 53300 is a reliable solution for emergency pressure relief in the face of external fire incidents while also offering convenient access for tank cleaning, inspection, and repair work. This vent comes with a certified test report ensuring specified settings and leakage performance. With innovative features such as the patented "air-cushion" seating made from FEP film, this unit boasts a leakage rate of less than 1 SCFH of air at 90% of the set point.

Sizes: 16" (DN 400) through 24" (DN 600)

Flange Pattern: Mates with 125# ANSI, DIN PN16, or API

Material of Construction

- Carbon Steel
- Stainless Steel
- Hastelloy

54000 Spring-Loaded Emergency Pressure Relief Vent

The 54000 is a reliable solution for emergency pressure relief in the face of external fire incidents while also offering convenient access for tank cleaning, inspection, and repair work. With a spring-loaded pallet designed for higher working pressure tanks, this unit ensures robust and reliable performance when it matters most. This vent also comes with a certified test report ensuring specified settings and leakage performance.

Sizes: 16" (DN 400) through 24" (DN 600)

Flange Pattern: Mates with 150# ANSI, DIN PN16, or API

Material of Construction

- Carbon Steel
- Stainless Steel

56000 PIN-TECH™ Bubble-Tight Pressure Relief Vent

The 56000 is a reliable solution for emergency pressure relief in the face of external fire incidents. This vent is specifically designed to be mounted to a storage tank or vessel's vapor space flange connection. By incorporating this vent, costly evaporation losses and VOC emissions are significantly reduced. Additionally, the vent is ETV verified to have "no detectable" emissions (<500 ppm), ensuring environmental compliance.

Sizes: 2" (DN 50) through 24" (DN 600)

Flange Pattern: Mates with 150# ANSI, DIN PN16, or API

Material of Construction

- Carbon Steel
- Stainless Steel
- Hastelloy

Additional materials available upon request.

Hatches

3908-SL Pressure/Vacuum Relief Thief Hatch

The 3908-SL offers access to the tank interior for inspection, gauging, or sampling operations. This hatch also offers efficient pressure and vacuum relief, ensuring the tank's vapor space stays within safe limits and minimizing evaporation losses. With a certified test report verifying specified settings and leakage performance, the 3908-SL ensures secure vapor control, boasting low leakage performance of no more than 0.1 SCFH at 90% of the set pressure.

Sizes: 8" (DN 200)

Flange Pattern: Mates with API

Material of Construction

- Aluminum

4960D Free-Lifting Gauge Hatch

The 4960D is designed to provide convenient access to a storage tank's interior for inspection, gauging, and sampling purposes. This hatch is ideal for situations where a flame arrester is not required for fire protection. With a hinged cover for easy access, lightweight construction for effortless handling, and the added feature of a thermometer hook, the 4960D offers practicality and functionality for tank maintenance and monitoring tasks.

Sizes: 4" (DN 100), 6" (DN 150), and 8" (DN 200)

Flange Pattern: Mates with 125# ANSI or DIN PN16

Material of Construction

- Carbon Steel
- Stainless Steel

4980D Free-Lifting Gauge Hatch

The 4980D is designed to provide convenient access to a storage tank's interior for inspection, gauging, and sampling purposes. This hatch is ideal for situations where a flame arrester is not required for fire protection. With a hinged cover for easy access and lightweight construction, the 4980D offers practicality and functionality for tank maintenance and monitoring tasks.

Sizes: 4" (DN 100), 6" (DN 150), and 8" (DN 200)

Flange Pattern: Mates with 125# ANSI or DIN PN16

Material of Construction

- Aluminum

PROTECTOSEAL®
Safety Without Compromise

4970D Lockdown Gauge Hatch

The 4970D is designed to provide convenient access to a storage tank's interior for inspection, gauging, and sampling purposes. This hatch is ideal for situations where a flame arrester is not required for fire protection. Specifically designed for tanks operating under 3 PSIG, the lockdown feature ensures a secure cover with minimal leakage and evaporation losses. With its lightweight construction, the 4970D offers easy handling and practicality for efficient tank maintenance and monitoring needs.

Sizes: 4" (DN 100), 6" (DN 150), and 8" (DN 200)

Flange Pattern: Mates with 125# ANSI or DIN PN16

Material of Construction

- Aluminum

5960D Lockdown Gauge Hatch

The 5960D is designed to provide convenient access to a storage tank's interior for inspection, gauging, and sampling purposes. This hatch is ideal for situations where a flame arrester is not required for fire protection. Specifically designed for tanks operating under 3 PSIG, the lockdown feature ensures a secure cover with minimal leakage and evaporation losses. With its lightweight construction, the 5960D offers easy handling and practicality for efficient tank maintenance and monitoring needs.

Sizes: 4" (DN 100), 6" (DN 150), and 8" (DN 200)

Flange Pattern: Mates with 125# ANSI or DIN PN16

Material of Construction

- Carbon Steel
- Stainless Steel

7500 Lift Assist Sampling Hatch

The 7500 is sampling hatch tailored for the wine industry. This specialized hatch boasts a spring-assist cover, cam lock, food-grade diaphragm, cover locking pin, and an integrated handle, along with an optional and removable sampling/safety grate. The 7500 is meticulously tested to guarantee low leakage while facilitating regular assisted sampling and aeration, providing a high-quality solution for wine production facilities.

Sizes: 24" (DN 600)

Flange Pattern: Mates with 125# ANSI or DIN PN16

Material of Construction

- Carbon Steel
- Stainless Steel

Additional materials available upon request.

Tank Blanketing Valves

10 Pilot Operated Tank Blanketing Valve (2")

The 10 is a cutting-edge product designed to efficiently regulate the flow of blanketing gas, typically nitrogen, into the vapor space of storage tanks. Its pilot-operated design ensures a tight operating band, while optional flow orifice plates allow for tailored flow capacity, conserving blanketing gas. Additionally, its fully field serviceable feature minimizes downtime, making it a valuable asset for industrial applications.

Sizes: 2" (DN 50)

Flange Pattern: Mates with 150# ANSI, 300# ANSI, or NPT (F)

Certifications/Approvals: ATEX Directive 2014/34/EU

Material of Construction

- Stainless Steel

20 Pilot Operated Tank Blanketing Valve (1")

The 20 is a cutting-edge product designed to efficiently regulate the flow of blanketing gas, typically nitrogen, into the vapor space of storage tanks. Its pilot-operated design ensures a tight operating band, while optional flow orifice plates allow for tailored flow capacity, conserving blanketing gas. Additionally, its fully field serviceable feature minimizes downtime, making it a valuable asset for industrial applications.

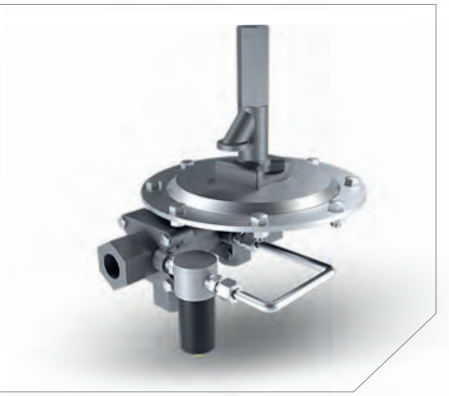
Sizes: 1" (DN 25)

Flange Pattern: Mates with 150# ANSI, 300# ANSI, or NPT (F)

Certifications/Approvals: ATEX Directive 2014/34/EU

Material of Construction

- Stainless Steel



30 Spring Operated Tank Blanketing Valve (½")

The 30 is a cutting-edge product designed to efficiently regulate the flow of blanketing gas, typically nitrogen, into the vapor space of storage tanks. With its spring operation and optional flow plugs, it can tailor the flow capacity to meet specific requirements while conserving blanketing gas. Additionally, its fully field serviceable feature minimizes downtime, making it a valuable asset for industrial applications.

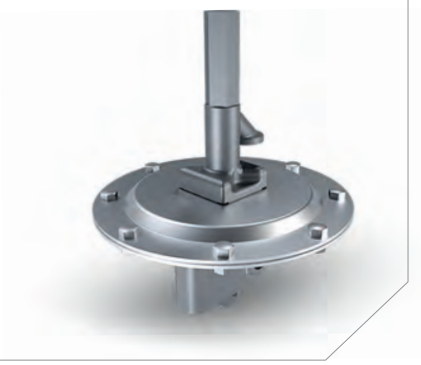
Sizes: ½" (DN 15)

Flange Pattern: Mates with 150# ANSI, 300# ANSI, or NPT (F)

Certifications/Approvals: ATEX Directive 2014/34/EU

Material of Construction

- Stainless Steel



7800 End-of-Line Emergency Pressure Relief Vent

8540H End-of-Line Pressure and Vacuum Conservation Relief Vent

4950 Vent-Line and In-Line Deflagration Parallel Plate Flame Arrester

20 Pilot Operated Tank Blanketing Valve (1")

Fig. 3

The 20 controls the flow of a blanketing gas, typically Nitrogen, into the vapor space of a flammable liquid storage tank. It detects the pressure in the vapor space and opens completely once the tank pressure matches the valve's set point, allowing gas to flow into the tank.

Ancillary Equipment

780 Storage Tank Air Dryer

The 780 is the ideal solution for removing unwanted moisture from make-up air in tanks and systems where the cost of central air drying or inert gas systems is not justified. Specifically designed to protect moisture-sensitive liquids, this product offers efficient operation with low pressure drops and includes an integral humidity indicator for easy monitoring. Additionally, the 780 allows for simple inspection and maintenance, ensuring optimal performance at all times.

Overall Height: 29 ½" (749.3mm)

Body Diameter: 12 ¾" (323.9mm)

Capacity: 30lbs (13.6kg) of silica gel

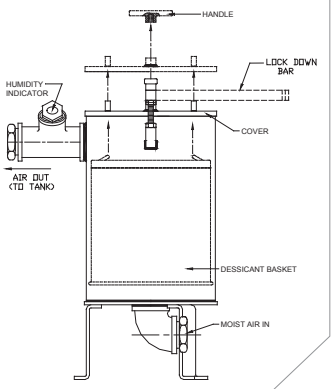
Flange Pattern: Mates with 150# ANSI, 2" NPT (F), or 3" NPT (F)

Material of Construction

- Carbon Steel
- Stainless Steel

PVC780 Thermoplastic Resin Storage Tank Air Dryer

The PVC780 is the ideal solution for removing unwanted moisture from make-up air in tanks and systems where the cost of central air drying or inert gas systems is not justified. Specifically designed to protect moisture-sensitive liquids, this product offers efficient operation with low pressure drops and includes an integral humidity indicator for easy monitoring. Additionally, the PVC780 allows for simple inspection and maintenance, ensuring optimal performance at all times. This unit is built to be rust and fade-resistant, providing durability and reliability over time.



Overall Height: 27 7/16" (696.9mm)

Body Diameter: 12 ¾" (323.9mm)

Capacity: 30lbs (13.6kg) of silica gel

Flange Pattern: Mates with 150# ANSI, 2" NPT (F), or 3" NPT (F)

Material of Construction

- PVC

3000 Internal Safety Valve

The 3000 is a critical safety solution designed for storage tanks holding flammable or combustible liquids. This valve provides robust protection against fire hazards and accidents while offering superior flow capability for efficient water distribution. Equipped with a pressure equalizing by-pass valve for optimal performance and designed for easy one-handed operation, the 3000 features a lightweight design for convenient handling during inspections and maintenance.

Sizes: 2" (DN 50) through 12" (DN 300)

Flange Pattern: Mates with 150# ANSI, DIN PN16, or NPT (F)

Certifications/Approvals: UL

Material of Construction

- Carbon Steel
- Stainless Steel

(Continued on next page...)

Additional materials available upon request.

Ancillary Equipment

(Continued)

7300D Overflow Valve

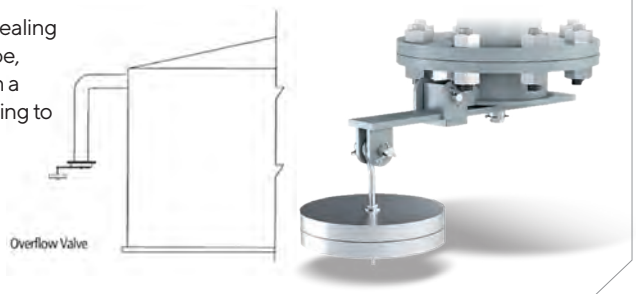
The 7300D is a state-of-the-art valve for eliminating open overfill pipe connections and sealing liquid overflow pipes in storage tanks. This valve mounts securely on the tank overflow pipe, offering superior sealing with its patented FEP film "air-cushion" seating technology. With a sleek and lightweight design, the 7300D ensures hassle-free handling while directly venting to the atmosphere for optimal performance.

Sizes: 2" (DN 50) through 12" (DN 300)

Flange Pattern: Mates with 125# ANSI, 150# ANSI, or DIN PN16

Material of Construction

- Carbon Steel
- Stainless Steel
- Fiberglass
- Hastelloy



660 Water Drain Valve

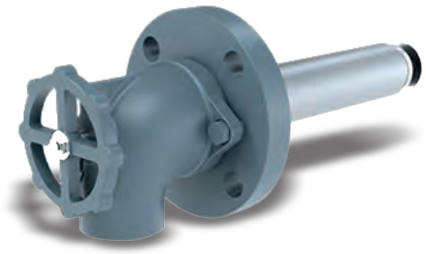
The 660 is a versatile valve designed to efficiently relieve tanks of accumulated water with maximum flow and self-draining action. Featuring easy one-hand valve operation for convenience and a non-freeze design that ensures continuous functionality in cold conditions, this lightweight unit allows for easy and convenient handling. Additionally, all valves are 100% factory tested to guarantee positive shut-off performance.

Sizes: 2" (DN 50) through 6" (DN 150)

Flange Pattern: Mates with 150# ANSI or DIN PN16

Material of Construction

- Carbon Steel



4276 Pressure Relief Rim Vent

The 4276 offers essential pressure relief for floating roof tanks, specifically designed to address pressure accumulations under the pontoon sections of the roof. This lightweight vent is mounted around the tank rim, ensuring easy handling while safely venting gas vapors to the atmosphere. Featuring an integrated weatherhood to shield the tank opening and a durable screen guard to protect the interior from debris, t 4276 undergoes rigorous factory inspections to guarantee quality and reliability upon shipping.

Sizes: 6" (DN 150)

Flange Pattern: Mates with NPT (F)

Material of Construction

- Aluminum

FTSC Fuel Tank Safety Cap

Designed for installation in fuel tank openings of gasoline or diesel-powered industrial trucks and equipment such as forklifts, tractors and airport ground support equipment. The perforated metal flash arrester keeps a flame from entering the tank, thereby preventing explosion of the confined vapors within the tank.

Sizes: 1 ½" (DN 40) through 4" (DN 100)

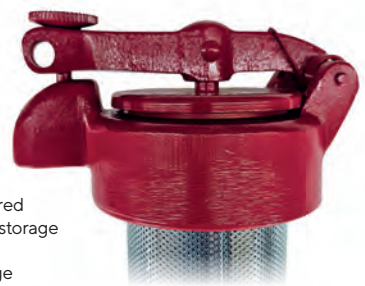
Flange Pattern: Mates with NPT (F), NPS (F), or NPS (M)

Certifications/Approvals: UL

Material of Construction

- Aluminum
- Brass

Available in red for gasoline storage or green for diesel storage



40000 Liquid Level Indicator With Unguided Float

The 40000 provides accurate liquid level gauging for fixed and floating roof tanks. It is designed for easy installation on "tanks-in-service" or "tanks-out-of-service" and features a float-actuated mechanism with a steel target moving vertically on a calibrated board to display the tank's contents level.

Material of Construction

- Aluminum
- Stainless Steel
- Galvanized Steel

41000 Liquid Level Indicator With Guided Float

The 41000 provides accurate liquid level gauging for fixed and floating roof tanks. It is designed for easy installation on "tanks-in-service" or "tanks-out-of-service" and features a float-actuated mechanism with a steel target moving vertically on a calibrated board to display the tank's contents level.

Material of Construction

- Aluminum
- Stainless Steel
- Galvanized Steel

Additional materials available upon request.

PROTECTOSEAL

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Free Sizing and Selection Software

- **Streamlined web-based platform**
- **Automatically calculates flow requirements**
- **Incorporates all new products**
- **Provides optimum sizing and selection recommendations**
- **Full user control and customization options**

Sign up

PRO-FLOW®, developed by Protectoseal, is a specialized software tool designed to accurately determine vent and flame arrester flow requirements conforming to industry standards such as API 2000, ISO 28300, NFPA 30, and OSHA 1910.106. This innovative program presents comprehensive flow and pressure drop data for a range of Protectoseal products, offering valuable insights to optimize safety measures in various settings.

This user-friendly Windows-compatible software swiftly processes input data, providing a detailed analysis of how different parameters impact sizing recommendations. By utilizing PRO-FLOW®, users can efficiently identify the most suitable Protectoseal product to effectively fulfill specific operating conditions, ensuring enhanced safety and regulatory compliance.

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