



## VAPOR & FLAME CONTROL EQUIPMENT

- Pressure / Vacuum Relief Vents
- Emergency Relief Vents
- Flame & Detonation Arresters
- Tank Blanketing Valves
- "Zero-Leakage" Tank Systems
- Specialty Vents & Valves

## VAPOR AND FLAME CONTROL DEVICES

### For Safety, Efficiency and Environmental Protection



*Protectoseal has more than 85 years of experience providing products and services for tank protection and vapor control. This has resulted in unparalleled capability to meet even the most stringent customer requirements. From our highly trained sales representatives to our professional engineering and design staff, you can rely on Protectoseal to provide the best possible solution for your specific application.*

- **Provide Normal Venting** - Protectoseal's Vapor Control Products safely and efficiently compensate for the frequent changes in volume of liquids and vapors that occur with routine tank filling, emptying and temperature fluctuations.
- **Provide Emergency Venting** - Our emergency pressure relief devices ensure the safety of plant facilities and personnel by preventing over-pressurization of low pressure tanks if exposed to an external fire.
- **Minimize Evaporation Losses** - Equipping storage tanks with Protectoseal vapor control products prevents loss of costly liquid products through evaporation.
- **Reduce Fugitive Emissions** - Protectoseal tank vents play a key role in preventing fugitive emissions of VOC's (Volatile Organic Compounds). Our patented PIN-TECH® units offer the ultimate control of fugitive emissions to <500 ppm because they remain closed, bubble-tight until their emergency relief pressure is reached.
- **Prevent Fire and Explosion** - Our complete line of flame and detonation arresters effectively prevents the propagation of flame fronts and detonations in systems where flammable vapors are present.
- **Blanket Flammable Liquids with Inert Gas** - Protectoseal's tank blanketing valves maintain specified pressure, reduce the risk of fire and minimize chemical contamination or degradation in storage tanks.

*FREE Sizing and Equipment Selection Software - Protectoseal's PRO-FLOW III® calculates vent and flame arrester flow requirements in accordance with API 2000, ISO 28300, NFPA 30 and OSHA 1910.106 and shows flow and pressure drop information for various Protectoseal products.*

*This Windows compatible program quickly analyzes input data, presents the impact of various parameters on sizing recommendations and specifies the proper Protectoseal product to meet stated conditions.*

*Ask for your FREE copy today!*



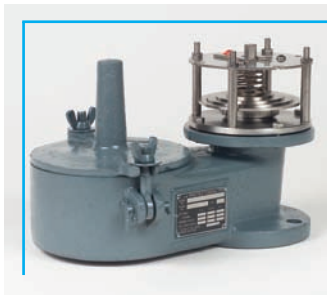
## The Broadest Selection of Vent and Arrester Sizes, Construction Materials and Treatments



**Metallic Relief Vents** - Available in Aluminum, Ductile Iron, Carbon Steel, Stainless Steel, Alloy C-276, or other exotic metals, such as Silicon Bronze, Carpenter (Alloy 20), Monel®, etc.



**Non-Metallic Vents** - Offered in Fiberglass (FRP) Polyvinyl Chloride (PVC), Polyvinylidene Fluoride (PVDF), Polypropylene (PP) or Polyethylene (PE) for controlling aggressive or corrosive vapors. These vents often provide superior service life and can be considered as an alternative to vents manufactured in exotic metals.



**Spring-Loaded Relief Vents** - Available for tanks with operating pressure in the 3 to 14.9 PSIG (0.2 to 1.0 barg) range.



**Steam-Jacketed Vents and Flame Arresters** - Optional in many product series. These are commonly used to prevent freezing or clogging on tanks that contain vapors which tend to crystallize or polymerize in cold ambient temperatures.



**PURE-TECH® High Purity Tank Equipment** - Protectoseal's exclusive line of specially cleaned and/or constructed vents and flame arresters for applications such as High Purity Water & Chemicals, Semiconductors & Microelectronics, Pharmaceuticals & Cosmetics. HEPA filters, to limit contamination, are optional in most cases.

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## End-of-Line Conservation Relief Vents

### For Normal Venting of Pressure and/or Vacuum

#### Series 8540H End-of-Line Pressure / Vacuum Conservation Breather Vent

Provides pressure and vacuum relief. The pallets in the housing allow intake of air and release of vapors as the tank breathes normally. Keeps tank pressure within permissible range to avoid tank damage.

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

Flange Pattern: ANSI Standard, DIN Optional

Material / Construction\*:

- |              |                      |                           |                   |                |
|--------------|----------------------|---------------------------|-------------------|----------------|
| ■ Aluminum   | ■ Ductile Iron       | ■ Carbon Steel            | ■ Stainless Steel | ■ Alloy C/C276 |
| ■ FRP        | ■ Polyvinyl Chloride | ■ Polyvinylidene Fluoride | ■ Polypropylene   | ■ Polyethylene |
| ■ PURE-TECH® | ■ Special Coating    | ■ Spring-Load             | ■ Steam-Jacket    |                |



#### Series 6240 Vacuum Relief Vent

For use where only vacuum relief is required. Pallet in the housing opens and closes, allowing only the air intake necessary to avoid tank damage under normal operating conditions.

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

Flange Pattern: ANSI Standard, DIN Optional

Material / Construction\*:

- |              |                      |                           |                   |                |
|--------------|----------------------|---------------------------|-------------------|----------------|
| ■ Aluminum   | ■ Ductile Iron       | ■ Carbon Steel            | ■ Stainless Steel | ■ Alloy C/C276 |
| ■ FRP        | ■ Polyvinyl Chloride | ■ Polyvinylidene Fluoride | ■ Polypropylene   | ■ Polyethylene |
| ■ PURE-TECH® | ■ Special Coating    | ■ Spring-Load             | ■ Steam-Jacket    |                |



#### Series 830 & 830E End-of-Line Pressure / Vacuum Relief Vent & Flame Arrester

Provides pressure and vacuum relief as well as protection from propagation of external flames. The pallets in the housing allow intake of air and release of vapors as the tank breathes normally. Keeps tank pressure within permissible range to avoid tank damage. The flame arrester is external to the vent and only exposed to vapors when venting.

Series 830 suitable for Group D Vapors (NEC Article 500), generally equivalent to IEC Group IIA

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

FM Approved: 2", 3" & 4", UL Listed: 6", 8" & 10"

Series 830E Type Approved to ATEX Directive 94/9/EC, EN 12874 & ISO 16852, for Group D Vapors (NEC Article 500), generally equivalent to IEC Groups IIA

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

Flange Pattern: Threaded, ANSI Standard, DIN Optional

Material / Construction\*:

- |            |                |                |                   |
|------------|----------------|----------------|-------------------|
| ■ Aluminum | ■ Ductile Iron | ■ Carbon Steel | ■ Stainless Steel |
|------------|----------------|----------------|-------------------|



\*Some options require special orders with longer lead times. Not all choices can be combined. Consult Protectoseal Representative or factory for options not listed.



## In-Line / Pipe-Away Conservation / Relief Vents

### For Normal Venting of Pressure and/or Vacuum

#### Series 18540 Pipe-Away Pressure / Vacuum Conservation Vent

Provides pressure and vacuum relief in applications that require vapors to be piped away in lieu of venting to the atmosphere. The pallets in the housing allow intake of air and release of vapors as the tank breathes normally. In the standard configuration, relieving vapors are piped away through a flanged connection one size larger than the inlet, providing greater flow capabilities. Same size outlet flange also available.

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

**Flange Pattern: ANSI Standard, DIN Optional**

**Material / Construction\*:**

- |              |                      |                           |                   |                |
|--------------|----------------------|---------------------------|-------------------|----------------|
| ■ Aluminum   | ■ Ductile Iron       | ■ Carbon Steel            | ■ Stainless Steel | ■ Alloy C/C276 |
| ■ FRP        | ■ Polyvinyl Chloride | ■ Polyvinylidene Fluoride | ■ Polypropylene   | ■ Polyethylene |
| ■ PURE-TECH® | ■ Special Coating    | ■ Spring-Load             | ■ Steam-Jacket    |                |



#### Series 17800 Pipe-Away Pressure or Vacuum Relief Vent

Provides pressure or vacuum relief in applications that require vapors to be piped away in lieu of venting into the atmosphere. Depending upon orientation of connections, the pallet in the housing allows intake of air or release of vapors as the tank breathes normally. In the standard configuration, relieving vapors are piped away through a flanged connection one size larger than the inlet, providing greater flow capabilities. Same size outlet flange also available.

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

**Flange Pattern: ANSI Standard, DIN Optional**

**Material / Construction\*:**

- |              |                      |                           |                   |                |
|--------------|----------------------|---------------------------|-------------------|----------------|
| ■ Aluminum   | ■ Ductile Iron       | ■ Carbon Steel            | ■ Stainless Steel | ■ Alloy C/C276 |
| ■ FRP        | ■ Polyvinyl Chloride | ■ Polyvinylidene Fluoride | ■ Polypropylene   | ■ Polyethylene |
| ■ PURE-TECH® | ■ Special Coating    | ■ Spring-Load             | ■ Steam-Jacket    |                |



#### Series 8740 In-Line Pressure / Vacuum Conservation Vent

Unique design makes these vents particularly suited for in-house tank installations. Outlet pipes can direct vapors to some appropriate area for discharge. The pallets in the housing allow intake of air and release of vapors as the tank breathes normally.

**Sizes: 2" (DN 50), 3" (DN 80) and 4" (DN 100)**

**Flange Pattern: ANSI Standard, DIN Optional**

**Material / Construction\*:**

- |            |                |                   |                |
|------------|----------------|-------------------|----------------|
| ■ Aluminum | ■ Ductile Iron | ■ Stainless Steel | ■ Steam-Jacket |
|------------|----------------|-------------------|----------------|



#### Series 16240 Side-Mount Vacuum Relief Vent

For use where only vacuum must be relieved in a vapor system. A pallet in the housing opens and closes, allowing only the air intake necessary to avoid tank damage under normal operating conditions.

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

**Flange Pattern: ANSI Standard, DIN Optional**

**Material / Construction\*:**

- |              |                      |                           |                   |                |
|--------------|----------------------|---------------------------|-------------------|----------------|
| ■ Aluminum   | ■ Ductile Iron       | ■ Carbon Steel            | ■ Stainless Steel | ■ Alloy C/C276 |
| ■ FRP        | ■ Polyvinyl Chloride | ■ Polyvinylidene Fluoride | ■ Polypropylene   | ■ Polyethylene |
| ■ PURE-TECH® | ■ Special Coating    | ■ Spring-Load             | ■ Steam-Jacket    |                |



*\*Some options require special orders with longer lead times. Not all choices can be combined. Consult Protectoseal Representative or factory for options not listed.*

## Emergency Relief Vents

### For Emergency Venting of Pressure and/or Vacuum

#### Series 7800 Emergency Pressure Relief Vent

Provides emergency pressure relief capacity, beyond that furnished by the operating conservation vent on the tank. Under normal operating conditions the vent remains closed. In the event of an emergency (tank involved in a fire) the pallet is lifted by the increased pressure inside the tank. This relieves pressure and protects the tank from over-pressurization damage. It then reseals automatically when the tank pressure is reduced.

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

**Flange Pattern: ANSI or API Standard, DIN Optional**

**Material / Construction\*:**

- Aluminum
- Carbon Steel
- Stainless Steel
- Alloy C/C276
- FRP
- Polyvinyl Chloride
- Polyvinylidene Fluoride
- Polypropylene
- Polyethylene
- Special Coating
- Spring-Load
- Steam-Jacket



No. 7803H

#### PIN-TECH® Series 56000/57000 <500 ppm End-of-Line Pressure Relief Vent

Provides relief in applications that require bubble-tight sealing to less than 500 ppm to reduce fugitive emissions in compliance with the U. S. Code of Federal Regulations - 40 CFR. An o-ring seal prevents leakage until the full set point is reached. PIN-TECH® utilizes reliable "buckling pin" technology to maintain accurate emergency relief settings. The buckled pin provides evidence of emergency relief and can be easily replaced.

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

**Flange Pattern: ANSI or API Standard, DIN Optional**

**Material / Construction\*:**

- Carbon Steel
- Stainless Steel
- Alloy C/C276
- Instrumentation
- Certification



No. F56002DAAAA



Full open, full flow position

#### Series 52500 Emergency Pressure / Vacuum Manhole Cover Vent

Provides emergency pressure relief and normal vacuum relief when installed on the manhole flange of a storage tank. The pressure cover lifts only far enough to flow at its rated capacity should high tank pressure be encountered. It then reseals automatically when the tank pressure is reduced.

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

**Flange Pattern: ANSI or API Standard, DIN Optional**

**Material / Construction\*:**

- Aluminum
- Carbon Steel
- Stainless Steel
- Alloy C/C276
- Special Coating



No. AXCS52524API

#### Series 53300 & 51600 Emergency Pressure Manhole Cover Vents

Provide emergency pressure relief and convenient access for tank cleaning when installed on the manhole flange of a storage tank. Under emergency conditions (tank involved in a fire) the vent opens fully to allow escape of vapors and prevent over-pressurization of the tank. Series 53300 Vents have their cover tethered to the base for manual resetting. Series 51600 Vents feature an automatically resetting cover with a counterweight which allows higher pressure settings. Series 54000 is spring-loaded to allow for higher set pressures.



Series 54000 Spring-Loaded Emergency Pressure Vent

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

**Flange Pattern: ANSI or API Standard, DIN Optional**

**Material / Construction\*:**

- Aluminum
- Carbon Steel
- Stainless Steel
- Alloy C/C276
- FRP (53300 only)
- Special Coating
- Spring-Load
- Steam-Jacket (Base only)



No. AXCS53316ASA

No. AXCS51620API

## End-of-Line Flame Arresters

### For Unconfined Deflagrations

#### Series 860 End-of-Line Parallel Plate Flame Arrester

Provides protection of the tank's vapor space if an ignition source is introduced outside of the tank. The large wing nut and swing bolt assemblies allow full access to the arrester elements for easy inspection and maintenance. A spare element can be quickly installed to safeguard the tank while the original element is serviced.

**Suitable for Group D Vapors (NEC Article 500), generally equivalent to IEC Group IIA**

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

**Mountings: 2", 3", 4" Threaded, 6" and 8" ANSI Standard, DIN Optional**

**Housing Material / Construction\*:**

■ Aluminum   ■ Ductile Iron   ■ Stainless Steel   ■ Alloy C/C276



No. 862B

#### Series 670 & 670E End-of-Line Deflagration Flame Arrester

Mounts on the end of a vent pipe from tank. Vapors are allowed to escape into the atmosphere and air can be drawn into the tank through the flame arrester grid assembly. If an external source of ignition is encountered, the flame arrester provides protection for the tank's vapor space.

**Series 670 for Group D Vapors (NEC Article 500), generally equivalent to IEC Group IIA**

**Sizes: 1" (DN 25) through 4" (DN 100), UL Listed: 1" & 2"**

**Series 670E Type Approved to ATEX Directive 94/9/EC, EN 12874 & ISO 16852, for Group D & C Vapors (NEC Article 500), generally equivalent to IEC Groups IIA and IIB**

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

**Mounting\*: Threaded, ANSI Standard, DIN Optional**

**Material / Construction\*:**

■ Aluminum   ■ Carbon Steel   ■ Stainless Steel



No. 671

#### Series 27000, 29000, 31000 End-of-Line Crimped Metal Flame Arresters

Provides the maximum airflow consistent with operating efficiency, fire protection and low cost maintenance. Mounts on the end of a tank vent pipe or process vent pipe, allowing vapors to escape into the atmosphere and for air to be drawn into the tank through the stainless steel crimped metal element.

**Series 27000 for Group D Vapors (NEC Article 500), generally equivalent to IEC Group IIA**

**Sizes: 2" (DN 50) through 16" (DN 400)**

**Series 29000 for Group D & C Vapors (NEC Article 500), generally equivalent to IEC Groups IIA and IIB**

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

**Series 31000 for Group D, C & B Vapors (NEC Article 500), generally equivalent to IEC Groups IIA, IIB and IIC**

**Sizes: 2" (DN 50) and 3" (DN 80)**

**Flange Pattern: ANSI Standard, DIN Optional**

**Material / Construction\*:**

■ Carbon Steel   ■ Stainless Steel   ■ Alloy C/C276



No. C29002

*For Series 830 Combination Relief Vent and Flame Arrester see Page 3.*

*For Series 4950 and Series 30000 In-Line Flame Arresters, which can also be used in end-of-line applications, see Page 7.*

*\*Some options require special orders with longer lead times. Not all choices can be combined. Consult Protectoseal Representative or factory for options not listed.*

## Vent Line / In-Line Flame Arresters

For Short-Run, Subsonic Confined & Unconfined Deflagrations

### Series 4950 Vent Line / In-Line Parallel Plate Flame Arrester

Designed for installation in open vent pipes or bleed lines from storage or processing tanks. Prevents propagation of flame fronts from the external opening into the tank. Unique design allows removal of the arrester element without breaking the mounting flange. A spare element can be quickly installed to maintain safe operation while the original element receives maintenance. Consult the factory for maximum allowable distance from the end of an open pipe.

Suitable for Group D Vapors (NEC Article 500), generally equivalent to IEC Group IIA  
 Sizes 1" (DN 25) through 12" (DN 300)

FM Approved: 1" through 12", UL Listed: 1" through 10"

Flange Pattern: ANSI Standard, DIN Optional

Material / Construction\*:

- Aluminum
- Ductile Iron
- Stainless Steel
- Alloy C/C276



No. 4952F

### Series 30000 Vent Line / In-Line Crimped Metal Flame Arrester

Designed for installation in open vent pipes or bleed lines from storage or processing tanks. Prevents propagation of flame fronts from the external opening into the tank. Crimped metal element provides a straight through flow path, less pressure drop and less susceptibility to clogging. Suitable for horizontal or vertical mounting. Please consult the factory for maximum allowable distance from the end of an open pipe.

Suitable for Group D Vapors, (NEC Article 500), generally equivalent to IEC Group IIA  
 Sizes 6" (DN 150) through 12" (DN 300)

Flange Pattern: ANSI Standard, DIN Optional

Material / Construction\*:

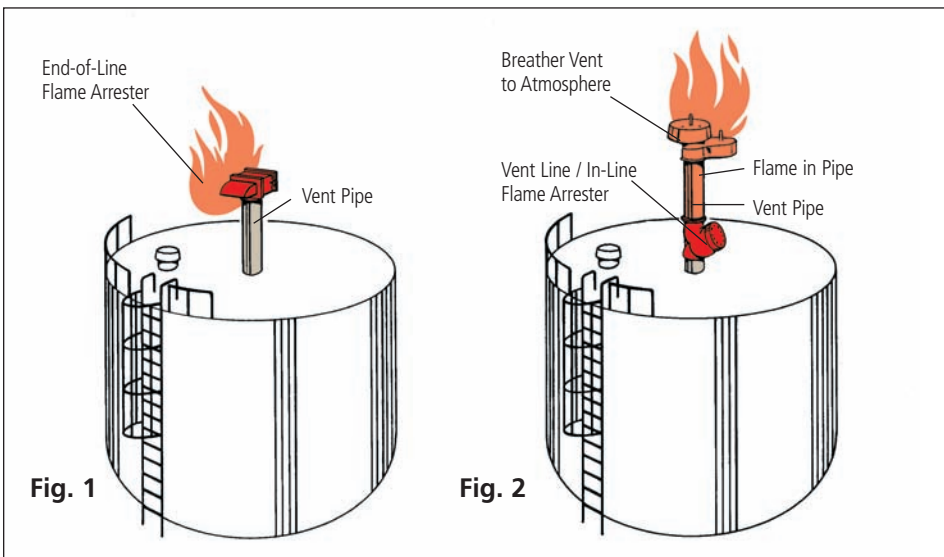
- Aluminum
- Steel
- Stainless Steel
- Alloy C/C276



No. 30002

For Series 25000 and 26000 Bi-Directional Detonation Arresters, which are also suitable for unconfined or confined deflagrations, see Page 8.

*\*Some options require special orders with longer lead times. Not all choices can be combined. Consult Protectoseal Representative or factory for options not listed.*



**Fig. 1** - An End of Line Flame Arrester permits normal tank breathing, while preventing the "flashback" of an "unconfined deflagration", a flame front moving in an unrestricted space at a speed less than the speed of sound, through the pipe into the tank's vapor space.

**Fig 2** - A Vent-Line / In-Line Flame Arrester is usually mounted directly upstream of pressure/vacuum relief vents, or are connected to short runs of open vent outlet piping. This type of arrester is designed and tested to withstand a "confined deflagration", that is a flame front moving in a confined space, e.g. pipe walls or vent body, at a speed less than the speed a sound.



## In-Line Bi-Directional Detonation Flame Arresters

For Stable, Unstable Detonations and Confined & Unconfined Deflagrations

### Series 25000, 26000 Bi-Directional Detonation Arresters

Designed\*\* to withstand and arrest unconfined deflagrations, confined deflagrations and both stable and unstable detonations. Required for safety in long or complex piping runs such as those encountered in vapor recovery or manifolded tank systems. These arresters are bi-directional, capable of stopping a flame or detonation approaching from either direction in a piping system. The unitized wound crimped metal arrester elements are easily removable and interchangeable, allowing a spare element to be installed during maintenance for positive protection at all times. Optional flanged or tapped fittings may be provided on the arrester housing for drains, pressure taps or temperature probes if required.

**Series 25000 for Group D Vapors (NEC Article 500), generally equivalent to IEC Group IIA**  
**Sizes: 2" (DN 50) through 24" (DN 600)**

**Series 26000 for Group D & C Vapors (NEC Article 500), generally equivalent to IEC Groups IIA and IIB**

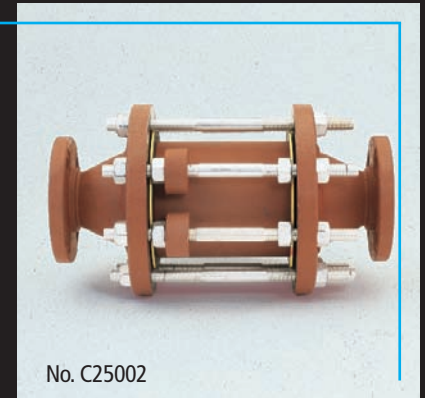
**Sizes: 2" (DN 50) through 12" (DN 300),**

**Flange Pattern: ANSI Standard, DIN Optional**

**Material / Construction\*:**

■ Carbon Steel    ■ Stainless Steel    ■ C276    ■ Optional Fittings

NOTE: For applications with initial higher operating pressures, see Series 35000 / 36000RP.

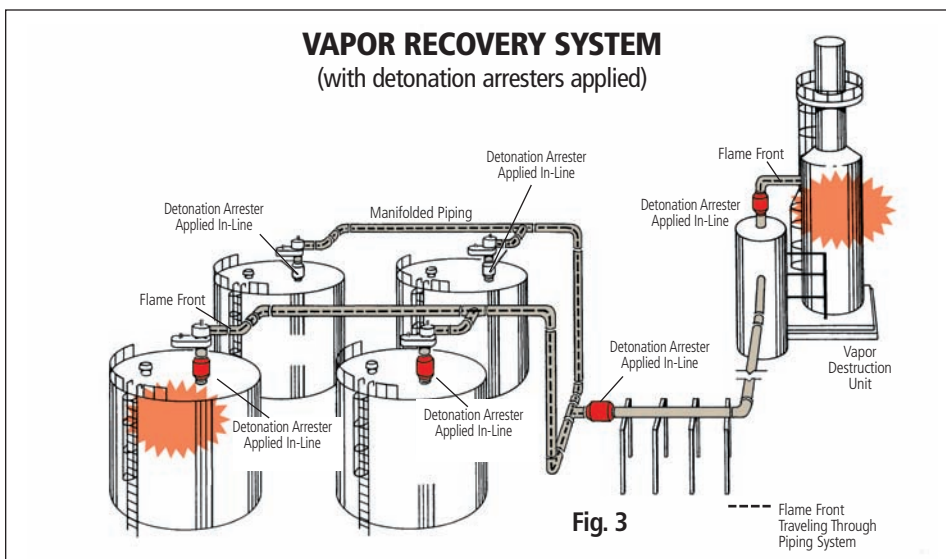


\*\* Protectoseal Detonation Arresters have been thoroughly tested and certified by the most respected independent laboratories and approval agencies in the World.

Underwriters' Laboratories (UL), Underwriters' Laboratories of Canada (ULC), Factory Mutual Research (FM), United States Coast Guard (USCG), Federal Institute for Physics and Technology (PTB), Central Institute of Mining "Barbara" Experimental Coal Mine and SIRA Test and Certification, Ltd., have all granted approvals and / or acceptances.

Please contact Protectoseal for further details on approvals.

\*Some options require special orders with longer lead times. Not all choices can be combined. Consult Protectoseal Representative or factory for options not listed.



**Fig 3 -** With Detonation Arresters properly applied in a manifolded vapor collection system as shown in the illustration, flame fronts can be extinguished safely, whether the ignition originated at the vapor destruction unit, in this case a flare, or if the ignition started at the storage tank.

## Tank Blanketing Valves & Miscellaneous Equipment

### Series 20 & 30 Tank Blanketing Valves

Provide an effective means of regulating a blanketing gas into the vapor space of liquid storage tanks. The valve controls flow of a pressurized inert gas (most often nitrogen) into the tank's vapor space. When the tank pressure drops below a specified setting, the blanketing valve opens and allows flow of inert gas into the vapor space. It closes when pressure in the tank has returned to an acceptable level. Proper use of the valve can preclude the entrance of air through relief vents and reduce exposure of tank contents to oxygen and moisture.

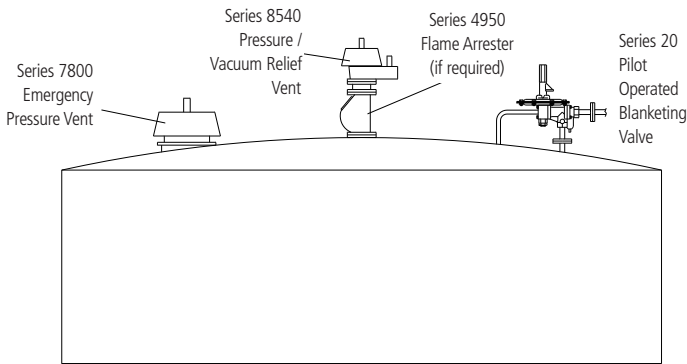
**Series 20 Pilot Operated Blanketing Valve** has standard 1" NPT inlet / outlet and accommodates inlet gas pressures from 20 PSIG (1.38 barg) to 200 PSIG (13.8 barg)

**Series 30 Spring Operated Blanketing Valve** has standard 1/2" NPT inlet / outlet and accommodates inlet gas pressures from 10 PSIG (0.69 barg) to 200 PSIG (13.8 barg).

**Flange Pattern: ANSI, DIN Optional** (Other connections available upon request)

**Material / Construction\*:**

- Stainless Steel
- PURE-TECH®



### Series 660 Water Drain Valve

Designed to drain water that collects in the bottom of liquid storage tanks. The unique non-freeze design features a "true" straight-through body construction. Provides maximum flow and ensures complete self-drainage.

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

**Flange Pattern: ANSI Standard, DIN Optional**

**Material / Construction\*:**

- Carbon Steel



### Series 780 Air Dryer

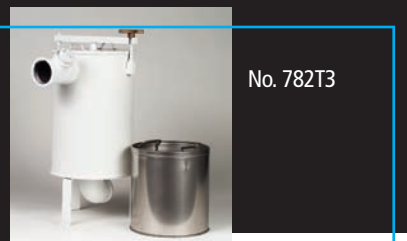
A simple and effective method to remove unwanted moisture from air entering storage tanks under inbreathing conditions. Incoming air must pass through a 30 lb. (13.6 Kg) charge of silica gel desiccant. Unit includes an integral humidity indicator. Suitable when more expensive and sophisticated central air drying or inert gas systems are not required.

**Sizes: 2" (DN 50) through 3" (DN 80)**

**Flange Pattern: ANSI Standard, DIN Optional**

**Material / Construction\*:**

- Carbon Steel
- Stainless Steel
- Polyvinyl Chloride



*\*Some options require special orders with longer lead times. Not all choices can be combined. Consult Protectoseal Representative or factory for options not listed.*

## Miscellaneous Equipment

### Series 3000 Internal Safety Valve

For tanks that must be equipped with valves that close automatically when subjected to fire. This UL Listed design utilizes a valve that automatically closes when an integral fusible link melts at 160°F (71°C). The standard design can be flanged or threaded and incorporates a bypass valve for pressure equalization.

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

**UL Listed:** 2" through 16"

**Flange Pattern:** ANSI Standard, DIN Optional

**Material / Construction\*:**

- Carbon Steel
- Stainless Steel



No. C3002F3

### Series 7300 Overflow Valve

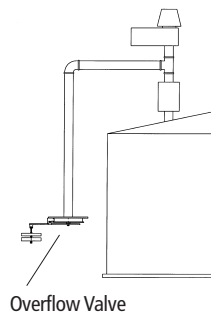
For mounting on storage tank overflow pipes. This device eliminates an open pipe connection into the vapor space of the tank. By varying the weight on the lever arm handle, the opening point of the overflow valve can be changed.

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

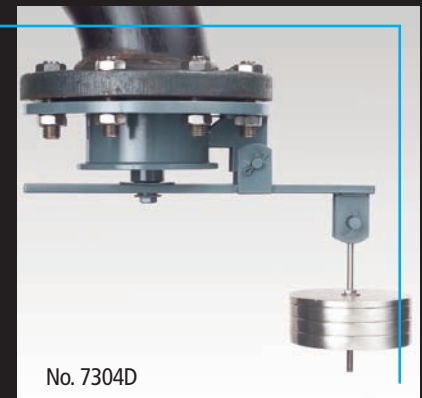
**Flange Pattern:** ANSI Standard, DIN Optional

**Material / Construction\*:**

- Carbon Steel
- Stainless Steel
- Alloy C/C276
- FRP (Select sizes only)



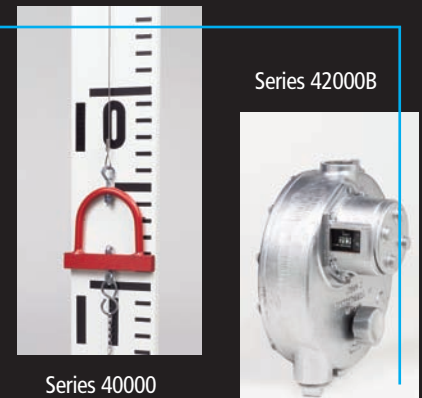
Overflow Valve



No. 7304D

### Series 40000, 41000 & 42000B Liquid Level Indicators

Used for liquid level gauging of fixed roof or floating roof storage tanks. Suitable for oil, water, solvents and many other liquids. Provides an economical means of accurate, low maintenance liquid level gauging. Nos. 40000 and 41000 are gauge board-type indicators. Gauge boards are available with bold, legible markings in U.S. or Metric units of measure. No. 42000B is an automatic tank gauge with a dial and counter readout.



Series 40000

Series 42000B

### Series 4970D/5960D and 4960D/4980D Gauge Hatches

Provide ready access to contents of storage tanks for gauging or sampling. The lock-down feature on Series 4970D/5960D is suitable for tanks with normal operating pressure under 3 PSIG (208 mbarg).

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

**FM Approved:** 4", 6" & 8", **UL Listed:** Series 4960D/4980D 4", 6" & 8" (Approvals - metallic models only)

**Flange Pattern:** ANSI Standard, DIN Optional

**Material / Construction\*:**

- Aluminum
- Carbon Steel
- Stainless Steel
- FRP (4970 in select sizes only)



No. AX4974D

No. AX4964D

\*Some options require special orders with longer lead times. Not all choices can be combined. Consult Protectoseal Representative or Factory for options not listed.



**PROTECTOSEAL**

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Website: [www.protectoseal.com](http://www.protectoseal.com)

## **The Products You Need . . . When and Where You Need Them**

Protectoseal Storage Tank Fittings, Vents and accessories are sold and serviced by a technically-oriented network of representatives located across the United States, Mexico, South America, Canada, Europe, Middle / Far East, China and throughout the industrial world.

Please call 1-630/595-0800 or visit our website at [www.protectoseal.com](http://www.protectoseal.com) for the name and address of the Authorized Protectoseal Sales Representative in your area.

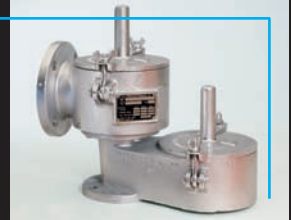
### **Pressure / Vacuum Relief Vents**

Pallets open and close to permit only the intake or outlet relief necessary to stay within permissible working pressures and avoid damage to tank.



### **Pipe-Away Relief Vents**

Pressure / Vacuum relief for applications that require hazardous vapors to be processed into manifolded piping and not released into the atmosphere.



### **Emergency Vents**

Protect tanks against rupture or explosion resulting from excessive internal pressure caused by exposure to fires. PIN-TECH® units featuring <500 ppm leakage available.



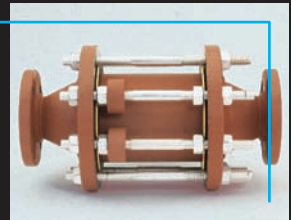
### **Flame Arresters**

Prevent external flame entry into storage or processing tanks via vent opening.



### **Detonation Arresters**

Withstand and arrest high velocity and pressure flame fronts approaching from either direction in closed or manifolded piping systems.



### **Tank Blanketing Valves**

Control the flow of an inert gas into the vapor space of a storage tank so that the tank pressure can be maintained within an acceptable range.

