

# Series 7800

## End-of-Line Emergency Pressure Vent



- Sizes 2" (DN 50) through 24" (DN 600)
- Settings achieved by weight loading
- Reduces costly evaporation losses
- Provides emergency relief in the event of external fire
- Leakage rate of less than 1 SCFH of air at 90% of set point
- Patented, FEP film "Air-Cushioned Seating"
- Low-leak pallet design - certified test reports
- Conforms to the latest ATEX Directive
- Factory tested/certified for leakage and correct settings
- Available in Aluminum, Stainless Steel, Carbon Steel, and Alloy C/C276



### Objective

The Protectoseal Series 7800, End-of-Line Emergency Pressure Vents are designed to provide emergency relief capacity beyond that furnished by the operating vents on tanks, low pressure vessels and piping in the event of external fire involvement. Vapors are relieved to atmosphere.

### Technique

Under normal operating conditions, the pallet assembly is closed providing a vapor-tight seal. In the event of an emergency (fire involvement of the tank) the pallet lifts to vent excess vapors thereby protecting the tank from dangerous over-pressurization. Pallet automatically closes and reseals when the pressure is reduced.

### Optimized Performance Vents™

Protectoseal's "Optimized Performance Vents" incorporate patented features that provide the optimum overall vent performance with regard to sealing, set point, flow and resealing (blow down).

### Special Features

#### Fast Inspection, Easy Maintenance.

Design and light weight of entire unit permits easy, convenient handling for inspection and maintenance. Coarse mesh screen prevents entry of foreign matter into seating area.

#### Maintains Accurate Pressure Settings.

Set points are accurate to within +/- 3% based on weight per area of mean seat diameter.

#### Air-Cushioned Seating.

A flat, smooth diaphragm of FEP film is supported on both sides of an annular channel to form a floating air seal with the seat. An outer support rim assures proper seating.

#### Low-Leakage.

Vent leakage is no more than 1 SCFH at 90% of the set pressure.

#### Sizes Available.

2" (DN 50) through 12" (DN 300) aluminum units flanged to mate with 125# ANSI and DIN PN 16 flat face flanges. All other materials mate with 150# ANSI and DIN PN 16 raised face flanges. 16" (DN 400) through 24" (DN 600) units flanged to mate with applicable ANSI or API flat face flange connections.

**PRO-FLOW® Sizing and Selection Software.**

Use PRO-FLOW® to select the correct size unit for pressure relief calculated in accordance with API 2000, ISO 28300, NFPA 30 and OSHA 1910.106.

**Construction**

A comprehensive range of materials is offered as shown in the chart below. Non-metallic (thermoplastic resin & FRP), construction available. Other materials and features can be furnished upon request.

**Dimensions and Ordering Information**

Cat. No.*	Pipe Size	Ht.	Width		Length	B.C.	Dia.	Holes
	K	A	B	C	D	E	G	N
7802H	2"	8¼"	8½"	¾"	4¼"	⅝"-11"	6"	Stud
7802DNH	DN 50	210mm	216mm	19mm	125mm	M16x2	165mm	Stud
7803H	3"	10¼"	12¼"	2⅝"	6"	¾"	7½"	4
7803DNH	DN 80	260mm	311mm	54mm	160mm	18mm	200mm	8
7804H	4"	10⅞"	12¼"	2⅝"	7½"	¾"	9"	8
7804DNH	DN 100	268mm	311mm	60mm	180mm	18mm	220mm	8
7806H	6"	13⅝"	14½"	2⅞"	9½"	7"	11"	8
7806DNH	DN 150	333mm	362mm	68mm	240mm	22mm	285mm	8
7808H	8"	15¼"	17"	3"	11¼"	7"	13½"	8
7808DNH	DN 200	387mm	432mm	86mm	295mm	22mm	340mm	12
7810H	10"	16⅞"	22¼"	2¼"	14¼"	1"	16"	12
7810DNH	DN 250	422mm	578mm	57mm	355mm	26mm	405mm	12
7812H	12"	18⅝"	25⅝"	2¼"	17"	1"	19"	12
7812DNH	DN 300	473mm	638mm	70mm	410mm	26mm	460mm	12
7816ASA	16"	20"	26¾"	6⅝"	21¼"	1⅝"	23½"	16
7816DN	DN 400	508mm	679mm	168mm	525mm	30mm	580mm	16
7818ASA	18"	20"	26¾"	6⅝"	22¼"	1¼"	25⅞"	16
7818DN	DN 450	508mm	680mm	170mm	848mm	30mm	640mm	20
7820ASA	20"	20"	32"	6⅝"	25"	1¼"	27⅞"	20
7820API	20"	20"	32"	6⅝"	23½"	¾"	26"	16
7820DN	DN 500	508mm	813mm	168mm	650mm	33mm	715mm	20
7824ASA	24"	21"	40"	6⅝"	29½"	1⅝"	32"	20
7824API	24"	21"	40"	6⅝"	27½"	¾"	30"	20
7824DN	DN 600	533mm	1016mm	770mm	33mm	840mm	20	20

\* Cat. No. designates Aluminum Housing & Pallets, see chart on the reverse for other materials of construction.

**Available Options.**

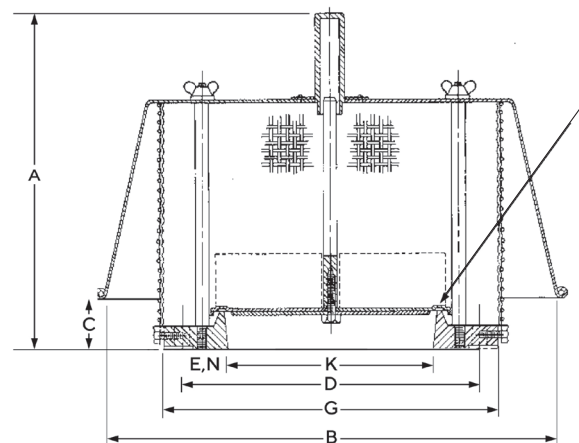
- Alternate diaphragm materials
- Material certifications for castings
- Lower than standard minimum pressure settings
- Mechanical or electronic indication of vent opening
- FEP coating
- Kynar® coating (Kynar® is a Registered Trademark of Arkema, Inc.)
- Special cleaning & packaging for the storage of ultrapure liquids

Series	Size	Base/Flange	Weather		Pallet
		Seat	Hood	Pallet*	Diaphragm
7800	2"-12"	Aluminum	Aluminum	Aluminum	FEP Film
7800	16"-24"	Steel/316 S.S.	Steel	Aluminum	FEP Film
C7800	2"-12"	Steel/316 S.S.	Steel	316 S.S.	FEP Film
C7800	16"-24"	Steel/316 S.S.	Steel	316 S.S.	FEP Film
E7800	2"-12"	Aluminum	Aluminum	316 S.S.	FEP Film
F7800	2"-12"	316 S.S.	316 S.S.	316 S.S.	FEP Film
F7800	16"-24"	316 S.S.	316 S.S.	316 S.S.	FEP Film
M7800	2"-12"	Alloy C	C276	C276	FEP Film
M7800	16"-24"	C276	C276	C276	FEP Film

\*On steel and aluminum vents, weights are steel or lead. On stainless steel vents, weights are stainless steel or lead. On C276 vents, weights are C276 or lead.

2" through 12" Aluminum vents flanged to mate with 125# ANSI and DIN PN 16 flat face flanges. Steel, stainless steel and C276 units flanged to mate with 150# ANSI and DIN PN 16 raised face flanges. 16" through 24" vents flanged to mate with applicable ANSI or API flat face flange connections.

Pressure Relief FEP  
Film Air-Cushioned  
Pallet Seat



(Dimensions shown are for reference only, contact factory for certified drawings)

## Pressure and/or Vacuum Settings

(Consult factory for settings outside of STANDARD range.)

Flange Size	STANDARD MINIMUM SETTINGS						STANDARD MAXIMUM SETTINGS					
	PRESSURE ONLY						PRESSURE			VACUUM		
	Aluminum			Other Materials			All Materials			All Materials		
	oz./in. <sup>2</sup>	in.W.C.	kPa	oz./in. <sup>2</sup>	in.W.C.	kPa	oz./in. <sup>2</sup>	in.W.C.	kPa	oz./in. <sup>2</sup>	in.W.C.	kPa
2" / DN 50	1.00	1.73	0.43	1.00	1.73	0.43	48.00	83.04	20.68	N / A	N / A	N / A
3" / DN 80	1.00	1.73	0.43	1.00	1.73	0.43	48.00	83.04	20.68	N / A	N / A	N / A
4" / DN 100	1.00	1.73	0.43	1.00	1.73	0.43	48.00	83.04	20.68	N / A	N / A	N / A
6" / DN 150	1.00	1.73	0.43	1.00	1.73	0.43	48.00	83.04	20.68	N / A	N / A	N / A
8" / DN 200	1.00	1.73	0.43	1.00	1.73	0.43	48.00	83.04	20.68	N / A	N / A	N / A
10" / DN 250	1.00	1.73	0.43	1.00	1.73	0.43	48.00	83.04	20.68	N / A	N / A	N / A
12" / DN 300	1.00	1.73	0.43	1.00	1.73	0.43	48.00	83.04	20.68	N / A	N / A	N / A
16" / DN 400	1.00	1.73	0.43	1.00	1.73	0.43	11.90	20.59	5.13	N / A	N / A	N / A
18" / DN 450	1.00	1.73	0.43	1.00	1.73	0.43	11.90	20.59	5.13	N / A	N / A	N / A
20" / DN 500	1.00	1.73	0.43	1.00	1.73	0.43	8.00	13.84	3.45	N / A	N / A	N / A
24" / DN 600	1.00	1.73	0.43	1.00	1.73	0.43	11.00	19.03	4.74	N / A	N / A	N / A

## Additional Products From Protectoseal



### Series 8540H

End-of-Line Pressure / Vacuum Conservation Vent is intended for use where both pressure and vacuum relief are required. The pallets in the vent housing allow intake of air and escape of vapors as the tank normally breathes in and out.



### Series UCA

In-line Unstable Detonation Flame Arresters are designed to prevent the propagation of gas or vapor explosions in pipelines under the most severe condition of unstable detonation. Suitable for NEC Group D (IEC Group IIA and IIA1) vapors.



### Series 830

Combination Pressure / Vacuum Relief Vent & Flame Arrester provides pressure and vacuum relief as well as protection from propagation of externally introduced flames. Suitable for NEC Group D (IEC Group IIA) vapors.



### Series AVC

End-of-Line Flame Arresters are designed to be installed at the end of a pipeline or exit vent from a vessel to provide protection against atmospheric deflagrations. Suitable for NEC Groups B, C, and D (IEC Groups IIB and IIC) vapors.

## Business contact details:



The Protectoseal Company  
(Headquarters)

✉ info@protectoseal.com  
☎ 1.630.595.0800  
🌐 www.protectoseal.com



Elmac Technologies Ltd.  
T/A Protectoseal

✉ enquiries@protectoseal.uk  
☎ +44 1352 717 560  
🌐 www.protectoseal.com



Elmac Envisafe Technologies  
Pvt. Ltd. T/A Protectoseal

✉ sales.eet@protectoseal.in  
☎ +91 22 4100 6998  
🌐 www.protectoseal.com

