

Series 54000 Spring Loaded Emergency Pressure Vent



- Sizes 16" (DN 400) through 24" (DN 600)
- Vents directly to atmosphere
- Pressure setting achieved by spring loading
- Suitable for use on higher working pressure tanks
- Provides emergency relief in the event of external fire
- Factory tested / certified for leakage and correct settings
- Available in Carbon Steel and Stainless Steel



Objective

Protectoseal Series 54000 Spring Loaded Emergency Pressure Vents provide emergency pressure relief for storage tanks as well as access for tank cleaning, inspection and repair work. They are designed for installation on the manhole opening of the tank and provide a means of relieving large volumes of vapors, beyond the capacity of a normal operating vent, if an emergency fire involvement of the tank should occur.

Series 54000 Emergency Pressure Vents do not provide vacuum relief. Vacuum relief must be supplied by operating vents such as Protectoseal Series 830, 8540, 6240, 16240 and 18540.

Technique

Even tanks with high design ratings require protection from excessive pressure accumulation in their vapor space. With the set pressures allowed by a spring loaded design, the vent can remain closed at higher pressures and is allowed to open only when the tank structure may be in jeopardy. Vapors can then be relieved to maintain the tank within its design parameters.

The set point is determined by combined spring force and weight of components acting upon the mean seat diameter of the vent. Settings are adjustable within a specified range for any spring combination, by increasing or decreasing compression of springs.

Special Features

Fast Inspection, Easy Maintenance. Diaphragm may be replaced by removal of springs and pallet assembly from the vent.

Maintains Accurate Pressure Settings.

Set points are accurate to within $\pm 3\%$ across the entire range of available pressure relief settings shown in the chart on the reverse. Set point accuracy is assured by stringent machining, assembly and test procedures.

Wide Range of Set Points.

Series 54000 Spring-Loaded Emergency Vents can be set at 1 PSIG or higher. Refer to setting chart on reverse for setting ranges.

Sizes Available.

Available in 16" (DN 400) through 24" (DN 600) sizes. Flanged to mate with standard flanged 150# ANSI, API (20" or 24" only) or DIN PN 16 bolting specifications. Other drilling patterns are also available upon special request.

PRO-FLOW® Sizing and Selection Software.

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

Quality Assurance.

Each vent is factory tested for correct setting and leakage to meet Protectoseal's high standards prior to shipment.

Construction

A comprehensive range of materials is offered as shown in the chart below.

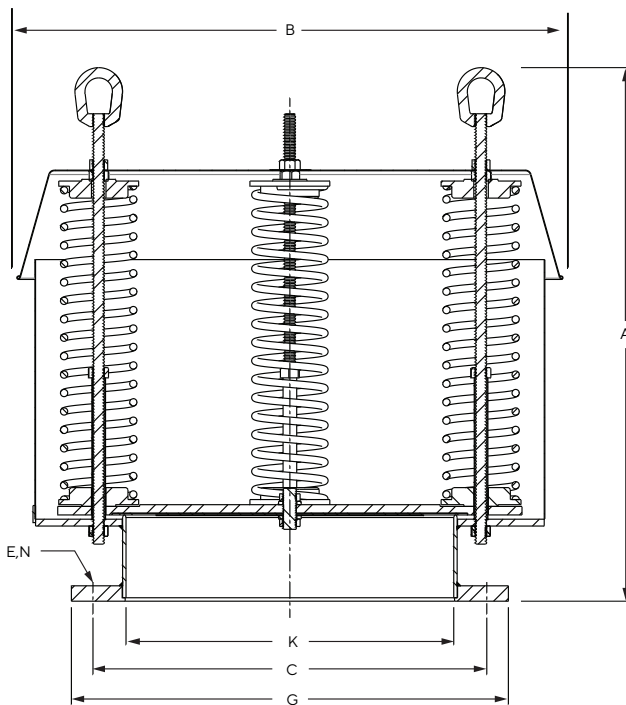
Available Options.

- Alternate diaphragm materials
- Material certifications for flange and seat
- FEP coating
- Kynar® coating (Kynar® is a Registered Trademark of Arkema, Inc.)

Series	Base Flange/Seat	Hood	Spring Package	Diaphragm
AXC54000 Steel/316 S.S.	Steel/316 S.S.	Steel	S.S.	Viton®
AXF54000	316 S.S.	316 S.S.	S.S.	Viton®

Viton® is a registered Trademark of E.I. DuPont de Nemours & Co., Inc.

Specifications



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

Cat. No.*	Flange Size	I.D.	Ht.	Width	Dia.	BC.	Dia.	Holes N
		K	A	B	G	C	E	N
54016ASA_	16"	15¼"	30"	31¼"	23½"	21¼"	1½"	16
54016DN_	DN 400	410mm	762mm	806mm	580mm	525mm	30mm	16
54018ASA_	18"	15¼"	30"	31¼"	25"	22¼"	1½"	16
54018DN_	DN 450	462mm	762mm	806mm	640mm	578mm	30mm	20
54020ASA_	20"	20½"	30½"	39¾"	27½"	25"	1½"	20
54020API_	20"	20½"	30½"	39¾"	26"	23½"	¾"	16
54020DN_	DN 500	513mm	773mm	1013mm	715mm	650mm	33mm	20
54024ASA_	24"	24"	39"	40"	32"	29½"	1½"	20
54024API_	24"	24"	39"	40"	30"	27½"	¾"	20
54024DN_	DN 600	616mm	991mm	1016mm	840mm	770mm	36mm	20

*Refer to Setting Chart to complete part number.

Add Prefix	Base Flange/Seat	Hood	Spring Package	Diaphragm
AXC	Steel/316 S.S.	Steel	S.S.	Viton®
AXF	316 S.S.	316 S.S.	S.S.	Viton®

Viton® is a registered Trademark of E.I. DuPont.

Pressure and/or Vacuum Settings

(Consult factory for settings outside of STANDARD range.)

Flange Size	STANDARD MINIMUM AND MAXIMUM SETTINGS			
	Minimum Setting	Range - "A" Suffix	Range - "B" Suffix	Maximum Setting
		Standard Setting	Standard Setting	
16"/DN 400	Standard Setting	Range - "B" Suffix	5 PSIG up to 11 PSIG	11 PSIG
18"/DN 450	Standard Setting	Maximum	5 PSIG up to 11 PSIG	11 PSIG
20"/DN 500	Setting	1 PSIG up to 2.3 PSIG	2.3 PSIG up to 7 PSIG	7 PSIG
24"/DN 600	1 PSIG	1 PSIG up to 3.75 PSIG	3.75 PSIG up to 5 PSIG	5 PSIG

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



PROTECTOSEAL
Safety Without Compromise