SAFETY WITHOUT COMPROMISE

SERIES 52500

Emergency Pressure / Vacuum Manhole Cover Vent

PROTECTOSEAL

- Vents directly to atmosphere
- Sizes 16" (DN 400) through 24" (DN 600)
- Pressure setting achieved by weight loading
- Vacuum setting achieved by spring loading
- Reseats automatically
- Patented, FEP film "Air-Cushioned Seating"
- Low-leak pallet design - certified test reports
- Conforms to the latest ATEX Directive
- Easy access manway facilitates inspection & repairs
- Available in Carbon Steel, Aluminum & Stainless Steel

SERIES 52500

OBJECTIVE

Protectoseal's Series 52500 Manhole Cover with pressure and vacuum relief, provides both emergency pressure relief and vacuum relief when installed on the manhole of a storage tank. In emergency situations (external fire involvement of the tank), normal venting devices may be too small to prevent over-pressurization of the tank. The Series 52500 provides the necessary pressure relief capacity to maintain the tank in a safe operating range. The integral vacuum vent provides additional protection against tank collapse due to excessive vacuum in the vapor space.

TECHNIQUE

The Series 52500 Combination Pressure / Vacuum Manhole Cover Vent provides an effective vapor-tight seal until pressure or vacuum relief is required to protect the tank. The vacuum vent is spring loaded to relieve at a negative pressure of ½ oz./in^2. Entry of foreign material through the vacuum vent is precluded by use of a wire mesh screen.

The pressure relieving cover is designed to lift only far enough to flow its rated capacity should high tank pressure be encountered then reseal automatically when the tank pressure is reduced. The webs on the bottom of the cover ensure proper guiding and positioning of the cover on the seating surface. The cover can be completely removed by unfastening retaining chains allowing access into the tank through the full diameter seat opening; facilitating tank inspection and repair procedures.

SPECIAL FEATURES

Fast Inspection, Easy Maintenance. Proprietary design allows for easy, convenient handling for installation, inspection and maintenance. The pressure cover is normally restrained to allow automatic reseating and to protect the vacuum vent mechanism. Easy access into the tank through the seat opening is accomplished by simply unfastening the retaining chains and removing pressure cover.

Maintains Accurate Pressure Settings. Set points are accurate to within +/- 3% across the entire range of available pressure and vacuum relief settings shown in the chart on the reverse. Set point accuracy is assured by stringent machining, assembly and test procedures. Higher settings are available upon special request, but may require longer lead times.

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-Leak Covers and Pallets. Leakage on vent covers and pallets is no more than 1 SCFH at 90% of the set pressure.

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

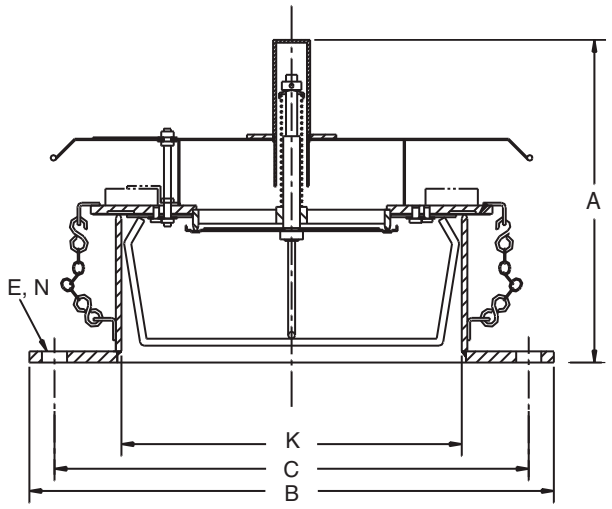
CONSTRUCTION

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

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	Pallet	Diaphragm
AX52500	Steel/316 S.S.	Aluminum	Aluminum	FEP Film
AXCS52500	Steel/316 S.S.	Steel	316 S.S.	FEP Film
AXF52500	316 S.S.	316 S.S.	316 S.S.	FEP Film

Note: On AX or AXCS Series, weights are steel or lead. On AXF Series, weights are stainless steel or lead.



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

DIMENSIONS & ORDERING INFORMATION

Cat. No.	Flange Size	I.D. K	Ht. A	Dia. B	B.C. C	Dia. E	Holes N
52516ASA	16"	15 1/4"	14 1/2"	23 1/2"	21 1/4"	1 1/8"	16
52516DN	DN 400	410mm	368mm	580mm	525mm	30mm	16
52518ASA	18"	15 1/4"	14 1/2"	25"	22 3/4"	1 1/4"	16
52518DN	DN 450	462mm	368mm	635mm	578mm	30mm	16
52520ASA	20"	20 1/2"	14 1/2"	27 1/2"	25"	1 1/4"	20
52520API	20"	20 1/2"	14 1/2"	26"	23 1/2"	3/4"	16
52520DN	DN 500	513mm	368mm	715mm	650mm	33mm	20
52524ASA	24"	24"	14 1/2"	32"	29 1/2"	1 3/8"	20
52524API	24"	24"	14 1/2"	30""	27 1/2"	3/4""	20
52524DN	DN 600	616mm	368mm	840mm	770mm	36mm	20

Add Prefix	Base Flange/Seat	Hood	Pallet	Diaphragm
AX	Steel/316 S.S.	Aluminum	Aluminum	FEP Film
AXCS	Steel/316 S.S.	Steel	316 S.S.	FEP Film
AXF	316 S.S.	316 S.S.	316 S.S.	FEP Film

On AX & AXCS Series, weights are steel or lead. On AXF Series, weights are S.S. or lead.

PRESSURE & VACUUM SETTINGS *(Consult factory for settings outside of STANDARD range.)*

		STANDARD MINIMUM SETTINGS						STANDARD MAXIMUM SETTINGS					
		Pressure			Vacuum			Pressure			Vacuum		
Series	Flange Size	oz./in.²	in. W.C.	kPa	oz./in.²	in. W.C.	kPa	oz./in.²	in. W.C.	kPa	oz./in.²	in. W.C.	kPa
AX52516	16"/DN 400	1.73	3.00	0.75	0.50	0.87	0.21	6.00	10.39	2.59	0.75	1.30	0.30
AXCS & AXF52516	16"/DN 400	3.17	5.50	1.37	0.50	0.87	0.21	6.00	10.39	2.59	0.75	1.30	0.30
AX52518	18"/DN 450	1.73	3.00	0.75	0.50	0.87	0.21	6.00	10.39	2.59	0.75	1.30	0.30
AXCS & AXF52518	18"/DN 450	3.17	5.50	1.37	0.50	0.87	0.21	6.00	10.39	2.59	0.75	1.30	0.30
AX52520	20"/DN 500	1.44	2.50	0.62	0.50	0.87	0.21	6.00	10.39	2.59	0.75	1.30	0.30
AXCS & AXF52520	20"/DN 500	3.03	5.25	1.30	0.50	0.87	0.21	6.00	10.39	2.59	0.75	1.30	0.30
AX52524	24"/DN 600	1.44	2.50	0.62	0.50	0.87	0.21	6.00	10.39	2.59	0.75	1.30	0.30
AXCS & AXF52524	24"/DN 600	2.89	5.00	1.25	0.50	0.87	0.21	6.00	10.39	2.59	0.75	1.30	0.30

**CAUTION: The 6 oz. maximum setting requires a vent cover weight of approximately 70 lbs. on 16" & 18" units, 125 lbs. on 20" units and 175 lbs. on 24" units.*

ADDITIONAL PRODUCTS FROM PROTECTOSEAL

Series 18540

Pipe-Away Pressure Vacuum Relief Vent for applications that require hazardous vapors be processed into manifolded piping and not released into the atmosphere.

Series 7800

Emergency Vent protects tanks against rupture or explosion resulting from excessive internal pressure caused by exposure to fires.

Series 4950

Vent Line / In-Line Parallel Plate Flame Arrester is designed for installation in open vent pipe or bleed lines from storage or processing tanks. Suitable for NEC Group D (IEC Group IIA) 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.

PROTECTOSEAL®
Safety Without Compromise

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