



era Technologies



**Mftr, Exprr & Service Provider of
Tank & Process safety Devices**

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Breather Valve / Pressure Vacuum Relief Valve

About

Direct acting Pressure/ Vacuum relief valves (Breather valve) is special designed for tank protection. The range includes combined pressure vacuum valves, all available with Flanged outlets or vented to atmosphere.

Pressure/vacuum relief valve is used extensively on bulk storage tanks, including fixed roof with floating covers, to minimize evaporation loss. The valves prevent the build up of excessive pressure or vacuum which can unbalance the system or damage the storage vessel.

Special Features

- **Low Blow-Down**
- Low Leakage and reduced vapor loss.
- Diaphragm design as per compatibility of chemicals. Hence, **We are providing 5 years Diaphragm Guarantee.**
- High Flow Capacity
- Fully field replaceable pallets and seat assemblies without need for special tools and complex procedure.
- **Dead Weight design such that set Pressure/Vacuum can be changed as per need.**
- PVRV designed, Manufactured and Tested as per **API 2000 Standard 7th Edition.**
- **Vacuum port area 1.3 times higher than PV size. By this, we increased in breathing flow by 30% of required flow.**

For Model No., Please share your inquiry or visit our website for more Information.



Flame Arrester

About



Storage tanks & other vessels containing flammable and explosive chemicals and mixture are prevalent in chemical process industries plants. Flame Arrester are installed on such equipment to prevent potential hazard associated with flammable and explosives materials. Flame Arrester can stop the spread of a fire, limit the spread of an explosive event, protect potentially explosive mixtures from igniting, and confine a fire within an enclosed, controlled location.

A flame arrester works by forcing a flame front through very narrow channels (**MESG**). has travels through the device, but the passages are so narrow that the flame can no longer be maintained.

Deflagration type of Flame Arrester:
Deflagration is an explosive that propagates at subsonic velocity. An Atmospheric deflagration, which occurs in open air without a noticeable increase in Pressure.

Detonation type of Flame Arrester:
Detonation is an explosion that propagates at supersonic velocity and is characterized by a shock wave.

Maximum Experimental Safe Gap (MESG):
A flammable gas or mixture enters a narrow gap between two plates, the flame propagates through the gap in the direction of the unburned gas. Heat is transferred from the flame front to the walls of the gap. The narrow and the longer the gap, the larger the influence of the cold wall on the flame profile. With an appropriately sized gap, the heat transfer extinguishes the flame and prevents flashback. This is a flame arrester's principal operation.

Corrugated matrix replaceable type flame element.
MESG



For Model No. & Correct selection of Flame Arrester, Please share your inquiry or please visit our website for more details.

MESG Selection criteria		
MESG (mm)	IEC Group	Reference Material
> 0.9	IIA	Propane
0.5-0.9	IIB	Ethylene
< 0.5	IIC	Hydrogen

Special Features

- Design of Flame Arrester such that it gives **Maximum Flow and low pressure Drop.**
- Easy cleaning, less clogging and less Maintenance.
- Removable element design allows for easy inspection, cleaning and replacement.
- **Fluoropolymer coated Body and hardware are provided for outstanding corrosion and chemical resistance.**
- Provision available for Standard Temperature port in all type of Flame Arrester.
- Flame Arrester are available in **A216 Gr. WCB, SS 304 and SS 316 and Flame Cage/Element will be in SS 304, SS 316, SS 316Ti and Hastelloy C.**
- Flame Arrester designed and Manufactured as per **API 2000 7th Edition** and Tested as per **ISO 16852.**



Breather Valve cum Flame Arrester

About

Storage tanks & other vessels containing flammable and explosive chemicals and mixture are prevalent in chemical process industries plants. Flame Arrester are installed with Breather Valve to prevent potential hazard associated with flammable and explosives materials.

Special Features

- Design of Breather Valve with integrated Flame Arrester such that it gives Maximum Flow, low pressure Drop & Fire Safe. **Flame Element size will be 1.5 times than BV Size. It will nullify pressure drop which will occur due to Flame Element.**
- Easy cleaning, less clogging and less Maintenance. **Cleaning can be done by removing Wing Nut.**



Pressure Safety Valve / Thermal Relief Valve

About

Safety/Pressure Relief Valves are manufactured with high accuracy to assure the performance of the valve, protect critical & expensive equipments from dangerously high pressure.

We are Design, Manufactured & Tested as per API Standard.
Sizing & Selection STD: API 520 Part-1.
Design & Dimension: API 526.
Testing STD: API 527.

Special Features

- All design options and the various effects of system conditions, back-pressure etc. **have been checked on in-house, in accordance with API standard.**
- Castings, forgings & raw material are made from ASTM / ASME specifications. A variety of materials are offered including non ferrous for **low pressure & temperature, as well as stellited seating surfaces for high pressure & temperature and PTFE Lined with CFT/GFT trims for chemical and process industries.**
- Performance under difficult back pressure conditions.
- **Selection of nozzle and disc materials with precise lapping gives positive shutoff comply with relevant standard and prevents loss of flow media.**
- **Body of Safety valve is Invest Casting.**



Emergency Vents / Manhole Cover

About

In an emergency – (fire or in case of malfunction of Breather Valve), it may become necessary for the extraordinarily high, suddenly occurring venting requirements to be met.

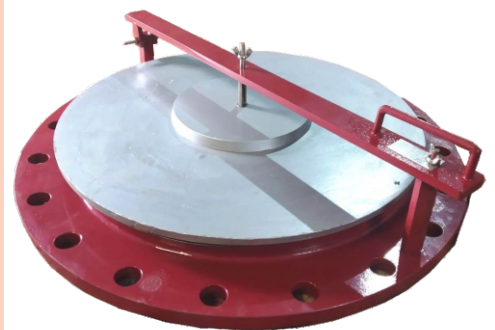
In the fire/pressurise condition, it's require to release large amount of flow and depressurize the vessel.

Size available 4" (150 NB) to 32" (700 NB).

MOC available in Aluminium, A216 Gr. WCB, SS 304, SS 316

Special Features

- **Low Blow-Down** - The diaphragm design such that blow down is minimized to 10-15% for Pressure Relief.
- **Low Leakage and reduced vapor loss.**
- **Diaphragm design as per comp.atibility of chemicals.** Hence, We are providing 5 years Diaphragm Guarantee.
- **Dead Weight design** such that set Pressure can be changed as per need.



Guage Hatches

About

Gauge Hatches are designed to provide accessible entry for inspection, measurement and sampling inside storage tank. These hatches are easy to maintain with hands free operation. The hatch can be easily opened by pressing on the pedal with foot.

Size available 4" (100 NB) to 10" (250 NB).

Special Features

- Design such that there will be no leakage in closed condition. This will reduced Vapor Loss during operation.
- Diaphragm design as per compatibility of chemicals. Hence, We are providing 5 years Diaphragm Guaranty.



Pressure Relief Valve

About

Pressure relief valve is used extensively on bulk storage tanks, including fixed roof with floating covers, to minimize evaporation loss. The valves prevent the build up of excessive pressure which can unbalance the system or damage the storage vessel. Storage tanks & other vessels containing flammable and explosive chemicals and mixture are prevalent in chemical process industries plants.

Flame Arrester are installed with Breather Valve to prevent potential hazard associated with flammable and explosives materials.

Size available 1/2" (15 NB) to 8" (200 NB).

MOC available in WCB, SS 304, SS 316

Special Features

- **Low Blow-Down**
- Low Leakage and reduced vapor loss.
- Diaphragm design as per compatibility of chemicals. Hence, **We are providing 5 years Diaphragm Guarantee.**
- High Flow Capacity
- Fully field replaceable pallets and seat assemblies without need for special tools and complex procedure.
- **Dead Weight design such that set Pressure can be changed as per need.**
- PRV designed, Manufactured and Tested as per **API 2000 Standard 7th Edition.**



Vacuum Relief Valve

About

Vacuum relief valve is used extensively on bulk storage tanks, including fixed roof with floating covers, to minimize Vacuum condition in tank.

The valves prevent the build up of excessive vacuum which can unbalance the system or damage the storage vessel. Vacuum relief valve can be provided with Flame Arrester.

Size available 1/2" (15 NB) to 8" (200 NB).

MOC available in WCB, SS 304, SS 316



Special Features

- **Low Blow-Down**
- Low Leakage and reduced vapor loss.
- Diaphragm design as per compatibility of chemicals. Hence, **We are providing 5 years Diaphragm Guarantee.**
- High Flow Capacity
- Fully field replaceable pallets and seat assemblies without need for special tools and complex procedure.
- **Dead Weight design such that set Vacuum can be changed as per need.**
- VRV designed, Manufactured and Tested as per **API 2000 Standard 7th Edition.**

Some of our Valuable Customers



Emergency Pressure Vacuum Relief Valve

Objective

“**Erardo**” 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 **Model Erardo-EPVD** 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.

Operation

The **Model Erardo-EPVD** 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. Entry of foreign material through the vacuum vent is precluded by use of a wire mesh screen.

The pressure relieving cover is designed to full lift enough to flow its rated capacity should high tank pressure be encountered then reseal automatically when the tank pressure is reduced.

The cover can be completely open by hinges 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 Lift the 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 PTFE 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.

