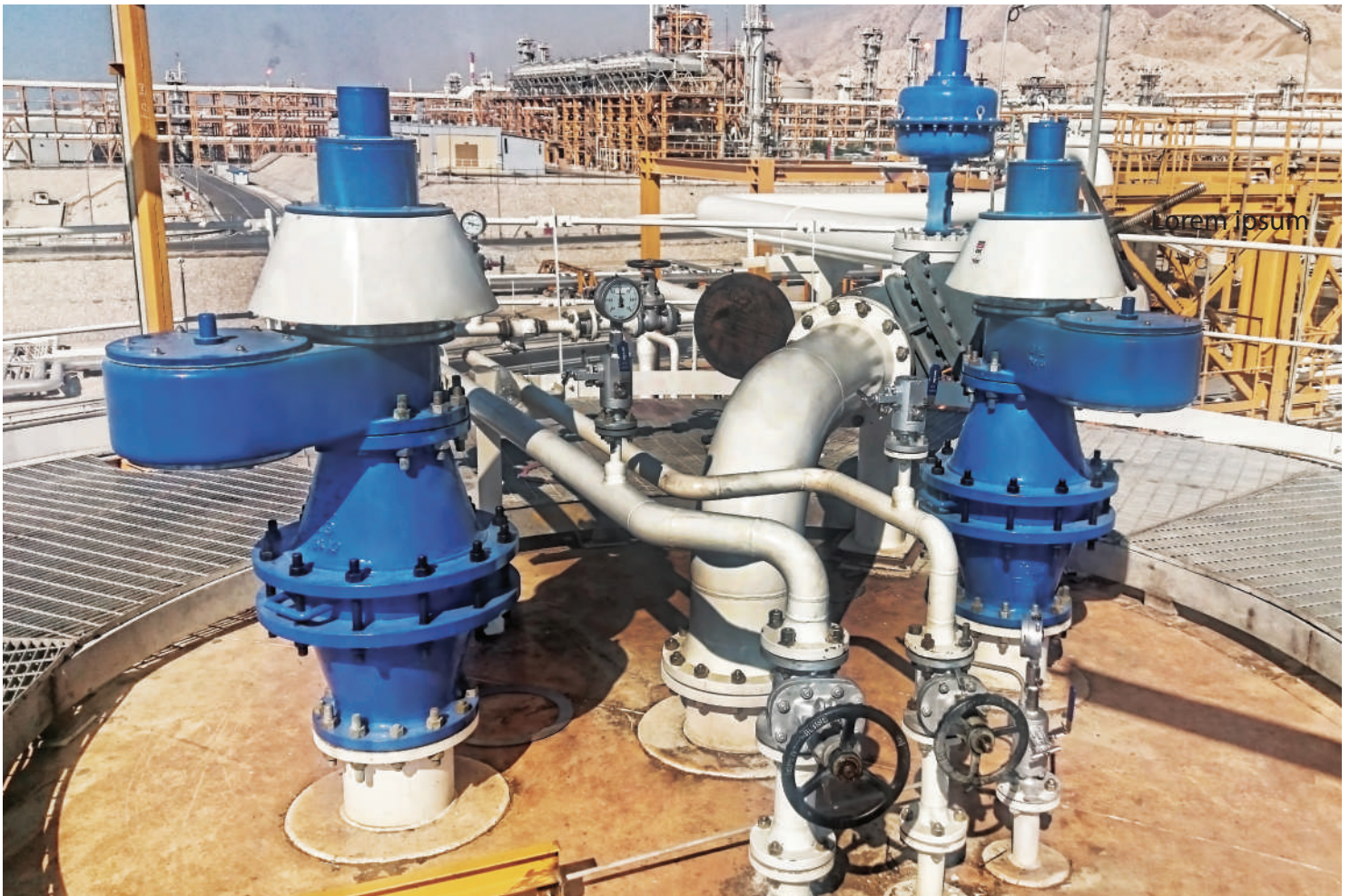


GPE PETRO ENERGY CO.

Engineering, Procurement,
Construction of Oil, Gas,
Petrochemical, Offshore, Marine
& Power Plant Projects

Tank Venting Valves
Flame Arresters
Explosion Hatch

2024





GPE PETRO ENERGY CO.

Introduction

GPE as a knowledge based company, is the sole Iranian manufacturer and one of the world leaders of providing Storage Tanks Systems and Marine and Offshore Loading Solutions in oil and gas, petrochemicals and power industries with brilliant global reputation and innumerable domestic and international clients and customers in last two decades. Global in vision and rooted in regional values, GPE is driven by the performance and quality ethic pegged on value creation for its clients. GPE is anchored by an extraordinary workforce and professional employees in different levels. The state of art manufacturing facilities coupled with its extensive quality management system provide compliance of GPE products with exact customer requirements and industry standards.

At the moment, GPE is an important market maker in its all operational sectors and specifically in Storage Tanks Systems business units owns and supplies most of Iranian domestic market projects requirements.

With the vast experience, comprehensive referencing, brilliant project portfolios and vendor list registrations, GPE offers distinctive tailor made solutions by its products and services.

Pressure Relief Valve (Rim Vent)

> Weight Loaded Type

- Model No. 3010
- Sizes 2in through 12in
- Set Pressure up to 500 mm W.G
- Easy Maintenance
- Available in Wide Range of Materials



> Application

The GPE relife vent is designed to relieve internal over pressure of atmospheric aboveground storage tanks, and is ideally suited as a low cost rim vent on floating roof tanks.

All types of rim vent are available with flanged connection specifications.

> Features and Benefits

The standard body and cover materials are aluminum and carbon steel.

All sizes have rust protected aluminum or stainless steel hoods.

The standard seats and pallets are stainless steel with «O-ring» cushion seated diaphragm on each pallet, these diaphragms have a high resistance to ice or gum formation.

Above Specification may vary upon customer requests.

Pressure Relief Valve (Rim Vent)

> Spring Loaded Type

- Model No. 3020
- Sizes 2in through 12in
- Set Pressure up to 2500 mm W.G
- Easy Maintenance



> Application

The GPE pressure relief valve is designed to relieve internal over pressure of atmospheric aboveground storage tanks.

The spring-loaded design allows for higher pressure settings than the standard dead-weight loaded valves used in tanks with higher maximum allowable working pressure.

Spring-loaded relief valve are available with flanged connection specifications.

The range setting pressure is from 500 to 2500 mm of water.

> Features and Benefits

The standard body and cover materials are aluminum and carbon steel.

All sizes have rust protected aluminum or stainless steel hoods.

The standard seats and pallets are stainless steel with «O-ring» cushion seated diaphragm on each pallet, these diaphragms have a high resistance to ice or gum formation.

Above Specification may vary upon customer requests.

Pressure & Vacuum Breather Valve

> Weight Loaded Type

- Model No. 3400
- Sizes 2in through 12in
- Set Pressure up to 500 mm W.G
- Set Vacuum up to 20 to 300 mm W.G
- Easy Maintenance
- Available In Wide Range of Materials



> Application

GPE breather valves are designed to provide required relief to prevent tank failure that may cause by pressure changes to tank working criteria. With both pressure and vacuum relief functions combined in one unit only one branch per tank fitting is required. This breather valve is a versatile and compact solution, that provides optimum combination of reliability, high flow capacity and low leakage. furthermore it is suitable for a wide range of services in the Petroleum, Chemical and related industries.

> Features and Benefits

The standard body and vacuum cover materials are aluminum and carbon steel.

All sizes have rust protected aluminum or stainless steel hood.

The standard seats and pallets are stainless steel with «O-ring» cushion seated diaphragm on each pallet, these diaphragms have a high resistance to ice or gum formation, thus and further the material is inert and unaffected by all chemicals requiring breather valve protection during storage. Above Specification may vary upon customer request.

Pressure & Vacuum Breather Valve

> Spring Loaded Type

- Model No. 3450
- Sizes 2in through 12in
- Spring Loaded
- Set Pressure from 500 to 2500 mm W.G
- Set Vacuum from 30 to 500 mm W.G
- Easy Maintenance
- Available In Wide Range of Materials



> Application

GPE breather valves are designed to provide required relief to prevent tank failure that may cause by pressure changes to tank working criteria. The spring-loaded design allows for higher pressure settings than the standard weight loaded valve used in tanks with higher maximum allowable working pressure.

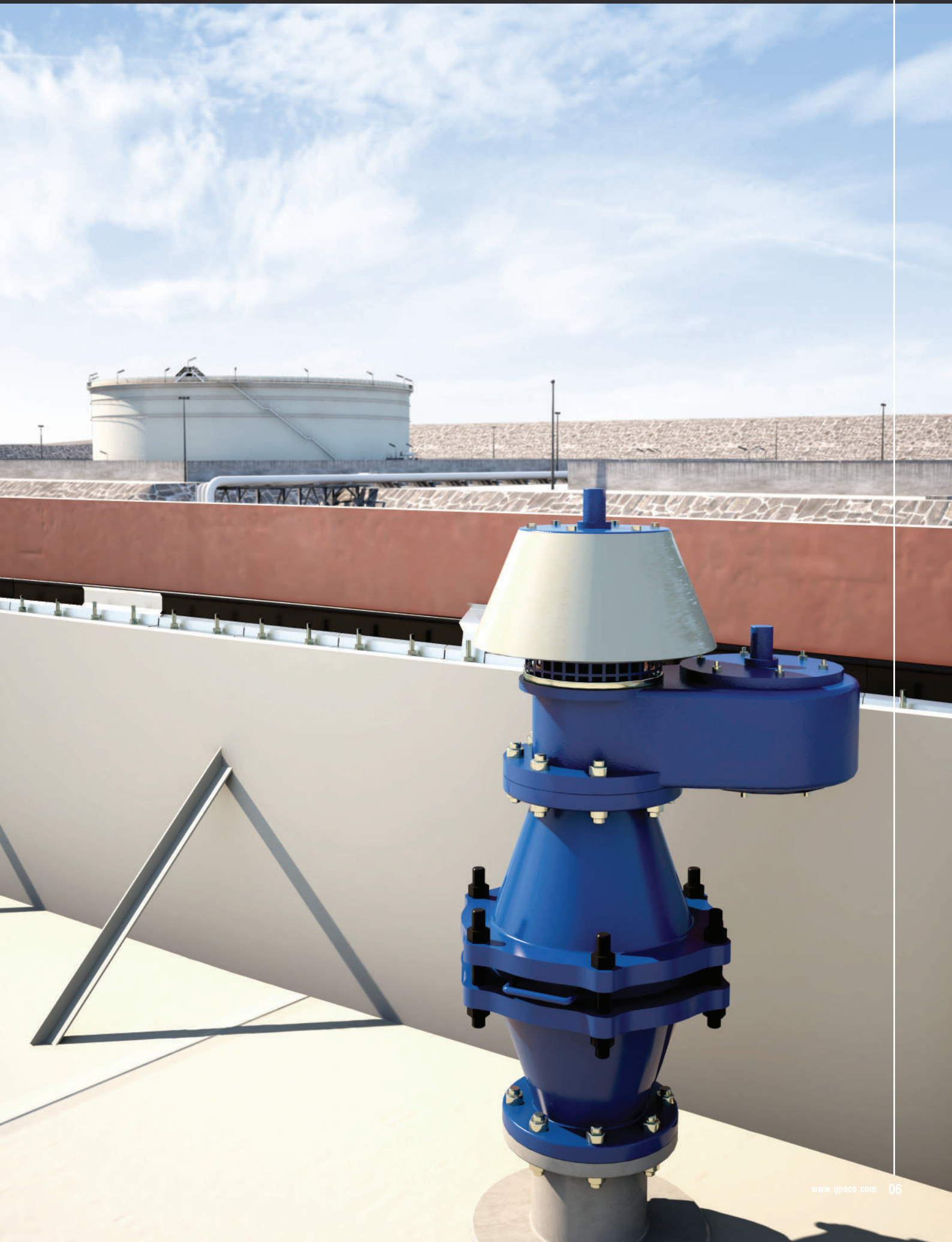
> Features and Benefits

The Persian GPE 3450 series valves can be configured for pressure settings up to 2500 mm W.G

The Persian GPE 3450 series valves are spring-loaded on the Pressure side and weight on the vacuum side with forces proportional to the applied pressure on the pallet effective area. The setting design keeps the valve tightly sealed until the pressure or vacuum inside the tank approaches the related valve setting.

All Persian GPE 3450 series valves feature full formed flanges for easy installation.

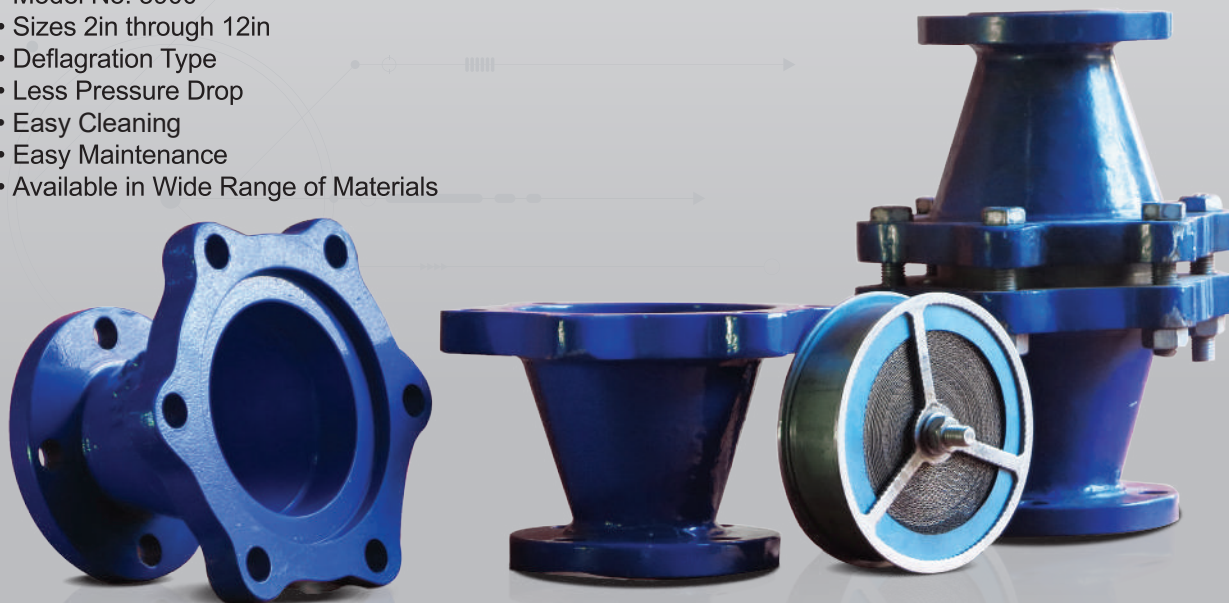
Above Specification may vary upon customer request.



Flame Arrester

> End Line

- Model No. 3900
- Sizes 2in through 12in
- Deflagration Type
- Less Pressure Drop
- Easy Cleaning
- Easy Maintenance
- Available in Wide Range of Materials



> Application

GPE flame arresters are to prevent the passage of a flame from outside of a storage tank or process vessel to the inside, or of a flame between pipe work system and have applications in a wide range of industries including petroleum and petrochemical, gas, marine and sewage treatment.

> Features and Benefits

The corrugated crimped ribbon element is designed for optimum increase in heat transfer.

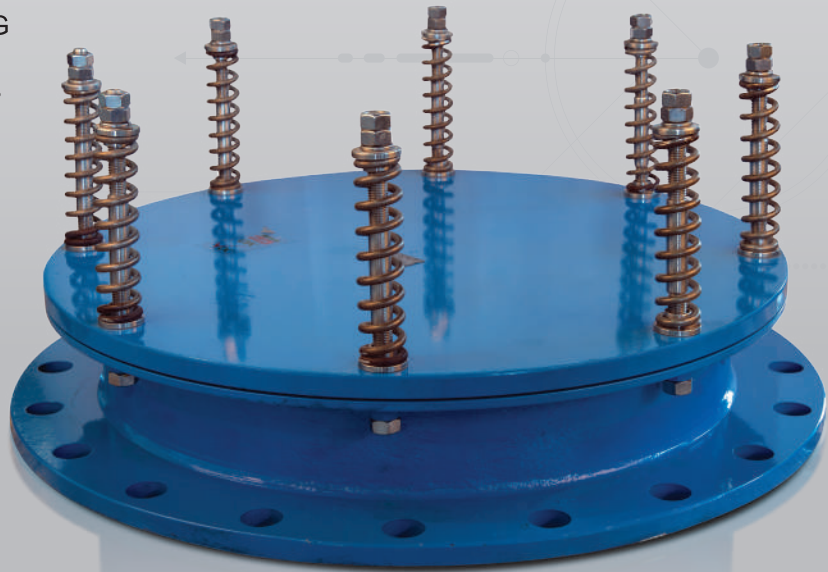
Crimped ribbon element arresters are made of alternating layers of thin, corrugated metal ribbons and flat metal ribbons of the same width, which are wound together on a mandrel to form a many layered cylinder of the desired diameter.

The net free area through flame arrester bank is three to four times the unit pipe size. This design reduces surface friction, optimizes flow capacity and minimizes pressure drop. The large surface area of the bank also improves heat dissipation. Maintenance of the bank assembly is simple and bank element is quickly inspected or cleaned, and replaced between the end housing.

Emergency Vent

> Spring Loaded Type

- Model No. 3850
- Sizes 16in through 24in
- Pressure settings 500~2500 mm W.G
- Easy Installation
- Available In Wide Range of Materials



> Application

GPE emergency vents are used on fixed roof tanks to prevent structural damage due to excess internal pressure.

The tanks are pressurized when fluid is pumped in, compressing the existing vapor or when increasing temperature causes increased evaporation or expansion of existing vapor.

To prevent damage, vapor must be allowed to escape the tank at a specified pressure condition.

The volume rate of venting depends upon the tank size, volatility of the contents, the pumping rate and the temperature. See API Standard 2000 for the procedures to determine venting requirements.

The Spring Loaded Emergency Relief Valve provides pressure relief. Emergency pressure relief provides protection for fire exposure and/or failure of the inert gas blanketing system. The valves can be set for pressure relief in the range of 0 - 500 mm. W.G.

High operating pressures reduce evaporation and total venting volume, thereby reducing product loss and the cost of processing emissions.

> Features and Benefits

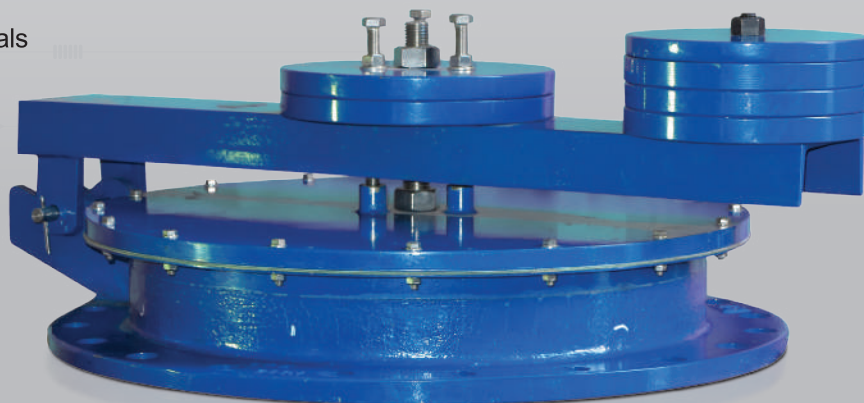
Fast Inspection, Easy Maintenance. Design and light weight of unit permit easy, convenient handling for inspection and maintenance.

Full open flow capacity and automatic reclosing of the vent as tank pressure decreases provide efficient and dependable emergency venting capability while minimizing amount of vapor unnecessarily vented to the atmosphere.

Emergency Vent

> Weight Loaded Type

- Model No. 3800
- Sizes 16in through 24in
- Wide Variety of Set Pressure
- Easy Installation
- Easy Maintenance
- Available In Wide Range of Materials



> Application

GPE emergency vents are used on fixed roof tanks to prevent structural damage due to excess internal pressure.

The tanks are pressurized when fluid is pumped in, compressing the existing vapor or when increasing temperature causes increased evaporation or expansion of existing vapor.

To prevent damage, vapor must be allowed to escape the tank at a specified pressure condition.

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> Features and Benefits

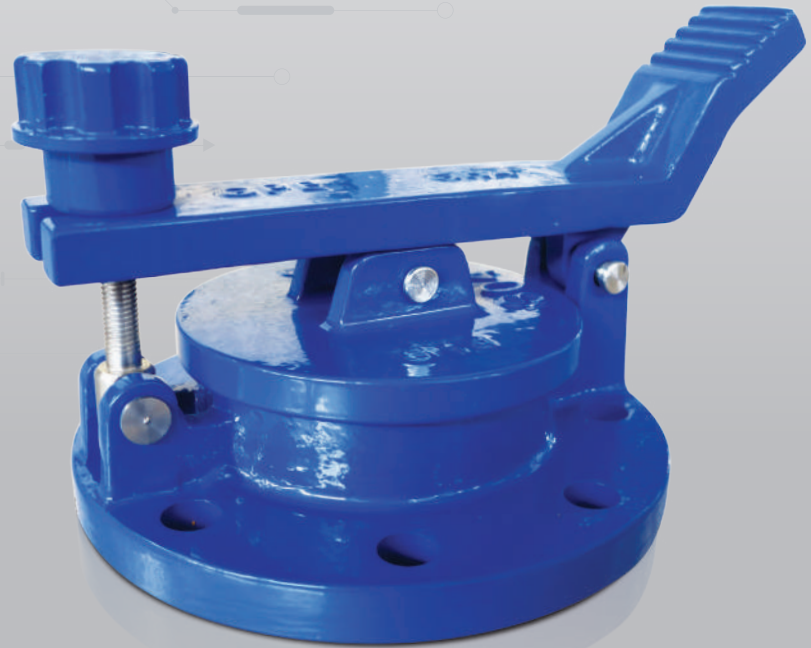
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Gauge Hatch

- Model No. 3600
- Sizes 4in through 8in
- Minimum Vapor Loss
- Self-Closing
- Easy Lock Cover
- Foot Operated
- Available In Wide Range of Materials



> Application

The GPE gauge hatches have been designed to provide secure, vapor-tight, non-sparking access ports storage tank dipping and obtaining samples function.

> Features and Benefits

Designed to minimize vapor losses from low pressure tanks .hinged cover is self- closing and foot operated. The base with gauging notch incorporates a self draining seat. Availability in different flange sizes provides flexible design options for range of standard tank roof flange. The aluminum cover is secured to the base with a stainless steel hinge pin. The O-ring seal is fitted into the cover to provide tight closure and to cushion the effects of repeated Operation. The cover of the gauge hatch is slotted to acceptance the eye bolt and hand nut used for clamping the cover. The units can accommodate service temperatures -30°C to + 110°C.



Explosion Hatch

- Model No. 3010
- Circular Size from 16in up to 36in.
 Rectangular Size from 500x500 mm upto 1500x1000mm
- Set Pressure up to 500 mm W.G
- Easy Maintenance
- Wide Range of Materials

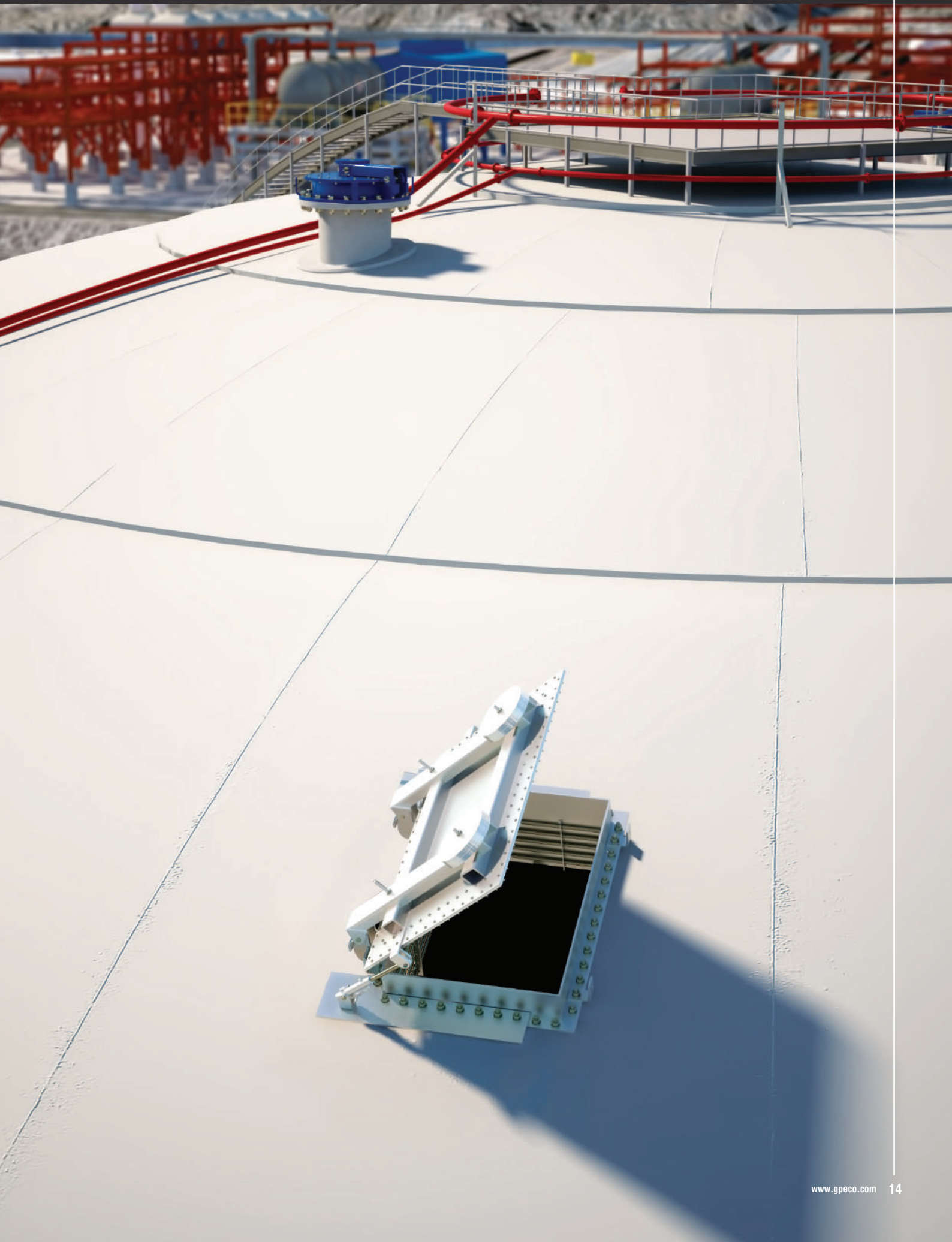


> Application

The GPE explosion hatches are designed to relieve sudden pressure and fire in tanks with special applications which their contents require higher level of safety while access to the vent is restricted. All types of explosion hatches are available in rectangular or circular flange as client request. Explosion hatches are used usually in sulphur tanks which have very extensive safety. To ease the correct performance of the hatches GPE has considered hydraulic jacks for return of heavy cover after sudden fire or relieving pressure.

> Features and Benefits

The standard body and cover material is stainless steel. Micro-switches are available for alarm in explosion events for control rooms. Steam coils are available for decreasing temperature in service and explosion conditions. The units can accommodate service temperatures -30C to +200C





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