REGPORT TECHNOLOGIES PVT LTD

An ISO 9001 : 2015 Company

About Us

We **Regport Technologies Pvt. Ltd.** - an Indian Company – is one of the fewest manufacturers who design, manufacture and supply complete range of Pressure Control Valves, Safety Relief Valves, Tank Protection Devices, Centrifuges Blanketing Systems and High Pressure Manifold Systems under one roof.

With our learning attitude and acquired knowledge, we have established ourselves as a trusted business partner for all our customers and suppliers. We not only starve to be the best but also put all our efforts in every of our endeavor to ensure satisfaction of our customer with our product and services.

We are headquartered at Ambernath MIDC, Mumbai, Maharashtra, India, having 6,000 square feet at our Unit-1. With well equipped machine shop and young ardent workforce enhances our efficiency and capabilities in multiple folds. Recently Regport has acquired another factory (Unit-2) admeasuring 10,000 sq feet. Thus, now we have total manufacturing area of 16,000 Sq feet.

Quality Control At Regport

Regport has developed excellent quality control and management system. We constantly upgrade our products to meet the international standards. We are in process of acquiring National, International Certificates to meet the demands of our customers' increasing needs, pursue new ideas and ways to stay ahead of the ever changing market.

Regport operates quality program to cover the full scope of their activities. Comprehensive quality systems have been developed to serve the power, oil and gas, petrochemical and chemical industries, pipelines, thermal and nuclear power plants, Pharmaceuticals, sugar refineries and pulp mills.

Certificate of Registration

This certificate has been awarded to

Regport Technologies Pvt. Ltd.

Plot No. F-47, MIDC, Anand Nagar, Addl. Industrial Area, Ambernath (East), Maharashtra, 421506, India

in recognition of the organization's Quality Management System which complies with

ISO 9001:2015

The scope of activities covered by this certificate is defined below

Design, Manufacture and Supply of Safety Relief Valves, Pressure Control Valves and Regulators, Breather Valves, Flame Arrestors, Tank Blanketing and Centrifuge Blanketing Systems and Pressure Regulating System

Certificate Number: 79002/A/0001/INA/En | Date of Issue: (Original) 07 December 2016 | Date of Issue: 20 February 2017
Issue No: 2 | Expiry Date: 06 December 2019

Issued by: On behalf of the Schemes Manager

Valve Testing Facilities

As a minimum set standard for ensuring high reliability, we conduct minimum following tests:

- All pressure containing items are hydrostatically tested
- Each Valve seat leakage is tested and recorded
- Each Valve functionally tested and results are recorded

Material Testing Facilities

- Non-destructive examination by radiography, ultrasonics, magnetic particle and liquid penetrant
- Chemical analysis by computer controlled direct reading emission spectrometer
- Mechanical testing for tensile properties at ambient and elevated temperatures, bend and hardness testing
- Charpy testing at ambient, elevated and sub-zero temperatures

We have our engineers' team qualified Level II NDE for PMI, LPI, MPI, RT and UT.

Engineering And Manufacturing Capability

At **Regport**, we are always looking for an opportunity to explore a new horizon with development of optimum and new products to meet and exceed our customer requirements. It is no surprise to us that our customers have relied on us for all their Pressure Regulation and Pressure Safety needs.

We work 'smart' and 'hard' so as to provide the optimum solution to our customers with effective utilization of our products.

Regport has already established in the various market segments, which include :

Chemicals	Oil & Gas
Pharmaceuticals	Pipeline Projects
Petrochemicals	Paints & Plastics
Foods And Beverges	Steel Industries
Power Plants	Water Treatment

Make in India Concept

Under the Make In India initiative, we are proud to have manufactured our specialized and reliable products in India and catering the global requirements.

We already have spread our wings and have made our presence felt in the global market.

While manufacturing in India but catering to the global market, **Regport** ensures that relevant design and manufacturing standards are met and the products and services are meeting the expectations.

Safety Relief Valves

The most reliable Safety Relief Valves should be considered for the protection of process, personnel and equipments. **Regport** Safety Relief Valves are reliable, efficient, simple in construction, easy to maintain and unique in design.

Based on application, process requirement and customer demand, we offer

a. Conventional Safety Relief Valves

b. Balanced Bellow Safety Relief Valves

c. Pilot Operated Safety Relief Valves

Conventional Safety Relief Valves

R12 Series

Conventional Safety Relief Valves with bolted bonnet design are provided with adjustable blow down and over pressure at site. With the Nozzle Ring, widely called as Blow Down Ring, fine tuning of over pressure and blow down can be done at site.

As a standard, unless specified, all our Safety Relief Valves are Full Nozzle Full Lift and tested for 10% over pressure.

Various Options and Accessories Available

- Cap : Screwed or Bolted
- Manual Lever : Plain or Packed
- Test Gag
- Open Bonnet for High Temperature
- Water Seal for vacuum
- Steam Jacketing

R16 Series

Safety Relief Valves with Screwed bonnet design are provided with adjustable blow down and over pressure for all utility applications.

As a standard, unless specified, all our Safety Relief Valves are Full Nozzle Full Lift and tested for 10% over pressure.

Various Options and Accessories Available :

- Cap : Screwed or Bolted
- Manual Lever : Plain or Packed
- Test Gag

R15 Series Safety Relief are designed in accordance ASME Sec I

Safety Relief Valves with an Open bonnet design are provided with adjustable blow down and over pressure at site. With the Nozzle Ring and Guide Ring, widely called as double Blow Down Rings, fine tuning of over pressure and blow down can be done at site. As a standard, unless specified, these Safety Relief Valves are Full Nozzle Full Lift and tested for 4% over pressure and 3% blowdown.

Various Options and Accessories Available

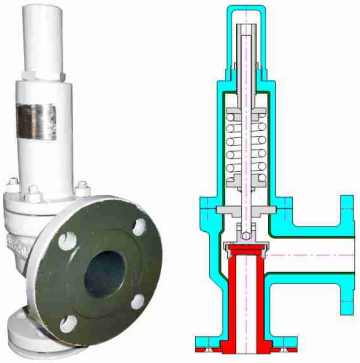
- Cap : Screwed or Bolted .
- Manual Lever : Plain or Packed .
- Test Gag .
- Open Bonnet for High Temperature.

R14 Series Corrosive Service Safety Relief Valves

With PTFE seating are designed for the corrosive media, wherein metallic nozzle and disk are not preferred due to either compatibility or cost involved.

In this specific design, the Nozzle is made up of PTFE and the disk shall be GFT. This provides excellent seating and ensures as good as zero leakage through valve when it is closed.We provide PTFE/Halar coating to the body and bonnet from inside to ensure the corrosion resistance in the event of opening of the safety relief valve.Special arrangement for holding the PTFE Nozzle is provided.The internals like Disk Holder, Stem and Guide are provided in AISI 316L to facilitate the corrosion resistance.

Eminently installed on GLR, HCL, Chlorine or excessively corrosive fluid lines, mainly in Pharmaceuticals or Chemical Plants as these provide a cost effective solution as compared to combination of PTFE Rupture Disc with SS Safety Relief Valve.



REGPORT TECHNOLOGIES PVT LTD

Self Actuated Pressure Control Valve

Regport Self Actuated Pressure Control Valves, also referred as SAPCV are tailor made to the requirement of our customer present in all industrial segments. These being Self Actuated Pressure Control Valves have an edge over conventional control valves as these do not require any auxiliary inputs like pneumatic line, electricity or hydraulic line. These SAPCV operate on the basis of signal received from line fluid itself.

Generally, control device comprises of a sensor, controller and the final controlling device as a minimum. All these three functions are integrated in single equipment of SAPCV and hence this is self contained unit in nature for the pressure control.

Direct Acting Self Actuated Pressure Control Valve – DA-SAPCV :

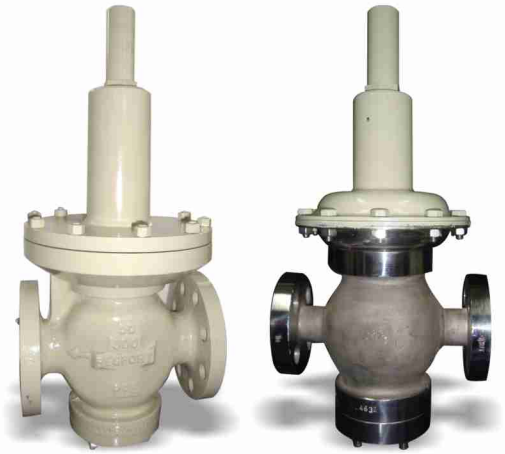
The basic working principle for this DA-SAPCV is force balance principle achieved by spring diaphragm mechanism. The fluid pressure acts on the wider area of diaphragm and the balancing force is provided by the spring. Thus fluid force itself is an operating media and the best control is achieved even for the smallest deviation in controlled parameter as its (fluid force) acting on the wider area of diaphragm.

Downstream Pressure Control Valves - D100 Series

The SAPCV, which monitors and controls the outlet pressure irrespective of variations in inlet pressure and flow rate are called as Downstream Pressure Control Valves. These are meant for reducing the available inlet pressure to the precise set value at outlet and hence, often called as Pressure Reducing Valve also.

Upstream Pressure Control Valve - U100 Series

The SAPCV, which monitors and controls the inlet pressure irrespective of variations in outlet pressure and flow rate are called as Upstream Pressure Control Valves. These are meant for controlling the inlet pressure at a precise set value or hold the line pressure or back pressure at its inlet and hence, often called as Pressure Holding Valve or Back Pressure Regulating Valve.



Pilot Operated Self Actuated Pressure Control Valve – PO-SAPCV :

The basic working principle for PO-SAPCV is force balance only. However, this is meant for fine and precise pressure control when flow requirement is high. The pilot valve basically is a direct acting SAPCV only. The fluid from pilot and the main line acts on either side of the main valve actuator diaphragm resulting in the most precise reading of deviation in the controlled parameter and in turn the best performance for pressure control.

Downstream Pressure Control Valve - D200 Series

The SAPCV, which monitors and controls the outlet pressure irrespective of variations in inlet pressure and flow rate are called as Downstream Pressure Control Valves. These are meant for reducing the available inlet pressure to the precise set value at outlet and hence, often called as Pressure Reducing Valve also.

Upstream Pressure Control Valve - U200 Series

The SAPCV, which monitors and controls the inlet pressure irrespective of variations in outlet pressure and flow rate are called as Upstream Pressure Control Valves. These are meant for controlling the inlet pressure at a precise set value or hold the line pressure or back pressure at its inlet and hence, often called as Pressure Holding Valve or Back Pressure Regulating Valve.

Design Specifications

Valve Design	:	Globe type
Type	:	Direct Acting / Pilot Operated
Operation	:	Upstream / Downstream
Size	:	¼" to 16" (Higher on request)
Rating	:	ANSI 150# upto ANSI 2500# DIN or any other flanges on request
Max Inlet Pre	:	Upto 250 Barg
Set Pre	:	0.002 Barg to 250 Barg
Reference Std.	:	ASME B16.34, ASME B16.5, FCI 70.2
No. of Ports	:	**Single Seated / Double Seated**

Material of Construction :

Body	:	CS – A216 Gr WCB (standard), A351 Gr Cf8, CF8M, AlumBronze, Inconel or any other on request
Trim	:	AISI 316 (standard), AISI 304, Hastealloy C, Monel, Inconel or any other material on request
Diaphragm	:	Reinforced BunaN (Nitrile), Neoprene, EPDM, Solicone, Fluoropolymer, PTFE with polymer backup (for corrosive service) or any other on request
Soft Seating	:	Polymeric Seating are available with Buna N, Neoprene, EPDM, Silicone, Fluoropolymer suitable to process fluid or any other on request

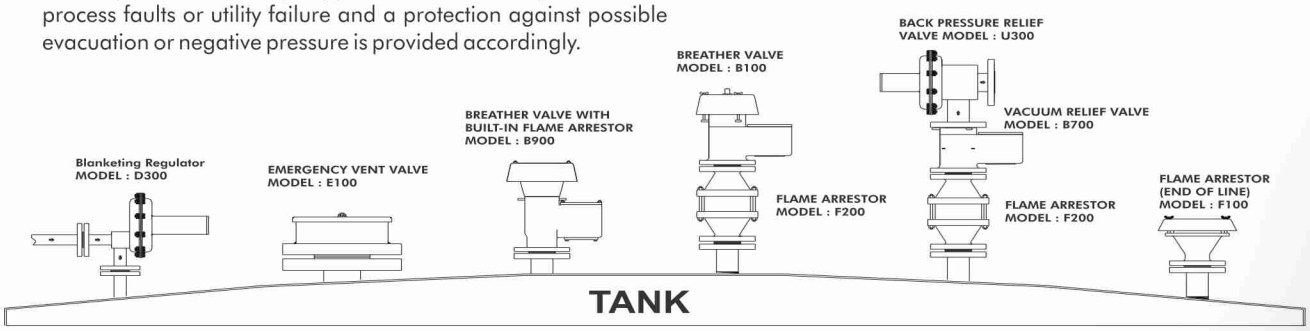
Special Metal to Metal Seated SAPCV also can be offered depending on the process requirement

Storage Tank Blanketing System

Blanketing also called as 'padding' is the process of permeating and maintaining gas to the empty or vapor space in a Tank.

- A Blanketing Regulator is installed to permeate blanket gas inside the tank. When the pressure inside the Tank drops below a set point, a regulator opens and allows the blanketing gas to enter in the Tank.
- As an over pressure protection ie vent of gas, a pressure relieving device is installed on the Tank.
- Similarly, evacuation may happen in the closed loop Tank due to process faults or utility failure and a protection against possible evacuation or negative pressure is provided accordingly.

Design Specifications	
System Design	As per API 2000 guidelines
Type	Pressure Sensitive Devices
Operation	Self Actuated/ Dead Weight
Body MOC	CS – WCB/A105 / AISI 304/CF8 / AISI 316/CF8M & Others on request
Trim MOC	AISI 304 / AISI 316 / Monel / HastelloyC & other on request



Major Components

Low Pressure Nitrogen Blanketing Pressure Regulator

reduces the intermediate Nitrogen pressure to a very low blanketing pressure. The Blanketing Regulator is a self actuated downstream pressure regulator meant for reducing the inlet pressure to the desired blanketing pressure inside the Tank. When the pressure inside the Tank drops below the set pressure the Blanketing Regulator opens and allows ingress of Nitrogen in the Tank affecting rise in dropped pressure. As soon as the pressure inside the Tank is made up and reaches to the desired value the Regulator closes affecting stoppage of additional Nitrogen in the Tank.

Pressure Vacuum Relief Valve

is installed on top of the container. Pressure Vacuum Relief Valve – PVRV – is an active protection device designed to protect the tank from possible over pressurization. The pressurization can be positive or negative. PVRV is combination of Pressure Relief Valve and Vacuum Relief Valve. In the event of increase in pressure inside the tank due to various reasons the device allows the excess pressure to relieve and maintain the container under its desired pressure. Similarly, if the container goes under vacuum due to any reason, the device allows the ingress of atmospheric air inside the container affecting rise in pressure to the level of atmospheric pressure and safeguarding container against possible collapse due to evacuation.

Flame Arrestor

may be installed in combination with the PVRV.

Flame Arrestor is designed to control transmission of flame in container with the help of arrestor element. The element quenches the flame by absorbing and dissipating its heat to below the flash point.

Regport Flame Arrestor Elements are Crimped Metal Ribbon design, which ensures List pressure drop and has better life with ease of cleaning. Also, these are replaceable and can be changed at site.

Pressure Vacuum Relief Valve with built-in Flame Arrestor

is a combination of PVRV and Flame Arrestor in same body. Our unique design of PVRVFA provides two separate Flame Arrestors on both ports of PVRV providing an additional safety even during maintenance or cleaning of FA element. This Pressure Vacuum Relief Valve with built- in Flame Arrestor is a compact unit and less in weight. Being less in weight and friendly for cleaning of flame arrestor element and maintenance of pallets, these are preferred over the conventional separate in-line Flame Arrestor and Breather Valve combination. The Cleaning and maintenance is easy and very fast as the FA elements are cleaned without removing the PVRV from mounting nozzle.

Emergency Vent

is device mainly designed for safeguarding the tank from possible over pressurization, which can not be handled by or vented by relief valve of PVRV. This may happen due to heating of tank in case of a fire hazard. These are generally higher size vents designed to relieve maximum amount of vapors in the event of over pressurization.

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Centrifuge Blanketing System

Centrifuge Blanketing Systems are designed for facilitating the purging and the continuous blanketing in the basket and bearing housing as well. There are different configurations available for optimization. Centrifuge blanketing system with back pressure regulating valves on vent lines to minimize Nitrogen consumption during continuous blanketing.

The Centrifuge Blanketing System consists of following components as a minimum :

- First Stage Reduction: To Reduce From PSA Generation of 2 – 6 Barg to Purging Pressure of 0.5 Bar.
- Purging : Purging the centrifuge system at pressure of 5000 mmWC ie 0.5 Bar (generally 45 seconds for size upto 42" CF).
- Basket Blanketing : After predetermine purging time, continuous blanketing is done at pressure of 150 mmWC.
- Proportionate Pressure Relief : Provided on basket vent to release only excess pressure above 350 mmWC to safeguard the basket from over pressurisation.
- Pressure Switches : To make the system further safe, Low Pressure Switch & High Pressure Switch set at 50 mmWC & 1,000 mmWC respectively are provided alongwith PG for monitoring the basket pressure.
  - o PSL operates in case if Nitrogen is not coming in from the source and pressure in the basket drops below 50 mmWC.
  - o PSH operates in case of contingency with venting, the pressure inside the basket rises to 1,000 mmWC.

Based on configurations, there are three types of Centrifuge Blanketing System (CBS):

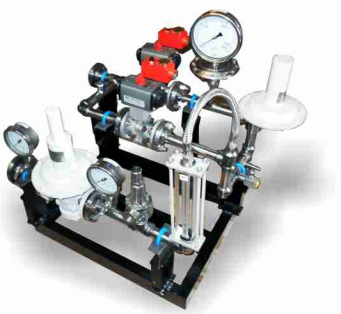
a. Manual CBS
b. Timer Based ie Semi Automated CBS
c. Fully Automated ie Online Oxygen Monitoring CBS

Manually Operated CBS

This is an optimum system wherein the operator has to operate only two isolation ball valves viz. while start up purging, the ½" size ball valve to be opened for 45 – 60 seconds and once the purging is completed, the another Isolation Valve for blanketing is to be kept OPEN throughout the centrifuging process.

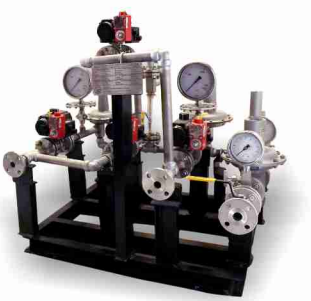
Major advantages of manual CBS are :

- User-friendly and easy to understand and operate.
- Operator has to operate only two isolation valves.
- Except Nitrogen no other utility required.
- No special tools & tackles / expertise are required.
- Minimum corrections to upgrade to Semi or Fully Automated.



Timer Based ie Semi Automated CBS

- This system is provided with a PLC based Flameproof Panel, wherein the Timer is given in the PLC for start-up purging. Once, the start up purging is completed, this system goes into the 'System Running' mode ie Blanketing. Separate Vent Header alongwith BPRV, Pressure Gauge and PS-High are integral part of this system.
- PLC also includes the logic for system shutdown / alarms in case of contingencies like Nitrogen Source Failure, High Pressure in Basket, LID Open etc.



Fully Automated ie Online Oxygen Monitoring CBS

- This system is provided with a PLC based Flameproof Panel alongwith a separate Oxygen Analyzer Unit.
- In this system, start up purging is done and the Oxygen Analyzer continuously monitors the outgoing vapors from the Basket. Once, the desired level of Oxygen is achieved, this system goes into the 'System Running' mode ie Blanketing. The Analyzer continuously monitors the level of Oxygen during centrifuging and incase if the Oxygen level rises above desired value, purging is repeated to flush and reduce the Oxygen contents in the Basket. Separate Vent Header alongwith BPRV, Pressure Gauge and PS-High are integral part of this system.
- PLC also includes the logic for system shutdown / alarms in case of contingencies like Nitrogen Source Failure, High Pressure in Basket, LID Open etc.

Reactor Purging And or Blanketing System

- Similar to Centrifuges, Reactors are also a matter of concerns for Fire Safety. Regport provides complete purging and blanketing system for reactor safety as well. The configurations can be similar to above Centrifuge Blanketing System. For some processes only a Blanketing Regulator in combination with Back Pressure Relief Valve are installed over the Reactors at appropriate set values to ensure inert atmosphere inside the Reactor. The outlet of Back Pressure Relief Valve can be connected to a common Vent or a Flame Arrestor at safe location.

Manifold And Pressure Reducing Station

When cylinders are connected to pressure reducing skid, initial pressure is 150 – 210 Kg/Cm²g. As soon as consumption starts, cylinder pressure starts dropping from initial pressure to 100 to 75 to 35 to 20 to final outlet pressure.

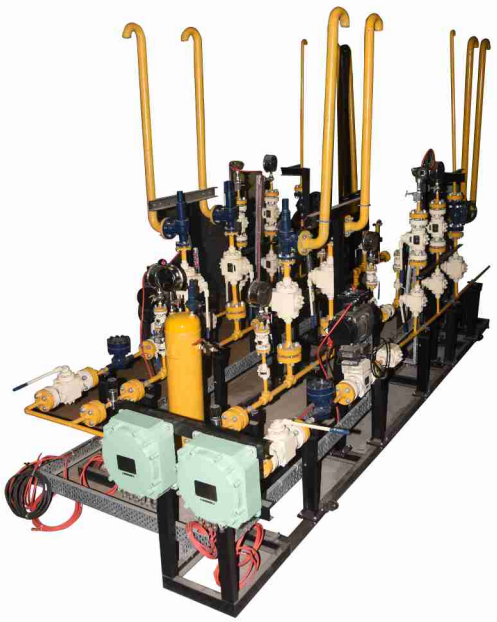
Single regulator can't withstand such huge inlet pressure variation and there is substantial effect on outlet pressure. To dampen this effect, two stage pressure reduction is recommended. The first stage pressure reduction is done at an optimum intermediate value and the final outlet remains unaffected and constant despite of emptying of cylinders.

Regport offers ready to install User Friendly, Skid Mounted, Ready to Install Manifold with Pressure Reducing Stations, which can be installed and commissioned with minimum activities at site. The Pressure Reducing Systems are designed for critical process parameters i.e. Minimum Inlet, Maximum Outlet & Maximum flow rate.

To make this system full-proof we have incorporated two type of safeties

a. Non Venting Safety ie Over Pressure / Under Pressure Shut Off Valve : This provides the facility to cut down the gas supply to the process in the event of contingency. All Pressure Reducing Stations for hazardous, explosive or costly gases are supplied with this non venting safety alongwith the venting safety.

b. Venting Safeties ie Safety Relief Valve : As sound engineering practices, Safety Relief Valve is supplied at outlet of each Pressure Reducing Valve. This comes in action and relives the excess pressure in the event of contingency with the Pressure Regulating Valve.



Major Advantages due to Regport Manifold and Pressure Reducing Station

- Heavy & Rugged Design – i.e. safe
- Constant Outlet Pressure Irrespective of inlet pressure variation
- Max Utilization Cylinder Gases
- Safety Redundancy (Non Venting & Venting Safety)
- User Friendly
- Ready To Use (Only Cylinders & Outlet Connection) to connect
- On Line Maintenance is possible

Regport has vast installation base of these Manifold Pressure Reducing Stations for various gases viz:

- Hydrogen Pressure Reducing Station
- Nitrogen Pressure Reducing Station
- Anhydrous HCL Gas Pressure Reducing Station
- Carbon Dioxide Pressure Reducing Station
- Ammonia Pressure Reducing Station
- LPG Pressure Reducing Station

and can supply for any other cylinder gases based on application

Intermediate Pressure Reducing Station

Regport offers prepiped ready to install Pressure Reducing Stations for various applications. The inlet can be from PSA Plants, Bullets, Receivers or any other source wherein other than high pressure cylinders. These are offered in many different configurations and combinations but consist of minimum a Pressure Reducing Valve and a Safety Relief Valve. Various configurations are available for this

- Single Stream Pressure Reducing Station
- Single Stream Pressure Reducing Station with manual bypass
- Twin stream Single Stage Pressure Reducing Station
- Twin stream Two Stage Pressure Reducing Station

Above are supplied with or without filtration of required capacity based on the applications.

Also, supplied with venting or non-venting safeties as per the requirement.

We also have built Filtration, Pressure Regulating and Metering Skids complying to various international standards for Fuel Gases like Natural Gas and LPG.

REGPORT TECHNOLOGIES PVT LTD

PRODUCT RANGE	SIZE	RATING
❖ **Safety Relief Valves**		
Conventional	Upto 8" x 10"	Upto 2500#
Balanced Bellow	Upto 8" x 10"	Upto 2500#
Pilot Operated	Upto 8" x 10"	Upto 2500#
❖ **Direct Operated Pressure Control Valves**		
Upstream – Single / Double Seated	½" to 4"	Upto 2500#
Downstream – Single / Double Seated	½" to 4"	Upto 2500#
❖ **Pilot Operated Pressure Control Valves**		
Upstream – Single / Double Seated	1" to 16"	Upto 2500#
Downstream – Single / Double Seated	1" to 16"	Upto 2500#
❖ **Storage Tank Safety Equipments**		
Blanketing Pressure Regulator		
➲ Direct Acting	½" to 2"	Upto 300#
➲ Pilot Operated	1" to 8"	Upto 300#
Conservation Vents ie Breather Valves		
➲ Dead Weight Type	1½" to 12"	150#
➲ Spring Loaded Type	1½" to 12"	150#
➲ Combination of dead weight and Spring Loaded	1½" to 12"	150#
Flame Arrestors	½" to 16"	Upto 300#
Breather Valves with built-in Flame Arrestors	1½" to 12"	150#
Emergency Vent Valves	10" to 24"	150#
❖ **Centrifuge Safety Systems**		
Fully Automated Centrifuge Blanketing System	½" to 2"	150#
Timer Based Centrifuge Blanketing System	½" to 2"	150#
Manual Centrifuge Blanketing System	½" to 2"	150#
❖ **Reactor Safety Systems**		
Fully Automated Centrifuge Blanketing System	½" to 2"	150#
Timer Based Centrifuge Blanketing System	½" to 2"	150#
Manual Centrifuge Blanketing System	½" to 2"	150#
❖ **Cylinder Unloading Stations with Manifolds**		
For Hydrogen with venting and non venting safety	½" to 2"	Upto 2500#
For Nitrogen with venting and/or non venting safety	½" to 2"	Upto 2500#
For Anhydrous HCL Gas with venting and/or non venting safety	½" to 2"	Upto 1500#
For Ammonia with venting and/or non venting safety	½" to 2"	Upto 1500#
For Carbon Monoxide with venting and/or non venting safety	½" to 2"	Upto 1500#
For LPG with venting and/or non venting safety	½" to 8"	Upto 300#
❖ **Prepiped Pressure Regulating Systems for all Gases, Liquids and Steam**		
❖ **Fuel Gas Skids**		
❖ **Customized Products**		

We at **Regport** not only meet but exceed our customer satisfaction with our continual efforts towards improvement in quality and aesthetics.

Note : Above sizes and ratings are standard. For any change please consult our sales team.

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