

Control Valves
Safety Instruments
Metering
Field Instrument

The all in one solution for your automation needs



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CONTROL VALVES

Globe 2 - way Control Valves

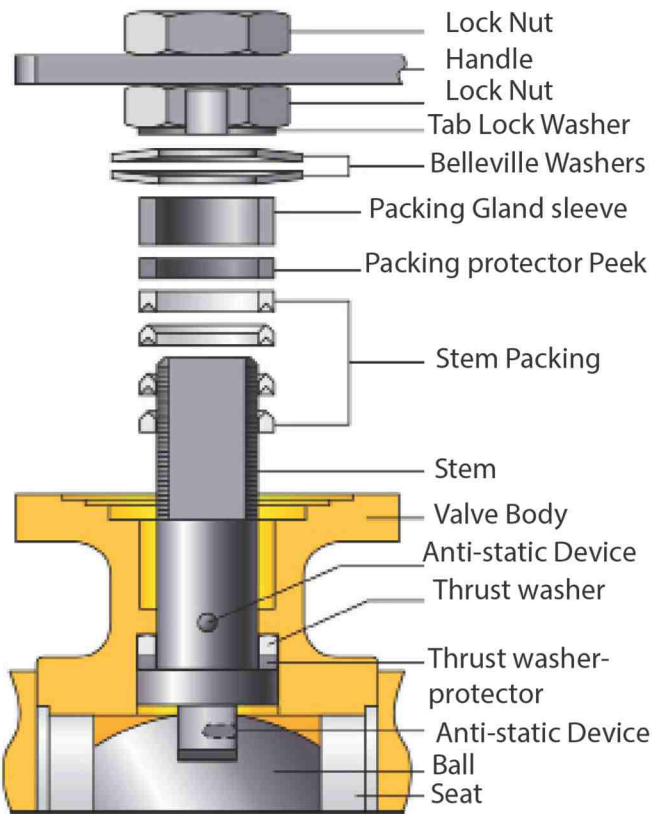
Features

- Precision control
- High flow capacity and high gain
- Excellent flow control rangeability
- Anti-cavitation /low noise trims
- Tight shut-off and soft seated options
- Large variety of trim design
- Equal percentage or linear flow characteristics

Applications

- Offers fine control for liquids, oils, gases and steam
- Boiler feed water, low pressure and high pressure steam
- High pressure, high temperature applications
- Suitable for fluids like oxygen, chlorine, thermic fluid and sea water
- Used in energy, nuclear, fertilizer, chemical and Petrochemical sector.

size	1/2'' to 30.0'' Higher sizes on request
Rating	ANSI 150# to 4500# Higher ratings on request
End Connections	Flanged, Screwed, Socket Weld



Globe 3 - way Control Valves

Features

- Mixing/diverting applications
- High flow capacity
- High rangeability
- Bellows available on request

Applications

- Textile industries application
- Thermic fluids
- Pharmaceutical applications

size	1/2'' to 30.0'' Higher sizes on request
Rating	ANSI 150# to 4500# Higher ratings on request
End Connections	Flanged, Screwed, Socket Weld



O-Ball Valves

Features

- High flow capacity
- Trunnion mounted design on request
- Full bore and reduced bore design

Applications

- Shut-Off applications
- Hydrocarbon applications
- Low pressure steam & hydrocarbon applications

size	1/2" to 18"
	Higher sizes on request
Rating	NSI 150# to 900#
	Higher ratings on request
End Connections	Flangeless, Flanged (Integral and seperat-able)



Segmented V-Port Ball Valves

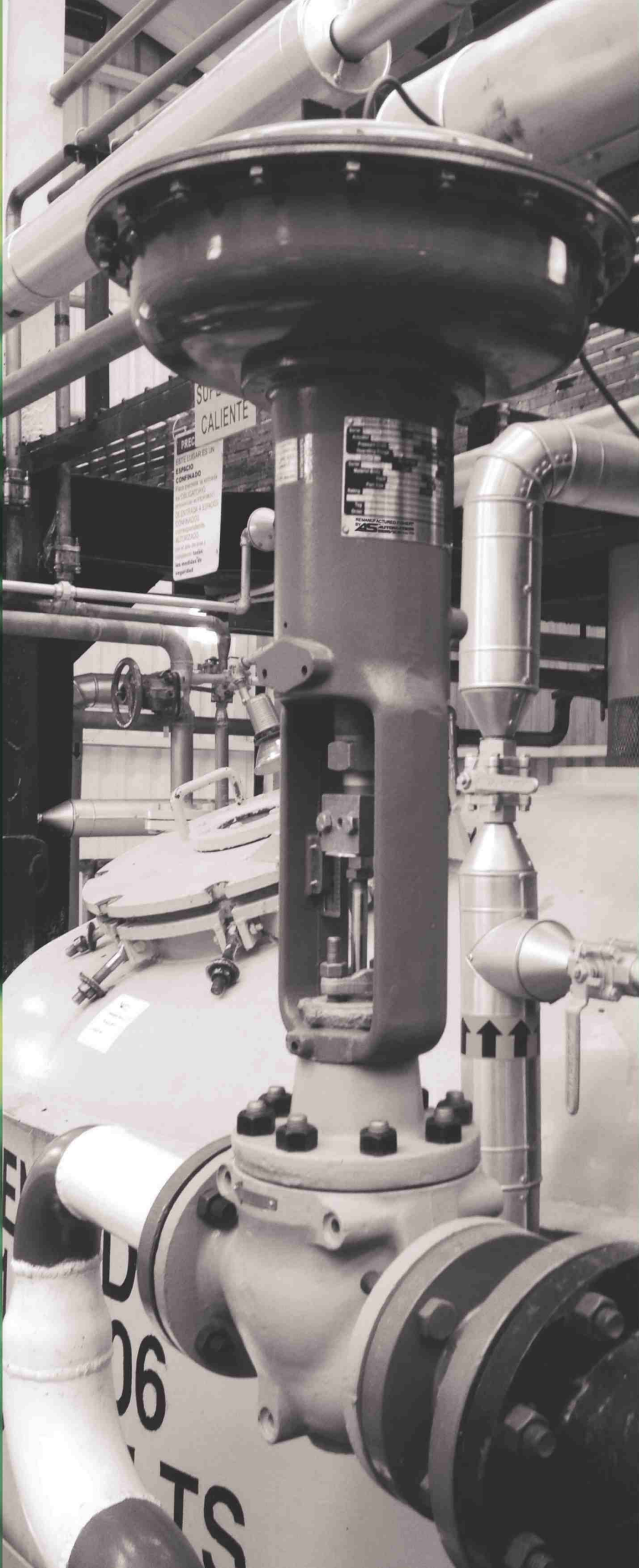
Features

- High flow capacity
- Precise control applications
- Special design used for throttling pulps, slurries
- Various end connections
- Capacity to handle fluids containing suspended particles
- Wedging and shearing effect

Applications

- Fibrous and viscous fluids
- Digester system applications

size	1" to 18"
	Higher sizes on request
Rating	ANSI 150# to 900#
	Higher ratings on request
End Connections	Flangeless, Flanged (Integral and seperat-able)



Butterfly Valves

Features

- Minimum obstruction of flowing area
- No internal cavity
- Used for on-off as well as control applications
- Low cost
- Low pressure steam, liquid and gases service

Applications

- Low pressure steam, liquid and gaseous service
- Installations where large volumes approaching full line capacity handled with low pressure drop

size	2" to 72" Higher sizes on request
Rating	ANSI 150# to 1500# Higher ratings on request
End Connections	Wafer, Flanged, lugged



Pressure Regulating Valves

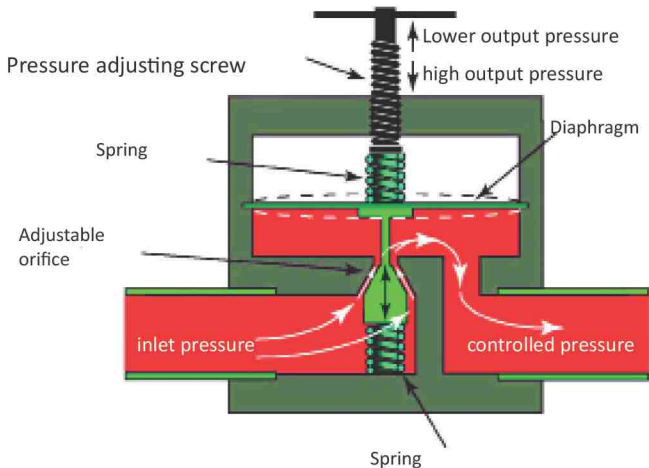
Features

- Wide range of flow
- Easy for maintenance
- Designed to use under high pressure by self acting control type operating
- High temperature/pressure
- Accuracy of control
- Downstream as well as Upstream applications
- Available in both flanged and threaded end connections
- Complies with industry specifications
- Simple & light design

Applications

- Process services like Nitrogen, Hydrogen, Oxygen, Natural gas
- Utility services like water and air
- Fertilizers and chemical industries
- Applicable for liquids and Muddy fluids

size	1/2" to 6" Higher sizes on request
Rating	ANSI 150# to 300# Higher ratings on request



Ecentric Plug Control Valves

Features

- Heavy duty industrial design
- High Cv capacity
- High rangeability of 160:1
- Different trim sizes
- Low break out torque
- Wide materials availability
- Easy maintenance

Applications

- Wide range of flow control
- Isolation applications
- Applicable for clean and dirty water, sewage, sludge and slurries, air and other services

Size	1.0" to 16.0" Higher sizes on request
Rating	ANSI 150# to ANSI 600# Higher ratings on request
End Connections	Flangeless, Flanged



SAFETY INSTRUMENTS

Pipeline Desuperheaters

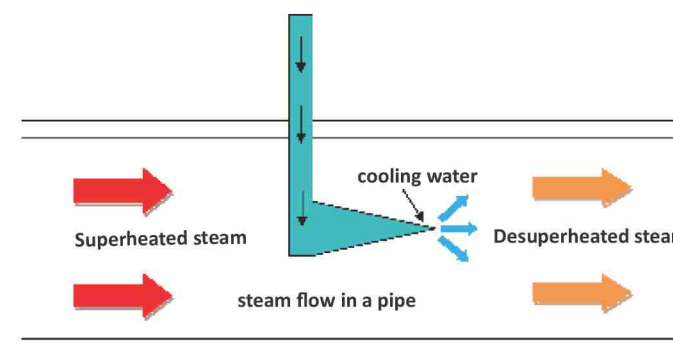
Features

- High rangeability variable area spray unit
- Accurate and repeatable control of fluid temperature
- High spray water pressure capability
- Tight shut off
- Wide range of available nozzle sizes
- Erosion resistance materials of construction
- Ease of installation
- Low maintenance

Applications

- Absorbing heat from the superheated vapor
- A convenient method of reducing superheated steam or other vapors
- Applicable for power Industry
- Applicable for sugar industry

size	6" to 24"
	Higher sizes on request
Rating	Up to ANSI 2500#



Limit Switches

Limit switches are the result of careful planning and experience in position control valves. Through the choice of materials, workmanship and quality treatment, PETROSADID guarantees:

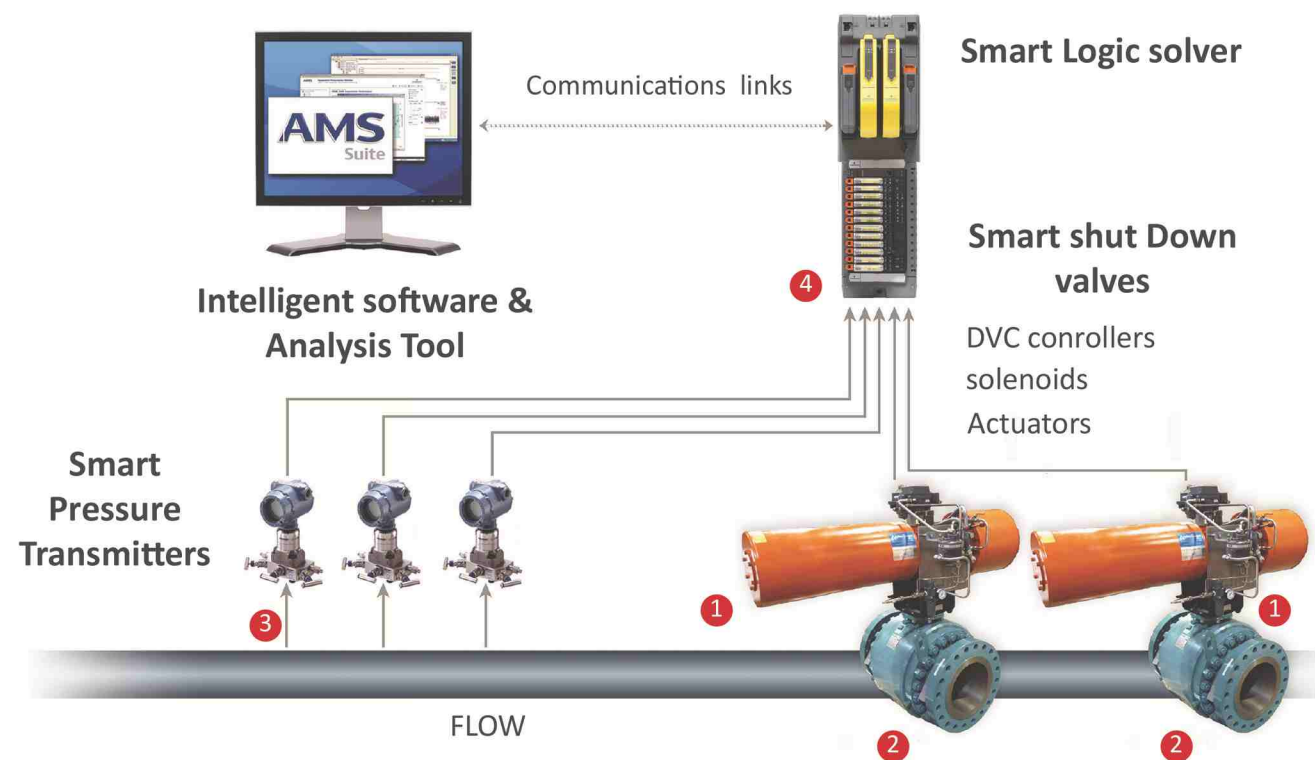
- Reliability
- Impact sturdiness
- High resistance to atmospheric and chemical events
- High protection in hazardous areas (Exd - Exi)
- Precision in indicating the position of the valve
- Rapid sensor adjustment
- Wide choice of configuration and custom solutions

Features	Advantages
Fewer blocks	⇒ Quicker device execution time per segment
Quicker device execution time	⇒ More devices per segment
More devices per segment	⇒ Fewer segments
Fewer segments	⇒ Reduced hardware and software licensing costs
Reduced costs	⇒ Real savings

NON STOP
SAFETY
FOR
EVERYONE
WHO
THINKS
AHEAD



HIPPS

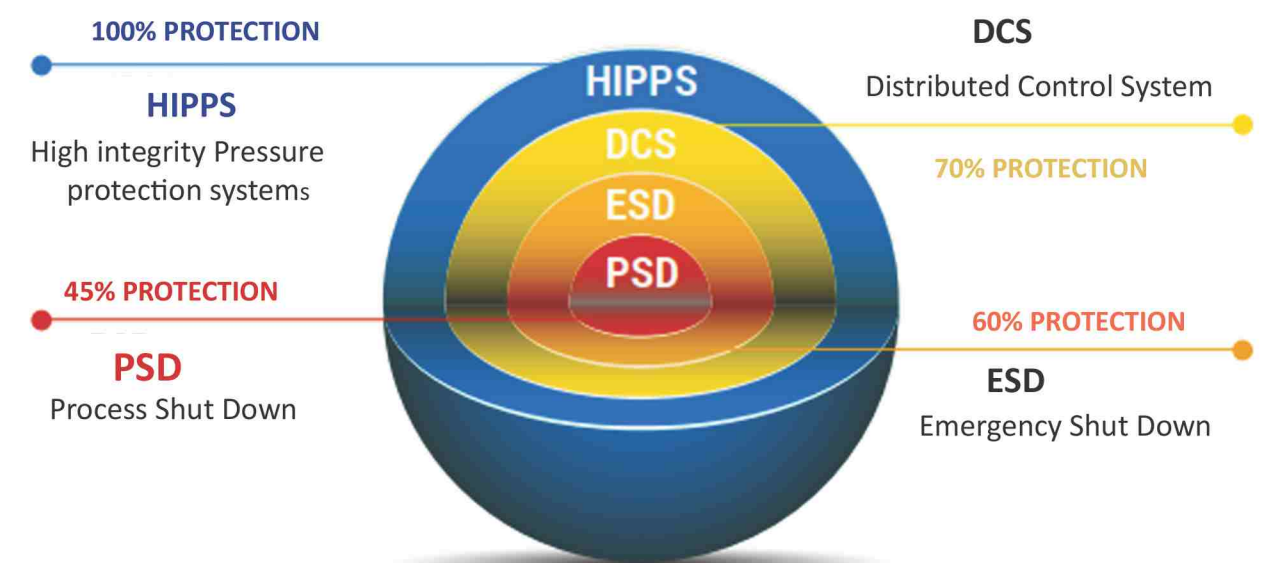


Our HIPPS typically use one set of initiators to measure the process conditions, a logic solver (controller) to process the measured data and a set of end elements to provide the safeguarding action. End-elements can include valve/actuators together with circuit breakers that perform the closing (shut down) action

PETROSADID Engineering staff designs every safety system according to the clients requirements, as well as offering alternative progressive solutions.

ITEM	DESCRIPTION	NOTES
1	Actuator	<ul style="list-style-type: none"> Pneumatic Hydraulic Electro Hydraulic
2	Valve	<ul style="list-style-type: none"> Ball or gate, according to API 6A and API 6D
3	Field Initiator	<ul style="list-style-type: none"> Pressure Transmitters Pressure Switches
4	Logic Solver	<ul style="list-style-type: none"> Solid State PLC Programmable Mechanical

- Increased plant reliability
- Certified safety integrity level knowledge and experienced engineers at clients disposal
- Third party SIL assessment certification and safety analysis report
- A unique partner acting as a single source responsible for the whole system
- Specifically engineered actuators with a unique integrated quick exhaust valve Complete with adjustable end of stroke damper device in order to ensure fast acting Stroking times and valve drive train protection
- Unlimited valve torque and thrust coverage
- Fully integrated factory acceptance testing of the complete system
- Fully integrated site acceptance testing of the complete system



Possible Risks Matrix

High Safety Integrity Level as a necessary risk reduction

		DEMAND MODE	
		LOW Probability of failure on demand	HIGH Probability of dangerous failure per hour
SIL level	1	$>10^{-2}$ to $<10^{-1}$	$>10^{-6}$ to $<10^{-5}$
	2	$>10^{-3}$ to $<10^{-2}$	$>10^{-7}$ to $<10^{-6}$
	3	$>10^{-4}$ to $<10^{-3}$	$>10^{-8}$ to $<10^{-7}$
	4	$>10^{-5}$ to $<10^{-4}$	$>10^{-9}$ to $<10^{-8}$

METERING

Clamp on Ultrasonic Flow Meters

These flow meters work on the transit time ultrasonic principle. This simply involves sending and receiving ultrasonic pulses from a pair of sensors and examining the time difference in the signal. This is a more direct method of determining flow than some other systems and thus provides a more reliable measurement.

Features

- No shut-down, no lost production
- No pressure drop
- No costly and risky mechanical installation
- Low maintenance
- No danger of blockage or damage
- Quick and simple installation
- Cost effective solution, particularly on large pipes
- Line size suitable from 10 to 6500 mm

Applications

- Suitable for chemical addition
- General process control
- Broad range of refined hydrocarbons
- Cooling water/District heating water



Electromagnetic Flow Meters

Features

- High accuracy & stable performance
- No moving parts
- Easy installation and operation
- Minimal maintenance
- Compact and rugged, IP 65 protection class
- The display can be rotated in desired angle to offer ease in viewing

Applications

- Suitable for all conductive applications
- From clean liquids to slurries and pastes with high solids content
- Suitable for high temperatures
- Custody transfer application

Accuracy	±0.5% of flow rate
Technique	Pulsed DC
Liquid conductivity	5 micro Siemens or better
Line size	1/2" to 14"
Pressure rating	Up to 40 bar
Temperature rating	60°C for Neoprene lining 180°C for PTFE lining
Lining material	On request
Electrode material	On request
Protection category	IP65 and IP67
Earthing electrode	Built in





Liquid Turbine Flow Meters

This flow meter consists of multiple-bladed rotor mounted in a pipe, perpendicular to liquid flow. As liquid flows through the pipe rotor spins, an electrical signal is generated in the pickup coil. Pulses are counted & converted to 4-20 mA.

Features

- Linearity
- Accuracy
- Repeatability
- Resolution
- Rangeability
- Performance based on specific gravities

Application	Water, Diesel, Gasoline, Oil etc
Meter size	DN4 to DN500
Flow	0.04-0.25 to 400-4000m ³ /h
Accuracy	±1% / 0.5% of reading
Power supply	24 v dc/ battery operated



Vortex Flow Meters

When fluid flows through a bluff body, vortices are alternately formed on both sides with opposite directions of rotation. The pressure fluctuations due to vortices are converted to electrical pulses. The frequency of vortex shedding is proportional to the volume flow.

Features

- Easy to install and maintain
- Long-lasting design for the toughest applications

Applications

- Superheated and saturated steam measurement
- Steam boiler monitoring
- Measurement of consumption in compressed air system
- Measurement of consumption of industrial gases
- Measurement of conductive and non-conductive liquids

Meter size	DN15 to DN300
Flow	Liquid 1.2-6.2 to 200-2000 m ³ /h
Gas/Steam	5-25 to 1380-11000 m ³ /h
Accuracy	Liquid ±1% of reading Gas/steam ±1.5% of reading
Power supply	24 vdc/ battery operated



Variable Area Flow Meters

- Suitable for inline installation with flanged or screwed options of materials for the wetted parts
- Available in the sizes from 1/2 inches to 4 inches
- Available in various Scale lengths 175-200 mm, 250 mm, 500 mm to suit customer requirements

Ranges	Between 2.5 to 40,000 LPH/ 0.018 to 175.5 USGPM of water at ambient temp. Between 0.1 to 300 Nm ² /HR/ 0.9 to 190 SCFM of air at ambient temperature 760
Accuracy	±2% of full flow
Repeatability	10:1
Accessories	High and low flow alarms



FIELD INSTRUMENT

Pressure

High quality and precision pressure devices are provided ranging from 1 kg/cm² to high pressure applications meeting requirements of various process industries for critical applications in onshore and offshore industries

Pressure Gauges

- Local indication with digital or analog display
- Suitable for monitoring, control and data acquisition
- Wide range of materials and measurement spans
- Wetted parts in special materials: HASTELLOY, TANTALUM, MONEL, GOLD,...
- Version with diaphragm seal
- Accuracy from %0.01 of full span
- usually Bourdon element type or better suitable for service

Pressure Transmitters

- 4-20 mA output signals
- From 400-0 mbar up to 600-0 bar
- Range for pressure approximately 1.5 times the normal operating pressure
- With turn-down ratio 1:10
- High reliability
- Fast response corresponding to various applications
- The smart transmitters can be supplied with the most used

communication protocols, according to the international standards:

- HART Protocol
- Foundation Fieldbus
- Profibus

Dial	63mm,100mm & 150 mm
Window	Shatterproof glass
Accuracy	From 0.01% of FS
Overrange	130% of FS
Protection class	IP67



Temperature equipments are designed to meet the various process applications ranging temperature from -200°C to 600°C with fastest response and special features such as hermetically sealed case, high accuracy and repeatability, low hysteresis, case compensation, liquid filled case, capillary up to 30 meters without any loss of accuracy for various steam OD and length.

Temperature

Temperature Gauges

- Available in Bimetal dial thermometers, Gas filled thermometers & liquid filled dial thermometers
- Wide range of industrial applications
- Easy in construction
- Fast response
- High repeatability, low hysteresis

Temperature Transmitters

- Fast response
- High repeatability and low hysteresis
- Flameproof version available

Thermowells

- Automatic welding system
- Full penetration welding system
- Fast installation and removal
- High corrosion resistance
- High temperature resistance
- Also available in special materials : HASTELOY, MONEL,...

	Temperature gauge	Temperature transmitter
Dial	63mm,100mm & 150 mm	100mm & 150mm
Window	Shatterproof glass	Shatterproof glass
Range	-200 to 600 °C	-200 to 600°C
Accuracy	1% of FS	2% of FS
Overrange	130% of FS	125% of FS
Protection class	IP67	IP67

Analyzer

In order to offer a complete range of product for the analysis, Petrosadid supplies :

Liquid Analyzer

- PH, conductivity, ORP, resistivity
- Total dissolved solids (TDS)
- Total suspended Solids (TSS)
- Turbidity, Alkalinity
- Free and total chlorine
- Dissolved oxygen
- Specific ion analyzers: Ammonia, Bromide, Cadmium, Calcium, Copper, Cydnaide, FluoridePotassium, Sodium, Sulphide etc.
- Oil in water - Insitu & extractive
- Water cut
- Steam water analysis system
- Customized analyzer system



Process Gas Analyzer

- Continuous emission monitoring system
- Opacity measurement
- Particular matter
- Ultrasonic flow
- Data acquisition system
- O2 analyzers
- Loop powered O2 analyzers
- Moisture and trace oxygen analyzers
- TCD, FID, NIR, UV & IR analyzers
- Laser gas analyzers
- Combustion analyzers
- Ambient air quality analyzers and stations
- Potable analyzers
- Total sulphurs
- Custom designed analyzer shelters and cabinets



ACHIEVE GREATER
SUCCESS BY PARTNERING
PETROSADID



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