

Thank you for considering PCI for your instrumentation needs. Our catalogue provides an overview of our products and the services we can offer. If you require more detailed information and technical data sheets, they can be found on our web site at www.pci-instruments.com

COMPANY PROFILE

From its original inception, PCI has grown to become a leading UK manufacturer and supplier of process instrumentation for Nuclear, Food, Dairy, Petrochemical, Pharmaceutical and Chemical Industries.

We are committed to high-quality instrumentation, competitive pricing and providing a fast and efficient service. We are continually investing in new technologies to expand our product range and improve quality. Our company's structure enables us to be flexible and respond rapidly to customer requirements. This combined with our large stock ensures the quickest deliveries possible.

The PCI brand stands for products that live up to the demands of the industry in terms of reliability and accurate measurement. We also provide many OEM products which can be badged with your company's logo allowing you to add our product range and services to your own.



PCI holds accreditation to the latest ISO:9001:2008 standard. This way the service we provide is monitored, evaluated and constantly improved on.



www.pci-instruments.com

Specialists in Instrumentation and Diaphragm Seal Systems

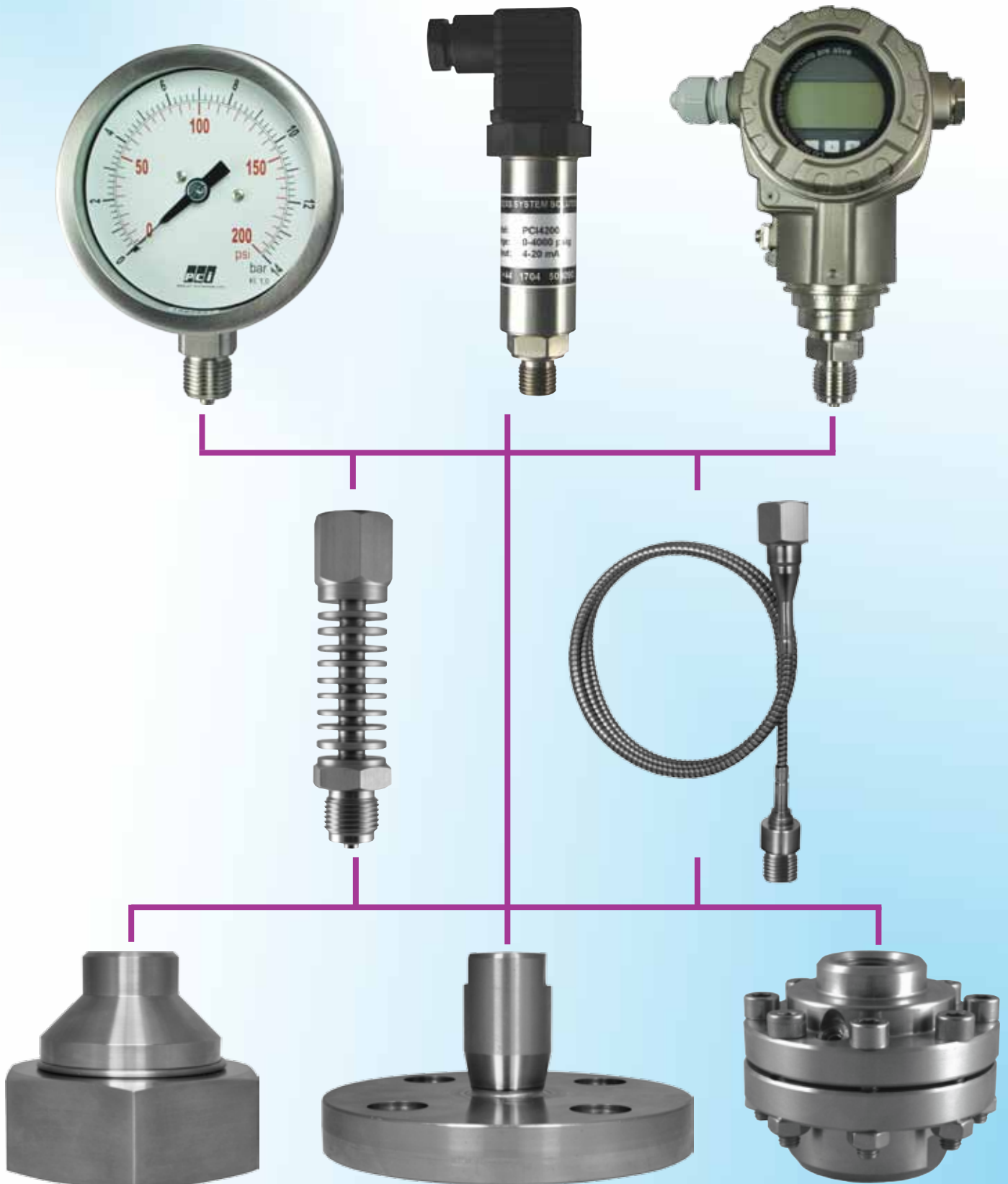
PCI (Process System Solutions) Ltd,

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Southport, Merseyside,
PR9 9YF, UK,

Tel: +44 (0) 1704 509090, Fax: +44 (0) 1704 509091,
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INSTRUMENTATION TO SEALS

PCI supply and manufacture a wide range of instruments. We also manufacture and supply our own diaphragm seals for chemical and hygienic applications. In addition, we can fit our diaphragm seals to both our own and other manufacturer's instruments to make the complete, diaphragm seal pressure sensing system. (This is illustrated below.) Further information can found on the following pages.



PRESSURE AND TEMPERATURE INSTRUMENTS

PCI's products include pressure gauges, temperature gauges, diaphragm seals, switches and many other related instruments and accessories. We are distributors for related products which we can provide at discounted rates. Allowing your company to save time and money by sourcing from one supplier.



We have the production capacity to produce a significant number of instruments quickly to meet any deadline. Our production is more flexible than most competitors.



Instruments are produced in-house by our highly skilled and trained engineers.



Our welders hold Welder Approval Test certificates to the latest BSEN AND BS ENISO standards. This ensures the quality of any welding work carried out.

DIAPHRAGM SEALS

PCI manufactures a wide range of diaphragm seals whether its for hygienic or chemical applications. They can also be made in a wide variety of exotic metals such as Hastelloy, Monel and Tantalum. Special coatings can also be applied to the diaphragm such as PTFE and Gold. PCI's diaphragm seals can be made to suit your pressure sensing instrument and application.



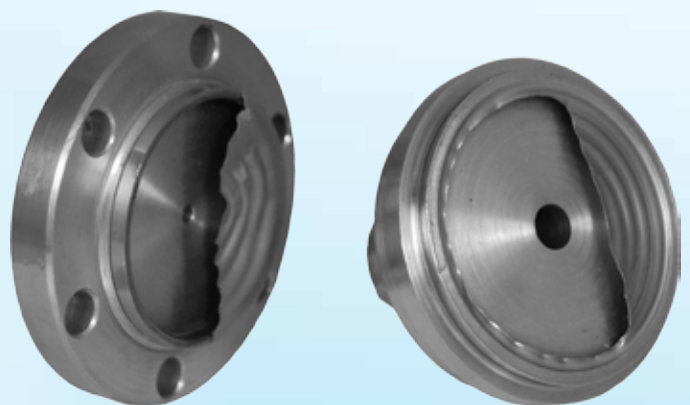
Using our in house CNC lathes and computer controlled welding equipment enables us to produce the highest quality diaphragm seals.



A PCI Diaphragm Seal

- Temperature efficient
- Low volume capacity
- Diaphragm protected from rupture

VS



A Competitor's Diaphragm Seal

- Not temperature efficient
- High volume capacity
- Diaphragm vulnerable to rupture

PCI diaphragms are designed to hold the minimal amount of transmission fluid. This ensures they are not as affected by higher and lower temperatures which influence the transmission fluids natural expansion.

The convoluted base is a mirror image of the diaphragm. Should a pressure overload take place, the diaphragm will fold into the base reducing the possibility of rupture.

This competitor's seals holds a high volume capacity for transmission fluid. Without a convoluted base their seals are not protected from rupture. This could lead to a high amount of contamination leaking in to your process application.

The higher volume capacity also means they have the disadvantage of not being temperature efficient. This affects the instruments accuracy at different temperatures.

DIAPHRAGM SEAL SYSTEMS

PCI produce a comprehensive range of complete diaphragm seal systems to suit all process situations, whether hygienic or chemical. Our diaphragm seals can be fitted and filled to both our own and other manufacturer's pressure measuring instruments. We carry a range of transmission fluids to cover a variety of pressure and temperature applications.



We have invested heavily in our turbo molecular vacuum filling station. Achieving vacuums down to 10^{-9} mbara to ensure our diaphragm seal systems are as stable and temperature efficient as we can possibly make them.

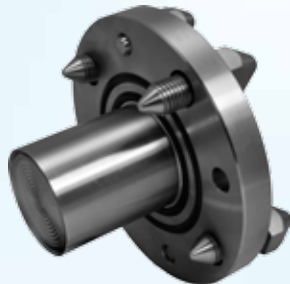
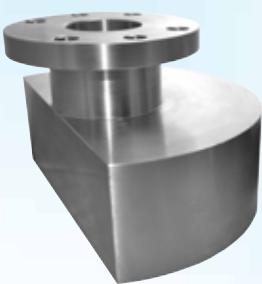


All our diaphragm seals are helium leak tested to ensure there are no microscopic holes that could lead to failure of the instruments or a leak into your process application.



BESPOKE DESIGN AND MANUFACTURING

Using our state of the art production workshop, combined with our experienced work force and testing facility, we can manufacture and supply a variety of process and plant machined parts or components to clients specifications. We specialise in small batches and one off designs.



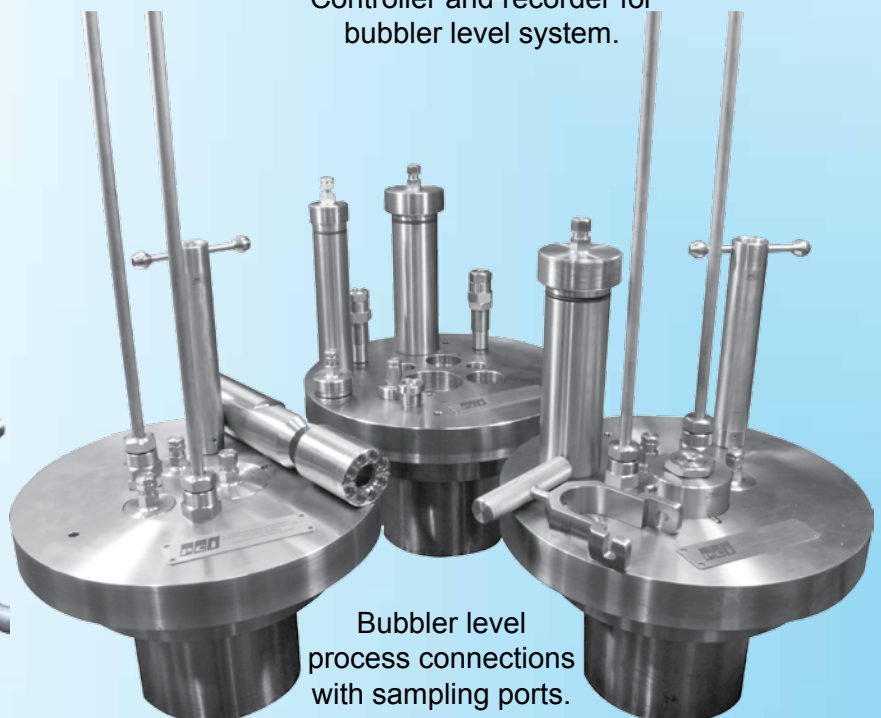
At PCI we design and manufacture bespoke items for all industries including the nuclear industry in accordance to very stringent procedures and documentation requirements. (Below are some examples of our work.)



Collapsible conductivity probes.



Controller and recorder for bubbler level system.



Bubbler level process connections with sampling ports.

REPAIR AND CALIBRATION SERVICE

PCI provide a comprehensive Repair and Calibration Service for most types of instruments and diaphragm seals. A repair can be a quick and cost effective option for many instruments. Most repairs can be completed and returned to the customer within seven days, while priority repairs can be carried out within 24 hours. This can save on the long delivery times and frustration associated with buying new.

Another benefit from this service, is that we can repair and refurbish obsolete equipment no longer supported and where parts are not immediately available. This can save the potential cost and problems from newer models not being compatible with your current set up. Many of the parts that are no longer obtainable can be manufactured within our own workshop.



BEFORE

AFTER



BEFORE

AFTER

DIAGNOSTICS AND UPGRADE SERVICE

If you are experiencing problems with your Diaphragm Seal System you may wish to send it to us. We can carry out a full diagnostics service and establish the cause of the problems. We can then upgrade your existing Diaphragm Seal System to improve its performance and operational life.



Our workshop is fully equipped with up to date calibration equipment with UKAS traceability. We are able to calibrate a wide range of instruments and record the readings on our own specialist software.



We can organise training seminars for our customers, to discuss various types of instrumentation with representatives from the leading manufacturers.

ATEX AND GOST R PATTERN APPROVALS

PCI now offer ATEX and GOST R PATTERN Approvals under its new **PCI TEMA** brand of products.

This is available for temperature gauges, bourdon tube pressure gauges, capsule gauges, differential pressure gauges, pressure switches, RTD's, and thermocouples. Further information can be found on our website or on our product data sheets.



ATEX 94/9/CE



GOST R PATTERN APPROVAL

General information about ATEX

An ATEX certificate is needed to demonstrate that equipment can be safely operated in a potentially explosive atmosphere created by the presence of flammable gas, vapour, mist or clouds of combustible dust.

The ATEX Certificate, officially known as “EC Type Examination Certificate”, is issued following the examination of the equipment Technical File and testing, according to the relevant standards that are applicable for each specific type of explosion protection applied to the equipment, such as flameproof or dust proof containers, intrinsically safe electrical devices, etc.

The basis of ATEX certification is the European Directive 94/9/EC.

General information about GOST

For any kind of goods, which are imported from other countries or produced in Russia, are the subject of certification according to the Russian Legislation.

GOST applies (among others) to:

- Electrical Equipment
- Mechanical & Electro-mechanical Equipment
- Industrial Equipment, machinery
- Construction Materials
- Oil & Gas Industry

Wholesalers and resellers are obliged to submit these certificates when they are asked by their clients and governmental inspectors. This is why it is necessary to have these certificates for commercial bodies.

PRODUCT RANGE OVERVIEW

PRESSURE AND VACUUM GAUGES



TETROPRESS

Standard Pressure Gauges

Vacuum to 1,600 bar.

Dial sizes 40, 50, 63, 100, 150 mm.

Dry/Liquid Filled, Brass/Bronze,

Stainless Steel or Monel wetted parts.

Full Safety Pattern Version available

ATEX version available

GOST approved version available



AXIMAX

Low Pressure Capsule Gauges

0/2.5 mbar to 0/600 mbar

Dial sizes 50, 63, 80, 100 and 160mm.

Brass/Bronze or Stainless Steel wetted parts.

ATEX version available

GOST approved version available



BIPRESS

Differential Pressure Gauges

0/2.5 mbar to 0/600 mbar.

Dial sizes 100, 160 mm.

Dry/Liquid Filled, Brass/Bronze or Stainless Steel wetted parts.

ATEX version available

GOST approved version available



EXPRESS

Test Gauges

Vacuum to 1600 bar

0.6, 0.25 and 0.1% Accuracy FSD

Dial sizes 100, 160, 250mm

Beryllium copper or Stainless Steel wetted parts

Mirror Scales, Knife-edge pointers, zero adjust.

ATEX version available

GOST approved version available

PRESSURE AND VACUUM GAUGES



BELLOWPRESS

Bellows Type Pressure Gauges

-600 to 600 mbar

Dial sizes 100, 150, 200 mm

Stainless Steel wetted parts

ATEX version available

GOST approved version available



SCHAEFFER TYPE

Shaeffer Type Pressure Gauges

Vacuum to 25 bar.

Dial sizes 100, 150 mm.

Stainless Steel wetted parts

ATEX version available

GOST approved version available



ABPRESS

Low Vacuum Absolute Gauges

0/25 mbar up to 1000mbar

Dial sizes 85mm.

Barometrically compensated



PHENOLIC

Phenolic Case Pressure Gauge

Vacuum to 1600 bar

Dial sizes 4 1/2"

Stainless Steel or Monel wetted parts

ATEX version available

GOST approved version available

PRESSURE AND VACUUM GAUGES



SQUAREPRESS

Square Profile Type Pressure Gauges

Vacuum to 1,000 bar

Dry/Liquid Filled

Stainless Steel wetted parts

ATEX version available

GOST approved version available

Available as Temperature Gauge



TRANSPRESS 100

Gauge with built in Transmitter

Vacuum to 0/1600 bar

Dial sizes 100mm

Dry/Liquid Filled

Stainless Steel wetted parts



TRANSPRESS 200

Gauge with separate Transmitter

Vacuum to 0/1600 bar

Dial sizes 100mm

Dry/Liquid Filled

Stainless Steel wetted parts



4-20mA TRANSMITTER HOOD

Non contact device that can be retro fitted to gauges and thermometers.

It converts any gauge or thermometer into a switch or transmitter with 4-20mA output.

ELECTRIC ALARM SWITCHES



GAUGE FITTED WITH ALARM SWITCH (MODULAR ADD ON)

Designed for a pressure gauge or thermometer. These contacts are designed for the opening and closing of circuits dependant on the instrument pointer position.

Types: Magnetic, Inductive, Electric
Actions Switches: single, double or triple.



GAUGE WITH BUILT IN ALARM SWITCH

These contacts are designed for the opening and closing of circuits dependant on the instrument pointer position.

Types: Magnetic, Inductive, Electric
Actions Switches: single, double or triple.



GAUGE WITH BUILT IN MICRO SWITCH

Reduced lag on opening a circuit
Single or double action

Switches 10% and 75% of full scale
DIN43650 connector option

PRESSURE TRANSMITTERS



PCI3110

Low Pressure Transmitter

0 to 900 mbar

Output 4-20mA

Stainless Steel wetted parts



PCI4200

Pressure Transmitter

Vacuum to 1500 bar

Output 4-20mA

Stainless Steel wetted parts



PCI3860

Pressure Transmitter with cooling coil

Op. temperature up to 200 Deg C

0 to 400 bar

Output 4-20mA

Stainless Steel wetted parts



PLUG-ON-DISPLAY

Universal 4 Digit LED display

Suitable for any 4-20mA 2 wire transmitter and DIN43650 connector.

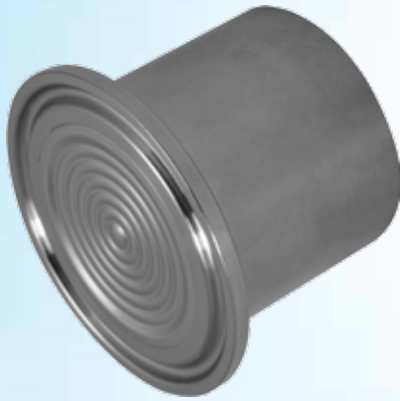
No external power required

Single point available for alarm activation or control



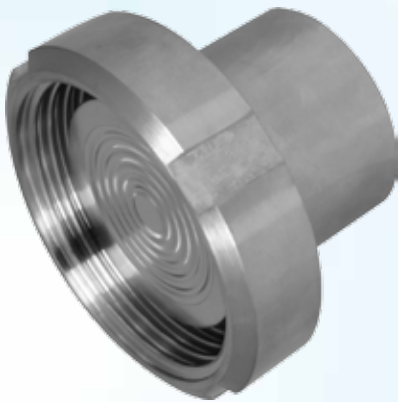
HYGIENIC DIAPHRAGM SEALS

SUITABLE FOR GENERAL FOOD AND PHARMACEUTICAL APPLICATIONS



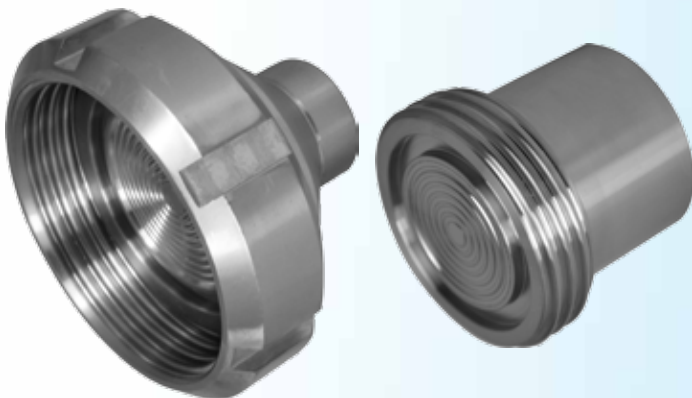
TRI-CLAMP SEAL

Material stainless steel AISI316
Suitable ranges dependant on size
and clamp type used
Various sizes available



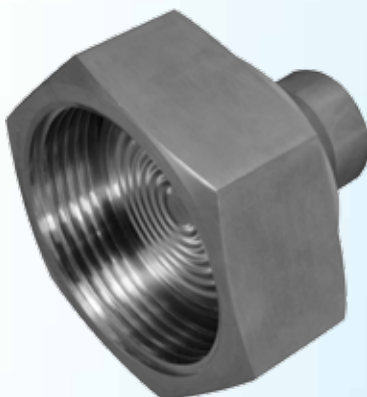
DIN FEMALE SEAL

Material stainless steel AISI316
Suitable ranges sizes DN 25/40 -1 to
40 bar, sizes DN 50/80 -1 to 25 bar
Various sizes available



SMS FEMALE / MALE SEAL

Material stainless steel AISI316
Suitable ranges -1 to 15 bar
Various sizes available



IDF-ISS FEMALE SEAL

Material stainless steel AISI316
Suitable ranges -1 to 16 bar
Various sizes available

HYGIENIC DIAPHRAGM SEALS

SUITABLE FOR GENERAL FOOD AND PHARMACEUTICAL APPLICATIONS

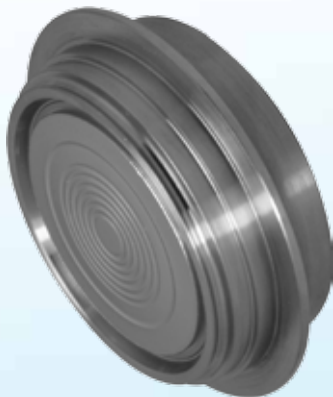


RJT FEMALE SEAL

Material stainless steel AISI316

Suitable ranges -1 to 10 bar

Various sizes available



VARIVENT® TYPE SEAL

Material stainless steel AISI316

Suitable ranges -1 to 25 bar

Various sizes available

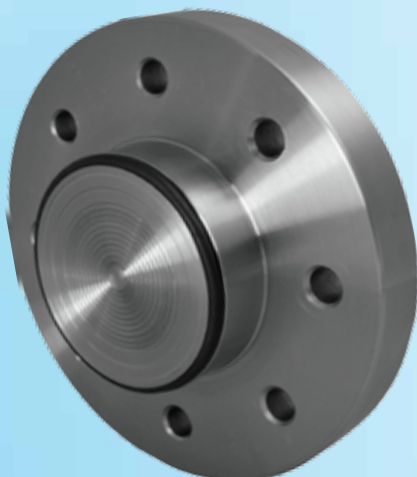


INLINE SEAL

Material stainless steel AISI316

Connections DIN, Tri-Clamp and IDF

Other process connections available



HYGIENIC TANK STYLE SEAL

Material stainless steel AISI316

Suitable ranges up to 40 bar

Types Flanged or Clamp

Matching tank female connection available

HYGIENIC DIAPHRAGM SEALS

SUITABLE FOR HOMOGENISERS



HOMOGENISER SEALS

Material stainless steel AISI316

Suitable ranges up to 1600 bar

Types Gaulin, Niro, Rannie Pipe seal, Fishtail etc



CHEMICAL DIAPHRAGM SEALS

SUITABLE FOR CORROSIVE FLUIDS



PVC SEAL

Material Plastic PCV , PTFE, PVDF

Suitable ranges 0 to 10 bar

Connection 1/2" NPT or 1/2" BSP

SUITABLE FOR FAST FLOWING FLUIDS AND WASTE WATER



2W CHEMICAL SEALS

Material stainless steel AISI316

Low cost welded construction

Suitable ranges -1 to 60 bar

Up to 400 bar model available

CHEMICAL DIAPHRAGM SEALS

SUITABLE FOR CORROSIVE FLUIDS



SA1000B BOLTED CHEMICAL SEAL

Material stainless steel AISI316

Diaphragm size 48mm

Diaphragm easily cleaned

Suitable ranges -1 to 300 bar

Wetted parts can be exotic material

Male or female BSP / NPT process connection



SA1000P PTFE BOLTED CHEMICAL SEAL

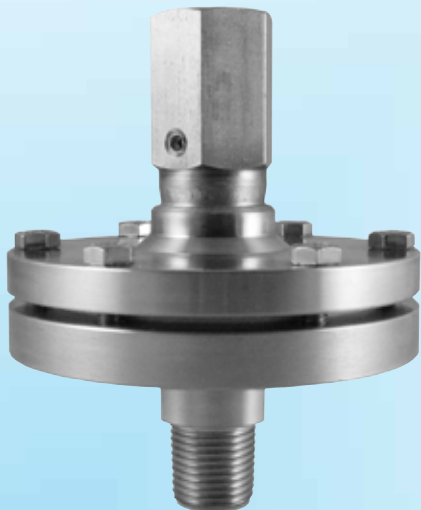
Material stainless steel AISI316 and solid PTFE

Diaphragm size 48mm

Diaphragm easily cleaned

Suitable ranges -1 to 10 bar

Male or female BSP / NPT process connection



TE1000P BOLTED CHEMICAL SEAL

Material stainless steel AISI316

Diaphragm size 74mm or 30mm

Process connection male stainless and fully PTFE lined

Suitable ranges -1 to 60 bar

0-400 bar version available



TE1000T BOLTED FLANGE CHEMICAL SEAL WITH FLUSHING PORT

Recessed diaphragm

Diaphragm size 63mm to 89mm

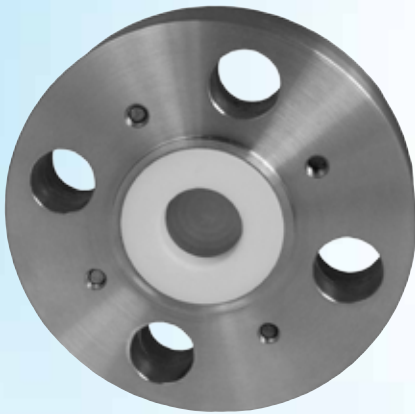
Body material stainless steel AISI316

Wetted parts: Stainless Steel / Exotics

Suitable ranges -1 to 60 bar

CHEMICAL DIAPHRAGM SEALS

SUITABLE FOR CORROSIVE FLUIDS



SA1000F

FLANGED RECESSED INTERNAL DIAPHRAGM SEAL

Low cost small flanges

Material stainless steel AISI316

Used where the diaphragm size is insufficient for the instrument range.

Wetted parts: Stainless Steel / Exotics / PTFE lined / Gold / Rhodium



SA1000FS

STUDED FLANGE CHEMICAL SEAL

Recessed diaphragm

4 stud or 8 stud connection

Diaphragm size 63mm

Body material stainless steel AISI316

Wetted parts: Stainless Steel / Exotics / PTFE lined / Gold / Rhodium



SA1000FST

STUDED FLANGE CHEMICAL SEAL WITH FLUSHING PORT

Recessed diaphragm

4 stud or 8 stud connection

Diaphragm size 63mm

Body material stainless steel AISI316

Wetted parts: Stainless Steel / Exotics / Gold / Rhodium



SA1000FS (8 studded version)

FLANGE CHEMICAL SEAL

Recessed diaphragm

Diaphragm size 89mm

Body material stainless steel AISI316

Wetted parts: Stainless Steel / Exotics / PTFE lined / Gold / Rhodium

CHEMICAL DIAPHRAGM SEALS

SUITABLE FOR PAPER INDUSTRY

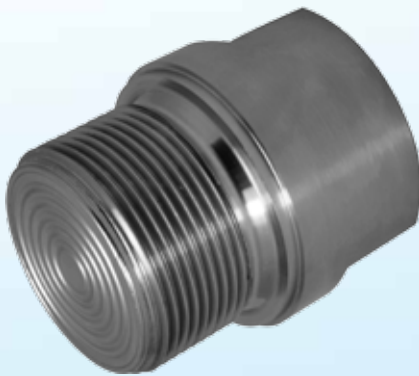


PULP AND PAPER SEAL

Material stainless steel AISI316

Suitable ranges 0 to 40 bar

SUITABLE FOR HIGH PRESSURE AND VISCOUS FLUIDS

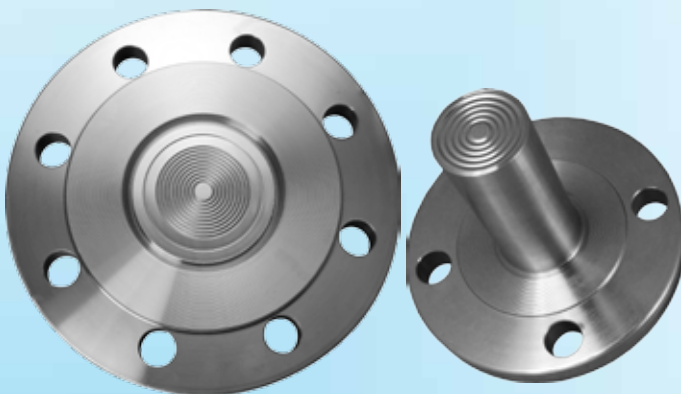


PLUG SEAL

Material stainless steel AISI316

Suitable ranges 0 to 600 bar

SUITABLE FOR HIGHLY VISCOUS AND CORROSIVE FLUIDS



FLANGED SEALS

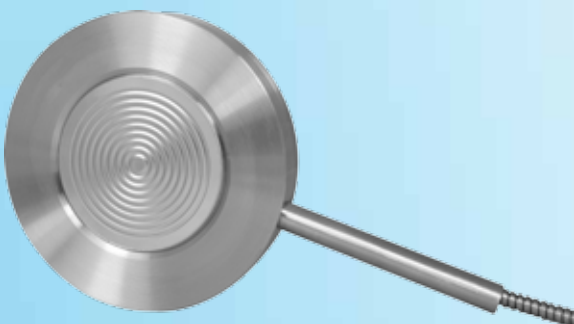
Material stainless steel AISI316

Suitable ranges 0 to 400 bar

Various flanges sizes and type available

Extended option available

Wetted parts: Stainless Steel / Exotics
/ PTFE lined / Gold / Rhodium



PAN CAKE TYPE SEAL

Material stainless steel AISI316

Various forms and sizes available

Wetted parts: Stainless Steel / Exotics
/ PTFE lined / Gold / Rhodium

PRESSURE SWITCHES



CAPSULE TUBE PRESSURE SWITCH

Material stainless steel AISI316
Setting Ranges from -6 to 16 mbar
ATEX 94/9/EC version available for
intrinsically Safe Circuits
ATEX gr.II cat. 1/2GD version available
with Explosion proof protection



BOURDON TUBE PRESSURE SWITCH

Material stainless steel AISI316
Setting Ranges from 0 to 16 bar
ATEX 94/9/EC version available for
intrinsically Safe Circuits
ATEX gr.II cat. 1/2GD version available
with Explosion proof protection



DIAPHRAGM TYPE PRESSURE SWITCH

Material stainless steel AISI316
Setting Ranges from 0 to 25 bar
ATEX 94/9/EC version available for
intrinsically Safe Circuits
ATEX gr.II cat. 1/2GD version available
with Explosion proof protection



DIFFERENTIAL PRESSURE SWITCH

Material stainless steel AISI316
Setting Ranges from 0 to 16 bar
ATEX 94/9/EC version available for
intrinsically Safe Circuits
ATEX gr.II cat. 1/2GD version available
with Explosion proof protection

EXPLOSION PROOF ATEX HEAD USED FOR THE ABOVE MODELS

TEMPERATURE GAUGES



TETROTEMP 100 BIMETAL TEMPERATURE GAUGE

Dial sizes 63, 80, 100, 125 and 150mm

Range -50 to 500 Deg C

Accuracy 1 % FSD

All stainless Steel

ATEX version available

GOST approved version available



TETROTEMP 200 GAS EXPANSION TEMPERATURE GAUGE

Dial sizes 63, 100 and 150mm

Ranges from -200 to 650 Deg C

Accuracy 1 % FSD

All stainless steel

Capillary versions available

Can be fitted with electric contacts

ATEX version available

GOST approved version available



LYNXARC DIGITAL TEMPERATURE GAUGE

Range -50 to 200 Deg C

Accuracy 1 % FSD

All stainless steel

4-20 mA output option

Available with capillary

TEMPERATURE SWITCH



TEMPERATURE SWITCH

Material stainless steel AISI316

Setting Ranges from -30 to 600 Deg C

ATEX 94/9/EC version available for intrinsically Safe Circuits

RTD'S AND THERMOCOUPLES



RTD PT100

(Resistance Thermometer Detector)

2, 3, 4 wire versions

Class A PT100 sensors

Aluminium, plastic or stainless steel terminal heads.

With or without in head transmitters for profibus, HART 4-20mA output.

ATEX version available



THERMOCOUPLES

Thermocouple inserts.

CERAMIC THERMOCOUPLES

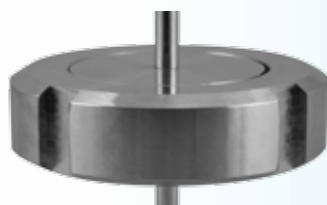
(Suitable for very high temperatures up to 1600 Deg C)

Aluminium, plastic or stainless steel terminal heads.

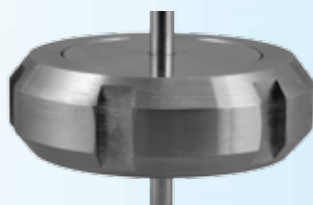
With or without in head transmitters for profibus, HART 4-20mA output.

ATEX version available

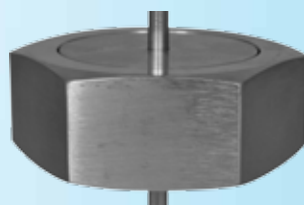
THERMO CONNECTIONS AVAILABLE FOR TEMPERATURE GAUGES, RTD AND THERMOCOUPLES



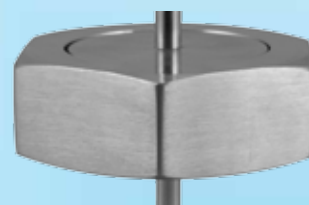
DIN



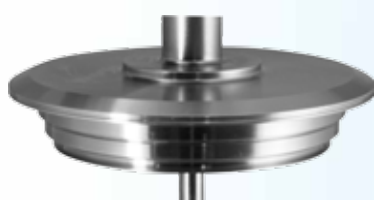
SMS



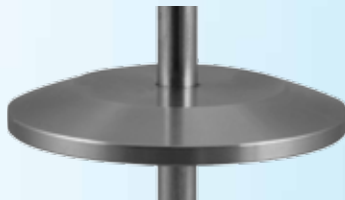
IDF



RJT



VARIVENT ®



TRI CLAMP



FIXED
COLLAR



COMP
FITTING

More
options
available

High polished finished to your requirements

IN HEAD TRANSMITTER



IN HEAD TEMPERATURE TRANSMITTER

The temperature transmitters are analogue type programmable via PC.

Output Signal: 4-20mA

Accuracy: better than 0.25%

Options: HART, PROFIBUS, ATEX

THERMOWELLS



THERMOWELLS

Thermowells for temperature instruments. Used when the bulb of the thermometer is exposed to pressure, corrosive fluids or high velocity.

Fabricated or Bar stock type.

Threaded, flanged and welded connections

NEEDLE VALVE AND MANIFOLDS



NEEDLE VALVES

Operating pressure up to 600 bar

Low torque operation

Non rotating needle tip

Bubble tight shut off

Block and bleed version available



MANIFOLD VALVES

Operating pressure up to 400 bar

1, 2, 3, 4 and 5 way configurations

Construction stainless steel or Monel and Hastelloy

DEAD WEIGHT TESTERS



HYDRAULIC DEAD WEIGHT TESTER

Pressure Range 0 to 2000 bar

Accuracy 0.01% of reading



HYDRAULIC DEAD WEIGHT TESTER

Pressure Range 0 to 1400 bar

Accuracy 0.015% of reading

CHART RECORDERS

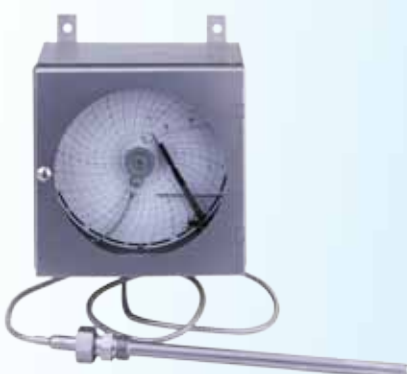


PRESSURE RECORDERS

Mechanical chart recorders for pressure available in 192x192mm, 280x280mm and 380x380mm for surface and flush mounting.

Also in portable design.

Pressures from -1 to +1600 bar

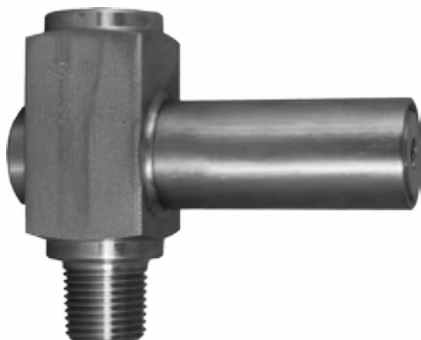


TEMPERATURE RECORDERS

Mechanical chart recorders for pressure available in 192x192mm, 280x280mm and 380x380mm for surface and flush mounting. Also in portable design.

Pressures from -200°C to +800°C

ACCESSORIES



OVERLOAD PROTECTORS

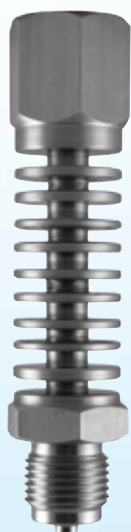
Protects the instrument from over pressure.

Bellows type for 0.2 to 4 bar

Max working pressure 100 bar

O Ring type for 2 to 400 bar

Max working pressure 600 bar



COOLING TOWER

Protects the instrument high process media temperatures.

Material stainless steel AISI316

Max temperature 250 Deg C



PULSATION DAMPENERS

Limit the negative effects of process pressure pulsation or sudden changes in pressure.

Max pressure up to 1000 bar



SYPHONS

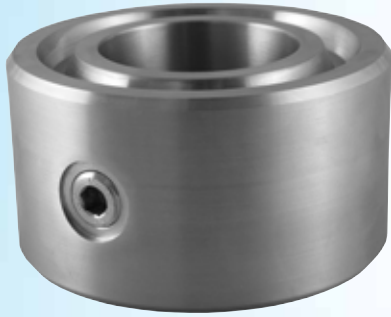
Syphons to protect pressure gauges from high steam temperatures.

Standard Material: AISI316

Ring or U types

Connection 1/2" BSP or NPT

FLUSHING RINGS



FLUSHING RINGS

Used with flange type diaphragm seals for flushing or venting the space in front of the diaphragm before removal.

Various types available.

BESPOKE PRODUCT EXAMPLE



BOTTLE PIERCER VACUUM GAUGE WITH ADJUSTABLE MANUAL PRESS

Used to measure the intensity of a vacuum within a food can or bottle. Custom made to suit your requirements.

This is another example of a bespoke product we built for a customer. If you would like us to design and build product to fit your needs feel free to contact us.

TANK LEVEL GAUGE



TANKPRESS

Tank Level Gauge

Various ranges available

Dial sizes 160mm

Capillary up to 50m

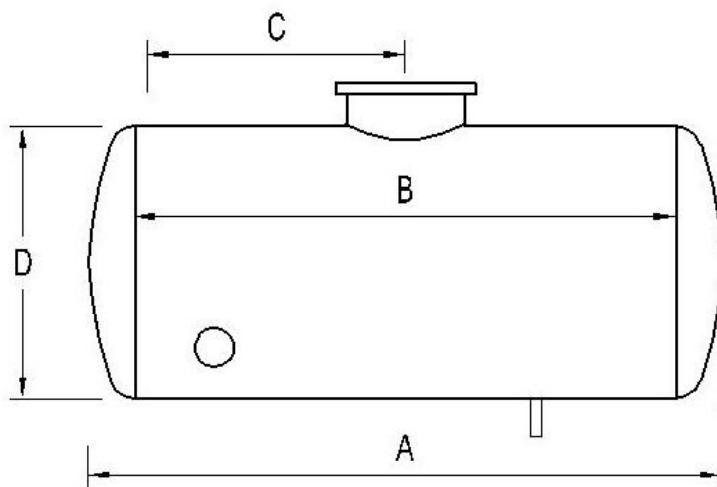
Fully automatic, continuous readouts

No power required

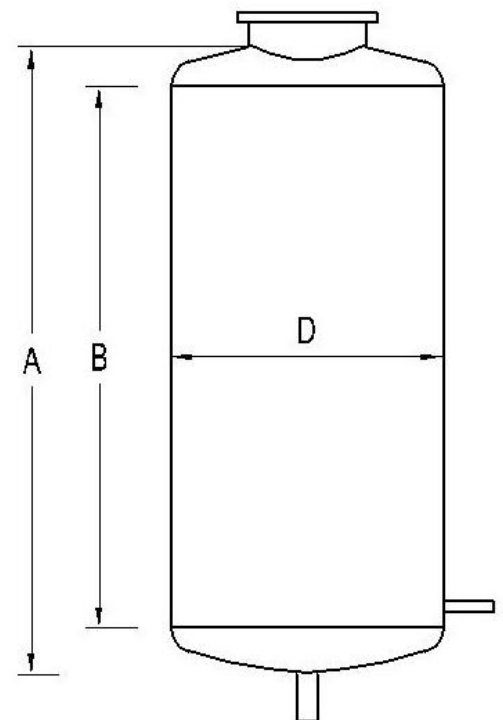
Simple to install

Safe in hazardous environments

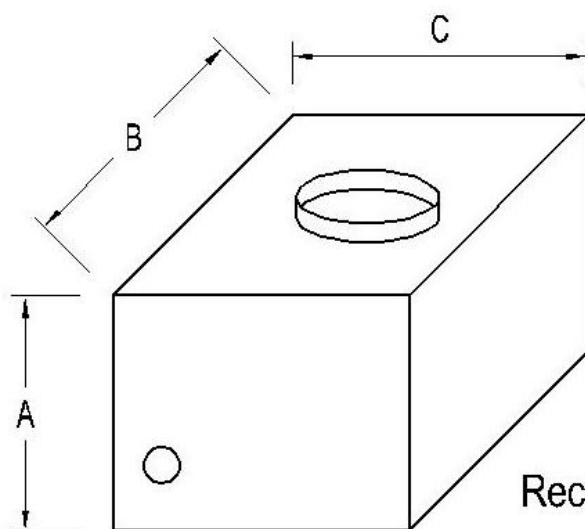
Flanged or threaded connections



Horizontal Tanks



Vertical Tanks

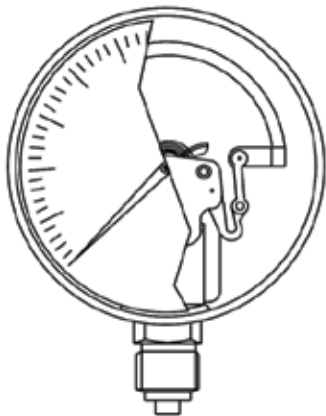


Rectangular Tanks

Tank questionnaires can be found on our web site. Simply fill in the needed details and submit it to enable us to give you a prompt quotation.

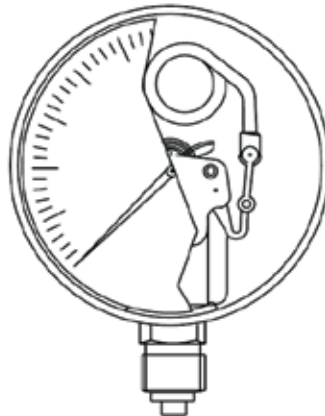
PRESSURE GAUGE RESOURCES

C-shaped Bourdon Tube



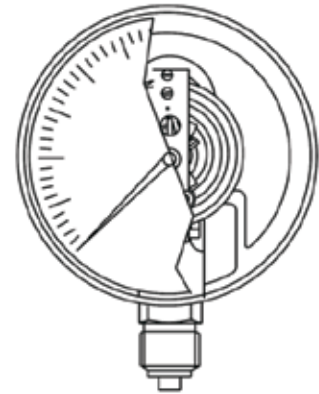
Ranges from -1 to 60 bar

Helical Bourdon Tube



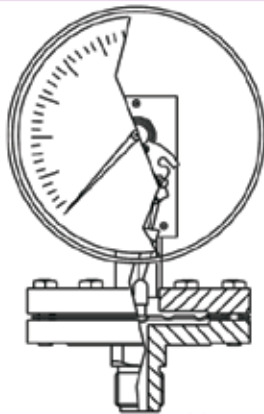
Ranges from 60 to 1600 bar

Capsule System



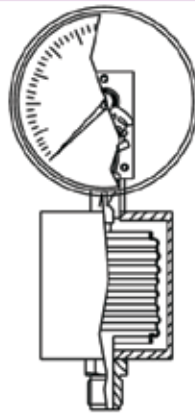
Ranges from 6 to 600 mbar

Diaphragm System



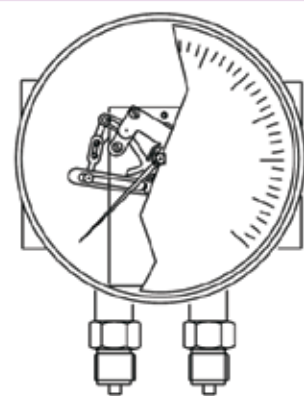
Ranges from -1 to 25 bar
Ranges from -400 to 400 mbar

Bellows System



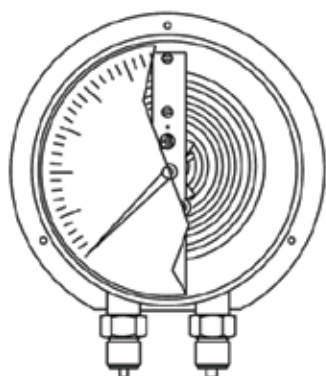
Ranges from -600 to 600 mbar

Differential Diaphragm



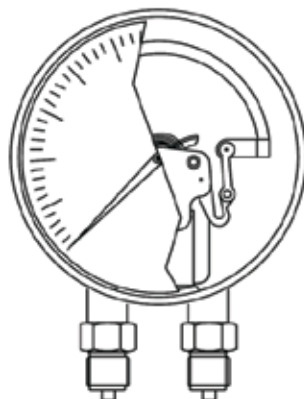
Ranges from 100 mbar to 50 bar

Differential Capsule



Ranges from 4 mbar to 400 mbar

Differential Tube



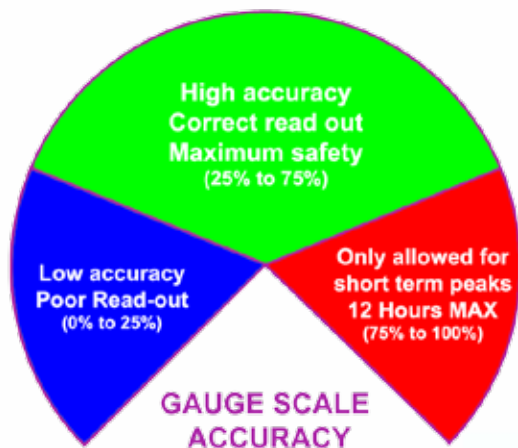
Ranges from 0.4 bar to 40 bar

Differential Piston



Ranges from 0.25 bar to 10 bar

There are a wide range of pressure gauges. It's essential to choose the right kind of gauge for your application. The material of the pressure sensing element, case and other components of the gauge must be suitable for the process fluid and application environment.



Select a gauge with a full scale pressure range of approximately twice the normal operating pressure. The maximum operating pressure should not exceed 75% of the full scale range. Selecting a gauge outside these criteria may ultimately result in fatigue failure of the Bourdon tube.

	Direct Mounting	Surface Mounting	Flush Mounting 3-hole fixing	Flush Mounting Clamp Fixing
Radial Connection	 Type 10	 Type 11	 Type 12 (not preferred)	
Centre Back Connection	 Type 20	 Type 21 (not preferred)	 Type 22	 Type 23
Offset Back Connection	 Type 30	 Type 31 (not preferred)	 Type 32	 Type 33

EN 837-1 outlines a number of approved connection positions for pressure gauges. Please visit our website to see the mounting connections available for specific types of gauges.

Table of Combinations: Pressures, Threads, Nominal Sizes & Materials						
Pressure Threads	p <250 bar	p >250 bar p <400 bar	p >400 bar p <600 bar	p >600 bar p <1000 bar	p >1000 bar p <1600 bar	Nominal Gauge Size Preferred (mm)
G 1/8						40 / 50
G 1/4						40 / 50 / 63 / 80
G 3/8						80 / 100 / 150 / 160
G 1/2 B						80 / 100 / 150 / 160 / 250
1/2-1/4 NPT EXT						80 / 100 / 150 / 160 / 250
G 1/2 B (For HP)						80 / 100 / 150 / 160 / 250

	Material with Rp 0.2 >150Nm ² (e.g. brass)
	Material with Rp 0.2 >190Nm ² (e.g. monel)
	Material with Rp 0.2 >260Nm ² (e.g. st/steel)
	Combinations not to be used

Unit	Explanation	Preferred by	Std
PSI	Pounds per square inch	USA	14.7
Pa	Pascal (Newton per square meter)	ISO & ISA (low)	101350
kPa	kiloPascal (1000 Pascals)	ISO, ISA, Canada	101.35
MPa	MegaPascal (1000 kiloPascals)	Intl Hydraulics	0.10135
kg/cm ²	kilograms per square centimeter	Japan	1.033
Bar	Bar	Europe	1.013
Atm	Atmospheres	Scientists	1
IWC	Inches of water column	USA (low)	407.2
InHg	Inches of Mercury	USA (vacuum)	29.92
IWC	Inches of water column	USA (low)	407.2
OSI	Ounces per square inch	USA (low)	235.2
mmHg	millimeters of Mercury	Europe (vacuum)	760
mmWC	millimeters of water column	Europe (low)	10343

ASME Grade	Lower 25%	Permissible Error % of Span Middle 50%	Upper 25%	Minimum Recommended Number of Test Points	Notes
4A	0.10%	0.10%	0.10%	10	Precision Test Gauge
3A	0.25%	0.25%	0.25%	5	Test Gauge
2A	0.50%	0.50%	0.50%	5	Master & Process Gauge
1A	1.00%	1.00%	1.00%	5	Instrument Gauges
A	2%	1%	2%	5	Quality Gauges
B	3%	2%	3%	3	Industrial Gauges

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PRESSURE CROSS-REFERENCE CHART									
psi	in H2O	kg/cm ²	Ms H2O	mm Hg	cm Hg	bar	mbar	kPa	
1	27.72	0.07	0.704	51.884	5.188	0.069	68.947	6.895	
0.036	1	0.0025	0.025	1.871	0.187	0.0025	2.486	0.249	
14.233	394.408	1	10.018	737.959	73.796	0.981	980.662	98.066	
1.422	39.37	0.099	1	73.796	7.379	0.098	98.066	9.807	
0.019	0.534	0.0014	0.0136	1	0.1	0.001	1.326	0.133	
0.193	5.34	0.014	0.136	10	1	0.0133	13.29	1.328	
14.503	402.164	1.02	10.211	752.47	75.247	1	1000	100	
0.0145	0.402	0.001	0.0102	0.752	0.075	0.001	1	0.1	
0.145	4.021	0.01	0.102	7.525	0.752	0.01	10	1	
1Pa = 1N/m ² 1kPa = 1kN/m ² 1MPa = 1MN/m ²									



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