## **High Static Pressure Differential Gauges**

## PPD, PRD PSD, PVD



#### **Description & Features:**

- · Versatile high static low differential pressure gauges
- Four types of sensing elements for a large variety of ranges
- Switches available for actuation
- ASME B40.100 compliant
- IP65 enclosure rating
- 5 year warranty

#### **Applications:**

 Used for filtration systems, low pressure gas installations and for leak detection in low pressure, high static systems

Charifications	Piston Gauge	Rolling Diaphragm	Small Convoluted	Convoluted Diaphragm Gauge (PVD)			
Specifications	(PPD)	Gauge (PRD)	Diaphragm Gauge (PSD)				
Dial	2.5" (63mm), 3.5" (90mm), 4.5" (115mm)	2.5" (63mm)	2.5" (63mm), 3.5" (90mm), 4.5" (115mm)	3.5" (90mm), 4.5" (115mm)			
Case	Aluminum or engineered plastic	Engineered plastic	Aluminum or engineered plastic	Aluminum or engineered plastic			
Lens	Shatter resistant acrylic (standard), safety glass (optional)	Shatter resistant acrylic (standard), safety glass (optional)	Shatter resistant acrylic (standard), safety glass (optional)	Shatter resistant acrylic (standard), safety glass (optional)			
Line Connection Locations	In-line, back or bottom	In-line (only)	In-line, back, dual top & bottom or bottom	Dual top & bottom  Dual 1/4" NPTF  SS parts with Buna N seals (standard), Hastelloy® C parts with Buna N seals (optional)			
Connections	1/4" NPTF (standard), 1/2" NPTF, 7/16"-20 SAE	1/4" NPTF (only)	1/4" NPTF (standard), 1/2" NPTF, 7/16"-20 SAE				
Wetted Parts Materials	SS piston with ceramic magnet (standard), Aluminum, Bronze or Monel <sup>®</sup> piston (optional)	SS parts with Buna N seals	SS parts with Buna N seals				
Body Material	SS, aluminum, bronze or Monel <sup>®</sup>	SS, aluminum or acetal	SS, aluminum or brass	SS, aluminum, brass, engineered plastic or Hastelloy® C			
Internals/Movement	Magnetic coupling using piston & spring	Magnetic coupling with rolling diaphragm sensor	Magnetic coupling with convoluted diaphragm sensor	Magnetic coupling with convoluted diaphragm sensor			
Migration of Media	Marginal	Zero	Zero	Zero			
Seal	Buna N (standard), PTFE, FKM, neoprene	Buna N (standard), FKM	Buna N (standard), FKM, silicone, neoprene	Buna N (standard), FKM, silicone, neoprene			
Standard Differential Ranges	0-5 thru 110 psid (0.4-8 bar)	0-5 thru 50 psid (0.4-3 bar)	0-25 thru 100 psid (1.5-7 bar)	0-5 thru 400" H <sub>2</sub> O (12.4 mbar-1 bar)			
Maximum System Pressure	Aluminum: 3,000 psi (200 bar) Bronze, Monel®: 5,000 psi (350 bar) SS: 6,000 psi (400 bar)	Aluminum, SS: 1,000 psi (70 bar) Acetal: 500 psi (35 bar)	Aluminum, SS: 3,000 psi (200 bar) Brass: 1,500 psi (100 bar)	Aluminum, brass, SS: 500 psi (35 bar) Engineered plastic: 300 psi (20 bar) Hastelloy® C: 500 psi (35 bar)			
Ambient Temperature	-40°F to 200°F (-40°C to 93°C)	-40°F to 200°F (-40°C to 93°C)	-40°F to 200°F (-40°C to 93°C)	-40°F to 200°F (-40°C to 93°C)			
Accuracy	±2% of full scale value	±5% of full scale value	±2% of full scale value	0-5 thru 9.9" $\rm H_2O$ : ±5% of full scale 0-10 thru 400" $\rm H_2O$ : ±2% of full scale			
Warning (brass internals only)	N/A	N/A		tive harm. For more			

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#### Piston Type (PPD)

- Most suitable for general purpose applications including filters, pumps and chillers.
   Uses a piston as a sensor to separate high & low pressure in response to pressure differentiation.
- Standard Differential Range: 0/5 thru 110 psid (0.4/8 bar)
- Maximum System Pressure Aluminum: 3,000 psi (200 bar)
- Maximum System Pressure Bronze, Monel<sup>®</sup>: 3,000 psi (200 bar)
- Maximum System Pressure SS: 6,000 psi (400 bar)
- Accuracy ±2% full scale ascending

#### Rolling Diaphragm Gauge (PRD)

- Operates on rolling diaphragm as a sensor, which assures complete separation of the high and low pressure ports. Suitable for use on dissimilar fluids, wet gas and process fluids with particulates present. Used in high line pressure and differential pressure ranges up to 50 psid.
- Standard Differential Range: 0/5 thru 50 psid (0.4/3 bar)
- Maximum System Pressure Aluminum, SS: 1,000 psi (70 bar)
- Maximum System Pressure Acetal: 500 psi (35 bar)
- Accuracy ±5% full scale ascending

#### Small Convoluted Diaphragm Gauge (PSD)

- Operates on a convoluted diaphragm as a sensor which separates high and low pressure
  ports. Ideally suited for use on dissimilar fluids and wet gas or fluids with high concentration
  of particles. Suitable for use with a diaphragm/chemical seal.
- Standard Differential Range: 0/25 thru 100 psid (1.5/7 bar)
- Maximum System Pressure Aluminum, SS: 3,000 psi (200 bar)
- Maximum System Pressure Brass: 1,500 psi (100 bar)
- Accuracy ±2% full scale ascending

#### Convoluted Diaphragm Gauge (PVD)

- Operates on a convoluted diaphragm sensor for low range flow, liquid and vacuum applications. Used in tank level, horizontal or vertical flow applications, filtering of very low pressure gases.
- Standard Differential Range: 0/5 thru 400" H<sub>2</sub>O (12.4 mbar/1 bar)
- Maximum System Pressure Aluminum, brass, SS: 500 psi (35 bar)
- Maximum System Pressure Engineered plastic: 300 psi (20 bar)
- Maximum System Pressure Hastelloy® C: 500 psi (35 bar)
- Accuracy 0/5 thru 9.9" H<sub>2</sub>O ±5%, 0/10 thru 400" H<sub>2</sub>O ±2%

Note: Technical drawings are available upon request

# **Small Convoluted Diaphragm Gauge** (High Static Pressure Differential)

## **PSD**

#### Series Number (for custom, non-standard product)

OFFICE		PSD-	. 🔲 .	□ -		<u> </u>	□ ·		П	
SERIES TYPE	Aluminum body / Stainless Steel internal parts, Buna-N diaphragm & seals, PTFE guide bushings, 1/4* NPTF back connections & engineered plastic gauge case (Max system pressure 3,000 psi)	A								
	Brass body / Stainless Steel internal parts, Buna-N diaphragm & seals, PTFE guide bushings, 1/4" NPTF back connections & engineered plastic gauge case (Max system pressure 1,500 psi)	В								
	(wax system pressure 1,500 year) Stainless steel body / Stainless steel internal parts, Buna-N diaphragm & seals, PTFE guide bushings, 1/4" NPTF back connections & engineered plastic gauge case	S								
	(Max system pressure 3,000 psi) Special	Z								
DIAL SIZE	2.5° Round (standard) 4.5° Round 3.5° Round anodized aluminum case		A C E							
	5.5 Round anotized aluminum case 4.5" Round anotized aluminum case Special		G Z							
SEAL	Buna-N (standard) Viton			0						
	Silicone Ethylene Propylene			2 5 Z						
CONNECTION	Special 1/4* NPTF Back connections (standard)			2	0					
	1/4" NPTF top & bottom connections (non-electrical option units only) 1/4" NPTF Bottom connections 7/16"-20 SAE straight thread 0-ring (back connections)				2 3 4					
	1/2" NPTF End / In-line connections (Max system pressure 2,000 psi) 1/2" NPTF End / In-line connections (Max system pressure 2,000 psi)				7 8 Z					
OPTIONS	Special				2	0				
OPTIONS	No additional options required (standard) Reversed High / Low process connections, not available with switch options T & W Two (2) 1/4 - 20 mounting holes					A E				
	Carbon steel 2" pipe mounting kit (not available for reversed port switch option) Stainless steel 2" pipe mounting kit (not available for reversed port switch option)					F G				
	1/2" NPTF stainless steel adapters (not available with End / In-line connections) Glycerin filled 2.5" case (not available with Safety glass or Maxi-pointer)					K L				
	Glycerin filled 4.5" case (not available with Safety glass or Maxi-pointer)					L				
	Maxi-pointer 2.5" case (not available with Safety glass) Maxi-pointer 4.5" case (not available with Safety glass)					M M				
	NACE (for sour gas applications, available in Aluminum or SS body only)					N				
	CRN (Canadian Registration Number, available in Aluminum or SS body only) Safety glass (4.5" aluminum case only)					Q S				
	Oxygen cleaning					T				
	Stainless steel tag with SS wire Stainless steel tag with SS screw					V				
	Wall mount kit					W				
	Diaphragm seal assembly Special					X Z				
SWITCH	No electrical options required (standard)  1 Reed switch in NEMA 4X / IP66 enclosure						O			
	2 Reed switches in NEMA 4X / IP66 enclosure						В			
	4/20mA transmitter in NEMA 4X / IP66 enclosure Special						T Z			
ELECTRICAL	No electrical options required (standard) SPDT 3W, 0.25A 125VAC / VDC							O A		
	SPDT 25W, 0.5A 230VAC / VDC, Normally open							В		
	4/20mA transmitter, 8/28 VDC loop power, 2% accuracy ascending from 20-100% of scale Special							T Z		
	Minimum differential range 0/25psid (example) - Maximum differential range 0/100psid - Maxim	um system pressure of 3,000 o	r 1,500psi (ba	ased on ab	ove)				0	2 5 psid