## 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

**High Static Pressure Differential Gauges** 

- ASME B40.100 compliant
- 5 year warranty

### **Applications:**

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

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

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WINTERS INSTRUMENTS

information go to www.P65Warnings.ca.gov.

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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<sup>®</sup> 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

## Rolling Diaphragm Gauge (High Static Pressure Differential)

# PRD

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

