**INSTRUMENTS** 

## PRESSURE PRODUCTS



Pressure Gauges • Diaphragm Seals • Pressure Transmitters • Sanitary Products
Pressure Switches • Pressure Accessories

"Service Inspired, Quality Driven"

RPP.0906



### **REOTEMP** Instrument Corporation

**INSTRUMENTS** 

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Established in 1965 and located in San Diego, California, REOTEMP
Instrument Corporation is recognized as a leading manufacturer of pressure and temperature instrumentation. REOTEMP provides bimetal thermometers, pressure gauges, diaphragm seals, RTD's, thermocouples, and related accessories to a variety of process markets worldwide. Recognized for high quality products, exceptional customer service, on-time deliveries and innovative engineering services, REOTEMP is an ISO 9001 certified manufacturer.

### Markets Served

Oil, Gas & Petrochemical Waste Water
Pharmaceutical Compost
Food & Beverage Military
Paper & Pulp Dairy

Mining Power Generation
Utilities Refrigeration
Marine And More!

### GENERAL SPECIFICATIONS

**REOTEMP** Pressure Gauges, manufactured under ISO 9001 quality standards, are offered in a wide variety of sizes, ranges, and configurations to meet the demands of any application. From the most rugged process gauges to the cost effective general purpose gauge, you can count on REOTEMP pressure gauges for long and reliable service.



### **General Specifications:**

Dials: Aluminum, black figures on white background. Custom dials, logos, etc. are available - consult factory.

**Dial sizes:** 1.5", 2", 2.5", 3", 3.5", 4", 4.5", and 6" dials are standard.

**Pointers:** Balanced black aluminum pointers are standard on most models. Adjustable pointers are standard on series PR and PT, and are available on certain other models.

Windows: Glass, plastic, laminated safety, and tempered glass are available.

Cases: Case materials are black steel, stainless steel, phenolic and ABS plastic. Series PC, PD, PH and PL cases are intended for dry service; all other cases can be filled at the factory, or in the field. Series PT features solid front design, which provides maximum safety with a solid wall between the window and the Bourdon tube. The entire rear of the case is designed to blow out and provide pressure relief should the Bourdon tube fail due to over pressure, corrosion, or fatigue.

**Movements:** The movement is the heart of the pressure gauge; its function is to accurately position the pointer in response to movement of the Bourdon tube. Reotemp movements are designed for smooth movement, low friction, and minimal play. Reotemp movements use high precision gears and low friction bearings to enhance performance, reduce hysteresis, and provide long-term accuracy and reliability. The effects of vibration on the movement can be reduced by liquid filling of the case, which both dampens movement, and lubricates contact points. For dry gauges, a special silicone dampened movement can be installed.

**Bourdon Tubes:** To suit a variety of media applications, Reotemp Bourdon tubes are available in phosphor bronze, AISI 316 stainless steel, and monel. If the process fluid is not compatible with any of these materials, a chemical (diaphragm) seal may be necessary. Reotemp Bourdon tubes undergo special heat treating to reduce hysteresis effects, relieving localized stresses in the solder or weld zones and enhancing long-term accuracy of the gauge.

**Warranty:** REO*TEMP* warrants all pressure gauges and pressure products against defective workmanship or materials under normal use and service for one year following date of shipment. Reotemp's liability is limited to repair or replacement at the factory, shipping charges prepaid. This warranty does not cover deterioration from normal wear and tear, exposure to corrosive materials, exposure to temperatures or pressures in excess of those recommended, excessive vibration, or forces or abrasion which cause deformation of component parts. This warranty is expressly in lieu of any other warranty, expressed or implied. Reotemp shall not be liable for any direct or consequential damages arising out of any defects or from any cause whatsoever.

### Pressure Gauge Product Selection

### **APPLICATION INFORMATION**

**WARNING:** All gauge components should be selected after consideration of the pressure, temperature, and media characteristics, to prevent mis-application problems. Mis-application or improper installation can cause gauge damage or failure, which can result in damage to other equipment or personal injury. We suggest that users of pressure gauges become familiar with ANSI-B40.1 entitled "Gauges, Pressure and Vacuum indicating Dial Type - Elastic Element." This specification is available from American Society of Mechanical Engineers, website: www.americansocietyofmechanicalengineers.com.

To ensure safety, accuracy, and gauge life, good practice requires consideration of the following factors when selecting a pressure gauge:

**Pressure Ranges:** Reotemp Bourdon tube pressure gauges can measure pressures from full vacuum to 40,000 psi. Generally, a range of twice the working pressure is recommended, with maximum working pressure not exceeding 75% of the range. If pulsation occurs, working pressure should not exceed 65% of the range. Never use a gauge at pressure greater than the maximum range on the dial. Pounds per square inch (psi) ranges are standard, and several alternate single and dual ranges are available (see Ranges, p.14).

**Pressurized Fluid Properties Composition:** All pressure gauge components should be selected to suit the characteristics of the fluid being measured. For steam service, a siphon is required. For corrosive chemicals, stainless steel (or monel) wetted parts, or a diaphragm seal should be considered (monel wetted parts are available on special order). For fluids that solidify or leave deposits, a diaphragm seal should be considered. For oxidizing fluids, no oil should be present.

**Process Temperature:** Gauges with stainless steel wetted parts have welded tube and socket, and will withstand 750°F (400°C). Gauges with soldered copper alloy joints will withstand 150°F (65°C); with silver brazed joints, 250°F (120°C). Maximum process temperatures should only be reached intermittently to avoid rupture, and may result in loss of calibration or damage to other parts of the gauge.

**Ambient Temperature:** Normal ambient temperature limits for Reotemp pressure gauges are  $-30^{\circ}$ F to  $150^{\circ}$ F ( $-35^{\circ}$ C to  $+65^{\circ}$ C) for dry gauges, and  $23^{\circ}$ F to  $140^{\circ}$ F ( $-5^{\circ}$ C to  $+60^{\circ}$ C) for glycerine filled gauges. Reotemp gauges are calibrated at  $70^{\circ}$ F ( $20^{\circ}$ C). Change in ambient temperature causes +/-0.3% error per  $18^{\circ}$ F ( $10^{\circ}$ C) rise/fall, respectively. Ambient error for Reotemp test gauges is +/-0.05% per  $+/-18^{\circ}$ F ( $10^{\circ}$ C), respectively.

In very hot ambient conditions, a gauge can be remotely mounted using a diaphragm seal and/or capillary, to place the gauge in a cooler spot.

Moisture and Weather Effects: Case material should be chosen with atmospheric conditions in mind. For outdoor use, stainless steel or plastic cases are recommended. Case filling with glycerine can prevent condensation in case.

**Severe Conditions:** In applications involving severe pulsation, the use of snubbers and/or restrictors is recommended. Also, for vibrating or pulsating applications, liquid filling will help prevent wear and extend the service life of the gauge. Glycerine is the standard fill material. Also available (with special gasketing) are silicone and Halocarbon. Halocarbon, though quite costly, is recommended for service with oxidizing agents such as oxygen, hydrogen peroxide, chlorine, nitric acid, etc.

Mounting Method: NPT connections are located in the center back ( , ), lower back ( , ), or bottom ( ) of the case in most models. Rear flanges (also known as "back flanges" or "wall flanges") are available for surface mounting. For panel mounting, front flanges or "U" or "O" clamps are available. Special threads (BSP, Metric, SAE) are also available; consult Reotemp Customer Service. All Reotemp pressure gauges should be mounted in the upright position.

**Accuracy:** Gauges are available with accuracies from  $\pm -0.25\%$  (ASME grade 3A) to  $\pm -3/2/3\%$  (ASME grade B). Percent accuracies are expressed as percent of full scale. As a rule, higher accuracies are found in larger gauges, and/or reflect more costly components.

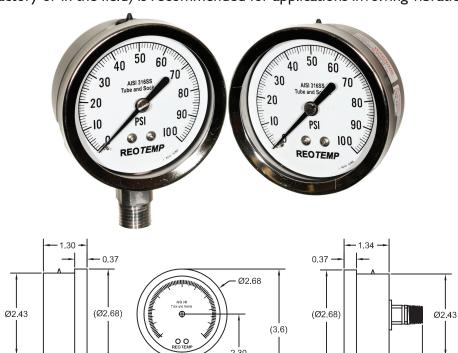


### 2.5" Heavy-Duty Repairable Stainless Gauge

**INSTRUMENTS** 

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REOTEMP's Series PR gauge offers rugged, all-welded stainless steel construction ideal for heavy-duty industrial applications. The stainless steel case, tube, and socket are welded together for superior case sealing and gauge integrity. The twist-off bayonet ring offers easy-access for field repair and calibration services. Liquid filling (at the factory or in the field) is recommended for applications involving vibration.



### Features/Benefits:

- All-Welded S.S. Construction
- Removable Bayonet Ring
- Fillable Case
- Rugged, Long-Lasting Design

### Specifications:

**Case: 304SS** 

Ring: S.S. Twist-Off Bayonet

Wetted Material: 316SS (monel available)

Lens: Plastic (others available)

Dial: Aluminum, Black on

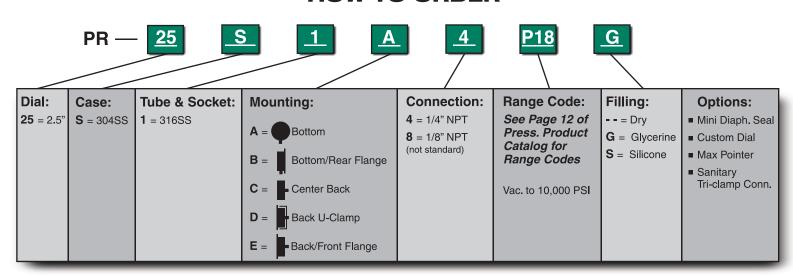
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Pointer Black Aluminum, Adjustable

Accuracy: 2 - 1 - 2%, Grade A

### **HOW TO ORDER**

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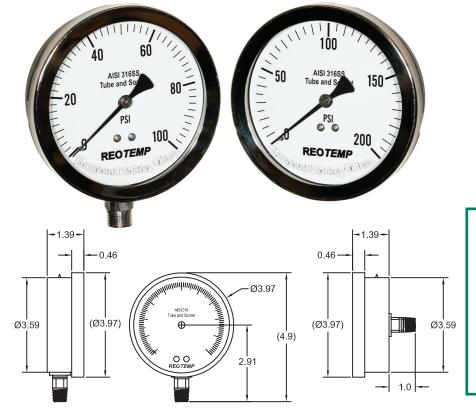
\*dimensions in inches

### 3.5" Heavy-Duty Repairable Stainless Gauge

#### INSTRUMENTS

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REOTEMP's Series PR gauge offers rugged, all-welded stainless steel construction ideal for heavy-duty industrial applications. The stainless steel case, tube, and socket are welded together for superior case sealing and gauge integrity. The twist-off bayonet ring offers easy-access for field repair and calibration services. Liquid filling (at the factory or in the field) is recommended for applications involving vibration.



### Features/Benefits:

- All-Welded S.S. Construction
- Removable Bayonet Ring
- Fillable Case
- Rugged, Long-Lasting Design

### Specifications:

Case: 304SS

Ring: S.S. Twist-Off Bayonet

Wetted Material: 316SS

Lens: Plastic (others available)

Dial: Aluminum, Black on

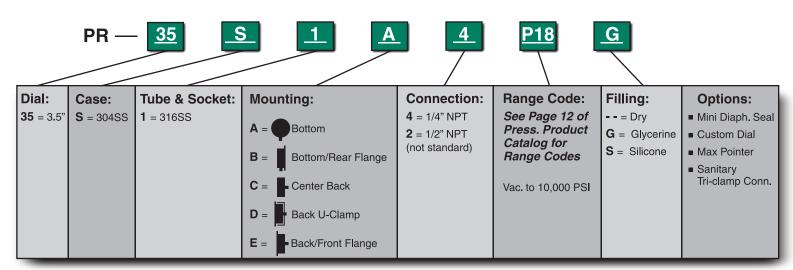
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Pointer: Black Aluminum, Adjustable

Accuracy: 2 - 1 - 2%, Grade A

#### \*dimensions in inches

### **HOW TO ORDER**



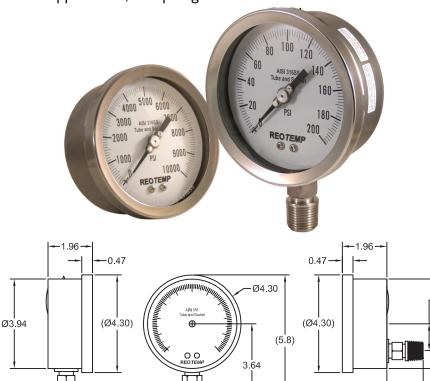
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### 4" Heavy-Duty Repairable Stainless Gauge

#### **INSTRUMENTS**

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REOTEMP's Series PR gauge offers rugged, all-welded stainless steel construction ideal for heavy-duty industrial applications. The stainless steel case, tube, and socket are welded together for superior case sealing and gauge integrity. The twist-off bayonet ring offers easy-access for field repair and calibration services. Liquid filling (at the factory or in the field) is recommended for applications involving vibration. For high-corrosive, high-temp, or severe service applications, a diaphragm seal is recommended.



\*dimensions in inches

#### Features/Benefits:

- All-Welded S.S. Construction
- Removable Bayonet Ring
- Liquid Fillable Case
- Rugged, Long-Lasting Design
- Safety Blow-out Relief

### **Specifications:**

**Case:** 304SS

Ring: S.S. Twist-Off Bayonet

Wetted Material: 316SS (Monel available)

Lens: Tempered Safety Glass

(others avail.)

Dial: Aluminum, Black on White

Background

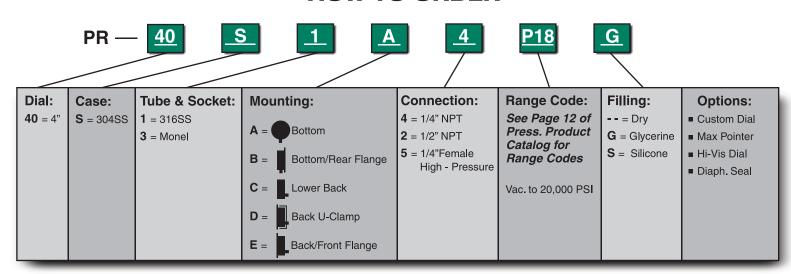
Pointer: Black Aluminum, Adjustable

Accuracy: 1%, Grade 1A

#### **HOW TO ORDER**

1.18

Ø3.94



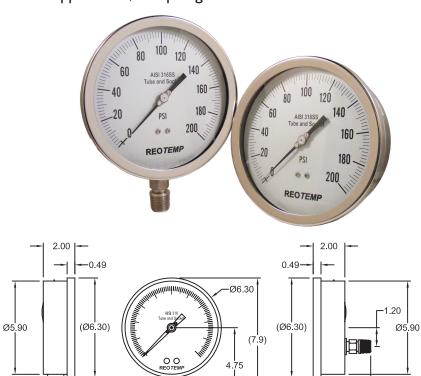
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### 6" Heavy-Duty Repairable Stainless Gauge

**INSTRUMENTS** 

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REOTEMP's Series PR gauge offers rugged, all-welded stainless steel construction ideal for heavy-duty industrial applications. The stainless steel case, tube, and socket are welded together for superior case sealing and gauge integrity. The twist-off bayonet ring offers easy-access for field repair and calibration services. Liquid filling (at the factory or in the field) is recommended for applications involving vibration. For high-corrosive, high-temp, or severe service applications, a diaphragm seal is recommended.



\*dimensions in inches

### Features/Benefits:

- All-Welded S.S. Construction
- Removable Bayonet Ring
- Liquid Fillable Case
- Rugged, Long-Lasting Design
- Safety Blow-out Relief

### **Specifications:**

Case: 304SS

Ring: S.S. Twist-Off Bayonet

Wetted Material: 316SS

Lens: Tempered Safety Glass (others avail.)

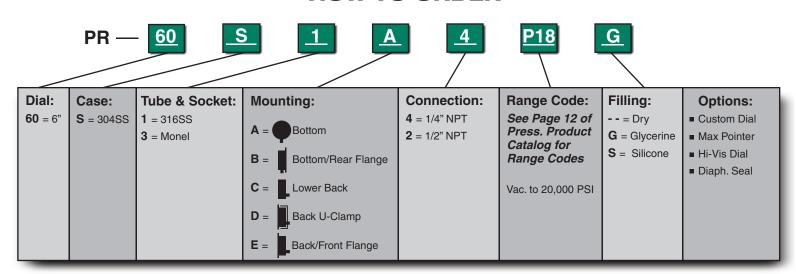
Dial: Aluminum, Black on White

Background

Pointer: Black Aluminum, Adjustable

Accuracy: 1%, Grade 1A

#### **HOW TO ORDER**



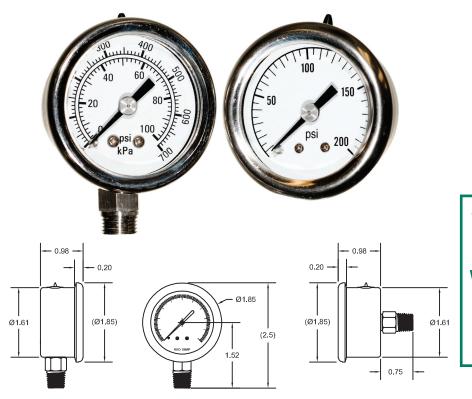
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### 1.5" Industrial Stainless Steel Gauge

INSTRUMENTS

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REOTEMP's Series PM features stainless steel tube, socket and case, making the gauge resistant to corrosion from both environment and media. Liquid filling is recommended for severe service. The economical and attractive crimp ring design, along with a variety of convenient panel mounting adapters, make this popular gauge the right choice for many applications.



### Features/Benefits:

- S.S. Case & Crimped Ring
- Stainless Steel Wetted Parts
- Glycerine Filled or Dry/Fillable

### Specifications:

Case: 304SS

Ring: Stainless Steel, Crimped Wetted Material: 316SS w/ restrictor screw

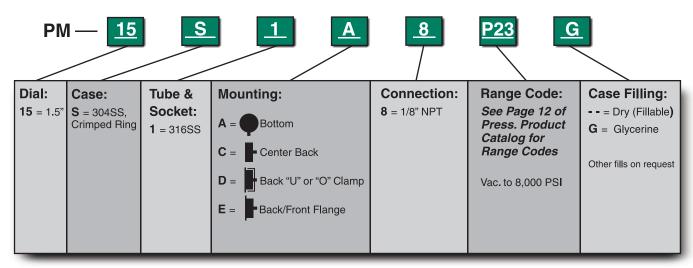
Lens: Plastic

Dial: Aluminum, Black Figures on

White Background

Accuracy: 3-2-3%, Grade B

### **HOW TO ORDER**



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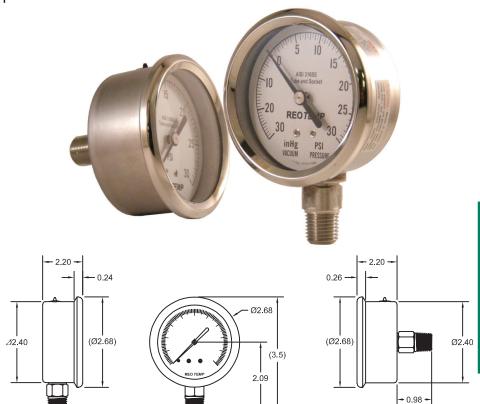
### 2.5" Industrial Stainless Steel Gauge

INSTRUMENTS

Measuring your world since 1965

REOTEMP's Series PM features stainless steel tube, socket and case, making the gauge resistant to corrosion from both environment and media. Liquid filling is recommended for severe service. The economical and attractive crimp ring design, along with a variety of convenient panel mounting adapters, make this popular gauge the right choice for many

applications.



### Features/Benefits:

- S.S. Case & Crimped Ring
- Stainless Steel Wetted Parts
- Glycerine Filled or Dry/Fillable

### **Specifications:**

Case: 304SS

Ring: Stainless Steel, Crimped

Wetted Material: 316SS w/ restrictor screw

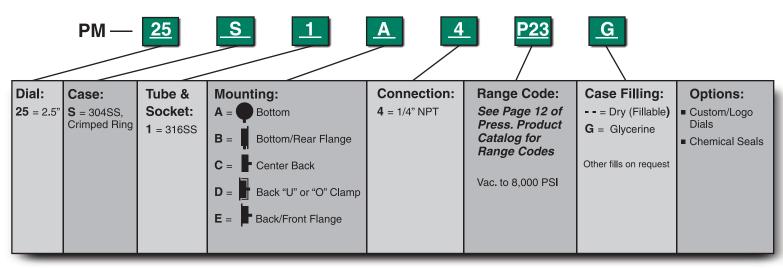
Lens: Plastic

Dial: Aluminum, Black Figures on

White Background

Accuracy: 2-1.6-2%, Grade B+

### **HOW TO ORDER**



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### 4" Industrial Stainless Steel Gauge

INSTRUMENTS

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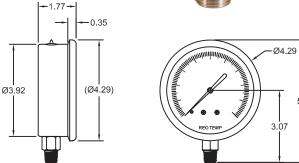
REOTEMP's Series PM features stainless steel tube, socket and case, making the gauge resistant to corrosion from both environment and media. Liquid filling is recommended for severe service. The economical and attractive crimp ring design, along with a variety of convenient panel mounting adapters, make this popular gauge the right choice for many

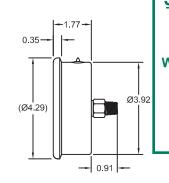
applications.



### Features/Benefits:

- S.S. Case & Crimped Ring
- Stainless Steel Wetted Parts
- Field Fillable





### **Specifications:**

Case: 304SS

Ring: Stainless Steel, Crimped Wetted Material: 316SS w/ restrictor screw

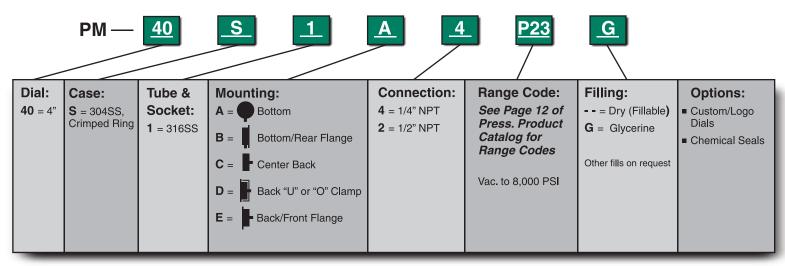
Lens: Plastic

Dial: Aluminum, Black Figures on

White

Accuracy: 1.6% Full Scale, Grade A+

### **HOW TO ORDER**



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### 1.5" Industrial Stainless/Brass Gauge

**INSTRUMENTS** 

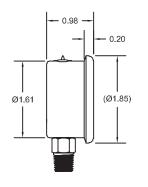
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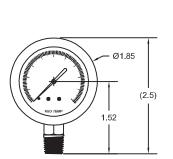
REOTEMP's Series PG gauge is an economical choice where ambient corrosion and vibration are of concern. It's stainless steel case and ring off excellent corrosion resistance, and the PG is fillable for vibration applications. Suitable for all fluids compatible with copper alloys.

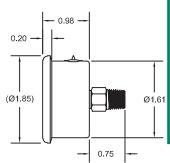


### Features/Benefits:

- Stainless Steel Case
- Copper Alloy Wetted Parts
- Glycerine Filled or Dry/Fillable
- Convenient Panel Mounting Adapters







### Specifications:

Case: Stainless Steel

Ring: Stainless Steel Crimped

Wetted Material: Copper Alloy

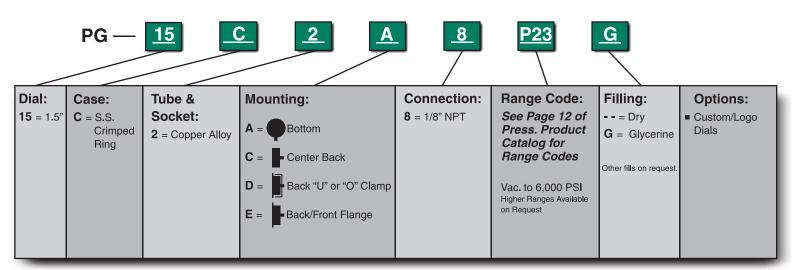
Lens: Plastic

Dial: Aluminum, Black on White

**Temperature:** 0° to 150°F

Accuracy: 3-2-3%, Grade B

### **HOW TO ORDER**

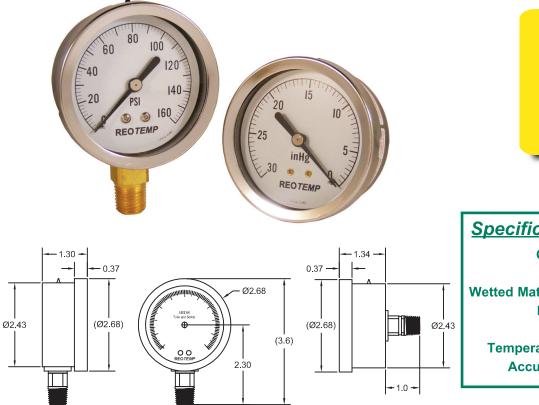


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### 2.5" Repairable Stainless/Brass Gauge

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REOTEMP's Series PG gauge is an economical choice where ambient corrosion and vibration are of concern. It's stainless steel case and ring off excellent corrosion resistance, and the PG is fillable for vibration or pulsation applications. Suitable for all fluids compatible with copper alloys.



### Features/Benefits:

- Stainless Steel Case
- Copper Alloy Wetted Parts
- Glycerine Filled or Dry/Fillable
- Removable Bayonet

### Specifications:

Case: Stainless Steel

Ring: Stainless Steel Bayonet Ring

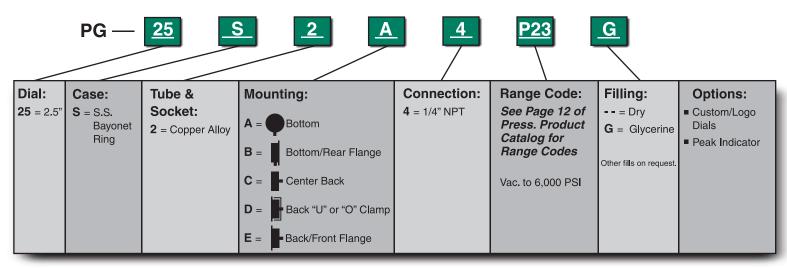
Wetted Material: Copper Alloy

Lens: Glass

Dial: Aluminum, Black on White

Temperature: 0° to 150°F Accuracy: 2-1-2%, Grade A

### **HOW TO ORDER**



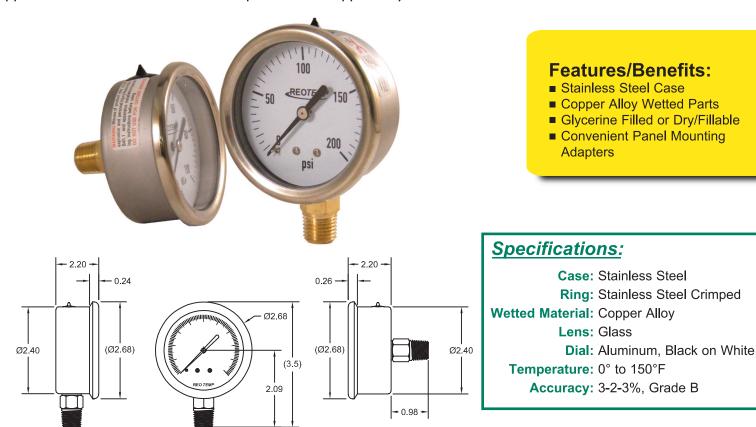
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### 2.5" Industrial Stainless/Brass Gauge

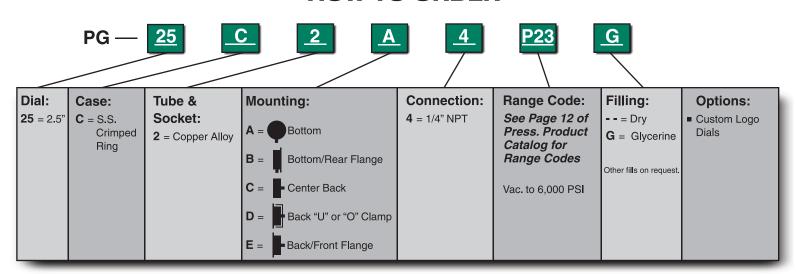
**INSTRUMENTS** 

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REOTEMP's Series PG gauge is an economical choice where ambient corrosion and vibration are of concern. It's stainless steel case and ring off excellent corrosion resistance, and the PG is fillable for vibration or pulsation applications. Suitable for all fluids compatible with copper alloys.



### **HOW TO ORDER**



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### 4" Industrial Stainless/Brass Gauge

INSTRUMENTS

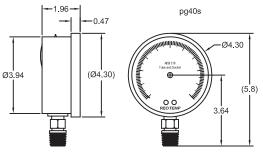
Measuring your world since 1965

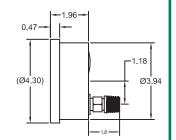
REOTEMP's Series PG gauge is an economical choice where ambient corrosion and vibration are of concern. It's stainless steel case and ring offer excellent corrosion resistance, and the PG is fillable for vibration or pulsation applications. Suitable for all fluids compatible with copper alloys.



### Features/Benefits:

- Stainless Steel Case
- Copper Alloy Wetted Parts
- Glycerine Filled or Dry/Fillable
- Removable Bezel with Adjustable Pointer





### Specifications:

Case: Stainless Steel

Ring: Stainless Steel Bayonet Ring

Wetted Material: Copper Alloy w/Restrictor Screw

Lens: Tempered Safety Glass

Dial: Aluminum, Black on White

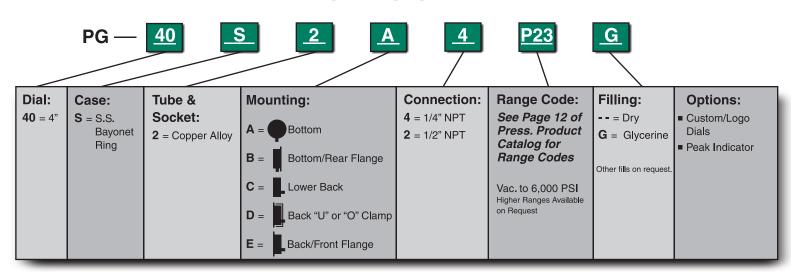
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Temperature: 0° to 150°F

emperature. O to 150 i

Accuracy: 1.0% Full Scale, Grade 1A

### **HOW TO ORDER**



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### 4" Industrial Stainless/Brass Gauge

INSTRUMENTS

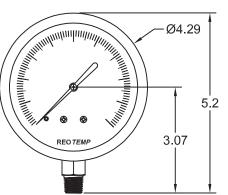
Measuring your world since 1965

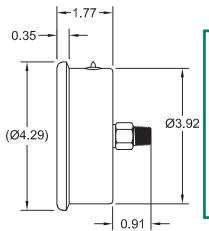
REOTEMP's Series PG gauge is an economical choice where ambient corrosion and vibration are of concern. It's stainless steel case and ring off excellent corrosion resistance, and the PG is fillable for vibration or pulsation applications. Suitable for all fluids compatible with copper alloys.



### Features/Benefits:

- Stainless Steel Case
- Copper Alloy Wetted Parts
- Glycerine Filled or Dry/Fillable
- Convenient Panel Mounting A Adapters





### **Specifications:**

Case: Stainless Steel

Ring: Stainless Steel Crimped Ring

Wetted Material: Copper Alloy

Lens: Plastic

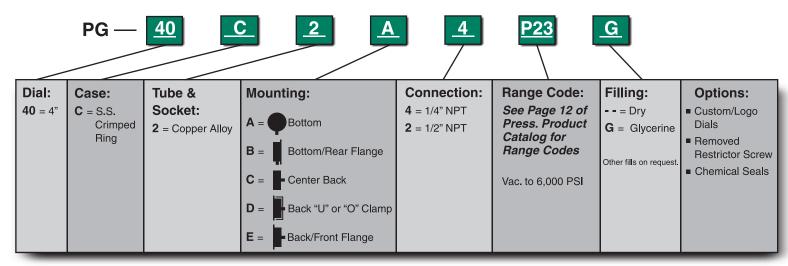
Dial: Aluminum, Black on White

Background

**Temperature**: 0° to 150°F

Accuracy: 1.6-1-1.6%, Grade A+

### **HOW TO ORDER**



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### 1.5" General Purpose Gauge (Dry)

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REOTEMP's Series PD offers a wide variety of economical gauges for applications where ambient or process corrosion are not of concern. Suitable for non-vibrating applications.



#### Features/Benefits:

- Black Steel or Stainless Cases
- Copper Alloy Wetted Parts
- Cost Effective Design

### Specifications:

Case: Black Painted Steel or S.S.

Ring: Snap-In Window or Push-On Bezel

Wetted Material: Copper Alloy

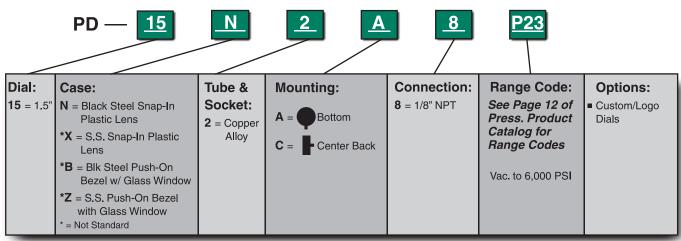
Lens: Snap-In Plastic or Glass

Dial: Aluminum, Black Figures on White

Temperature: -10° to 140°F
Accuracy: 3-2-3%, Grade B

### 

#### **HOW TO ORDER**



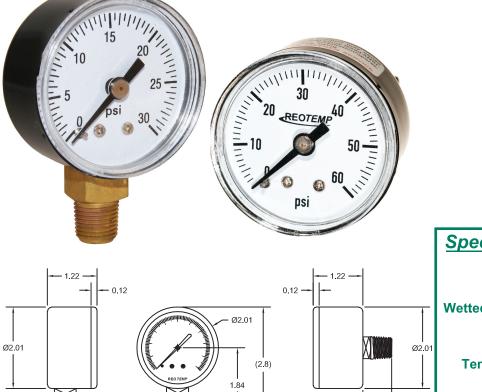
Distributed by:

### 2" General Purpose Gauge (Dry)

INSTRUMENTS

Measuring your world since 1965

REOTEMP's Series PD offers a wide variety of economical gauges for applications where ambient or process corrosion are not of concern. Suitable for non-vibrating applications.



#### Features/Benefits:

- Black Steel or Stainless Cases
- Copper Alloy Wetted Parts
- Cost Effective Design

### Specifications:

Case: Black Painted Steel or S.S.

Ring: Snap-In Window or Push-On Bezel

Wetted Material: Copper Alloy

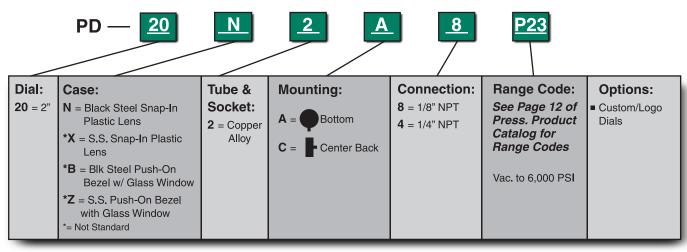
Lens: Snap-In Plastic or Glass

Dial: Aluminum, Black Figures on White

Temperature: -10° to 140°F Accuracy: 3-2-3%, Grade B

### **HOW TO ORDER**

0.69



Distributed by:

### 2.5" General Purpose Gauge (Dry)

INSTRUMENTS

Measuring your world since 1965

REOTEMP's Series PD offers a wide variety of economical gauges for applications where ambient or process corrosion are not of concern. Suitable for non-vibrating applications.



(3.3)

2.01

### Features/Benefits:

- Black Steel or Stainless Cases
- Copper Alloy Wetted Parts
- Cost Effective Design

### Specifications:

Case: Black Painted Steel or S.S.

Ring: Snap-In Window or Push-On Bezel

Wetted Material: Copper Alloy

Lens: Snap-In Plastic or Glass

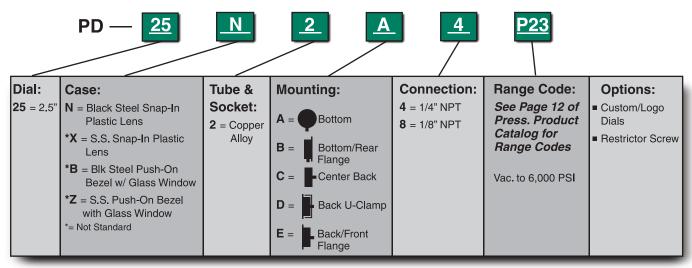
Dial: Aluminum, Black Figures on White

Temperature: -10° to 140°F
Accuracy: 3-2-3%, Grade B

### **HOW TO ORDER**

0.67

Ø2.48



Distributed by:

Measuring your world since 1965

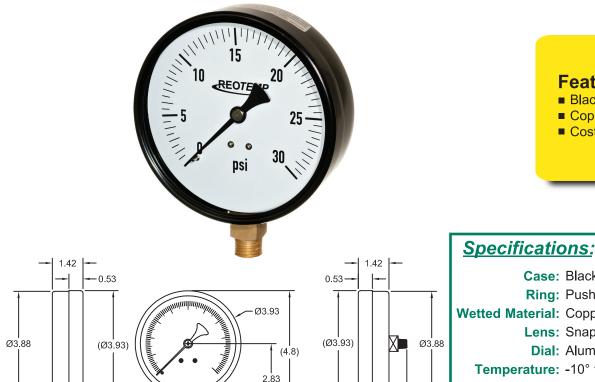
Ø2.48

### 4" General Purpose Gauge (Dry)

INSTRUMENTS

Measuring your world since 1965

REOTEMP's Series PD offers a wide variety of economical gauges for applications where ambient or process corrosion are not of concern. Suitable for non-vibrating applications.



### Features/Benefits:

- Black Steel
- Copper Alloy Wetted Parts
- Cost Effective Design

Case: Black Painted Steel or S.S. Ring: Push-On Bezel or Bayonet

Wetted Material: Copper Alloy

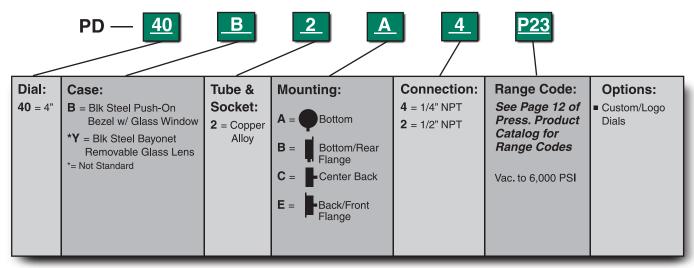
Lens: Snap-In Plastic or Glass

Dial: Aluminum, Black Figures on White

Temperature: -10° to 140°F

**Accuracy: 3-2-3%** 

### **HOW TO ORDER**



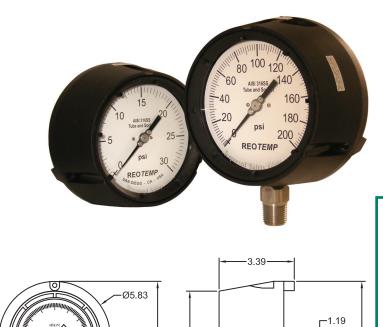
Distributed by:

### 4.5" Industrial Process Gauge

INSTRUMENTS

Measuring your world since 1965

REOTEMP's Series PT Process Gauge is designed to withstand corrosive atmospheres and media, pulsation and vibration; a very rugged gauge engineered for the process industries. The solid front/blowout back provides a high degree of user safety.



Ø4.80

(7.0)

4.06

#### Features/Benefits:

- Solid Front/Blowout Back
- All Stainless Steel Internal Parts
- Adjustable Pointer
- Glycerine Filled or Dry/Fillable
- Repairable

### Specifications:

Case: "Phenolic" (Fiberglass Reinforced Thermoplastic) or Stainless Steel Solid Front, Blowout Back

Ring: Fiberglass Reinforced Thermoplastic

Screwed Ring, Removable

Lens: Tempered Safety Glass (others available)

Dial: Aluminum, Black Figures on White Background

Pointer: Adjustable, Aluminum, Black Wetted Parts: 316SS Socket/316L Tube

Wetted Faits. 51055 Sockers for Tube

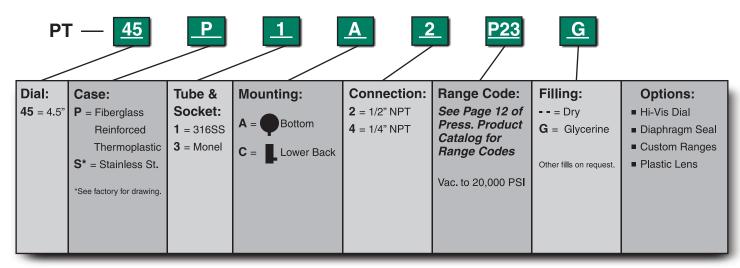
**Temperature:** Ambient: 0 to 150°F (Glycerine Filled)

Process: -30 to 400°F (Dry) **Accuracy:** 0.5% Full Scale, Grade 2A

### **HOW TO ORDER**

5.55

1.5



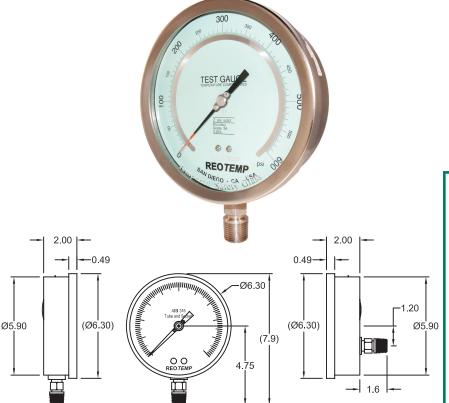
Distributed by:

### 6" Test Gauge Industrial, Stainless Steel

**INSTRUMENTS** 

Measuring your world since 1965

REOTEMP's Series PL test gauge is designed for use in laboratories, testing or recalibration facilities, or wherever accuracy and repeatability are of prime importance. Rugged, all-welded stainless steel construction makes this gauge suitable for almost any test application. Reading error due to parallax is eliminated by use of a knife-edge pointer and mirror dial.



#### Features/Benefits:

- S.S. Case & Bayonet Ring
- S.S. Wetted Parts, Repairable
- All-Welded Construction

### Specifications:

Case: 304 Stainless Steel (non-fillable)

Ring: S.S., Bayonet, Repairable

Wetted Material: 316SS

Lens: Tempered Safety Glass

Dial: Aluminum, Black Figures on Light

Background, Anti-Parallax Mirror

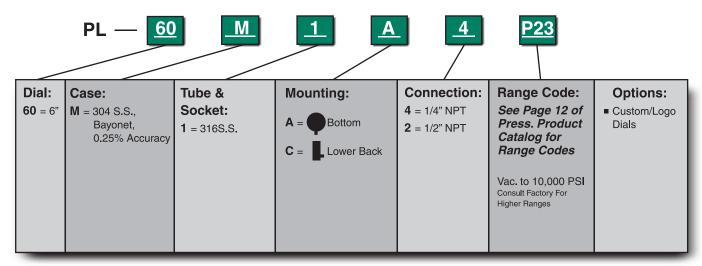
Pointer: Micro-Adjustable, Knife Edge

Temperature: Calibrated at 70°F (20°C)

Ambient Temp. Error: +.03% Per +10°F & -.03% Per -10°F

Accuracy: 0.25% Full Scale

### **HOW TO ORDER**



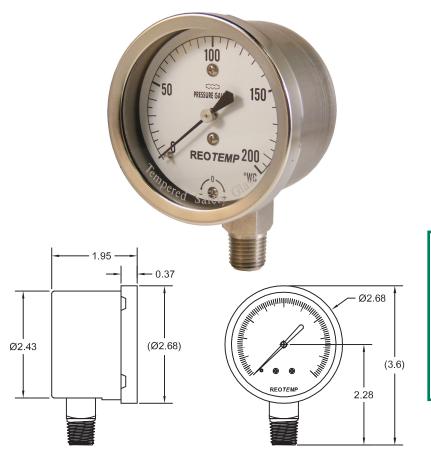
Distributed by:

### 2.5" Stainless Low Pressure Gauge

#### **INSTRUMENTS**

Measuring your world since 1965

REOTEMP's Series PC low pressure gauges offer accurate and reliable measurements of gaseous media. Offered with stainless steel internals, the Series PC25S is designed to withstand corrosive media and ensure a long-lasting instrument.



#### Features/Benefits:

- Sensitive Diaphragm/ Capsule Mechanism
- 316 Stainless Steel or Brass
- Zero Reset on Dial

### Specifications:

Case: 304 S.S.

Ring: Bayonet, Twist-off Ring

Wetted Material: 316SS & Copper Alloy

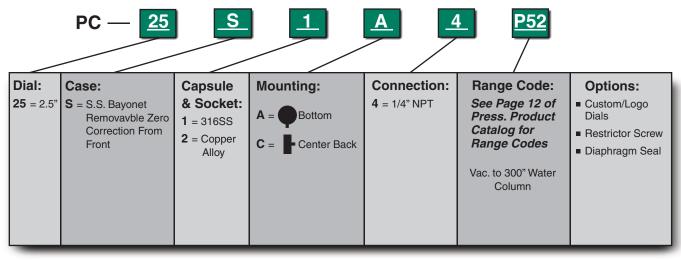
Lens: Tempered Safety Glass

Dial: Aluminum, Black Figures on White

Temperature: 0° to 150°F

Accuracy: 1.6% Full Scale, Grade A+

### **HOW TO ORDER**



Distributed by:

### 2.5" Low Pressure Diaph. (Capsule) Gauge

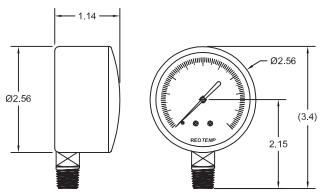
Measuring your world since 1965

REOTEMP's Series PC gauges are designed for use in low pressure applications, such as exhaust systems, blowers, etc., with dry gasses that are compatible with bronze and brass.



### Features/Benefits:

- Sensitive Diaphragm/ Capsule Mechanism
- Black Steel
- Zero Reset



### **Specifications:**

Case: Black Painted Steel
Ring: Snap In Window
Wetted Material: Copper Alloy

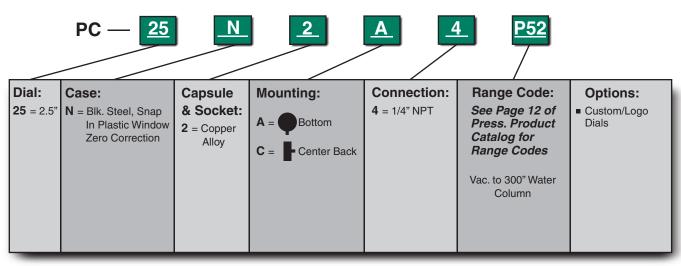
Lens: Snap In Plastic

Dial: Aluminum, Black Figures on White

Temperature: 0° to 150°F

Accuracy: 2-1.6-2%, Grade B+

### **HOW TO ORDER**



Distributed by:

### 4" Stainless Low Pressure Gauge

**INSTRUMENTS** 

Measuring your world since 1965

REOTEMP's Series PC low pressure gauges offer accurate and reliable measurements of gaseous media. Offered with stainless steel internals, the Series PC40S is designed to withstand corrosive media and ensure a long-lasting

### Features/Benefits:

- Sensitive Diaphragm/ Capsule Mechanism
- 316 Stainless Steel or Brass
- Zero Reset on Dial

### Specifications:

Case: 304 S.S.

Ring: Bayonet, Twist-off

Wetted Material: Copper Alloy or 316SS

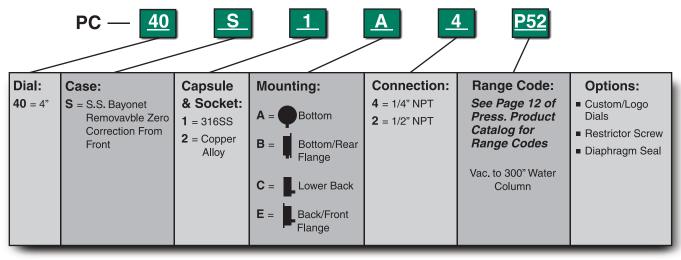
Lens: Tempered Safety Glass

Dial: Aluminum, Black Figures on White

Temperature: 0° to 150°F

Accuracy: 1.6% Full Scale, Grade A+

### **HOW TO ORDER**



Distributed by:

### 4.5" Low Pressure Diaph. (Capsule) Gauge

INSTRUMENTS

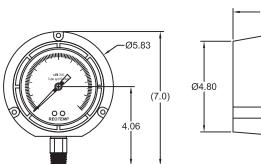
Measuring your world since 1965

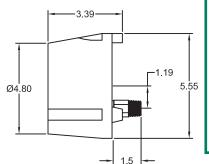
REOTEMP's Series PC low pressure gauges offer accurate and reliable measurements of gaseous media. Offered with stainless steel internals, the Series PC45P is designed to withstand corrosive media and ensure a long-lasting instrument.



### Features/Benefits:

- Sensitive Diaphragm/ Capsule Mechanism
- Solid Front/Blowout Back
- Zero Reset





### Specifications:

Case: "Phenolic" (Fiberglass Reinforced

Thermoplastic Solid Front, Blowout Back

Ring: Turret-style, Screw-off

Wetted Material: 316SS

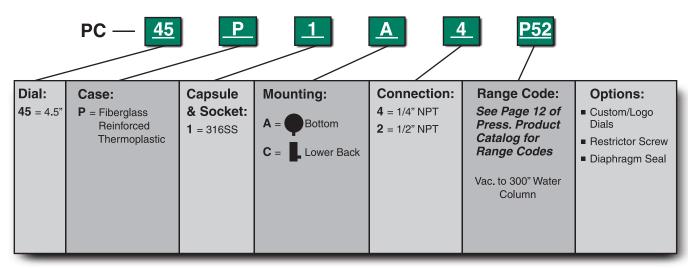
Lens: Tempered Safety Glass

Dial: Aluminum, Black Figures on White

Temperature: 0° to 150°F

Accuracy: 1.6% Full Scale, Grade A+

### **HOW TO ORDER**



Distributed by:

### 6" Stainless Low Pressure Gauge

Measuring your world since 1965

REOTEMP's Series PC low pressure gauges offer accurate and reliable measurements of gaseous media. Offered with stainless steel internals, the Series PC60S is designed to withstand corrosive media and ensure a long-lasting instrument.



### Features/Benefits:

- Sensitive Diaphragm/ Capsule Mechanism
- 316 Stainless Steel
- Zero Reset or Dial

### Specifications:

Case: 304 S.S.
Ring: Bayonet

Wetted Material: 316SS

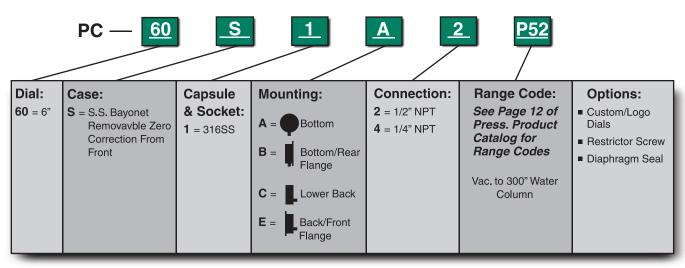
Lens: Tempered Safety Glass

Dial: Aluminum, Black Figures on White

Temperature: 0° to 150°F

Accuracy: 1.6% Full Scale, Grade A+

### **HOW TO ORDER**



Distributed by:

### OTHER PRESSURE GAUGES

#### **Series DD Duplex Gauge**



- Measures two sources simultaneously
- 4.5" & 6.0" Dial
- Brass or 316SS Internals
- 1% Accuracy

#### Series PA



- Rugged, Corrosion-Resistant ABS Case, 4" Dial
- Fillable, Field Repairable
- Stainless or Copper Alloy Tube/Socket

### Series PH "Schaeffer" Gauge



- Stainless Diaphragm isolates gauge from process 4"& 6" dial
- Mechanical link no fluid necessary
- Well Suited for Low Pressure, High Corrosion use

#### **Series PN Boiler Gauge**



- Heavy Duty Black Steel Case
- 4.5" & 6.0" Dials
- 1%Accuracy, Full scale
- Brass Tube & Socket
- Plastic Lens

### Series PN Contractor Gauge



- S.S Case, Brass Tube/Socket
- 4 1/2" Dial
- 1 % Accuracy, Full Scale
- Non-fillable

#### Series PI Aluminum Case Process Gauge



- 4 1/2" or 6" Dial
- Ring Flange/ Hinged Front
- 0.5% Accuracy, Full Scale
- 316 S.S. Tube/Socket

#### **REFRIGERATION GAUGE**



- Several Ammonia & refrigerant ranges
- 2 1/2" & 6" Dials
- Custom Dials available

#### Series PRT Transmitter Gauge



- Built in Transmitter
- All Stainless Steel
- 4" or 6" Dial
- Fillable
- 1% Accuracy

#### **Series PRS Switch Gauge**



- Built in Micro Switch
- 2.5" Dial, 316SS Case
- 0.1 A @ 30 Vdc Switch

## Pressure Gauge Ranges & Codes

Below are codes for standard pressure ranges.

Many other ranges are available - consult REO*TEMP*or your REO*TEMP* distributor.

	Vacuum Ranges												
	psi DUAL SCALE psi & metric Single Scale-METRIC												
	psi		psi & bar psi & kg/cm2				psi & kPa		oar	k	g/cm2		kPa
Code	Range	Code	Range	Code	Range	Code	Range	Code	Range	Code	Range	Code !	Range
P01	-30/0 "Hg	D01	"Hg & -1/0 bar	G01	"Hg & -1/0 kg/cm2	L01	"Hg & -100/0 kPa	B00	-1/0 bar	K00	-1/0 kg/cm2	A00	-100/0 kPa

### **Compound Ranges**

	psi		DU	AL SCALE psi & metric				Single Scale-METRIC					
"	Hg/0/psi		psi & bar	ps	si & kg/cm2		psi & kPa		bar	kg/cm2		kPa	
Code	de Range Code Range Code Range Co		Code	Range	Code Range		Code	Range	Code	Range			
	I		ı		l				i	ı			
P02	-30"Hg/0/15 psi	D02	psi & -1/0/1 bar	G02	psi & -1/0/1 kg/cm2	L02	psi &-100/0/100 kPa	B01	-1/0/1 bar	K01	-1/0/1 kg/cm2	A01	-100/0/100 kPa
P03	-30/0/30	D03	psi & -1/0/2	G03	psi & -1/0/2	L03	psi &-100/0/200	B02	-1/0/2	K02	-1/0/2	A02	-100/0/200
P04	-30/0/60	D04	psi & -1/0/4	G04	psi & -1/0/4	L04	psi &-100/0/400	B04	-1/0/4	K04	-1/0/4	A04	-100/0/400
P05	-30/0/100	D05	psi & -1/0/7	G05	psi & -1/0/7	L05	psi &-100/0/700	B07	I -1/0/7	K07	<b>-</b> 1/0/7	A07	-100/0/700
P06	-30/0/160	D06	psi & -1/0/11	G06	psi & -1/0/11	L06	psi &-100/0/1,100	B011	-1/0/11	K011	-1/0/11	A011	-100/0/1,100
P07	-30/0/200	D07	psi & -1/0/14	G07	ı psi &-1/0/14	L07	psi &-100/0/1,400	B014	ı ı -1/0/14	K014	-1/0/14	A014	-100/0/1,400
P08	-30/0/300	D08	psi & -1/0/20	G08	psi & -1/0/20	L08	psi &-100/0/2,000	B020	-1/0/20	K020	-1/0/20	A020	-100/0/2,000

### **Pressure Ranges**

	psi		DU	AL SC	ALE psi & m	etric		Single Scale-METRIC					
	psi	P	si & bar	ps	i & kg/cm2		psi & kPa		oar	k	g/cm2		kPa
Code	Range	Code	Range	Code	Range	Code	Range	Code	Range	Code	Range	Code	Range
1		-			1	- 1						1	
P15	0-15 psi	D15	psi & 0-1 bar	G15	psi & 0-1 kg/cm2	L15	psi & 0-100 kPa	B1	0-1 bar	K1	0-1 kg/cm2	A1 .	0-100 kPa
P16	0-30	D16	psi & 0-2	G16	psi & 0-2	L16	psi & 0-200	<b>B2</b>	0-2	K2	0-2	A2	0-200
P17	0-60	D17	psi & 0-4	G17	psi & 0-4	L17	psi & 0-400	B4	0-4	K4	0-4	A4	0-400
P18	0-100	D18	psi & 0-7	G18	psi & 0-7	L18	psi & 0-700	<b>B7</b>	0-7	<b>K7</b>	0-7	A7	0-700
P19	0-160	D19	psi & 0-11	G19	psi & 0-11	L19	psi & 0-1,100	B11	0-11	K11	0-11	A11	0-1,100
P20 I	0-200	D20 ı	psi & 0-14	G20	psi & 0-14	L20 ı	psi & 0-1,400	B14	0-14	K14	0-14	A14 I	0-1,400
P21 I	0-300	D21 i	psi & 0-20	G21	psi & 0-20	L21 ı	psi & 0-2,000	<b>B20</b>	0-20	K20	0-20	A20 ı	0-2,000
P22 I	0-400	D22 I	psi & 0-28	G22	psi & 0-28	L22 I	psi & 0-2,800	B28	0-28	K28		A28 ı	0-2,800
P23 I	0-600	D23 I	psi & 0-40	G23	psi & 0-40	L23 I	psi & 0-4,000	B40	0-40	K40		A40 I	0-4,000
P24 I	0-800	D24		G24		L24 !	psi & 0-5,500	B55	0-55	K55		A55	0-5,500
P25	0-1,000	D25	psi & 0-70	G25	psi & 0-70	L25 !	psi & 0-7,000	B70	0-70	K70		A70	0-7,000
P30	0-1,500	D30	psi & 0-100	G30	psi & 0-100	L30	psi & 0-10,000	B100	0-100	K100	0 100	A100	0-10,000
P31	0-2,000	D31	psi & 0-140	G31	psi & 0-140	L31	psi & 0-14,000	B140		K140		A140	0-14,000
P32	0-3,000	D32	psi & 0-200	G32	psi & 0-200	L32	psi & 0-20,000	B200		K200	0-200	A200	0-20,000
P33	0-4,000	D33	psi & 0-280	G33	psi & 0-280	L33	psi & 0-28,000	B280	0-280	K280	0-280	A280	0-28,000
P34	0-5,000	D34	psi & 0-350	G34	psi & 0-350	L34	psi & 0-35,000	B350		K350		A350	0-35,000
P35	0-6,000	D35	psi & 0-400	G35	psi & 0-400	L35	psi & 0-40,000	B400		K400		A400 <sub>1</sub>	0-40,000
P36 <sub>1</sub>	0-8,000	D36 I	psi & 0-550	G36	psi & 0-550	L36	psi & 0-55,000	B550		K550		A550 <sub>1</sub>	0-55,000
P37 I	0-10,000	D37 ı	psi & 0-700	G37	psi & 0-700	L37 I	psi & 0-70,000	B700		K700		A700ı	0-70,000
P38 ı	0-15,000	D38 ı	psi & 0-1,000	G38	psi & 0-1,000	L38 ı	psi & 0-100,000	B1K	0-1,000	K1K	0-1,000	A1K ı	0-100,000
P39 I	0-20,000	D39 I	psi & 0-1,400	G39	psi & 0-1,400	L39 I	psi & 0-140,000					1	
P40	0-30,000	D40	psi & 0-2,000	G40	psi & 0-2,000	L40 !	psi & 0-200,000						
P41	0-40,000	D41	psi & 0-2,800	G41	psi & 0-2,800	L41	psi & 0-280,000						
P42	0-50,000	D42	psi & 0-3,500	G42	psi & 0-3,500	L42	psi & 0-350,000						
P60	3-15 (receive	er - sever	al ranges availab	le - spec	ify.)	l i							

### Low Pressure Ranges (for use on PC Series)

	INWC		oz/in <sup>2</sup>		mbar	Other Low Pressure	CUSTOM RANGES
Code	Range	Code	Range	Code	Range	Ranges Avail.	COSTOM HANGES
P50 P51 P52 P53 P54 P55 P56	0-10"WC 0-15 0-30 0-60 0-100 0-160 0-200	Z51 Z52 Z53 Z56	0-8 oz/in <sup>2</sup> 0-20 0-30	M51 M525 M53F M54 M55 M56	0-40 mbar 0-100 0-150 0-250 0-400 0-500	mm H <sub>2</sub> O mmHg(torr) kPa	We will draw a custom range for your application - contact factory or your REO <i>TEMP</i> distributor examples: Tons on Ram Refrigeration Scales Tank level

### Pressure Gauge Technical Reference

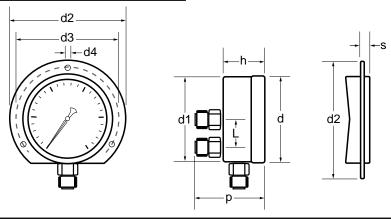
	PRESSURE CONVERSION TABLE											
psi	atms.	bar	kPa	Kg/cm <sup>2</sup>	oz/in²	in. Hg	mm Hg (Torr)	in. H <sub>2</sub> O				
1	0.068	0.069	6.895	0.07	16	2.036	51.72	27.68				
14.7	1	1.013	101.3	1.033	235.1	29.92	760	406.8				
14.5	0.967	1	100	1.02	232.1	29.53	750.1	401.9				
0.145	0.01	0.01	1	0.01	2.321	0.295	7.501	4.019				
14.22	0.968	0.981	98.07	1	227.6	28.96	735.6	393.7				
0.063	0.004	0.004	0.431	0.004	1	0.127	3.232	1.73				
0.491	0.033	0.034	3.386	0.035	7.858	1	25.4	13.6				
0.019	0.001	0.001	0.133	0.001	0.309	0.039	1	0.535				
0.036	0.002	0.002	0.249	0.003	0.578	0.074	1.868	1				

	ASME B40.1 ACCURACY GRADES											
Grade	Accuracy	Grade	Accuracy									
4A	+/- 0.1% f.s.	Α	2-1-2% (+/- 1% f.s. over middle 1/2 of scale)									
3A	+/- 0.25% f.s.	В	3-2-3% (+/- 2% f.s. over middle 1/2 of scale)									
2A	+/- 0.5% f.s.	С	4-3-4% (+/- 3% f.s. over middle 1/2 of scale)									
1A	+/- 1.0% f.s	D	+/- 5% f.s.									

		Chemical Compatibil	lity <sup>-</sup>	Table	
Acetic Acid	S	Dextrine	В	Oil (refined)	В
Acetone	S	Ethyl Acetate	В	Oxygen	В
Acetylene	S	Ethyl Cellulose	S	Paraffin	В
Alcohol	В	Ethylene	В	Phosphoric Acid	S
Alums	S	Ethylene Dibromide	S	Photographic Solutions	S
Aluminum Sulfate	S	Ethylene Glycol	В	Pickling Solutions	S
Ammonia	S	Ferric Nitrate	S	Picric Acid	S
Ammonium Carbonate	S	Ferric Sulfate	S	Picric Acid (dry)	S
Beer	В	Formaldehyde	S	Potassium Cyanide	S
Benzine	В	Freon	В	Potassium Permanganate	S
Benzol	В	Gallic Acid	S	Prestone	В
Benzyl Alcohol	S	Gas (for lighting	В	Salicylic Acid	В
Bleach Liquors	S	Gasoline	В	Sea Water	М
Bordeaux Mixture	В	Gasoline (refined	S	Silver Nitrate	S
Butane	S	Glucose	М	Sodium Nitrate	S
Butanol	В	Glycerine	В	Sodium Peroxide	S
Butyric Acid	S	Hydrocyanic Acid	S	Sodium Phosphate	S
Calcium Bisulfite	S	Hydrogen	S	Sodium Sulfate	S
Calcium Chloride	М	Hydrogen Peroxide	S	Sodium Sulfite	S
Calcium Hydroxide	S	Kerosene	В	Sulfur Dioxide (dry)	S
Carbon Dioxide (dry)	S	Lacquers	В	Sulfuric (75%)	S
Carbon Bisulfide	S	Lactic Acid	S	Sulfurous Acid	S
Casein	S	Lysol	S	Toluene	В
Chloroform	S	Magnesium Hydroxide	М	Vegetable Oils	S
Chromic Acid	S	Magnesium Sulfate	S	Vinegar	S
Citric Acid	S	Mercury	S	Water	В
Coal Gas	В	Naphtha	В	Whiskey	S
Copper Sulfate	S	Nickel Acetate	S	Wines	S
Cottonseed Oil	S	Nitric Acid (pure)	S	Zinc Sulfate	S
Creosote (crude)	S	Oil (lubricating)	В		
B = Brass (Copper Allo	• /	M = Monel		S = Stainless Steel	

Note: this table is provided as a reference only and is accurate to the best of Reotemp's knowledge. Reotemp assumes no responsibility for the accuracy of this information.

## Pressure Gauge Technical Reference



				Press	sure G	auge D	imensi	ons			
		D	D1	D2	D3	D4	Н	L	S	Р	<b>P</b> dim based on
PD15N,X	mm	44	40	-	-	-	24	-	-	44	1/8"NPT
1 0 1311,7	in.	1.73	1.57				0.94			1.73	1/0 141 1
PD20N,X	mm	55	50.8	71	60	3.6	28	-	-	50	1/8"NPT
T DZON,X	in.	2.17	2.00	2.80	2.36	0.14	1.10			1.97	1/0 141 1
PD25N,X	mm	68	62.5	85	75	3.6	29	-	4	50	1/4"NPT
T DZ5N,X	in.	2.68	2.46	3.35	2.95	0.14	1.14		0.16	1.97	1/4 181 1
PD40Y,S	mm	101.5	98	130	118	6	42	29.5	5.5	80	1/2"NPT
1 5401,0	in.	4.00	3.86	5.12	4.65	0.24	1.65	1.16	0.22	3.15	1/2 111 1
PD60Y,S	mm	160	158	190	178	6	9	29.5	5.5	80	1/2"NPT
1 2001,0	in.	6.30	6.22	7.48	7.01	0.24	1.93	1.16	0.22	3.15	1/2 111 1
PD40B	mm	101.5	98	130	118	6	32	-	-	-	_
	in.	4.00	3.86	5.12	4.65	0.24	1.26				
PC25N	mm	62.5	62.5	85	75	3.6	34	-	4	50	1/4"NPT
1 02011	in.	2.46	2.46	3.35	2.95	0.14	1.34		0.16	1.97	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
PC40S	mm	101	98.5	130	116	6	49	-	5.5	80	1/4"NPT
	in.	3.98	3.88	5.12	4.57	0.24	1.93		0.22	3.15	.,
PC60S	mm	160	153	190	178	6	49	-	5.5	80	1/4"NPT
	in.	6.30	6.02	7.48	7.01	0.24	1.93		0.22	3.15	.,
PM25C	mm	68	63	85	75	3.6	30	135	7	54	1/4"NPT
	in.	2.68	2.48	3.35	2.95	0.14	1.18	5.3	0.28	2.13	.,
PM40C	mm	110	101	130	118	6	47	-	-	-	
	in.	4.33	3.98	5.12	4.65	0.24	1.85				
PG25C	mm	68	63	85	75	3.6	30	-	7	54	1/4"NPT
	in.	2.68	2.48	3.35	2.95	0.14	1.18	-	0.28	2.13	.,
PG35S	mm	89	80	110	95	5	31	19	15	60	1/4"NPT
	in.	3.5	3.15	4.32	3.75	0.2	1.23	0.73	0.6	2.36	.,
PG40C	mm	110	101	130	118	6	47	34.5	12.5	65	1/2"NPT
	in.	4.33	3.98	5.12	4.65	0.24	1.85	1.36	0.49		
PR40S	mm	111	101	130	118	6	48	34.5	19	80	1/2"NPT
	in.	4.37	3.98	5.12	4.65	0.24	1.89	1.36	0.75	3.15	
PR60S	mm	161	150	190	175	6	50	53	25	80	1/2"NPT
	in.	6.34	5.91	7.48	6.89	0.24	1.97	2.09	0.98	3.15	
PA40A	mm	114	100	130	118	6	48	-	-	-	
	in.	4.49	3.94	5.12	4.65	0.24	1.89				
PS40S	mm	111	100	130	116	6	61	-	-	-	
	in.	4.37	3.94	5.12	4.57	0.24	2.40				
PS60S	mm	162	150	190	175	6	64	-	-	-	1/2"NPT
	in.	6.38	5.91	7.48	6.89	0.24	2.52	50	25	00	
PL60	mm	161	150	190	175	6	50	53	25	88	1/2"NPT
	in.	6.34	5.91	7.48	6.89	0.24	1.97	2.09	0.98	3.46	
PT45P Note: diagra	mm in.	129 5.08	148 5.83	148 5.83	137 5.39	6 0.24	87 3.43	-	-	-	-

TRADEMARKS: FLOUROLUBE - TM Occidental Petroleum Corp. MONEL - TM Huntington Alloys, Inc. HALOCARBON - TM Halocarbon Corp.Note: All specifications in this catalog are subject to change.

### **DIFFERENTIAL PRESSURE GAUGES**

## SERIES 20





Simple, Rugged Piston Design

- Use for Filters, Strainers, Flow indication
- Cost effective Differential Pressure

### Specifications:

**Temperature Limitations:** -40 °F (-40 °C)

to 200 °F (93 °C)

Max Working Pressure: 6,000 psi (5,000 psi for Monel)

**Proof Pressure:** 2x rated working pressure or 10,000 psi, whichever is lower, at ambient

Accuracy: 3-2-3%
Sensing Element: Piston

### 0-5psid to 110psid

D20 —	<u>25</u>	—	<u>P</u>	— [	SS	—[	В	_	В	_	50P	 TS	
			′ Г			Wette	d						

Dial Size	Dial Case	Body/Internals	Seals	Connections	Range	Options
25 = 2.5" 35 = 3.5" 40 = 4.0"	P = Plastic A = Aluminum	SS = 316SS/316SS AS = Aluminum/316SS MM = Monel/Monel ZM = Alum. Bronze/Monel	B = Buna N (std.) V = Viton N = Neoprene T = Teflon	B =1/4" NPTF Back (std.) L = 1/4" NPTF end 7 = 7/16" - 20 SAE/O-ring (back only)	See range table, p.17 e.g. 50P = 0/50 psid	See p.17 for all options & accessories

## SERIES 40 & 42





Series 40 Series 42

- 40 0-30psid to 100psid
- 42 0-20"H2O to 690"H2O (25psi)

- Convoluted Diaphragm Design
- Ideal for dissimilar fluids, wet gas
- Recommended for fluids with high solids content
- For use with Diaphragm Seals

### Specifications:

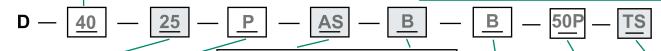
**Temperature Limitations:** -40°F (-40°C)

to 200°F (93°C)

Max Working Pressure: 3,000 psi (1,500 psi for Brass)

**Proof Pressure:** 2x rated working pressure or 6,000 psi, whichever is lower at ambient **Accuracy:** 3-2-3% or 5% (10" H<sub>2</sub>O or lower)

Sensing Element: Diaphragm



Dial Size	Dial Case	Body/Internals	Seals & Diaphragm	Connections	Range	Options
25 = 2.5" 35 = 3.5" 45 = 4.5"	P = Plastic A = Aluminum	AS = Aluminum/316SS BS = Brass/316SS SS = 316SS/316SS	B = Buna N (std.) V = Viton (60" H2O min.) S = Silicone N = Neoprene (25psid max) *Other consult	B = 1/4" NPTF Back (std.) D = 1/4" NPTF Dual Top & Bottom	See range table, p.17 e.g. 50P = 0/50 psid	See p.17 for all options & accessories

## SERIES 30

### **DIFFERENTIAL PRESSURE GAUGES**





0-5" H<sub>2</sub>O to 400" H<sub>2</sub>O (15 psid)

- Convoluted Diaphragm Design
- General Purpose Differential Pressure
- Works with vacuum or pressure
- Suitable for clean liquids/gases

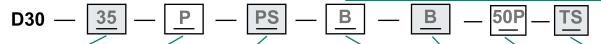
### Specifications:

**Temperature Limitations:** -40°F (-40°C) to 200°F (93°C) **Max Working Pressure:** 500 psi (300 psi for polysulfone)

**Proof Pressure:** 2x rated working pressure

**Accuracy:** 3-2-3% (above 10" H<sub>2</sub>O) 5% (0-5" H<sub>2</sub>O to 9.9" H<sub>2</sub>O)

Sensing Element: Diaphragm



			Wetted				
I	Dial Size	Dial Cases	Body/Internals	Seals & Diaphragm	Connections	Range	Options
I	<b>35</b> = 3.5"	P = Plastic	PS = Polysulfone/316SS	B = Buna N (std.) V = Viton	B =1/4" NPTF Back (std.)	See range	017-6
l	<b>45</b> = 4.5"	A = Aluminum	AS = Aluminum/316SS BS = Brass/316SS	S = Silicone	T = 1/4" NPTF	table, p.17	See p.17 for all options & accessories
			<b>SS</b> = 316SS/316SS	E = Ethylene Propylene	L = 1/4" NPTF bottom	e.g. <b>50P</b> = 0/50	40000001100
ı			HH = Hast C/Hast C	(100 INWC max)		psid	

## SERIES 05,06,09



- 05 0-10" H<sub>2</sub>O to 80" H<sub>2</sub>O 06 - 0-100" H<sub>2</sub>O to 400" H<sub>2</sub>O
- 09 0-15 psid to 6000 psid

- High Accuracy +/- 1% (F.S.)
- Diaphragm Bellows type (05, 06)
- Bourdon Tube type (09)

### Specifications:

Temperature Limitations: -40°F (-40°C) to 200°F (93°C)

Max Working Pressure: 1,500 psi (500 psi brass); up to

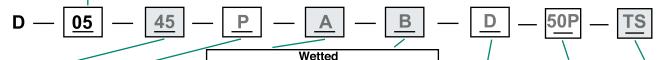
6,000 psi available

Proof Pressure: 2x rated static pressure or 10,000 psi,

whichever is lower at ambient

**Accuracy:** 1% (std.), 0.5% (avail. 15 psi & up)

Sensing Element: 05 & 06 = Diaphragm/Bellows; 09 = Bourdon Tube



Dial Size	Dial Material	Body/Internals	Seals	Connections	Range	Options
<b>45</b> = 4.5" <b>60</b> = 6.0"	P = Plastic	AB = Alum./ Copper Alloy AS = Aluminum/316SS CB = Carbon Stl./ Cu. Alloy CS = Carbon Steel/316SS SS = 316SS/316SS	B = Buna N (std.) V = Viton N =Neoprene	D = 05 & 06 - 1/4" NPTF Dual, Top & Bottom (std.) B = 09 - 1/4" NPTF Back (std.)	0.0	See p.17 for all options & accessories

### DIFFERENTIAL PRESSURE GAUGES

### OPTIONS

### **Optional Switches**

### Specifications (for resistive loads):

Reed Switch

SPDT, 3W, 0.25 Amp @ 125 VAC/VDC

Switch adjustable range 10% - 90%

NEMA 4X enclosure

Available on models: 20, 30, 40, 42

SD1N4 = Single Switch

**SD2N4** = Two (independent) Switches

### **Accessories**



#### **Accessories**

= SS Tags

= Glycerin Fill

OXY = Oxygen Cleaning

= Silicon Fill

**PMK** = Pipe Mounting kit

SGL = Laminated Safety

WMK= Wall Mounting Kit

glass lens (std. is shatter-

resistant acrylic)

MP = Max Pointer (avail. on 09, 20, 30, 40, 42)

### **Diaphragm Seals\***

Available only on the Series 40 & 42. Diaphragm Seals are not typically recommended for use with Differential Pressure gauges, and can affect gauge accuracy. However when required the 40 and 42 series will work using the following diaphragm size and material guide. The proper material and size can then be utilized with most styles of Diaphragm Seals.

Series 40: Size 5 Seal (Viton diaphragm.) or

Size 6 Seal (Teflon diaphragm,) or

Size 7 Seal (Metal diaphragm)

Series 42: Size 6 Seal (Teflon diaphragm)

For complete Diaphragm Seal Style and Part Number refer to pages 22 - 23 of this catalog.

Consult with factory for specific Diaphragm Seal solutions.

	Ranges - Availabiltiy By Series												
<b>Differer</b> Code	ntial Ranges	3	0	05	0	6	0	9	2	20	40	4	2
Low	(INWC)												
05H	0 - 5	5%	Υ										
10H	0 - 10		Υ	ΙY									
15H	0 - 25		Y	Y									
20H	0 - 20		Υ	Y   %   Y								١,	Y
25H	0 - 25		Υ	_ '									Y
30H	0 - 30		Y	Y									Y
50H	0 - 50	%	Υ	Y									Y
75H	0 - 75	က	Υ	ΙY									Y
100H	0 - 100	2	Υ			Υ	$\vdash$					%	Y
200H	0 - 200	8	Υ			Υ				Υ		က	
300H	0 - 300	1	Y		'	Y				Υ		2	Υ
400H	0 - 400		Υ		%	Y				Υ			Y
Mediun	n (psid)											''	
05P	0 - 5		Y			Υ				Υ			Υ
10P	0 - 10		Y			Υ			3 %	Υ			Υ
15P	0 - 15	'	Y			Υ	L	Y	1	Υ			Y
20P	0 - 20						Ш	Υ	- 2	Υ			Υ
25P	0 - 25						Ш	Y	က	Υ		·	Υ
30P	0 - 30						Ш	Υ		Υ	% Y		
50P	0 - 50							Ϋ́		Υ	ကု Υ		
75P	0 - 75						%	Υ Υ		Υ	۷ Y		
100P	0 - 100						-	Ľ		Υ	ώ Y	_	
High	(psid)							l					
300P	0 - 300							Y					
600P	0 - 600							Υ					
10CP	0 - 1000							Υ Υ					
15CP	0 - 1500							ľ					

#### **Other Scales Available:**

Metric Scales

-Bar

-mbar

-mm H<sub>2</sub>O

-kg/cm<sup>2</sup> -KPa

-etc.

Bi-directional scales:

available for Series 05, 06, 09, 20 (with zero at center of dial) & on application.

Square Root Scales

Flow Scales

(GPM, SCFM, etc.)

Other Custom Scales

logos availableconsult factory

## SERIES SG

### SANITARY PRESSURE GAUGES

REOTEMP sanitary gauges are specially designed to meet the demanding sanitary requirements of food, dairy, beverage, pharmaceutical, and biotech applications.

- Quick connecting Tri-clamp design
- · Fast removal and installation of instruments, to allow flushing or changing the process media
- Ideal for clean-in-place, or equipment washdown
- Designed to meet 3-A sanitary standards
- Comes with 3-A certification
- All welded 316 SS Tube, Socket, Seal, and Diaphragm

### Specifications:

Dial sizes: 2", 2.5", 3.5", 4"

Wetted Parts: 316L polished SS Case & Ring: 300 series polished SS

Process Connection: Tri-clamp, lower or back Other connections optional

System Filling: USP Glycerin (standard), Silicone,

Neobee (optional)

Windows: Polycarbonate (2.5"& 3.5")

Laminated Safety Glass (4"), Glass (2")

Accuracy: Standard Seal: 1.5% for ranges 100 psi and above. 2% for compound and below

100 psi ranges.

Fractional Seal: Ranges 60 psi & above -

2.5% up scalet, up to 4% downscale.

3/4 Triclamp (Fractional) seal Limitations: Due to the compact nature of the 3/4" triclamp fractional seal, several factors can affect accuracy. Use of the fractional seal generally involves a compromise in performance for the convenience of the small size. The fractional sanitary gauge provides repeatable pressure reference in a stable temperature environment, but the larger 1 1/2" or 2" triclamp seals are recommended for greater accuracy whenever possible.

Gasket: The REOTEMP fractional gauge is calibrated using a standard 3/4" Buna gasket. When choosing a gasket for installation, care should be taken so the gasket does not push on the diaphragm.

**Temperature:** The fractional seal's temperature effect varies with the range selected, but is generally greater than +/- 0.5% per 10 °F change in process temperature. The fractional seal is recommended for stable process temperatures from 40°F to 120°F.

**Pressure Range:** The fractional seal is most accurate in ranges over 160 psi.

#### Options:

Liquid Filled Case - Glycerin - USP Food Grade,

Other fills requested

Alternate Process Connections - Cherry-Burrell "I" line or

Bevel seat type

Alternate Seal fill fluids - Neobee M-20, Silicone 200,

Vegetable Oil Calibration - Traceability certs, with or without logged points



To Order:	Speci	fy Part Nu	mber + R	ange Code
Standard Seal	Sizes (1.	5", 2"Tri-cl	amp)	K Z EK N
Part Number	Gauge Size	Connection Location	Tri-clamp Size	Available Ranges (psi)
SG20 A TC 15 SG20 C TC 15	2"	Bottom Back	1.5" 1.5"	All
SG20 A TC 20 SG20 C TC 20		Bottom Back	2" 2"	711
SG25 A TC 15 SG25 C TC 15	2.5"	Bottom Back	1.5" 1.5"	All
SG25 A TC 20 SG25 C TC 20	2.0	Bottom Back	2" 2"	7
SG35 A TC 15 SG35 C TC 15	3.5"	Bottom Back	1.5" 1.5"	All
SG35 A TC 20 SG35 C TC 20	0.5	Bottom Back	2" 2"	7.11
SG40 A TC 15 SG40 C TC 15	4"	Bottom Back	1.5" 1.5"	0/60 to
SG40 A TC 20 SG40 C TC 20	4	Bottom Back	2" 2"	0/1000
SG60 A TC 15	6"	Bottom	1.5"	0/160 to
SG60 A TC 20	1 "	Bottom	2"	0/1000

Fractional Seals (3/4" Tri-clamp)						
SG20 A TC 75 SG20 C TC 75	2"	Bottom Back	3/4"	30"Hg/0/30psi to 0/1000		
SG25 A TC 75 SG25 C TC 75	2.5"	Bottom Back	3/4"	0/160 to 0/1000		

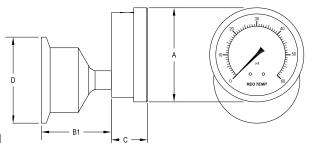
Fractional Seals come with 3/4"triclamp and buna gasket.

To Order: Specify part number and range code (see "How to Order")



### SANITARY PRESSURE GAUGES

# Series SG



Triclamp Size	"D"	Diameter				
3/4"	0.98	(24.8)				
1.5"*	1.98	(50.3)				
2"	2.58	(65.5)				
2.5"	3.05	(77.5)				
3"	3.57	(90.7)				
4"	4.68 (119)					
*1 F" trialogo a	*4 E" triploma and fits 4 E" and 4"					

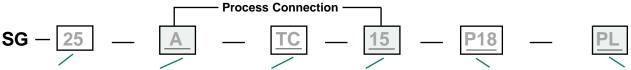
<sup>\*1.5&</sup>quot; triclamp seal fits 1.5" and 1" triclamp fittings.

B2	A	30 10 10 10 10 10 10 10 10 10 10 10 10 10
<u></u>	D	

Dial Size	A	B 1*	С
2"	2.05	1.6	1.11
2	(52)	(41)	(28.2)
2.5"	2.69	2.5	1.19
2.5	(68.4)	(64)	(30.2)
3.5"	3.5	2.4	1.25
0.0	(89)	(61)	(31.7)
4"	4.4	5.1	1.95
_	(112)	(130)	(49.5)

Dial Size	Α	B 2*	С
2"	2.05	3.6	1.11
	(52)	(91.4)	(28.2)
2.5"	2.69	4.8	1.19
	(68.4)	(122)	(30.2)
3.5"	3.5	5.7	1.25
	(89)	(145)	(31.7)
4"	4.4	7.0	1.95
	(112)	(178)	(49.5)
6"	6.2	9	2
	(157.5)	(228.6)	(50.8)

Dimensions are in inches (mm). \* "B" dimensions are for 1.5" and 2" triclamps.



Gauge Size:	Location:	Clamp Type:	Clamp Size:	PRE	SSURE (PSI)	Options:
<b>20</b> = 2" <b>25</b> = 2.5"	A = Bottom	TC = Tri-Clamp	<b>15</b> = 1.5"	P15 P16	0/15 0/30	PL = Polysulfone lens (for autoclaving)
<b>35</b> = 3.5"	C = Lower Back	CI = "I" Line	<b>20</b> = 2"	P17	0/60	MP = Max pointer (2 1/2", 4" only)
<b>40</b> = 4" <b>60</b> = 6"*	R = Right Side	(Other connections	<b>25</b> = 2.5"	P18 P19	0/100 0/160	EP = Electropolished wetted parts CC3 = Cert. Of calibration (3 pt.)
	L = Left Side	on application)	<b>30</b> = 3"	P20 P21	0/200 0/300	CC5 = Cert. Of calibration (5 pt.)
*Available in bottom conn.	T = Top	CP = CPM type TH = Tuchenhagen	<b>40</b> = 4"	P22	0/400	Case Fills (for vibration)
only.			<b>75</b> = 3/4	P23 P24 P25	0/600 0/800 0/1000	CFG = Glycerin CFN = Neobee CFS = Silicone
				'	VACUUM	Alternate Seal Fill Fluids
				P01	-30"Hg/0	(std. is glycerin)
					OMPOUND	SFN = Neobee SFS = Silicone
				P02 P03	30"Hg/0/15psi 30"Hg/0/30psi	SFV = Vegetable oil
				P04	30"Hg/0/60psi	Alternate Wetted Materials
				P05 P06	30"Hg/0/100psi 30"Hg/0/160psi	H = Hast. C T = Teflon coated 316SS
				P07 P08	30"Hg/0/200psi	
				FU0	30"Hg/0/300psi	

(Other ranges available on application)

## Diaphragm Seals

## INTRODUCTION

**REOTEMP Diaphragm Seals** (or Chemical Seals) use a flexible barrier, or *diaphragm*, to isolate a pressure sensor (gauge, switch, transmitter, or transducer) from adverse effects of the process fluid.

Diaphragm seals are useful to:

- 1.) *Protect the sensor* from the process media (corrosive, abrasive, viscous, or crystallizing media)
- 2.) *Protect the process* from the sensor (sanitary process requiring clean-out, or high purity media).

### **HOW IT WORKS:**

A diaphragm seal, when properly mounted to its sensor and filled, will accurately transmit process pressure to the instrument. Pressure exerted on the flexible diaphragm is transmitted hydraulically to the instrument through the fill fluid, which fills the void between the diaphragm and the instrument, (including the bourdon tube, in the case of a pressure gauge.)

**APPLICATION CONSIDERATIONS:** The following should be considered when choosing a diaphragm seal:

- 1. Process Characteristics: Pressure, temperature, (see tables, this page) chemical compatibility and viscosity.
- Seal Mounting: Connection to process (threaded, flanged, clamped, in-line) Connection to instrument (usually NPT).
- 3. Ambient Characteristics: Temperature, corrosive atmosphere, etc.
- 4. Instrument Considerations: Sufficient fluid displacement is required to drive instrument through its full range (this means, for example, you can't put a large gauge on a small seal); remote instrument placement requires a capillary connecting instrument to seal.
- 5. Vacuum Considerations: High vacuums (over 25" Hg vac.) or vacuums with high temperatures require special fill selection, preparation, and procedures, as well as careful diaphragm selection.

**NOTE:** Improper selection may result in system failure and possible damage or injury. REOTEMP can provide application assistance, but final compatibility is the responsibility of the buyer. Proper selection of seal can reduce or eliminate any additional system error caused by adding a Diaphragm Seal to your instrument.

### **SEAL TYPES:**

**Standard Seals** (pp 22-23): include Threaded off-line, threaded in-line, and flanged off-line types in many materials for a variety of applications:

**Sanitary Seals** (pg 28): are designed for food, pharmaceutical and other sanitary applications. Available to fit most standard piping systems, including "Tri-clamp", "I" line, and others. For straight- thru and in-line sanitary seals with no crevices, see our lit #ILS.

**Mini-Seals** (pg 27): are designed for low-displacement applications where size or economy are considerations.



**SPECIAL DESIGNS:** REO*TEMP* is ready to work with you on any high-performance diaphragm seal application, (that might exceed the stated limit below) such as high vacuum, high temperature, high sterility, custom design or high static pressure with a low differential span, or high vacuum with high temperature.

## **Temperature Limits**

Maximum	Diaphragm	Lower
Temperature	Material	Housing
650°F	Welded metal	Metal
450°F	Teflon	Metal
300°F	Viton	Metal
140°F	-	Nonmetal

### **Pressure Limits**

	psi	Lower Housing	
Maximum	1,500	metal, with ss bolting	(at 100°F)
working	2,500	metal, std bolting	(at 100°F)
pressure	5,000	metal, hi-press bolting	(at 100°F)
	per flange rating 300	ASA flange non-metallic	(per flange spec) (at 140°F)
	Diaphragm	size 5 seal	size 6 seal
Min. working	Metal	25 psi	10 psi
Pressure	Teflon	20 psi	8" W.C.
	Viton	5" W.C.	n/a
Vacuum	Metal	-21" Hg	-24" Hg
Limits	Teflon	-23" Hg	-26" Hg
	Viton	-29" Hg	n/a

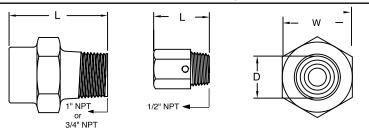
MATERIALS: Lower housings: 316SS standard, with a large selection to suit a wide variety of applications (see Table 1, pg. 23)

Diaphragms: Standard metal diaphragms are convoluted and made of 316SS. Many other materials are available, for corrosion resistance or extra sensitivity. (See Table 6, pg. 23)

Gaskets: Standard gaskets are teflon on the process side of diaphragm (grafoil for hi temp.), and viton on the fill side. Other materials are available.

## THREADED FLUSH FACE SEALS

### **Dimensional Drawing**



**REOTEMP's** Flush-Face diaphragm seals are useful in applications where a continuous flow of process across the diaphragm is required to prevent solids buildup.



## How To ORDER

	Instrument Process		Max working	Minimum Recommended Pressure Range			
Model	Conn.	Conn.	Pressure (@100F)	Gauges (psi)		Transducers	
			11033410 (@1001)	2 1/2"	4"	Tranodatorio	
DSFF21S DSFF41S	1/2" NPT 1/4" NPT	1" NPT	1500 psi	0-15	0-60	30 psi	
DSFF23S DSFF43S	1/2" NPT 1/4" NPT	3/4" NPT	2500 psi	0-60	N/A	15 psi	
DSFF42S	1/4" NPT	1/2" NPT	5000 psi	0-100	N/A	100 psi	
DSF4G1S	1/4" NPT	1" BSPP	8000 psi	0-30	0-60	30 psi	

### Dimensions (inches)

Process Conn. NPT	Conn. Diameter		Width "W"		
1"	1.125"	2.65"	1.75"		
3/4"	.875"	2.47"	1.75"		
1/2"	.675"	1.43"	.875"		
1" BSPP	.980"		1.62"		

\*Note: Use largest diaphragm possible, for smallest temperature effect.



- Teflon Diaphragm
- Isolate Pressure Instruments from Corrosive Media
- High Chemical Resistance
- Upper housing is glass filled polypropylene
- Heavy Duty Design for Safety
- Ideal for waste water treatment

## SERIES PLS -PLASTIC SEALS

**REOTEMP's** Series PLS Plastic Seals allow pressure gauges, switches, or transmitters to be used in corrosive applications compatible with wetted materials.

## **How To Order**



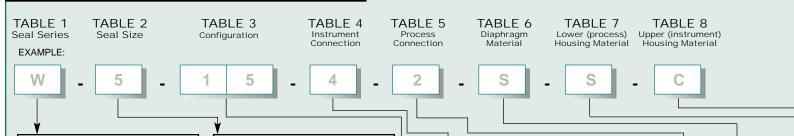


		wetted			U			
Instrument Connection:	Process Connection:	Diaphragm Material:				Options:		
<b>4</b> =1/4 NPT	<b>4</b> =1/4 NPT	<b>T</b> = Teflon			<b>Z</b> =PVC <b>P</b> =Polypr <b>K</b> =Kynar			-Pressure Gauge
<b>2</b> =1/2 NPT	<b>2</b> =1/2NPT	(PTFE) Bonded	Code	*MWP at 68° F	*MWP at 140° F	*MWP at 170° F	Operating temp. range	-Gauge mount & fill (glycerin or silicone)
		Hypalon	Z = P = K =	150 psi	15 psi 65 psi 105 psi	 15 psi 75 psi	14/140° F 46/176° F 22/248° F	

\*MWP = Max Working Pressure

## DIAPHRAGM SEALS

## How To ORDER



## TABLE 1 Seal Series

- W Welded metal diaphragm
- T Teflon diaphragm (high sensitivity, chemical resistance)
- V Viton diaphragm -(most sensitive, for low pressures)

## TABLE 2 Seal Size

- 5 Standard size Seal dia. = 3.25" in threaded models Diaphragm dia. = 2.25"
- 6 Large size (Preferred for low pressure, hi displacement, or hi sensitivity.)
   Seal dia. = 4" in threaded models
   Diaphragm dia. = 3"
- 7 Large size Seal diameter; 5.2" Diaphragm dia. = 4.1"

## TABLE 4 Instrument Connection

- **4** 1/4" NPTF
- 2 1/2" NPTF

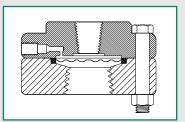
## TABLE 5 Process Connection

- **4** 1/4" NPTF **F** -
- 2 1/2" NPTF
- **3** 3/4" NPTF
- 1 1" NPTF
- F Flanged specify flange size and pressure rating (e.g. 1 1/2", 150 lb)

or insert "V" codes from Table A see p. 24 (e.g. V41=1 1/2" 150#)

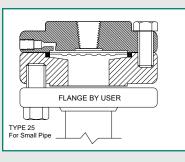
## Threaded, Off-Line

## TABLE 3 - Configuration

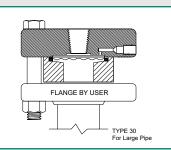


- 10 Replaceable diaphragm non cleanout (not available with series "W")
- 11 Same as 10, with flush port
- 15 Cleanout style lower housing can be removed without losing fill. (Available with Series W, T, V)
- 16 Same as 15, with flush port

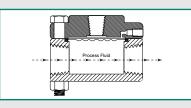
## Flanged, Off-Line - with cleanout



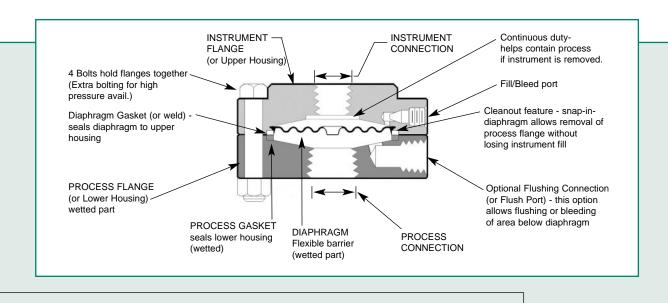
- **25** for 1/2", 3/4" pipe size (1" in size 6)
- 26 Same as 25, with flush port
- **30** for 1 1/2" pipe to 3" pipe size (1" in size 5)
- 31 Same as 31, with flush port



## In-Line, Flow-Thru - with cleanout



- 35 Threaded (shown) for 1/4" to 1" pipe
- 40 Socket Weld for 1/4" to 1" pipe
- 45 Saddle Weld for 1" to 8" pipe
- 50 Butt Weld for 1" to 12" pipe



H - Hastelloy C-276

P - Polypropylene

**UL** - Tantalum Lined

J - Titanium

K - Kynar

M - Monel

N - Nickel

W - CPVC

Y - Inconel

U - Tantalum

## TABLE 6 Diaphragm Material (wetted)

### MOST COMMON

- S 316 S.S.
- T Teflon
- \* V Viton
- D Carpenter 20
- F 304 S.S.
- G Hastelloy B
- H Hastellov C
- J Titanium
- 316LSS, teflon coated
- M Monel
- N Nickel
- U Tantalum
- X Gold Plated Diaphragm
- \* Y Inconel
- \*Size 5 only.

## TABLE 7 Lower Housing Material (wetted)

MOST COMMON

- S 316 S.S.
- Teflon
- Teflon lined
- **PVC**
- B -**Brass**
- C Steel
- D Carpenter 20
- F 304 S.S.

- G Hastelloy B
- \*Available only on types 25 & 30, 1" and larger.

## TABLE 8 Upper Housing Material (including bolts)

- C Carbon Steel (standard)
- S 316 Stainless
- F 304 Stainless

## **OPTIONS:**

- Hi Pressure bolting
- Non-Stick Teflon coating on metal diaphragm
- Socket weld connections
- High temp. gasketing
- Stainless steel bolting (reduces pressure rating up to 50%)
- Capillary Lines

### Fill Fluids should be chosen with care. The fluid must be compatible with the Fill Fluids process medium in case the diaphragm is ruptured. Compatibility of fill fluid with process is the user's responsibility.

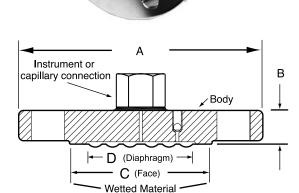
<u>FLUID</u>	TEMPERATURE LIMITS	VISCOSITY, CS, 77°	° F NOTES	
Silicone, DC 200	-50 to 450° F	20	our standard fill	not to be
Silicone, DC 704	+50 to 600° F	44	Hi-temp fill	used with strong
Silicone, DC 710	+30 to 700° F	500	Hi-temp fill	oxidizers,
Neobee M-20	-4 to 320° F	10	food grade	such as chlorine.
Glycerin	+30 to 300° F	1110	for food; not recomm. for capillary	
Halocarbon	-40 to 400° F	6	inert, for use with oxidizers	_
Other fills available: co	onsult factory.		(must not contact Al, Mg)	

Credits: Viton, Teflon, Kynar, TM DuPont, Inc.; Carpenter 20 - TM Carpenter Steel Co.; Inconel, Monel - TM Huntington Alloys, Inc.; Hastelloy - TM Cabot Corp.; Halocarbon - TM Halocarbon Corp.

## FLUSH FACE FLANGED SEALS

**REOTEMP's** Flush-Face diaphragm seals are useful in applications where a continuous flow of process across the diaphragm is required to prevent solids buildup, and a one-piece, all-welded construction is desired.

- Flange type with bolt holes
- · Seal is bolted to raised-face flange in process
- Center instrument exit
- Instrument can be mounted directly or connected via capillary
- Ideal for gauges, transmitters, or dP transmitters



## Table (A) Process/ Instrument Connection Codes

Process Connection		Instrument Connection			
ANS	RFF	1/4" NPT	1/2" NPT	Welded Capillary	
1"		V21	V22	W22	
1 1/2"		V41	V42	W42	
2"	150#	V51	V52	W52	
3"	1	V61	V62	W62	
4"		V71	V72	W72	
1"		V23	V24	W24	
1 1/2"		V43	V44	W44	
2"	300#	V53	V54	W54	
3"		V63	V64	W64	
4"		V73	V74	W74	
1 1/2"		V45	V46	W46	
2	600#	V55	V56	W56	
3		V65	V66	W66	

Table B Dimensions (inches)

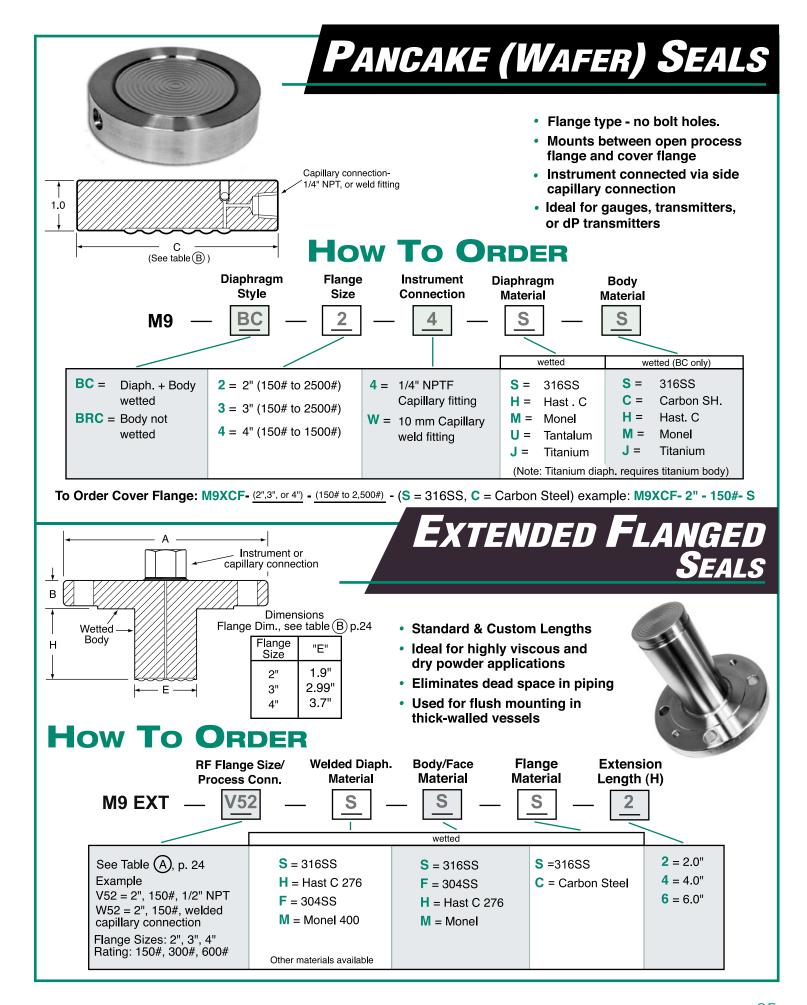
1	Process Connection (ANSI RFF)		В*	C	D (nominal)
1 1/2"		5.00	.69	2.88	1.5
2"	150#	6.00	.75	3.62	2.4
3"	150#	7.50	.94	5.0	3.5
4"		9.0	.94	6.19	3.5
1 1/2"		6.12	.81	2.88	1.5
2"	300#	6.50	.88	3.62	2.4
3"	300#	8.25	1.12	5.0	3.5
4"		10.0	1.25	6.19	3.5
1 1/2"		6.1	1.13	2.88	1.5
2"	600#	6.5	1.25	3.62	2.4
3"		10.0	1.50	5.0	3.5

Other configurations available - call factory.

\*Note: For insert body design (for exotic wetted parts), add .03 to "B"

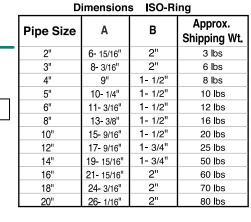
## **How To Order**

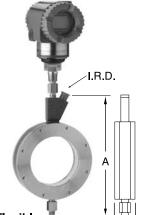
Flange Process **Welded Diaphragm Body Material Options** Seal type Connection Material(wetted) S **M9** wetted (BF only) wetted **S** = 316SS BF = Std.Choose Flange C = Carbon Steel H = Handles G = Hast B2 (for flanges over 600#) Seal (body is Wetted) Connection S = 316SS **H** = Hast C276 Code from table (A) BRF = Integral face/Diaphragm Y = Inconel 600 (Body material is not wetted) **M** = Monel 400 N = Nickel 200 example: U = Tantalum **V41** = 1/4" NPT x 1 1/2" 150# **J** = Titanium (requires titanium body)



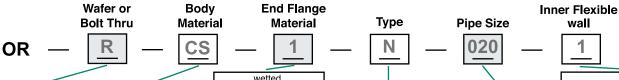
## Iso - Ring Seal

- In-Line Flow-thru design
- Mounts between pipe flanges
- Ideal for waste water, slurries, abrasives
- Tough but sensitive elastomer lining
- Can mount multiple instruments on one seal





### How To RDER



R = Wafer (mounts between two existing flanges)

B = Bolt - thru (with complete flange)

CS = Carbon Steel

**SS** = 316SS

3 = Carbon Steel with Teflon envelope 4 = 316SSwith Teflon envelope

1 = Carbon Steel 2 = 316SS D = With IRD\*\*

5 = CPVC

N = Without IRD\*\*

\*\*IRD: Instrument Removal Device -Permits easy removal

of instrumentation for calibration, repair, or replacement without the need to shut down

process flow

010 = 1" 080 = 8"015 =1.5" **100** = 10"

020 = 2" 120 = 12"

025 = 2.5" **140** = 14" **030** = 3" **160** = 16" **180** = 18" 040 = 4"

**050** = 5" 200 = 20"

wetted 1 = Buna-N (up to 225°F)

2 = Viton (up to 350°F)

3 = Teflon (up to 350° F)

4 = Silicone (up to 450° F)

5 = White Neoprene (up to 225° F) 6 = Natural rubber (up to 225° F)

## Diaphragm Seal **Accessories**

## Flushing Ring



**DXFR** 



1.5 = 11/2"

2 = 2"

3 = 3"4 = 4"



41 = 1/4" NPTF (one port)

42 = 1/4" NPTF (two ports)

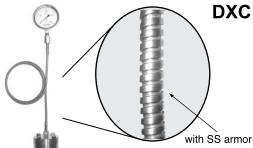
21 = 1/2" NPTF (one port)

22 = 1/2" NPTF (two ports)

060 = 6'

wetted **S** = 316SS F = 304SS H = Hast C. M = Monel

## Stainless Capillary (2.0mm i.d.)



## Instrument **Fitting**

Seal Fitting

Length

05

**Protection** 

4M = 1/4" NPTM

4F= 1/4" NPTF 2M = 1/2" NPTM

2F = 1/2" NPTF weld fitting

(10mm dia.)

4M = 1/4" NPTM 4F = 1/4" NPTF

2M = 1/2" NPTM

2F = 1/2" NPTF

weld fitting (10mm dia.) 05 = 5ft.06 = 6ft

10 = 10ft

etc.

B = bare

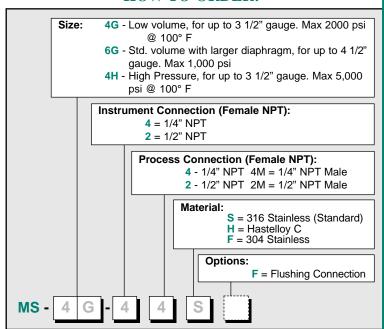
A = SS Armor

## Mini Seals

**MINI-SEALS** are all-welded, gasketless, threaded off-line seals. The mini-seal is an economical choice for isolation of smaller gauges, or where high sensitivity is not required.

## **MINI SEAL** С Min. Range В 4G 1.73" 1.5" 1.5" 0-100 psi 6G 2.25" 1.95" 1.6" 0-15 psi 2.0" 4H 1.75" 1.6" 0-100 psi

## **HOW TO ORDER:**



## SANITARY IN-LINE PRESSURE SEALS



TO ORDER: Tri-Clamp type, 1/4" NPT conn., 316SS

Pipe Size (D)	Tri-Clamp Conn.	Part Number	L (length)
1/2"	1/2"	ILS-TC05	7.87"
3/4"	3/4"	ILS-TC75	4.33"
1"	1"	ILS-TC10	4.33"
1 1/2"	1.5"	ILS-TC15	4.33"
2"	2"	ILS-TC20	4.33"
3"	3"	ILS-TC25	2.36"

**REOTEMP IN-LINE SEALS** are the solution to many difficult pressure measurement applications. These seals are designed to 3-A standards, and allow unobstructed flow-through of process media.

## Specifications:

Pipe material: 316LSS

Diaphragm Material: 316LSS standard

(other material available on request)

Instrument

Connections: 1/4" NPT std., (1/2" NPT, BSP threads cooling

element or capillary line available)

Pipe connections: Tri-clamp, (ANSI Flange (or metric connection

types avail. - consult factory)

Pressure Limits: 600 psi (other styles to 6,000 psi)

Pipe sizes: 1/2" to 4"

Filling Fluids: Glycerin, vegetable oil or any food -

compatible fluid

Leak checking: All seals are helium leak tested

## OTHER DIAPHRAGM SEALS

## DIAPHRAGM SEALS

REO*TEMP* provides many special-use or custom diaphragm seals. Consult factory for specific application assistance.

### SADDLE



## SANITARY SEAL



- 3-A Sanitary Seal
- Tri-Clamp sizes 1 1/2", 2", 3", 4"

## **CHERRY BURELL "I" Line**



- Sanitary Seal
- 1.5", 2.0", 3.0" Sizes

## **CPM FITTING SEAL**

2.4" Diaphragm



- Eliminates/ Reduces Process "Dead-Leg"
- Available in Triclamp or Auto-Weld Styles
- 316LSS ID-15RA, EP Finish

## **Tree Seal Assembly**



"Tree" mounting of multiple instruments on one seal

## **IN-LINE FLOW THRU**



- Unobstructed Flow of Process media
- No Recesses or Constrictions
- "ANSI" Flange Connections

## **BUTTON SEAL**



- For High Pressures
- 0.9" Dia. Diaphragm
- Connections: Homogenizer, Flanged, Threaded

## **SANITARY TANK SPUD**



- 2.0" & 6.0" Extensions
- Weld Spud Available

## **WEDGE TYPE SEAL**



- Flow Meter Seal
- Wedge Type Connection

## **DIAPHRAGM SEAL OPTIONS AVAILABLE**

- Calibration Rings for Flanged Seals
- Gold Plated Diaphragms
- Low Volume Nipples
- Capillary

## PRESSURE TRANSMITTERS

## TRANS P LINE



REOTEMP TRANS-P LINE **Pressure Transmitters and Transducers** \* all convert applied pressure to an electrical signal that can be interpreted by a computer or other interpretive device, where it can be used to display or control a process variable.

Output: Reotemp transmitters produce either a 4-20 mA signal (the most common output), or a variety of voltage outputs, such as 1-5 VDC and 0-10 VDC (3 wire).

<u>Sensors:</u> Piezoresistive diffused semiconductor technology is standard for pressures up to 300 psi. For higher pressures (up to 60,000 psi), sputtered thin film technology is used. These sensors are exceptionally stable, shock resistant, and durable. Our piezoresistive and thin-film sensors are made with no epoxies or bonding agents, virtually eliminating signal instability or drift.

<u>Unit Integrity:</u> Sensor durability, along with mechanical integrity of the stainless case and all-welded process connection, produce a rugged instrument designed to provide consistent performance under severe industrial conditions.

<u>Accuracy</u>: Accuracies from 0.5% to 0.025% are available. Each unit is temperature compensated to provide stable accuracy over large ambient variations and long periods of time.

Ready to Go: Whether shipped alone or with a Digital Indicator, each Reotemp transmitter is inspected and calibrated prior to shipment to assure it is 100% "Ready to Go" right out of the box!

<u>Large Transmitter Stock:</u> Reotemp stocks many transmitter models in a large variety of ranges, mainly with 4-20 mA output, because of their popularity. See the range table on page 39 for indication of our in-stock offering.

\*Transmitter or Transducer? "Transmitter" is often used when referring to a pressure sensor with variable current (mA) output, whereas "Transducer" usually implies voltage output. For simplicity, we use the term "transmitter" for all sensors offered in this catalog.

Trademarks: These non-Reotemp trademarks are used in this catalog, and are the property of their respective owners: Teflon®, Iso-ring®, Tri-Clamp®, In-line Seal®, Hastelloy®, Neobee®, Hirschmann®.

## WARRANTY

REO*TEMP* Instrument Corp. warrants all TRANS-P line transmitters against defective workmanship or materials under normal use and service for three years following date of shipment (for transmitters) and one year (for series DM indicators.) Reotemp's liability is limited to repair or replacement at the factory, shipping charges prepaid.

This warranty does not cover deterioration from normal wear and tear, chemical or environmental corrosion, exposure to temperatures, pressures, or vibration beyond those recommended, or forces or abrasion which cause deformation of component parts.

This warranty is expressly in lieu of any other warranty, expressed or implied. Reotemp shall not be liable for any direct or consequential damages arising out of any defects or from any cause whatsoever.

All product designs and specifications are subject to change without notice.

## SELECTING A TRANSMITTER

Consider the following issues to help you to choose the best pressure transmitter for your application:

1. Special Needs: Series TG (general purpose transmitter) is a good choice for general industrial applications. For special needs or circumstances, other models will be more suitable:

**High Accuracy:** Choose series **TH** for up to 0.1% accuracy (BFSL). For reference, the standard TG accuracy is 0.5%.)

Hazardous Environments: Consider series TX (intrinsically safe) or series TE (Explosion proof transmitters.)

**Total Submersion:** Choose series **TS**.

**Clogging Media:** Consider series **TG** mounted to a diaphragm seal, or series **THF**, which comes with flush diaphragm.

Sanitary Applications: Choose series THS, which comes with sanitary Tri-clamp connection. Low Cost: For OEM use, or for applications where low cost is a necessity, consider series TM. Local Indication: Consider DM3 digital meter, or XTDM-1 piggy-back display.

- 2. Pressure Range: Choose a range that places your working pressure at 50% to 90% of the transmitter pressure range. Pressure spikes up to proof pressure will not harm the transmitter but may affect calibration; pressures beyond burst pressure will cause damage.
- **3. Accuracy:** Series **TG**, with 0.5% BFSL accuracy, and with 0.05% repeatability, suits many industrial applications. Higher accuracies (0.25% and 0.1%) are available, generally at higher cost.

\*BFSL (Best Fit Straight Line) expresses maximum deviation from a straight line positioned to minimize maximum deviation.

- 4. Output: Current output (4 mA to 20 mA) is the most popular for industrial use because it is less susceptible to electrical noise and can be transmitted through copper wires up to thousands of feet with little signal loss. Several voltage outputs are also available, and are suitable for shorter distances. Typical voltage outputs include 0-5 VDC, 1-5 VDC, and 0-10 VDC.
- **5. Process Connection:** 1/4" NPT and 1/2" NPT are the most common connections in industrial process applications. In hydraulic applications, 7/16-20 UNF SAE male with o-ring seal is commonly used. For sanitary applications, Tri-Clamp connections on the **THS** series are available in several sizes, with 1 1/2" triclamp the most common. Other process connections, such as G1/2, G1, and 1/4"NPT female are available as well.
- **6. Electrical Connection:** All Trans-P series transmitters require wire hookup for both power and output. 4-20 mA output uses 2 wires, which carry both loop power and output signal (loop current). Voltage output usually uses three wires, with 4 wires available. The standard Hirschmann connector (Din 43650) in standard or mini size allows easy connection to 2, 3, or 4 wires, with internal screw terminals and cable gland. Also available are integral cable (with or without 1/2"NPT male conduit threads), bendix 4- and 6-pin, and M12 types, as well as a Hirschmann with 1/2"NPT female conduit connection.
- 7. Severe Conditions: Reotemp Trans-P transmitters are rugged instruments intended for industrial use. However, temperatures, corrosion, vibration, or pulsation beyond operational limits should be addressed to prolong the life of the instrument:

**High process temperatures:** Temperature at the instrument can be lowered by using a dead-leg extension. Using 1/4" stainless tubing, each 2 inches of extension will lower the process temperature about 100F. For high temperature with clogging media, a diaphragm seal with capillary can be used. **High Ambient temperatures:** The instrument can be removed from the hot zone using piping, tubing, or capillary with a diaphragm seal.

Corrosive media: A chemically compatible diaphragm seal can isolate the transmitter from the corrosive media

**Pulsation:** Pressure fluctuations in an incompressible fluid can cause damaging pulsation (such as water hammer). This is a common cause of failure in pressure transducers, and measures should be taken to avoid this condition. Use of a snubber or restrictor screw (threaded orifice) should be considered.

## GENERAL PURPOSE TRANSMITTERS

## SERIES

- 0.5% or 0.25% accuracy, for general industrial use
- All-stainless welded body and wetted parts
- 4-20 mA or Voltage Output
- Rugged, with protection from shock, over-range, & over-voltage. Internals potted in silicone gel.
- Internal zero & span adjustments
- Compatible with Reotemp DM series Digital Indicators
- 100% inspected, "Ready-to-go" out of the box



## Applications:

Process control, engine testing, hydraulics, injection molding, stamping presses, machine controls, most general industrial pressure applications.

3.56 Ø1 07 .50 Case style 1 Dimensions in inches Note: dimensions are nominal and may vary.

TG series transmitters are compatible with Reotemp DM series digital indicators (p.37). Each Reotemp transmitter is inspected and calibrated prior to shipment, to ensure it is 100% "Readyto-Go" right out of the box!

## **Specifications:** (Also see General specs, page 39)

**Output Signal:** 4-20 mA, 2 wire (std)

0-5 V, 0-10 V, 1-6 V, or 1-11 VDC (3 wire) Pressure Ranges: Vacuum, compound, pressure to 15000PSI;

gauge and absolute

Proof and Burst Pressures	Proof pressure	Burst pressure
0/5 thru 0/200psi	3 x range	3.8 x range
0/300 thru 0/10,000 psi	1.75 x range	4 x range
0/15,000 psi	1.5 x range	3 x range

Accuracy (BFSL): +/- 0.5% of span (standard) (incl. repeatability, +/- 0.25% of span (optional)

hysteresis, and linearity):

Adjustment: Input:

Temperature:

+/- 10% full scale, zero & span 12-30 VDC (for current output)

14-30 VDC (for voltage output) Compensated: +32 to 175 deg F

Effect: +/- 0.02% of span / deg F Media: -22 to 212°F (-30/100C) Ambient: -40 to 185°F (-40 to 85°C)

Weight: Approx. 3.5 oz (90g)



TG1 = General Purpose Transmitter (Case style 1)\*

## Range: SEE PAGE **39 FOR**

Check with Reotemp sales if dimensions are critical.

Vacuum, Compound, Pressure 0/5psi to 0/15,000psi

**RANGE** 

**CODES** 

## **Accuracy:**

1 = +/-0.5% Full Scale

2 = +/-0.25% Full Scale

## **Output Signal:**

A = 4-20mA, (2 wire) (std)

B = 0.5 VDC. 3 wire C = 1-5 VDC, 3 wire

D = 1-6 VDC. 3 wire E = 0-10 VDC. 3 wire

F = 1-11 VDC, 3 wire

## **Process** Connection:

4 = 1/4" NPT (Male) **7** = 7/16-20UNF Male (SAE J-514) 8 = 1/8" NPT (Male)

## Electrical Connection:

A = Mini-Hirschmann (w/36" cable)

B = Mini-Hirschmann (no cable)

E = 4 pin Bendix\* F = 6 pin Bendix\* **J** = 1/2" NPT Conduit (w/36" cable)

## Options:

1 = Threaded Orifice (SS, M3.5)

2 = Restrictor Screw

S = Snubber (Diaphragm Seals available)

\*Note: All dimensions and specs. are for case style 1. Other case styles available

## SERIES TH

## HEAVY DUTY, HIGH ACCURACY Transmitters



- Heavy-duty, 0.25% or 0.12% accuracy
- All-stainless welded Body and Wetted Parts
- Very low to very high Pressure Ranges
- Engineered for high stability, shock resistance, and durability - (internal electronics potted in silicone gel.)
- Internal zero & span adjustments
- 4-20 mA, or choice of several voltage outputs

TH series transmitters are compatible with Reotemp DM series digital indicators (p.37). Each Reotemp transmitter is inspected and calibrated prior to shipment, to ensure it is 100% "Ready-to-Go" right out of the box!

## **Specifications:** (Also see General specs, page 39)

**Output Signal:** 4-20 mA, 2 wire (std)

0-5 VDC, or 1-10 VDC (3 wire)

Pressure Ranges: Vacuum, compound, pressure to 60,000 PSI;

gauge and absolute

Proof & Burst P	ressures
-----------------	----------

Proof pressure Burst pressure 0/5 thru 0/200psi 3 x range 3.8 **x range** 0/300 thru 0/10,000 psi 1.75 **x range** 4 x range 1.5 **x range** 0/15,000 psi 3 x range 0/20,000 thru 0/120,000 psi 1.2 x range 1.5 x range

Accuracy (BFSL): +/- 0.25% of span (standard) (incl. repeatability, +/- 0.11% of span (optional)

hysteresis, and linearity):

Adjustment: +/- 10% full scale, zero & span 10-30 VDC (for current output) Input: 14-30 VDC (for voltage output)

Compensated: +32 to 175°F (0/80°C) Temperature:

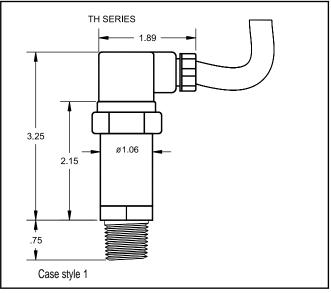
Effect: +/- 0.01% of span / deg F (on zero and span)

Media: -20 to 212°F (-30/100°C) Ambient: -15 to 175°F (-10 to 80°C)

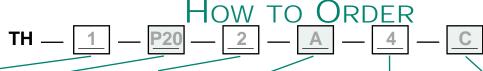
Weight: Approx. 7.2 oz (187g)

## **Applications:**

Process control, hydraulics, lab or test, where higher performance is needed. Model THF with flush diaphragm is suitable for measurement of slurries or viscous media.



Note: dimensions are nominal and may vary. Check with Reotemp sales if dimensions are critical.



## TH1 = High-Accuracy Transmitter (case style 1)\*

## Range: **SEE PAGE 39** FOR RANGE

Vacuum, Compound, Pressure: 0/55INWC...to 60,000psi (TH1) 0/55INWC...to 7,500psi (THF)

CODES

## **Accuracy:**

2 = +/-0.25% Full Scale (std)

3 = +/-0.12%

Full Scale

**Output Signal:** 

A = 4-20mA, 2 wire (std)

B = 0.5 VDC, 3 wire

C = 1-5 VDC, 3 wire

E = 0-10 VDC. 3 wire

## Process Connection

## TH1:

2 = 1/2" NPT(std)

4 = 1/4" NPT

9 = 9/16-18 aminco\*\* (std on 30,000 to 60,000 psi)

### **Electrical** Connection:

- C = Hirschmann
- (w/36" cable) = Hirschmann (DIN 43650)
- F = 6 pin Bendix† J = 1/2" NPT conduit
- (w/36" cable)
- N = 1/2" NPTF ISO 4400 flex conduit conn.

## **Options:**

- 1 = Threaded Orifice (SS, M3.5)
- 2 = Restrictor Screw

Weld-in adapters for G1, G1/2

Diaphragm Seals, Snubbers



32

<sup>\*</sup>Note: All dimensions and specs. are for case style 1. Other case styles available.

<sup>\*\*</sup>Also known as Autoclove F250C. †Mating Connector sold separately

## INTRINSICALLY SAFE TRANSMITTERS

## SERIES TX

- Intrinsically safe for Hazardous Environments
- Heavy-duty, 0.25% or 0.1% accuracy
- Very low to very high Pressure Ranges
- Internal zero & span adjustments
- All-stainless welded Body and Wetted Parts
- Shock-proof internals potted in epoxy

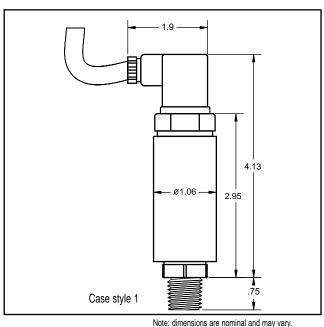




Petrochemicals, chemicals, and other hazardous applications requiring Class I, Division I protection.







Check with Reotemp sales if dimensions are critical.

prior to shipment, to ensure it is 100% "Ready-to-Go" right out of the box!

Specifications: (Also see General specs, page 39)

FM, CSA, CENELEC, BASEEFA, and PTB Approvals:

approved for Class I, II, III; Division 1, groups A, B, C, D, E, F, G. Nonincendive for Class I, Div 2,

Groups A, B, C, D.

**Output Signal:** 4-20 mA, 2 wire

Pressure Ranges: Vacuum, compound, pressure to 15000PSI;

gauge and absolute

Proof & Burst Pressures	Proof pressure	Burst pressure
0/5 thru 0/200psi	3.5 x <b>range</b>	3.5 x range
0/300 thru 0/10,000 psi	2 x range	2 x range
0/15,000 psi	1.5 x <b>range</b>	2 x range
0/25,000 and 0/60,000 psi	1.2 x <b>range</b>	2 x range

Accuracy (BFSL): +/- 0.25% of span (standard) +/- 0.12% of span (optional) (incl. repeatability, hysteresis, and linearity)

+/- 10% full scale, zero & span

Adjustment: 10-30 VDC Input:

Compensated: +32 to 175°F (0/80C) Temperature:

Effect: +/- 0.01% of span / deg F (on zero and span)

Media: -5 to 120°F (-20/50°C) Ambient: -5 to 120°F (-20/50°C)





TX1 = Intrinsically Safe transmitter-(case style 1)\*

Range: **SEE PAGE 39 FOR RANGE CODES** 

Vacuum, Compound, Pressure 0/55INWC...to 30,000psi (TX1) 0/55INWC...to 7.500psi (TXF)

Accuracy: **2** = +/-0.25% Full Scale (std)

3 = +/-0.12%Full Scale

**Output Signal:** 

A = 4-20mA, 2 wire

4 = 1/4" NPT

**Process Connection Electrical TX1:** 

2 = 1/2" NPT(std)

Connection:

C = Hirschmann (w/36" cable)

D = Hirschmann (DIN 43650)

N = 1/2" NPTF ISO 4400 flex conduit conn.

**Options:** 

1 = Threaded Orifice (SS, M3.5)

2 = Restrictor Screw

Weld-in adapters for G1, G1/2

Diaphragm Seals Snubbers

Note: All dimensions and specs, are for case style 1. Other case styles available

## Series TS

Submersible, Liquid-Level Transmitters



 Accurate Level Measurements from 5" WC to 300 psi

- 316 Stainless Steel and Polyurethane wetted parts
- 0.25% or 0.1% accuracy
- Vented, Strong Submersible Cable
- Lightning, short circuit, reverse polarity protection
- NEMA 6/IP68 protection, submersible to 1000 ft.

TS series transmitters are compatible with Reotemp DM series digital indicators (p.37). Each Reotemp transmitter is inspected and calibrated prior to shipment, to ensure it is 100% "Ready-to-Go" right out of the box!

## Applications:

Tank level, well level; municipal and industrial applications requiring watertight protection.

## **Specifications:** (Also see General specs, page 39)

Output Signal: 4-20 mA, 2 wire

0-5 VDC, 0-10 VDC, or 0.5-2.5 VDC (3 wire)

Pressure Ranges: 0-2PSI thru 0-500PSI

Proof Pressure: 2 x range Burst Pressure: 4 x range

Accuracy (BFSL): +/- 0.25% of span (standard) (incl. repeatability, +/- 0.125% of span (optional)

hysteresis, and

linearity):

Input: 12-30 VDC (for current output) 14-30 VDC (for VDC output)

6 VDC (for 0.5 to 2.5VDC output)

Temperature: Compensated: +32 to 122°F (0/50°C)

Effect: +/- 0.01% of span / deg F (on zero and span)

Media: -14 to 175°F (-10/80C)

Environmental Protection: NEMA 6, IP68 (submersible to 1,000 ft.)

Electrical Protection: Reverse polarity, short circuit, and lightning protection.

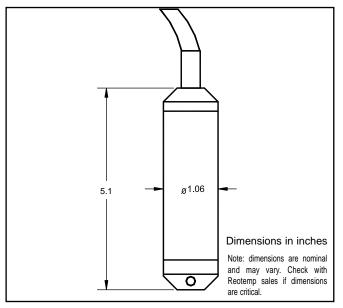
Submersible Cable: Vented, watertight, polyurethane jacketed.

Tensile strength: maximum 220 pounds

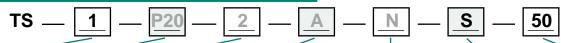
Wetted Parts: Body - 316 stainless

Cable – polyurethane (teflon available)

Nose cone - Polyamide



## How to Order



TS1 = Submersible Liquid Level Transmitter (case style 1)*	Range: See p. 39 for std. Range codes thru 0/500psi.  Special INWC ranges for TS1: IN50 =0/50 IN100 =0/100 IN150 =0/150 IN200 =0/200 IN400 =0/400	Accuracy: 2 = +/-0.25% Full Scale (std) 3 = +/-0.125% Full Scale (optional)	Output Signal:  A = 4-20mA, (2 wire) (Std)  B = 0-5 VDC, 3 wire  E = 0-10 VDC, 3 wire  H = 0.5-2.5 VDC, 3 wire	Process Connection: N = Nose Cone (std) W = Nose Cone w/added weight	Electrical Connection: S = Submersible cable	Cable Length: Specify length in feet
--	---	---	--	--	--	---

 ${}^\star \text{Note: All dimensions}$  and specs. are for case style 1. Other case styles available.

## **OEM TRANSMITTERS**

## SERIES T

- Reliable, Economical, 0.5% accuracy
- Shock Resistant, High over-range Protection
- 4-20 mA or voltage output
- All-stainless Body and Wetted Parts

### Applications:

1.47

1.38

.50

Hydraulics, refrigeration, robotics, machine controls; industrial or OEM applications where performance, reliability, and value are needed.

1.88

ø1.67 -



TM series transmitters are compatible with Reotemp DM series digital indicators (p.37). Each Reotemp transmitter is inspected and calibrated prior to shipment, to ensure it is 100% "Ready-to-Go" right out of the box!



**Output Signal:** 4-20 mA, 2 wire (std)

0-10 VDC (3 wire)

Pressure Ranges: Vacuum, compound, pressure to 15,000PSI

**Proof & Burst Pressures** 0/5 thru 0/200psi 0/300 thru 0/10,000 psi 0/15,000 psi

	Proof pressure	Burst pressure		
	3 x range	3.8 x <b>range</b>		
i	1.75 <b>x range</b>	2.6 x <b>range</b>		
	1.5 <b>x range</b>	3 x range		

### Accuracy (BFSL):

(incl. repeatability,

hysteresis, and linearity): +/- 0.5% of span Input:

10-30 VDC (for current output) 14-30 VDC (for voltage output)

Temperature: Compensated: +32 to 175 deg F

Effect: +/- 0.02% of span / deg F (on zero and span)

Media: -22 to 212°F (-30/100°C) Ambient: -22 to 175°F (-30/80°C)

**Certifications:** 

### Note: dimensions are nominal and may vary. Check with Reotemp sales if dimensions are critical.

## OW TO URDER



## TM1 = **Heavy Duty** OEM Transmitter (case style 1)\*

## Range: SEE PAGE 39 FOR RANGE CODES

Pressure 0/5psi to 0/15,000psi

## **Accuracy:** 1 = +/-0.5%

**Output Signal:** A = 4-20mA, (2 wire) (Std) Full Scale

Dimensions in inches

C = 1-5 VDC, 3 wire D = 1-6 VDC, 3 wire

E = 0-10 VDC, 3 wire

## **Process Connection:**

4 = 1/4" NPT (std)

8 = 1/8" NPT male

## Electrical Connection:

C = Hirschmann (w/36" cable)

D = Hirschmann (DIN 43650)

N = 1/2" NPTF ISO 4400 flex conduit

### **Options:**

1 = Threaded Orifice (SS, M3.5)

2 = Restrictor Screw

Diaphram Seals. Snubbers

<sup>\*</sup>Note: All dimensions and specs. are for case style 1. Other case styles available.

## SERIES THS

## 3A SANITARY TRANSMITTERS



- 3A, Tri-clamp Sanitary Connection
- 316 Stainless Wetted Parts
- Designed for "Clean-in-place" and "Sterilize-in-place" procedures
- Media temperatures to 250F (121C)
- Internal zero & span adjustments

## **Applications:**

Food, dairy, pharmaceutical, beverage, biotech.

THS series transmitters are compatible with Reotemp DM series digital indicators (p.37). Each Reotemp transmitter is inspected and calibrated prior to shipment, to ensure it is 100% "Ready-to-Go" right out of the box!

**Specifications:** (Also see General specs, page 39)

Output Signal: 4-20 mA, 2 wire (std)

1-5 VDC, 1-6 VDC, or 1-11 VDC (3 wire)

Pressure Ranges: Vacuum, compound, pressure 0/2 to 0/1000 PSI

gauge and absolute. Ranges 60psi and below not

recommended with 3/4" tri-clamp.

Proof & Burst Pressures 0/5 thru 0/200psi 0/300 thru 0/1,000psi Proof pressure Burst pressure

3 x range 3.8 x range

1.75 x range 4 x range

Accuracy (BFSL): +/- 0.5% of span (standard)

+/- 0.25% of span (optional)

Adjustment: Input:

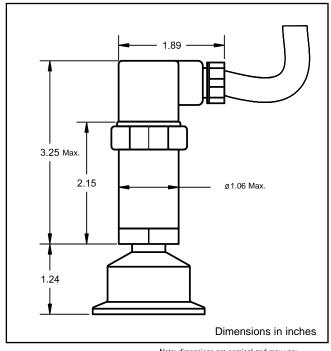
+/- 5% full scale, zero & span 10-30 VDC (for current output)

14-30 VDC (for voltage output)

**Temperature:** Temperature effect with 1.5" or 2" triclamp:

+/- 0.1% of span / 10°F (for zero & span) or +/- 0.02psi/ 10°F (greater of)

Note: 3/4" Triclamp not recommended for temperature variations. Effect is < = +/- 0.9psi/ 10°F



Note: dimensions are nominal and may vary. Check with Reotemp sales if dimensions are critical.

## How to Order



THS =
Sanitary
Transmitter
SEE PAGE 39
FOR RANGE
CODES
Vacuum,
Compound,

Pressure

RANGES: 0/5psi

to 0/1,000psi

**Accuracy:** 1 = +/-0.5%

= +/-0.5%
Full Scale

A = 4-20mA, (2 wire)
C = 1-5 VDC, 3 wire

2 = +/-0.25% Full Scale

Output Signal: A = 4-20mA, (2 wire) (Std)

D = 1-6 VDC, 3 wire
F = 1-11 VDC, 3 wire

L = 2" Tri
A = 2.5"
CI = 2" C

Process Connection:

C = 1.5" Triclamp L = 2" Triclamp A = 2.5" Triclamp CI = 2" Cherry-

A = 2.5" Iriclamp

CI = 2" CherryBurrell "I"-line

M\*= 3/4" Triclamp
(other connections available)

Electrical Connection:

A\*= Mini Hirschmann (w/36" cable)

B\*= Mini Hirschmann (no cable)
C\*\*= Hirschmann (w/36" cable)

A = 2.5" Triclamp

CI = 2" Cherry
Burrell ""-line

F = 6 pin Bendix

J = 1/2" NPT male conduit (w/36" cable)

\* Used for all .5% acc. except <5 psi

\*\* Used for all .25 acc. and all <5 psi

## Fill Fluid:

G = Glycerin (std)

S = Silicone N = Neobee M-20

H = Halogenated inert fluid

V = Vegetable oil

\*Note: REOTEMP recommends 1.5" or 2" triclamp for variable temperature service.



## DIGITAL INDICATORS POWER SUPPLY

## Series DM

- Built-in Transmitter Power Supply.
- 4-20 mA or voltage input (optional-Thermocouple or RTD.)
- Factory Scaled and Calibrated to your specs - "Ready-to-Go"
- Advanced technology for drift-free readout
- Max and Min Memory.
- Easy Menu-driven Programming, with lockout.
- NEMA 4X/IP65 sealed front bezel.
- 4 1/2 Digit display (-19,999 to 99,999)
- Optional 4-20 mA, Voltage, Relay, RS-232 Output, or Modbus



## How to Order

Specify Model + Options (example DM31-A1)

Model	Input
-------	-------

DM31	4-20mA (std)
DM32	Voltage (specify)
DM38	Thermocouple (specify)
DM39	RTD (specify)

### **Options**

00	No expansion capability.						
01	No options, but expansion ca	No options, but expansion capable.					
<b>A1</b>	Analog Output (4-20 mA or 0-10VDC)						
R2	Relay Output (2 relays, form C, 5A @ 240VAC)						
R3	Relay output (4 relays, form A, 3A @ 250VAC)						
D1	RS-232 Output						
E1	Enclosure, NEMA 4 E2	2	Units Label Kit				

REO*TEMP* will calibrate the indicator to your transmitter and scale it to your specs. Just tell us how you want it, and it will arrive "Ready-to-Go."

### DM3 - Specifications:

Display: 4 1/2 digit, 0.56" red LED (-19999 to +99,999)

Power: 85 to 250 VAC , 50/60 Hz, 15 VA

(optional- 11 to 36 VDC or 24 VAC)

Signal Input Range: 4-20 mA DC or VDC to 300 V max.

**Accuracy:** 0.01% of span + 1 digit ( 18/28 deg. C, 10/75%RH)

0.04% of span + 1 digit (0/50 deg. C, 0/85%RH)

Input Impedence: 20 ohm @ 20 mA (500 Kohm @ 10VDC)
Update rate: 1 to 10 updates/sec. (programmable)

Excitation power: 24 VDC, +/- 5%, regulated, 50 mA max

Environmental Conditions: Operating, 0/50 deg. C

Storage: -40/60 deg. C

Certifications: Electromagnetic Immunity to EN 50082-2

Electromagnetic Emissions to EN50081-2

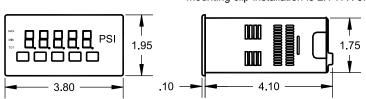
Construction: One-piece bezel/case, rated to NEMA 4X/IP65

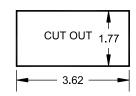
indoor use (when properly installed).

Weight: 10.4 oz. (295g)

Optional Output: 4-20 mA, 0-10VDC, relay, RS232, or Modbus

Note: Recommended minimum clearance (behind panel) for mounting clip installation is 2.1"H X 5.0"W.





Dimensions in inches

## SERIES TE

## EXPLOSION PROOF TRANSMITTER

- **Approved for Hazardous Environments**
- All Welded 316SS and Elgiloy
- 4-20 mA or Low Power Voltage Outputs
- Accuracy +/- 0.25% Full Scale (BFSL)

## **Specifications**

Output signals: 4-20 mA (2 wire); 1-5Vdc, .5-4.5 Vdc (3 wire)

Accuracy: 0.25% (std)

Ranges: Vacuum, compound, pressure 0/15psi to

0/15.000psi

**Proof/Burst pressures:** Same as series TG (page 31)

**Power Supply:** 10-30 Vdc for 4-20mA; 6-30Vdc for low power

<= 12Vdc)

\*Note: All dimensions and specs. are for case style 1. Other case styles available.

voltage output (<=2mA for power supply

Temperature: Compensated 32 to 176°F

Effect: +/- 0.011% FS/°F

Ambient and Media: -25 to 212°F

(-58/221°F optional)

**Environmental Rating: IP67** 

**Wetted Material:** 316 SS (ranges up to 300psi); 316SS with

Elgiloy (ranges above 300psi)

Hazardous Approvals: FM; Explosion proof with entity approval

CI. I, Div. 1, A,B,C,D

Dust/Ignition proof CI. II/III, Div. 2, E,F,G

## How to Order



## Range:

### SEE P. 39 FOR **RANGE CODES**

Vacuum, compound, pressure 0/15 to 0/15,000 psi

## **Accuracy:**

2 = +/- 0.25% (std) **BFSL** 

**Output:** 

**A** = 4-20 mA (2 wire, std.)

Case style 1

 $\mathbf{B} = 1-5 \, \text{Vdc}$ , low power (3 wire)

N = 0.5 - 4.5 Vdc, low power (3 wire)

### **Process Connection:**

4 = 1/4" NPT male

2 = 1/2" NPT male

7 = 7/16-20 UNF (SAE #4) male

## **Electrical Connection:**

U = 1/2" NPT conduit w/6 ft. cable

R = 1/2" NPT conduit

w/6 ft. flying leads

## XTDM-1

## REO*TEMP* 2.0" XTDM-1 3.6" Dimensions in inches

## How to Order

1. Specify P/N XTDM-1

2. Indicate display range 4 mA =

20 mA=

e.g., for 0-200 range: XTDM-1 (4 mA = 0 20 mA = 200)

## "PIGGYBACK" DIGITAL INDICATOR

- Mounts to 4-20 mA transmitter
- Simply plug in between Hirschmann connector and transmitter body
- 4-20 mA or 0-10VDC signal
- 316SS & Viton wetted parts

## **Specifications**

Display: 0.4" high LCD

Programmable Range: -1999 to + 1999

Accuracy: +/- 0.2% full scale, +/- 1 digit

Update rate: 5 /sec Filtering: Field selectable, 0.2 – 1.5 sec Power: Loop powered. Voltage drop, 3 VDC. **Temperature:** Ambient: 32 to 122°F (0 to 50°C) Storage: -22 to 176°F (-30 to 80°C)

Effect: -0.1% per 10°C (18°F)

Rating: CE compliant to EMC norm EN LI326

1997/AI:1998 Weight: 3oz. approx.

## Transmitter Technical Reference

## General Specifications

For Reotemp Pressure Transmitters shown on pp 31-38. (See specific specs on each product page.)

Wetted Parts: 316SS (ranges under 400 psi). Hi press. Ranges, 17-4 PH SS diaphragm and 300 series SS pressure chamber

Repeatability: 0.05% of scale (model TM, 0.2%)

Hysteresis: 0.1% full scale

Stability: 0.2% full-scale (model TM, 0.5%) Response time: < 1 ms (between 10-90% of

scale). [Model TM, <5 ms]

Operating Life: 100 million cycles

rating:

Electromagnetic CE compliant to EMC norm EN61326:1997/A1: 1998 RFI, EMI and ESD protection

**Electrical Protection: Reverse Polarity, over** voltage, and short circuit protection

Shock: Less than +/- 0.05% full scale effect for 1000 g's @ 2ms on any axis (model TM: 600 g's)

Vibration: Less than +/- 0.01% full scale effect for 15 g's @ 0-2000 Hz on any axis (Model TG: less than 0.05% full scale effect for 20 g's @ 5-2000 Hz on any axis.)

Temperature Range for Storage: -40 to 212 degrees F (series 612, -22 to 175 degrees F).

**Environmental protection: NEMA 4x (DIN IP65)** (series TS, NEMA 6, IP68)

Electromagnetic ratings: CE compliant to EMC norm EN61326: 1997/A1:1998. RFI, EMI, and ESD protection.

**Proof Pressure and Burst Pressure can be found** for individual models on product pages.

> At Proof Pressure, zero and span may shift but no permanent damage has

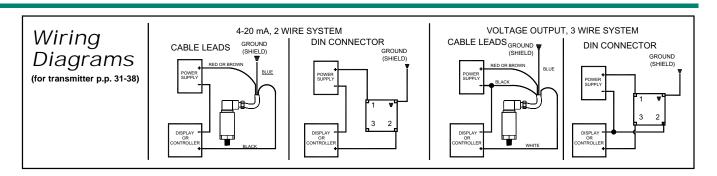
At Burst Pressure, permanent, nonrecoverable damage may occur.

Note: Specifications are subject to change.

	TYPE	П		TG1			TH1	TX1	TE	TS	THS	Т	M
Code	Range	Ħ	Ge	neral P	urpose		Hi-Acc	I.S.	Expl. Prf.	Sub- mersible	Sanitary	0	EM
Output	, ,	Ħ	4-20mA	0-5V	0-10V	1-11V	4-20mA	4-20mA	4-20mA	4-20mA	4-20mA	4-20mA	0-10VDC
	ss Connection	Ħ	1/4NPT	1/4	NPT		1/2NPT	1/2NPT	1/2NPT	Nose	Triclamp	1/4"N	
Vacuum		H					172141	172141 1	1,=111		р	.,,,,	
P01	-30"H <b>g</b> VAC	H	Υ	Υ	Υ	Υ	Υ	Υ	Y		Υ	Υ	Υ
		Н	T	T	ī		T	T	ī		T	ĭ	ĭ
Compound P02		Н	Υ	Υ	Υ	Υ	Υ	Υ			Υ		
P02	-30"Hg/0/15psi -30/0/30 psi	Н	Y	Y	Y	Y	Y	Y	Υ		Y		
P04	-30/0/30 psi	Н	Y	Y	Ÿ	Ÿ	Y	Y	Y		Ϋ́		
P05	-30/0/100 psi	Н	Ÿ	Ÿ	Ÿ	Ÿ	Y	Ÿ	Y		Ÿ		
P06	-30/0/150psi	H	Ý	Ÿ	Ÿ	Ÿ	Y	Y			Ý		
P07	-30/0/200psi	Ħ	Y	Y	Y	Y	Y	Y	Υ		Ÿ		
P08	-30/0 <b>/</b> 300psi	▮	Υ	Υ	Υ	Υ	Υ	Υ			Y		
Pressure I		П											
L11	0-55 INWC	T					Υ	Υ		See	Υ		
L12	0-80 INWC	J					Υ	Υ		page	Y		
L13	0-140 INWC		Υ				Υ	Υ		34 f <b>o</b> r	Υ		
L14	0-280 INWC		Υ				Υ			ranges	Υ		
P11	0-2 psi	Ц					Υ	Υ		Υ	Υ		
P12	0-3 psi	Ц				Ļ	Y	Υ		Υ	Υ		
P13	0-5 psi	Ц	Υ	Υ	Υ	Υ	Υ	Υ		Y	Υ		
P14	0/10 psi	Ц	Υ	Υ	<b>&gt;</b> ;	>)	Y			Y	Υ		.,
P15	0/15 psi	Н	Υ	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
P16 P17	0/30/ psi	Н	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
P18	0/60 psi 0/100 psi	Н	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
P19	0/100 psi 0/150 psi	Н	Y	Y	Y	Y	Y	Y		Y	Ÿ	Y	Y
P20	0/130 psi 0/ <b>2</b> 00 <b>p</b> si	H	Y	Y	Y	Ÿ	Y	Ý	Υ	Ý	Ÿ	Ÿ	Y
P21	0/300 psi	Ħ	Ÿ	Ÿ	Y	Ÿ	Y	Ÿ	Y	Ý	Ÿ	Ÿ	Ÿ
P26	0/500 <b>p</b> si	Ħ	Y	Ÿ	Y	Y	Y	Y	Y	Y	Ý	Ŷ	Υ
P23	0/600 psi	٦	Υ	Υ	Υ	Υ	Υ	Υ			Y	Υ	Υ
P27	0/750 psi	П	Υ	Υ	~	~	Υ	Υ			Υ	Υ	Υ
P25	0/1000 psi		Υ	Υ	Υ	Υ	Υ	Υ	Υ			Υ	Υ
P30	0/1500 psi	Ц	Υ	Υ	Υ	Υ	Υ	Υ	Υ			Υ	Υ
P31	0/2000 psi	Ц	Υ	Υ	Υ	Υ	Υ	Υ	Υ			Υ	Υ
P32	0/3000 psi	Ц	Υ	Υ	Υ	Υ	Y	Υ	Υ			Υ	Υ
P33	0/4000 psi	Ц	\ <u>'</u>	\/		\ <u>'</u>	Y		V				V
P34 P35	0/5000 psi	Н	Y	Y	Y	Y	Y	Y	Υ			Y	Y
P35	0/6000 psi 0/7500psi	Н	Y	Y	Y	Ť	Y	Y				Y	Y
P37	0/10000 psi	Н	Y	Y	Y	Ÿ	Y	Y	Υ			Y	Y
P38	<b>0</b> /15000 <b>p</b> si	H	Ÿ	Y	Ÿ	Ÿ	Y	Ý	_			Ý	Ÿ
P39	0/20000 psi	Ħ					Ÿ						•
P40	0/30000 psi	Ħ					Y						
P41	0/40000 psi	d					Y						
P42	0/50000 psi						Υ						
P43	0/60000psi						Υ						
Absolute F	Pressure Rang	es	3										
A15	0/15 psia		Υ	Υ	Υ	Υ	Υ	Υ	Υ		Υ	Υ	Υ
A16	0/30/ psia	Ц	Υ	Υ	Υ	Υ	Υ	Υ			Υ	Υ	Υ
A17	0/60 psia	Ц	Υ	Υ	Υ	>	Υ	Υ			Υ	Υ	Y
A18	0/100 psia	Ц	Υ	Y	Υ	> :	Y	Y	Υ		Y	Υ	Y
A19	0/15 <b>0</b> psia	Ц	Y	Υ	<b>&gt; &gt;</b>	>	Y	Y			Y	Υ	Y
A20 A21	0/200 psia	Н	Y	Y	Y	Y	Y	Y			Y		
	0/300 psia	Ц						_	l ailabilib.	Marria		م ماغنی دار	.4 4'

Standard, in-stock ranges (for 4-20ma) are shaded (Subject to availability - May be changed without notice)

Y = Available
Y = normally in stock



## MECHANICAL PRESSURE SWITCHES

REO*TEMP'*s Mechanical Pressure Switches are suited for a variety of process applications, where electrical devices must be turned on/off in response to changing process pressure.

- Reliable Piston-Actuated, Force Balanced construction
- · Rugged, high cycle rate tolerance
- Precise resolution of set points
- Field-Adjustable set points (No charge factory calibration)
- Simple Installation no special tools
- Long Service Life no required periodic service no spare parts required
- UL, CSA certified switching elements



# Explosion Proof Case NEMA 4 Case NIN, N3: Max 5.89 RN, RT: Max 6.89 2.3 Dimensions in inches

## **Standard Specifications**

Switching Elements: SPDT, or DPDT

Current Capacity: 15A at 250VAC; 5A at 30VAC

Housing: NEMA 4, 4X, or Explosion Proof

(Class.1, Group C & D; Class.2, Group E,F,G, Division 1, 2)

Electrical Outlet: 3/4" NPTF

Adjustable Setpoints: From full vacuum to 550psi

Wetted Diaphragm: Teflon/Buna, 316 SS/Viton.

Wetted Pressure Ports: 316 SS, Aluminum, Cast Iron

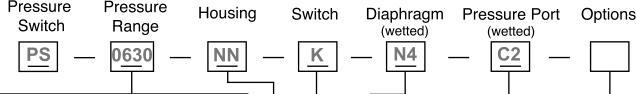
Overrange: 200 psi to 1,500 psi

Warranty: 3 years

Note: Specifications are for standard switches shown on next page. A wide variety of alternate housings, ranges, switches, wetted parts and options are available on request.

## How to Order

## Mechanical Pressure Switches



		Press	ure Rang	je
Overrange	f	Press	Typical	
ərra	Proof	(Set po	Dead Band	
ŏ	"		in range)	(at mid point)
		Pr	essure	
		Code	Range	
psi	psi	1264	2.5 - 45 INWC	0.8 INWC
200 psi	400	1220	.04 - 2.0 psi	0.1psi
=		1250	.75 - 12 psi	0.1psi
750 psi	1000 psi	0440	2 - 25 psi	0.3psi
750	100	0450	3 <b>-</b> 50 psi	0.4psi
		0630	12 - 100 psi	0.9psi
500 psi	2500 psi	0650	20 <b>-</b> 180 psi	1.4psi
1500		0530	25 - 240 psi	2.2psi
		0545	45 - 550 psi	3.9psi
			<del>/acuum</del>	
750 psi	1000 psi	5418	-30" Hg	0.5" Hg
		C	ompound	
200 psi	400 psi	5217	-40/0/40 INWC	1.1 INWC
0: <u>1</u>	00 Si	5626	-30 Hg/0/10 psi	1" Hg/.5 psi
150 psi	2500 psi	5636	-30 Hg/0/80 psi	1.4" Hg/.7 psi

## **Housing**

### Weather tight: NEMA 4, 4X, IP65:

NN = Aluminum, One Outlet (R)

N3 = Aluminum, two Outlets (L,R)

RN = Aluminum, with 6-place Terminal Block One outlet (R)

RT = 316SS, with 6-place Terminal Block One outlet (R)

## **Explosion Proof**

(Class 1, Group C & D; Class II, Group E, F & G, Division. 1, 2)

L = Cast Iron, One Outlet (R) (Housing is weather tight with CG option)



## **Switch**

K = Single (SPDT)

KK = Dual (DPDT) - (KK has 6x dead band multiplier) Both Switches: 15 A @ 250 VAC. 5A @ 30 VDC

## **Options / Accessories**

MM= Vacuum protector plate (STD with vacuum + compound range)

**CG**= Cemented Cover Gasket

YY= Epoxy coating (Exterior)

RR= Stainless Steel tag (TT = H.D. Tag)

SP= Specify set point (set by factory, N/C) Example: SP 50A = 50psi ascending (If set point not specified, factory will set at mid point.)

> 316SS Diaphragm Seals (Max working pressure = 1,500 psi)

Process Connection	Code for 04-,05-,06-, 54-,56- ranges	Code for 12-,54-,56- ranges
1/2"NPTF	W52S	W62S
1/4"NPTF	W54S	W64S
ANSI Flange	W5FS	W6FS
(Specify Size)	std fill –	silicone

Other diaphragm seals available - consult factory.

## **Pressure Port (Wetted)**

### **316SS**

C1 = 1/4" NPTF

C2 = 1/2" NPTF

Sanitary Triclamp (3-A) Max. 600psi with Std. clamp

C8 = 1 1/2" Triclamp (ranges 05-,06-,56-)

C9 = 2" Triclamp

(ranges 04-,05-,06-,54-,56-)

Other Triclamp sizes available. std. fill = glycerin

## Aluminum

(Available on ranges beginning:12, 04, 52, 54)

**B1** = 1/4" NPTF **B2**=1/2" NPTF



## optional 3-A triclamp

REOTEMP

### Cast Iron

(Available on ranges beginning 06, 05, 56)

F1 = 1/4" NPTF

F2 = 1/2" NPTF

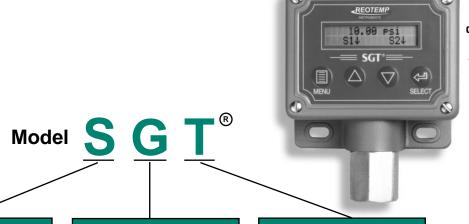
## **Diaphragm (Wetted)**

N4 = Teflon - coated Polyamide

w/ Buna O - ring

M4 = 316SS w/ Viton O - ring (required with 56- ranges)

## TRI-MODE PRESSURE SENSOR



## Switch

- Two SPST Switches
- Switches are Independent, Programmable (to SPDT, DPST, HH, LL, HL)
- Adjustable Setpoints, dead bands
- Display shows switch status
- Open or closed failsafe

## Gauge

- Local Indicator
- Ranges VAC., 10psi to 2,000psi
- 13 selectable engineering units
- 0.5% Accuracy
- Bench recalibrator

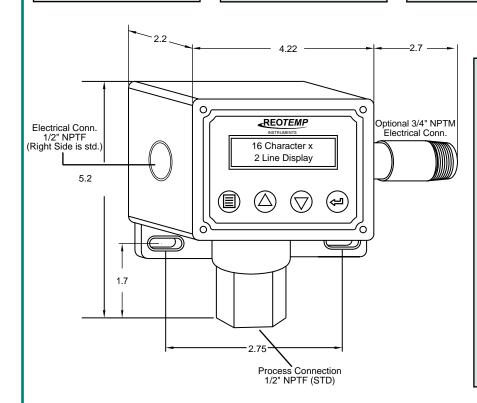
## Transmitter

- 4-20 mA Output
- Easy to Program
- Zero & span adjustable
- Up to 5:1 turndown
- + 10% zero offset
- High or low failsafe

## Easy-to-use Device

All in One

- Loop Powered (14-30VDC)
- NEMA 4, 4X, IP65
- Easy, Intuitive programming
- 2 Line x 16 character display
- 316SS, Hast. C-276, or Monel pressure port



The **REOTEMP** SGT Pressure Switch is a convenient, multi-purpose indicator for local and remote pressure sensing. The SGT<sup>®</sup> combines three pressure instruments in one easy to use, self-diagnostic configuration:

**Switch:** Two independent, programmable SPST Solid State Relays

**Gauge:** Local digital pressure indicator. **Transmitter:** Independent 4-20mA Output for remote display.

Operating the SGT is made simple with a descriptive menu structure with a helpful escape function. The SGT is ideal for applications requiring multiple pressure sensors in a confined area, or consolidating space in a process line.

## Tri-Mode Pressure Sensor

## SGT<sup>®</sup> Specifications

Ranges: Vaccum, pressure to 2,000psi

Over-pressure: 1.5 x range

Temperature (°F): Process: -20/250°F Ambient: -20/160°F Compensated: -20/160°F Storage: -40/185°F

Long-Term Accuracy: 0.5% URL Stability: 0.5% URL per yr.

Power: Supply: 14-30VDC (loop powered)

Electrical Protection: reverse polarity, EMI/RFI

Memory: Non-volatile

Transmitter Response Time: Sensor Sampling Rate: 20 ms Switches: ≤ 10 ms Transmitter (90% FSO): ≤ 15 mg Self-Diagnostic: ≤ 1 sec. Gauge Update: 600 ms (nom.)

Switch: two independent solid state MOS relays: SPST, NO Ratings: 1 A @ 25°C; 0.6 A @ 71°C; 125VAC/120VDC

Max. inrush: 3A @ 23°C

Off-State Leakage Current: 10  $\mu$ a Range: 0 to 100% URL Deadband: 0.2 to 100% URL Failsafe: open or closed

Gauge: Range: 0 to 150% of URL (Vacuum, 100%, of URL)

Resolution: ≤ 0.1% URL Engineering Units: 13 selectable

Transmitter: Analog, Loop powered: 4-20 mA, 2-wire

Zero Offset: +10% URL Span: 20% to 100% URL Failsfe: 3.6 mA or 22mA (per NAMUR NE43)

Wetted Parts: (Std.) Sensor: Ceramic (AL2O3)

Process Port: 316SS, 1/2" NPTF O-ring: Viton

Enclosure(Std.): Aluminum with 1 or 2 3/4" NPT conduit connections

Terminal Block: 14-28 AWG Protection: NEMA 4X, 1P65

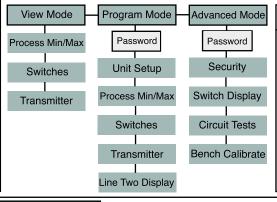
Mechanical: Vibration: 2g @ 15-150 Hz.; 1g @ 150-2,000 Hz Drop/Topple: per SAMA PMC 31.1 Weight: 1.68 lb

Agency Approvals: UL, cUL (Class I, II, III; Div 2; Nonincendive

ATEX Directive 94/9/EC Ex II 3 G/D



### Menu structure



Wetted

Temp°F

(-40/200°F)

(-40/200°F)

(40/250°F)

Factory Programmed Settings Switch: (S1)

Close = 80%URL 20%URL Open =90%URL 10%URL Failsafe = Open Open Flash =Closed Closed

Gage Units: psi Display = Switch Status

4-20mA = 0% - 100%URL Failsafe = 3.6 mA

Password = 0000

## **HOW TO ORDER**

## Pressure Range 20 Ranges 10 = 0-10psig 500 = 0.500psig 20 = 0-20psig 1K = 0-1000psig 50 = 0.50psig 2K = 0.2000psig 100 = 0-100psig 30V = 30"-0 Hg Vac Absolute ranges available. Other Engineering units (menu selectable): inH<sub>2</sub>0, ftH<sub>2</sub>O, in Hg, bar, mbar, mmH, mH20, mmHg, kg/cm, Pa, kPa, MPa **Electrical Connection** 2R = 1/2" NPTF (Right) (std.)

2L = 1/2" NPTF (Left)

2B = 1/2" NPTF (R + L)

3R = 3/4" NPTM (Right) **3L** = 3/4" NPTM (Left) 3B = 3/4" NPTM (R+L)

**Electrical Process Connection Connection** 

Wetted

O-Rings

B = Buna-N

E = EPR

K = Kalrez

## **Materials**

V = Viton(std) (-20/250 °F)

N = Neoprene (0/200 °F)

Options/ **Accessories** 

### **Options**

AB = Absolute Pressure Range

RR = S.S. Tag

PK = Pipe Mounting Kit

CE = Atex Approved CE compliant configuration (requires # 3 elec. conn.)

PP = Fiber Tag

W52S = Diaphragm Seal, 316SS, w/ 1/2" NPTF (other seals available) Max press.= 1,500 psi) std. fill = silicone

CC = Cert. of Calibraton

CM = Cert. of Wetted Materais

## **Process Connection** 2F = 1/2" NPTF (std.)

2M = 1/2" NPTM

BF = G1/2"(F)

Sanitary Triclamp (3-A) Max 600psi with std. clamp

C8 = 1 1/2" Triclamp C9 = 2" Triclamp

Other Triclamp sizes available. std. fill = glycerin

### **Pressure Port** S = 316SS (std)H = Hast. C-276

M = Monel

**Triclamp Wetted Parts SS** = All 316SS

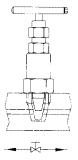
## NEEDLE VALVES

## Pressure Accessories

REOTEMP needle valves are high-quality, instrument grade valves that are designed for reliable operation and extended service life in a variety of environments. Standard features such as non-rotating tips, packing below stem threads, mirror finish packing surfaces and bonnet locking pins provide for smooth, safe, and trouble-free service.



### **SOFT SEAT**



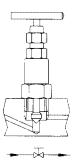
Soft, replaceable Delrin seat. Ideal for fluids containing solid particles or viscous fluids Max. temp: 212°F.

- · Straight thru path
- Roddable for easy cleanout
- · Delrin seat
- · High throughput
- Bidirectional

PART NUMBERS					
NPT, max pressure @ 100C	CARBON STEEL	316 S.S.			
1/2" MXF, 6000#	G5C166MF	G5SS166MF			
1/2" MXF, 6000#, NACE		G5SS166MF-NC			
1/2" FXF, 6000#	G5C166FF	G5SS166FF			
1/4" MXF, 6000#	G5C144MF	G5SS144MF			
1/4" FXF, 6000#	G5C144FF	G5SS144FF			

Optional seat materials: KEL-F, PEEK, PTFE

## HARD SEAT



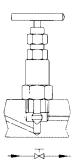
Metal seat and tip for high-pressure isolation of instrument lines. Suitable for liquid or gas service. Max. temp: 460°F.

- · Angled flow path for finer metering
- Metal-to-Metal bubble tight seal

	PART NUMBERS					
NPT, max pressure @ 100C	CARBON STEEL	316 S.S.				
1/2" MXF, 6000#	N2C166MF	N2SS166MF				
1/2" MXF, 10,000#	N2C266MF	N2SS266MF				
1/2" MXF, 10,000#, NACE		N2SS266MF-NC				
1/2" FXF, 6000#	N2C166FF	N2SS166FF				
1/2" FXF, 10,000#	N2C266FF	N2SS266FF				
1/4" MXF, 6000#	N2C144MF	N2SS144MF				
1/4" FXF, 6000#	N2C144FF	N2SS144FF				

Note: for "Block & Bleed" design with integral bleed, substitute B8 for N2.

### **SOFT TIP**



Soft Delrin tip on metal stem. Ideal for gas service. Max. temp: 212°F.

- Angled flow path for finer metering
- · Delrin tip / metal seat
- Bubble-tight seal

PART NUMBERS					
NPT, max pressure @ 100C	CARBON STEEL	316 S.S.			
1/2" MXF, 6000#	F3C166MF	F3SS166MF			
1/2" FXF, 6000#	F3C166FF	F3SS166FF			
1/4" MXF, 6000#	F3C144MF	F3SS144MF			
1/4" FXF. 6000#	F3C144FF	F3SS144FF			

Optional items available:

Angle pattern valves, high temperature assemblies (to 1,000°F), high pressure tip

assemblies, oxygen cleaning, NACE certification, compression fitting ends,

multi-outlet valves, valve manifolds.

Optional valve materials: Brass, Monel, Hastelloy C, 304 S.S., 316 S.S.

Also Available: Mini Needle Valves; Manifolds.

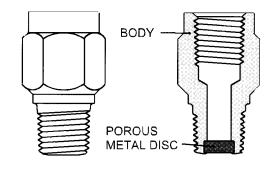


## SNUBBERS

REOTEMP Snubbers are a simple cost-effective solution to harmful pressure surges and pulsation. When a REOTEMP Snubber is installed it absorbs pulsation and surges - protecting your instrumentation and stabilizing the pointer for easier readings. Available in an adjustable self-cleaning piston design or economical porous disc type.



### **POROUS DISC TYPE**



- Economical choice for non-clogging applications
- Different porosities available for various viscosities

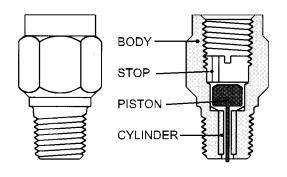
Material	Max. PSI	NPT	Porosity	Part #
Brass	5,000	1/4	Liquid Gas	PXS-722BE PXS-722BG
		1/2	Liquid Gas	PXS-723BE PXS-723BG
303SS	15,000	1/4	Liquid Gas	PXS-722SE PXS-722SG
		1/2	Liquid Gas	PXS-723SE PXS-723SG

Other Porosities available:

"D"= for thick oils

"HX" = for Hi-pressure gas

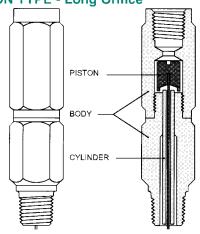
### **PISTON TYPE - Short Orifice**



- Moving Piston Design for self-cleaning action
- Solid Body for High pressure resistance
- •Three pistons included for adjustable snubbing

Material	Max. PSI	NPT	Length (in.)	Part #
Brass Monel	5,000	1/4	1.5	PXS-022B PXS-022M
303SS 316SS	15,000	1/4		PXS-022S PXS-022SS
Brass Monel	5,000	1/2	2.0	PXS-023B PXS-023M
303SS 316SS	15,000	1/2		PXS-023S PXS-023SS





- Moving Piston Design for self-cleaning action
- · Long orifice for smoother snubbing
- •Three pistons included for adjustable snubbing
- •Center Joint (1/4" and brass models) for easier adjustment

Material	Max. PSI	NPT	Length (in.)	Part #
Brass	3,000			PXS-010B
303SS 316SS	5,000	1/4 3.46		PXS-010S PXS-010SS
Brass	5,000			PXS-060B
303SS 316SS	10,000	1/2	3.61	PXS-060S PXS-060SS

## Pressure Gauge Accessories

## **Siphons**

Pigtail siphons are used in steam service to protect the instrument from direct exposure to high temperature steam.



## Common Siphon Part #'s

NPT	Material	Sched.	180 deg.	90 deg.	360 deg
1/4"		40	PXS21SS	PXS22SS	PXS24SS
1/4"	Steel	80	PXS21SX	PXS22SX	PXS24SX
1/2"		80	PXS51SX	PXS52SX	PXS54SX
1/4"		40	PXS214S	PXS224S	PXS244S
1/4"	304SS	80	PXS214X	PXS224X	PXS244X
1/2"		80	PXS514X	PXS524X	PXS544X
1/2"	316SS	40	PXS516S	PXS526S	PXS546S

## **How to Specify Siphons:**

**PXS** 2 1 4 (Pipe Schedule) Pressure (NPT) (Style) (Material) Accessory Siphon S= Sch 40 2= 1/4" A=Carbon Steel  $1=180^{\circ}$ (or alloy Stl Welded) X= Sch: 80 **5**=1/2" S= Carbon Steel 1= Sch 160 Seamless (1/2" only) 4= 304SS D= xx heavy **6**= 316SS (1/2" only) 1= Chrome Moly P11 2= Chrome Moly P22

## **Gauge Cocks**

1/4" NPT Brass, Max 100 p.s.i.



Female - Male Union #PXG-3101



Female - Female #PXG-1380



= normally in stock

Female - Female #PXG-1440

## **Restrictor Screws**

A restrictor screw (or throttle screw) is threaded into the process opening of the pressure gauge and helps to dampen rapid pressure fluctuations. This reduces pointer flutter, and can prolong the life of the gauge. Many REO*TEMP* industrial gauges are shipped with restrictor screw installed.

Specify part # PXR.

## **ELECTRICAL (ALARM) CONTACTS**

- Two easily adjustable setpoints
- Can be used to open or close on rise
- 0.7A max current (higher loads can be run through relay)
- Available on 4" dial (P/N PXEM21-40) or 4 1/2" dial (P/N PXEM21-45)



### MAX POINTER INDICATORS

- Indicates max pressure reached
- Easily reset
- Liquid fillable (Works best dry, though)
- Available for: 2 1/2" dial (MP-PR25)

4" dial (MP-PR40) 4 1/2" dial (MP-PT45)



## **CUSTOM DIALS**

**REOTEMP** can provide custom dials with:

- Special Ranges or designs
- Custom logos
- Colored zones

Consult factory for assistance with dial designs



## **OPTIONAL WINDOWS**

- Polycarbonate
- Laminated Safety Glass
- Polysulfone (for autoclaving)

## Pressure Services

Pressure Instrument Repair Services-Reotemp will be glad to quote on your repair and servicing needs for pressure gauges, transmitters, switches, and diaphragm seal systems.

Calibration and Certification – Services include testing, calibration, and certification of pressure gauges, transmitters, switches, and diaphragm seal systems. All certification is NIST traceable.

Certificate Description	Part#
Conformance/ calibration to NIST	CNISTPG
General calibration sticker	CALSTKPG
3 Logged Points - sticker & Cert.	CCALPG-3
5 Logged Points - sticker & Cert.	CCALPG-5
Switch setpoint cert	<b>CCALSW</b>

Oxygen Cleaning - removes oil from gauge intended for oxygen service.

Diaphragm Seal Application Assistance - REO*TEMP* will assist you in designing and specifying the most effective diaphragm seal system for your pressure or vacuum application. Contact factory for details.

## Other REOTEMP Products

## Temperature Products (Catalog # TI)



- Bimetal Thermometers
- Thermowells
- Sanitary Thermometers & Thermowells
- Filled System Thermometers
- Digital Thermometers
- Surface & Pocket Thermometers
- Temperature Switches

## Thermocouples & RTD's (Catalog # RTDTC)



- Head Assemblies
- Stem Assemblies
- Custom Lead Wire Configuration
- Sanitary 3-A RTD's
- Transmitters
- Digital displays
- Thermowells & Accessories

- Specialty Thermocouples
  - -Cut-to-Length
  - -Ceramic Tube
  - -Metal Tube
  - -Bare Wire
  - -Plastics
  - -Melt Bolt
- Bulk Thermocouple Wire

## REOTEMP Warranty Information

### **One Year Warranty**

REO*TEMP* warrants all pressure gauges and pressure products against defective workmanship or materials under normal use and service for one year following date of shipment. Reotemp's liability is limited to repair or replacement at the factory, shipping charges prepaid. This warranty does not cover deterioration from normal wear and tear, exposure to corrosive materials, exposure to temperatures or pressures in excess of those recommended, excessive vibration, or forces or abrasion which cause deformation of component parts. This warranty is expressly in lieu of any other warranty, expressed or implied. Reotemp shall not be liable for any direct or consequential damages arising out of any defects or from any cause whatsoever. Suitability of product for the customer's application rests with the customer; REO*TEMP* does not warrant suitability of its product for the application selected by customer.

REO*TEMP* reserves the right to make product improvements and change its specification stated throughout this catalog at anytime without notification. Please contact the factory on all critical dimensions and specifications for verification.