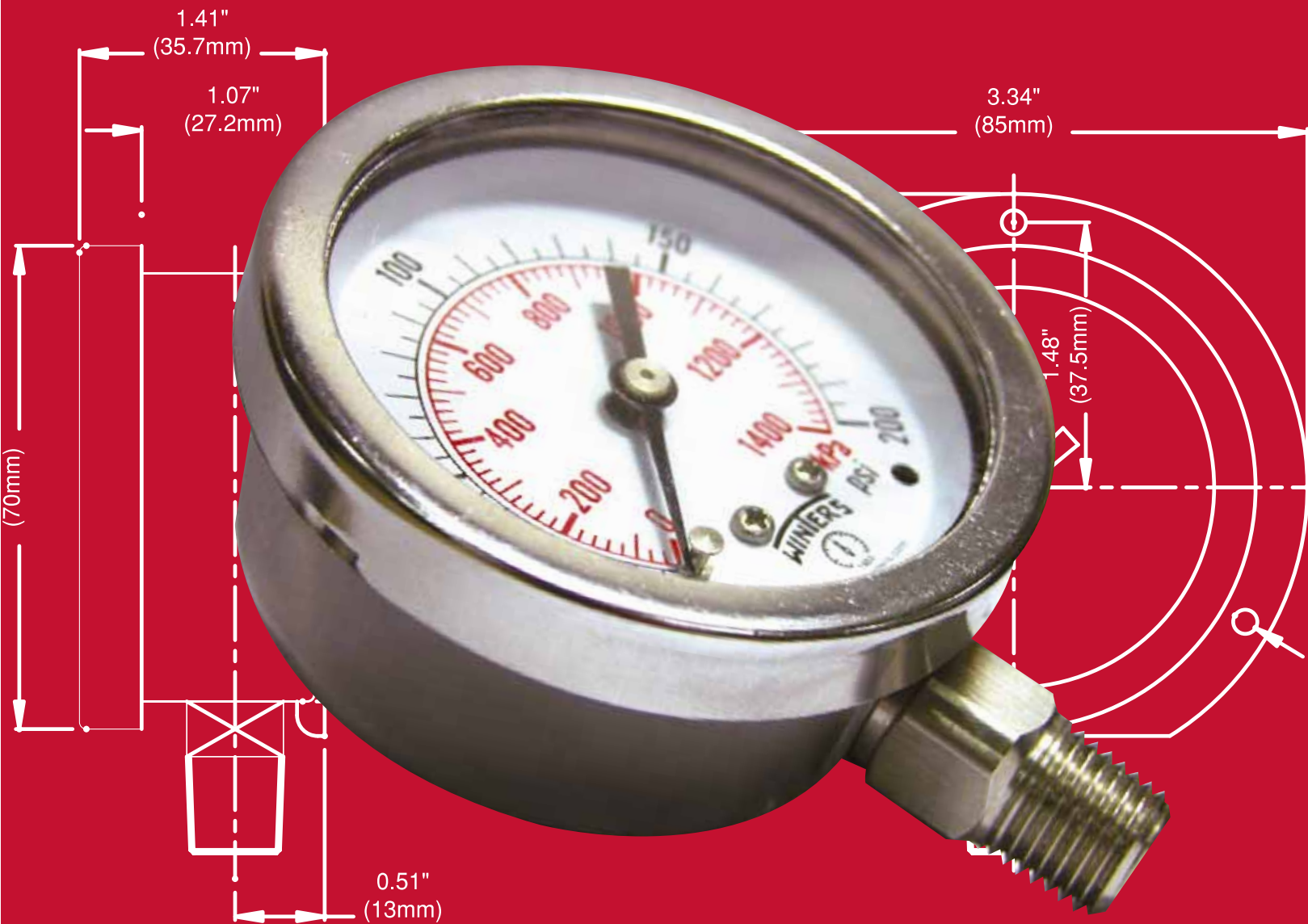


WINTERS INSTRUMENTS

MANUFACTURERS OF INDUSTRIAL INSTRUMENTATION



Product Catalog





Why Winters?



WINTERS INSTRUMENTS, AN INDUSTRIAL INSTRUMENTATION MANUFACTURER WITH INTERNATIONAL DISTRIBUTION SURPASSES THE COMPETITION BY:

CUSTOMER SERVICE



Winters Instruments leads the industry in providing you with fast and efficient customer service. Full stocking warehouses enable same day shipping of all inventoried items.

EXPERIENCE



Winters has been manufacturing pressure and temperature instrumentation for diverse industrial markets for over half a century!

QUALITY

ISO 9001:2000

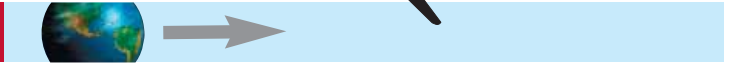
Winters offers the Best Warranty In The Industry - The 5-3-1 warranty program where certain products are warranted for up to 5 years! Winters is committed to providing you with the highest quality products and standards - an ISO 9001 corporation, Winters also adheres to many other approvals and standards such as: CE, CSA, UL, CRN, NACE, 3A.....

CUSTOM PRODUCTS



Quick turnaround for all special and custom requests is a distinct Winters advantage. Whether it is a custom dial, unique connection or special range, Winters will satisfy your distinct needs!

DISTRIBUTION



Our international network of distributors in over 70 countries provides instrumentation solutions for every application!

COMMITMENT



Competitively priced, quality products and the utmost in service, your satisfaction guaranteed!

MISSION STATEMENT

TO MAKE IT EASY FOR CUSTOMERS TO GET INSTRUMENTATION

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Diaphragm Seal Selection Guide

When selecting a diaphragm seal assembly, the following information must be taken into consideration for proper selection assuring the optimum in safety and operation of the assembly.

Process Media and Material compatibility: Since the wetted parts of the diaphragm seal assembly, consisting of the lower housing and the diaphragm element itself as well as any gaskets will come in contact with the process it is imperative to ensure the proper material is selected. The material selected must be compatible with all the various chemicals the seal may come in contact with while in service.

Temperature (Process & Ambient): Each diaphragm seal assembly is filled with an amount of fill fluid at ambient temperature. The increase of process or media temperature can cause the fill fluid to expand creating a larger volume and pressure build up in the assembly.

Pressure Instrument: The diaphragm seal chosen must have the ability to provide enough volumetric displacement to drive the instrument through it's full range. A rule of thumb is as follows - the lower the pressure the more displacement needed, the larger the gauge the more displacement needed, the smaller the diaphragm the less displacement it can provide.

Process connection and orientation: The most common connections for diaphragm seals are threaded from ¼" to 1" NPT and flanged. Be sure to specify both the flange size and rating when selecting a flanged seal.

Pressure Range: As stated above the diaphragm selected must be able to handle the pressure range to be sensed. The lower the pressure the larger the diaphragm element must be to ensure sensitivity and proper displacement.

Response Time: Response time to sudden changes in process pressure can be effected by many things such as; size of the diaphragm, viscosity of the fill fluid, ambient and process temperatures and the use of capillary for remote mounted gauges.

Fill Fluid: Fill fluid selection is critical to the performance of the diaphragm seal assembly. Process and ambient temperatures, pressure and compatibility with the process media must be considered. Inert fills such as Halocarbon, Fluorolube and Krytox must be specified when oxidizers are present.

Diaphragm Seal Selector																												
Catalog Page		Instrument Connection			Process Connection						Wetted Parts Material					Pressure Range												
		1/4" NPT	1/2" NPT	1/2" NPT Male	1/4" NPT	1/2" NPT	3/4" NPT Male	1" NPT	Tri-Clamp	RF Flange	Wafer Flange	Stainless	Tantalum	Hastalloy C	Monel	Teflon	PVC	Viton	Vac - 200 psi	150 psi	300 psi	0-1000 psi	100-1000 psi	50-2000 psi	Vac-2500 psi	600-5800 psi	1000-6000 psi	
128	#10 PVC	X			X	X									X	X		X										
129	#15 In-Line	X					X				X													X				X
131	#30 HP Mini	X			X						X																	X
132	#40 Mini Standard	X	X		X	X	X				X	X	X	X							X							
133	#50 Compact Mini	X			X	X					X											X						
136	#70 Full Size	X	X		X	X	X				X	X	X	X	X	X	X							X				
130	#20 Sanitary	X	X						X		X										X							
134	#60 Iso-Rings	X	X	X						X	X				X	X	X				X							
140	#80 Flanged	X	X						X		X	X	X	X	X	X	X								X			



Winters Instruments is ISO 9001:2000 Certified

8 Quality Management Principles

- ◆ Customer focus
 - ◆ Leadership
- ◆ Involvement of people
 - ◆ Process approach
- ◆ System approach to management
 - ◆ Continual improvement
- ◆ Factual approach to decision making
- ◆ Mutually beneficial supplier relationships

“ISO 9001:2000 focuses on enhancing customer satisfaction by meeting customer requirements through the effective application of the system, including processes for continual improvement of the system and the assurance of conformity to the customer and applicable regulatory requirements.”

Through ISO 9001:2000 standards, Winters Instruments will ensure that customer requirements are determined and are met with the aim of enhancing customer satisfaction.

Winters Instruments implements effective methods for communicating with customers in relation to product information, enquiries, contracts or order handling, including amendments, and customer feedback, including customer complaints.

ISO 9001:2000



THE BEST WARRANTY IN THE INDUSTRY, PERIOD.

PREMIUM:

- 5 Year Warranty
- Rugged and durable design
- Industrial applications
- Field or factory serviceable

QUALITY:

- 3 Year Warranty
- Long lasting design
- Designed for industrial, commercial & specialty applications

ECONOMY:

- 1 Year Warranty
- Economical
- General purpose application

5 YEAR WARRANTY

(WINTERS PREMIUM SERIES PRESSURE GAUGES)

3 YEAR WARRANTY

(WINTERS QUALITY SERIES PRESSURE GAUGES)

1 YEAR WARRANTY

(WINTERS ECONOMY SERIES PRESSURE GAUGES AND ALL OF OUR OTHER PRODUCT OFFERINGS INCLUDING; THERMOMETERS, TRANSMITTERS AND INDICATORS, RTD'S, PRESSURE SWITCHES AND RELATED ACCESSORIES)

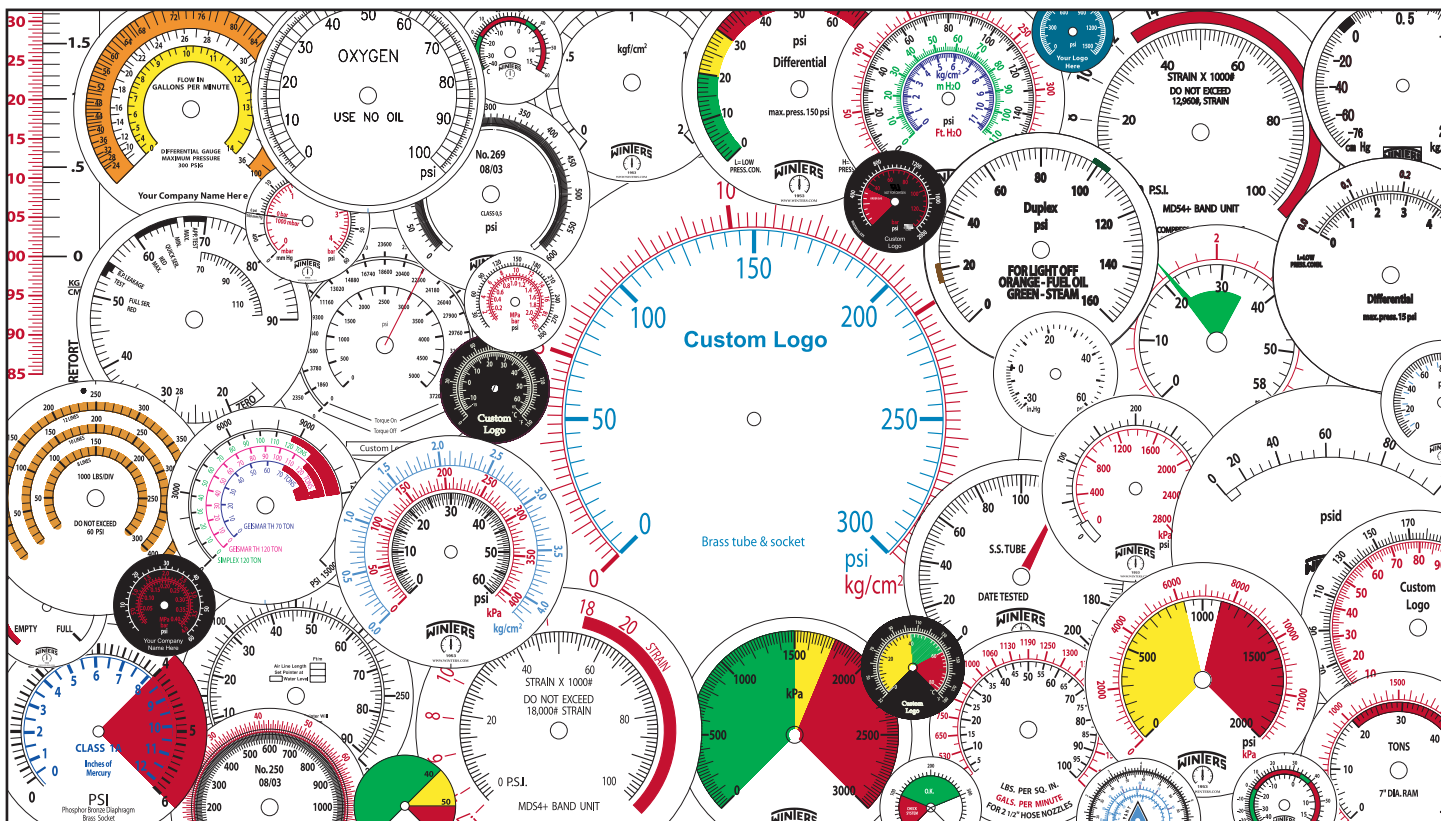


Winters Instruments' products are warranted for a stated period of time (see above) after date of purchase against manufacturing and materials defects. Any product which is found by Winters to be defective will be replaced at Winters discretion. Winters product warranty does not cover product defects resulting from improper product selection, misuse or misapplication EXCEPT AS SPECIFICALLY SET FORTH IN THIS WARRANTY. WINTERS INSTRUMENTS MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, WHETHER EXPRESSED OR IMPLIED, TO PURCHASER OR ANY OTHER PERSON WITH RESPECT TO ANY OF THE PRODUCTS. WITHOUT LIMITING THE GENERALITY OF THE PRECEDING SENTENCE, WINTERS INSTRUMENTS DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Any liability from Winters to Purchaser or any other person or entity pursuant to this Warranty, whether for a claim in tort, for breach of contract or otherwise, shall not exceed the purchase price of the Product giving rise to such liability. Winters shall in no event have any liability to Purchaser or any other person or entity for any consequential, indirect, punitive or special damages (including, without limitation, lost profits) pursuant to this Warranty or pursuant to its sale of the Products, even if the possibility of such damages could have been foreseen by Winters Instruments.


Quality Control Manager



Custom Dials



Features:

- Available for all makes and models of pressure and temperature instrumentation.
- All 256 standard colors are available.
- All dials are custom manufactured to meet your specifications.
- Available on new or repaired instruments.
- Available for dry or liquid filled instruments.
- Emergency same day custom dial manufacturing is available.

Applications:

- Where easy to read, highly visible warning zones are required.
- Non-standard custom measurement scales.
- Replacement of damaged or outdated dials.
- For time sensitive dial requirements.

How to order a custom scale:

Add dialscale code suffix to gauge part number.

Ex. P5064R1R3 = Process gauge with PSI/Kg cm² dial

Available Options:

- Color safety zones.
- Warning identification.
- Tons on Ram scales.
- Feet of Water scales.
- Bar scales.
- Kg/cm² scales.
- Receiver gauge scales.
- MM of H₂O scales.
- Custom logos.
- Plus much more call with your requirements.

Dial Scale Codes

R1	psi	R8	inches of H ₂ O
R2	kPa	R9	ounces per square inch
R3	kg/cm ²	R10	atmospheres
R4	cm of H ₂ O	R11	bar
R5	feet of water	R12	mBar
R6	inches of Hg	R13	MPa
R7	mm of Hg	R99	Custom

Winters' Pressure Conversion Table / See pg 248

Standard Scales = R1,R2,R3, R11



HOW TO ORDER GUIDE:

QUICK TIPS:

*GO TO PAGES 2-3 TO REVIEW OUR PRESSURE GAUGE AND DIAPHRAGM SEAL SELECTION GUIDES

*TAKE A MOMENT TO REVIEW AND LEARN HOW TO READ OUR PRODUCT CODE MATRIX LISTED WITH EVERY SERIES.

Product Code Matrix: Each product Series has a product code matrix listed after the product specifications. Locate the column of product codes that lists your desired dial size, connection size, connection location and wetted material. Then follow that column downward until it intersects with the pressure range row of your choice.

Example:

Dial Size	1 1/2" (40mm)	1 1/2" (40mm)	2" (50mm)	2" (50mm)	2" (50mm)	2" (50mm)	2" (50mm)	2 1/2" (63mm)	2 1/2" (63mm)	4" (100mm)
Case Material	Steel	Steel	Steel	Steel	Steel	Steel	Plastic	Steel	Steel	Steel
Connection	Bottom 1/8"	Center Back 1/8"	Center Back 1/8"	Center Back 1/4"	Bottom 1/8"	Bottom 1/4"	Psi only Bottom 1/4"	Center Back 1/4"	Bottom 1/4"	Bottom 1/4"
Movement, Socket, Tube	Brass	Brass	Brass	Brass	Brass	Brass	Brass	Brass	Brass	Brass
30" Hg. Vac./kPa	E1297	E1397	E1424	E1428	E195	E135	E1398	E1431	E210	E220
30"-0-15 psi/kPa	-	-	-	-	-	-	-	-	E152	-
30"-0-30 psi/kPa	-	-	-	-	-	-	-	-	E153	-
30"-0-60 psi/kPa	-	-	-	-	-	-	-	-	E154	-
30"-0-100 psi/kPa	-	-	-	-	-	-	-	-	E155	-
0-15 psi/kPa	E1299	E1399	E1425	E1429	E196	E136	-	E1436	E211	-
0-30 psi/kPa	E1300	E1400	E1402	E1403	E206	E199	E200	E1437	E212	E221
0-60 psi/kPa	E1301	E1401	E1404	E1405	E207	E201	E194	E1438	E213	E222
0-100 psi/kPa	E1320	E1420	E1406	E1407	E208	E202	-	E1439	E214	E223
0-160 psi/kPa	E1381	E1481	E1408	E1409	E197	E203	-	E1440	E215	E224
0-200 psi/kPa	E1322	E1422	E1426	E1410	E209	E204	-	E1441	E216	E225
0-300 psi/kPa	E1323	E1423	E1427	E1411	E198	E205	-	E1442	E217	E226
0-400 psi/kPa	-	-	-	-	-	-	-	-	E219	-
0-600 psi/kPa	-	-	-	-	-	-	-	-	E218	-
0-1000 psi/kPa	-	-	-	-	-	-	-	-	E290	-
0-2000 psi/kPa	-	-	-	-	-	-	-	-	-	-
0-3000 psi/kPa	-	-	-	-	-	-	-	-	E291	-
0-5000 psi/kPa	-	-	-	-	-	-	-	-	E292	-

*ALL PART NUMBER **PREFIXES** WILL DEFINE OUR PRODUCT GROUPS.

Examples:

#P824 = Premium Series

#Q804 = Quality Series

#E214 = Economy Series

#A525 = Accessories Series

#D950 = Diaphragm Seals

#T32025-B8 = Thermometer Series

How to Create a Pressure Gauge or Thermometer Part Number:

1. Find desired Product Series. Refer to gauge selector guide on page 2.
2. Choose the desired product code from the Product Code Matrix as described above.
3. If an option is required, simply add as an option suffix code to the part number.

Example: P5054/SG-45 = Winters 4.5" Process Gauge with safety glass option

Product Availability:

Winters Instruments is proud of our fully stocked warehouses in Toronto, Ontario (Canada) & Buffalo, N.Y. (USA).

These two locations are quick to service your orders from the North American marketplace.

In order to assist you in locating those normally stocked parts, we have listed the normally stocked product codes in **BOLD** print.

The product codes listed in **BOLD** will normally ship the same day we receive your purchase order.

Product codes **not** in bold print may also be in stock or have a short lead time of seven to ten days, so please visit our web site at www.winters.com for a stock check or call us at 1-800-WINTERS to receive the delivery information you require to make a purchase.



300 Series

Premium



Back Connection
with Front Flange Option



Optional Hinged Case
Back Connection

Description & Features:

- Heavy duty highly accurate aluminum case gauge
- 0.5% Accuracy,
- Brass or Stainless steel internals
- Large easy to read dial
- **CRN Registered**

Applications:

- Use on air, steam, oil, fresh and salt water
- Boiler and control room



300 Series

Premium

Specifications - Brass Internals

Dial:	4½" (115mm), 6" (150mm) 8½" (215mm) and 10" (250mm) white aluminum
Case:	Aluminum painted black
Lens:	4½" (115mm) and 6" (150mm) - glass 8½" (215mm) and 10" (250mm) - polycarbonate
Ring:	4½" (115mm) and 6" (150mm) - stainless steel, polished 8½" (215mm) and 10" (250 mm) - anodized aluminum
Front Flange:	4½" (115mm) and 6" (150mm) - stainless steel, polished 10" (250mm) - aluminum painted black
Back Flange:	Steel, painted black (8.5" & 10" flange integral part of case)
Pointer:	Aluminum, anodized black, micrometer adjustable
Socket:	Brass
Connection:	¼" NPT for range 600psi or lower, ½" NPT for range 1,000psi or higher
Bourdon Tube:	Phosphor bronze for ranges up to 600 psi (4, 137 kPa) 316L stainless steel for ranges over 600 psi (4, 137 kPa)
Movement:	Brass
Welding:	Tin/copper alloy for ranges up to 600 psi (4,137 kPa) Silver alloy for ranges over 600 psi (4,137 kPa)
Over-pressure Limit:	30% for pressures up to 600 psi (4,137 kPa) 25% for pressures over 600 - 1,400 psi (4,137 - 9,653 kPa) 15% for pressures over 1,400 psi (9,653 kPa)
Working Pressure:	Maximum 75% of full scale value
Ambient/Process Temp:	-40°F to 150°F (-40°C to 65°C)
Accuracy:	±0.5% accuracy (ANSI/ASME Grade 2A)
Enclosure Rating:	IP52

Specifications - Stainless Steel Internals

Dial:	4½" (115mm), 6" (150mm) 8½" (215mm) and 10" (250mm) white aluminum
Case:	Aluminum painted black
Lens:	4½" (115mm) and 6" (150mm) - glass 8½" (200mm) and 10" (250mm) - polycarbonate
Ring:	4½" (115mm) and 6" (150mm) - stainless steel, polished 8½" (215mm) and 10" (250 mm) - anodized aluminum
Front Flange:	4½" (115mm) and 6" (150mm) - stainless steel, polished 10" (250mm) - aluminum painted black
Back Flange:	Steel, painted black (8.5" & 10" flange integral part of case)
Pointer:	Aluminum, anodized black, micrometer adjustable
Socket:	316L Stainless steel
Connection:	¼" NPT for range 600psi or lower, ½" NPT for range 1,000psi or higher
Bourdon Tube:	316L stainless steel
Movement:	304 stainless steel
Welding:	316L stainless steel TIG Argonarc
Over-pressure Limit:	30% for pressures up to 600 psi (4,137 kPa) 25% for pressures over 600 - 1,400 psi (4,137 - 9,653 kPa) 15% for pressures over 1,400 psi (9,653 kPa)
Working Pressure:	Maximum 75% of full scale value
Ambient/Process Temp:	-40°F to 150°F (-40°C to 65°C)
Accuracy:	±0.5% accuracy (ANSI/ASME Grade 2A)
Enclosure Rating:	IP52



300 Series

PRODUCT CODES

How to order: Specify product code
Products shown in **BOLD** are normally in stock.

Dial Size	4 1/2" (115mm)		4 1/2" (115mm)		6" (150mm)		6" (150mm)		
Connection	Bottom	Back (LB)	Bottom	Back (LB)	Bottom	Back (LB)	Bottom	Back (LB)	
Tube, Socket, Movement	Brass	Brass	Stainless Steel	Stainless Steel	Brass	Brass	Stainless Steel	Stainless Steel	
30" Hg. vacuum/kPa	P6000	P6000B	P6025	P6025B	P6075	P6075B	P6260	P6260B	
30"/0/15 psi/kPa	P6001	P6001B	P6026	P6026B	P6076	P6076B	P6261	P6261B	
30"/0/30 psi/kPa	P6002	P6002B	P6027	P6027B	P6077	P6077B	P6162	P6162B	
30"/0/60 psi/kPa	P6003	P6003B	P6028	P6028B	P6078	P6078B	P6163	P6163B	
30"/0/100 psi/kPa	P6004	P6004B	P6029	P6029B	P6079	P6079B	P6164	P6164B	
30"/0/160 psi/kPa	P6005	P6005B	P6030	P6030B	P6080	P6080B	P6265	P6265B	
30"/0/200 psi/kPa	P6006	P6006B	P6031	P6031B	P6081	P6081B	P6266	P6266B	
30"/0/300 psi/kPa	P6007	P6007B	P6032	P6032B	P6082	P6082B	P6267	P6267B	
1 1/4"	0 - 15 psi/kPa	P6008	P6008B	P6033	P6033B	P6083	P6083B	P6098	P6098B
	0 - 30 psi/kPa	P6009	P6009B	P6034	P6034B	P6084	P6084B	P6099	P6099B
	0 - 60 psi/kPa	P6010	P6010B	P6035	P6035B	P6085	P6085B	P6100	P6100B
	0 - 100 psi/kPa	P6011	P6011B	P6036	P6036B	P6086	P6086B	P6101	P6101B
	0 - 160 psi/kPa	P6012	P6012B	P6037	P6037B	P6087	P6087B	P6102	P6102B
	0 - 200 psi/kPa	P6013	P6013B	P6038	P6038B	P6088	P6088B	P6103	P6103B
	0 - 300 psi/kPa	P6014	P6014B	P6039	P6039B	P6089	P6089B	P6104	P6104B
	0 - 400 psi/kPa	P6015	P6015B	P6040	P6040B	P6090	P6090B	P6105	P6105B
	0 - 600 psi/kPa	P6016	P6016B	P6041	P6041B	P6091	P6091B	P6106	P6106B
	0 - 1000 psi/kPa	P6017	P6017B	P6042	P6042B	P6092	P6092B	P6107	P6107B
	0 - 1500 psi/kPa	P6018	P6018B	P6043	P6043B	P6093	P6093B	P6108	P6108B
	0 - 2000 psi/kPa	P6019	P6019B	P6044	P6044B	P6094	P6094B	P6109	P6109B
1 1/2"	0 - 3000 psi/kPa	P6020	P6020B	P6045	P6045B	P6095	P6095B	P6110	P6110B
	0 - 5000 psi/kPa	P6021	P6021B	P6046	P6046B	P6096	P6096B	P6111	P6111B
	0 - 10000 psi/kPa	P6022	P6022B	P6047	P6047B	P6170	P6170B	P6180	P6180B
	0 - 15000 psi/kPa	P6023	P6023B	P6160	P6160B	P6171	P6171B	P6181	P6181B
	0 - 20000 psi/kPa	P6024	P6024B	P6161	P6161B	P6172	P6172B	P6182	P6182B

Dial Size	8 1/2" (215mm)		8 1/2" (215mm)		10" (250mm)		10" (250mm)		
Connection	Bottom	Back (LB)	Bottom	Back (LB)	Bottom	Back (LB)	Bottom	Back (LB)	
Tube, Socket, Movement	Brass	Brass	Stainless Steel	Stainless Steel	Brass	Brass	Stainless Steel	Stainless Steel	
30" Hg. vacuum/kPa	P6200	P6200B	P6300	P6300B	P6400	P6400B	P6500	P6500B	
30"/0/15 psi/kPa	P6201	P6201B	P6301	P6301B	P6401	P6401B	P6501	P6501B	
30"/0/30 psi/kPa	P6202	P6202B	P6302	P6302B	P6402	P6402B	P6502	P6502B	
30"/0/60 psi/kPa	P6203	P6203B	P6303	P6303B	P6403	P6403B	P6503	P6503B	
30"/0/100 psi/kPa	P6204	P6204B	P6304	P6304B	P6404	P6404B	P6504	P6504B	
30"/0/160 psi/kPa	P6205	P6205B	P6305	P6305B	P6405	P6405B	P6505	P6505B	
30"/0/200 psi/kPa	P6206	P6206B	P6306	P6306B	P6406	P6406B	P6506	P6506B	
30"/0/300 psi/kPa	P6207	P6207B	P6307	P6307B	P6407	P6407B	P6507	P6507B	
1 1/4"	0 - 15 psi/kPa	P6208	P6208B	P6308	P6308B	P6408	P6408B	P6508	P6508B
	0 - 30 psi/kPa	P6209	P6209B	P6309	P6309B	P6409	P6409B	P6509	P6509B
	0 - 60 psi/kPa	P6210	P6210B	P6310	P6310B	P6410	P6410B	P6510	P6510B
	0 - 100 psi/kPa	P6211	P6211B	P6311	P6311B	P6411	P6411B	P6511	P6511B
	0 - 160 psi/kPa	P6212	P6212B	P6312	P6312B	P6412	P6412B	P6512	P6512B
	0 - 200 psi/kPa	P6213	P6213B	P6313	P6313B	P6413	P6413B	P6513	P6513B
	0 - 300 psi/kPa	P6214	P6214B	P6314	P6314B	P6414	P6414B	P6514	P6514B
	0 - 400 psi/kPa	P6215	P6215B	P6315	P6315B	P6415	P6415B	P6515	P6515B
	0 - 600 psi/kPa	P6216	P6216B	P6316	P6316B	P6416	P6416B	P6516	P6516B
	0 - 1000 psi/kPa	P6217	P6217B	P6317	P6317B	P6417	P6417B	P6517	P6517B
	0 - 1500 psi/kPa	P6218	P6218B	P6318	P6318B	P6418	P6418B	P6518	P6518B
	0 - 2000 psi/kPa	P6219	P6219B	P6319	P6319B	P6419	P6419B	P6519	P6519B
1 1/2"	0 - 3000 psi/kPa	P6220	P6220B	P6320	P6320B	P6420	P6420B	P6520	P6520B
	0 - 5000 psi/kPa	P6221	P6221B	P6321	P6321B	P6421	P6421B	P6521	P6521B
	0 - 10000 psi/kPa	P6222	P6222B	P6322	P6322B	P6422	P6422B	P6522	P6522B
	0 - 15000 psi/kPa	P6223	P6223B	P6323	P6323B	P6423	P6423B	P6523	P6523B
	0 - 20000 psi/kPa	P6224	P6224B	P6324	P6324B	P6424	P6424B	P6524	P6524B

Options/Suffix:

- 45HC = 4 1/2" Hinged Case (back connection)
- SG-45 = 4 1/2" Safety glass lens
- MS = Monel socket and tube
- 6BF-300 = 6" Back Flange
- (LB) = Lower back connection
- 45BF-300 = 4.5" Back Flange
- SG-6 = 6" Safety glass lens
- OST = Overstop, UST = Understop
- 1/2" = 1/2" NPT" Connection
- Other ranges available upon request.
- 6HC = 6" Hinged Case
- MAXI45 = Maximum adjustable pointer (4.5" dial)
- SFC = Solid front safety case for 4", 6" & 8.5"
- 300FF = Front Flange
- 8 1/2" Back standard with U-clamp

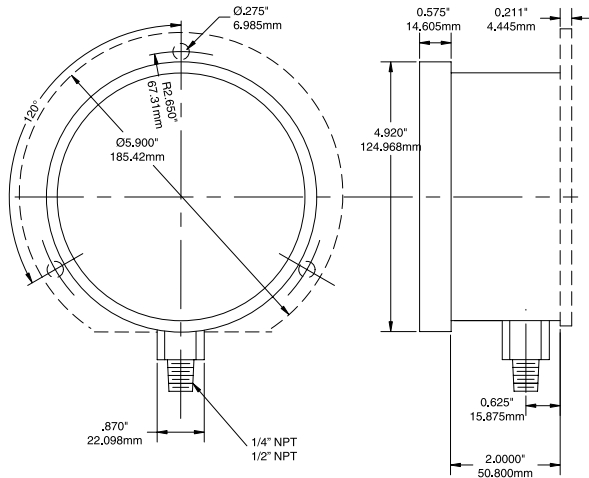
Bottom connection standard with back flange (8 1/2" & 10")

* (Siphon recommended for steam applications)

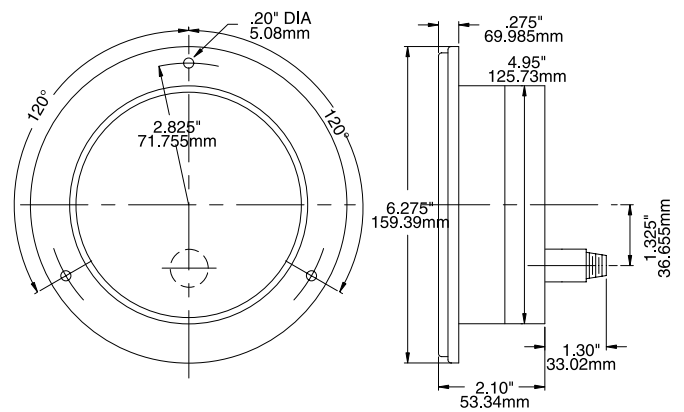
300 Series

Premium

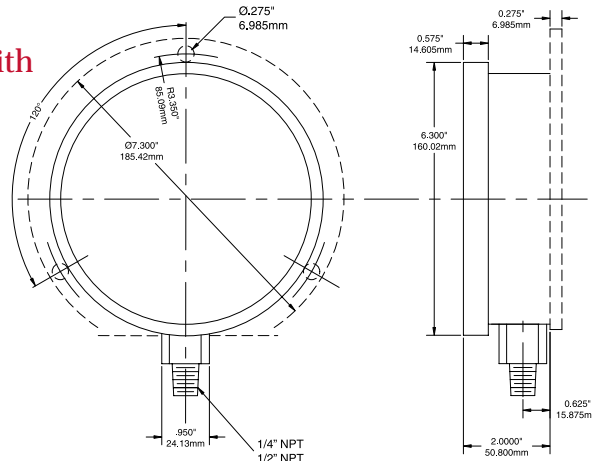
4.5" Bottom Connection with Back Flange Option



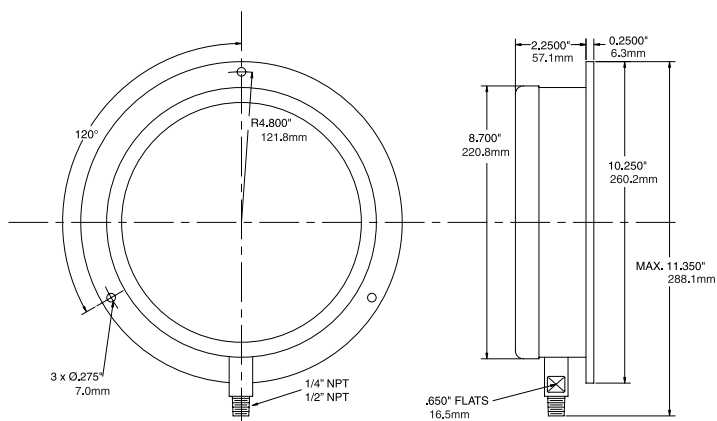
4.5" Back Connection with Front Flange Option



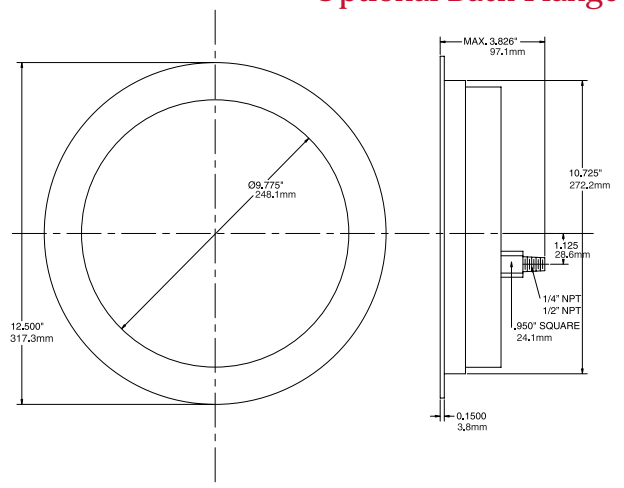
6" Bottom Connection with Back Flange Option



8.5" Bottom Connection with Standard Back Flange



10" Back Connection with Optional Back Flange



Ammonia

Premium



Premium 4" Dial

Description & Features

- Wide variety of Economy, Quality and Premium gauges to measure pressure and temperature of Ammonia systems
- 3-2-3 to 0.5% Accuracy available
- 2.5" to 8.5" Dial sizes
- CRN Registered

Applications:

- Used to display pressure and temperature on closed refrigeration systems

How to order: Specify product code
Products shown in BOLD are normally in stock.

PREMIUM

Product Codes		
Dial Size	30-0-150 PSI/F	30-0-300 PSI/F
2.5" (63mm)	P1750	P1751
2.5" (63mm) Back (CB)	P1752	P1753
4" (100mm) Bottom	P1705	P1706
4" (100mm) Back (LB)	P1708	P1709
6" (150mm) Bottom	P1710	P1711
8.5" (215mm) Bottom	P1712	P1713
10" (254mm) Bottom	P1714	P1715

QUALITY

Product Codes		
Dial Size	30-0-150 PSI/F	30-0-300 PSI/F
3.5" (90mm)	Q1717	Q1818
4" (100mm) Bottom	Q1701	Q1702
4" (100mm) Back (LB)	Q1703	Q1704

ECONOMY

Product Codes		
Dial Size	30-0-150 PSI/F	30-0-300 PSI/F
2.5" (63mm) Bottom	E1699	E1700
2.5" (63mm) Back	-	-
4" (100mm) Bottom	E1695	E1696
4" (100mm) Back (CB)	E1697	E1698

Options Suffix:

- Back flange available.
 - Other ranges available upon request.
 - Glycerine fill available (except on 8.5" & 10" dials)
 - Other connection sizes available upon request.
 - Front flange available.
 - U-clamp available.
- CB - Center back connection, LB - Lower back connection



Ammonia

Premium

Premium Series Specifications	
Dial:	2 1/2" (63mm), 4" (100mm), 6" (150mm), 8 1/2" (215mm), 10" (250mm) white with black and red markings
Case/Ring:	AISI 304 stainless steel for 2 1/2" (63mm), 4" (100mm) & 6" (150mm) - Aluminum case for 8 1/2" & 10"
Lens:	Polycarbonate
Pointer:	Aluminum, anodized black, micrometer adjustable 4" (100mm) and 6" (150mm)
Socket:	316L stainless steel
Connection:	1/4" NPT
Bourdon Tube:	316L stainless steel, seamless drawn
Movement:	304 stainless steel
Gasket Materials:	2 1/2" (63mm): Buna N for case and black seal, Monoprene for lens seal 4" (100mm), 6" (150mm), 8 1/2" (215mm) and 10" (250mm) EPDM
Welding:	TIG
Over-pressure Limit:	30% of full scale value
Working Pressure:	Maximum 75% of full scale value
Ambient Temperature:	-40°F to 150°F (-40°C to 65°C) - dry, -4°F to 150°F (-20°C to 65°C) - liquid filled (8 1/2" & 10" dry)
Process Temperature:	-40°F to 150°F (-40°C to 65°C) - dry, -4°F to 150°F (-20°C to 65°C) - liquid filled (8 1/2" & 10" dry)
Accuracy:	2 1/2" (63mm): ±1.5% , 4" (100mm) and 6" (150mm) ±1.0% of full scale , 8 1/2" (215mm) & 10" (250mm) ±0.5% (ANSI/ASME Grade 2A)
Enclosure Rating:	IP65 - 2.5", 4" & 6" IP52 - 8.5" & 10"
Quality Series Specifications	
Dial:	4" (100mm) aluminum, painted white
Case/Ring:	AISI 304 stainless steel
Lens:	Polycarbonate
Pointer:	Aluminum, anodized black
Socket / Bourdon Tube:	316 Stainless steel
Connection:	1/4" NPT standard
Movement:	304 stainless steel
Over-pressure Limit:	30% of full scale value
Working Pressure Limit:	Maximum 75% of full scale value
Ambient/Process Temp.:	-40°F to 150°F dry (-40°C to 65°C), -4°F-150°F (-20°C-65°C) liquid filled
Accuracy:	±1.5% (ANSI/ASME Grade 1A)
Enclosure Rating:	IP65
Economy Series Specifications	
Dial:	2 1/2" (63mm) and 4" (100mm) aluminum, painted white
Case:	2 1/2" (63mm) steel painted black, 4" (100mm) steel painted black
Lens:	Polycarbonate
Ring:	2 1/2" (63mm) steel, painted black, 4" (100mm) AISI 304 stainless steel
Pointer:	Aluminum, anodized black
Socket:	2 1/2" (63mm) steel, and 4" (100mm) nickel plated steel
Connection:	1/4" NPT standard
Bourdon Tube:	2 1/2" (63mm) and 4" (100mm) stainless steel
Movement:	Stainless steel
Over-pressure Limit:	30% of full scale value
Working Pressure:	Maximum 75% of full scale value
Ambient/Process Temp.:	-40°F to 150°F (-40°C to 65°C) Dry
Accuracy:	±3-2-3% (ANSI/ASME Grade B)
Enclosure Rating:	IP52

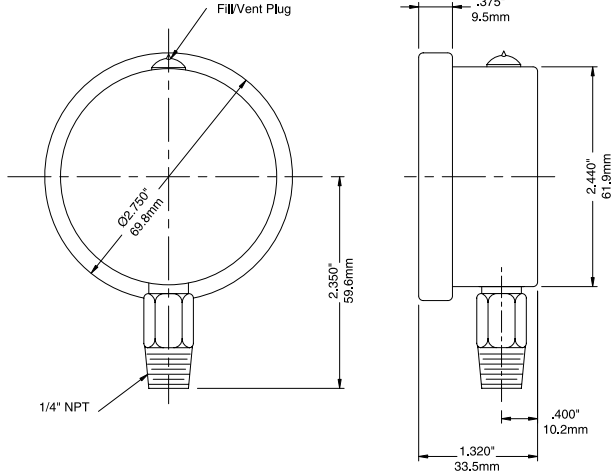


Ammonia

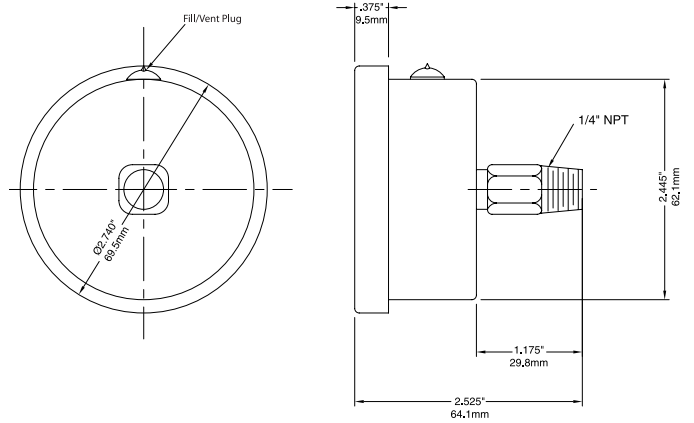
Premium

PREMIUM AMMONIA GAUGE

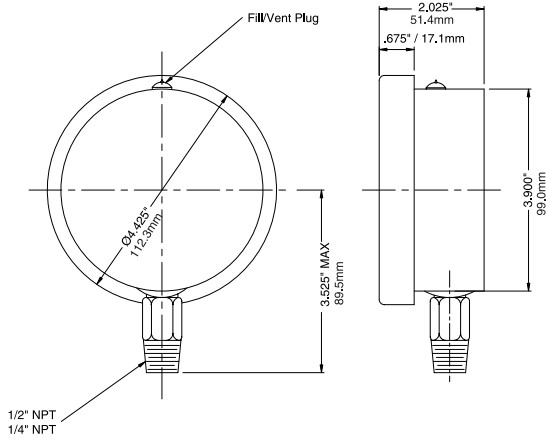
2 1/2" Bottom Connection



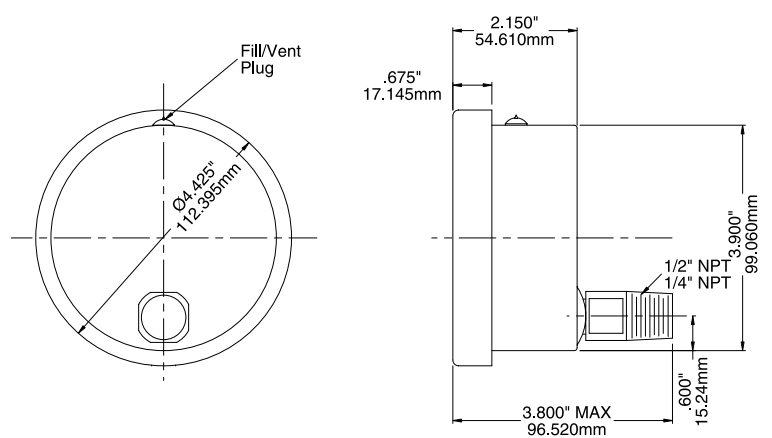
2 1/2" Back Connection



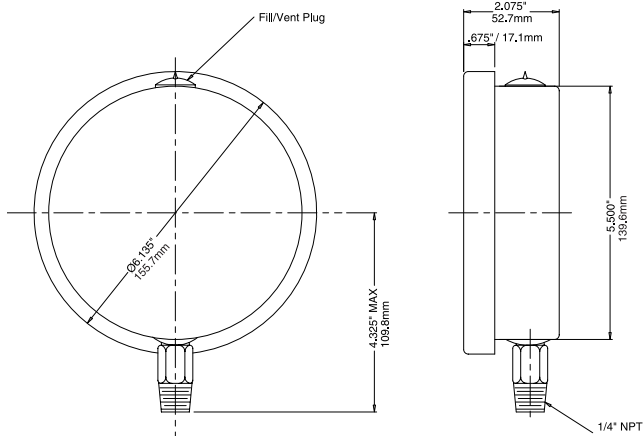
4" Bottom Connection



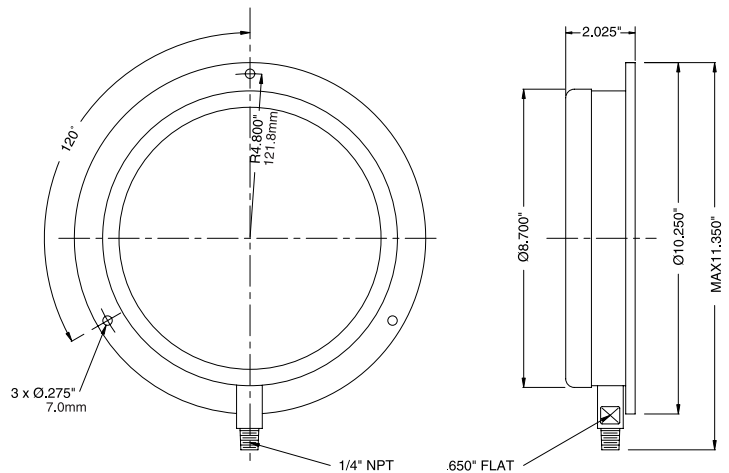
4" Back Connection



6" Bottom Connection



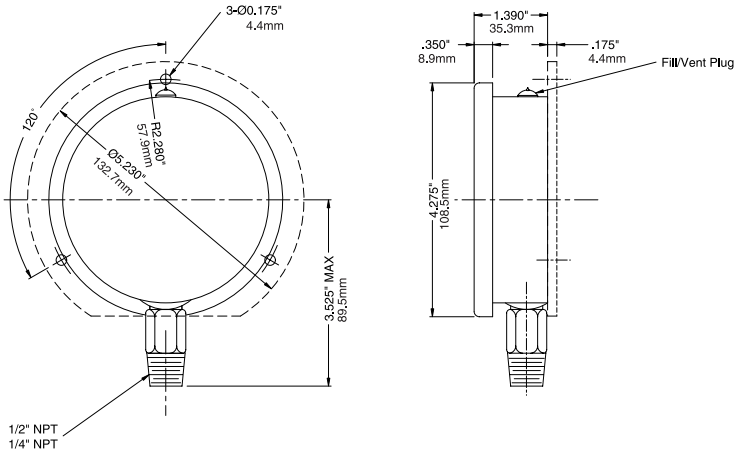
8 1/2" Bottom Connection



Ammonia

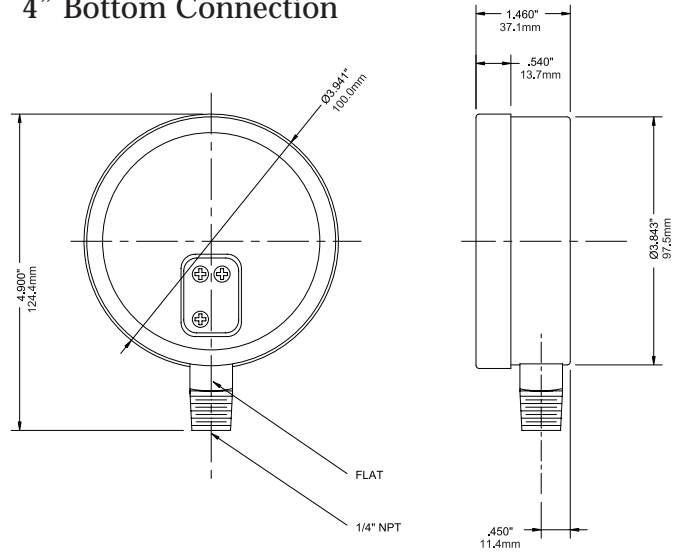
QUALITY AMMONIA GAUGE

4" Bottom Connection

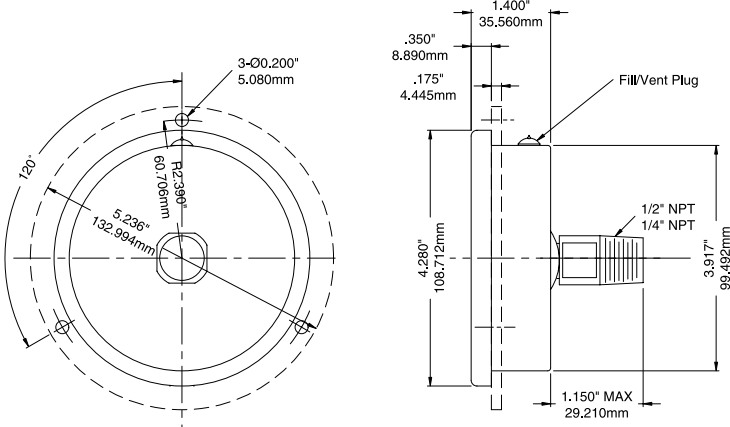


ECONOMY AMMONIA GAUGE

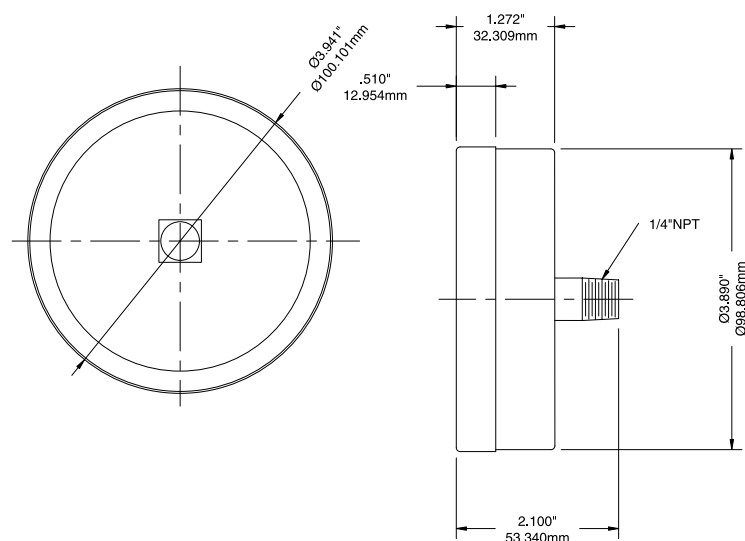
4" Bottom Connection



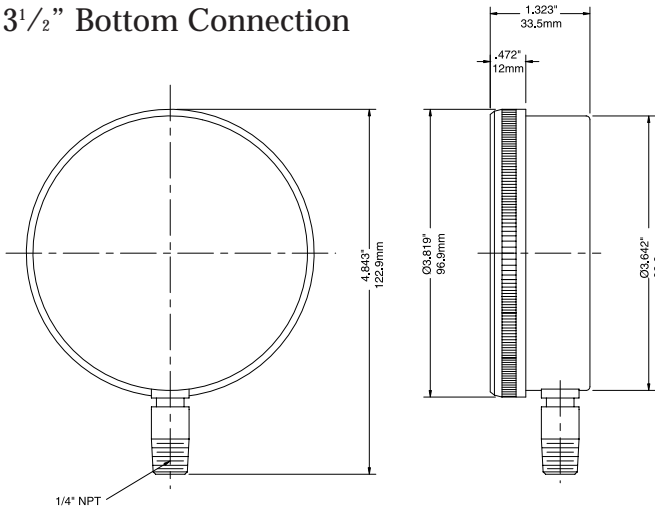
4" Back Connection



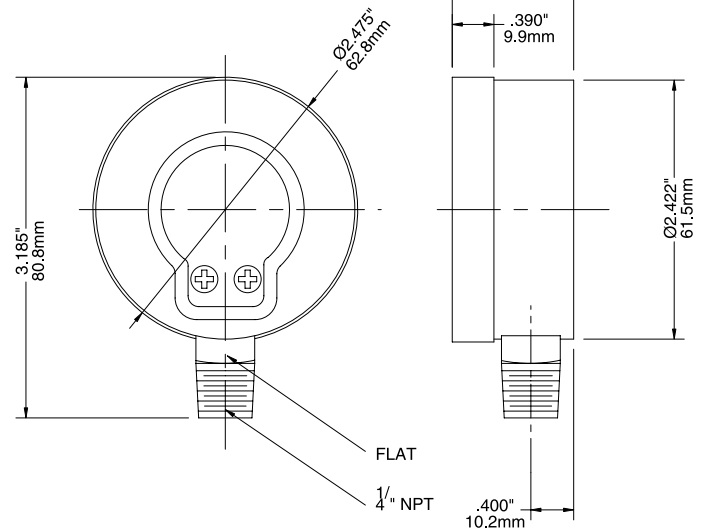
4" Back Connection



3 1/2" Bottom Connection



2.5" Bottom Connection



Color Coded Series

Premium



Description & Features

- Unique pressure instrument utilizing color coded cases for easy identification of processes
- 7 different colors that are UV resistant and will not fade or breakdown in any corrosive environment
- Stainless Steel or Brass internals and liquid fillable
- **CRN Registered**

Applications:

- Used for easy identification of process or pressure
- Well suited for use where heavy vibration or pulsation exist
- Used on machinery, process lines, compressors, hydraulics



Color Coded Series

Stainless Steel Specifications	
Dial:	4" (100mm), 6" (150mm) white aluminum with black and red markings
Case:	P.B.T. Polyethylene terephthalate - color coded
Lens:	Polycarbonate
Ring:	P.B.T. Polyethylene terephthalate - color coded
Pointer:	Aluminum, anodized black
Socket:	316L stainless steel
Connection:	1/4" NPT or 1/2" NPT standard
Bourdon Tube:	316L stainless steel, seamless drawn
Movement:	304 stainless steel
Gasket Materials:	4" (100mm), 6" (150mm) - EPDM
Enclosure Rating:	IP65 per UEC 529, UNI 8896
Welding:	TIG, Silver alloy
Over-pressure Limit:	30% for pressures up to 600 psi (4,147 kPa), 15% for pressures over 600 psi (4,147 kPa)
Working Pressure:	Maximum 75% of full scale value
Ambient Temperature:	-40°F to 150°F (-40°C to 65°C) dry
Process Temperature:	-40°F to 150°F (-40°C to 65°C) dry
Accuracy:	±1% (ANSI/ASME Grade 1A)

Brass Specifications	
Dial:	4" (100mm) white aluminum with black and red markings
Case:	P.B.T. Polyethylene terephthalate - color coded
Lens:	Plexiglass
Ring:	P.B.T. Polyethylene terephthalate - color coded
Pointer:	Aluminum, anodized black
Socket:	OT 58 brass
Connection:	1/4" NPT or 1/2" NPT standard
Bourdon Tube:	Phosphor bronze
Movement:	Gears are OT 59 brass, plates are AISI 304 st/st
Gasket Materials:	Silicone rubber for socket, EPDM for lens, filling plug and blow-out vent
Enclosure Rating:	IP65 per UEC 529, UNI 8896
Welding:	Tin/copper alloy for pressures below 600 psi (4,147 kPa) Silver alloy for pressure 600 psi (4,147 kPa) and above
Over-pressure Limit:	25% for pressures up to 1,400 psi (9,653 kPa), 15% for pressures over 1,400 psi (9,653 kPa)
Working Pressure:	Maximum 75% of full scale value
Ambient Temperature:	-40°F to 150°F (-40°C to 65°C) dry
Process Temperature:	-40°F to 150°F (-40°C to 65°C) dry
Accuracy:	±1% ANSI/ASME Grade 1A








Color Coded Series

PRODUCT CODE

How to order: Specify product code
 Products shown in **BOLD** are normally in stock.

Dial Size	4" (100mm)		4" (100mm)		6" (150mm)	
NPT Connection	1/4"	1/2"	1/4"	1/2"	1/4"	1/2"
Bottom						
Movement						
Socket, Tube	Brass	Brass	St/St	St/St	St/St	St/St
30" Hg. Vac./kPa	P600C	-	P640C	P655C	P1078C	-
30"-0-15 psi/kPa	P1020C	-	P1036C	P1044C	P1079C	-
30"-0-30 psi/kPa	P1021C	-	P1037C	P1045C	P1052C	-
30"-0-60 psi/kPa	P1022C	-	P1038C	P1046C	P1053C	-
30"-0-100 psi/kPa	P1023C	-	P1039C	P1047C	P1054C	-
30"-0-150 psi/kPa	P1024C	-	P1040C	P1048C	P1055C	-
30"-0-200 psi/kPa	P1026C	-	P1042C	P1050C	P1057C	-
30"-0-300 psi/kPa	P1027C	-	P1043C	P1051C	P1058C	-
0-15 psi/kPa	P601C	-	P641C	P656C	P1059C	-
0-30 psi/kPa	P602C	-	P642C	P657C	P1060C	-
0-60 psi/kPa	P603C	-	P643C	P658C	P1061C	-
0-100 psi/kPa	P604C	-	P644C	P659C	P1062C	-
0-160 psi/kPa	P605C	-	P645C	P660C	P1063C	-
0-200 psi/kPa	P606C	-	P646C	P661C	P1064C	-
0-300 psi/kPa	P607C	-	P647C	P662C	P1065C	-
0-400 psi/kPa	P610C	-	P650C	P666C	P1077C	-
0-600 psi/kPa	P608C	-	P648C	P663C	P1066C	-
0-1000 psi/kPa	P609C	P624C	P649C	P664C	P1067C	P1080C
0-1500 psi/kPa	-	P625C	-	P665C	P1068C	P1081C
0-2000 psi/kPa	-	P626C	-	P667C	P1069C	P1082C
0-3000 psi/kPa	-	P627C	-	P668C	P1070C	P1083C
0-5000 psi/kPa	-	P628C	-	P669C	P1072C	P1085C
0-10000 psi/kPa	-	P629C	-	P670C	P1073C	P1086C
0-15000 psi/kPa	-	P630C	-	P671C	P1074C	P1087C
0-20000 psi/kPa	-	P639C	-	P672C	P1075C	P1088C

Color Coded Cases:

Add Color Code to Product Code			
Color Samples	Color	4" (100mm) Dial	6" (150mm) Dial
	Red	1Y	1Z
	Yellow	2Y	2Z
	Black	3Y	3Z
	Green	4Y	4Z
	Blue	5Y	5Z
	Cyan	12Y	12Z
	Gray	17Y	

Add appropriate color code as suffix.
 (e.g. P6635Y = Gauge Product Code + Case Color Code)

Options Suffix:

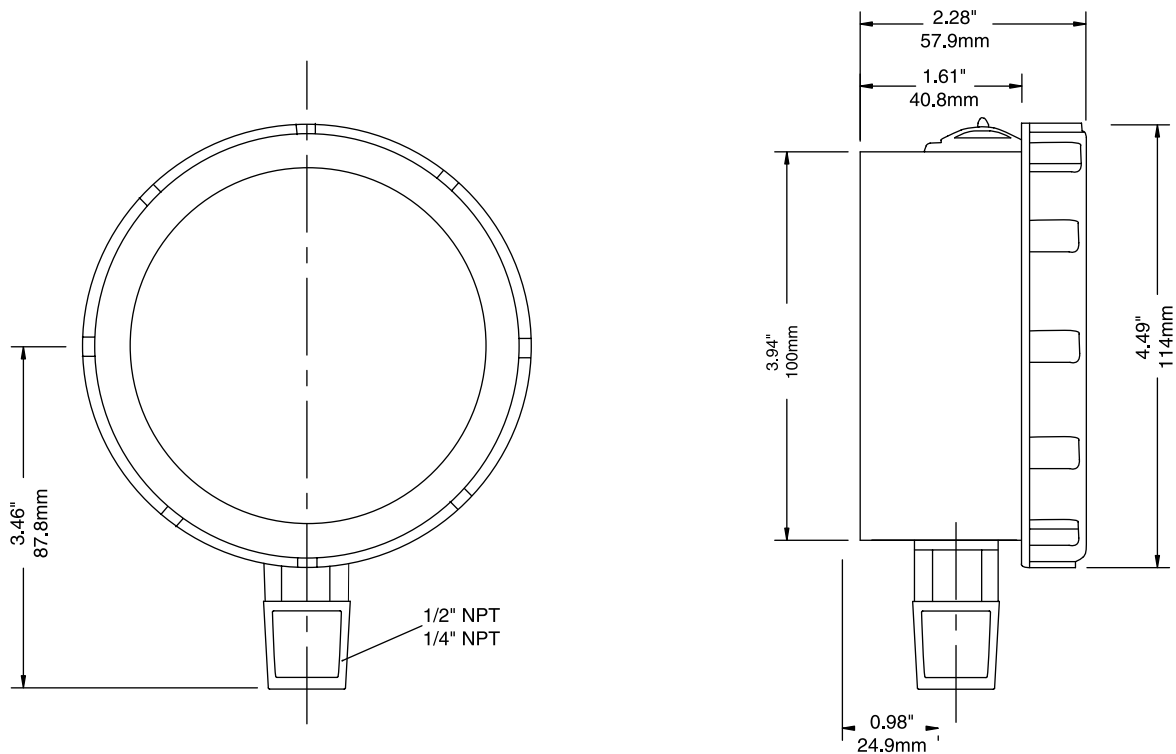
- G = Glycerin filled case
- SG-4 = 4" Safety Glass
- SG-6 = 6" Safety Glass
- Available with Safety Case - See pg.64



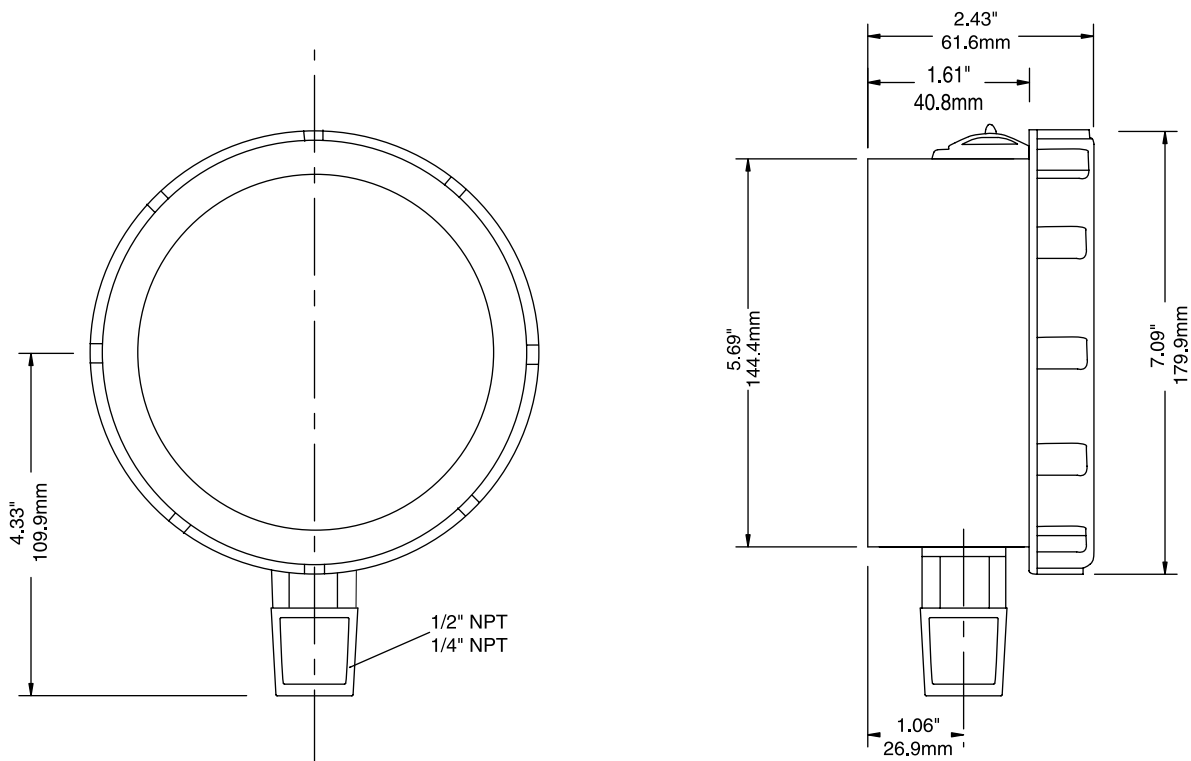
Color Coded Series

Premium

4" Bottom Connection

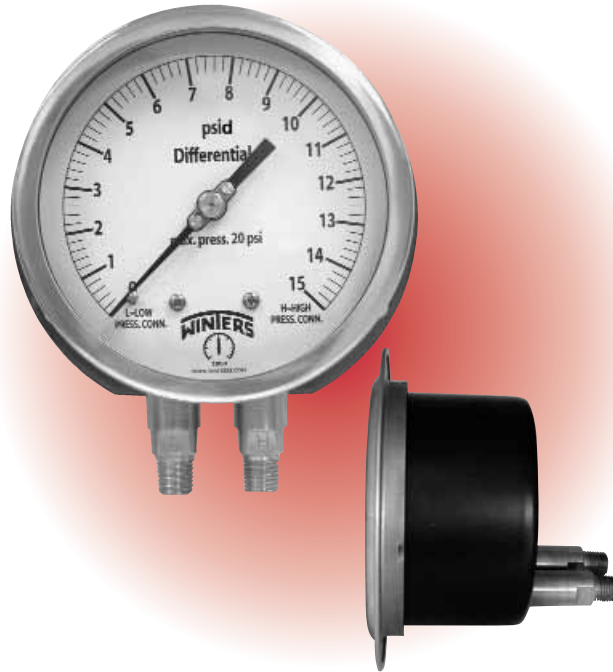


6" Bottom Connection



Differential

Premium



Description & Features:

- Heavy Duty bourdon tube differential pressure gauge with aluminum case
- Brass or Stainless steel wetted parts
- Both conventional and balanced scale available
- CRN Registered

Applications:

- Single pointer to show difference from two pressure sources
- Typically used to measure pressure drop across a filter, pump or other equipment

Specifications

Dial:	4 1/2" (115mm) and 6" (150mm) white aluminum with black markings
Case:	Aluminum, painted black
Lens:	Glass
Ring:	4 1/2" stainless steel, 6" Aluminum
Front Flange:	4 1/2" stainless steel, 6" Aluminum
Back Flange:	Aluminum
Pointer:	Aluminum (micrometer)
Socket:	Brass or 316 stainless steel as specified
Connection:	1/4" NPT standard
Bourdon Tubes:	Phosphor bronze or AISI 316 stainless steel, independent, matched
Movement:	Brass, heavy duty
Welding:	Tin/copper alloy for brass internals, TIG Argonarc for stainless steel internals
Over-pressure Limit:	30% of full scale value
Working Pressure:	Maximum 75% of full scale value
Ambient Temperature:	-40°F to 150°F (-40°C to 65°C)
Process Temperature:	-40°F to 150°F (-40°C to 65°C)
Accuracy:	± 1% accuracy (ANSI/ASME Grade 1)
Scale:	PSId only

Low Differential Pressure/High Static Pressure configurations are also available on pg.22



Differential

Premium

PRODUCT CODES

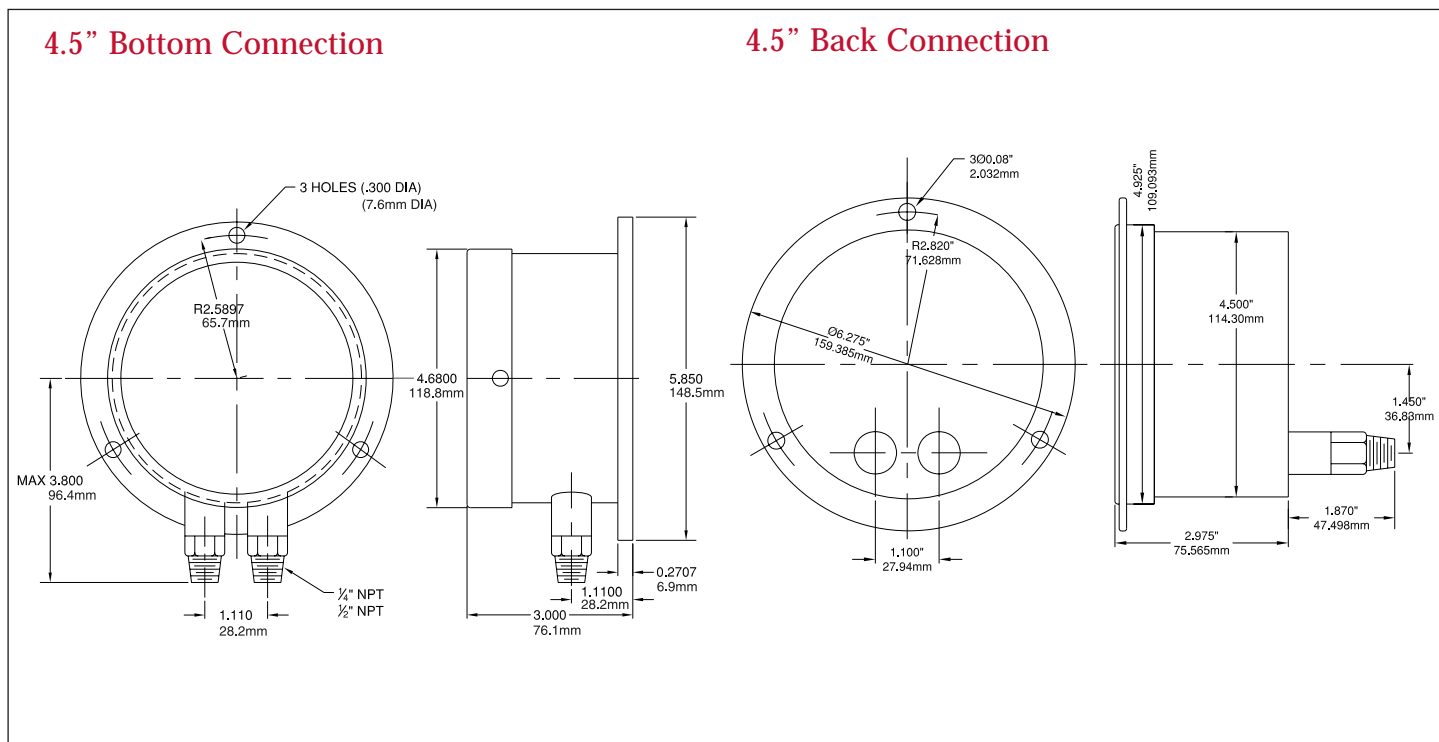
How to order: Specify product code

Max. Static Pressure	Dial Size	4 1/2" (115mm)				6" (150mm)			
	Tube & Socket	Brass	Brass	St/St	St/St	Brass	Brass	St/St	St/St
	Connection	1/4" NPT Bottom	1/4" NPT Back (LB)	1/4" NPT Bottom	1/4" NPT Back (LB)	1/4" NPT Bottom	1/4" NPT Back (LB)	1/4" NPT Bottom	1/4" NPT Back (LB)
	Range								
22 psi	0/15 psid	P8051	P8051B	P8061	P8061B	P8071	P8071B	P8081	P8081B
45 psi	0/30 psid	P8052	P8052B	P8062	P8062B	P8072	P8072B	P8082	P8082B
90 psi	0/60 psid	P8053	P8053B	P8063	P8063B	P8073	P8073B	P8083	P8083B
150 psi	0/100 psid	P8054	P8054B	P8064	P8064B	P8074	P8074B	P8084	P8084B
240 psi	0/160 psid	P8055	P8055B	P8065	P8065B	P8075	P8075B	P8085	P8085B
300 psi	0/200 psid	P8056	P8056B	P8066	P8066B	P8076	P8076B	P8086	P8086B
450 psi	0/300 psid	P8057	P8057B	P8067	P8067B	P8077	P8077B	P8087	P8087B
900 psi	0/600 psid	P8058	P8058B	P8068	P8068B	P8078	P8078B	P8088	P8088B
	Special Range	P8050	P8050B	P8060	P8060B	P8070	P8070B	P8080	P8080B

● Bi-directional or zero positioned at 12 O' clock on dial is available

4.5" Bottom Connection

4.5" Back Connection



High Static Pressure Differential Gauges

Premium



Description & Features:

- Versatile high static low differential pressure gauges
- Four types of sensing elements for a large variety of ranges
- Switches available for actuation

Applications:

- Filtration systems
- Low pressure gas systems
- Leak detection

	Specifications			
	Piston Gauge (P)	Rolling Diaphragm Gauge (R)	Small Convoluted Diaphragm Gauge (S)	Convoluted Diaphragm Gauge (C)
Standard Ranges:	5-100 psid / (0.35-7 bar)	5-100 psid / (0.35-7 bar)	1-60 psid / 0.075-4 bar	2-200 inches H ₂ O / 50-5000 mm H ₂ O
Maximum Pressure:	3000 psi / 200 bar	3000 psi / 200 bar	1500 psi / 100 bar	500 psi / 33 bar
Dial:	2" (50mm), 2 1/4" (63mm), 3 1/4" (90mm), 4" (100mm), 4 1/4" (115mm), 6" (150mm)	2 1/4" (63mm), 3 1/4" (90mm), 4" (100mm), 4 1/4" (115mm), 6" (150mm)	2 1/4" (63mm), 3 1/4" (90mm), 4" (100mm), 4 1/4" (115mm), 6" (150mm)	4" (100mm), 4 1/4" (115mm), 6" (150mm)
Case:	Stainless steel, weather-proof or stainless steel, flanged, weatherproof	Stainless steel, weather-proof or stainless steel, flanged, weatherproof	Stainless steel, weather-proof or stainless steel, flanged, weatherproof	Stainless steel, weather-proof or stainless steel, flanged, weatherproof
Lens:	Glass	Glass	Glass	Glass
Pointer:	Magnetic	Magnetic	Magnetic	Magnetic
Connection:	1/8" or 1/4" FNPT	1/8" or 1/4" FNPT	1/8" or 1/4" FNPT	1/8" FNPT
Internals/Movement:	Close-coupled magnetic rack & pinion	Close-coupled magnetic rack & pinion	Close-coupled magnetic rack & pinion	Close-coupled magnetic rack & pinion
Wetted Materials:	Aluminum, stainless steel, ceramic, teflon®	Aluminum, stainless steel, ceramic, Buna (Nitrile)	Aluminum, stainless steel, ceramic, Buna (Nitrile)	Aluminum, stainless steel, ceramic, Buna (Nitrile)
Maximum Temperature:	175°F/80°C	175°F/80°C	175°F/80°C	175°F/80°C
Migration of Media:	Minor	Zero	Zero	Zero
Line Connection Locations:	In-line, back or bottom (on request)	In-line, back or bottom (on request)	In-line, back or bottom (on request)	In-line, back or bottom (on request)
Accuracy:	±2%	±2%	±2%	±2%
Body Material:	Aluminum	Aluminum	Aluminum	Aluminum
Seals:	Buna-N (end cap O-rings, diaphragm)	Buna-N (end cap O-rings, diaphragm)	Buna-N (end cap O-rings, diaphragm)	Buna-N (end cap O-rings, diaphragm)

Options Suffix: ● PMB = Pipe Mounting Bracket

● ACR = Acrylic Lens

● VDS = Viton Diaphragm Seals



High Static Pressure Differential Gauges

Piston Type (P)

Most suitable for general use/all purpose applications. Uses a piston with Teflon® cap as a sensor to separate high & low pressure in response to pressure differentiation. **Not recommended for use on diaphragm seal.**

- Maximum Pressure : 3000 psi
- Standard Range : 0-5 psid up to 0-100 psid

Rolling Diaphragm Gauge (R)

Operates on rolling diaphragm as sensor, which separates high and low pressure ports. Recommended for air and gas applications or where zero migration of fluid between high and low ports is important. Used in high line pressure and differential pressure ranges up to 100 psid. Can be isolated from the media with a diaphragm seal if required.

- Maximum Pressure : 3000 psi
- Standard Range : 0-5 psid up to 0-100 psid

Small Convoluted Diaphragm Gauge (S)

Operates on a convoluted diaphragm as a sensor which separates high and low pressure ports. Recommended for air and gas applications. Used for high line pressure and differential pressure ranges up to 60 psid.

- Maximum Pressure : 1500 psi
- Standard Range : 0-1 psid up to 0-60 psid

Convoluted Diaphragm Gauge (C)

Operates on convoluted diaphragm sensor with differential pressure ranges 2-200 inches of water. Used where comparatively low line pressures and sensitivity to small changes in differential pressure is important to 4", 4.5" and 6" dials

- Maximum Pressure : 500 psi
- Standard Range : 0 - 2" up to 1 - 200" of H₂Od/mmH₂Od.

Select a product code as per column

Sample Part Number: PGA20S8LB-05P

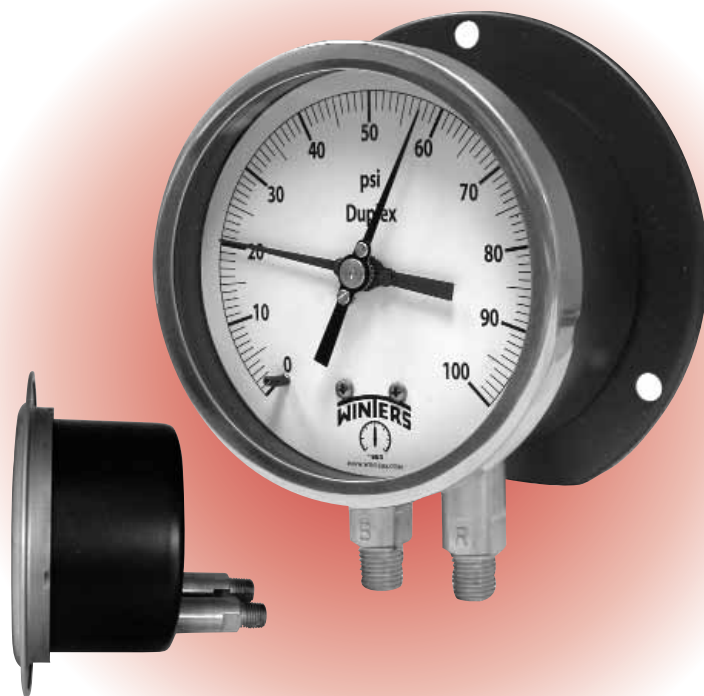
X X X 00 X 0 X X 0 00 X

<p>INDICATOR TYPE G = gauge S = switch C = Gauge/Switch Combination</p>	<p>WETTED PARTS A = Aluminum B = Brass S = 316 Stainless Steel</p>	<p>DIAL SIZE 20 = 2.0 inches 25 = 2.5 inches 35 = 3.5 inches 40 = 4.0 inches 45 = 4.5 inches 60 = 6.0 inches</p>	<p>DIAL CASE TYPE S = Standard F = Flanged</p>	<p>PORT SIZE 8 = 1/8" FNPT 4 = 1/4" FNPT</p>	<p>PORT LOCATION L = In-line R = Rear B = Bottom</p>	<p>SEALS B = Buna N V = Viton</p>	<p>SWITCHES 1 = One SPST, with a din plug 2 = One SPST, with a terminal strip 2A = One SPST, with built in relay 3 = Two SPSTs, with DIN plug 4 = Two SPSTs, with terminal strip 5 = One SPDT, with DIN plug 6 = One SPDT, with terminal strip 7 = Two SPDTs, with two DIN strip 8 = Two SPDTs, with a terminal strip - = No switch required</p>	<p>FULL SCALE RANGE 05 = 0 to 5 10 = 0 to 10 00 = 0 to 100 Others Available</p>	<p>RANGE UNITS P = PSID B = Bar H = Inches H₂O M = mm H₂O</p>
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Duplex

Premium



Description & Features:

- Heavy duty highly accurate aluminum case duplex gauges
- Brass and Stainless Steel wetted part available
- Two separate bourdon tubes and pointers. One red and one black.
- CRN Registered

Applications:

- Comparing two separate process pressures on the same gauge
- Utilized on pump and filter applications
- Road stripping equipment

Specifications

Dial:	4½" (115mm) and 6" (150mm) white aluminum with black markings
Case:	Aluminum, painted black
Lens:	Glass
Ring:	4½" St/St, 6" Aluminum
Front Flange:	4½" St/St, 6" Aluminum
Back Flange:	4½" Black steel or 6" Aluminum
Pointer:	Aluminum, micrometer
Socket:	Brass or 316 stainless steel as specified
Connection:	¼" NPT standard
Bourdon Tubes:	Phosphor bronze or AISI 316 stainless steel, independent, matched
Movement:	Brass, heavy duty
Welding:	Tin/copper alloy for brass internals, TIG Argonarc for stainless steel internals
Over-pressure Limit:	30% of full scale value
Working Pressure:	Maximum 75% of full scale value
Ambient Temperature:	-40°F to 150°F (-40°C to 65°C)
Process Temperature:	-40°F to 150°F (-40°C to 65°C)
Accuracy:	± 1% accuracy (ANSI/ASME Grade 1A)
Scale:	PSI only



Duplex

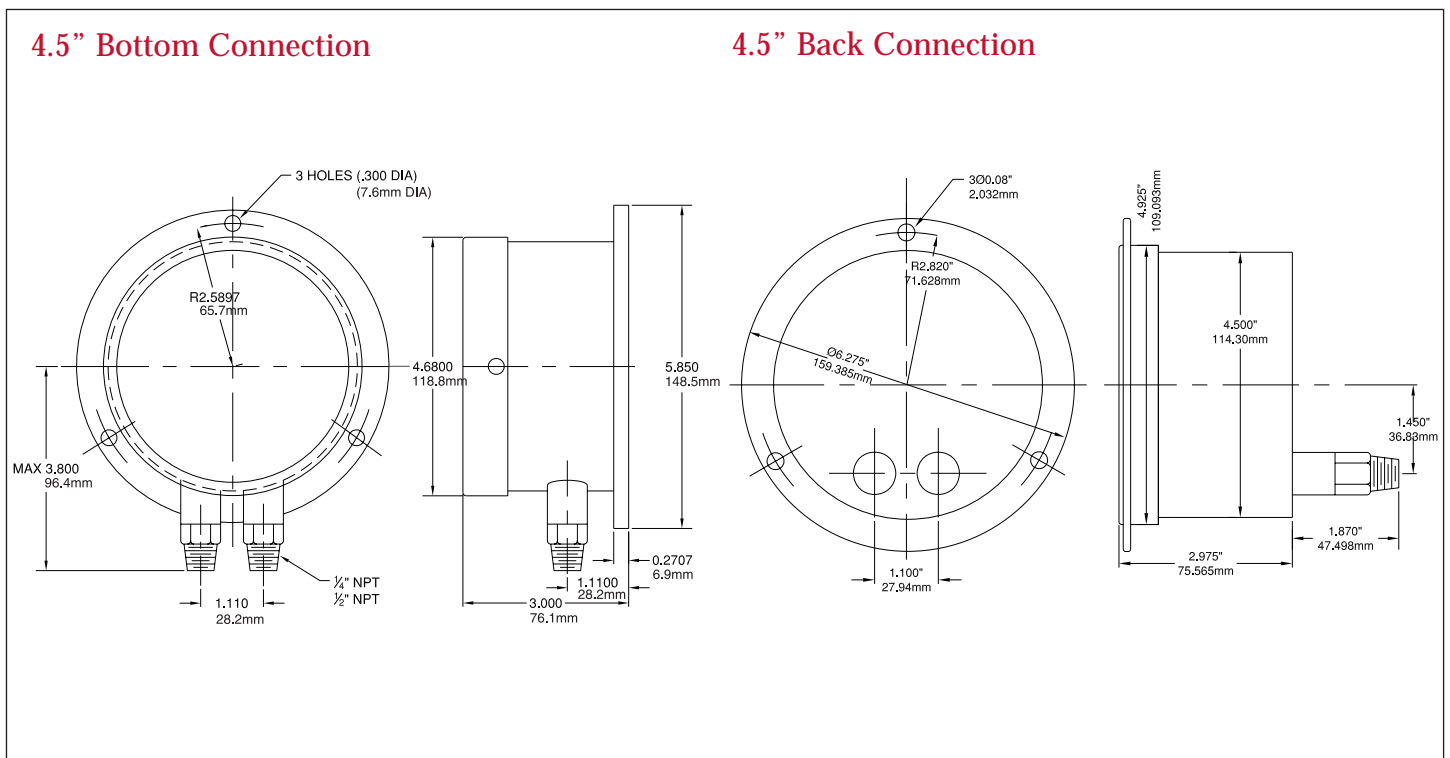
Premium

PRODUCT CODES

How to order: Specify product code

Dial Size	4 1/2" (115mm)				6" (150mm)			
Tube & Socket	Brass	Brass	St/St	St/St	Brass	Brass	St/St	St/St
Connection	1/4" NPT Bottom	1/4" NPT Back (LB)	1/4" NPT Bottom	1/4" NPT Back (LB)	1/4" NPT Bottom	1/4" NPT Back (LB)	1/4" NPT Bottom	1/4" NPT Back (LB)
0/15 psi	P8011	P8011B	P8021	P8021B	P8091	P8091B	P8101	P8101B
0/30 psi	P8012	P8012B	P8022	P8022B	P8092	P8092B	P8102	P8102B
0/60 psi	P8013	P8013B	P8023	P8023B	P8093	P8093B	P8103	P8103B
0/100 psi	P8014	P8014B	P8024	P8024B	P8094	P8094B	P8104	P8104B
0/160 psi	P8015	P8015B	P8025	P8025B	P8095	P8095B	P8105	P8105B
0/200 psi	P8016	P8016B	P8026	P8026B	P8096	P8096B	P8106	P8106B
0/300 psi	P8017	P8017B	P8027	P8027B	P8097	P8097B	P8107	P8107B
0/600 psi	P8018	P8018B	P8028	P8028B	P8098	P8098B	P8109	P8109B
Special Range	P8010	P8010B	P8020	P8020B	P8090	P8090B	P8100	P8100B

LB = Lower Back Connection



Forged Brass Case Gauge (psi only)

Premium



Description & Features:

- One piece forged brass case gauges, designed for severe service conditions
- Easy to read single scale PSI dial
- Liquid filled with an orifice restrictor

Applications:

- Used where heavy vibration and pulsation exist
- Industrial and hydraulic systems

Specifications	
Dial:	2 1/2" (63mm) & 4" (100mm)
Case:	Forged brass, rugged
Lens:	Polycarbonate
Ring:	Gold ABS (2.5") polished brass(4")
Pointer:	Aluminum, anodized black
Wetted Parts:	Brass
Connection:	1/4" NPT bottom or back, 1/2" (4" bottom)
Accuracy:	1.5% FS - 2.5" (1% FS - 4")
Filling:	Glycerin
Other:	Removable restrictor screw
Rating:	IP65

How to order: Specify product code

Products shown in **BOLD** are normally in stock.

Product Codes (psi only)									
Dial Size	2 1/2" (63mm)		4" (100mm)		Dial Size	2 1/2" (63mm)		4" (100mm)	
Connection	Bottom 1/4" NPT	Back (CB) 1/4" NPT	Bottom 1/4" NPT	Bottom 1/2" NPT	Connection	Bottom 1/4" NPT	Back (CB) 1/4" NPT	Bottom 1/4" NPT	Bottom 1/2" NPT
Tube & Socket	Brass	Brass	Brass	Brass	Tube & Socket	Brass	Brass	Brass	Brass
30" Hg. vacuum	PBC801R1	PBC900R1	PBC700R1	PBC1234R1	0-160 psi	PBC805R1	PBC905R1	PBC712R1	PBC1246R1
30"-0-15 psi	PBC790R1	PBC890R1	PBC701R1	PBC1235R1	0-200 psi	PBC806R1	PBC906R1	PBC713R1	PBC1247R1
30"-0-30 psi	PBC798R1	PBC898R1	PBC702R1	PBC1236R1	0-300 psi	PBC807R1	PBC907R1	PBC714R1	PBC1248R1
30"-0-60 psi	PBC799R1	PBC899R1	PBC703R1	PBC1237R1	0-400 psi	PBC817R1	PBC917R1	PBC715R1	PBC1249R1
30"-0-100 psi	PBC791R1	PBC891R1	PBC704R1	PBC1238R1	0-600 psi	PBC808R1	PBC908R1	PBC716R1	PBC1250R1
30"-0-150 psi	PBC792R1	PBC892R1	PBC705R1	PBC1239R1	0-1000 psi	PBC809R1	PBC909R1	PBC724R1	PBC717R1
30"-0-200 psi	PBC794R1	PBC894R1	PBC706R1	PBC1240R1	0-1500 psi	PBC816R1	PBC914R1	PBC725R1	PBC718R1
30"-0-300 psi	PBC795R1	PBC895R1	PBC707R1	PBC1241R1	0-2000 psi	PBC810R1	PBC910R1	PBC726R1	PBC719R1
0 - 15 psi	PBC800R1	PBC901R1	PBC708R1	PBC1242R1	0-3000 psi	PBC811R1	PBC911R1	PBC727R1	PBC720R1
0 - 30 psi	PBC802R1	PBC902R1	PBC709R1	PBC1243R1	0-5000 psi	PBC812R1	PBC912R1	PBC728R1	PBC721R1
0 - 60 psi	PBC803R1	PBC903R1	PBC710R1	PBC1244R1	0-6000 psi	PBC814R1	PBC915R1	PBC024R1	PBC784R1
0 - 100 psi	PBC804R1	PBC904R1	PBC711R1	PBC1245R1	0-10000 psi	PBC813R1	PBC913R1	PBC729R1	PBC722R1

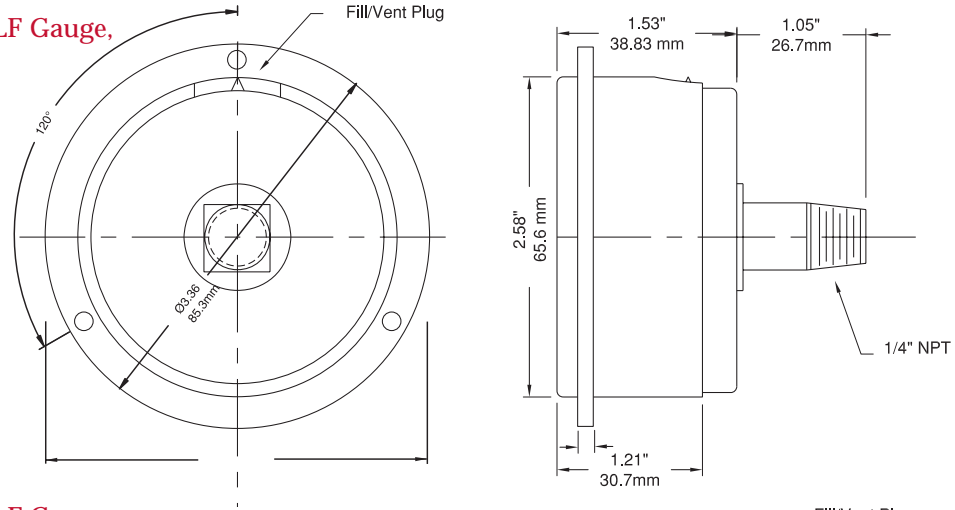
Option Suffix: • 25FF - PBC = front flange for 2.5" brass case gauge



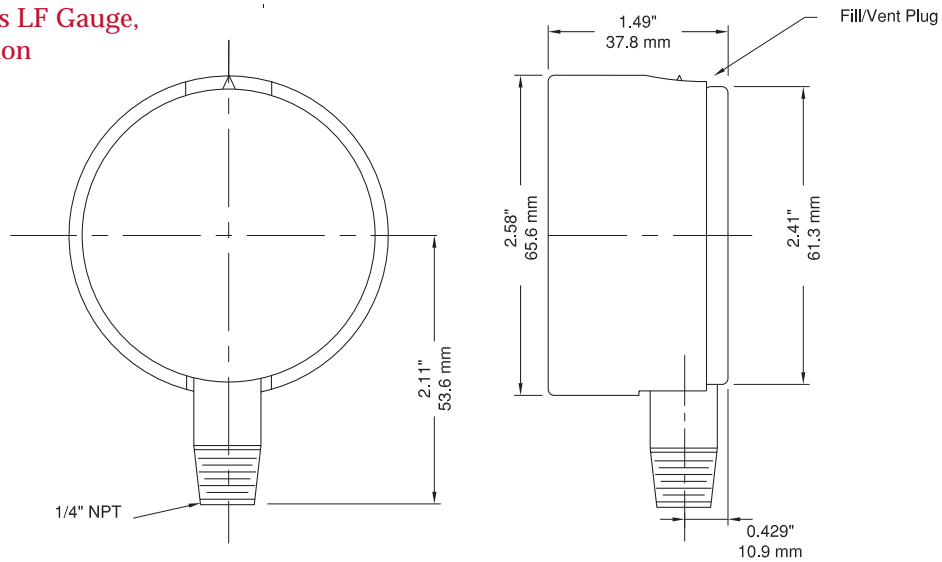
Forged Brass Case Gauge (psi only)

Premium

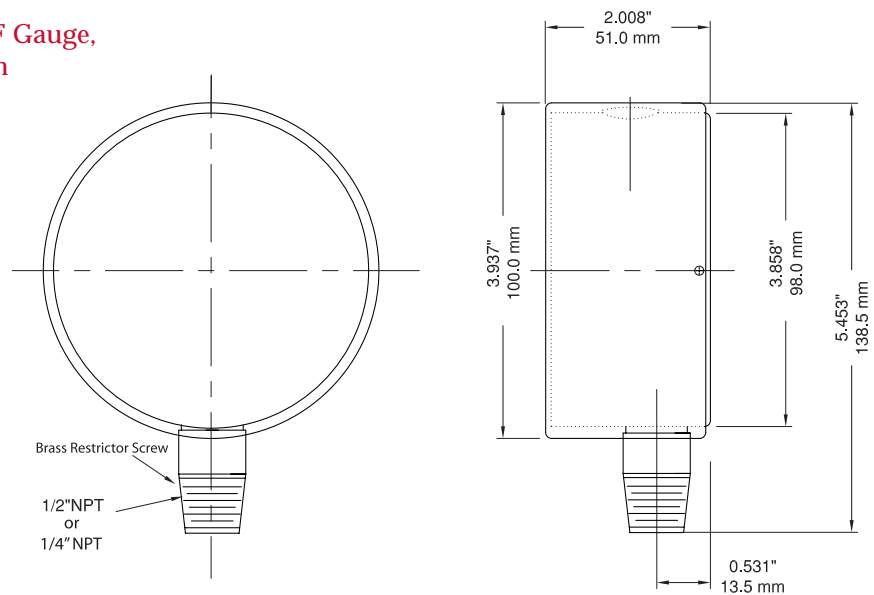
2.5" Forged Brass LF Gauge,
Back Connection



2.5" Forged Brass LF Gauge,
Bottom Connection



4" Forged Brass LF Gauge,
Bottom Connection



Forged Brass Case Gauge (psi/kPa only)

Premium



Description & Features:

- One piece forged brass case gauges, designed for severe service conditions
- Easy to read single scale psi/kPa dial
- Liquid filled with an orifice restrictor

Applications:

- Used where heavy vibration and pulsation exist
- Industrial and hydraulic systems

Specifications	
Dial:	2 1/2" (63mm) & 4" (100mm)
Case:	Forged brass, rugged
Lens:	Polycarbonate
Ring:	Gold ABS (2.5") polished brass(4")
Pointer:	Aluminum, anodized black
Wetted Parts:	Brass
Connection:	1/4" NPT bottom or back, 1/4" (4" bottom)
Accuracy:	1.5% FS - 2.5" (1% FS - 4")
Filling:	Glycerin
Other:	Removable restrictor screw
Rating:	IP65

How to order: Specify product code

Products shown in **BOLD** are normally in stock.

Product Codes (psi/kPa only)									
Dial Size	2 1/2" (63mm)		4" (100mm)		Dial Size	2 1/2" (63mm)		4" (100mm)	
Connection	Bottom 1/4" NPT	Back (CB) 1/4" NPT	Bottom 1/4" NPT	Bottom 1/4" NPT	Connection	Bottom 1/4" NPT	Back (CB) 1/4" NPT	Bottom 1/4" NPT	Bottom 1/4" NPT
Tube & Socket	Brass	Brass	Brass	Brass	Tube & Socket	Brass	Brass	Brass	Brass
30" Hg. vacuum	PBC801	PBC900	PBC700	PBC1234	0-160 psi/kPa	PBC805	PBC905	PBC712	PBC1246
30"-0-15 psi/kPa	PBC790	PBC890	PBC701	PBC1235R	0-200 psi/kPa	PBC806	PBC906	PBC713	PBC1247
30"-0-30 psi/kPa	PBC798	PBC898	PBC702	PBC1236	0-300 psi/kPa	PBC807	PBC907	PBC714	PBC1248
30"-0-60 psi/kPa	PBC799	PBC899	PBC703	PBC1237	0-400 psi/kPa	PBC817	PBC917	PBC715	PBC1249
30"-0-100 psi/kPa	PBC791	PBC891	PBC704	PBC1238	0-600 psi/kPa	PBC808	PBC908	PBC716	PBC1250
30"-0-150 psi/kPa	PBC792	PBC892	PBC705	PBC1239	0-1000 psi/kPa	PBC809	PBC909	PBC724	PBC717
30"-0-200 psi/kPa	PBC794	PBC894	PBC706	PBC1240	0-1500 psi/kPa	PBC816	PBC914	PBC725	PBC718
30"-0-300 psi/kPa	PBC795	PBC895	PBC707	PBC1241	0-2000 psi/kPa	PBC810	PBC910	PBC726	PBC719
0 - 15 psi/kPa	PBC800	PBC901	PBC708	PBC1242	0-3000 psi/kPa	PBC811	PBC911	PBC727	PBC720
0 - 30 psi/kPa	PBC802	PBC902	PBC709	PBC1243	0-5000 psi/kPa	PBC812	PBC912	PBC728	PBC721
0 - 60 psi/kPa	PBC803	PBC903	PBC710	PBC1244	0-6000 psi/kPa	PBC814	PBC915	PBC024	PBC784
0 - 100 psi/kPa	PBC804	PBC904	PBC711	PBC1245	0-10000 psi/kPa	PBC813	PBC913	PBC729	PBC722

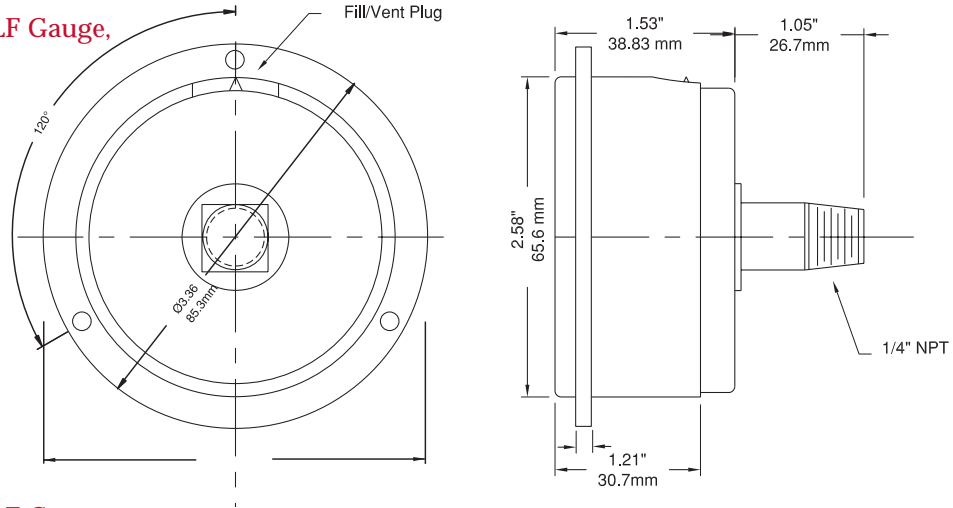
Option Suffix: • 25FF - PBC = front flange for 2.5" brass case gauge



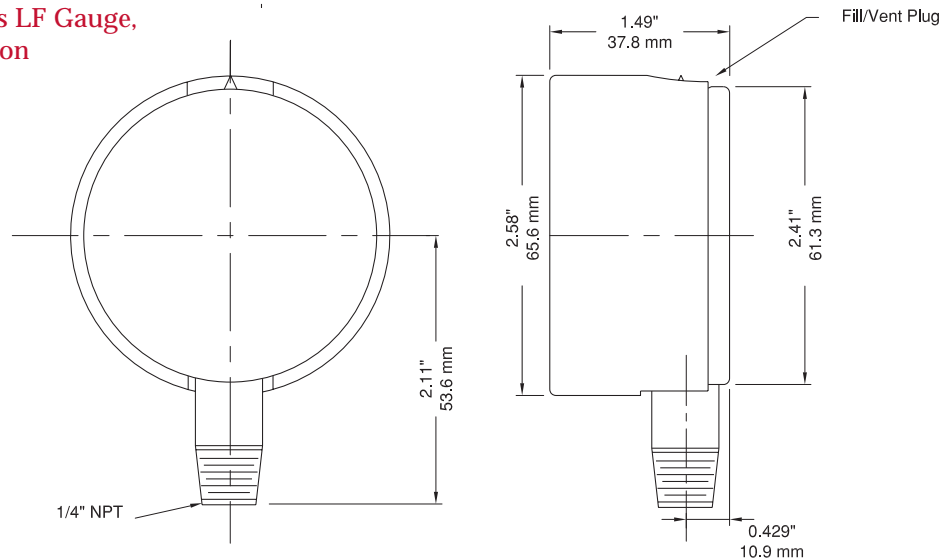
Forged Brass Case Gauge (psi/kPa only)

Premium

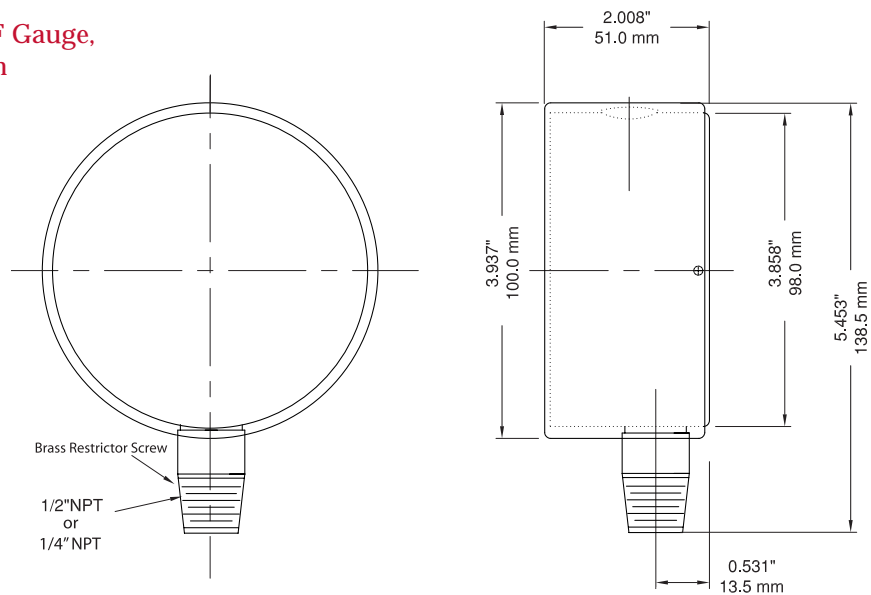
2.5" Forged Brass LF Gauge,
Back Connection



2.5" Forged Brass LF Gauge,
Bottom Connection

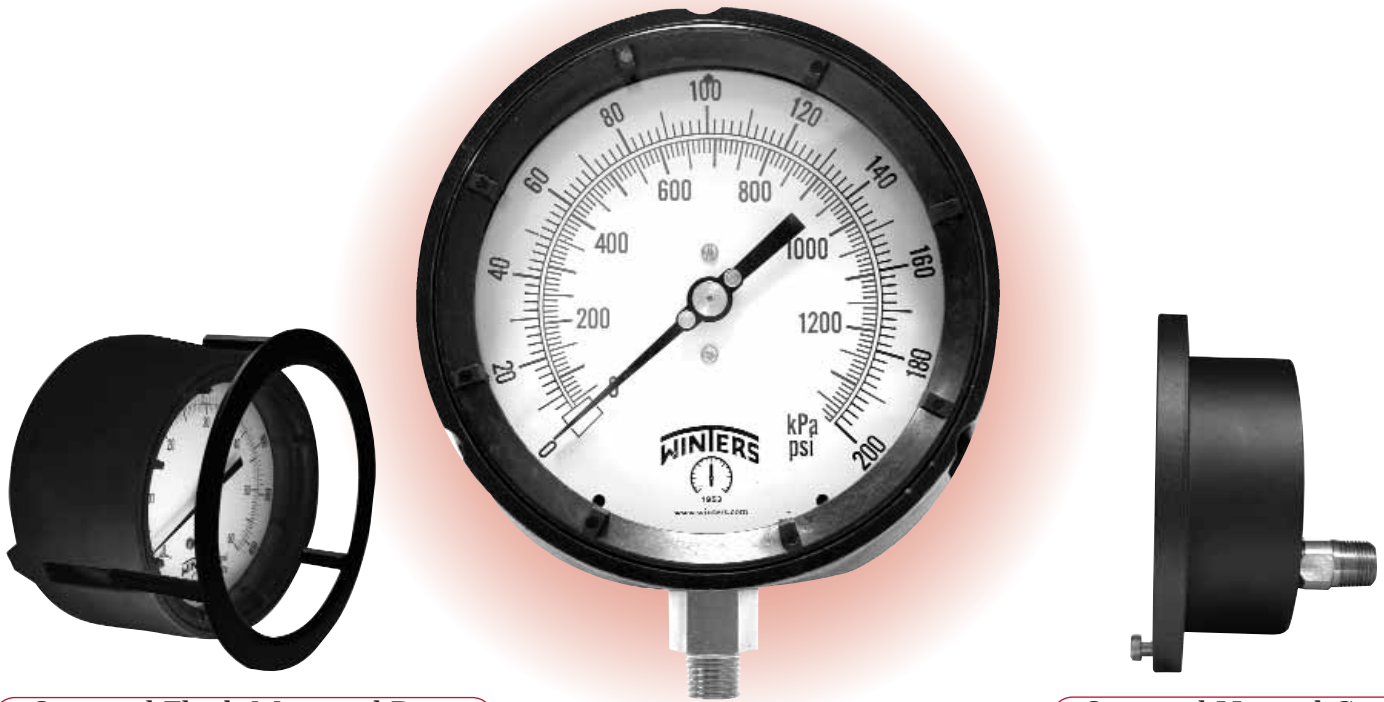


4" Forged Brass LF Gauge,
Bottom Connection



Process

Premium



Optional Flush Mounted Ring

Optional Hinged Case

Description & Features:

- Field liquid fillable, thermoplastic solid front blow-out back safety case
- 0.5% accuracy
- Stainless Steel full rotary movement for longer life
- Micrometer pointer for ease in calibration.
- Under & Overload stops
- 316 SS, Brass, Monel or Carbon steel wetted parts
- **CRN Registered**

Applications:

- Used where operator safety is a must
- Ideally suited for process, chemical and petroleum industry
- Highly corrosive media



Process

Specifications Brass Internals	
Dial:	4 ¹ / ₂ " (115mm) white aluminum with black and red markings
Case:	Black impact resistant thermoplastic
Solid Wall:	304 stainless steel
Lens:	Polycarbonate
Ring:	Ethylene propylene
Pointer:	Aluminum, anodized black, micrometer adjustable
Socket:	OT 58 brass
Connection:	1/4" NPT or 1/2" NPT standard, bottom
Bourdon Tube:	Phosphor bronze
Movement:	304 Stainless Steel with protection over/under stops
Gasket Materials:	Silicone
Welding:	Silver alloy
Over-pressure Limit:	25% for pressures up to 1500 psi/kPa, 15% for pressures 1501 to 8700 psi/kPa, 10% for pressures above 8701 psi/kPa
Working Pressure:	Maximum 75% of full scale value
Ambient Temperature:	-40°F to 200°F (-40°C to 93°C) dry / -4°F-150°F (-20°C to 65°C) glycerine filled
Process Temperature:	-40°F to 200°F (-40°C to 93°C) dry / -4°F-150°F (-20°C to 65°C) glycerine filled
Accuracy:	±0.5% accuracy (ANSI/ASME Grade 2A)
Enclosure Rating:	IP65

Specifications Stainless Steel Internals	
Dial:	4 ¹ / ₂ " (115mm) white aluminum with black and red markings
Case:	Black impact resistant thermoplastic
Solid Wall:	304 stainless steel
Lens:	Polycarbonate
Ring:	Ethylene propylene
Pointer:	Aluminum, anodized black, micrometer adjustable
Connections:	1/4" NPT or 1/2" NPT standard, bottom
Bourdon Tube:	316L stainless steel, drawn seamless
Movement:	304 Stainless Steel
Socket:	316L stainless steel with protection over/under stops
Gasket Materials:	Silicone
Welding:	TIG
Over-pressure Limit:	25% for pressures up to 1500 psi/kPa, 15% for pressures 1501 to 8700 psi/kPa, 10% for pressures above 8701 psi/kPa
Working Pressure:	Maximum 75% of full scale value
Ambient Temperature:	-40°F to 200°F (-40°C to 93°C) dry / -4°F-150°F (-20°C-65°C) glycerine filled
Process Temperature:	-40°F to 200°F (-40°C to 93°C) dry / -4°F-150°F (-20°C-65°C) glycerine filled
Accuracy:	±0.5% accuracy (ANSI/ASME Grade 2A)
Enclosure Rating:	IP65



Process

PRODUCT CODES

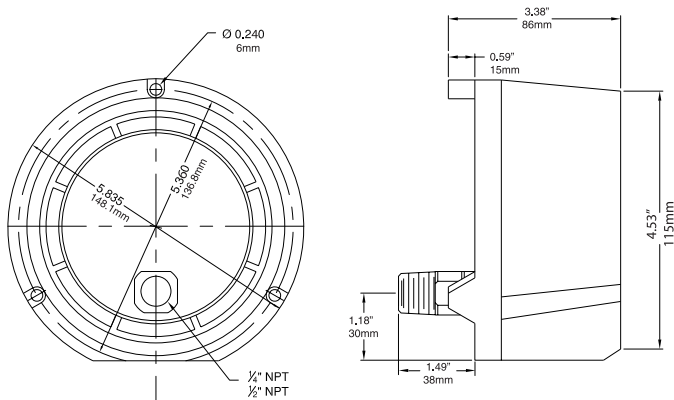
How to order: Specify product code
Products shown in **BOLD** are normally in stock.

Connection	Bottom 1/4"	Back (LB) 1/4"	Bottom 1/4"	Back (LB) 1/4"	Bottom 1/2"	Back (LB) 1/2"
Socket, Tube	Brass	Brass	St/St	St/St	St/St	St/St
Movement	St/St	St/St	St/St	St/St	St/St	St/St
30" Hg Vacuum/kPa	P5080	P5280	P5040	P5340	P5060	P5460
30"-0-15 psi/kPa	P5120	P5220	P5130	P5330	P5140	P5440
30"-0-30 psi/kPa	P5121	P5221	P5131	P5331	P5141	P5441
30"-0-60 psi/kPa	P5122	P5222	P5132	P5332	P5142	P5442
30"-0-100 psi/kPa	P5123	P5223	P5133	P5333	P5143	P5443
30"-0-160 psi/kPa	P5124	P5224	P5134	P5334	P5144	P5444
30"-0-200 psi/kPa	P5125	P5225	P5135	P5335	P5145	P5445
30"-0-300 psi/kPa	P5126	P5226	P5136	P5336	P5146	P5446
0-15 psi/kPa	P5081	P5281	P5041	P5341	P5061	P5461
0-30 psi/kPa	P5082	P5282	P5042	P5342	P5062	P5462
0-60 psi/kPa	P5083	P5283	P5043	P5343	P5063	P5463
0-100 psi/kPa	P5084	P5284	P5044	P5344	P5064	P5464
0-160 psi/kPa	P5085	P5285	P5045	P5345	P5065	P5465
0-200 psi/kPa	P5086	P5286	P5046	P5346	P5066	P5466
0-300 psi/kPa	P5087	P5287	P5047	P5347	P5067	P5467
0-400 psi/kPa	P5088	P5288	P5048	P5348	P5068	P5468
0-600 psi/kPa	P5089	P5289	P5049	P5349	P5069	P5469
0-1000 psi/kPa	P5098	P5298	----	----	----	----
Connection Size	1/2"	1/2"	1/4"	1/4"	1/2"	1/2"
0-1000 psi/kPa	P5090	P5290	P5050	P5350	P5070	P5470
0-1500 psi/kPa	P5091	P5291	P5051	P5351	P5071	P5471
0-2000 psi/kPa	P5092	P5292	P5052	P5352	P5072	P5472
0-3000 psi/kPa	P5093	P5293	P5053	P5353	P5073	P5473
0-5000 psi/kPa	P5094	P5294	P5054	P5354	P5074	P5474
0-10,000 psi/kPa	P5095	P5295	P5055	P5355	P5075	P5475
0-15,000 psi/kPa	P5096	P5296	P5056	P5356	P5076	P5476
0-20,000 psi/kPa	P5097	P5297	P5057	P5357	P5077	P5477

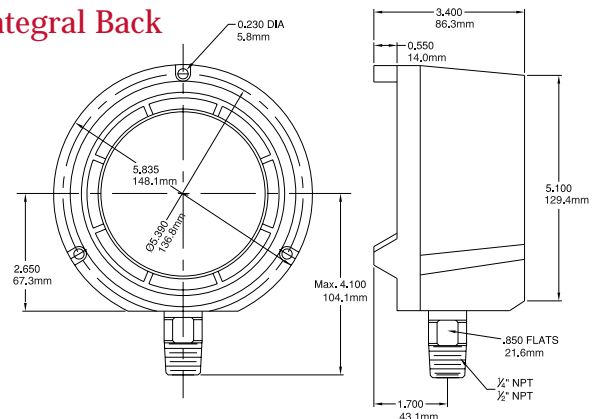
Option Suffix:

- G = Glycerin (bottom connect only)
- SF45 = Silicone Fill
- MS = Monel tube and socket
- SG-45 = Safety Glass
- FMR = Flush Mounted Ring
- CS = Carbon Steel Socket
- 6HCS = 6" Solid Front Hinged Case (back connection only)
- HCSF = Solid Front Hinged Case (back connection only)

4.5" Back Connection

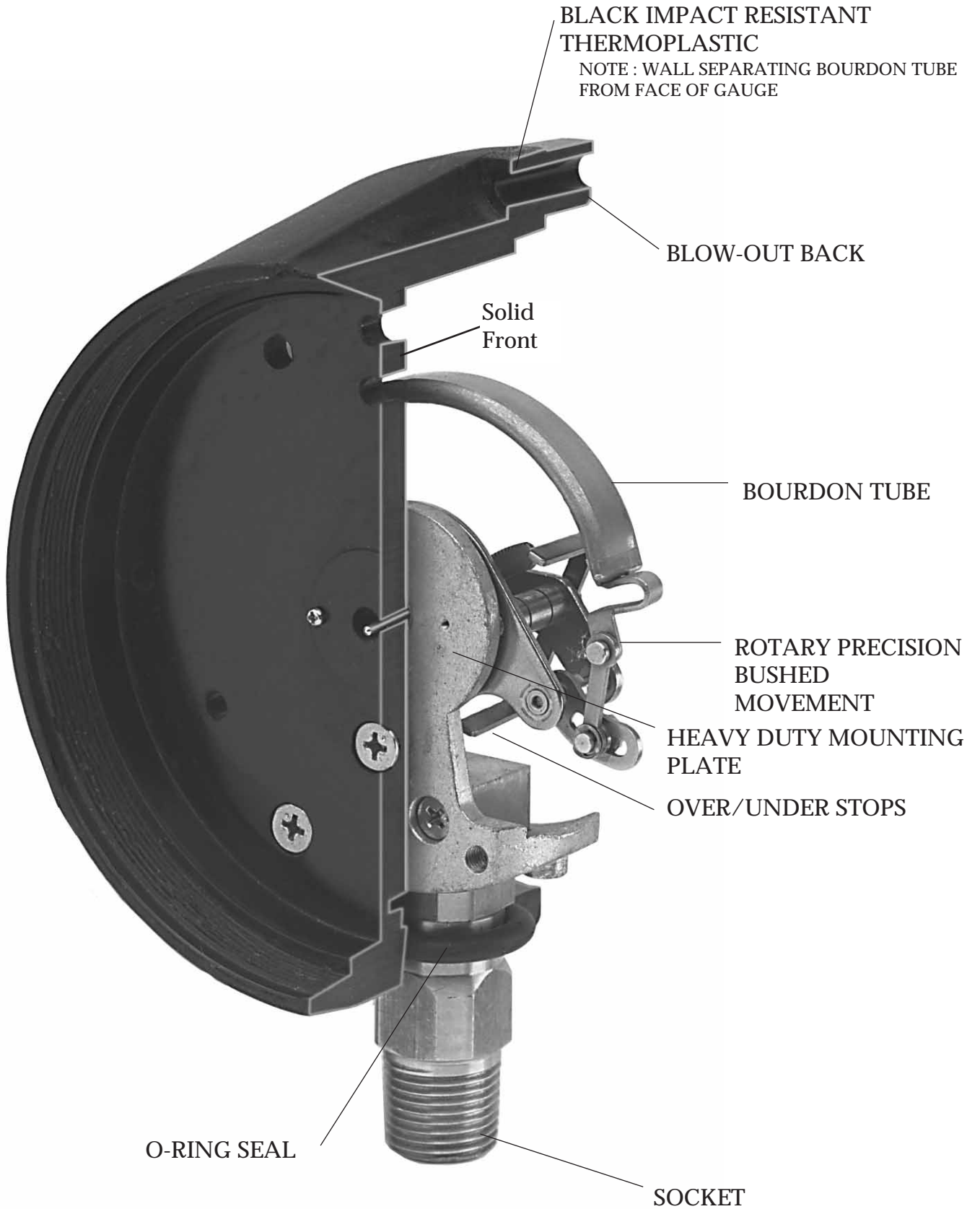


4.5" Bottom Connection with Integral Back Flange



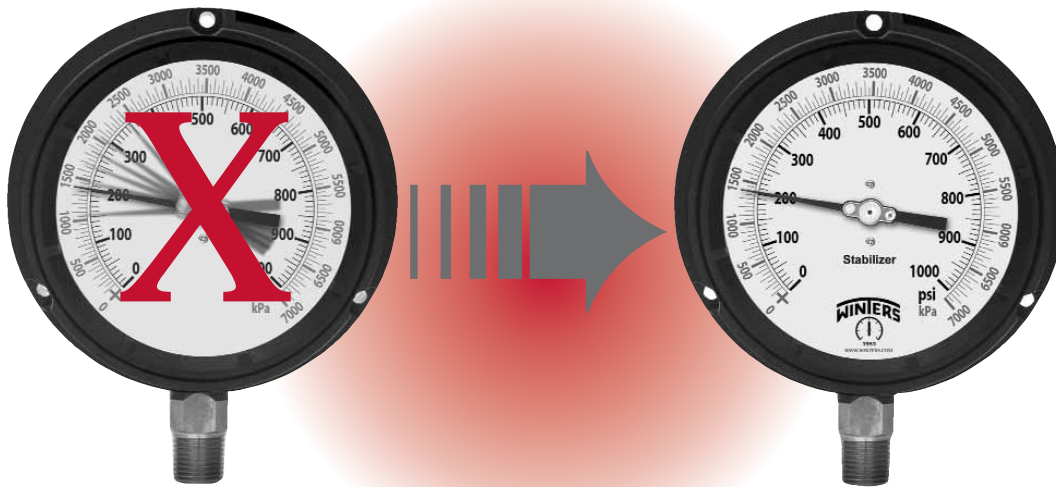
Process

Premium



Stabilizer Process Series

Premium



Description & Features:

- Full safety pattern solid front blow out back
- 0.5% accuracy
- Stabilizer dampened movement minimizes effects of pulsation and vibration without liquid filling
- Stainless Steel full rotary movement
- Micrometer pointer for ease in calibration.
- Under & Overload stops
- 316 SS, Brass, Monel or Carbon steel wetted parts

Applications:

- Used where operator safety is a must
- Ideally suited for process, chemical and petroleum industry applications where chemical compatibility and contamination is a concern
- Process where pulsation or vibration exist

Options Suffix:

- HCSF = 4 1/2" (115mm) Solid Front Hinged Case (back connection only)
- FMR = Flush Mounted Ring
- SG-45 = 4 1/2" (115mm) Safety Glass
- MS = Monel Tube and Socket
- 6HCS = 6" solid front hinged case (back connection only)
- CS = Carbon steel socket / stainless steel tube
- 1/2" NPT brass available on ranges below 1,000 psi/kPa
- Other ranges available upon request

Specifications	
Dial:	4 1/2" (115mm) aluminum with black and red markings
Case:	Engineered reinforced thermoplastic with safety blowout back, solid front, integral back flange
Lens:	Polycarbonate
Ring:	Reinforced thermoplastic
Pointer:	Anodized aluminum
Socket:	316 stainless steel or brass
Connection:	1/4" or 1/2" NPT
Bourdon Tube:	316 stainless steel or brass
Movement:	304 stainless steel protected with over/under stops (stabilized)
Seal:	EPDM
Welding:	TIG
O-ring:	Nitrile
Ambient/Process Temperature:	-40°F to 150°F (-40°C to 65°C)
Over-pressure Limit:	25% for pressures up to 1500 psi/kPa 15% for pressures 1501 to 8700 psi/kPa 10% for pressures above 8701 psi/kPa
Working Pressure:	Maximum 75% of full scale
Enclosure Rating:	IP65
Accuracy:	±0.5% of full scale



Stabilizer Process Series

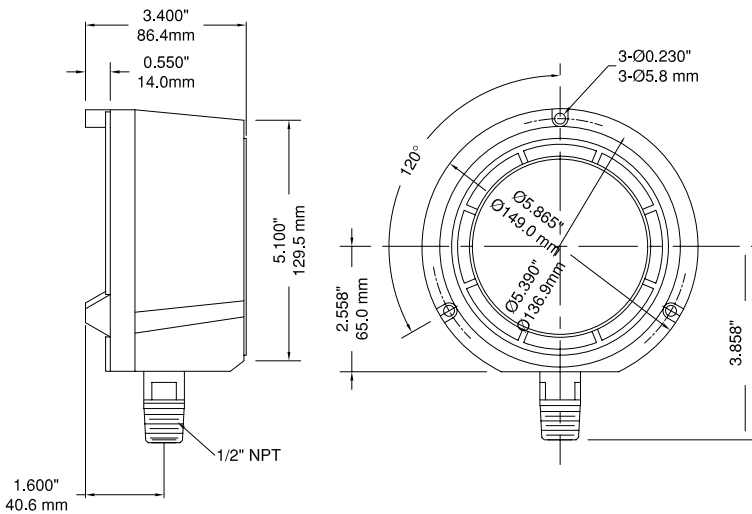
How to order: Specify product code

Products shown in **BOLD** are normally in stock.

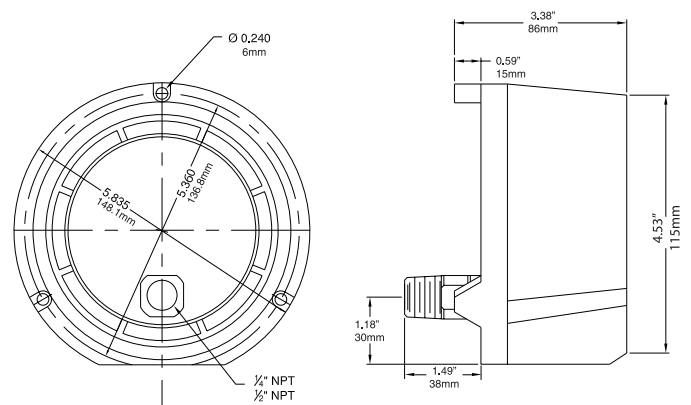
Product Codes						
Connection	Bottom 1/4" NPT	Back (LB) 1/4" NPT	Bottom 1/4" NPT	Back (LB) 1/4" NPT	Bottom 1/2" NPT	Back (LB) 1/2" NPT
Socket, Tube	Brass	Brass	St/St	St/St	St/St	St/St
Movement	St/St	St/St	St/St	St/St	St/St	St/St
30" Hg Vacuum/kPa	P5080Z	P5280Z	P5040Z	P5340Z	P5060Z	P5460Z
30" -0-15 psi/kPa	P5120Z	P5220Z	P5130Z	P5330Z	P5140Z	P5440Z
30" -0-30 psi/kPa	P5121Z	P5221Z	P5131Z	P5331Z	P5141Z	P5441Z
30" -0-60 psi/kPa	P5122Z	P5222Z	P5132Z	P5332Z	P5142Z	P5442Z
30" -0-100 psi/kPa	P5123Z	P5223Z	P5133Z	P5333Z	P5143Z	P5443Z
30" -0-160 psi/kPa	P5124Z	P5224Z	P5134Z	P5334Z	P5144Z	P5444Z
30" -0-200 psi/kPa	P5125Z	P5225Z	P5135Z	P5335Z	P5145Z	P5445Z
30" -0-300 psi/kPa	P5126Z	P5226Z	P5136Z	P5336Z	P5146Z	P5446Z
0-15 psi/kPa	P5081Z	P5281Z	P5041Z	P5341Z	P5061Z	P5461Z
0-30 psi/kPa	P5082Z	P5282Z	P5042Z	P5342Z	P5062Z	P5462Z
0-60 psi/kPa	P5083Z	P5283Z	P5043Z	P5343Z	P5063Z	P5463Z
0-100 psi/kPa	P5084Z	P5284Z	P5044Z	P5344Z	P5064Z	P5464Z
0-160 psi/kPa	P5085Z	P5285Z	P5045Z	P5345Z	P5065Z	P5465Z
0-200 psi/kPa	P5086Z	P5286Z	P5046Z	P5346Z	P5066Z	P5466Z
0-300 psi/kPa	P5087Z	P5287Z	P5047Z	P5347Z	P5067Z	P5467Z
0-400 psi/kPa	P5088Z	P5288Z	P5048Z	P5348Z	P5068Z	P5468Z
0-600 psi/kPa	P5089Z	P5289Z	P5049Z	P5349Z	P5069Z	P5469Z
0-1000 psi/kPa	P5098Z	P5298Z	-	-	-	-
Connection Size	1/2"	1/2"	1/4"	1/4"	1/2"	1/2"
0-1000 psi/kPa	P5090Z	P5290Z	P5050Z	P5350Z	P5070Z	P5470Z
0-1500 psi/kPa	P5091Z	P5291Z	P5051Z	P5351Z	P5071Z	P5471Z
0-2000 psi/kPa	P5092Z	P5292Z	P5052Z	P5352Z	P5072Z	P5472Z
0-3000 psi/kPa	P5093Z	P5293Z	P5053Z	P5353Z	P5073Z	P5473Z
0-5000 psi/kPa	P5094Z	P5294Z	P5054Z	P5354Z	P5074Z	P5474Z
0-10,000 psi/kPa	P5095Z	P5295Z	P5055Z	P5355Z	P5075Z	P5475Z
0-15,000 psi/kPa	P5096Z	P5296Z	P5056Z	P5356Z	P5076Z	P5476Z
0-20,000 psi/kPa	P5097Z	P5297Z	P5057Z	P5357Z	P5077Z	P5477Z

Premium

4 1/2" (115mm) Bottom Connection

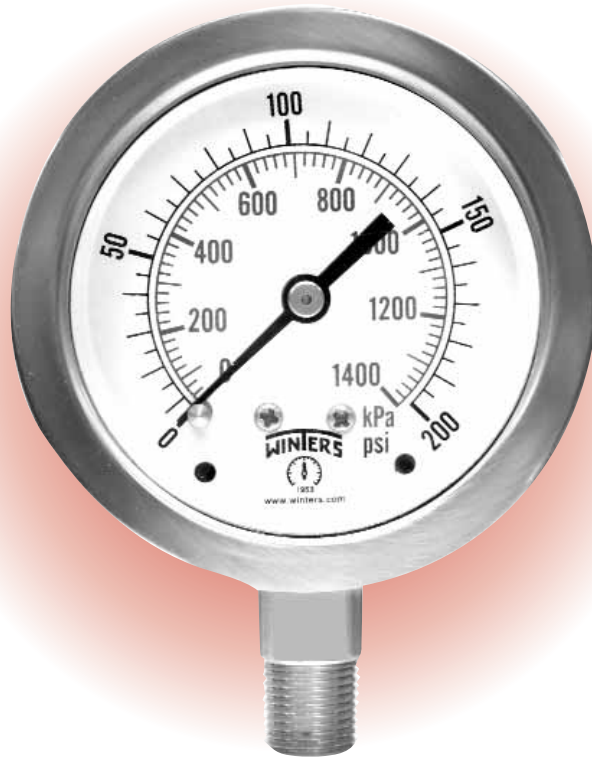


4 1/2" (115mm) Back Connection



Stainless Steel Liquid Filled (LF) Premium

Premium



Optional
U-Clamp



Optional Front
Flange



Optional Back
Flange

Description & Features:

- Liquid filled Stainless case protects against vibration and pulsation
- Back, bottom, or panel mounted
- Stainless Steel or Brass wetted parts
- Restrictor Screw standard
- **CRN Registered**

Applications:

- Outdoor and severe ambient and process conditions
- Use where harmful vibration and pulsation are present
- Hydraulic equipment, pressure washers, oil field equipment, pumps, Compressors and process systems



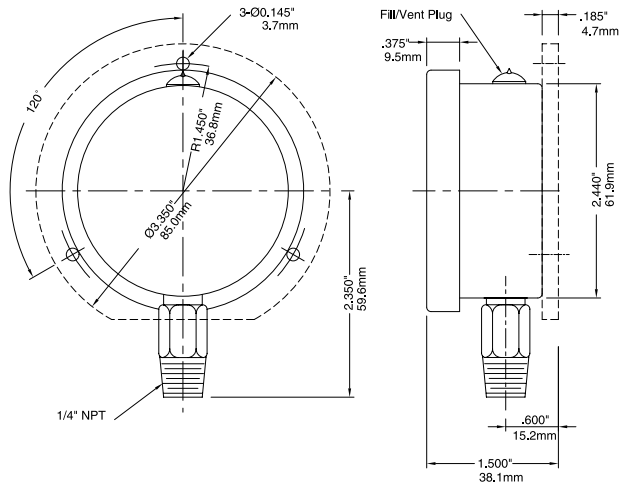
Stainless Steel Liquid Filled (LF) Premium

Premium

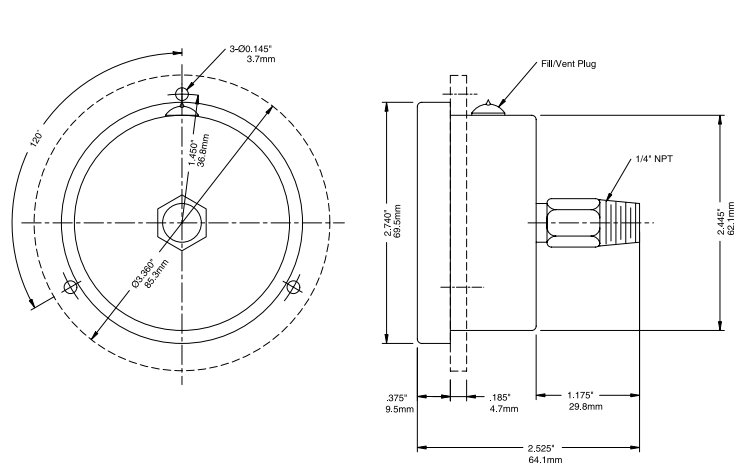
LF/SS Premium Specifications	
Dial:	2 1/2" (63mm), 4" (100mm) 6" (150mm) and 10" (250mm) white aluminum with black and red markings
Case:	AISI 304 stainless steel
Lens:	Polycarbonate
Ring:	AISI 304 stainless steel
Pointer:	Aluminum, anodized black
Socket:	316L stainless steel
Connection:	1/4" NPT or 1/2" NPT standard 2 1/2" 1/4" NPT standard
Bourdon Tube:	316L stainless steel, seamless drawn
Movement:	304 stainless steel
Gasket Materials:	2 1/2" (63mm) - Buna N for case and block seal, Monoprene for lens seal 4" (100mm) , 6" (150mm) - EPDM
Fill Liquid:	Glycerin
Enclosure Rating:	IP66 per UEC 529, UNI 8896
Welding:	TIG
Over-pressure Limit:	30% for pressures up to 600 psi (4,147 kPa), 15% for pressures over 600 psi (4,147 kPa)
Working Pressure:	Maximum 75% of full scale value
Ambient/Process Temperature:	-40°F to 150°F (-40C to 65C) Dry, -4°F to 150°F (-20C to 65C) liquid filled
Accuracy:	2 1/2" (63mm) -1.5%, 4" (100mm), 6" (150mm) and 10" (250mm) - 1% ANSI/ASME Grade 1A

LF/BR Premium Specifications	
Dial:	4" (100mm) white aluminum with black and red markings
Case:	AISI 304 stainless steel
Lens:	Polycarbonate
Ring:	AISI 304 stainless steel
Pointer:	Aluminum, anodized black
Socket:	OT 58 brass
Connection:	1/4" NPT or 1/2" NPT Standard
Bourdon Tube:	Phosphor Bronze
Movement:	Gears are OT 59 brass
Gasket Materials:	Silicone rubber for socket, EPDM for lens, filling plug and blow-out vent
Fill Liquid:	Glycerin
Enclosure Rating:	IP66 per UEC 529, UNI 8896
Welding:	Silver alloy
Over-pressure Limit:	25% for pressures up to 1,400 psi (9,653 kPa), 15% for pressures over 1,400 psi (9,653 kPa)
Working Pressure:	Maximum 75% of full scale value
Ambient/Process Temperature:	-40°F to 150°F (-40°C to 65°C) Dry, -4°F to 150°F (-20°C to 65°C) liquid filled
Accuracy:	4" (100mm), 1% ANSI/ASME Grade 1A

2 1/2" Bottom Connection with optional Back Flange - St/St



2 1/2" Back Connection with optional Front Flange - St/St



Stainless Steel Liquid Filled (LF) Premium

Premium

2 1/2" & 4" Dials

How to order: Specify product code

Products shown in BOLD are normally in stock.

PRODUCT CODES

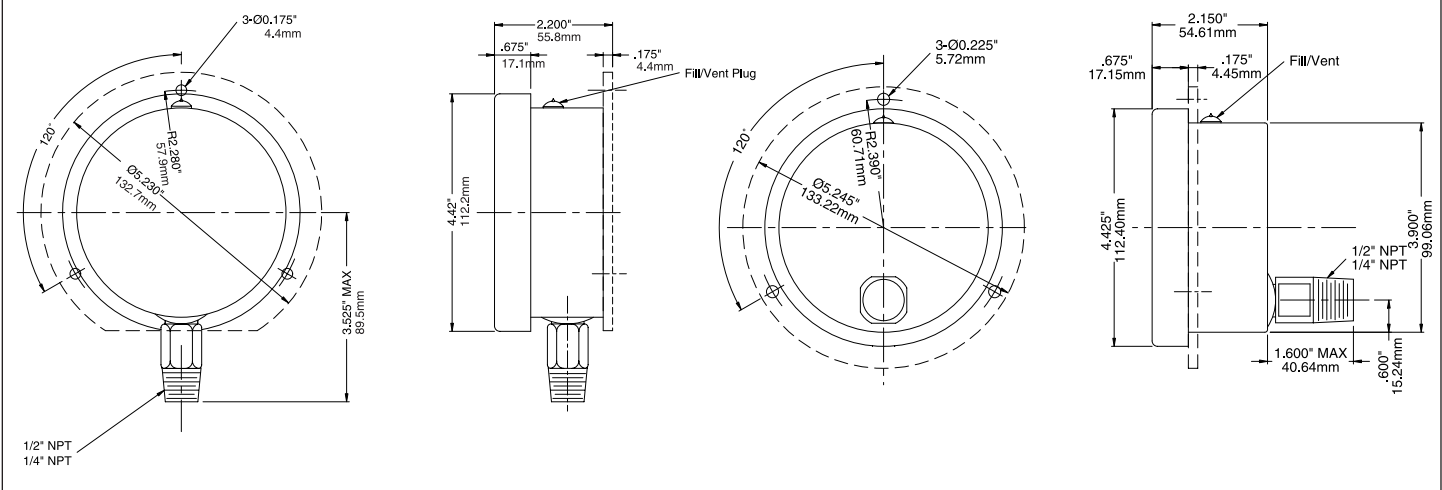
Dial Size	2 1/2" (63mm)			4" (100mm)			4" (100mm)			
	Bottom 1/4"	Back (CB) 1/4"	Bottom 1/4"	Bottom 1/2"	Back(LB) 1/4"	Back (LB) 1/2"	Bottom 1/4"	Bottom 1/2"	Back (LB) 1/4"	Back(LB) 1/2"
Movement socket, tube	St/St	St/St	Brass	Brass	Brass	Brass	St/St	St/St	St/St	St/St
Glycerin Filled	Filled	Filled	Filled	Filled	Filled	Filled	Filled	Filled	Filled	Filled
30" Hg Vacuum/kPa	P820	P840	P600	-	P1000	-	P640	P655	P1090	-
30"-0-15 psi/kPa	P860	P870	P1020	-	P1028	-	P1036	P1044	P1244	-
30"-0-30 psi/kPa	P861	P871	P1021	-	P1029	-	P1037	P1045	P1245	-
30"-0-60 psi/kPa	P862	P872	P1022	-	P1030	-	P1038	P1046	P1246	-
30"-0-100 psi/kPa	P863	P873	P1023	-	P1031	-	P1039	P1047	P1247	-
30"-0-150 psi/kPa	P864	P874	P1024	-	P1032	-	P1040	P1048	P1248	-
30"-0-200 psi/kPa	P866	P876	P1026	-	P1034	-	P1042	P1050	P1249	-
30"-0-300 psi/kPa	P867	P877	P1027	-	P1035	-	P1043	P1051	P1250	-
0-15 psi/kPa	P821	P921	P601	-	P1001	-	P641	P656	P1091	-
0-30 psi/kPa	P822	P922	P602	-	P1002	-	P642	P657	P1092	-
0-60 psi/kPa	P823	P923	P603	-	P1003	-	P643	P658	P1093	-
0-100 psi/kPa	P824	P924	P604	-	P1004	-	P644	P659	P1094	-
0-160 psi/kPa	P825	P925	P605	-	P1005	-	P645	P660	P1095	-
0-200 psi/kPa	P826	P926	P606	-	P1006	-	P646	P661	P1096	-
0-300 psi/kPa	P827	P927	P607	-	P1007	-	P647	P662	P1097	-
0-400 psi/kPa	P880	P881	P610	-	P1016	-	P650	P666	P1251	-
0-600 psi/kPa	P828	P928	P608	-	P1008	-	P648	P663	P1098	-
0-1000 psi/kPa	P829	P929	P609	P624	-	P1009	P649	P664	P1099	-
0-1500 psi/kPa	P834	P934	-	P625	-	P1010	-	P665	P1252	P1190
0-2000 psi/kPa	P830	P930	-	P626	-	P1011	-	P667	P1253	P1191
0-3000 psi/kPa	P831	P931	-	P627	-	P1012	-	P668	P1254	P1192
0-5000 psi/kPa	P832	P852	-	P628	-	P1013	-	P669	P1255	P1193
0-6000psi/kPa	P836	P851	-	P631	-	P1015	-	P675	P1259	P1197
0-10000 psi/kPa	P833	P853	-	P629	-	P1014	-	P670	P1256	P1194
0-15000 psi/kPa	P835	P855	-	P630	-	P1018	-	P671	P1257	P1195
0-20000 psi/kPa	-	-	-	P639	-	P1019	-	P672	P1258	P1196

Options Suffix:

- 25UC = 2.5" (63mm) U-Clamp
- 25FF = 2.5" (63mm) Front Flange
- SG-4 = Safety Glass Lens 4"
- 4BF = 4" (100mm) Back Flange
- Dry = Supply above gauge less liquid fill (see pg.40)
- 4UC - P = 4" (100mm) Premium U-Clamp
- 4FF = 4" (100mm) Front Flange
- SG-25 = Safety Glass 2.5"
- 316 Stainless Steel Case and Mountable Bezel available
- 2.5 BOOT = 2.5" (63mm) black rubber boot
- SF25 = Silicone Filled for 2.5"
- SF4 = Silicone Filled for 4"
- 25BF = 2.5" (63mm) Back Flange

4" Bottom Connection, Back Flange Option

4" Back Connection, Front Flange Option



Stainless Steel Liquid Filled (LF) Premium

6" & 10" Dials

How to order: Specify product code

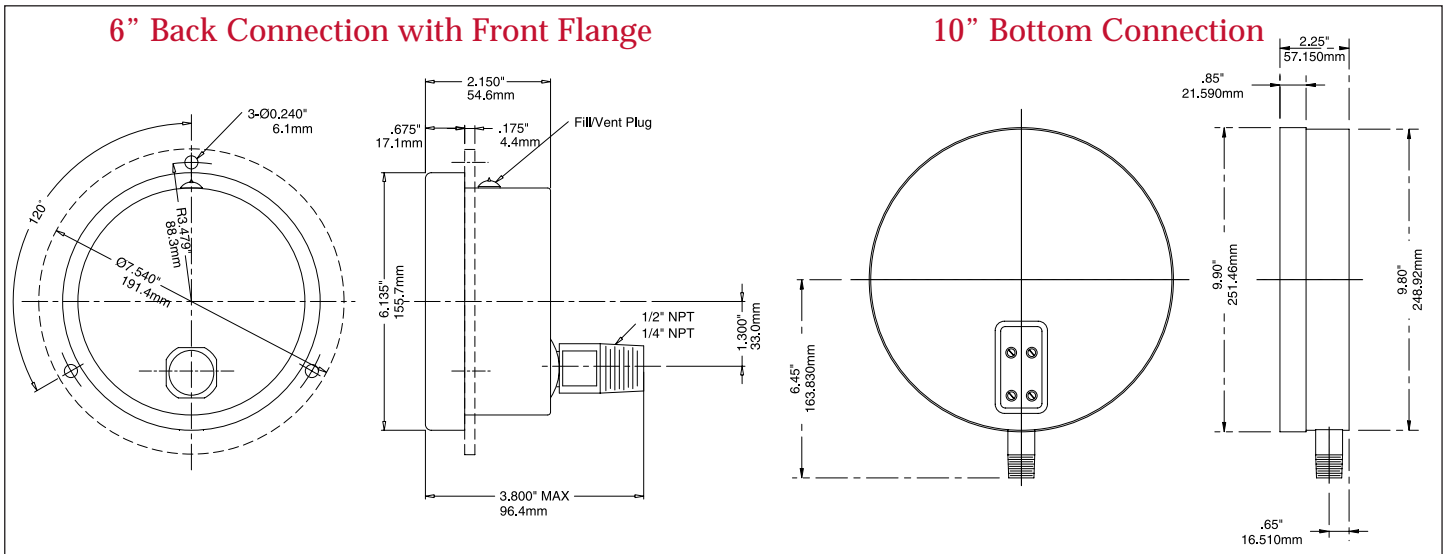
Products shown in **BOLD** are normally in stock.

PRODUCT CODES

Dial Size Connection	6" (150mm)				10" (250mm)	
	Bottom 1/4"	Back (LB) 1/4"	Bottom 1/2"	Back (LB) 1/2"	Bottom 1/4"	Bottom 1/2"
Movement socket, tube Glycerin Filled	St/St Filled	St/St Filled	St/St Filled	St/St Filled	St/St Filled	St/St Filled
30" Hg Vacuum/kPa	P1078	P1168	-	-	P2020	-
30"-0-15 psi/kPa	P1079	-	-	-	P2021	-
30"-0-30 psi/kPa	P1052	-	-	-	P2022	-
30"-0-60 psi/kPa	P1053	-	-	-	P2023	-
30"-0-100 psi/kPa	P1054	-	-	-	P2024	-
30"-0-150 psi/kPa	P1055	-	-	-	P2025	-
30"-0-200 psi/kPa	P1057	-	-	-	P2026	-
30"-0-300 psi/kPa	P1058	-	-	-	P2027	-
0-15 psi/kPa	P1059	P1159	-	-	P2028	-
0-30 psi/kPa	P1060	P1160	-	-	P2029	-
0-60 psi/kPa	P1061	P1161	-	-	P2030	-
0-100 psi/kPa	P1062	P1162	-	-	P2031	-
0-160 psi/kPa	P1063	P1163	-	-	P2032	-
0-200 psi/kPa	P1064	P1164	-	-	P2033	-
0-300 psi/kPa	P1065	P1165	-	-	P2034	-
0-400 psi/kPa	P1077	-	-	-	P2035	-
0-600 psi/kPa	P1066	P1166	-	-	P2036	-
0-1000 psi/kPa	P1067	P1167	P1080	-	P2037	P2045
0-1500 psi/kPa	P1068	-	P1081	P1169	P2038	P2046
0-2000 psi/kPa	P1069	-	P1082	P1170	P2039	P2047
0-3000 psi/kPa	P1070	-	P1083	P1171	P2040	P2048
0-5000 psi/kPa	P1072	-	P1085	P1172	P2041	P2049
0-6000psi/kPa	-	-	P1089	P1176	-	-
0-10000 psi/kPa	P1073	-	P1086	P1173	P2042	P2050
0-15000 psi/kPa	P1074	-	P1087	P1174	P2043	P2051
0-20000 psi/kPa	P1075	-	P1088	P1175	P2044	P2052

Options Suffix:

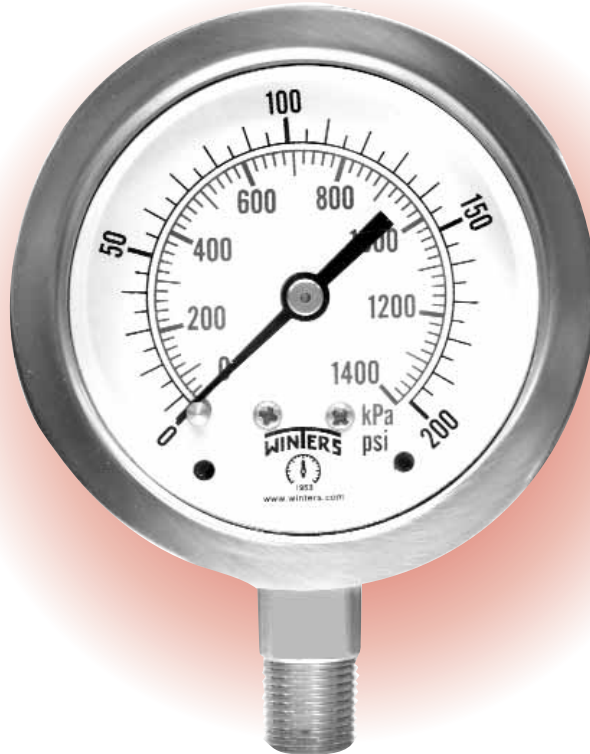
- 6UC = 6" (150mm) U-Clamp
- 6FF = 6" (150mm) Front Flange
- 6BF = 6" (150mm) Back Flange
- SG - 6 = Safety Glass Lens 6"
- Other ranges and connection sizes available upon request.
- SF6 = Silicone Filled for 6"
- SC = Safety Case (6" bottom connection only)
- Dry = Supply above gauge less liquid fill (see pg.40)
- LB = Lower back connection



Stainless Steel Dry Premium

2 1/2" - 4" - 6" Dials

Premium



Description & Features:

- High quality heavy duty gauge ideal for corrosive environments
- Stainless Steel Dry case,
- Back, bottom, or panel mounted
- Stainless Steel or Brass wetted parts
- Heavy duty movement and bourdon tube
- Restrictor Screw standard

Applications:

- Stainless Steel Dry pressure gauge designed for applications where liquid filled gauges are undesirable.
- Use where a filled gauges could be hazardous if contact is made with process
- Chemical and processing plants

Specifications

Dial:	2 1/2" (63mm), 4" (100mm) and 6" (150mm) white aluminum with black and red markings
Case:	AISI 304 stainless steel (DRY)
Lens:	Polycarbonate
Ring:	AISI 304 stainless steel bayonet
Pointer:	Aluminum, anodized black
Socket:	316 stainless steel (welded)(4")
Connection:	1/4" or 1/2" NPT, bottom or back
Bourdon Tube:	316 stainless steel
Movement:	304 stainless steel
Over-pressure Limit:	30% for pressures up to 600 psi (4.147 kpa), 15% for pressures over 600 psi (4.147 kpa)
Working Pressure:	Maximum 75% of full scale value
Ambient / Process Temperature:	-40°F to 150°F (-40°C to 65°C)
Accuracy:	2 1/2" (63mm) ± 1.5% full scale, 4" (100mm) & 6" (150mm) ± 1% ANSI/ASME Grade 1A
Other:	Restrictor screw standard



Stainless Steel Dry Premium

2 1/2" - 4" - 6" Dials

Premium

How to order: Specify product code
 Products shown in **BOLD** are normally in stock.

Product Codes										
Dial Size	2 1/2" (63mm)		4" (100mm)				6" (150mm)			
Connection	Bottom 1/4" NPT	Back (CB) 1/4" NPT	Bottom 1/4" NPT	Bottom 1/2" NPT	Back (LB) 1/4" NPT	Back (LB) 1/2" NPT	Bottom 1/4" NPT	Bottom 1/2" NPT	Back (LB) 1/4" NPT	Back (LB) 1/2" NPT
Movement, socket, tube	St/St	St/St	St/St	St/St	St/St	St/St	St/St	St/St	St/St	St/St
Case	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
30" Hg. vacuum/kPa	P820 - DRY	P840 - DRY	P640 - DRY	P655 - DRY	P1090 - DRY	-	P1078 - DRY	P1168 - DRY	-	-
30"/0/15 psi/kPa	P860 - DRY	P870 - DRY	P1036 - DRY	P1044 - DRY	P1244 - DRY	-	P1079 - DRY	-	-	-
30"/0/30 psi/kPa	P861 - DRY	P871 - DRY	P1037 - DRY	P1045 - DRY	P1245 - DRY	-	P1052 - DRY	-	-	-
30"/0/60 psi/kPa	P862 - DRY	P872 - DRY	P1038 - DRY	P1046 - DRY	P1246 - DRY	-	P1053 - DRY	-	-	-
30"/0/100 psi/kPa	P863 - DRY	P873 - DRY	P1039 - DRY	P1047 - DRY	P1247 - DRY	-	P1054 - DRY	-	-	-
30"/0/160 psi/kPa	P864 - DRY	P874 - DRY	P1040 - DRY	P1048 - DRY	P1248 - DRY	-	P1055 - DRY	-	-	-
30"/0/200 psi/kPa	P866 - DRY	P876 - DRY	P1042 - DRY	P1050 - DRY	P1249 - DRY	-	P1057 - DRY	-	-	-
30"/0/300 psi/kPa	P867 - DRY	P877 - DRY	P1043 - DRY	P1051 - DRY	P1250 - DRY	-	P1058 - DRY	-	-	-
0 - 15 psi/kPa	P821 - DRY	P921 - DRY	P641 - DRY	P656 - DRY	P1091 - DRY	-	P1059 - DRY	-	P1159 - DRY	-
0 - 30 psi/kPa	P822 - DRY	P922 - DRY	P642 - DRY	P657 - DRY	P1092 - DRY	-	P1060 - DRY	-	P1160 - DRY	-
0 - 60 psi/kPa	P823 - DRY	P923 - DRY	P643 - DRY	P658 - DRY	P1093 - DRY	-	P1061 - DRY	-	P1161 - DRY	-
0 - 100 psi/kPa	P824 - DRY	P924 - DRY	P644 - DRY	P659 - DRY	P1094 - DRY	-	P1062 - DRY	-	P1162 - DRY	-
0 - 160 psi/kPa	P825 - DRY	P925 - DRY	P645 - DRY	P660 - DRY	P1095 - DRY	-	P1063 - DRY	-	P1163 - DRY	-
0 - 200 psi/kPa	P826 - DRY	P926 - DRY	P646 - DRY	P661 - DRY	P1096 - DRY	-	P1064 - DRY	-	P1164 - DRY	-
0 - 300 psi/kPa	P827 - DRY	P927 - DRY	P647 - DRY	P662 - DRY	P1097 - DRY	-	P1065 - DRY	-	P1165 - DRY	-
0 - 400 psi/kPa	P880 - DRY	P881 - DRY	P650 - DRY	P666 - DRY	P1251 - DRY	-	P1077 - DRY	-	-	-
0 - 600 psi/kPa	P828 - DRY	P928 - DRY	P648 - DRY	P663 - DRY	P1098 - DRY	-	P1066 - DRY	-	P1166 - DRY	-
0 - 1000 psi/kPa	P829 - DRY	P929 - DRY	P649 - DRY	P664 - DRY	P1099 - DRY	-	P1067 - DRY	P1080 - DRY	P1167 - DRY	-
0 - 1500 psi/kPa	P834 - DRY	P934 - DRY	-	P665 - DRY	P1252 - DRY	P1190 - DRY	P1068 - DRY	P1081 - DRY	-	P1169 - DRY
0 - 2000 psi/kPa	P830 - DRY	P930 - DRY	-	P667 - DRY	P1253 - DRY	P1191 - DRY	P1069 - DRY	P1082 - DRY	-	P1170 - DRY
0 - 3000 psi/kPa	P831 - DRY	P931 - DRY	-	P668 - DRY	P1254 - DRY	P1192 - DRY	P1070 - DRY	P1083 - DRY	-	P1171 - DRY
0 - 5000 psi/kPa	P832 - DRY	P852 - DRY	-	P669 - DRY	P1255 - DRY	P1193 - DRY	P1072 - DRY	P1085 - DRY	-	P1172 - DRY
0 - 6000 psi/kPa	P836 - DRY	P851 - DRY	-	P675 - DRY	P1259 - DRY	P1197 - DRY	-	P1089 - DRY	-	P1176 - DRY
0 - 10000 psi/kPa	P833 - DRY	P853 - DRY	-	P670 - DRY	P1256 - DRY	P1194 - DRY	P1073 - DRY	P1086 - DRY	-	P1173 - DRY
0 - 15000 psi/kPa	P835 - DRY	P855 - DRY	-	P671 - DRY	P1257 - DRY	P1195 - DRY	P1074 - DRY	P1087 - DRY	-	P1174 - DRY
0 - 20000 psi/kPa	-	-	-	P672 - DRY	P1258 - DRY	P1196 - DRY	P1075 - DRY	P1088 - DRY	-	P1175 - DRY

Options Suffix:

- 25BF = 2 1/2" (63mm) back flange
- 25FF = 2 1/2" (63mm) front flange
- 25UC = 2 1/2" (63mm) u-clamp
- SG-25 = 2 1/2" (63mm) safety glass lens
- MAXI4 = 4 maximum adjustable pointer
- SG-4 = 4 (100mm) safety glass lens
- 4BF = 4" (100mm) back flange
- 4FF = 4" (100mm) front flange
- 4UC-P = 4" (100mm) u-clamp
- 6BF = 6 (150mm) back flange
- MAXI25 = 2 1/2" (63mm) maximum adjustable pointer
- G = glycerin filled (see LF Series Premium) See pg.36
- 6UC = 6 (150mm) u-clamp
- 6FF = 6 (150mm) front flange
- SG-6 = safety glass lens - 6"
- 25BOOT = 2 1/2" (63mm) black rubber boot

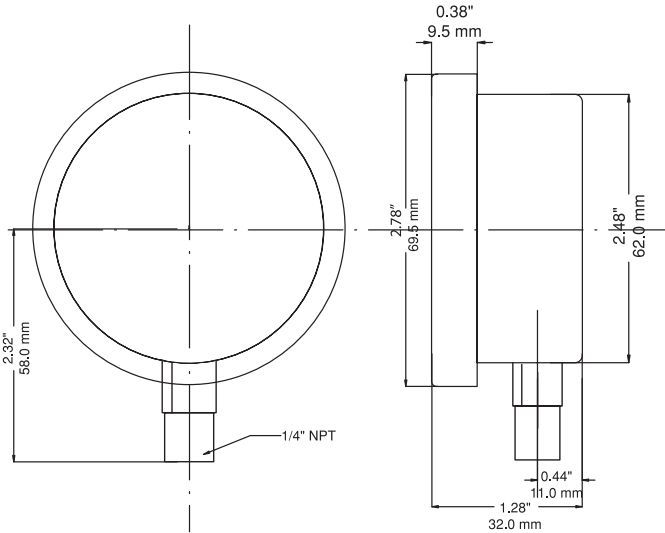


Stainless Steel Dry Premium

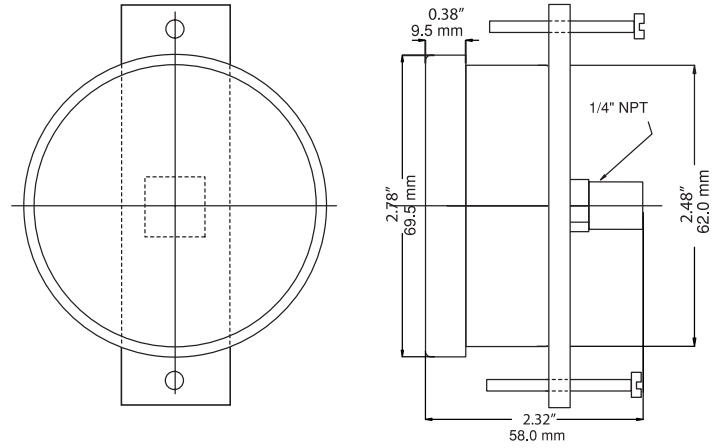
2 1/2" - 4" - 6" Dials

Premium

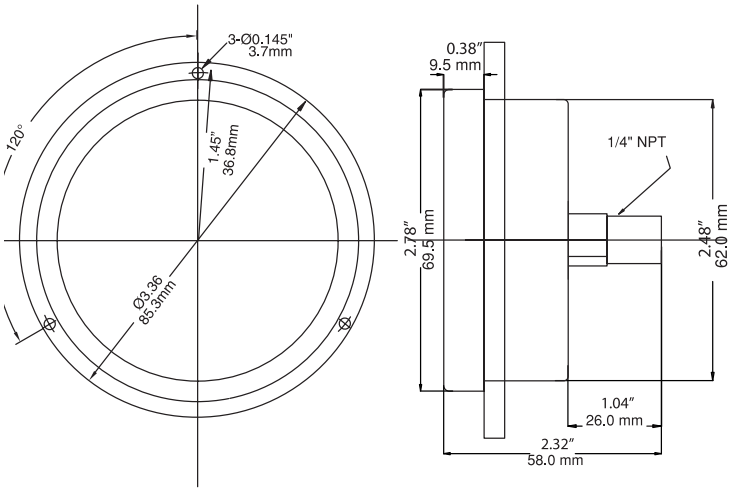
2.5" (63mm) - Stainless Steel - Bottom Connection



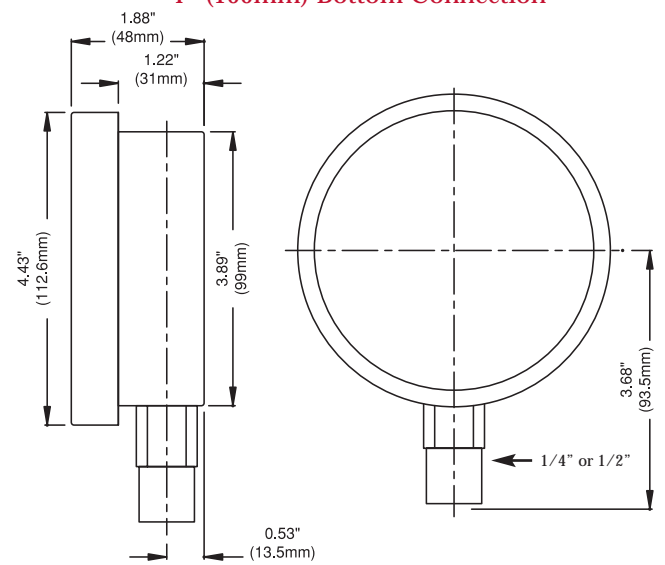
2.5" (63mm) - Stainless Steel - Back Connection U-Clamp



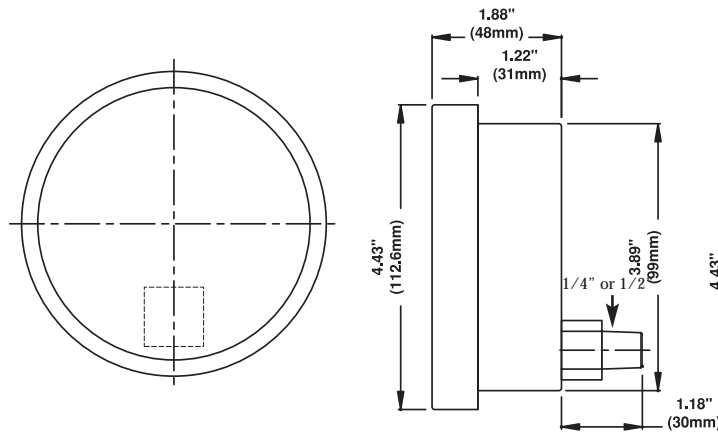
2.5" (63mm) - Stainless Steel - Back Connection - Front Flange



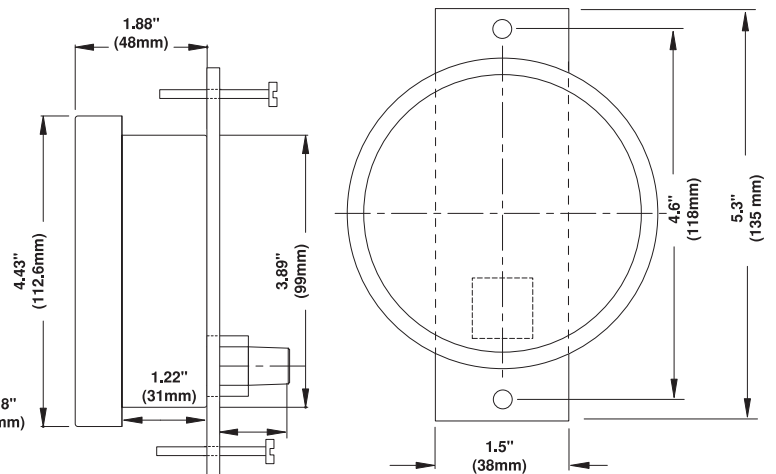
4" (100mm) Bottom Connection



4" (100mm) Lower Back Connection



4" (100mm) Lower Back Connection with U-clamp

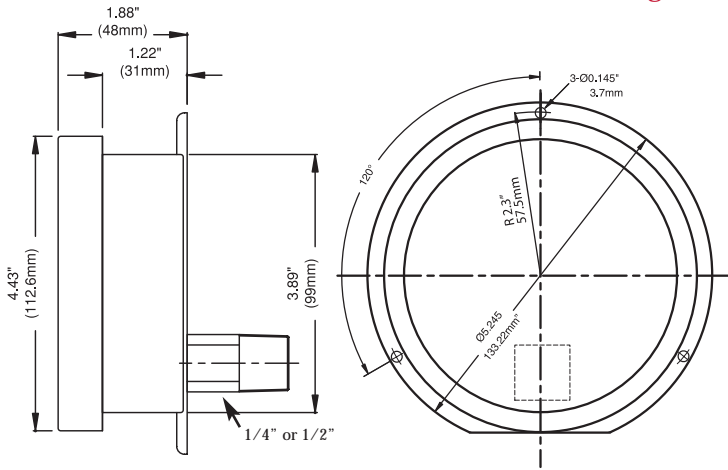


Stainless Steel Dry Premium

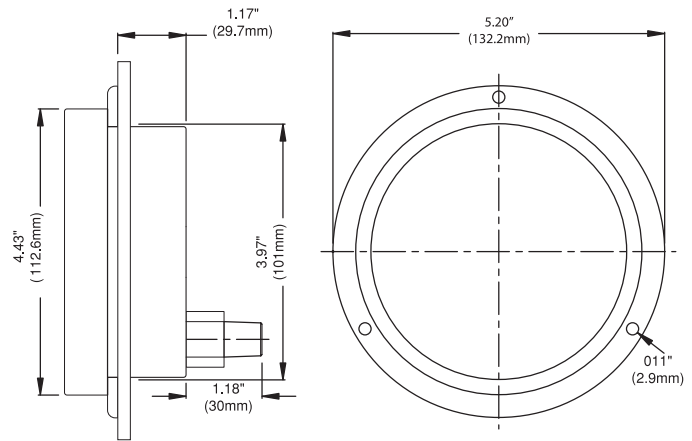
2 1/2" - 4" - 6" Dials

Premium

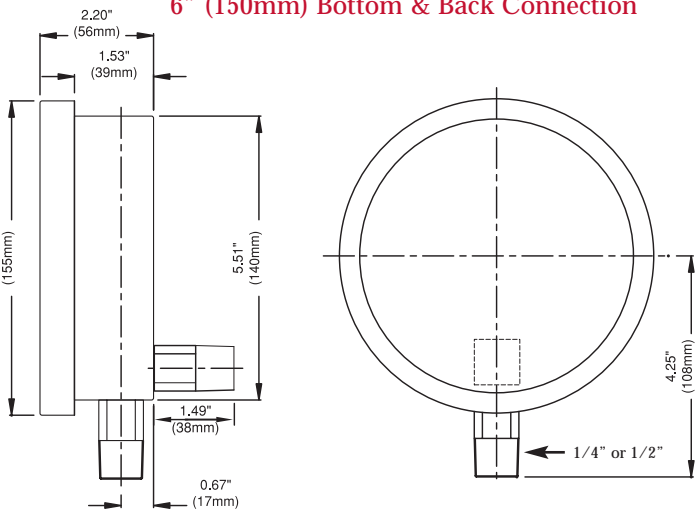
4" (100mm) Lower Back Connection with Back Flange



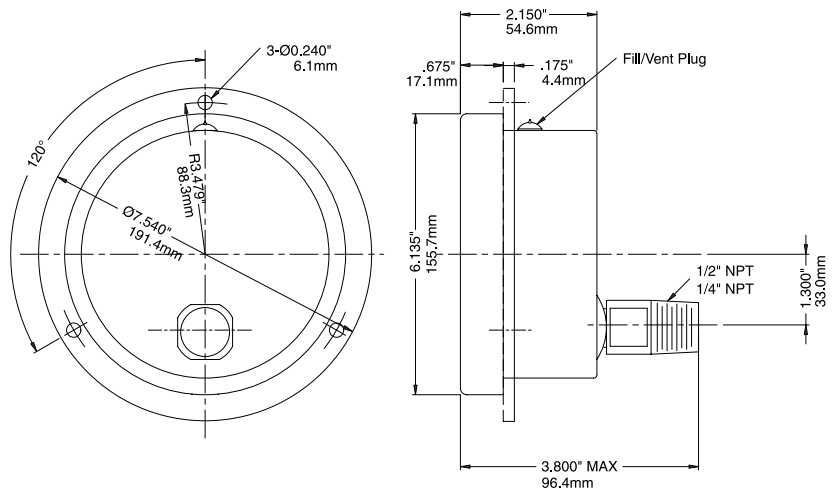
4" (100mm) Lower Back Connection with Front Flange



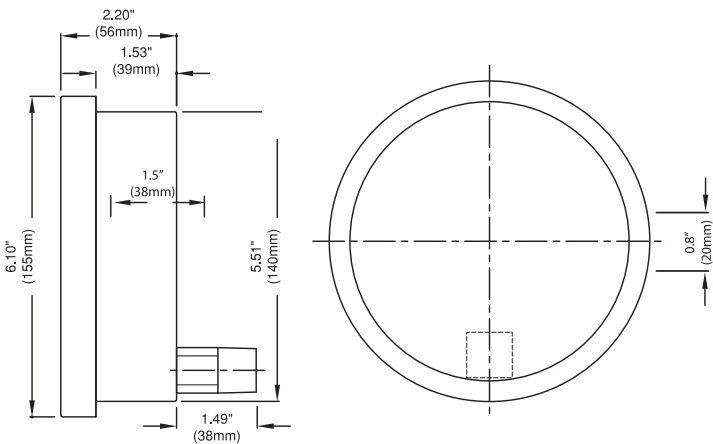
6" (150mm) Bottom & Back Connection



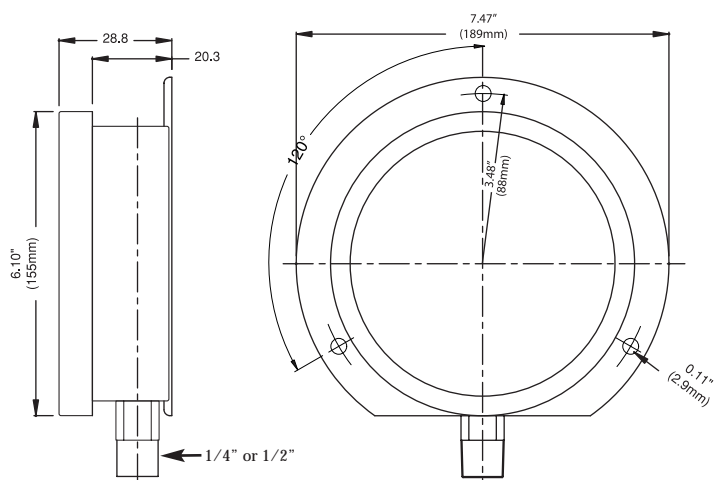
6" (150mm) Lower Back Connection, Front Flange



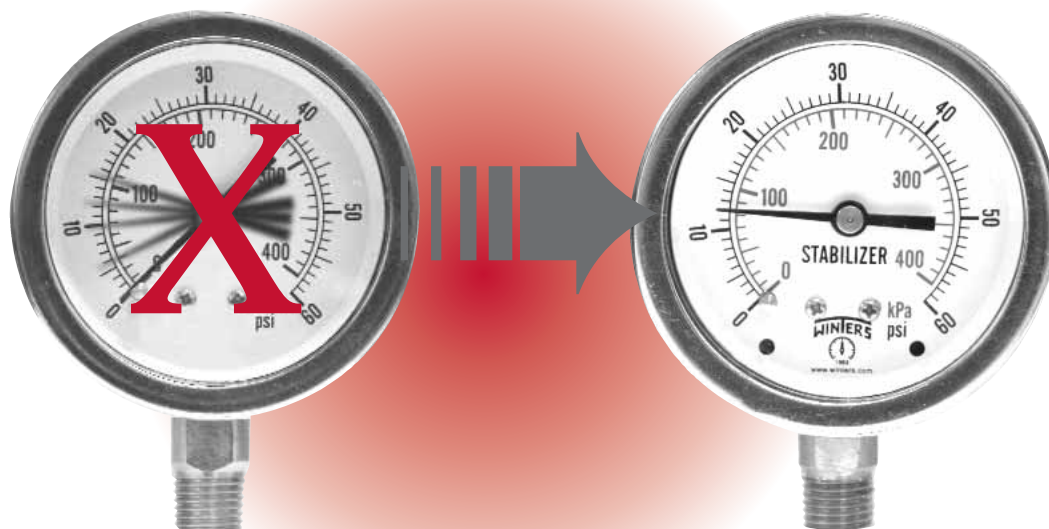
6" (150mm) Back Connection



6" (150mm) Bottom Connection Back Flange



Stainless Steel Stabilizer Premium (2.5")



Premium

Description & Features:

- Stainless Steel Dry case
- Back, bottom, or panel mounted
- Stabilizer dampened movement minimizes effects of pulsation and vibration without liquid filling
- 316 Stainless Steel wetted parts

Applications:

- Ideally suited for process, chemical and petroleum industry
- Where chemical compatibility and contamination is a concern

Specifications	
Dial:	White aluminum with black and red markings
Case:	AISI 304 stainless steel (dry)
Lens:	Polycarbonate
Ring:	AISI 304 stainless steel bayonet
Pointer:	Aluminum, anodized black
Socket:	316 stainless steel
Connection:	1/4" NPT with restrictor screws
Bourdon Tube:	316 stainless steel
Movement:	304 stainless steel, dampened
Over-pressure Limit:	30% for pressures up to 600 psi (4,147 kPa) 20% for pressures over 600 psi (4,147 kPa)
Working pressure:	Maximum 75% of full scale value
Ambient/Process Temperature:	-40°F to 150°F (-40°C to 65°C)
Accuracy:	1.5%



Stainless Steel Stabilizer Premium (2.5")

Premium

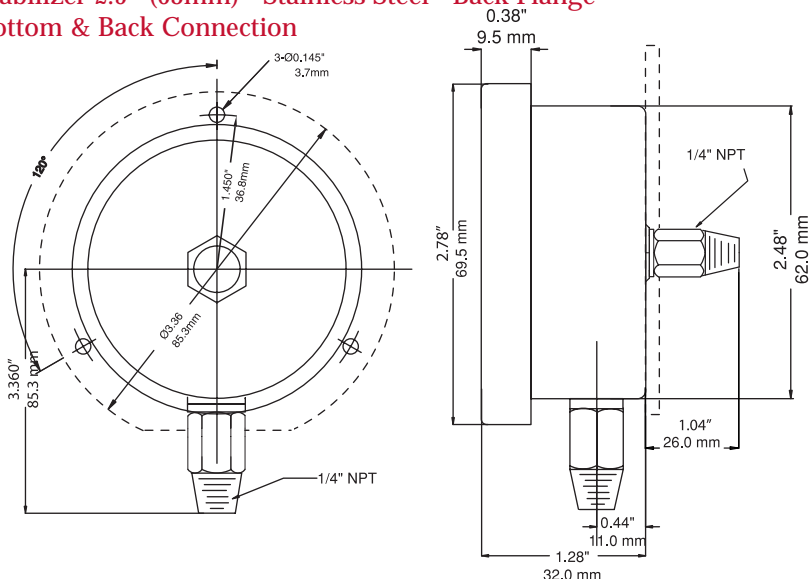
How to order: Specify product code

Product Codes 2 1/2" (63mm)		
Dial Size	2 1/2" (63mm)	
Connection	Bottom 1/4"	Back (CB) 1/4"
Movement, socket, tube	St/St	St/St
30" Hg Vacuum/kPa	P820Z	P840Z
30"-0-15 psi/kPa	P860Z	P870Z
30"-0-30 psi/kPa	P861Z	P871Z
30"-0-60 psi/kPa	P862Z	P872Z
30"-0-100 psi/kPa	P863Z	P873Z
30"-0-150 psi/kPa	P864Z	P874Z
30"-0-200 psi/kPa	P866Z	P876Z
30"-0-300 psi/kPa	P867Z	P877Z
0-15 psi/kPa	P821Z	P921Z
0-30 psi/kPa	P822Z	P922Z
0-60 psi/kPa	P823Z	P923Z
0-100 psi/kPa	P824Z	P924Z
0-160 psi/kPa	P825Z	P925Z
0-200 psi/kPa	P826Z	P926Z
0-300 psi/kPa	P827Z	P927Z
0-400 psi/kPa	P880Z	P881Z
0-600 psi/kPa	P828Z	P928Z
0-1000 psi/kPa	P829Z	P929Z
0-1500 psi/kPa	P834Z	P934Z
0-2000 psi/kPa	P830Z	P930Z
0-3000 psi/kPa	P831Z	P931Z
0-5000 psi/kPa	P832Z	P852Z
0-6000 psi/kPa	P836Z	P851Z
0-10000 psi/kPa	P833Z	P853Z
0-15000 psi/kPa	P835Z	P855Z

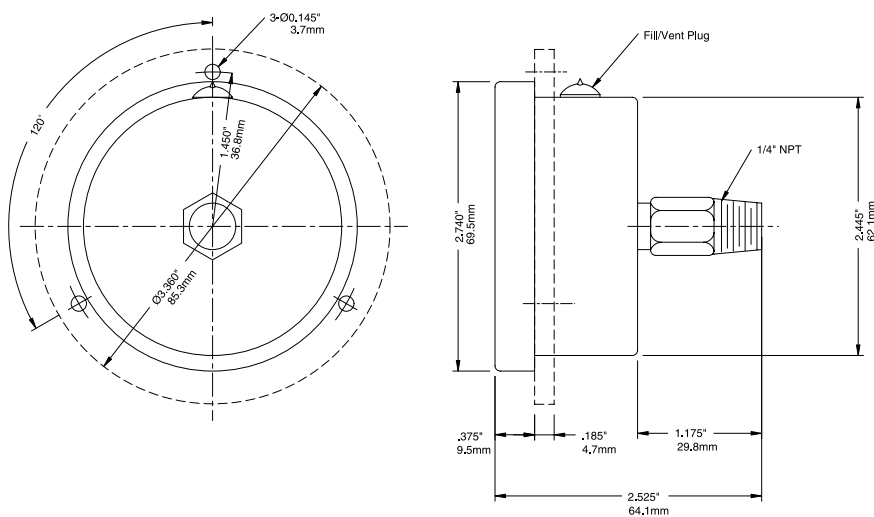
Options Suffix:

- 25BF = 2 1/2" (63mm) back flange
- 25FF = 2 1/2" (63mm) front flange
- 25UC = 2 1/2" (63mm) u-clamp
- SG25 = 2 1/2" (63mm) safety glass lens
- 25BOOT = 2 1/2" (63mm) black rubber boot
- MAXI25 = 2 1/2" (63mm) maximum adjustable pointer

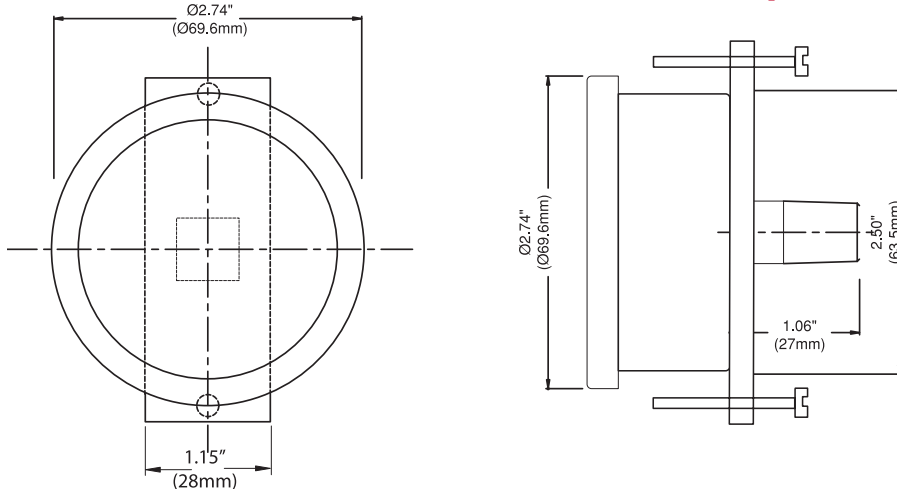
Stabilizer 2.5" (63mm) - Stainless Steel - Back Flange
Bottom & Back Connection



Stabilizer 2.5" (63mm) Stainless Steel, Back Connection, Front Flange

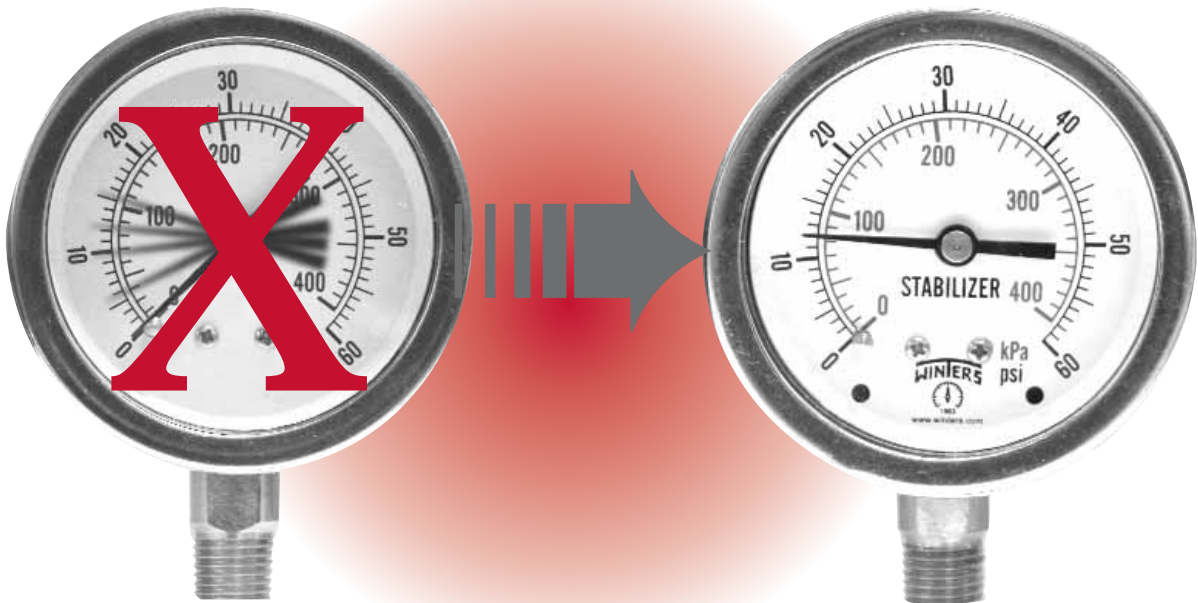


Stabilizer 2.5" (63mm) Stainless Steel, Back Connection, U-Clamp



Stainless Steel Stabilizer Premium (4")

Premium



Description & Features:

- Stainless Steel Dry case
- Back, bottom, or panel mounted
- Stabilizer dampened movement minimizes effects of pulsation and vibration without liquid filling
- 316 Stainless Steel wetted parts

Applications:

- Ideally suited for process, chemical and petroleum industry
- Where chemical compatibility and contamination is a concern

Specifications

	Stainless Steel Internals
Dial:	White aluminum with black and red markings
Case:	AISI 304 stainless steel (dry)
Lens:	Polycarbonate
Ring:	AISI 304 stainless steel, bayonet
Pointer:	Aluminum, anodized black
Socket:	316L stainless steel (welded)
Connection:	1/4" NPT or 1/2" NPT
Bourdon Tube:	316L stainless steel, seamless drawn
Movement:	304 stainless steel
Gasket Materials:	EPDM
Enclosure Rating:	IP65 per UEC 529, UNI 8896
Welding:	TIG
Over-pressure Limit:	30% for pressures up to 600 psi (4,147 kPa) 15% for pressures over 600 psi (4,147 kPa)
Working pressure:	Maximum 75% of full scale value
Ambient/Process Temperature:	-40°F to 150°F (-40°C to 65°C)
Accuracy:	1% ANSI / ASME Grade 1A

Option Suffix:

- 4FF = 4" (100mm) Front Flange
- 4BF = 4" (100mm) Back Flange
- SG-4 = Safety Glass Lens 4"
- 4UC-P= 4" U-Clamp Premium
- Other ranges available upon request.
- Other connection sizes available upon request.

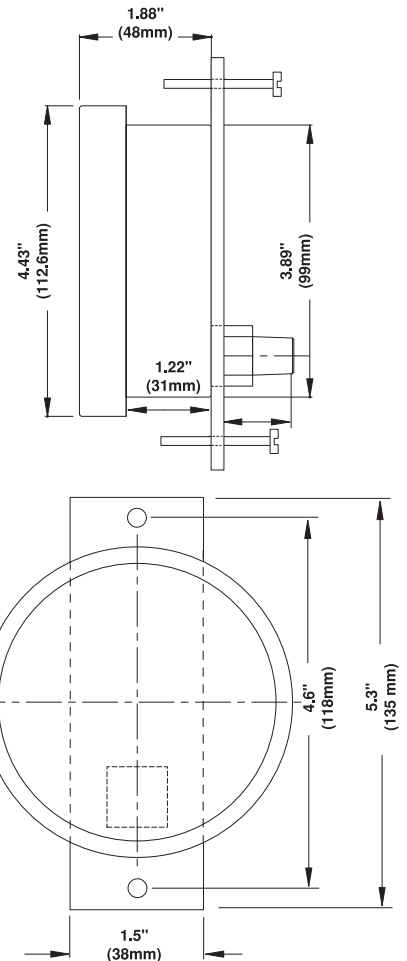


Stainless Steel Stabilizer Premium (4")

How to order: Specify product code

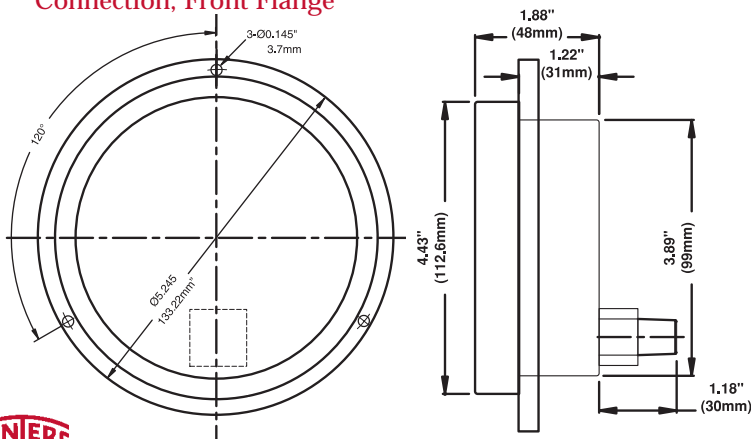
Product Codes 4" (100mm)				
Dial Size	4" (100mm)			
Connection	Bottom 1/4"	Back (LB) 1/4"	Bottom 1/2"	Back (LB) 1/2"
Movement, socket, tube	St/St	St/St	St/St	St/St
30" Hg Vacuum/kPa	P640Z	P1090Z	P655Z	-
30"-0-15 psi/kPa	P1036Z	P1244Z	P1044Z	-
30"-0-30 psi/kPa	P1037Z	P1245Z	P1045Z	-
30"-0-60 psi/kPa	P1038Z	P1246Z	P1046Z	-
30"-0-100 psi/kPa	P1039Z	P1247Z	P1047Z	-
30"-0-150 psi/kPa	P1040Z	P1248Z	P1048Z	-
30"-0-200 psi/kPa	P1042Z	P1249Z	P1050Z	-
30"-0-300 psi/kPa	P1043Z	P1250Z	P1051Z	-
0-15 psi/kPa	P641Z	P1091Z	P656Z	-
0-30 psi/kPa	P642Z	P1092Z	P657Z	-
0-60 psi/kPa	P643Z	P1093Z	P658Z	-
0-100 psi/kPa	P644Z	P1094Z	P659Z	-
0-160 psi/kPa	P645Z	P1095Z	P660Z	-
0-200 psi/kPa	P646Z	P1096Z	P661Z	-
0-300 psi/kPa	P647Z	P1097Z	P662Z	-
0-400 psi/kPa	P650Z	P1251Z	P666Z	-
0-600 psi/kPa	P648Z	P1098Z	P663Z	-
0-1000 psi/kPa	P649Z	P1099Z	P664Z	-
0-1500 psi/kPa	-	P1252Z	P665Z	P1190Z
0-2000 psi/kPa	-	P1253Z	P667Z	P1191Z
0-3000 psi/kPa	-	P1254Z	P668Z	P1192Z
0-5000 psi/kPa	-	P1255Z	P669Z	P1193Z
0-6000 psi/kPa	-	P1259Z	P675Z	P1197Z
0-10000 psi/kPa	-	P1256Z	P670Z	P1194Z
0-15000 psi/kPa	-	P1257Z	P671Z	P1195Z
0-20000 psi/kPa	-	P1258Z	P672Z	P1196Z

4" (100mm) Lower Back Connection with U-clip

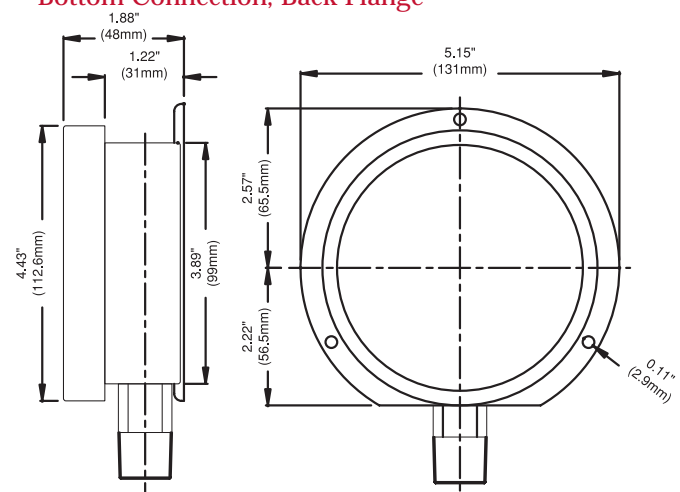


Premium

Stabilizer 4" (100mm) Stainless Steel, Lower Back Connection, Front Flange



Stabilizer 4" (100mm) Stainless Steel, Bottom Connection, Back Flange



Tube Stub Gauge

Premium



- 360° orientation
- Elimination of leak point
- Teflon® free connection

Description & Features:

- Gauge designed to be used with most standard double ferrule tube fittings, such as Parker A-Lok®
- Heavy duty all stainless steel liquid filled gauge
- Back, bottom, or panel mount configurations
- 1.5% Accuracy
- Facilitate 360° orientation

Applications:

- Specifically designed to be utilized with tube fitting applications
- Allows installation where space is limited
- Used where Teflon® free connection is needed
- Used where gauge alignment is critical

Specifications	
Dial:	2 1/2" aluminum with red and black markings
Case:	Grade 304 Stainless Steel
Lens:	Polycarbonate
Ring:	304 Stainless Steel, bayonet
Pointer:	Aluminum Anodized Black
Block:	316 Stainless Steel
Socket:	316 Stainless Steel
Connection:	1/4" Tube Stub
Bourdon Tube:	316 Stainless Steel
Movement:	304 Stainless Steel
Gasket Material:	Neoprene
Fill Fluid:	Glycerin
Enclosure Rating:	IP65
Over Pressure Limit:	115% Full Scale
Working Pressure:	75% of Full Scale
Ambient/Process Temperature:	-40°F to 150°F (-40°C to 65°C) Dry -4°F to 150°F (-20°C to 65°C) Filled
Accuracy:	1.5% Full Scale



Tube Stub Gauge

How to order: Specify product code

Products shown in **BOLD** are normally in stock.

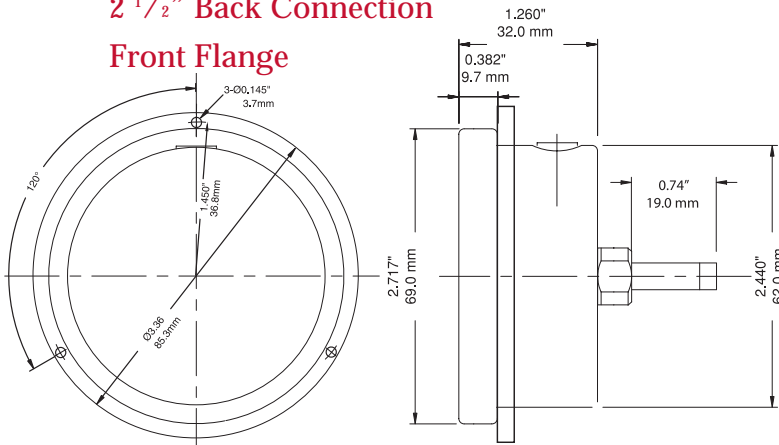
Product Codes		
Dial Size	2 1/2" (63mm)	
Connection	Bottom	Back (CB)
Tube, Socket & Movement	Stainless Steel	Stainless Steel
Connection Tube Stub	1/4"	1/4"
30" Hg Vacuum/kpa	P820-TS	P840-TS
30"-0-15 psi/kpa	P860-TS	P870-TS
30"-0-30 psi/kpa	P861-TS	P871-TS
30"-0-60 psi/kpa	P862-TS	P872-TS
30"-0-100 psi/kpa	P863-TS	P873-TS
30"-0-160 psi/kpa	P864-TS	P874-TS
30"-0-200 psi/kpa	P866-TS	P876-TS
30"-0-300 psi/kpa	P867-TS	P877-TS
0-15 psi/kpa	P821-TS	P921-TS
0-30 psi/kpa	P822-TS	P922-TS
0-60 psi/kpa	P823-TS	P923-TS
0-100 psi/kpa	P824-TS	P924-TS
0-160 psi/kpa	P825-TS	P925-TS
0-200 psi/kpa	P826-TS	P926-TS
0-300 psi/kpa	P827-TS	P927-TS
0-400 psi/kpa	P880-TS	P881-TS
0-600 psi/kpa	P828-TS	P928-TS
0-1000 psi/kpa	P829-TS	P929-TS
0-3000 psi/kpa	P831-TS	P931-TS
0-5000 psi/kpa	P832-TS	P952-TS
0-6000 psi/kpa	P836-TS	P951-TS

Option Suffix:

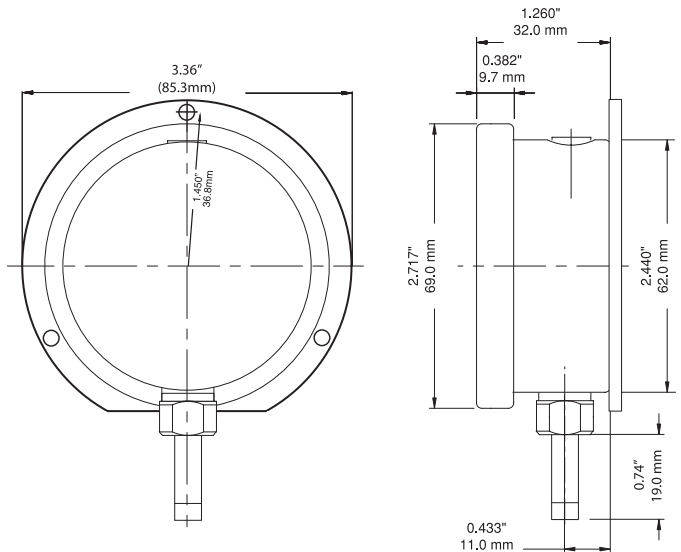
- Dry = Supply above gauge without liquid fill
- SG-25 = 2 1/2" (63mm) Safety Glass
- 25BF = 2 1/2" (63mm) back flange
- 25UC = U-Clamp for panel mounting
- 25 Boot = Protective black rubber boot
- 25FF = Front Flange for panel mounting

2 1/2" Back Connection

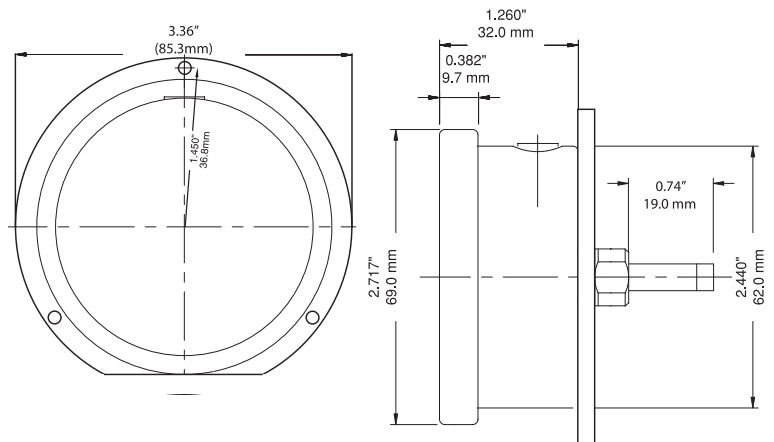
Front Flange



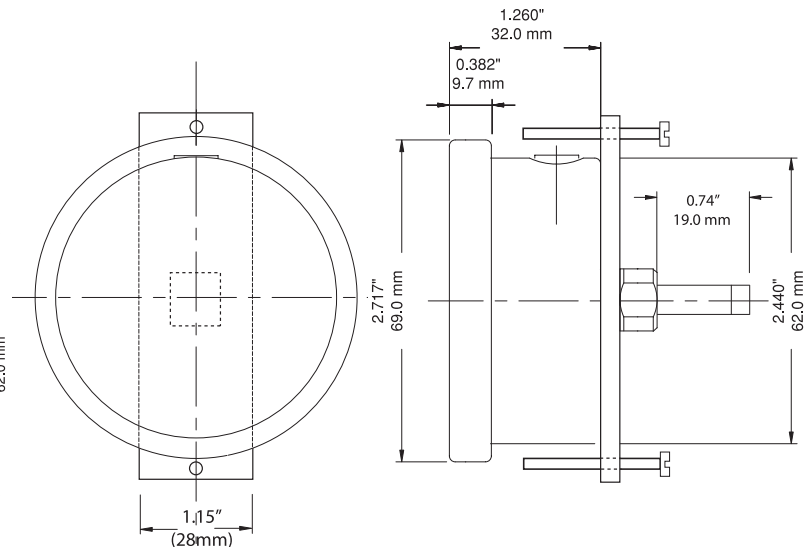
2 1/2" Bottom Connection - Back Flange



2 1/2" Back Connection - Back Flange



2 1/2" Back Connection - U-Clamp



Low Pressure

Premium



Description & Features:

- Highly accurate reading of low pressures
- Brass or Stainless Steel wetted part
- Ranges from 10 psi to as low as 15" WC
- **CRN Registered**

Applications:

- Suitable for measuring gaseous media both corrosive and non-corrosive
- Used to measure natural gas pressure as well air flow indications and leak detection
- Vacuum pumps, air compressors, air filters, gas burners, vacuum ovens, suction Regulators and respirators

Low Pressure

Specifications Brass Internals	
Dial:	2½" (63mm), 4" (100mm), 4½" (115mm) and 6" (150mm), white aluminum dial with black and red markings
Case:	Steel, painted black 2.5" & 4" or cast aluminum, painted black 4.5" & 6"
Lens:	2½" (63mm) - polycarbonate 4" (100mm), 4½" (115mm) and 6" (150mm) - glass
Ring:	2½" (63mm) 4" (100mm), - steel 4½" (115mm) and 6" (150mm) - aluminum
Back Flange:	Steel, painted black
Pointer:	Aluminum, anodized black
Socket:	Brass
Connection:	¼" NPT standard
Diaphragm Element:	Phosphor Bronze
Movement:	Engineering plastic upper and lower plate with brass pinion and sector (2½" [63mm]), brass (4" [100mm], 4.5" [115mm] & 6" [150mm])
Working Pressure:	60% of full scale value (fluctuating); 75% of full scale value (static)
Ambient Temperature:	-40°F to 150°F (-40°C to 65°C)
Process Temperature:	-40°F to 150°F (-40°C to 65°C)
Accuracy:	2.5" = ±3%/2%/3% accuracy (GRADE B) - 4", 4.5", 6" = 1% accuracy(Grade 1A)
Enclosure Rating:	IP52

Specifications Stainless Steel Internals	
Dial:	2½" (63mm), 4" (100mm), 4½" (115mm) and 6" (150mm), white aluminum dial with black and red markings
Case:	2½" (63mm) and 4" (100mm) - AISI 304 stainless steel 4½" (115mm) and 6" (150mm) - aluminum, painted black
Lens:	2½" (63mm) - polycarbonate 4" (100mm), 4½" (115mm) and 6" (150mm) - glass
Ring:	2½" (63mm) and 4" (100mm) - steel 4½" (115mm) and 6" (150mm) - aluminum
Back Flange:	Steel, painted black
Pointer:	Aluminum, anodized black
Socket:	AISI 316 stainless steel
Welding:	TIG
Connection:	¼" NPT standard
Diaphragm Element:	AISI 316 stainless steel
Movement:	AISI 316 stainless steel
Working Pressure:	75% of full scale value
Over-pressure Limit:	30% of full scale value
Ambient Temperature:	-40-150F (-40C to 65C)
Process Temperature:	-40-150F (-40C to 65C)
Accuracy:	2.5" = ±3%/2%/3% accuracy (GRADE B) - 4", 4.5", 6" = 1% accuracy(Grade 1A)
Enclosure Rating:	IP52

Low Pressure

Premium

PRODUCT CODES

How to order: Specify product code
Products shown in BOLD are normally in stock.

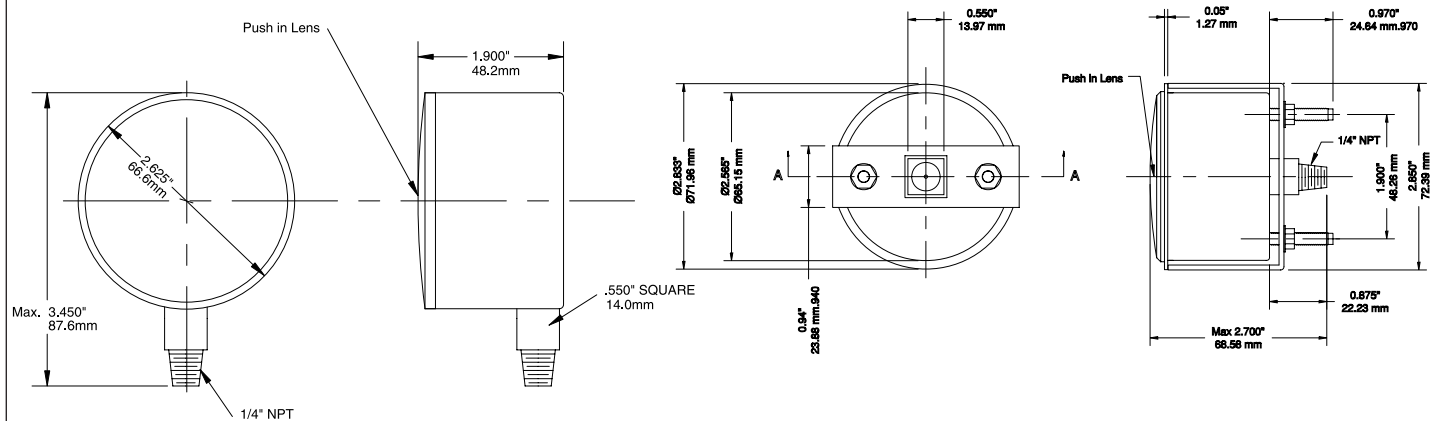
Dial Size	2 1/2" (63mm)			4" (100mm)				4 1/2" (115mm)				6" (150mm)			
Case Material	Steel		St/St	Steel	St/St	Steel		Aluminum		Aluminum		Aluminum		Aluminum	
Connection	Bottom	Center Back	Bottom	Bottom		Center Back		Bottom		Center Back		Bottom		Center Back	
	1/4"	1/4"	1/4"	1/4"		1/4"		1/4"		1/4"		1/4"		1/4"	
Movement socket, capsule	Brass	Brass	St/St	Brass	St/St	Brass	St/St	Brass	St/St	Brass	St/St	Brass	St/St	Brass	St/St
0-15" water vac	P300V	P340V	P350V	P310V	P4200V	P4230V	P4240V	P4250V	P4260V	P4290V	P4300V	P4310V	P4320V	-	-
0-32" water vac.	P301V	P341V	P351V	P311V	P4201V	P4231V	P4241V	P4251V	P4261V	P4291V	P4301V	P4311V	P4321V	-	-
0-55" water vac.	P302V	P342V	P352V	P312V	P4202V	P4232V	P4242V	P4252V	P4262V	P4292V	P4302V	P4312V	P4322V	-	-
0-100" water vac.	P304V	P343V	P353V	P313V	P4203V	P4233V	P4243V	P4253V	P4263V	P4293V	P4303V	P4313V	P4323V	-	-
0-200" water vac.	P303V	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0-15" water/oz	P300	P340	P350	P310	P4200	P4230	P4240	P4250	P4260	P4290	P4300	P4310	P4320	-	P4360
0-32" water/oz	P301	P341	P351	P311	P4201	P4231	P4241	P4251	P4261	P4291	P4301	P4311	P4321	P4351	P4361
0-55" water/oz	P302	P342	P352	P312	P4202	P4232	P4242	P4252	P4262	P4292	P4302	P4312	P4322	-	-
0-100" water/oz	P304	P343	P353	P313	P4203	P4233	P4243	P4253	P4263	P4293	P4303	P4313	P4323	P4353	P4363
0-200" water/oz	P303	P346	P356	P316	P4206	P4236	P4246	P4256	P4266	P4296	P4306	P4316	P4326	-	-
0-5 psi/kPa	P305	P344	P354	P314	P4204	P4234	P4244	P4254	P4264	P4294	P4304	P4314	P4324	P4354	P4364
0-10 psi/kPa	P306	P345	P355	P315	P4205	P4235	P4245	P4255	P4265	P4295	P4305	P4315	P4325	P4355	P4365

Notes: Other ranges available upon request.
Other connection sizes available upon request.

- Option Suffix:**
- UC = U-clamp (2 1/2" (63mm) only)
 - LPFF6 = 6" (150mm) Front flange.
 - 45PHENOLIC = Phenolic case available on 4.5" stainless steel
 - LPFF = Front flange 4 1/2" (115mm) only
 - LPBF = Back flange (all sizes except 2.5")

2.5" Bottom Connection Brass

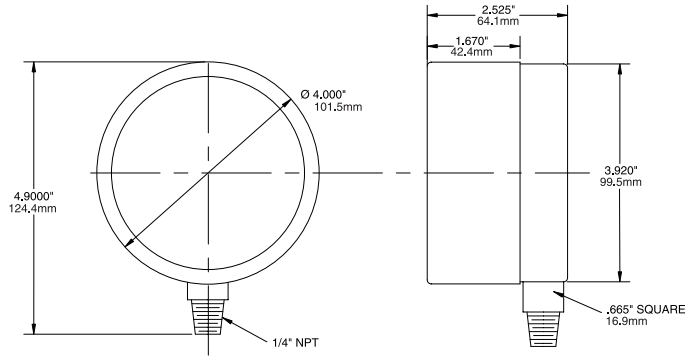
2.5" Back Connection with u-clamp Brass



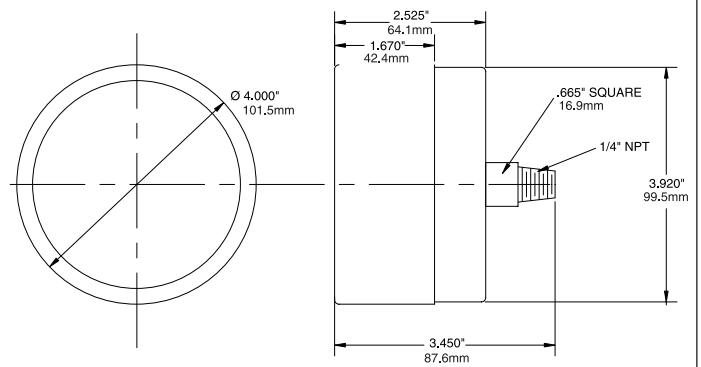
Low Pressure

Premium

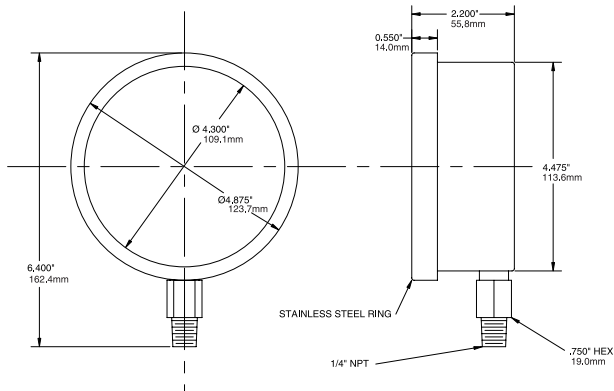
4" Bottom Connection Brass



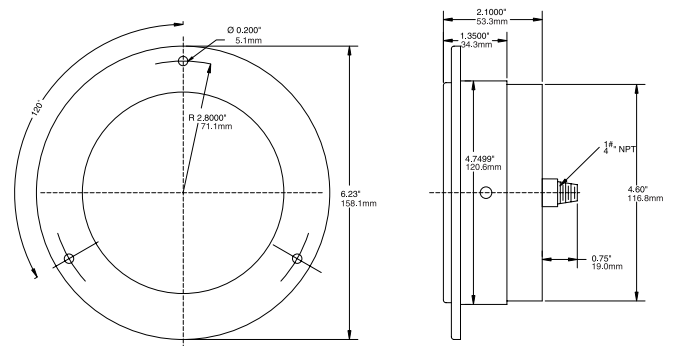
4" Back Connection Brass



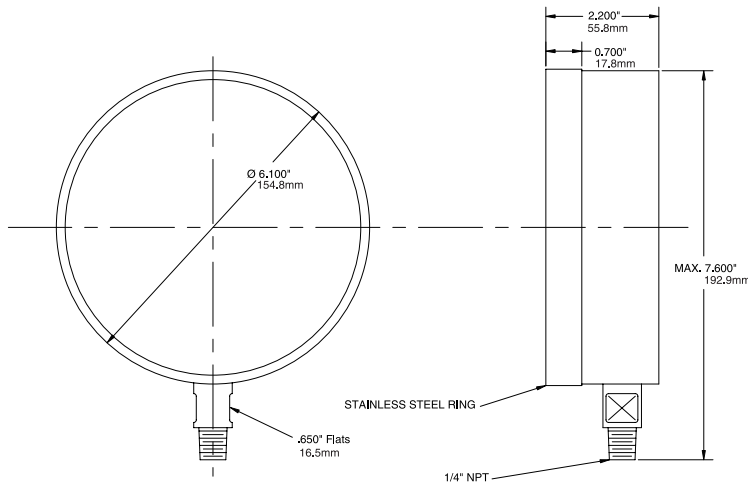
4.5" Bottom Connection Stainless Steel



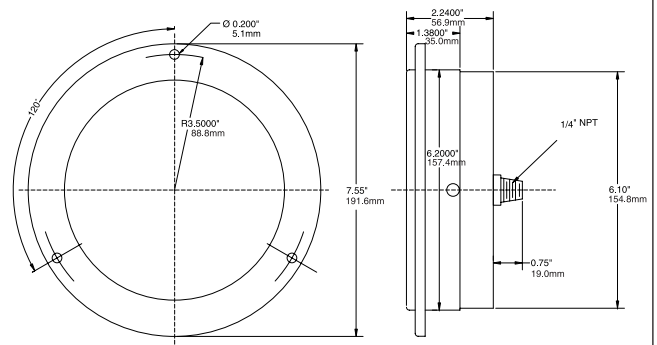
4.5" Back Connection Stainless Steel



6" Bottom Connection Stainless Steel

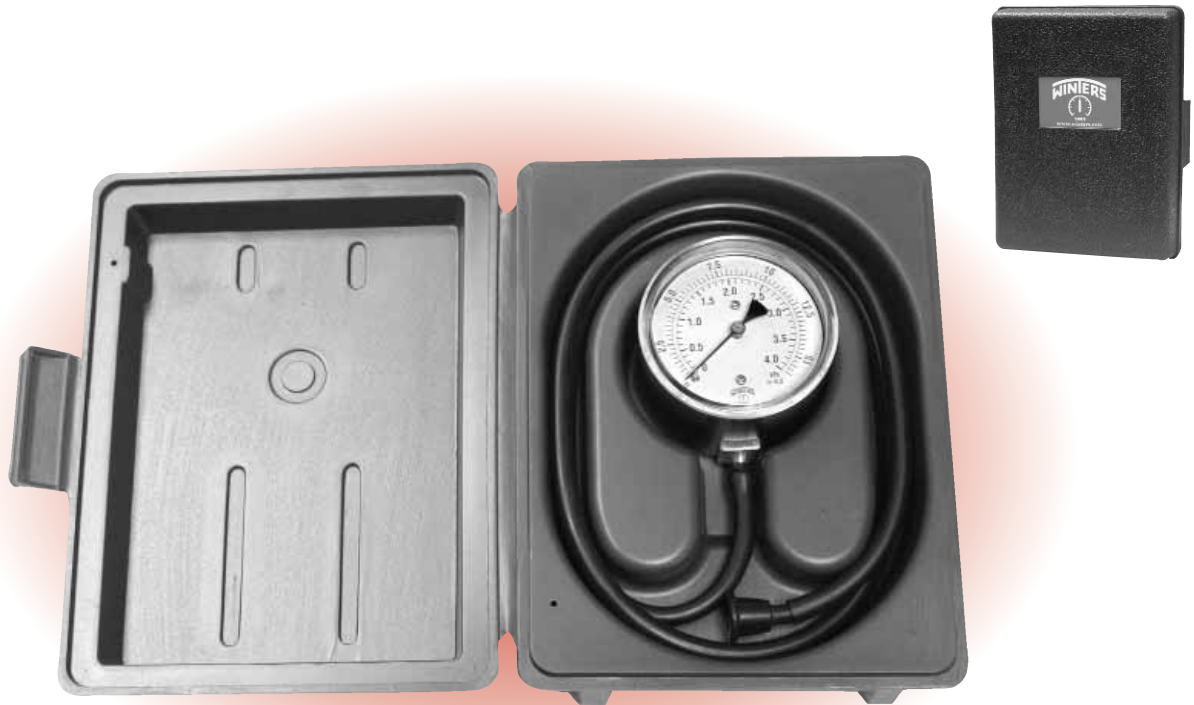


6" Back Connection Stainless Steel



Low Pressure Test Kit

Premium



- Easier To Use Than a Manometer
- Plastic Blow Molded Case for Added Durability
- Sleek Design Featuring Secure Latch Facilitating Safe Handling
- Sensitive Diaphragm Gauge Available in 3 Pressure Ranges

Description & Features:

- Low pressure gauge built into protective case for ease in use and durability
- Sensitive diaphragm gauge available in 3 pressure ranges
- Re - zero with external recalibration screw

Applications:

- Service technicians use for checking low pressure such as natural gas equipment



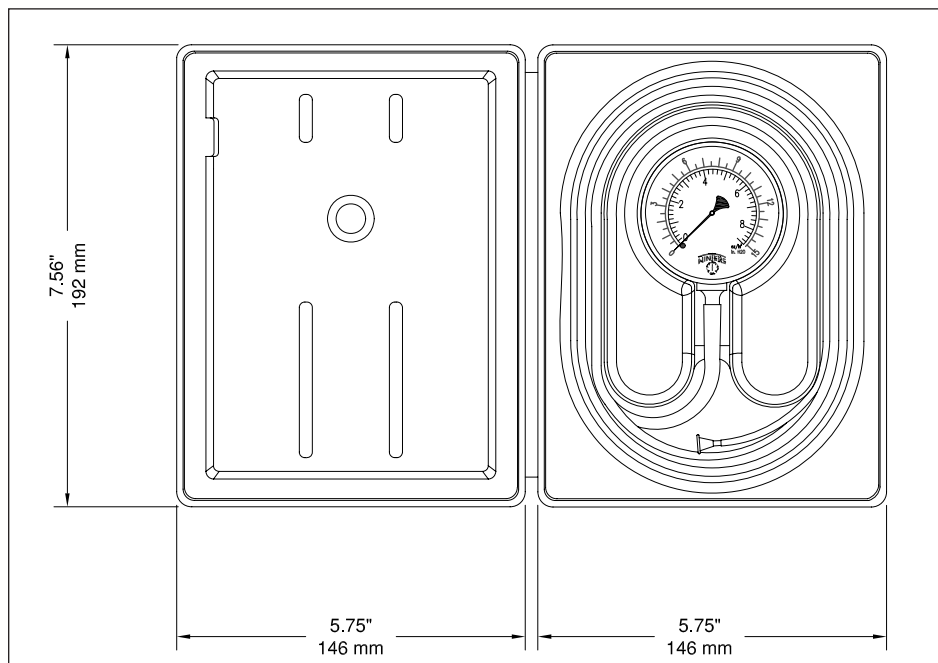
Low Pressure Test Kit

Premium

Gauge Specifications	
Dial Size:	2.5" (63mm), white aluminum dial with red and black markings
Connection:	Brass hose barb (1/4")
Case/Ring:	Steel, painted black
Lens:	Polycarbonate
Diaphragm element:	Phosphor Bronze
Movement:	Engineering plastic upper and lower plate with brass pinion and sector, with zero adjustment
Ambient Temperature:	-40°F to 150°F (-40°C to 65°C)
Enclosure Rating:	IP52
Accuracy:	± 1% accuracy ANSI/ASME Grade A
Case Specifications	
Case Material:	Plastic blow molded, 5.75" x 7.56" (146mm x 192mm)
Hose Tube:	Rubber, 3' (91cm) in length; 0.197" (5mm) I.D. x 0.315" (8mm) O.D.
Tube Nipple:	Rubber, 0.256" (6.5mm) I.D. x 0.472" (12mm) O.D. x 1.339" (34mm) L

How to order: Specify Product Code
 Products shown in **BOLD** are normally in stock.

Product codes	Pressure Range
PLT15	0-15" water/oz/in ²
PLT35	0-35" water/0-20 oz/in ²
PLT100	0-100" water/0-58 oz/in ²



NACE - MR0103-2003

Premium



Description

- Winters NACE MR0103-2003 pressure gauge is designed specifically for refinery applications, requiring NACE International Standards. The Nace standard tube and socket meet a minimum hardness. The hardness ensures longer lasting and more reliable instrument.

- **CRN Registered**

Applications

- Oil and gas applications requiring gauges that meet NACE International Standards.

Specifications

Dial:	4" (100mm) aluminum with black and red markings
Case:	304 stainless steel
Lens:	Laminated safety glass
Ring:	304 stainless steel, bayonet
Pointer:	Aluminum, micro-adjustment
Socket:	316 stainless steel hardness
Connection:	1/4" or 1/2" NPT, bottom or back
Bourdon Tube:	316 stainless steel
Movement:	Stainless steel
Fill Liquid:	Glycerin/H ₂ O
Ambient/Process Temperature:	-40°F to 150°F (-40°C to 65°C) filled
Enclosure Rating:	IP65
Accuracy:	1% ANSI/ASME Grade 1A



NACE - MR0103-2003

How to order: Specify product code

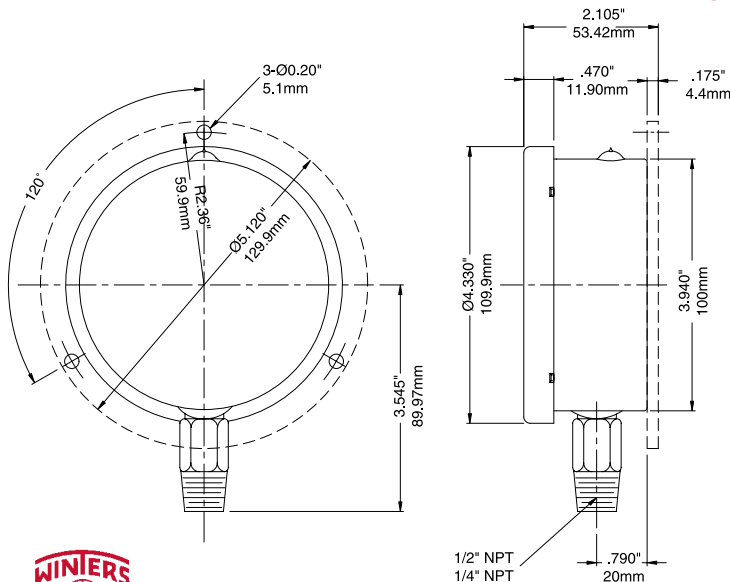
Premium

Product Codes				
Dial Size	4" (100mm)			
Connection	Bottom 1/4"	Back 1/4"	Bottom 1/2"	Back 1/2"
Movement, socket, tube	St/St	St/St	St/St	St/St
Glycerin/H ₂ O Filled	Filled	Filled	Filled	Filled
30" Hg Vacuum/kPa	P640N03	P1090N03	P655N03	-
30"-0-15 psi/kPa	P1036N03	-	P1044N03	-
30"-0-30 psi/kPa	P1037N03	-	P1045N03	-
30"-0-60 psi/kPa	P1038N03	-	P1046N03	-
30"-0-100 psi/kPa	P1039N03	-	P1047N03	-
30"-0-150 psi/kPa	P1040N03	-	P1048N03	-
30"-0-200 psi/kPa	P1042N03	-	P1050N03	-
30"-0-300 psi/kPa	P1043N03	-	P1051N03	-
0-15 psi/kPa	P641N03	P1091N03	P656N03	-
0-30 psi/kPa	P642N03	P1092N03	P657N03	-
0-60 psi/kPa	P643N03	P1093N03	P658N03	-
0-100 psi/kPa	P644N03	P1094N03	P659N03	-
0-160 psi/kPa	P645N03	P1095N03	P660N03	-
0-200 psi/kPa	P646N03	P1096N03	P661N03	-
0-300 psi/kPa	P647N03	P1097N03	P662N03	-
0-400 psi/kPa	P650N03	-	P666N03	-
0-600 psi/kPa	P648N03	P1098N03	P663N03	-
0-1000 psi/kPa	P649N03	P1099N03	P664N03	-
0-1500 psi/kPa	-	-	P665N03	P1190N03
0-2000 psi/kPa	-	-	P667N03	P1191N03
0-3000 psi/kPa	-	-	P668N03	P1192N03
0-5000 psi/kPa	-	-	P669N03	P1193N03
0-10000 psi/kPa	-	-	P670N03	P1194N03
0-15000 psi/kPa	-	-	P671N03	P1195N03
0-20000 psi/kPa	-	-	P672N03	P1196N03

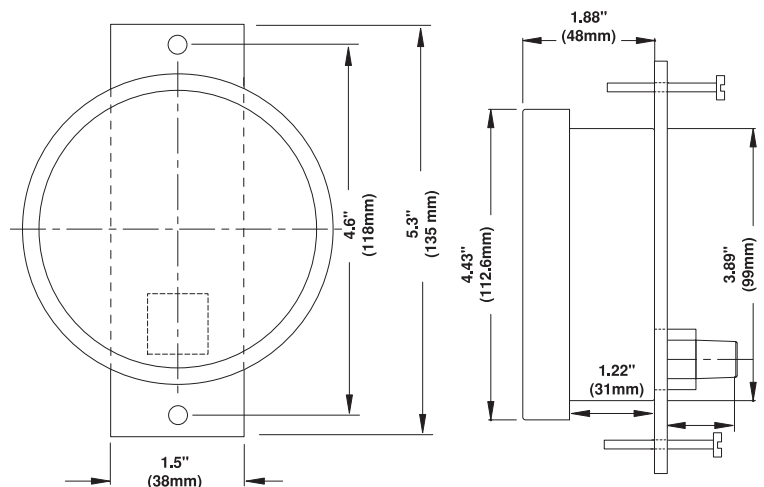
Option Suffix:

- 4DRY = Supply above gauge less liquid fill
- 4UC-P = 4" (100mm) U-clamp
- 4FF = 4" (100mm) Front Flange
- 4BF = 4" (100mm) Back Flange

4" (100mm) Bottom Connection with Back Flange



4" (100mm) Lower Back Connection with U-clamp



NACE - MR0175-2002

Premium



Descriptions

- The Winters NACE pressure gauge is designed for oil and gas applications requiring NACE Standards MR0175-2002. The Nace standard tube and socket meet a minimum hardness. The hardness ensures longer lasting and more reliable instrument.

- CRN Registered

Applications

- Oil and gas applications requiring gauges that meet NACE International Standards.

Specifications

Dial:	4" (100mm) aluminum with black and red markings
Case:	304 stainless steel
Lens:	Laminated safety glass
Ring:	304 stainless steel, bayonet
Pointer:	Aluminum, micro-adjustment
Socket:	316 stainless steel
Connection:	1/4" or 1/2" NPT, bottom or back
Bourdon Tube:	316 stainless steel
Movement:	Stainless steel
Fill Liquid:	Glycerin/H ₂ O
Ambient/Process Temperature:	-40°F to 150°F (-40°C to 65°C) dry -40°F to 150°F (-40°C to 65°C) filled
Enclosure Rating:	IP65
Accuracy:	1% ANSI/ASME Grade 1A



NACE - MR0175-2002

How to order: Specify product code

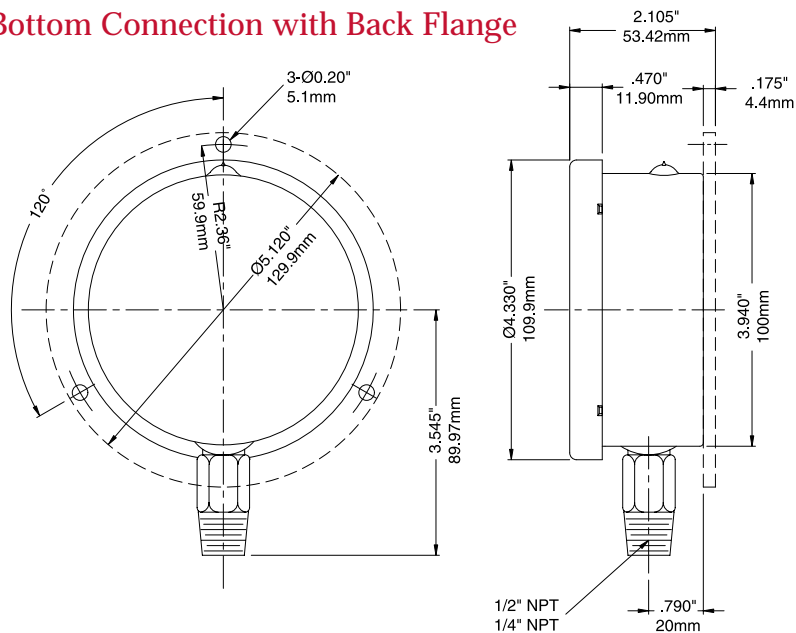
Product Codes				
Dial Size	4" (100mm)			
Connection	Bottom 1/4"	Back 1/4"	Bottom 1/2"	Back 1/2"
Movement, socket, tube	St/St	St/St	St/St	St/St
Glycerin/H ₂ O Filled	Filled	Filled	Filled	Filled
30" Hg Vacuum/kPa	P640N	P1090N	P655N	-
30"-0-15 psi/kPa	P1036N	-	P1044N	-
30"-0-30 psi/kPa	P1037N	-	P1045N	-
30"-0-60 psi/kPa	P1038N	-	P1046N	-
30"-0-100 psi/kPa	P1039N	-	P1047N	-
30"-0-150 psi/kPa	P1040N	-	P1048N	-
30"-0-200 psi/kPa	P1042N	-	P1050N	-
30"-0-300 psi/kPa	P1043N	-	P1051N	-
0-15 psi/kPa	P641N	P1091N	P656N	-
0-30 psi/kPa	P642N	P1092N	P657N	-
0-60 psi/kPa	P643N	P1093N	P658N	-
0-100 psi/kPa	P644N	P1094N	P659N	-
0-160 psi/kPa	P645N	P1095N	P660N	-
0-200 psi/kPa	P646N	P1096N	P661N	-
0-300 psi/kPa	P647N	P1097N	P662N	-
0-400 psi/kPa	P650N	-	P666N	-
0-600 psi/kPa	P648N	P1098N	P663N	-
0-1000 psi/kPa	P649N	P1099N	P664N	-
0-1500 psi/kPa	-	-	P665N	P1190N
0-2000 psi/kPa	-	-	P667N	P1191N
0-3000 psi/kPa	-	-	P668N	P1192N
0-5000 psi/kPa	-	-	P669N	P1193N
0-10000 psi/kPa	-	-	P670N	P1194N
0-15000 psi/kPa	-	-	P671N	P1195N
0-20000 psi/kPa	-	-	P672N	P1196N

Option Suffix:

- 4DRY = Supply above gauge less liquid fill
- 4UC-P = 4" (100mm) U-clamp

- 4FF = 4" (100mm) Front Flange
- 4BF = 4" (100mm) Back Flange

4" (100mm) Bottom Connection with Back Flange



Receiver Gauge

Premium



Description & Features:

- High quality gauge designed to work with a pneumatic transmitter or controller
- Stainless Steel or Brass wetted parts
- 3-15 psi with a variety of receiver ranges
- 316 Stainless or Brass wetted parts
- CRN Registered

Applications:

- Reliable indication of changes in pressure, temperature, flow, level, or other measured variables

Specifications

Dial:	4 $\frac{1}{2}$ " (115mm) white aluminum with black and red markings
Case:	Black impact resistance phenolic
Solid Wall:	304 stainless steel
Lens:	Acrylic
Ring:	Phenolic
Pointer:	Aluminum, micrometer.
Socket:	Brass or 316 stainless steel
Connection:	1/4" NPT standard bottom
Bourdon Tube:	Phosphor bronze or 316 stainless steel
Movement:	Brass or 304 stainless steel
Gasket Materials:	EPDM
Welding:	TIG/Silver alloy
Over-pressure Limit:	25% of full scale value
Working Pressure:	Maximum 75% of full scale value
Ambient Temperature:	-40°F to 150°F (-40°C to 65°C) dry -4°F to 150°F (-20°C to 65°C) filled
Process Temperature:	-40°F to 150°F (-40°C to 65°C) -4°F to 150°F (-20°C to 65°C) filled
Accuracy:	± 0.5% (ANSI/ASME GRADE 2A)
Enclosure Rating:	IP65



Receiver Gauge

Premium

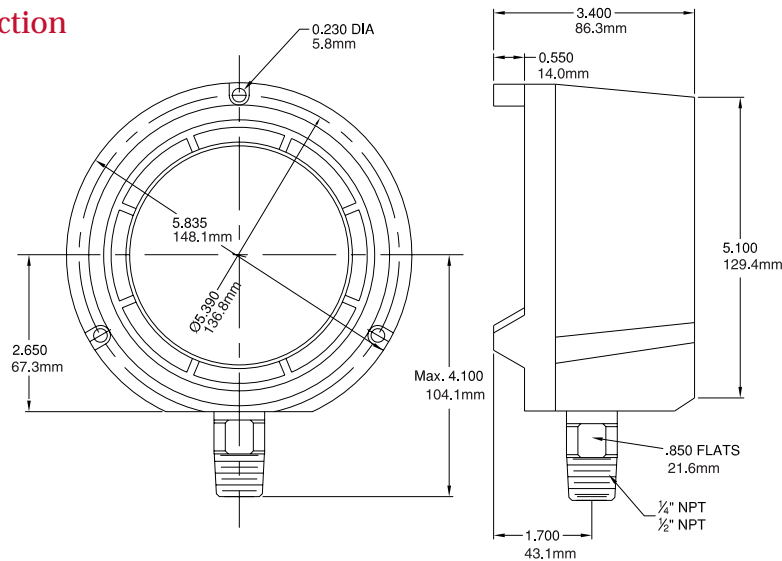
How to order: Specify product code

Product Codes				
Range	Socket, Tube (Brass) 1/4" NPT Bottom Connection	Socket, Tube (St/St) 1/4" NPT Bottom Connection	Socket, Tube (Brass) 1/4" NPT Back Connection	Socket, Tube (Brass) 1/4" NPT Bottom Connection
3-15 psi/0-100%	P5081REC	P5041REC	P5218REC	P5341REC
3-27 psi/0-100%	P5082REC	P5042REC	P5382REC	P5342REC

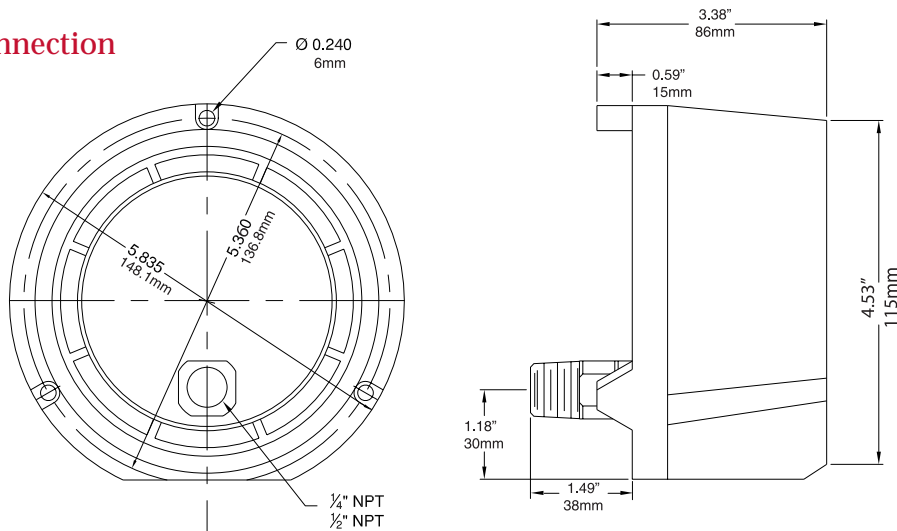
Option Suffix:

- SG-45 = Safety Glass 4.5"
- HCSF = Hinged Case Solid Front (Back connect only)
- G = Glycerine Filled (Bottom connection only)
- FMR = Front Mounting Ring
- 6HCS = 6" Hinged Case Solid Front (Back connect only)
- 0-10 sq/root also available

4.5" Bottom Connection



4.5" Back Connection



Altitude

Premium



Description & Features:

- Premium aluminum case gauges designed to read head pressure
- Stainless Steel or Brass wetted parts
- PSI and feet of water scales

• CRN Registered

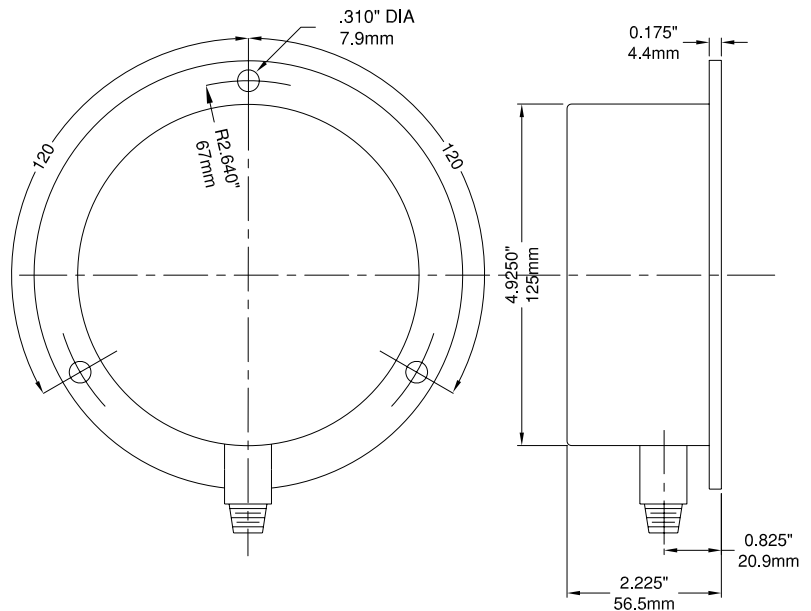
Applications:

- Used to indicate liquid level in tank or stand pipe etc
- Economical alternative for level measurement

How to order: Specify product code

Product Codes		
Dial Size	4 1/2" (115mm)	
Tube, Socket, Movement	Brass	Stainless Steel
0-35 ft/water	P6008ALT	P6033ALT
0-70 ft/water	P6009ALT	P6034ALT
0-140 ft/water	P6010ALT	P6035ALT
0-230 ft/water	P6011ALT	P6036ALT
0-370 ft/water	P6012ALT	P6037ALT
0-460 ft/water	P6013ALT	P6038ALT
0-690 ft/water	P6014ALT	P6039ALT

4.5" Bottom Connection with Standard Back Flange



Options Suffix:

- SG-45= Safety glass lens
- MS= Monel socket and tube
- SFC= Solid front safety case
- 300BF= Back flange
- OST = Over stop protection
- UST = Under stop protection
- Other ranges available upon request
- MAXI45= Maximum adjustable pointer available
- Other dial sizes, gauge types, options, and connections are available upon request.

NOTE: For back connection, add the suffix "B" to the corresponding bottom connection product codes. Front flange is standard on all back connection models.



Altitude

Specifications Brass Internals	
Dial:	4 1/2" (115mm)
Case:	Aluminum painted black
Lens:	Glass
Ring:	Stainless steel, polished
Front Flange:	Stainless steel, polished
Back Flange:	Steel, painted black
Pointer:	Aluminum, anodized black, micrometer adjustable brass
Socket:	Brass
Connection:	1/4" NPT or 1/2" NPT standard
Bourdon Tube:	Phosphor bronze
Movement:	Brass
Welding:	Tin/copper alloy
Over-pressure Limit:	30% of full scale value
Working Pressure:	Maximum 75% of full scale value
Ambient Temperature:	-40°F to 150°F (-40°C to 65°C)
Process Temperature:	-40°F to 150°F (-40°C to 65°C)
Accuracy:	±0.5% accuracy (ANSI/ASME Grade 2A)
Enclosure Rating:	IP52

Specifications Stainless Steel Internals	
Dial:	4 1/2" (115mm)
Case:	Aluminum painted black
Lens:	Glass
Ring:	Stainless steel, polished
Front Flange:	Stainless steel, polished
Back Flange:	Steel, painted black
Pointer:	Aluminum, anodized black, micrometer adjustable brass
Socket:	316L stainless steel
Connection:	1/4" NPT or 1/2" NPT standard
Bourdon Tube:	316L stainless steel
Movement:	Stainless steel
Welding:	316L stainless steel TIG Argonarc
Over-pressure Limit:	30% of full scale value
Working Pressure:	Maximum 75% of full scale value
Ambient Temperature:	-40°F to 150°F (-40°C to 65°C)
Process Temperature:	-40°F to 150°F (-40°C to 65°C)
Accuracy:	±0.5% accuracy (ANSI/ASME Grade 2A)
Enclosure Rating:	IP52



Safety Case

Premium



Description & Features:

- Gauge with solid front blowout back for the ultimate in gauge safety
- 1% accuracy with Stainless Steel, full rotary movement and micrometer pointer for ease in calibration.
- Stabilizer dampened movement fights vibration and pulsation without the headache of liquid filling
- **CRN Registered**

Applications:

- Used where operator safety is a must
- Color coded gauges for easy process and pressure identification
- No liquid fill needed to be used on processes with heavy vibration and pulsation

Specifications

Dial:	4" (100mm) white dial with black markings
Case:	304 stainless steel case with blow out back or color coded (P.B.T.) case and blowout back plate. Dry only
Lens:	Laminated safety glass
Ring:	Bayonet (stainless steel or PBT)
Pointer:	Aluminum, anodized black, micrometer
Socket:	316 stainless steel
Connection:	1/4" or 1/2" NPT bottom
Bourdon Tube:	316 Stainless steel
Movement:	304 Stainless steel (dampened with stabilizer)
Enclosure Rating:	IP65 per UEC 529, UNI 8896
Welding:	316 stainless steel TIG Argonarc
Over-pressure Limit:	30% for pressures up to 600 psi (4,147 kPa) 15% for pressures over 600 psi (4,147 kPa)
Working Pressure:	Maximum 75% of full scale value
Ambient / Process Temperature:	-40F to 150F (-40C to 65C)
Accuracy:	1% ANSI/ASME Grade 1A



Safety Case

Premium

PRODUCT CODES

How to order: Specify product code

Dial Size	4" (100mm)			
Connection	Bottom 1/4"	Bottom 1/2"	Bottom 1/4"	Bottom 1/2"
Movement socket, tube	St/St	St/St	St/St	St/St
Case	Stainless	Stainless	Color (PBT)	Color (PBT)
30" Hg Vacuum/kPa	P640SFCZ	P655SFCZ	P640CSFCZ	ZP655CSFC
30"-0-15 psi/kPa	P1044SFCZ	-	P1044CSFCZ	-
30"-0-30 psi/kPa	P1037SFCZ	P1045SFCZ	P1037CSFCZ	P1045CSFCZ
30"-0-60 psi/kPa	P1038SFCZ	P1046SFCZ	P1038CSFCZ	P1046CSFCZ
30"-0-100 psi/kPa	P1039SFCZ	P1047SFCZ	P1039CSFCZ	P1047CSFCZ
30"-0-150 psi/kPa	P1048SFCZ	-	P1048CSFCZ	-
30"-0-200 psi/kPa	P1042SFCZ	P1050SFCZ	P1042CSFCZ	P1050CSFCZ
30"-0-300 psi/kPa	P1043SFCZ	P1051SFCZ	P1043CSFCZ	P1051CSFCZ
0-15 psi/kPa	P641SFCZ	P656SFCZ	P641CSFCZ	P656CSFCZ
0-30 psi/kPa	P642SFCZ	P657SFCZ	P642CSFCZ	P657CSFCZ
0-60 psi/kPa	P643SFCZ	P658SFCZ	P643CSFCZ	P658CSFCZ
0-100 psi/kPa	P644SFCZ	P659SFCZ	P644CSFCZ	P659CSFCZ
0-160 psi/kPa	P645SFCZ	P660SFCZ	P645CSFCZ	P660CSFCZ
0-200 psi/kPa	P646SFCZ	P661SFCZ	P646CSFCZ	P661CSFCZ
0-300 psi/kPa	P647SFCZ	P662SFCZ	P647CSFCZ	P662CSFCZ
0-400 psi/kPa	P650SFCZ	P666SFCZ	P650CSFCZ	P666CSFCZ
0-600 psi/kPa	P648SFCZ	P663SFCZ	P648CSFCZ	P663CSFCZ
0-1000 psi/kPa	P649SFCZ	P664SFCZ	P649CSFCZ	P664CSFCZ
0-1500 psi/kPa	P651SFCZ	P665SFCZ	P651CSFCZ	P665CSFCZ
0-2000 psi/kPa	P652SFCZ	P667SFCZ	P652CSFCZ	P667CSFCZ
0-3000 psi/kPa	P653SFCZ	P668SFCZ	P653CSFCZ	P668CSFCZ
0-5000 psi/kPa	P654SFCZ	P669SFCZ	P654CSFCZ	P669CSFCZ
0-10000 psi/kPa	P673SFCZ	P670SFCZ	P673CSFCZ	P670CSFCZ
0-15000 psi/kPa	P674SFCZ	P671SFCZ	P674CSFCZ	P671CSFCZ
0-20000 psi/kPa	P675SFCZ	P672SFCZ	P675CSFCZ	P672CSFCZ

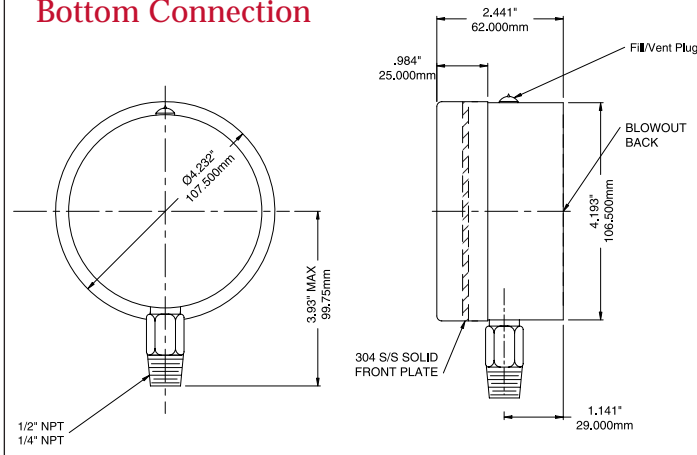
Add Color Code to Product Code		
Color Sample	Color	4" (100mm) Dial
	Red	1SCY
	Yellow	2SCY
	Black	3SCY
	Green	4SCY
	Dark Blue	5SCY
	Cyan	12SCY
	Gray	17Y

* Add appropriate color code as suffix if colored case is requested (e.g. P655CSFCZ/5SCY = Product Code + Color Code)

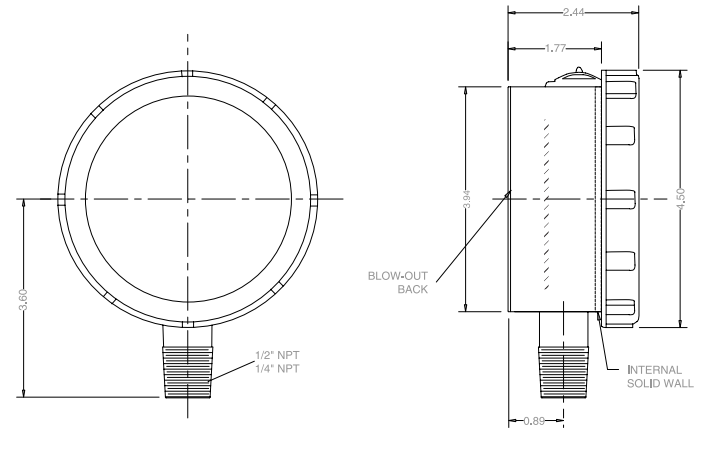
Options Suffix:

MS = Monel Socket

4" Stainless Steel Safety Case, Bottom Connection



4" Color Coded Safety Case, Bottom Connection



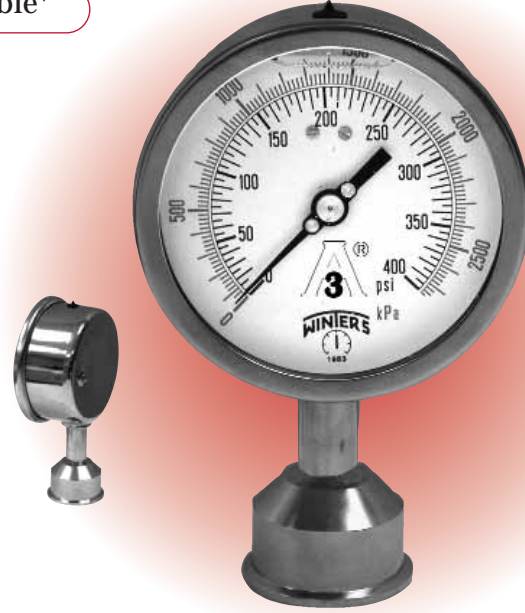
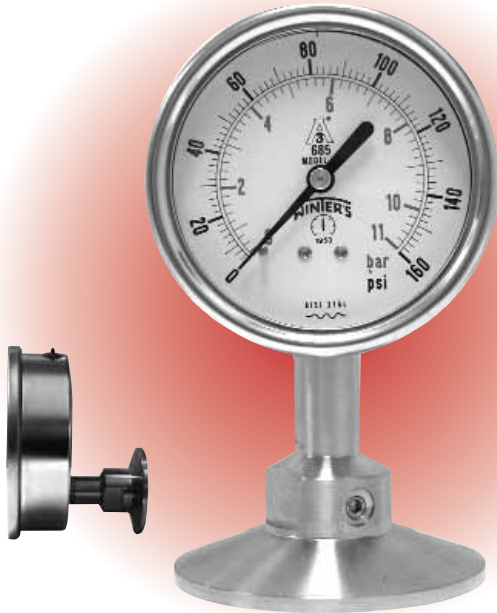
Sanitary 3A

Premium

Standard

Premium

Autoclavable*



- External Recalibrator Screw
- $\pm 0.75\%$ Accuracy
- 4" (100mm) bottom connection

Description & Features:

- Designed to be used on sanitary piping systems meeting 3A requirement
- All Stainless Steel liquid filled case
- CRN registered

Applications:

- Dairy, food processing and pharmaceutical

* Autoclavable - 4" standard dry model only

Sanitary 3A

Premium

Specifications		
	Standard 3A	Premium 3A
Dial:	2 1/2" (63mm) and 4" (100mm), white aluminum with black & red markings	4" (100mm), white aluminum with black & red markings
Case:	AISI 304 stainless steel, electro polished with 150 grit finish (Ra Min)	AISI 304 stainless steel, electro polished .20umRa finish
Lens:	Plexiglass	Polycarbonate
Ring:	AISI 304 stainless steel, electro polished with 150 grit finish (Ra)	AISI 304 stainless steel, electro polished .20umRa finish
Pointer:	Aluminum, anodized black	Aluminum, anodized black
Process Connection:	AISI 316 stainless steel, electro polished with 1 1/2" or 2" Tri-Clamp	AISI 316 stainless steel, electro polished with 1 1/2" or 2" Tri-Clamp
Diaphragm:	AISI 316L stainless steel, electro polished	AISI 316L stainless steel, electro polished .05umRa
Gasket:	2 1/2" (63mm) silicon; 4" (100mm) EPDM	Monprene
Vent & Fill Plug:	EPDM	Monprene
Recalibrator:	N/A	External
Seal Fill:	Approved food service oil	Shell Ordina
Case Fill:	Glycerin, 99.5%	Glycerin, 98%
Working Pressure:	Maximum 75% of full scale value	Maximum 75% of full scale value
Ambient / Process Temperature:	-13°F to 150°F (-25°C to 65°C) dry, 5°F to 150°F (-15°C to 65°C) filled	-13°F to 150°F (-25°C to 65°C) dry, 5°F to 150°F (-15°C to 65°C) filled
Accuracy:	2 1/2" (100mm) 3%-2%-3% ANSI/ASME Grade B), 4" (100mm) ± 1% accuracy (ANSI/ASME Grade 1A)	± 0.75% of full scale (ANSI/ASME Grade 1A)
Autoclavable Specifications*		
Window:	Polysulfone	-
Gasket:	Silicone rubber	-
Vent & Fill Plug:	Viton	-

(*Autoclavable Temperature Limit: up to 302°F (150°C))

PRODUCT CODES

How to order: Specify product code
Products shown in **BOLD** are normally in stock.

Dial Size	Standard						Premium			
	2 1/2" (63mm)		2 1/2" (63mm)		4" (100mm)		4" (100mm)			
Tri-Clamp®	1 1/2" (40mm)		2" (50mm)		1 1/2" (40mm)		2" (50mm)			
Connection	Bottom	Back	Bottom	Back	Bottom	Back	Bottom	Back	Bottom	Bottom
30"-0-30 psi/bar	P15798	P15798B	P20798	P20798B	P151021	P151021B	P201021	P201021B	PR151021	PR201021
30"-0-60 psi/bar	P15799	P15799B	P20799	P20799B	P151022	P151022B	P201022	P201022B	PR151022	PR201022
30"-0-100 psi/bar	P15791	P15791B	P20791	P20791B	P151023	P151023B	P201023	P201023B	PR151023	PR201023
30"-0-150 psi/bar	P15793	P15793B	P20793	P20793B	P151025	P151025B	P201025	P201025B	PR151025	PR201025
30"-0-200 psi/bar	P15794	P15794B	P20794	P20794B	P151026	P151026B	P201026	P201026B	PR151026	PR201026
30"-0-300 psi/bar	P15795	P15795B	P20795	P20795B	P151027	P151027B	P201027	P201027B	PR151027	PR201027
0-30 psi/bar	P15802	P15802B	P20802	P20802B	P15602	P15602B	P20602	P20602B	PR15602	PR20602
0-60 psi/bar	P15803	P15803B	P20803	P20803B	P15603	P15603B	P20603	P20603B	PR15603	PR20603
0-100 psi/bar	P15804	P15804B	P20804	P20804B	P15604	P15604B	P20604	P20604B	PR15604	PR20604
0-160 psi/bar	P15805	P15805B	P20805	P20805B	P15605	P15605B	P20605	P20605B	PR15605	PR20605
0-200 psi/bar	P15806	P15806B	P20806	P20806B	P15606	P15606B	P20606	P20606B	PR15606	PR20606
0-300 psi/bar	P15807	P15807B	P20807	P20807B	P15607	P15607B	P20607	P20607B	PR15607	PR20607
0-600 psi/bar	P15808	P15808B	P20808	P20808B	P15608	P15608B	P20608	P20608B	PR15608	PR20608

- Other ranges available upon request.
- Autoclavable option available on 4" (100mm) dry only.

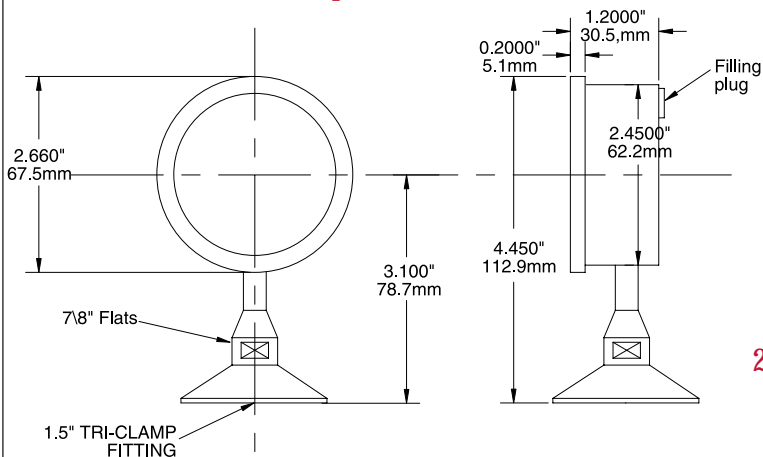
® Tri-Clamp is a registered trade mark of Tri-Clover.



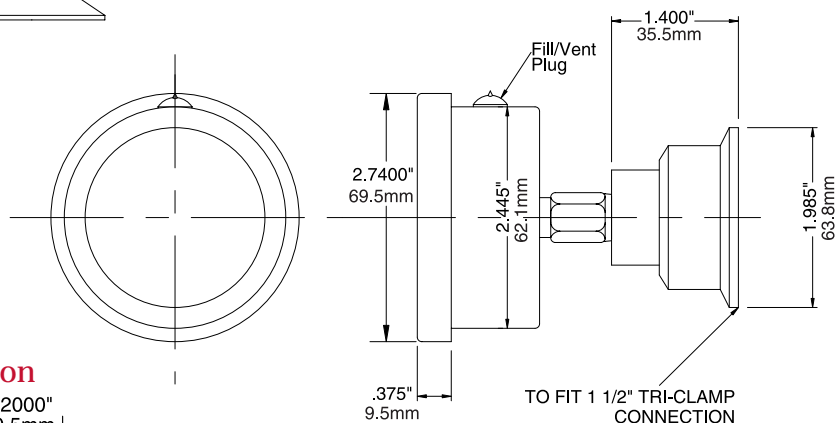
Sanitary 3A

Premium

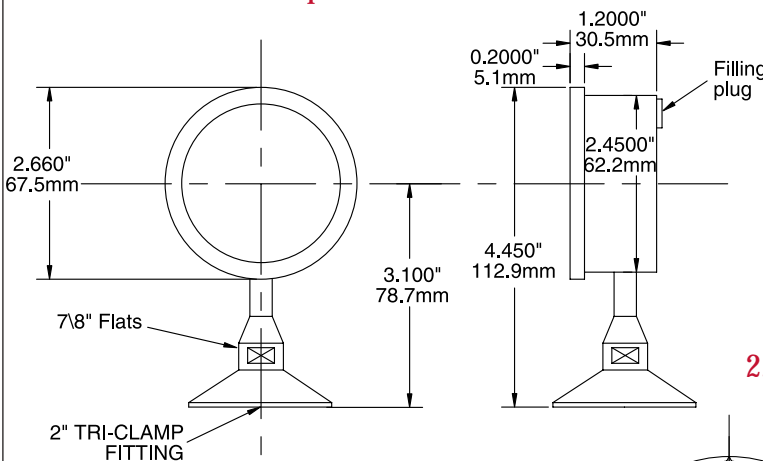
2.5" 3A, 1.5" Tri-Clamp®, Bottom Connection



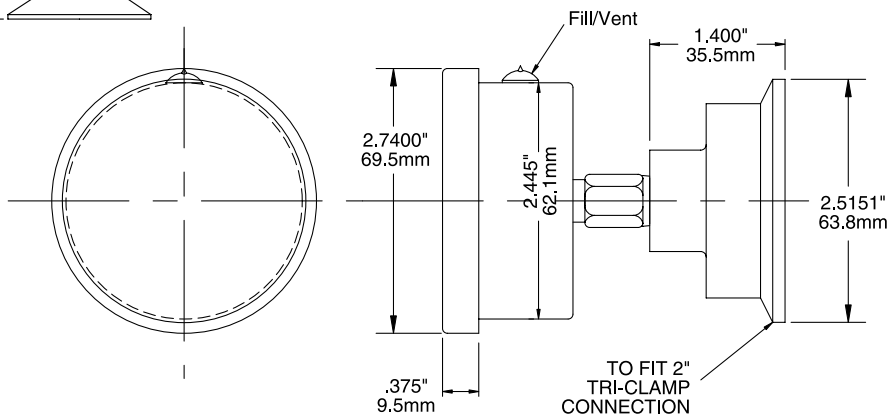
2.5" 3A, 1.5" Tri-clamp®, Back Connection



2.5" 3A, 2" Tri-Clamp®, Bottom Connection



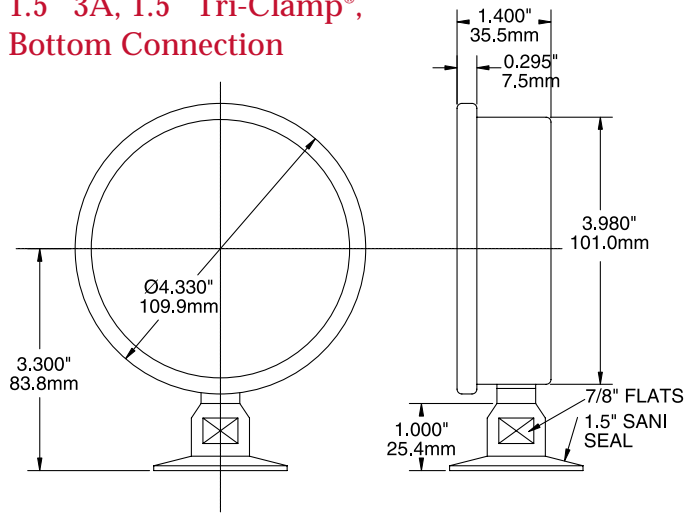
2.5" 3A, 2" Tri-Clamp®, Back Connection



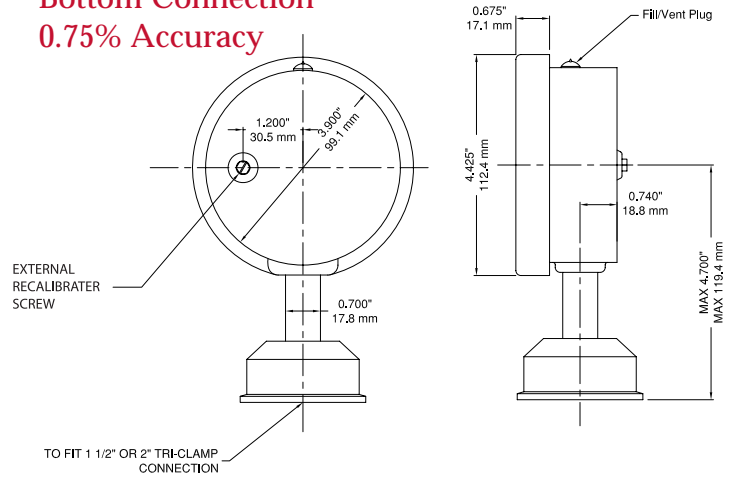
Sanitary 3A

Premium

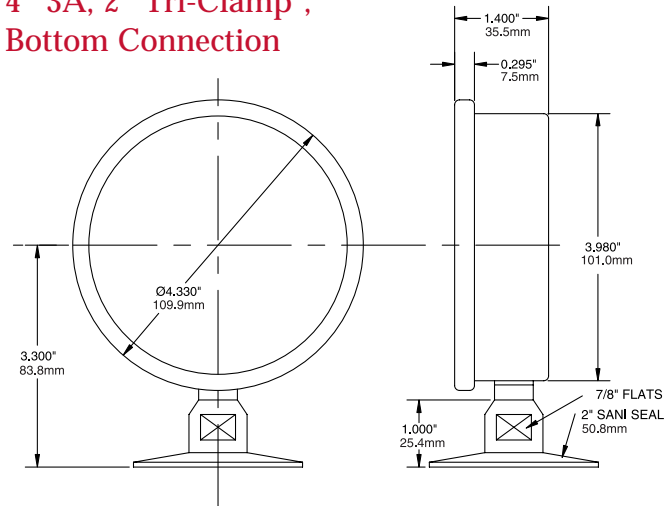
Standard
1.5" 3A, 1.5" Tri-Clamp®,
Bottom Connection



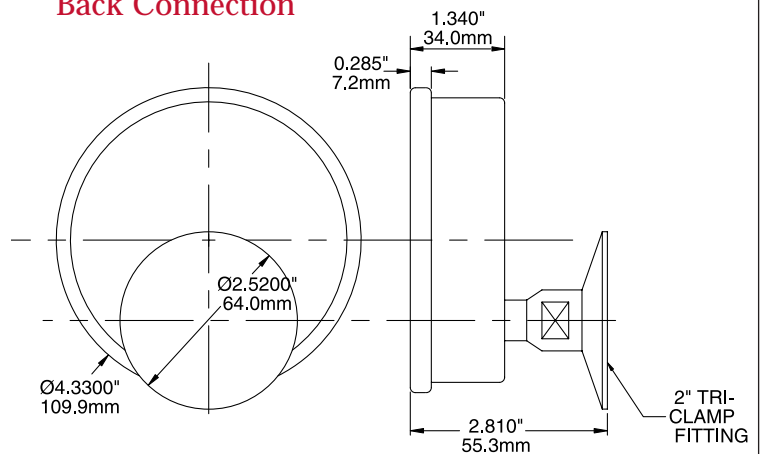
Premium
4" 3A, 1.5" & 2" Tri-Clamp®,
Bottom Connection
0.75% Accuracy



Standard
4" 3A, 2" Tri-Clamp®,
Bottom Connection



Standard
4" 3A, 2" Tri-Clamp®,
Back Connection



Schaeffer Gauge

Premium



Description & Features:

- Unique pressure instrument that combines pressure a gauge and diaphragm seal to measure low pressure where protection is needed.
- Bottom connection only
- All Stainless Steel Construction
- A variety of materials available

Applications:

- Used for low pressure corrosive media where diaphragm seal protection is needed
- Process where Low or High temperature will effect seal fill fluid

Specifications

Dial:	4" (100mm) and 6" (150mm) white aluminum with black markings
Case / Ring:	304L stainless steel
Lens:	Acrylic
Diaphragm:	316 stainless steel, 316 stainless steel PTFE lined, or Tantalum
Movement:	All stainless steel - Push rod / connecting link and segment
Pointer:	Adjustable pointer - aluminum
Connection:	1/4" or 1/2" NPT
Upper Flange:	Stainless steel (neck and base movements)
Lower Flange and Connection:	316L stainless steel bottom connection
Wetted Parts:	316 stainless steel
Ambient Temperature:	-13°F to 150°F (-25°C to 65°C)
Process Temperature:	212°F (100°C)*
Accuracy:	±1.5% full scale
Enclosure Rating:	IP54



Schaeffer Gauge

Premium

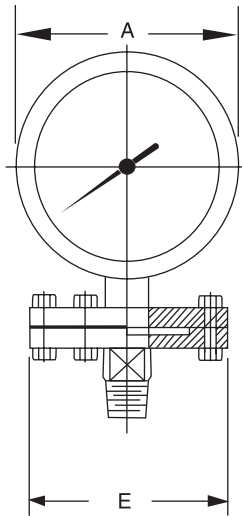
PRODUCT CODES

How to order: Specify product code

Dial Size	4" (100mm)		4" (100mm)		6" (150mm)	
Connection (NPT)	1/4" Bottom	1/2" Bottom	1/4" Bottom	1/2" Bottom	1/4" Bottom	1/2" Bottom
0-10" water/oz	PSG4010	PSG40105	-	-	PSG6010	PSG60105
0-30" water/oz	PSG4030	PSG40305	-	-	PSG6030	PSG60305
0-60" water/oz	PSG4060	PSG40605	-	-	PSG6060	PSG60605
0-100" water/oz	PSG40100	PSG401005	-	-	PSG60100	PSG601005
0-160" water/oz	PSG40160	PSG401605	-	-	PSG60160	PSG601605
0-200" water/oz	PSG40200	PSG402005	-	-	PSG60200	PSG602005
0-300" water/oz	PSG40300	PSG403005	-	-	PSG60300	PSG603005
0-10 psi/kPa	PSG410	PSG4105	-	-	PSG610	PSG6105
0-15 psi/kPa	PSG415	PSG4155	-	-	PSG615	PSG6155
0-30 psi/kPa	PSG430	PSG4305	-	-	PSG630	PSG6305
0-60 psi/kPa	PSG460	PSG4605	-	-	PSG660	PSG6605
0-100 psi/kPa	PSG4100	PSG41005	PSG4100T	PSG41005T	PSG6100	PSG61005
0-160 psi/kPa	PSG4160	PSG41605	-	-	PSG6160	PSG61605
0-200 psi/kPa	PSG4200	PSG42005	PSG4200T	PSG42005T	PSG6200	PSG62005
0-300 psi/kPa	PSG4300	PSG43005	PSG4300T	PSG43005T	PSG6300	PSG63005

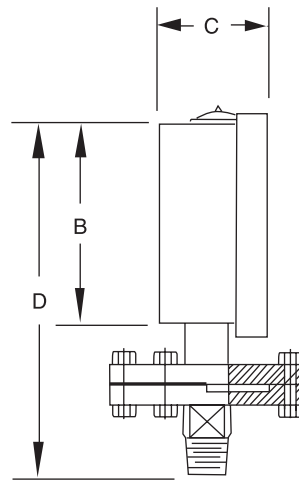
Option Suffix:

- SG-4 = 4" Safety Glass dial
- SG-6 = 6" Safety Glass
- T: Denotes Tantalum Diaphragm
- Other materials, ranges, connections are available upon request.
- Vacuum ranges also available.



For pressure ranges greater than 0-10 psi/kPa

Case Dia.	Flange Dia.	A	B	C	D	E
4" 100 mm	4" 100 mm	4.43" 112	3.90" 99	2.16" 55	6.99" 177	3.86" 98
6" 150 mm	4" 100 mm	6.10" 155	5.51" 140	2.20" 56	6.99" 177	3.86" 98



For pressure ranges less than and equal to 10 psi/kPa

Case Dia.	Flange Dia.	A	B	C	D	E
4" 100 mm	6" 150 mm	4.43" 112	3.90" 99	2.16" 55	6.99" 177	6.10" 155
6" 150 mm	6" 150 mm	6.10" 155	5.51" 140	2.20" 56	6.99" 177	6.10" 155



Test Gauge

Premium



Optional Case

Description & Features:

- Very accurate 0.25% (6") test gauge, complete with calibration certificate traceable to NIST standards
- Mirrored anti-parallax dial
- Knife edge pointer
- Protective carrying and storage case
- CRN Registered

Applications:

- Designed to be used where accuracy and repeatability are of prime importance
- Used in laboratories and instrument testing facilities

Specifications

Dial:	4" (100mm) white aluminum dial with black markings, 6" (150mm) white aluminum dial with black markings, both dials have mirror band for precise instrument readings
Case:	AISI 304 stainless steel
Lens:	Polycarbonate
Ring:	AISI 304 stainless steel
Pointer:	Aluminum, anodized black, micrometer adjustable, knife-edge
Socket:	Brass
Connection:	1/4" NPT or 1/2" NPT standard, bottom
Bourdon Tube:	Beryllium Copper
Movement:	4" brass, 6" brass with synthetic jewel bearings
Enclosure Rating:	IP65
Welding:	Silver alloy
Over-pressure Limit:	30% of full scale value
Working Pressure:	Maximum 75% of full scale value
Calibration Conditions:	68°F (± 5.4°F) 20°C (±3°C) for ambient and process temperatures at atmospheric pressure
Accuracy:	4" (100mm) ± 0.5% full scale accuracy (ANSI/ASME Grade 2A) 6" (150mm) ± 0.25% full scale accuracy (ANSI/ASME Grade 3A)



Test Gauge

Premium

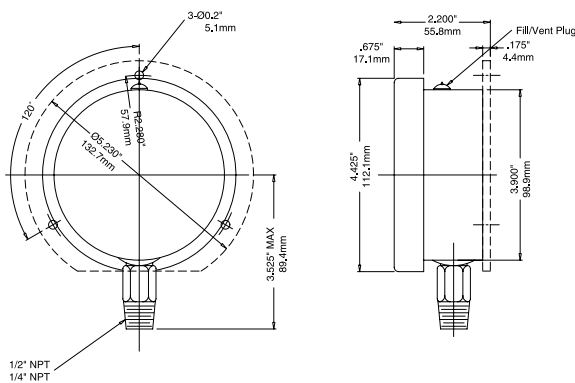
How to order: Specify product code

Product Codes				
Dial Size	4" (100mm)	6" (150mm)	4" (100mm)	6" (150mm)
Tube	Beryllium Copper	Beryllium Copper	Beryllium Copper	Beryllium Copper
Socket	Brass	Brass	Brass	Brass
Movement	Brass	Brass, with synthetic jewel bearings	Brass	Brass, with synthetic jewel bearings
Connection	Bottom 1/4"	Bottom 1/4"	Bottom 1/2"	Bottom 1/2"
30"Hg Vacuum	P3999	P1999	-	P2055
0-15 psi	P4000	P2000	-	P2056
0-30 psi	P4001	P2001	-	P2057
0-60 psi	P4002	P2002	-	P2058
0-100 psi	P4003	P2003	-	P2059
0-160 psi	P4004	P2004	-	P2060
0-200 psi	P4005	P2005	-	P2061
0-300 psi	P4006	P2006	-	P2062
0-400 psi	P4007	P2007	-	P2063
0-600 psi	P4008	P2008	-	P2064
0-1000 psi	-	P2016	P4009	P2009
0-1500 psi	-	P2017	P4010	P2010
0-2000 psi	-	P2018	P4011	P2011
0-3000 psi	-	P2019	P4012	P2012
0-5000 psi	-	P2053	P4013	P2013
0-10000 psi	-	P2054	P4014	P2014

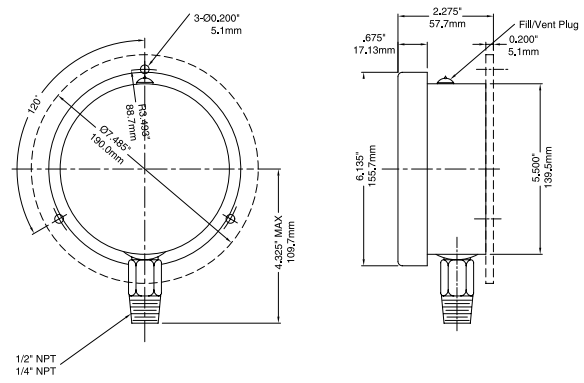
Option Suffix:

- TG4 = Test Gauge Case - 4"
- Add the suffix "B" for back connection
- 4BF = 4" Back Flange
- 4FF = 4" front flange
- Other ranges and connections sizes available upon request
- TG6 = Test Gauge Case - 6"
- 6FF = 6" front flange
- 6BF = 6" back flange
- 4UC-P = 4" U-clamp premium
- 0.10% accuracy available on request

4" Bottom with back flange



6" Bottom with back flange



Turbine Gauge

Premium



Description

- Winters' Turbine Pressure Gauge, manufactured to *GE® specifications, features a cast brass machined case with a machined cast aluminum bezel that is oil tight. The pressure gauge consists of stainless steel internals and a carbon steel connection specific for turbine applications.

Applications

- Removable bezel and lens with an adjustable micrometer pointer for in place calibration.

Specifications

Dial:	4 1/2" (115mm)
Case:	Machined cast brass, painted black
Lens:	Glass
Bezel:	Machined cast aluminum bezel, painted black
Pointer:	Aluminum - adjustable micrometer
Socket:	Carbon steel
Connection:	1/4" NPT standard
Bourdon Tube:	Stainless steel
Movement:	Stainless steel
Over-pressure Limit:	30% of full scale value
Working Pressure:	Maximum 75% of full scale value
Accuracy:	0.5% accuracy

Note: The dial may require a service mark (i.e. "Pump Suction").

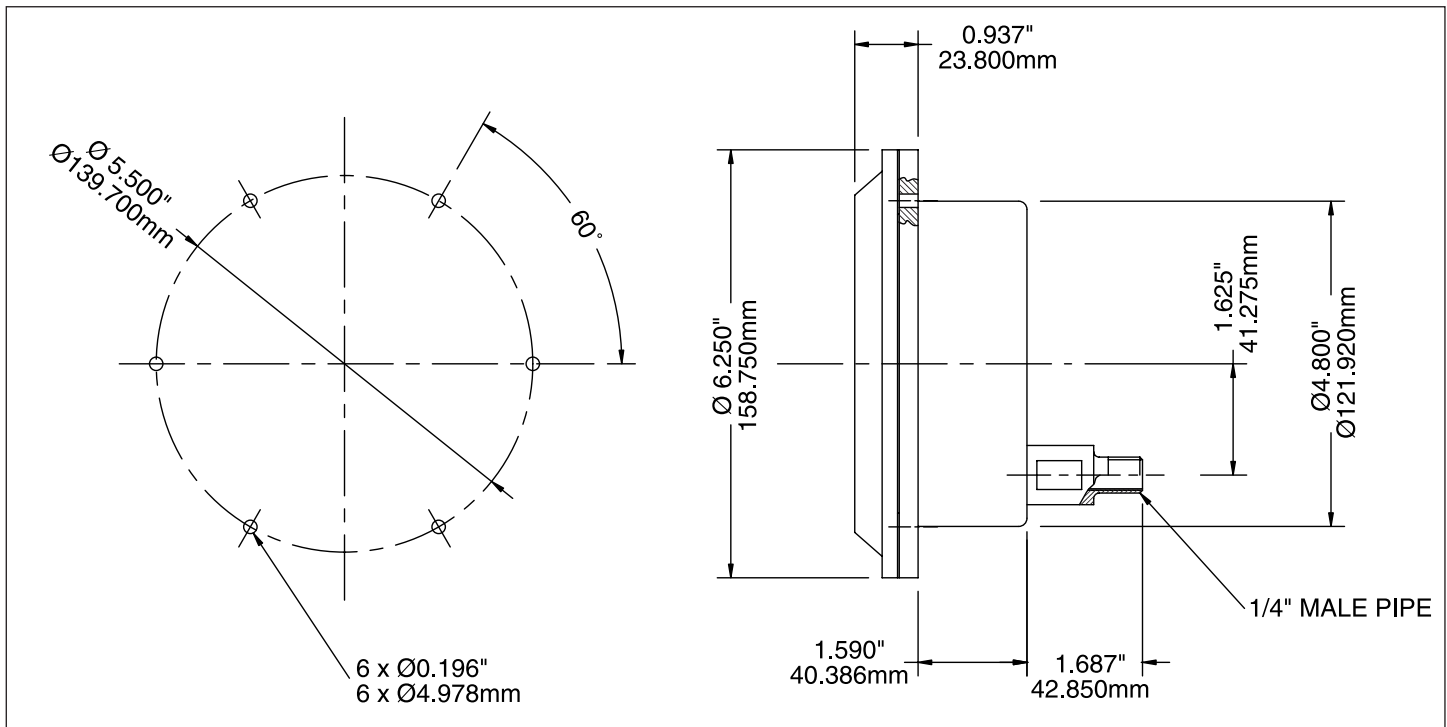
*GE® is a registered Trademark of General Electric.



Turbine Gauge

How to order: Specify product code

PRODUCT CODES	
RANGE	CODE
0 - 60 psi	P4101GE
0 - 400 psi	P4106GE



Gauges manufactured to *GE® Drawing U175X

90 Series

Quality



Description & Features:

- A general-purpose gauge that is serviceable and pulsation resistant.
- 1.5" to 3.5" Dial Sizes
- Dampened Movement combined with a "Flutterless" Pointer
- Removable lens
- Zero-adjustment
- Grade B accuracy (2%-1%-2%)
- CRN Registered

Applications:

- Compressors, filters, regulators, water pumps, paint sprayers and a variety of other rapid pressure fluctuation applications.

Specifications

Dial:	1 1/2" (40mm), 2" (50mm), 2 1/2" (63mm) and 3 1/2" (90mm), white aluminum with black and red markings
Case:	Steel painted black
Lens:	Acrylic, threaded
Pointer:	Steel, painted black
Socket:	Brass
Connection:	1/8" NPT or 1/4" NPT standard
Bourdon Tube:	Phosphor bronze
Movement:	Brass (flutterless) with zero adjustment
Welding:	Silver alloy
Over-pressure Limit:	25% of full scale value
Working Pressure:	Maximum 75% of full scale value
Ambient Temperature:	-40°F to 149°F (-40°C to 65°C)
Process Temperature:	-40°F to 149°F (-40°C to 65°C)
Accuracy:	2-1-2% accuracy (ANSI/ASME Grade B)



90 Series

PRODUCT CODES

How to order: Specify product code
Products shown in BOLD are normally in stock.

Case Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel
Connection	Bottom 1/8"	Center Back 1/8"	Center Back 1/8"	Center Back 1/4"	Bottom 1/8"	Bottom 1/4"	Center Back 1/4"	Bottom 1/4"	Bottom 1/4"	Center Back 1/4"
Movement, Socket, Tube	Brass	Brass	Brass	Brass	Brass	Brass	Brass	Brass	Brass	Brass
30" Hg. Vac. /kPa	Q901297	Q901397	Q901424	Q901428	Q90195	Q90135	Q901431	Q90210	Q90220	Q901455
30" -0-15 psi/kPa	-	-	-	-	-	-	-	Q90152	-	-
30" -0-30 psi/kPa	-	-	-	-	-	-	-	Q90153	-	-
30" -0-60 psi/kPa	-	-	-	-	-	-	-	Q90154	-	-
30" -0-100 psi/kPa	-	-	-	-	-	-	-	Q90155	-	-
0-15 psi/kPa	Q901299	Q901399	Q901425	Q901429	Q90196	Q90136	Q901436	Q90211	Q90229	Q901464
0-30 psi/kPa	Q901300	Q901400	Q901402	Q901403	Q90206	Q90199	Q901437	Q90212	Q90221	Q901456
0-60 psi/kPa	Q901301	Q901401	Q901404	Q901405	Q90207	Q90201	Q901438	Q90213	Q90222	Q901457
0-100 psi/kPa	Q901320	Q901420	Q901406	Q901407	Q90208	Q90202	Q901439	Q90214	Q90223	Q901458
0-160 psi/kPa	Q901321	Q901421	Q901408	Q901409	Q90197	Q90203	Q901440	Q90215	Q90224	Q901459
0-200 psi/kPa	Q901322	Q901422	Q901426	Q901410	Q90209	Q90204	Q901441	Q90216	Q90225	Q901460
0-300 psi/kPa	Q901323	Q901423	Q901427	Q901411	Q90198	Q90205	Q901442	Q90217	Q90226	Q901461
0-400 psi/kPa	Q901324	Q901443	Q901445	Q901447	Q901449	Q901451	Q901453	Q90219	Q90227	Q901462
0-600 psi/kPa	Q901325	Q901444	Q901446	Q901448	Q901450	Q901452	Q901454	Q90218	Q90228	Q901463
0-1000 psi/kPa	-	-	-	-	-	-	-	-	-	-
0-2000 psi/kPa	-	-	-	-	-	-	-	-	-	-
0-3000 psi/kPa	-	-	-	-	-	-	-	-	-	-
0-5000 psi/kPa	-	-	-	-	-	-	-	-	-	-

Option Suffix:

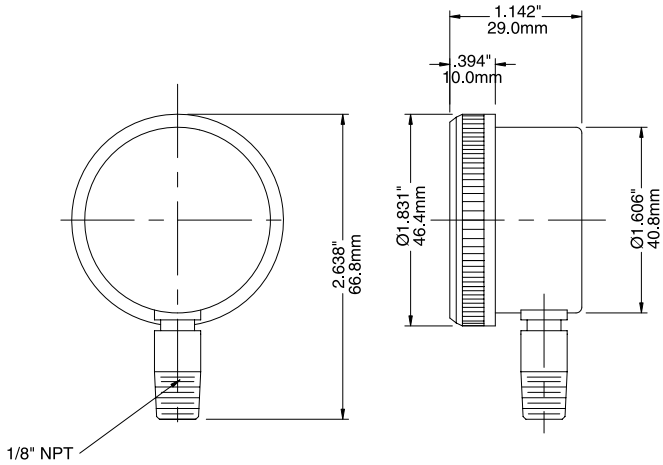
- Stainless Steel case available
- U-Clamp version available, please see pg.80 (90 Series Panel Mounted)
- 1301 - DP = 2" Maxi Pointer
- Other ranges, connections sizes available
- Restrictor screw
- MAXI25/E = 2.5" Maximum adjustable pointer assembly



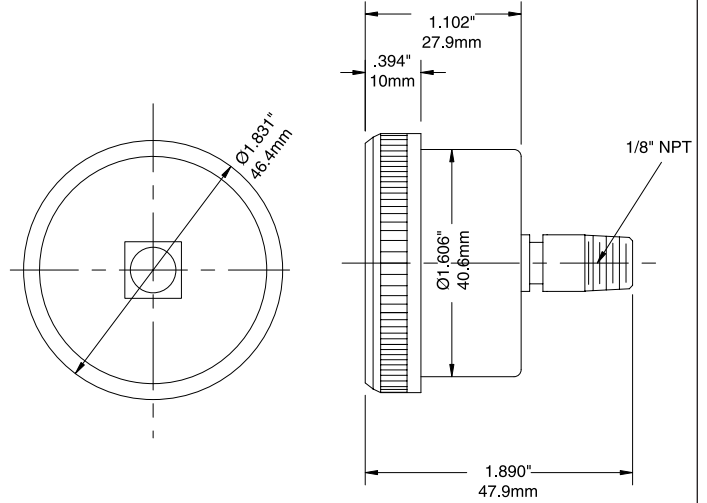
90 Series

Quality

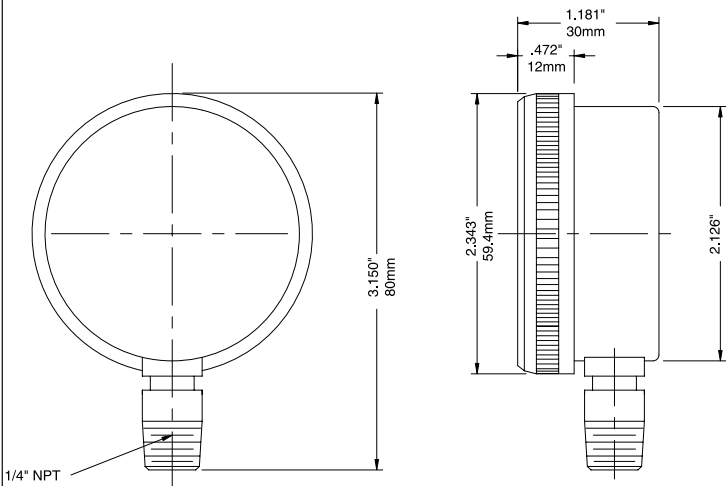
1 1/2" Bottom Connection



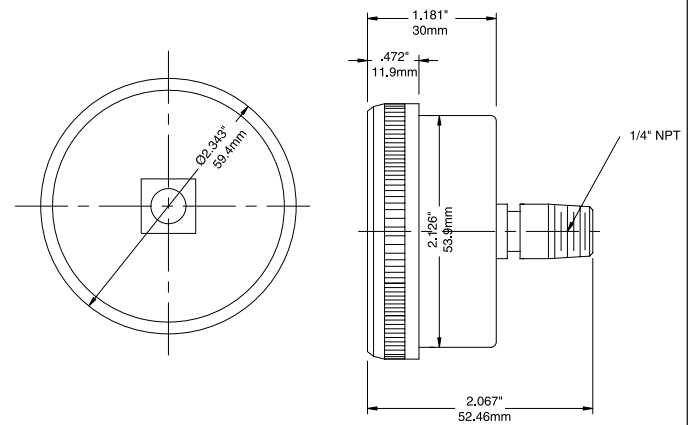
1 1/2" Back Connection



2" Bottom Connection

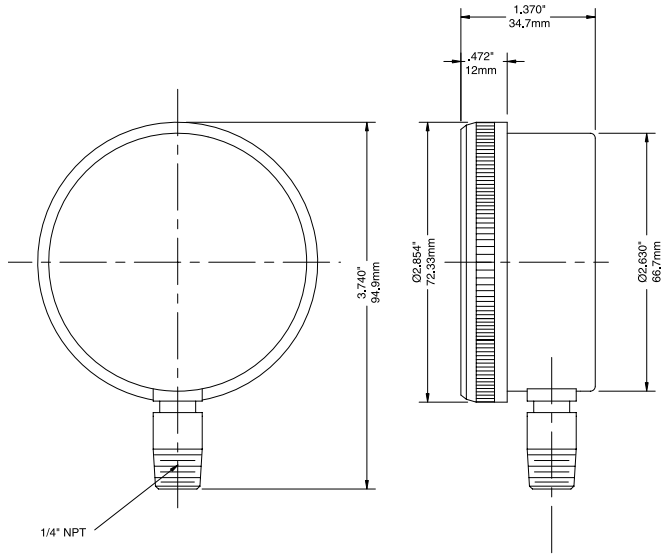


2" Back Connection

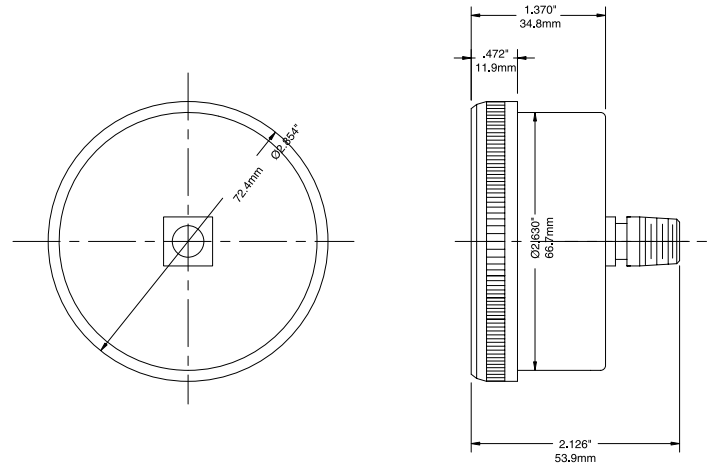


90 Series

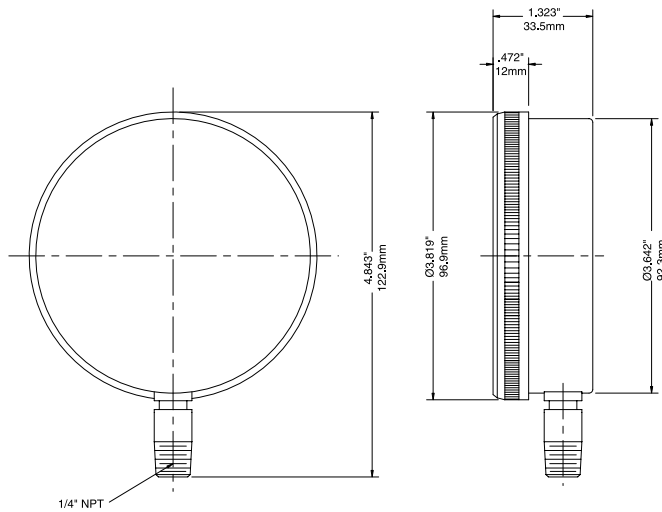
2 1/2" Bottom Connection



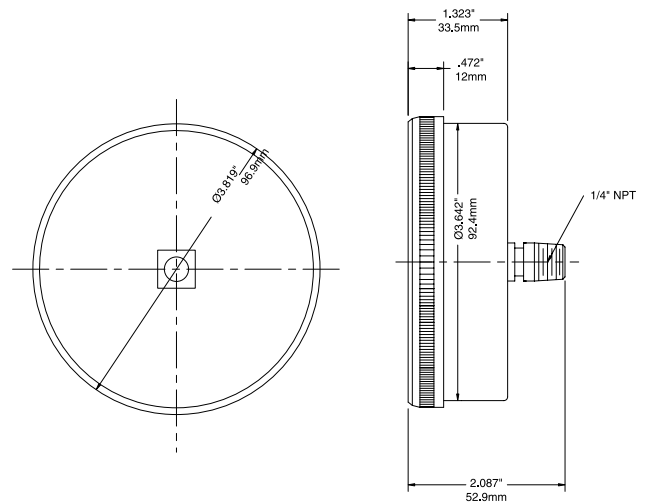
2 1/2" Back Connection



3 1/2" Bottom Connection



3 1/2" Back Connection



Quality

90 Series Panel Mounted

Quality



Removable Lens & Zero Adjustment Screw

Description & Features:

- A general-purpose panel mounted gauge.
- Panel Mounted for 1.5" to 3.5" Dial Sizes
- "Flutterless" Pointer
- Dampened Movement
- Removable lens
- Zero-adjustment
- Grade B accuracy (2%-1%-2%)
- CRN Registered

Applications:

- Panels, compressor equipment, water and oil pumps, where rapid pressure fluctuations or system vibration requires a stable pointer

Specifications

Dial:	1 1/2" (40mm), 2" (50mm), 2 1/2" (63mm) and 3 1/2" (90mm), white aluminum with black and red markings
Case:	Steel painted black
Lens:	Polycarbonate, Threaded
Pointer:	Steel, painted black
Socket:	Brass
Connection:	1/8" NPT or 1/4" NPT standard
Bourdon Tube:	Phosphor Bronze
Movement:	Brass (flutterless movement)
Welding:	Silver alloy
Over-pressure Limit:	25% of full scale value
Working Pressure:	Maximum 75% of full scale value
Ambient Temperature:	-40°F to 150°F (-40°C to 65°C)
Process Temperature:	-40°F to 150°F (-40°C to 65°C)
Accuracy:	2-1-2% accuracy (ANSI/ASME Grade B)
Enclosure Rating:	IP52



90 Series Panel Mounted

PRODUCT CODES

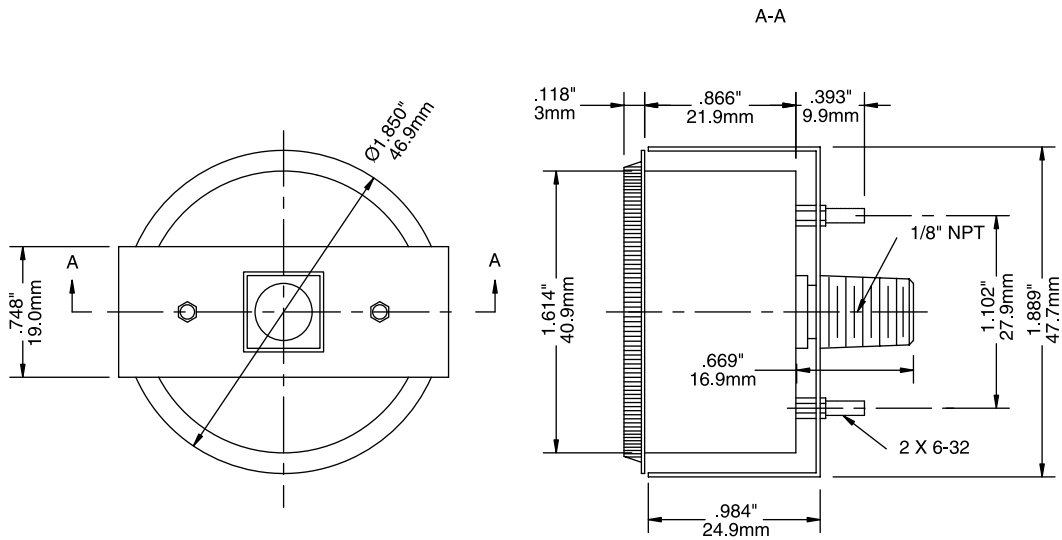
How to order: Specify product code
Products shown in BOLD are normally in stock.

Dial Size	1 1/2" (40mm)	2" (50mm)	2" (50mm)	2 1/2" (63mm)	3 1/2" (90mm)
Case Material	Steel	Steel	Steel	Steel	Steel
Connection	Center Back	Center Back	Center Back	Center Back	Center Back
	1/8"	1/8"	1/4"	1/4"	1/4"
Movement, Socket, Tube	Brass	Brass	Brass	Brass	Brass
30" Hg. Vac./kPa	Q901397UC	Q901424UC	Q901428UC	Q901431UC	Q901455UC
30"-0-15 psi/kPa	-	-	-	-	-
30"-0-30 psi/kPa	-	-	-	-	-
30"-0-60 psi/kPa	-	-	-	-	-
30"-0-100 psi/kPa	-	-	-	-	-
0-15 psi/kPa	Q901399UC	Q901425UC	Q901429UC	Q901436UC	Q901464UC
0-30 psi/kPa	Q901400UC	Q901402UC	Q901403UC	Q901437UC	Q901456UC
0-60 psi/kPa	Q901401UC	Q901404UC	Q901405UC	Q901438UC	Q901457UC
0-100 psi/kPa	Q901420UC	Q901406UC	Q901407UC	Q901439UC	Q901458UC
0-160 psi/kPa	Q901421UC	Q901408UC	Q901409UC	Q901440UC	Q901459UC
0-200 psi/kPa	Q901422UC	Q901426UC	Q901410UC	Q901441UC	Q901460UC
0-300 psi/kPa	Q901423UC	Q901427UC	Q901411UC	Q901442UC	Q901461UC
0-400 psi/kPa	Q901443UC	Q901445UC	Q901447UC	Q901453UC	Q901462UC
0-600 psi/kPa	Q901444UC	Q901446UC	Q901448UC	Q901454UC	Q901463UC
Panel Cut-out	1.69" (43mm)	2.11" (53.5mm)	2.11" (53.5mm)	2.66" (67.5mm)	3.68" (93.5mm)
Overall O.D.	1.85" (47.7mm)	2.27" (57.9mm)	2.27" (57.9mm)	2.82" (71.9mm)	3.94" (98.9mm)

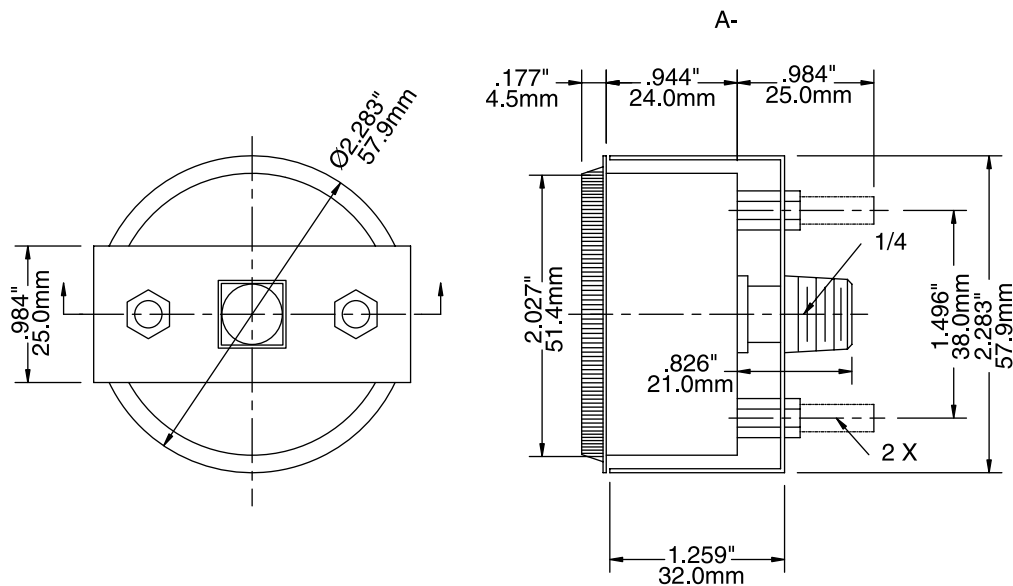
Option Suffix: • Other ranges, connections sizes available

90 Series Panel Mounted

1.5" Back Connection, u-clamp

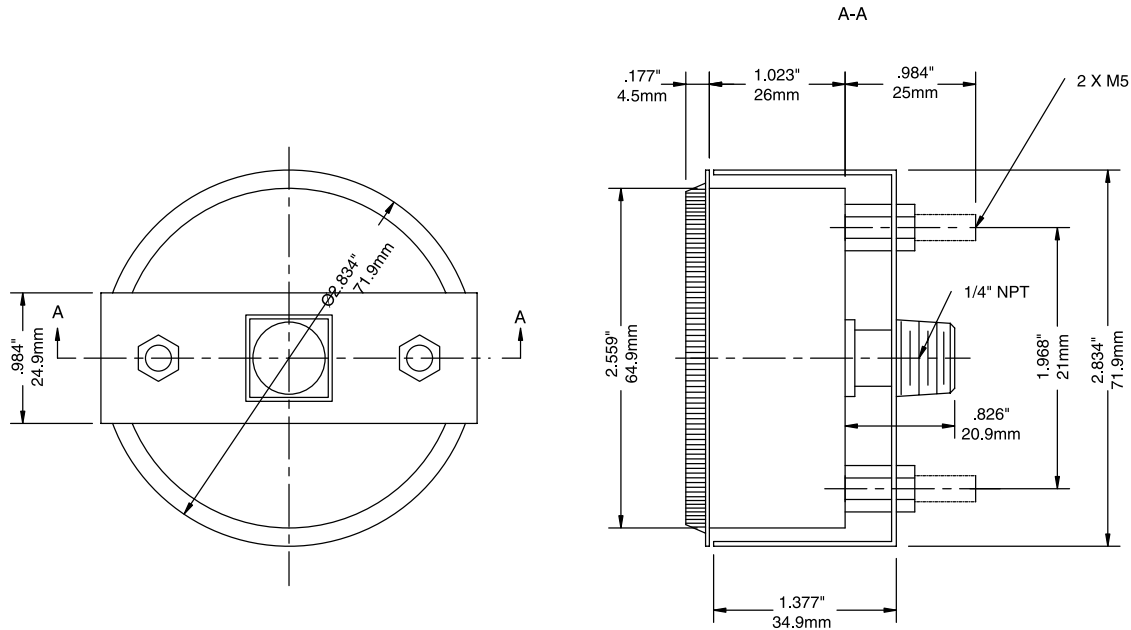


2" Back Connection, u-clamp

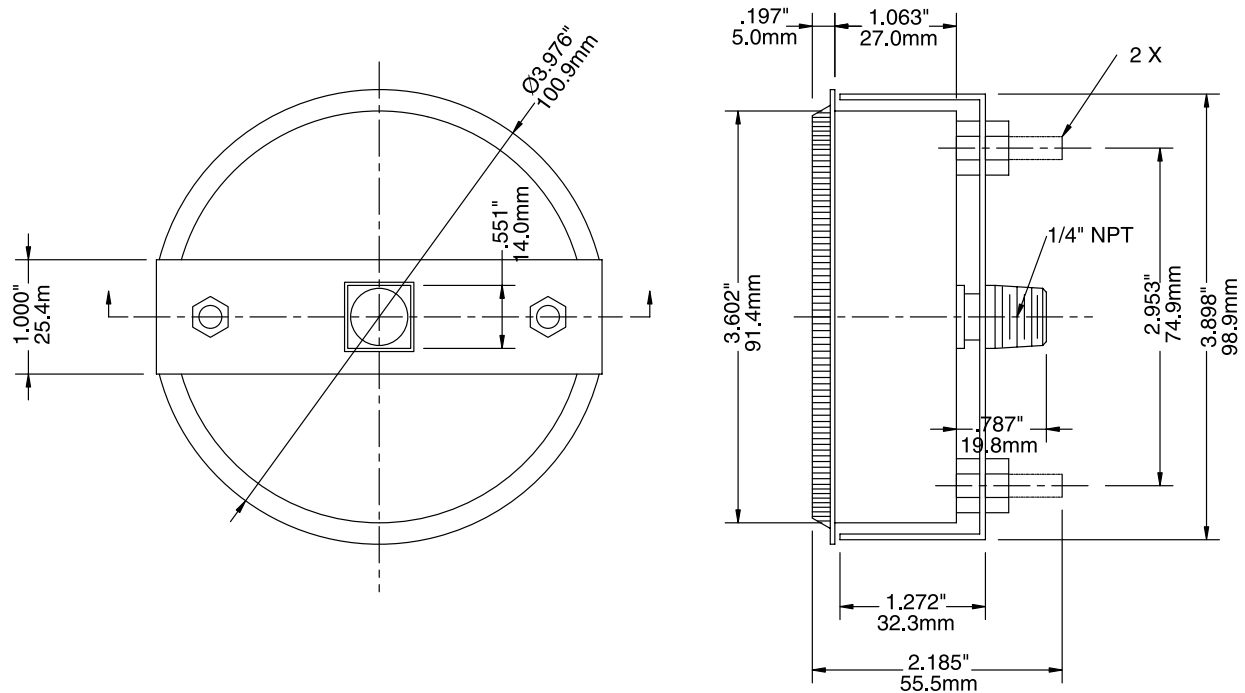


90 Series Panel Mounted

2.5" Back Connection, u-clamp



3.5" Back Connection, u-clamp



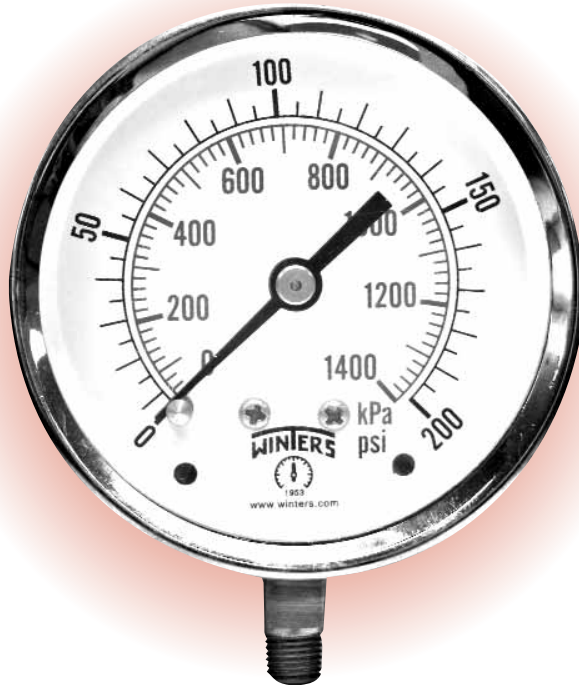
Quality

100 Series

Quality



Optional Back Flange



3.5" with Front Flange

Description & Features:

- High quality, commercial grade gauge at an economical price.
- Grade 1A accuracy (1%)
- Adjustable pointer
- Steel & Aluminum Cases
- Brass wetted parts
- **CRN Registered**

Applications:

- Plumbing & Heating that require a 1% accurate gauge.

Specifications

Dial:	3 1/2" (90mm), 4" (100mm), 4 1/2" (115mm) and 6" (150mm), white aluminum dial
Case:	Steel 3 1/2" & 4" back - black steel - 4" & 6" bottom - others aluminum black
Lens:	3 1/2", 4 1/2" bottom connection, 6" glass - all others polycarbonate
Ring:	3 1/2" (90mm), 4" (100mm) and 4 1/2" (115mm) bottom connection, polished brass " (150mm) bottom connection steel painted black
Pointer:	Aluminum black, adjustable
Socket:	Brass
Connection:	1/4" NPT standard
Bourdon Tube:	Phosphor Bronze
Welding:	Silver alloy
Over-pressure Limit:	25% of full scale value
Working Pressure:	Maximum 75% of full scale value
Ambient Temperature:	-40°F to 150°F (-40°C to 65°C)
Process Temperature:	-40°F to 150°F (-40°C to 65°C)
Accuracy:	±1% (ANSI/ASME Grade 1A)
Enclosure Rating:	IP 52



100 Series

Quality

PRODUCT CODES

How to order: Specify product code
Products shown in BOLD are normally in stock.

Dial Size	3 1/2" (90mm)		4" (100mm)	4 1/2" (115mm)		6" (150mm)	
Case Material	Steel		Steel	Aluminum		Steel	Aluminum
Connection	Bottom	Center Back	Center Back	Bottom	Lower Back	Bottom	Lower Back
30" Hg. Vacuum/kPa	Q234	Q560	Q460	Q410	Q430	Q250	Q475
30"-0-15 psi/kPa	Q230	Q568	Q468	Q411	Q431	Q251C	Q476
30"-0-30 psi/kPa	Q231	Q569	Q469	Q412	Q432	Q252C	Q477
30"-0-60 psi/kPa	Q232	Q570	Q470	Q413	Q433	Q259C	Q478
30"-0-100 psi/kPa	Q233	Q571	Q471	Q414	Q434	Q253C	Q479
30"-0-160 psi/kPa	Q229	Q572	Q472	Q416	Q436	Q254C	Q480
30"-0-200 psi/kPa	-	Q573	-	Q417	Q437	Q255C	Q481
30"-0-300 psi/kPa	Q227	Q574	Q473	Q418	Q438	Q256C	Q482
0-15 psi/kPa	Q228	Q561	Q461	Q419	Q439	-	-
0-30 psi/kPa	Q235	Q562	Q462	Q420	Q440	Q251	Q483
0-60 psi/kPa	Q236	Q563	Q463	Q421	Q441	Q252	Q484
0-100 psi/kPa	Q237	Q564	Q464	Q422	Q442	Q253	Q485
0-160 psi/kPa	Q238	Q565	Q465	Q423	Q443	Q254	Q486
0-200 psi/kPa	Q239	Q566	Q466	Q424	Q444	Q255	Q487
0-300 psi/kPa	Q240	Q567	Q467	Q426	Q446	Q256	Q488
0-600 psi/kPa	-	-	-	Q490	-	-	-
0-1000 psi/kPa	-	-	-	Q491	-	-	-
0-3000 psi/kPa	-	-	-	Q492	-	-	-
0-5000 psi/kPa	-	-	-	Q493	-	-	-

Option Suffix:

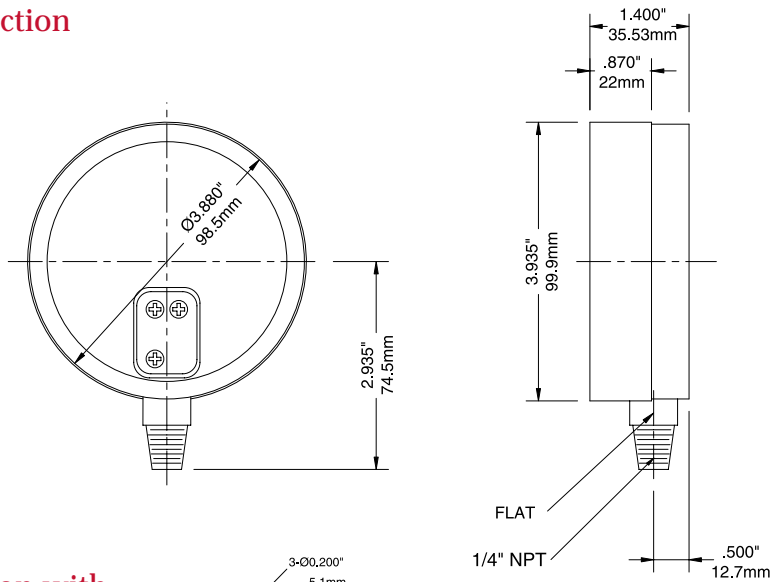
- 35QBF - 3.5" Back Flange
- 45QBF - 4.5" Back Flange
- 4QBF - 4" Back Flange
- 6QBF - 6" Back Flange
- Other connections available upon request.
- Other ranges available upon request.
- Siphon recommended for all steam applications



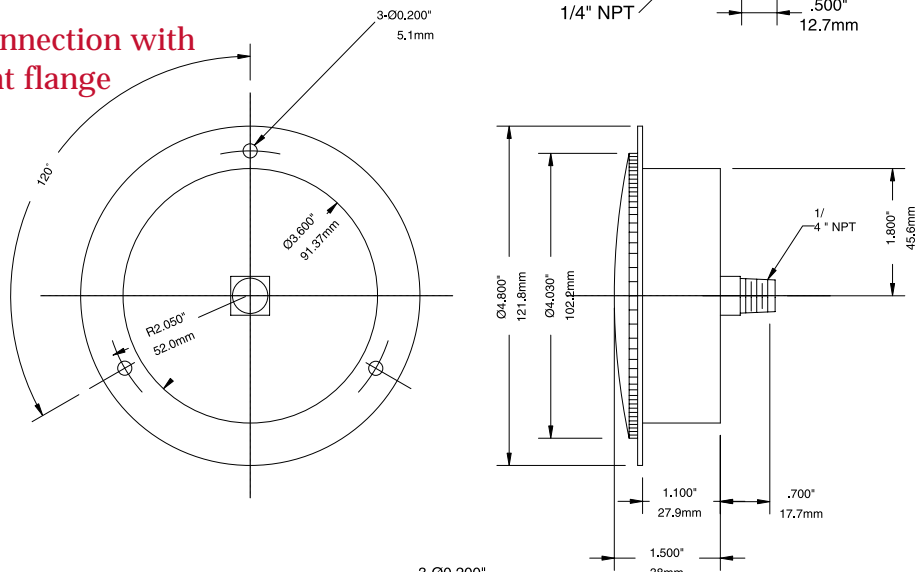
100 Series

Quality

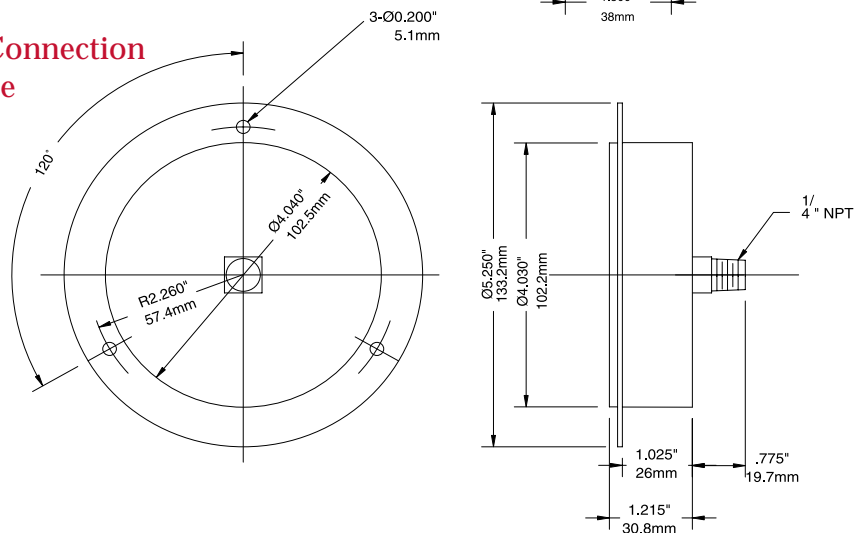
3 1/2" Bottom Connection



3 1/2" Back Connection with standard front flange



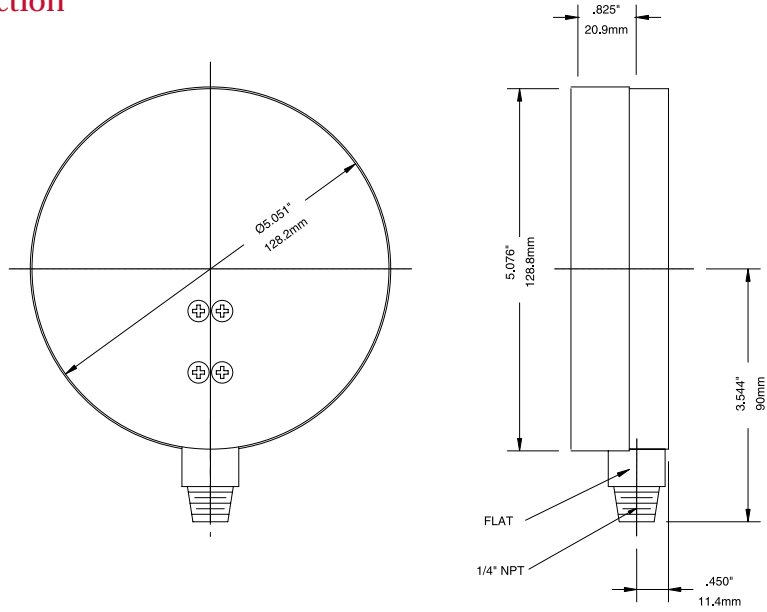
4" Center Back Connection with Front Flange



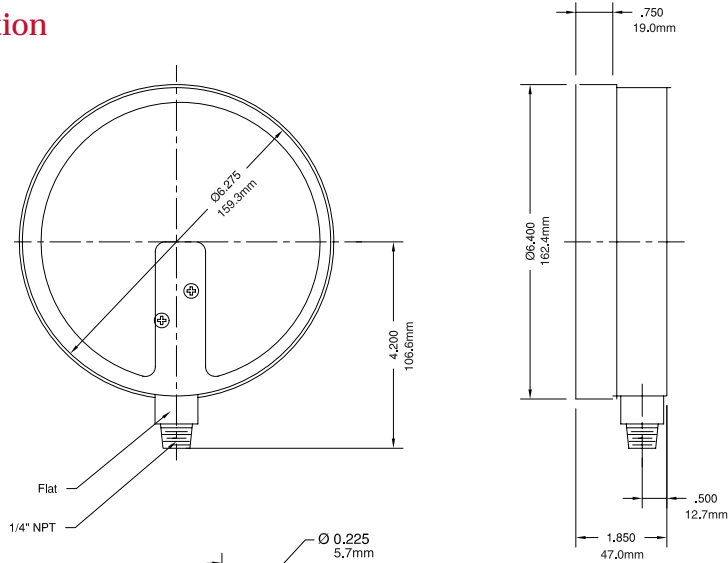
100 Series

Quality

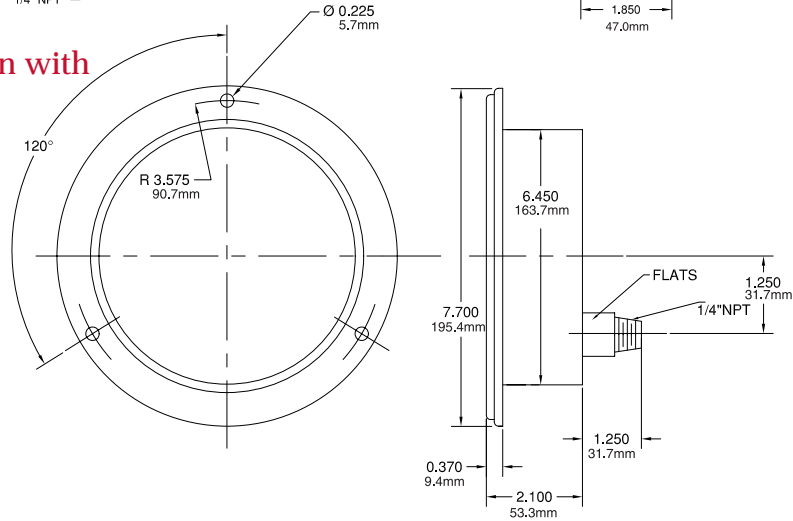
4 1/2" Bottom Connection



6" Bottom Connection

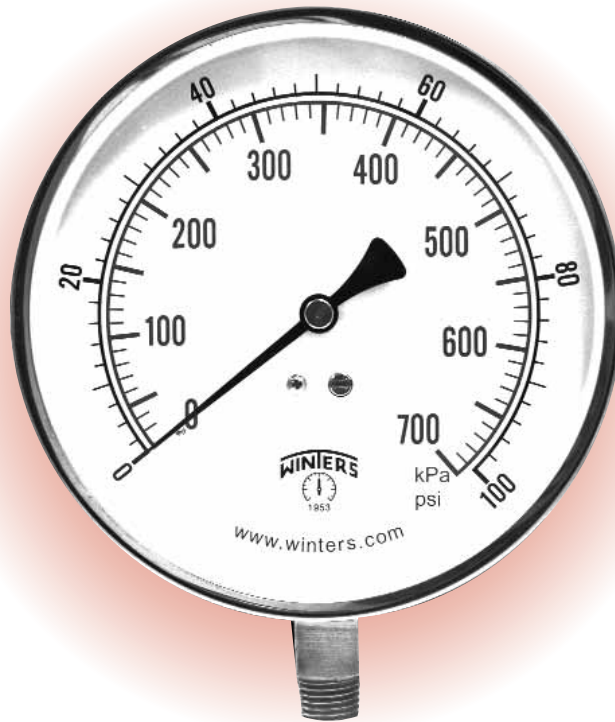


6" Back Connection with Front Flange



Contractor

Quality



Description & Features:

- Economical 4.5" Stainless Steel Case Gauge
- Grade 1A Accuracy (1%)
- Zero Adjustment Screw,
- 1/4" NPT
- **CRN Registered**

Applications:

- Most Commercial Air, Water & Steam services that require a 1% full-scale accuracy.

Specifications

Dial:	4 1/2" (115mm) white aluminum dial with black and red markings
Case:	304 stainless steel
Lens:	Acrylic Lens
Ring:	304 stainless steel
Pointer:	Aluminum, anodized black, recalibrator screw
Socket:	Brass
Connection:	1/4" NPT standard
Bourdon Tube:	Phosphor Bronze
Movement:	Brass
Welding:	Silver solder
Over-pressure Limit:	25% for pressures up to 1,400 psi (9,653 kPa) 15% for pressures over 1,400 psi (9,653 kPa)
Working Pressure:	Maximum 75% of full scale value
Ambient Temperature:	-40°F/+150°F (-40°C/+65°C)
Process Temperature:	-40°F/+150°F (-40°C/+65°C)
Accuracy:	± 1% (ANSI/ASME Grade 1A)
Enclosure Rating:	IP52



Contractor

Quality

PRODUCT CODES

CONTRACTOR GAUGE	
Connection	Bottom
	1/4"
30" Vacuum/kPa	Q320
30"-0-30 psi/kPa	Q329
30"-0-60 psi/kPa	Q330
30"-0-100 psi/kPa	Q328
30"-0-160 psi/kPa	Q332
30"-0-200 psi/kPa	Q333
30"-0-300 psi/kPa	Q334

How to order: Specify product code

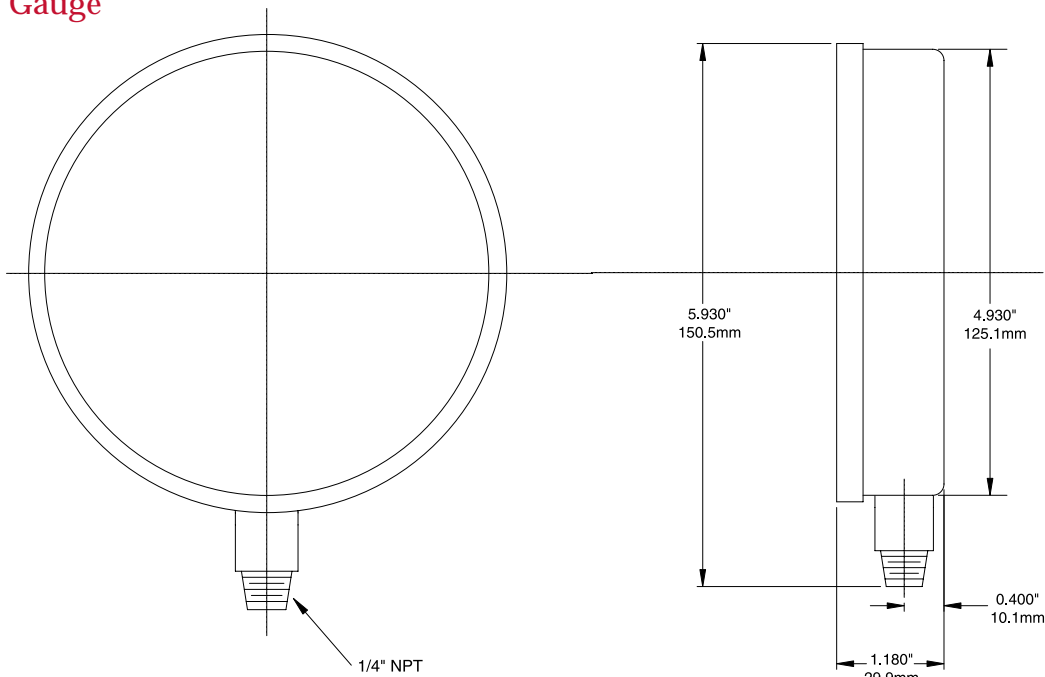
Products shown in **BOLD** are normally in stock.

CONTRACTOR GAUGE		
0-15	psi/kPa	Q319
0-30	psi/kPa	Q321
0-60	psi/kPa	Q322
0-100	psi/kPa	Q323
0-160	psi/kPa	Q324
0-200	psi/kPa	Q325
0-300	psi/kPa	Q326
0-400	psi/kPa	Q327
0-600	psi/kPa	Q331
0-1000	psi/kPa	Q293
0-3000	psi/kPa	Q294
0-5000	psi/kPa	Q295

Option Suffix:

- 45QBF = 4.5" Back Flange
- 45GL = 4.5" glass lens

Contractor Gauge



Freon

Dry



Liquid Filled



Description & Features:

- 2.5" - 6" durable Freon gauges
- 2.5" dial have a Blue & Red colored case for easy identification
- Dual Scale (PSI/F)
- "Flutterless" movement on the 2.5"
- Chlorofluorocarbon (CFC) temperature scales (R-12, R-22 & R-502),
- Brass internals
- 1/4" NPT standard.
- **CRN Registered**

Applications:

- Refrigeration equipment and refrigeration recovery equipment.

Specifications

Dial:	2 1/2" (63mm), 4" (100mm) and 6" (150mm), white aluminum, (2 1/2" liquid filled, multi-colored dial)
Case:	2 1/2" (63mm): plastic, color coded, blue for low pressure and red for high pressure, 4" (100mm) and 6" (150mm): steel painted black
Lens:	2 1/2" (63mm): plexiglass, threaded; liquid filled: polycarbonate lens; 4" (100mm) and 6" (150mm): glass, 2 1/2" (63mm) lf = Nylon/glass filled
Ring:	2 1/2" (63mm) liquid filled stainless steel, crimped; 4" (100mm): brass, polished 6" (150mm): steel, painted black
Pointer:	Aluminum, anodized black; 2 1/2" (63mm) liquid filled aluminum, anodized red.
Connection:	1/8" NPT or 1/4" NPT standard
Restrictor Screw:	Standard
Recalibrator Screw:	Standard (2 1/2" liquid filled external recalibrator)
Bourdon Tube:	2 1/2" (63mm): Phosphor bronze, vibration free (flutterless movement-dry only); 4" (100mm) and 6" (150mm): Phosphor bronze
Welding:	Solder, #50 Sn.
Over-pressure Limit:	25% of full scale value
Working Pressure:	Maximum 75% of full scale value
Ambient/Process Temp.:	2 1/2" (63mm), 4" (100mm), 6" (150mm) -40°F-158°F (-40°C to 70°C) 2 1/2" (63mm) liquid filled - glycerine -13°F -140°F (-25°C to 60°C)
Accuracy:	2 1/2" (63mm): ± 2% accuracy (ANSI/ASME Grade B) 4" (100mm) and 6" (150mm): ± 1% accuracy (ANSI/ASME Grade 1A)
Enclosure:	IP52 Dry, IP65 Liquid Filled
Scale:	PSI/F (R-12/R-22/R-502)

PRODUCT CODES

How to order: Specify product code
Products shown in BOLD are normally in stock.

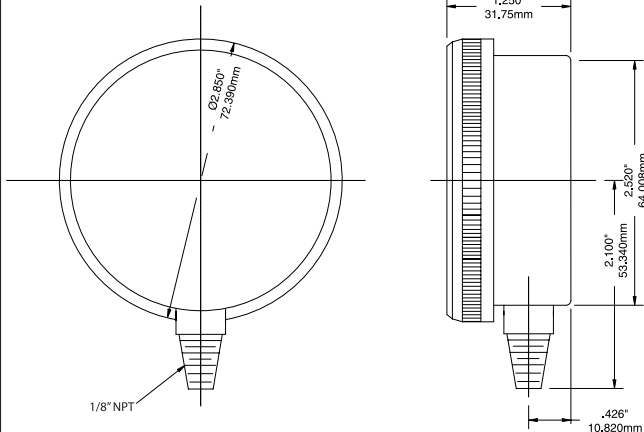
Dial Size	2 1/2" (63mm)	2 1/2" (63mm)	2 1/2" (63mm)	4" (100mm)	4" (100mm)	6" (150mm)	6" (150mm)
Case	Plastic	Plastic	Plastic LF**	Steel	Steel	Steel	Steel
Connection	1/8" NPT Bottom	1/8" NPT Back	1/8" NPT Bottom	1/4" NPT Bottom	1/4" NPT Back	1/4" NPT Bottom	1/4" NPT Back
30"-0-120 psi (retard 250)	Q1730	-	Q1760	Q1734	-	Q1738	-
30"-0-300 psi	Q1731	-	Q1761	Q1735	-	Q1739	-
0-500 psi	Q1732	-	Q1762	Q1736	-	Q1740	-

** LF: Liquid Filled

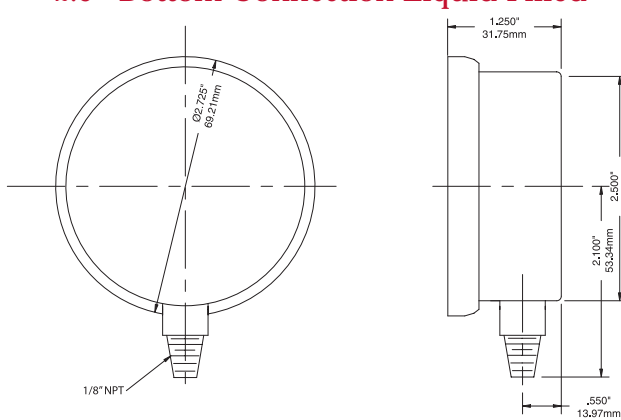
Option Suffix:

- Other ranges available upon request.
- Other connection sizes available upon request.
- Blister packaging available

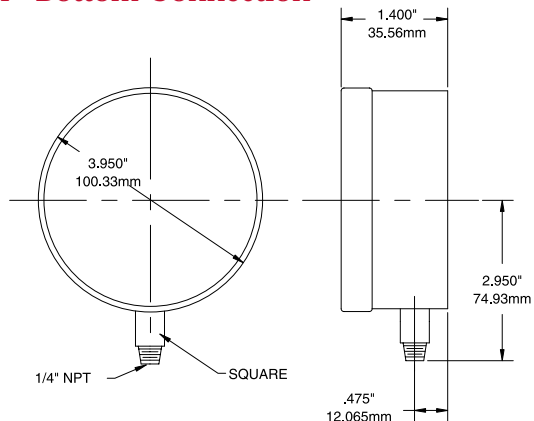
2.5" Bottom Connection



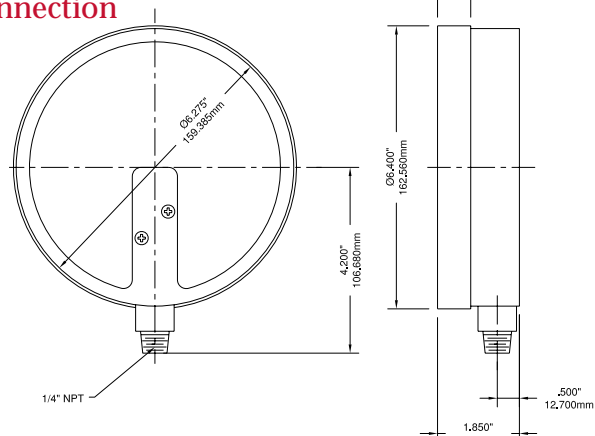
2.5" Bottom Connection Liquid Filled



4" Bottom Connection

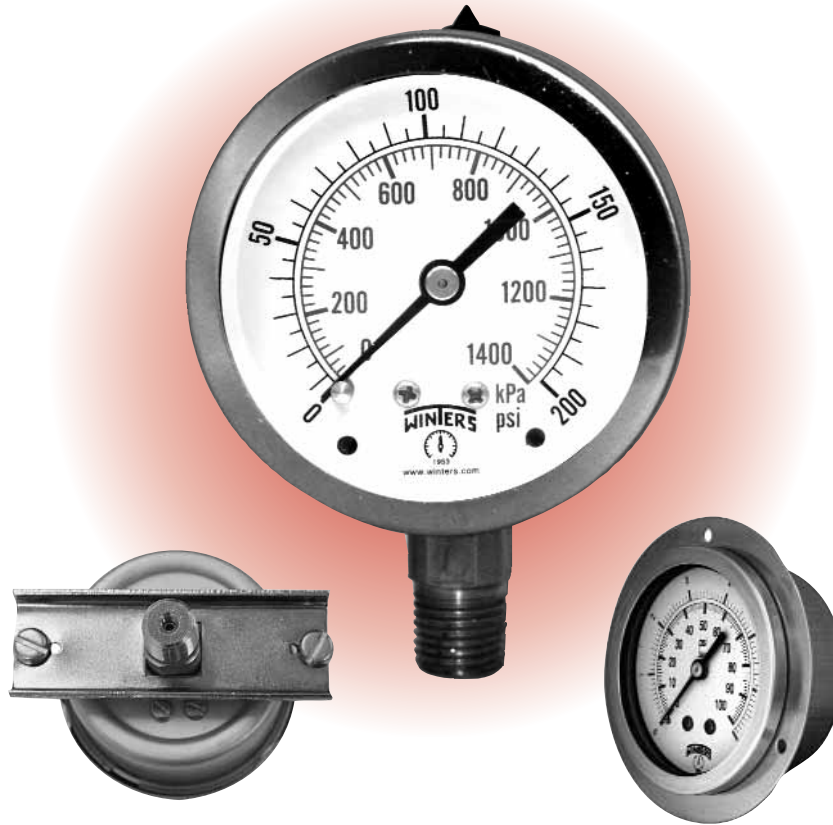


6" Bottom Connection



Stainless Steel Liquid Filled Quality

Quality



Optional U-Clamp

Optional Front Flange

Description & Features:

- Pulsation resistant, liquid filled stainless steel case
- 1.5" to 4" dials
- Glycerin filled
- Brass & Stainless Steel internals
- Restricted orifice
- Crimp-on bezel
- Dual scale (PSI/KPA)
- U-Clamps and Front flanges for panel mounting
- **CRN Registered**

Applications:

- Ideal for Pumps, compressors, hydraulic presses, machinery, pneumatic equipment and motors in a harsh environment.



Stainless Steel Liquid Filled Quality

Quality

Specifications	
Dial:	1.5" (40mm), 2.5" (63mm), 4" (100mm), aluminum, white with black and red markings
Case:	AISI 304 stainless steel
Lens:	Polycarbonate
Ring:	AISI 304 stainless steel, Crimp-On
Pointer:	Aluminum, anodized black
Socket:	OT 58 brass or AISI 316 stainless steel
Connection:	1/8", 1/4" NPT or 1/2" NPT standard with restricted orifice
Bourdon Tube:	1.5" (40mm) - Brass C-shaped for pressures up to and including 600 psi (4,147 kPa) Steel C-shaped for pressures over 600 psi (4,136 kPa) 2.5" (63mm) and 4" (100mm) Phosphor bronze C-shaped for pressures up to and including 600 psi (4,147 kPa) unless stainless steel internals are specified. AISI 316 st/st C-shaped for 1000 psi (6,895 kPa) AISI 316 st/st spiral for pressures above 1000 psi (6,895 kPa)
Movement:	OT 59 brass or stainless steel
Gasket Materials:	Silicone rubber for socket; EPDM for lens, filling plug and blow-out vent.
Fill Liquid:	Glycerin (98.5% food grade)
Enclosure Rating:	1 1/2" (40mm) - IP50 per UEC 529, UNI 8896 (brass), 2 1/2" (63mm) and 4" (100mm) - IP65 per UEC 529, UNI 8896
Welding:	Brass for pressures below 600 psi (4,147 kPa), 316 Stainless steel TIG Argonarc for pressures 600 psi (4,147 kPa) and above
Over-pressure Limit:	25% for pressures up to 1,400 psi (9,653 kPa), 15% for pressures over 1,400 psi (9,653 kPa)
Working Pressure:	Maximum 75% of full scale value
Ambient Temperature:	-14°F/150°F (-25°C to 165°C) glycerine filled
Process Temperature:	-14°F/150°F (-25°C to 165°C) glycerine filled
Accuracy:	1 1/2" (40mm): ± 2.5% accuracy (ANSI/ASME Grade B) 2 1/2" (63mm) and 4" (100mm): ± 1.5% (ANSI/ASME Grade B)
Enclosure Rating:	IP65

Note: 1 1/2" (40mm) gauges are available dry (non-liquid filled) only on a special order basis.



Stainless Steel Liquid Filled Quality

PRODUCT CODES

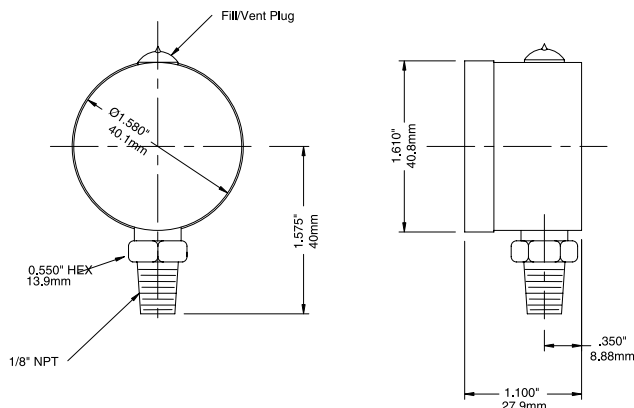
How to order: Specify product code
Products shown in BOLD are normally in stock.

Product Codes																
Dial Size	1 1/2" (40mm)				2 1/2" (63mm)				4" (100mm)				4" (100mm)			
Connection	Bottom 1/8"	Back(CB) 1/8"	Bottom 1/8"	Back(CB) 1/8"	Bottom 1/4"	Back(CB) 1/4"	Bottom 1/4"	Back(CB) 1/4"	Bottom 1/4"	Bottom 1/2"	Back(CB) 1/4"	Back(CB) 1/2"	Bottom 1/4"	Bottom 1/2"	Back(CB) 1/4"	Back(CB) 1/2"
Tube, Socket & Movement	Brass	Brass	Stainless Steel	Stainless Steel	Brass	Brass	Stainless Steel	Stainless Steel	Brass	Brass	Brass	Brass	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
30" Hg Vacuum/kPa	-	-	Q1200	Q1220	Q801	Q900	Q820	Q840	Q700	Q1234	Q730	Q1285	Q760	Q1535	Q1260	Q1559
30"-0-15 psi/kPa	-	-	-	-	Q790	Q890	Q860	Q870	Q701	Q1235	Q731	Q1286	Q761	Q1536	Q1261	Q1560
30"-0-30 psi/kPa	-	-	-	-	Q798	Q898	Q861	Q871	Q702	Q1236	Q732	Q1287	Q762	Q1537	Q1262	Q1561
30"-0-60 psi/kPa	-	-	-	-	Q799	Q899	Q862	Q872	Q703	Q1237	Q733	Q1288	Q763	Q1538	Q1263	Q1562
30"-0-100 psi/kPa	-	-	-	-	Q791	Q891	Q863	Q873	Q704	Q1238	Q734	Q1289	Q764	Q1539	Q1264	Q1563
30"-0-150 psi/kPa	-	-	-	-	Q792	Q892	Q864	Q874	Q705	Q1239	Q735	Q1290	Q765	Q1540	Q1265	Q1564
30"-0-200 psi/kPa	-	-	-	-	Q794	Q894	Q866	Q876	Q706	Q1240	Q736	Q1291	Q766	Q1541	Q1266	Q1565
30"-0-300 psi/kPa	-	-	-	-	Q795	Q895	Q867	Q877	Q707	Q1241	Q737	Q1292	Q767	Q1542	Q1267	Q1566
0-15 psi/kPa	-	-	Q1201	Q1221	Q800	Q901	Q821	Q921	Q708	Q1242	Q738	Q1293	Q768	Q1543	Q1268	Q1567
0-30 psi/kPa	Q1102	Q1122	Q1202	Q1222	Q802	Q902	Q822	Q922	Q709	Q1243	Q739	Q1294	Q769	Q1544	Q1269	Q1568
0-60 psi/kPa	Q1103	Q1123	Q1203	Q1223	Q803	Q903	Q823	Q923	Q710	Q1244	Q740	Q1295	Q770	Q1545	Q1270	Q1569
0-100 psi/kPa	Q1104	Q1124	Q1204	Q1224	Q804	Q904	Q824	Q924	Q711	Q1245	Q741	Q1296	Q771	Q1546	Q1271	Q1570
0-160 psi/kPa	Q1105	Q1125	Q1205	Q1225	Q805	Q905	Q825	Q925	Q712	Q1246	Q742	Q1298	Q772	Q1547	Q1272	Q1571
0-200 psi/kPa	Q1106	Q1126	Q1206	Q1226	Q806	Q906	Q826	Q926	Q713	Q1247	Q743	Q1524	Q773	Q1548	Q1273	Q1572
0-300 psi/kPa	Q1107	Q1127	Q1207	Q1227	Q807	Q907	Q827	Q927	Q714	Q1248	Q744	Q1525	Q774	Q1549	Q1274	Q1573
0-400 psi/kPa	-	-	-	-	Q817	Q917	Q880	Q881	Q715	Q1249	Q745	Q1526	Q775	Q1550	Q1275	Q1574
0-600 psi/kPa	Q1108	Q1128	Q1208	Q1228	Q808	Q908	Q828	Q928	Q716	Q1250	Q746	Q1527	Q776	Q1551	Q1276	Q1575
0-1000 psi/kPa	Q1109	Q1129	Q1209	Q1229	Q809	Q909	Q829	Q929	Q724	Q717	Q1251	Q747	Q1528	Q777	Q1552	Q1277
0-1500 psi/kPa	Q1110	Q1130	Q1210	Q1230	Q816	Q914	Q834	Q934	Q725	Q718	Q1252	Q748	Q1529	Q778	Q1553	Q1278
0-2000 psi/kPa	Q1111	Q1131	Q1211	Q1231	Q810	Q910	Q830	Q930	Q726	Q719	Q1253	Q749	Q1530	Q779	Q1554	Q1279
0-3000 psi/kPa	Q1112	Q1132	Q1212	Q1232	Q811	Q911	Q831	Q931	Q727	Q720	Q1254	Q750	Q1531	Q780	Q1555	Q1280
0-5000 psi/kPa	Q1113	Q1133	Q1213	Q1233	Q812	Q912	Q832	Q852	Q728	Q721	Q1255	Q751	Q1532	Q781	Q1556	Q1281
0-6000psi/kPa	-	-	-	-	Q814	Q915	Q836	Q851	-	Q784	-	Q785	-	Q789	-	Q1284
0-7500psi/kPa	-	-	-	-	Q818	Q918	Q838	Q938	-	-	-	-	-	-	-	-
0-10000 psi/kPa	-	-	-	-	Q813	Q913	Q833	Q853	Q729	Q722	Q1256	Q752	Q1533	Q782	Q1557	Q1282
0-15000 psi/kPa	-	-	-	-	-	-	Q835	Q855	-	Q723	Q1257	Q753	Q1534	Q783	Q1558	Q1283
0-20000 psi/kPa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

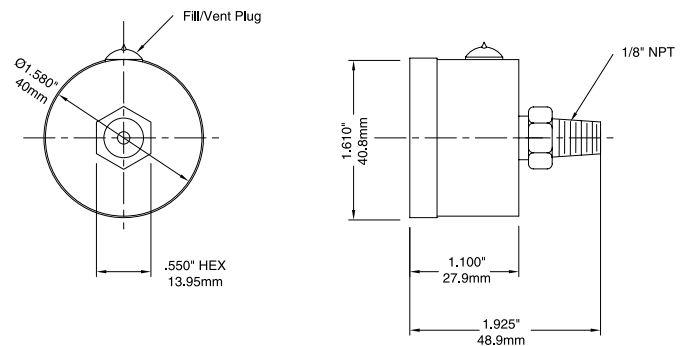
Option Suffix:

- 25UC = 2.5" (63mm) U-Clamp
- Dry = supply above gauge less liquid fill
- 25BF = 2.5" (63mm) Back Flange
- 15UC = 1.5" U-clamp
- 4UC-Q = 4" (100mm) U-Clamp
- 25FF = 2.5" (63mm) Front Flange
- 4FF = 4" (100mm) Front Flange
- CB = Center Back Connection
- 4UC-P = 4" U-Clamp
- 4BF = 4" (100mm) Back Flange
- Other ranges available upon request.
- Available upon request.

1 1/2" Bottom Connection



1 1/2" Back Connection



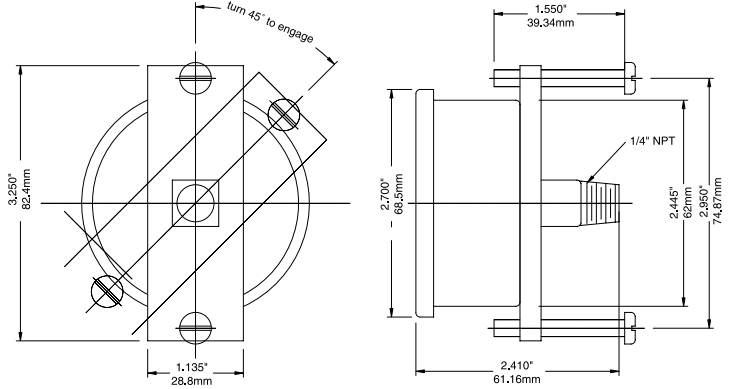
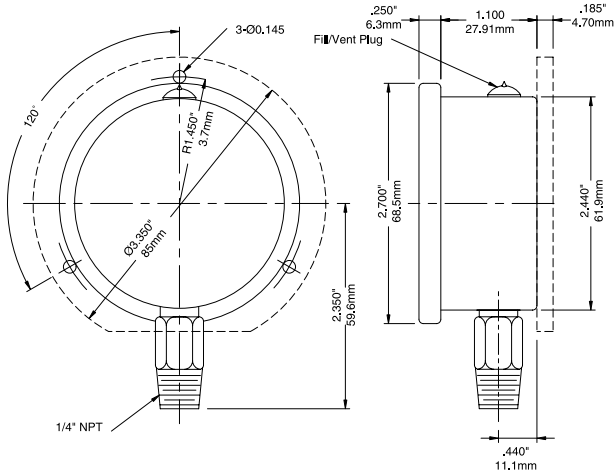
Quality

Stainless Steel Liquid Filled Quality

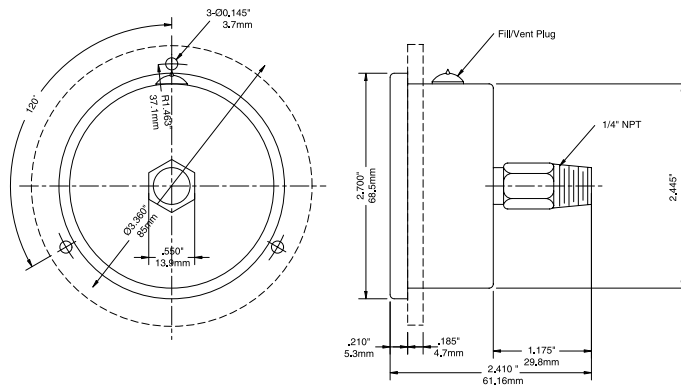
Quality

2 1/2" Bottom Connection with optional Back Flange

2 1/2" Back Connection, U-Clamp

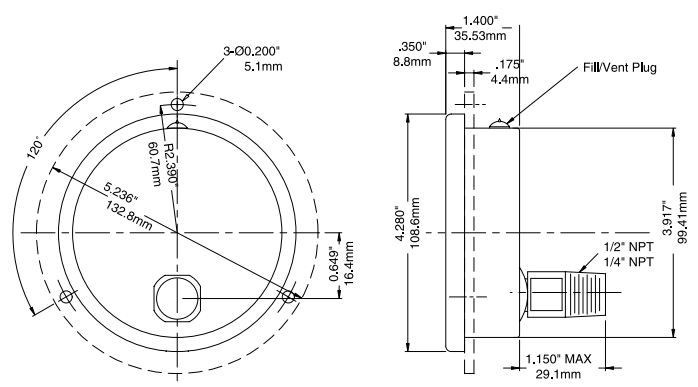
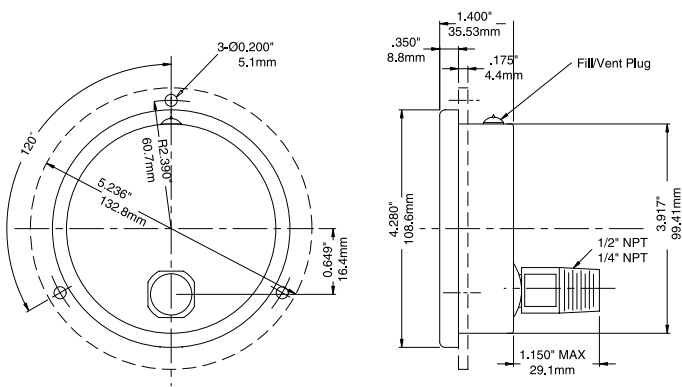


2 1/2" Back Connection with optional Front Flange

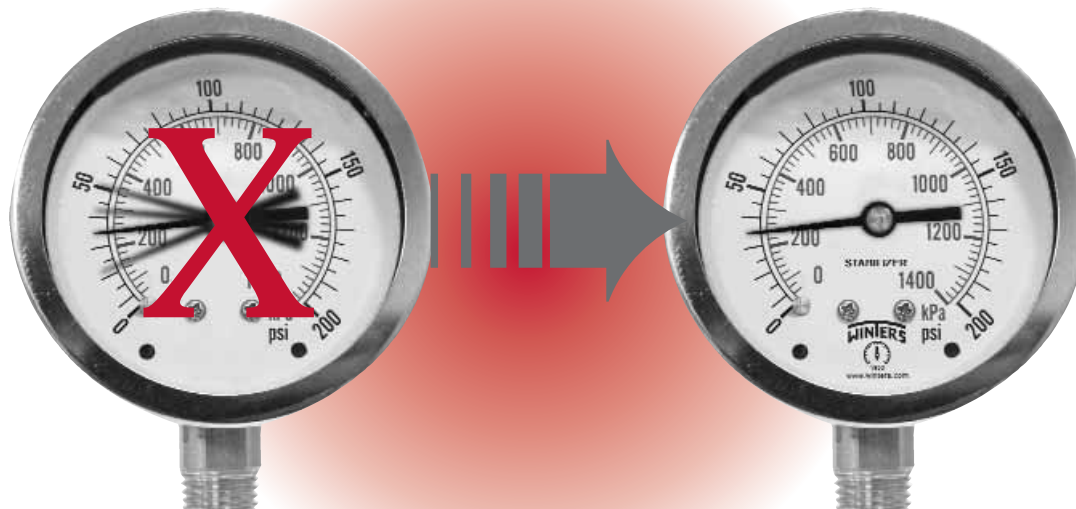


4" Bottom Connection with optional Back Flange

4" Back Connection with optional Front Flange



Stainless Steel Stabilizer Quality



Quality

Description & Features:

- "Stabilizer" movement provides a "Flutterless" pointer
- Stainless Steel Case (Dry)
- Stabilizer dampened movement minimizes effects of pulsation and vibration without liquid filling
- Restricted orifice
- Crimp-on bezel
- Dual scale (PSI/KPA)
- U-Clamps and Front flanges for panel mounting.

Applications:

- Ideal for Pumps, compressors, hydraulic presses, machinery and motors that are consistent with a harsh environment

Specifications

Dial:	2 1/2" aluminum with red and black markings
Case:	Grade 304 Stainless Steel (dry)
Lens:	Polycarbonate
Ring:	304 Stainless Steel (crimped-on)
Pointer:	Aluminum Anodized Black
Socket:	Brass
Connection:	1/4" NPT with restricted orifice
Bourdon Tube:	Bronze
Movement:	Bronze With STABILIZER
Gasket Material:	Neoprene
Enclosure Rating:	IP65
Over Pressure Limit:	115% Full Scale
Working Pressure:	75% of Full Scale
Ambient/Process Temperature:	-40°F to 150°F (-40°C to 65°C) Dry
Accuracy:	1.5% Full Scale



Stainless Steel Stabilizer Quality

PRODUCT CODES

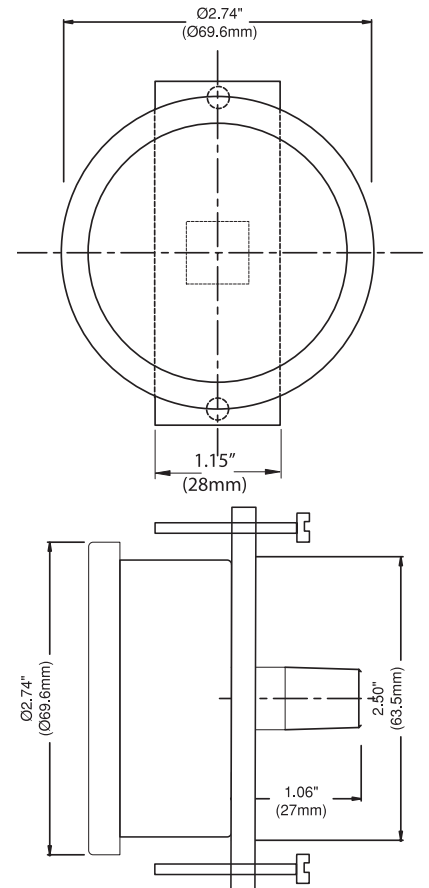
How to order: Specify product code

Product Codes					
Dial Size	2 1/2" (63mm)		Dial Size	2 1/2" (63mm)	
Connection	Bottom	Back (CB)	Connection	Bottom	Back (CB)
Tube, Socket & Movement	Brass	Brass	Tube, Socket & Movement	Brass	Brass
Connection	1/4" NPT	1/4" NPT	Connection Tube Stub	1/4" NPT	1/4" NPT
30" Hg Vacuum/kPa	Q801Z	Q900Z	0-300 psi/kPa	Q807Z	Q907Z
30"-0-15 psi/kPa	Q790Z	Q890Z	0-400 psi/kPa	Q817Z	Q917Z
30"-0-30 psi/kPa	Q798Z	Q898Z	0-600 psi/kPa	Q808Z	Q908Z
30"-0-60 psi/kPa	Q799Z	Q899Z	0-1000 psi/kPa	Q809Z	Q909Z
30"-0-100 psi/kPa	Q791Z	Q891Z	0-1500 psi/kPa	Q816Z	Q914Z
30"-0-150 psi/kPa	Q792Z	Q892Z	0-2000 psi/kPa	Q810Z	Q910Z
30"-0-200 psi/kPa	Q794Z	Q894Z	0-3000 psi/kPa	Q811Z	Q911Z
30"-0-300 psi/kPa	Q795Z	Q895Z	0-5000 psi/kPa	Q812Z	Q912Z
0-15 psi/kPa	Q800Z	Q901Z	0-6000psi/kPa	Q814Z	Q915Z
0-30 psi/kPa	Q802Z	Q902Z	0-7500psi/kPa	Q818Z	Q918Z
0-60 psi/kPa	Q803Z	Q903Z	0-10000 psi/kPa	Q813Z	Q913Z
0-100 psi/kPa	Q804Z	Q904Z	0-15000 psi/kPa	-	-
0-160 psi/kPa	Q805Z	Q905Z	0-20000 psi/kPa	-	-
0-200 psi/kPa	Q806Z	Q906Z			

Option Suffix:

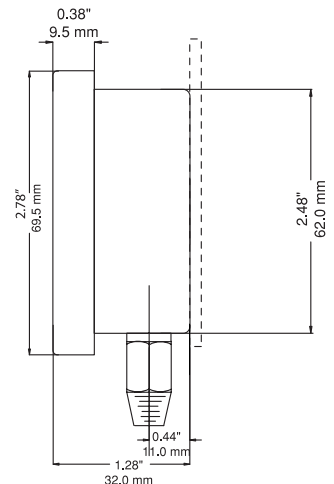
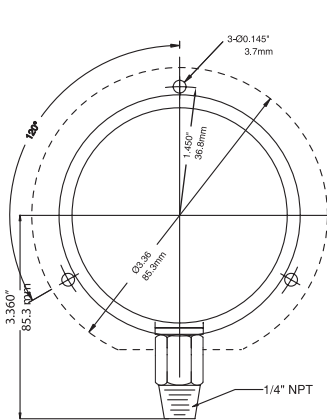
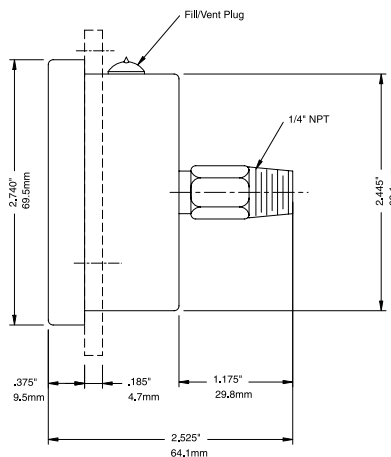
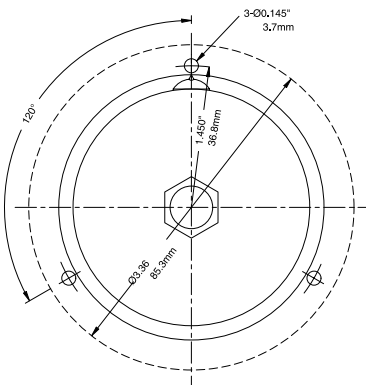
- 25BF = 2 1/2" (63mm) back flange
- 25UC = U-Clamp for panel mounting
- 25BOOT = Protective black rubber boot
- 25FF = Flange for panel mounting

Stabilizer 2.5" (63mm), Back Connection, U-Clamp



Stabilizer 2.5" (63mm), Back Connection, Front Flange

Stabilizer 2.5" (63mm), Back Flange Bottom



Mining Gauge



Description & Features:

- Rugged, 2" Forged Brass case and connection.
- Forged brass case and socket
- Glycerin filled
- 3/8" Steck-O-Connection
- 3 colored zone dial for easier pressure reading
- 0-9,000 psi

Applications:

- Hydraulic shoring and irrigation equipment commonly used in long wall mining.

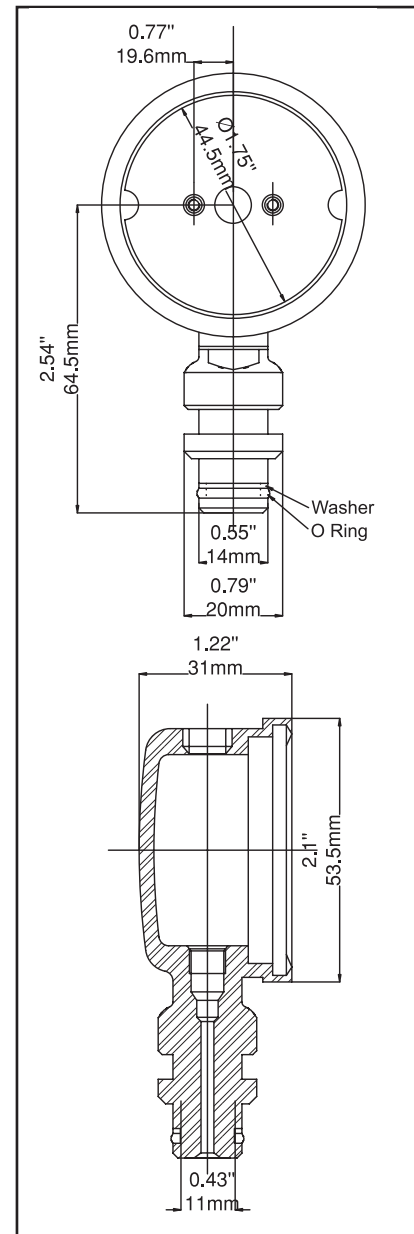
Specifications

Dial:	2" (50mm) white aluminum, black lettering, triple color scale: red, green, yellow
Case:	One-piece forged brass case
Liquid Fill:	Glycerin
Lens:	Polycarbonate
Pointer:	Aluminum, anodized black
Connection:	3/8" Steck-o-connection, quick connect with Buna Sealing O-ring and Viton Washer (bottom connection)
Wetted parts:	Brass
Over-pressure Limit:	25% of full scale value
Working Pressure:	Maximum 70% of full scale value
Ambient/Process Temperature:	-40°F to 150°F (-40°C to 65°C)
Accuracy:	± 3-2-3 of full scale
Enclosure Rating:	IP65

Products shown in **BOLD** are normally in stock.

Product code

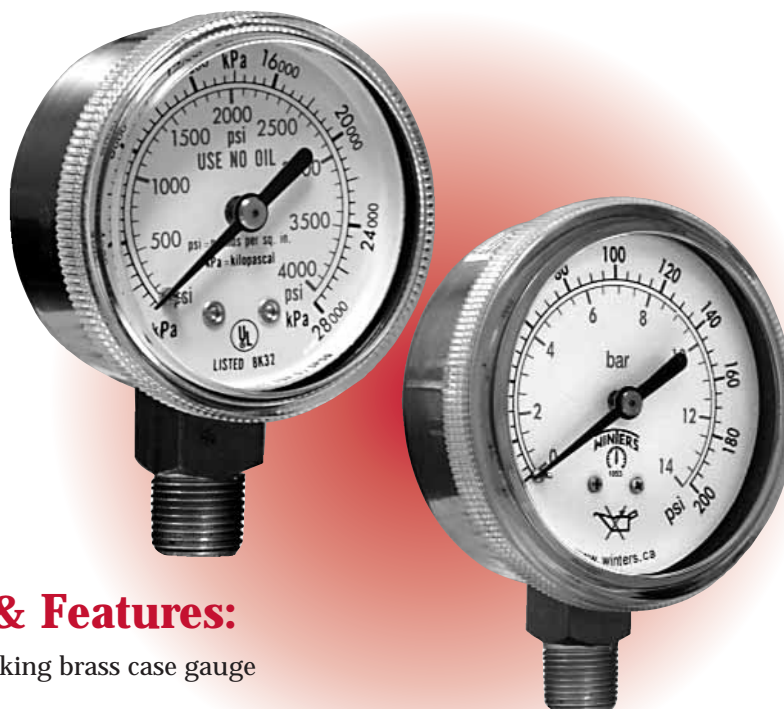
Part No	Pressure range
Q306	0-9000 Psi/Bar



Welding



0-4000 psi/kPa



Description & Features:

- Economical, non-sparking brass case gauge
- 2" & 2.5" Brass Case
- UL Listing on the 4,000 psi range
- "USE NO OIL" on the dial
- Brass socket
- Threaded-on plastic lens

- **CRN Registered**

Applications:

- Typically used on Welding tanks regulators or manifolds, beverage dispensing regulators and other pressurized tanks. The low pressures are used on the down stream side of a regulator and the high pressures are UL Listed for measuring Cylinder gases.

How to order: Specify product code
Products shown in **BOLD** are normally in stock.

PRODUCT CODES

Dial Size		2" (50mm)	2 1/2" (63mm)
0-30	psi/bar	Q2720	Q2820
0-100	psi/bar	Q2722	Q2822
0-200	psi/bar	Q2724	Q2824
0-400	psi/bar	Q2726	Q2826
0-4000	psi/kPa*	Q2732	Q2832

Specifications

Dial:	2 1/2" (63mm) white aluminum with black and red markings
Case:	Brass, polished
Lens:	Plexiglass
Ring:	Brass, polished
Pointer:	Aluminum, painted black
Socket:	Brass
Connection:	1/4" NPT standard, bottom
Bourdon Tube:	Phosphor bronze
Movement:	Brass
Welding:	Silver alloy
Over-pressure Limit:	25% of full scale value
Working Pressure:	Maximum 75% of full scale value
Ambient Temperature:	-40°F to 150°F (-40°C to 65°C)
Process Temperature:	-40°F to 150°F (-40°C to 65°C)
Accuracy:	± 3%-2%-3% accuracy (ANSI/ASME Grade B)
Enclosure Rating:	IP52

** Also see our "Compressed Gas Gauge" on pg.102-103 for more choices.



* U.L. Listed . Other ranges available upon request.

Regulator Gauge



Description & Features:

- Small diameter, all Stainless Steel Gauge with an economical price
- 1.5" & 2" dials
- Full view snap-in lens
- Back and bottom connection

Applications:

- Regulators, valve positioners and actuators that require a reliable and corrosion resistant pressure gauge.

How to order: Specify product code

Products shown in **BOLD** are normally in stock.

Specifications	
Dial:	1½" (40mm) & 2" (50mm) white aluminum with black and red markings.
Case:	304 Stainless Steel
Lens:	Acrylic, push-in type
Pointer:	Aluminum, painted black
Socket:	316 Stainless Steel
Connection:	1/8" NPT or 1/4" NPT standard
Bourdon Tube:	316 Stainless Steel
Movement:	304 Stainless Steel
Welding:	Silver alloy
Over-pressure Limit:	25% of full scale value
Working Pressure:	Maximum 75% of full scale value
Ambient/Process Temperature:	-40°F to 150°F (-40°C to 65°C)
Accuracy:	± 2.5% ANSI/ASME Grade B
Enclosure Rating:	IP52

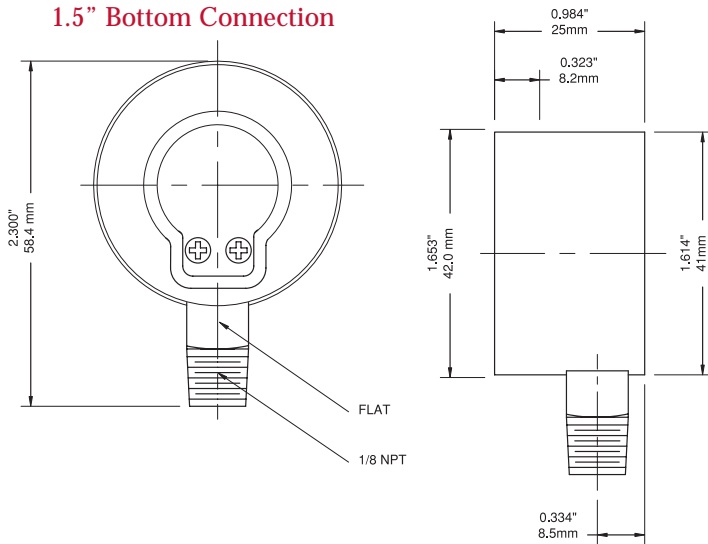
Product Codes						
Dial Size	1½" (40mm)	1½" (40mm)	2" (50mm)	2" (50mm)	2" (50mm)	2" (50mm)
Case Material	St/St	St/St	St/St	St/St	St/St	St/St
Connection	Bottom	Center Back	Center Back	Center Back	Bottom	Bottom
NPT Connection Size	1/8"	1/8"	1/8"	1/4"	1/8"	1/4"
Movement, Socket, Tube	St/St	St/St	St/St	St/St	St/St	St/St
30" Hg. Vac./kPa	-	-	-	-	-	-
30"-0-15 psi/kPa	-	-	-	Q026	-	Q017
30"-0-30 psi/kPa	-	-	-	-	-	-
30"-0-60 psi/kPa	-	-	-	Q027	-	Q018
30"-0-100 psi/kPa	-	-	-	Q028	-	Q019
30"-0-160 psi/kPa	-	-	-	Q029	-	Q020
0-15 psi/kPa	-	-	-	-	-	-
0-30 psi/kPa	Q001	Q005	Q013	Q030	Q009	Q021
0-60 psi/kPa	Q002	Q006	Q014	Q031	Q010	Q022
0-100 psi/kPa	Q003	Q007	Q015	Q032	Q011	Q023
0-160 psi/kPa	Q004	Q008	Q016	Q033	Q012	Q024
0-200 psi/kPa	-	-	-	-	-	-
0-300 psi/kPa	-	-	-	-	-	-
0-400 psi/kPa	-	-	-	-	-	-
0-600 psi/kPa	-	-	-	Q034	-	-
0-1000 psi/kPa	-	-	-	-	-	-
0-2000 psi/kPa	-	-	-	-	-	-
0-3000 psi/kPa	-	-	-	Q035	-	Q025

Options: Other connection threads and pressure scales available.

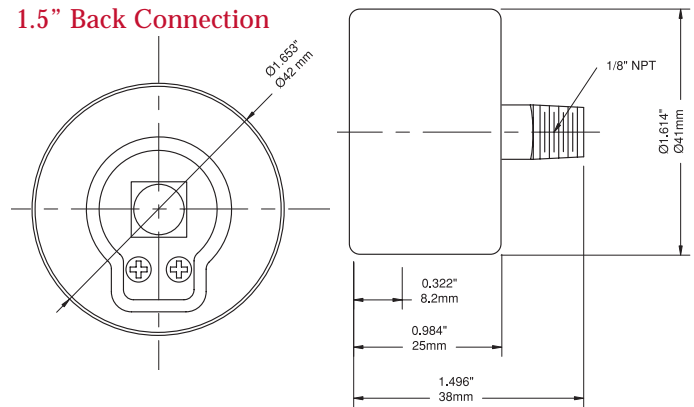


Regulator Gauge

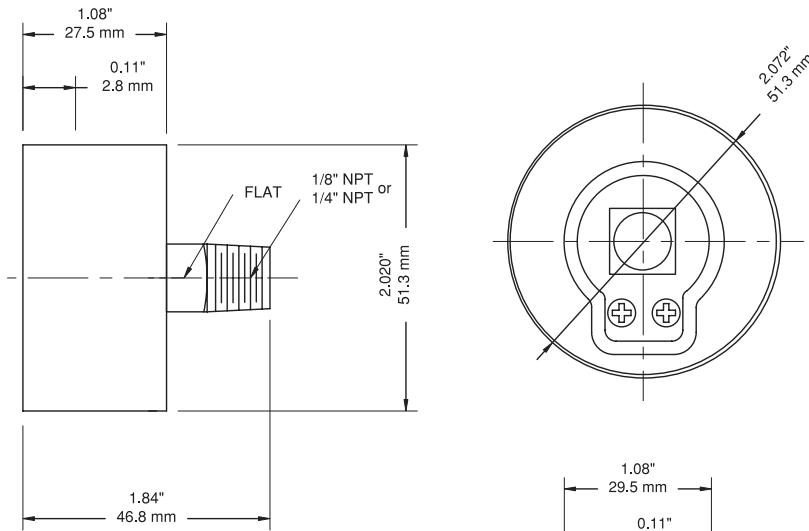
1.5" Bottom Connection



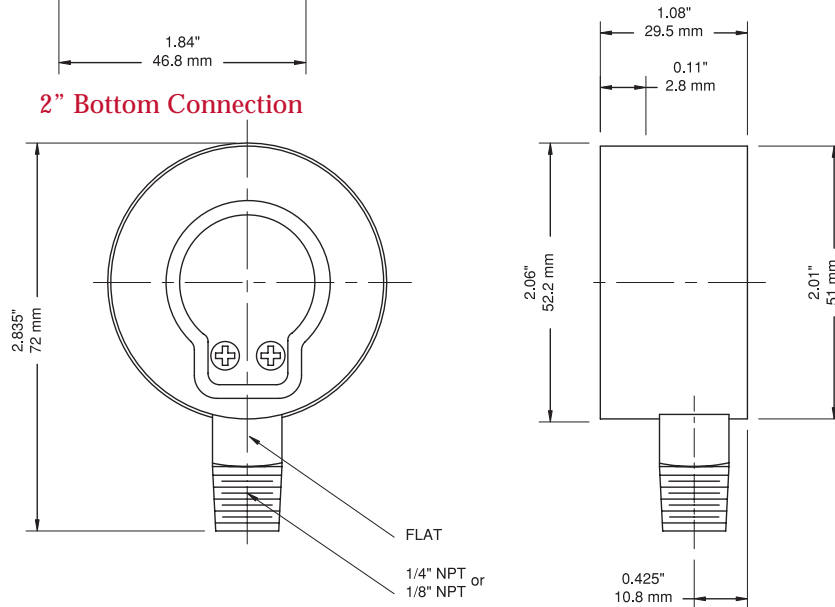
1.5" Back Connection



2" Back Connection



2" Bottom Connection

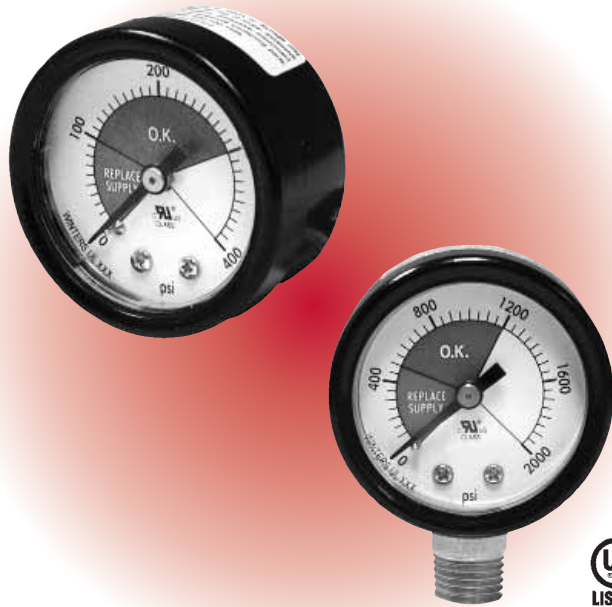


Quality



Compressed Gas Gauge

Quality



Description & Features:

- Economical 2" gauge with built-in safety features.
- UL Listed
- Safety blowout black steel case
- Easy to read colored pressure zones on the dial.

Applications:

- Beverage dispensing, regulators and tanks. The low pressures are used on the down stream side of a regulator and the high pressures are used for measuring Cylinder gas or tank pressures

Specifications	
Dial:	1 1/2" (40mm), 2" (50mm)
Case:	Black steel with blow-out back
Lens:	Acrylic
Ring:	Black friction ring
Pointer:	Steel, painted black
Socket:	Brass
Connection:	1/8" or 1/4" NPT, bottom or back
Bourdon Tube:	Brass
Movement:	Brass
Ambient/Process Temperature:	-40°F to 150°F (-40°C to 65°C)
Over-pressure Limit:	25% of full scale value
Working Pressure:	Maximum 75% of full scale value
Accuracy:	3%-2%-3% of full scale ANSI/ASME Grade B

How to order: Specify product code

Product Codes			
Range	1 1/2" (40mm) 1/8" NPT Back Conn.	2" (50mm) 1/8" NPT Back Conn.	2" (50mm) 1/4" NPT Bottom Conn.
0-30 psi	Q9014	-	Q9020
0-60 psi	Q9015	-	Q9021
0-100 psi	-	Q9017	Q9022
0-160 psi	Q9016	Q9018	Q9023
0-300 psi	-	Q9019	Q9024
0-2000 psi	-	-	Q9025
0-3000 psi	-	-	Q9026

Option Suffix:

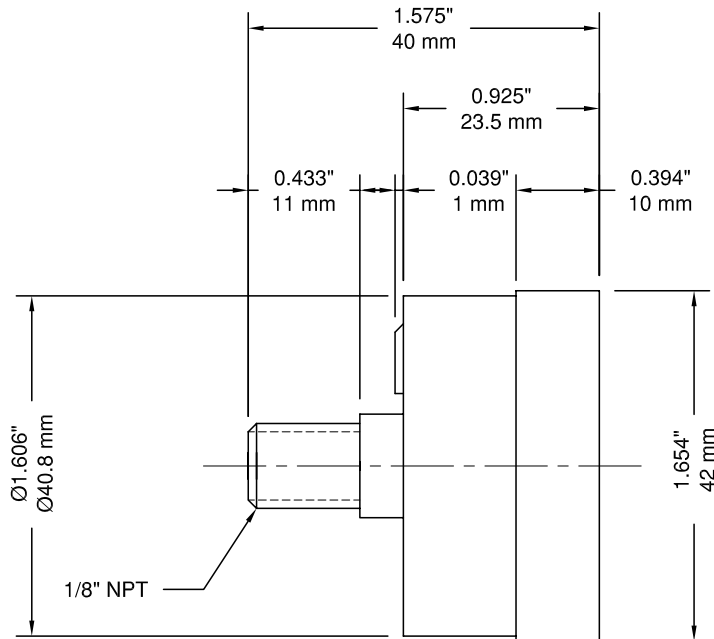
- Other configurations available
- Dual scale available upon request

UL252A recognized - low pressures 30-300 psi

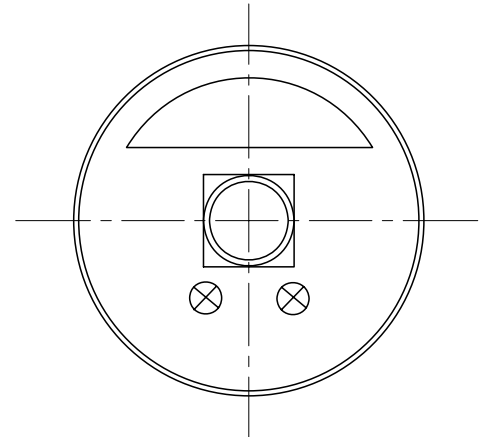
UL404 listed - high pressures 2000 psi and 3000 psi



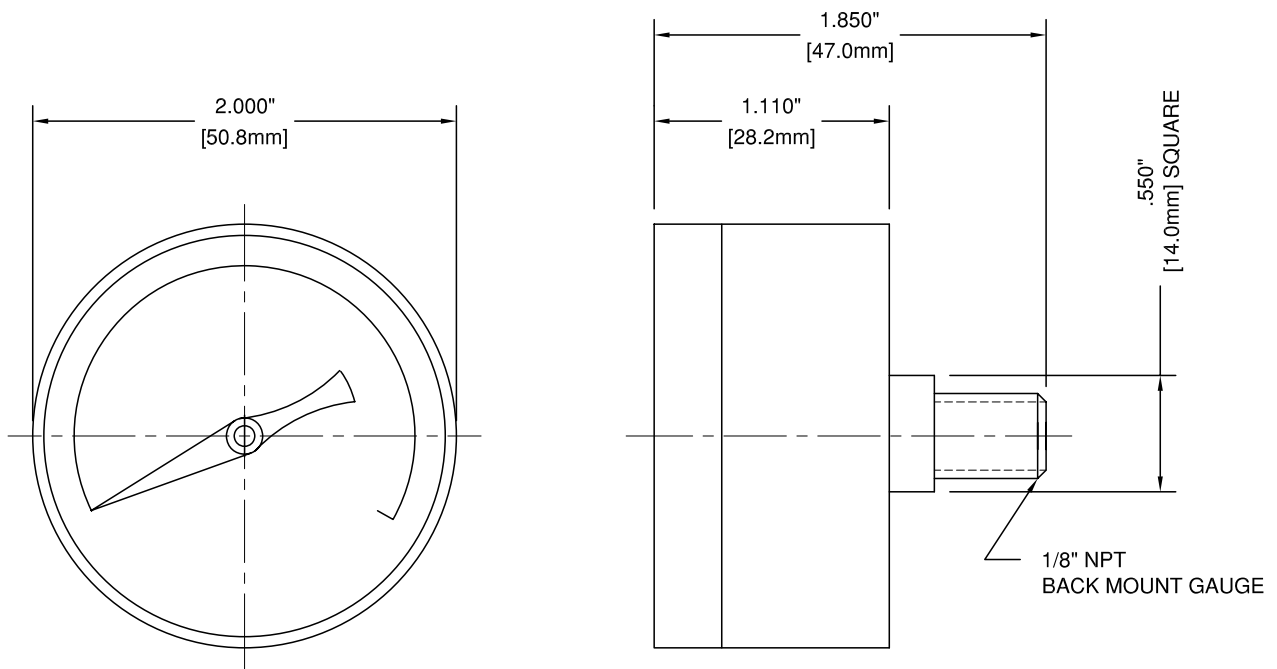
Compressed Gas Gauge



1 1/2" Back Connection, 1/8" NPT



2" Back Connection, 1/8" NPT



Paper Machine Gauge



Description & Features:

- 3.5" durable, moisture resistant gauge designed for panels.
- Weather tight sealed hinged ring
- Chrome plated steel case
- Built-in vent hole to prevent moisture build-up
- Non-fogging glass lens
- Back connected with hinged ring for panel mounting

Applications:

- Paper machines in the Pulp and Paper Industry where a high level of moisture is present.

Specifications

Specifications	
Dial:	3 1/2" (90mm) aluminum dial with black markings
Case:	Chrome-plated steel, hinged ring case, front flange, 3 mounting holes, moisture proof weep hole
Lens:	Glass lens
Ring:	Chrome plated brass ring with weather-tight seal
Pointer:	Black Aluminum
Socket:	Brass
Bourdon Tube:	Phosphor Bronze
Movement:	Stainless steel
Connection:	1/4" NPT lower back mount
Ranges:	Standard ranges up to 1,000 psi
Over Pressure Limit:	25% of full scale value
Working Pressure:	Maximum 75% of full range
Ambient/Process Temperature:	-40°F - 158°F (-40°C to 70°C)
Recalibrator:	Standard
Restrictor Screw:	Standard
Accuracy:	± 2%-1%-2% ASME Grade A

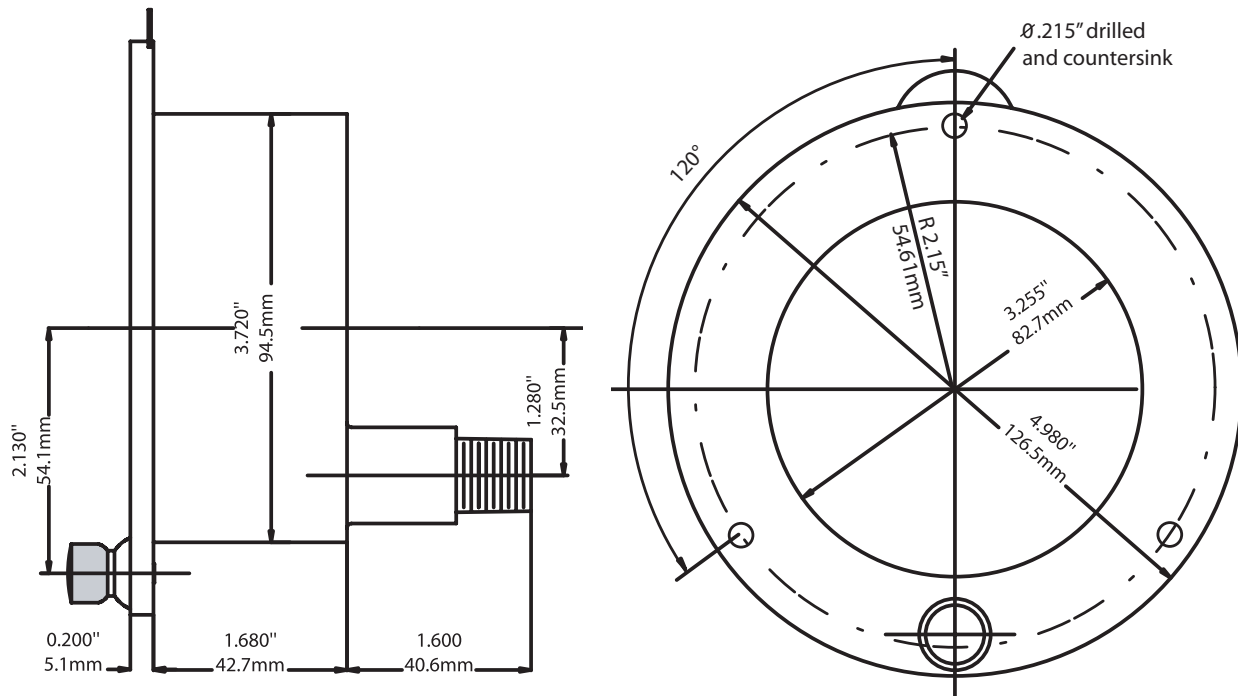
Option Suffix:

- Custom dials available upon request
- Other configurations available

Paper Machine Gauge

How to order: Specify product code
Products shown in BOLD are normally in stock.

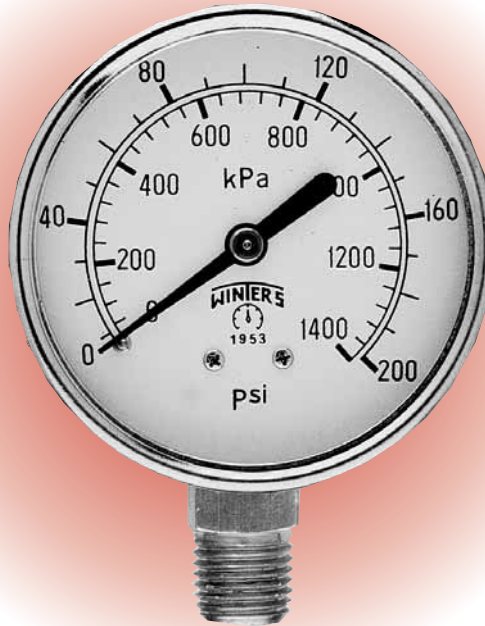
Product Codes			
Pressure Range (Dual Scale)	3 1/2" (90mm) dial size 1/4" NPT Lower Back	Pressure Range (Single Scale)	3 1/2" (90mm) dial size 1/4" NPT Lower Back
0 - 30 psi/kPa	PMGD30	0 - 30 psi	PMG30
0 - 60 psi/kPa	PMGD60	0 - 60 psi	PMG60
0 -100 psi/kPa	PMGD100	0 -100 psi	PMG100
0 -160 psi/kPa	PMGD160	0 -160 psi	PMG160
0 - 200 psi/kPa	PMGD200	0 - 200 psi	PMG200
0 - 300 psi/kPa	PMGD300	0 - 300 psi	PMG300
0 - 400 psi/kPa	PMGD400	0 - 400 psi	PMG400
0 - 600 psi/kPa	PMGD600	0 - 600 psi	PMG600
0 - 1000 psi/kPa	PMGD1000	0 - 1000 psi	PMG1000



Quality

Economy

Economy



Description & Features:

- Most economical all purpose pressure gauge
- 1.5" to 4" sizes
- Friction bezel rings
- Black Steel Case
- Brass internals
- Grade B Accuracy (3%-2%-3%)
- **CRN Registered**

Applications:

- Plumbing, Heating, Air Conditioning, Pneumatic, Hydraulic, Water tanks, Air Compressors, OEM part.

Specifications

Dial:	White aluminum with black and red markings
Case:	Steel painted black (plastic avail.)
Lens:	1½" (40mm), 2" (50mm), 2½" (63mm): polycarbonate, 4" (100mm): glass
Ring:	1½" (40mm), 2" (50mm): steel, painted black, 2½" (63mm), and 4" (100mm): steel, chrome plated
Pointer:	Steel, painted black
Socket:	Brass
Connection:	1/8" NPT or 1/4" NPT standard
Bourdon Tube:	Phosphor bronze
Movement:	Brass
Welding:	Silver alloy
Over-pressure Limit:	25% of full scale value
Working Pressure:	Maximum 75% of full scale value
Ambient Temperature:	-40°F to 150°F (-40°C to 65°C)
Process Temperature:	-40°F to 150°F (-40°C to 65°C)
Accuracy:	± 3%-2%-3% accuracy (ANSI/ASME Grade B)
Enclosure Rating:	IP52



Economy

PRODUCT CODES

How to order: Specify product code
Products shown in BOLD are normally in stock.

Dial Size	1½" (40mm)	1½" (40mm)	2" (50mm)	2" (50mm)	2" (50mm)	2" (50mm)	2" (50mm)	2½" (63mm)	2½" (63mm)	4" (100mm)
Case Material	Steel	Steel	Steel	Steel	Steel	Steel	Plastic	Steel	Steel	Steel
Connection	Bottom 1/8"	Center Back 1/8"	Center Back 1/8"	Center Back 1/4"	Bottom 1/8"	Bottom 1/4"	Psi only Bottom 1/4"	Center Back 1/4"	Bottom 1/4"	Bottom 1/4"
Movement, Socket, Tube	Brass	Brass	Brass	Brass	Brass	Brass	Brass	Brass	Brass	Brass
30" Hg. Vac./kPa	E1297	E1397	E1424	E1428	E195	E135	E1398	E1431	E210	E220
30"-0-15 psi/kPa	-	-	-	-	-	-	-	-	E152	-
30"-0-30 psi/kPa	-	-	-	-	-	-	-	-	E153	-
30"-0-60 psi/kPa	-	-	-	-	-	-	-	-	E154	-
30"-0-100 psi/kPa	-	-	-	-	-	-	-	-	E155	-
0-15 psi/kPa	E1299	E1399	E1425	E1429	E196	E136	-	E1436	E211	-
0-30 psi/kPa	E1300	E1400	E1402	E1403	E206	E199	E200	E1437	E212	E221
0-60 psi/kPa	E1301	E1401	E1404	E1405	E207	E201	E194	E1438	E213	E222
0-100 psi/kPa	E1320	E1420	E1406	E1407	E208	E202	-	E1439	E214	E223
0-160 psi/kPa	E1321	E1421	E1408	E1409	E197	E203	-	E1440	E215	E224
0-200 psi/kPa	E1322	E1422	E1426	E1410	E209	E204	-	E1441	E216	E225
0-300 psi/kPa	E1323	E1423	E1427	E1411	E198	E205	-	E1442	E217	E226
0-400 psi/kPa	-	-	-	-	-	-	-	-	E219	-
0-600 psi/kPa	-	-	-	-	-	-	-	-	E218	-
0-1000 psi/kPa	-	-	-	-	-	-	-	-	E290	-
0-2000 psi/kPa	-	-	-	-	-	-	-	-	-	-
0-3000 psi/kPa	-	-	-	-	-	-	-	-	E291	-
0-5000 psi/kPa	-	-	-	-	-	-	-	-	E292	-

Options Suffix:

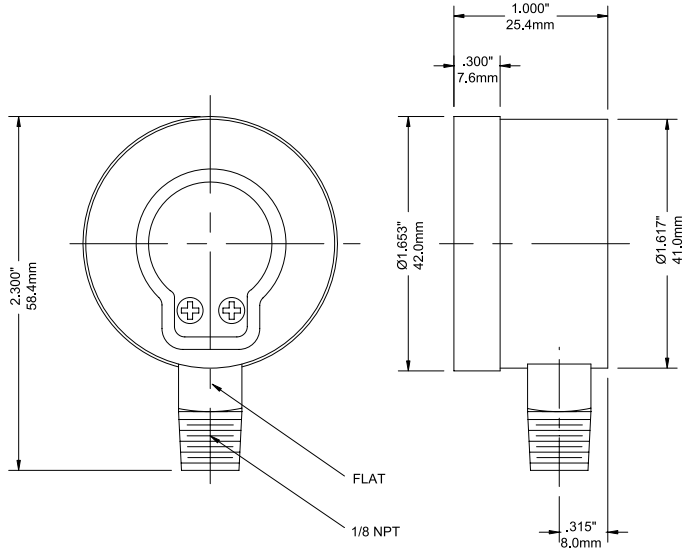
- Lead free construction available.
- ECASE 15 SS BK = 1.5" stainless steel back case connection
- ECASE 15 SS BTM = 1.5" stainless steel bottom connection
- ECASE2055 BK = 2" Stainless Steel Case back connection
- ECASE2055 BTM = 2" Stainless Steel Case bottom connection
- GL15 = glass lens for 1.5" dial
- GL2= glass lens for 2" dial
- GL25 = glass lens for 2.5" dial
- See "regulator gauges" for 1.5" to 2" st/st internals
- Other ranges, connections and connection sizes available.



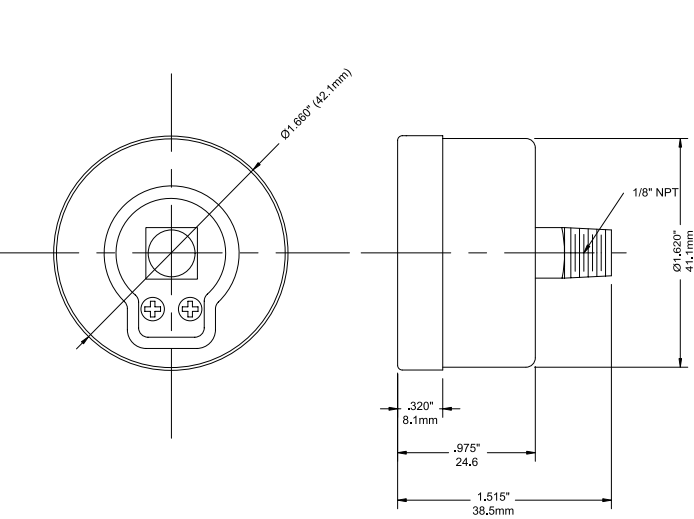
Economy

Economy

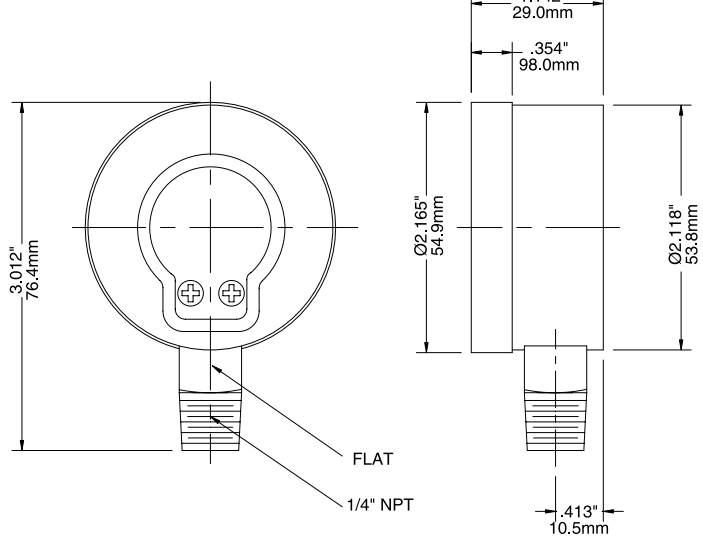
1.5" Bottom Connection



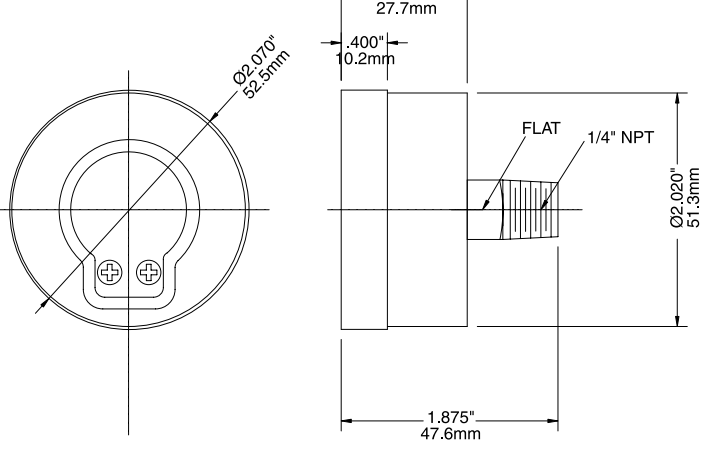
1.5" Back Connection



2" Bottom Connection

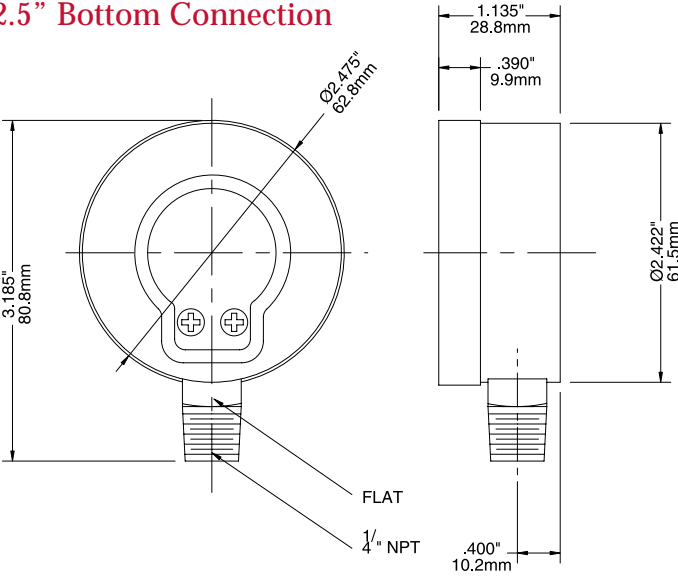


2" Back Connection

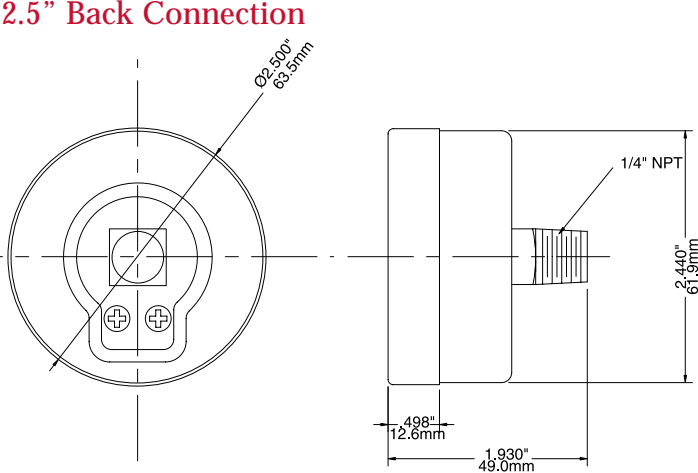


Economy

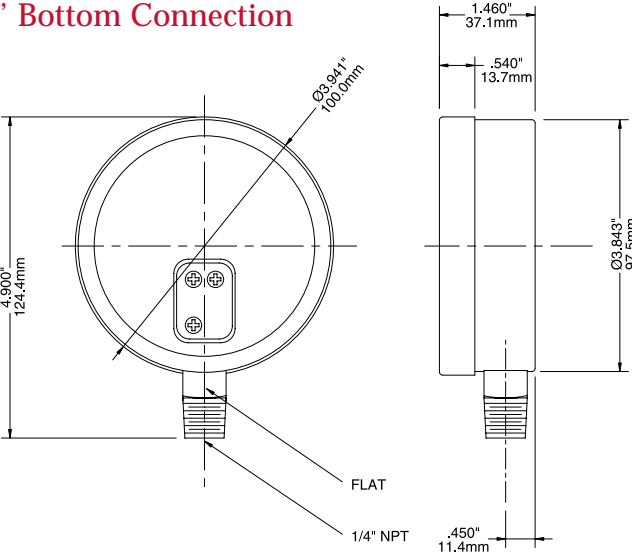
2.5" Bottom Connection



2.5" Back Connection



4" Bottom Connection



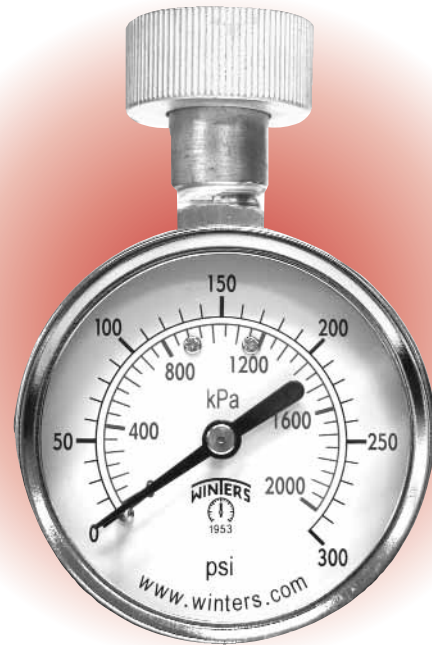
Economy



Economy Test Gauge



Gas Test Gauge



Water Test Gauge

Description & Features:

- Economical pressure gauge and valve body assembly used for pressure testing
- Bleed port and plated housing on the Gas Test assembly
- Swivel Hose adapter on the Water Test Gauge
- Black steel case
- Dual scale (PSI/KPA)
- Grade B Accuracy (3%-2%-3%)
- CRN Registered

Applications:

- Residential & commercial pressure testing of gas, air and water lines.

Specifications

Dial:	2" (50 mm) and 2 ¹ / ₂ " (63 mm) white aluminum with black and red markings
Case:	Steel painted black
Lens:	Polycarbonate
Ring:	Steel, painted black
Pointer:	Steel, painted black
Gas Test Gauge:	³ / ₄ " FNPT
Water Test Gauge:	³ / ₄ " female npt swivel connection
Maximum Pointer:	³ / ₄ " female hose
Bourdon Tube:	Phosphor bronze
Movement:	Brass
Welding:	#50 Sn. solder
Working Pressure:	Maximum 75% of full scale value
Ambient / Process Temperature:	-40°F to 150 °F (-40°C to 65°C)
Gas Test:	40°F to 150 °F (-40°C to 65°C)
Water Test:	32°F to 150 °F (0°C to 65°C)
Accuracy:	± 3% -2%-3% accuracy (ANSI/ASME) Grade B
Enclosure Rating:	IP52

Economy Test Gauge

How to order: Specify product code

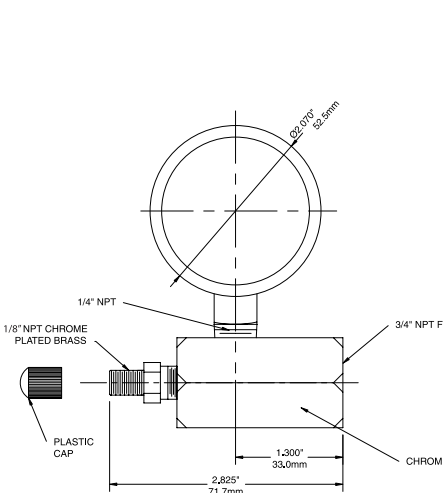
Products shown in **BOLD** are normally in stock.

PRODUCT CODES	Gas Test	Water Test
Dial Size	2" (50mm)	2" (50mm) or 2 1/2" (63mm)
Case Material	Steel	Steel
Connection Size	Adapts to 3/4" NPT	3/4" female NPT Swivel Connection
Movement, Socket, Tube	Brass	Brass
RANGE	PRODUCT CODES	
0-15 psi/kpa	EGT201	-
0-30 psi/kpa	EGT202	-
0-60 psi/kpa	EGT203	-
0-100 psi/kpa	EGT204	-
0-160 psi/kpa	-	EWT213
0-300 psi/kpa	-	EWT217

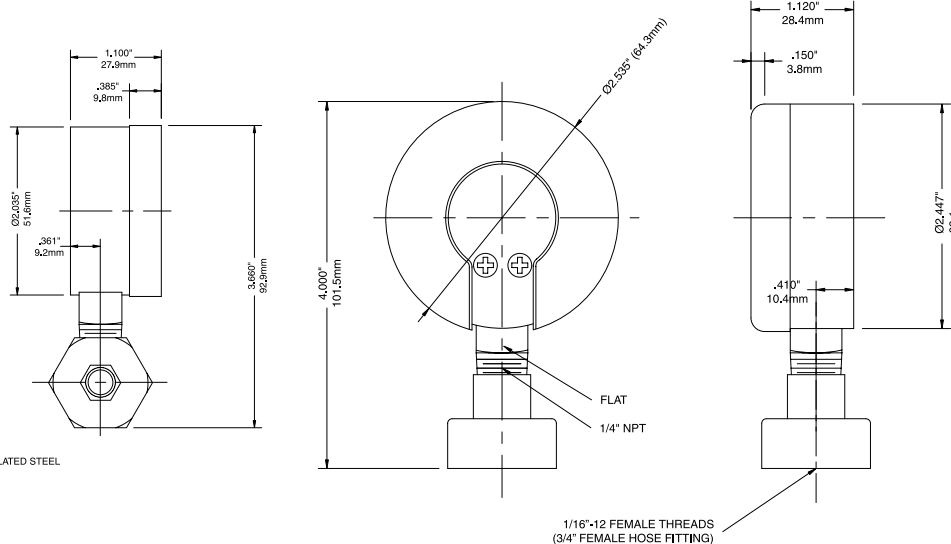
Option: EGT-BRASS = Brass Valve

Maximum Pointer Water Test Gauge	
Dial size	2 1/2"
Case Material	Steel
Connection size	3/4" female hose
Movement, socket, tube	Brass
PRODUCT CODES	
0-160 psi/kpa	ETM213
0-300 psi/kpa	ETM217

2" Gas Test Gauge

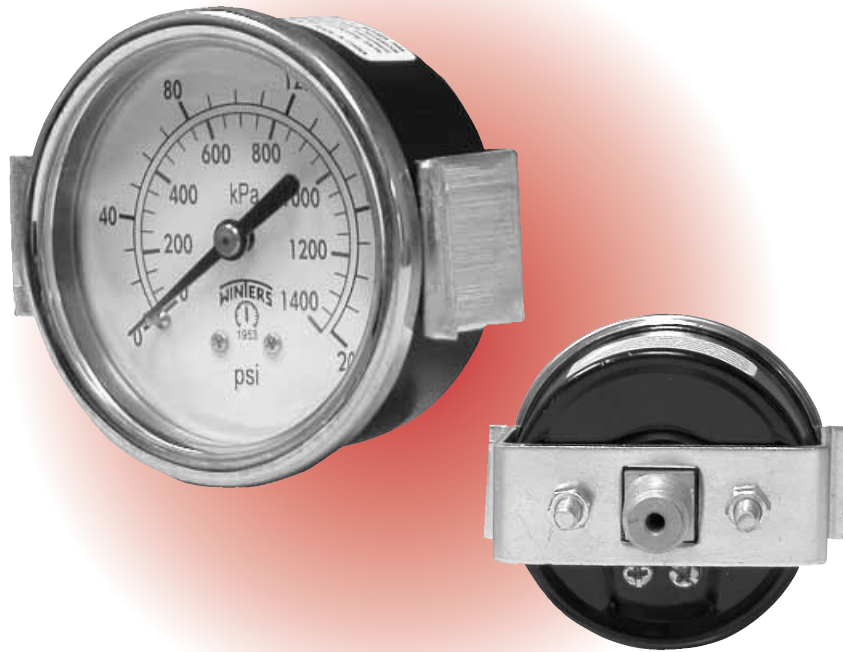


2.5" Water Test Gauge



Panel Mounted Economy

Economy



Description & Features:

- Most economical pressure gauge used for panels
- 1.5" to 2.5" dial sizes
- Black Steel case
- Brass wetted parts
- Stainless Steel crimp-on bezel
- Stud-Style U-clamp design for secure panel mounting
- Grade B Accuracy (3%-2%-3%)
- Dual Scale (PSI/KPA)
- **CRN Registered**

Applications:

- For measuring gases, air, water and oils when equipment or processes require an economical panel mounted gauge.

Specifications

Dial:	1½" (40mm) , 2" (50mm), 2½" (63mm) white aluminum with black and red markings
Case:	Steel, painted black
Lens:	Plastic
Ring:	Stainless steel
Pointer:	Steel, painted black
Socket:	Brass
Movement:	Brass
Connection:	1/8" NPT or 1/4" NPT standard
Bourdon Tube:	Phosphor bronze
Movement:	Brass
Welding:	Silver alloy
Over-pressure Limit:	25% of full scale value
Working Pressure:	Maximum 75% of full scale value
Ambient Temperature:	-40°F to 150°F (-40°C to 65°C)
Process Temperature:	-40°F to 150°F (-40°F to 65°C)
Accuracy:	± 3%-2%-3% (ANSI/ASME Grade B)
Enclosure Rating:	IP52



Panel Mounted Economy

PRODUCT CODES

How to order: Specify product code
Products shown in BOLD are normally in stock.

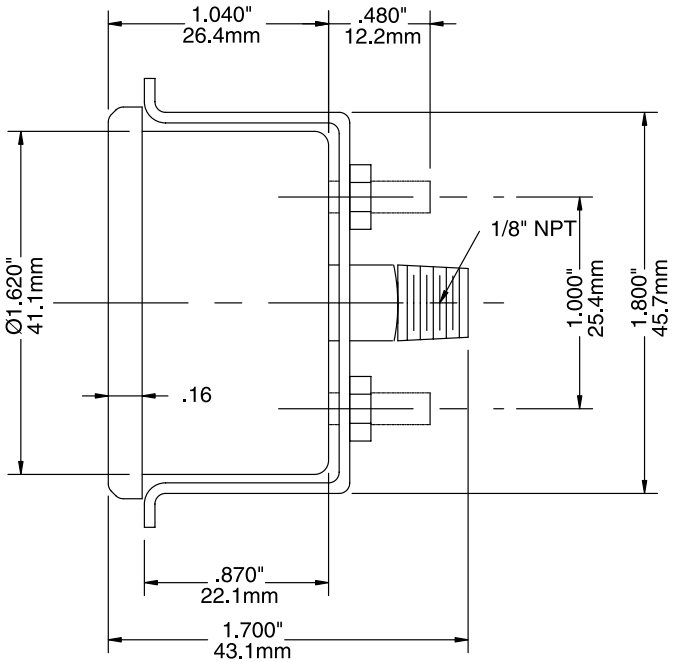
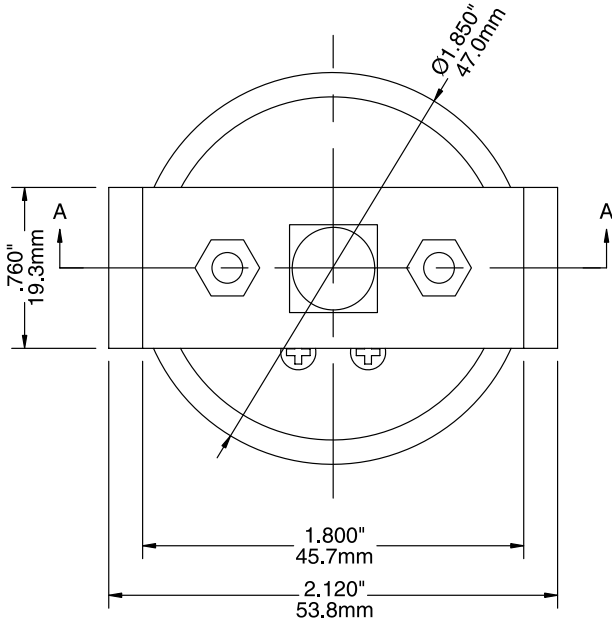
Dial Size	1 1/2" (40mm)	2" (50mm)	2" (50mm)	2 1/2" (63mm)
NPT Size	1/8"	1/8"	1/4"	1/4"
30" Hg. Vac./kPa	E1399UC	E1396UC	E1428UC	E1431UC
0-15 psi/kPa	E1398UC	E1397UC	E1429UC	E1436UC
0-30 psi/kPa	E1400UC	E1402UC	E1403UC	E1437UC
0-60 psi/kPa	E1401UC	E1404UC	E1405UC	E1438UC
0-100 psi/kPa	E1420UC	E1406UC	E1407UC	E1439UC
0-160 psi/kPa	E1421UC	E1408UC	E1409UC	E1440UC
0-200 psi/kPa	E1422UC	E1412UC	E1410UC	E1441UC
0-300 psi/kPa	E1423UC	E1413UC	E1411UC	E1442UC
Panel cut-out	1.63" (41.40mm)	2.12" (53.848mm)	2.12" (53.848mm)	2.44" (61.976mm)
Overall O.D.	1.84" (46.73mm)	2.29" (58.166mm)	2.29" (58.166mm)	2.65" (67.31mm)

Other ranges and connection sizes available upon request.

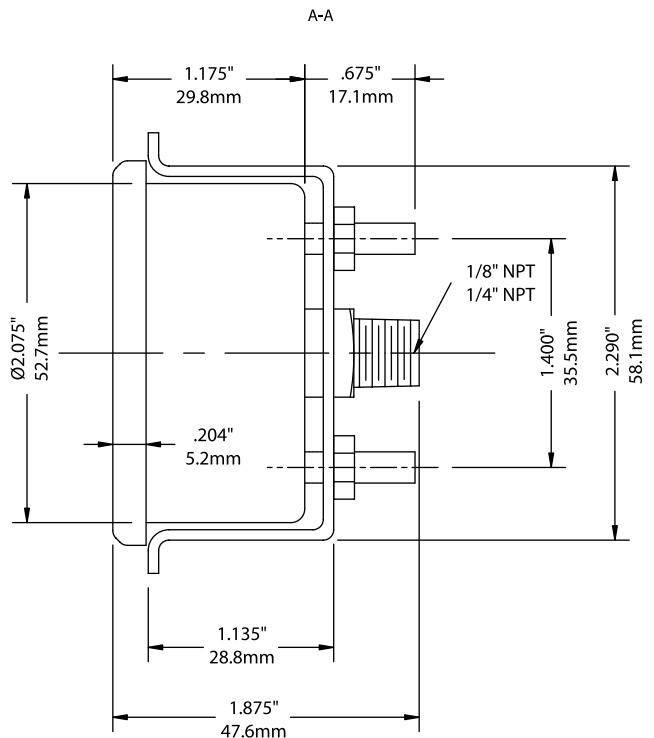
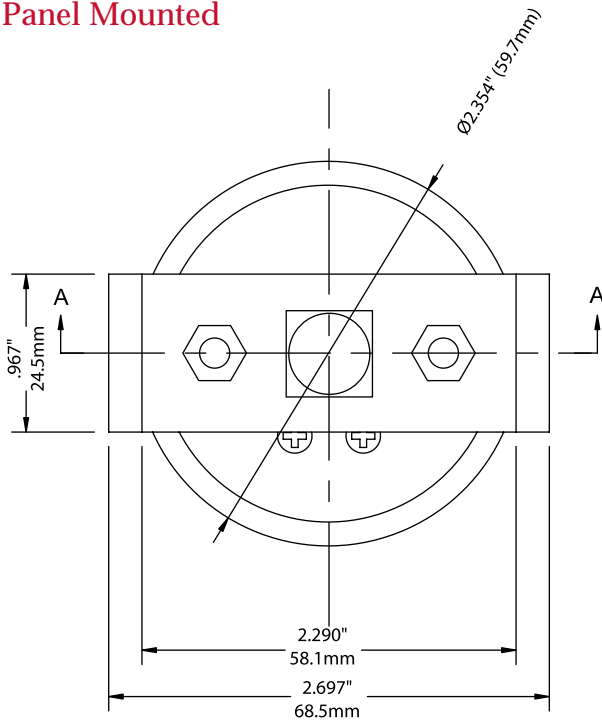
Panel Mounted Economy

Economy

1.5" Panel Mounted

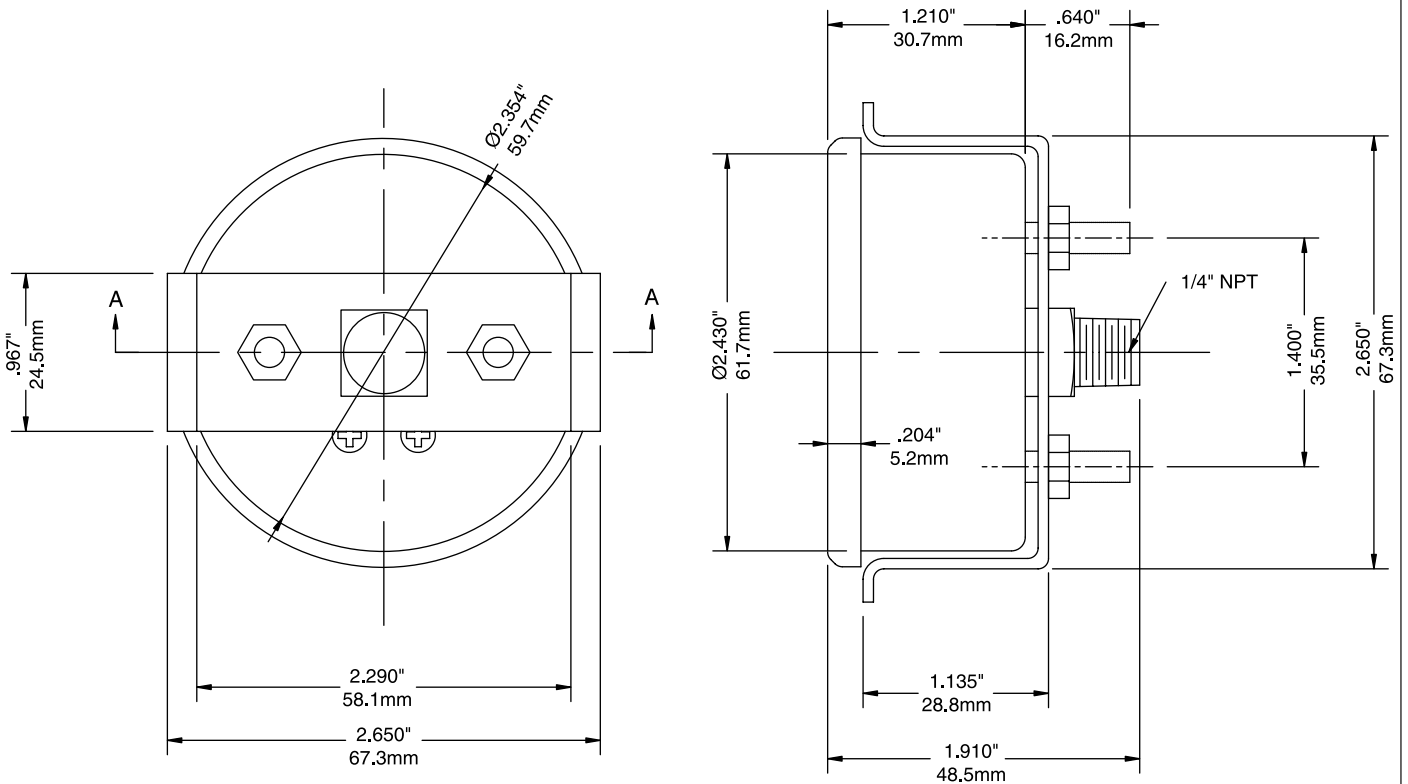


2" Panel Mounted



Panel Mounted Economy

2.5" Panel Mounted



Economy

Spiral Tube Pressure Gauge

Economy



LISTED

0 up to 3000 psi



Description & Features:

- Reliable, small diameter, low profile gauge.
- 1" to 1.5" sizes
- 1/8"NPT socket
- UL Listed
- Direct drive movement (no linkages or hairsprings)
- Safety over-pressure port on the lens
- "Oil Free" for use in oxygen service
- **CRN Registered**

Applications:

- Commonly used on portable pneumatic equipment such as compressors, hand-held sprayers, pressurized recreational guns, oxygen tanks and regulators, pumps and fire extinguishers.

Specifications	
Dial:	1" (25mm), 1 1/8" (30mm), 1 1/4" (32mm) or 1 1/2" (40mm) white aluminum with black markings
Case:	AISI 304 stainless steel (except for 1" (25mm) nickel plated brass)
Lens:	Plexiglass, watertight
Pointer:	Brass for ranges 3000 psi and below; AISI 304 stainless steel for ranges 4000 psi and above
Spiral / Socket:	Brass for range less than 3000 psi Beryllium copper for range 0-3000 psi; AISI 304 stainless steel for ranges 4000 psi and above
Connection:	1/8" NPT or 1/4" NPT standard, back
Over-pressure Limit:	10% of full scale value
Working	Maximum 75% of full scale value
Ambient Temp:	-40°F to 150°F (-40°C to 65°C)
Process Temp:	-40°F to 150°F (-40°C to 65°C)
Accuracy:	± 3%-2%-3% (ANSI/ASME Grade B)
Enclosure Rating:	IP64



Spiral Tube Pressure Gauge

How to order: Specify product code

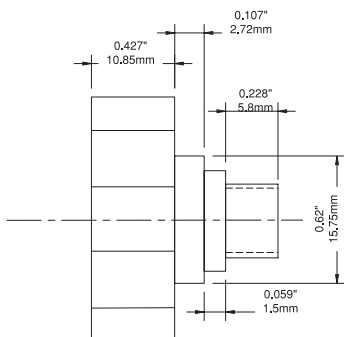
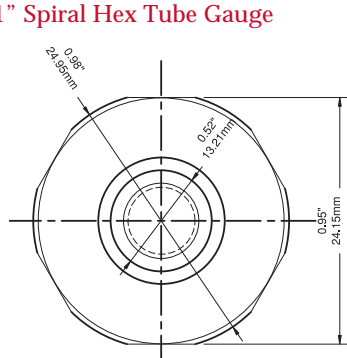
Products shown in **BOLD** are normally in stock.

Dial Size	Product Codes			
	1" (25mm)	1 1/8" (30mm)	1 1/4" (32mm)	1 1/2" (40mm)
0-60 psi	-	SP115060	SP125060	SP150060
0-100 psi	SP10100	SP1150100	SP1250100	SP1500100
0-160 psi	SP10160	SP1150160	SP1250160	SP1500160
0-200 psi	SP10200	SP1150200	SP1250200	SP1500200
0-300 psi	SP10300	SP1150300	SP1250300	SP1500300
0-600 psi	SP10600	SP1150600	SP1250600	SP1500600
0-1000 psi	SP101000	SP11501000	SP12501000	SP15001000
0-1500 psi	SP101500	SP11501500	SP12501500	SP15001500
0-2000 psi	SP102000	SP11502000	SP12502000	SP15002000
0-3000 psi	SP103000	SP11503000	SP12503000	SP15003000
0-4000 psi	SP104000	SP11504000	SP12504000	SP15004000
0-5000 psi	SP105000	SP11505000	SP12505000	SP15005000

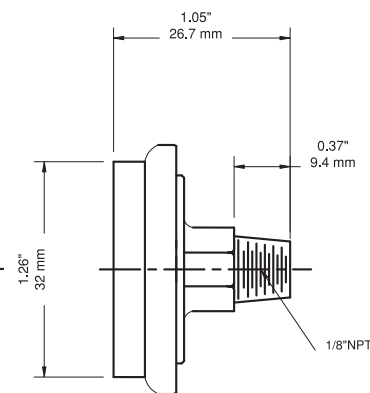
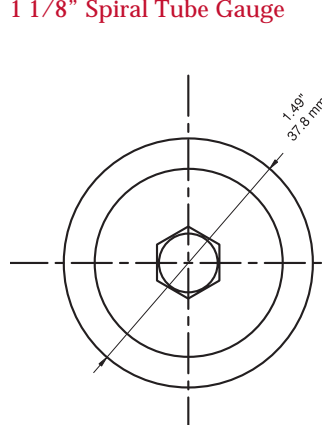
Option Suffix:

- Other ranges available upon request
- 1.25BOOT** = 1 1/4" Protective Rubber Boot
- 1.5BOOT** = 1 1/2" Protective Rubber Boot

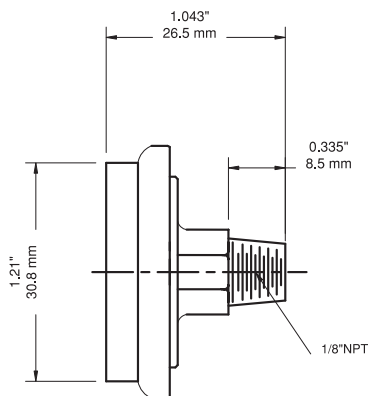
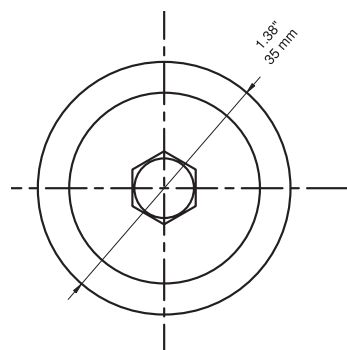
1" Spiral Hex Tube Gauge



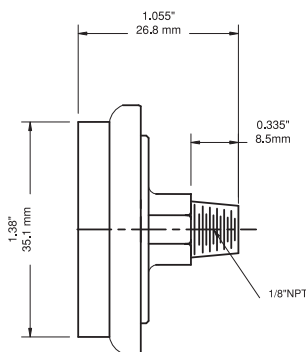
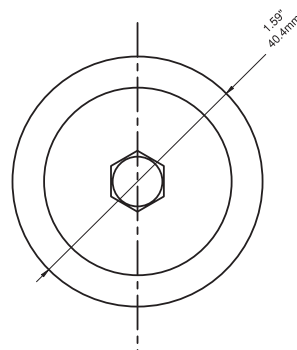
1 1/8" Spiral Tube Gauge



1 1/4" Spiral Tube Gauge



1 1/2" Spiral Tube Gauge

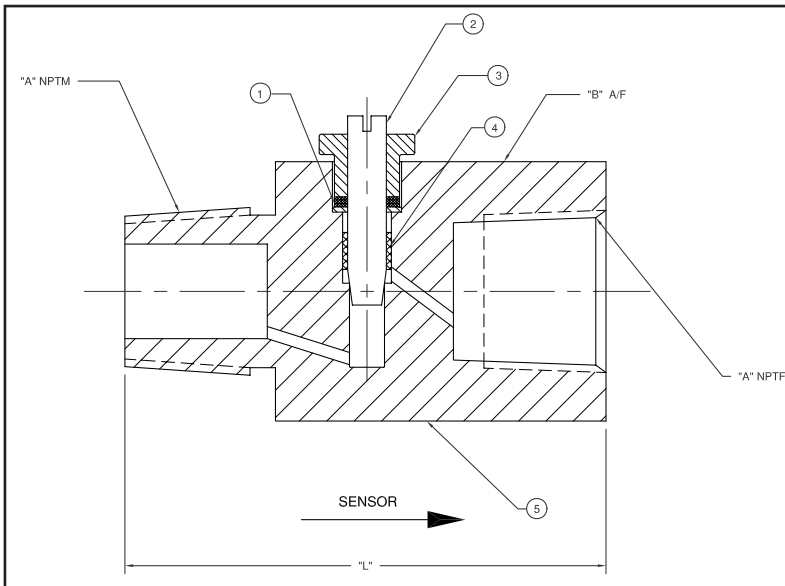


Adjustable Snubber



Description

Winters Adjustable Snubber prolongs the life of pressure instruments (by reducing the damaging effects of pulsation on the pressure instrument) especially in demanding industrial applications (i.e. pumps, compressors, hydraulic presses or fluid power applications.) Adjustable Snubbers can be utilized to change the amount of restriction.



(Caution: When adjusting the valve, do not adjust more than two turns from the closed position as leakage will occur.)

SR. No.	"A"	"L"	"B"
1.00	1/2" NPT	62mm/2.44"	32mm/1.26"
2.00	1/4" NPT	52mm/2.05"	22mm/0.87"

Specifications

SR. No	Description	St/St	Brass
1	Gland Seal	Teflon®	Teflon®
2	Stem	St/St 316	St/St 316
3	Gland	St/St 316	Brass
4	Gland Washer	St/St 316	St/St 316
5	Body	St/St 316	Brass

Specifications

Body:	Brass or stainless steel
Connection:	1/4" or 1/2" NPT Male x Female
Temperature Rating:	-40°F to 248°F (-40°C to 120°C)

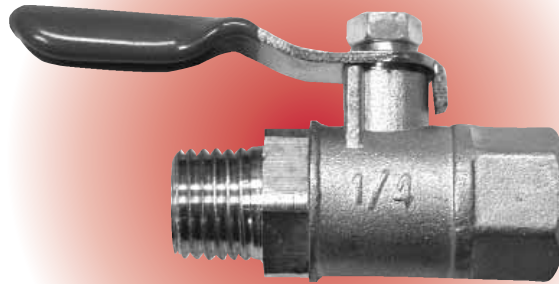
How to order: Specify product code

Products shown in **BOLD** are normally in stock.

Product Codes			
Product Code	Material / Connection NPT	Seal	Pressure Rating
A540	Brass 1/4" MxF	Teflon®	6,000psi/41,368 kPa
A541	Brass 1/2" MxF	Teflon®	6,000psi/41,368 kPa
A542	St/St 1/4" MxF	Teflon®	6,000psi/41,368 kPa
A543	St/St 1/2" MxF	Teflon®	10,000psi/68,947 kPa



Mini Ball Valve



Description

The Mini Ball Valve is an economical isolation valve for pressure gauges or transmitters and is **CRN registered**.

Specifications	
Body:	#59-1 forged brass
Ball:	Stainless steel
Gaskets:	Teflon®
Handle:	Steel, plated, plastic covered
Process Temperature:	-9°F to 212°F (23°C to 100°C)
Maximum Operating Pressure:	400 psi (2,758 kPa)
Connection:	1/4" NPT Female x 1/4" NPT Male

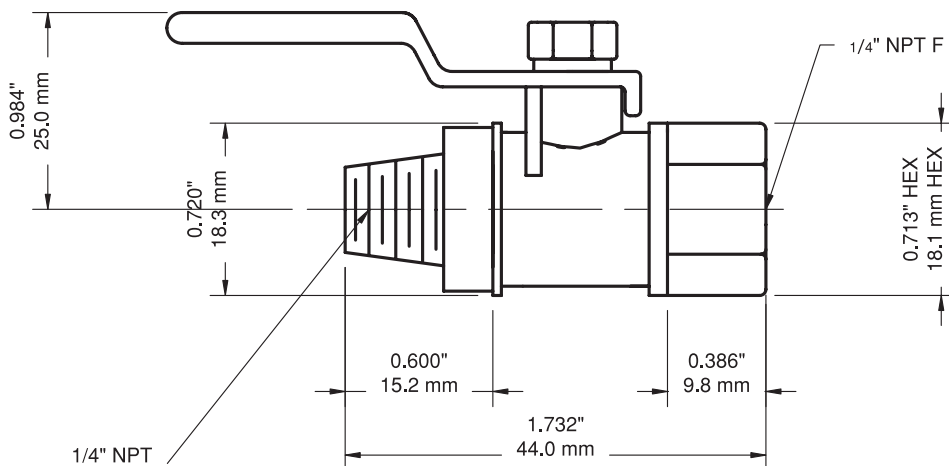
How to order: Specify product code

Products shown in **BOLD** are normally in stock.

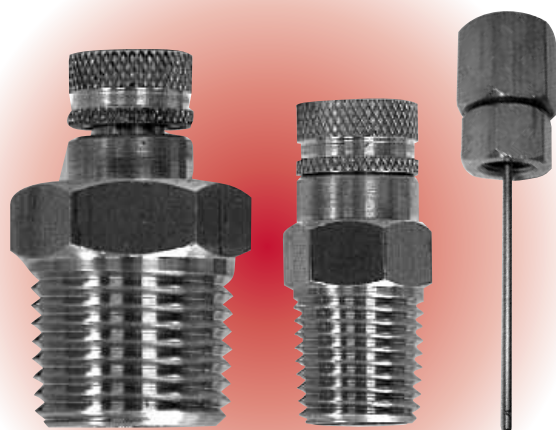
Product Code	A500
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Note: Other sizes and materials available upon request.

Mini Ball Valve (Brass)



Test Plugs



Test Plug

Gauge Adaptor

Description

Facilitates quick pressure and temperature readings at recommended test points within process.

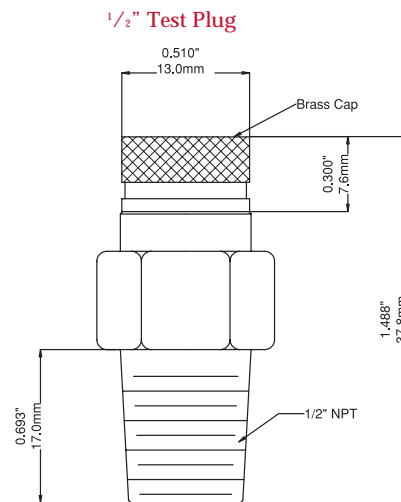
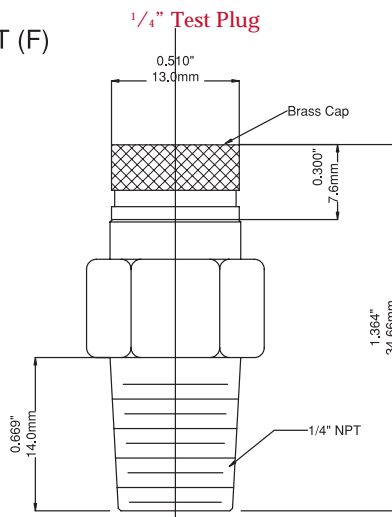
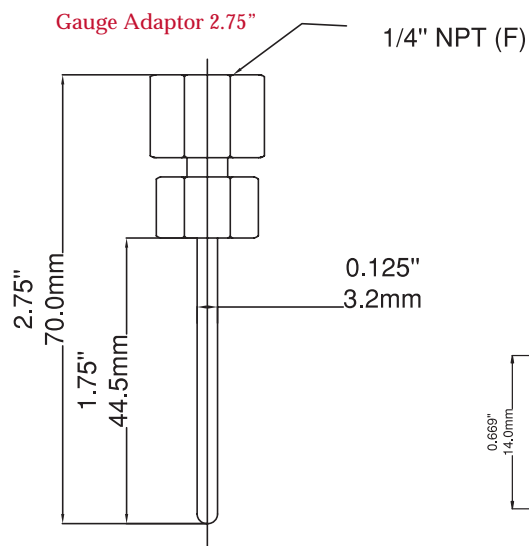
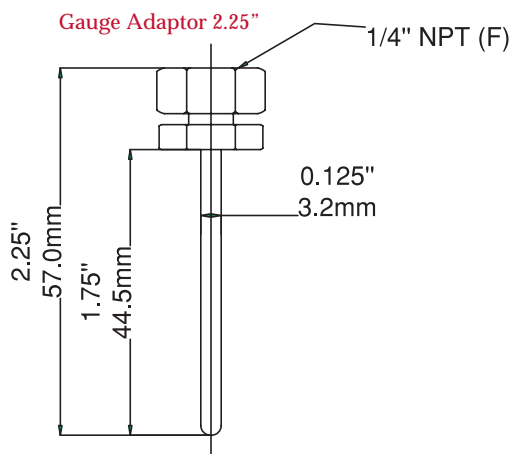
Specifications	
Material/Body:	Brass
Diaphragm/Core	EPDM
Temperature Rating:	350°F (176°C)
Max. Pressure Rating:	1000 psi (6895 kPa)
Connection:	1/4" NPT or 1/2" NPT

How to order: Specify product code

Products shown in **BOLD** are normally in stock.

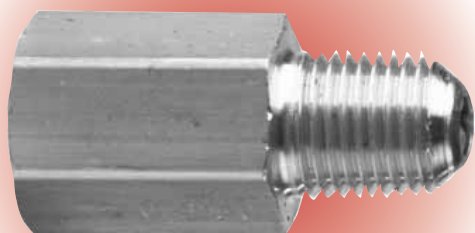
Product Codes	Brass Test Plug Description
A001	1/4" NPT Connection Male
A002	1/2" NPT Connection Male

Product Codes	Gauge Adaptor
A003	2.75 OAL x 1 3/4" x .125" probe
A004	2.25 OAL x 1 3/4" x .125" probe



Note: Other sizes and materials available upon request.

Snubbers



Description

Winters' Snubbers significantly lessen the damaging effects of pulsation on gauges, transducers, transmitters, manometers and pressure switches. Winters' Snubbers incorporate a sintered porous 316 stainless steel snubbing element with a large surface area to ensure long term effectiveness on most pressure media.

Winters' Snubbers are available in the three standard viscosity classifications of heavy oil, water and air. Brass or stainless steel housings can be specified depending upon pressure media and operating pressure. The Snubbers are also **CRN registered**

How to order: Specify product code
Products shown in BOLD are normally in stock.

PRODUCT CODES

PRESSURE SNUBBERS			
Model	Heavy Oil	Water	Air
1/4" Brass	A517	A515	A516
1/4" St/St	A520	A518	A519
1/2" Brass	A514	A512	A513
1/2" St/St	A531	A529	A530

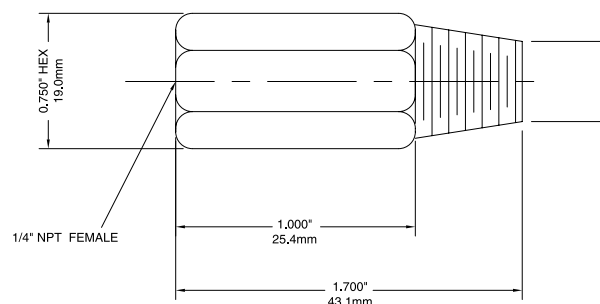
Stainless Steel Specifications

Operating Temperature:	-320°F to 1,500°F (-195°C to 815°C)
Operating Pressure:	Maximum 20,000 psi (137,900 kPa)
Burst Pressure:	300 series stainless steel
Housing:	Sintered, porous type 316 stainless steel
Snubbing Element:	300 series stainless steel
Retainer:	300 series stainless steel

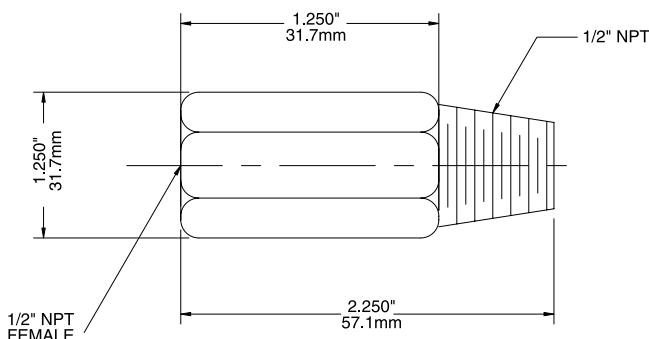
Brass Specifications

Operating Temperature:	-65°F to 650°F (-53°C to 343°C)
Operating Pressure:	Maximum 10,000 psi (68,950 kPa)
Burst Pressure:	Brass
Housing:	Sintered, porous type 316 stainless steel
Snubbing Element:	300 series stainless steel
Retainer:	300 series stainless steel

1/4" Snubber



1/2" Snubber



Needle Valve



Description

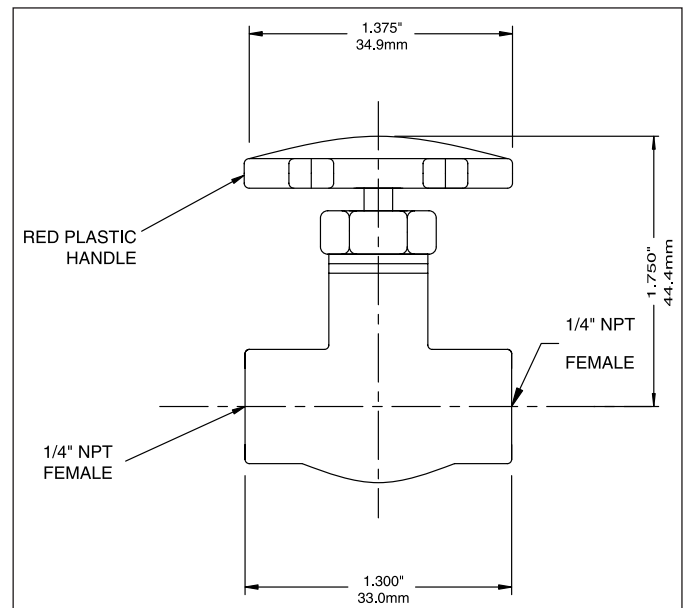
Winters Needle Valve (**CRN registered**) provides precision flow control for any non-corrosive application up to 400 psi (2, 758 kPa). Except for severe applications, the valve can also be used to throttle pulsation.

How to order: Specify product code:
Products shown in BOLD are normally in stock.

Product Code	A510
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Other configurations & materials available upon request.

Specifications	
Body:	#59-1 forged brass
Handle:	ABS plastic, dyed red
O-ring:	Rubber
Shaft:	#59-1 brass
Nut:	#59-1 brass
Process Temperature:	-9°F to 212°F (-23°C to 100°C)
Maximum Operating Pressure:	400 psi (2,758 kPa)
Connection:	1/4" NPT female



Siphons



Description

Winters' Siphons are recommended for applications involving temperatures above +100°F (+37°C). On steam service, the siphon will prevent hot steam from entering a pressure gauge, diaphragm seal or transmitter. Winters' Siphons are available in steel for non-corrosive applications and stainless steel for corrosive applications. The Siphons are also **CRN registered**.

How to order: Specify product code:

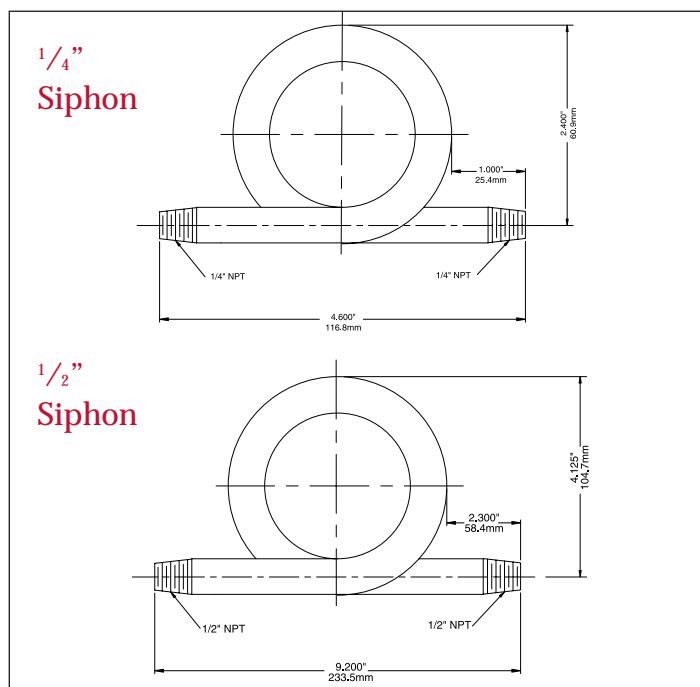
Products shown in **BOLD** are normally in stock.

PRODUCT CODES

Material	Connection	Code
Sched. 40 Brass	1/4" NPT	A545
Sched. 40 Brass	1/2" NPT	A559
Sched. 40 Steel (welded)	1/4" NPT	A525
Sched. 40 Steel	1/2" NPT	A555
Sched. 40 304 St/St	1/4" NPT	A535
Sched. 40 304 St/St	1/2" NPT	A585
Sched. 40 316 St/St	1/4" NPT	A554
Sched. 40 316 St/St	1/2" NPT	A557
Sched. 80 Carbon Steel	1/4" NPT	A556
Sched. 80 304 St/St	1/4" NPT	A595

Options:

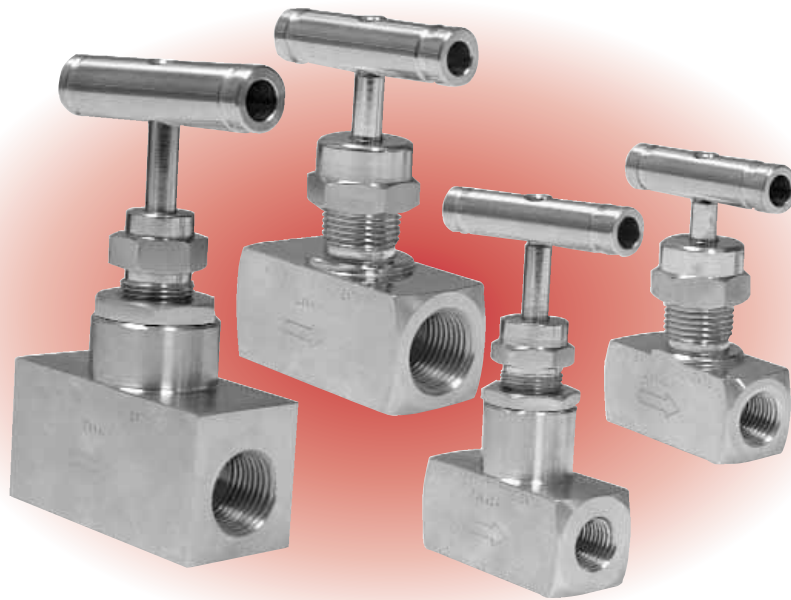
- Schedule 160 and Double Extra (all materials)
- 90 degree angle



Specifications	
Material:	Schedule 40 steel coil (welded) or Schedule 40 304 stainless steel (seamless).
Style:	180 degree coil
Connection:	1/4" NPT male x 1/4" NPT male or 1/2" NPT male x 1/2" NPT male.
Maximum Operating Pressure:	<ul style="list-style-type: none"> • 1/4" NPT, schedule 40 welded is suitable for 175 psi at 340°F (171°C). • 1/4" or 1/2" NPT, schedule 40, any seamless material is good for a working pressure of 500 psi at 680°F (360°C). • 1/4" or 1/2" NPT, schedule 80, any seamless material is good for a working pressure of 1650 psi at 630°F (332°C). • 1/2" NPT, double extra schedule, any seamless material is good for a working pressure of 3200 psi at 1100°F (548°C).



Stainless Steel Needle Valve



Description

Winters Stainless Steel Needle Valve construction provides corrosion resistance, has excellent flow regulation and is leak tight. The one piece body construction (no welding) provides high strength and full safety. This instrument has slow opening which prevents sudden pressure surge and instrument damage.

The Needle Valves are available in Soft Seat (up to 6,000 psi, Delrin Seat) and Hard Seat (up to 10,000 psi, Metal Seat). Hard Seat Needle Valves are also available with a Carbon Steel construction.

Common applications include refineries, liquid petroleum gas, processing plant systems difficult to shut off due to solid contents such as dust, rust, dirt, etc.

How to order: Specify product code

Products shown in **BOLD** are normally in stock.

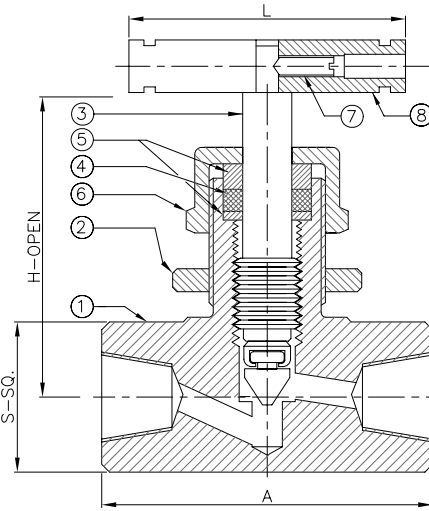
Soft Seat Needle Valve 6,000 psi		
Temperature Rating: -20°F to 250°F (-29°C to 121°C)		
Product Code	Material	NPT Connection
ANV25SFFS	Stainless Steel	1/4" Female x 1/4" Female
ANV5SFFS	Stainless Steel	1/2" Female x 1/2" Female
ANV25SMFS	Stainless Steel	1/4" Male x 1/4" Female
ANV5SMFS	Stainless Steel	1/2" Male x 1/2" Female
Hard Seat Needle Valve 10,000 psi		
Temperature Rating: -65°F to 200°F (-50°C to 93°C)		
Product Code	Material	NPT Connection
ANV25SFFH	Stainless Steel	1/4" Female x 1/4" Female
ANV5SFFH	Stainless Steel	1/2" Female x 1/2" Female
ANV25SMFH	Stainless Steel	1/4" Male x 1/4" Female
ANV5SMFH	Stainless Steel	1/2" Male x 1/2" Female
ANV25CFFH	Carbon Steel	1/4" Female x 1/4" Female
ANV5CFFH	Carbon Steel	1/2" Female x 1/2" Female
ANV25CMFH	Carbon Steel	1/4" Male x 1/4" Female
ANV5CMFH	Carbon Steel	1/2" Male x 1/2" Female

- Other configurations available
- Needle Valves can be supplied to meet current revision of MR-01-75 NACE (Sour gas service)
- Graphoil packaging for high temperature applications available.
- Panel mounting kits available

Stainless Steel Needle Valve

Soft Seat Stainless Steel Needle Valve

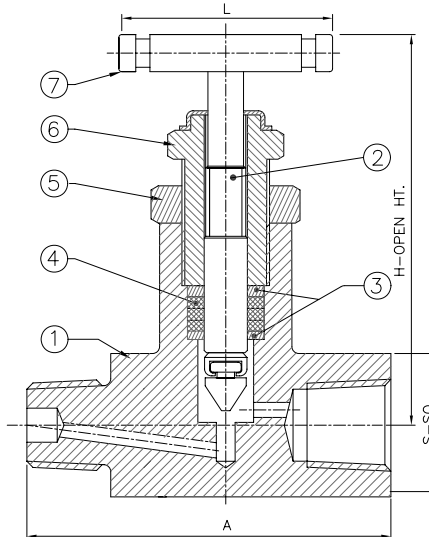
Drawing Number	Description	Material
1	Body:	AISI 316 stainless steel
2	Panel Nut:	AISI 316 stainless steel
3	Stem:	AISI 316 stainless steel
4	Packing:	Teflon®
5	Washer:	AISI 316 stainless steel
6	Gland Nut:	AISI 316 stainless steel
7	Grub Screw:	Steel Plated
8	Handle:	AISI 304 stainless steel
	Seat Material:	Delrin



Size	A	S-SQ	H-Open	L
1/4"	1.95" (50mm)	0.86" (22mm)	2.69" (69mm)	1.95" (50mm)
1/2"	2.65" (68mm)	1.17" (30mm)	3.23" (83mm)	2.34" (60mm)

Hard Seat Stainless Steel Needle Valve

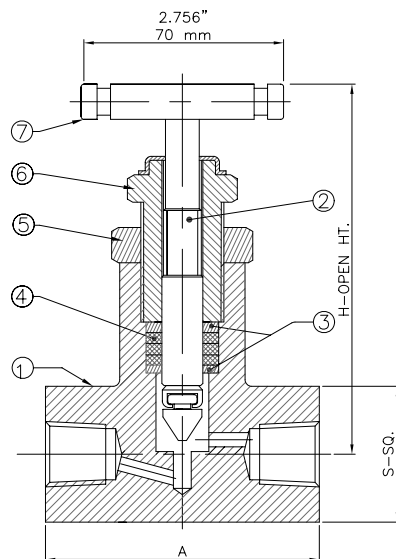
Drawing Number	Description	Material
1	Body:	AISI 316 stainless steel
2	Stem:	AISI 316 stainless steel - Stellited V Tip
3	Packing Washer:	AISI 316 stainless steel
4	Gland Packing:	AISI 316 stainless steel
5	Lock Nut:	AISI 316 stainless steel
6	Gland Retainer:	AISI 316 stainless steel
7	Handle:	AISI 304 stainless steel
7	Dust Cover:	Plastic
	Seat Material:	Metal



Size	A	S-SQ	H-Open HT	L
1/4"	2.36" (60mm)	0.98" (25mm)	3.35" (86mm)	2.36" (60mm)
1/2"	3.23" (82mm)	1.33" (34mm)	3.82" (98mm)	2.73" (70mm)

Carbon Steel Needle Valve

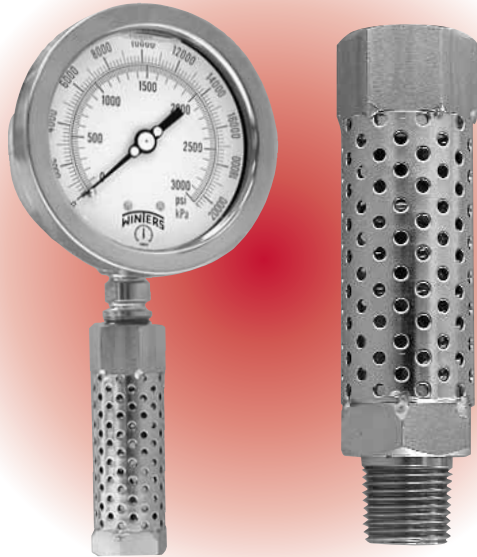
Drawing Number	Description	Material
1	Body:	Carbon Steel
2	Stem:	AISI 316 stainless steel - Stellited V Tip
3	Packing Washer:	AISI 316 stainless steel
4	Gland Packing:	Glass Filled PTFE
5	Lock Nut:	Carbon Steel
6	Gland Retainer:	Carbon Steel
7	Handle:	Aluminum Black Anodized
7	Dust Cover:	Plastic
	Seat Material:	Metal



Size	A	S-SQ	H-Open HT	A
1/4"	2.15" (55mm)	0.98" (25mm)	3.35" (86mm)	2.36" (60mm)
1/2"	2.93" (75mm)	1.33" (34mm)	3.82" (98mm)	2.73" (70mm)

Cooling Tower

Accessories



Description

Winters Cooling Tower is a 316 stainless steel accessory designed to protect instruments in high temperature applications. It may be used for process media temperatures up to 570°F, and can reduce the media temperature by as much as 500°F**.

Specifications

Body:	316 Stainless Steel
Maximum Operating Pressure:	50,000 psi*
Maximum Process Temperature:	570°F (300°C)
Connection:	1/4" NPT male x 1/4" NPT female or 1/2" NPT male x 1/2" NPT female

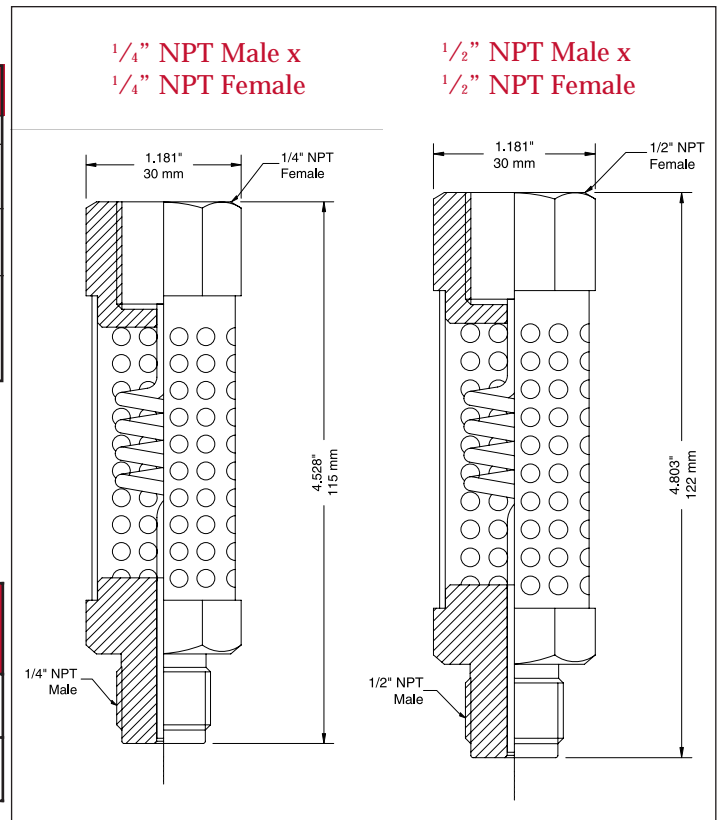
*Please note: Cooling Tower may be utilized in various applications. When Cooling Tower is used with a diaphragm seal, the pressure rating of the diaphragm seal must be acknowledged.

How to order: Specify product code

Products shown in **BOLD** are normally in stock.

Product Code	Description
CT-400	1/4" NPT Male x 1/4" NPT Female
CT-500	1/2" NPT Male x 1/2" NPT Female

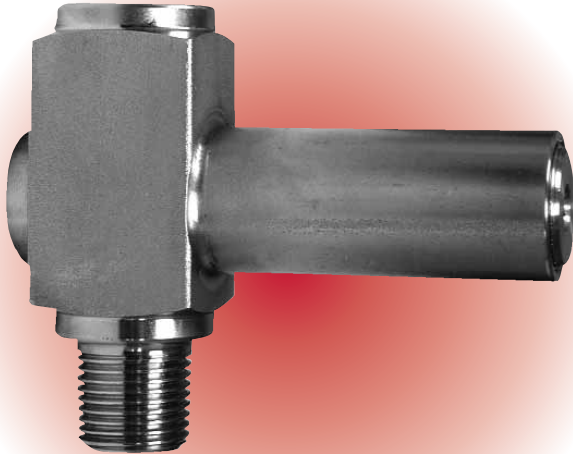
Other connections available upon request.



(**Degree of cooling is dependent on ambient conditions)



Over Pressure Protector

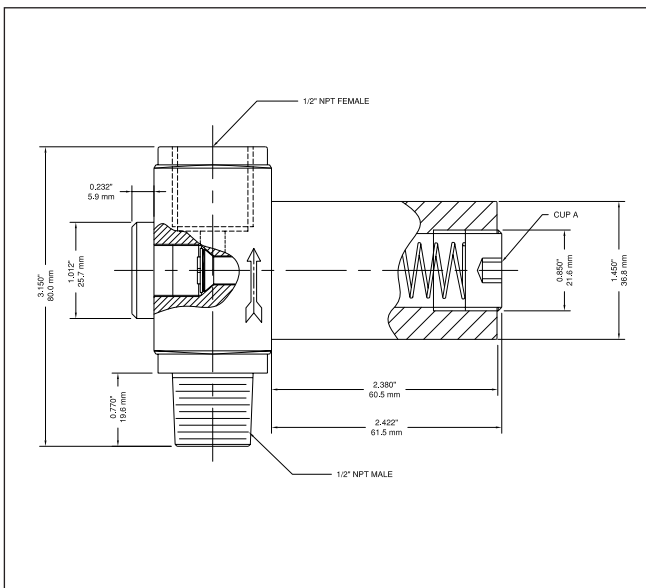


Description

Winters' Over Pressure Protector is utilized to protect pressure instruments against surges and pulsations. Setpoint adjustments are made by manipulating an external adjusting screw and lock nut. The protector automatically shuts off pressure to the instrument once the adjustable preset pressure is exceeded. This instrument is available in Bellows and Piston type.

Specifications:

Body:	Bellows Type: 316 stainless steel Piston Type: 316 stainless steel
Burst:	10,000 psi / kPa
Connection:	1/4" x 1/4" NPT or 1/2" x 1/2" NPT



How to order: Specify product code

Products shown in **BOLD** are normally in stock.

Bellows Type

Product Codes	Connection NPT	Adjustable Pressure Range
AGP32025	1/4" x 1/4"	3-20 psi
AGP159025	1/4" x 1/4"	15-90 psi
AGP32050	1/2" x 1/2"	3-20 psi
AGP159050	1/2" x 1/2"	15-90 psi

Piston Type

Product Codes	Connection NPT	Adjustable Pressure Range
AGP9023025	1/4" x 1/4"	90-230 psi
AGP14039525	1/4" x 1/4"	140-395 psi
AGP435116025	1/4" x 1/4"	435-1160 psi
AGP870149325	1/4" x 1/4"	870-1493 psi
AGP1450580025	1/4" x 1/4"	1450-5800 psi
AGP9023050	1/2" x 1/2"	90-230 psi
AGP14039550	1/2" x 1/2"	140-395 psi
AGP435116050	1/2" x 1/2"	435-1160 psi
AGP870149350	1/2" x 1/2"	870-1493 psi
AGP1450580050	1/2" x 1/2"	1450-5800 psi

#10 PVC Diaphragm Seal

(Vac - 200 psi/kPa)



Description

Winters #10 PVC (Polyvinyl Chloride) Diaphragm Seal features a durable and flexible Teflon® diaphragm seal, which serves as a protective barrier between the process fluid and the instrument. This PVC Seal provides an economical solution to protect instruments from corrosion and clogging, while maintaining high accuracy and dependability, within an operating range of vacuum to 200 psi/kPa. Each Winters #10 PVC diaphragm seal is used to isolate and protect a pressure instrument used on ultra-pure or highly corrosive fluid lines. The Winters #10 PVC Diaphragm Seal can be used with liquids such as demineralized water, sulphuric acid, hydrochloric acid and caustic or with gases (such as corrosive air and ammonia) when such fluids will corrode metal instruments.

Also is **CRN registered**.

Diaphragm Seals

Specifications

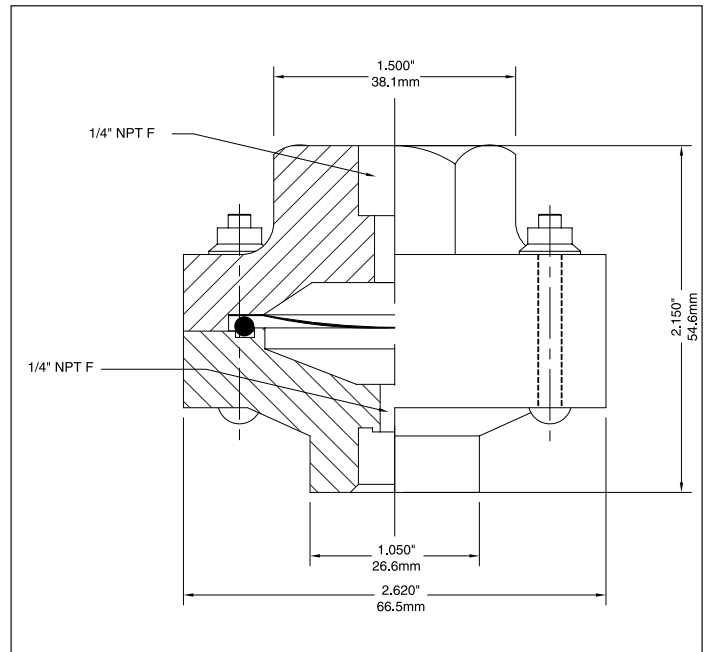
Housing:	PVC (Polyvinyl Chloride, Type 1, Grade 1)
Diaphragm:	Teflon®
Minimum Operating Pressure:	Vacuum
Maximum Operating Pressure:	200 psi/(1380 kPa)
Gauge Connection:	1/4" NPTF
Process Connection:	1/4" NPTF and 1/2" NPTF are standard
Process Temperature:	Recommended for media temperature 77°F to 104°F (25°C to 40°C)

How to Order: Specify Product Code

Products shown in **BOLD** are normally in stock.

PRODUCT CODES

1/4" NPTF x 1/4" NPTF	D985
1/4" NPTF x 1/2" NPTF	D986



#15 In Line Diaphragm Seal

(50psi to 5800psi)



Description

Winters In Line Diaphragm Seal is constructed with a welded diaphragm placed at the end of the male NPT connection, eliminating the normal diaphragm chamber where solidification of the process media may render the seal inoperable. Winters In Line Diaphragm Seal is suitable for any process where freezing or solidification of the pressure media is a concern. Constructed entirely of AISI 316 stainless steel, the Winters In Line Diaphragm Seal is rugged and suitable for the most severe process applications.

(Canadian Registration Number applies only to standard pressure diaphragm seal - D991)

How to order: Specify product code

Products shown in **BOLD** are normally in stock.

Standard Specifications	
Housing:	AISI 316 stainless steel
Diaphragm:	AISI 316L stainless steel, welded
Minimum Operating Pressure:	600 psi (4100 kPa)
Maximum Operating Pressure:	5800 psi (40,000 kPa)
Gauge Connection:	1/4" NPT female standard
Process Connection:	3/4" NPT male standard
Process Temperature:	-49°F to 302°F (-45°C to 150°C)

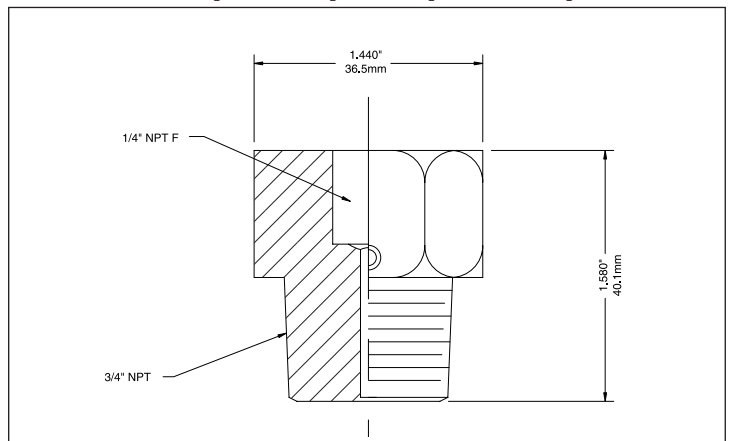
Low Pressure Specifications	
Housing:	AISI 316 stainless steel
Diaphragm:	AISI 316L stainless steel, welded
Minimum Operating Pressure:	50 psi (345 kPa)
Maximum Operating Pressure:	2000 psi (13,780 kPa)
Gauge Connection:	1/4" NPT female standard
Process Connection:	3/4" NPT male standard
Process Temperature:	-20°F to 360°F (-31°C to 185°C)

PRODUCT CODES

1/4" NPTF x 3/4" NPTM	D991	Standard Pressure*
1/4" NPTF x 3/4" NPTM	D992	Low Pressure**

*Standard Pressure: 600 psi to 5800 psi (4100 kpa to 40,000 kpa)

**Low Pressure: 50 psi to 2000 psi (345 kpa to 13,780kpa)



#20 Diaphragm Seal



30 to 1000 psi (200 to 6,900 kPa)

Description

The Winters #20 Sanitary Seal meets the requirements of dairy, food, beverage, chemical and pharmaceutical industries. When Winters #20 Sanitary Seal is attached to a Winters all stainless steel construction pressure gauge, the unit becomes completely sanitary, making it impossible for bacteria to form and contaminate the process product. This unit is 3A designated for all sanitary applications (see Sanitary Gauges 3A specification sheet in Premium section).

The Winters Sanitary Seal is 3A approved and **CRN registered**.

Specifications

Housing:	AISI 316 stainless steel
Diaphragm:	AISI 316L stainless steel, welded
Minimum Operating Pressure:	30 psi (200 kPa)
Maximum Operating Pressure:	1000 psi (6,900 kPa)
Gauge Connection:	1/4" NPT female
Process Connection:	1 1/2" (40mm) and 2" (50mm) Tri-clamp® fitting standard
Process Temperature:	-4°F to 248°F (-20°C to 120°C)

® Tri-clamp is a registered trademark of Tri-Clover.

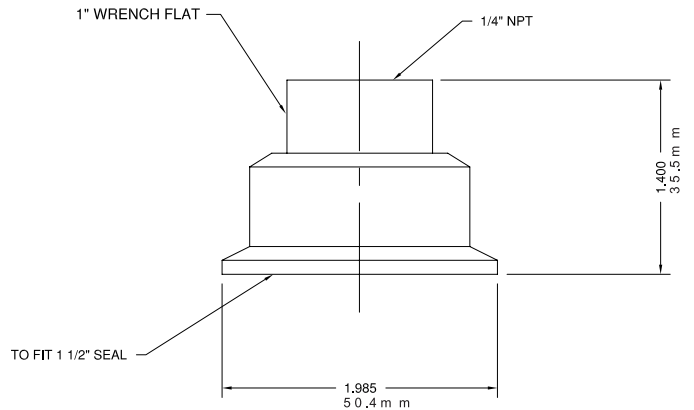
How to order: Specify product code

Products shown in **BOLD** are normally in stock.

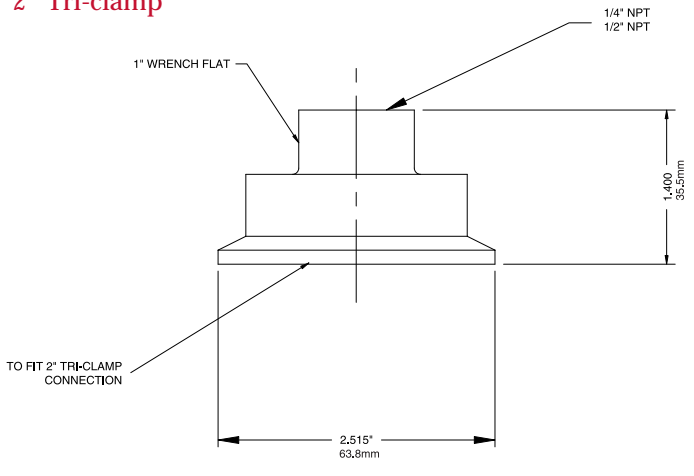
#20 PRODUCT CODES

1 1/2" (40mm)	D980
2" (50mm)	D976

1 1/2" Tri-clamp®



2" Tri-clamp®



#30 Diaphragm Seal

1,000 to 6,000 psi (6,900 to 41,300 kPa)



Description

Winters compact, lightweight and economical #30 Diaphragm Seal is constructed of AISI 316 stainless steel and is welded together into a one piece unit. The diaphragm offers protection for pressure instruments (gauges and transmitters) from corrosive, contaminated or viscous media.

This **CRN registered** Diaphragm Seal is ideally suited to applications where space limitations exist.

Diaphragm Seals

Specifications

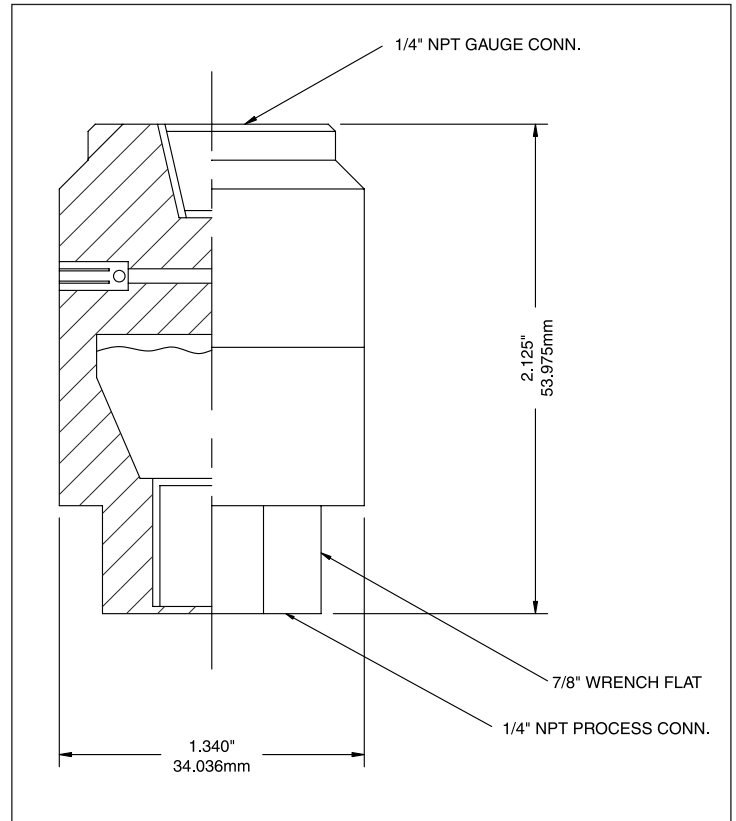
Housing:	AISI 316 stainless steel
Diaphragm:	AISI 316L stainless steel, welded
Minimum Operating Pressure:	1000 psi (6,900 kPa)
Maximum Operating Pressure:	6000 psi (41,300 kPa)
Gauge Connection:	1/4" NPT female
Process Connection:	1/4" NPT female
Process Temperature:	-49°F to 302°F (-45°C to 150°C)

How to order: Specify product code

Products shown in **BOLD** are normally in stock.

#30 PRODUCT CODES

1/4" NPT x 1/4" NPT	D975
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#40 Diaphragm Seal



0 to 1000 psi (0 to 6,900 kPa)

Description

Winters Instruments compact (one piece), light-weight and economical #40 Diaphragm Seal is designed to operate between 0 and 1000 psi (6,900 kPa). It is primarily utilized to protect gauges and transmitters from corrosive media.

The #40 Diaphragm Seal is ideally suited to applications where space limitations exist. It is also, utilized in many OEM applications.

This compact diaphragm seal is **CRN registered**.

Specifications

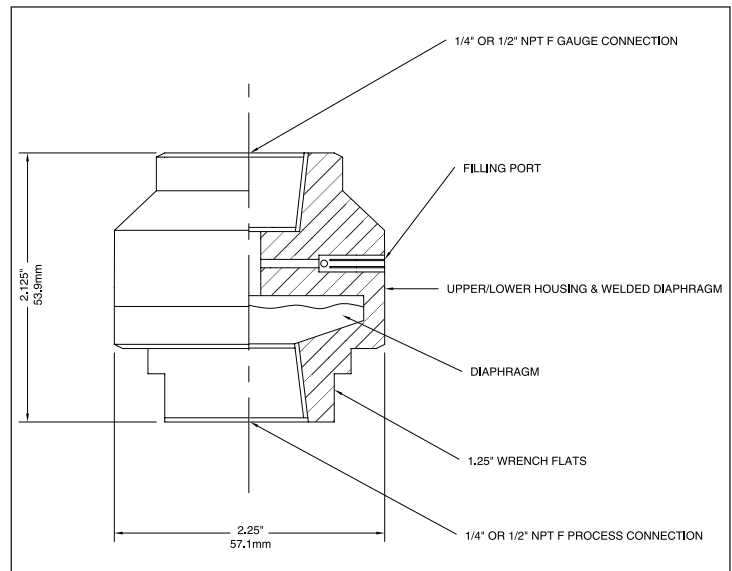
Housing:	AISI 316 stainless steel
Diaphragm:	AISI 316L stainless steel, welded
Minimum Operating Pressure:	15 psi
Maximum Operating Pressure:	1000 psi (6,900 kPa)
Gauge Connection:	1/4" NPT female and 1/2" NPT female
Process Connection:	1/4" NPT female and 1/2" NPT female
Process Temperature:	-49°F to 302°F (-45°C to 150°C)

How to order: Specify product code

Products shown in **BOLD** are normally in stock.

#40 PRODUCT CODES

1/4" NPT x 1/4" NPT	D973
1/4" NPT x 1/2" NPT	D972
1/2" NPT x 1/2" NPT	D974



#50 Diaphragm Seal

100 to 1000 psi (690 to 6,900 kPa)



Description

Winters compact, lightweight and economical #50 Diaphragm Seal is designed to operate between 100 psi (690 kPa) and 1000 psi (6,900 kPa). The diaphragm seal is constructed of AISI 316 stainless steel and is welded together into a one piece unit. This **CRN registered** #50 Diaphragm Seal is ideally suited to applications where space limitations exist.

Diaphragm Seals

Specifications

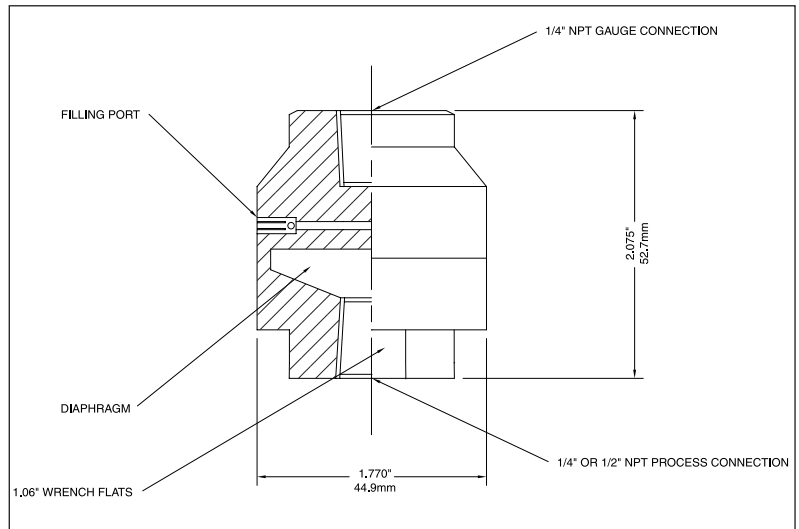
Housing:	AISI 316 stainless steel
Diaphragm:	AISI 316L stainless steel
Minimum Operating Pressure:	100 psi (690 kPa)
Maximum Operating Pressure:	1000 psi (6,900 kPa)
Gauge Connection:	1/4" NPT female
Process Connection:	1/4" NPT female/male, and 1/2" NPT female are standard
Process Temperature:	-49°F to 302°F (-45°C to 150°C)

How to order: Specify product code

Products shown in **BOLD** are normally in stock.

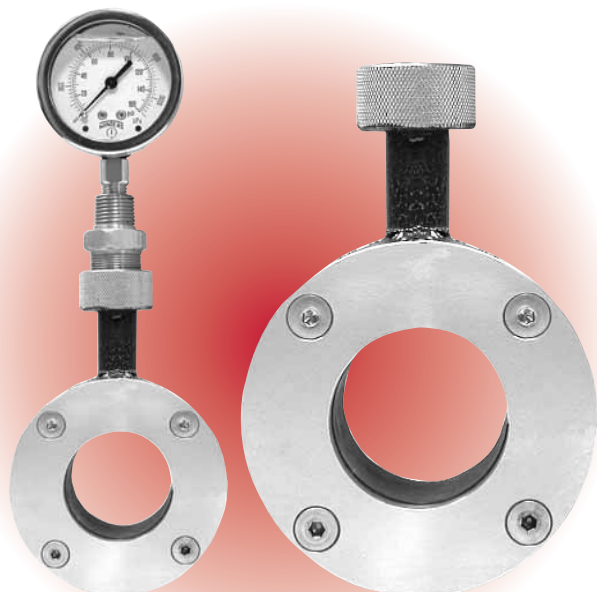
#50 PRODUCT CODES

1/4" NPTF x 1/4" NPTF	D970
1/4" NPTF x 1/4" NPTM	D971
1/4" NPTF x 1/2" NPTF	D990



#60 Isolation Ring

(30" HgVac to 1,000 psi)



Description

This wafer style (w) isolation ring is ideal for measuring pressures of viscous or soild media with a flow through technology which eliminates clogging or pressure blocking from occuring.

Various materials/configurations available to fit your specific application.

Easy removal of gauge or switch for calibration, repair or replacement without interrupting process flow.

Specifications		
Pressure Range:	Vacuum to 1,000 psi	
Sensor Type:	(WIR) (RIR) (QIR) (FIR) (SIR) (VIR)	<ul style="list-style-type: none"> • Wafer style, nests inside bolt circle • Full flange • Tri-clover sanitary quick connect • Special construction • Screw on connections • Victaulic connections
Sizes:	(1" - 24")	1" (25mm) up to 24" (609mm) "Consult factory for larger sizes."
Center Section:	(C) (S) (C20) (CK)	<ul style="list-style-type: none"> • Carbon Steel • 316 Stainless Steel • Carpenter-20 • Carbon Steel / Kynar coated
End Plates:	(A) (S) (TEF) (K) (H) (T) (U)	<ul style="list-style-type: none"> • Acetal • 316 Stainless Steel • Teflon® • Kynar • Hastelloy C • Titanium • UHMW / Ultra High Molecular Weight Polyethylene
Elastomer (Sleeve):	(N) (B) (E) (V) (CP)	<ul style="list-style-type: none"> • Neoprene (-20°F to 220°F) • Nitrile (Buna-N) (-20°F to 180°F) • EPDM (Nordel®) (-20°F to 300°F) • Fluoroelastomer (Viton®) (Available with optional Teflon® coating) (-20°F to 375°F) • Chlorosulfonated Polyethylene (Hypalon®)(-20°F to 250°F)
Stinger Material:	(B) (S)	<ul style="list-style-type: none"> • Brass • Stainless Steel
Fill Fluid:	(SF) (V)	<ul style="list-style-type: none"> • Silicone fluid (-40°F-400°F) • Food Grade Silicone (Optional)

#60 Isolation Ring

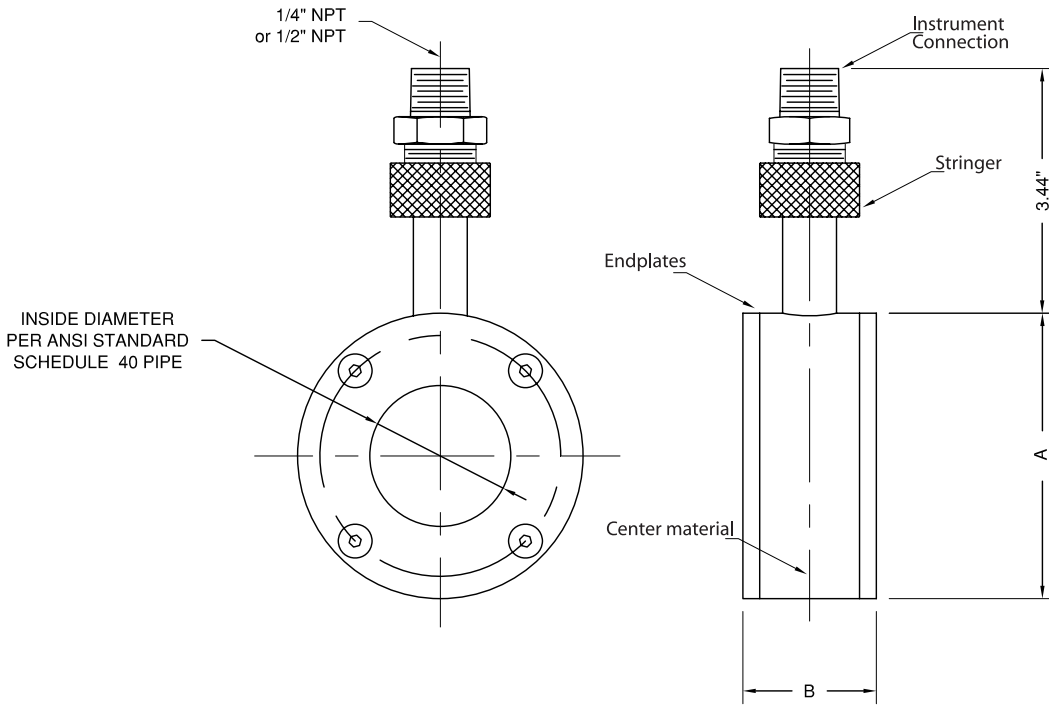
How To Order:

Sensor type - Size - Center Material - End Plate Material - Elastomer - Stinger Material - Fill Fluid (Sleeve)

Example:

WIR - 4 - C - A - B - B - SF

Isolation Ring (Wafer Style)



Measurements		
Size	ØA	B
1"	2.50	1.87
1½"	3.25	1.87
2"	4.00	1.87
2½"	4.75	1.87
3"	5.25	1.87
4"	6.75	2.12
5"	7.62	2.25
6"	8.62	2.25
8"	10.87	2.25
10"	13.25	2.81
12"	16.00	3.12
14"	17.62	3.12
16"	20.12	3.12
18"	21.50	3.12
20"	23.75	3.12
24"	32.00	3.12

#70 Diaphragm Seals

30" Vac to 2500 psi (-100 to 15,850 kPa)



Process Gauge Attached to a #70 Seal



Description

Winters rugged #70 Diaphragm Seal is a two piece construction and designed to withstand even the most severe process applications. The diaphragm is separable for servicing and is available with a 1/8" NPT or 1/4" NPT flushing connection for removing any material, which may clog the process connection. The diaphragm is constructed of AISI 316L stainless steel and is welded to the upper chamber of the seal for pressures 30 psi (200 kPa) and above; Viton for ranges from 30" Hg Vacuum (-100 kPa) up to 100 psi (690 kPa). Viton is highly recommended for applications less than 10 psi. The Winters #70 Diaphragm Seal is **CRN registered**.

Applications

Any applications where the process fluid is corrosive or is viscous and would clog instrument internals or would solidify within the pressure gauge, switch or transmitter.

SPECIFICATIONS

SPECIFICATIONS	
Housing:	Various material available including, 316 stainless steel, Monel & Hastelloy C
Construction:	Two piece construction
Connection:	Bottom: 1/4", 1/2", 3/4" and 1" NPT Top: 1/4" and 1/2" NPT
Other:	Flushing connections available. Other materials such as Teflon®, PVC, Carbon steel, Alloy 20, Hastelloy B, Titanium, Tantalum, etc. are available upon request.

#70 Diaphragm Seals

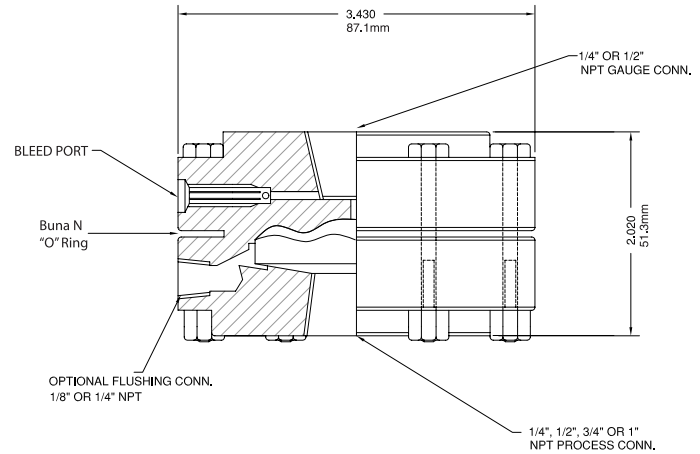
30" Vac to 2500 psi (-100 to 15,850 kPa)

Products shown in **BOLD** are normally in stock.

Product Codes	
Lower Housing (Bottom)	
316 St/St, 1/4" NPT conn.	D954
316 St/St, 1/2" NPT conn.	D956
316 St/St, 1/2" NPT conn. with flushing	D957
316 St/St, 3/4" NPT conn. with flushing	D959
316 St/St, 3/4" NPT conn.	D963
316 St/St, 1" NPT conn.	D964
316 St/St, 1" NPT conn. with flushing	D965
316 St/St, 1/4" NPT conn., Viton	D954V
316 St/St, 1/2" NPT conn., Viton	D956V
316 St/St, 1/2" NPT conn. with flushing, Viton	D957V
316 St/St, 3/4" NPT conn. with flushing, Viton	D959V
316 St/St, 3/4" NPT conn., Viton	D963V
316 St/St, 1" NPT conn., Viton	D964V
316 St/St, 1" NPT conn. with flushing, Viton	D965V
Monel, 1/4" NPT conn.	D954M
Monel, 1/2" NPT conn.	D956M
Monel, 1/2" NPT conn. with flushing	D957M
Monel, 3/4" NPT conn. with flushing	D959M
Monel, 3/4" NPT conn.	D963M
Monel, 1" NPT conn.	D964M
Monel, 1" NPT conn. with flushing	D965M
Hastelloy C, 1/4" NPT conn.	D954HASC
Hastelloy C, 1/2" NPT conn.	D956HASC
Hastelloy C, 1/2" NPT conn. with flushing	D957HASC
Hastelloy C, 3/4" NPT conn. with flushing	D959HASC
Hastelloy C, 3/4" NPT conn.	D963HASC
Hastelloy C, 1" NPT conn.	D964HASC
Hastelloy C, 1" NPT conn. with flushing	D965HASC

Product Codes	
Upper Housing (Top)	
316 St/St, 1/4" NPT conn., 316 St/St diaphragm	D950
316 St/St, 1/4" NPT conn., Monel diaphragm	D950M
316 St/St, 1/4" NPT conn., Hastelloy C diaphragm	D950HASC
316 St/St, 1/4" NPT conn., Viton diaphragm	D951
316 St/St, 1/2" NPT conn., 316 St/St diaphragm	D952
316 St/St, 1/2" NPT conn., Monel diaphragm	D952M
316 St/St, 1/2" NPT conn., Hastelloy C diaphragm	D952HASC
316 St/St, 1/2" NPT conn., Viton diaphragm	D953

#70 Diaphragm Seal - Stainless Steel Diaphragm

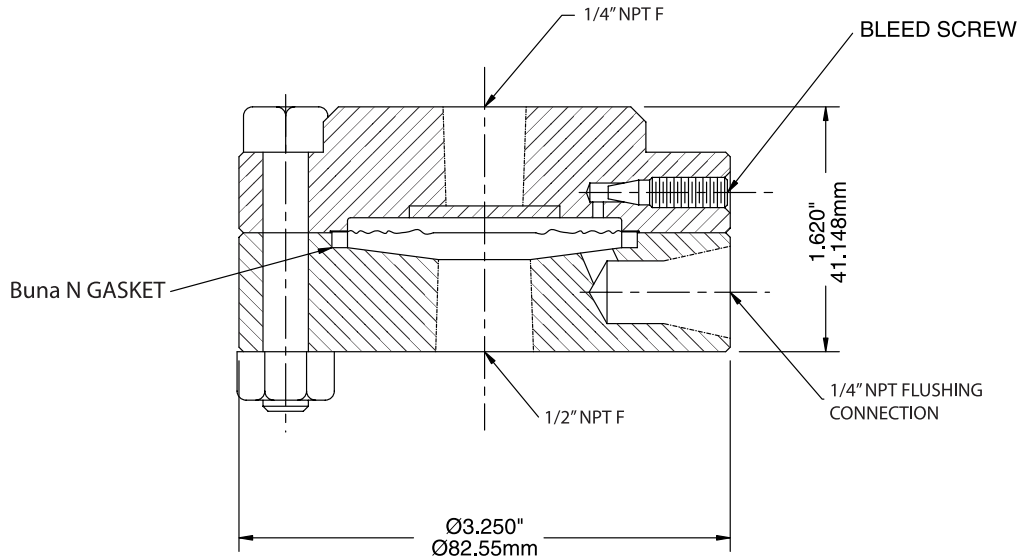


- Options:**
- SF-D = Silicone fill (seal only)
 - FL-D = Fluorolube fill (seal only)
 - Teflon Protected Diaphragm
 - ♦ Viton is a trademark of Dupont Dow Elastomers

When selecting a #70 series diaphragm seal, you must choose an upper and lower housing.
 Example: **D950 - D956**
 Upper Lower

#70 Diaphragm Seal - Monel Diaphragm Model: D950M-D957M

#70 Diaphragm Seal - Hastelloy C Diaphragm Model: D950HASC-D954HASC



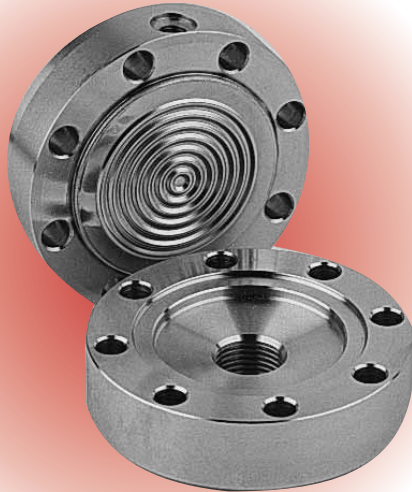
#70 NACE Diaphragm Seals

30" Vac to 2500 psi (-100 to 15,850 kPa)

NACE MR0175-2003

Description

Winters #70 NACE Diaphragm Seals can be used on applications requiring a NACE compliant MR0175-2003 diaphragm seal.



Meets NACE Standard MR0175-2003

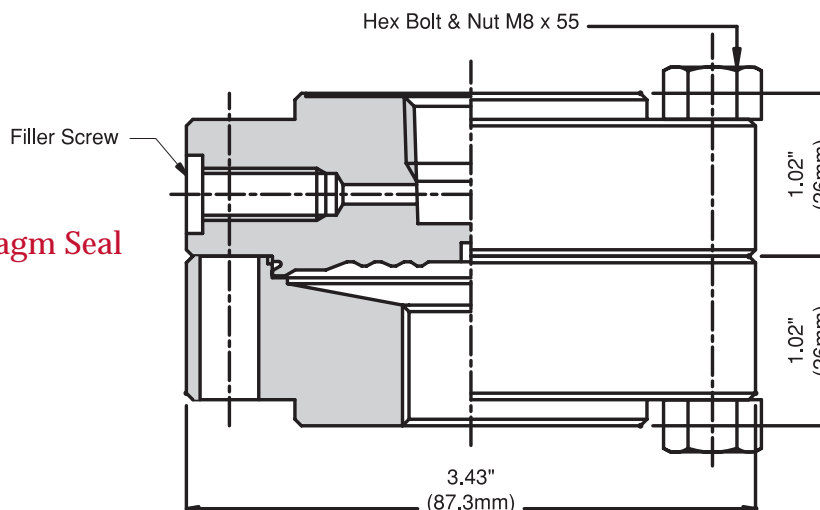
Diaphragm Seals

Product Codes	
Upper Housing (Top)	
Hast. C, 1/4" NPT conn., Hastelloy C diaphragm	DN966HASC75
Hast. C, 1/2" NPT conn., Hastelloy C diaphragm	DN967HASC75
Lower Housing (Bottom)	
Hastelloy C, 1/4" NPT conn.	DN954HASC75
Hastelloy C, 1/2" NPT conn.	DN956HASC75
Hastelloy C, 1/2" NPT conn. with flushing	DN957HASC75
Hastelloy C, 3/4" NPT conn. with flushing	DN959HASC75
Hastelloy C, 3/4" NPT conn.	DN963HASC75
Hastelloy C, 1" NPT conn.	DN964HASC75
Hastelloy C, 1" NPT conn. with flushing	DN965HASC75

SPECIFICATIONS	
Housing:	Hastelloy C
Diaphragm:	Hastelloy C, welded
Construction:	Two piece construction
Connection:	Top: 1/4" and 1/2" NPT Bottom: 1/4", 1/2", 3/4" and 1" NPT
Other:	Flushing connections available. Other materials available upon request.

Options: • FL-D = Silicone fill (seal only) • FL-D = Fluorolube fill (seal only)

#70 NACE Diaphragm Seal



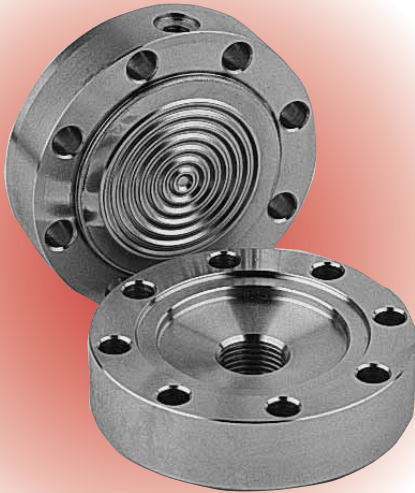
#70 NACE Diaphragm Seals

30" Vac to 2500 psi (-100 to 15,850 kPa)

NACE MR0103-2003

Description

Any applications requiring a NACE compliant MR0103-2003 diaphragm seal.

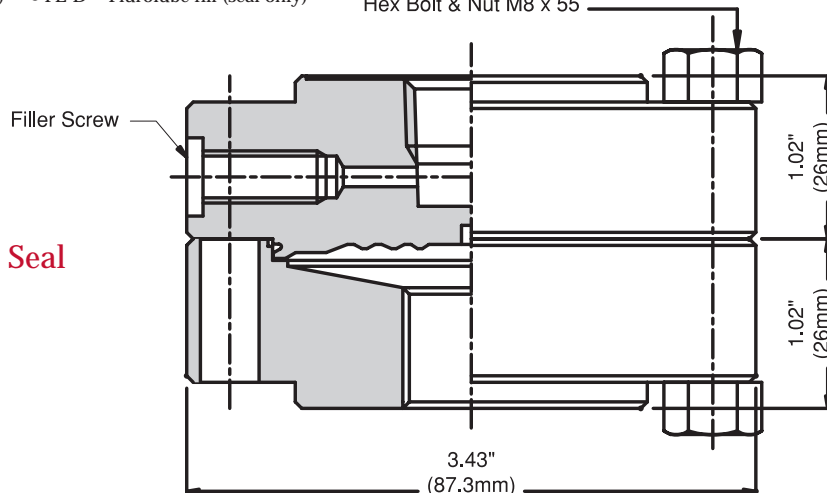


Meets NACE Standard MR0103-2003

Product Codes		SPECIFICATIONS	
Upper Housing (Top)		Housing:	316 stainless steel
316 St/St, 1/4" NPT conn., 316 St/St diaphragm	DN95003	Diaphragm:	316 stainless steel, welded
316 St/St, 1/2" NPT conn., 316 St/St diaphragm	DN95203	Construction:	Two piece construction
Lower Housing (Bottom)		Connection:	Top: 1/4" and 1/2" NPT Bottom: 1/4", 1/2", 3/4" and 1" NPT
316 St/St, 1/4" NPT conn.	DN95403	Other:	Flushing connections available. Other materials available upon request.
316 St/St, 1/2" NPT conn.	DN95603		
316 St/St, 1/2" NPT conn. with flushing	DN95703		
316 St/St, 3/4" NPT conn. with flushing	DN95903		
316 St/St, 3/4" NPT conn.	DN96303		
316 St/St, 1" NPT conn.	DN96403		
316 St/St, 1" NPT conn. with flushing	DN96503		

Options: • SF-D = Silicone fill (seal only) • FL-D = Fluorolube fill (seal only)

Hex Bolt & Nut M8 x 55



#70 NACE Diaphragm Seal

#80 Flanged Diaphragm Seals



Description

Winters Instruments Flanged Diaphragm Seal is used in industrial applications such as oil refineries, pulp and paper mills and chemical plants and is CRN registered.

SPECIFICATIONS

Housing:	Wide range of materials such as 316 stainless steel, Monel, Hastelloy B & C, Titanium, Tantalum, PVC, Carbon steel, Teflon, Alloy 20 and more are available (Nickel plated carbon steel, or stainless steel upper housing standard, other material available).
Construction:	Two piece construction
Connection:	1/4" and 1/2" NPT female gauge connections standard (Other NPTF gauges connections available) · 1" (25mm), 1 1/2" (40mm) and 2" (50mm) pipe size and #150 and #300 pressure rating standard. (Other configurations available)
Other:	· Cleanout type for easy cleaning and calibrating · Saddle Diaphragm seals available upon request · Flushing connections available

Product Codes

Type* Process Conn / Press. Rating	Instrument Connection	Diaphragm Material	Lower Housing Wetted Parts	Carbon Steel	Stainless Steel
				Upper Housing Non-Wetted Parts	Upper Housing Non-Wetted Parts
1" - 150#RF					
Welded Diaphragm	1/2" NPT	316 St/St	316 St/St	D1150SS5CS	D1150SS5SS
Welded Diaphragm	1/2" NPT	Tantalum	Teflon Lined - 316 St/St	D1150UL5CS	D1150UL5SS
Welded Diaphragm	1/2" NPT	Hastelloy C	Monel	D1150HM5CS	D1150HM5SS
Welded Diaphragm	1/2" NPT	Hastelloy C	Hastelloy C	D1150HH5CS	D1150HH5SS
Welded Diaphragm	1/4" NPT	316 St/St	316 S/S	D1150SS25CS	D1150SS25SS
Welded Diaphragm	1/4" NPT	Tantalum	Teflon Lined - 316 St/St	D1150UL25CS	D1150UL25SS
Welded Diaphragm	1/4" NPT	Hastelloy C	Monel	D1150HM25CS	D1150HM25SS
Welded Diaphragm	1/4" NPT	Hastelloy C	Hastelloy C	D1150HH25CS	D1150HH25SS
1" - 300#RF					
Welded Diaphragm	1/2" NPT	316 St/St	316 St/St	D1300SS5CS	D1300SS5SS
Welded Diaphragm	1/2" NPT	Tantalum	Teflon Lined - 316 St/St	D1300UL5CS	D1300UL5SS
Welded Diaphragm	1/2" NPT	Hastelloy C	Monel	D1300HM5CS	D1300HM5SS
Welded Diaphragm	1/2" NPT	Hastelloy C	Hastelloy C	D1300HH5CS	D1300HH5SS
Welded Diaphragm	1/4" NPT	316 St/St	316 St/St	D1300SS25CS	D1300SS25SS
Welded Diaphragm	1/4" NPT	Tantalum	Teflon Lined - 316 St/St	D1300UL25CS	D1300UL25SS
Welded Diaphragm	1/4" NPT	Hastelloy C	Monel	D1300HM25CS	D1300HM25SS
Welded Diaphragm	1/4" NPT	Hastelloy C	Hastelloy C	D1300HH25CS	D1300HH25SS

* Replaceable and Teflon Diaphragms available

· Other materials, pipe size and pressure ratings available upon request.



#80 Flanged Diaphragm Seals (Welded)

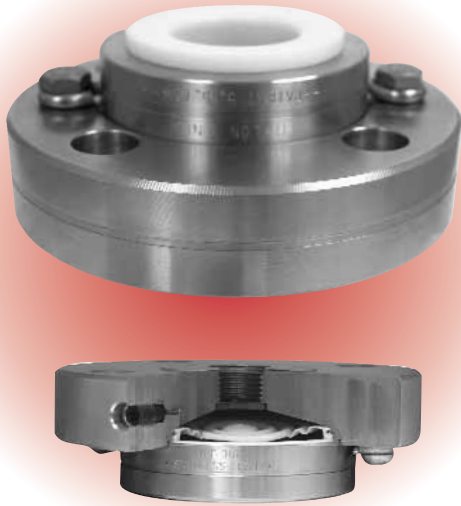
Product Codes					
Type* Process Conn/ Press. Rating	Instrument Connection	Diaphragm Material	Lower Housing Wetted Parts	Carbon Steel	Stainless Steel
				Upper Housing Non-Wetted Parts	Upper Housing Non-Wetted Parts
1.5" - 150#RF					
Welded Diaphragm	1/2" NPT	316 St/St	316 St/St	D15150SS5CS	D15150SS5SS
Welded Diaphragm	1/2" NPT	Tantalum	Teflon Lined - 316 St/St	D15150UL5CS	D15150UL5SS
Welded Diaphragm	1/2" NPT	Hastelloy C	Monel	D15150HM5CS	D15150HM5SS
Welded Diaphragm	1/2" NPT	Hastelloy C	Hastelloy C	D15150HH5CS	D15150HH5SS
Welded Diaphragm	1/4" NPT	316 St/St	316 St/St	D15150SS25CS	D15150SS25SS
Welded Diaphragm	1/4" NPT	Tantalum	Teflon Lined - 316 St/St	D15150UL25CS	D15150UL25SS
Welded Diaphragm	1/4" NPT	Hastelloy C	Monel	D15150HM25CS	D15150HM25SS
Welded Diaphragm	1/4" NPT	Hastelloy C	Hastelloy C	D15150HH25CS	D15150HH25SS
1.5" - 300#RF					
Welded Diaphragm	1/2" NPT	316 St/St	316 St/St	D15300SS5CS	D15300SS5SS
Welded Diaphragm	1/2" NPT	Tantalum	Teflon Lined - 316 St/St	D15300UL5CS	D15300UL5SS
Welded Diaphragm	1/2" NPT	Hastelloy C	Monel	D15300HM5CS	D15300HM5SS
Welded Diaphragm	1/2" NPT	Hastelloy C	Hastelloy C	D15300HH5CS	D15300HH5SS
Welded Diaphragm	1/4" NPT	316 St/St	316 St/St	D15300SS25CS	D15300SS25SS
Welded Diaphragm	1/4" NPT	Tantalum	Teflon Lined - 316 St/St	D15300UL25CS	D15300UL25SS
Welded Diaphragm	1/4" NPT	Hastelloy C	Monel	D15300HM25CS	D15300HM25SS
Welded Diaphragm	1/4" NPT	Hastelloy C	Hastelloy C	D15300HH25CS	D15300HH25SS
2" - 150#RF					
Welded Diaphragm	1/2" NPT	316 St/St	316 St/St	D2150SS5CS	D2150SS5SS
Welded Diaphragm	1/2" NPT	Tantalum	Teflon Lined - 316 St/St	D2150UL5CS	D2150UL5SS
Welded Diaphragm	1/2" NPT	Hastelloy C	Monel	D2150HM5CS	D2150HM5SS
Welded Diaphragm	1/2" NPT	Hastelloy C	Hastelloy C	D2150HH5CS	D2150HH5SS
Welded Diaphragm	1/4" NPT	316 St/St	316 St/St	D2150SS25CS	D2150SS25SS
Welded Diaphragm	1/4" NPT	Tantalum	Teflon Lined - 316 St/St	D2150UL25CS	D2150UL25SS
Welded Diaphragm	1/4" NPT	Hastelloy C	Monel	D2150HM25CS	D2150HM25SS
Welded Diaphragm	1/4" NPT	Hastelloy C	Hastelloy C	D2150HH25CS	D2150HH25SS
2" - 300#RF					
Welded Diaphragm	1/2" NPT	316 St/St	316 St/St	D2300SS5CS	D2300SS5SS
Welded Diaphragm	1/2" NPT	Tantalum	Teflon Lined - 316 St/St	D2300UL5CS	D2300UL5SS
Welded Diaphragm	1/2" NPT	Hastelloy C	Monel	D2300HM5CS	D2300HM5SS
Welded Diaphragm	1/2" NPT	Hastelloy C	Hastelloy C	D2300HH5CS	D2300HH5SS
Welded Diaphragm	1/4" NPT	316 St/St	316 St/St	D2300SS25CS	D2300SS25SS
Welded Diaphragm	1/4" NPT	Tantalum	Teflon Lined - 316 St/St	D2300UL25CS	D2300UL25SS
Welded Diaphragm	1/4" NPT	Hastelloy C	Monel	D2300HM25CS	D2300HM25SS
Welded Diaphragm	1/4" NPT	Hastelloy C	Hastelloy C	D2300HH25CS	D2300HH25SS

* Replaceable Diaphragms available

• Other materials, pipe size and pressure ratings available upon request.



#80 Flanged Diaphragm Seals (Teflon)



Description

Winters Instruments Flanged Diaphragm Seal is used in industrial applications such as oil refineries, pulp and paper mills and chemical plants and is CRN registered.

SPECIFICATIONS	
Housing:	Wide range of materials such as 316 stainless steel, Monel, Hastelloy B & C, Titanium, Tantalum, PVC, Carbon steel, Teflon, Alloy 20 and more are available (Nickel plated carbon steel, or stainless steel upper housing standard, other material available).
Diaphragm:	Teflon for increased compatibility, sensitivity & versatility
Construction:	2 piece
Connection:	1/4" and 1/2" NPT female gauge connections standard (Other NPTF gauges connections available) · 1" (25mm), 1 1/2" (40mm) and 2" (50mm) pipe size and #150 and #300 pressure rating standard. (Other configurations available)

Product Codes					
Type* Process Conn/ Press. Rating	Instrument Connection	Diaphragm Material	Lower Housing Wetted Parts	Carbon Steel	Stainless Steel
				Upper Housing Non-Wetted Parts	Upper Housing Non-Wetted Parts
1" - 150#RF					
Teflon Diaphragm	1/2" NPT	Teflon	316 St/St - Teflon lined	D001	D002
Teflon Diaphragm	1/4" NPT	Teflon	316 St/St - Teflon lined	D003	D004
1" - 300#RF					
Teflon Diaphragm	1/2" NPT	Teflon	316 St/St - Teflon lined	D005	D006
Teflon Diaphragm	1/4" NPT	Teflon	316 St/St - Teflon lined	D007	D008
1.5" - 150#RF					
Teflon Diaphragm	1/2" NPT	Teflon	316 St/St - Teflon lined	D009	D010
Teflon Diaphragm	1/4" NPT	Teflon	316 St/St - Teflon lined	D011	D012
1.5" - 300#RF					
Teflon Diaphragm	1/2" NPT	Teflon	316 St/St - Teflon lined	D013	D014
Teflon Diaphragm	1/4" NPT	Teflon	316 St/St - Teflon lined	D015	D016
2" - 150#RF					
Teflon Diaphragm	1/2" NPT	Teflon	316 St/St - Teflon lined	D017	D018
Teflon Diaphragm	1/4" NPT	Teflon	316 St/St - Teflon lined	D019	D020
2" - 300#RF					
Teflon Diaphragm	1/2" NPT	Teflon	316 St/St - Teflon lined	D021	D022
Teflon Diaphragm	1/4" NPT	Teflon	316 St/St - Teflon lined	D023	D024

* Replaceable Diaphragms available

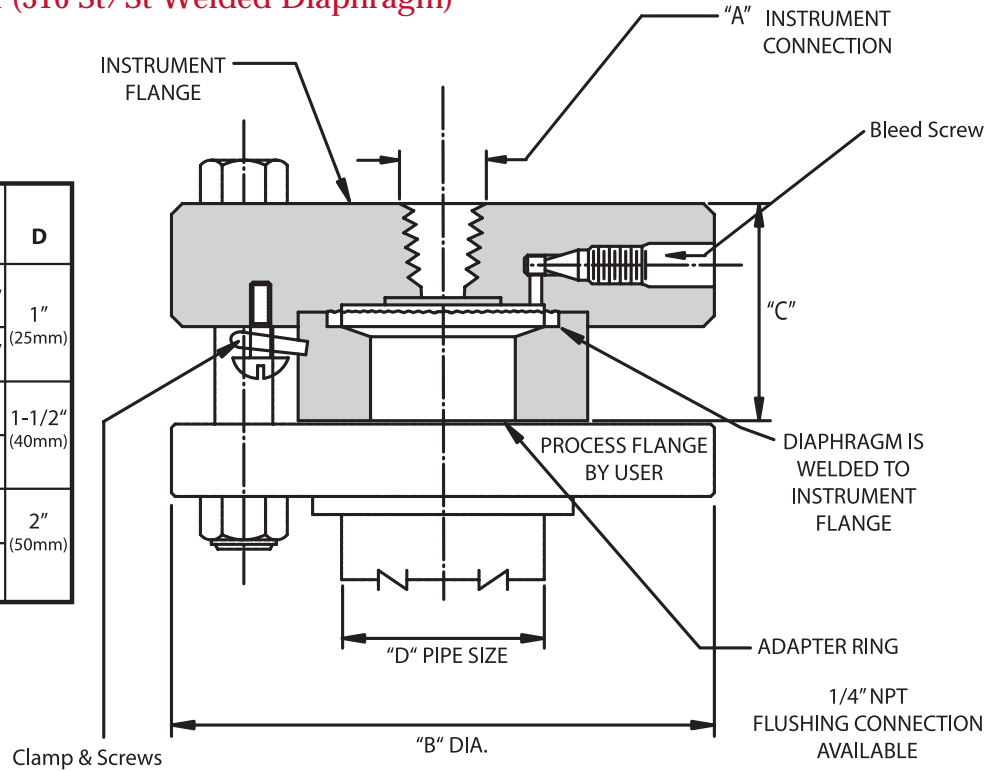


#80 Flanged Diaphragm Seals

Diaphragm Seals

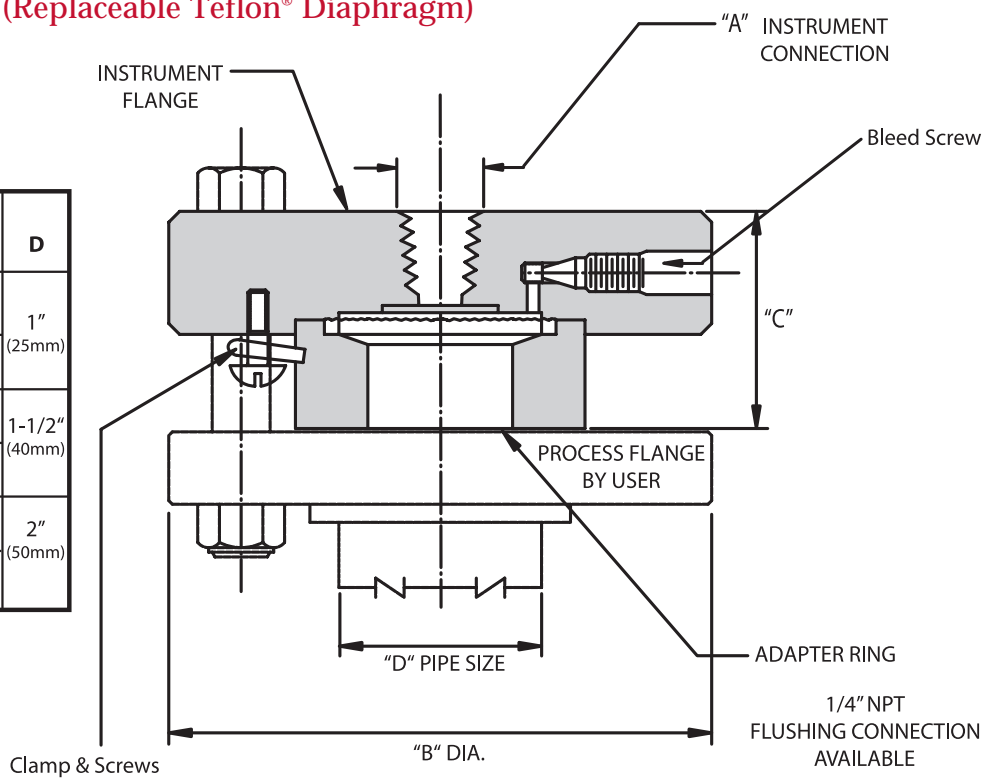
#D81B Diaphragm Seal (316 St/St Welded Diaphragm)

A NPT	PRESSURE RATING	B	C	D
1/4	150 LB.	4-1/4" (108mm)	1-11/16"	1" (25mm)
1/2				
1/4	300 LB.	4-3/4" (108mm)	1-11/16"	1-1/2" (40mm)
1/2				
1/4	150 LB.	5" (125mm)	1-5/8"	2" (50mm)
1/2				
1/4	300 LB.	6" (150mm)	1-5/8"	2" (50mm)
1/2				
1/4	150 LB.	6" (150mm)	1-5/8"	2" (50mm)
1/2				
1/4	300 LB.	6-1/2" (162mm)	1-5/8"	2" (50mm)
1/2				

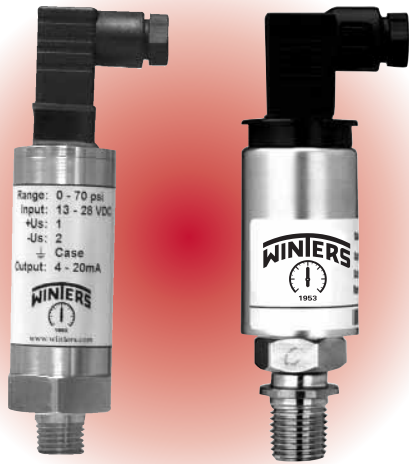


#D80B Diaphragm Seal (Replaceable Teflon® Diaphragm)

A NPT	PRESSURE RATING	B	C	D
1/4	150 LB.	4-1/4" (108mm)	1-11/16" (44mm)	1" (25mm)
1/2				
1/4	300 LB.	4-3/4" (108mm)	1-11/16" (44mm)	1-1/2" (40mm)
1/2				
1/4	150 LB.	5" (125mm)	1-5/8" (42mm)	2" (50mm)
1/2				
1/4	300 LB.	6" (150mm)	1-5/8" (42mm)	2" (50mm)
1/2				
1/4	150 LB.	6" (150mm)	1-5/8" (42mm)	2" (50mm)
1/2				
1/4	300 LB.	6-1/2" (162mm)	1-5/8" (42mm)	2" (50mm)
1/2				



General Wiring Instructions Pressure Transmitters



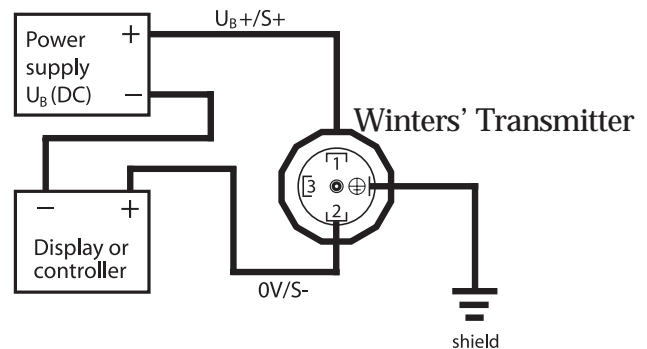
Winters offers various pressure transmitters to fit your particular application. Transmitters must be "configured correctly" to ensure proper functionality and performance.

The most common electrical connection for the Winters industrial transmitters is the DIN 43650 connector. This connector features an internal connection block with solderless screw terminals and a compression fitting. Generally speaking, pressure transmitters use 2, 3, or 4 wire configurations depending on the type of signal (mA or V) and the circuit board design.

Many of the Winters' pressure transmitters feature a 2 wire, 4-20mA "current loop configuration" because of its ease of use and resistance to RFI (radio frequency interference).

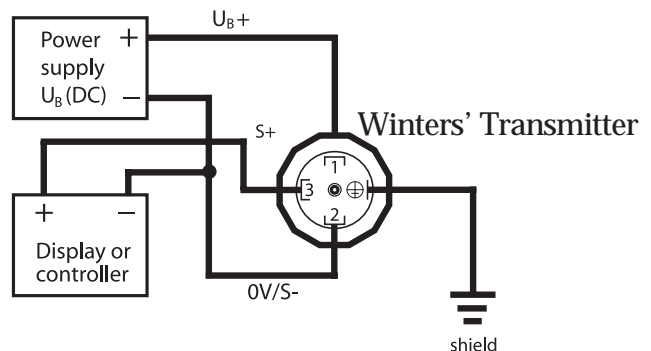
2-Wire Configuration: 4-20mA

Connection of power supply, transmitter, and display/controller creating "current loop"



3-Wire Configuration: 4-20mA, 0-5V, 0-10V

Separate leads for signal and power supply signal source and indicating/recording instrument are connected in series, the power in parallel



4-Wire Configuration: 0-100V

Each lead is a separate connection

Terminal Coding:

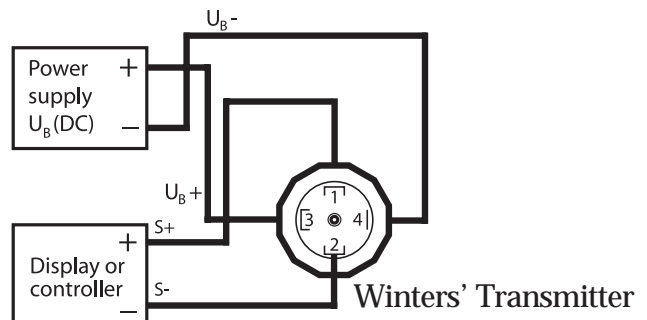
U_B+ (Plus power supply)

OV (Minus power supply (common ground))

S+ (Plus output signal)

S- (Minus output signal (common ground))

Shield (Cable shield / transmitter body)



HT Series

HOMOGENIZER TRANSMITTER



Optional Block

Description

Winters HT Homogenizer Transmitter is an extremely rugged device that is best utilized in applications that requires an accurate reading in highly viscous environments (i.e. food, pharmaceutical, etc.) Its 316 grade stainless steel construction makes it very durable and compatible with all systems. The HT is very accurate with a level of $\pm 0.5\%$. The HT has a NEMA 4X rating and has a pressure range up to 0-15000 psi.

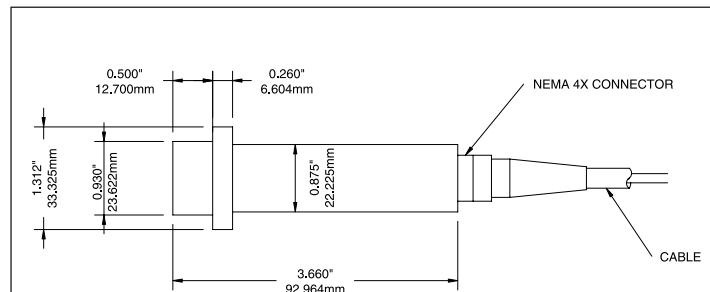
How to order: Specify product code

Product Codes			
Range*	Code	Range*	Code
0-100 psi	HT100	0-1500 psi	HT1500
0-150 psi	HT150	0-2000 psi	HT2000
0-200 psi	HT200	0-3000 psi	HT3000
0-300 psi	HT300	0-5000 psi	HT5000
0-500 psi	HT500	0-7500 psi	HT7500
0-750 psi	HT750	0-10000 psi	HT10000
0-1000 psi	HT1000	0-15000 psi	HT15000

* Calibrated in psi. Other ranges (e.g. kPa, bar, etc) available upon request.

If block (yoke) connector is required - Add the suffix "BL" to the above codes (e.g. HT5000BL with block)

Other outputs & options available



Wire Lead

Wiring	Colour Code	V	mA
1	Red	+Excitation.	+Excitation/Signal
2	Black	-Excitation/Signal	-Excitation/Signal
3	Green	+Signal	NC
Grnd.	Shield	Gnd	Gnd

Specifications

Electrical Output:	4-20mA, 2 wire standard 0.5-4.5 Vdc, 0.5-5.5 Vdc, 1-6 Vdc available 3 wire (other outputs available)
Electrical Connector:	10 ft (3m)/6 conductor cable
Excitation Voltage:	8-38 Vdc
Enclosure Rating:	IP65
Wetted Parts/Connection:	15-5 PH 316L stainless steel, two bolt homogenizer yoke-type block
Housing:	316L stainless steel
Proof Pressure:	2X full scale (max. 22,500 psi)
Burst Pressure:	5X full scale (max. 23,000 psi)
Normal Operating Temp. Range:	-40°F-170°F (-40°C to 76°C)
Compensated Temperature Range:	-40°F-170°F (-40°C to 76°C)
Temperature Effect on Zero:	Less than $\pm 1.5\%$ FSO per 100°F (37.7°C)
Temperature Effect on Span:	Less than $\pm 1.5\%$ FSO per 100°F (37.7°C)
Response Time:	Less than 5mS
Accuracy:	$\pm 0.5\%$ full scale
Long Term. Stability:	Less than $\pm 0.25\%$ FSO per annum
Weight:	4 oz. (113g)



PT Series

PRESSURE TRANSMITTER



NEMA 4

Description

Winters PT Series Pressure Transmitter is a light-weight stainless steel, compact unit, which is suitable for all hydraulic, pneumatic, level and industrial applications requiring a rugged, versatile and economical transmitter. It is weather resistant with a NEMA 4/IP65 rating and CE approved.

The PT Series is very accurate and available in all standard ranges including in/H₂O and up to 10,000 psi. The PT Series is calibrated in psi but available in various other ranges including bar, kPa, etc.

The PT Series Transmitter can be customized to accommodate your application.

Specifications

Electrical Output Signal:	4-20mA, 2 wire (0.5-4.5Vdc, 0.5-5.5 Vdc, 1-5 Vdc 3 wire) available
Electrical Connection:	Mini DIN 43650 style (4pin) connection includes mate (other options available)
Excitation Voltage:	8-36 Vdc
Housing:	316L stainless steel
Wetted Parts/Connection:	316L stainless steel 1/4" NPT male
Proof Pressure:	2X full scale
Burst Pressure:	5X full scale (Max. 30000 psi)
Normal Operating Temperature Range:	-40°F to 170°F (-40°C to 76°C)
Compensated Temp. Range:	-40°F to 170°F (-40°C to 76°C)
Temp. Effect on Zero/Span:	Less than ± 1.5% FSO per 100°F (37.7°C)
Response Time:	Less than and equal to 5 milliseconds
Accuracy:	± 0.25% FSO (±0.1% available)
Long Term Stability:	Less than ± 0.25 FS per annum
Enclosure Rating:	IP65 NEMA 4
Weight:	10 oz. (283g)

PT Series

PRESSURE TRANSMITTER

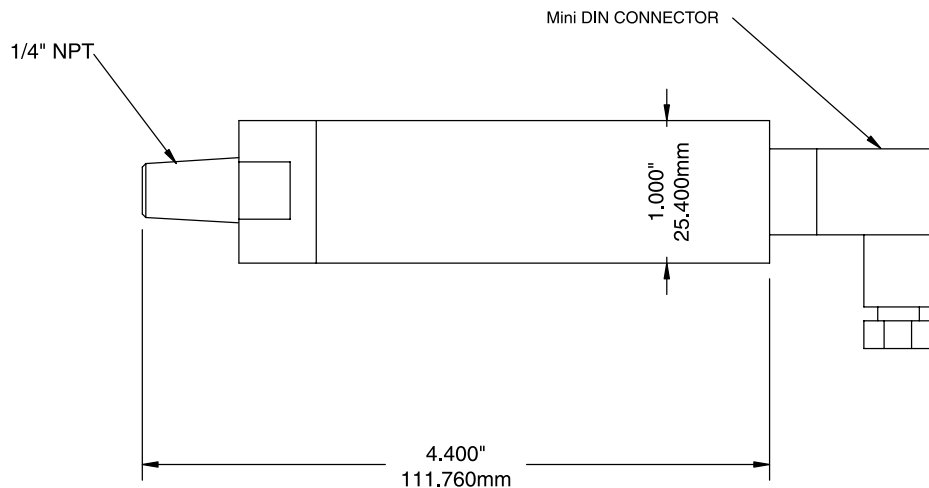
How to order: Specify product code

Products shown in **BOLD** are normally in stock.

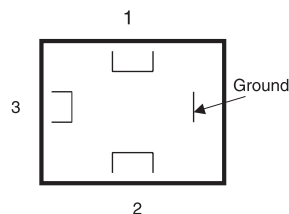
Range	Code	Range	Code
0-30" HgVAC	PT30VC	0-500 psi	PT500
0-5 psi	PT5	0-750 psi	PT750
0-10 psi	PT10	0-1000 psi	PT1000
0-15 psi	PT15	0-1500 psi	PT1500
0-25 psi	PT25	0-2000 psi	PT2000
0-50 psi	PT50	0-2500 psi	PT2500
0-100 psi	PT100	0-3000 psi	PT3000
0-150 psi	PT150	0-5000 psi	PT5000
0-200 psi	PT200	0-7500 psi	PT7500
0-300 psi	PT300	0-10000 psi	PT10000

Option Suffix:

- 4WCABLE = 4 wire shielded data cable (per ft.)
- Other outputs & options available
- Other ranges (e.g. bar, etc.) available upon request
- 1/2" Conduit



Hirschman Mini-DIN Pin Out:



1.0 Connection type:

4-20mA output Supply Power: 8-36 Vdc

Pin	Colour Code	V	mA
1	N/A	+Excitation	+Excitation/Signal
2	N/A	-Excitation/Signal	-Excitation/Signal
3	N/A	+Signal	NC
Grnd.	N/A	Gnd	Gnd

Wire Lead	Colour Code	V	mA
1	Red	+Excitation	+Excitation/Signal
2	Black	-Excitation/Signal	-Excitation/Signal
3	Green	+Signal	NC
Grnd.	Shield	Gnd	Gnd

PTD Series

DIFFERENTIAL PRESSURE TRANSMITTER



Low Range



NEMA 4



High Range



Description

Winters PTD Series is designed to measure the wet to wet differential pressures of liquids and gases. This compact, efficient design is available in Low or High psi ranges that facilitates installation in tight spaces. The PTD Low Range housing is constructed of stainless steel and aluminum. The PTD High Range housing is made from a 316-grade stainless steel ideally suited for an industrial environment. The PTD's fast response sensor and signal conditioned electronic circuitry provides quick and accurate readings. A unique isolation system responds to pressure changes approximately 20 times faster than conventional transmitters with ranges below 100 psi (Low Range Model). CE approval is standard on all models. NEMA 4 approval is standard on The Low Range Model.

Differential transmitters are commonly utilized to measure drops across filters. Other applications include; pumps and compressors, flow measurements of gases and liquids, liquid level measurement of pressurized vessels.



PTD Series

DIFFERENTIAL PRESSURE TRANSMITTER

High Range Specifications	
Electrical Output:	4-20mA, 2 wire (other options available)
Electrical Connection:	DIN 43650 w/mate.
Excitation Voltage:	8-38 Vdc
Wetted parts/Connection:	316L stainless steel 1/4" NPT female 300 series stainless steel and 17-4PH stainless steel with Viton O-ring
Housing:	316L stainless steel
Proof Pressure:	3X full scale (max. 10000 psi) (20X full scale optional).
Burst Pressure:	5X full scale (max. 10000 psi)
Normal Operating Temperature Range:	-40°F to 170°F (-40°C-76°C)
Compensated Temp. Performance:	-40°F to 170°F (-40°C-76°C)
Ambient Temp. Effect on Zero/Span:	Less than ± 1.5% FSO per 100°F (37.7°C).
Response Time:	50 mS.
Accuracy:	± 0.5% (FSO)
Long Term Stability:	± 0.25% FSO per annum.
Enclosure Rating:	IP65
Weight:	13 oz. (368g)

Low Range Specifications	
Electrical Output:	4-20mA, 2 wire 0-5Vdc or 0-10 Vdc
Electrical Connection:	Barrier trip terminal block with conduit enclosure & .875 DIA conduit opening
Excitation Voltage:	9-30 Vdc
Wetted parts/Connection:	17-4PH stainless steel with Viton O-ring , 1/4" - 18 NPT internal
Housing:	Stainless steel/cast aluminum
Proof Pressure:	Refer to pressure range chart on next page.
Burst Pressure:	Refer to pressure range chart on next page.
Normal Operating Temperature Range:	0 to 175°F (-17°C to 82°C)
Compensated Temp. Range	30 to 150°F(0 to 65°C)
Ambient Temp. Effect on Zero/Span:	2% of full scale/100°F (37.7°C)
Response Time:	30-50 milliseconds
Accuracy:	± 0.25% (FSO)
Long Term Stability:	0.5% full scale per annum
Weight:	14.4 oz. (408g)
Enclosure Rating:	IP65

PTD Series

DIFFERENTIAL PRESSURE TRANSMITTER

How to order: Specify product code

High Range

Low Range

PTD Series High Range Wet/Wet	
Range	Code
0-150 psid	PTD150
0-200 psid	PTD2000
0-300 psid	PTD300
0-500 psid	PTD500
0-1000 psid	PTD1000
0-3000 psid	PTD3000
0-5000 psid	PTD5000
Other	PTD - OR (RANGE)

PTD Series Low Range Wet/Wet			
Unidirectional		Bidirectional	
Range*	Code	Range	Code
0-1 (27.7in/H ₂ O)	PTDU1	0-0.5 (±) (13in/H ₂ O)	PTDB0.5
0-2 (55.4in/H ₂ O)	PTDU2	0-1(±) (27.7in/H ₂ O)	PTDB1
0-5 (138.4in/H ₂ O)	PTDU5	0-2.5 (±) (69in/H ₂ O)	PTDB2.5
0-10 (276.8in/H ₂ O)	PTDU10	0-5 (±) (138.4in/H ₂ O)	PTDB5
0-25 psi	PTDU25	0-10 (±) (276.8in/H ₂ O)	PTDB10
0-50 psi	PTDU50	0-25 (±) (psi)	PTDB25
0-100 psi	PTDU100	0-50 (±) (psi)	PTDB50

● 4WCABLE = 4 wire shielded data cable (per ft.)

* Calibrated in psi. Other ranges (e.g. bar, etc.) available upon request. Other outputs & options available

PTD High Pressure Range		
Gauge psid	Proof Pressure psig	Burst Pressure psig
0-50	100	750
0-100	200	1000
0-200	500	2000
0-500	1000	3000
0-1000	2000	5000
0-3000	4500	7500
0-5000	7500	10000
0-10000	12500	20000

PTD Low Pressure Range					
Gauge psid	Proof Pressure psig	Burst Pressure psig	Gauge psid	Proof Pressure psig	Burst Pressure psig
Unidirectional			Bidirectional		
0-1	2.5	20	0 to ± 0.5	1.25	20
0-2	5	40	0 to ± 1	2.5	40
0-5	12.5	100	0 to ± 2.5	6.25	100
0-10	25	100	0 to ± 5	12.5	100
0-25	62.5	250	0 to ± 10	25	200
0-50	125	250	0 to ± 25	62.5	250
0-100	250	250	0 to ± 50	12.5	250

Definitions:

Wet to Wet = Can be used on any liquid or gas that is compatible with 316 st/st

Uni-directional = The instrument is calibrated with a 4 mA output @ 0 psid and 20 mA output at full scale (Example for 0-10 psid range: 4 mA = 0 psid and 20 mA = 10psid)

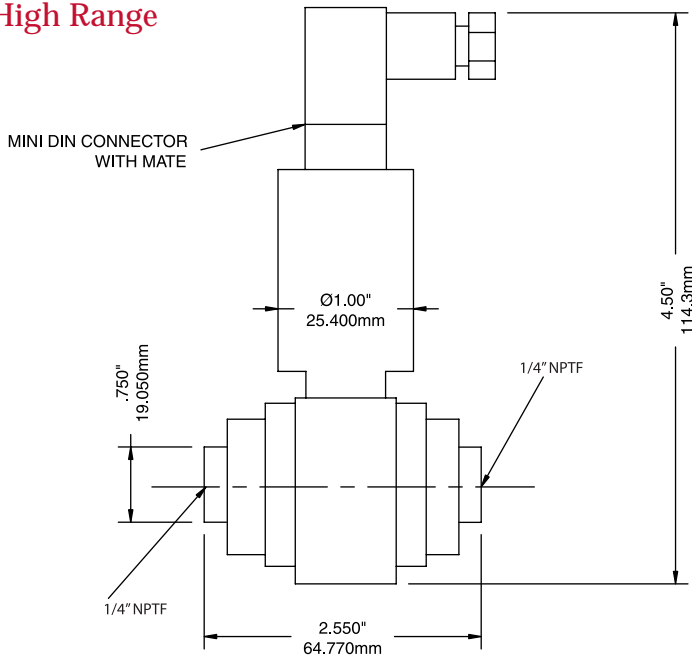
Bi-directional = The instrument is calibrated with a 12 mA output @ 0 psid (Zero center)
(Example for 0-10 psid range: 4 mA = -5 psid, 12 mA @ 0 psid and 20 mA = +5 psid)



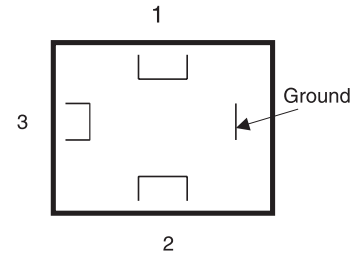
PTD Series

DIFFERENTIAL PRESSURE TRANSMITTER

High Range



Hirschman Mini-DIN Pin Out:



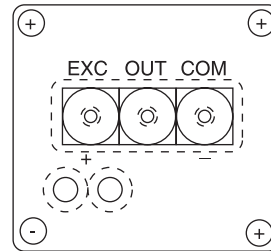
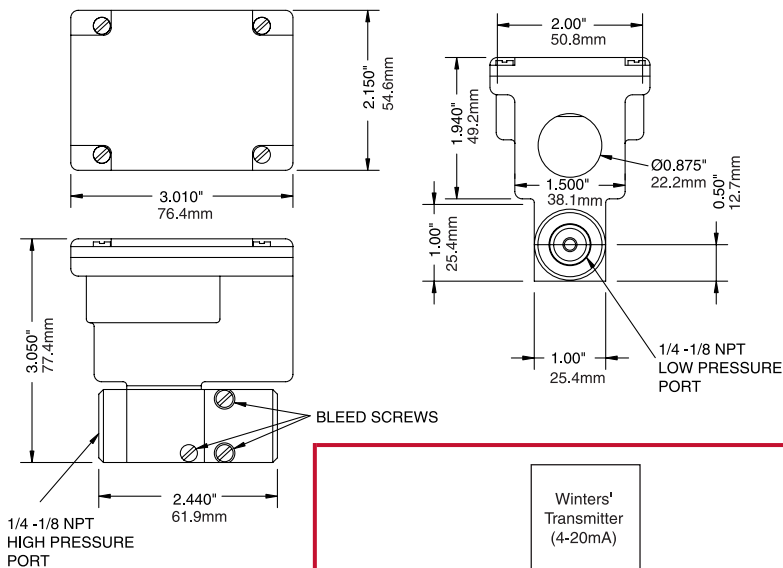
4-20mA output Supply Power: 8-38 Vdc

1.0 Connection type:

Pin	Colour Code	V	mA
1	N/A	+Excitation	+Excitation/Signal
2	N/A	-Excitation/Signal	-Excitation/Signal
3	N/A	+Signal	NC
Grnd.	N/A	Gnd	Gnd

Wire Lead	Colour Code	V	mA
1	Red	+Excitation	+Excitation/Signal
2	Black	-Excitation/Signal	-Excitation/Signal
3	Green	+Signal	NC
Grnd.	Shield	Gnd	Gnd

Low Range

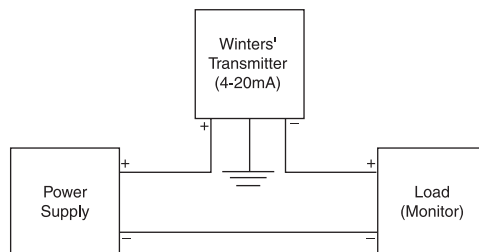


For voltage output, use COM, OUT and EXC terminals.

For current (4-20 mA) output, use + and - terminals.

Current Output Units

Winters PTD Low Range (current output) transducers are true 2-wire, 4-20 mA current output devices and deliver rated current into any external load of 0-1000 ohms. The 4-20 mA current output units are designed to have current flow in one direction only. PLEASE OBSERVE POLARITY. We suggest that an electrical cable shield be connected to the system's loop circuit ground to improve electrical noise rejection.



MIN Supply Voltage: $9 + .02 \times (\text{Resistance of receiver plus line})$

MAX Supply Voltage: $30 + .004 \times (\text{Resistance of receiver plus line})$

PTF Series

FLUSH MOUNT TRANSMITTER



Description

Winters PTF Flush Mount Transmitter's small compact design is best utilized in a viscous environment (i.e. paint or coating applications) that requires a flush connection to the source being measured. (The unique flush design eliminates any cavity that could form a build up.) The 316-grade stainless steel design has superior resistance to abrasion and is easily removed for cleaning. The Flush Mount Transmitter utilizes a thick diaphragm seal that provides a higher overpressure and spike protection. The accuracy rating is $\pm 0.5\%$ and is, also, available at $\pm 0.25\%$. The PTF is available up to ranges of 0-10000 psi and can be customized to other ranges, if required. The PTF Series is CE approved.

Specifications

Electrical Output Signal:	4-20mA, 2 wire
Electrical Connection:	Mini DIN 43650 style (4 in)
Excitation Voltage:	8-38 Vdc
Connection/wetted Parts:	Flush diaphragm, 3/4-16 UNF connection, 316 & 15-5 stainless steel (Other sizes available)
Housing:	316L stainless steel
Proof Pressure:	2X full scale
Burst Pressure:	5X full scale (maximum 15000 psi)
Normal Operating Temp. Range:	-40°F to 170°F (-40°C to 76°C)
Compensated Temp. Range:	-40°F to 170°F (-40°C to 76°C)
Thermal Shock Effect:	Less than $\pm 1.5\%$ FSO per 100°F (37.7°C)
Ambient Temp. Effect on Zero/Span:	Less than $\pm 1.5\%$ FSO per 100°F (37.7°C)
Response Time:	Less than 5mS
Accuracy:	± 0.25 FSO
Long Term Stability:	Less than $\pm 0.25\%$ FS per annum
Enclosure Rating:	IP65

PTF Series

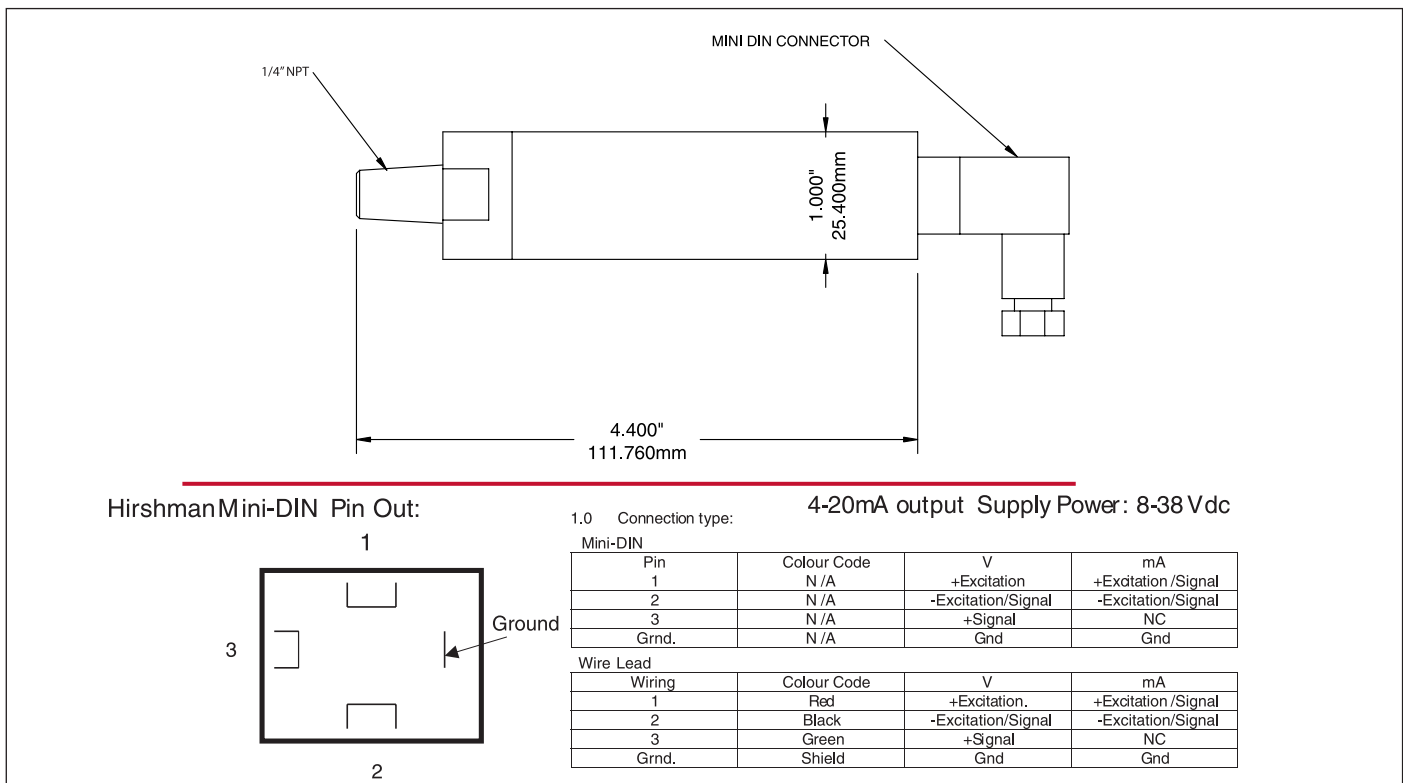
FLUSH MOUNT TRANSMITTER

How to order: Specify product code
PRODUCT CODES

Flush Mount	
Range *	Code
0-100 psi	PTF100
0-150 psi	PTF150
0-200 psi	PTF200
0-300 psi	PTF300
0-500 psi	PTF500
0-1000 psi	PTF1000
0-1500 psi	PTF1500
0-2000 psi	PTF2000
0-3000 psi	PTF3000
0-5000 psi	PTF5000
0-10000 psi	PTF10000
Other Range	PTF-OR

Option Suffix:

- 4WCABLE = 4 wire shielded data cable (per ft.)
 - Other outputs & options available
 - * Calibrated in psi other ranges (e.g. bar, etc) available upon request
- (Available with Hastelloy C 276 & Inconel Diaphragm Seals)



PTP Series

PREMIUM PRESSURE SERIES TRANSMITTER



NEMA 4

Description

Winters PTP Series Pressure Transmitter (with all stainless steel construction) is suitable for harsh industrial environments delivering excellent repeatability and reliability. Winters PTP Transmitters use Chemical Vapor Deposition (CVD) technology to manufacture inherently stable sensing elements. The sensing elements are laser welded to a stainless steel force summing diaphragm, which is vacuum brazed to a pressure port to ensure mechanical integrity. A state-of-art ASIC (Application Specific Integrated Circuit) chip in each transmitter provides better linear thermal coefficients than traditional analog resistive compensation. The PTP has virtually no drift and has an accuracy rating of ± 0.25 full scale. The PTP Series is available in standard ranges and can be modified to suit your industrial application.

Common applications include: tank measurement, pump controls, hydraulic power, boilers, chillers.

Specifications

Electrical Output Signal:	4-20mA, 2 wire
Electrical Connection:	Mini-DIN 43650 (4 pin) (other options available)
Excitation Voltage:	7-35 Vdc
Enclosure Rating:	IP65
Wetted Parts / Connection:	17-4 PH Stainless Steel, 1/4" NPT male
Housing:	316 stainless steel
Proof Pressure:	2X full scale (1.5X full scale on ranges greater than 5000 psi)
Burst Pressure:	20X full scale up to 1000 psi, 5X full scale ≤ 6000 psi
Ambient / Process Temperature:	-40F to 260F (-40C to 125C)
Compensated Temp. Performance:	$\pm 1.5\%$ full scale output -4F to 176F (-20°C to 80°C) for zero and span
Accuracy:	$\pm 0.25\%$ full scale output
Long Term Stability:	Less than $\pm 0.2\%$ per annum
Weight:	8 oz. (227g)



PTP Series

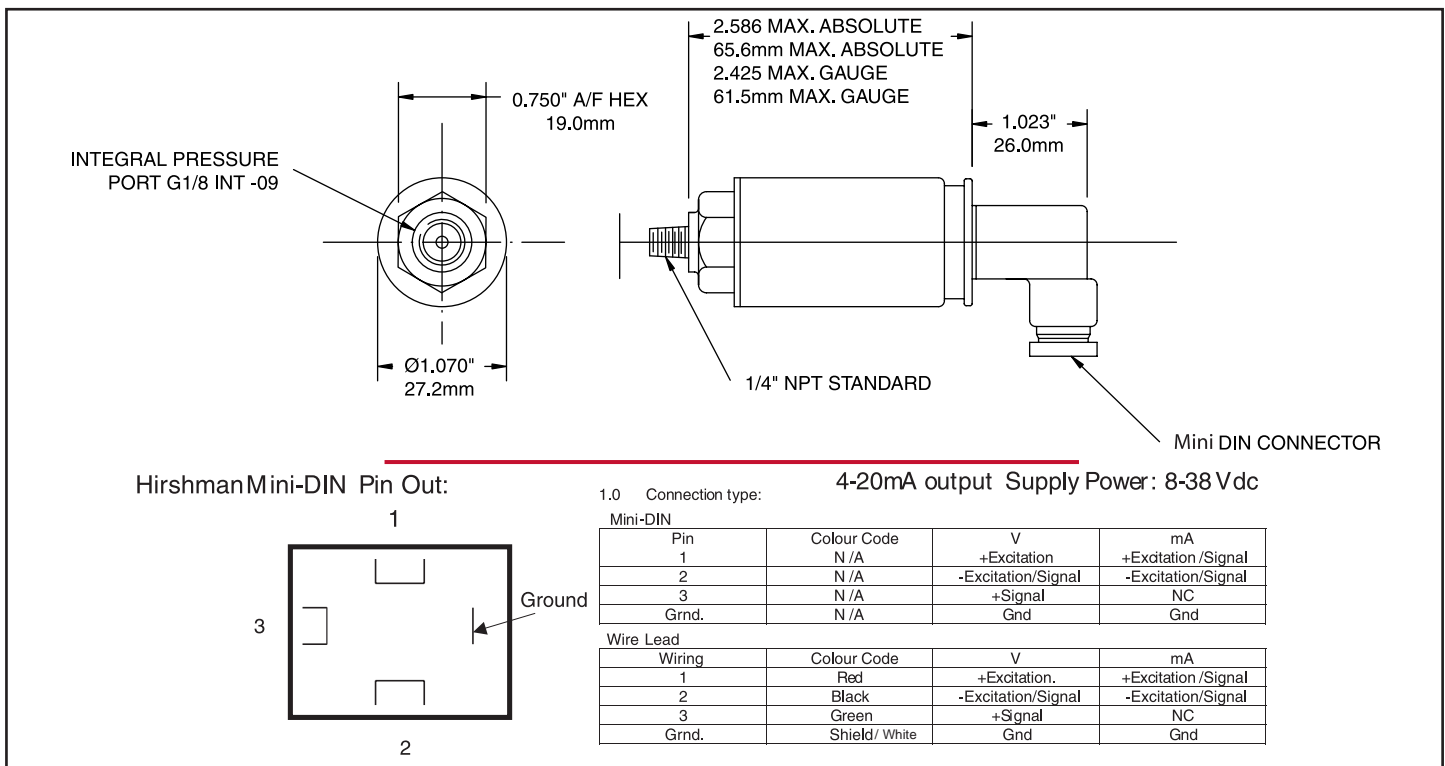
PREMIUM PRESSURE SERIES TRANSMITTER

How to Order: Specify product code
PRODUCT CODES

Range *	Code
0-15 psi	PTP15
0-30 psi	PTP30
0-60 psi	PTP60
0-100 psi	PTP100
0-150 psi	PTP150
0-200 psi	PTP200
0-300 psi	PTP300
0-500 psi	PTP500
0-1000 psi	PTP1000
0-1500 psi	PTP1500
0-2000 psi	PTP2000
0-3000 psi	PTP3000
0-5000 psi	PTP5000
0-6000 psi	PTP6000
Other Range	PTP-OR

* Calibrated in psi only.

- Option Suffix:**
- 4WCABLE = 4 wire shielded data cable (per ft.)
 - Other ranges (e.g. bar, etc.) available upon request



PTS Series

SUBMERSIBLE PRESSURE TRANSMITTER



Description

Winters PTS Submersible Pressure Transmitter is designed to withstand the harshest of industrial environments. This fully submersible transmitter is a reliable and economical method of obtaining readings with an accuracy level of 0.25%. The PTS features a moisture free, maintenance free vent filter that protects the vent from moisture and foreign object intrusion. Also, the surge protection circuit provides an additional level of protection from electrical surges caused by electrostatic discharge and lightning to help ensure that your systems keep running. Winters can calibrate the PTS to have an accuracy reading of 0.1% on customized orders. The PTS is available in ranges up to 0-500 psi and can be fit to accommodate a specific application. Various cable lengths are, also, available. The PTS Series is CE approved.

Submersible transmitters are commonly utilized in tank water and level measurements in the waste water treatment, irrigation systems, mining and environmental industries.

PTS Series

SUBMERSIBLE PRESSURE TRANSMITTER

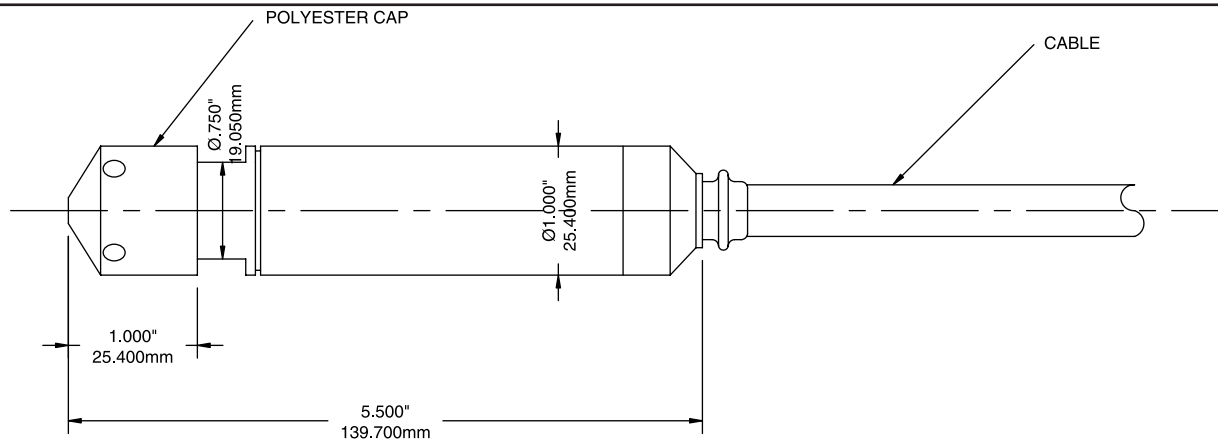
How to Order: Specify product code
Product Codes and wire length

Submersible Transmitter		
Range *	Code	Wire Length
0-3 psi (83.1 in/H ₂ O)	PTS3	11 to 1000 Feet
0-5 psi (138.4 in/H ₂ O)	PTS5	11 to 1000 Feet
0-10 psi (276.8 in/H ₂ O)	PTS10	11 to 1000 Feet
0-15 psi/ 34 ft.	PTS15	11 to 1000 Feet
0-30 psi/ 70 ft.	PTS30	11 to 1000 Feet
0-50 psi/ 115 ft.	PTS50	11 to 1000 Feet
0-100 psi/ 230 ft.	PTS100	11 to 1000 Feet
0-150 psi/ 345 ft.	PTS150	11 to 1000 Feet
0-200 psi/ 460 ft.	PTS200	11 to 1000 Feet
0-300 psi/ 690 ft.	PTS300	11 to 1000 Feet
0-500 psi/ 1150 ft.	PTS500	11 to 1000 Feet
Other	PTS-OR	11 to 1000 Feet

*Calibrated in psi only.
Other ranges (e.g. ft of H₂O) available upon request
Other outputs & options available

Specifications

Electrical Output Signal:	4-20 mA, 2 wire
Electrical Connector:	10 ft (3 meters) submersible cable high temperature standard, up to 1000 ft (303m) lengths available, (7/16 diameter cable)
Excitation Voltage:	8-38 Vdc
Enclosure Rating:	Submersible (IP68)
Wetted Parts / Connection:	316L stainless steel, with 7/16-20 UNF (M) 316L stainless steel with polyester cap (sludge-nose optional)
Housing:	316L stainless steel
Proof Pressure:	2X full scale
Burst Pressure:	5X full scale
Accuracy:	0.25% full scale (0.1% available)
Normal Operating Temp. Range:	-0°F to 140°F (-40°C to 76°C)
Compensated Temp. Range:	-20°F to 120°F (-40°C to 76°C)
Thermal Shock Effect:	Less than ± 1.5% FSO per 100°F (37.7°C)
Ambient Temp. Effect on Zero/Span:	Less than ± 1.5% FSO per 100°F (37.7°C)
Response Time:	Less than or equal to 50ms
Long Term Stability:	Less than ± 0.25%
Zero/Span:	Optional
Weight:	12 oz. (340g)



Wire Lead

Wiring	Colour Code	V	mA
1	Red	+Excitation.	+Excitation/Signal
2	Black	-Excitation/Signal	-Excitation/Signal
3	Green	+Signal	NC
Grnd.	Shield	Gnd	Gnd

STC Series

PREMIUM PRESSURE TRANSMITTER



Description

Winters STC Premium Pressure Transmitter is ideal for use in an environment where sanitary requirements are of high priority (i.e. dairy, food, pharmaceutical, etc.). This 3A approved 316-grade stainless steel constructed transmitter is easily cleaned (or steamed) in place with minimal zero shift. The STC is insensitive to thermal shock and has a fast reading rate of less than 10m per second. **It contains no fill oils and is available with a 1½" or 2" Tri-Clamp.** Pressure ranges vary from 0-15 in/H₂O to 0-1000 psi. The STC standard operating temperature is -40°F to 260°F (-40°C to 128°C) and has an accuracy rating of ± 0.2%.

Common applications would include: Dairy and Pharmaceutical applications requiring 3A approval, Food and Beverage Processing Sanitary pipelines and Liquid Level Control (e.g. tanks).

Specifications

Electrical Output:	4-20mA, 2 wire (other options available)
Electrical Connector:	15' shielded cable, ¾" conduit
Zero/Span Control:	Standard
Product Approvals:	3A (37-01), CE
Connections / Wetted Parts:	(1½" & 2" Tri Clamp®) 316 stainless steel
Housing:	316 stainless steel
Environmental Protection Rating:	NEMA 4X (IP65)
Proof Pressure:	Varies with range
Burst Pressure:	Varies with range
Normal Operating Temp. Range:	-40°F to 260°F (-40°C to 128°C)
Compensated Temp. Performance:	± 2.0% full scale output/100°F (37.7°C) for zero and span respectively from 20 to 180°F (-7 to 80°C)
Ambient Temp. Effect on Zero:	2% FS/100°F (37.7°C)
Thermal Shock:	0-257°F (125°C) negligible effect (CIP/SIP)
Response Time:	10mS
Accuracy:	± 0.20% FSO
Non-Repeatability:	± 0.25% FSO
Hysteresis:	± 0.10 FSO
Long Term Stability:	0.5% FSO per annum
EMI/RFI Protection	Yes
Rating Weight:	8 oz (227g)

STC Series

PREMIUM PRESSURE TRANSMITTER

How to order: Specify product code
PRODUCT CODES

Pressure Range *	1 1/2" Tri-Clamp (40mm)	2" Tri-Clamp (50mm)
0-1 psi (27.7 in/H ₂ O)	-	STC201
0-2 psi (55.4 in/H ₂ O)	-	STC202
0-5 psi (138.4 in/H ₂ O)	-	STC205
0-10 psi (276.8 in/H ₂ O)	-	STC210
0-15 psi (415.2 in/H ₂ O)	-	STC215
0-30 psi	STC1530	STC230
0-60 psi	STC1560	STC260
0-100 psi	STC15100	STC2100
0-150 psi	STC15150	STC2150
0-300 psi	STC15300	-
0-500 psi	STC15500	-
0-1000 psi	STC151000	-

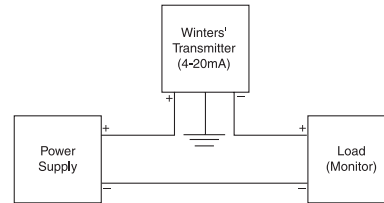
*Other outputs and options available

® Tri-Clamp is a registered trademark of Tri-Clover

Current Output Units

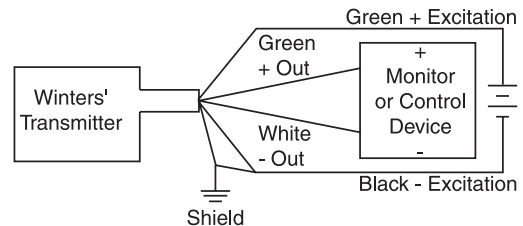
The STC transmitter is a true 2-wire, 4-20 mA current output device and delivers rated current into any external load of 0-800 ohms. The STC has a 2-wire cable where red is positive and black is negative.

The 4-20 mA current output units are designed to have current flow in one direction only - PLEASE OBSERVE POLARITY. We suggest that the electrical cable shield be connected to the system's loop circuit ground to improve electrical noise rejection.



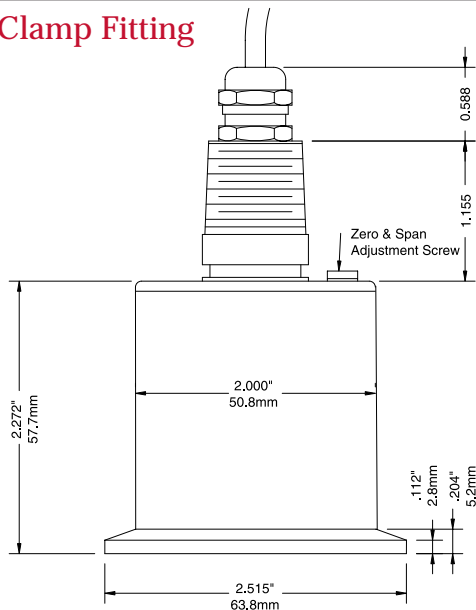
Voltage Output Units

The STC voltage output is a 3-wire circuit. If the PT is supplied with 2 feet of cable, the electrical connection is as follows:

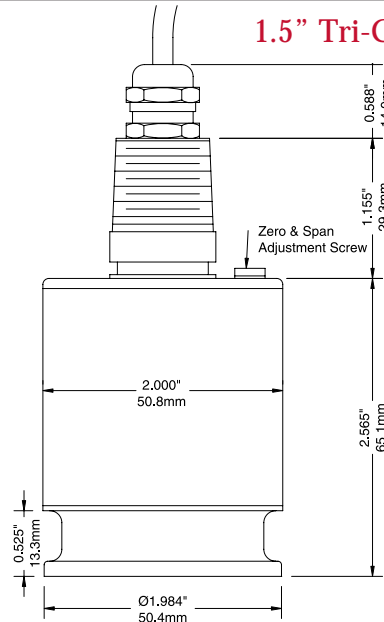


- Red = +Excitation; connect to appropriate power supply.
- Green = +Output; connect to controls or monitor.
- Black = Common; connect to return of power supply.
- White = -Output; connect to controls or monitor
- Shielding = Connect to system or earth ground.

2" Tri-Clamp Fitting



1.5" Tri-Clamp Fitting



STP Series

SANITARY TRI-CLAMP PRESSURE TRANSMITTER



Description

Winters STP Sanitary Tri-Clamp® Pressure Transmitter is ideal for applications where sanitary conditions are of high priority (i.e. dairy, food processing, pharmaceutical, etc). This 3A approved transmitter is constructed of 316-grade welded stainless steel and is NEMA 4X rated. The STP has an excellent accuracy rating of $\pm 0.5\%$ full scale output. The STP is available with a 1½", 1" or 2" Tri-clamp® and has pressure ranges up to 2000" H₂O or standard ranges to 0-1000 psi.

STP Series

SANITARY TRI-CLAMP PRESSURE TRANSMITTER

How to order: Specify product code

PRODUCT CODES

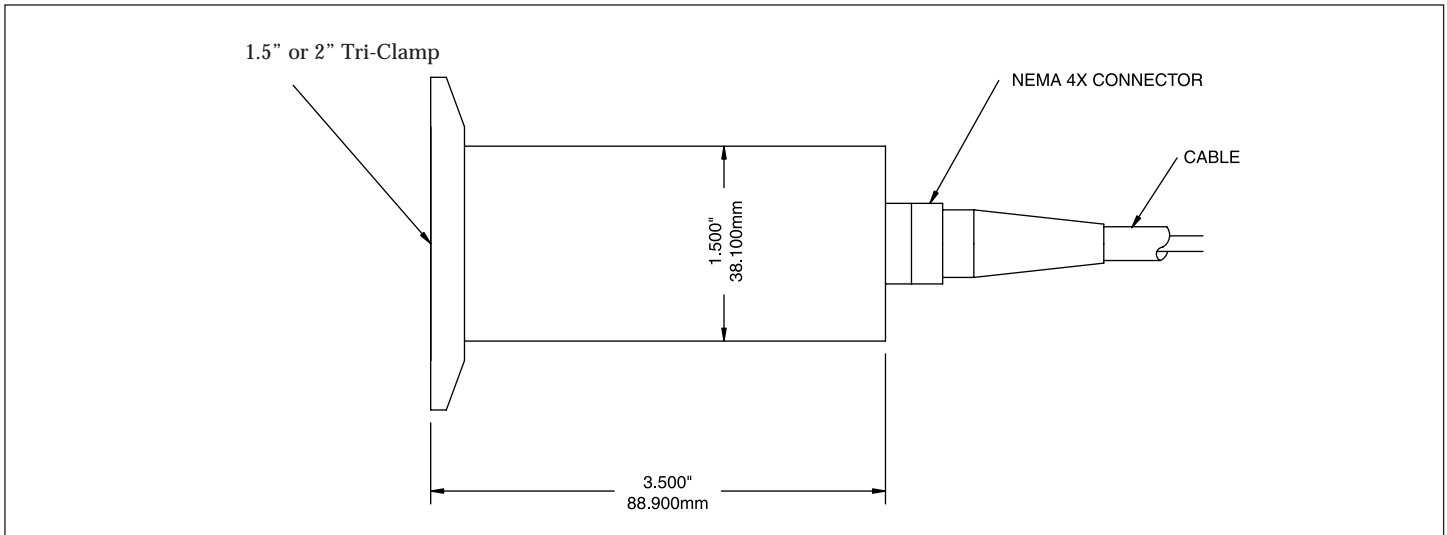
Range*	Code:	
	1½" Tri-Clamp®	2" Tri-Clamp®
75" H2O	STLP1575	STLP2075
100" H2O	STLP15100	STLP20100
150" H2O	STLP15150	STLP20150
200" H2O	STLP15200	STLP20200
300" H2O	STLP15300	STLP20300
500" H2O	STLP15500	STLP20500
1000" H2O	STLP151000	STLP201000
1500" H2O	STLP151500	STLP201500
2000" H2O	STLP152000	STLP202000
0-3 psi	ST153	ST203
0-5 psi	ST155	ST205
0-7.5 psi	ST157	ST207
0-10 psi	ST1510	ST2010
0-15 psi	ST1515	ST2015
0-20 psi	ST1520	ST2020
0-30 psi	ST1530	ST2030
0-50 psi	ST1550	ST2050
0-75 psi	ST1575	ST2075
0-100psi	ST15100	ST20100
0-150 psi	ST15150	ST20150
0-200 psi	ST15200	ST20200
0-300 psi	ST15300	ST20300
0-500 psi	ST15500	ST20500
0-750 psi	ST15750	ST20750
0-1000 psi	ST151000	ST201000

* Calibrated in psi. Other ranges (e.g. kPa, bar, etc) available upon request
 Other ranges are available upon request
 Other outputs & options available

Specifications	
Electrical Output Signal:	4-20mA, 2 wire
Electrical Connector:	10 ft (3m) Belden 9536 flying wire
Excitation Voltage:	8-38 Vdc
Accuracy:	0.25% full scale
EMI/RFI Enclosure Rating:	Meets/exceeds CE standards
Zero/Span:	Optional
Wetted Parts/Connection:	316L stainless steel, 1 ½" & 2" Tri-clamp
Housing:	316L stainless steel
Enclosure Rating:	NEMA 4X (IP65)
Proof Pressure:	2X full scale
Burst Pressure:	5X full scale (max.3000 psi)
Normal Operating / Compensated Temperature Range:	40°F to 170°F (-40°C to -76°C)
Temperature Effect Range Zero/Span:	Less than ±1.5% FSO per (37.7°C)
Long Term Stability:	Less than 0.25% per annum
Weight:	4oz (113g)

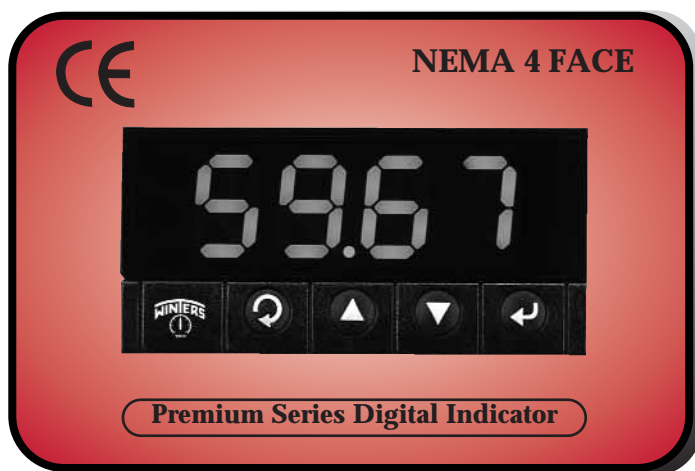
Wire Lead

Wiring	Colour Code	V	mA
1	Red	+Excitation.	+Excitation/Signal
2	Black	-Excitation/Signal	-Excitation/Signal
3	Green	+Signal	NC
Grnd.	Shield	Gnd	Gnd



DI Series

Digital Indicator Series



Premium Series (Process Meter/Controller)

FEATURES:

- Combines digital panel meter and fully functional controller in one high quality versatile DIN 1/8 instrument
- Programmable color display which changes color at any set point or alarm point (e.g. Green - warm-up, Amber-normal operating range, Red - alarm condition)
- Universal signal inputs (Process current/voltage, RTD & Thermocouples)
- Measures process current: 0-20 mA and process voltage: 0-100 millivolt, 0-1 volt, 0-10 volt
- Built-in excitation
- CE approved / NEMA 4 Face

SPECIFICATION:

Input: 0-20mA, 0-100 mV, 0-1V, 0-10Vdc, Thermocouple (J,K,T,E,R,S,B,C,N,J DIN), RTD (100 π , 500 π , 1000 π) 385, 392 curves
Display: 4 digit, 9 - segment LED, 0.83"
Accuracy: 0.03% process typical, $\pm 0.5^{\circ}\text{C}$ temp

APPLICATIONS:

- Temperature Control/monitor /alarm
- Process Control / indication / alarm

PRODUCT CODE: PDI

Quality Series (3 1/2" Digit Process Meter)

FEATURES:

- Process meter utilized to receive signals from pressure instruments (e.g. pressure transmitters)
- Extensive zero and span adjustment capability for direct readout in engineering units for process, flow, temperature or level
- 1/8 DIN case with LED display
- Powered by 115 Vac standard (230Vac, isolated 9-32 Vdc, 4-32 Vdc or 26-56 Vdc optional)
- Display hold, easily scaled engineering units
- CE approved

SPECIFICATION:

Input: 4-20mA (13ohms), 1 to 5Vdc; 0 to 10Vdc
Display: 3 1/2" digit, 7 segment Red or Green LED, 0.56"
Accuracy: $\pm 0.05\%$ R ± 1 Isd

APPLICATIONS:

- Industrial equipment
- Indication of Liquid level
- Indication of Valve setting
- Any application that requires an indication with a process transmitter

PRODUCT CODE: QDI

Economy Series (Two-wire, Loop-Powered Process Indicator)

FEATURES:

- Powered directly by 1-5 mA, 4-20 mA or 10-50 mA process signals
- No need for external power connections
- Extensive zero and span adjustment capability for direct readout in per cent or in engineering units for process, flow and temperature
- 1 or 2 Dummy Right-Hand zeros, easily configured
- FM approved 1/8 DIN sized two-wire current-loop indicator with 3 1/2" digit LCD display

SPECIFICATION:

Input: 1-5mA, 4-20mA, 10-50mA (125 ohms @ 20mA) (625 ohms @ 4mA)
Display: 3 1/2" digit, 7 segment LCD, 0.5"
Accuracy: $\pm 0.1\%$ R ± 1 Isd
Excitation: N/A

APPLICATIONS:

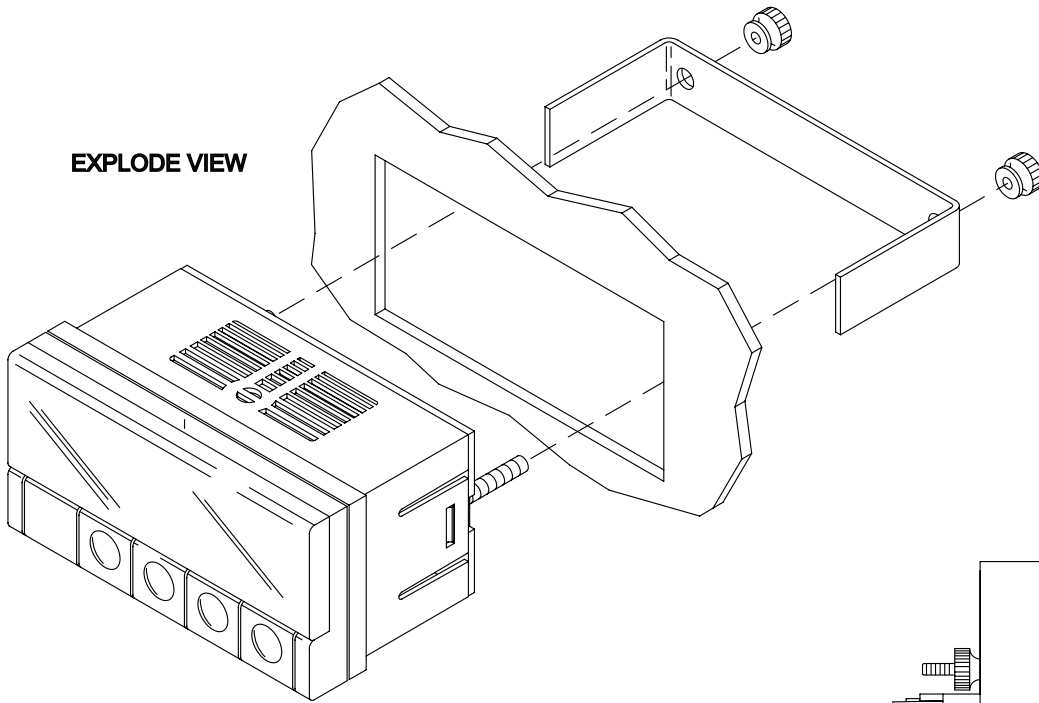
- Any Industrial or HVAC application that requires on indication

PRODUCT CODE: EDI

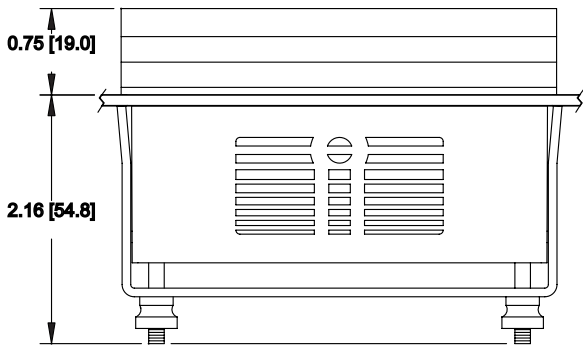
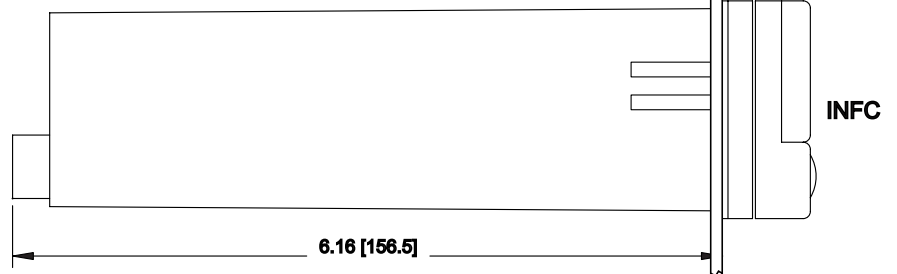
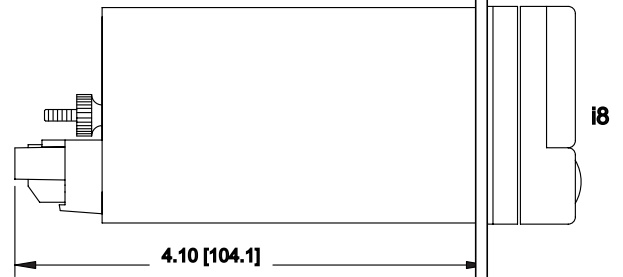
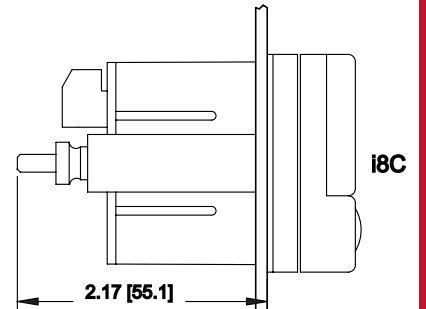


DI Series

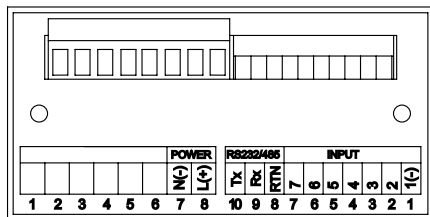
Digital Indicator Series



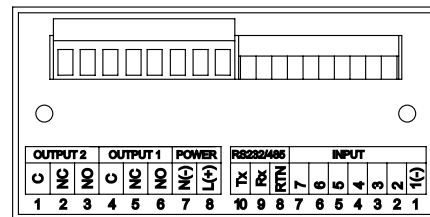
COMPARISON



TOP VIEW



i8C00-C24 MONITOR & COMM. OPTION



i8Cxx-C24 CONTROLLER & COMM. OPTION

REAR VIEW

2WPS Series

PRESSURE SWITCH - BELLOWS ACTUATED



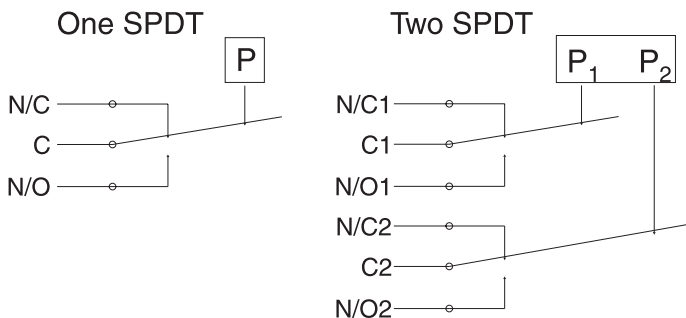
- Ranges from 10 to 3000 PSI
- Rugged NEMA 4X, 12 & 13 Housing
- One or Two SPDT Contacts
- All Metal Sensing Element
- Field Adjustable Set Points

Description

The Winters' Series 2WPS Pressure Switch (Bellows Sensing) features a rugged, compact, sensitive switching mechanism actuated by a bellows assembly. This mechanism can be supplied with one S.P.D.T. electric switch or two S.P.D.T. electric switches that are independently adjusted. The 2WPS (Bellows Sensing) can be supplied as a basic unit with no housing, or enclosed in a rugged die cast NEMA 4X, 12 and 13 housing. With the cover of the enclosure removed, the terminals of the electric switch/s, and the pressure adjustments are exposed for easy wiring and adjustment of the pressure setting. The die cast cover is equipped with captive stainless steel screws that retain the cover gasket when the cover is removed. The bellows pressure sensing elements are constructed from stainless steel and are sized for a wide variety of pressure ranges. Other useful options can easily be specified with this model.

Common applications include: Tank and compressor level and precision control, hydraulic systems, pump controls and hazardous area lift station controls.

Wiring Schematic



INSTALLATION NOTES

Orientation - The 2WPS Bellows will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability and reduce sediment in the pressure chamber. Can also be assembled to a diaphragm seal when corrosive media are present.

Wiring - Switches may be wired to 'normally open' or 'normally closed' terminals on electric switch(es). Single switch units have screw terminals while dual switch versions use a screw terminal block.

Pressure Connection - 1/4 NPT female is standard. 1/2 NPT male is available ("M" option).

Adjustment - Turn pressure adjustment nut(s) clockwise to increase setpoint. Detailed installation & calibration instructions are provided for every shipment. Adjustment setting is available at no charge.

Specifications - 2WPS (Bellows Actuated)	
Housing:	Diecast Aluminum
Pressure Connection:	1/4" NPT
Electrical Connection:	1/2" NPT
Port Material:	Brass
Bellows Material:	Stainless Steel
Deadband:	Fixed
Sensitivity:	1/2% of range (for SPDT)
Drift:	<1% of range (100,000 operations)
Contact Ratings:	15A - 125, 250, 480 VAC
Set Point Adjustment:	Screw type, field adjustable
No. Contacts:	One or Two S.P.D.T.
Contact Listings:	UL Recognized, CSA Certified
Maximum Ambient Temperature:	180°F (82°C)
Minimum Ambient Temperature:	-40°F (-40°C)
Weight:	Approx. 1.8 lbs.



2WPS Series

PRESSURE SWITCH - BELLOWS ACTUATED

How To Order: Specify Product Code

2WPS W 1 B U 2

MODEL SERIES

HOUSING _____
 ' ' - NO HOUSING
 W - WATERTIGHT - NEMA 4, 12 & 13
 X - Explosion proof NEMA 7+9

NUMBER OF ELECTRIC SWITCHES _____
 1 - ONE S.P.D.T.
 2 - TWO S.P.D.T. - (SWITCH TYPE "5" ONLY)

SENSING ELEMENT _____
 B - BELLOWS SENSING ELEMENT (STANDARD)

SPECIAL FEATURES _____
 M - 1/2 NPT MALE PIPE MOUNTING
 Q - DOUBLE SNAP ACTING BELLEVILLE SPRING - TO PROVIDE POSITIVE SETPOINT ACCURACY IN HIGH VIBRATION APPLICATIONS
 U - ADDITIONAL PAINTING AFTER ASSEMBLY
 V - HIGH TEMPERATURE SERVICE - INCREASED FROM 180°F TO 250°F AMBIENT

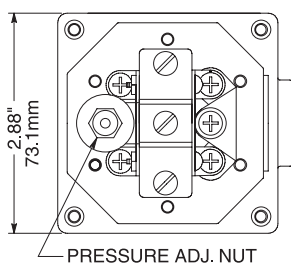
TYPE OF ELECTRIC SWITCHES
 1 - LOW DEADBAND
 15A - 125, 250, 480 VAC
 2 - STANDARD DEADBAND
 15A - 125, 250, 480 VAC; 0.5A - 125 VDC
 3 - HIGH DC RATED (MAGNETIC BLOWOUT)
 10A - 125 VDC; 3A - 250 VDC
 5 - SUB MINIATURE SWITCH - 2 S.P.D.T.
 5A - 125, 250 VAC; 0.5A - 125 VDC
 6 - GOLD CONTACT -
 1 A - 125 VAC

Ranges

Bellows Actuated

2 **W** **P** **S** **1** **B**

Adjustable Pressure Range	Fixed Switch Dead Bands		Maximum Pressure PSI
	Low Type "1"	STD Type "2"	
0-10 psi	.40	0.80	300
0-20 psi	.45	0.90	300
0-50 psi	.50	1.0	300
0-100 psi	.75	1.5	300
0-250 psi	3.0	6.0	1500
0-500 psi	4.0	8.0	1500
0-750 psi	8.0	16.0	2500
0-1000 psi	9.5	19.0	2500
0-1500 psi	29.0	58.0	5000
0-3000 psi	33.0	66.0	5000



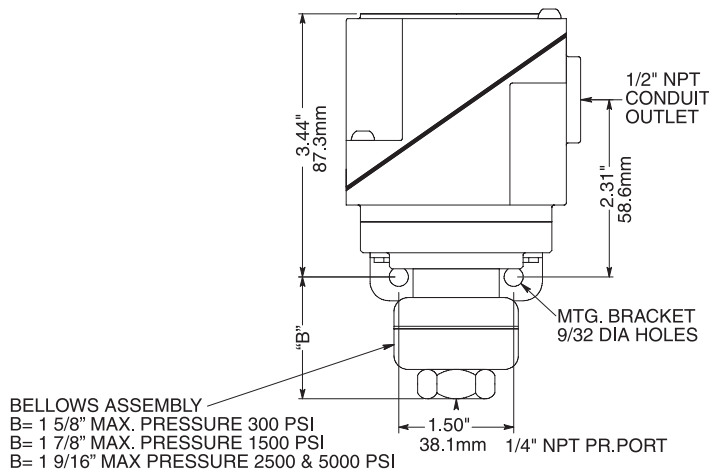
DEADBAND NOTES

The deadbands listed in the tables are the maximum switch differentials when the standard (Type "2" or Type "5") electric switch is used.

Deadband is affected by the type of switch used. Each type of switch's effect on deadband is as follows:

- Type "1" - Low Deadband - Use 1/2 TYPE 2 table values.
- Type "2" - Std. Deadband - Use table values.
- Type "3" - High DC Rated - Multiply TYPE 2 table values by two.
- Type "5" - Sub Miniature - 2 S.P.D.T. - Use TYPE 5 table values.
- Type "6" - Gold Contact - Use TYPE 2 table values.

Please note that Type "5" is the only available option on 2WPS Switches that requires two Electric Switches.



2WPS Series

PRESSURE SWITCH - DIAPHRAGM ACTUATED



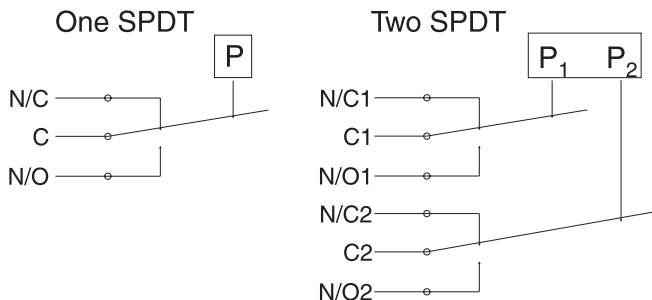
- Ranges from 2 to 300 PSI
- Rugged NEMA 4X, 12 & 13 Housing
- One or Two SPDT Contacts
- Various Wetted Materials Available
- Field Adjustable Set Points

Description

The Winters' Series 2WPS Pressure Switch (Diaphragm Actuated) features a rugged, compact, sensitive switching mechanism actuated by a diaphragm assembly. This mechanism can be supplied with one S.P.D.T. electric switch or two S.P.D.T. electric switches that are independently adjusted. The unit can be supplied with no housing, or enclosed in a rugged die cast NEMA 4X, 12 and 13 housing. With the cover of the enclosure removed, the terminals of the electric switch(es), and the pressure adjustment(s) are exposed for easy wiring and adjustment of the pressure setting. The die cast cover is equipped with captive stainless steel screws that retain the cover gasket when the cover is removed. Other useful options can easily be specified with this model.

Common applications include: Tank and compressor level and precision control, hydraulic systems, pumping controls and hazardous area lift station controls.

Wiring Schematic



INSTALLATION NOTES

Orientation - The 2WPS will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability and reduce sediment in the pressure chamber. Not recommended for use on diaphragm seals.

Wiring - Switches may be wired to 'normally open' or 'normally closed' terminals on electric switch(es). Single switch units have screw terminals while dual switch versions use Terminal Block.

Pressure Connection - 1/4 NPT female is standard. 1/2 NPT male is available ("M" option).

Adjustment - Turn pressure adjustment nut(s) clockwise to increase setpoint. Detailed installation & calibration instructions are provided for every shipment. Adjustment setting is available at no charge.

Specifications - 2WPS (Diaphragm Actuated)

Housing:	Diecast Aluminum
Pressure Connection:	1/4" NPT female
Electrical Connection:	1/2" NPT
Port Material:	Brass & Aluminum
Diaphragm Material:	Buna N
Deadband:	Fixed
Sensitivity:	1/2% of range (for SPDT)
Drift:	<1% of range (100,000 operations)
Contact Ratings:	15A - 125, 250, 480 VAC
Set Point Adjustment:	Screw type, field adjustable
No. Contacts:	One or Two S.P.D.T.
Contact Listings:	UL Recognized, CSA Certified
Maximum Ambient Temperature:	180°F (82°C)
Minimum Ambient Temperature:	-20°F (-20°C)
Weight:	Approx. 1.5 lbs.



2WPS Series

PRESSURE SWITCH - DIAPHRAGM ACTUATED

How To Order: Specify Product Code

2WPS W 1 SST 2

SERIES

HOUSING
 ' - NO HOUSING
 W - WATERTIGHT - NEMA 4X, 12 & 13
 X - EXPLOSION PROOF NEMA 7+9

NUMBER OF ELECTRIC SWITCHES
 1 - ONE S.P.D.T.
 2 - TWO S.P.D.T. - (SWITCH TYPE "5" ONLY)

SPECIAL FEATURES
 M - 1/2 NPT MALE PIPE MOUNTING
 O - HIGH OVERPRESSURE - INCREASES MAX. PRESSURE TO 1000 PSI FOR RANGES 0-2 PSI TO 0-20 PSI; MAX. PRESSURE IS 1500 PSI FOR RANGES 0-50 PSI AND UP
 Q - DOUBLE SNAP ACTING BELLEVILLE SPRING - TO PROVIDE POSITIVE SETPOINT ACCURACY IN HIGH VIBRATION APPLICATIONS
 SS - STAINLESS STEEL WETTED TRIM MATERIAL
 SN - BRASS WETTED TRIM MATERIAL
 SI - TEFLON WETTED TRIM MATERIAL
 SY - PVC WETTED TRIM MATERIAL
 T - TEFLON PROTECTED DIAPHRAGM
 U - ADDITIONAL PAINTING AFTER ASSEMBLY
 Z - VITON DIAPHRAGM MATERIAL

TYPE OF ELECTRIC SWITCHES
 1 - LOW DEADBAND
 15A - 125, 250, 480 VAC
 2 - STANDARD DEADBAND
 15A - 125, 250, 480 VAC; 0.5A - 125 VDC
 3 - HIGH DC RATED (MAGNETIC BLOWOUT)
 10A - 125 VDC; 3A - 250 VDC
 5 - SUB MINIATURTE SWITCH - 2 S.P.D.T.
 5A - 125, 250 VAC; 0.5A - 125 VDC
 6 - GOLD CONTACT -
 1 A - 125 VAC

* SPECIAL FEATURES SUCH AS STAINLESS TAGGING, OR SPECIAL WETTED PARTS: KYNAR, KALREZ, HASTELLOY, ETC. ARE AVAILABLE ON REQUEST. CONSULT WINTERS FOR CAPABILITIES AND PRICING FOR ANY FEATURES NOT SHOWN.

Ranges			
DIAPHRAGM ACTUATED			
Adjustable Pressure Range	Maximum DEADBAND		Maximum Working Pressure
	Type "2"	Type "5"	
PRESSURE			
0-2 PSI	.12	.23	20
0-5 PSI	.27	.50	20
0-10 PSI	.34	.90	50
0-20 PSI	.50	1.9	50
0-50 PSI	1.6	6	250
0-100 PSI	1.9	8.3	250
0-200 PSI	4.4	16	500
0-300 PSI	5.3	22	500
VACUUM			
0-5 IN / HG	.27"	.35"	20
0-15 IN / HG	0.34	0.67	20
0-30 IN / HG	0.45	0.9	20
30P-30V / HG	0.7	1.4	20
HIGH OVER-PRESSURE			
0-10 PSI	.25#	.50#	1000
0-20 PSI	.30	.60	1000
0-50 PSI	1.0	2.0	1500
0-100 PSI	1.2	2.5	1500
0-200 PSI	1.5	3.0	1500
0-300 PSI	1.8	3.6	1500

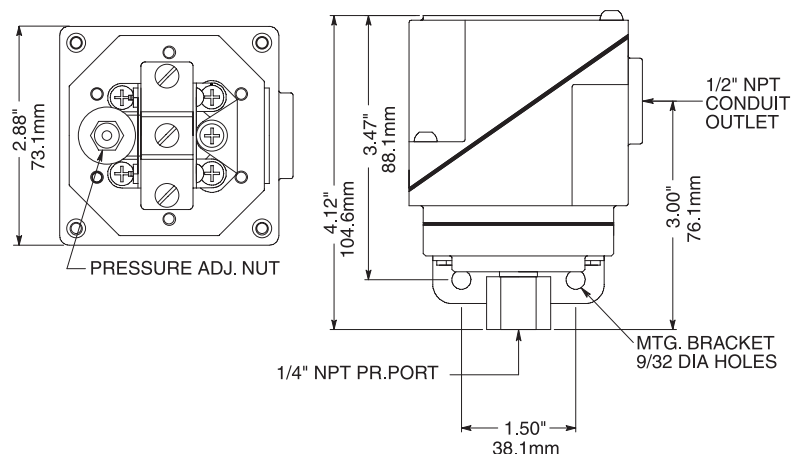
DEADBAND NOTES

The deadbands listed in the tables are the maximum switch differentials when the standard (Type "2" or Type "5") electric switch is used.

Deadband is affected by the type of switch used. Each type of switch's effect on deadband is as follows:

Type "1" - Low Deadband - Use ½ TYPE 2 table values.
 Type "2" - Std. Deadband - Use table values.
 Type "3" - High DC Rated - Multiply TYPE 2 table values by two.
 Type "5" - Sub Miniature - 2 S.P.D.T. - Use TYPE 5 table values.
 Type "6" - Gold Contact - Use TYPE 2 table values.

Please note that Type "5" is the only available option on 2WPS Switches that requires two Electric Switches.



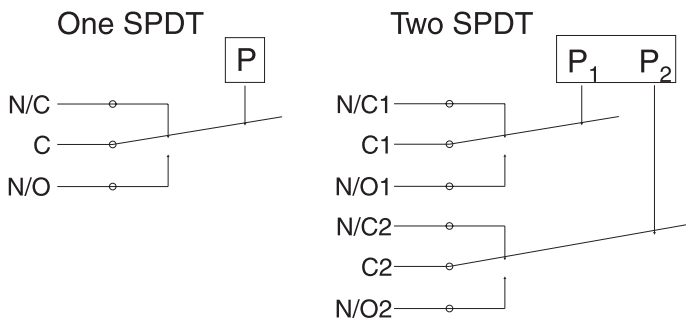
5WPS Series

PRESSURE SWITCH - BELLOWS ACTUATED



- Ranges from 0-15 PSI To 0-5000 PSI
- Rugged NEMA 4X, 12 & 13 Housing Std.
- One or Two SPDT Contacts
- Versatile Mechanism Design
- Adjustable Deadband Available

Wiring Schematic



INSTALLATION NOTES

Orientation - The 5WPS Bellows will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability and reduce sediment in the pressure chamber.

Wiring - Switches may be wired to 'normally open' or 'normally closed' terminals on electric switch(es).

Pressure Connection - 1/4 NPT female is standard. 1/2 NPT male is available ("M" option).

Adjustment - Turn pressure adjustment nut(s) clockwise to increase setpoint. Detailed installation & calibration instructions are provided for every shipment. Setting adjustment is available at no charge.

Description

The Winters' 5WPS Series (Bellows Sensing) Pressure Switch features a rugged cast aluminum housing (NEMA 4X, 12 and 13) and cover incorporating Winters standard accurate switching mechanism actuated by a stainless steel bellows assembly. Either one or two S.P.D.T. electric switch(es) are available in a variety of configurations. Some of these configurations are: Tandem settings for D.P.D.T. operation. Independent adjustment for High-Low operation. Adjustable switch differential (dead band). Manual reset on either increasing or decreasing pressure. In addition many switching configurations can be supplied with electric switches that have: Low switch differentials (dead band). High direct current ratings. Gold contacts Hermetically sealed contacts. Bellows assemblies of various areas, when applied to the 5WPS (Bellows Actuated), allow a wide variety of adjustable pressure ranges.

Common applications include: pumping stations, remote areas where a status high can be seen, ideal for Hi/Lo level control (requiring dual elements).

Specifications - 5WPS (Bellows Actuated)

Housing:	Cast Aluminum
Pressure Connection:	1/4 NPT
Electrical Connection:	1/2 NPT
Port Material:	Brass
Bellows Material:	Stainless Steel
Deadband:	Fixed
Sensitivity:	1/2% of range (for SPDT)
Drift:	<1% of range (100,000 operations)
Contact Ratings:	15A - 125, 250, 480 VAC
Set Point Adjustment:	Screw type, field adjustable
No. Contacts:	1 or 2 S.P.D.T or 1 D.P.D.T.
Contact Listings:	CSA Certified
Maximum Ambient Temperature:	180°F (82°C)
Minimum Ambient Temperature:	-40°F (-40°C)
Weight:	Approx. 3 lbs



5WPS Series

PRESSURE SWITCH - BELLOWS ACTUATED

How to Order:

Specify Product Code

5WPS W 1 B V 2

MODEL SERIES _____

HOUSING' _____
 W - WATERTIGHT - NEMA 4X, 12 & 13
 X - EXPLOSION PROOF NEMA 7+9

NUMBER OF ELECTRIC SWITCHES _____
 1 - ONE S.P.D.T.
 11 - TWO TANDEM ELECTRIC SWITCHES OPERATE IN PARALLEL D.P.D.T.
 2 - TWO S.P.D.T. INDEPENDENT ADJUSTMENT

SENSING ELEMENT _____
 B - BELLOWS ACTUATED

SPECIAL FEATURES _____
 -- NO SPECIAL FEATURES
 A - ADJUSTABLE DEADBAND
 E - EXTERNAL PRESSURE ADJUSTMENT
 EE - TWO EXTERNAL PRESSURE ADJUSTMENTS
 L - ONE INDICATOR LIGHT
 LL - TWO INDICATOR LIGHTS
 M - MALE PIPE MOUNTING 1/2 NPT
 Q - DOUBLE SNAP ACTION (BELLEVILLE SPRING)
 R> - MANUAL RESET, SWITCH ON INCR. PR.
 R< - MANUAL RESET, SWITCH ON DECR. PR.
 V - HIGH TEMPERATURE SERVICE

TYPE OF ELECTRIC SWITCHES

- 1 - LOW DEADBAND
15A - 125, 250, 480 VAC
- 2 - STANDARD DEADBAND
15A - 125, 250, 480 VAC; 0.5A - 125 VDC
- 3 - HIGH DC RATED (MAGNETIC BLOWOUT)
10A - 125 VDC; 3A - 250 VDC
- 4 - HERMETICALLY SEALED SWITCH
1A-125VAC; 25A.RES, 10A.IND, 5A.MOTOR
3A.LAMP-28VDC
- 6 - GOLD CONTACT -
1 A - 125 VAC

* SPECIAL FEATURES SUCH AS STAINLESS TAGGING, APPLICATION OF DIAPHRAGM SEALS, ETC. ARE AVAILABLE ON REQUEST. CONSULT WINTERS FOR CAPABILITIES AND PRICING FOR ANY FEATURES NOT SHOWN.

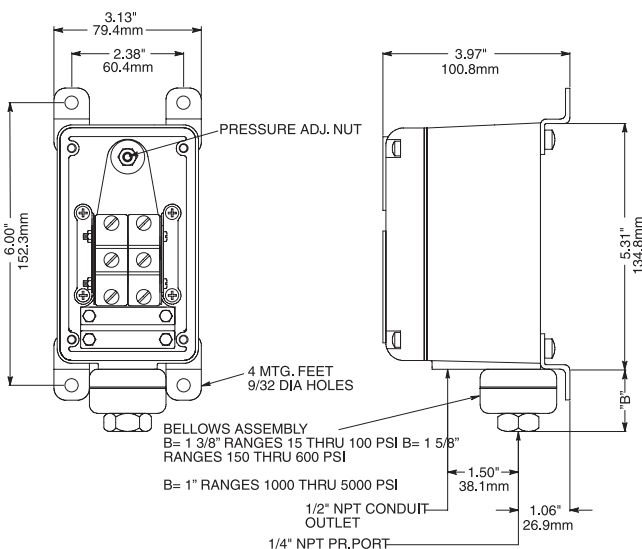
DEADBAND NOTES

The deadbands listed in the tables are the maximum switch differentials when the standard (Type "2" or Type "5") electric switch is used.

Deadband is affected by the type of switch used. Each type of switch's effect on deadband is as follows:

- Type "1" - Low Deadband - Use 1/2 TYPE 2 table values.
- Type "2" - Std. Deadband - Use table values.
- Type "3" - High DC Rated - Multiply TYPE 2 table values by two.
- Type "5" - Sub Miniature - 2 S.P.D.T. - Use TYPE 5 table values.
- Type "6" - Gold Contact - Use TYPE 2 table values.

Please note that Type "5" is the only available option on 2WPS Switches that requires two Electric Switches.



Ranges

BELLOWS ACTUATED

Adjustable Pressure Range	Maximum DEADBAND		Maximum Working Pressure
	Type "2"	Type "5"	
0-15 PSI	.7	1.5	300
0-30 PSI	.8	1.7	300
0-60 PSI	.9	1.9	300
0-100 PSI	1.1	2.2	300
0-150 PSI	4.0	8.5	1500
0-200 PSI	4.0	8.8	1500
0-300 PSI	5.0	9.5	1500
0-600 PSI	6.0	12.0	1500
0-1000 PSI	15.0	30.0	3000
0-2000 PSI	17.0	35.0	3000
0-3000 PSI	40.0	82.0	7000
0-5000 PSI	48.0	96.0	7000



5WPS Series

PRESSURE SWITCH - DIAPHRAGM ACTUATED



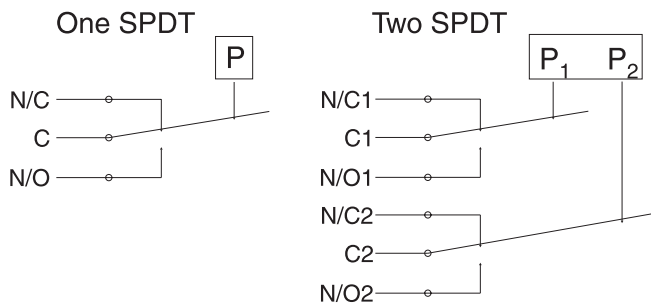
- Ranges from 0-15 PSI To 0-300 PSI
- Rugged NEMA 4X, 12 & 13 Housing Std.
- One or Two SPDT Contacts
- Versatile Mechanism Design
- Adjustable Deadband Available

Description

The 5WPS Pressure Switch features a rugged cast aluminum housing (NEMA 4X, 12 and 13 standard) and cover incorporating Winters standard accurate switching mechanism actuated by a diaphragm. Either one or two S.P.D.T. electric switch(es) are available in a variety of configurations. Some of these configurations are: Tandem settings for D.P.D.T. operation. Independent adjustment for High-Low operation. Adjustable switch differential (dead band). Manual reset on either increasing or decreasing pressure. In addition many switching configurations can be supplied with electric switches that have: Low switch differentials (dead band). High direct current ratings. Gold contacts. Hermetically sealed contacts. The standard pressure-sensing element uses a strong Buna N elastomer diaphragm. Other diaphragm materials are available.

Common applications include: pumping stations, remote areas where a status high can be seen, ideal for Hi/Lo level control (requiring dual elements).

Wiring Schematic



INSTALLATION NOTES

Orientation - The 5WPS will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability and reduce sediment in the pressure chamber.

Wiring - Switches may be wired to 'normally open' or 'normally closed' terminals on electric switch(es).

Pressure Connection - 1/4 NPT female is standard. 1/2 NPT male is available ("M" option).

Adjustment - Turn pressure adjustment nut(s) clockwise to increase setpoint. Detailed installation & calibration instructions are provided for every shipment. Adjustment setting is available at no charge.

Specifications - 5WPS (Diaphragm Actuated)

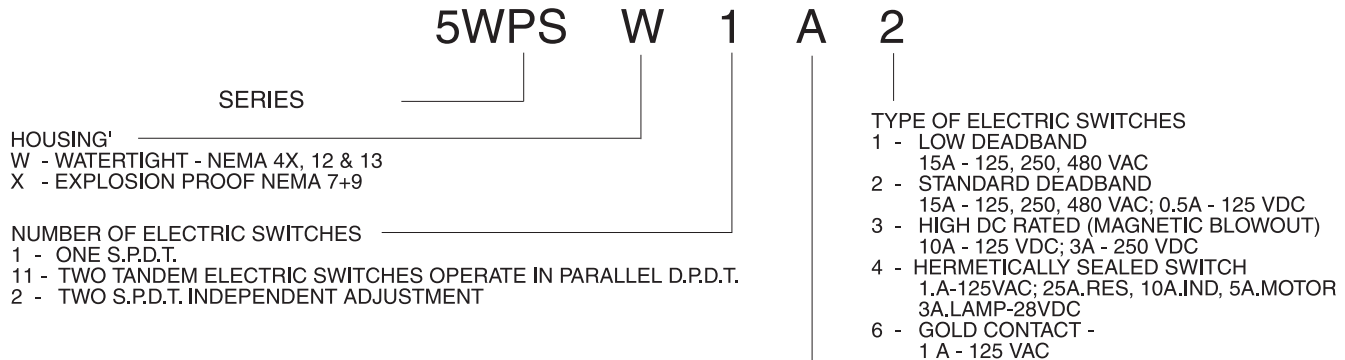
Housing:	Cast Aluminum
Pressure Connection:	1/4 NPT
Electrical Connection:	1/2 NPT
Port Material:	Aluminum
Diaphragm Material:	Buna N
Deadband:	Fixed
Sensitivity:	1/2% of range (for SPDT)
Drift:	<1% of range (100,000 operations)
Contact Ratings:	15A - 125, 250, 480 VAC
Set Point Adjustment:	Screw type, field adjustable
No. Contacts:	1 or 2 S.P.D.T or 1 D.P.D.T.
Contact Listings:	UL Recognized, CSA Certified
Maximum Ambient Temperature:	180°F (82°C)
Minimum Ambient Temperature:	-20°F (-20°C)
Weight:	Approx. 3 lbs



5WPS Series

PRESSURE SWITCH - DIAPHRAGM ACTUATED

How to Order: Specify Product Code



SPECIAL FEATURES

- NO SPECIAL FEATURES
- A - ADJUSTABLE DEADBAND
- E - EXTERNAL PRESSURE ADJUSTMENT
- EE - TWO EXTERNAL PRESSURE ADJUSTMENTS
- L - ONE INDICATOR LIGHT
- LL - TWO INDICATOR LIGHTS
- M - MALE PIPE MOUNTING 1/2 NPT
- O - HIGH OVERPRESSURE DIAPHRAGM - INCREASES MAX. PRESSURE TO 1000 PSI
- Q - DOUBLE SNAP ACTION (BELLEVILLE SPRING)
- R> - MANUAL RESET, SWITCH ON INCR. PR.
- R< - MANUAL RESET, SWITCH ON DECR. PR.
- T - TEFLON PROTECTED DIAPHRAGM
- U - ADDITIONAL PAINTING AFTER ASSEMBLY
- V - HIGH TEMPERATURE SERVICE
- Z - VITON DIAPHRAGM
- Z - VITON DIAPHRAGM

* SPECIAL FEATURES SUCH AS STAINLESS TAGGING, KALREZ DIAPHRAGM, HIGH/LOW SWITCHING, ETC. ARE AVAILABLE ON REQUEST. CONSULT WINTERS FOR CAPABILITES AND PRICING FOR ANY FEATURES NOT SHOWN.

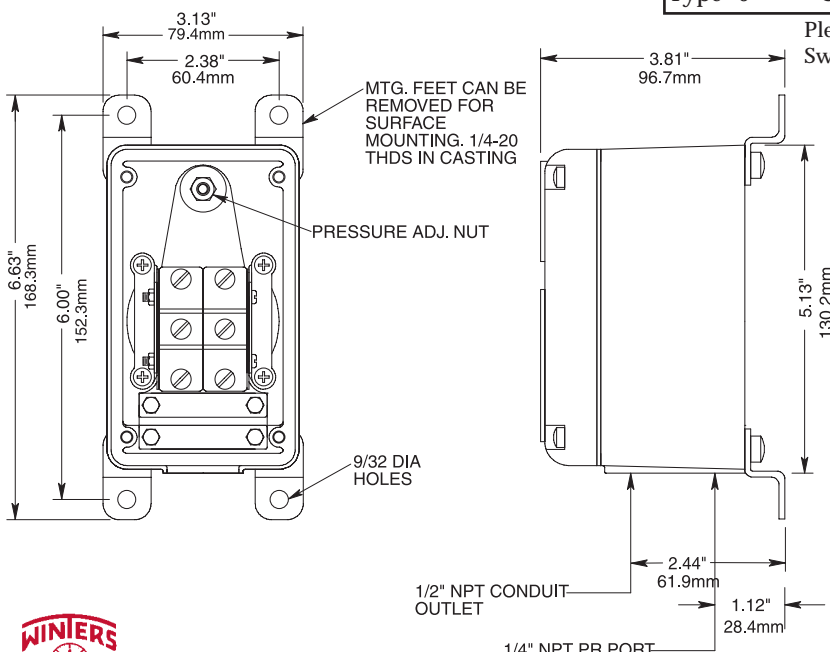
DEADBAND NOTES

The deadbands listed in the tables are the maximum switch differentials when the standard (Type "2" or Type "5") electric switch is used.

Deadband is affected by the type of switch used. Each type of switch's effect on deadband is as follows:

- Type "1" - Low Deadband - Use 1/2 TYPE 2 table values.
- Type "2" - Std. Deadband - Use table values.
- Type "3" - High DC Rated - Multiply TYPE 2 table values by two.
- Type "5" - Sub Miniature - 2 S.P.D.T. - Use TYPE 5 table values.
- Type "6" - Gold Contact - Use TYPE 2 table values.

Please note that Type "5" is the only available option on 2WPS Switches that requires two Electric Switches.



Ranges

DIAPHRAGM ACTUATED

Adjustable Pressure Range	Maximum DEADBAND		Maximum Working Pressure
	Type "2"	Type "5"	
PRESSURE			
0-15 PSI	.3	.6	50
0-30 PSI	.4	.8	100
0-60 PSI	.5	1.0	200
0-100 PSI	1.0	2.0	300
0-150 PSI	1.0	2.5	300
0-200 PSI	2.0	3.5	500
0-300 PSI	3.0	5.0	500

HIGH OVER-PRESSURE

0-15 PSI	.3	.6	1000
0-30 PSI	0.4	.8	1000
0-60 PSI	0.5	1.0	1000
0-100 PSI	0.8	1.5	1000



5WPS Series

DIFFERENTIAL PRESSURE SWITCH - BELLOWS ACTUATED



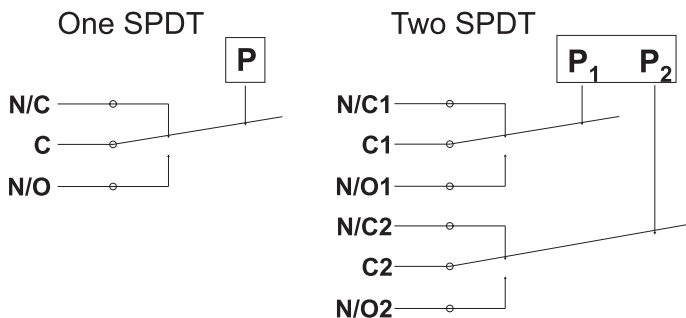
- Ranges from 0-15 PSI To 0-5000 PSI
- Rugged NEMA 4X, 12 & 13 Housing Std.
- One or Two SPDT Contacts
- Versatile Mechanism Design
- Adjustable Deadband Available

Description

The Winters 5WPS (Bellows Actuated) Differential Pressure Switch features a rugged cast aluminum housing (NEMA 4X, 12 & 13) and cover, incorporating Winters standard accurate switching mechanism, actuated by stainless steel differential pressure bellows assemblies. Either one or two S.P.D.T. electric switch/s are available in a variety of configurations. Some of these configurations are: Tandem settings for D.P.D.T. operation. Independent adjustment for High-Low operation. Adjustable switch differential (dead band). Manual reset on either increasing or decreasing pressure. In addition many switching configurations can be supplied with electric switches that have: Low switch differentials (dead band). High direct current ratings. Gold contacts hermetically sealed contacts. Differential Pressure Bellows Assemblies of various areas, when applied to the 5WPS model, allow a wide variety of adjustable Differential Pressure Ranges.

The Winters 5WPS (Differential) can be utilized in applications requiring a differential activation (i.e. filtration).

Wiring Schematic



INSTALLATION NOTES

Orientation - The 5WPS Bellows Differential will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability.

Wiring - Switches may be wired to 'normally open' or 'normally closed' terminals on electric switch(es).

Pressure Connection - 1/4 NPT female is standard. 1/2 NPT male is available ("M" option).

Adjustment - Turn pressure adjustment nut(s) clockwise to increase setpoint. Detailed installation & calibration instructions are provided for every shipment. Setting adjustment is available at no charge.

Specifications - 5WPS (Bellows Actuated)

Housing:	Cast Aluminum
Pressure Connection:	1/4 NPT
Electrical Connection:	1/2 NPT
Port Material:	Brass
Bellows Material:	Stainless Steel
Deadband:	Fixed
Sensitivity:	1/2% of range (for SPDT)
Drift:	<1% of range (100,000 operations)
Contact Ratings:	15A - 125, 250, 480 VAC
Set Point Adjustment:	Screw type, field adjustable
No. Contacts:	1 or 2 S.P.D.T or 1 D.P.D.T.
Contact Listings:	UL Recognized, CSA Certified
Maximum Ambient Temperature:	180°F (82°C)
Minimum Ambient Temperature:	-40°F (-40°C)
Weight:	Approx. 3 lbs



5WPS Series

DIFFERENTIAL PRESSURE SWITCH - BELLOWS ACTUATED

How to Order: Specify Product Code

5WPS W 1 BD V 2

SERIES _____

HOUSING'
W - WATERTIGHT - NEMA 4X, 12 & 13
X - EXPLOSION PROOF NEMA 7+9

NUMBER OF ELECTRIC SWITCHES _____
1 - ONE S.P.D.T.
11 - TWO TANDEM ELECTRIC SWITCHES OPERATE IN PARALLEL D.P.D.T.
2 - TWO S.P.D.T. INDEPENDENT ADJUSTMENT

SENSING ELEMENT _____
BD - BELLOWS ACTUATED DIFFERENTIAL PRESSURE

SPECIAL FEATURES _____
-- - NO SPECIAL FEATURES
A - ADJUSTABLE DEADBAND
E - EXTERNAL PRESSURE ADJUSTMENT
EE - TWO EXTERNAL PRESSURE ADJUSTMENTS
L - ONE INDICATOR LIGHT
LL - TWO INDICATOR LIGHTS
M - MALE PIPE MOUNTING ½ NPT
Q - DOUBLE SNAP ACTION (BELLEVILLE SPRING)
R> - MANUAL RESET, SWITCH ON INCR. PR.
R< - MANUAL RESET, SWITCH ON DECR. PR.
V - HIGH TEMPERATURE SERVICE

TYPE OF ELECTRIC SWITCHES
1 - LOW DEADBAND
 15A - 125, 250, 480 VAC
2 - STANDARD DEADBAND
 15A - 125, 250, 480 VAC; 0.5A - 125 VDC
3 - HIGH DC RATED (MAGNETIC BLOWOUT)
 10A - 125 VDC; 3A - 250 VDC
4 - HERMETICALLY SEALED SWITCH
 1A-125VAC; 25A.RES, 10A.IND, 5A.MOTOR
 3A.LAMP-28VDC
6 - GOLD CONTACT -
 1 A - 125 VAC

* SPECIAL FEATURES SUCH AS STAINLESS TAGGING, APPLICATION OF DIAPHRAGM SEALS, ETC. ARE AVAILABLE ON REQUEST. CONSULT WINTERS FOR CAPABILITIES AND PRICING FOR ANY FEATURES NOT SHOWN.

Ranges

BELLOWS ACTUATED DIFFERENTIAL PRESSURE (DP)

0-15 PSI	.7	1.3	300
0-30 PSI	.7	1.4	300
0-60 PSI	.8	1.6	300
0-100 PSI	1.0	1.9	300
0-150 PSI	4.0	7.3	1500
0-200 PSI	4.0	7.6	1500
0-300 PSI	4.0	8.2	1500
0-600 PSI	5.0	10.0	1500
0-1000 PSI	12.0	25.0	3000
0-2000 PSI	15.0	30.0	3000
0-3000 PSI	37.0	75.0	7000
0-5000 PSI	45.0	90.0	7000

BELLOWS ACTUATED

TWO-WAY DIFFERENTIAL PRESSURE

0-15 PSI	2.6	300
0-30 PSI	6.0	300
0-60 PSI	9.7	300
0-100 PSI	18.0	1500
0-150 PSI	30.0	1500
0-200 PSI	32.0	1500
0-300 PSI	48.0	1500
0-600 PSI	92.0	3000
0-1000 PSI	146.0	3000
0-2000 PSI	400.0	7000
0-3000 PSI	425.0	7000

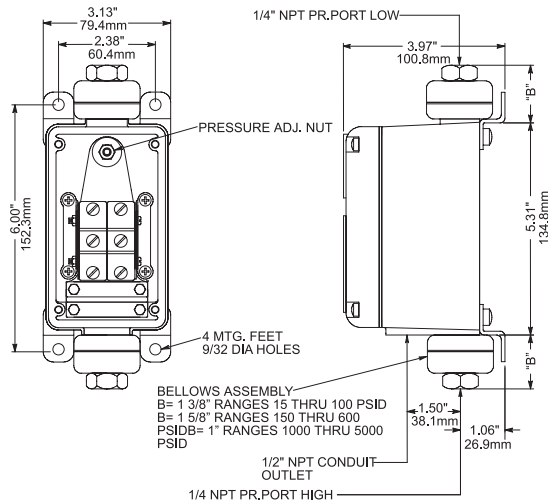
DEADBAND NOTES

The deadbands listed in the tables are the maximum switch differentials when the standard (Type "2" or Type "5") electric switch is used.

Deadband is affected by the type of switch used. Each type of switch's effect on deadband is as follows:

- Type "1" - Low Deadband - Use ½ TYPE 2 table values.
- Type "2" - Std. Deadband - Use table values.
- Type "3" - High DC Rated - Multiply TYPE 2 table values by two.
- Type "5" - Sub Miniature - 2 S.P.D.T. - Use TYPE 5 table values.
- Type "6" - Gold Contact - Use TYPE 2 table values.

Please note that Type "5" is the only available option on 2WPS Switches that requires two Electric Switches.



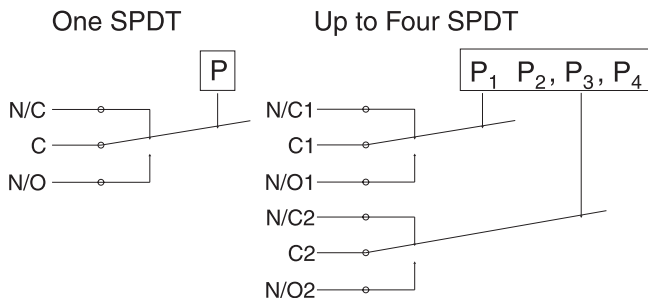
6WPS Series

PRESSURE SWITCH - BELLOWS ACTUATED



- Ranges from 0-15 PSI To 0-5000 PSI
- Rugged NEMA 4X & 12 Housing Std.
- CSA Certified
- Class I, Div. I, Gr. C & D Available
- Up to Four SPDT Contacts
- Various Wetted Materials Available

Wiring Schematic



INSTALLATION NOTES

Orientation - The 6WPS Bellows Actuated will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability and reduce sediment in the pressure chamber.

Wiring - Switches may be wired to 'normally open' or 'normally closed' terminals on electric switch(es).

Pressure Connection - 1/4 NPT female is standard. 1/2 NPT male is available ("M" option).

Adjustment - Turn pressure adjustment nut(s) clockwise to increase setpoint. Detailed installation & calibration instructions are provided for every shipment. Setting adjustments available at no charge.

Description

The Winters' Series 6WPS Bellows Actuated Pressure Switch is constructed using a rugged cast aluminum housing that incorporates Winter's standard accurate switching mechanism actuated by a stainless steel bellows assembly. The housing can be specified, watertight; or explosion proof. The housing is large enough to accommodate up to four full size S.P.D.T. electric switches. These electric switches are available in a variety of configurations including adjustable switch differential (dead band), D.P.D.T., High-Low operation, and manual reset. In addition many switching configurations can be supplied with electric switches that have: Low switch differentials (dead band). High direct current ratings. Gold contacts. Hermetically sealed contacts. Bellows assemblies of various areas, when applied to the 6WPS Bellows Actuated model, allow a wide variety of adjustable pressure ranges.

Common applications for the 6WPS would be multiple tank or pump controls and an application requiring alarm systems.

Specifications - 6WPS (Bellows Actuated)

Housing:	Cast Aluminum
Pressure Connection:	1/4 NPT
Electrical Connection:	1/2 NPT
Port Material:	Brass
Bellows Material:	Stainless Steel
Deadband:	Fixed
Sensitivity:	1/2% of range (for SPDT)
Drift:	<1% of range (100,000 operations)
Contact Ratings:	15A - 125, 250, 480 VAC
Set Point Adjustment:	Screw type, field adjustable
No. Contacts:	1, 2, 3 or 4 S.P.D.T or 1 D.P.D.T.
Contact Listings:	UL Recognized, CSA Certified
Maximum Ambient Temperature:	180°F (82°C)
Minimum Ambient Temperature:	-40°F (-40°C)
Weight:	Approx. 5 lbs.



6WPS Series

PRESSURE SWITCH - BELLOWS ACTUATED

How to Order: Specify Product Code

6WPS W 1 B V 2

SERIES

HOUSING' _____

W - WATERTIGHT - NEMA 4X & 12
X - EXPLOSION PROOF - NEMA 7 & 9

NUMBER OF ELECTRIC SWITCHES _____

1 - ONE S.P.D.T.
11 - TWO TANDEM ELECTRIC SWITCHES OPERATE IN PARALLEL D.P.D.T.
2 - TWO S.P.D.T. INDEPENDENT ADJUSTMENT
3 - THREE S.P.D.T. INDEPENDENT ADJUSTMENT
4 - FOUR S.P.D.T. INDEPENDENT ADJUSTMENT

SENSING ELEMENT _____

B - BELLOWS ACTUATED

SPECIAL FEATURES _____

-- NO SPECIAL FEATURES
A - ADJUSTABLE DEADBAND
E - EXTERNAL PRESSURE ADJUSTMENT
EE - TWO EXTERNAL PRESSURE ADJUSTMENTS
L - ONE INDICATOR LIGHT (NOT ON X HOUSING)
LL - TWO INDICATOR LIGHTS (NOT ON X HOUSING)
M - MALE PIPE MOUNTING 1/2 NPT
P - PANEL MOUNTING
Q - DOUBLE SNAP ACTION (BELLEVILLE SPRING)
R> - MANUAL RESET, SWITCH ON INCR. PR.
R< - MANUAL RESET, SWITCH ON DECR. PR.
V - HIGH TEMPERATURE SERVICE

TYPE OF ELECTRIC SWITCHES

1 - LOW DEADBAND
15A - 125, 250, 480 VAC

2 - STANDARD DEADBAND
15A - 125, 250, 480 VAC; 0.5A - 125 VDC

3 - HIGH DC RATED (MAGNETIC BLOWOUT)
10A - 125 VDC; 3A - 250 VDC

4 - HERMETICALLY SEALED SWITCH
1A-125VAC; 25A.RES, 10A.IND, 5A.MOTOR
3A.LAMP-28VDC

6 - GOLD CONTACT -
1 A - 125 VAC

* SPECIAL FEATURES SUCH AS STAINLESS TAGGING, APPLICATION OF DIAPHRAGM SEALS, ETC. ARE AVAILABLE ON REQUEST. CONSULT WINTERS FOR CAPABILITIES AND PRICING FOR ANY FEATURES NOT SHOWN.

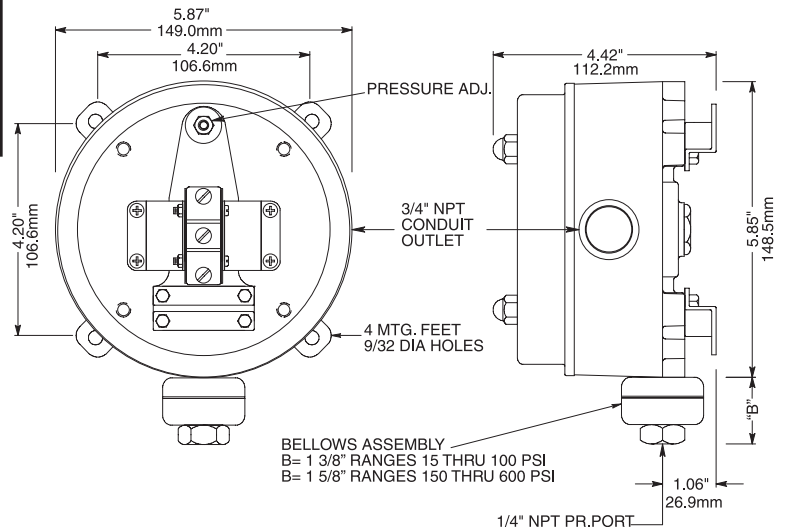
DEADBAND NOTES

The deadbands listed in the tables are the maximum switch differentials when the Type "1" or Type "2" electric switch is used.

Deadband is affected by the type of electric switch used. Each type of electric switch's effect on deadband is as follows:

- Type "1" - Low Deadband - Use table values.
- Type "2" - Std. Deadband - Use table values.
- Type "3" - High DC Rated - Multiply TYPE 2 table values by two.
- Type "4" - Hermetically Sealed Switch - Multiply TYPE 2 table values by six.
- Type "6" - Gold Contact - Use TYPE 2 table values.

Ranges			
BELLOWS ACTUATED			
Adjustable Pressure Range	Maximum DEADBAND		Maximum Working Pressure
	Type "2"	Type "5"	
0-15 PSI	.7	1.3	300
0-30 PSI	.7	1.4	300
0-60 PSI	.8	1.6	300
0-100 PSI	1.0	1.9	300
0-150 PSI	4.0	7.3	1500
0-200 PSI	4.0	7.6	1500
0-300 PSI	4.0	8.2	1500
0-600 PSI	5.0	10.0	1500
0-1000 PSI	12.0	25.0	3000
0-2000 PSI	15.0	30.0	3000
0-3000 PSI	37.0	75.0	7000
0-5000 PSI	45.0	90.0	7000



6WPS Series

PRESSURE SWITCH - DIAPHRAGM ACTUATED



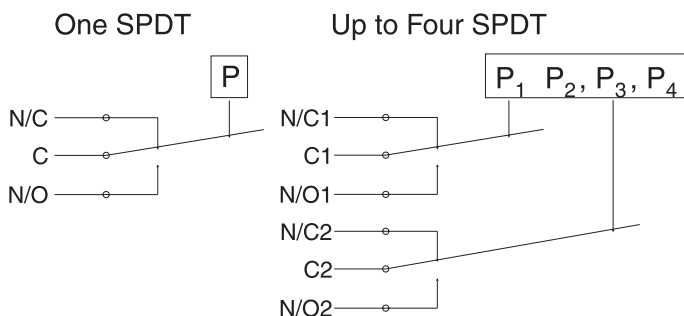
- Ranges from 0-15 PSI To 0-300 PSI
- Rugged NEMA 4X & 12 Housing Std.
- Class I, Div. I, Gr. C & D Available
- CSA Certified
- Up to Four SPDT Contacts
- Various Wetted Materials Available

Description

The 6WPS (Diaphragm Actuated) Pressure Switch is constructed using a rugged cast aluminum housing (NEMA 4X & 12) that incorporates Winter's standard accurate switching mechanism actuated by a diaphragm. The housing can be specified watertight; or explosion proof. The housing is large enough to accommodate up to four full size S.P.D.T. electric switches. These electric switches are available in a variety of configurations including adjustable switch differential (dead band), D.P.D.T., High-Low operation, and manual reset. In addition many switching configurations can be supplied with electric switches that have: Low switch differentials (dead band). High direct current ratings. Gold contacts. Hermetically sealed contacts. The standard pressure-sensing element uses a strong Buna N elastomer diaphragm. Other diaphragm materials are available.

Common applications for the 6WPS would be multiple tank or pump controls and an application requiring alarm systems.

Wiring Schematic



INSTALLATION NOTES

Orientation - The 6WPS Diaphragm Actuated will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability and reduce sediment in the pressure chamber.

Wiring - Switches may be wired to 'normally open' or 'normally closed' terminals on electric switch(es).

Pressure Connection - 1/4 NPT female is standard. 1/2 NPT male is available ("M" option).

Adjustment - Turn pressure adjustment nut(s) clockwise to increase setpoint. Detailed installation & calibration instructions are provided for every shipment. Setting adjustment is available at no charge.

Specifications - 6WPS (Diaphragm Actuated)	
Housing:	Cast Aluminum
Pressure Connection:	1/4 NPT
Electrical Connection:	3/4 NPT
Port Material:	Aluminum
Diaphragm Material:	Buna N
Deadband:	Fixed
Sensitivity:	1/2% of range (for SPDT)
Drift:	<1% of range (100,000 operations)
Contact Ratings:	15A - 125, 250, 480 VAC
Set Point Adjustment:	Screw type, field adjustable
No. Contacts:	1, 2, 3 or 4 S.P.D.T or 1 D.P.D.T.
Contact Listings:	UL Recognized, CSA Certified
Maximum Ambient Temperature:	180°F (82°C)
Minimum Ambient Temperature:	-20°F (-20°C)
Weight: Approx.	5 lbs.



6WPS Series

PRESSURE SWITCH - DIAPHRAGM ACTUATED

How to Order: Specify

Product Code

MODEL SERIES

6WPS W 1 SST 2

HOUSING'

- W - WATERTIGHT - NEMA 4X & 12
- X - EXPLOSION PROOF - NEMA 7 & 9

NUMBER OF ELECTRIC SWITCHES

- 1 - ONE S.P.D.T.
- 11 - TWO TANDEM ELECTRIC SWITCHES OPERATE IN PARALLEL D.P.D.T.
- 2 - TWO S.P.D.T. INDEPENDENT ADJUSTMENT
- 3 - THREE S.P.D.T. INDEPENDENT ADJUSTMENT
- 4 - FOUR S.P.D.T. INDEPENDENT ADJUSTMENT

SPECIAL FEATURES

- NO SPECIAL FEATURES
- A - ADJUSTABLE DEADBAND
- E - EXTERNAL PRESSURE ADJUSTMENT
- EE - TWO EXTERNAL PRESSURE ADJUSTMENTS
- F - FLANGE BASE MOUNTING
- J - SAFETY SEAL
- L - ONE INDICATOR LIGHT (NOT ON X HOUSING)
- LL - TWO INDICATOR LIGHTS (NOT ON X HOUSING)
- M - MALE PIPE MOUNTING 1/2 NPT
- P - PANEL MOUNTING
- R> - MANUAL RESET, SWITCH ON INCR. PR.
- R< - MANUAL RESET, SWITCH ON DECR. PR.
- SS - SPECIAL TRIM BASE 316 STAINLESS STEEL
- SI - SPECIAL TRIM BASE TEFLON (NOT ON X SWITCHES)
- SY - SPECIAL TRIM BASE PVC (NOT ON X SWITCHES)
- T - TEFLON PROTECTED DIAPHRAGM
- U - ADDITIONAL PAINTING AFTER ASSEMBLY
- V - HIGH TEMPERATURE SERVICE
- Z - VITON DIAPHRAGM

TYPE OF ELECTRIC SWITCHES

- 1 - LOW DEADBAND
15A - 125, 250, 480 VAC
- 2 - STANDARD DEADBAND
15A - 125, 250, 480 VAC; 0.5A - 125 VDC
- 3 - HIGH DC RATED (MAGNETIC BLOWOUT)
10A - 125 VDC; 3A - 250 VDC
- 4 - HERMETICALLY SEALED SWITCH
1A-125VAC; 25A.RES, 10A.IND, 5A.MOTOR
3A.LAMP-28VDC
- 6 - GOLD CONTACT -
1 A - 125 VAC

* SPECIAL FEATURES SUCH AS STAINLESS TAGGING, OR SPECIAL WETTED PARTS; KYNAR, KALREZ, HASTELLOY, ETC. ARE AVAILABLE ON REQUEST. CONSULT WINTERS FOR CAPABILITIES AND PRICING FOR ANY FEATURES NOT SHOWN.

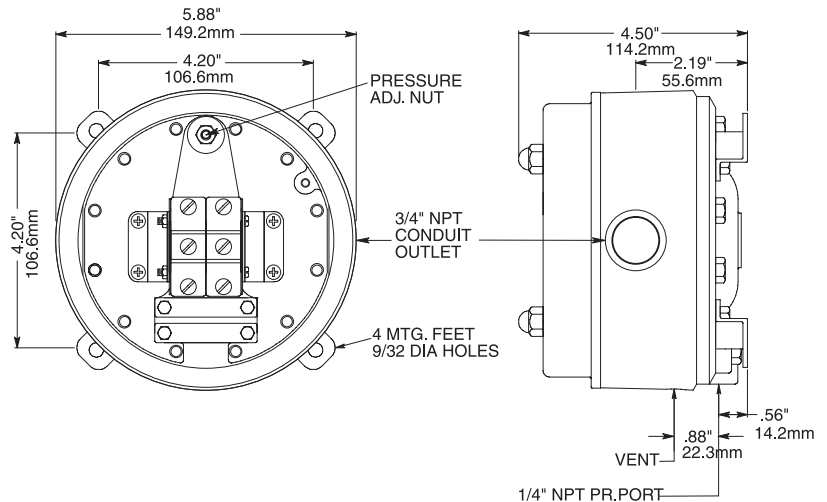
DEADBAND NOTES

The deadbands listed in the tables are the maximum switch differentials when the standard (Type "2" or Type "5") electric switch is used.

Deadband is affected by the type of switch used. Each type of switch's effect on deadband is as follows:

- Type "1" - Low Deadband - Use 1/2 TYPE 2 table values.
- Type "2" - Std. Deadband - Use table values.
- Type "3" - High DC Rated - Multiply TYPE 2 table values by two.
- Type "5" - Sub Miniature - 2 S.P.D.T. - Use TYPE 5 table values.
- Type "6" - Gold Contact - Use TYPE 2 table values.

Please note that Type "5" is the only available option on 2WPS Switches that requires two Electric Switches.



Ranges

DIAPHRAGM ACTUATED

Adjustable Pressure Range	Maximum DEADBAND		Maximum Working Pressure
	Type "2"	Type "5"	

PRESSURE

0-15 PSI	.2	.3	50
0-30 PSI	.2	.5	100
0-60 PSI	.5	1.0	200
0-100 PSI	1.0	2.0	300
0-150 PSI	1.0	2.5	300
0-200 PSI	2.0	3.5	500
0-300 PSI	3.0	5.0	500

VACUUM

30"HG /VAC	.3"	.6"	50
30PR-30 VAC	.5"	1.0	50

HIGH OVER-PRESSURE

0-15 PSI	.3	.6	1000
0-30 PSI	.4	.8	1000
0-60 PSI	.5	1.0	1000
0-100 PSI	.8	1.5	1000

Canadian Standards Association Certified:

Industrial Control Equipment Type 4 & 12 Switches Pressure Type for Hazardous Locations, Class I, Groups C & D; Class II, Groups E, F & G.



6WPS Series

DIFFERENTIAL PRESSURE SWITCH - BELLOWS ACTUATED



• Ranges from 0-15 PSID To 0-5000 PSID

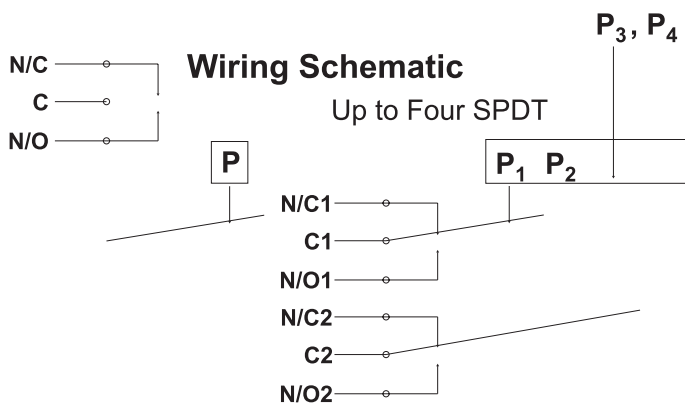
- Rugged NEMA 4X & 12 Housing Std.
- Class I, Div. I, Gr. C & D Available
- Up to Four SPDT Contacts

Description

The Winters' Series 6WPS Differential Pressure Switch (Bellows Actuated) is constructed using a rugged cast aluminum housing that incorporates Winter's standard accurate switching mechanism actuated by stainless steel differential pressure bellows assemblies. The housing can be specified, watertight; or explosion proof. The housing is large enough to accommodate up to four full size S.P.D.T. electric switches. These electric switches are available in a variety of configurations including adjustable switch differential (dead band), D.P.D.T., High-Low operation, and manual reset. In addition many switching configurations can be supplied with electric switches that have: Low switch differentials (dead band). High direct current ratings. Gold contacts. Hermetically sealed contacts. Differential Pressure Bellows Assemblies of various areas, when applied to this 6WPS model, allows a wide variety of adjustable Differential Pressure Ranges.

The 6WPS (Differential) can be utilized in filtration applications, hazardous locations and system level controls.

One SPDT



INSTALLATION NOTES

Orientation - The 6WPS Differential (Bellows) will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability.

Wiring - Switches may be wired to 'normally open' or 'normally closed' terminals on electric switch(es).

Pressure Connection - 1/4 NPT female is standard. 1/2 NPT male is available ("M" option).

Adjustment - Turn pressure adjustment nut(s) clockwise to increase setpoint. Detailed installation & calibration instructions are provided for every shipment. Setting adjustment is available at no charge.

Specifications - 6WPS (Bellows Actuated)	
Housing:	Cast Aluminum
Pressure Connection:	1/4 NPT
Electrical Connection:	1/2 NPT
Port Material:	Brass
Bellows Material:	Stainless Steel
Deadband:	Fixed
Sensitivity:	1/2% of range (for SPDT)
Drift:	<1% of range (100,000 operations)
Contact Ratings:	15A - 125, 250, 480 VAC
Set Point Adjustment:	Screw type, field adjustable
No. Contacts:	1, 2, 3 or 4 S.P.D.T or 1 D.P.D.T.
Contact Listings:	UL Recognized, CSA Certified
Maximum Ambient Temperature:	180°F (82°C)
Minimum Ambient Temperature:	-20°F (-20°C)
Weight: Approx.	5 lbs.

Canadian Standards Association Certified:
Industrial Control Equipment Type 4 & 12, LR88975.
Switches Pressure Type for Hazardous Locations,
Class I, Groups C & D; Class II, Groups E, F & G, LR88975.



6WPS Series

DIFFERENTIAL PRESSURE SWITCH - BELLOWS ACTUATED

How to Order: Specify Product Code

6WPS W 1 BD M 2

SERIES

HOUSING'
W - WATERTIGHT - NEMA 4X & 12
X - EXPLOSION PROOF - NEMA 7 & 9

NUMBER OF ELECTRIC SWITCHES
1 - ONE S.P.D.T.
11 - TWO TANDEM ELECTRIC SWITCHES OPERATE IN PARALLEL D.P.D.T.
2 - TWO S.P.D.T. INDEPENDENT ADJUSTMENT
3 - THREE S.P.D.T. INDEPENDENT ADJUSTMENT
4 - FOUR S.P.D.T. INDEPENDENT ADJUSTMENT

SENSING ELEMENT
BD - BELLOWS ACTUATED DIFFERENTIAL PRESSURE

SPECIAL FEATURES
-- NO SPECIAL FEATURES
A - ADJUSTABLE DEADBAND
E - EXTERNAL PRESSURE ADJUSTMENT
EE - TWO EXTERNAL PRESSURE ADJUSTMENTS
L - ONE INDICATOR LIGHT (NOT ON X HOUSING)
LL - TWO INDICATOR LIGHTS (NOT ON X HOUSING)
M - MALE PIPE MOUNTING 1/2 NPT
P - PANEL MOUNTING
Q - DOUBLE SNAP ACTION (BELLEVILLE SPRING)
R> - MANUAL RESET, SWITCH ON INCR. PR.
R< - MANUAL RESET, SWITCH ON DECR. PR.
V - HIGH TEMPERATURE SERVICE

TYPE OF ELECTRIC SWITCHES
1 - LOW DEADBAND
 15A - 125, 250, 480 VAC
2 - STANDARD DEADBAND
 15A - 125, 250, 480 VAC; 0.5A - 125 VDC
3 - HIGH DC RATED (MAGNETIC BLOWOUT)
 10A - 125 VDC; 3A - 250 VDC
4 - HERMETICALLY SEALED SWITCH
 1A-125VAC; 25A.RES, 10A.IND, 5A.MOTOR
 3A.LAMP-28VDC
6 - GOLD CONTACT -
 1 A - 125 VAC

* SPECIAL FEATURES SUCH AS STAINLESS TAGGING, APPLICATION OF DIAPHRAGM SEALS, ETC. ARE AVAILABLE ON REQUEST. CONSULT WINTERS FOR CAPABILITIES AND PRICING FOR ANY FEATURES NOT SHOWN.

Ranges			
BELLOWS ACTUATED DIFFERENTIAL PRESSURE (DP)			
0-15 PSI	.7	1.3	300
0-30 PSI	.7	1.4	300
0-60 PSI	.8	1.6	300
0-100 PSI	1.0	1.9	300
0-150 PSI	4.0	7.3	1500
0-200 PSI	4.0	7.6	1500
0-300 PSI	4.0	8.2	1500
0-600 PSI	5.0	10.0	1500
0-1000 PSI	12.0	25.0	3000
0-2000 PSI	15.0	30.0	3000
0-3000 PSI	37.0	75.0	7000
0-5000 PSI	45.0	90.0	7000

BELLOWS ACTUATED TWO-WAY DIFFERENTIAL PRESSURE (TYPE 1)			
0-15 PSI	2.6		300
0-30 PSI	6.0		300
0-60 PSI	9.7		300
0-100 PSI	18.0		1500
0-150 PSI	30.0		1500
0-200 PSI	32.0		1500
0-300 PSI	48.0		1500
0-600 PSI	92.0		3000
0-1000 PSI	146.0		3000
0-2000 PSI	400.0		7000
0-3000 PSI	425.0		7000

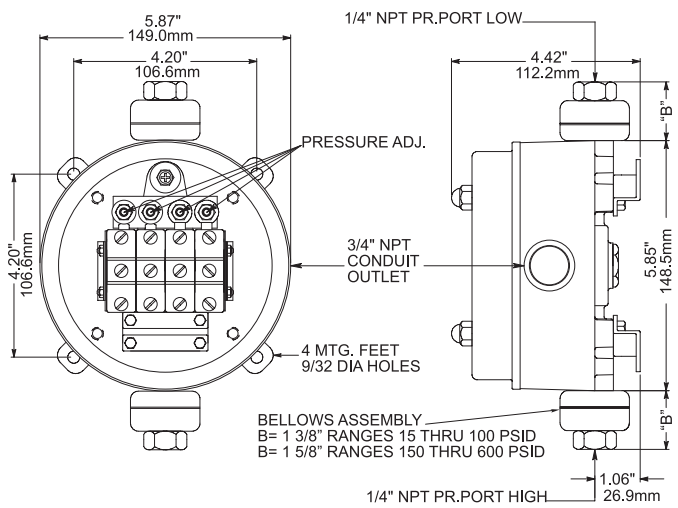
DEADBAND NOTES

The deadbands listed in the tables are the maximum switch differentials when the standard (Type "2" or Type "5") electric switch is used.

Deadband is affected by the type of switch used. Each type of switch's effect on deadband is as follows:

Type "1" - Low Deadband - Use 1/2 TYPE 2 table values.
 Type "2" - Std. Deadband - Use table values.
 Type "3" - High DC Rated - Multiply TYPE 2 table values by two.
 Type "5" - Sub Miniature - 2 S.P.D.T. - Use TYPE 5 table values.
 Type "6" - Gold Contact - Use TYPE 2 table values.

Please note that Type "5" is the only available option on 2WPS Switches that requires two Electric Switches.



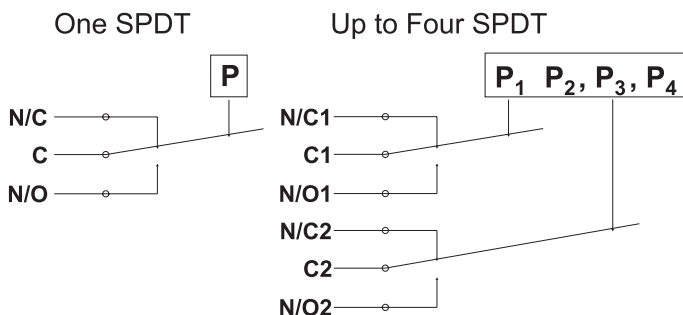
6WPS Series

DIFFERENTIAL PRESSURE SWITCH - DIAPHRAGM ACTUATED



- Ranges from 0-15 PSID & 0-30 PSID
- Rugged NEMA 4X & 12 Housing Std.
- Class I, Div. I, Gr. C & D Available
- Up to Four SPDT Contacts
- CSA Certified
- Various Wetted Materials Available

Wiring Schematic



INSTALLATION NOTES

Orientation - The 6WPS Differential, Diaphragm Actuated, will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability and reduce sediment in the pressure chamber.

Wiring - Switches may be wired to 'normally open' or 'normally closed' terminals on electric switch(es).

Pressure Connection - 1/4 NPT female is standard. 1/2 NPT male is available ("M" option).

Adjustment - Turn pressure adjustment nut(s) clockwise to increase setpoint. Detailed installation & calibration instructions are provided for every shipment. Setting adjustment is available at no charge.

Description

The Winters' Series 6WPS Differential Pressure Switch (Diaphragm Actuated) is constructed using a rugged cast aluminum housing that incorporates Winter's standard accurate switching mechanism actuated by a differential diaphragm assembly. The housing can be specified, watertight; or explosion proof. The housing is large enough to accommodate up to four full size S.P.D.T. electric switches. These electric switches are available in a variety of configurations including adjustable switch differential (dead band), D.P.D.T., High-Low operation, and manual reset. In addition many switching configurations can be supplied with electric switches that have: Low switch differentials (dead band). High direct current ratings. Gold contacts. Hermetically sealed contacts. The standard pressure-sensing element uses a strong Buna N elastomer diaphragm. Other diaphragm materials are available.

The 6WPS (Differential) can be utilized in filtration applications, hazardous locations and system level controls.

Specifications - 6WPS Differential (Diaphragm Actuated)

Housing:	Cast Aluminum
Pressure Connection:	1/4 NPT
Electrical Connection:	3/4 NPT
Port Material:	Aluminum
Diaphragm Material:	Buna N
Deadband:	Fixed
Sensitivity:	1/2% of range (for SPDT)
Drift:	<1% of range (100,000 operations)
Contact Ratings:	15A - 125, 250, 480 VAC
Set Point Adjustment:	Screw type, field adjustable
No. Contacts:	1, 2, 3 or 4 S.P.D.T or 1 D.P.D.T.
Contact Listings:	UL Recognized, CSA Certified
Maximum Ambient Temperature:	180°F (82°C)
Minimum Ambient Temperature:	-20°F (-20°C)
Weight: Approx.	5 lbs.



6WPS Series

DIFFERENTIAL PRESSURE SWITCH - DIAPHRAGM ACTUATED

How to Order: Specify Product Code

6WPS W 1 D R> 2

SERIES

HOUSING

- W - WATERTIGHT - NEMA 4X & 12
- X - EXPLOSION PROOF - NEMA 7 & 9

NUMBER OF ELECTRIC SWITCHES

- 1 - ONE S.P.D.T.
- 11 - TWO TANDEM ELECTRIC SWITCHES OPERATE IN PARALLEL D.P.D.T.
- 2 - TWO S.P.D.T. INDEPENDENT ADJUSTMENT
- 3 - THREE S.P.D.T. INDEPENDENT ADJUSTMENT
- 4 - FOUR S.P.D.T. INDEPENDENT ADJUSTMENT

SPECIAL FEATURES

- NO SPECIAL FEATURES
- A - ADJUSTABLE DEADBAND
- E - EXTERNAL PRESSURE ADJUSTMENT
- EE - TWO EXTERNAL PRESSURE ADJUSTMENTS
- L - ONE INDICATOR LIGHT (NOT ON X HOUSING)
- LL - TWO INDICATOR LIGHTS (NOT ON X HOUSING)
- M - MALE PIPE MOUNTING 1/2 NPT
- P - PANEL MOUNTING
- R> - MANUAL RESET, SWITCH ON INCR. PR.
- R< - MANUAL RESET, SWITCH ON DECR. PR.
- SS - SPECIAL TRIM BASE 316 STAINLESS STEEL
- SI - SPECIAL TRIM BASE TEFLON (NOT ON X SWITCHES)
- SY - SPECIAL TRIM BASE PVC (NOT ON X SWITCHES)
- T - TEFLON PROTECTED DIAPHRAGM
- U - ADDITIONAL PAINTING AFTER ASSEMBLY
- V - HIGH TEMPERATURE SERVICE
- Z - VITON DIAPHRAGM

TYPE OF ELECTRIC SWITCHES

- 1 - LOW DEADBAND
15A - 125, 250, 480 VAC
- 2 - STANDARD DEADBAND
15A - 125, 250, 480 VAC; 0.5A - 125 VDC
- 3 - HIGH DC RATED (MAGNETIC BLOWOUT)
10A - 125 VDC; 3A - 250 VDC
- 4 - HERMETICALLY SEALED SWITCH
1A-125VAC; 25A.RES, 10A.IND, 5A.MOTOR
3A.LAMP-28VDC
- 6 - GOLD CONTACT -
1 A - 125 VAC

* SPECIAL FEATURES SUCH AS STAINLESS TAGGING, OR SPECIAL WETTED PARTS; KYNAR, KALREZ, HASTELLOY, ETC. ARE AVAILABLE ON REQUEST. CONSULT WINTERS FOR CAPABILITIES AND PRICING FOR ANY FEATURES NOT SHOWN.

DEADBAND NOTES

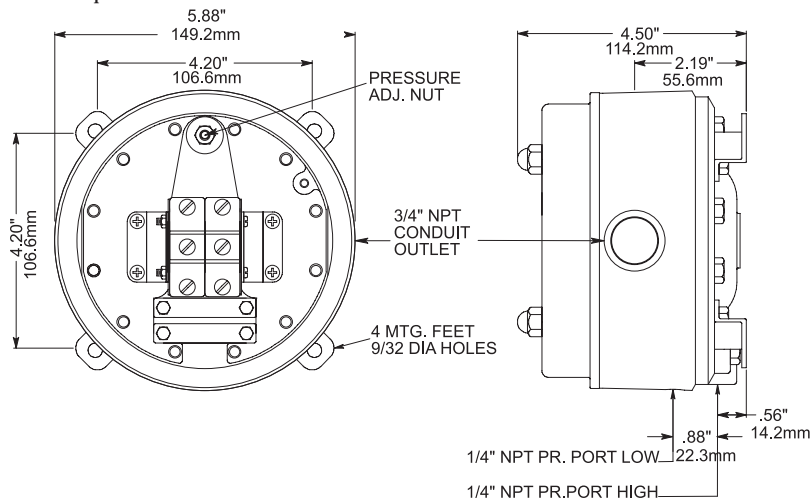
The deadbands listed in the tables are the maximum switch differentials when the standard (Type "2" or Type "5") electric switch is used.

Deadband is affected by the type of switch used. Each type of switch's effect on deadband is as follows:

- Type "1" - Low Deadband - Use 1/2 TYPE 2 table values.
- Type "2" - Std. Deadband - Use table values.
- Type "3" - High DC Rated - Multiply TYPE 2 table values by two.
- Type "5" - Sub Miniature - 2 S.P.D.T. - Use TYPE 5 table values.
- Type "6" - Gold Contact - Use TYPE 2 table values.

Please note that Type "5" is the only available option on 2WPS Switches that requires two Electric Switches.

DIFFERENTIAL PRESSURE (DP)			
0-15 PSID	.16#	.32#	100
0-30 PSID	.23	.47	100
TWO-WAY DIFFERENTIAL PRESSURE			
0-15 PSID	.7#	1.5#	100
0-30 PSID	1.2	2.5	100



Canadian Standards Association Certified:
Industrial Control Equipment Type 4 & 12 Switches Pressure
Type for Hazardous Locations, Class I, Groups C & D; Class II, Groups E, F & G.



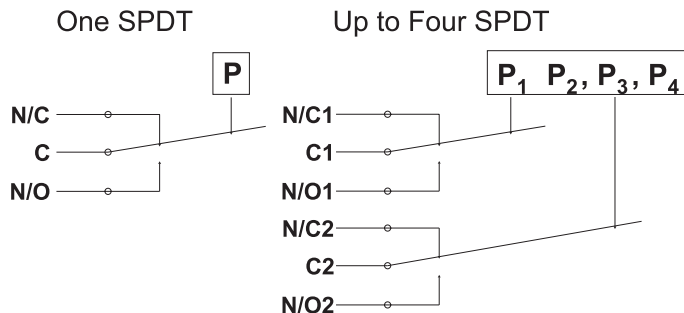
6WPSDO Series

DIFFERENTIAL PRESSURE SWITCH - DIAPHRAGM ACTUATED



- Ranges from 0-15 PSID & 0-60 PSID
- Rugged NEMA 4X & 12 Housing Std.
- Class I, Div. I, Gr. C & D Available
- Up to Four SPDT Contacts
- Various Wetted Materials Available

Wiring Schematic



INSTALLATION NOTES

Orientation - The 6WPSDO will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability and reduce sediment in the pressure chamber.

Wiring - Switches may be wired to 'normally open' or 'normally closed' terminals on electric switch(es).

Pressure Connection - 1/4 NPT female is standard. 1/2 NPT male is available ("M" option).

Adjustment - Turn pressure adjustment nut(s) clockwise to increase setpoint. Detailed installation & calibration instructions are provided for every shipment. Setting adjustment is available at no charge.

Description

The Winters' Series 6WPSDO Differential Pressure Switch is designed to sense low differential pressures between high pressure sources. The high pressure seals are opposed stainless steel bellows assemblies, while the differential pressure is sensed by a diaphragm clamped between these bellows assemblies. The diaphragm has a large area to accurately sense Low Differential Pressure, and during an over-pressure the diaphragm is fully supported. The design is symmetric such that both the HIGH or LOW pressure sides of the element can withstand the maximum pressure with the opposite side at atmospheric pressure. The rugged cast aluminum housing incorporates Winter's standard accurate switching mechanism, and can be specified watertight or explosion proof. The housing is large enough to accommodate up to four full size S.P.D.T. electric switches. The standard differential pressure-sensing element is constructed of a strong aluminum alloy using a Buna N elastomer diaphragm. Other diaphragm and wetted area materials are available.

The Winters' Series 6WPSDO is utilized in high static low differential pressure filtration applications and system level controls.

Specifications - 6WPS (Diaphragm Actuated)

Housing:	Cast Aluminum
Pressure Connection:	1/4 NPT
Electrical Connection:	3/4 NPT
Port Material:	Aluminum
Diaphragm Material:	Buna N
Deadband:	Fixed
Sensitivity:	1/2% of range (for SPDT)
Drift:	<1% of range (100,000 operations)
Contact Ratings:	15A - 125, 250, 480 VAC
Set Point Adjustment:	Screw type, field adjustable
No. Contacts:	1, 2, 3 or 4 S.P.D.T or 1 D.P.D.T.
Contact Listings:	UL Recognized, CSA Certified
Maximum Ambient Temperature:	180°F (82°C)
Minimum Ambient Temperature:	-20°F (-20°C)
Weight: Approx.	5 lbs.



6WPSDO Series

DIFFERENTIAL PRESSURE SWITCH - DIAPHRAGM ACTUATED

How to Order: Specify Product Code

6WPS W 1 DO E 2

SERIES

HOUSING
W - WATERTIGHT - NEMA 4X & 12
X - EXPLOSION PROOF - NEMA 7 & 9

NUMBER OF ELECTRIC SWITCHES
1 - ONE S.P.D.T.
11 - TWO TANDEM ELECTRIC SWITCHES OPERATE IN PARALLEL D.P.D.T.
2 - TWO S.P.D.T. INDEPENDENT ADJUSTMENT
3 - THREE S.P.D.T. INDEPENDENT ADJUSTMENT
4 - FOUR S.P.D.T. INDEPENDENT ADJUSTMENT

SPECIAL FEATURES
-- - NO SPECIAL FEATURES
A - ADJUSTABLE DEADBAND
E - EXTERNAL PRESSURE ADJUSTMENT
EE - TWO EXTERNAL PRESSURE ADJUSTMENTS
L - ONE INDICATOR LIGHT (NOT ON X HOUSING)
LL - TWO INDICATOR LIGHTS (NOT ON X HOUSING)
M - MALE PIPE MOUNTING ½ NPT
P - PANEL MOUNTING
R> - MANUAL RESET, SWITCH ON INCR. PR.
R< - MANUAL RESET, SWITCH ON DECR. PR.
SS - SPECIAL TRIM BASE 316 STAINLESS STEEL
T - TEFLON PROTECTED DIAPHRAGM
U - ADDITIONAL PAINTING AFTER ASSEMBLY
V - HIGH TEMPERATURE SERVICE
Z - VITON DIAPHRAGM

TYPE OF ELECTRIC SWITCHES
1 - LOW DEADBAND
 15A - 125, 250, 480 VAC
2 - STANDARD DEADBAND
 15A - 125, 250, 480 VAC; 0.5A - 125 VDC
3 - HIGH DC RATED (MAGNETIC BLOWOUT)
 10A - 125 VDC; 3A - 250 VDC
4 - HERMETICALLY SEALED SWITCH
 1.A-125VAC; 25A.RES, 10A.IND, 5A.MOTOR
 3A.LAMP-28VDC
6 - GOLD CONTACT -
 1 A - 125 VAC

* SPECIAL FEATURES SUCH AS STAINLESS TAGGING, OR SPECIAL WETTED PARTS; BRASS, HASTELLOY, ETC. ARE AVAILABLE ON REQUEST. CONSULT WINTERS FOR CAPABILITIES AND PRICING FOR ANY FEATURES NOT SHOWN.

DEADBAND NOTES

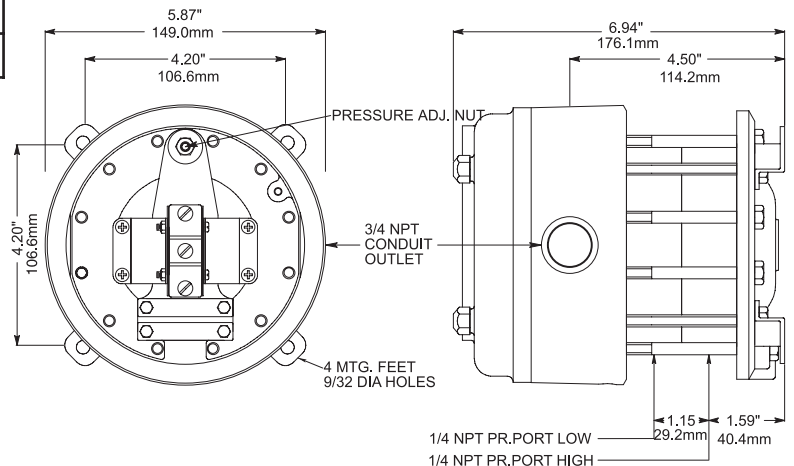
The deadbands listed in the tables are the maximum switch differentials when the standard (Type "2" or Type "5") electric switch is used.

Deadband is affected by the type of switch used. Each type of switch's effect on deadband is as follows:

- Type "1" - Low Deadband - Use ½ TYPE 2 table values.
- Type "2" - Std. Deadband - Use table values.
- Type "3" - High DC Rated - Multiply TYPE 2 table values by two.
- Type "5" - Sub Miniature - 2 S.P.D.T. - Use TYPE 5 table values.
- Type "6" - Gold Contact - Use TYPE 2 table values.

Please note that Type "5" is the only available option on 2WPS Switches that requires two Electric Switches.

Ranges			
Adjustable Pressure Range	Maximum Deadband PSI		Max. Working Pressure
	Type "1"	Type "2"	
0-15 psi	.3	.6	2500 psi
0-30 psi	.35	.7	2500 psi
0-60 psi	.35	.7	2500 psi



7WPS Series

PRESSURE SWITCH - DIAPHRAGM ACTUATED

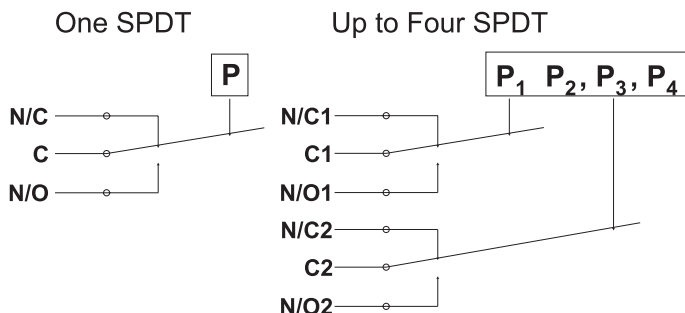


- Ranges from 1.5 W.C. To 0-150 W.C.
- Rugged NEMA 4X & 12 Housing Std.
- Class I, Div. I, Gr. C & D Available
- CSA Certified
- Up to Four SPDT Contacts
- Various Wetted Materials

Description

The Winters 7WPS Pressure Switch, diaphragm actuated, is designed for low pressure applications. The rugged cast aluminum housing incorporates standard accurate switching mechanism actuated by a large area diaphragm. The housing can be specified watertight or explosion proof. The housing is large enough to accommodate up to four full size S.P.D.T. electric switches. These electric switches are available in a variety of configurations including adjustable switch differential (dead band), D.P.D.T., High-Low operation, and manual reset. In addition many switching configurations can be supplied with electric switches that have: Low switch differentials (dead band). High direct current ratings. Gold contacts. Hermetically sealed contacts. The standard pressure-sensing element uses a strong Buna N elastomer diaphragm. Other diaphragm and wetted area materials are available.

Wiring Schematic



INSTALLATION NOTES

Orientation - The 7WPS Diaphragm Actuated will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability and reduce sediment in the pressure chamber.

Wiring - Switches may be wired to 'normally open' or 'normally closed' terminals on electric switch(es).

Pressure Connection - 1/4 NPT female is standard. 1/2 NPT male is available ("M" option).

Adjustment - Turn pressure adjustment nut(s) clockwise to increase setpoint. Detailed installation & calibration instructions are provided for every shipment. Setting adjustment is available at no charge.

Specifications 7WPS (Diaphragm Actuated)

Housing:	Cast Aluminum
Pressure Connection:	1/4 NPT
Electrical Connection:	3/4 NPT
Port Material:	Aluminum
Diaphragm Material:	Buna N
Deadband:	Fixed
Sensitivity:	1/2% of range (for one SPDT Switch)
Drift:	<1% of range (100,000 operations)
Contact Ratings:	15A - 125, 250, 480 VAC
Set Point Adjustment:	Screw type, field adjustable
No. Contacts:	1, 2, 3 or 4 S.P.D.T or 1 D.P.D.T.
Contact Listings:	UL Recognized, CSA Certified
Maximum Ambient Temperature:	180°F (82°C)
Minimum Ambient Temperature:	-20°F (-20°C)
Weight:	Approx. 6 lbs



7WPS Series

PRESSURE SWITCH - DIAPHRAGM ACTUATED

How to Order: Specify Product Code

7WPS W 1 SST 2

MODEL SERIES

HOUSING*

- W - WATERTIGHT - NEMA 4X & 12
- X - EXPLOSION PROOF - NEMA 7 & 9

NUMBER OF ELECTRIC SWITCHES

- 1 - ONE S.P.D.T.
- 11 - TWO TANDEM ELECTRIC SWITCHES OPERATE IN PARALLEL D.P.D.T.
- 2 - TWO S.P.D.T. INDEPENDENT ADJUSTMENT
- 3 - THREE S.P.D.T. INDEPENDENT ADJUSTMENT
- 4 - FOUR S.P.D.T. INDEPENDENT ADJUSTMENT

SPECIAL FEATURES

- NO SPECIAL FEATURES
- A - ADJUSTABLE DEADBAND
- E - EXTERNAL PRESSURE ADJUSTMENT
- EE - TWO EXTERNAL PRESSURE ADJUSTMENTS
- F - FLANGE BASE MOUNTING
- G - DOUBLE DIAPHRAGM EXTRA SENSITIVE LOW PR
- J - SAFETY SEAL
- L - ONE INDICATOR LIGHT (NOT ON X HOUSING)
- LL - TWO INDICATOR LIGHTS (NOT ON X HOUSING)
- M - MALE PIPE MOUNTING 1/2 NPT
- P - PANEL MOUNTING
- R> - MANUAL RESET, SWITCH ON INCR. PR.
- R< - MANUAL RESET, SWITCH ON DECR. PR.
- SS - SPECIAL TRIM BASE 316 STAINLESS STEEL
- SI - SPECIAL TRIM BASE TEFLON (NOT ON X SWITCHES)
- SY - SPECIAL TRIM BASE PVC (NOT ON X SWITCHES)
- T - TEFLON PROTECTED DIAPHRAGM
- U - ADDITIONAL PAINTING AFTER ASSEMBLY
- V - HIGH TEMPERATURE SERVICE
- Z - VITON DIAPHRAGM

TYPE OF ELECTRIC SWITCHES

- 1 - LOW DEADBAND
15A - 125, 250, 480 VAC
- 2 - STANDARD DEADBAND
15A - 125, 250, 480 VAC; 0.5A - 125 VDC
- 3 - HIGH DC RATED (MAGNETIC BLOWOUT)
10A - 125 VDC; 3A - 250 VDC
- 4 - HERMETICALLY SEALED SWITCH
1A-125VAC; 25A.RES, 10A.IND, 5A.MOTOR
3A.LAMP-28VDC
- 6 - GOLD CONTACT -
1 A - 125 VAC

* SPECIAL FEATURES SUCH AS STAINLESS TAGGING, OR SPECIAL WETTED PARTS; KYNAR, KALREZ, HASTELLOY, ETC. ARE AVAILABLE ON REQUEST. CONSULT WINTERS FOR CAPABILITIES AND PRICING FOR ANY FEATURES NOT SHOWN.

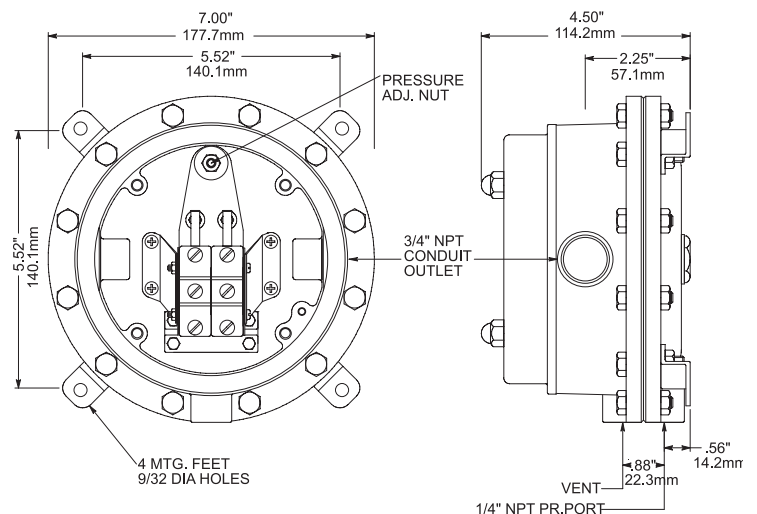
DEADBAND NOTES

The deadbands listed in the tables are the maximum switch differentials when the Type "1" or Type "2" electric switch is used.

Deadband is affected by the type of electric switch used. Each type of electric switch's effect on deadband is as follows:

- Type "1" - Low Deadband - Use table values.
- Type "2" - Std. Deadband - Use table values.
- Type "3" - High DC Rated - Multiply TYPE 2 table values by two.
- Type "4" - Hermetically Sealed Switch - Multiply TYPE 2 table values by six.
- Type "6" - Gold Contact - Use TYPE 2 table values.

Ranges			
DIAPHRAGM ACTUATED			
Adjustable Pressure Range	Maximum DEADBAND		Maximum Working Pressure
	Type "2"	Type "5"	
PRESSURE			
0-1.5 WC	.15	-	25
0-3 WC	.16	-	25
0-6 WC	.2	.4	25
0-15 WC	.3	.6	25
0-30 WC	.6	1.1	25
0-60 WC	.7	1.4	25
0-100 WC	.8	1.6	25
0-150 WC	1.2	2.4	25
VACUUM			
0-1.5 WC /VAC	.17"		50
0-3 WC /VAC	.18		50
0-6 WC /VAC	.23"	.45	50
0-15 WC /VAC	0.33	.65	50
0-30 WC /VAC	0.6	1.2	50
0-60 WC /VAC	0.7	1.4	50
0-100 WC /VAC	.8	1.6	50
0-150 WC /VAC	1.2	2.5	50
VACUUM-PRESSURE			
0-3 WC /VAC-PR	.45"	.87"	25
0-6 WC /VAC-PR	.8	1.6	25
0-15 WC /VAC-PR	1.7	3.4	25
0-30 WC /VAC-PR	2.5	5.0	25
0-60 WC /VAC-PR	4.8	9.6	25
0-100 WC /VAC-PR	8.0	16.0	25



Canadian Standards Association Certified:
Industrial Control Equipment Type 4 & 12. Switches Pressure
Type for Hazardous Locations, Class I, Groups C & D; Class
II, Groups E, F & G.



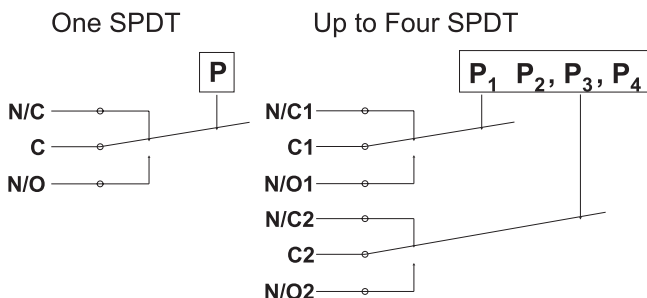
7WPS Series

DIFFERENTIAL PRESSURE SWITCH - DIAPHRAGM ACTUATED



- Ranges 0-1.5 WC/DP TO 0-200 WC/DP
- Rugged NEMA 4X & 12 Housing Std.
- Class I, Div. I, Gr. C & D Available
- CSA Certified
- Up to Four SPDT Contacts
- Various Wetted Materials Available

Wiring Schematic



INSTALLATION NOTES

Orientation - The 7WPSDO will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability and reduce sediment in the pressure chamber.

Wiring - Switches may be wired to 'normally open' or 'normally closed' terminals on electric switch(es).

Pressure Connection - 1/4 NPT female is standard. 1/2 NPT male is available ("M" option).

Adjustment - Turn pressure adjustment nut(s) clockwise to increase setpoint. Detailed installation & calibration instructions are provided for every shipment. Setting adjustment is available at no charge.

Description

The Winters 7WPS Differential Pressure Switch is designed for low differential pressure applications. The rugged cast aluminum housing incorporates Winters standard accurate switching mechanism actuated by a large area differential pressure diaphragm assembly. The housing can be specified watertight or explosion proof. The housing is large enough to accommodate up to four full size S.P.D.T. electric switches. These electric switches are available in a variety of configurations including adjustable switch differential (dead band), D.P.D.T., High-Low operation, and manual reset. In addition many switching configurations can be supplied with electric switches that have:

Low switch differentials (dead band). High direct current ratings. Gold contacts. Hermetically sealed contacts. The standard pressure-sensing element uses a strong Buna N elastimer diaphragm. Other diaphragm materials are available.

Specifications - 7WPS Differential (Diaphragm Actuated)

Housing:	Cast Aluminum
Pressure Connection:	1/4 NPT
Electrical Connection:	3/4 NPT
Port Material:	Aluminum
Diaphragm Material:	Buna N
Deadband:	Fixed
Sensitivity:	1/2% of range (for one SPDT Switch)
Drift:	<1% of range (100,000 operations)
Contact Ratings:	15A - 125, 250, 480 VAC
Set Point Adjustment:	Screw type, field adjustable
No. Contacts:	1, 2, 3 or 4 S.P.D.T or 1 D.P.D.T.
Contact Listings:	UL Recognized, CSA Certified
Maximum Ambient Temperature:	180°F (82°C)
Minimum Ambient Temperature:	-20°F (-20°C)
Weight:	Approx. 6 lbs.



7WPS Series

DIFFERENTIAL PRESSURE SWITCH - DIAPHRAGM ACTUATED

How to Order: Specify Product Code

7WPS W 1 D E 2

SERIES

HOUSING'

- W - WATERTIGHT - NEMA 4X & 12
- X - EXPLOSION PROOF - NEMA 7 & 9

NUMBER OF ELECTRIC SWITCHES

- 1 - ONE S.P.D.T.
- 11 - TWO TANDEM ELECTRIC SWITCHES OPERATE IN PARALLEL D.P.D.T.
- 2 - TWO S.P.D.T. INDEPENDENT ADJUSTMENT
- 3 - THREE S.P.D.T. INDEPENDENT ADJUSTMENT
- 4 - FOUR S.P.D.T. INDEPENDENT ADJUSTMENT

SPECIAL FEATURES

- NO SPECIAL FEATURES
- A - ADJUSTABLE DEADBAND
- E - EXTERNAL PRESSURE ADJUSTMENT
- EE - TWO EXTERNAL PRESSURE ADJUSTMENTS
- L - ONE INDICATOR LIGHT (NOT ON X HOUSING)
- LL - TWO INDICATOR LIGHTS (NOT ON X HOUSING)
- M - MALE PIPE MOUNTING 1/2 NPT
- P - PANEL MOUNTING
- R> - MANUAL RESET, SWITCH ON INCR. PR.
- R< - MANUAL RESET, SWITCH ON DECR. PR.
- SS - SPECIAL TRIM BASE 316 STAINLESS STEEL
- T - TEFLON PROTECTED DIAPHRAGM
- U - ADDITIONAL PAINTING AFTER ASSEMBLY
- V - HIGH TEMPERATURE SERVICE
- Z - VITON DIAPHRAGM

TYPE OF ELECTRIC SWITCHES

- 1 - LOW DEADBAND
15A - 125, 250, 480 VAC
- 2 - STANDARD DEADBAND
15A - 125, 250, 480 VAC; 0.5A - 125 VDC
- 3 - HIGH DC RATED (MAGNETIC BLOWOUT)
10A - 125 VDC; 3A - 250 VDC
- 4 - HERMETICALLY SEALED SWITCH
1.A-125VAC; 25A.RES, 10A.IND, 5A.MOTOR
3A.LAMP-28VDC
- 6 - GOLD CONTACT -
1 A - 125 VAC

* SPECIAL FEATURES SUCH AS STAINLESS TAGGING, OR SPECIAL WETTED PARTS; BRASS, HASTELLOY, ETC. ARE AVAILABLE ON REQUEST. CONSULT WINTERS FOR CAPABILITIES AND PRICING FOR ANY FEATURES NOT SHOWN.

DEADBAND NOTES

The deadbands listed in the tables are the maximum switch differentials when the Type "1" or Type "2" electric switch is used.

Deadband is affected by the type of electric switch used. Each type of electric switch's effect on deadband is as follows:

- Type "1" - Low Deadband - Use table values.
- Type "2" - Std. Deadband - Use table values.
- Type "3" - High DC Rated - Multiply TYPE 2 table values by two.
- Type "4" - Hermetically Sealed Switch - Multiply TYPE 2 table values by six.
- Type "6" - Gold Contact - Use TYPE 2 table values.

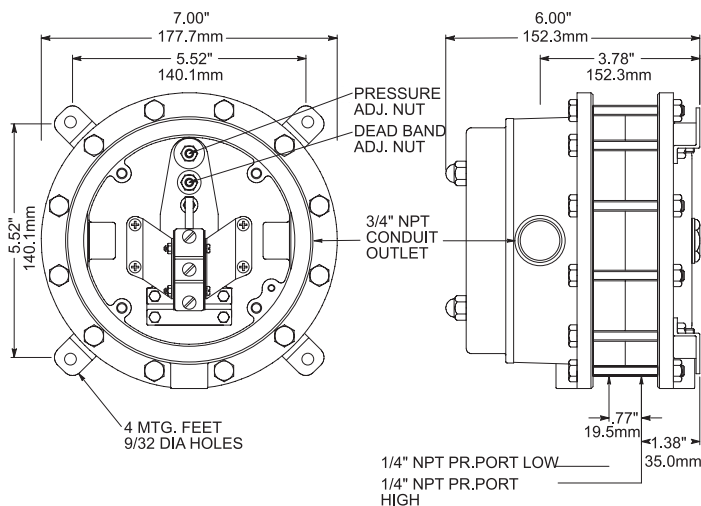
Ranges

DIAPHRAGM ACTUATED

Adjustable Pressure Range	Maximum DEADBAND WC		Maximum Working Pressure
	Type "2"	Type "5"	

PRESSURE

0-1.5 WC/DP	.17	-	50 PSI
0-3 WC/DP	-	-	50 PSI
0-6 WC/DP	.18	-	50 PSI
0-15 WC/DP	.23	.45	50 PSI
0-30 WC/DP	.6	1.2	50 PSI
0-60 WC/DP	.7	1.4	50 PSI
0-100 WC/DP	.8	1.6	50 PSI
0-200 WC/DP	1.2	2.5	50 PSI

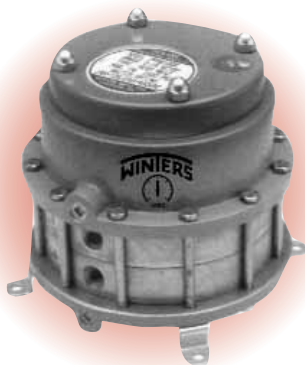


Canadian Standards Association Certified:
Industrial Control Equipment Type 4 & 12. Switches Pressure Type for Hazardous Locations, Class I, Groups C & D; Class II, Groups E, F & G.



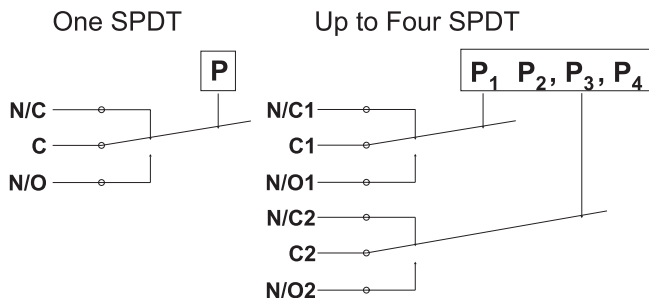
7WPSD Series

DIFFERENTIAL PRESSURE SWITCH - DIAPHRAGM ACTUATED



- Ranges 0-1.5 WC/DP TO 0-200 WC/DP
- Rugged NEMA 4X & 12 Housing Std.
- Class I, Div. I, Gr. C & D Available
- CSA Certified
- Up to Four SPDT Contacts
- Various Wetted Materials Available

Wiring Schematic



INSTALLATION NOTES

Orientation - The 7WPSDO will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability and reduce sediment in the pressure chamber.

Wiring - Switches may be wired to 'normally open' or 'normally closed' terminals on electric switch(es).

Pressure Connection - 1/4 NPT female is standard. 1/2 NPT male is available ("M" option).

Adjustment - Turn pressure adjustment nut(s) clockwise to increase setpoint. Detailed installation & calibration instructions are provided for every shipment. Setting adjustment is available at no charge.

Description

The Winters 7WPS Differential Pressure Switch is designed for low differential pressure applications. The rugged cast aluminum housing incorporates Winters standard accurate switching mechanism actuated by a large area differential pressure diaphragm assembly. The housing can be specified watertight or explosion proof. The housing is large enough to accommodate up to four full size S.P.D.T. electric switches. These electric switches are available in a variety of configurations including adjustable switch differential (dead band), D.P.D.T., High-Low operation, and manual reset. In addition many switching configurations can be supplied with electric switches that have:

Low switch differentials (dead band). High direct current ratings. Gold contacts. Hermetically sealed contacts. The standard pressure-sensing element uses a strong Buna N elastimer diaphragm. Other diaphragm materials are available.

Specifications - 7WPS Differential (Diaphragm Actuated)

Housing:	Cast Aluminum
Pressure Connection:	1/4 NPT
Electrical Connection:	3/4 NPT
Port Material:	Aluminum
Diaphragm Material:	Buna N
Deadband:	Fixed
Sensitivity:	1/2% of range (for one SPDT Switch)
Drift:	<1% of range (100,000 operations)
Contact Ratings:	15A - 125, 250, 480 VAC
Set Point Adjustment:	Screw type, field adjustable
No. Contacts:	1, 2, 3 or 4 S.P.D.T or 1 D.P.D.T.
Contact Listings:	UL Recognized, CSA Certified
Maximum Ambient Temperature:	180°F (82°C)
Minimum Ambient Temperature:	-20°F(-20°C)
Weight:	Approx. 6 lbs.



7WPSD Series

DIFFERENTIAL PRESSURE SWITCH - DIAPHRAGM ACTUATED

How to Order: Specify Product Code

7WPS W 1 DO E 2



HOUSING*

- W - WATERTIGHT - NEMA 4X & 12
- X - EXPLOSION PROOF - NEMA 7 & 9

NUMBER OF ELECTRIC SWITCHES

- 1 - ONE S.P.D.T.
- 11 - TWO TANDEM ELECTRIC SWITCHES OPERATE IN PARALLEL D.P.D.T.
- 2 - TWO S.P.D.T. INDEPENDENT ADJUSTMENT
- 3 - THREE S.P.D.T. INDEPENDENT ADJUSTMENT
- 4 - FOUR S.P.D.T. INDEPENDENT ADJUSTMENT

SPECIAL FEATURES

- NO SPECIAL FEATURES
- A - ADJUSTABLE DEADBAND
- E - EXTERNAL PRESSURE ADJUSTMENT
- EE - TWO EXTERNAL PRESSURE ADJUSTMENTS
- L - ONE INDICATOR LIGHT (NOT ON X HOUSING)
- LL - TWO INDICATOR LIGHTS (NOT ON X HOUSING)
- M - MALE PIPE MOUNTING 1/2 NPT
- P - PANEL MOUNTING
- R> - MANUAL RESET, SWITCH ON INCR. PR.
- R< - MANUAL RESET, SWITCH ON DECR. PR.
- SS - SPECIAL TRIM BASE 316 STAINLESS STEEL
- T - TEFLON PROTECTED DIAPHRAGM
- U - ADDITIONAL PAINTING AFTER ASSEMBLY
- V - HIGH TEMPERATURE SERVICE
- Z - VITON DIAPHRAGM

TYPE OF ELECTRIC SWITCHES

- 1 - LOW DEADBAND
15A - 125, 250, 480 VAC
- 2 - STANDARD DEADBAND
15A - 125, 250, 480 VAC; 0.5A - 125 VDC
- 3 - HIGH DC RATED (MAGNETIC BLOWOUT)
10A - 125 VDC; 3A - 250 VDC
- 4 - HERMETICALLY SEALED SWITCH
1A-125VAC; 25A.RES, 10A.IND, 5A.MOTOR
3A.LAMP-28VDC
- 6 - GOLD CONTACT -
1 A - 125 VAC

* SPECIAL FEATURES SUCH AS STAINLESS TAGGING, OR SPECIAL WETTED PARTS; BRASS, HASTELLOY, ETC. ARE AVAILABLE ON REQUEST. CONSULT WINTERS FOR CAPABILITIES AND PRICING FOR ANY FEATURES NOT SHOWN.

DEADBAND NOTES

The deadbands listed in the tables are the maximum switch differentials when the Type "1" or Type "2" electric switch is used.

Deadband is affected by the type of electric switch used. Each type of electric switch's effect on deadband is as follows:

- Type "1" - Low Deadband - Use table values.
- Type "2" - Std. Deadband - Use table values.
- Type "3" - High DC Rated - Multiply TYPE 2 table values by two.
- Type "4" - Hermetically Sealed Switch - Multiply TYPE 2 table values by six.
- Type "6" - Gold Contact - Use TYPE 2 table values.

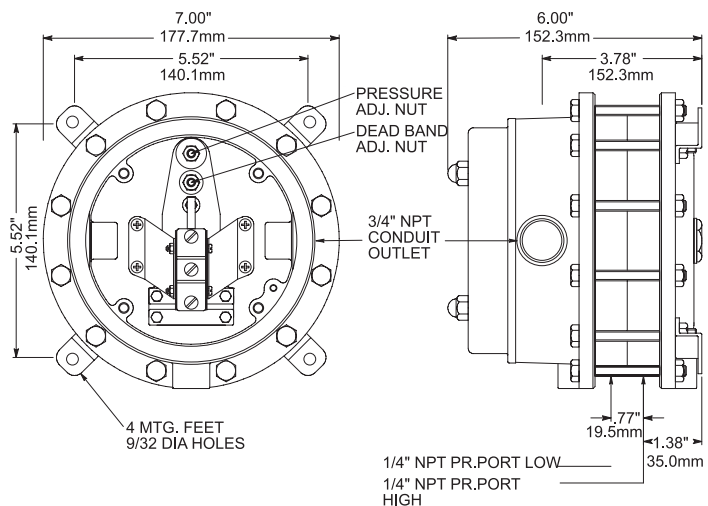
Ranges

DIAPHRAGM ACTUATED

Adjustable Pressure Range	Maximum DEADBAND WC		Maximum Working Pressure
	Type "2"	Type "5"	

PRESSURE

0-1.5 WC/DP	.17	-	50 PSI
0-3 WC/DP	-	-	50 PSI
0-6 WC/DP	.18	-	50 PSI
0-15 WC/DP	.23	.45	50 PSI
0-30 WC/DP	.6	1.2	50 PSI
0-60 WC/DP	.7	1.4	50 PSI
0-100 WC/DP	.8	1.6	50 PSI
0-200 WC/DP	1.2	2.5	50 PSI

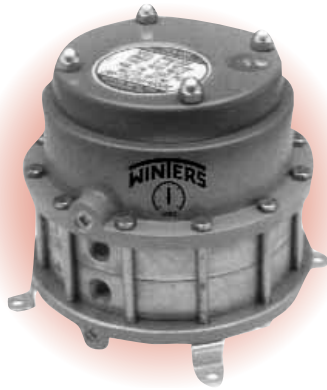


Canadian Standards Association Certified:
Industrial Control Equipment Type 4 & 12. Switches Pressure Type for Hazardous Locations, Class I, Groups C & D; Class II, Groups E, F & G.



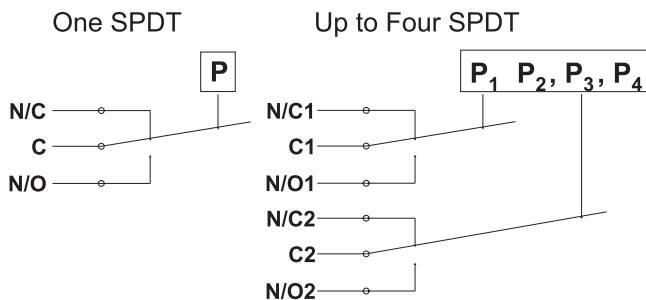
7WPSDO Series

DIFFERENTIAL PRESSURE SWITCH - DIAPHRAGM ACTUATED



- Ranges 0-6 WC/DP TO 0-200 WC/DP
- Rugged NEMA 4X & 12 Housing Std.
- Class I, Div. I, Gr. C & D Available
- Up to Four SPDT Contacts
- Various Wetted Materials Available

Wiring Schematic



INSTALLATION NOTES

Orientation - The 7WPSDO will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability and reduce sediment in the pressure chamber.

Wiring - Switches may be wired to 'normally open' or 'normally closed' terminals on electric switch(es).

Pressure Connection - 1/4 NPT female is standard. 1/2 NPT male is available ("M" option).

Adjustment - Turn pressure adjustment nut(s) clockwise to increase setpoint. Detailed installation & calibration instructions are provided for every shipment. Setting adjustment is available at no charge.

Description

The Winters 7WPSDO Differential Pressure Switch is designed to sense low differential pressures between high pressure sources. The high pressure seals are opposed stainless steel bellows assemblies, while the differential pressure is sensed by a diaphragm clamped between these bellows assemblies. The diaphragm has a large area to accurately sense Low Differential Pressure, and during an over-pressure the diaphragm is fully supported. The design is symmetric such that both the HIGH or LOW pressure sides of the element can withstand the maximum pressure with the opposite side at atmospheric pressure. The rugged cast aluminum housing incorporates Winters standard accurate switching mechanism, and can be specified watertight or explosion proof. The housing is large enough to accommodate up to four full size S.P.D.T. electric switches. The standard differential pressure-sensing element is constructed of a strong aluminum alloy using a Buna N elastomer diaphragm. Other diaphragm and wetted area materials are available. See the Special Features section on the opposite side for other materials and other options that are useful for particular applications.

Specifications - 7WPSDO (Diaphragm Actuated)

Housing:	Cast Aluminum
Pressure Connection:	1/4 NPT
Electrical Connection:	3/4 NPT
Port Material:	Aluminum
Diaphragm Material:	Buna N
Deadband:	Fixed
Sensitivity:	1/2% of range (for one SPDT Switch)
Drift:	<1% of range (100,000 operations)
Contact Ratings:	15A - 125, 250, 480 VAC
Set Point Adjustment:	Screw type, field adjustable
No. Contacts:	1, 2, 3 or 4 S.P.D.T or 1 D.P.D.T.
Contact Listings:	UL Recognized, CSA Certified
Maximum Ambient Temperature:	180°F (82°C)
Minimum Ambient Temperature:	-20°F (-20°C)
Weight:	Approx. 6 lbs.



7WPSDO Series

DIFFERENTIAL PRESSURE SWITCH DIAPHRAGM ACTUATED

How to Order: Specify Product Code

7WPS W 1 DO E 2

SERIES

HOUSING*

- W - WATERTIGHT - NEMA 4X & 12
- X - EXPLOSION PROOF - NEMA 7 & 9

NUMBER OF ELECTRIC SWITCHES

- 1 - ONE S.P.D.T.
- 11 - TWO TANDEM ELECTRIC SWITCHES OPERATE IN PARALLEL D.P.D.T.
- 2 - TWO S.P.D.T. INDEPENDENT ADJUSTMENT
- 3 - THREE S.P.D.T. INDEPENDENT ADJUSTMENT
- 4 - FOUR S.P.D.T. INDEPENDENT ADJUSTMENT

SPECIAL FEATURES

- NO SPECIAL FEATURES
- A - ADJUSTABLE DEADBAND
- E - EXTERNAL PRESSURE ADJUSTMENT
- EE - TWO EXTERNAL PRESSURE ADJUSTMENTS
- L - ONE INDICATOR LIGHT (NOT ON X HOUSING)
- LL - TWO INDICATOR LIGHTS (NOT ON X HOUSING)
- M - MALE PIPE MOUNTING 1/2 NPT
- P - PANEL MOUNTING
- R> - MANUAL RESET, SWITCH ON INCR. PR.
- R< - MANUAL RESET, SWITCH ON DECR. PR.
- SS - SPECIAL TRIM BASE 316 STAINLESS STEEL
- T - TEFLON PROTECTED DIAPHRAGM
- U - ADDITIONAL PAINTING AFTER ASSEMBLY
- V - HIGH TEMPERATURE SERVICE
- Z - VITON DIAPHRAGM

TYPE OF ELECTRIC SWITCHES

- 1 - LOW DEADBAND
15A - 125, 250, 480 VAC
- 2 - STANDARD DEADBAND
15A - 125, 250, 480 VAC; 0.5A - 125 VDC
- 3 - HIGH DC RATED (MAGNETIC BLOWOUT)
10A - 125 VDC; 3A - 250 VDC
- 4 - HERMETICALLY SEALED SWITCH
1.A-125VAC; 25A.RES, 10A.IND, 5A.MOTOR
3A.LAMP-28VDC
- 6 - GOLD CONTACT -
1 A - 125 VAC

* SPECIAL FEATURES SUCH AS STAINLESS TAGGING, OR SPECIAL WETTED PARTS; BRASS, HASTELLOY, ETC. ARE AVAILABLE ON REQUEST. CONSULT WINTERS FOR CAPABILITIES AND PRICING FOR ANY FEATURES NOT SHOWN.

DEADBAND NOTES

The deadbands listed in the tables are the maximum switch differentials when the Type "1" or Type "2" electric switch is used.

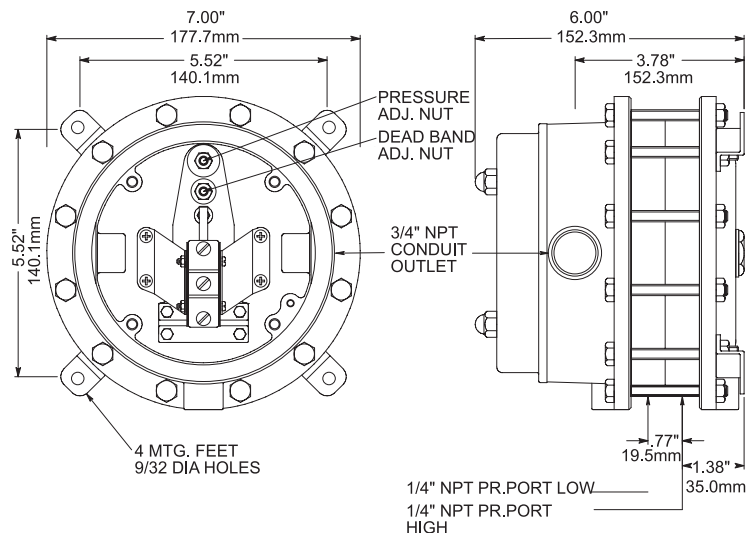
Deadband is affected by the type of electric switch used. Each type of electric switch's effect on deadband is as follows:

- Type "1" - Low Deadband - Use table values.
- Type "2" - Std. Deadband - Use table values.
- Type "3" - High DC Rated - Multiply TYPE 2 table values by two.
- Type "4" - Hermetically Sealed Switch - Multiply TYPE 2 table values by six.
- Type "6" - Gold Contact - Use TYPE 2 table values.

Ranges

LOW DIFF. PR. (DP) HIGH MAX. (7WPSDO)

Adjustable Pressure Range	Maximum DEADBAND		Maximum Working Pressure
	Type "2"	Type "5"	
0-6 WC / DP	1.1"	2.2"	1500
0-15 WC / DP	1.2	2.3	1500
0-30 WC / DP	1.2	2.3	1500
0-60 WC / DP	1.3	2.5	1500
0-100 WC / DP	1.5	2.9	1500
0-150 WC / DP	1.7	3.4	1500
0-200 WC / DP	1.9	3.8	1500



Pressure Switch Options

CODE	DESCRIPTIONS OF OPTIONS MOST COMMON OPTIONS	AVAILABILITY			
		2WPS	5WPS	6WPS	7WPS
-	No Special Features	●	●	■ ▲	■ ▲
A	Adjustable Dead Band		●	■ ▲	■ ▲
B	Bellows Actuated	●	●	■ ▲	
BD	Bellows Actuated Differential Pressure		●	■ ▲	
D	Diaphragm Actuated Diff. Pr. (DP)	●	●	■ ▲	■ ▲
E	External Pressure Adjustments		●	■ ▲	■ ▲
EE	Two External Pressure Adjustments		●	■ ▲	■ ▲
F	Flange Base Mounting			■ ●	■ ●
G	Double Diaphragm Extra Sensitive Low Pr.			■ ●	■ ●
DG	Double Diaphragm Extra Sensitive Low Differential Pressure (DP)			■ ●	■ ●
J	Safety Seal			■ ▲	■ ▲
L	One Indicator Light (Not on X Housing)		●	■	■
LL	Two Indicator Lights (Not on X Housing)		●	■	■
M	Male Pipe Mounting 1/2" NPT	●	●	■ ▲	■ ▲
O	High Overpressure Diaphragm	●	●		
P	Panel Mounting			■ ▲	■ ▲
Q	Double Snap Action (Belleville Spring)	●	●	■ ▲	
R>	Manual Reset Switch on Increase Pressure (2 max.)		●	■ ▲	■ ▲
R<	Manual Reset Switch on Decrease Pressure (2 max.)		●	■ ▲	■ ▲
SS	Special Trim Base 316 Stainless Steel	●		■ ▲	■ ▲
SI	Special Trim Base Teflon® (Not on X Switches)	●		■	■
SY	Special Trim Base PVC (Not on X Switches)	●		■	■
T	Teflon® Protected Diaphragm	●	●	■ ▲	■ ▲
V	High Temperature Service	●	●	■	■
Z	Viton Diaphragm	●	●	■ ▲	■ ▲

Note: Options may vary from none (-) to whatever may be required for a particular application. Options can be combined with the exception of similar types, i.e. SS & SI may not be combined.

- - Standard options
- - Options available on CSA Certified switches used in NEMA 4 & 12, as well as General Purpose Application.
- ▲ - Options available on CSA Certified switches used in Class 1, Group C&D; Class II, Groups E, F & G hazardous locations.

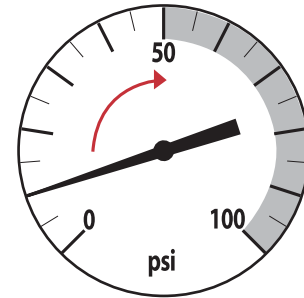
*Adjustment setting available, no extra charge



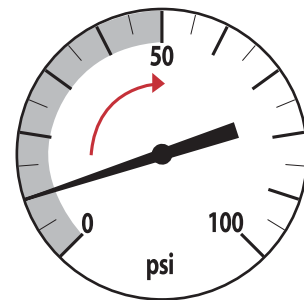
Switch/Contact Information

Below are some illustrations to assist you in the definition and selection of the single pole switch.

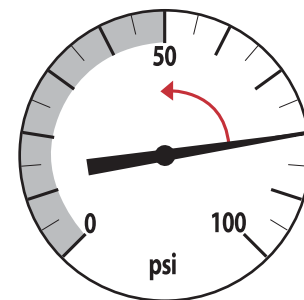
To “make” at 50 psi on rising pressure
- *Switch is closed in shaded zone on dial*



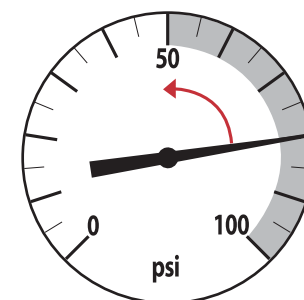
To “break” at 50 psi on rising pressure
- *Switch is closed in shaded zone on dial*



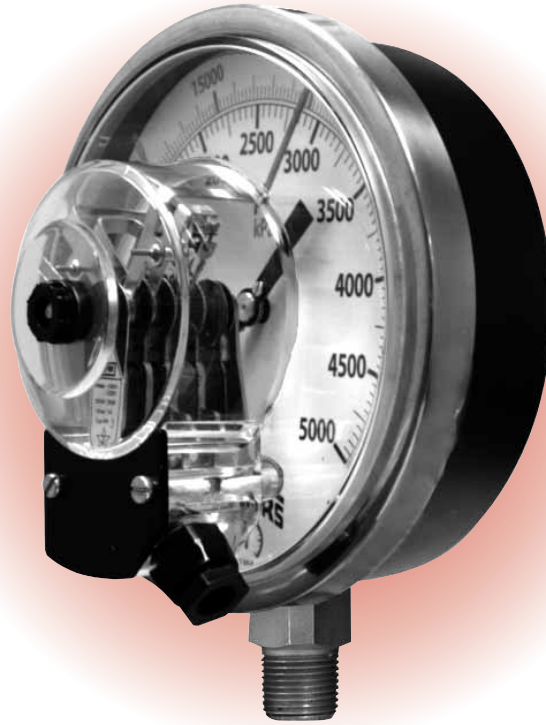
To “make” at 50 psi on decreasing pressure
- *Switch is closed in shaded zone on dial*



To “break” at 50 psi on decreasing pressure
- *Switch is closed in shaded zone on dial*



Electrical Contact Pressure Gauge



Description

Winters Electrical Contact Pressure Gauge is suitable for any application that requires an electrical device to be activated or deactivated based on a given pressure value. The single electrical contact can be ordered to either, make or break, on the upwards or downward movement of the pointer. The double electrical contacts can make and break contact on both, the upwards and downward movement of the pointer.

For example, a boiler that is designed to operate safely up to a pressure of 100 psi, and the boiler exceeds 100 psi, you could risk damage to the boiler (explosion). In order to prevent the boiler from exceeding 100 psi, a contact could be installed on the pressure gauge. The pressure gauge would then, be linked to a cut-off switch or electric relief valve, which would turn on once the pressure gauge reached a preset high pressure limit (i.e. 85 psi). The relief valve would then open and allow the excess pressure to escape before any damage is done. Also is **CRN Registered**.

Specifications

Dial:	6" (150mm) white aluminum dial with black and red markings
Case:	Steel painted black
Lens:	Plexiglass
Ring:	Steel painted black
Pointer:	Aluminum, anodized black, adjustable
Movement:	Brass/ 304 stainless steel
Socket:	Brass/316 stainless steel
Connection:	1/4" NPT standard, bottom
Bourdon Tube:	Phosphor bronze - (316L over 600 psi)
Welding:	Silver alloy, TIG
Enclosure Rating:	IP50
Over-pressure Limit:	25% of full scale value
Working Pressure:	Maximum 75% of full scale value
Ambient Temperature:	-41°F to 122°F (5°C to 50°C)
Process Temperature:	-41°F to 122°F (5°C to 50°C)
Accuracy:	± 1.0% of full scale value (ANSI/ASME Grade A)
Contacts:	Externally adjustable, single or double contacts
Maximum Voltage:	AC - 380V; 50Hz DC - 220V
Current:	Maximum current in closed contacts: 1A
Output:	Maximum output at closed contacts: AC - 30VA, DC - 30W
Frequency:	10-55Hz

Electrical Contact Pressure Gauge

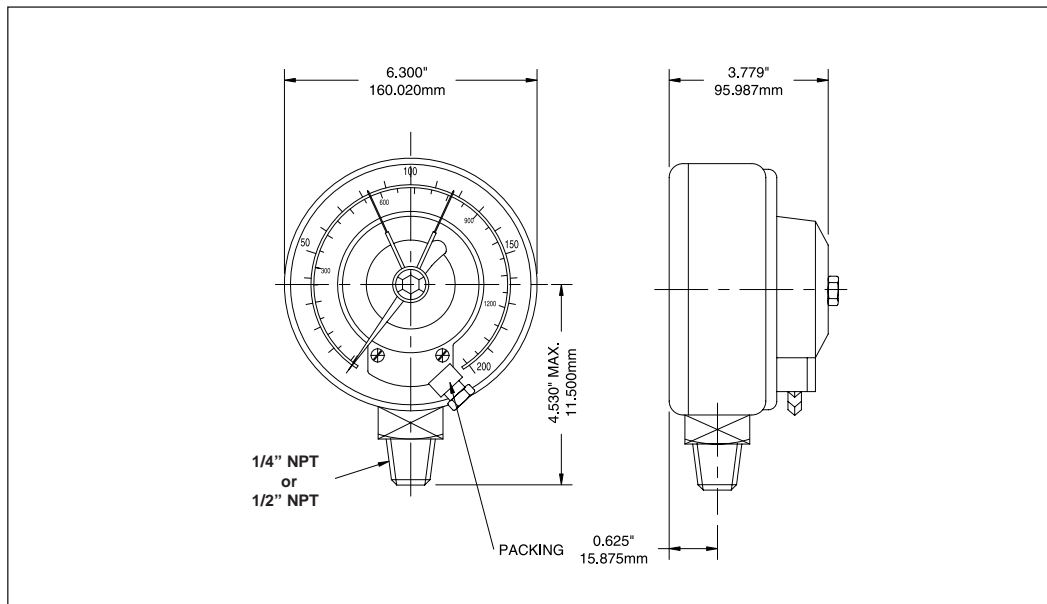
PRODUCT CODES

How to order: Specify product code

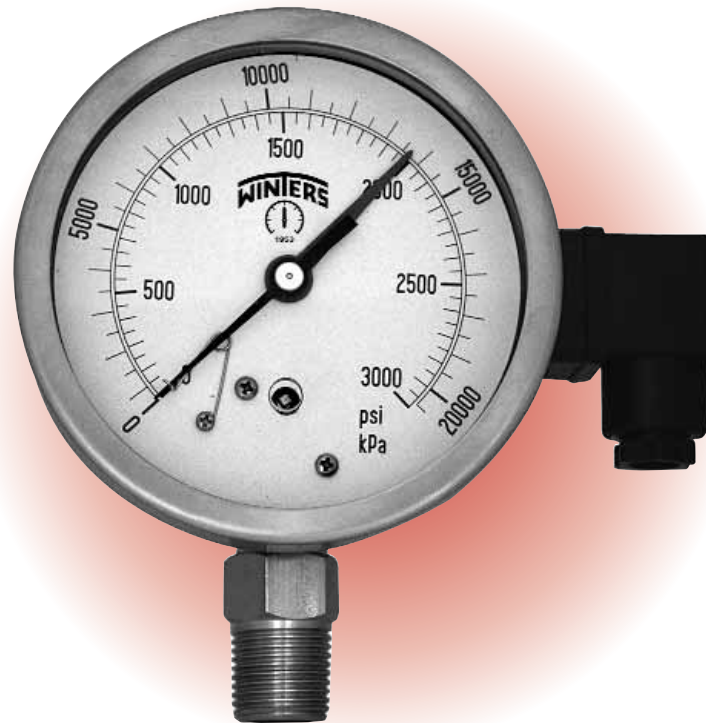
	Number of Contacts Tube, Socket, Movement	Single Contact		Double Contact	
		Brass	Stainless Steel	Brass	Stainless Steel
1/4"	30" Hg. vacuum/kPa	P6075ECS	P6260ECS	P6075ECD	P6260ECD
	30"/0/15 psi/kPa	P6076ECS	P6261ECS	P6076ECD	P6261ECD
	30"/0/30 psi/kPa	P6077ECS	P6162ECS	P6077ECD	P6162ECD
	30"/0/60 psi/kPa	P6078ECS	P6163ECS	P6078ECD	P6163ECD
	30"/0/100 psi/kPa	P6079ECS	P6164ECS	P6079ECD	P6164ECD
	30"/0/160 psi/kPa	P6080ECS	P6265ECS	P6080ECD	P6265ECD
	30"/0/200 psi/kPa	P6081ECS	P6266ECS	P6081ECD	P6266ECD
	30"/0/300 psi/kPa	P6082ECS	P6267ECS	P6082ECD	P6267ECD
	0 - 15 psi/kPa	P6083ECS	P6098ECS	P6083ECD	P6098ECD
	0 - 30 psi/kPa	P6084ECS	P6099ECS	P6084ECD	P6099ECD
	0 - 60 psi/kPa	P6085ECS	P6100ECS	P6085ECD	P6100ECD
	0 - 100 psi/kPa	P6086ECS	P6101ECS	P6086ECD	P6101ECD
	0 - 160 psi/kPa	P6087ECS	P6102ECS	P6087ECD	P6102ECD
	0 - 200 psi/kPa	P6088ECS	P6103ECS	P6088ECD	P6103ECD
	0 - 300 psi/kPa	P6089ECS	P6104ECS	P6089ECD	P6104ECD
	0 - 400 psi/kPa	P6090ECS	P6105ECS	P6090ECD	P6105ECD
	0 - 600 psi/kPa	P6091ECS	P6106ECS	P6091ECD	P6106ECD
1/2"	0 - 1000 psi/kPa	P6092ECS	P6107ECS	P6092ECD	P6107ECD
	0 - 1500 psi/kPa	P6093ECS	P6108ECS	P6093ECD	P6108ECD
	0 - 2000 psi/kPa	P6094ECS	P6109ECS	P6094ECD	P6109ECD
	0 - 3000 psi/kPa	P6095ECS	P6110ECS	P6095ECD	P6110ECD
	0 - 5000 psi/kPa	P6096ECS	P6111ECS	P6096ECD	P6111ECD
	0 - 10000 psi/kPa	P6170ECS	P6180ECS	P6170ECD	P6180ECD
	0 - 15000 psi/kPa	P6171ECS	P6181ECS	P6171ECD	P6181ECD
	0 - 20000 psi/kPa	P6172ECS	P6182ECS	P6172ECD	P6182ECD

Other ranges, materials, connections and gauge styles available

*Please specify Contact Action: open and/or closed at specific pressure points



Indicating Pressure Switch



Description

Winters' Indicating Pressure Switches are designed for use in applications that require automatic regulation of hydraulic and pneumatic equipment. Winters' Indicating Pressure Switches allow for both remote and direct readings. The highly visible switch set pointer can be easily adjusted using the standard external reset screws. Winters' Indicating Pressure Switches are suitable for both corrosive and non-corrosive applications.

Specifications

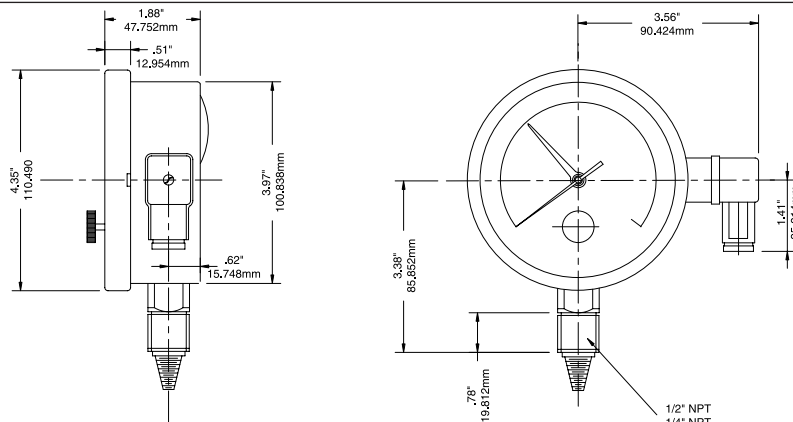
Dial:	4" (100mm) white aluminum dial with black and red markings
Case:	AISI 304 stainless steel
Lens:	Plexiglass
Ring:	AISI 304 stainless steel
Pointer:	Pressure indicating - aluminum, anodized black, Switch set point aluminum, anodized red
Adjustment Knob:	Plastic, black
Socket:	OT58 brass or AISI 316L stainless steel 1/4" NPT or 1/2" NPT standard, bottom
Connection:	AISI 316L stainless steel C-shaped for ranges 600 psi (4,200 kPa) and lower
Bourdon Tube:	AISI 316L stainless steel spiral for ranges 1000 psi (7,000 kPa) and above
Welding:	Tin silver alloy for brass socket AISI 316 Tig Argonarc for stainless steel socket
Gasket:	EPDM
Working Pressure:	Maximum 75% of full scale value
Ambient Temperature:	-13°F to 150°F (-25°C to 65°C)
Process Temperature:	-13°F to 150°F (-25°C to 65°C)
Accuracy:	±2.5% accuracy (ANSI/ASME Grade B)
Enclosure Rating:	IP44 as per IEC 529, UNI 8896
Electrical:	N.1 SPDT microswitch
Contact Setting:	Between 10% and 75% of full scale value
Junction Box:	Fibreglass reinforced polyamid with cable gland

Indicating Pressure Switch

How to order: Specify product code

Dial Size	4" (100mm)			
Connection	Bottom	Bottom	Bottom	Bottom
NPT Connection	1/4"	1/4"	1/2"	1/2"
Tube, Socket & Movement	Brass	St/St	Brass	St/St
0/15 psi	S601	S641	-	S656
0/30 psi	S602	S642	-	S657
0/60 psi	S603	S643	-	S658
0/100 psi	S604	S644	-	S659
0/160 psi	S605	S645	-	S660
0/200 psi	S606	S646	-	S661
0/300 psi	S607	S647	-	S662
0/400 psi	S610	S650	-	S666
0/600 psi	S608	S648	-	S663
0/1000 psi	S609	S649	S624	S664
0/1500 psi	-	-	S625	S665
0/2000 psi	-	-	S626	S667
0/3000 psi	-	-	S627	S668
0/5000 psi	-	-	S628	S669
0/10000 psi	-	-	S629	S670

4" Bottom Connection



Volt	Rating Load		
	DC	AC	Inductive Load
220	0.3 A	4 A	4 A
110	0.4 A	4 A	4 A
48	4 A	4 A	4 A
24	5 A	5 A	4 A

Wiring	Wiring	
	Junction Box	Cable
NC	Contact N. ⁰¹	Brown
NO	Contact N. ⁰²	Black
C	Contact N. ⁰³	Blue
Ground	Ground	Yellow-Green



Bi-Metal Thermometer



Description & Features:

- A general purpose, versatile 1" to 6" dial, 304 Stainless Steel thermometer
- Hermitically sealed case
- Bi-metallic sensing element for reliable readings
- Back, bottom or adjustable angle connection
- Stem length from 2.5" and up
- Grade 1A Accuracy (1%)
- Anti-parallax dial that reduces operator reading errors
- Re-zero adjustment screws are standard on the 2" to 6" dials

Applications:

- Industrial process, Food processing and wastewater.

(* For pressures above 125 psi (861 kPa) it is recommended that a Winters Thermowell be used in conjunction with the Bi-Metal Thermometer.)

**Not available on 1" Pocket & 2" laboratory thermometer.

Specifications

Dial:	2" (50mm), 3" (75mm), 4" (100mm) 5" (125mm) and 6" (152mm) dials, aluminum with black markings, dished shaped
Case:	AISI 304 stainless steel
Lens:	Glass standard, hermetically sealed
Ring:	AISI 304 stainless steel
Pointer:	Brass, painted black
Movement:	Bi-metallic coil
Stem:	AISI 304 stainless steel, center back, bottom or adjustable angle configurations (note: 2" (50mm) dial only available with center back connection)
Connection:	1/4" NPT standard for 2" (50mm) dial 1/2" NPT standard for 3" (75mm), 4" (100mm) and 5" dials (125mm)
Welding:	TIG
Recalibrator:	Standard**
Maximum Operating Pressure:	125 psi (861 kPa)*
Ambient Temperature:	-58°F to 248°F (-50°C to 120°C)
Operating Temperature:	Recommended maximum 75% of Full scale value
Accuracy:	± 1% full scale (Grade 1A)
Enclosure Rating:	IP65



Bi-Metal Thermometer

How to order: Specify product code

Product Codes				
Dial Size	Stem length	Fixed Center Back	Bottom	Adjustable Angle
1" (25mm) (Pocket thermometer)	5" (125mm)	T10050	N/A	N/A
2" (50mm) (Lab thermometer)	8" (200mm)	T20080	N/A	N/A
2" (50mm)	2 1/2" (63mm)	T20025	N/A	N/A
	4" (100mm)	T20040	N/A	N/A
	6" (150mm)	T20060	N/A	N/A
	9" (225mm)	T20090	N/A	N/A
	12" (300mm)	T20120	N/A	N/A
3" (75mm)	2 1/2" (63mm)	T30025	T31025	T32025
	4" (100mm)	T30040	T31040	T32040
	6" (150mm)	T30060	T31060	T32060
	9" (225mm)	T30090	T31090	T32090
	12" (300mm)	T30120	T31120	T32120
4" (100mm)	2 1/2" (63mm)	T40025	T41025	T42025
	4" (100mm)	T40040	T41040	T42040
	6" (150mm)	T40060	T41060	T42060
	9" (225mm)	T40090	T41090	T42090
	12" (300mm)	T40120	T41120	T42120
5" (125mm)	2 1/2" (63mm)	T50025	T51025	T52025
	4" (100mm)	T50040	T51040	T52040
	6" (150mm)	T50060	T51060	T52060
	9" (225mm)	T50090	T51090	T52090
	12" (300mm)	T50120	T51120	T52120
6" (150mm)	2 1/2" (63mm)	T60025	T61025	T62025
	4" (100mm)	T60040	T61040	T62040
	6" (150mm)	T60060	T61060	T62060
	9" (225mm)	T60090	T61090	T62090
	12" (300mm)	T60120	T61120	T62120

Products shown in BOLD are normally in stock.

Available Ranges					
F & C (Dual)	Code #	F only	Code #	C Only	Code #
-100/150°F / -70/ 70°C	B1	-40/120°F	B14	-80/50°C	B26
-40/120°F / -40/ 50°C	B2	-40/160°F	B15	-50/50°C	B27
0/140°F / -20/ 60°C	B3	0/140°F	B16	0/50°C	B28
-40/160°F / -40/ 70°C	B4	0/200°F	B17	-50/100°C	B29
25/125°F / - 5/ 50°C	B5	20/240°F	B18	0/100°C	B30
0/200°F / -20/ 90°C	B6	0/250°F	B19	-20/120°C	B31
20/240°F / - 5/115°C	B7	50/300°F	B20	0/150°C	B32
0/250°F / -20/120°C	B8	50/400°F	B21	0/200°C	B33
50/300°F / 10/150°C	B9	50/550°F	B22	0/300°C	B34
50/400°F / 10/200°C	B10	150/750°F	B23	0/450°C	B35
50/500°F / 10/260°C	B11	0/800°F	B24	100/550°C	B36
150/750°F / 100/400°C	B12	200/1000°F	B25		
200/1000°F / 100/540°C	B13				

Options Suffix:

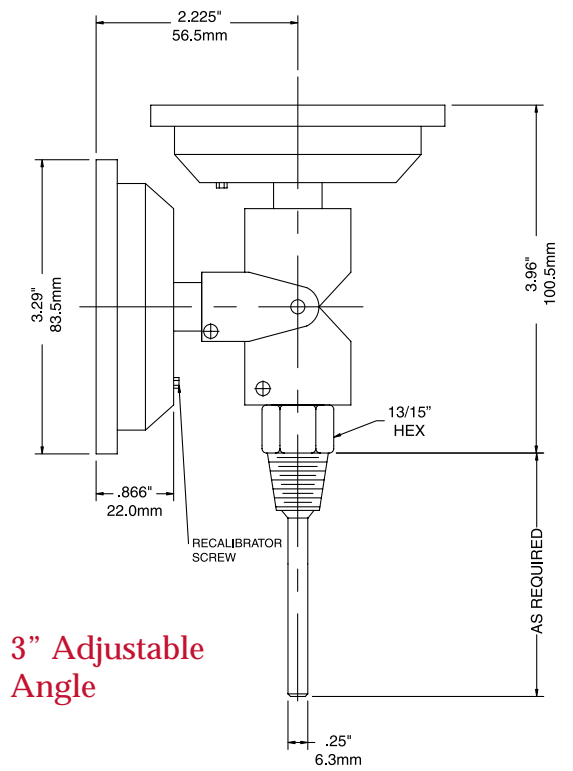
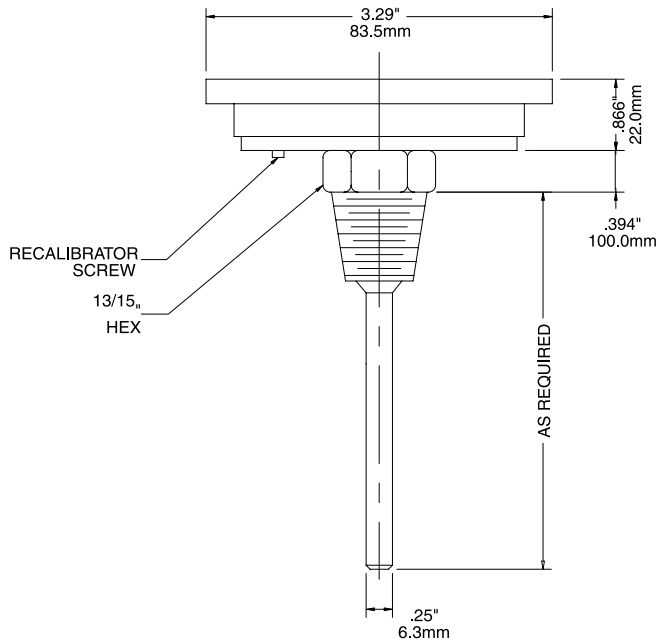
- AP3 = 3" Acrylic lens ● AP4 = 4" Acrylic lens ● AP5 = 5" Acrylic lens ● AP6 = 6" Acrylic lens ● BG3 = 3" Glycerin Filling
 - BG4 = 4" Glycerin Filling ● BG5 = 5" Glycerin Filling ● BG6 = 6" Glycerin Filling ● DUCT = Aluminum Duct Flange
 - SPG3 = 3" Shatterproof glass lens ● SPG5 = 5" Shatterproof glass lens ● 6" models flat dial only ● SCK = Socket Conversion Kit
- * For pressures above 125 psi (861 kPa) it is recommended that a Winters Thermowell be used in conjunction with the Bi-Metal Thermometer.
- Longer stem lengths are available. ● Silicone fill is available ● Other ranges, connections and stem lengths are available upon request



Bi-Metal Thermometer

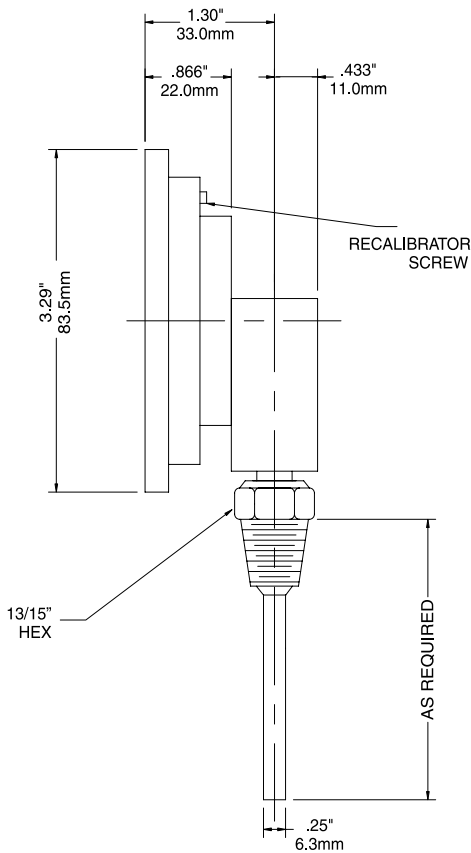
Thermometers

3" Back Connection

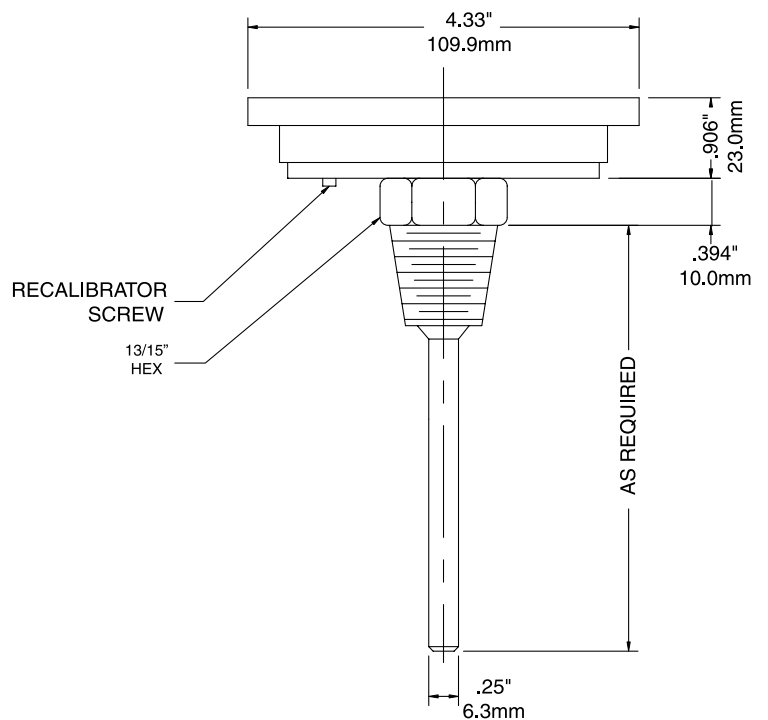


3" Adjustable Angle

3" Bottom Connection

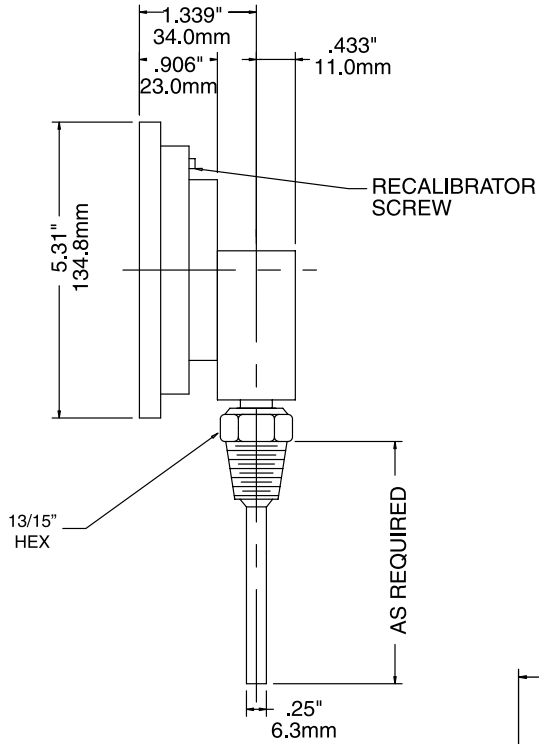


4" Back Connection

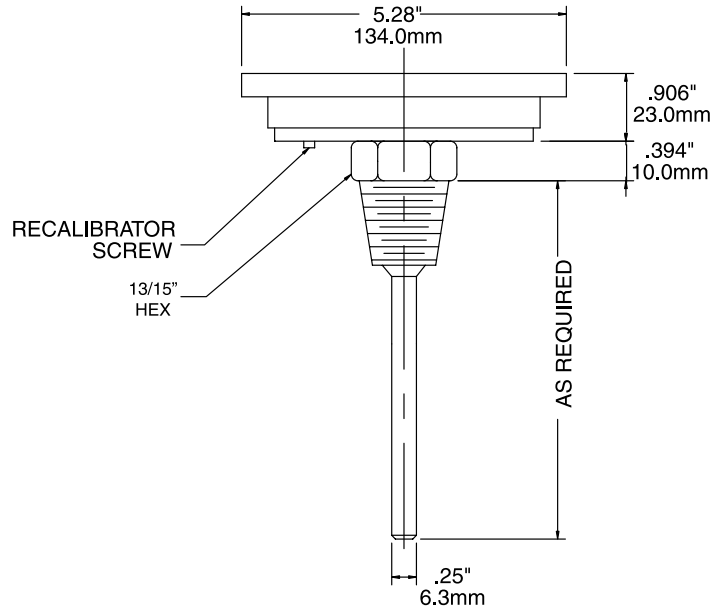


Bi-Metal Thermometer

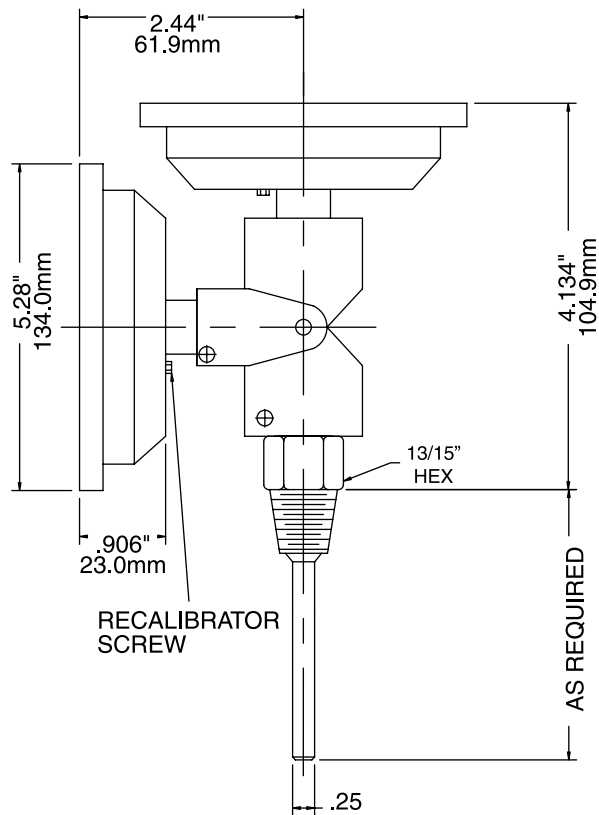
5" Bottom Connection



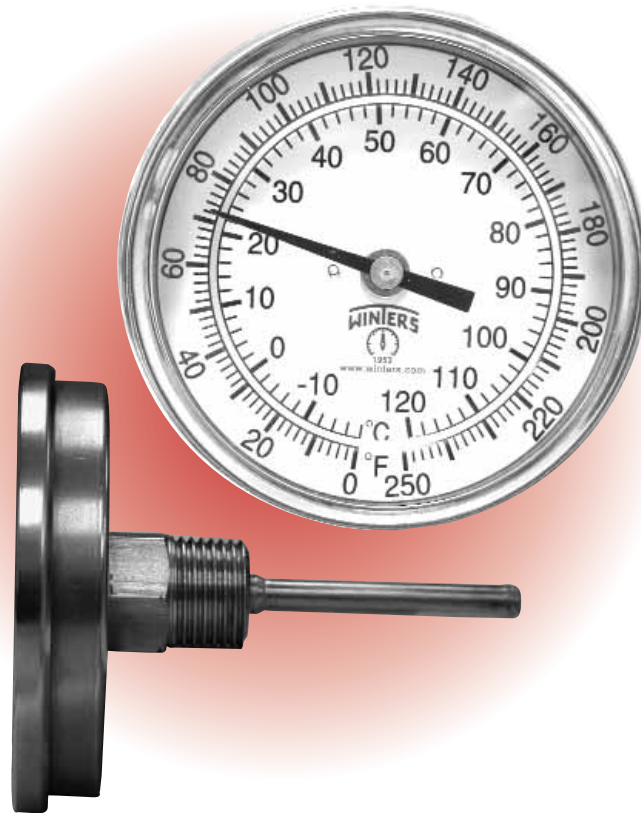
5" Back Connection



5" Adjustable Angle



330 Series Bi-Metal Thermometer



Description & Features:

- A general purpose, tamper-proof, 304 Stainless Steel thermometer
- Hermitically sealed case
- Bi-metallic sensing element for reliable readings
- Back connected
- Stem length from 2.5" and up
- Grade 1A Accuracy (1%)
- Anti-parallax dial that reduces operator reading errors
- Lexan® lens

Applications:

- Heating, Ventilation, Air Conditioning, food processing, wastewater, Industrial processes, Compressors.

Lexan® is a registered trademark of General Electric

330 Series Bi-Metal Thermometer

How to order: Specify Product Code and Range

Product Codes

T33025	3" (75 mm) dial with 2.5" (63 mm) stem
T33040	3" (75 mm) dial with 4" (100 mm) stem
T33060	3" (75 mm) dial with 6" (150 mm) stem
T33090	3" (75 mm) dial with 9" (225 mm) stem

Available Temperature Ranges

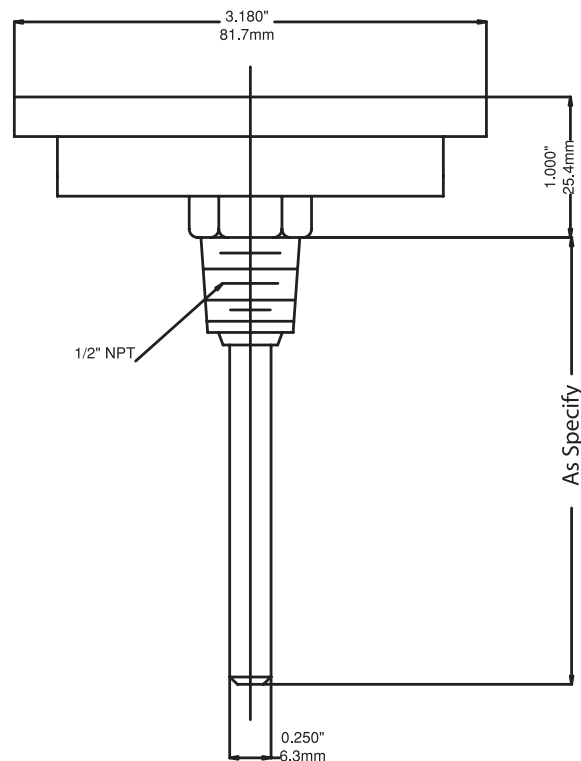
Code	Ranges (F/C)
B2	(-40°F to 120°F / -40°C to 50°C)
B4	(-40°F to 160°F / -40°C to 70°C)
B6	(0°F to 200°F / -20°C to 90°C)
B8	(0°F to 250°F / -20°C to 120°C)
B9	(50°F to 300°F / 10°C to 150°C)
B10	(50°F to 400°F / 10°C to 200°C)
B11	(50°F to 500°F / 10°C to 260°C)
B12	(150°F to 750°F / 100°C to 400°C)
B13	(200°F to 1000°F / 100°C to 540°C)

Example: T33040 B4

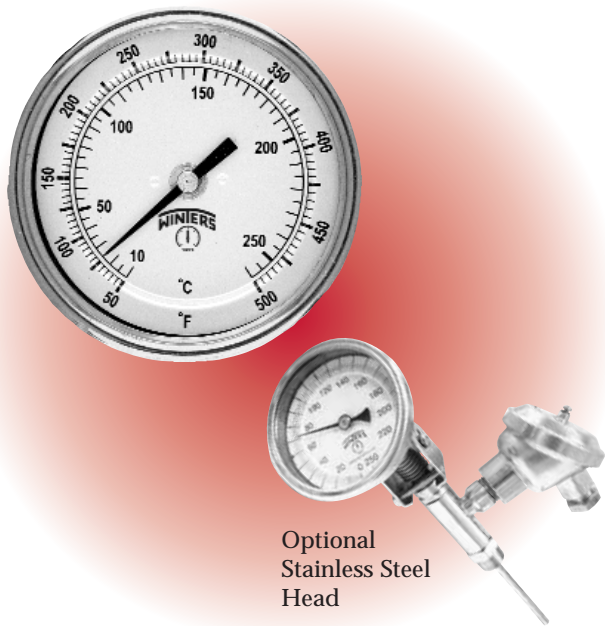
Specifications

Dial:	3" (75mm) dial, aluminum with black markings, dished shaped
Case/Ring:	AISI 304 stainless steel
Lens:	Lexan [®] , hermetically sealed
Pointer:	Brass, painted black
Movement:	Bi-metallic coil
Stem:	AISI 304 stainless steel
Connection:	1/2" NPT, center back
Welding:	TIG
Maximum Operating Pressure:	125 psi (861 kPa)*
Ambient Temperature:	Maximum +248F (+120C)
Operating Temperature:	Recommended maximum 75% of full scale value
Accuracy:	± 1% full scale
Enclosure Rating:	IP65

*For pressures above 125 psi (861 kPa) it is recommended that a Winters thermowell be used in conjunction with the Bi-Metal Thermometer. Please see pg.198



Bi-Metal Thermometer With Integral RTD or Thermocouple



Optional
Stainless Steel
Head

Description & Features:

- A thermometer that provides a local temperature reading and RTD output.
- 304 Stainless Steel case, stem and socket
- Hermetically sealed thermometer case
- Bi-metallic sensing element
- 1/2" adjustable angle connections
- 4", 6" and 9" Stem lengths
- Multiple output styles (RTD / J type / K Type)
- Anti-parallax dial that reduces operator reading errors

Applications:

- Local and remote temperature sensing for Heating, Ventilation, Air Conditioning, Food Processing, Waste Water, Industrial Processes, Compressors.

How to order: Specify thermometer code below, then add desired RTD head code and transmitter code

Specifications	
Dial:	3" (75mm) aluminum silver dished with black markings
Case:	AISI 304 stainless steel
Lens:	Glass
Measuring Element (Mechanical):	Bi-metallic coil
Measuring Element RTD (Electrical):	100 - ohm, Platinum DIN 3 wire standard
Stem:	AISI 304 stainless steel
Connection:	1/2" NPT adjustable
Welding:	Argon arc welding
Operating Temperature Pressure:	Recommended maximum 75% of full scale
Ambient Temperature:	-58°F to 248°F (-50°C to 120°C)
Operating Temperature:	Recommended maximum 75% of full scale value
Accuracy:	±1%
Enclosure Rating:	IP65

Product Codes						
Dial Size	3" (75mm)					
Connection	Fully Adjustable					
Stem length:	4" (100mm)	6" (150mm)		9" (225mm)		
	Range	Code	Range	Code	Range	Code
	-40/120°F	T007	-40/120°F	T030	-40/120°F	T053
	-40/160°F	T008	-40/160°F	T031	-40/160°F	T054
	0/140°F	T009	0/140°F	T032	0/140°F	T055
	0/200°F	T010	0/200°F	T033	0/200°F	T056
	20/240°F	T011	20/240°F	T034	20/240°F	T057
	0/250°F	T012	0/250°F	T035	0/250°F	T058
	50/300°F	T013	50/300°F	T036	50/300°F	T059
	50/400°F	T014	50/400°F	T037	50/400°F	T060
	50/550°F	T015	50/550°F	T038	50/550°F	T061
	150/750°F	T016	150/750°F	T039	150/750°F	T062
	0/800°F	T017	0/800°F	T040	0/800°F	T063
	200/1000°F	T018	200/1000°F	T041	200/1000°F	T064
	-80/50°C	T019	-80/50°C	T042	-80/50°C	T065
	-50/50°C	T020	-50/50°C	T043	-50/50°C	T066
	0/50°C	T021	0/50°C	T044	0/50°C	T067
	-50/100°C	T022	-50/100°C	T045	-50/100°C	T068
	0/100°C	T023	0/100°C	T046	0/100°C	T069
	-20/120°C	T024	-20/120°C	T047	-20/120°C	T070
	0/150°C	T025	0/150°C	T048	0/150°C	T071
	0/200°C	T026	0/200°C	T049	0/200°C	T072
	0/300°C	T027	0/300°C	T050	0/300°C	T073
	0/450°C	T028	0/450°C	T051	0/450°C	T074
	100/550°C	T029	100/550°C	T052	100/550°C	T075

OPTION SUFFIX: • A005 = Aluminum head
• A006 = Stainless steel head

• T4-20A = 4-20mA transmitter
(i.e. Bimetal/RTD with 4" (100mm) stem, (0-250°), st/st head and 4-20mA transmitter = **Product code -T012A006T4-20mA**)



Bi-Metal Thermometer with Integral "J" Type Thermocouple

How to order: Specify thermometer code below, then add desired RTD head code and transmitter code

Thermocouple (Type J) Product Codes							
Dial Size		3" (75mm)					
Connection		Fully Adjustable					
2.5" (63mm) Stem length		4" (100mm) Stem length		6" (150mm) Stem length		9" (225mm) Stem length	
Range	Code	Range	Code	Range	Code	Range	Code
-40/120°F	T077	-40/120°F	T200	-40/120°F	T223	-40/120°F	T246
-40/160°F	T078	-40/160°F	T201	-40/160°F	T224	-40/160°F	T247
0/140°F	T079	0/140°F	T202	0/140°F	T225	0/140°F	T248
0/200°F	T080	0/200°F	T203	0/200°F	T226	0/200°F	T249
20/240°F	T081	20/240°F	T204	20/240°F	T227	20/240°F	T250
0/250°F	T082	0/250°F	T205	0/250°F	T228	0/250°F	T251
50/300°F	T083	50/300°F	T206	50/300°F	T229	50/300°F	T252
50/400°F	T084	50/400°F	T207	50/400°F	T230	50/400°F	T253
50/550°F	T085	50/550°F	T208	50/550°F	T231	50/550°F	T254
150/750°F	T086	150/750°F	T209	150/750°F	T232	150/750°F	T255
0/800°F	T087	0/800°F	T210	0/800°F	T233	0/800°F	T256
200/1000°F	T088	200/1000°F	T211	200/1000°F	T234	200/1000°F	T257
-80/50°C	T089	-80/50°C	T212	-80/50°C	T235	-80/50°C	T258
-50/50°C	T090	-50/50°C	T213	-50/50°C	T236	-50/50°C	T259
0/50°C	T091	0/50°C	T214	0/50°C	T237	0/50°C	T260
-50/100°C	T092	-50/100°C	T215	-50/100°C	T238	-50/100°C	T261
0/100°C	T093	0/100°C	T216	0/100°C	T239	0/100°C	T262
-20/120°C	T094	-20/120°C	T217	-20/120°C	T240	-20/120°C	T263
0/150°C	T095	0/150°C	T218	0/150°C	T241	0/150°C	T264
0/200°C	T096	0/200°C	T219	0/200°C	T242	0/200°C	T265
0/300°C	T097	0/300°C	T220	0/300°C	T243	0/300°C	T266
0/450°C	T098	0/450°C	T221	0/450°C	T244	0/450°C	T267
100/550°C	T099	100/550°C	T222	100/550°C	T245	100/550°C	T268

OPTION SUFFIX: (add suffix to product code)

- SPG3 = 3" shatterproof glass lens
- A005 = Aluminum head
- A006 = Stainless steel head
- Thermowells on pg.216
- T4-20A = 4-20mA transmitter
(i.e. Bimetal/J Type with 4" (100mm) stem, (0-250°), st/st head and 4-20mA transmitter = **Product code -T205A006T4-20mA**)

Thermometers



Bi-Metal Thermometer with Integral “K” Type Thermocouple

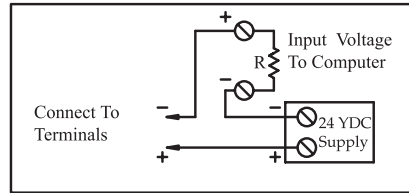
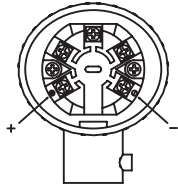
How to order: Specify thermometer code below, then add desired RTD head code and transmitter code

Thermocouple (Type K) Product Codes							
Dial Size	3" (75mm)						
Connection	Fully Adjustable						
2.5" (63mm) Stem length		4" (100mm) Stem length		6" (150mm) Stem length		9" (225mm) Stem length	
Range	Code	Range	Code	Range	Code	Range	Code
-40/120°F	T269	-40/120°F	T292	-40/120°F	T315	-40/120°F	T338
-40/160°F	T270	-40/160°F	T293	-40/160°F	T316	-40/160°F	T339
0/140°F	T271	0/140°F	T294	0/140°F	T317	0/140°F	T340
0/200°F	T272	0/200°F	T295	0/200°F	T318	0/200°F	T341
20/240°F	T273	20/240°F	T296	20/240°F	T319	20/240°F	T342
0/250°F	T274	0/250°F	T297	0/250°F	T320	0/250°F	T343
50/300°F	T275	50/300°F	T298	50/300°F	T321	50/300°F	T344
50/400°F	T276	50/400°F	T299	50/400°F	T322	50/400°F	T345
50/550°F	T277	50/550°F	T300	50/550°F	T323	50/550°F	T346
150/750°F	T278	150/750°F	T301	150/750°F	T324	150/750°F	T347
0/800°F	T279	0/800°F	T302	0/800°F	T325	0/800°F	T348
200/1000°F	T280	200/1000°F	T303	200/1000°F	T326	200/1000°F	T349
-80/50°C	T281	-80/50°C	T304	-80/50°C	T327	-80/50°C	T350
-50/50°C	T282	-50/50°C	T305	-50/50°C	T328	-50/50°C	T351
0/50°C	T283	0/50°C	T306	0/50°C	T329	0/50°C	T352
-50/100°C	T284	-50/100°C	T307	-50/100°C	T330	-50/100°C	T353
0/100°C	T285	0/100°C	T308	0/100°C	T331	0/100°C	T354
-20/120°C	T286	-20/120°C	T309	-20/120°C	T332	-20/120°C	T355
0/150°C	T287	0/150°C	T310	0/150°C	T333	0/150°C	T356
0/200°C	T288	0/200°C	T311	0/200°C	T334	0/200°C	T357
0/300°C	T289	0/300°C	T312	0/300°C	T335	0/300°C	T358
0/450°C	T290	0/450°C	T313	0/450°C	T336	0/450°C	T359
100/550°C	T291	100/550°C	T314	100/550°C	T337	100/550°C	T360

OPTION SUFFIX: (add suffix to product code)

- SPG3 = 3" shatterproof glass lens
- A005 = Aluminum head
- A006 = Stainless steel head
- Thermowells on pg.216
- T4-20A = 4-20mA transmitter
(i.e. Bimetal/K Type with 4" (100mm) stem, (0-250°), st/st head
and 4-20mA transmitter = **Product code -T297A006T4-20mA**)

Bi-Metal Thermometer With Integral RTD or Thermocouple



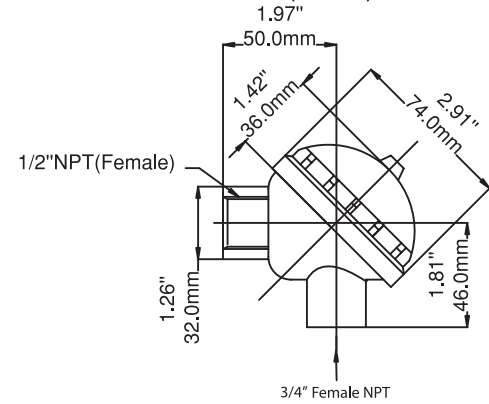
For R=250 ohm

I (mA)	°F	°C
4	0	-17.8
20	+250	+120

Accuracy: +/-1% of full scale.

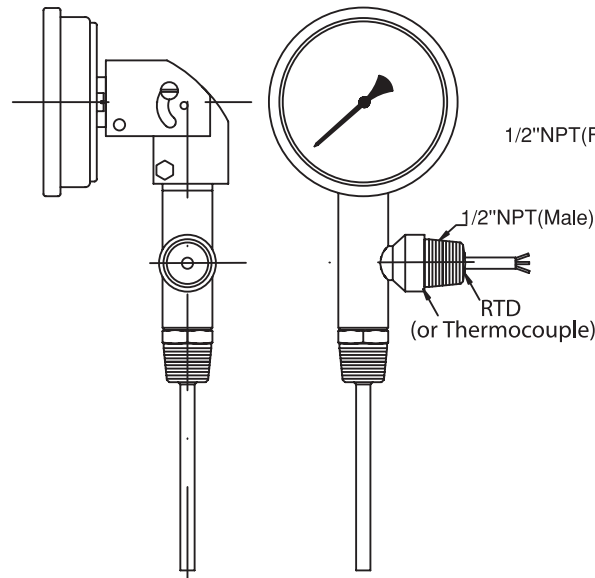
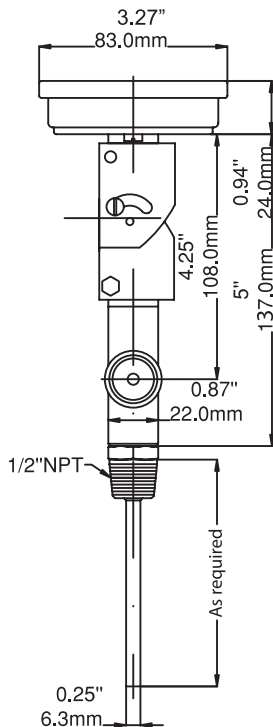
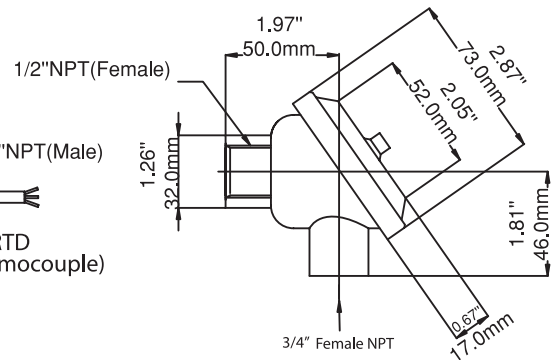
Optional

Aluminum Head (#A005)



Optional

Stainless Steel Head (#A006)



Solar Digital Bi-Metal Style Thermometer



- 10 Second Response Time
- LUX Rating 35
- Hermetically Sealed
- NEMA 4

Description & Features:

- A solar powered digital thermometer that provides a local temperature reading to the 10th of a degree.
- 304 Stainless Steel case, stem and socket
- Hermetically sealed thermometer case
- 35 Lux Rated
- Ceramic Resistance sensing element
- 1/2" adjustable angle connection
- 4", 6" and 9" Stem lengths
- Fahrenheit and Celsius scales available

Applications:

- Temperature sensing for Heating, Ventilation, Air Conditioning, food processing, waste water, Industrial processes or Compressors.

How to order: Specify product code

Specifications	
Dial:	3" (75mm)
Case:	304 stainless steel case
Lens:	Glass (3mm thickness)
Ring:	304 stainless steel, bezel, hermetically sealed
Display:	LCD
Stem:	304 stainless steel, 0.25" diameter, with various lengths 2 1/2" (63mm) to 24" (600mm)
Connection:	1/2" NPT fully adjustable
Sensor:	Ceramic resistance
Lux Rating:	35 LUX
Temperature Range:	-50 to 320°F or -50 to 180°C
Ambient Temperature:	-4°F to 122°F (-20°C to 50°C)
Response Time:	10 seconds
Accuracy:	1%
Enclosure Rating:	NEMA 4 / IP 65



Solar Digital Bi-Metal Style Thermometer

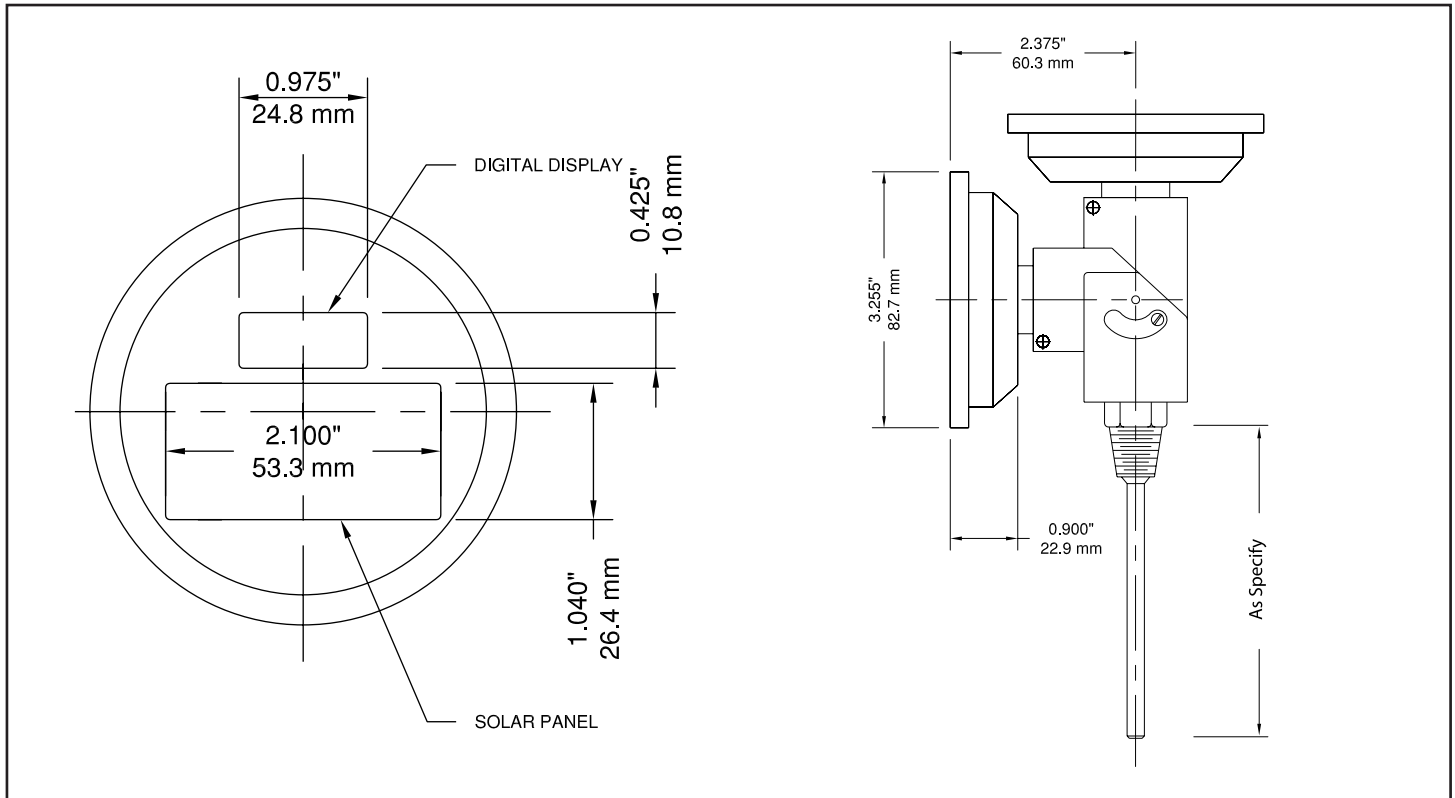
How to order: Specify product code

Products shown in **BOLD** are normally in stock.

Dial Size	Stem Length	Product Codes	
		°F Scale	°C Scale
3" (75mm) (Adjustable Angle)	2.5" (63mm)	TD32025F	TD32025C
	4" (100mm)	TD32040F	TD32040C
	6" (150mm)	TD32060F	TD32060C
	9" (225mm)	TD32090F	TD32090C
	12" (300mm)	TD32120F	TD32120C
	15" (370mm)	TD32150F	TD32150C
	18" (450mm)	TD32180F	TD32180C
	24" (600mm)	TD32240F	TD32240C

Option Suffix:

- 1/4" NPT and 3/8" NPT connection
- Longer stem lengths available up to 72"
- 316 Stainless Steel Wetted parts and sharp tip are available
- Thermowells on pg.216



Solar Digital Thermometer with Integral RTD/Transmitter

Thermometers



Description & Features:

- A digital thermometer that provides a local temperature reading and 4-20 mA output.
- 304 Stainless Steel case, stem and socket
- Hermetically sealed thermometer case
- 1/2" adjustable angle connection
- 4", 6" and 9" Stem lengths
- Digital 4-20 mA output

Applications:

- Industrial processes, Compressors, Pulp & Paper, Food Processing and Waste Water.

Specifications	
Dial:	3" (75mm)
Case:	AISI 304 stainless steel
Lens:	Glass
Power Supply:	Solar Panel with lithium battery backup
Ring:	AISI 304 stainless steel
Welding:	TIG
Connection:	1/2" NPT, fully adjustable
Accuracy:	1%
Enclosure:	IP50
Other:	Ambient temperature: -58°F to 140°F (-50°C to 60°C) Process temperature: -58°F to 302°F or (-50°C to 150°C)
RTD/Transmitter Specifications	
Accuracy:	±1%
Element:	PT100, 2 wire lead
Transmitter/Head:	4-20mA with stainless steel head

How to order: Specify product code

Products shown in **BOLD** are normally in stock.

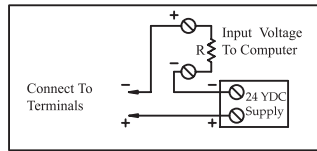
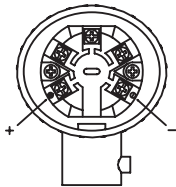
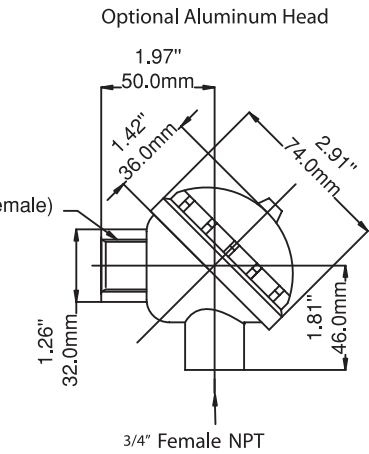
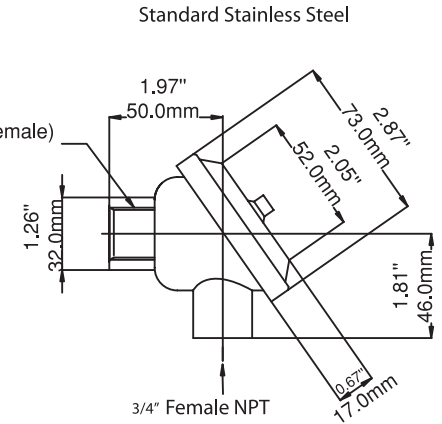
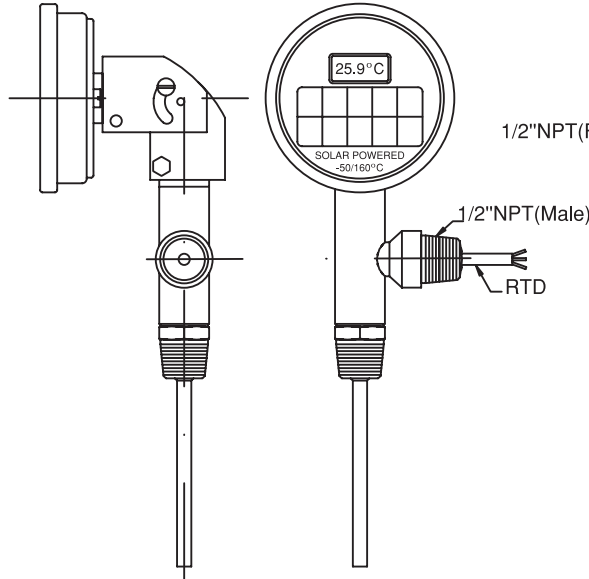
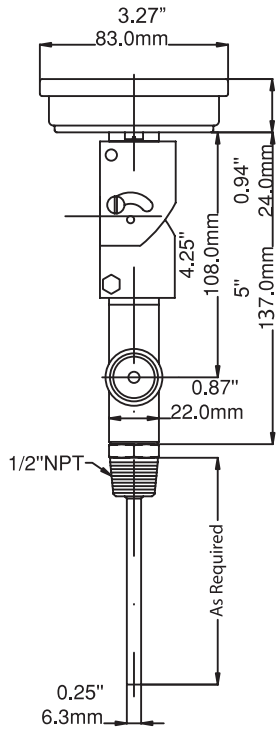
Product Code Chart		
Stem Length	Fully Adjustable	
	-50°F to 320°F	-50°C to 160°C
4" (100mm)	T001	T004
6" (150mm)	T002	T005
9" (225mm)	T003	T006

OPTION SUFFIX:

- A005 = Aluminum head
- Other stem lengths available
- Thermowells on pg.216



Solar Digital Thermometer with Integral RTD/Transmitter



For R=250 ohm

I (mA)	°F	°C
4	-50	-50
20	+320	+160

Accuracy: +/-1% of fullscale.

Industrial RTD



NEMA 4

Description & Features:

- A sensitive temperature sensor designed to transmit an electronic signal to a remote location.
- NEMA 4 Stainless Steel or Aluminum Heads
- 1/2" adjustable angle connections
- Platinum resistant element
- Various stem length available
- .12% accurate

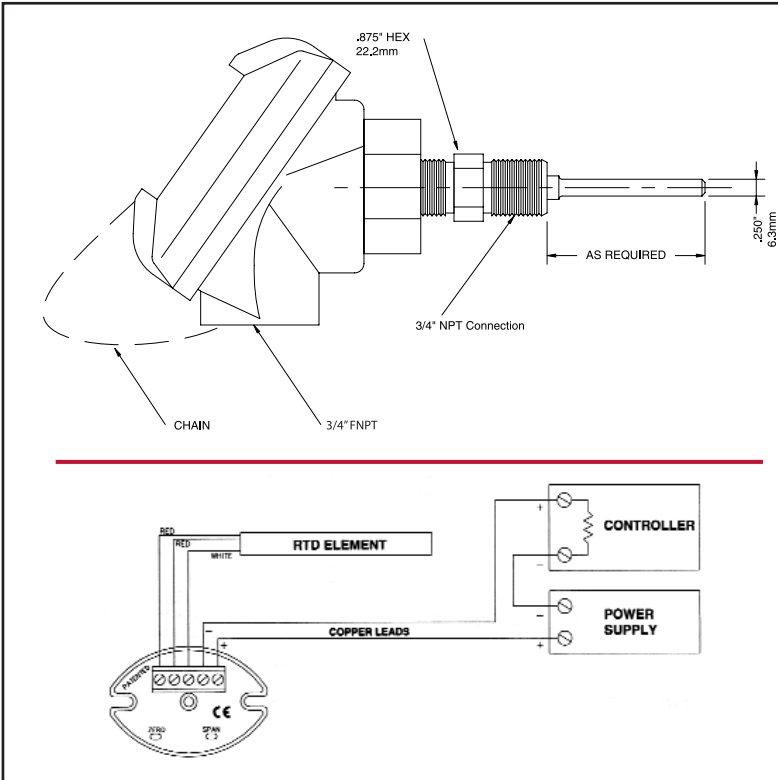
Applications:

- Remote Industrial temperature sensing for Heating, Ventilation, Air Conditioning, waste water, Industrial processes, Compressors, Pulp & Paper, injection molding.

Specifications

Head:	Cast aluminum or stainless steel. NEMA 4 rated
Element:	Platinum, 100 Ohm, AISI 316 stainless steel probe sheath
Temperature Range:	-58°F to 390°F (-50°C to 200°C)
Pressure Rating:	500 psi (3447 kPa maximum)
Connection:	AISI 316 stainless steel, 1/2" NPT
Lead Wires:	AWG 22, teflon® insulated
Accuracy:	0°C (32F)±0.12%

Industrial RTD



Wiring:

The terminal block on the transmitter can accept wire from 14 to 24 gauge. Shielded or conduit encased (twisted pair) cable is required from the transmitter to the controller, including the sensing element and lead wire. Note that low voltage lines should be run in separate conduit isolated from high voltage or high current carrying lines.

How to order: Specify product code
 Products shown in **BOLD** are normally in stock.
PRODUCT CODES

Stem size	Head Material	Code
2 1/2"	Aluminum	EIA11025
2 1/2"	Stainless Steel	EIS12025
4"	Aluminum	EIA11040
4"	Stainless Steel	EIS12040
6"	Aluminum	EIA11060
6"	Stainless Steel	EIS12060

Options:

Other stem lengths and configurations are available upon request. 4-20mA temperature transmitter installed and calibrated.

Output Options (if transmitter is required)

Please add output options to product code:

4-20mA + Temperature Range

Available Ranges

F only	Code #	C Only	Code #
-40/120°F	B14	-80/50°C	B26
-40/160°F	B15	-50/50°C	B27
0/140°F	B16	0/50°C	B28
0/200°F	B17	-50/100°C	B29
20/240°F	B18	0/100°C	B30
0/250°F	B19	-20/120°C	B31
50/300°F	B20	0/150°C	B32
50/400°F	B21	0/200°C	B33
50/550°F	B22	0/300°C	B34
150 / 750°F	B23	0/450°C	B35
0/800°F	B24	100/550°C**	B36
200/1000°F**	B25**		

Add the temperature range as a suffix to the product code.
 (eg. EIS12060 4-20mA (0-100°F).



3A Sanitary RTD



Description & Features:

- A sensitive temperature sensor designed to transmit an electronic signal to a remote location with a Tri-clamp® connection.
- Polypropylene Head
- 1.5", 2", 2.5" & 3" Tri-clamp connections
- 316 stainless steel stem with various lengths available
- Platinum resistant element
- .12% accurate

Applications:

- Remote Industrial temperature sensing for Heating, Ventilation, Air Conditioning, waste water, Industrial processes, Compressors, Pulp & Paper, injection molding.

® Tri-clamp is a registered trademark of Tri-Clover.

Specifications

Head:	Polypropylene
Probe:	AISI 316 stainless steel, 1/4" diameter with #4 finish standard per 3A standard 09-08
Pressure Rating:	500 psi (3,477 kPa) maximum
Element:	Platinum
Connection:	AISI 316 stainless steel, polished, 1 1/2", 2" and 2 1/2" and 3" Tri-clamp® connection standard
Temperature Range:	-58°F to 390°F (-50°C to 200°C)
Leadwires:	AWG22, teflon® insulated standard
Insulation Resistance:	100 megohms minimum at 500VDC
Accuracy:	0°C (32F) ±0.12%
Transmitter:	Ceramic

Option Suffix:

- Other stem lengths and configurations are available upon request
- 4-20mA Transmitter.



3A Sanitary RTD

How to order: Specify product code and optional transmitter

example: RTD sanitary sensor, 2" Tri-Clamp, polypropylene head, 6" long probe = #ET12060.

PRODUCT CODES

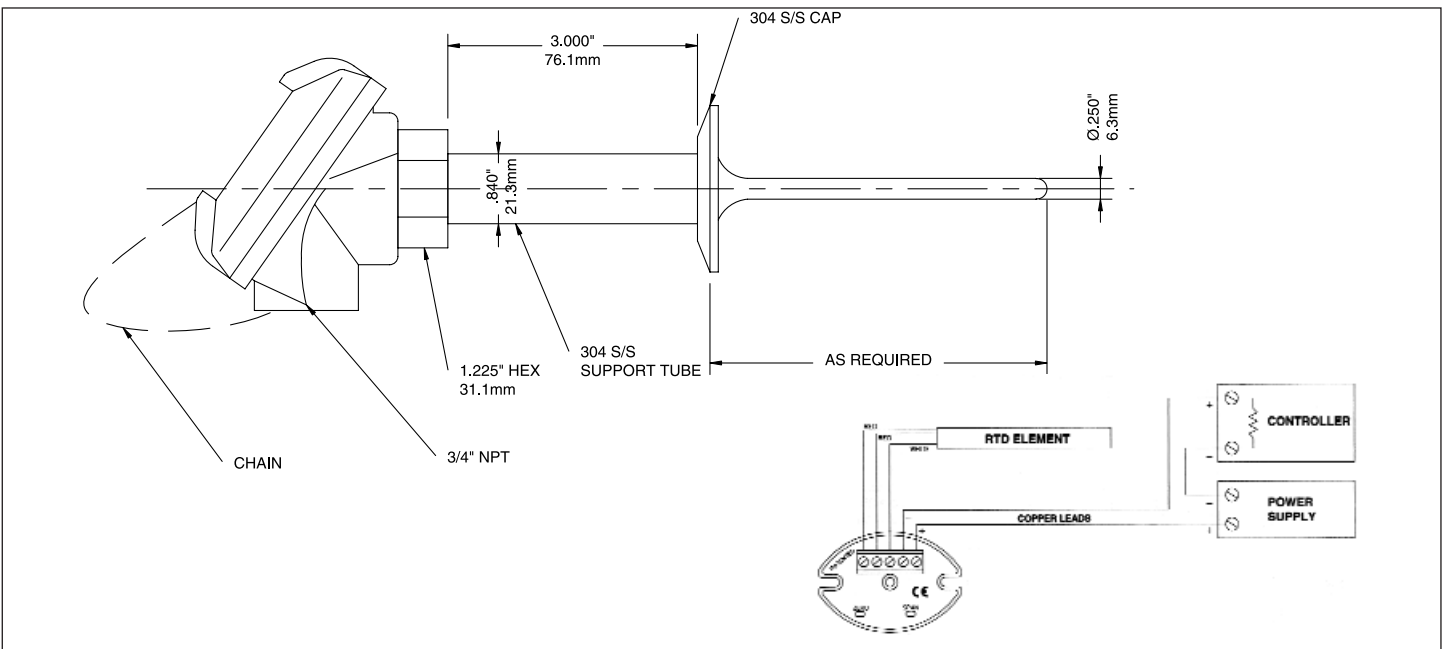
Tri-Clamp®	1½"		2"		2½"		3"	
Head Material	Polypro	St/St	Polypro	St/St	Polypro	St/St	Polypro	St/St
2½" stem	ET11525	ET21525	ET12025	ET22025	ET12525	ET22525	ET13025	ET23025
4" stem	ET11540	ET21540	ET12040	ET22040	ET12540	ET22540	ET13040	ET23040
6" stem	ET11560	ET21560	ET12060	ET22060	ET12560	ET22560	ET13060	ET23060

OUTPUT OPTIONS Please add output options (if transmitter is required) to product code.

Available Ranges			
F only	Code #	C Only	Code #
-40/120°F	B14	-80/50°C	B26
-40/160°F	B15	-50/50°C	B27
0/140°F	B16	0/50°C	B28
0/200°F	B17	-50/100°C	B29
20/240°F	B18	0/100°C	B30
0/250°F	B19	-20/120°C	B31
50/300°F	B20	0/150°C	B32
50/400°F	B21	0/200°C	B33
50/550°F	B22	0/300°C	B34
150 / 7500F	B23	0/450°C	B35
0/800°F	B24	100/550°C**	B36
200/1000°F**	B25**		

Options Suffix:

- A005 = Cast aluminum head (NEMA 4X)
- A006 = Stainless Steel head (NEMA 4X)
- Other stem lengths and configurations are available upon request.
- 4-20mA temperature transmitter installed and calibrated: add the temperature range as a suffix to the product code. (eg. ET12060 0/100°F).



Bi-Metal Thermowells



Description

Winters Bi-Metal Thermometer Thermowells are available in a wide range of materials for use on most applications. The use of a Bi-Metal Thermometer Thermowell allows for the creation of a “sealed system” whereby the thermometer can be removed from the application without the need for shutting down or draining the system. Also, an additional benefit of a thermowell is to protect the thermometer from possible exposure to the process media.

Our standard “stepped construction” offering is complemented by an array of custom thermowells including: straight, tapered, sanitary and flanged configurations.

Specifications

Thermometer Connection:	1/2" NPT female connection Standard; other thread sizes are available upon request
Process Connection:	3/4", 1/2" or 1" NPT connection standard; other thread sizes are available upon request
Bore:	0.260" (6.604mm) bore standard
Construction:	Stepped construction standard; tapered construction available upon request
Material:	Brass, AISI 304 stainless steel and AISI 316 stainless steel standard. Other materials available upon request.

Bi-Metal Thermowells

Bi-Metal Thermowell Product Codes:

Products shown in **BOLD** are normally in stock.

Thermometer Stem Length (A)	NPT CONN. (P)	Material	Standard Product Codes	Standard Insertion Length (U Dimension)	Lag Extension Product Codes	Lag Extension Insertion Length (U Dimension)
2.5" (63mm)	3/4"	Brass	B25	1 ³ / ₈ " (34.925mm)	N/A	N/A
	3/4"	304 St/St.	B25-1	1 ³ / ₈ " (34.925mm)	N/A	N/A
	3/4"	316 St/St.	B25-2	1 ³ / ₈ " (34.925mm)	N/A	N/A
	1/2"	Brass	B2550	1 ³ / ₈ " (34.925mm)	BN2550	N/A
	1/2"	304 St/St.	B25-150	1 ³ / ₈ " (34.925mm)	N/A	N/A
	1/2"	316 St/St.	B25-250	1 ³ / ₈ " (34.925mm)	N/A	N/A
4" (100mm)	3/4"	Brass	B35	2 ¹ / ₂ " (63mm)	N/A	N/A
	3/4"	304 St/St.	B35-1	2 ¹ / ₂ " (63mm)	N/A	N/A
	3/4"	316 St/St.	B35-2	2 ¹ / ₂ " (63mm)	N/A	N/A
	1/2"	Brass	B3550	2 ¹ / ₂ " (63mm)	BN3550	N/A
	1/2"	304 St/St.	B35-150	2 ¹ / ₂ " (63mm)	N/A	N/A
	1/2"	316 St/St.	B35-250	2 ¹ / ₂ " (63mm)	N/A	N/A
	1"	Brass	B35100	2 ¹ / ₂ " (63mm)	BN35100	N/A
	1"	304 St/St.	B35-1100	2 ¹ / ₂ " (63mm)	N/A	N/A
6" (150mm)	3/4"	Brass	BR6	4 ¹ / ₂ " (115mm)	BN6	2 ¹ / ₂ " (63mm)
	3/4"	304 St/St.	BR6-1	4 ¹ / ₂ " (115mm)	BN6-1	2 ¹ / ₂ " (63mm)
	3/4"	316 St/St.	BR6-2	4 ¹ / ₂ " (115mm)	BN6-2	2 ¹ / ₂ " (63mm)
	1/2"	Brass	BR650	4 ¹ / ₂ " (115mm)	BN650	N/A
	1/2"	304 St/St.	BR6-150	4 ¹ / ₂ " (115mm)	N/A	N/A
	1/2"	316 St/St.	BR6-250	4 ¹ / ₂ " (115mm)	N/A	N/A
	1"	Brass	BR6100	4 ¹ / ₂ " (115mm)	BN6100	N/A
	1"	304 St/St.	BR6-1100	4 ¹ / ₂ " (115mm)	N/A	N/A
	1"	316 St/St.	BR6-2100	4 ¹ / ₂ " (115mm)	N/A	N/A
	9" (229mm)	3/4"	Brass	BR9	7 ¹ / ₂ " (190.5mm)	BN9
3/4"		304 St/St.	BR9-1	7 ¹ / ₂ " (190.5mm)	BN9-1	5" (127mm)
3/4"		316 St/St.	BR9-2	7 ¹ / ₂ " (190.5mm)	BN9-2	5" (127mm)
1/2"		Brass	BR950	7 ¹ / ₂ " (190.5mm)	BN950	N/A
1/2"		304 St/St.	BR9-150	7 ¹ / ₂ " (190.5mm)	N/A	N/A
1/2"		316 St/St.	BR9-250	7 ¹ / ₂ " (190.5mm)	N/A	N/A
1"		Brass	BR9100	7 ¹ / ₂ " (190.5mm)	BN9100	N/A
1"		304 St/St.	BR9-1100	7 ¹ / ₂ " (190.5mm)	N/A	N/A
1"		316 St/St.	BR9-2100	7 ¹ / ₂ " (190.5mm)	N/A	N/A
12" (305mm)	3/4"	Brass	BR12	10 ¹ / ₂ " (266.7mm)	BN12	7 ¹ / ₂ " (190mm)
	3/4"	304 St/St.	BR12-1	10 ¹ / ₂ " (266.7mm)	BN12-1	7 ¹ / ₂ " (190mm)
	3/4"	316 St/St.	BR12-2	10 ¹ / ₂ " (266.7mm)	BN12-2	7 ¹ / ₂ " (190mm)
	1/2"	Brass	BR1250	10 ¹ / ₂ " (266.7mm)	BN1250	N/A
	1/2"	304 St/St.	BR12-150	10 ¹ / ₂ " (266.7mm)	N/A	N/A
	1/2"	316 St/St.	BR12-250	10 ¹ / ₂ " (266.7mm)	N/A	N/A
	1"	Brass	BR12100	10 ¹ / ₂ " (266.7mm)	N/A	N/A
	1"	304 St/St.	BR12-1100	10 ¹ / ₂ " (266.7mm)	N/A	N/A
	1"	316 St/St.	BR12-2100	10 ¹ / ₂ " (266.7mm)	N/A	N/A

Option Suffix:

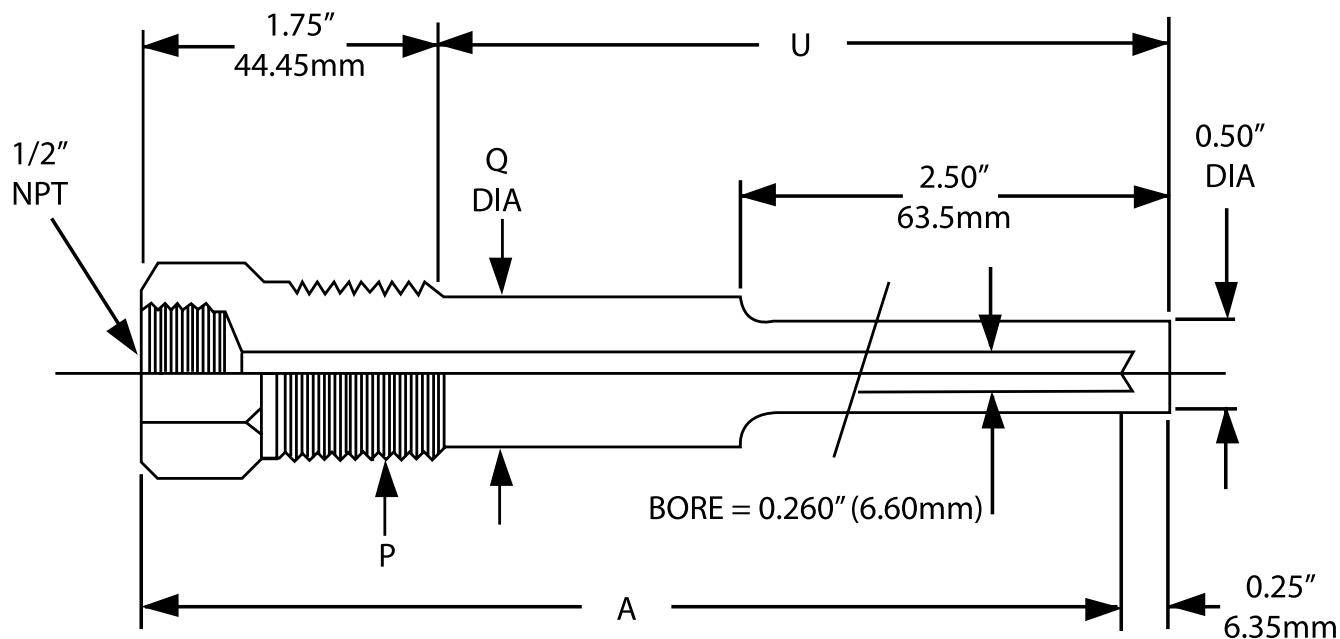
- W60 = Brass cap & chain (1/2")
- SCK - Socket Conversion Kit
- BSP threads available upon request
- Tapered construction available upon request
- Other materials such as Monel, Inconel, Hastelloy C and Titanium are available upon request
- W60-1 = Stainless Steel cap & chain (1/2")
- 1/4" NPT thermometer connection available
- Flanged thermowells available upon request
- Other lengths available up to 48" (welded construction only)



Thermowells

Bi-Metal Thermowells

Standard Thermowell with threaded connection 1/4" element (0.260" Bore)



Note:

1. Cap and chain supplied as an option.
2. Specify any special finishes.
3. Standard well is stepped as shown to 0.5" OD except U=2 1/2"
4. Straight shank supplied as an option.

PRODUCT CODES

How to order: Specify product code
Products shown in **BOLD** are normally in stock.

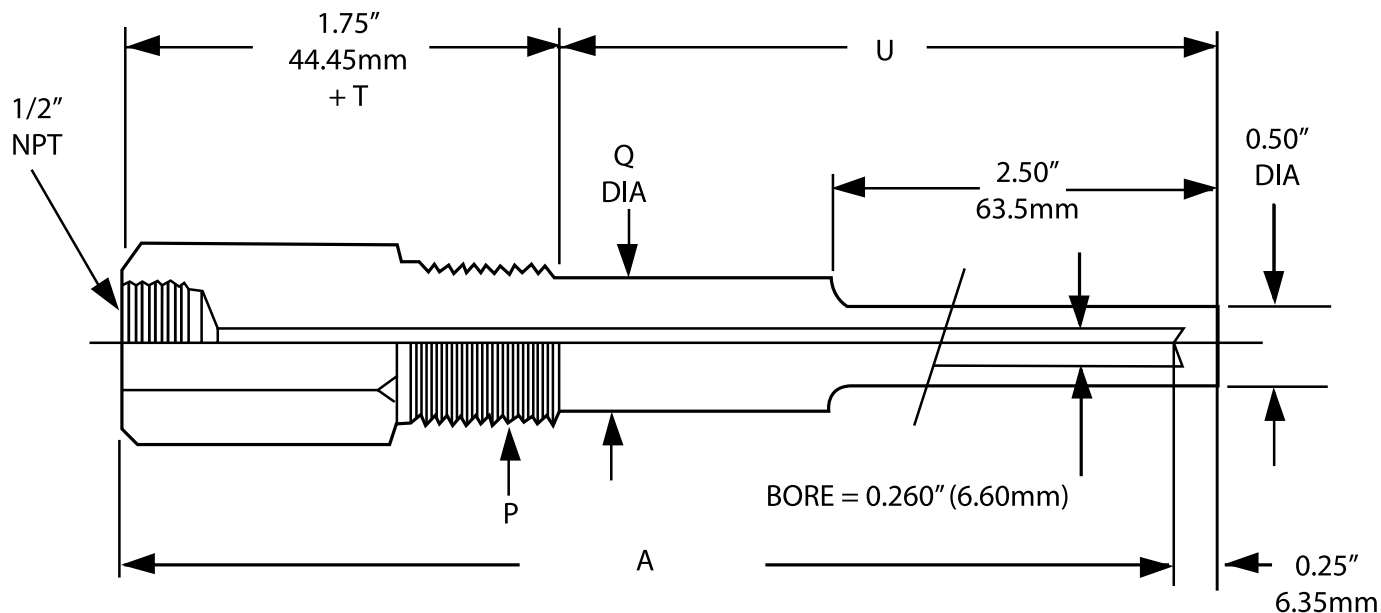
External Thread "P"	Model Number			Sensor Length "A"	Insertion Length "U"	Shank Dia "Q"
	Brass	304 St/St	316St/St			
1/2" NPT	B2550	B2550-1	B2550-2	2.5	1 3/8"	-
	B3550	B3550-1	B3550-2	4	2 1/2"	1/2"
	BR650	BR650-1	BR650-2	6	4 1/2"	5/8"
	BR950	BR950-1	BR950-2	9	7 1/2"	5/8"
	BR1250	BR1250-1	BR1250-2	12	10 1/2"	5/8"
3/4" NPT	B25	B25-1	B25-2	2.5	1 3/8"	1/2"
	B35	B35-1	B35-2	4	2 1/2"	1/2"
	BR6	BR6-1	BR6-2	6	4 1/2"	3/4"
	BR9	BR9-1	BR9-2	9	7 1/2"	3/4"
	BR12	BR12-1	BR12-2	12	10 1/2"	3/4"
1" NPT	B35100	B35100-1	B35100-2	4	2 1/2"	3/4"
	BR6100	BR6100-1	BR6100-2	6	4 1/2"	7/8"
	BR9100	BR9100-1	BR9100-2	9	7 1/2"	7/8"
	BR1250	BR1250-1	BR1250-2	12	10 1/2"	7/8"



Thermowells

Bi-Metal Thermowells

Standard Thermowell with threaded connection 1/4" element (0.260" Bore) with lagging



Note:

1. Cap and chain supplied as an option.
2. Specify any special finishes.
3. Standard well is stepped as shown to 0.5" OD except U=2 1/2"
4. Straight shank supplied as an option.
5. Specify additional lagging extensions as needed

PRODUCT CODES

How to order: Specify product code
Products shown in **BOLD** are normally in stock.

External Thread "P"	Model Number			Sensor Length "A"	Insertion Length "U"	Lag Length "T"	Shank Dia "Q"
	Brass	304 St/St	316St/St				
1/2" NPT	BN2550	BN2550-1	BN2550-2	6	2 1/2"	2	1/2"
	BN3550	BN3550-1	BN3550-2	9	4 1/2"	3	5/8"
	BN650	BN650-1	BN650-2	12	7 1/2"	3	5/8"
	BN950	BN950-1	BN950-2	15	10 1/2"	3	5/8"
3/4" NPT	BN6	BN6-1	BN6-2	6	2 1/2"	2	1/2"
	BN9	BN9-1	BN9-2	9	4 1/2"	3	3/4"
	BN12	BN12-1	BN12-2	12	7 1/2"	3	3/4"
	BN15	BN15-1	BN15-2	15	10 1/2"	3	3/4"
1" NPT	BN35100	BN35100-1	BN35100-2	6	2 1/2"	2	3/4"
	BN6100	BN6100-1	BN6100-2	9	4 1/2"	3	7/8"
	BN9100	BN9100-1	BN9100-2	12	7 1/2"	3	7/8"
	BN1250	BN1250-1	BN1250-2	15	10 1/2"	3	7/8"



Thermowells Sanitary



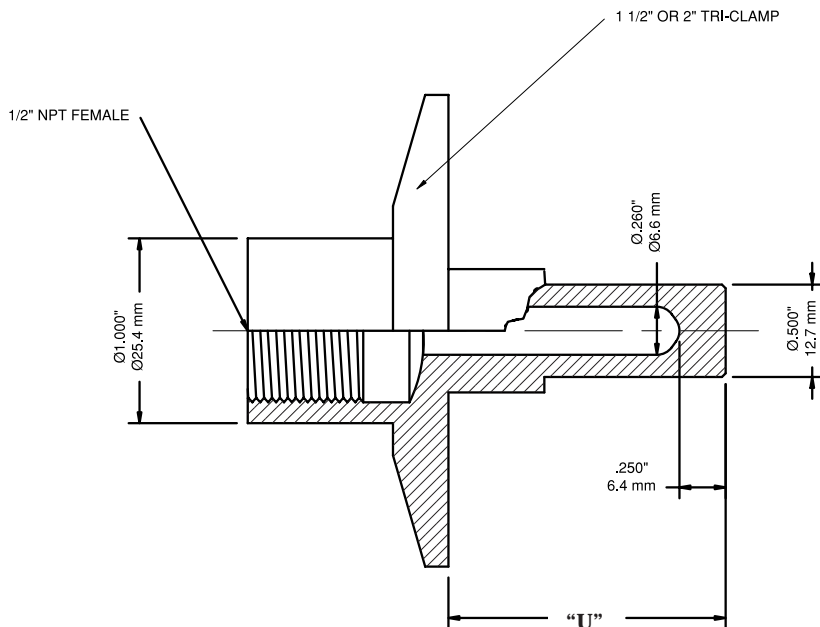
Description

Designed specifically for sanitary requirements of the food and dairy industry. Winters Sanitary Thermowells allow for easy installation and replacement of bimetallic dial thermometers without draining the process.

Thermometers

Specifications	
Material:	316 stainless steel
Connection:	1 1/2" (40mm) or 2" (50mm) Tri-Clamp®
Thermometer Connection:	1/2" NPT
Bore:	0.260" (6.604mm) standard
Other:	Lengths to fit all standard Bi-Metal Thermometers

Product Codes			
Stem Length	Code	Tri-Clamp® connection	U - Dimensions
2 1/2" (63mm)	15SANI2	1 1/2" (40mm)	1.5"
4" (100mm)	15SANI4	1 1/2" (40mm)	3"
6" (150mm)	15SANI6	1 1/2" (40mm)	5"
9" (225mm)	15SANI9	1 1/2" (40mm)	8"
Over 9"	15SANIX	1 1/2" (40mm)	-
2 1/2" (63mm)	2SANI2	2" (50mm)	1.5"
4" (100mm)	2SANI4	2" (50mm)	3"
6" (150mm)	2SANI6	2" (50mm)	5"
9" (225mm)	2SANI9	2" (50mm)	8"
Over 9"	2SANIX	2" (50mm)	-



Flanged Thermowell



Description

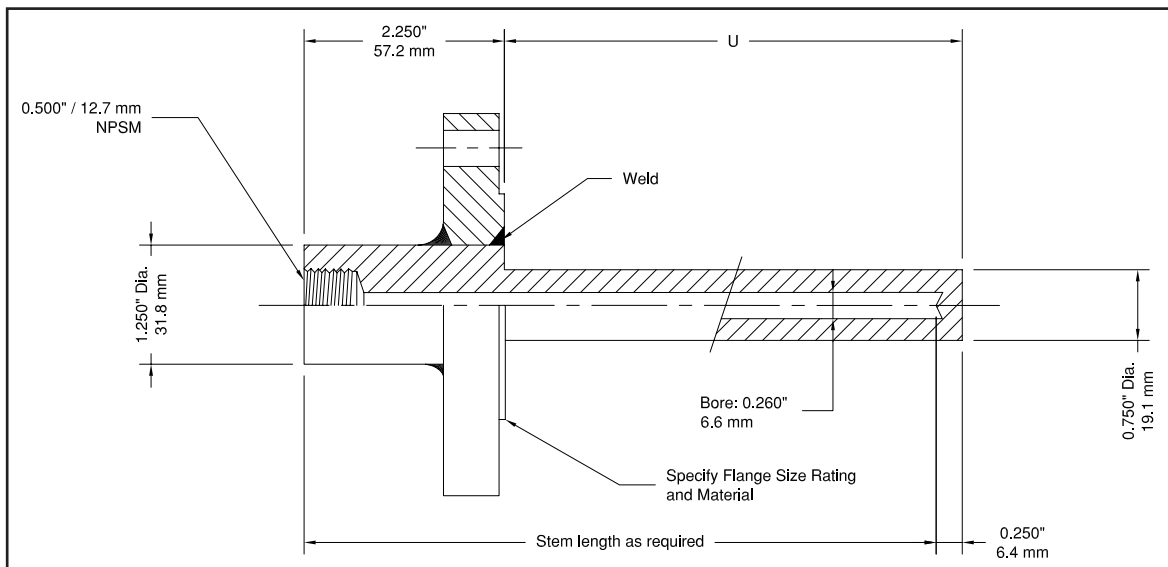
Designed for use on a closed system to isolate the temperature sensor from the process media

How to order: Specify product code

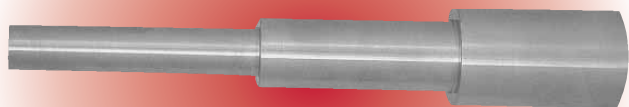
Products shown in **BOLD** are normally in stock.

	Element Length	"U" Dimension	Material	Product Codes		
				Flange Size and Rating		
				1", 150#	1.5", 150#	2", 150#
150#	4" stem	2"	304 St/St.	TWF11504304	TWF151504304	TWF21504304
	4" stem	2"	316 St/St.	TWF11504316	TWF151504316	TWF21504316
	6" stem	4"	304 St/St.	TWF11506304	TWF151506304	TWF21506304
	6" stem	4"	316 St/St.	TWF11506316	TWF151506316	TWF21506316
	9" stem	7"	304 St/St.	TWF11509304	TWF151509304	TWF21509304
	9" stem	7"	316 St/St.	TWF11509316	TWF151509316	TWF21509316
	12" stem	10"	304 St/St.	TWF115012304	TWF1515012304	TWF215012304
	12" stem	10"	316 St/St.	TWF115012316	TWF1515012316	TWF215012316
	15" stem	13"	304 St/St.	TWF115015304	TWF1515015304	TWF215015304
	15" stem	13"	316 St/St.	TWF115015316	TWF1515015316	TWF215015316
300#	Element Length	"U" Dimension	Material	Flange Size and Rating		
				1", 300#	1.5", 300#	2", 300#
	4" stem	2"	304 St/St.	TWF13004304	TWF153004304	TWF23004304
	4" stem	2"	316 St/St.	TWF13004316	TWF153004316	TWF23004316
	6" stem	4"	304 St/St.	TWF13006304	TWF153006304	TWF23006304
	6" stem	4"	316 St/St.	TWF13006316	TWF153006316	TWF23006316
	9" stem	7"	304 St/St.	TWF13009304	TWF153009304	TWF23009304
	9" stem	7"	316 St/St.	TWF13009316	TWF153009316	TWF23009316
	12" stem	10"	304 St/St.	TWF130012304	TWF1530012304	TWF230012304
	12" stem	10"	316 St/St.	TWF130012316	TWF1530012316	TWF230012316
15" stem	13"	304 St/St.	TWF130015304	TWF1530015304	TWF230015304	
15" stem	13"	316 St/St.	TWF130015316	TWF1530015316	TWF230015316	

Other configurations available.



Thermowells Socket Weld



Specifications	
Material:	304 or 316 stainless steel
Thermometer Connection:	1/2" NPT
Bore:	0.260" (6.604mm) standard
Other:	Other configurations available

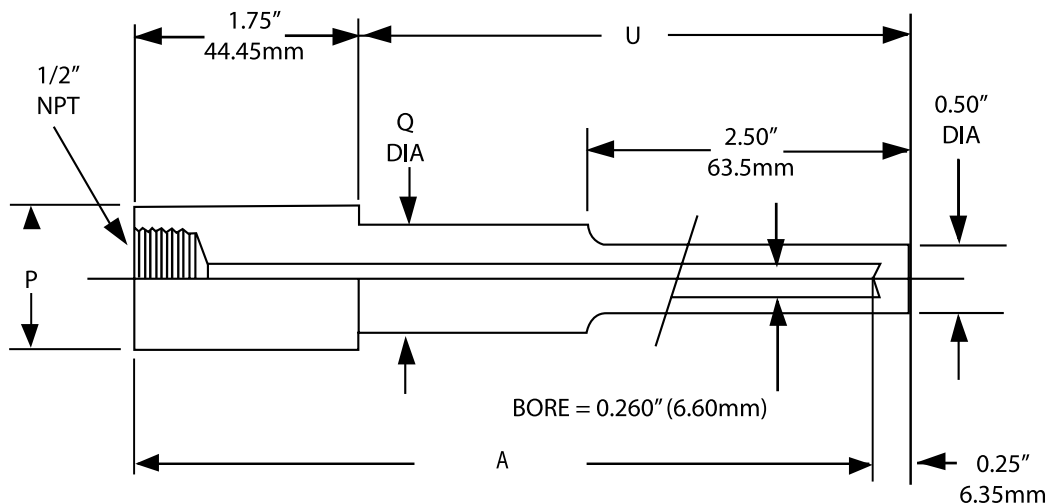
How to order: Specify product code
Products shown in BOLD are normally in stock.

PRODUCT CODES

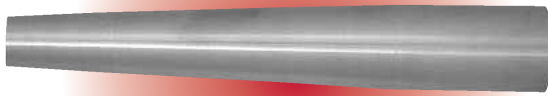
Product Codes				
Stem Length	"U" Dimension	"Q" Dimension	Material	Code
P = 3/4" Pipe Size (1.05")				
4" (100mm)	2 1/2"	1/2"	304 St/St.	TWSW754304
4" (100mm)	2 1/2"	1/2"	316 St/St.	TWSW754316
6" (150mm)	4 1/2"	3/4"	304 St/St.	TWSW756304
6" (150mm)	4 1/2"	3/4"	316 St/St.	TWSW756316
9" (228.6mm)	7 1/2"	3/4"	304 St/St.	TWSW759304
9" (228.6mm)	7 1/2"	3/4"	316 St/St.	TWSW759316
12" (304.8mm)	10 1/2"	3/4"	304 St/St.	TWSW7512304
12" (304.8mm)	10 1/2"	3/4"	316 St/St.	TWSW7512316
P = 1" Pipe Size (1.315")				
4" (100mm)	2 1/2"	7/8"	304 St/St.	TWSW14304
4" (100mm)	2 1/2"	7/8"	316 St/St.	TWSW14316
6" (150mm)	4 1/2"	7/8"	304 St/St.	TWSW16304
6" (150mm)	4 1/2"	7/8"	316 St/St.	TWSW16316
9" (228.6mm)	7 1/2"	7/8"	304 St/St.	TWSW19304
9" (228.6mm)	7 1/2"	7/8"	316 St/St.	TWSW19316
12" (304.8mm)	10 1/2"	7/8"	304 St/St.	TWSW112304
12" (304.8mm)	10 1/2"	7/8"	316 St/St.	TWSW112316

Descriptions

Designed to be welded in place within the system. Applications include: slow velocity, for example, a feed water system on a boiler



Thermowells Weld-In



Description

Utilized anywhere that a welded thermowell is required. Applications include high pressure and/or high vibration

Specifications	
Material:	304 or 316 stainless steel
Thermometer Connection:	1/2" NPT
Bore:	0.260" (6.604mm) standard
Other:	1 1/2" connection pipe size standard (other configurations available)

How to order: Specify product code

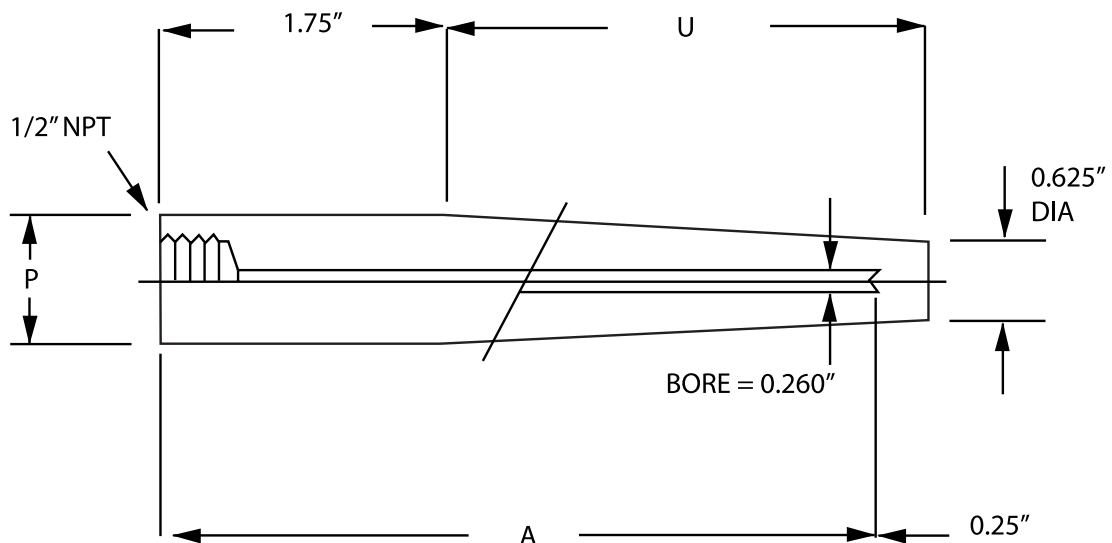
PRODUCT CODES

Product Codes				
Stem Length "A"	"U" Dimension	Material	Code	"P" Nominal 1.05" Diameter
4" (100mm)	2 1/2"	304 St/St.	TWW154304	3/4"
4" (100mm)	2 1/2"	316 St/St.	TWW154316	3/4"
6" (150mm)	4 1/2"	304 St/St.	TWW156304	3/4"
6" (150mm)	4 1/2"	316 St/St.	TWW156316	3/4"
9" (228.6mm)	7 1/2"	304 St/St.	TWW159304	3/4"
9" (228.6mm)	7 1/2"	316 St/St.	TWW159316	3/4"
12" (304.8mm)	10 1/2"	304 St/St.	TWW1512304	3/4"
12" (304.8mm)	10 1/2"	316 St/St.	TWW1512316	3/4"

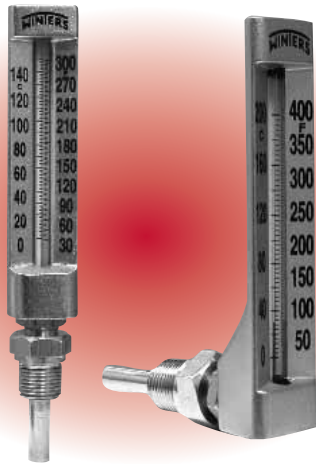
Option Suffix:

- Cap and chain supplied as an option
- Thermowells for 1" pipe available
- 0.385" bores available

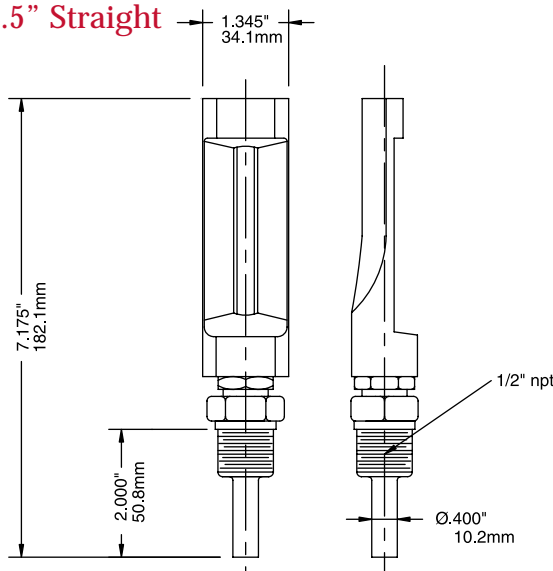
Weld-in type thermowell 1/4" element (0.260" BORE)



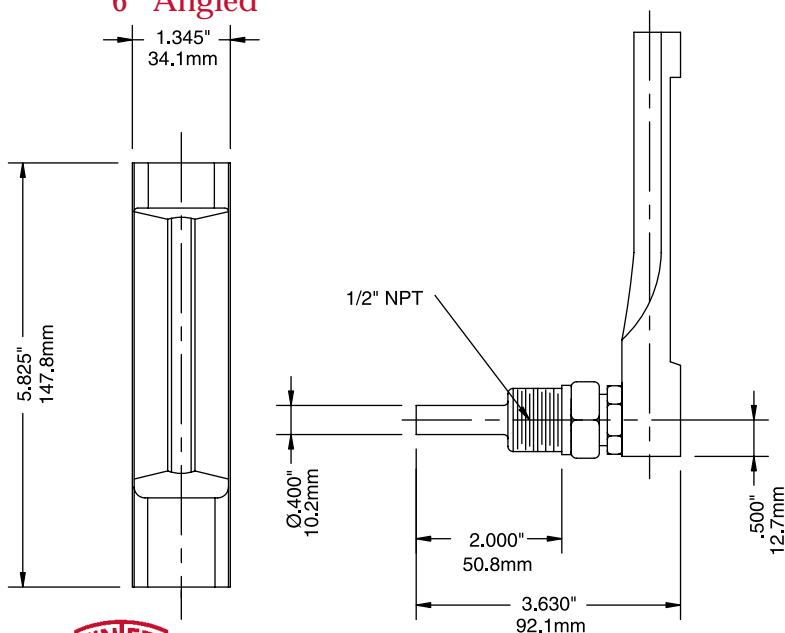
HVAC (GC Series) Thermometer



4.5" Straight



6" Angled



Description

Winters HVAC (GC Series) Thermometer is used in heating, plumbing, air conditioning and ventilation (HVAC) applications. Winters gold-coloured aluminum case thermometers are available in 4½" (110mm) or 6" (150mm) scales. The HVAC thermometer (GC Series) offers ruggedness and durability in harsh industrial environments. A brass socket ½" NPT is standard (stainless steel optional) and the thermometer is available in either a straight model (bottom connection) or 90° angle model (back connection).

Specifications

Case:	4½" (110 mm) or 6" (150 mm) aluminum, anodized gold
Scale:	Aluminum, black markings
Tube:	Glass cushioned
Liquid Filling:	Organic liquid (red)
Stem:	Brass standard, or stainless steel optional
Connection:	½" NPT (½" BSP optional)
Swivel Nut:	Brass standard, or stainless steel optional (swivel & stem one unit)
Operating Pressure:	Maximum 710 psi (50 kg/cm ²)
Ambient Temperature:	-40F-400F (-40C-200C)
Process Temperature:	-40F-400F (-40C-200C)
Operating Temperature:	Maximum 80% of full scale value recommended
Accuracy:	± 2% of full scale
Protection:	IP65

How to order: Specify product code

Ranges	Product Codes			
	Straight		Angle	
	4½" (110mm)	6" (150mm)	4½" (110mm)	6" (150mm)
-40/110 F & -40/40 C	T130AG4	T130AG6	T140AG4	T140AG6
20/180 F & -5/80 C	T131AG4	T131AG6	T141AG4	T141AG6
30/240 F & 0/115 C	T132AG4	T132AG6	T150AG4	T150AG6
30/300 F & 0/150 C	T134AG4	T134AG6	T143AG4	T143AG6
50/400 F & 10/200 C	T133AG4	T133AG6	T142AG4	T142AG6

Options:

- 304 st/st thermowell available upon request
- Other ranges and connection sizes available



Clamp-On Thermometer



Description & Features:

Provides an economical and accurate method to measure surface temperatures on a ½" to 4" pipe.

- Strap-on design with Steel Spring
- Dual scale (F/C)
- 3 ranges available
- Easy to install

Applications:

• To measure surface temperature on pipe in the Heating, Ventilation, Air Conditioning, wastewater, Industrial process markets

Specifications

Dial:	2.5" (63mm) aluminum with black markings
Case:	Mild steel
Lens:	Plexiglass
Ring:	Steel, chrome plated
Pointer:	Aluminum, painted black
Over-Range Enclosure Rating:	25% of full scale value
Ambient Temperature:	-40°F to 390°F (-40°C to 200°C)
Process Temperature:	-40°F to 390°F (-40°C to 200°C)
Accuracy:	± 3% full scale
Enclosure Rating:	IP52

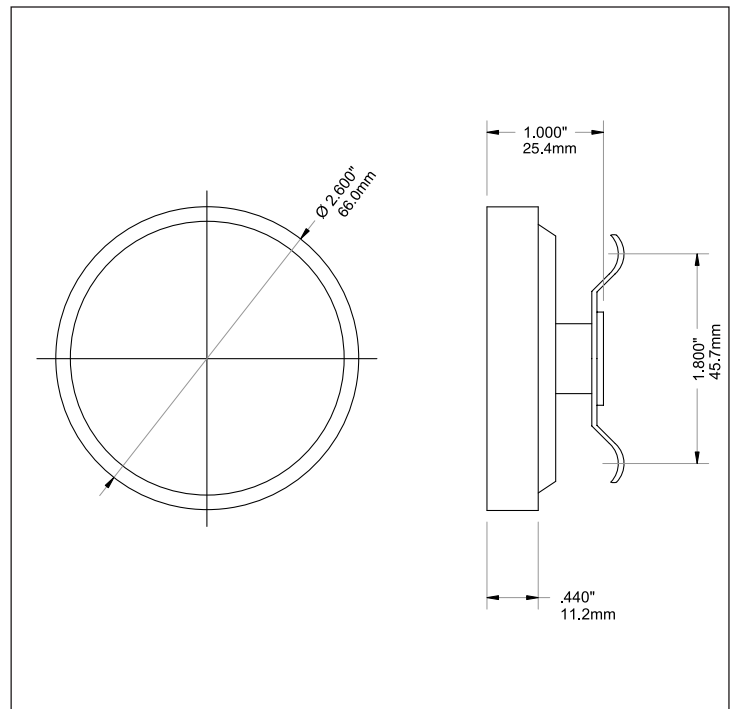
How to order: Specify product code

Products shown in **BOLD** are normally in stock.

PRODUCT CODES

Range	Code
-40/110° F & -40/40° C	T166
30/240° F & 0/115° C	T167
30/390° F & 0/200° C	T168

Other ranges available upon request.



Hot Water Thermometers

Dial Type



Scale Type



Description & Features:

Provides an economical and accurate method to measure Air or Water temperatures.

- Separable well
- Bi-Metallic Element
- Dual scale (F/C)
- Dial type or Vertical Scale type
- Easy to install
- 1/2" NPT process connection

Applications:

- Hot Water Lines, Boilers & Hydronic Heating

Dial Type Specifications

Dial:	2.5" dial (63mm), aluminum, painted white with black and red markings
Case:	Aluminum
Lens:	Glass
Ring:	Steel, chrome plated
Pointer:	Aluminum, painted black
Stem:	Brass
Movement:	Bi-metallic element
Socket:	Brass, 1/2" NPT (standard), separable
Recalibrator:	Standard
Accuracy:	± 1 increment

Scale Type Specifications

Scale/Case:	8" (200mm) scale with steel case, painted white with black markings
Tube:	#N-16 glass
Fill Liquid:	Kerosene, tinted red
Socket:	Brass, 1/2" NPT (standard), separable
Accuracy:	1% full scale



Hot Water Thermometers

Products shown in **BOLD** are normally in stock.

PRODUCT CODES - Dial Type

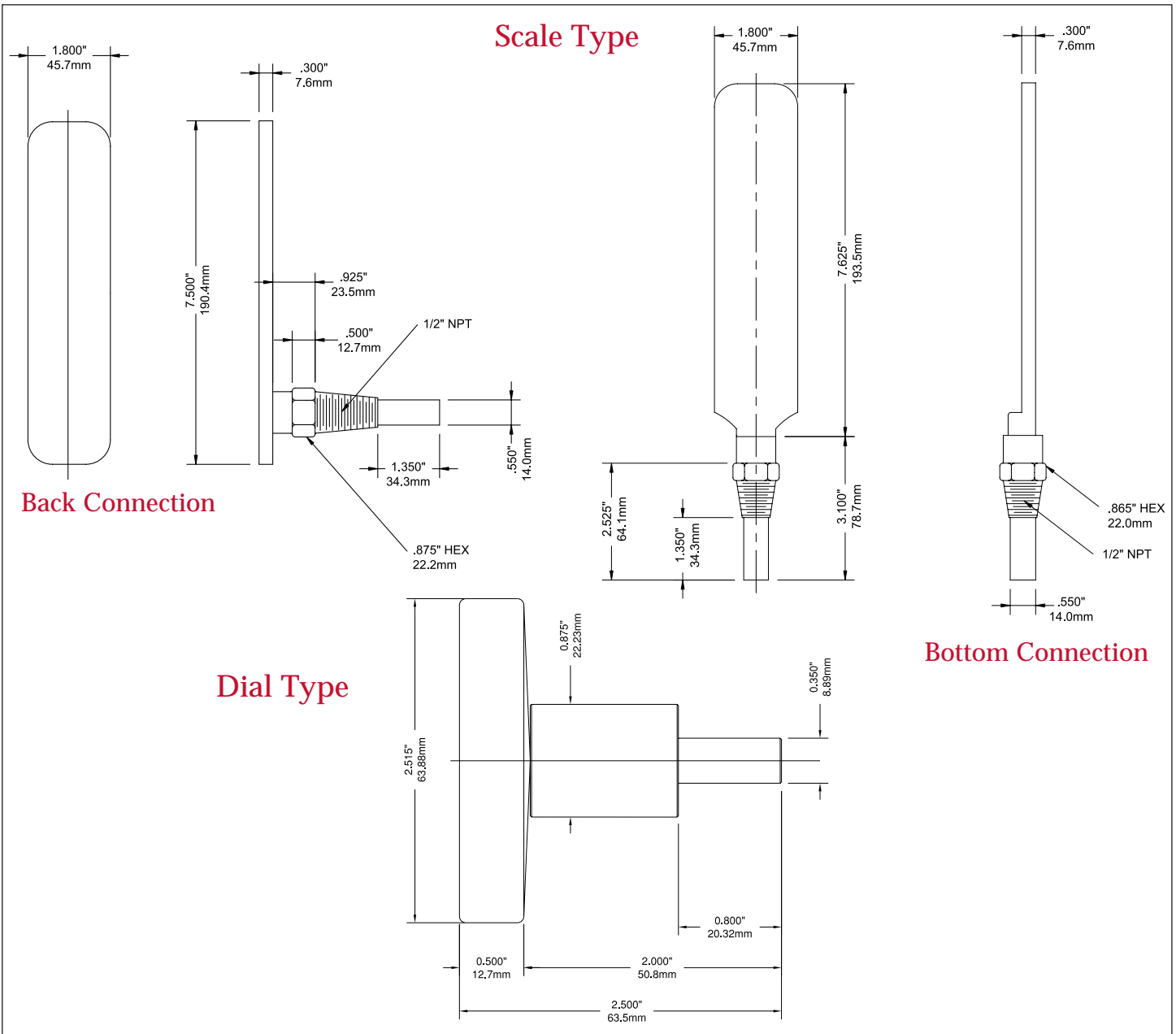
RANGE	CONNECTION	CODE
30/250°F & 0/120°C	1/2" NPT center back	T174
3/4" Sweatwell		T174-SW

Other ranges, stem lengths, dial and thread sizes available upon request.

PRODUCT CODES - Scale Type

RANGE	CONN.	CODE
40/280°F & 5/135°C	Straight	T172
40/280°F & 5/135°C	Angle	T173

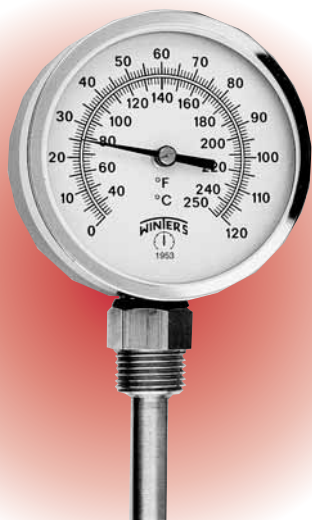
Other ranges and thread sizes available upon request



Thermometers



HVAC Bi-Metal Thermometer



Description & Features:

A durable and accurate thermometer with a rigid connection.

- Separable well
- Rugged steel case
- Bi-Metallic Element
- Dual scale (F/C)
- Back or bottom connected
- 1/2" NPT process connection

Applications:

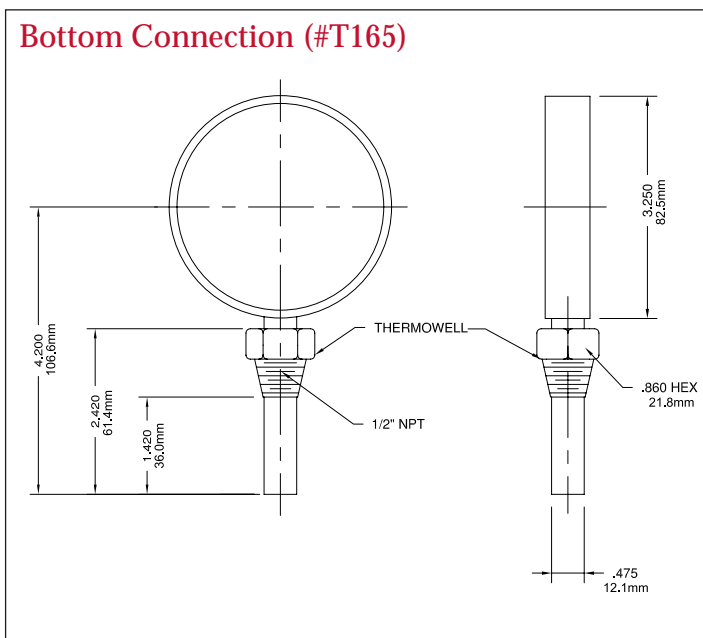
- Hot Water Lines, Boilers & Hydronic Heating

How to order: Specify product code

Products shown in **BOLD** are normally in stock.

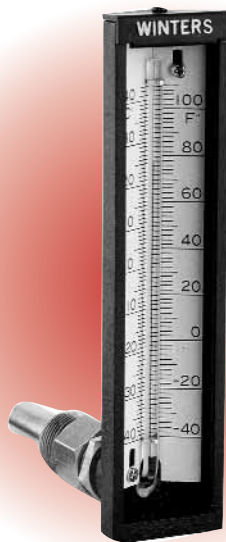
RANGE	CODE
30-250°F & 0/120°C (Back)	T160
0-120°F (Back)	T161
30-250°F & 0/120°C (Bottom)	T165

Other ranges and thread sizes available upon request



Specifications	
Dial:	3 1/2" (90mm), aluminum with black markings
Case:	Steel
Lens:	Glass
Ring:	Steel chrome plated
Pointer:	Aluminum, painted black
Stem:	Brass
Thermowell:	Brass, 1/2" NPT (standard), separable
Recalibrator:	Standard
Movement:	Bimetallic coil
Ambient Temperature:	-22°F to 158°F (-30°C to 70°C)
Process Temperature:	-22F/250F (-30C-120C)
Over Range Enclosure Rating:	± 25% of full scale value
Enclosure Rating:	IP50
Reset:	Standard
Accuracy:	2% of full scale

Industrial 5AS Thermometer



Description & Features:

- An all-purpose, economical thermometer with a vertical sensing tube and case.
- Separable well
- Impact Resistant polypropylene case
- Red liquid-in glass
- Dual scale (F/C)
- Back or bottom connected
- 1/2" NPT process connection

Applications:

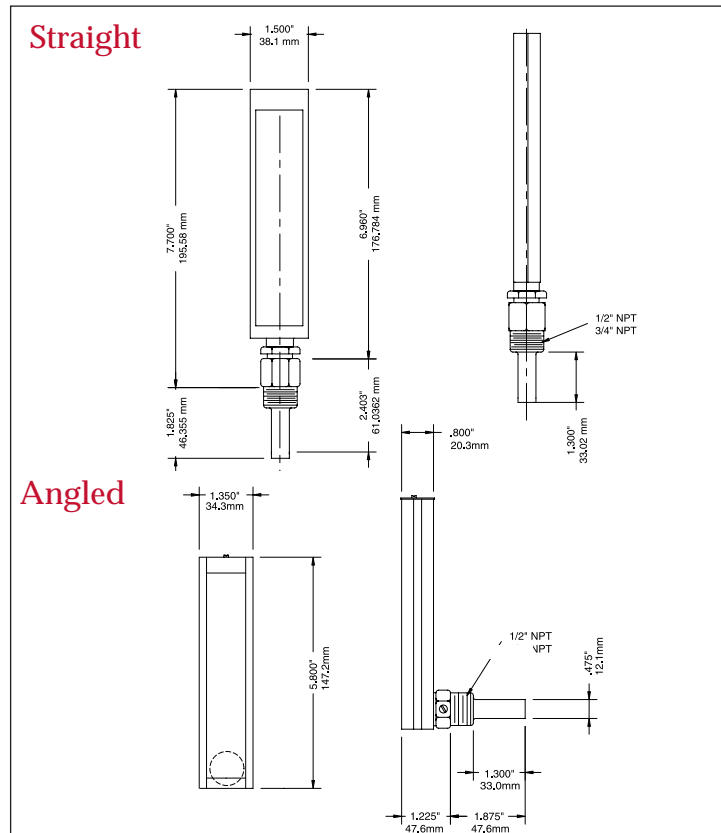
- Hot Water Lines, Boilers, Heating, Ventilation and Air Conditioning

Specifications	
Scale:	Aluminum, painted white with black markings
Case:	Polypropylene, black
Lens:	Glass
Tube:	Glass, cushioned
Liquid Filling:	Kerosene, tinted red
Stem:	Brass
Swivel Nut:	Brass
Thermowell:	Brass 1/2" NPT standard
Operating Pressure:	Maximum 710 psi (50 kg/cm) ²
Ambient Temp:	-40 to 122° F (-40/50° C)
Process Temp.:	-40 to 400° F (-40/200° C)
Accuracy:	± 2% of full scale
Enclosure Rating:	IP54

How to order: Specify product code
Products shown in BOLD are normally in stock.

PRODUCT CODES

RANGES	STRAIGHT	ANGLE
-40 / 110° F & -40/40° C	T130	T140
20 / 180° F & -5/80° C	T131	T141
30 / 240° F & 0/115°C	T132	T150
30 / 300° F & 0/150° C	T134	T143
50 / 400° F & 10/200° C	T133	T142



THERMOWELL CODES

PRODUCT CODE	MATERIAL	CONNECTION
W62 (included with 5AS thermometer)	Brass	1/2" NPT - Standard
W62-1	304 St/St	1/2" NPT - Optional
W64	Brass	3/4" NPT - Optional
W64-1	304 St/St	3/4" NPT - Optional

- Option Suffix:**
- 3/4" NPT connection available upon request.
 - 304 st/st. thermowell available upon request.
 - Plastic lens available upon request.
 - Other ranges and connection sizes available upon request.



HVAC Remote Reading Thermometer



Description & Features:

- An inexpensive vapor thermometer for remote reading applications.
- Stainless Steel and black steel case
- Vapor Actuated
- Panel mounted (Front Flange or U-clamp)
- Dual scale (F/C)
- 9 feet of Stainless Steel Capillary
- 1/2" NPT process connection

Applications:

- Freezers, walk-in refrigeration units, Food storage cabinets, Heating & Ventilation.

Specifications

Dial:	Aluminum, painted white with black markings
Case:	AISI 304 stainless steel for 2" (50mm) front flange and u-clamp case style and 2.5" (63mm) front flange case style. Steel, painted black for 2.5" (63mm) u-clamp case style
Lens:	Plexiglass
Pointer:	Aluminum, painted black
Tube / Movement:	Phosphor bronze/brass
Welding:	Silver alloy
Capillary:	9 feet (3m) of 304 st/st capillary
Bulb:	Nickel plated brass
Protective Spring:	Stainless steel
Operating Temperature:	Recommended maximum 75% of full scale value
Accuracy:	± 2.5% of full scale
Enclosure Rating:	IP52

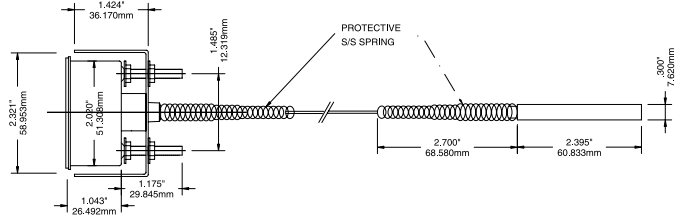
HVAC Remote Reading Thermometer

How to order: Specify product code
Products shown in BOLD are normally in stock.

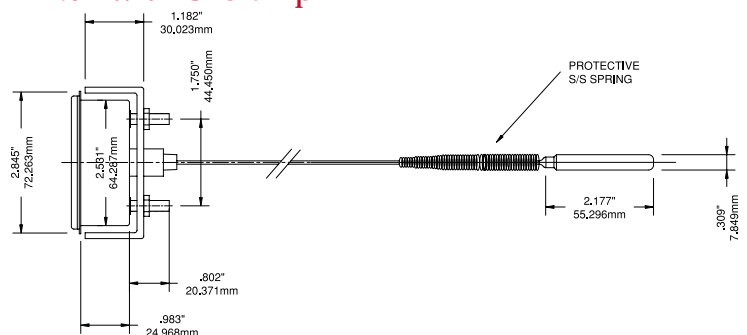
Dial Size	Panel Cut-out	Case Material	Case Style	Range	Product Code
2" (50mm)	2.05" (52.07mm)	stainless steel	front flange	-40/60° F & -40/15° C	R2214090R4
2" (50mm)	2.05" (52.07mm)	stainless steel	front flange	-20/120° F & -30/50° C	R2214090R5
2" (50mm)	2.05" (52.07mm)	stainless steel	u-clamp	-40/60° F & -40/15° C	R2514090R4
2" (50mm)	2.05" (52.07mm)	stainless steel	u-clamp	-20/120° F & -30/50° C	R2514090R5
2.5" (63mm)	2.55" (64.77mm)	stainless steel	front flange	-40/60° F & -40/15° C	R3214090R4
2.5" (63mm)	2.55" (64.77mm)	stainless steel	front flange	-20/120° F & -30/50° C	R3214090R5
2.5" (63mm)	2.55" (64.77mm)	steel	u-clamp	-40/60° F & -40/15° C	R3514090R4
2.5" (63mm)	2.55" (64.77mm)	steel	u-clamp	-20/120° F & -30/50° C	R3514090R5

• Other ranges and configurations available upon request.

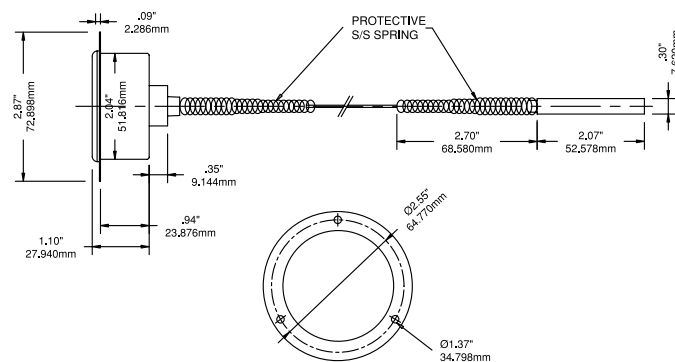
2" with U-Clamp



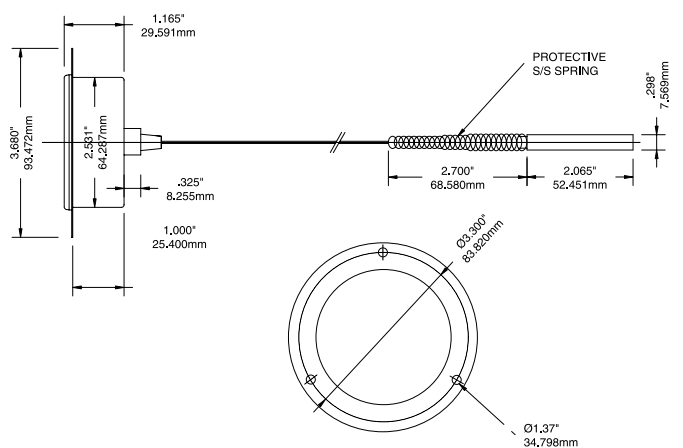
2.5" with U-Clamp



2" with Front Flange



2.5" with Front Flange

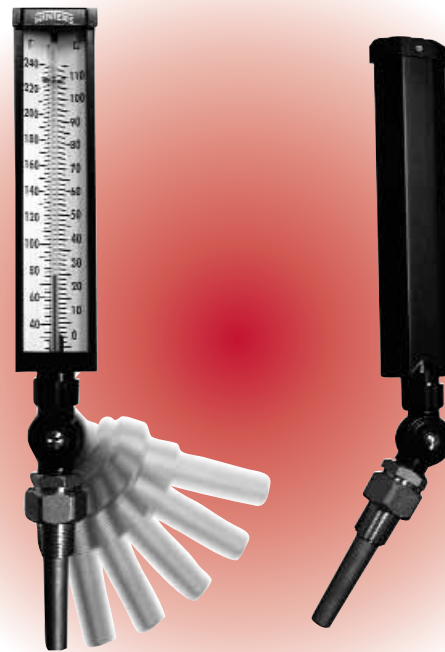


Thermometers



Industrial 9IT Thermometer

Available
in Aluminum or
Valox® Case



Description & Features:

- This popular thermometer is widely specified in the Industrial & Commercial Plumbing trade.
- Includes separable thermowell
- 9" Valox or Aluminum case
- 3.5" & 6" stem
- Organic filled tube (non-mercury)
- Dual scale (F/C)
- Vari-angle connection & 360 degree case rotation for easy installation
- Graphite filled bulb chamber fore maximum heat conduction
- Grade 1A accuracy (1%)

Applications:

• New construction, Plumbing, Water Lines, Boilers, Heating, Ventilation and Air Conditioning.

Specifications

Specifications	
Case:	9" (228mm) Aluminum or Valox® case, impact resistant
Lens:	Glass
Scales:	Aluminum painted white with black markings
Bulb Chamber:	Tapered cast aluminum with graphite fill
Connection:	$\frac{3}{4}$ " NPT with thermowell $1 \frac{1}{4}$ " UNF swivel nut (no thermowell)
Liquid Filling:	Organic liquid filled tube
Adjustment:	Fully adjustable
Accuracy:	$\pm 1\%$ accuracy (Grade 1A)
Thermowell:	$\frac{3}{4}$ " brass separable socket Other thermowells available
Enclosure Rating:	IP54

For an Industrial 9IT Thermowell, please refer to the Industrial 9IT Thermowell product page.

Industrial 9IT Thermometer

ALUMINUM CASE

How to order: Specify product code
 Products shown in **BOLD** are normally in stock.

PRODUCT CODES		
STEM	3/2" (75mm)	6" (150mm)
RANGES	CODE	CODE
-40 / 110° F & -40/40° C	T101A	T101-6A
0 / 120° F & -15/50° C	T102A	T102-6A
0 / 160° F & -15/70° C	T103A	T103-6A
30 / 180° F & 0/80° C	T104A	T104-6A
30 / 240° F & 0/115° C	T100A	T100-6A
30 / 300° F & 0/150° C	T105A	T105-6A

VALOX® CASE

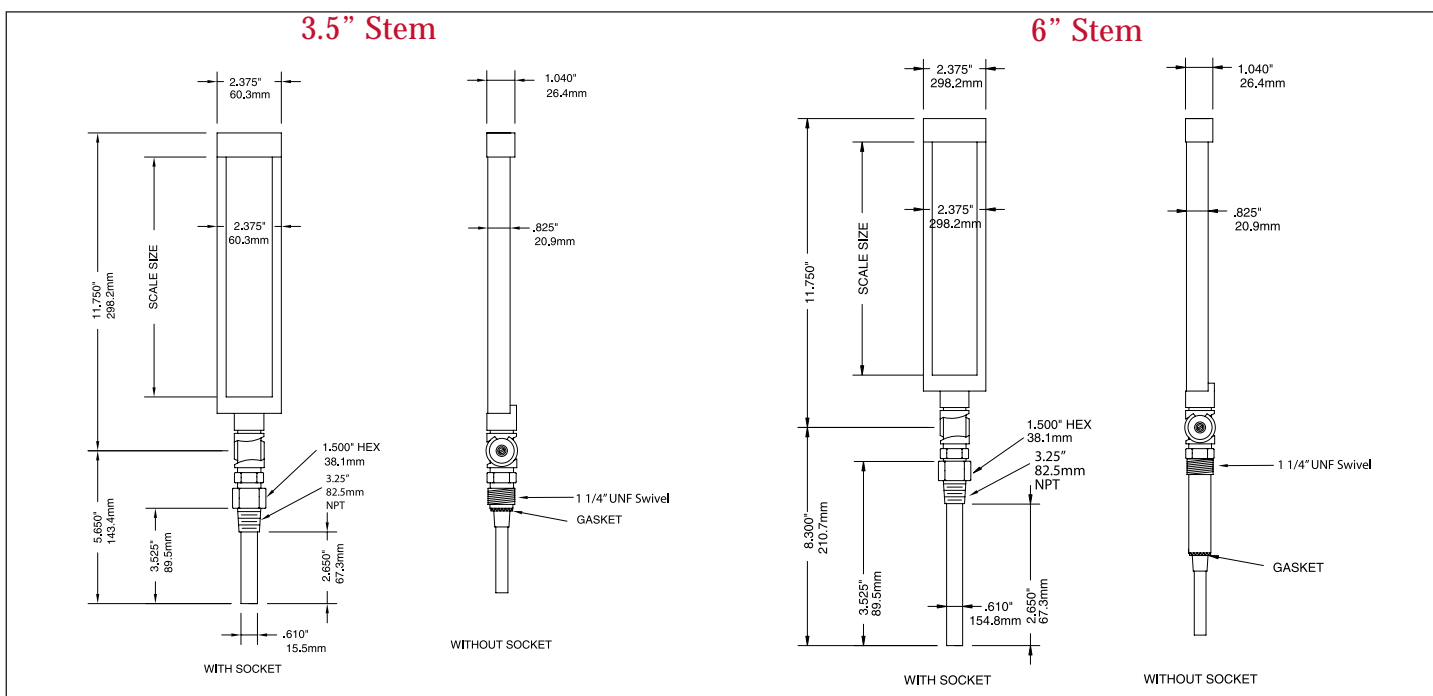
How to order: Specify product code
 Products shown in **BOLD** are normally in stock.

PRODUCT CODES		
STEM	3/2" (75mm)	6" (150mm)
RANGES	CODE	CODE
-40 / 110° F & -40/40° C	T101	T101-6
0 / 120° F & -15/50° C	T102	T102-6
0 / 160° F & -15/70° C	T103	T103-6
30 / 180° F & 0/80° C	T104	T104-6
30 / 240° F & 0/115° C	T100	T100-6
30 / 300° F & 0/150° C	T105	T105-6

Option Suffix:

- Duct flange available upon request.
- Other ranges and connection sizes available upon request.
- Thermowells on pg. 216
- Union connection available upon request.

® Valox is a registered trademark of General Electric Co.



Industrial 9IT Solar Digital



Description & Features:

- A versatile thermometer that provides a solar powered digital readout commonly used in the Industrial & Commercial Plumbing trade.
- Low light compatible (16 Lux minimum)
- Includes separable thermowell
- Durable ABS case
- 50 to 320 F/C
- Switchable temperature scale (F or C)
- Vari-angle connection for easy installation
- Grade 1A accuracy (1%)

Applications:

• New construction, Plumbing, Water Lines, Boilers, Heating, Ventilation and Air Conditioning.

UNIQUE FEATURES INCLUDING:

- Switchable dual scale F/C
- Aluminum adjustable angle

Specifications

Size / Scale:	2.55" x 4.67" (63.75mm x 116.75mm) sensing display readout
Angle:	High impact ABS plastic housing with aluminum movable parts
Temperature Range:	Switchable between -50°F to 320°F (-45°C to 160°C) 6 second response
Stem length:	3 1/2" (90mm) or 6" (150mm)
Connection / Thermowell:	3/4" NPT, with brass thermowell standard 1 1/4" unf swivel nut (without thermowell)
Ambient Temperature:	14°F to 150°F (-10°C to 65°C)
Process Temperature:	-50°F to 320°F (-45°C to 160°C)
LUX Rating:	16 LUX
Accuracy:	1% full scale

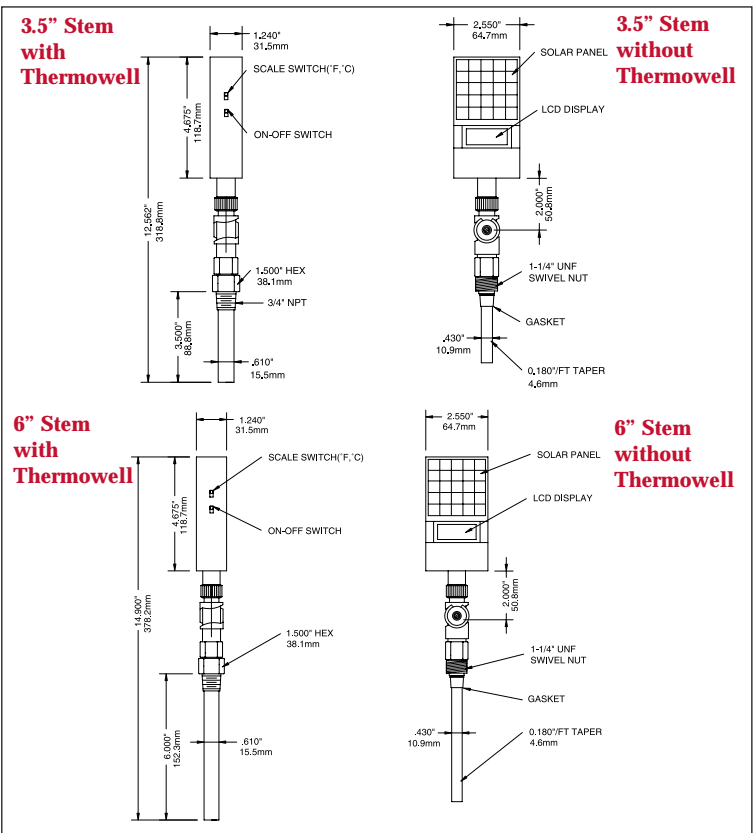
How to order: Specify product code

Products shown in **BOLD** are normally in stock.

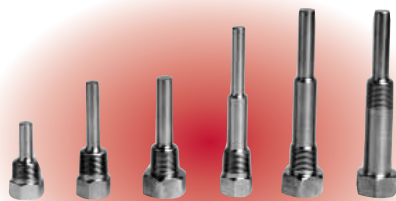
Stem / Ranges	Product Code
3 1/2" (90mm) Stem (-50F-320F/-45C-160C)	9ITSD
6" (150mm) Stem (-50F-320F/-45C-160C)	9ITSD6
(Includes Thermowell)	

- Options Suffix:**
- Duct flange available upon request.
 - Union connection available upon request.

For an Industrial 9IT Thermowell, please refer to the Industrial 9IT Thermowell product page. 231



Industrial 9IT Thermowells



Description

Winters Industrial 9IT Thermowells (CRN Registered) are designed for use with all 9" (228mm) industrial thermometers to create a "sealed system" which allows the easy replacement of the thermometer without the need to shut down or drain the system.

Product Codes:					Products shown in BOLD are normally in stock.	
Overall Length	Material	Insertion Length	Lagging Extension	Process Connection	Product Code	
4 1/4" (107.95mm)	Brass	2 1/2" (63mm)	No	3/4" NPT	W01	
	304 St/St.	2 1/2" (63mm)	No	3/4" NPT	W01-1	
	316 St/St.	2 1/2" (63mm)	No	3/4" NPT	W01-2	
4 1/4" (107.95mm)	Brass	1 3/4" (44.45mm)	1" (25.4mm)	1/2" NPT	W02	
	304 St/St.	1 3/4" (44.45mm)	1" (25.4mm)	1/2" NPT	W02-1	
	316 St/St.	1 3/4" (44.45mm)	1" (25.4mm)	1/2" NPT	W02-2	
4 1/4" (107.95mm)	Brass	1 3/4" (44.45mm)	1" (25.4mm)	3/4" NPT	W03	
	304 St/St.	1 3/4" (44.45mm)	1" (25.4mm)	3/4" NPT	W03-1	
	316 St/St.	1 3/4" (44.45mm)	1" (25.4mm)	3/4" NPT	W03-2	
6 3/4" (171.45mm)	Brass	5" (127mm)	No	3/4" NPT	W04	
	304 St/St.	5" (127mm)	No	3/4" NPT	W04-1	
	316 St/St.	5" (127mm)	No	3/4" NPT	W04-2	
6 3/4" (171.45mm)	Brass	2 1/2" (63mm)	2 1/2" (63mm)	3/4" NPT	W07	
	304 St/St.	2 1/2" (63mm)	2 1/2" (63mm)	3/4" NPT	W07-1	
	316 St/St.	2 1/2" (63mm)	2 1/2" (63mm)	3/4" NPT	W07-2	

Options Suffix:

- Longer thermowells available upon request
- Other materials such as Monel, Inconel, Hastelloy C and Titanium are available upon request
- W61 = Brass cap & chain (1 1/4" UNF)
- W61 - 1 = Stainless Steel cap & chain (1 1/4" UNF)
- Other thread sizes available upon request

Specifications

Material:	Brass, AISI 304 and AISI 316 stainless steel
Bore Diameter:	7/16" tapered
Form:	Stepped standard, straight available
Thermometer Connection:	1 1/4" UNF
Process Connection:	3/4" NPT male standard



Industrial 9IT Solar Digital with Integral RTD/Transmitter



Description & Features:

- Ideal for temperature measurements that require an industrial style connection with a local and 4-20 mA output.
- Low light compatible (16 Lux minimum)
- Includes separable thermowell
- Durable ABS case
- Minus 50 to 320 F/C
- Displays to a 10th. of a degree
- Switchable temperature scale (F or C)
- Vari-angle connection for easy installation
- Grade 1A accuracy (1%)
- 4-20mA output

Applications:

- New construction, Plumbing, Water Lines, Boilers, Heating, Ventilation, Air Conditioning and Industrial Process.

How to order: Specify product code

Products shown in **BOLD** are normally in stock.

Specifications	
Size/Scale:	2.55" x 4.67" (63.75mm x 116.75mm) sensing display readout
Housing:	High impact ABS plastic with aluminum movable parts
Display:	Solar powered
LUX Rating (Min.):	16 LUX
Stem:	3 1/2" (90mm), fully adjustable angle
Connection:	3/4" NPT with brass thermowell standard (1 1/4" UNF swivel nut without thermowell)
Accuracy:	1% accuracy
Temperature Range:	Switchable between -50 to 320°F or -45 to 160°C second response time
Ambient Temperature:	14°F to 150°F (-10°C to 65°C)
Process Temperature:	-50°F to 320°F (-45°C to 160°C)
Enclosure Rating:	IP54
RTD/Transmitter Specifications	
Accuracy:	1% accuracy
Element:	PT100, 2 wire lead
Transmitter:	4-20mA output (-50 -320° F/C)

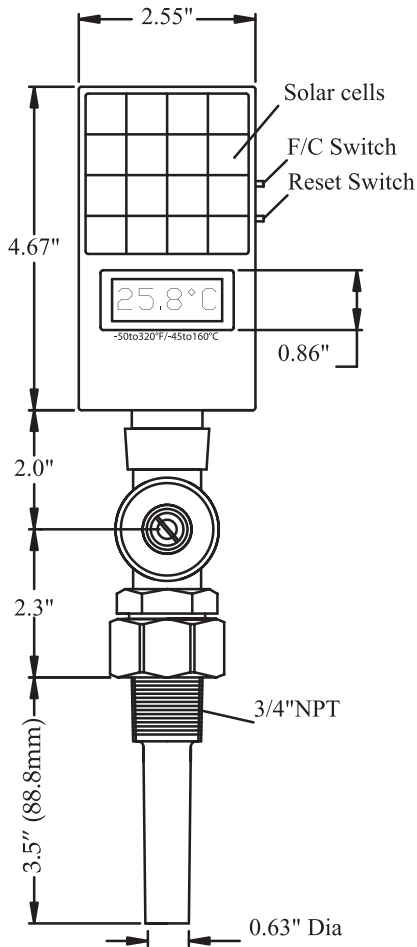
Product Codes	
Description	Code
3 1/2" (90mm) Stem -50°F to 320°F (-45°C to 160°C) Includes Thermowell	T076

NOTE:

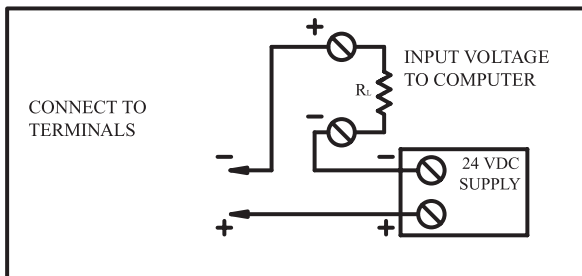
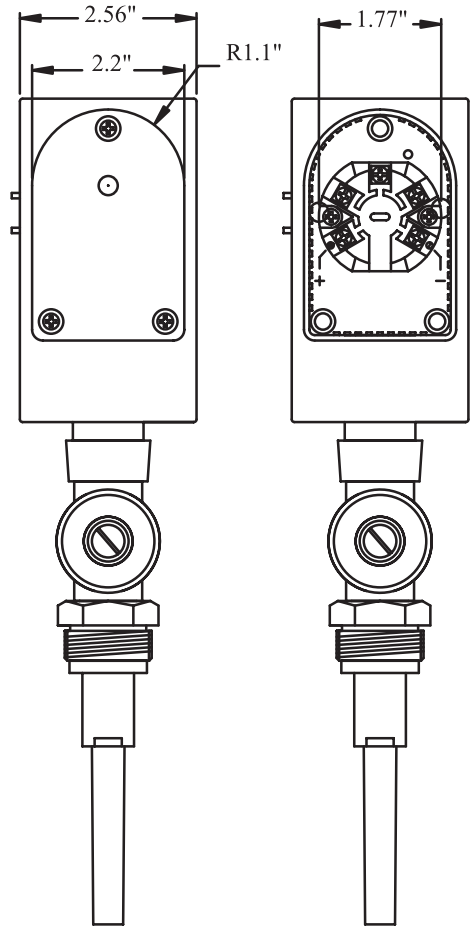
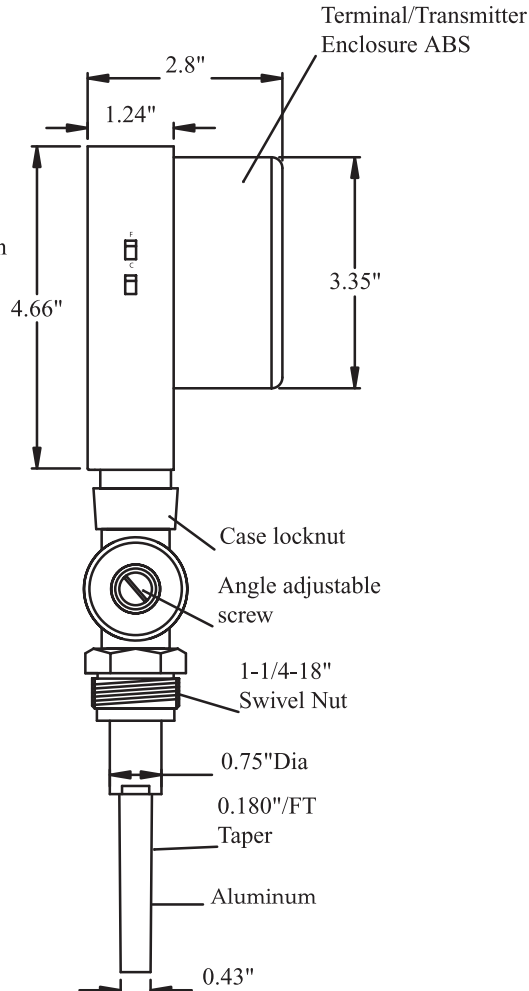
- Duct flange available upon request
- Union connection available upon request

Industrial 9IT Solar Digital with Integral RTD/Transmitter

With Thermowell



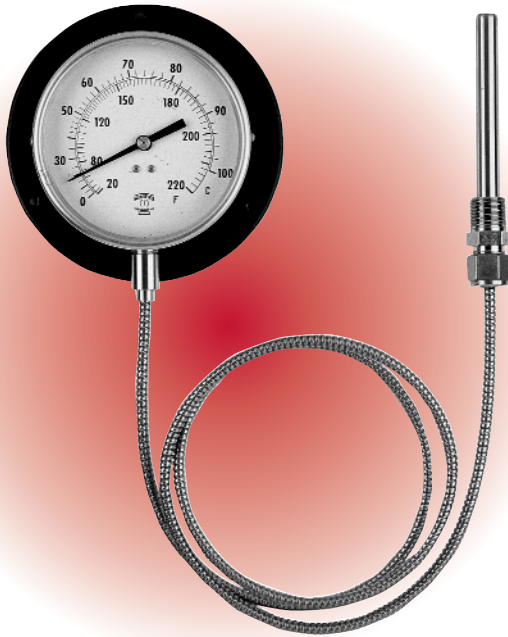
Without Thermowell



For R=250 ohm

I (mA)	•F	•C
4	-50	-50
20	+320	+160

Remote Reading Thermometer



Description & Features:

- Versatile, Heavy Duty Gas or Vapor thermometer for remote reading applications.
- 2.5" to 8" dials available
- Brass or stainless steel capillary and bulbs
- Plain, Sliding Union or thermowell connection
- Capillary lengths over 5 feet
- Panel mount or direct mounted

Applications:

- Freezers, walk-in refrigeration units, Food storage cabinets, Heating & Ventilation.

How to order Custom Products:

E.g. Vapor Remote Reading, 3 1/2" (90mm) dial, 5ft. (1.5m) copper capillary, back connection, front flange with 1/2" brass union, 50-250 °F and °C

Section	I	II	III	IV	V	VI	Range
Product Code	R3	2	35	1	05	1	50-250 °F/C

ORDER # is: R32351051 50 - 250 °F&C

Section	Code	Description	Section	Code	Description		
I	R1	Gas Remote Reading	IV	1	Bulb and Capillary Bulb Bulb Capillary Capillary <u>Type</u> <u>Material</u> <u>Material</u> <u>Protection</u>		
	R2	Gas Direct Reading				Plain Brass Copper Copper	
	R3	Vapor Remote Reading				Double Braided	
	R4	Vapor Direct Reading				None	
Case Type, Connection							
II	1	Bottom connection, back flange	V	05	Capillary Length (measured in feet) Standard, 5 feet (1.5m) -- Use 2 digits ie: 15 = 15 feet		
	2	Back connection, front flange					
	3	Back connection, back flange					
	4	Vari-angle connection, (Direct reading only)					
Connection							
III	25 35 40 45 60 80	Dial Size 2 1/2" (63mm) 3 1/2" (90mm) (back connection only) 4" (100mm) 4 1/2" (115mm) 6" (150mm) 8" (200mm)	VI	0	None		
						1	1/2" NPT brass union
						2	1/2" NPT st/st union
						3	3/4" NPT brass union
						4	3/4" NPT st/st union
						5	1/2" NPT brass thermowell
						6	1/2" NPT st/st thermowell
7	3/4" NPT brass thermowell						
8	3/4" NPT st/st thermowell						



Remote Reading Thermometer

Vapor Ranges:			
	°F only	F&°C	°C only
3 1/2" (90mm) and 4" (100mm)	-40-0-110	-40-0-110° / -40-40	-40-40°
	0-100	0-100 / -20-40	-20-40
	0-180	0-180 / -20-80	-20-80
	20-220	20-220 / 0-100	0-100
	50-250	50-250 / 10-120	0-150
	50-300	50-300 / 10-150	40-175
	100-350 200-450	100-350 / 40-175 200-450 / 100-230	
4 1/2" (115mm)	-40-0-110°	-40-0-110 / -40-40°	-40-40°
	0-100	0-110 / -20-40	-20-40
	0-180	0-180 / -20-80	0-100
	20-220	20-220 / 0-100	0-150
	50-250	50-250 / 10-120	40-175
	50-300	50-300 / 10-150	
	100-350 200-450	100-350 / 40-175	
6" (150mm)	-40-0-110°	-40-0-110 / -40-40°	0-100°
	0-100	0-100 / -20-40	0-150
	0-180	0-180 / -20-80	
	20-220	50-250 / 0-120	
	50-250		
	50-300		
	100-350 200-450		

Gas Ranges:				
	°F only	°F & °C	°C only	
All Dial Sizes	-40-0- 110°	0-100F / -20 - 38C°	-30-0- 40° <i>0-300</i>	
	-20-0- 120	30-150 / 0 - 75	-20-0- 80 <i>0-400</i>	
	30- 150	40-220 / 0 -100	-40-0- 50 <i>0-600</i>	
	30- 240	80-300 / 20 -150	- 5-0-105	
	40- 220	0-180 / -15 - 80	0- 50	
	80- 300	0-160 / -15 - 70	0- 60	
	100- 400	30-240 / - 0 -115	0-100	
	<i>100- 500</i>	<i>0-600 / -20 -320</i>	0-150	
	<i>200-500</i>	-40-110 / -40 - 40	0-160	
	<i>200-1000</i>		0-200	
	Ranges in <i>red italics</i> require stainless steel capillary and bulb.			

Option Suffix:

- Duct flanges.
- Sliding union.
- Stainless steel 4" (100mm) and 6" (150mm) cases and capillary available on Gas remote/direct reading models
- Various bulb dimensions.
- Averaging bulb (gas only)
- Other ranges are available upon request.

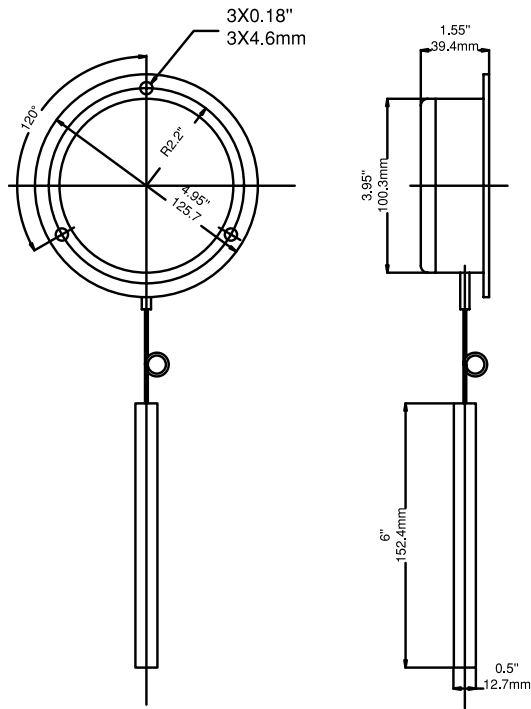
*Please note standard bulb length is 6" (150mm) in length and 4" (100mm) immersion is required for optimum performance.



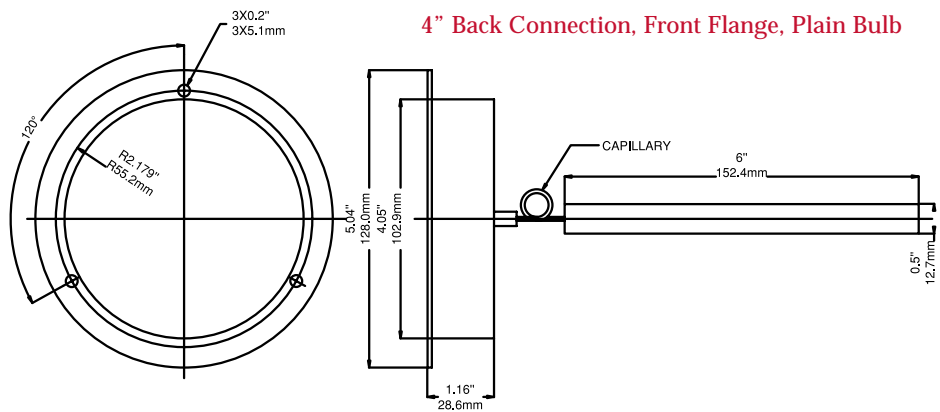
Remote Reading Thermometer

Thermometers

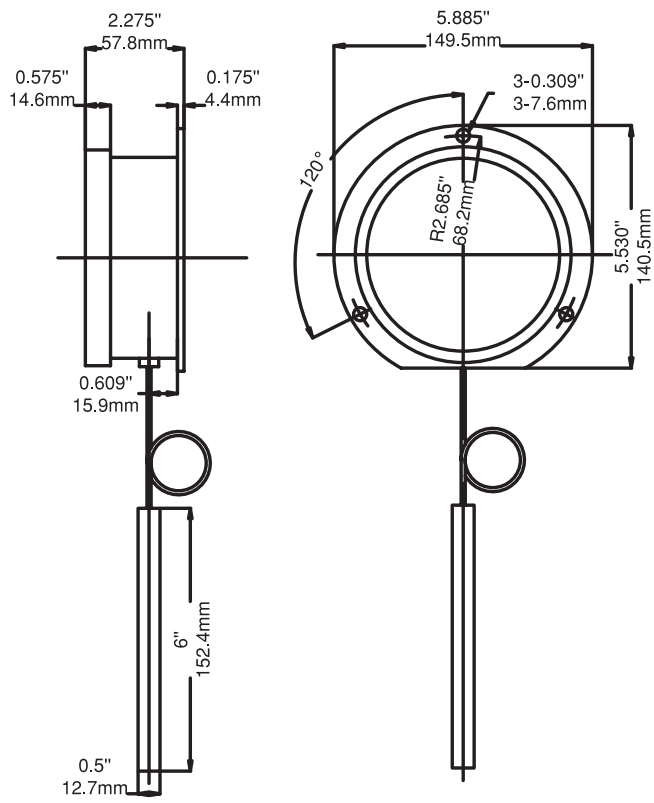
4" Bottom Connection, Back Flange, Plain Bulb



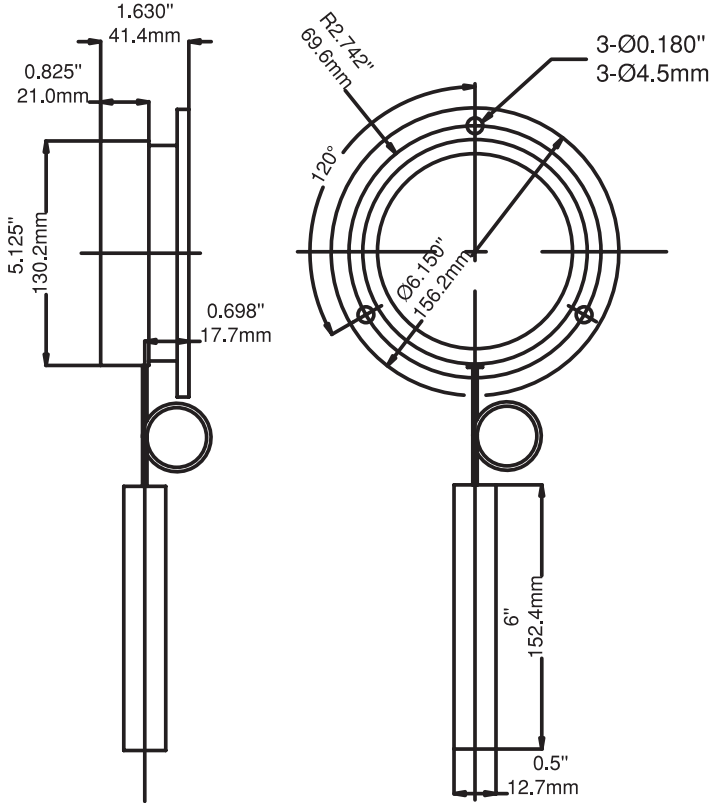
4" Back Connection, Front Flange, Plain Bulb



4.5" Bottom Connection, Back Flange, Plain Bulb

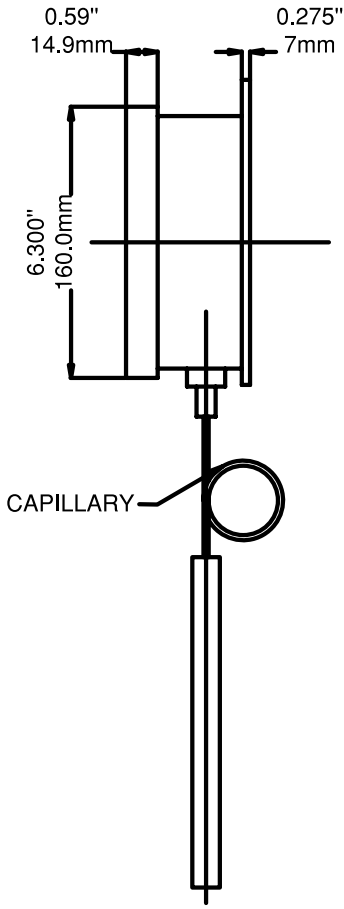
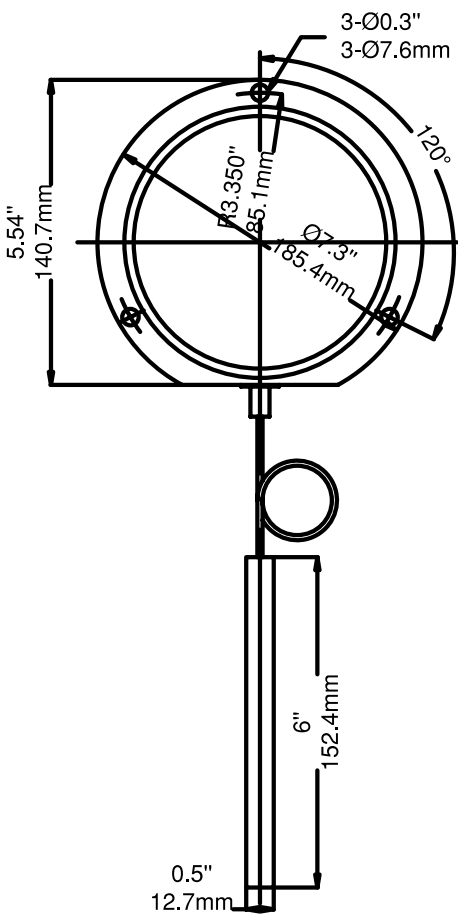


4.5" Bottom Connection, Back Flange, 1/2" Thermowell



Remote Reading Thermometer

6" Gas Remote Reading, Bottom Connection, Back Flange, Plain Bulb



Thermometers



Non-Contact Thermometer



Description & Features:

- A portable "point and shoot" thermometer that measures remote surface temperatures.
- Strap-on design with Steel Spring
- scale readout (F or C)
- One hand operated
- Auto power off feature to conserve battery
- 9 volt battery powered
- Fast response time (.25 seconds)

Applications:

- To measure a remote surface temperature on bearings, electrical panels, assembly line machines, pumps and concrete construction.

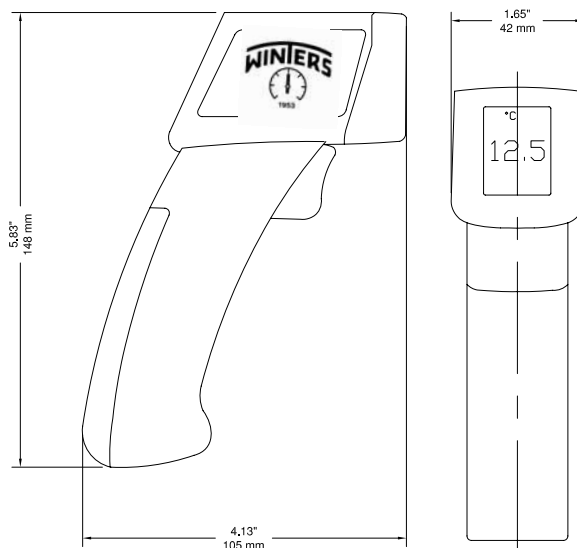
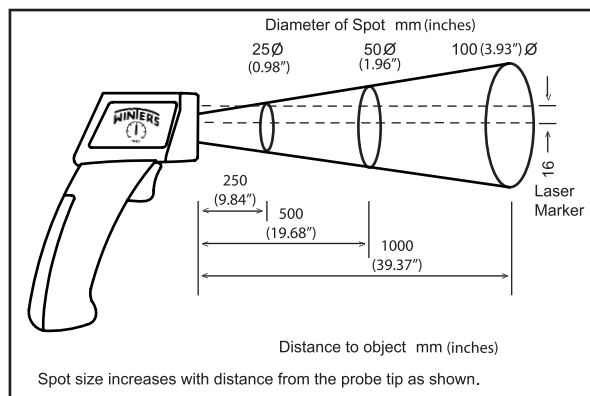
Thermometers

Specifications	
Housing:	ABS
Dimensions:	5.8" (h) x 4.1" (w) x 1.68" (d) (148mm x 105mm x 42mm)
Temp. Range:	-22°F to 1022°F (-30°C to 550°C)
Accuracy:	2% of reading
Response Time:	0.25 seconds
Field of View:	10:1 with laser mark
Sensor Thermopile:	6-14µm
Fixed Emissivity (E):	0.95
Laser Safety:	Class 2 use less than 1 milliwatt of power and project up to 50 feet away
Auto Power Off:	10 seconds
Battery:	9 Volt

How to order: Specify product code

Products shown in **BOLD** are normally in stock.

Product Codes	
Description	Code
With Laser -22-1022°F/ (-30-550°C)	NCT150



Solar Powered Digital



Description & Features:

- An inexpensive panel mounted digital thermometer for a remote reading.
- 2" & 2.5" Stainless Steel case
- Panel mounted with a front flange
- 4 digit display
- Lithium battery powered
- Dual scale switch (F or C)
- 4 feet of PVC coated Capillary

Applications:

- Freezers, walk-in refrigeration units, Food storage cabinets, Heating & Ventilation equipment.

Specifications

Dial:	Polycarbonate
Case:	AISI 304 stainless steel, polished
Lens:	Polycarbonate
Capillary:	PVC, 4' (1.21m) long, standard
Probe:	AISI 304 stainless steel
Power Supply:	Solar cell with lithium battery back-up
Ambient Temperature:	14°F to 140°F (-10°C to 60°C)
Process Temperature:	-58°F to 302°F (-50°C to 150°C)
Smallest Reading:	0.1°F or 0.1°C
Accuracy:	± 2°F (±1°C)

How to order: Specify product code

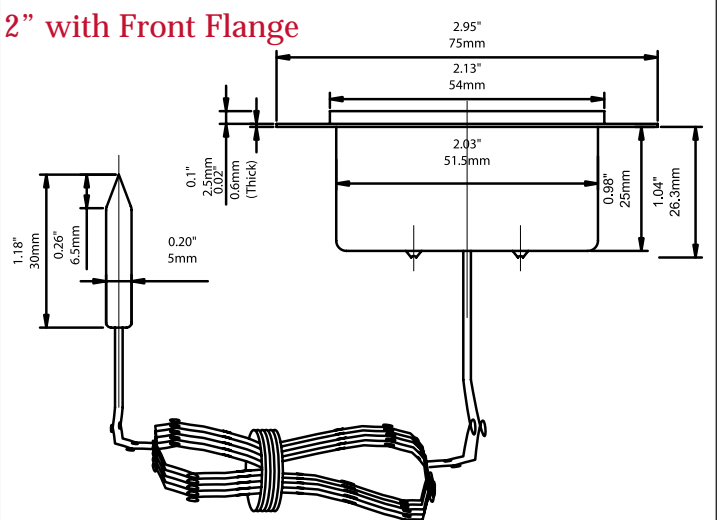
Products shown in **BOLD** are normally in stock.

Dial Size	Product Codes
2" (50mm)	ET7214040
2 1/2" (63mm)	ET7224040 - F
2 1/2" (63mm)	ET7224040 - C

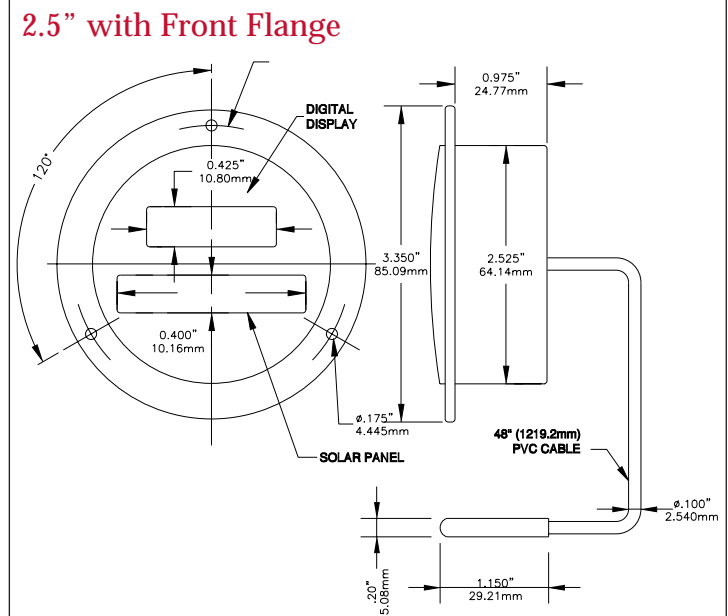
PVC cable available in lengths up to 108" (27cm) (-58/158F only)

- Options:**
- -58/302 F only (single scale) range available upon request on 2" dials.
 - -50/150 C only (single scale) range available upon request on 2" dials.

2" with Front Flange



2.5" with Front Flange



Surface Magnet Thermometer



Description & Features:

- Provides an economical and accurate method to measuring the temperature on a flat metallic surface.
- 2" dial
- Dual scale (F/C)
- 3 ranges available
- Easy to install

Applications:

- Ductwork or motor housings

Specifications

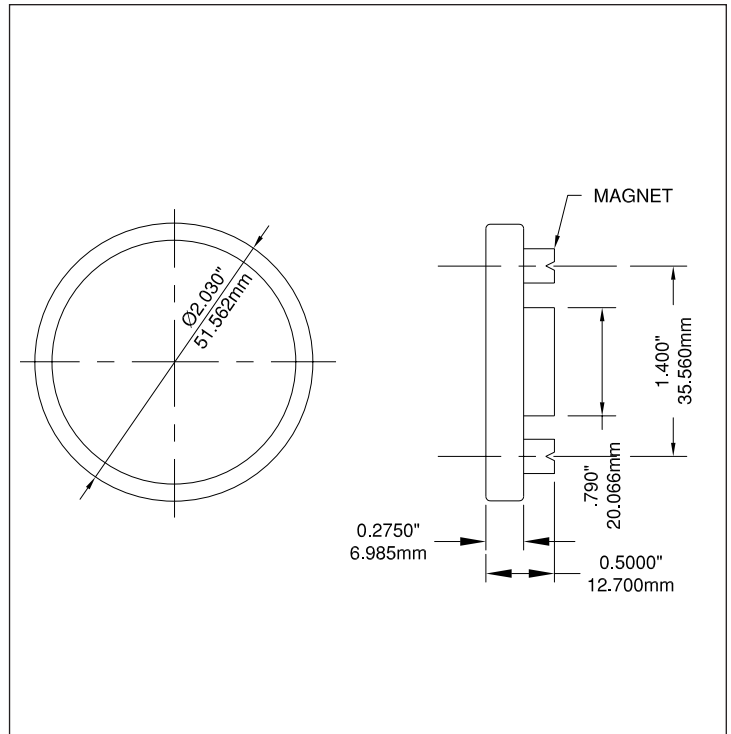
Dial:	2" (50mm) aluminum with black and red markings
Case:	Steel, painted black
Lens:	Glass
Pointer:	Aluminum, painted black
Movement:	Bi-metallic coil
Ambient/Process Temperature:	Recommended maximum 75% of full scale value
Accuracy:	± 2% of full scale value
Enclosure:	IP52

How to order: Specify product code

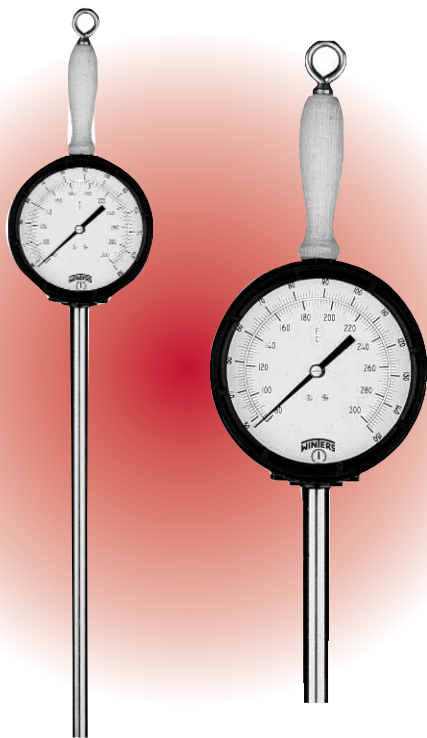
Products shown in **BOLD** are normally in stock.

Range	Product Codes
0/250° F & -20/120° C	T7412
0/500° F & -15/260° C	T7410
50/750° F & 10/400° C	T7409

Other ranges available upon request.



Long Stem Dial Thermometer



Description

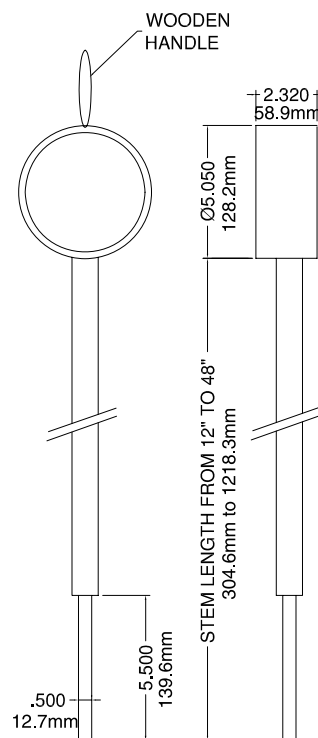
Winters Long Stem Dial Thermometer is designed specifically to meet the sanitary requirements of the food and dairy industry. Replacing the traditional mercury-in-glass thermometers, this instrument features a shatter-resistant plexiglass lens, aluminum case, AISI 316 stainless steel stem and a gas actuated system. Winters Long Stem Dial Thermometer is also exceptionally easy to read and can be recalibrated.

Specifications

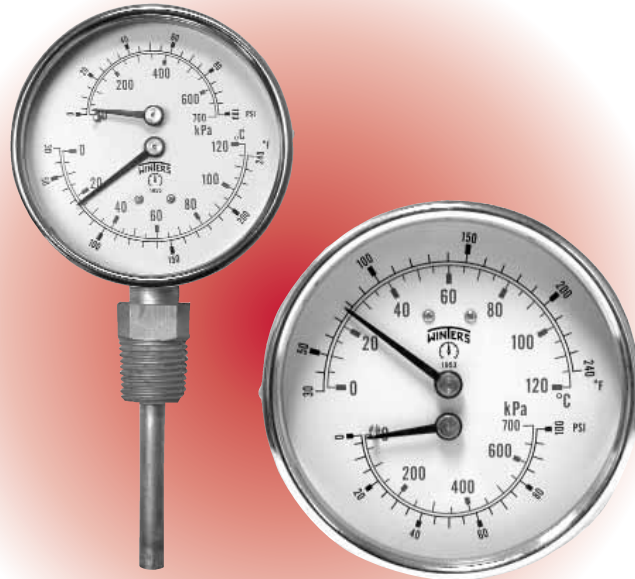
Dial:	4 1/2" (115mm) aluminum, painted white with black markings
Case:	Aluminum, painted black
Lens:	Plexiglass
Pointer:	Aluminum, anodized black, slotted adjustable
System:	Gas actuated with heavy-duty movement
Stem:	AISI 316 stainless steel, 11/16" to 1" O.D. with lengths from 12" (30.48cm) up to 48" (122cm)
Handle:	Wood standard, aluminum hook optional
Accuracy:	± 1% of full scale
Enclosure Rating:	IP65

How to order: Specify product code and range

Stem Length	Product Code	Standard Ranges:
24" (60.96cm)	T45LS24	40/220° F
30" (76.2cm)	T45LS30	0/300° F
36" (91.44cm)	T45LS36	80/300° F
48" (120cm)	T45LS48	200/400° F



Tridicators



Description & Features:

- Measures both pressure and temperature on the same dial.
- 2.5" & 3" dials
- Dual scale (F/C)
- Back or bottom
- Brass wetted parts
- 2" stems
- Multiple pressure ranges available

Applications:

- Hot water and steam pressure for Boilers

Specifications

Dial:	2 1/2" (63mm), 3" (75mm) aluminum, painted white background
Case:	Steel, painted black
Lens:	2 1/2" (63mm) plexiglass 3" (75mm) - glass
Pointer:	Aluminum, anodized black
Socket:	Brass
Stem:	Brass
Tube:	Brass
Movement:	Brass and phosphor bronze
Enclosure Rating:	IP50
Welding:	Tin-alloy solder
Ambient Temperature:	23°F to 122°F (5°C to 50°C)
Process Temperature:	Recommended 2/3's of full scale range
Pressure Limit:	Recommended 2/3's of full scale range
Accuracy:	Pressure: ± 3%-2%-3% Temperature: ± 3% of full scale range

Tridicators

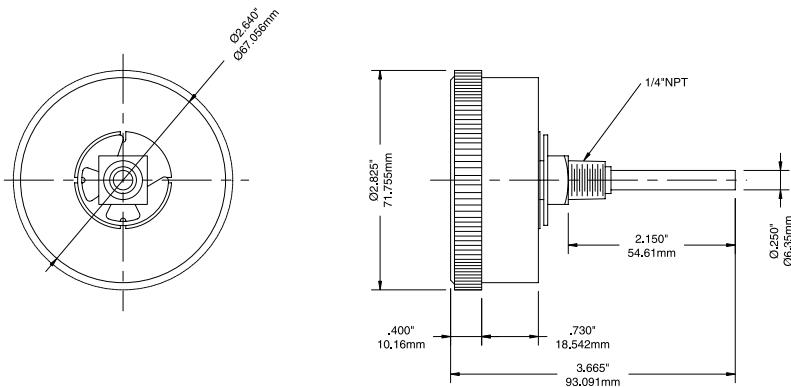
How to order: Specify product code

Products shown in **BOLD** are normally in stock.

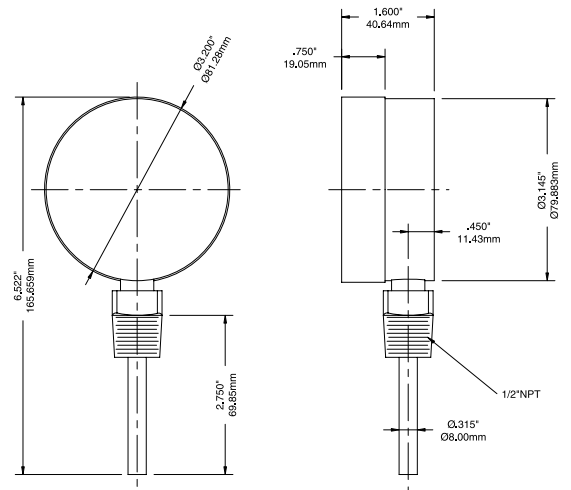
PRODUCT CODE	DIAL SIZE	CONNECTION	RANGE
T400	2 1/2" (63mm)	1/4" NPT, Back	0-75psi/kPa, 60-320F&C
T401	2 1/2" (63mm)	1/4" NPT, Extension Back	0-75psi/kPa, 30-240F&C
T404	2 1/2" (63mm)	1/4" NPT, Back	0-75psi/kPa, 30-240F&C
T403	3" (80mm)	1/2" NPT, Bottom	0-75psi/kPa, 30-240F&C
T402	3" (80mm)	1/2" NPT, Back	0-75psi/kPa, 30-240F&C
T405	3" (80mm)	1/2" NPT, Bottom	0-200psi/kPa 30-240F&C
T407	3" (80mm)	1/2" NPT, Back	0-200psi/kPa 30-240F&C
T408	3" (80mm)	1/2" NPT, Back	0-100psi/kPa 30-240F&C
T409	3" (80mm)	1/2" NPT, Bottom	0-100psi/kPa 30-240F&C
T398	3" (80mm)	1/2" NPT, Back	0-250psi/kPa 60-240F&C
T399	3" (80mm)	1/2" NPT, Bottom	0-250psi/kPa 60-240F&C

Other ranges and thread sizes available upon request

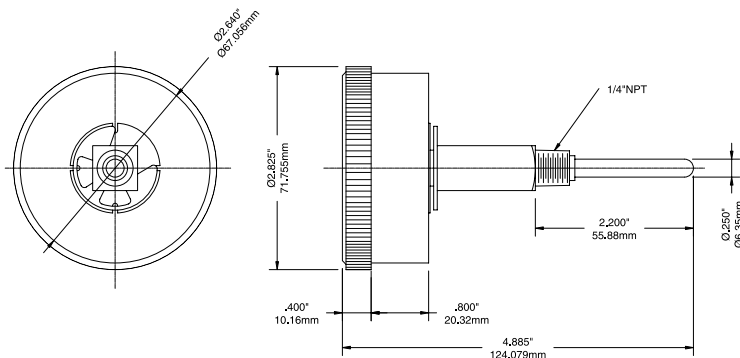
2.5" Back Connection



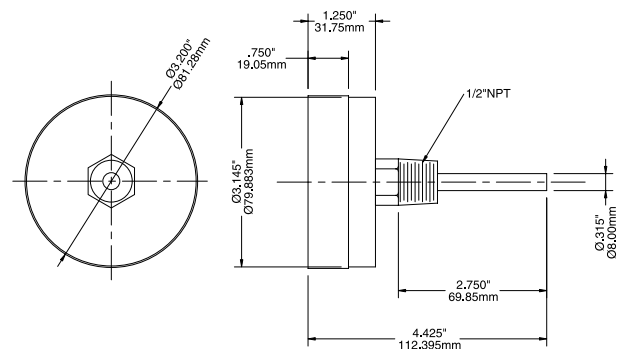
3" Bottom Connection



2.5" Extension Back Connection (#T401)



3" Back Connection



PRESSURE CONVERSION / CUSTOM DIAL TABLE

Dial scale	psi	kPa	kg/cm ²	cm of H ₂ O	feet of H ₂ O	inches of Hg	mm of Hg	inches of H ₂ O	ounces per square inch	atmosphere	bar	mbar	MPa
Custom Dial													
psi	R1	6.894757	0.070306958	70.306927	2.306723	2.03602	51.71486	27.68068	16	0.0680460	0.06894757	68.9476	0.00689
kPa	R2	1	0.0101019716	10.19745	0.3345618	0.29522997	7.500610	4.01472	2.320603	0.009669235	0.01	10	0.001
kg/cm ²	R3	14.223343	1	1000.026	32.809312	28.95901	735.5588	393.711806	227.57349	0.967841596	0.98066494	980	0.09806
cm of H ₂ O	R4	0.0142229	0.00099997	1	0.032808	0.0289581	0.7355372	0.3937	0.227566	0.000967814	0.000980634	0.9806	0.00098
feet of H ₂ O	R5	0.433515	0.03047912	30.480	1	0.882646	22.4192	12	6.93624	0.02949896	0.02968961	29.689	0.00298
inches of Hg	R6	0.4911542	0.0345316	34.53253	1.132957	1	25.4	13.595484	7.85847	0.0334211	0.03386389	33.8639	0.00386
mm of Hg	R7	0.0193368	0.00135951	1.359554	0.0446046	0.039370079	1	0.535255	0.3093888	0.0013157895	0.001333225	1.33322	0.00013
inches of H ₂ O	R8	0.03612628	0.00254219	2.54	0.08333	0.0735539	1.8682683	1	0.578020	0.00245825	0.002490819	2.49089	0.000249
ounces per square inch	R9	0.0625	0.004394308	4.394308	0.14417	0.12725125	3.23218	1.73004	1	0.004252875	0.004309223	4.309	0.0004309
atmospheres	R10	14.6960	1.033231	1033.2633	33.8995	29.9213	760	406.794	235.136	1	1.0132535	1013.25	0.1013
bar	R11	14.5038	1.019716	1019.7466	33.4833	29.5300	750.0626	401.8596	232.0608	0.986923	1	1000	0.1
mbar	R12	0.0145	0.001019	1.019	0.03456	0.02953	0.75006	0.40146	0.23206	0.00099	0.001	1	0.0001
MPa	R13	145	10.197	10197.45	334.56	295.299	7500.61	4014.74	2320.603	9.669	10	10000	1

How to use WINTERS conversion table/custom dial codes:

- 1) Find the COLUMN with the custom dial you want to convert from and move down that COLUMN until you find the number "1".
- 2) Move horizontally within the same ROW to convert to the custom dial scale your seeking.
- 3) Multiply the number in that box by amount you are changing from to get to the conversion factor.
(e.g. 50 bar to be converted to psi/bar scale -----(1 bar equal to 14.5038 psi - 50 bar equals to 725.19 psi)

How to order custom dials - (R1/R11)

Please use R99 for other custom dial configurations not indicated

Pressure Gauge Accuracy / Temperature Conversion Table

Pressure Gauge Accuracy

Accuracy is defined as the conformity of an indication to its true value. Accuracy is a percentage of the full range. For example, a gauge that has a scale of 0-300 psi with an accuracy of 1% would mean that the gauge is accurate to within \pm (plus or minus) 3 psi.

Accuracy Grades - ASME B40.1 (American Society of Mechanical Engineers)

Accuracy grade	Lower $\frac{1}{4}$ of scale	Middle $\frac{1}{2}$ of scale	Upper $\frac{1}{4}$ of scale
4A	0.1	0.1	0.1
3A	0.25	0.25	0.25
2A	0.5	0.5	0.5
1A	1.0	1.0	1.0
A	2.0	1.0	2.0
B	3.0	2.0	3.0
C	4.0	3.0	4.0
D	5.0	5.0	5.0

Temperature Conversion Table

$^{\circ}\text{C}$	$^{\circ}\text{F}$
-240.0	-400.0
-220.0	-364.0
-200.0	-328.0
-180.0	-292.0
-160.0	-256.0
-140.0	-220.0
-120.0	-184.0
-100.0	-148.0
- 80.0	-112.0
- 60.0	- 76.0
- 50.0	- 58.0
- 45.0	- 49.0
- 40.0	- 40.0
- 35.0	- 31.0
- 30.0	- 22.0
- 25.0	- 13.0
- 20.0	- 4.0
- 15.0	5.0
- 10.0	14.0
- 8.0	17.6
- 6.0	21.2
- 4.0	24.8
- 2.0	28.4
0.0	32.0

$^{\circ}\text{C}$	$^{\circ}\text{F}$
2.0	35.6
4.0	39.2
6.0	42.8
8.0	46.4
10.0	50.0
15.0	59.0
20.0	68.0
25.0	77.0
30.0	86.0
35.0	95.0
40.0	104.0
45.0	113.0
50.0	122.0
55.0	131.0
60.0	140.0
65.0	149.0
70.0	158.0
75.0	167.0
80.0	176.0
85.0	185.0
90.0	194.0
95.0	203.0
100.0	212.0
110.0	230.0

$^{\circ}\text{C}$	$^{\circ}\text{F}$
120.0	248.0
130.0	266.0
140.0	284.0
150.0	302.0
160.0	320.0
170.0	338.0
180.0	356.0
190.0	374.0
200.0	392.0
220.0	428.0
240.0	464.0
260.0	500.0
280.0	536.0
300.0	572.0
320.0	608.0
340.0	644.0
360.0	680.0
380.0	716.0
400.0	752.0
420.0	788.0
440.0	824.0
460.0	860.0
480.0	896.0

Temperature Conversion: $^{\circ}\text{C} = \frac{5}{9} (\text{F} - 32)$ and $^{\circ}\text{F} = (\frac{9}{5})^{\circ}\text{C} + 32$



Winters Approvals / Certifying Agencies



3A

The objective of the 3A Sanitary Standards Committee is to formulate standards and accepted practices for equipment and systems used to process milk and milk products. Such standards are developed through all levels of sanitarians, equipment manufacturers and equipment users so those standards are acceptable to those involved in the sanitary aspects of dairy and related industries. The 3A Symbol Administrative Council authorizes manufacturers to display the 3A symbol on processing equipment that is in compliance with 3A Sanitary Standards.



CSA

The Canadian Standards Association (CSA) includes Canadian consumers, manufacturers, labour, government, and other regulatory agencies among its actively participating influences. These various groups work together to generate standard requirements (CSA standards) that demonstrate product quality, enhance market acceptability and improve quality and safety control procedures in manufacturing and construction for the Canadian marketplace. The standards generated by CSA are the cornerstone for determining a product's eligibility for certification in hazardous locations in Canada. CSA also performs product evaluation, testing and ongoing inspection to these standards and also to American and European standards through new inter-laboratory agreements.



CE

"CE" marking is a declaration from Winters' that our product conforms to a specific Directive adopted by the EEA (European Economic Area) and is a requirement for the product to be sold into any of the countries in this 18 member group. CE is an abbreviation for the "Conformite Europeene", meaning European Conformance. Unlike dangerous location approvals, CE marking is granted to products that conform to Directives which were developed using IEC and Cenelec standards. The Directives that affect transmitters are the EMC (Electromagnetic Compatibility) and LVD (Low Voltage) Directives. These state that the products must meet specific electromagnetic emission and immunity, as well as electrostatic discharge standards.



FM: FACTORY MUTUAL

The Factory Mutual Approvals Division determines the safety and reliability of equipment, materials or services utilized in hazardous locations in the United States and elsewhere. For a product to receive FM approval, it must meet two criteria. Initially, it must perform satisfactorily, reliably and repeatedly as applicable for a reasonable life expectancy. Secondly, it must be produced under high quality control conditions. Factory Mutual also has inter-laboratory agreements and can certify to Canadian and European standards.



Winters Approvals / Certifying Agencies

ISO 9001

ISO 9001

Winters' is an ISO 9001 Corporation. The definition of quality is the "totality of features, characteristics or services that bear on the ability to satisfy the stated or implied needs". Winters' facilities offers ISO 9001, engineering design and manufacturing, and ISO 9001 a quality model for quality assurance in production and installation. The elements of ISO 9001 consist of; Leadership and System Improvement, Quality in the Line Functions, Infrastructure or Supporting systems.



UL/ULC

Underwriters Laboratories and Underwriters Laboratories of Canada maintains a high commitment to public safety and a dedication to exceed customer expectations through continual improvement in the delivery of quality services. The organizations develop and publish standards, classifications and specifications for products having a bearing on fire, accident or property hazards. If a product carries the UL mark, it means that UL found the products met UL's safety requirements. These requirements are based primarily on UL's own published Standards for Safety.

NACE

NACE

The National Association of Corrosion Engineers recommends practices such as methods of selection, design, installation, maintenance or operation of material or system where corrosion is a factor. Some recommended practices focus on details of construction of a corrosion control system, methods of treating the surface of materials to reduce corrosion, requirements for using devices to reduce corrosion; and procedures for increasing the effectiveness safety and economic benefits of an installation or system.

OTHER APPROVALS/STANDARDS
ASME B40.1 • NATO • FCI • CAN. DEPT.
OF DEFENSE • U.S. NAVY •
U.S. DEPT. OF DEFENSE • U.S. COAST
GUARD

Winters Approvals / Certifying Agencies

Ingress Protection (IP) Ratings

The IP Code indicates the degree of protection provided by enclosures for electrical equipment.

The first numeral indicates protection of persons against access to dangerous parts and protection of internal equipment against the ingress of solid foreign objects.

X	Protection unspecified (untested)
0	No special protection provided
1	Protection of hand against accidental access to dangerous parts, and protection of equipment against objects larger than 50mm
2	Protection of fingers against access to dangerous parts, and protection of equipment against objects larger than 12mm
3	Protection against objects larger than 2.5mm (e.g. tools, wires)
4	Protection against objects larger than 1mm (e.g. line tools, wires)
5	Protection against entry of dust in sufficient quantity to interfere with satisfactory operation of equipment
6	Complete protection against entry of dust

The second numeral indicates protection of internal equipment against harmful ingress of water

X	Protection unspecified (untested)
0	No special protection provided
1	Protection against drops of water falling vertically
2	Protection against drops of water falling vertically when the object is tilted by up to 15 degrees from its normal position (in any direction)
3	Protection against spraying water at up to 60 degrees from the vertical
4	Protection against splashing and spraying water from all practicable directions
5	Protection against a low pressure jet of water from all practicable directions
6	Protection against heavy seas or a strong jet of water from all practicable directions
6D	Protection against driving rain at angles down to horizontal
7	Protection against immersion
8	Protection against submersion (tests subject to agreement, but no less severe than numeral 7)

Winters Approvals / Certifying Agencies

CRN (Canadian Registration Number)

The Canadian Registration Number (CRN) is a number issued by each province/territory of Canada to the design of boiler, pressure vessel or fitting. Industrial instrumentation such as pressure gauges, thermometers and related accessories all fall under this jurisdiction. The CRN identifies the design has been accepted and registered for use in that province/territory.

Winters CRN Registration (Revised Oct. 22, 2002)				
PROVINCES	ONT	QUEBEC	CRN	
Product Category	CRN	CRN		
Pressure Gauges	OF6751.5	OF6751.56		
Diaphragm Seals	OF6751.5	OF6751.56		
Thermowells	OF6751.5ADD1	OF6751.56ADD1		
Mini Ball Valves	OC6751.5	OC6751.56		
Needle Valves	OC6751.5	OC6751.56		
Syphons/Snubbers	OF6751.5	OF6751.56		
PROVINCES	BC	AB	MB	SK
Product Category	CRN	CRN	CRN	CRN
Pressure Gauges	OF6751.51	OF6751.52	OF6751.56	OF6751.56
Diaphragm Seals	OF6751.51	OF6751.52	OF6751.56	OF6751.56
Thermowells	OF6751.51ADD1	OF6751.52ADD1	OF6751.56ADD1	OF6751.56ADD1
Mini Ball Valves	OC6751.51	OC6751.52	OC6751.56	OC6751.56
Needle Valves	OC6751.51	OC6751.52	OC6751.56	OC6751.56
Syphons/Snubbers	OF6751.51	OF6751.52	OF6751.56	OF6751.56
PROVINCES	NB	NS	PEI	NFLD/LAB
Product Category	CRN	CRN	CRN	CRN
Pressure Gauges	OF6751.57	OF6751.58	OF6751.59	OF6751.50
Diaphragm Seals	OF6751.57	OF6751.58	OF6751.59	OF6751.50
Thermowells	OF6751.57ADD1	OF6751.58ADD1	OF6751.59ADD1	OF6751.50ADD1
Mini Ball Valves	OC6751.57	OC6751.58	OC6751.59	OC6751.50
Needle Valves	OC6751.57	OC6751.58	OC6751.59	OC6751.50
Siphon/Snubbers	OF6751.57	OF6751.58	OF6751.59	OF6751.50
Provinces	YUKON	NWT	NUNAVUT	
Product Category	CRN	CRN	CRN	
Pressure Gauges	OF6751.5Y	OF6751.5T	OF6751.5N	
Diaphragm Seals	OF6751.5Y	OF6751.5T	OF6751.5N	
Thermowells	OF6751.5YADD1	OF6751.5TADD1	OF6751.5NADD1	
Mini Ball Valves	OC6751.5Y	OC6751.5T	OC6751.5N	
Needle Valves	OC6751.5Y	OC6751.5T	OC6751.5N	
Siphon/Snubbers	OF6751.5Y	OF6751.5T	OF6751.5N	



Winters Approvals / Certifying Agencies

Pressure Switch - Reference

Hazardous Location Definitions	
Class I	Locations in which flammable gases or vapors are or may be present in the air in quantities sufficient to produce explosive or ignitable mixtures.
Class II	Locations, which are hazardous because of the presence of combustible dust.
Class III	Locations which are hazardous because of the presence of easily ignitable fibers or flyings, but in which such fibers or flyings are not likely to be suspended in air in quantities sufficient to produce ignitable mixtures.
Division 1	Locations in which hazardous concentrations in the air exist continuously, intermittently, or periodically under normal operating conditions.
Division 2	Locations in which hazardous materials are handled, processed, or used, but where such materials are normally within closed containers or closed systems from which they can escape only in case of accidental rupture or breakdown.
Group A	Atmospheres containing acetylene.
Group B	Atmospheres containing hydrogen, or gases or vapors of equivalent hazard, such as manufactured gas.
Group C	Atmospheres containing ethyl-ether vapors, ethylene, or cyclo-propane.
Group D	Atmospheres containing gasoline, hexane, naphtha, benzine, butane, propane, alcohol, benzol, lacquer solvent vapors, or natural gas.
Group E	Atmospheres containing metal dust, including aluminum, magnesium and their commercial alloys and other metals of similar hazardous characteristics.
Group F	Atmospheres containing carbon black, coal or coke dust.
Group G	Atmospheres containing flour, starch or grain dust.

Hazardous Location Definitions - International	
The International Electrotechnical Commission (IEC) classifies hazardous locations by Zone and Group. Zone is similar to the term "Division" in that it defines the likelihood of hazard:	
Zone 0	An area in which an explosive gas/air mixture is constantly present or present for long periods of time
Zone 1	An area in which an explosive gas/air mixture is likely to occur during normal operation (Similar to Division 1)
Zone 2	An area in which an explosive/air mixture is not likely to occur but if so, only for short periods of time (Similar to Division 2)



Winters Approvals / Certifying Agencies

NEMA

Certain Winters' products (i.e. pressure transmitters and pressure switches) can be classified per the National Electrical Manufacturer's Association Enclosure (NEMA) classifications. NEMA is a non-profit trade organization composed of manufacturers of electrical power apparatus. NEMA created voluntary standards for electrical enclosures. These classifications describe the environment in which the product can be used due to the protection the enclosure provides. ("Enclosure" includes electrical and mechanical connections and external adjustments.) Among others, NEMA classifies enclosures based on the effects of external icing, corrosion and rusting, or contamination from oil and coolants.

Pressure switches, transmitter and other electronic products may also be classified according to the voluntary standards set by NEMA for electrical enclosures;

Type	Seal	Indoor/Outdoor	Description
Type 1	General Purpose	Indoor	Accidental contact will not rust
Type 2	Drip-proof	Indoor	Limited amounts of falling water and dirt will not rust
Type 3	Dust-tight, rain-tight	Outdoor	Windblown dust, rain, sleet, and undamaged by external ice formation
Type 3R	Dust-tight, rain-tight	Outdoor	Same as type 3 above, plus diverts water from live parts, provision for drainage, will not rust
Type 3S	Dust-tight, rain-tight	Outdoor	Same as type 3 above, operation of external mechanism when ice laden, will not rust
Type 4	Water-tight, dust-tight	Indoor/Outdoor	Windblown dust and rain, splashing water, and hose directed water, undamaged by ice formation, will not rust
Type 4X	Water-tight, dust-tight	Indoor/Outdoor	Same as type 4 above, plus corrosion resistant, will not rust
Type 5	Dust-tight	Indoor	Dust and falling dirt, will not rust
Type 6	Water-tight/dust-tight	Indoor/Outdoor	Temporary entry of water during limited submersion (6ft for 30 Min), undamaged by formation of ice, will not rust
Type 6P	Water-tight/dust-tight	Indoor/Outdoor	Same as type 6 above plus prolonged submersion at 6 psi, will not rust
Type 7	Explosion proof/Class I Groups A, B, C, D	Indoor Hazardous	Locations: Protection against corrosive effects of liquids and gases
Type 8	Explosion proof/Class I	Indoor/Outdoor	Hazardous Locations: protection against corrosive effects of liquids and gases; contacts or connections immersed in oil
Type 9	Explosion Proof/Class II Groups E or G	Indoor Hazardous	Locations: dust-tight, hazardous dust
Type 10	Hazardous Locations	Indoor	MSHA Mine Safety and Health Adm. per 30 C.F.R., Part 18
Type 11	Oil-tight/Corrosion	Indoor	Protection from corrosive effects of gases and liquid dripping, seepage and external condensation or corrosive, oil immersion
Type 12	Oil-tight/Dust-tight	Indoor	Fibers, lint, dust and light splashing, seepage and dripping condensation or non-corrosive liquids
Type 12K	Oil-tight/Dust-tight	Indoor	Same as type 12 above, enclosure has knockouts
Type 13	Oil-tight/Dust-tight	Indoor	Dust, spraying of water, oil and corrosive coolant, oil resistant gaskets



REPAIRS

Features:

- Full repair service for pressure and temperature instruments. Non-Winters products can also be repaired.

Applications:

- Where cost savings justify repairing rather than replacing.

How to order: Send in your product (freight prepaid) to your nearest Winters location. A written estimate will be faxed or e-mailed to you before any work proceeds.



Diaphragm Seal repair and assembly are also available at Winters Instruments. Please contact our customer service department for your return/repair authorization tag number.

TEST CERTIFICATES

Features:

- Winters will certify the accuracy of a gauge or pressure switch with a National Standards Council test certificate.
- Certificates are traceable to the National Institute of Standards and Technology (NIST)

Applications:

- Where a formal test certificate is required.
- For certification with the ISO 9000 process.

How to order: Specify product code

PRODUCT CODES	
TC	Gauge Test Certificate Thermometer Test Certificate
HPTC	High Pressure Test Certificate
COC	Certificate of Conformance



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