Model 212FT/C212FT

Ultra High Purity True Flow-Through Pressure Transducers

Gauge, Compound and Absolute PSI and Bar Ranges

Setra's Model 212FT transducer design is ideal for applications that require in-line monitoring of vacuum to high pressure measurement of ultra high purity gases or liquids. The key element of Setra's "Flow- Through" pressure transducer is a 1/4" diameter tube made of VAR316L stainless steel, passivated to 5 Ra (7 Ra. max.) finish. The center portion of the pressure sensing tube is slightly oval-shaped, and the outer tube ends are circular. The transition from circular to oval is smooth and gradual, thereby eliminating any obstruction to flow. This zero dead volume reduces purge time/cycles and eliminates potential particle and moisture entrapment.

A pair of insulated electrodes are attached to the oval shaped portion of the tube to sense the minute deflection caused by pressure. The pressure induced capacitance change between the electrodes is measured with a custom integrated circuit to produce a highly accurate DC signal proportional to the applied pressure. All transducers are helium leak tested to 1 x 10^{-9} ATM.CC/sec.

The Model 212FT is available with standard 1/4" inch electropolished tubing or rotatable face seal fittings.

The entire Ultra-High Purity series is based on Setra's proven capacitive sensing technology, with highly accurate and stable voltage or current output signals that are virtually EMI/RFI immune.

Pressure Ranges

0 psig, 0 psia or -14.7 psig to:	Bar Ranges -1 or 0 to:	Proof Pressure (psig)	Burst Pressure (psig)
30*	2*	60	3000
100	7	150	3000
250	17	375	5000
500	35	750	7500
1000	70	1250	7500
3000	200	3400	10,000

*30 PSI and 2 Bar are only available in the absolute version.

NOTE: Setra adheres to strict quality standards including ISO 9001 and ANSI-Z540-1. The calibration of this product is NIST traceable.

U.S. Patent nos. 5024099

Applications

- High Purity Gas Delivery Systems
- Semiconductor Process Tools
- Pharmaceutical & Biotech process
- Gas Cabinets

Benefits

- True Flow-Through Design
- Superior Stability
- EMI/RFI Immunity
- High Burst Pressure
- Bakeable to 125°C
- 7Ra (10 Ra Max.) Electropolished Surface Finish
- Meets CE Conformance Standards

TEESING

When it comes to a product to rely on - choose the Model 212FT. When it comes to a company to trust - choose Setra.

ISO 9001 Certified

setra

Model 212FT/C212FT Specifications

Performance Data

Accuracy RSS* (at constant temp)	±0.20% FS
Non-Linearity, (BFSL)	±0.15% FS
Hysteresis	0.10% FS
Non-Repeatability	0.02% FS
Thermal Effect**	
Compensated Range °F(°C)	+15 to +150 (-9 to +65)
Zero shift %FS/100°F(%FS/50°C)	±2.0 (1.8)
Span Shift %FS/100°F(%FS/50°C)	±2.0 (1.8)

* RSS of Non-Linearity, Non-Repeatability and Hysteresis.
**Units calibrated at nominal 70° F. Maximum thermal error computed from this datum.

Electrical Data

Model 212FT (Voltage)

Circuit	3-Wire (Exc, Out, Com)
Excitation	12 VDC Regulated ±10%
Output*	0.2 VDC to 5.2 VDC**
Power Consumption	<0.08 Watts
Output Impedance	<100 Ohms
Warm-up Shift	<±0.1% FS Total

*Calibrated into a 50K ohm load, operable into a 5000 ohm load or greater.
**Zero ouput factory set to within ±25 mV.
**Span (Full Scale) output factory set to within ±25 mV.

Environmental Data

Temperature	
Operating* °F (°C)	-40 to +185 (-40 to +85)
Storage °F (°C)	-40 to +185 (-40 to +85)

*Operating temperature limits of the electronics only. Pressure media temperatures may be considerably higher or lower.

Physical Description

Case	Stainless Steel
Electrical Connection	6ft. Multiconductor Cable or Bayonet Connector (Option 655)
Pressure Fittings*	1/4" Tube Stubs
Weight	7 ounces (199 grams)

*See Pressure Fitting Options for other fittings.

Electrical Data

Model C212FT (Current)

Circuit	2-Wire
Output*	4 to 20 mA**
External Load	0 to 800 Ohms

Minimum supply voltage (VDC) = 16 + 0.02 x (Resistance of receiver plus line).
Maximum supply voltage (VDC) = 30 + 0.004 x (Resistance of receiver plus line).
*Calibrated at factory with a 24 VDC loop supply voltage and a 250 ohm load.
**Zero output factory set to within ±0.08 mA.
**Span (Full Scale) output factory set to within ±0.08 mA.

Pressure Media

Liquids or gases compatible with 316L Stainless Steel.

Available Options

Electrical Options

655	4-Pin Bayonet Connector

Mechanical Options

840	#4 M/M Swivel Face Seals (4.9" end to end)
841	#4 M/F Swivel Face Seals (4.3" end to end)
842	#4 F/F Swivel Face Seals (3.7" end to end)
843	#4 F/M Swivel Face Seals (4.3" end to end)
849	3/4" Tri-Clover Sanitary Fitting (2.6" end to end)
807-825	Up to 25 ft. of cable can be supplied on your order; please specify cable length when ordering (eg. 807 for 7 ft. cable). Consult factory for cables longer than 10 ft.

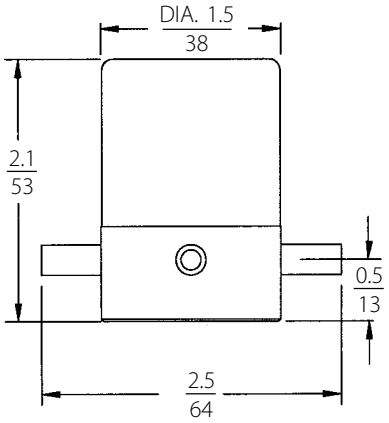
Ordering Information

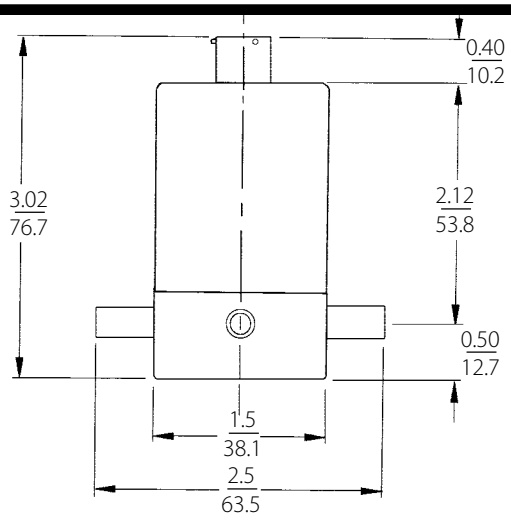
Order Model 212FT for a 0.2 to 5.2 VDC output. Order Model C212FT for a 4 to 20 mA output. Specify pressure range, fittings and electrical connector. Consult factory for ranges, connectors, and output signals not listed.

Specifications subject to change without notice.

Outline Drawings

IN
MM





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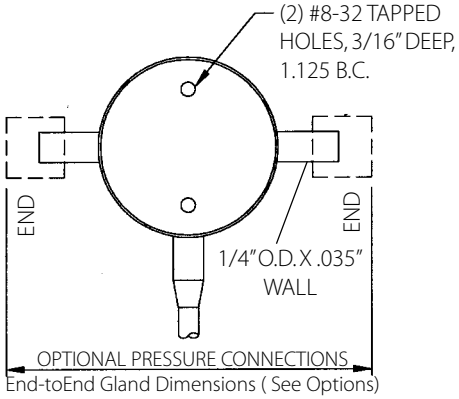

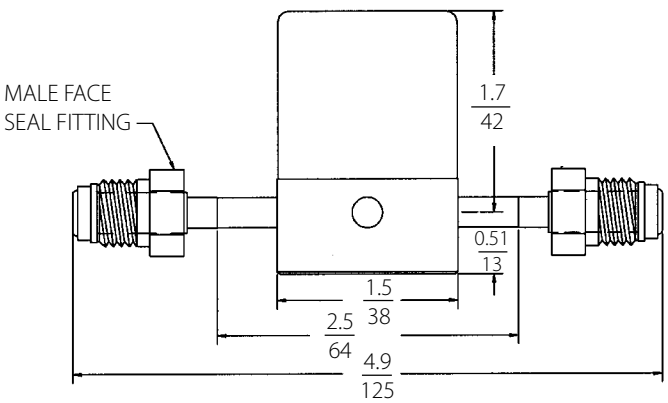

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