

# Vertex™

MERCURY FREE SENSORS

## MELT PRESSURE SENSOR SERIES

A new standard in Durability,  
Environmental Safety, and  
Reliability



### Features

- No fill material or moving internal parts
- RoHS compliant for sustainability programs
- Robust, thicker Inconel diaphragm is coated with DyMax®
- Available with Type-J or K thermocouple temperature output
- 0-1,500 to 0-10,000 psi pressure range capability
- 4 year warranty for proven lower cost of ownership

### Description

Vertex™ is a Dynisco melt pressure sensor innovation that matches or exceeds the performance of the traditional sensor. The big differences are that Vertex is more robust, much faster, and significantly friendlier to the environment.

The direct measurement tip is a simpler, more elegant design, with a more robust diaphragm. Direct measurement of the process reduces errors that are transferred by complicated internal support structures, transmission fill materials, or moving push rods. At 0.025", the diaphragm is approximately six times thicker than traditional sensors and the sidewall structure is fortified to handle side stresses. Add to these features, a diaphragm composition of Inconel 718 coated with the abrasion resistant properties of DyMax® and experience the true definition of a robust sensor that has proven to increase the life of the sensor and significantly lowers the cost of ownership.

Vertex design innovation also extends to the speed of response of the sensor. Faster processes and controls demand faster sensing measurements. Vertex response time is approximately 4ms, many times faster than traditional sensors, improving real time production.

Environmental regulations and community conscientiousness are driving sustainability policies and programs in large and small companies. Waste stream reduction and longer life cycles are good for the environment and the budget. Dynisco can assist because Vertex is green, very green. There is no mercury, no NaK, no oil, no Gallium, no fill material what-so-ever. Vertex is also RoHS compliant.

Vertex sensors are designed to work with universal pressure indicators. An optional Type-J or K thermocouple is available to provide a melt temperature signal. Vertex is also equipped with a 1/2-20 UNF for installation in standard transducer mounting holes. An adaptor is also available to install Vertex button seal style process mounting port. A hermetically sealed welded shell and electrical connection are available if washdown capability is needed for food or medical applications.



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## Specifications

### PERFORMANCE CHARACTERISTICS

<b>Input, Excitation:</b>	mV/V: 10-12VDC; mA: 16-36VDC
<b>Output, Analog:</b>	3.33mV/V, 4-20mA
<b>Accuracy*:</b>	±0.15% (mA only) or ±0.25% FS
<b>Electronics Operating Temp. (Max):</b>	185°F (85°C)
<b>Zero Shift (Electronics Temp.):</b>	0.012%/°F (0.022%/°C)
<b>Span Shift (Electronics Temp.):</b>	0.012%/°F (0.022%/°C)
<b>Hex/Transition Temp. (Max):</b>	300°F (150°C)
<b>Zero Shift (Hex Temp.):</b>	0.020%/°F (0.039%/°C)
<b>Overload Pressure Rating:</b>	1.5x FS
<b>Pressure Ranges (psi):</b>	1.5M, 3M, 5M, 7.5M or 10M
<b>Pressure Units:</b>	PSI, Bar, Kg/cm <sup>2</sup> , MPa, KPa
<b>Zero Balance Adjustment (±% FS):</b>	mV/V: na; mA: ±10%
<b>Zero Balance Setting (±% FS):</b>	mV/V: 10%; mA: ±3%
<b>Insulation Resistance:</b>	mV/V: 100 MΩ @50VDC;
<b>Internal Shunt Calibration (R-Cal):</b>	80% FSO ±1% FS

\* **Accuracy** is defined as the combined error expressed as a percentage of full scale output. Combined error includes linearity (BFSL), hysteresis, and repeatability at ambient temperature, as defined in ISA-S37.1

^ **Operating Temp. Range, Diaphragm** refers to the functional limits of the snout tip. Refer to the manual for greater detail on the operating and compensated temperature ranges of the diaphragm tip, flex and electronics.

### MECHANICAL & PACKAGING

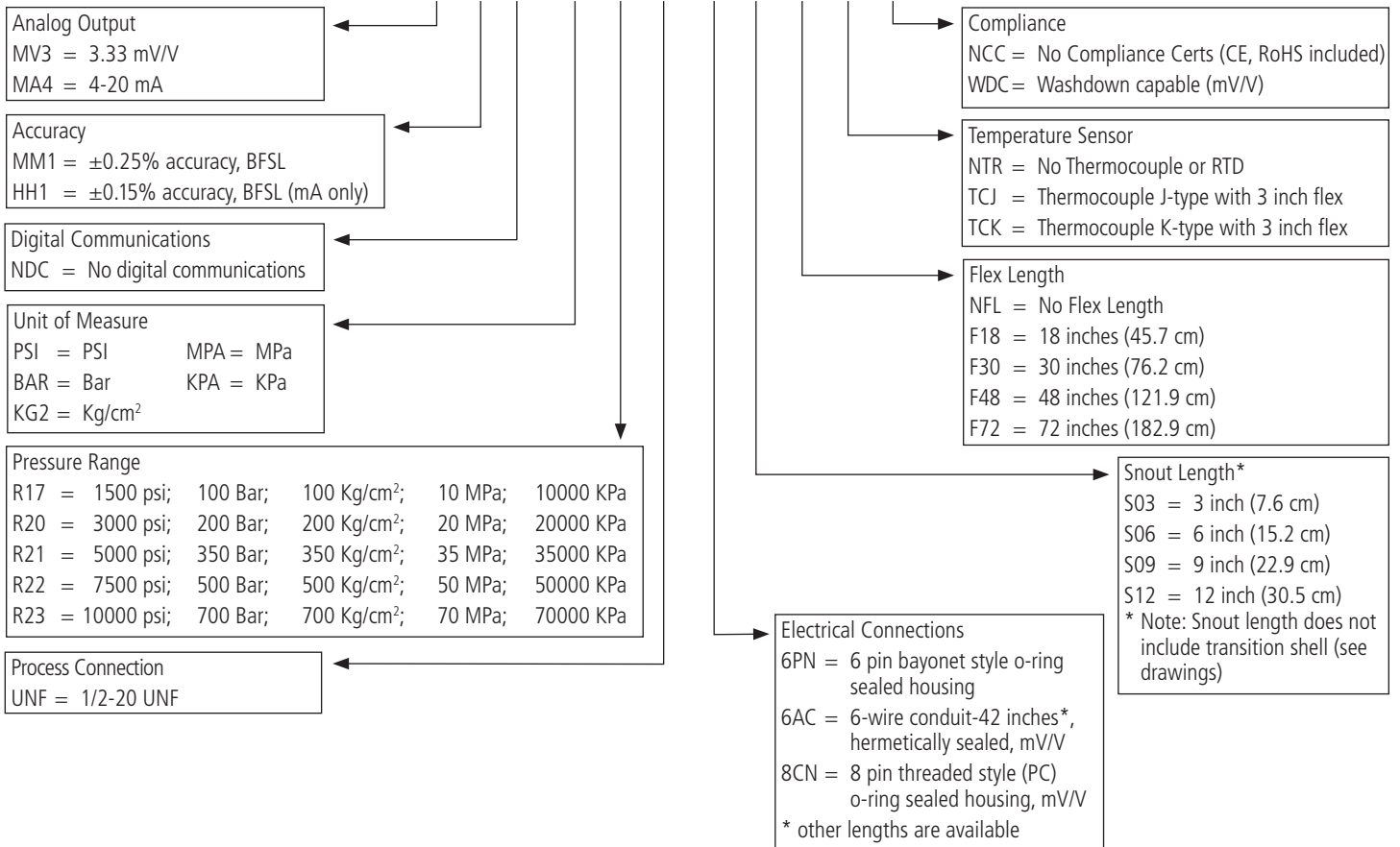
<b>Operating Temp. Range<sup>^</sup>, Diaphragm:</b>	-40°F to +752°F (-40°C to +400°C)
<b>Diaphragm Wetted Parts:</b>	Inconel 718, DyMax® coated
<b>Washdown Capable:</b>	Welded shell and connection (mV/V)
<b>Zero Shift (Process Temp. Change):</b>	1.0%/100°F (2.0%/100°C)
<b>Process Connection:</b>	1/2-20 UNF (with 45° conical seat)
<b>Process Adaptor Accessory:</b>	Button Seal Process Adapter
<b>Mounting Torque:</b>	250 in-lbs recommended, 500 in-lbs max
<b>Temp. Sensor:</b>	Type-J or K thermocouple (available on flex units only)

### APPROVALS & CERTIFICATIONS

<b>CE:</b>	Directive 2004/108/EC
<b>ISO:</b>	ISO9001:2008 production environment
<b>RoHS 1:</b>	Directive 2002/95/EC
<b>RoHS 2:</b>	Directive 2011/65/EU

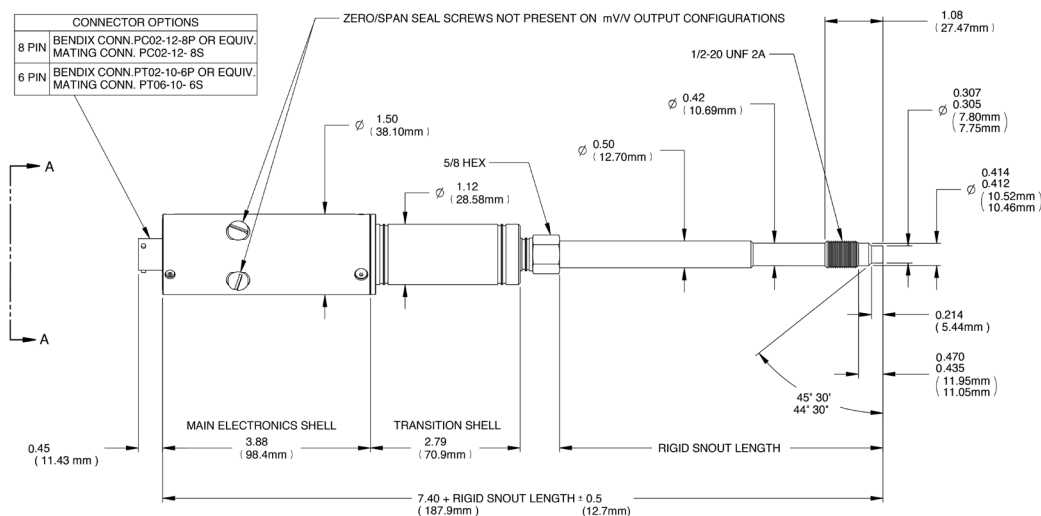
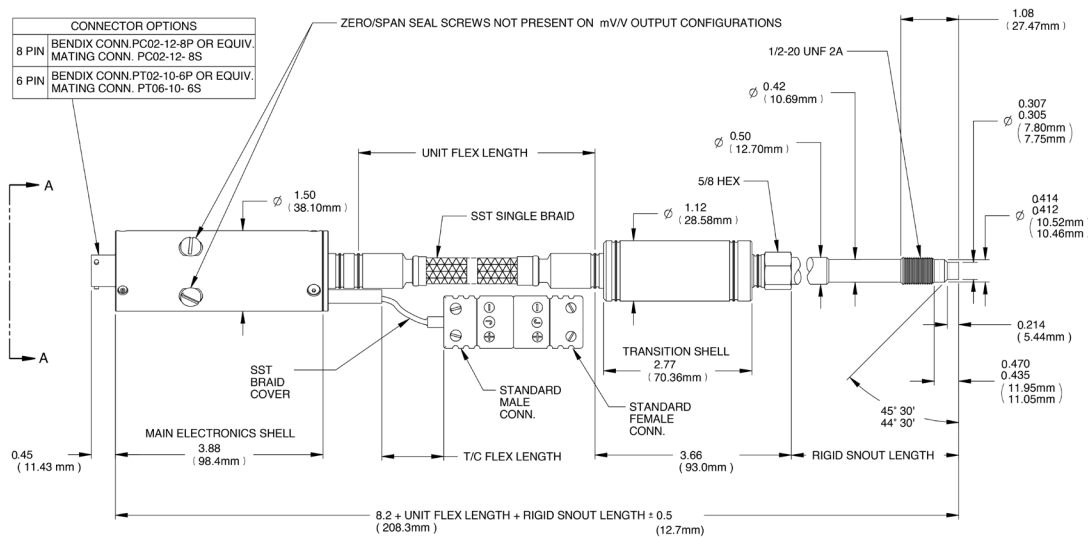
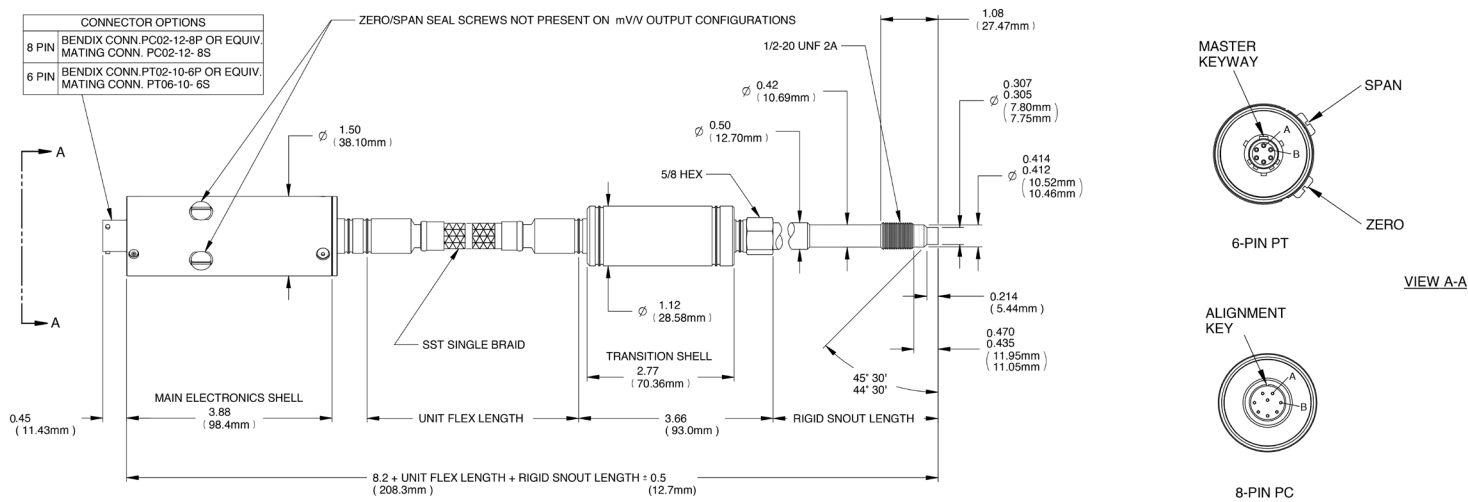
## Ordering Guide

VERT-XXX-XXX-XXX-XXX-XXX-XXX-XXX-XXX-XXX-XXX



### Accessories and other Options

Many value-added accessories and non-standard features are available for this product. Accessories such as cables, connectors, cleaning kits, gaskets, and tools can be found in the product manual at [www.Dynisco.com](http://www.Dynisco.com) or contact the factory for more detail, pricing, or delivery.



All dimensions are inches (mm) unless otherwise specified.  
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