PendoTECH® Single Use Pressure Sensors™ for Use in Flexible BioProcess Containers

- Easily installs onto a flexible bioprocess container
- Measures pressure in the container
- Accurate performance in either liquid or gas applications
- No calibration required
- Low cost for single use applications
- Qualified for use up to 20 psi (1.38 bar)
- Accuracy better than +/- 0.003 psi with PressureMAT® High Resolution Monitor

Applications Include:
- Safety: Preventing disposable bioreactor and storage bag over-pressurization
- Performance: Disposable bioreactor monitoring
- Leak Testing: For disposable bag pre-use integrity testing
- Volume Measurement: Measuring liquid level by hydrostatic pressure (Pascal’s Principle)

Port Plate Details:
- Port plate with sensor receptacle seals to the film during the manufacturing process of the container
- Made of polyethylene specifically for port plate use
- Features locking anti-rotation tab to hold locking collar in place
- Compatible with gamma irradiation
- NaOH resistant
- Meets USP Class VI

Product Details:
- After manufacture of the container, the sensor is inserted into the port plate receptacle.
- Locking collar holds sensor securely in place
- Features a double o-ring seal & a stop to ensure the sensor is fully inserted

Sensor Details:
- 100% tested for accuracy and leaks during manufacturing
- Available in polycarbonate or caustic resistant polysulfone material of construction
- All materials meet USP Class VI requirements
- Certificate of quality included with lot certification; individual NIST Calibration Certificates are optional
- Manufactured in a FDA Registered, ISO 13485 certified facility; ISO Class 7 clean room
- Compatible with gamma irradiation
- May be non-invasively tested in-place via test port

Two o-rings to create seal within the receptacle

Stop to indicate sensor is fully inserted

Final Assembly of Sensor and Port Plate

Sensor Test Port

PressureMAT Cable

Test Port on Sensor Cable

^ Link to article: PendoTECH Single Use Pressure Sensors: Calibration, Accuracy, and Implementation
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### Specifications

#### Selection of Monitors to Read Sensors

- **PressureMAT® Monitor, Alarm & Transmitter**
- **PendoTECH Pressure Checker Non-invasive Sensor Verification Tool**

#### Installation Example

- **Zoom view of sensor affixed to port plate at bottom of container**
- **Tote with container installed with sensor cable lead exiting through hole in bottom of tote**

#### Sensor Specifications:

<table>
<thead>
<tr>
<th>Detail</th>
<th>Specifications</th>
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<tbody>
<tr>
<td><strong>Accuracy</strong></td>
<td>Better than +/- 2% of reading in the range of 0 to 6 psi (0 to 0.41 bar);</td>
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<td></td>
<td>Better than +/- 3% of reading in the range of 6 to 30 psi (0.41 to 2.07 bar);</td>
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<td></td>
<td>In range of 30 to 60 psi (2.07 to 4.14 bar) typically better than +/- 5% of reading</td>
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<tr>
<td><strong>Pressure range</strong></td>
<td>-7 to 75 psi (-0.48 to 5.2 bar) [when inserted into port plate, combined limit is 20 psi (1.38 bar)]</td>
</tr>
<tr>
<td><strong>Biocompatibility</strong></td>
<td>All materials in contact with product fluid path meet USP Class VI requirements, both pre and post gamma exposure</td>
</tr>
<tr>
<td><strong>Manufacturing Environment</strong></td>
<td>FDA Registered, ISO 13485 certified facility; ISO Class 7 clean room</td>
</tr>
<tr>
<td><strong>Gamma Irradiation</strong></td>
<td>Up to 50 kiloGrays</td>
</tr>
<tr>
<td><strong>Operating temperature</strong></td>
<td>2° C to 50° C (other ranges with process qualification)</td>
</tr>
<tr>
<td><strong>Storage temperature</strong></td>
<td>-25° C to 65° C</td>
</tr>
<tr>
<td><strong>Input/Output impedance</strong></td>
<td>270 Ohms to 400 Ohms</td>
</tr>
<tr>
<td><strong>Excitation voltage</strong></td>
<td>2.5 to 10 volts DC (for best performance, use lowest as possible)</td>
</tr>
<tr>
<td><strong>Sensor Output</strong></td>
<td>0.2584 mV/psi/Volt</td>
</tr>
<tr>
<td><strong>Connector</strong></td>
<td>Custom molded 4 pin connector; signal +/- and excitation +/-</td>
</tr>
<tr>
<td><strong>Packaging</strong></td>
<td>White Tyvek® and clear pouch with easy-open chevron seal; box of 25 sensors in polyethylene bags</td>
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#### Ordering Information

- **PTPL-PRESS** Single Use Pressure Sensor Insert for Port Plate, Polycarbonate
- **PTPL-PREPS** Single Use Pressure Sensor Insert for Port Plate, Polysulfone
- **PORT-PRES-R** Port plate for pressure sensor, Material: Renolit Solmed Granuflex 4301 (PE)
- **PORT-PRES-T** Port plate for pressure sensor, Material: Trilliant HC5420-0002 LL Natural (PE)
- **PORT-RING** Pack of 100 locking rings
- **PDKT-650-950** Pressure Checker pressure sensor and monitor verification tool, psi

Covered by Pat. 10,215,598; Pat. 10,041,896; Pat. EP 14867894.9; and Pat. Pending
For warranty information see our website at http://www.pendotech.com/warranty

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