

# Ultra-Clean **Low Flow Obstruction** Sanitary Temperature Sensor

*In-Line Continuous Flow Process Temperature Measurement*



- **Food, Beverage & BioPharma**
- **Minimal product flow obstruction**
- **No process "Dead Legs" or pockets**
- **Ideal for High Viscosity and Particulate products**
- **Operates up to 750psig & 450°F**
- **CIP/SIP compatible**



US Patent: 7607364

The Low Profile Sanitary Sensor from Windridge Sensors provides accurate in-line temperature measurement with minimal obstruction of the product flow.

This allows the user to verify correct processing temperatures are being reached without impacting flow rates or patterns.

Unlike conventional "flush mount" process sensors, the

Keyhole hygienic sealing technology isolates the sensor from the process equipment, providing a true measurement of the product flow, and not of the surrounding pipework temperature.

This isolation also provides

superior sensitivity and speed of measurement.

The Keyhole technology possesses a pressure compensating capability that allows it to operate leak-free up to 750psig (50 bar).

Because the probe is inserted into the process flow without introducing any process voids or pockets, it creates an ultra-clean environment for CIP/SIP procedures.



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## KEY FEATURES

**Low Flow Obstruction Measurement:** The void-free Keyhole hygienic sealing technology and low profile of the probe tip create minimal disturbance to the product flow.

**Edge-of-Flow Measurement:** Many modern processing technologies can produce uneven temperature distribution across the process flow. The thermal isolation between the sensor and the pipe wall allows it to be positioned within 0.150" (3.5mm) of the wall, allowing measurements at the edge of the flow rather than just at the center.

**Leak-Free Operation:** The Keyhole seal is designed to tighten as the process pressure increases, creating a leak-free seal up to 750psig (50 bar).

**Sensitivity:** The thermal isolation and low mass of the sensing probe provide superior response times and accuracy.

**Cleanability:** The Keyhole hygienic sealing technology allows probes to be inserted without creating pockets, crevices or process "dead legs" that trap product during processing.

**Durability:** Only FDA and 3-A approved materials are used.

## SPECIFICATIONS

<b>Sensor Types:</b>	Class A or 1/3Class B PT100 RTD Type-T Thermocouple ( <i>others available upon request</i> ) Dual sensor installations available on request
<b>RTD Connection Type:</b>	3-wire or 4-wire
<b>Uncalibrated Accuracy:</b>	$\pm(0.4 + 0.2\%)$ °C
<b>Response Time:</b>	63% in <30s
<b>Process Limits:</b>	-50°C to 250°C 0 to 3,000 PSIG
<b>Probe Tip Height:</b>	0.16" / 4mm $\pm$ 0.02"/0.5mm
<b>Probe Tip Diameter:</b>	0.32" / 8mm
<b>Installed Clearance:</b>	5.25" (135mm)
<b>Material:</b>	316L SS wetted Surfaces & 3-A/FDA approved Silicone (VMQ) seal
<b>Surface Finish:</b>	$R_a$ max = 32 $\mu$ m on all SS wetted surfaces ( <i>electropolishing available on request</i> )

*For more information on this and other sensors, visit us at*  
**[www.WindridgeSensors.com](http://www.WindridgeSensors.com)**  
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Pub/1210