

## AM1730 Secondary Reference PRT

### HIGHLIGHTS

- ✓ Affordable reference probe
- ✓ Accuracy  $\pm 0.015$  °C at 0.01 °C
- ✓ Temperature range: -200 °C to 420 °C
- ✓ Customized dimensions available



### OVERVIEW

AM1730 series Secondary Reference PRT provides our customers an affordable reference probe for precision temperature measurement and calibration in labs and fields. The PRT features accuracy of  $\pm 0.015$ °C, short term stability of  $\pm 0.007$ °C. Two different lengths of PRTs are available at 9-inch and 12-inch.

To reach the best performance in stability and repeatability, the sensing element is specially designed to protect the platinum sensing wire from contamination at high temperature. A unique support structure and filling material provide the best balance among the hysteresis effect, mechanical shock and thermal shock performance. This high performance probe meets ITS-90 criteria of reference thermometer fully.

### FEATURES

- Temperature range: -200 °C to 420 °C
- Accuracy:  $\pm 0.015$  °C
- Long term drift:  $\pm 0.01$  °C
- Short term stability: 0.007 °C
- Durable and shock resistance
- Temperature Coefficient 0.003925
- $W(Ga) \geq 1.11807$
- Inconel™ sheath
- Customized dimensions available

## AM1730 Secondary Reference PRT

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### SPECIFICATIONS

<b>Temperature Range</b>	1730-12: -200°C to 420°C 1730-9: -60°C to 300°C
<b>Resistance at 0 °C</b>	Nominal 100 Ω
<b>Temperature Coefficient</b>	0.003925 Ω/ Ω/°C
<b>Accuracy</b>	±0.025°C at -196 °C ±0.015°C at 0.01 °C ±0.035°C at 420 °C
<b>Drift</b>	±0.01°C at 0 °C after 100 hours at 420 °C
<b>Short Term Stability</b>	±0.007°C
<b>Thermal Shock</b>	±0.005°C after 10 times thermal cycles from minimum to maximum temperatures
<b>Hysteresis</b>	≤0.005°C
<b>Self-heating</b>	50 mW/°C
<b>Response Time</b>	9 seconds for 63% response to step change in water moving at 3 feet per second
<b>Measurement Current</b>	0.5 mA or 1 mA
<b>Sensor Length</b>	32 mm
<b>Sensor Location</b>	5 mm from tip
<b>Insulation Resistance</b>	>1000 MΩ at room temperature
<b>Sheath Material</b>	Inconel™
<b>Dimension</b>	1730-12: 0.25 inch X 12 inch (6.35 mm X 305 mm) 1730-9: 0.187 inch X 9 inch (4.75 mm X 229 mm)
<b>External Leads</b>	Teflon™-insulated copper wire, 4 leads, 2.5 meters
<b>Handle Dimension</b>	1730-12: 15mm (OD) x 65mm (L) 1730-9: 10mm (OD) X 50 mm (L)
<b>Handle Temperature Range*</b>	-50°C to 180°C
<b>Calibration Options</b>	1730-12-T, PRT with NIST traceable calibration and data 1730-9-T, PRT with NIST traceable calibration and data NVLAP - Accredited Calibrations available per request

\*Handle temperature outside this range will cause damage to the probe.

### OPTIONAL ACCESSORIES

Model	Description
9001	Wooden Carrying Case