

### 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 and 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  $0.003925 \Omega / \Omega / ^\circ\text{C}$
- $W(\text{Ga}) \geq 1.11807$
- Inconel™ sheath
- Customized dimensions available

## SPECIFICATIONS

Temperature Range	1730-12: -200 °C to 420 °C 1730-9: -60 °C to 300 °C
Resistance at 0 °C	Nominal 100 Ω
Temperature Coefficient	0.003925 Ω/ Ω/°C
Accuracy	±0.025 °C at -196 °C ±0.015 °C at 0.01 °C ±0.035 °C at 420 °C
Drift	±0.01 °C at TPW after 100 hours at 420 °C
Short Term Stability	±0.007 °C
Thermal Shock	±0.005 °C after 10 times thermal cycles from minimum to maximum temperatures
Hysteresis	≤0.005 °C
Self-heating	50 mW/°C
Response Time	9 seconds for 63% response to step change in water moving at 3 feet per second
Measurement Current	0.5 mA or 1 mA
Sensor Length	32 mm
Sensor Location	5 mm from tip
Insulation Resistance	>1000 MΩ at room temperature
Sheath Material	Inconel™
Dimension	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)
External Leads	Teflon™ – insulated copper wire, 4 leads, 2.5 meters
Handle Dimension	1730-12: 15 mm (OD) x 65 mm (L) 1730-9: 10 mm (OD) X 50 mm (L)
Handle Temperature Range*	-50 °C to 180 °C
Optional Calibration	NIST traceable calibration and data available per request: 1730-12: Ordering # 5014 1730-9: Ordering # 5015

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

## OPTIONAL ACCESSORIES

Model	Description
9001	Wooden Carrying Case