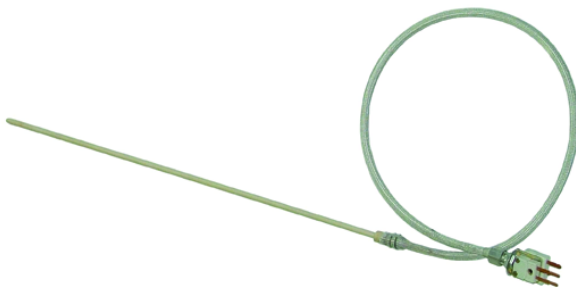


Iridium Rhodium Ultra-High Temperature Probes

Vulcan Electric's Iridium Rhodium Ultra-High Temperature Probes measure temperature up to of 2100°C with very high accuracy and repeatability. The Iridium Rhodium (IrRh) thermocouple construction is excellent for controlling high temperatures in the manufacture of semiconductor, LED and advanced materials. Many manufacturing processes utilize infrared thermometers for temperature measurement and control at ultra-high temperature such as 1,700~2,100°C. Infrared thermometers measure temperatures using electromagnetic radiation as a non-contact method. Vulcan's IrRh thermocouple is in direct contact offering the highest accuracy and very quick response times. The Vulcan Iridium Rhodium thermocouples are cost effective and provide superior quality. The IrRh thermocouple consists of two wires. One is a positive wire of 40% IrRh (60% Iridium, 40% Rhodium), the other is a negative wire of pure Iridium. Also now available are Iridium protection tubes which are superior in heat resistivity and corrosion resistance. Utilizing an IrRh thermocouple with an Iridium protection tube provides superior performance stability and repeatability. We recommend operation of the thermocouple within a vacuum and inert atmosphere, however, it is also possible to use it under oxidizing atmospheres depending on the oxygen concentration, measuring temperature, parts of thermocouple composite material and furnace refractory material.



Typical Construction

- Iridium Thermocouple Wire 60% Ir/40% Rh vs 100% Ir
- .020" Diameter Thermocouple Wire (other sizes available)
- Iridium Rhodium Protection Tube
- U.S. and Metric Tube Sizes
- Fiberglass Leads with Over Braid Protection
- High Temperature Connection Plugs

Features

- High Temperature Construction
- Measurement in Oxidizing Temperatures to 2100°C
- Highest Melting Point Among PGMs (2443°C)
- High Thermal Conductivity Materials
- Exceptional Corrosion Resistance at Elevated Temperatures
- Oxidizes Gradually When Heated in Air

Benefits

- Excellent Alternative for Infrared Devices
- Suitable for Direct Surface Contact Measurements
- Alternative to Tungsten Rhenium Thermocouples
- Conventional Configurations with Various Mounting Options
- Provides Opportunity for Cost Savings and Recyclable Value
- Superior Performance and Stability

Application Examples

- LED Sapphire Ingot Furnaces
- Composite Materials Processing
- Crystal Growth Production
- Rocket Engine Test Cells
- Advance Ceramics Processes
- Research and Development

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