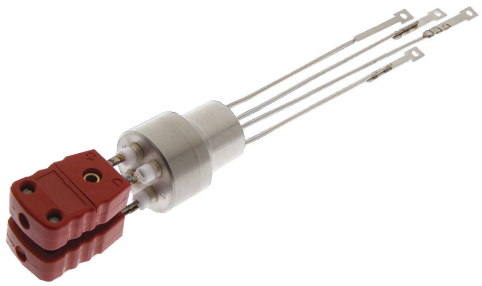
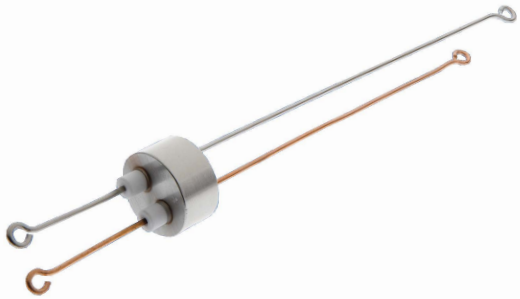
Thermocouple Vacuum Feedthroughs

The Vulcan Electric Ceramic to Metal Thermocouple Feedthroughs are manufactured with premium grade thermocouple alloys or compensating materials (depending on calibration type). The utilization of specific thermocouple alloys for the feedthrough construction ensures optimum accuracy without introducing measurement error due to incompatible feedthrough materials. The precise measurement of electromotive force (EMF) generated at the thermocouple sensing junction is transmitted through the entire length of interconnecting thermocouple grade alloys or compensating materials directly to the instrumentation. In addition to the matching alloy construction, each feedthrough is engineered and manufactured to ensure hermetic integrity and electrical isolation over an extensive range of operating conditions and temperatures including cryogenic temperatures. Exceptional performance and longevity is achieved by incorporating premium grade materials such as high purity and high strength insulation materials, conductor materials, contacts, and hardware metals.





Typical Construction
Base Metal Types J, K, T, E and C Compensating Alloys
Precious Metal Types R and S Compensating Alloys
Number of Thermocouple Pairs: 1, 2, 3, 5, or 10
Ceramic to Metal Construction
Miniature Size Compensating Connection Plugs
KF and ConFlat® Flanges, Pipe Threads, & Custom Options

Features
Premium Grade Thermocouple Alloys
Hermetic Feedthrough Construction
Temperature Range of -269° C to 450° C (-452° F to +840° F)
Internal Pressures from 1x10-10 Torr up to 3500 psig
High Purity and High Strength Insulating Materials
Numerous Combinations of Alloys, Pairs, Fittings, Connections

Benefits
Precise Measurement of EMF Transmitted to Instrumentation
Electrical Isolation Over an Extensive Range of Environments
Exceptional Performance and Longevity
Resistant to Vibration and Mechanical Shock Failure
Extensive Range of Operating Conditions Including Cryogenic
Operation in Ultra High Vacuum Environment

Application Examples
Vacuum Furnaces and Ovens
Semiconductor Processing Equipment
Lab and Analytical Procedures
Energy Research
Advanced Materials Processes
Power Generation Measurement and Control

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Vulcan