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.

**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

**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

**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

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

©2014 Vulcan Electric Company

Vulcan Electric Company
28 Endfield Street
Porter, ME 04068
(207) 625.3231
www.vulcanelectric.com