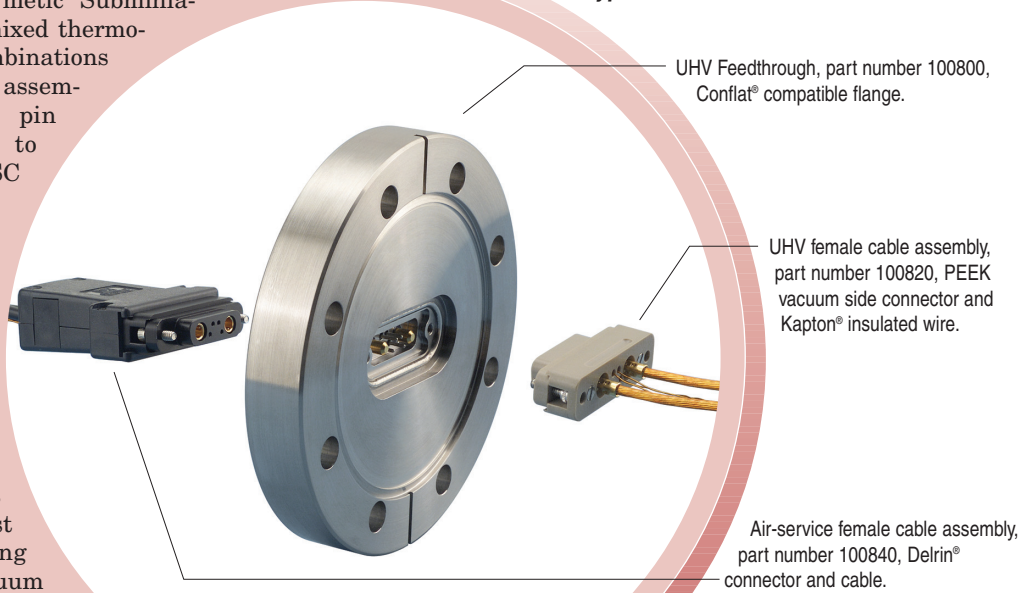


Thermocouple-Power hermetic Subminiature-D feedthroughs are mixed thermocouple-power contact combinations fitted on one feedthrough assembly constructed with pin arrangements designed to meet IEC 807-2 and DESC 85039 specifications.

Standard configurations include power pins, Chromel® / Alumel® Type-K thermocouple pin pairs and combinations in a single Subminiature-D shell. Straight through pins are hermetically sealed and electrically insulated in a stainless steel shell using the latest in glass-ceramic bonding technology. Ultrahigh vacuum cable assemblies with PEEK connectors and Kapton® insulated wires are available to meet the demands of UHV environments. Vacuum side cable assemblies, individual connectors and other accessories begin on page 24. Custom thermocouple-power assemblies are available on request, please contact the factory for more details.

Thermocouple feedthroughs do not measure temperature, but merely provide a conduit to bring the EMF signal generated at a thermocouple junction through a vacuum vessel wall to an external voltage measuring or temperature readout instrument. Type-K thermocouples with positive Chromel® wires and negative Alumel® wires are recommended for use in clean oxidizing atmospheres. The maximum operating temperature for these alloys is 1260°C for larger wire sizes. The useful temperature measuring range for a Type-K thermocouple is between -200°C to 1250°C.

### Typical Installation



Note: Connectors and cables are not included with feedthrough and must be purchased separately.

### Features

- Thermocouple-Power combination
- Type-K Chromel®/Alumel® pins
- Up to 4 TC-pairs and 5 power-leads
- High temperature rated to 250°C
- UHV compatible construction
- Conflat® compatible flange mounts
- ISO compatible flange mounts
- Kapton® insulated vacuum cables
- PEEK connector with locking screws
- Air side connectors available

### Specifications Notes

- Electrical ratings are maximum test values. Thermocouples are intended for instrumentation applications carrying low level signal voltages and currents.
  - PEEK is a polyetheretherketone thermoplastic.
  - Overall assembly ratings must be adjusted to that of the lowest rated component.
- All dimensions are in inches unless specified otherwise.

### Specifications

<b>Voltage<sup>1</sup></b>	
Thermocouple Pins	Millivolts
Power Pins	500VDC maximum
<b>Current</b>	
Thermocouple Pins	Milliamps
Power Pins	20A maximum at 20°C
<b>Material</b>	
Shell	SST
Thermocouple Pins	Chromel® and Alumel®
Power Pins	Ni-Fe alloy, Au-plt
Seal and Insulation	Glass-Ceramic

Connector, Air	Delrin®
Connector, Vacuum <sup>2</sup>	PEEK
<b>Vacuum Range</b>	
UHV, Ultrahigh vacuum	1x10 <sup>-10</sup> Torr
HV, High vacuum	1x10 <sup>-8</sup> Torr
<b>Temperature Range<sup>3</sup></b>	
Feedthrough	250°C
Flange, CF Style	450°C
Flange, ISO Style	150°C
Connector, Air	80°C
Connector, Vacuum	250°C
Thermal gradient	25°C / minute maximum