

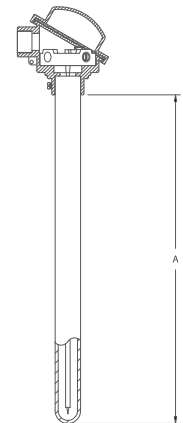
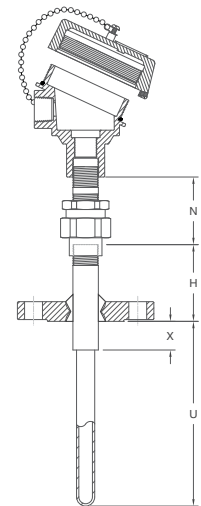
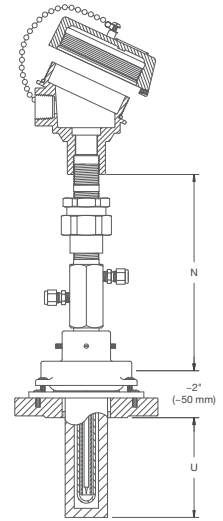
TC80 High Temperature Thermocouple Assembly



TC80 High Temperature Thermocouple Assembly

TC80 series thermocouple assemblies are designed for measuring extreme high temperatures. They are manufactured using high purity and high temperature ceramics as well as oxidation and corrosion resistant metals.

High purity and high temperature ceramics must be used when there is contact with noble metal thermocouple sensors (Types R, S, and B having platinum and platinum/rhodium elements). Oxidation and corrosion resistant metals can be used when there is contact with standard thermocouple sensors or as outer protection tubes. A wide variety of designs are available that include connection to process flanges, threaded fittings and direct mounting into a furnace refractory wall. These designs have options for air or inert gas purging, pressure seals, and rugged outer protection tubes.



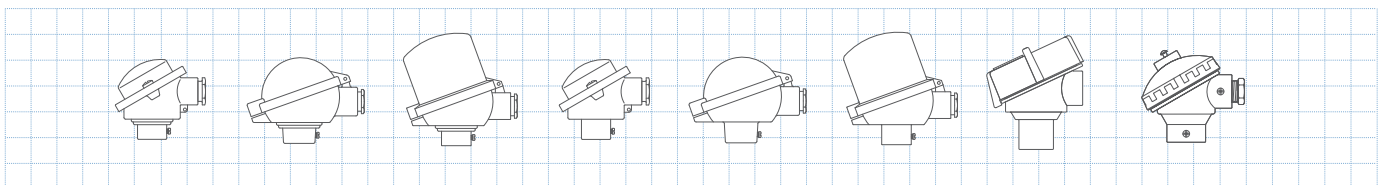
Applications:

TC80 series assemblies are suitable for measuring the radiant temperatures in most industrial and commercial high temperature applications including:

- Cement Plants
- Chemical and petrochemical industries
- Energy and power plant technology
- Furnaces, kilns, ovens and boilers
- Glass, porcelain and ceramics industries
- Incinerators
- Power and Utilities
- Reactors
- Semi-Conductor Industries
- Smelting Plants
- Sulphur Recovery Plants

Connection Heads

Imperial Grid 1" x 1"



AS

ASZ

ASZ-H

BS

BSZ

BSZ-H

1000F
1000S

KN4-A

Thermocouples

TC80 - High Temperature Thermocouple Assembly

Sensor Element:	<ul style="list-style-type: none"> ■ Type R (Pt-13%Rh/Pt), ■ Type S (Pt-10%Rh/Pt), ■ Type B (Pt/30%Rh-Pt/6%Rh), ■ Type K (NiCr-Ni), ■ Type J (Fe-CuNi), ■ Type E (NiCr-CuNi), ■ Type N (NiCrSi-NiSi)
Temperature range:	0 °C to +1700 °C (depending upon element and tube material)
Number of sensors:	<ul style="list-style-type: none"> ■ 2-wire single circuit ■ 4-wire dual circuit
Classification tolerance:	<ul style="list-style-type: none"> ■ Class 3, class 2 and class 1 per DIN EN 60584 ■ ISA standard and special to ANSI MC96.1-1982
Options:	<ul style="list-style-type: none"> ■ Lengths and diameters standard or customer specific ■ Transmitter mounted directly within connection head or on measuring insert DIN plate ■ Calibration - single point and multiple points ■ Material traceability of the thermocouple alloys and inner/outer tube material ■ Selectable accuracy tolerance ■ Exchangeable measuring insert ■ Special designs and materials ■ Thermocouple transmitter matching ■ Air or inert gas purge system / pressure test connection ■ Pressure seal ■ Protective outer tube ■ Flanged or threaded connections ■ Metal support sleeve ■ Various thermocouple wire sizes

Features:

- The assembly can be supplied with or without a transmitter. Transmitters convert the millivolt input from the thermocouple to a linear analogue or digital output (commonly 4-20 mA). This signal reduces potential inaccuracies in the circuit and negates the requirement for thermocouple extension wire.
- Thermocouple temperature ranges are dependent on element calibration and inner/outer tube material.
- A variety of neck extensions are possible providing a fixture from the enclosure (connection head) to the assembly.
- Manufactured from the finest high purity, high temperature ceramics and materials.
- Pure ceramic insulators and tubes are used in conjunction with noble metal thermocouples. These provide greater resistance against contamination and premature degradation.
- A purge assembly option is available to remove any contaminant gasses that may pass from the process to the inside of the assembly tubes.
- An optional pressure seal is available to prevent the potential migration of contaminant gasses from entering the electrical enclosure.
- A variety of process connections to suit the desired application.
- Secondary sealing can be included as an extra safeguard in the event of thermal or mechanical fatigue of the protective tube.
- The tubes available provide good thermal and mechanical shock resistance.
- A metal support tube can be attached over the ceramic tube when there is the possibility of any movement of the refractory lining. The length of the metal support tube should be comparable to the thickness of the refractory wall.
- A variety of wire sizes are available.

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