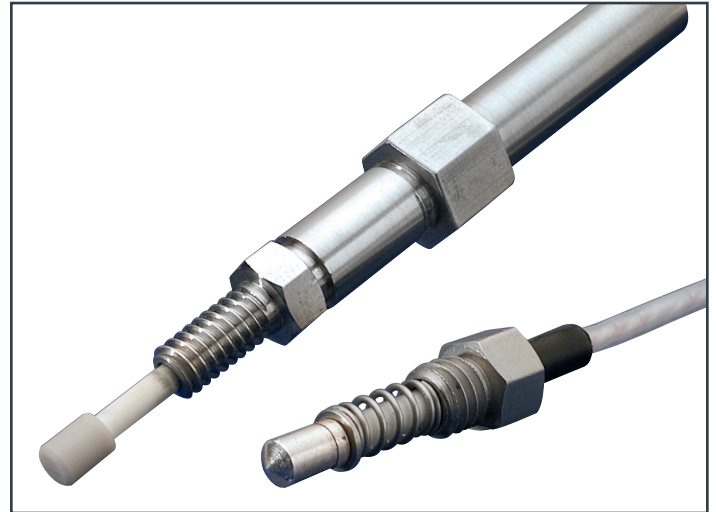


Radio Frequency Thermocouples

Accurate, Temperature Readings Through Radio or Conduction Environments

Watlow's TR thermocouple probe is designed for use in plasma generation applications to ensure accurate temperature readings through radio or conduction environments where traditional sensors are ineffective. Radio frequency energy can cause serious temperature measurement errors when exposed to these types of environments.

The TR probe is constructed using a unique combination of high performance materials. The sensor tip is made from high thermal conductivity materials to provide a quick response time. High dielectric insulation electrically insulates the sensor from capacitive coupling. Lead wires are twisted to improve common mode rejection and reduce induced EMI (electromagnetic interference).



Features and Benefits

3000VDC dielectric rating

- Allows thermocouple to be used in platens with dc bias

High thermal conductivity design

- Ensures accurate, repeatable measurements

High CMMR lead wire design

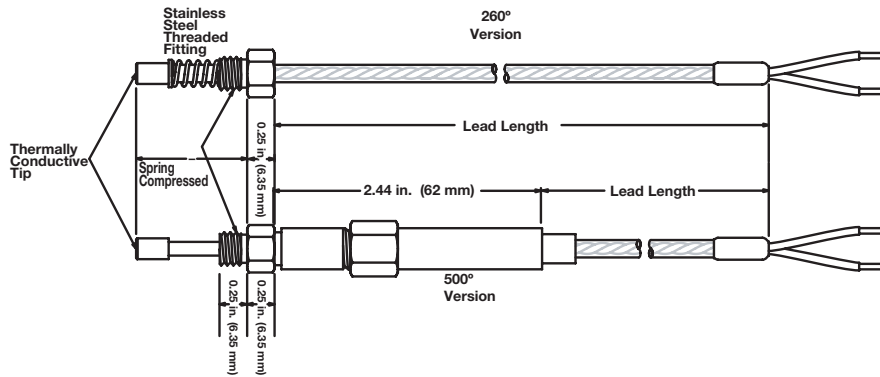
- Reduces induced error from EMI

Options

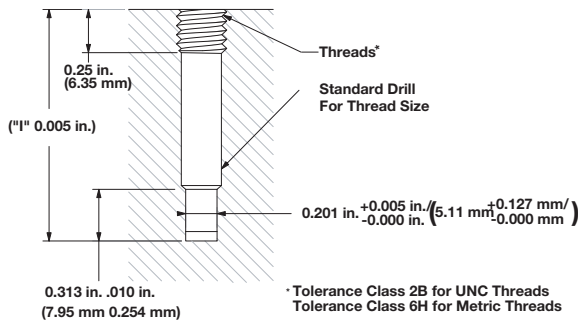
- Type K calibration
- 0.875 in. (22.23 mm) to 1.5 in. (38.1 mm) immersion depths
- $\frac{5}{16}$ - 18 or M8 threaded fitting
- 260 or 500°C rated constructions

Dimensional Drawings

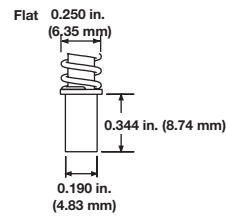
TR Thermocouple



Platen Modification Detail



Tip Shape



Ordering Information

Part Number

1 2	3	4	5 6	7	8	9	10 11	12
TR	Max. Temp	Tip Shape	Imm Depth "I"	Threaded Fitting Size	Junction Type	Calibration	Lead Length "L"	Lead Wire Term.

3	Maximum Temperature
C	260°C silver-plated copper tip
N	500°C aluminum nitride tip (AlN)

4	Tip Shape
F	Flat

5 6	Immersion Depth "I" (in.)
From tip to top of threads, spring compressed	
08	0.875
10	1.000
11	1.125
12	1.250
13	1.375
15	1.500

7	Threaded Fitting Size
5	$\frac{5}{16}$ -18 UNC-2A
8	M8 x 1.25-6g

8	Junction Type
U	Ungrounded single

9	Calibration
K	Special limits K ($\pm 1.1^\circ\text{C}$ or $\pm 0.4\%$)

10 11	Lead Length "L"
XX	12 to 48 in.

12	Lead Wire Terminations
From tip to top of threads, spring compressed	
A	Standard male plug
B	Standard female jack
C	Standard plug with mating connector
F	Miniature male plug
G	Miniature female jack
H	Miniature plug with mating connector
T	Standard, 1.5 in. split leads
U	1.5 in. split leads with spade lugs

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