

# Base Metal Thermocouples

## A Variety of Thermocouple Variations Available to Meet Your Application Needs

Watlow® offers two basic types of base metal thermocouples with protection tubes: bare and ceramic insulated elements. Many variations of each type are available to meet your application needs.

### Performance Capabilities

- 2300°F (1260°C) maximum temperature

### Features and Benefits

#### Insulated wire thermocouples

- Suitable for most general purpose applications

#### Bare and ceramic insulated elements

- Available in ASTM E 230 Types K and J, can be twisted or butt welded
- Choices include straight or angle types, two-or-four-hole insulators and single or dual element

#### Protected thermocouples

- Supplied complete with head, block and protection tube
- Several styles available



### Typical Applications

- Metal processing such as aluminum, zinc, brass (with appropriate protection tube)
- Chemical
- Petrochemical
- Industrial storage tanks

## Bare Elements

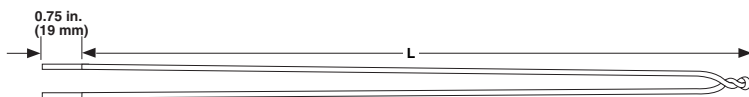
To order, specify: Part number-length

Example: 1402-36 or 1432-BW-24

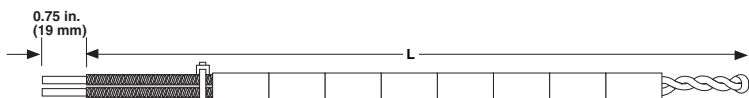
## Straight Elements with Two-Hole Insulators

To order, specify: Part number-length

Example: 1409-48 or 1436-BW-18



Bare Thermocouple Element, Twisted and Welded



Thermocouple Element, Twisted and Welded



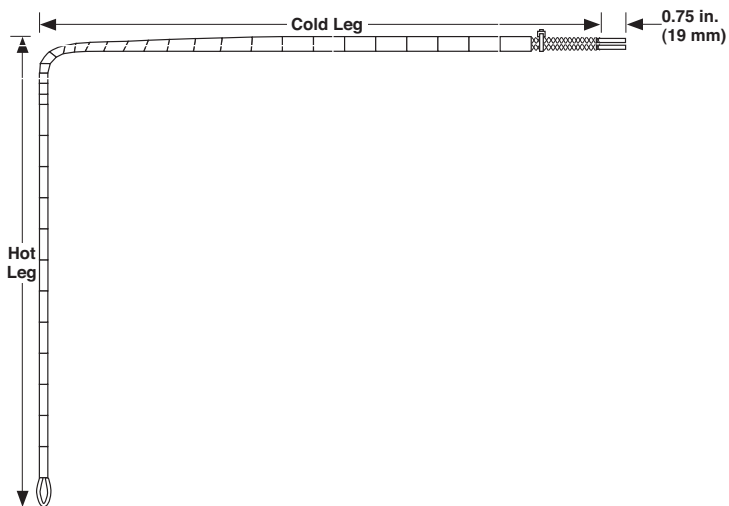
Thermocouple Element, Butt Welded

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## Angle Type with Two-Hole Insulators

To order, specify: Part number-cold leg length-hot leg length

Example: 1440-BW-12-24

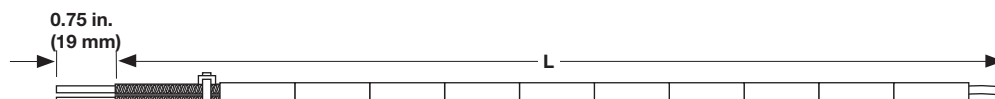


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## Dual Elements with Four-Hole Insulators

To order, specify: Part number-length

Example: 1442-BW-36



Thermocouple Element, Butt Welded

## Immersion Tips

SERV-RITE immersion tips are superior thermocouples for nonferrous molten metals. The hot junction is forged into the 446 stainless steel sheath for maximum sensitivity. Available in Type K calibration only.

**To order, specify:** Part number-tip length-lance length

**Example:** 1449-501-T-8-43  
1449-M-12-43



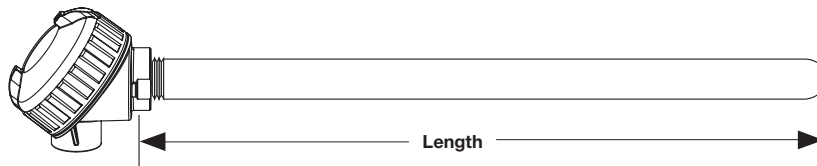
## Standard Thermocouple with Protection Tubes

### Straight Type

**To order, specify:** Part number-length

**Example:** 1409-1308-24

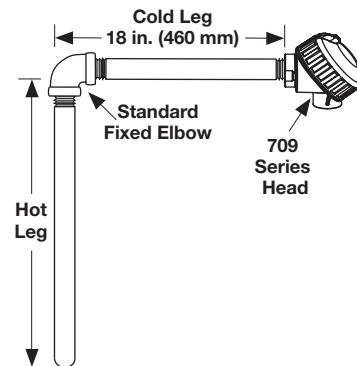
### Metal Tube



### 90 Degree Angle Type

**To order, specify:** Part number- cold leg length, hot leg length.  
Standard cold leg length is 18 inches.

**Example:** 1414-1395-18-24



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