

Many Thermocouple Variations Available To Meet Your Application Needs



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

Features and Benefits

Insulated wire thermocouples are 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.

Thermocouples with protection comes complete with head, block and protection tube. Several styles are available.

Performance Capabilities

- 1260°C (2300°F) maximum temperature

Applications

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

Insulated Wire Thermocouple

Style 61 and Style 62

Constructed with SERV-RITE® insulated thermocouple wire Styles 61 and 62 are economical and versatile thermocouples with the option of an exposed or protected measuring junction. Style 61 has an exposed junction and is suitable for most general purpose applications, such as measuring air, gas and surface temperatures. Style 62 has an encapsulated measuring junction that is ideal for corrosive fluids and gases such as sulfuric acid, hydrofluoric acid, strong mineral acids and oils.

Styles 61 and 62 are available with fiberglass insulated lead wire (Series 304 construction), with continuous temperature ratings of 480°C (900°F). Or, order it with FEP insulated lead wire (Series 507), rated to 200°C (400°F) continuous temperature.

For additional mechanical strength and abrasion resistance, a stainless steel overbraid is available.



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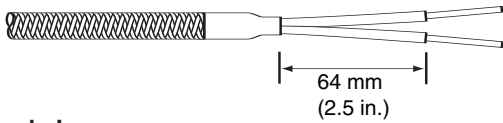
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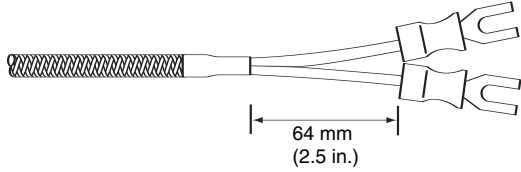


Termination Styles

64 mm (2.5 in.) Split Leads

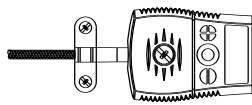
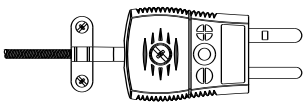


Spade Lugs



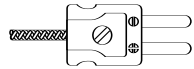
Standard Size Male

Standard Size Female

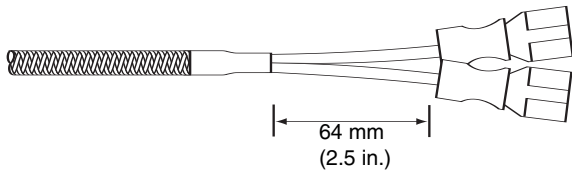


Miniature Size Male

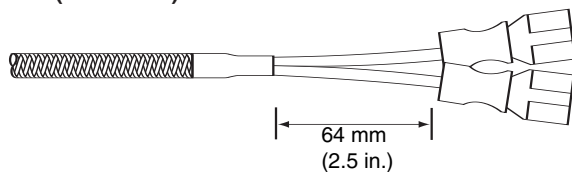
Miniature Size Female



6 mm (0.25 in.) Push-On Female Disconnect



5 mm (0.1875 in.) Push-On Female Disconnect



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.



Standard Thermocouple with Protection Straight Type

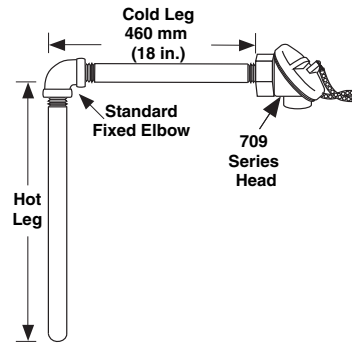
Metal Tube



Cast Iron Tube

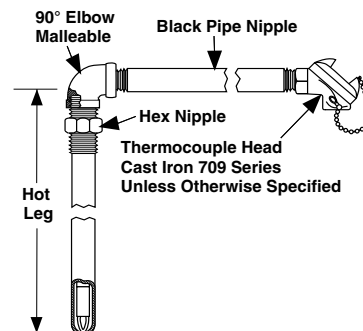


Standard Thermocouple with Protection 90° Angle Type



Hexoloy® Protection 90° Angle Type

Recommended for use in molten aluminum, zinc, lead, tin and gold. Hexoloy® protection tubes provide excellent corrosion/erosion resistance. Hexoloy® is also impermeable which makes it ideal for strong acids and alkalis.



Style AT - For Use with Pipe Type Thermowells

Style AT “beaded element” thermocouples are energy and process temperature sensors manufactured using ceramic insulators and base metal thermoelements, butt welded, in single or dual element.

This thermocouple style is ideal for metal processing and incineration applications where a sensor-thermowell assembly is typically used. Pipe type thermowells protect the thermocouple and allow you to replace the sensor without shutting down the process, saving valuable downtime.

Features

- **Designed for use with thermowells**, Style AT is ideal for process industry applications.
- **Compliance with specifications** such as ASTM assures high quality sensor products.

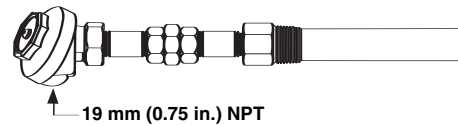
Applications

- Metal processing
- Incineration

Cold End Configurations

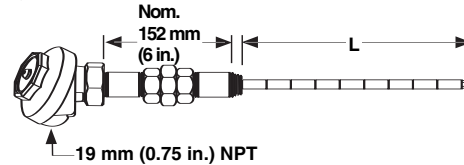
Types 1-4 With Well

Sheath length does not need to be specified (Type 1 with thermowell is shown)



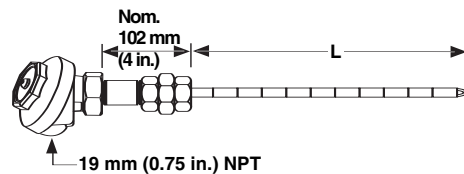
Type 1 Without Well

152 mm (6 in.) N-U-N typical (2 each 13 mm (0.5 in.) X 76 mm (3 in.) long steel pipe nipples and 1 each malleable union)*



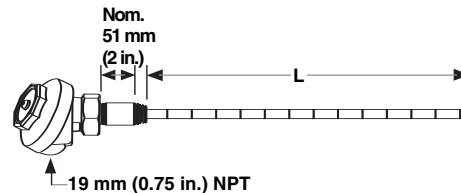
Type 2 Without Well

102 mm (4 in.) N-U typical (1 each 13 mm (0.5 in.) X 76 mm (3 in.) long steel pipe nipple and 1 each malleable union)*

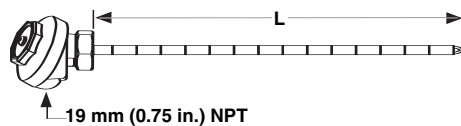


Type 3 Without Well

13 mm (0.5 in.) X 76 mm (3 in.) long steel pipe nipple typical*



Type 4 Without Well



* Other sizes, lengths, and materials are available. Consult factory.

Ordering Information

Ordering information varies. Please consult factory for details.

To be automatically connected to the nearest North American Technical and Sales Office call:

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