

Butt-Welded Unsheathed Fine Diameter Tungsten-Rhenium Thermocouples

Tungsten-Rhenium thermocouples were developed to meet the requirements for measuring ultra-high temperatures in the 2760°C (5000°F) range.

OMEGA makes available two widely used Tungsten-Rhenium thermocouple calibrations. Tungsten-5% Rhenium versus Tungsten-26% Rhenium and Tungsten-3% Rhenium versus Tungsten-25% Rhenium.

OMEGA® Tungsten-Rhenium Thermocouples conform to the limits of error listed in the Table: "Limits of Error for Tungsten-Rhenium Thermocouple Wire combinations."

The average EMF of the W-3% Re/W-25% Re is slightly more than that of W-5% Re/W-26% Re. The ductility of W-3% Re is about equal to that of W-5%Re, but superior to that of unalloyed Tungsten.

Both thermocouple calibrations can be used to 2760°C (5000°F) in hydrogen or inert gas atmospheres and in a vacuum. They undergo rapid deterioration under oxidising conditions and should not be used in air or atmospheres containing oxygen.

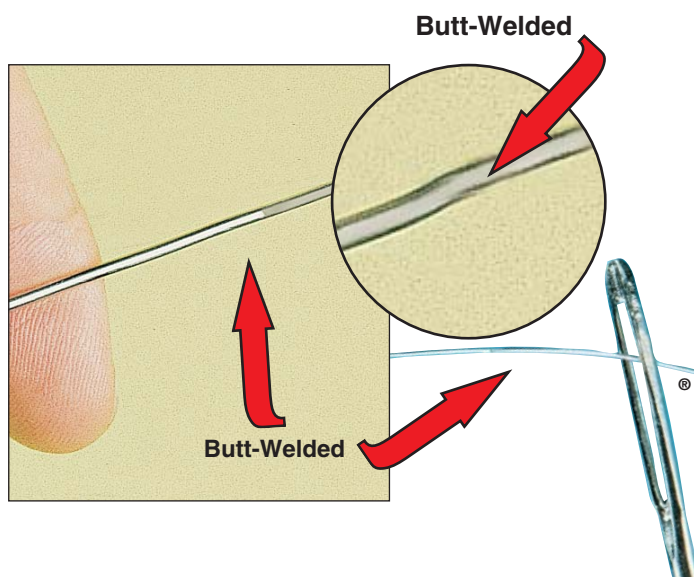
OMEGA® Tungsten-Rhenium thermocouples are supplied in 300 mm (12") lengths which corresponds to each for a 600 mm (24") total length. Longer lead lengths are available, Consult Sales.

Extreme High Temperature

Limits of Error for Tungsten-Rhenium Thermocouple Wire Combinations

Wire Diameter mm (inches)	Temperature Range (†)	Maximum Error or Departure
0.25 to 0.50 (0.010 to 0.020)	0 to 425°C (32 to 800°F) 425 to 2300°C (800 to 4200°F)	±4.5°C (±8°F) ±1%

† Up to 2760°C (5000°F) for short-term exposure.



MONOGRAM® iSeries Embedded Ethernet Connectable Series will measure and control temperatures measured with type C thermocouple inputs (please see Sections M and P).



ALL MODELS AVAILABLE FOR FAST DELIVERY!

To Order (Specify Model Number)				
Materials	Wire Dia. mm (inches)	Model No.**	Price (per Thermocouple)	Price per Add'l Double Inch
C Tungsten 5% Re- Tungsten 26% Re	0.25 (0.010)	T5R-010-12-BW	£46.90	£2.68
	0.38 (0.015)	T5R-015-12-BW	63.65	4.02
	0.50 (0.020)	T5R-020-12-BW	83.75	5.36
D Tungsten 3% Re- Tungsten 25% Re	0.25 (0.010)	T3R-010-12-BW	46.90	2.68
	0.38 (0.015)	T3R-015-12-BW	63.65	4.02
	0.50 (0.020)	T3R-020-12-BW	83.75	5.36

** Tungsten-Rhenium alloy thermocouples are supplied in standard 300 mm (12") lengths, which corresponds to each leg for a 600 mm (24") total length. Change suffix "-12" in model number to indicate additional length required in inches. Consult Sales for other sizes.

Note: Butt-Welded Tungsten-Rhenium thermocouples cannot be bent in the butt-welded area. All warranties are voided if the customer chooses to bend the thermocouple.

Ordering Example: T5R-010-12-BW is a butt-welded Type C thermocouple, 300 mm (12") long with a 0.25 mm (0.010") diameter, £46.90.





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