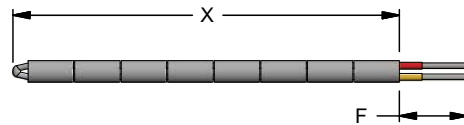


## THERMOCOUPLE REPLACEMENT ELEMENT

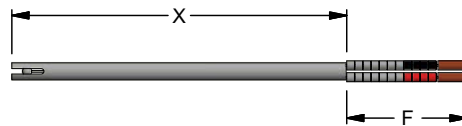
Reotemp Thermocouple Replacement Elements are supplied for use in ceramic and metal protection tube assemblies.



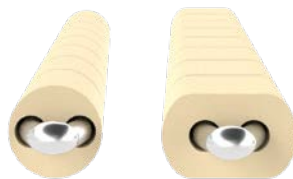
Made in USA



**Base Metal**



**Noble Metal**



**Round Shaped**

**Oval Shaped**

## THERMOCOUPLE REPLACEMENT ELEMENT

**BUILD YOUR THERMOCOUPLE REPLACEMENT:** Choose options to build a part number. For example: **REK14R18P1.5**

RE	K	14	R	18	P																						
SERIES	THERMOCOUPLE TYPE	WIRE GAUGE	INSULATOR	LENGTH "X"	HOT JUNCTION STYLE																						
<b>RE</b> = Replacement Element Thermocouple	<b>Base Metal</b> <b>J</b> = Type J <b>K</b> = Type K <b>JJ</b> = Dual Type J <b>KK</b> = Dual Type K  <b>Noble Metal</b> <b>R</b> = Pt - Pt/13% Rh <b>S</b> = Pt - Pt/10% Rh <b>B</b> = Pt/6% Rh - Pt/30% Rh <b>RR</b> = Duplex R <b>SS</b> = Duplex S <b>BB</b> = Duplex B  <i>For thermocouple accuracy information see page 5.</i>  <i>For thermocouple temperature operating ranges see page 6.</i>	<b>Base Metal</b> <b>8</b> = 8 AWG <b>14</b> = 14 AWG <b>18</b> = 18 AWG <b>20</b> = 20 AWG  <b>Noble Metal</b> <b>24</b> = 24 AWG	<b>B</b> = Bare (No Insulator)  <b>Base Metal Only</b> <b>C</b> = Oval Shaped Ceramic, (Not Available in 20 AWG) <b>R</b> = Round Shaped Ceramic	<b>12</b> = 12" <b>18</b> = 18" <b>24</b> = 24" <b>??</b> = Length in Inches	<b>Base Metal</b> <b>P</b> Plain <b>I</b> Insulated  <b>Noble Metal</b> <b>R</b> Recessed in Slot (Standard) <b>P</b> Plain Exposed Junction <b>C</b> Plain with Collar <b>D</b> Recessed with Collar																						
			<table border="1"> <thead> <tr> <th>Oval</th> <th>Wire Gauge</th> <th colspan="2">Dimensions</th> </tr> </thead> <tbody> <tr> <td>C</td> <td>8</td> <td colspan="2">0.500 x 0.286</td> </tr> <tr> <td>C</td> <td>14, 18</td> <td colspan="2">0.313 x 0.288</td> </tr> </tbody> </table>	Oval	Wire Gauge	Dimensions		C	8	0.500 x 0.286		C	14, 18	0.313 x 0.288													
Oval	Wire Gauge	Dimensions																									
C	8	0.500 x 0.286																									
C	14, 18	0.313 x 0.288																									
			<table border="1"> <thead> <tr> <th rowspan="2">Round</th> <th rowspan="2">Wire Gauge</th> <th colspan="2">OD Dimension</th> </tr> <tr> <th>Single</th> <th>Dual</th> </tr> </thead> <tbody> <tr> <td>R</td> <td>8</td> <td>0.465</td> <td>0.500</td> </tr> <tr> <td>R</td> <td>14, 18</td> <td>0.313</td> <td>0.313</td> </tr> <tr> <td>R</td> <td>20</td> <td>0.188</td> <td>0.188</td> </tr> <tr> <td>R</td> <td>24</td> <td>0.188</td> <td>0.188</td> </tr> </tbody> </table>	Round	Wire Gauge	OD Dimension		Single	Dual	R	8	0.465	0.500	R	14, 18	0.313	0.313	R	20	0.188	0.188	R	24	0.188	0.188		
Round	Wire Gauge	OD Dimension																									
		Single	Dual																								
R	8	0.465	0.500																								
R	14, 18	0.313	0.313																								
R	20	0.188	0.188																								
R	24	0.188	0.188																								

**1.5**

### LEADS "F"

**Base Metal**

**1.5** = 1.5" Standard  
**4** = 4"  
 ? = Length in Inches

**Noble Metal**

**F1.5** = 1.5" with Fish Spine Insulator and Copper Crimp Standard  
**F?** = Length in Inches with Fish Spine Insulator and Copper Crimp  
 (See diagram page 22.)

## REFERENCE INFORMATION

THERMOCOUPLE WIRE COLOR CODES (U.S.A. ANSI)					
Thermocouple Grade	Extension Grade	Plug/Jack	Thermocouple Grade	Extension Grade	Plug/Jack
<b>K</b>		Yellow	<b>N</b>		Orange
<b>J</b>		Black	<b>S</b>		Green
<b>T</b>		Blue	<b>R</b>		Green
<b>E</b>		Purple	<b>B</b>		White

### THERMOCOUPLE & RTD ACCURACIES

	Type K	Type J	Type T	Type E	Type N	Type S	Type R	Type B	RTD Class B	RTD Class A
-328°F	*	—	*	*	—	—	—	—	± 2.34°F	± 2.34°F
-148°F	*	—	*	*	—	—	—	—	± 1.44°F	± 1.44°F
32°F	± 3.96°F	± 3.96°F	± 1.8°F	± 3.06°F	± 3.96°F	± 2.7°F	± 2.7°F	—	± 0.54°F	± 0.27°F
392°F	± 3.96°F	± 3.96°F	± 2.7°F	± 3.06°F	± 3.96°F	± 2.7°F	± 2.7°F	—	± 2.34°F	± 0.99°F
752°F	± 5.4°F	± 5.4°F	—	± 3.6°F	± 5.4°F	± 2.7°F	± 2.7°F	—	± 4.14°F	± 4.14°F
1112°F	± 8.1°F	± 8.1°F	—	± 5.4°F	± 8.1°F	± 2.7°F	± 2.7°F	—	± 5.94°F	± 5.94°F
1472°F	± 10.8°F	—	—	± 7.2°F	± 10.8°F	± 3.6°F	± 3.6°F	—	—	—
1832°F	± 13.5°F	—	—	—	± 13.5°F	± 4.5°F	± 4.5°F	± 9°F	—	—
2192°F	± 16.2°F	—	—	—	± 16.2°F	± 5.4°F	± 5.4°F	± 10.8°F	—	—
2552°F	—	—	—	—	—	± 6.3°F	± 6.3°F	± 12.6°F	—	—
2912°F	—	—	—	—	—	—	—	± 14.4°F	—	—

Note: The accuracies in the above table are estimates given at fixed points, they do not apply to temperature ranges and are intended only as examples to give a general idea of what can be expected. Consult Reotemp if a specific accuracy is required or to confirm accuracies at any points not listed in the above table.

\*Thermocouples are normally supplied to meet the tolerances specified in the table for temperatures above 32°F. The same materials, however, may not fall within the tolerances for temperatures below 32°F. If materials are required to meet the tolerances stated for temperatures below 32°F, contact Reotemp sales.

Looking for better accuracy?



Reotemp offers **RTDs** up to 5x more accurate than Class B RTDs with the Hi-Accuracy™ option.

**Thermocouples** up to 2x more accurate with the Special Limits of Error option.

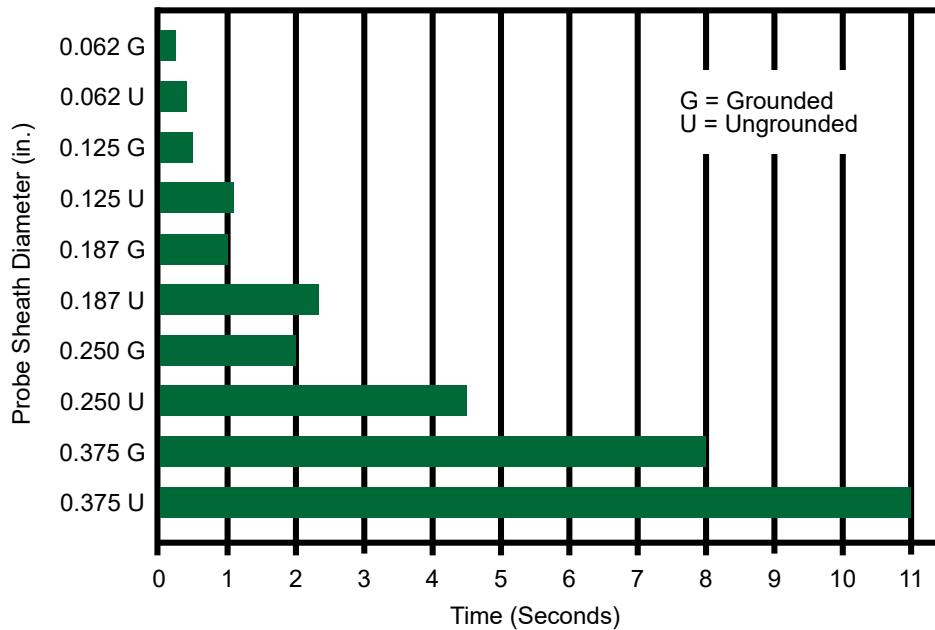
## REFERENCE INFORMATION

### THERMOCOUPLE TEMPERATURE OPERATING RANGES

Type	Minimum Temp. °F	Maximum Temp. °F
K	-328	2300
J	32	1400
T	-328	700
E	-328	1600
N	32	2300
S	32	2700
R	32	2700
B	1600	3100

### THERMOCOUPLE TYPICAL RESPONSE TIMES

63.2% Temperature Change in an Agitated Water Bath



### TEMP. LIMITS OF WIRE JACKETS

Jacket	Temp. Limit
PVC	221°F
Teflon	400°F
Fiberglass	900°F

## THERMOCOUPLE & RTD OPTIONS

		Thermocouple	RTD	Digital Thermometers	Handheld Digital
<b>CERTIFICATION OPTIONS</b>					
<b>-R1</b>	1 Point Calibration Certification, Reotemp Chooses	✓	✓	✓	✓
<b>-R3</b>	3 Point Calibration Certification, Reotemp Chooses	✓	✓	✓	✓
<b>-C1</b>	1 Point Calibration Certification, Customer Chooses	✓	✓	✓	✓
<b>-C3</b>	3 Point Calibration Certification, Customer Chooses	✓	✓	✓	✓
<b>-CC</b>	Certificate of Conformance	✓	✓	✓	✓
<b>-CS</b>	NIST Calibration Sticker (No Logged Points)	✓	✓	✓	✓
<b>OTHER OPTIONS</b>					
<b>-VB</b>	Hi-Vibration	N/A	✓	✓	✓
<b>-AC</b>	Hi-Accuracy	N/A	✓	N/A	N/A
<b>-PS</b>	Pointed Stem	✓	✓	✓	✓
<b>-TF</b>	Teflon Coating	✓	✓	✓	✓
<b>-SS</b>	316 SS stem	N/A	STD	✓	✓
<b>-NL</b>	No Logo	✓	✓	✓	✓
<b>-HT</b>	Heat Transfer Compound (2 oz)	✓	✓	✓	N/A
<b>-GL</b>	Plain Glass Lens	N/A	N/A	✓	✓
<b>-CL</b>	Custom Logo Dial	N/A	N/A	✓	✓
<b>-BP</b>	Replacement Battery Pack	N/A	N/A	✓	✓
<b>-WD</b>	White Dial	N/A	N/A	✓	✓
<b>-AS</b>	Allows to Fit 1-1/4-18 Industrial Thermowell	✓	✓	✓	N/A
<b>TAG OPTION</b>					
<b>-TS</b>	Stainless Steel Tag (1-10 Characters)			✓	
<b>-TM</b>	Stainless Steel Tag (11-80 Characters)			✓	
<b>-TP</b>	Paper Tag			✓	

✓	Indicates that the option is available with this model.
N/A	Indicates the option is not available with this model.
STD	Indicates standard options with no additional cost.