

## THERMOMETER SPECIFICATIONS

### MATERIALS

**STEMS:** All models, Type 304 Stainless Steel (316 SS is available upon request).

**STANDARD LENGTHS** - 2.5", 4", 6", 9", 12", 15", 18", 24", 30", 36".

**OPTIONAL LENGTHS** are available upon request, up to 80".

**PLEASE NOTE:** For the ranges of 0/100°F, 25/125°F and 0/50°C, a 4" stem is the shortest length. The standard diameter is .250" on all models. 5/16" and 3/8" diameter stems are available and recommended for extra strength on hand-held applications for stem lengths 36" and over.

**HEADS & BEZELS:** All Models, polished Type 302 Stainless Steel.

**ACCURACY:** All Models are guaranteed accurate to be within plus or minus 1% of the full scale. The temperature readings are stabilized within 40 seconds.

**POINTED STEMS:** Optional and available on all models. Excellent for probing asphalt, compost, soil, frozen foods or other semi-solid materials, for a quick reading.

**THERMOWELLS:** Thermowells should be used whenever the stem would be exposed to pressure, corrosion or shear forces. Thermowells also make it possible to remove the thermometer without interfering with processes, pressure or any contents.

**MOUNTING BUSHINGS AND NUTS:** All Models, 303 Stainless Steel. Other materials on special application with minimum quantity requirement.

**CRYSTALS:** Optically clear, strong glass.  
**OPTIONAL:** Unbreakable clear plastic, all Models  
(Not recommended for ranges over 300°F)

**DIALS:** Anodized aluminum.  
Raised black marks and numbers with satin finish background.

### **DIAL SYMBOLS**

**A** = 15/32" Dia. Dial Face  
**B** = 3" Dia. Dial Face  
**C** = 4" Dia. Dial Face  
**D** = 1-11/16" Dia. Dial Face  
**E** = 5" Dia. Dial Face

**OPERATING CONDITIONS:** The temperature of the head should not be allowed to exceed 200°F (150°F if silicon filled). Stems should not be exposed to continuous temperature exceeding 50% over-range, or 800°F.

**EXTERNAL RESET:** All models are available with or without an external reset, except on models 910B, 910C and 910E, which can be available, with reset, upon request.

**IMMERSION:** For correct temperature measurements, stems on all models in all ranges need to be immersed 2 inches in liquid, and 4 inches in gas except for ranges 0/100°F, 25/125°F and 0/50°C which require 3.5 inches in liquid and 5 inches in gases.

### **MOUNTING CONNECTIONS AVAILABLE: Models:**

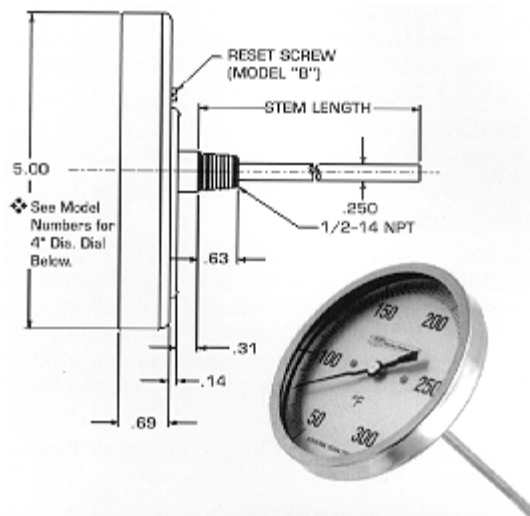
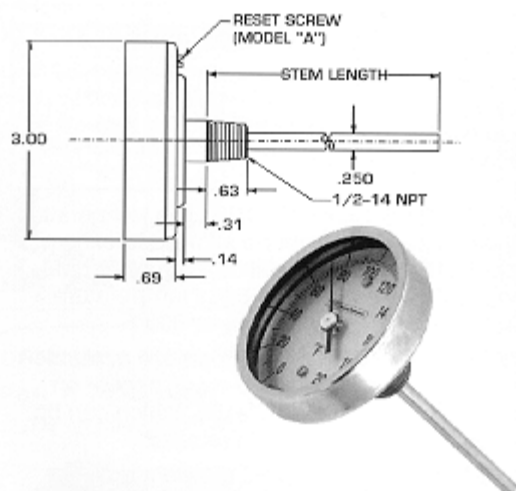
	901,902,910,920,921	930, 940
1/8"		X
1/4" MNPT	X	X
3/8" MNPT		X
3/8" 24-MNF		X
1/2" MNPT	X (Standard)	X
3/4" MNPT	X	X
PLAIN BUSING		X (Standard)
RESET BUSING		X

### **FIVE YEAR WARRANTY**

WE WARRANT 3", 4" and 5" Dial Bimetal Thermometers\* against defective materials or workmanship under normal use and service for five (5) years following date of shipment. This warranty does not cover exposure to corrosive materials, temperatures in excess of those recommended, excessive vibration or forces or abrasion which causes bending or unsealing of the case or stem. Thermo/Probes' liability is limited to repair or replacement at the factory, shipping charges prepaid. This warranty is expressly in lieu of any other warranty, expressed or implied, and of all other obligations or liabilities on our part for damages, including but not limited to, consequential damages arising out of use or misuse of our thermometers, and we neither assume nor authorize anyone to assume for us, any other liability in connection with the sale of our thermometers.

\* The thermometers covered by this warranty are all 3", 4" and 5" Dial Bimetal Thermometers except those with: plastic crystals • silicone filling • stems exceeding 36" • minimum-maximum pointers

The **All-Angle Thermometers** are adjustable for viewing at any angle. The head can be turned 360° and tilted over a full 180° arc; to provide maximum flexibility of installation.



Shown Above  
**3" BACK CONNECTED**  
**Model 901-B** (With Reset)  
**MODEL 902-B** (Without Reset)

\*  
**4" BACK CONNECTED**  
**Model 901-C** (With Reset)  
**MODEL 902-C** (Without Reset)

Shown Above  
**5" ADJUSTABLE ANGLE**  
**Model 901-E** (With Reset)  
**MODEL 901-E** (Without Reset)

**Order by Specifying: 1. Model 2. Length 3 Range**  
All thermometers can be ordered with MIN/MAX POINTER.

## RANGES AND DIVISIONS FOR ALL MODELS

### FAHRENHEIT

-100- / 100°F 2°	-50- / 300°F 2°
-40- / 160°F 2°	50- / 300°F 2°
*-20- / 120°F 2°	50- / 400°F 5°
*-0- / 100°F 2°	50- / 500°F 5°
*25- / 125°F 2°	50- / 550°F 5°
0- / 140°F 2°	100- / 800°F 10°
0- / 150°F 2°	150- / 750°F 10°
0- / 220°F 2°	200- / 1000°F 10°
0- / 250°F 2°	
20- / 120°F 2°	
20- / 240°F 2°	

### DUAL SCALE

-50- / 210°F 5°	-50- / 100°C 2°
-100- / 100°F 2°	-70 / 40°C 1°
* 25- / 125°F 1°	-5- / 50°C 1°
-40- / 160°F 2°	-40- / 70°C 1°
0- / 250°F 2°	-20- / 120°C 2°
50- / 300°F 2°	10- / 150°C 2°
50- / 500°F 5°	10- / 260°C 5°
150- / 750°F 10°	70- / 400°C 5°
200- / 1000°F 10°	100- / 500°C 5°

### CELCIUS

-30 / 30°C 2°	0 / 50°C 1/2°
-50 / 100°C 2°	0 / 100°C 1°
-50 / 50°C 1°	0 / 150°C 1°
-40 / 70°C 1°	0 / 200°C 2°
-20 / 120°C 2°	0 / 300°C 5°
-10 / 110°C 1°	0 / 400°C 5°
	100 / 500°C 5°

\* Minimum 4" stem for these ranges

### STEM LENGTHS

Standard: 2-1/2", 4", 6", 12", 15", 18", 24", 30", 36".  
Optional: Intermediate lengths up to 80"  
Lengths are also available in metric.

### MOUNTING CONNECTIONS

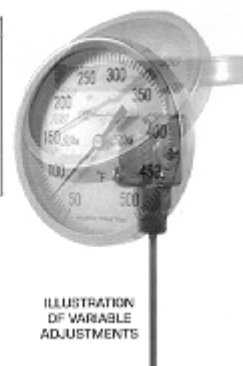
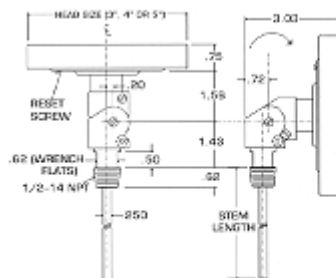
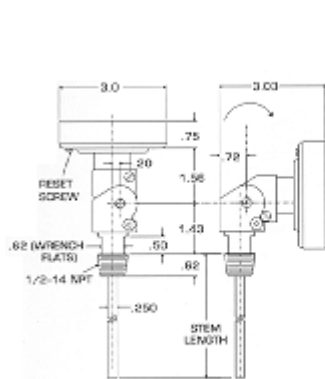
1/2" MNPT Standard  
1/4" MNPT  
Hex Bushings (No threads)  
Mounting connections are also available in metric.

### OPTIONS

Unbreakable Plastic Crystal  
Pointed Stem  
Silicone Filling (with ranges up to 300°)  
Minimum and/or Maximum pointers (3" dials only)  
Teflon coated stems  
5/16" diameter stems  
(See pages 1 & 7 for other options)  
See pages 6,7,8,9,10,11 of Thermowell catalog, for Thermowell to fit thermometers.

## INDUSTRIAL 3", 4" AND 5" BIMETAL THERMOMETERS ALL-ANGLE (ADJUSTABLE), ALL STAINLESS, HERMETICALLY SEALED

The All-Angle Thermometers are adjustable for viewing at any angle. The head can be turned 360° and tilted over a full 180° arc; to provide maximum flexibility of installation.



**3" ADJUSTABLE ANGLE**  
**Model 910-B** (With Reset)  
with External Reset only

**4" ADJUSTABLE ANGLE**  
**Model 910-C** (With Reset)  
with External Reset only

**5" ADJUSTABLE ANGLE**  
**Model 910-E** (With Reset)  
with External Reset only

**Order by Specifying: 1. Model    2. Length    3 Range**  
All thermometers can be ordered with MIN/MAX POINTER

### RANGES AND DIVISIONS FOR ALL MODELS

#### FAHRENHEIT

-100- / 100°F 2°	-50- / 300°F 2°
-40- / 160°F 2°	50- / 300°F 2°
*-20- / 120°F 2°	50- / 400°F 5°
*-0- / 100°F 2°	50- / 500°F 5°
*25- / 125°F 2°	50- / 550°F 5°
0- / 140°F 2°	100- / 800°F 10°
0- / 150°F 2°	150- / 750°F 10°
0- / 220°F 2°	200- / 1000°F 10°
0- / 250°F 2°	
20- / 120°F 2°	
20- / 240°F 2°	

#### DUAL SCALE

-50- / 210°F 5°	-50- / 100°C 2°
-100- / 100°F 2°	-70 / 40°C 1°
* 25- / 125°F 1°	-5- / 50°C 1°
-40- / 160°F 2°	-40- / 70°C 1°
0- / 250°F 2°	-20- / 120°C 2°
50- / 300°F 2°	10- / 150°C 2°
50- / 500°F 5°	10- / 260°C 5°
150- / 750°F 10°	70- / 400°C 5°
200- / 1000°F 10°	100- / 500°C 5°

#### CELCIUS

-30 / 30°C 2°	0 / 50°C 1/2°
-50 / 100°C 2°	0 / 100°C 1°
-50 / 50°C 1°	0 / 150°C 1°
-40 / 70°C 1°	0 / 200°C 2°
-20 / 120°C 2°	0 / 300°C 5°
-10 / 110°C 1°	0 / 400°C 5°
	100 / 500°C 5°

\* Minimum 4" stem for these ranges

#### STEM LENGTHS

Standard: 2-1/2", 4", 6", 12", 15", 18", 24", 30", 36".  
Optional: Intermediate lengths up to 80"  
Lengths are also available in metric.

#### MOUNTING CONNECTIONS

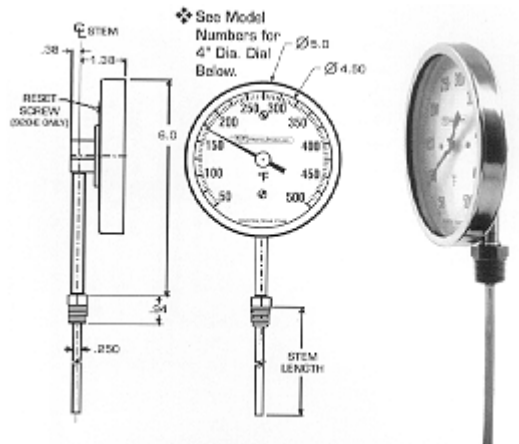
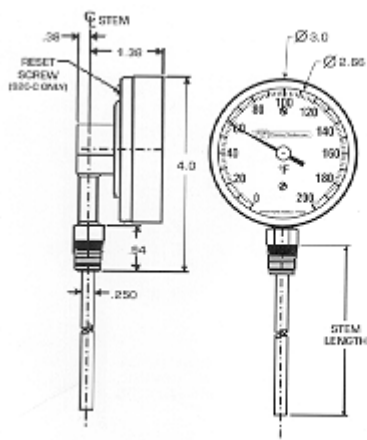
1/2" MNPT Standard  
1/4" MNPT  
Hex Bushings (No threads)  
Mounting connections are also available in metric.

#### OPTIONS

Unbreakable Plastic Crystal  
Pointed Stem  
Silicone Filling (with ranges up to 300°)  
Minimum and/or Maximum pointers (3" dials only)  
Teflon coated stems  
5/16" diameter stems  
(See pages 1 & 7 for other options)  
See pages 6,7,8,9,10,11 of Thermowell catalog, for Thermowell to fit thermometers.

## INDUSTRIAL 3", 4" AND 5" BIMETAL THERMOMETERS BOTTOM CONNECTED (90°), ALL STAINLESS, HERMETICALLY SEALED

This Thermometer design is good for installations on top of tanks, boilers, in high locations or other areas where it would be difficult to read the standard ANGLE form thermometer.



Shown Above  
**3" BOTTOM CONNECTED 90°**  
**Model 920-B (With Reset)**  
**MODEL 921-B (Without Reset)**

\*

**4" BOTTOM CONNECTED 90°**  
**Model 920-C (With Reset)**  
**MODEL 921-C (Without Reset)**

Shown Above  
**5" BOTTOM CONNECTED 90°**  
**Model 920-E (With Reset)**  
**MODEL 921-E (Without Reset)**

**Order by Specifying: 1. Model    2. Length    3 Range**  
All thermometers can be ordered with MIN/MAX POINTER

### RANGES AND DIVISIONS FOR ALL MODELS

#### FAHRENHEIT

-100- / 100°F 2°	-50- / 300°F 2°	-50- / 210°F 5°	-50- / 100°C 2°
-40- / 160°F 2°	50- / 300°F 2°	-100- / 100°F 2°	-70 / 40°C 1°
*-20- / 120°F 2°	50- / 400°F 5°	* 25- / 125°F 1°	-5- / 50°C 1°
*-0- / 100°F 2°	50- / 500°F 5°	-40- / 160°F 2°	-40- / 70°C 1°
*25- / 125°F 2°	50- / 550°F 5°	0- / 250°F 2°	-20- / 120°C 2°
0- / 140°F 2°	100- / 800°F 10°	50- / 300°F 2°	10- / 150°C 2°
0- / 150°F 2°	150- / 750°F 10°	50- / 500°F 5°	10- / 260°C 5°
0- / 220°F 2°	200- / 1000°F 10°	150- / 750°F 10°	70- / 400°C 5°
0- / 250°F 2°		200- / 1000°F 10°	100- / 500°C 5°
20- / 120°F 2°			
20- / 240°F 2°			

#### DUAL SCALE

#### CELCIUS

-30 / 30°C 2°	0 / 50°C 1/2°
-50 / 100°C 2°	0 / 100°C 1°
-50 / 50°C 1°	0 / 150°C 1°
-40 / 70°C 1°	0 / 200°C 2°
-20 / 120°C 2°	0 / 300°C 5°
-10 / 110°C 1°	0 / 400°C 5°
	100 / 500°C 5°

#### STEM LENGTHS

Standard: 2-1/2", 4", 6", 12", 15", 18", 24", 30", 36".  
Optional: Intermediate lengths up to 80"  
Lengths are also available in metric.

#### MOUNTING CONNECTIONS

1/2" MNPT Standard  
1/4" MNPT  
Hex Bushings (No threads)  
Mounting connections are also available in metric.

#### OPTIONS

Unbreakable Plastic Crystal  
Pointed Stem  
Silicone Filling (with ranges up to 300°)  
Minimum and/or Maximum pointers (3" dials only)  
Teflon coated stems  
5/16" diameter stems  
(See pages 1 & 7 for other options)  
See pages 6,7,8,9,10,11 of Thermowell catalog, for Thermowell to fit thermometers.

\* Minimum 4" stem for these ranges

## INDUSTRIAL 3", 4" AND 5" THERMOMETERS SILICONE FILLED

### SILICONE-FILLED THERMOMETERS

Order by Specifying:

1. Model
  2. L=Length
  3. Range
- Add **SF** to front of Model No.  
Sample: **SF-910-E**

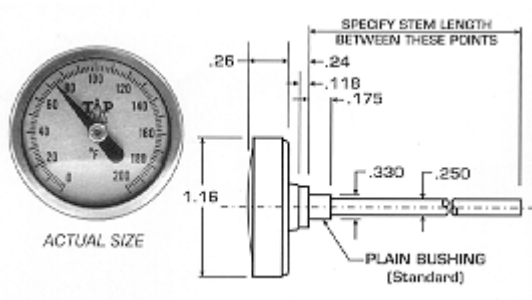
All Thermometers can be ordered  
with MIN/MAX POINTER



**Thermo/Probes** Silicone-Filled thermometers are offered for severe industrial applications, where vibration is a problem. Silicone dampening prolongs thermometer life by preventing wear and fatigue in the thermometer internal parts. The silicone also improves readability by reducing pointer flutter and promotes faster temperature response.

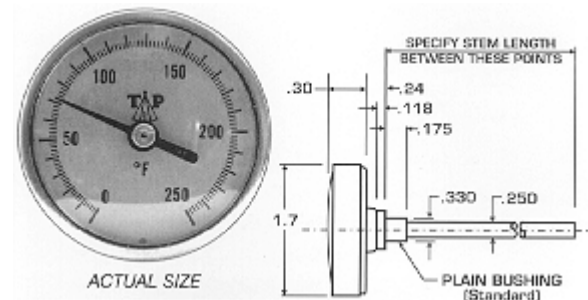
Any **Thermo/Probes** 3", 4" or 5" dial thermometer can be silicone-filled, in any stem length and any temperature range up to 300°F (150°C). (Silicone-filling with ranges over 300°F not recommended.) All silicone-filled thermometers come with a durable polycarbonate crystal.

## GENERAL PURPOSE BIMETAL THERMOMETERS



### STEM LENGTHS

Standard: 2-1/2", 4", 6", 12", 15", 18", 24", 30", 36".  
Optional: Intermediate Lengths up to 80"



### MOUNTING CONNECTIONS

1/8" MNPT; 1/4" MNPT; 3/8" MNPT; 1/2" MNPT; 3/8" MNF.  
Plain Busing (Standard); Reset Bushing.

#### 1-5/32" DIAL MODEL 930-A

Order by Specifying:

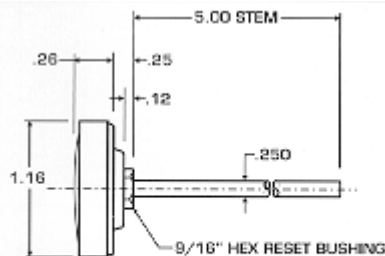
1. Model 2. L=Length 3. Range

#### 1-11/16" DIAL MODEL 940-D

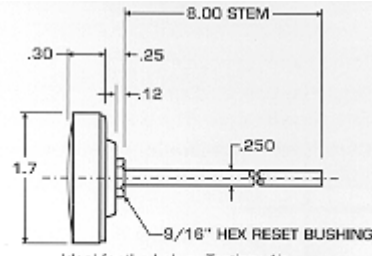
Order by Specifying:

1. Model 2. L=Length 3. Range

All Thermometers can be ordered with MIN/MAX POINTER



Used by inspectors, technicians, maintenance and service men. Standard 5" stem. With external reset upon request.



Ideal for the Lab or Testing: Air, Asphalt, Babbit, Cemnt, Chemicals, Food, Grain, Water, etc. Standard 8" stem. With external reset upon request. CLEAR AND EASY TO READ.

#### 1-5/32" DIAL MODEL 930-AP POCKET THERMOMETER CASE

Order by Specifying:

1. Model 2. L=Length 3. Range

#### 1-11/16" DIAL MODEL 940-DL LAB AND TEST THERMOMETER

Order by Specifying:

1. Model 2. L=Length 3. Range

## RANGES AND DIVISIONS FOR ALL MODELS

FAHRENHEIT	CELSIUS	DUAL SCALE	OPTIONS
*25 / 125°F 1°	-40 / 70°C 1°	50 / 300°F 5°	Unbreakable Plastic Crystal
-40- / 160°F 2°	0 / 100°C 2°	10 / 260°C 5°	Pointed Stem
0- / 200°F 2°	-10 / 100°C 2°		Teflon coated stems
0- / 250°F 2°	0 / 150°C 2°	200 / 1000°F 10°	(See pages 1 & 7 for full list of options.)
50- / 300°F 2°	0 / 300°C 5°	100 / 500°C 10°	
50- / 500°F 2°	50 / 400°C 5°		
150- / 750°F 10°			
200- / 1000°F 10°			

\*Minimum 4" stem for these ranges

# INDUSTRIAL 3", 4" AND 5" DIAL THERMOMETER ACCESORIES AND OPTIONAL FEATURES

When an Accessory or Option is required,  
*add the corresponding Letter to the Part Number.*

PART NO.

<b>A</b>	<b>Minimum or Maximum Pointer: One</b> resettable ancillary hand for recording minimum or maximum readings. (3" and 4" Models only) <b>Note: Thermometers with Min/Max pointers are not hermetically sealed.</b>
<b>B</b>	<b>Minimum or Maximum Pointer: Two</b> resettable ancillary hand for recording minimum and maximum readings. (3" and 4" Models only) <b>Note: Thermometers with Min/Max pointers are not hermetically sealed.</b>
<b>C</b>	<b>Shatterproof Glass Crystals:</b> For 3" Dials
<b>D</b>	<b>Shatterproof Glass Crystals:</b> For 4" Dials
<b>E</b>	<b>Shatterproof Glass Crystals:</b> For 5" Dials
<b>F</b>	<b>Silicone Filling:</b> 3", 4" and 5" Models only, recommended for temperature ranges up to 300°F. See page 5
<b>G</b>	<b>5/16" Diameter Stem:</b> More than twice as strong as 1/4" stems. Recommended for hand-held thermometer applications where bending a stem is a problem. (Models 901-B, 902-C, 901-E, 902-E only)
<b>H</b>	<b>Plastic Crystals:</b> Recommended only for range up to 300°
<b>I</b>	<b>316 Stainless Steel Stems</b>
<b>J</b>	<b>Sharp Pointed Stems</b>
<b>K</b>	<b>Pan Clip:</b> Attaches thermometer stem to side of pan, tank, etc.
<b>L</b>	<b>Teflon Coating of Stems:</b> .011" wall FEP teflon can be applied to stems to protect against severe corrosives or to prevent stems from contaminating purified solutions.
<b>M</b>	<b>Duct Flanges:</b> 3" diameter x 1/2" NPT steel clange for mounting thermometer to a duct, wall, etc. See page 8
<b>N</b>	<b>Certificate of Calibration:</b> Certifies conformance to NIST and gives logged points.
<b>O</b>	<b>Adapter - P/N 40125:</b> Adapter for use of thermometer for U.S. Navy existing instruments. Threads are 3/4"-28
<b>P</b>	<b>Sleeve - P/N 40126:</b> Sleeve to adapt a standard bimetal thermometer stem diameter to a larger thermowell bore.
<b>Q</b>	<b>Thermowell Adapter Kit - P/N 40127:</b> Adapts 1/2" NPT thread on bimetal to 1-1/4"-18 threads on "Industrial" glass thermometer well. See page 8.
<b>R</b>	<b>Union - P/N 40128:</b> Union will enable the thermometer to turn around in different positions for better visibility. (910-B, 910-C, 910-E only). See page 9
<b>S</b>	<b>Sliding Union - P/N 40129:</b> Sliding Union will enable thermometer to turn around in different positions and for mounting in an existing thermowell at different depths to accomodate the thermometer. See page 9.

## HOW TO ORDER THERMOWELLS WITH THERMOMETERS

See pages 6 - 11, of Thermowell catalog for  
Thermowell selection and select style of Thermometer:  
Thermowell Part No. - Thermometer Part No.

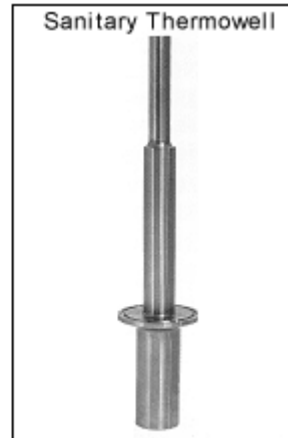
### Sample:

**17132U7.5 - 901C - 9 - 0 /250°F**

All thermometers can be made in metric Sizes:  
Just add "MM" at end of Part No.  
and change Length to read millimeters.

## THERMOWELLS FOR BIMETAL THERMOMETERS AND OPTIONAL ITEMS

Thermowells make it possible to remove instruments without losing pressure or contents.



**THERMOWELLS** for all Thermometers can be **straight**, **tapered** or **stepped** construction. All Thermowells will be **stepped** construction, unless otherwise specified. Pricing is the same for each



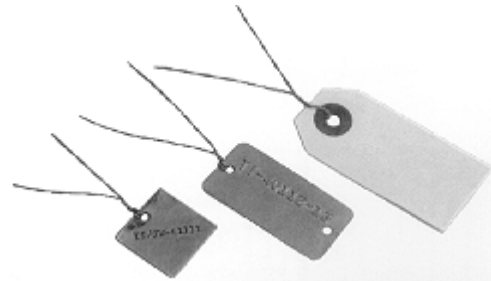
**MOUNTING FLANGE**  
With 1/2" FNPT and four 1/4" mounting holes



**THERMOWELL ADAPTER KIT**  
Adapting 1/2" MNPT Bimetal to 1-1/4"-18 threads for Industrial glass Thermometer Thermowell



**3/8" DIA. THERMOMETER STEMS**  
Stronger than 1/4" dia. stems.  
Recommended for hand-held applications.



### IDENTIFICATION TAGS

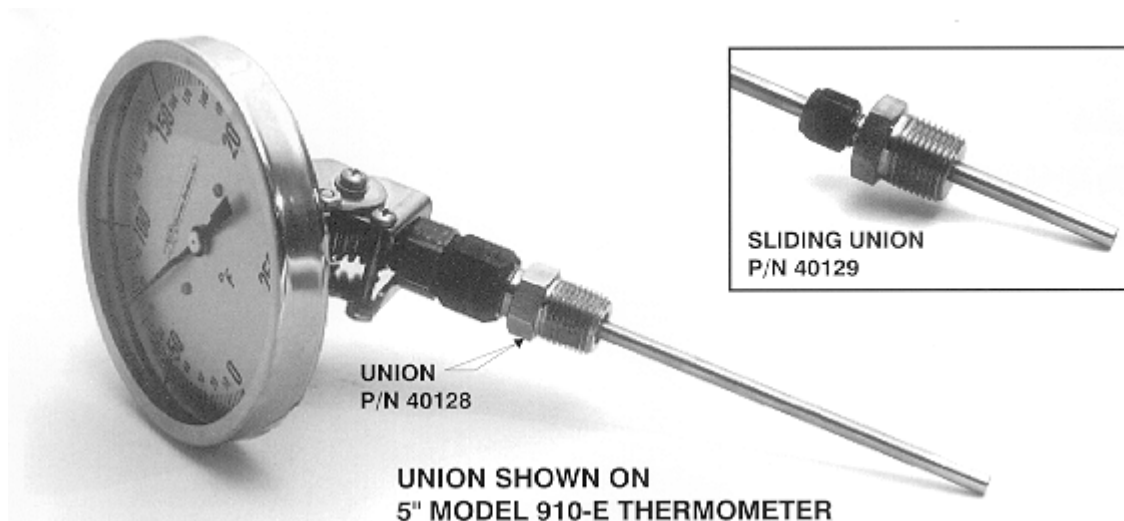
Available tags with attaching wires:

- Blank Paper
- Stainless Steel with embossed numbers
- Stainless Steel with etched numbers

Also numbers can be etched on Hex of MNPT for extra charge



**INDUSTRIAL 3", 4" AND 5" BIMETAL THERMOMETERS  
ALL-ANGLE (ADJUSTABLE), WITH OPTIONAL  
UNION OR SLIDING UNION**



UNION SHOWN ON  
5" MODEL 910-E THERMOMETER

**3" ADJUSTABLE ANGLE**  
**Model 910-B** (With Reset)  
with External Reset only

**4" ADJUSTABLE ANGLE**  
**Model 910-C** (With Reset)  
with External Reset only

**5" ADJUSTABLE ANGLE**  
**Model 910-E** (With Reset)  
with External Reset only

**Order by Specifying: 1. Model    2. Length    3 Range**  
All thermometers can be ordered with MIN/MAX POINTER

**RANGES AND DIVISIONS FOR ALL MODELS**

**FAHRENHEIT**

-100- / 100°F 2°	-50- / 300°F 2°
-40- / 160°F 2°	50- / 300°F 2°
*-20- / 120°F 2°	50- / 400°F 5°
*-0- / 100°F 2°	50- / 500°F 5°
*25- / 125°F 2°	50- / 550°F 5°
0- / 140°F 2°	100- / 800°F 10°
0- / 150°F 2°	150- / 750°F 10°
0- / 220°F 2°	200- / 1000°F 10°
0- / 250°F 2°	
20- / 120°F 2°	
20- / 240°F 2°	

**DUAL SCALE**

-50- / 210°F 5°	-50- / 100°C 2°
-100- / 100°F 2°	-70 / 40°C 1°
* 25- / 125°F 1°	-5- / 50°C 1°
-40- / 160°F 2°	-40- / 70°C 1°
0- / 250°F 2°	-20- / 120°C 2°
50- / 300°F 2°	10- / 150°C 2°
50- / 500°F 5°	10- / 260°C 5°
150- / 750°F 10°	70- / 400°C 5°
200- / 1000°F 10°	100- / 500°C 5°

**CELCIUS**

-30 / 30°C 2°	0 / 50°C 1/2°
-50 / 100°C 2°	0 / 100°C 1°
-50 / 50°C 1°	0 / 150°C 1°
-40 / 70°C 1°	0 / 200°C 2°
-20 / 120°C 2°	0 / 300°C 5°
-10 / 110°C 1°	0 / 400°C 5°
	100 / 500°C 5°

\* Minimum 4" stem for these ranges

**STEM LENGTHS**

Standard: 2-1/2", 4", 6", 12", 15", 18", 24", 30", 36".  
Optional: Intermediate lengths up to 80"  
Lengths are also available in metric.

**MOUNTING CONNECTIONS**

1/2" MNPT Standard  
1/4" MNPT  
Hex Bushings (No threads)  
Mounting connections are also available in metric.

**OPTIONS**

Unbreakable Plastic Crystal  
Pointed Stem  
Silicone Filling (with ranges up to 300°)  
Minimum and/or Maximum pointers (3" dials only)  
Teflon coated stems  
5/16" diameter stems  
(See pages 1 & 7 for other options)  
See pages 6,7,8,9,10,11 of Thermowell catalog, for Thermowell to fit thermometers.