RTD Thermowell Assembly–Spring Loaded

Single and Dual Elements
Stainless Steel Case
Multiple Thermowell Styles

The **RTD Thermowell Assembly–Spring Loaded** is designed for use in applications where easy removal of the spring loaded sensor is a required option without the need to shutdown the system.

Thermowells are used to protect temperature sensors used to monitor industrial processes while permitting accurate measurement. A thermowell consists of a tube closed at one end and mounted in the process stream. A temperature sensor is inserted in the open end of the tube, which is usually in the open air outside the process piping or vessel. The process liquid transfers heat to the thermowell wall, which in turn transfers heat to the sensor. Since more mass is present, the response time of the sensor can be reduced. However, if the sensor fails it can easily be replaced without draining the vessel or piping. To obtain accurate temperature measurement the recommended thermowell immersion length is ten times the outside diameter of the tip.

The thermowell protects the instrument from the pressure, flow-induced forces and chemical effects of the process fluid. Typically a thermowell is made from metal bar stock bored to accept the temperature sensor with a NPT thread or flange for process mounting.

FEATURES

- Sheath Styles:
  - »Stainless Steel, Welded Capsule
- Elements, Single and Dual:
  - »Platinum

APPLICATIONS

- Process
- Flow

performance specifications

Repeatability:
Less than ± .06% change in ice point resistance after 10 consecutive cycles between ice point and 250°C

Long Term Stability:
Less than ± .2% ice point resistance shift after 1,000 hours at 250°C

Self Heating:
10 mW/C in water moving 3 feet/sec

Pressure Rating:
Up to 5,000 psi depending on well configuration

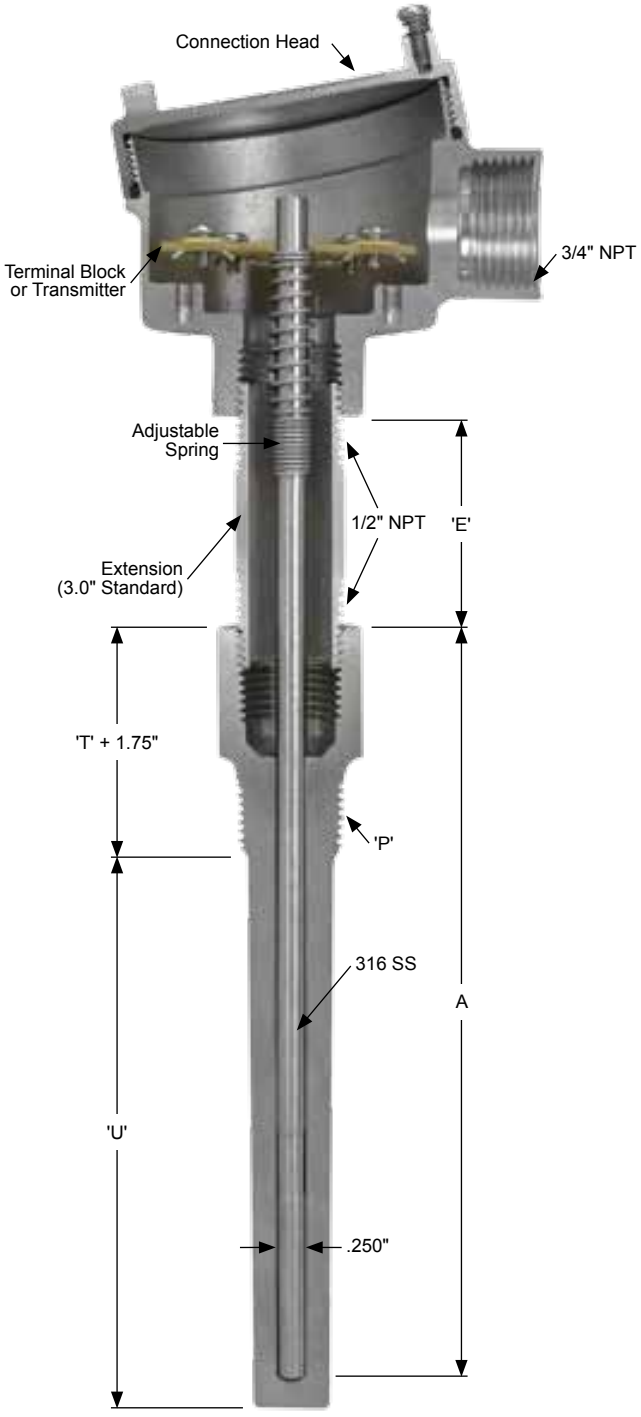
Insulation Resistance:
1,000 megohms @ 500 V, leads to case

Minimum Recommended Immersion Length:
Ten times the tip diameter plus the element sensing length. (Example for 1/2” OD thermowell = 10 x 0.5 + 1 = 6.0”)

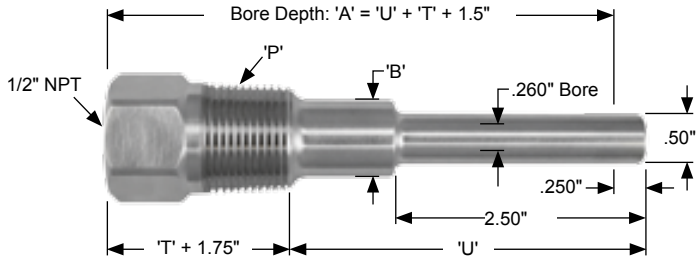
www.bill-well.com
深圳市亿为测控电子有限公司
广东省深圳市南山区创业路怡海广场东座2407 邮编：518000
电话：+86 755 2641 9890 传真：+86 755 2641 9680
电子邮箱：sales@bill-well.com

RTD Thermowell Assembly–Spring Loaded

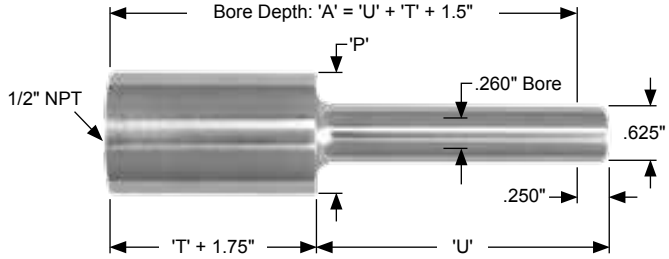
dimensions



Threaded Thermowell



Socket Weld Thermowell



Flanged Thermowell (Please consult factory for details.)

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深圳市亿为测控电子有限公司
广东省深圳市南山区创业路怡海广场东座2407 邮编：518000
电话：+86 755 2641 9890 传真：+86 755 2641 9680
电子邮箱：sales@bill-well.com

RTD Thermowell Assembly–Spring Loaded

ordering info

RTD Thermowell Assembly–Spring Loaded

Model	Temperature Range	
130M	Moderate:	-50 to 250°C (-58 to 482°F)
130H	High:	-50 to 500°C (-58 to 932°F)
130F	Full:	-200 to 500°C (-328 to 932°F)

Model	Element	Accuracy	Temperature Coefficient
P2A	Platinum	100 Ohm ±.06% at 0°C	.00385
P2B	Platinum	100 Ohm ±.12% at 0°C	.00385
P2C	Platinum	100 Ohm ±.5% at 0°C	.00385
P6B	Platinum	1,000 Ohm ±.12% at 0°C	.00385

Model	Leadwires, Element Configuration	Color Code
3S	Three Wire, Single	Red/Red/White
4S	Four Wire, Single	Red/Red/White/White
3D	Three Wire, Dual	Red/Red/White // Black/Green/Green

Model	Connection Head
N	No Connection Head
A	Stainless Steel
B	Aluminum
C	Polypropylene (Model 120M Only)
D	Cast Iron
G	Small Stainless Steel

Model	Extension Material	Extension Type
N	No Extension	----
A	Galvanized	Nipple
B	316 Stainless Steel	Nipple
C	Galvanized	Nipple / Union / Nipple
D	316 Stainless Steel	Nipple / Union / Nipple
E	Galvanized	Nipple / Coupling / Nipple
F	316 Stainless Steel	Nipple / Coupling / Nipple

Model	'E' Extension Length
----	Define 'E' Length in Inches (3 = 3.0") Note: Minimum 1.0" / Maximum 12.0"

Model	Thermowell Style		Model	Thermowell Style		Model	Thermowell Style	
---	**Threaded Thermowell**		---	**Socket Weld Thermowell**		---	**Raised Face Flanged Thermowell**	
TR2	Reduced Tip	'P' = 1/2" NPT Process Threads	SR3	Reduced Tip	'P' = 3/4" Pipe Size	RR4A	Reduced Tip	1.0" Flange, 150 LB
TR3	Reduced Tip	'P' = 3/4" NPT Process Threads	SR4	Reduced Tip	'P' = 1" Pipe Size	RR5A	Reduced Tip	1.5" Flange, 150 LB
TR4	Reduced Tip	'P' = 1" NPT Process Threads	SS3	Straight Stem	'P' = 3/4" NPT Process Threads	RR6A	Reduced Tip	2.0" Flange, 150 LB
TS2	Straight Stem	'P' = 1/2" NPT Process Threads	SS4	Straight Stem	'P' = 1" NPT Process Threads	RR4B	Reduced Tip	1.0" Flange, 300 LB
TS3	Straight Stem	'P' = 3/4" NPT Process Threads	ST4	Tapered Tip	'P' = 1" Pipe Size	RR5B	Reduced Tip	1.5" Flange, 300 LB
TS4	Straight Stem	'P' = 1" NPT Process Threads	ST5	Tapered Tip	'P' = 1 1/4" Pipe Size	RS4A	Straight Stem	1.0" Flange, 150 LB
TT2	Tapered Tip	'P' = 1/2" NPT Process Threads				RS5A	Straight Stem	1.5" Flange, 150 LB
TT3	Tapered Tip	'P' = 3/4" NPT Process Threads				RS6A	Straight Stem	2.0" Flange, 150 LB
TT4	Tapered Tip	'P' = 1" NPT Process Threads				RS4B	Straight Stem	1.0" Flange, 300 LB
						RS5B	Straight Stem	1.5" Flange, 300 LB
						RT4A	Tapered Tip	1.0" Flange, 150 LB
						RT5A	Tapered Tip	1.5" Flange, 150 LB
						RT6A	Tapered Tip	2.0" Flange, 150 LB
						RT4B	Tapered Tip	1.0" Flange, 300 LB
						RT5B	Tapered Tip	1.5" Flange, 300 LB

Model	'U' Immersion Length
	Define 'U' Length in Inches. (7 = 7.0") Threaded and Socket Well Equation 'A' = U + T + 1.5" / Flanged Well Equation 'A' = U + T = 2"

Model	Thermowell Material
A	304 Stainless Steel
B	316 Stainless Steel
C	Brass
D	Carbon Steel
E	Monel
F	Hastelloy C276
G	Inconel

Model	'T' Lag Length
00	No Lag
30	3.0" Lag Length
60	6.0" Lag Length

Model	'Y' Leadwire/Cable Options
N	No Options, Stranded TFE Leadwires (36.0" Standard, 6.0" w/Connection Head)
W	Leadwire Options (See Page 121)

Model	Additional Options (Leave Option Code Blank if Not Required)
T	Transmitter Options
M	Material Certification

'E' = Extension Length
'T' = Lag Length
'A' = Bore Depth
'U' = Immersion Length
'P' = Process Thread or Pipe Size
'B' = Shank Diameter

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深圳市亿为测控电子有限公司
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电话：+86 755 2641 9890 传真：+86 755 2641 9680
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