



Temperature Products

New!

Model TW-STEP General Use Thermowells

DESCRIPTION

U.S. Gauge recommends the use of a thermowell in conjunction with a bimetallic thermometer when the application involves a corrosive medium, high pressure, or high flow velocity. Some specific uses include protection for unarmored liquid-in-glass test thermometers or other temperature sensing elements with a maximum diameter of .25".

These #20 gauge bimetallic thermowells meet or exceed SAMA specifications and are also available in heavy duty, flange, socket weld, and Van Stone models. Standard thermowells are stepped to 1/2" OD, except for 2-1/2" insertion. Straight shank models are also available.

The standard process connection sizes are 1/2-14 NPT and 3/4-14 NPT, with other sizes available. Materials of construction include 316L stainless steel (standard), 304 stainless steel, and brass (ASTM B-16). A cap and chain for keeping the thermowell bore clean when not in use are available upon request.

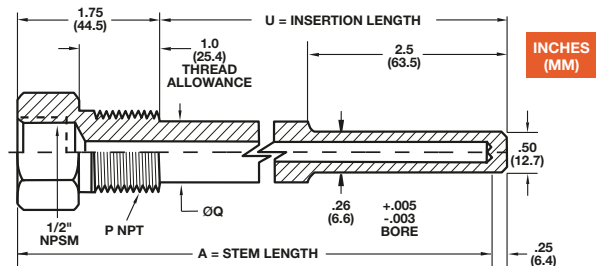


STANDARD TOLERANCES

- LENGTHS: $\pm 1/16$ " on lengths 12" or less; $\pm 1/8$ " on lengths 12" or over
- WELLS 30" OVERALL LENGTH AND OVER: Solid bored type will be drilled thru end, plugged, and heli-arc welded; Built-up design must be specified beyond 42-1/4" overall length
- OD TOLERANCES: Fractional: $\pm .015$; Decimal: $\pm .005$ on .000 place; $\pm .01$ on .00 place
- BORE ID: $+.005$; $-.003$; We try to stay within $\pm .002$
- END THICKNESS: Gun drill bottom; 1/4" to bottom $\pm 1/16$ "; 3/16" minimum end thickness
- CONCENTRICITY OF BORE TO OD: $\pm 10\%$ of minimum wall thickness
- WETTED SURFACES FINISH: Standard finish 60-100 Ra; 16-32 Ra available; 4-10 Ra mirror polish available
- RADIUS UNDER THREADS AND FLANGES: 1/8" is standard, $\pm 1/16$ in.; 1/16" on Van Stone type
- MALE THREADS (NPT): ± 1 turn on thread gage
- FEMALE THREADS: 1/2" NPSM standard; 1/2-14 NPT available upon request; go gauge to 5/8" depth of thread; no go gauge 2 turns maximum
- END OF WELLS: Break corners; no burrs
- LAGGING EXT.: On screwed wells; left as hex stock (not turned); exception—when hex is not available in special materials
- STAMPING: Stamped onto hex or round facing open end of well; material code identification; tag numbers
- FLANGED WELLS: Made in accordance with ANSI B16.5; raised face is serrated 125 Ra; smooth face must be specified on order if needed
- FRONT J: Groove welds are 1/4" wide by 1/4" deep; welds are machined, leaving 1/8" radius; rear welds are 1/8" wide by 1/8" deep "V"; welds are machined, leaving 1/4" radius; full penetration welds are available upon request and must be specified

| MODEL | STEM LENGTH A | PROCESS CONNECTION P | INSERTION LENGTH U | SHANK DIAMETER Q |
|---------|------------------|-------------------------|-----------------------|---------------------|
| TW-STEP | 4" | 1/2" | 2-1/2" | 5/8" |
| | 6" | | 4-1/2" | |
| | 9" | | 7-1/2" | |
| | 12" | | 10-1/2" | |
| | *15" | | 13-1/2" | |
| | *18" | | 16-1/2" | |
| *24" | 22-1/2" | | | |
| TW-STEP | 4" | 3/4" | 2-1/2" | 3/4" |
| | 6" | | 4-1/2" | |
| | 9" | | 7-1/2" | |
| | 12" | | 10-1/2" | |
| | *15" | | 13-1/2" | |
| | *18" | | 16-1/2" | |
| *24" | 22-1/2" | | | |

* Optional



Note: On wells with 1/2" NPT process connection, the 1" thread allowance and 3/4" wrench allowance dimensions are reversed to accommodate the 1/2" NPSM female thread

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SPEC NUMBER SELECTION CHART

Model TW – General Use

| Connection | 4" Stem Length | 6" Stem Length | 9" Stem Length | 12" Stem Length |
|--------------|----------------|----------------|----------------|-----------------|
| | Spec No. | Spec No. | Spec No. | Spec No. |
| 1/2-14 NPT | 416000 | 416001 | 416002 | 416003 |
| 3/4-14 NPT | 416013 | 416014 | 416015 | 416016 |
| 1-11-1/2 NPT | 416026 | 416027 | 416028 | 416029 |

Model TW – Lagging Extension

| Connection | 4" Stem Length | 6" Stem Length | 9" Stem Length | 12" Stem Length |
|--------------|----------------|----------------|----------------|-----------------|
| | Spec No. | Spec No. | Spec No. | Spec No. |
| 1/2-14 NPT | -- | 416007 | 416008 | 416009 |
| 3/4-14 NPT | -- | 416020 | 416021 | 416022 |
| 1-11-1/2 NPT | -- | 416033 | 416034 | 416035 |

Model TW – General Use, Heavy Duty

| Connection | 4" Stem Length | 6" Stem Length | 9" Stem Length | 12" Stem Length |
|--------------|----------------|----------------|----------------|-----------------|
| | Spec No. | Spec No. | Spec No. | Spec No. |
| 1/2-14 NPT | 416039 | 416040 | 416041 | 416042 |
| 3/4-14 NPT | 416052 | 416053 | 416054 | 416055 |
| 1-11-1/2 NPT | 416065 | 416066 | 416067 | 416068 |

Model TW – Lagging Extension, Heavy Duty

| Connection | 4" Stem Length | 6" Stem Length | 9" Stem Length | 12" Stem Length |
|--------------|----------------|----------------|----------------|-----------------|
| | Spec No. | Spec No. | Spec No. | Spec No. |
| 1/2-14 NPT | -- | 416046 | 416047 | 416048 |
| 3/4-14 NPT | -- | 416059 | 416060 | 415061 |
| 1-11-1/2 NPT | -- | 416072 | 416073 | 416074 |

Model TW – Limited Space

| Connection | 2-1/2" Stem Length |
|--------------|--------------------|
| | Spec No. |
| 1/2-14 NPT | 416078 |
| 3/4-14 NPT | 416079 |
| 1-11-1/2 NPT | 416080 |

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