



TEMPERATURE PRODUCTS

# 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.



Model TW-STEP

Dimensions				
Model	Stem Length A	Process Connection	Intersection 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"	
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

SPECIFICATIONS

**LENGTHS:** ±1/16" on lengths 12" or less; ±1/8" on lengths 12" or over

**WELLS 30" 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: ±.015; Decimal: ±.005 on .000 place; ±.01 on .00 place

**BORE ID:** +.005; -.003; usually within ±.002

**END THICKNESS:** Gun drill bottom; 1/4" to bottom ±1/16"; 3/16" minimum end thickness

**CONCENTRICITY OF BORE TO OD:** ±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, ±1/16"; 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

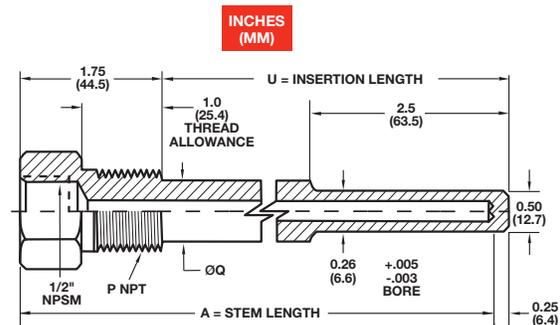
**END OF WELLS:** Break corners; no burrs

**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





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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	4156052	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	416061
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			