



THERMOWELLS

Machined Wells

ACI's Machined Thermowells are used with temperature instruments in process systems where gas or liquid medias are used to provide a degree of protection for the sensing element when installed inside of a pipe, tank, or piece of equipment. The thermowell provides easy access for NIST Certified applications and enables users to easily replace the sensor without having to drain the entire system. Thermowells also protect the small diameter sensing probes from stresses created by high temperatures and pressures, corrosive environments, or the flow of gas or liquid medias through pipes or equipment. It is recommended to follow a Wake Frequency calculator using the ASME PTC 19.3 TW-2016 standard to help prevent vibrational destruction from damaging the thermowell. ACI's standard thermowells are made of 304 stainless steel which ensures long lasting reliability and corrosion resistance. Optional 316 Stainless Steel is available for use in applications

where higher corrosion resistance is required. This series is machined from solid bar stock to precision tolerances which provides maximum heat transfer when used with a corresponding ACI sensor. When necessary, thermal grease is available from ACI to improve the sensor's response time. Insertion depth should be long enough to permit the entire temperature-sensitive section of the temperature probe to project into the medium being monitored, thus maximizing measurement accuracy.

Applications: Chilled and Hot Water Systems, Hydronic Heating Systems, Boilers, Pumps, Compressors, Chillers, Refrigeration Systems, Tanks, Aquariums, Process Control Systems, Compressed Air and Gas lines

All ACI Thermowells are covered by ACI's Five (5) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's website, workaci.com.

PRODUCT SPECIFICATIONS

Thermowell Hex Size:	1.125" (28.57 mm)
Insertion Length:	See Ordering Grid (Tolerance: +/- 0.050" (+/- 1.27 mm))
Thermowell Bore Diameter:	0.260" +/- 0.003" (6.60 mm +/- 0.0762 mm)
Shank Type:	Stepped and Straight (See Ordering Grid)
Shank Dimensions:	Straight: Root Diameter: 0.500" (12.7 mm); Tip Diameter: 0.500" (12.7 mm)
+/- 0.010" (+/- 0.254 mm):	Stepped: Root Diameter: 0.630" (16.002 mm); Tip Diameter: 0.500" (12.7 mm)
Stepped Thermowell Reduced Tip Length:	2.500" (63.5 mm)
Tip Thickness:	0.250" (6.35 mm)
Internal "Instrument" Thread:	1/2" NPS
External "Process" Thread:	1/2" MNPT - 14
Material Type:	304 and 316 Series Stainless Steel Available (See Ordering Grid)
Surface Finish:	Polished to 16 RMS

MAXIMUM PRESSURE VS TEMPERATURE RATINGS [304 STAINLESS STEEL]

Temperature:	70°F (21.1°C)	200°F (93.2°C)	400°F (204.2°C)	600°F (315.2°C)	800°F (426.2°C)	1000°F (537.2°C)	1200°F (648.2°C)
PSIG (Bar):	7000 (482.6)	6000 (413.7)	5600 (386.1)	5400 (372.3)	5200 (358.5)	4500 (310.3)	1650 (110.3)

MAXIMUM PRESSURE VS TEMPERATURE RATINGS [316 STAINLESS STEEL]

Temperature:	70°F (21.1°C)	200°F (93.2°C)	400°F (204.2°C)	600°F (315.2°C)	800°F (426.2°C)	1000°F (537.2°C)	1200°F (648.2°C)
PSIG (Bar):	7000 (482.6)	7000 (482.6)	6400 (441.2)	6200 (427.4)	6100 (420.5)	5100 (351.6)	2500 (172.3)

Note: All machined thermowells, materials, corrosion resistance, flow rating, temp & pressures are the sole responsibility of the systems engineer that incorporates the thermowell into design

MAXIMUM VELOCITY VS THERMOWELL INSERTION LENGTH

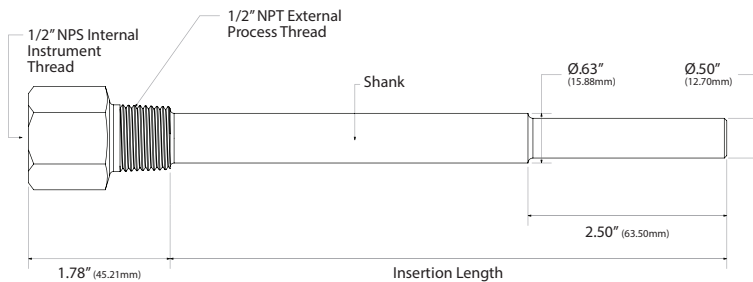
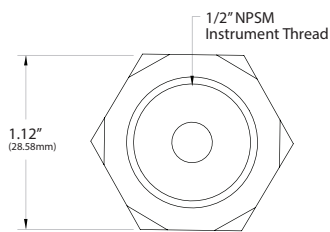
Straight Shank Insertion Length "U"				Stepped Shank Insertion Length "U"				
Media Type:	1.0" (25.4mm)	2.5" (63.5mm)	8.0" (203.2mm)	4.0" (101.6mm)	6.0" (152.4mm)	12.0" (304.8mm)	18.0" (457.2mm)	24.0" (609.6mm)
Air/Gas/Steam 1	349 ft/s (106.3m/s)	349 ft/s (106.3m/s)	71.9 ft/s (21.9m/s)	109 ft/s (33.2m/s)	39.5 ft/s (12.0m/s)	12.2 ft/s (3.7m/s)	5.9 ft/s (1.8m/s)	3.2 ft/s (1.0m/s)
Water	360 ft/s (109.7m/s)	360 ft/s (109.7m/s)	71.9 ft/s (21.9m/s)	82.2 ft/s (25.1m/s)	39.5 ft/s (12.0m/s)	12.2 ft/s (3.7m/s)	5.9 ft/s (1.8m/s)	3.2 ft/s (1.0m/s)

Note¹: Values are for Air/Gas/Steam and similar density media | All velocity ratings are based upon an operating temperature of 1000°F (537.8°C)

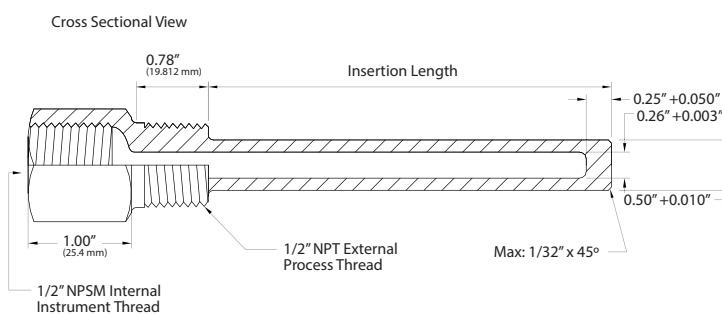
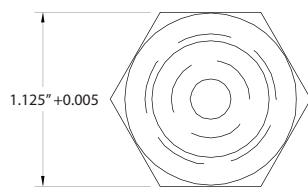


DIMENSIONAL DRAWING

Stepped Thermowell



Straight Thermowell



Front View

Right/Top Views

STANDARD ORDERING

Model # Example: A/M24" -OR- 128342

Model #	Item #	Insertion Length	Material Type	Shank Type	Internal Thread	External Thread	Shipping Weight
A/M1"	128337	1.25" (31.7 mm)	304 SS	Straight	1/2" NPS Thread	1/2" NPT Thread	0.19 lbs (0.08kg)
A/M2.5"	128338	2.5" (63.5 mm)	304 SS	Straight	1/2" NPS Thread	1/2" NPT Thread	0.39 lbs (0.18kg)
A/M4"	128343	4.0" (101.6 mm)	304 SS	Stepped	1/2" NPS Thread	1/2" NPT Thread	0.52 lbs (0.24kg)
A/M6"	128344	6.25" (158.7 mm)	304 SS	Stepped	1/2" NPS Thread	1/2" NPT Thread	0.68 lbs (0.31kg)
A/M8"	138725	8.0" (203.2 mm)	304 SS	Straight	1/2" NPS Thread	1/2" NPT Thread	0.89 lbs (0.40kg)
A/M12"	128339	12.0" (304.8 mm)	304 SS	Stepped	1/2" NPS Thread	1/2" NPT Thread	1.11 lbs (0.50kg)
A/M18"	128341	18.0" (457.2 mm)	304 SS	Stepped	1/2" NPS Thread	1/2" NPT Thread	1.57 lbs (0.71kg)
A/M24"	128342	24.0" (609.6 mm)	304 SS	Stepped	1/2" NPS Thread	1/2" NPT Thread	2.05 lbs (0.93kg)
A/M1"-316SS	151749	1.25" (31.7 mm)	316 SS	Straight	1/2" NPS Thread	1/2" NPT Thread	0.19 lbs (0.08kg)
A/M2.5"-316SS	128352	2.5" (63.5 mm)	316 SS	Straight	1/2" NPS Thread	1/2" NPT Thread	0.39 lbs (0.18kg)
A/M4"-316SS	128353	4.0" (101.6 mm)	316 SS	Stepped	1/2" NPS Thread	1/2" NPT Thread	0.52 lbs (0.24kg)
A/M6"-316SS	128354	6.0" (152.4 mm)	316 SS	Stepped	1/2" NPS Thread	1/2" NPT Thread	0.68 lbs (0.31kg)

ACCESSORIES ORDERING

Model # Example: A/3/4" TO 1/2" REDUCER -OR- 138479

Model #	Item #	Description
SG	102951	Silicone Grease, 5.0 oz, -40 to 392°F
NSG HEAT TRANSFER PASTE 2 OZ	102595	Non-Silicone Grease, 2.0 oz, -40 to 320°F
A/3/4" TO 1/2" REDUCER	138479	3/4" to 1/2" Reducer Steel, 3/4" MNPT to 1/2" FNPT
A/1/8" TO 1/4" ADAPTER	138480	1/8" to 1/4" Adapter Steel, 1/8" FNPT to 1/4" MNPT
A/1/2" TO 1/4" REDUCER	138478	1/2" to 1/4" Reducer Brass, 1/2" FNPT to 1/4" MNPT