

Type TW.FL / TW10 Flanged, TW.TH / TW15 Threaded, TW.SW / TW20 Socket Weld, TW.WI / TW25 Weld-in, TW.SC / TW30 Sanitary

Thermowells for temperature instruments are recommended for all process systems where pressure, velocity or viscous, abrasive and corrosive materials are present individually or in combination. A properly selected thermowell protects the temperature instrument from possible damage resulting from these process variables. Furthermore, a thermowell permits removal of the temperature instrument for replacement, repair or testing without affecting the process media or the system.



Standard Features

| | |
|-------------------------------|---|
| Process Connections: | Threaded, flanged, sanitary, socket, weld, weld-in |
| Instrument Connection: | ½" NPSM standard (National Pipe Standard Mechanical); a straight pipe thread for mechanical joints) |
| Shank Configurations: | Reduced, straight, tapered |
| Bore Diameter: | .260", .385" |
| Materials: | Brass, AISI 304, AISI 316 |
| Surface Finish: | Brass: 60-100 Ra; AISI 304 & AISI 316: 60-100 Ra sanitary (AISI 304 & AISI 316): 16-20 Ra |

Thermowell Terminology

Process Connection: External means to connect thermowell to process piping system. Wells can be threaded, bolted (to matching flange), clamped or welded in place.

Instrument Connection: Internal threads to connect temperature instrument to thermowell.

U Dimension: Length of well inserted into the piping system. Measured from the base of the process connection to the end tip of well.

T Dimension: Also called lagging extension. Extends length between the instrument and process connections to accommodate vessel or piping insulation. Standard length is 3" (2" for a well with a 2½" U dimension).

S Dimension: Instrument insertion length into well.

Bore Diameter: Dimension of internal bore to match the diameter of the instrument stem/bulb inserted into the well. The .260" and .385" bore sizes fit instrument stem/bulb diameters of ¼" and ⅜" respectively. Bore length equals S dimension.

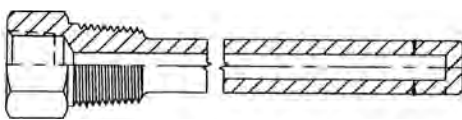
Root Diameter: Diameter of well shank below process connection. This dimension varies with process connection and/or shank design.

Tip Diameter: Diameter of well shank at the end tip of well. This dimension may vary with process connection and/or shank design.

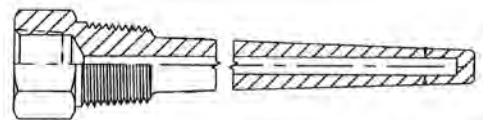
Reduced Shank: Also called reduced tip. The shank O.D. is reduced over the last 2½" of the U dimension from the standard root diameter to a ½" O.D. The stepped shank is available with a .260" bore size only.

Straight Shank: Shank O.D. is the same from the root diameter to the tip diameter. The straight shank is generally used with a .385" bore size but a .260" bore size is available.

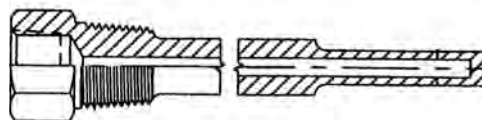
Tapered Shank: Shank O.D. is gradually reduced from the root diameter to the tip diameter. Available with a .260" or .385" bore size. The tapered shank is recommended for heavy duty applications characterized by high vibration, pressure, temperature and/or velocity.



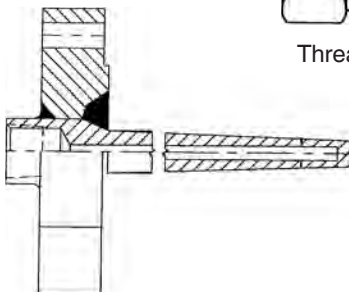
Threaded Straight Configuration



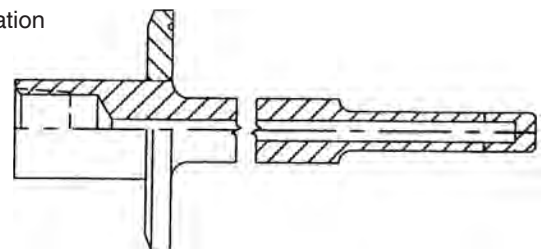
Threaded Tapered Configuration



Threaded Reduced (Stepped) Configuration



Flanged Tapered Configuration



Sanitary Reduced Configuration

Thermowells For Bimetal & Gas Actuated Thermometers

| CODING EXAMPLES | | | | | | | | | |
|-----------------|----------------------|--------------------|---------------|--------|---------------|--------|----------|--------|--------|
| Type | Part Number | Process Connection | Bore/Type | Lag | Shank Design | U Dim. | Material | Rating | Facing |
| Threaded | 75-TH2R-045-CC | ¾" NPT | .260/threaded | None | Stepped | 4½" | 304SS | | |
| Threaded | 75-TH2LT-055-SS-T5 | ¾" NPT | .260/threaded | 5" Lag | Tapered shank | 5½" | 316SS | | |
| Flanged | 15-FL2T-070-SS-150RF | 1½" flanged | .260/flanged | None | Tapered shank | 7" | 316SS | 150# | RF |
| Sanitary | 10-SC2R-045-SS | 1" sanitary | .260/sanitary | None | Stepped shank | 4½" | 316SS | | |
| Socket weld | 75-SW2R-045-CC | ¾" NPT | .260/skt weld | None | Stepped | 4½" | 304SS | | |

| WIKA THERMOWELL PRODUCT CODING EXPLANATION | | | | | | | | |
|--|------------------------|----------------|--------------|--------------------------------|----------------------|-----------------|--|-------------|
| Process Connection | Type / Bore Dia. | Lag | Shank Design | Standard U Dimensions (No Lag) | | For Stem Length | Standard Material | Cap & Chain |
| | | | | Type FL | All Other Types | | | |
| 50 = ½" | TH2 = Threaded/.260 | Blank=No lag | R = Reduced | N/A | *015 = 1½" | 2½" | BR=Brass | 2= ST.ST. |
| 75 = ¾" | TH3 = Threaded/.385 | L=Standard lag | S = Straight | 020 = 2" | 025 = 2½" | 4" | CC=304 SS | |
| 10 = 1" | FL2 = Flanged/.260 | | T = Tapered | 040 = 4" | 045 = 4½" | 6" | SS=316 SS | |
| 12 = 1¼" | FL3 = Flanged/.385 | | | 070 = 7" | 075 = 7½" | 9" | CS=Carbon steel | |
| 15 = 1½" | SC2 = Sanitary/.260 | | | 100 = 10" | 105 = 10½" | 12" | MO=Monel® | |
| 20 = 2" | SC3 = Sanitary/.385 | | | 130 = 13" | 135 = 13½" | 15" | CP=Carp.20 | |
| | SW2 = Socket weld/.260 | | | 160 = 16" | 165 = 16½" | 18" | IN=Inconel® 600 | |
| | SW3 = Socket weld/.385 | | | 220 = 22" | 225 = 22½" | 24" | NI=Nickel | |
| | | | | Standard U with lag (T) | | | HB=Hastelloy® B | |
| | | | | Type FL | All Other Types | | HC=Hastelloy® C | |
| | | | | 020 = 2" (T=2") | 025 = 2½" (T=2") | 6" | TA=Tantalum | |
| | | | | 040 = 4" (T=3") | 045 = 4½" (T=3") | 9" | TI=Titanium | |
| | | | | 070 = 7" (T=3") | 075 = 7.½" (T=3") | 12" | TC= Teflon® coated | |
| | | | | 100 = 10" (T=3") | 105 = 10½" (T=3") | 15" | Other material, consult factory for pricing. | |
| | | | | 130 = 13" (T=3") | 135 = 13½" (T=3") | 18" | | |
| | | | | 190 = 19" (T=3") | 195 = 19½" (T=3") | 24" | | |

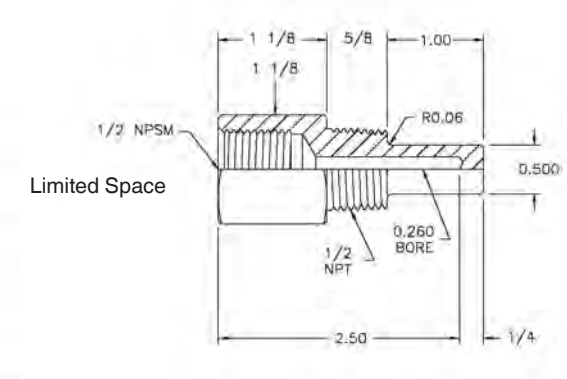
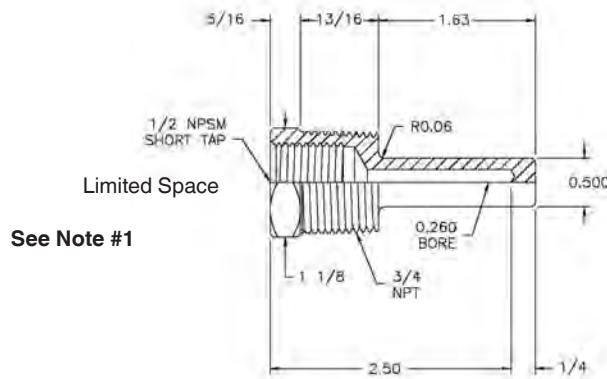
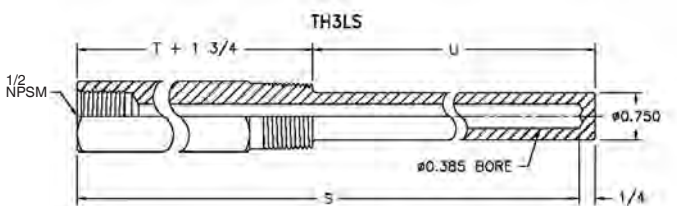
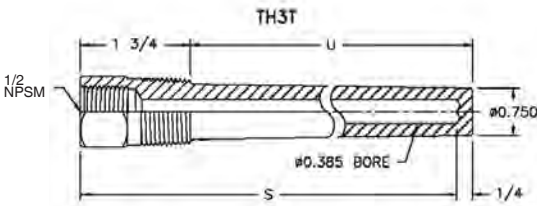
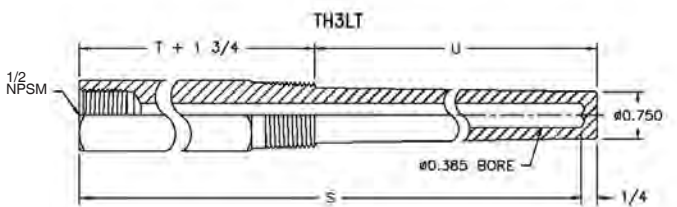
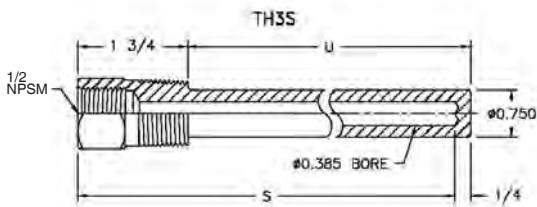
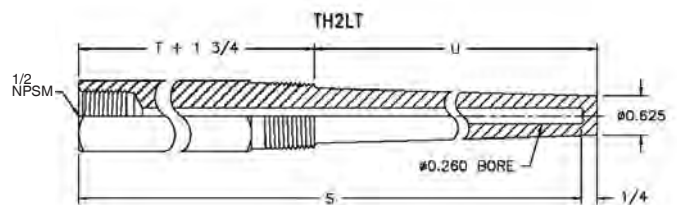
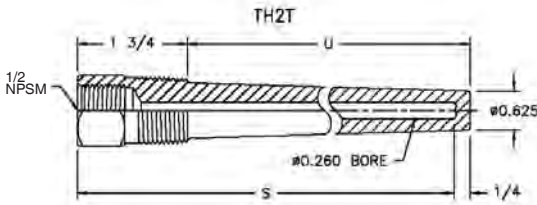
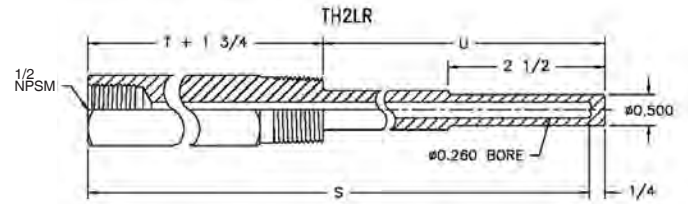
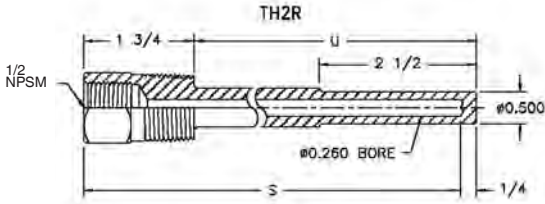
| For Flanged Well, Specify Rating & Facing | |
|---|-----------------------|
| Rating | Facing |
| 150# | |
| 300# | FF=Flat Face flange |
| 600# | RF=Raised Face flange |
| 900# | RTJ=Ring Joint flange |
| 1500# | |

*Note: For ½" NPT process connection the "U" dimension becomes 1" to accommodate ½" NPSM female thread. Order as *010", i.e. 50TH2R010CC.

| Threaded Thermowell Factory Stock | | | | |
|-----------------------------------|--------------|-------------|-------------|-------------|
| Part Number | | | | |
| 75TH2R015BR | 75TH2R015CC | 75TH2R015SS | 75TH2R025BR | 75TH2R025CC |
| 75TH2R025SS | 75TH2LR025SS | 75TH2R045CC | 75TH2R045SS | 75TH2R045BR |
| 75TH2R045CC | 75TH2LR045SS | 75TH2R075SS | 50TH2R010CC | 50TH2R010SS |
| 50TH2R025BR | 50TH2R025CC | 50TH2R025SS | | |

Stock items shown in blue print.

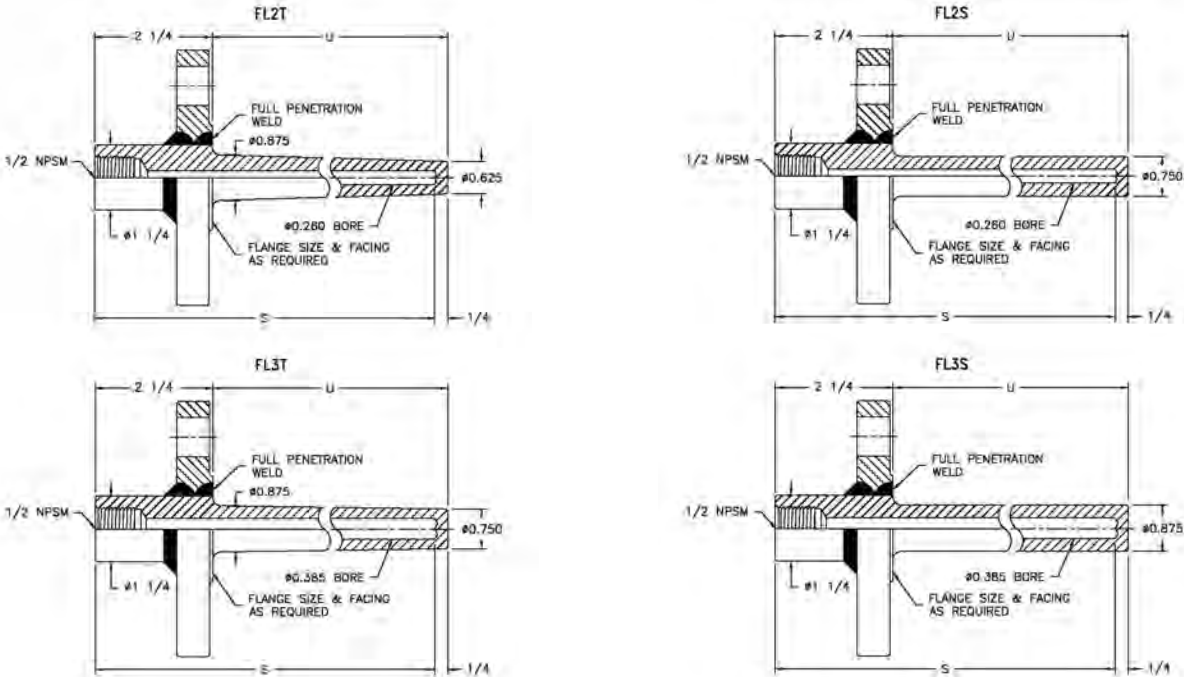
Threaded Configuration



Notes:

1. Normal U dimension on limited space well is 1⁵/₈" for 3/4" NPT and 1" NPT process connection.
(For 1/2" NPT process connection, U dimension becomes 1" to accommodate 1/2" NPSM female thread).
Order as "010", i.e. 50TH2R010CC.

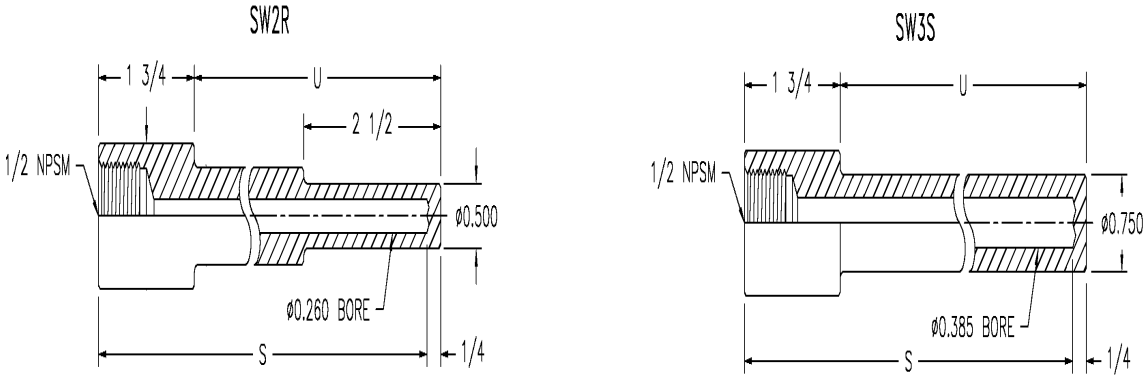
Flanged Configuration



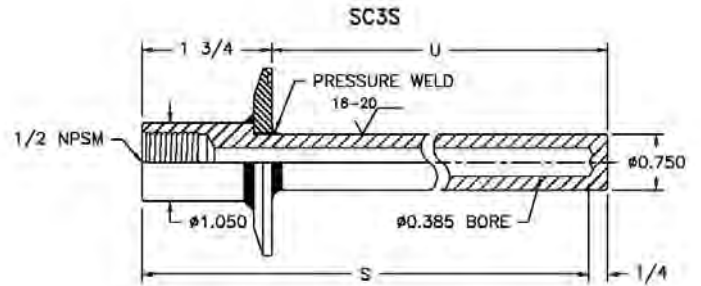
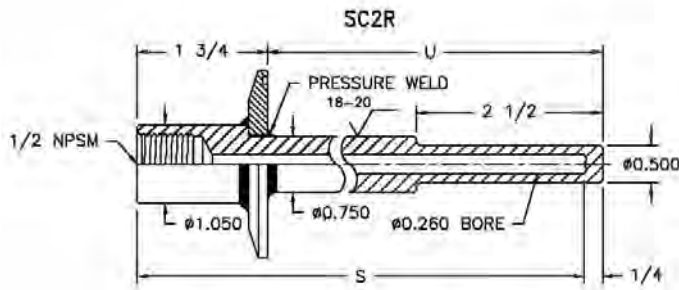
| Flange Rating | Minimum Head Lengths | | | | | |
|---------------|----------------------|--------------|---------------|---------------|---------------|---------------|
| | Flange Size | | | | | |
| | 1" | 1-1/2" | 2" | 2-1/2" | 3" | 4" |
| 150# | 2.25" (57.2) | 2.25" (57.2) | 2.25" (57.2) | 2.25" (57.2) | 2.25" (57.2) | 2.25" (57.2) |
| 300# | 2.25" (57.2) | 2.25" (57.2) | 2.25" (57.2) | 2.25" (57.2) | 3.25" (82.6) | 3.25" (82.6) |
| 400# | 2.25" (57.2) | 2.25" (57.2) | 3.25" (82.6) | 3.25" (82.6) | 3.25" (82.6) | 3.25" (82.6) |
| 600# | 2.25" (57.2) | 2.25" (57.2) | 3.25" (82.6) | 3.25" (82.6) | 3.25" (82.6) | 3.25" (82.6) |
| 900# | 3.25" (82.6) | 3.25" (82.6) | 3.25" (82.6) | 3.25" (82.6) | 3.25" (82.6) | 3.25" (82.6) |
| 1500# | 3.25" (82.6) | 3.25" (82.6) | 3.25" (82.6) | 3.25" (82.6) | 3.25" (82.6) | 3.25" (82.6) |
| 2500# | 3.25" (82.6) | 3.25" (82.6) | 4.25" (108.0) | 4.25" (108.0) | 4.25" (108.0) | 4.25" (108.0) |

HOW TO ORDER
 Specify flange size, rating and facing, thermowell U dim., bore dia. and material.
 Raised face flange supplied as standard ANSI serrated. Specify 125 RMS smooth face if required at no extra charge.

Socket Weld Configuration



Sanitary Configuration



Notes:

1. Meets USDA and 3A Sanitary Standard 74-03
2. Available with 1", 1½", 2" and 3" solid end caps
3. Special designs available upon request
4. Standard finish AISI 304 and AISI 316, 16-20 Ra

Note: Minimum stem length is 4"

Sanitary Thermowells - Stepped or Straight Shank

Type SC2 (.260 Bore) & SC3 (.385) bore, stepped or straight shank, with or without lag

| Size | Type | No Lag U Dim | With Lag | | S Dim |
|-----------------|-------|-----------------|----------|-------|-------|
| | | | U Dim | T Dim | |
| 1" or 1½" | SC2R | 2½ | -- | -- | 4 |
| | SC2LR | 4½ | 2½" | 2 | 6 |
| | SC3S | | | | |
| | SC3LS | 7½ | 4½" | 3 | 9 |

| Size | Type | No Lag U Dim | With Lag | | S Dim |
|------|-------|-----------------|----------|-------|-------|
| | | | U Dim | T Dim | |
| 2" | SC2R | 2½ | -- | -- | 4 |
| | SC2LR | 4½ | 2½" | 2 | 6 |
| | SC3S | | | | |
| | SC3LS | 7½ | 4½" | 3 | 9 |

Sanitary Thermowells - Tapered Shank

Type SC2 (.260 Bore) & SC3 (.385) bore, tapered shank, with or without lag

| Size | Type | No Lag U Dim | With Lag | | S Dim |
|-----------------|-------|-----------------|----------|-------|-------|
| | | | U Dim | T Dim | |
| 1" or 1½" | SC2T | 2½ | -- | -- | 4 |
| | SC2LT | 4½ | 2½" | 2 | 6 |
| | SC3T | | | | |
| | SC3LT | 7½ | 4½" | 3 | 9 |

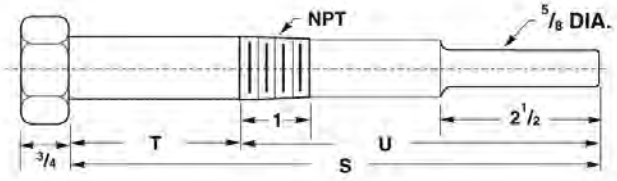
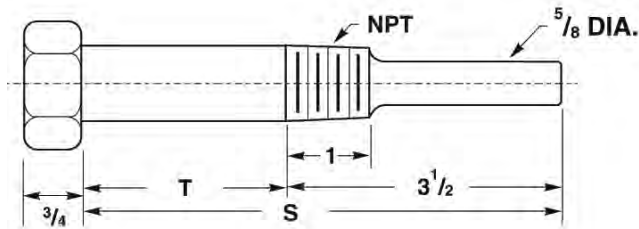
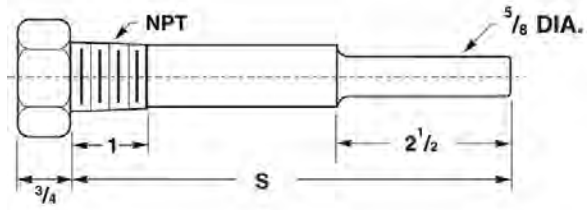
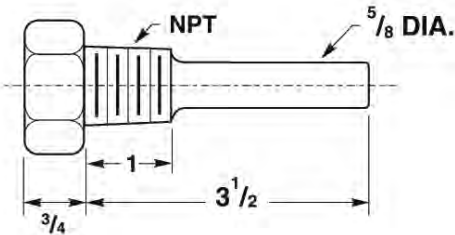
Accessories

| Description | Part Number | Code |
|-------------------------------------|-------------|--------|
| SS cap & chain | | Code 2 |
| Stamping on well | | -- |
| 5.3 oz. tube heat transfer compound | 2256045 | -- |
| Paper tag | | -- |

| Size | Type | No Lag U Dim | With Lag | | S Dim |
|------|-------|-----------------|----------|-------|-------|
| | | | U Dim | T Dim | |
| 2" | SC2T | 2½ | -- | -- | 4 |
| | SC2LT | 4½ | 2½" | 2 | 6 |
| | SC3T | | | | |
| | SC3LT | 7½ | 4½" | 3 | 9 |

Note: Sanitary thermowells are polished to 16-20 Ra per 3A Sanitary Standards

Thermowells for Industrial Glass Thermometers



Thermowell Product Coding Explanation

| Process Connection | Type / Bore Dia. | Lag | Shank Design | Nominal Bulb Length | For Stem Length | Standard Material | Cap & Chain |
|----------------------|-------------------------------------|----------------------------------|--------------|--------------------------------------|--------------------|--------------------------------------|------------------------|
| 75 = 3/4" 10 = 1" | TH5 = Threaded / 0.435 min. dia. | Blank = No lag L=Standard lag | R = Stepped | 035 = 3 1/2" 060 = 6" 090 = 9" | 3 1/2" 6" 9" | BR=Brass CC=304 SS SS = 316 SS | 1=Brass 2=St. Steel |

WIKA Industrial Thermowell Coding Explanation

Type TH5 stepped shank, with or without lag

| Size | Type | No lag | with lag | | "S" |
|------------------|---------------|----------|----------|--------|--------|
| | | | U Dim. | T Dim | |
| 3/4" or 1" | TH5R TH5LR | 2-9/16" | ----- | ----- | 3 1/2" |
| | | 5-1/16" | 2-9/16" | 2 1/2" | 6" |
| | | 8-1/16" | 5-1/16" | 3" | 9" |
| | | 11-1/16" | 8-1/16" | 3" | 12" |

Factory Stock

Threaded Thermowell for Industrial Glass Thermometers

| Part Number |
|--------------|
| 75TH5R035BR |
| 75TH5R060BR |
| 75TH5LR035BR |