

## 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

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

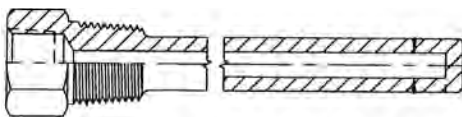
**Root Diameter:** Diameter of well shank below process connection. This dimension varies with process connection and/or shank design.

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

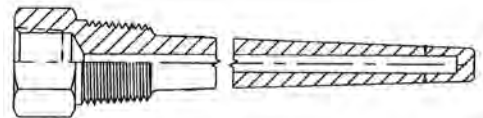
**Reduced Shank:** Also called reduced tip. The shank O.D. is reduced over the last 2½" of the U dimension from the standard root diameter to a ½" O.D. The stepped shank is available with a .260" bore size only.

**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.

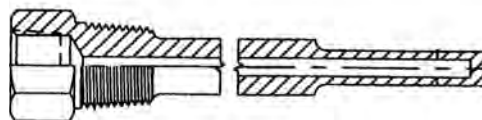
**Tapered Shank:** Shank O.D. is gradually reduced from the root diameter to the tip diameter. Available with a .260" or .385" bore size. The tapered shank is recommended for heavy duty applications characterized by high vibration, pressure, temperature and/or velocity.



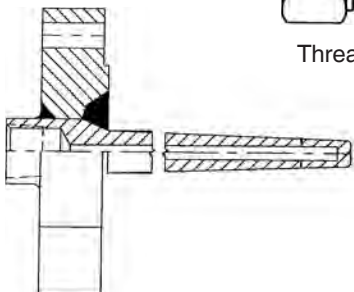
Threaded Straight Configuration



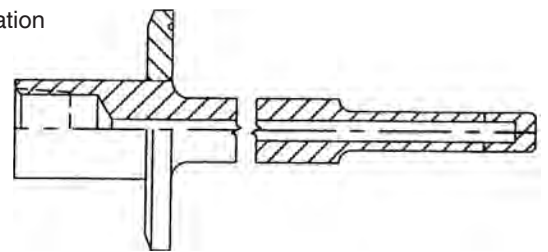
Threaded Tapered Configuration



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"		

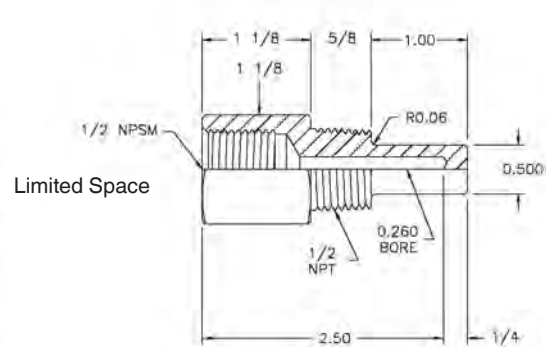
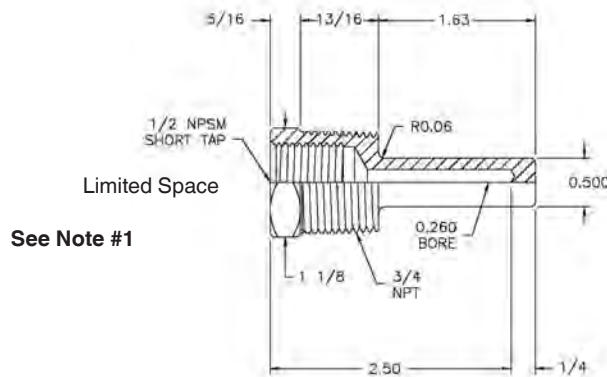
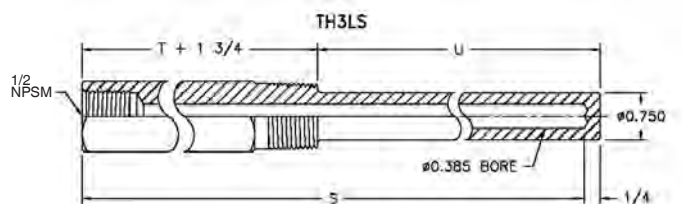
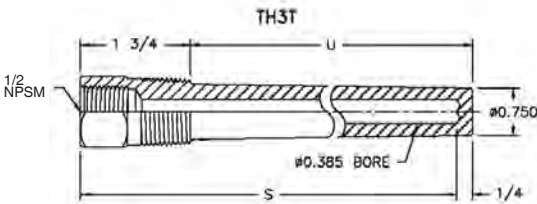
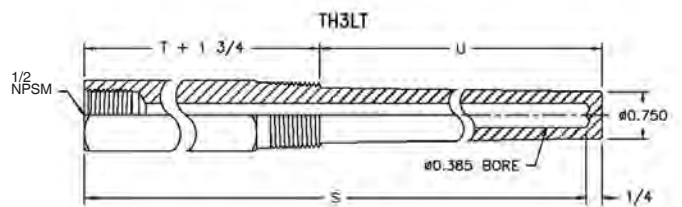
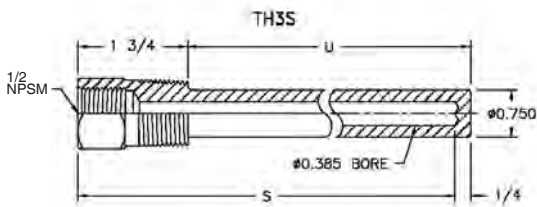
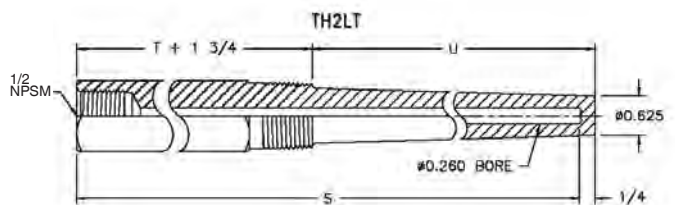
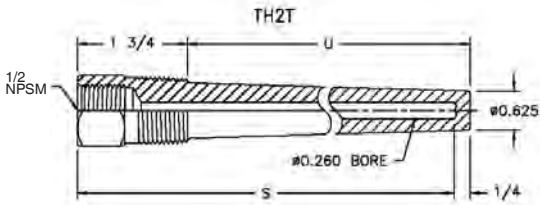
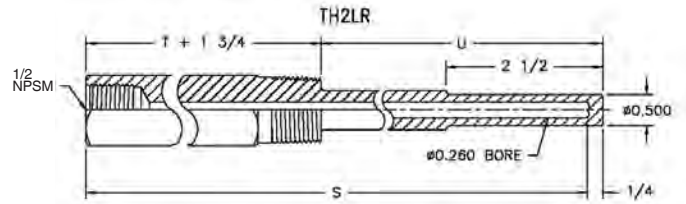
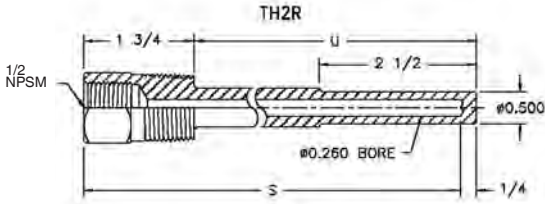
For Flanged Well, Specify Rating & Facing	
Rating	Facing
150#	
300#	FF=Flat Face flange
600#	RF=Raised Face flange
900#	RTJ=Ring Joint flange
1500#	

\*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



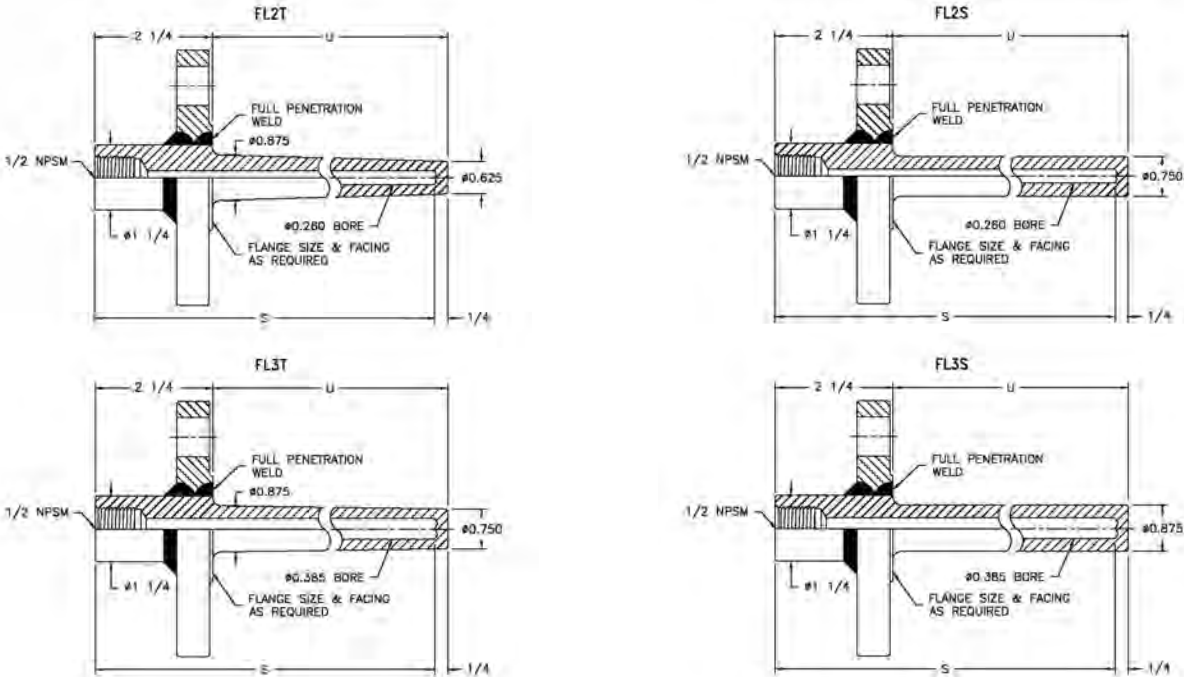
### Notes:

1. Normal U dimension on limited space well is 1<sup>5</sup>/<sub>8</sub>" 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.



Mechanical Temperature > Thermowells > Flanged Configuration

# Flanged Configuration

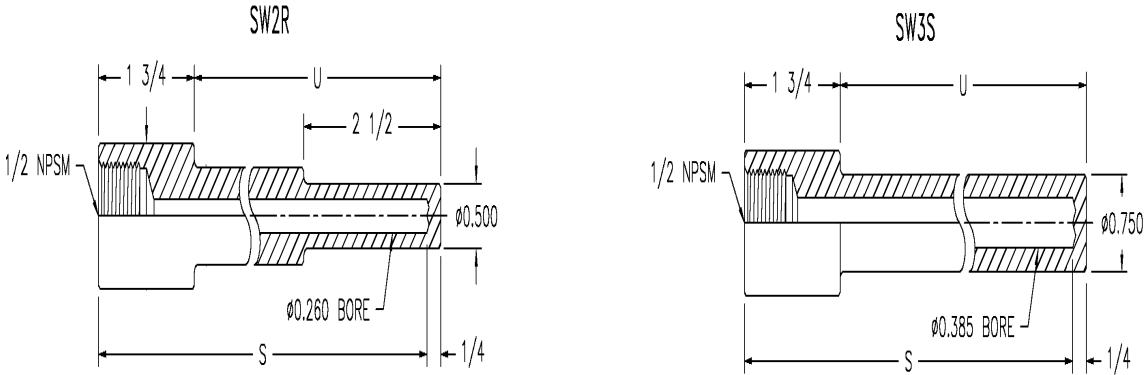


Flange Rating	Minimum Head Lengths					
	Flange Size					
	1"	1-1/2"	2"	2-1/2"	3"	4"
150#	2.25" (57.2)	2.25" (57.2)	2.25" (57.2)	2.25" (57.2)	2.25" (57.2)	2.25" (57.2)
300#	2.25" (57.2)	2.25" (57.2)	2.25" (57.2)	2.25" (57.2)	3.25" (82.6)	3.25" (82.6)
400#	2.25" (57.2)	2.25" (57.2)	3.25" (82.6)	3.25" (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.

Mechanical Temperature > Thermowells > Socket Weld Configuration

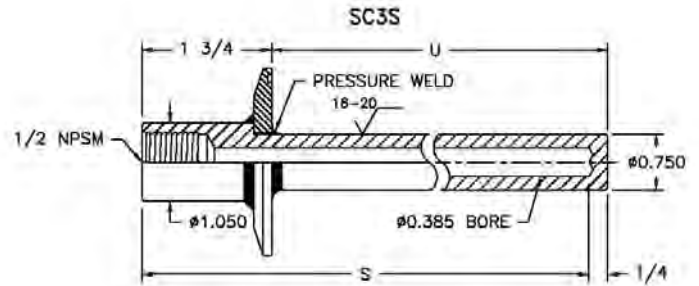
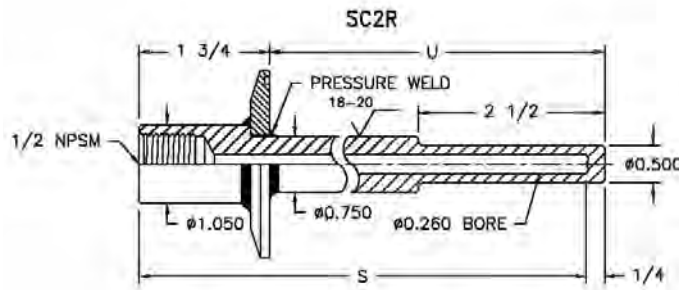
# Socket Weld Configuration



For datasheets and additional information, please visit [www.wika.com](http://www.wika.com) or call 1-888-945-2872.

MECHANICAL TEMPERATURE

## 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

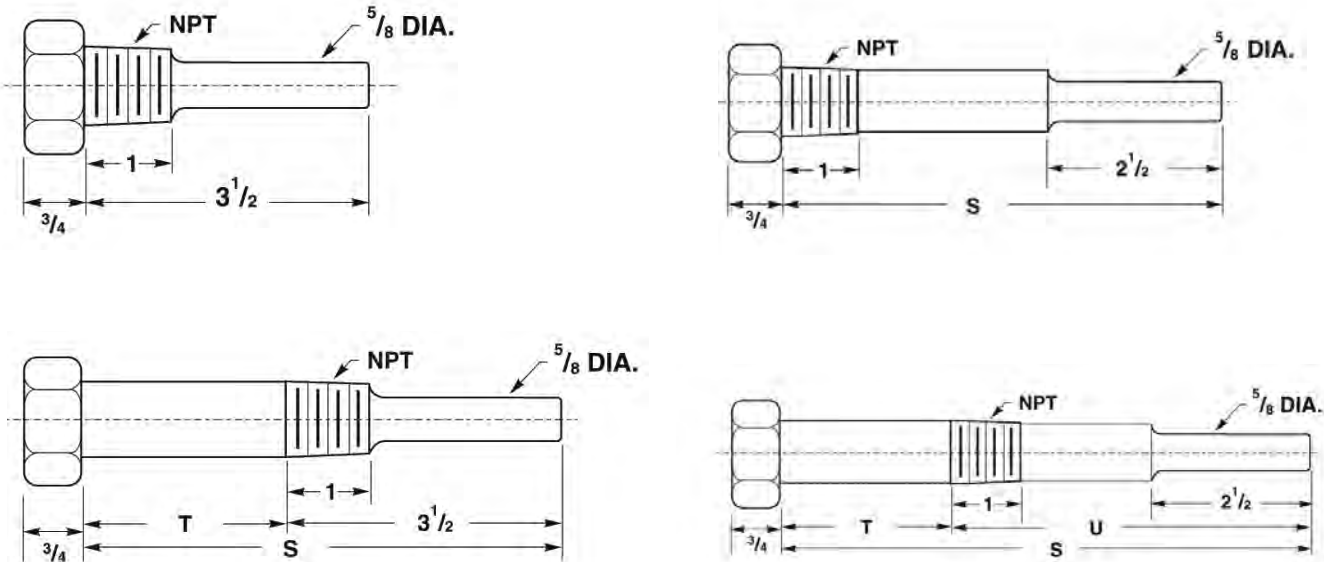
### Accessories

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