

Threaded thermowell

Head design: hexagon, milled wrench flats or round with hexagon

Model TW15

WIKA data sheet TW 95.15

Applications

- Chemical industry, process technology, equipment manufacturing
- For high chemical stress
- For high process loads

Special features

- International standard
- Possible thermowell designs: tapered, straight or stepped



Threaded thermowell, design TW15-H

Description

Each thermowell/protection tube is an important component of any temperature measuring location. It is used to separate the process from the surrounding area, thus protecting the environment and operating personnel and keeps aggressive media, high pressures and flow rates from the temperature probe itself and thereby enables the thermometer to be exchanged during operation.

Based on the almost limitless application possibilities, there are a large number of variants, such as thermowell designs or materials. The type of process connection and the basic method of manufacture are important design differentiation criteria. A basic differentiation can be made between threaded and weld-in thermowells/protection tubes, and those with flange connections.

Furthermore, one can differentiate between protection tubes and thermowells. Protection tubes are constructed from a tube, that is closed at the tip by a welded solid tip. Thermowells are manufactured from solid bar stock.

The TW15 series of threaded thermowells are suitable for use with numerous electrical and mechanical thermometers from WIKA.

Due to the heavy-duty design, these international design thermowells are the first choice for use in the chemical and petrochemical industries and in plant construction.

Specifications

Basic information	
Thermowell form	<ul style="list-style-type: none"> ■ Tapered ■ Straight ■ Stepped
Version	
Design TW15-H	Hexagon
Design TW15-R	Milled wrench flats
Design TW15-M	Round with hexagon
Material (wetted)	<ul style="list-style-type: none"> ■ Stainless steel 316/316L ■ Stainless steel 304/304L ■ A105 ■ Stainless steel 1.4571 ■ Alloy C4 ■ Alloy C276 ■ Alloy 400 ■ Titanium grade 2 ■ Materials per ASTM specifications
	Other materials on request

Process connection	
Type of process connection	<ul style="list-style-type: none"> ■ ½ NPT male thread ■ ¾ NPT male thread ■ 1 NPT male thread
	Other threads on request
Connection to thermometer	<ul style="list-style-type: none"> ■ ½ NPT female thread ■ G ½ female thread
	Other threads on request
Bore size	<ul style="list-style-type: none"> ■ Ø 6.6 mm [0.26 in] ■ Ø 8.5 mm [0.36 in]
	Other bore sizes on request
Insertion length U	To customer specification
Connection length H	To customer specification (min. 45 mm [1.77 in])
Tip thickness	6.4 mm [0.25 in]
	Other tip thicknesses on request
Suitable stem length l_1 (dial thermometer)	
Connection design S, 4 or 5	$l_1 = U + H - 10 \text{ mm [0.4 in]}$
Connection design 2	$l_1 = U + H - 30 \text{ mm [1.2 in]}$

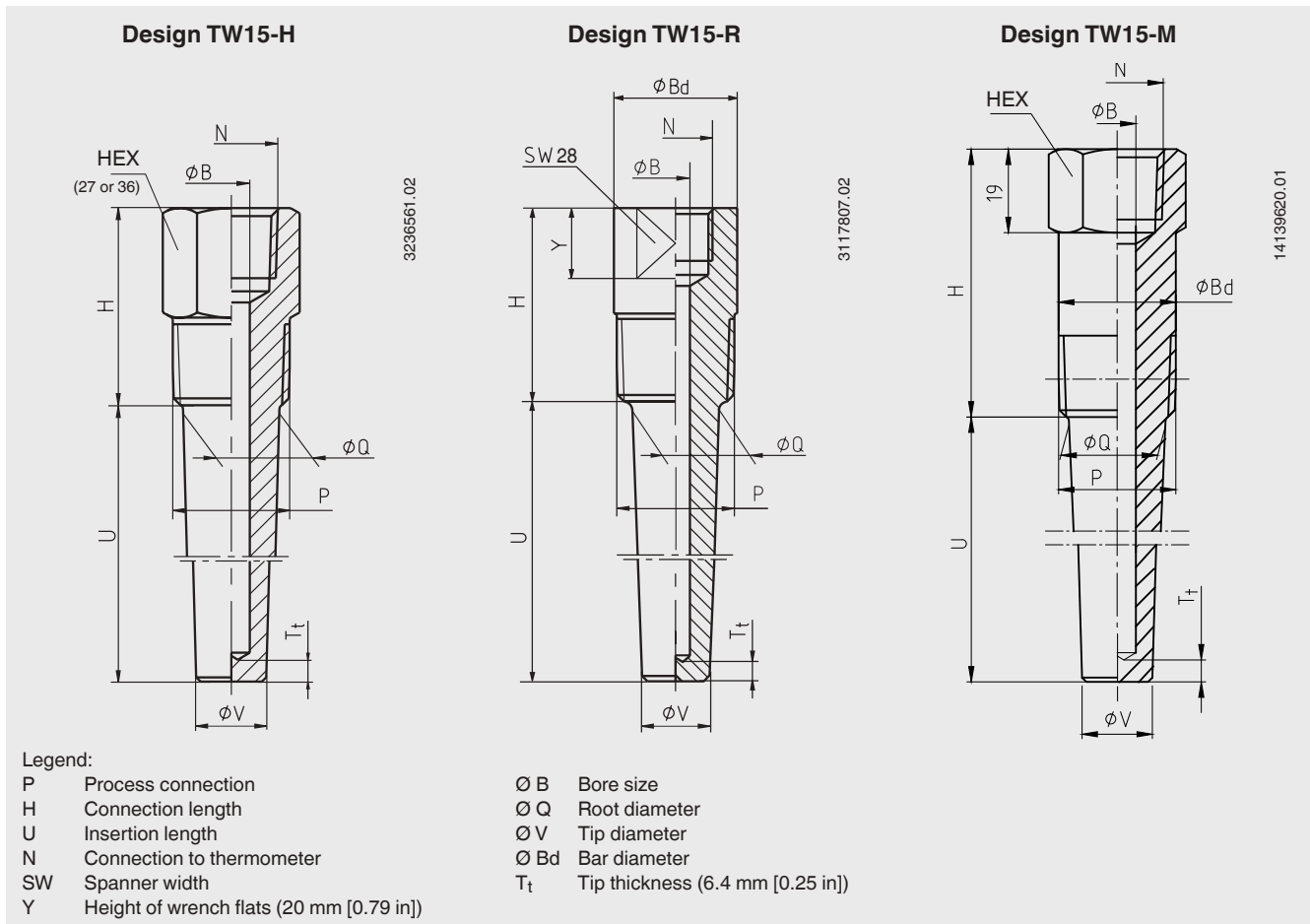
Operating conditions	
Max. process temperature, process pressure	Depending on: <ul style="list-style-type: none"> ■ Thermowell design <ul style="list-style-type: none"> - Dimensions - Material ■ Process conditions <ul style="list-style-type: none"> - Flow rate - Medium density
Wake frequency calculation (option)	For critical applications, is recommended as a WIKA engineering service in accordance with ASME PTC 19.3 TW-2016 → For further information see Technical information IN 00.15 "Wake frequency calculation".

Certificates (option)

Certificates	
Certificates	<ul style="list-style-type: none"> ■ 2.2 test report ■ 3.1 inspection certificate

Approvals and certificates, see website

Dimensions in mm [in]



Tapered thermowell form

Process connection	Head design				Dimensions in mm [in]						Weight in kg [lbs]	
	Hexagon or round with hexagon		Round with wrench flats		N	Ø Q	Ø V	Ø B	H	U = 2 ½ in	U = 7 ½ in	
	Metric	Imperial	Metric	Imperial								
½ NPT	HEX 27	HEX 1.125 in	Ø 34 mm with SW 28	Ø 1.375 in with SW 1 ⅝ in	■ ½ NPT	16	13	■ 6.6 [0.260]	45	0.20	0.36	
					■ G ½	[0.625]	[0.512]	■ 8.5 [0.355]	[1.772]	[0.441]	[0.794]	
¾ NPT	HEX 27	HEX 1.125 in	Ø 34 mm with SW 28	Ø 1.375 in with SW 1 ⅝ in	■ ½ NPT	22	16	■ 6.6 [0.260]	45	0.31	0.56	
					■ G ½	[0.866]	[0.625]	■ 8.5 [0.355]	[1.772]	[0.683]	[1.235]	
1 NPT	HEX 36	HEX 1.375 in	Ø 34 mm with SW 28	Ø 1.375 in with SW 1 ⅝ in	■ ½ NPT	27	19	■ 6.6 [0.260]	45	0.50	0.84	
					■ G ½	[1.063]	[0.750]	■ 8.5 [0.355]	[1.772]	[1.102]	[1.852]	

Ordering information

Model / Thermowell form / Process connection / Connection to thermometer / Insertion length U / Connection length H / Thermowell material / Bar diameter \varnothing Bd / Bore diameter \varnothing B / Root diameter \varnothing Q / Tip diameter \varnothing V / Assembly with thermometer / Certificates / Options

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