Threaded thermowell (solid-machined)
Head design: hexagon, milled wrench flat or round with hexagon
Model TW15

Applications

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

Special features

- International standard
- Possible thermowell forms:
  - tapered, straight or stepped
  - “Quill Tip” version (with open tip)

Threaded thermowell, design TW15-H

Description

Each thermowell is an important component of any temperature measurement point. 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 sensor 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, and those with flange connections.

Furthermore, one can differentiate between fabricated and solid-machined thermowells. Fabricated thermowells are constructed from a tube, that is closed at the tip by a welded solid tip. Solid-machined thermowells are manufactured from barstock.

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

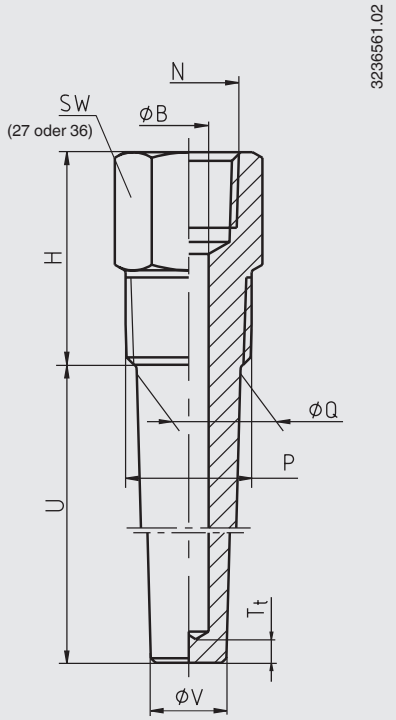
Due to the heavy-duty design, these international design thermowells are the first choice for use the chemical and petrochemical industries and in plant construction.

Specifications

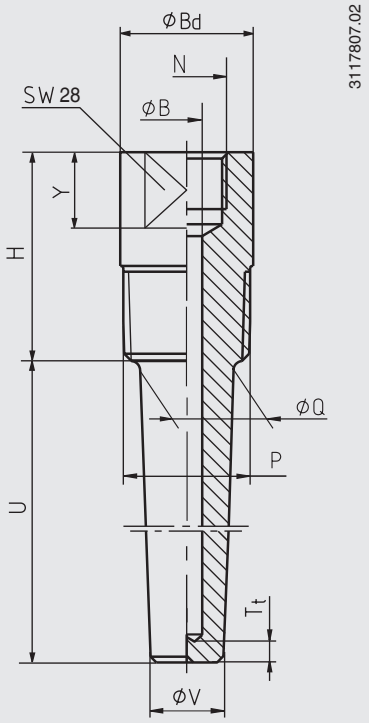
Threaded thermowell (solid-machined), model TW15	
Versions	■ Design TW15-H: hexagon (continuous) ■ Design TW15-R: spanner flats ■ Design TW15-M: round with hexagon Option: ■ Injection quills version
Thermowell materials	■ Stainless steel 316/316L ■ Stainless steel 304/304L ■ A105 ■ Stainless steel 1.4571 ■ Alloy C4 ■ Alloy C276 ■ Alloy 400 ■ Titan Grade 2 ■ Materials per ASTM specifications Other materials on request
Process connection	■ ½ NPT male ■ ¾ NPT male ■ 1 NPT male Other threads on request
Anschluss zum Thermometer	■ ½ NPT female ■ G ½ female ■ “Quill Tip” version with weld-in connection ½" and ¾" Other threads on request
Bore size	■ Ø 6.6 mm [0.260 in] ■ Ø 8.5 mm [0.355 in]
Insertion length U	To customer specification
Connection length H	To customer specification (min. 45 mm)
Max. process temperature, process pressure	Depending on: ■ Thermowell design - Dimensions - Material ■ Process conditions - Flow rate - Density of medium
Wake frequency calculation (option)	Per ASME PTC 19.3 TW-2016 recommended in critical applications as a WIKA engineering service For further information see Technical information IN 00.15 “Wake frequency calculation”.

Dimensions in mm [in]

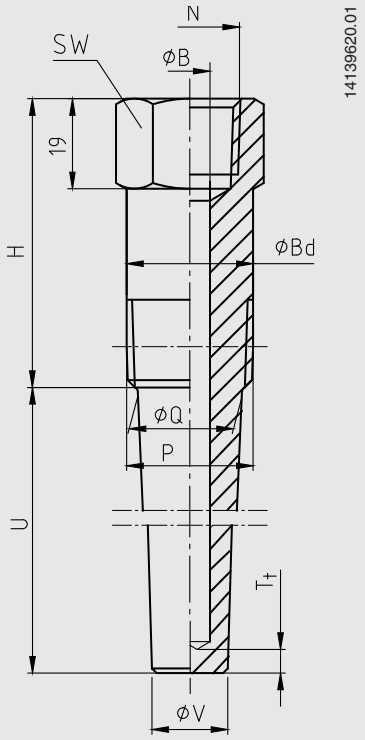
Design TW15-H



Design TW15-R



Design TW15-M



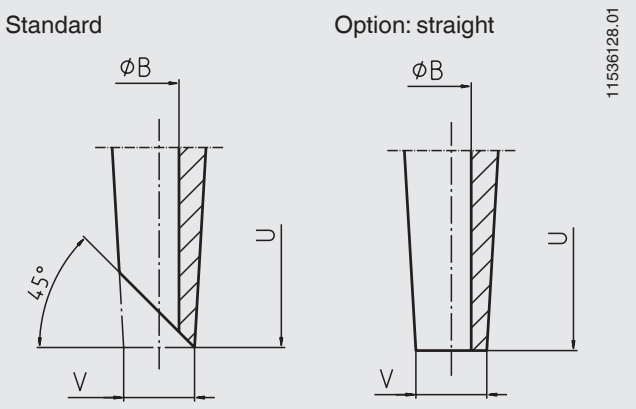
Legend:

P	Process connection	Ø B	Bore size
H	Connection length	Ø Q	Root diameter
U	Insertion length	Ø V	Tip diameter
N	Connection to thermometer	Ø Bd	Head diameter
SW	Spanner width	T_t	Tip thickness (6.4 mm [0.25 in])
Y	Height of spanner flats (20 mm [0.79 in])		

“Quill Tip” version

Standard

Option: straight



Thermowell form tapered

Process connection	Head version				Dimensions in mm [in]					Weight in kg [lbs]	
	Hexagon or round with hexagon		Round with spanner flats								
	Metric	Imperial	Metric	Imperial	N	Ø Q	Ø V	Ø B	H	U = 2 ½ in	U = 7 ½ in
½ NPT	SW 27	SW 1.125 in	Ø 34 mm with SW 28	Ø 1.375 in with SW 1 ⅛ in	■ ½ NPT ■ G ½	16 [0.625]	13 [0.512]	■ 6.6 [0.260] ■ 8.5 [0.355]	45 [1.772]	0.20 [0.441]	0.36 [0.794]
¾ NPT	SW 27	SW 1.125 in			■ ½ NPT ■ G ½	22 [0.866]	16 [0.625]	■ 6.6 [0.260] ■ 8.5 [0.355]	45 [1.772]	0.31 [0.683]	0.56 [1.235]
1 NPT	SW 36	SW 1.375 in			■ ½ NPT ■ G ½	27 [1.063]	19 [0.750]	■ 6.6 [0.260] ■ 8.5 [0.355]	45 [1.772]	0.50 [1.102]	0.84 [1.852]

Suitable stem lengths of mechanical dial thermometers

Connection type	Stem length l_1
S, 4 or 5	l_1 = U + H - 10 mm [0.4 in]
2	l_1 = U + H - 30 mm [1.2 in]

Certificates (option)

- 2.2 test report
- 3.1 inspection certificate

Ordering information

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

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