

## Weld-in thermowell For welding sockets Model TW20

WIKA data sheet TW 95.20

### Applications

- Petrochemical industry, on-/offshore, plant construction
- For high process loads

### Special features

- Different dimensions for standardised welding sockets
- International standard
- Possible thermowell designs:
  - Design TW20-A: Tapered
  - Design TW20-B: Straight
  - Design TW20-C: Stepped



Weld-in thermowell, design TW20-A

### 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 TW20 series of weld-in 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	
<b>Thermowell form</b>	
Design TW20-A	Tapered
Design TW20-B	Straight
Design TW20-C	Stepped
<b>Material (wetted)</b>	<ul style="list-style-type: none"> <li>■ Stainless steel 316/316L</li> <li>■ Stainless steel 304/304L</li> <li>■ A105</li> <li>■ Stainless steel 1.4571</li> <li>■ Special materials</li> </ul>
	Other materials on request

Process connection	
<b>Type of process connection</b>	<ul style="list-style-type: none"> <li>■ Ø 26.7 mm [¾ in]</li> <li>■ Ø 33.4 mm [1 in]</li> <li>■ Ø 48.3 mm [1.5 in]</li> </ul>
	Other diameters on request
<b>Connection to thermometer</b>	<ul style="list-style-type: none"> <li>■ ½ NPT female thread</li> <li>■ G ½ female thread</li> </ul>
	Other threads on request
<b>Bore size</b>	<ul style="list-style-type: none"> <li>■ Ø 6.6 mm [0.260 in]</li> <li>■ Ø 8.5 mm [0.355 in]</li> </ul>
<b>Insertion length U</b>	To customer specification
<b>Connection length H</b>	To customer specification
<b>Tip thickness</b>	6.4 mm [0.25 in]
	Other tip thicknesses on request
<b>Suitable stem lengths <math>l_1</math> (dial thermometer) with tip thickness 6.4 mm [0.25 in]</b>	
Connection design S, 4 or 5	$l_1 = U + H - 10 \text{ mm [0.4 in]}$
Connection design 2	$l_1 = U + H - 30 \text{ mm [1.2 in]}$

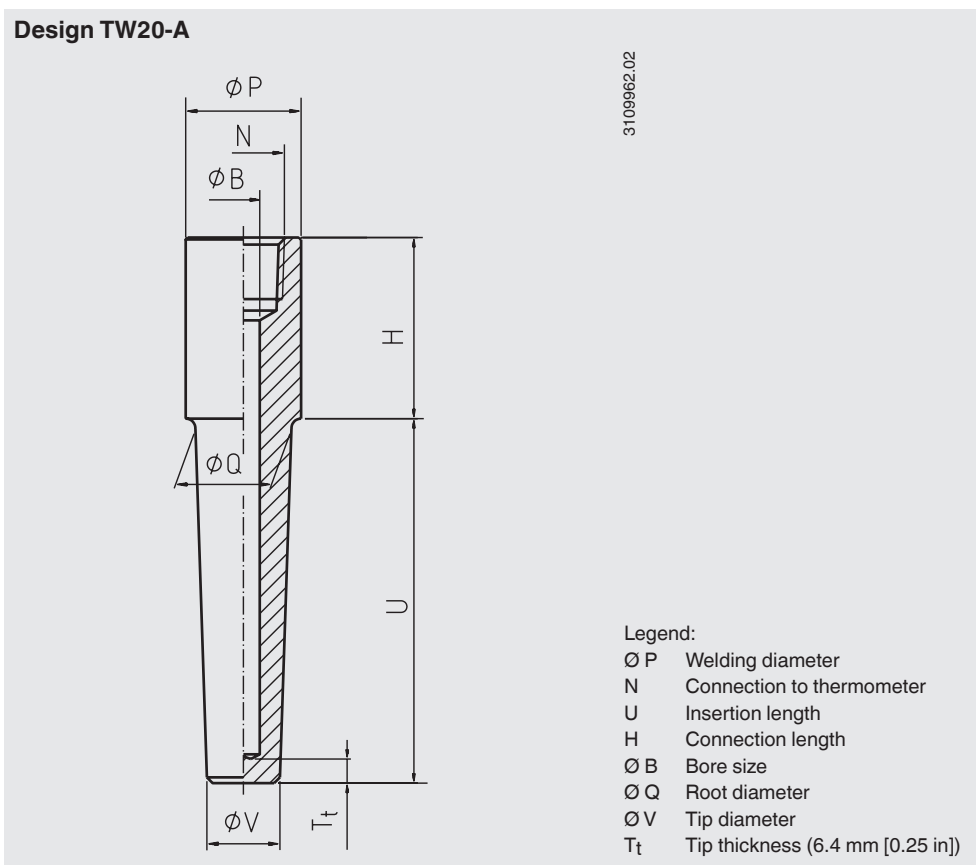
Operating conditions	
<b>Max. process temperature, process pressure</b>	Depending on: <ul style="list-style-type: none"> <li>■ Thermowell design               <ul style="list-style-type: none"> <li>- Dimensions</li> <li>- Material</li> </ul> </li> <li>■ Process conditions               <ul style="list-style-type: none"> <li>- Flow rate</li> <li>- Medium density</li> </ul> </li> </ul>
<b>Wake frequency calculation (option)</b>	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"><li>■ 2.2 test report</li><li>■ 3.1 inspection certificate</li></ul>

Approvals and certificates, see website

## Dimensions in mm [in]



## Tapered thermowell form

Dimensions in mm [in]					Weight in kg [lbs] (for H = 45 mm [1.771 in])	
Ø P	N	Ø Q	Ø V	Ø B	U = 100 mm [3.937 in]	U = 560 mm [22.047 in]
26.7 [¾]	<ul style="list-style-type: none"> <li>■ ½ NPT</li> <li>■ G ½</li> </ul>	19 [0.750]	16 [0.625]	<ul style="list-style-type: none"> <li>■ 6.6 [0.260]</li> <li>■ 8.5 [0.355]</li> </ul>	0.4 [0.882]	1.1 [2.425]
33.4 [1]	<ul style="list-style-type: none"> <li>■ ½ NPT</li> <li>■ G ½</li> </ul>	25 [1.000]	19 [0.750]	<ul style="list-style-type: none"> <li>■ 6.6 [0.260]</li> <li>■ 8.5 [0.355]</li> </ul>	0.6 [1.322]	1.9 [4.188]
48.3 [1.5]	<ul style="list-style-type: none"> <li>■ ½ NPT</li> <li>■ G ½</li> </ul>	38 [1.496]	19 [0.750]	<ul style="list-style-type: none"> <li>■ 6.6 [0.260]</li> <li>■ 8.5 [0.355]</li> </ul>	1.2 [2.646]	3.5 [7.716]

## Ordering information

Model / Thermowell form / Welding diameter Ø P / Connection to thermometer / Insertion length U / Connection length H / Thermowell material / Bore size Ø B / Root diameter Ø Q / Tip diameter Ø V / Assembly with thermometer / Certificates / Options

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