

# TW10

## Protection tube

Designed for use in the fine chemicals industry and generally for almost all industrial processes



More information and current pricing:

[www.cz.endress.com/TW10](http://www.cz.endress.com/TW10)

### Benefits:

- Tip of the protection tube with a reduced diameter or tapered for a faster response time
- Customized immersion length
- Surface finishing  $Ra < 0.8 \mu m$
- SS 316L/1.4404, SS 316Ti/1.4571 and Hastelloy C for the "wetted" parts
- The common threaded process connections are supplied as standard; others are available on request
- Material certification (3.1.B)
- Test with penetrant liquids on welds

### Specs at a glance

- **Max. process pressure (static)** 50 bar (725 psi)
- **Maximum standard immersion length** 4.000 mm (157,48")
- **Max. immersion length on request** 10.000 mm (393,7")

**Field of application:** This protection tube is an important component for temperature measurement points for almost all industrial processes, especially for fine chemicals industries. It is used to protect the measuring insert or sensor elements from aggressive process media, high pressures and flow rates from the temperature sensor itself and thereby enables the thermometer to be exchanged during operation.

### Features and specifications

## Thermowell

**Measuring principle**

Fabricated Thermowell

**Characteristic / Application**

metric style  
DIN 43772 Form 2G/3G  
threaded process connection  
with neck

**Head connection**

external thread:  
M24 x 1.5  
1/2" NPT

**Maximum standard immersion length**

4.000 mm (157,48")

**Max. immersion length on request**

10.000 mm (393,7")

**Process connection**

thread:  
G1/2"  
G1/2"  
G3/4"  
G1"  
1/2" NPT  
3/4" NPT  
R1/2"  
R3/4"  
R1"  
M20 x 1.5

**Thermowell root diameter**

9 mm (0,35")  
11 mm (0,43")  
12 mm (0,47")  
15 mm (0,59")

## Thermowell

**Medium contact material**

1.4404 (316L)  
1.4571 (316Ti)  
2.4816 (Alloy 600)  
2.4819 (Alloy C276)

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**Wetted part finishing (Ra)**

< 0.8  $\mu\text{m}$  (31.50  $\mu\text{in}$ )

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**Tip shape**

straight  
reduced  
tapered

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**Temperature range**

-200...1.100 °C (-328...2.012  
°F)

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**Max. process pressure (static)**

50 bar (725 psi)

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**Max. process pressure at 400 °C**

depends on process connection

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