

# TW13

## Protection tube for temperature sensors

Designed for use in processes with heavy thermal and mechanical stresses



### Benefits:

- Extension, immersion length and total length can be chosen according to process requirements
- A wide choice of dimensions, materials and process connections is available
- Special versions can be manufactured according to customer requirements

### 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")

More information and current pricing:

[www.endress.com/TW13](http://www.endress.com/TW13)

**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

## Thermowell

**Characteristic / Application**

metric style  
DIN 43772 Form 2F/3F  
langed process connection  
with neck

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**Head connection**

external thread:  
M24 x 1.5  
1/2" NPT

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**Maximum standard immersion length**

4.000 mm (157,48")

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**Max. immersion length on request**

10.000 mm (393,7")

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**Process connection**

flange:  
DN15 PN40 B1  
DN25 PN40 B1  
DN40 PN40 B1  
DN50 PN40 B1  
ASME 1" 150 RF  
ASME 1" 300 RF  
ASME 1 1/2" 150 RF  
ASME 2" 150 RF  
ASME 2" 300 RF

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**Thermowell root diameter**

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

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## Thermowell

**Medium contact material**

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

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**Wetted part finishing (Ra)**

< 1.6 µm (63.00 µin)

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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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More information [www.endress.com/TW13](http://www.endress.com/TW13)