

# 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.at.endress.com/TW13](http://www.at.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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## Thermowell

**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

**Wetted part finishing (Ra)**< 1.6  $\mu\text{m}$  (63.00  $\mu\text{in}$ )**Tip shape**

straight

reduced

tapered

**Temperature range**

-200...1.100 °C (-328...2.012 °F)

**Max. process pressure (static)**

50 bar (725 psi)

**Max. process pressure at 400 °C**

depends on process connection

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