

# iTHERM TT411

## Protection tube

Designed for hygienic and aseptic applications in the Food & Beverages and Life Sciences industries



More information and current pricing:

[www.endress.com/TT411](http://www.endress.com/TT411)

### Benefits:

- iTHERM QuickNeck – cost and time savings thanks to simple, tool-free recalibration of the insert used
- Over 50 hygienic process connections
- Global portfolio with metric and imperial versions
- International certification: hygiene standards as per 3-A®, EHEDG, ASME BPE, FDA, TSE Certificate of Suitability
- Optional: 1.4435 material, delta ferrite content < 1%
- Fast response time owing to reduced tips with thin walls
- State of the art Tee and Elbow elements, without welds and dead legs and with best in class hygienic design

### Specs at a glance

- **Max. process pressure (static)** 40 bar (580 psi)
- **Maximum standard immersion length** 4.000 mm (157,48")
- **Max. immersion length on request** Not defined

**Field of application:** Best applicable for use in hygienic or aseptic pipes and containers or tanks even with very small immersion lengths. It meets increased protection requirements of the temperature sensor regarding physical and chemical effects. Ideally suited to all measuring points that require regular recalibration by simply replacing the insert in closed processes.

### Features and specifications

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**Thermowell****Measuring principle**Fabricated Thermowell

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**Characteristic / Application**

metric style

hygienic/aseptic design (3-A<sup>®</sup>, EHEDG, ASME BPE, FDA)

hygienic process connections

QuickNeck for easy and cost saving recalibration

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**Head connection**

QuickNeck

male thread:

M24x1,5

G3/8"

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**Maximum standard immersion length**4.000 mm (157,48")

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**Max. immersion length on request**Not defined

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**Process connection**

compression fitting

weld in adaptor

clamp connections acc. to ISO2852

screwed pipe joint acc. to DIN 11851

aseptic screwed pipe joint acc. to DIN 11864-1

metallic sealing system

thread acc. to ISO 228 for liquiphant adaptor APV Inline

Varivent

Ingold

SMS 1147

Neumo Biocontrol

T- and corner pieces DIN11865

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## Thermowell

**Thermowell root diameter**

6,0 mm (0,24")

9,0 mm (0,35")

12,7 mm (0,5")

**Medium contact material**

1.4435 delta-ferrit &lt; 1%

316L

**Wetted part finishing (Ra)**

&lt; 0,76 µm (29,92 µin)

&lt; 0,38 µm (14,96 µin)

&lt; 0,38 µm (14,96 µin) electropolished

**Tip shape**

straight

reduced

tapered

**Temperature range**

-200...650 °C (-328...1.202 °F)

**Max. process pressure (static)**

40 bar (580 psi)

**Max. process pressure at 400 °C**

depends on process connection

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