

**Safe and reliable temperature and water bottom measurement.**

The VITO MPT Multi spot Pt100 Temperature & Water probe for temperature and water bottom measurement together with Honeywell Enraf automatic tank gauging equipment is the answer for accurate inventory management on tanks containing product and free water.

The VITO MPT is a robust and reliable device, combining multi spot temperature technology with capacitive water interface measurement.

The solution is fully complying with all relevant industrial standards. The VITO MPT provides average product temperature, water bottom level, vapor temperature and temperature profiles. Its accuracy complies with the requirements for legal metrology and is according to API MPMS Chapter 7 section 3. The solution meets international safety requirements for use in explosion hazardous areas.

**Global Experience. Locally Applied.**

## Technical Specification

### 365 VITO MPT Temperature Probe

Principle	
Measuring principle	4-14 Pt100 temperature elements equidistant spaced between top and bottom element
Measuring Specifications	
Product temperature range	-20 °C to +120 °C (-4 °F to +248 °F)
Storage temperature	-50 °C to +120 °C (-58 °F to +248 °F)
Measuring length	Depending on identification code (see drawing)
Element accuracy	According EN-IEC 60751: <ul style="list-style-type: none"> <li>• 1/6 DIN Class B = <math>\pm 1/6 \cdot (0.30 + 0.005 \cdot l_{tl})</math> °C</li> <li>• 1/10 DIN Class B = <math>\pm 1/10 \cdot (0.30 + 0.005 \cdot l_{tl})</math> °C</li> </ul>
Probe accuracy	<ul style="list-style-type: none"> <li>• 1/6 DIN Class B = <math>\pm (0.15 + 0.002 \cdot l_{tl})</math> °C</li> <li>• 1/10 DIN Class B = <math>\pm (0.12 + 0.0015 \cdot l_{tl})</math> °C</li> </ul>
Measuring resolution	0.01 °C (0.01 °F)

### 365 VITO MPT Water Probe

Principle	
Measuring principle	PTFE sheathed capacitive probe
Measuring Specifications	
Measuring range	50 cm (20"), 100 cm (39") and 200 cm (79")
Instrument accuracy <sup>(1)</sup>	$\pm 2$ mm (0.78")
Measuring resolution	0.1 mm (0.004")
Minimum water level	25 mm (0.98")

### 365 VITO MPT Temperature & Water Probe General

Mechanical	
Process material	AISI 316
Adjusting pipe	ISO 228/1-G1/2B (1/2 BSP), adjustable length 255 mm (10"), see drawing
Maximum outside diameter	40 mm (1.6")
Mounting flange	Optional (1/2 BSP threaded mounting hole required)
Anchor weight	Max. 23 kg (50 lb)
Environmental	
Operating pressure	6 bar / 600 kPa (90 psi) hydrostatic pressure
Safety	<p>The VITO MPT Combi probe is a passive component and can be considered as simple apparatus when used in intrinsically safe circuits in accordance with the following:</p> <ul style="list-style-type: none"> <li>• EN IEC 60079-11 (2012), clause 5.7</li> <li>• NEC (National Electrical Code) (2011) Article 504 (Intrinsically Safe Systems) 504.2 (Definitions) Simple Apparatus</li> </ul>
Electrical	
Flying leads	<p>Color coded stranded wires, PTFE isolated, length:</p> <ul style="list-style-type: none"> <li>• 35 cm (14")</li> <li>• 250 cm (98")</li> </ul>

#### Note(s):

- The VITO MPT Temperature & Water probe can only be connected to the 990 SmartRadar FlexLine and requires a 762 CEPS interface
- The 990 SmartRadar FlexLine needs to be equipped with two VITO (FII-VT) option boards

<sup>1)</sup> Under reference conditions

## Identification Code

### Pos 1 Application

**U** General purpose

### Pos 2 Product Temperature Range

**S** Standard : -20 °C to +120 °C (-4 °F to + 248 °F) \*1

### Pos 3 Sensitive Length for Water Bottom Measurement

- A** 50 cm (20") (total length water sensor 68 cm (27"))
- B** 100 cm (39") (total length water sensor 118 cm (47"))
- C** 200 cm (79") (total length water sensor 218 cm (86"))

### Pos 4 Flying Leads Length

- N** 35 cm (14")
- B** 250 cm (98")

### Pos 5, 6, 7 Instrument Designation

**3 6 5** VITO MPT Temperature & Water probe \*2

### Pos 8 Accuracy Class Pt100 Elements

- A** 1/6 DIN Class B =  $\pm 1/6 \cdot (0.30 + 0.005 \cdot |t|)$  °C
- B** 1/10 DIN Class B =  $\pm 1/10 \cdot (0.30 + 0.005 \cdot |t|)$  °C

### Pos 9, 10 Number of Pt100 Elements

**\* \*** 04 to 14 (always requires a 762-CEPS interface)

### Pos 11 Position of Lowest Temperature Element

- A** 1 m (39") from bottom of probe (if pos. 3 = A)
- B** 1.35 m (53") from bottom of probe (if pos. 3 = B)
- C** 2.35 m (93") from bottom of probe (if pos. 3 = C)

### Pos 12, 13, 14, 15 Overall Length in Steps of 10 cm

- \* \* \*** **0** 0220 to 3200 cm (if pos. 3 = A)
- \* \* \*** **0** 0270 to 3200 cm (if pos. 3 = B)
- \* \* \*** **0** 0370 to 3200 cm (if pos. 3 = C)

### Pos 16, 17, 18, 19 Position of Highest Temperature Element in Steps of 10 cm

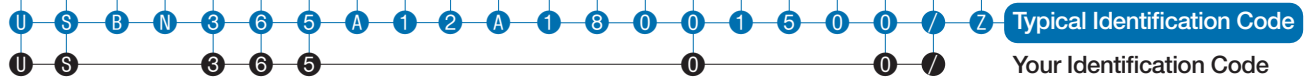
- \* \* \*** **0** 0150 to 3130 (if pos. 3=A)
- \* \* \*** **0** 0200 to 3130 (if pos. 3=B)
- \* \* \*** **0** 0300 to 3130 (if pos. 3=C)

### Pos 20 Separator

**/**

### Pos 21 Tag Plate

- Z** None
- T** Included (AISI 304)



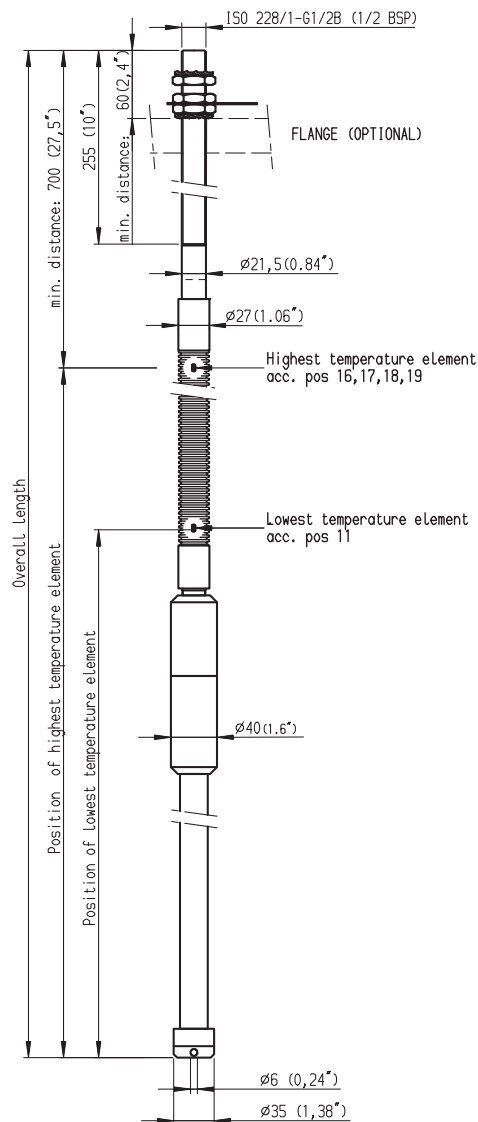
### Notes:

\*1 Measurement accuracy outside the temperature range of ~0 °C (+32 °F) to ~+100 °C (+212 °F) depends on the water phase and constitution.

\*2 This version can be used with 990 SmartRadar FlexLine only and requires the 762-CEPS interface. To connect this probe two VITO FII-VT option boards in the SmartRadar FlexLine are needed.

## Dimensional Drawing

### 365 VITO MPT Temperature & Water probe



#### For More Information

To learn more about Honeywell Enraf's VITO MPT Temperature and Water Probes, visit [www.honeywellenraf.com](http://www.honeywellenraf.com) or contact your Honeywell Enraf account manager.

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EN-13-03-ENG  
August 2013  
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