Product sheet

Versatile In Tank Observator VITO

Temperature and water bottom measurement

Benefits

Provides accurate liquid temperature measurement

Provides temperature stratification profiles

Records gas phase temperature

Requires no maintenance

Set standards for API

Ideal for legal measurement

The VITO family for temperature and water bottom measurement is the ultimate answer for your inventory control.

The VITO is a robust and reliable device representing the leading edge in sensor technology, fully complying all major industrial standards such as API. Its accuracy exceeds the requirements for W&M accepted temperature information.

The VITO provides average temperature and temperature profiles of your stored products. In addition the temperature above the liquid (vapor phase) can be measured. This parameter can be used for mass calculations of the product in the gas phase, contributing to your loss-gain control. Optionally, a digital water bottom measurement can be integrated to ensure a high accuracy compared to analog probes.

The VITO interface is a solid state electronic unit which derives the measured data from the VITO probes. For power and transmission between the VITO interface and any Enraf field instrument, all that is required is only a two core (twisted pair) cable. The VITO probe is available with extended length for special applications such as caverns.

The system uses intrinsically safe signals and complies with safety requirements for use in hazardous areas.

Together with the outstanding Enraf tank gauges, the VITO family is the superior tool for liquid storage tank inventory management.

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VITO Temperature probe

Measuring specifications		
Temperature range	:	See identification code 764 Pos. 2
Accuracy	:	< ± 0.1 °C (0.18 °F) [1)]
Measuring resolution	:	0.01 °C (0.01 °F)
Principle		
Measuring principle	:	16 Temperature elements divided over the sensitive length
Reference RTD	:	Pt100, accuracy ± 0.06 °C at 0 °C (0.11 °F at 32 °F)
Sensor	:	Type T (Copper / Constantan), Class 2 according to IEC 584-2

VITO Water probe

Measuring specifications		
Operating temperature	:	0 °C to +90 °C (+32 °F to +194 °F)
Measuring resolution	:	0.1 mm
Minimum water level	:	25 mm above lowest part of probe

VITO Combi probe

Mechanical		
Dimensions	:	Maximum outher diameter 40 mm
Operating temperature	:	0 °C to +100 °C (+32 °F to +212 °F)
Adjusting pipe	:	Adjustable length ±230 mm, G½ threaded

VITO Interface

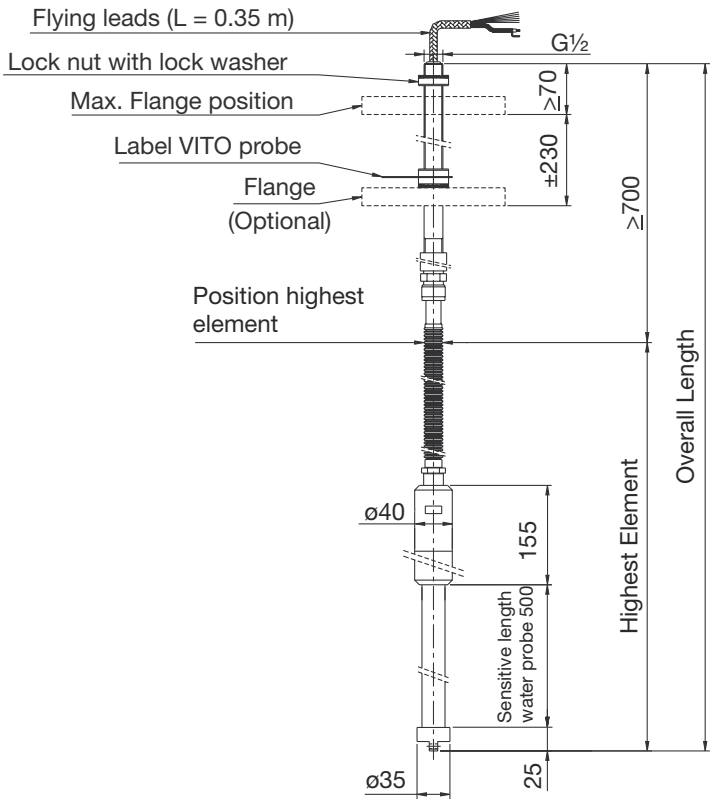
Mechanical		
Material	:	GD-AlSi10Mg
Cable entry	:	M20 x 1.5 (standard)
		¾" NPT or PG 16 via reducer (optional)
Finish	:	Autocryl coating min. 60 µm (metallic green)

General

Environmental		
Operating pressure	:	5 bar / 500 kPa (72 psi) hydrostatic pressure
Safety	:	The VITO probe is a passive device and is i.s. for connection with VITO interface
		- II 1G EEx ia IIB T4 According to ATEX (probes)
		- II 1/2G EEx ia IIB T4 According to ATEX (interface)
		- Class I, Division 1, Groups B 3), C and D, in acc. to NFPA 70 (FM, USA)
Materials		
Sheathing	:	Stainless Steel AISI 316L (Werkstoff 1.4404) corrugated tube
Fittings and adjusting pipe	:	AISI 316L (Werkstoff 1.4404) Stainless Steel
Electrical		
Connection leads	:	PTFE isolated, standard length 0.35 m
Options		
Mounting flange	:	2" 150 lb r.f. with G½ threaded mounting hole.
		For other flanges please contact an Enraf office
Anchor weight	:	max. 23 kg

[1)] Under reference conditions

VITO Combi probe

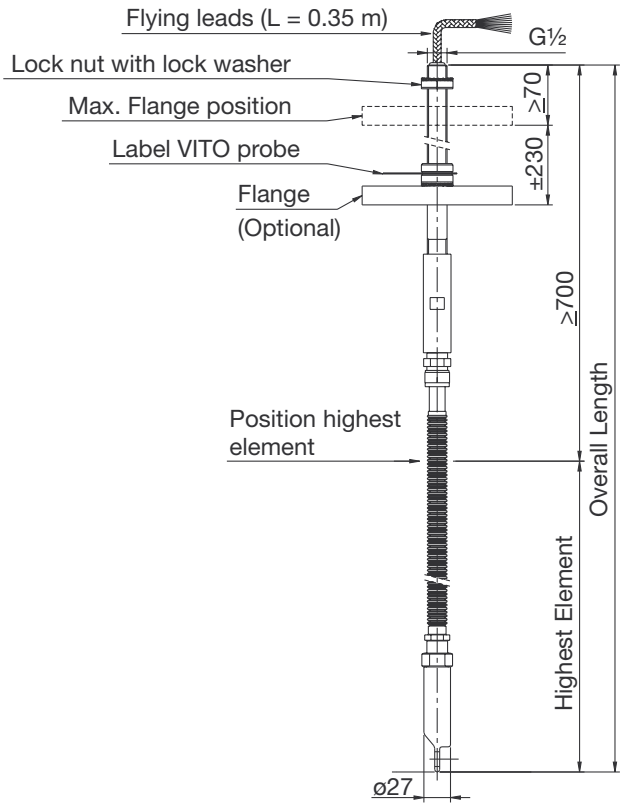


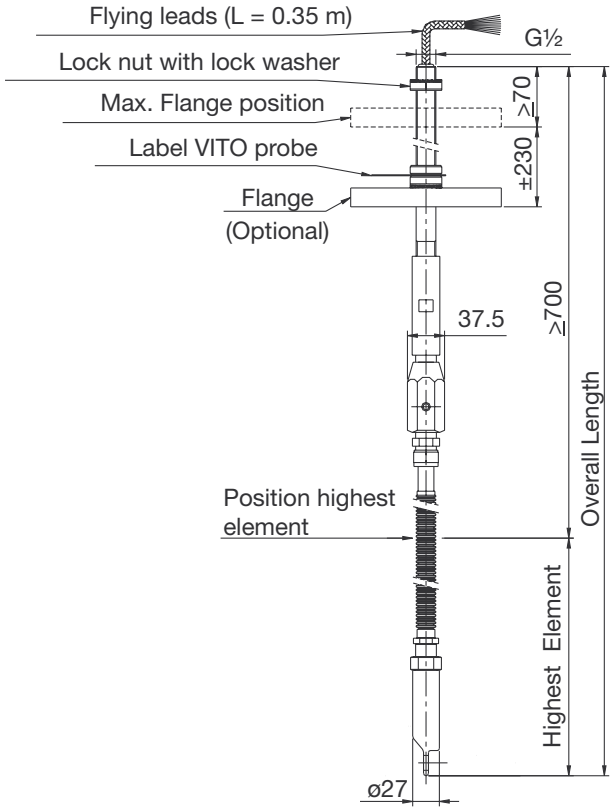
Identification code 766

Pos 1 Application															
U	General purpose														
X	W&M version (additional verification)														
	Pos 2 Sensitive length for water bottom measurement														
	A	50 cm													
		Pos 3 Safety approvals													
		A	ATEX Europe												
		F	FM USA												
			Pos 4 Length of flying leads												
			N	35 cm											
				Pos 5, 6, 7 Instrument designation											
				7	6	6	VITO combi probe								
							Pos 8 Position of lowest temperature element								
							A	Approx. 1 meter from probe bottom							
							B	At probe bottom							
								Pos 9, 10, 11, 12 Overall length in cm							
								*	*	*	0	0370 to 3390 in steps of 10 cm			
												Pos 13, 14, 15, 16 Position of highest temperature element			
												*	*	*	0
												(at least 70 cm from top of probe)			

U	A	A	N	7	6	6	A	0	3	7	0	0	2	6	0	Typical identification code
	A		N	7	6	6					0				0	Your identification code

VITO Temperature probe





Low temperature version

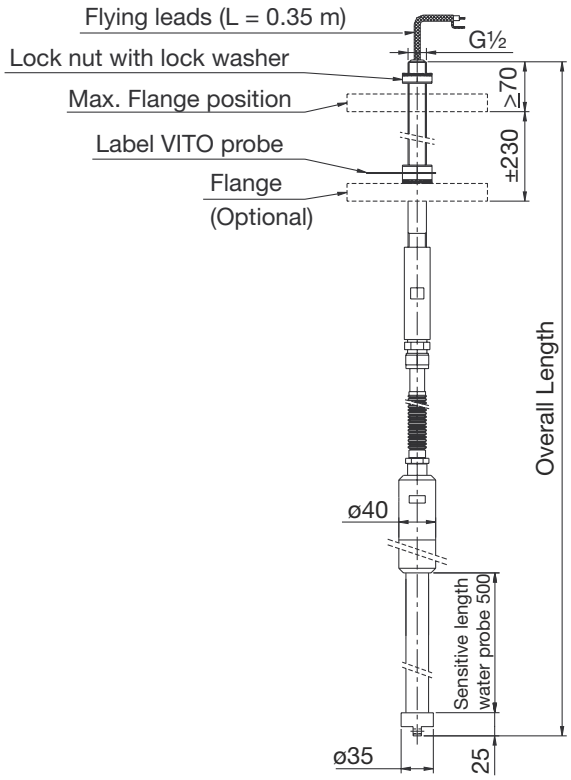
Identification code 764

Pos 1 Application															
U	General purpose														
X	W&M version (additional verification)														
	Pos 2 Temperature range probe														
	S	Standard	: -20 °C to +90 °C	(-4 °F to + 194 °F)											
	C	Low temperature	: -200 °C to +70 °C	(-328 °F to + 158 °F)											
	H	High temperature	: -55 °C to +200 °C	(-67 °F to + 392 °F)											
	V	Very high temperature	: -55 °C to +250 °C	(-67 °F to + 482 °F)											
		Pos 3 Safety approvals													
		A	ATEX	Europe											
		F	FM	USA											
			Pos 4 Length of flying leads												
			N	35 cm											
				Pos 5, 6, 7 Instrument designation											
				7	**6**	**4**	VITO temperature probe								
							Pos 8 Position of reference temperature element								
							A	Reference element at 1 m from bottom of probe							
							B	Reference element at bottom of probe							
								Pos 9, 10, 11, 12 Overall length in cm							
								*****	*****	*****	**0**	0200 to 3390 in steps of 10 cm			
												Pos 13, 14, 15, 16 Position of highest temperature element			
												*****	*****	*****	**0**
U	**S**	**A**	**N**	**7**	**6**	**4**	**A**	**0**	**2**	**0**	**0**	**0**	**1**	**3**	**0**
			N	**7**	**6**	**4**					**0**				**0**

Typical identification code

Your identification code

VITO Water probe

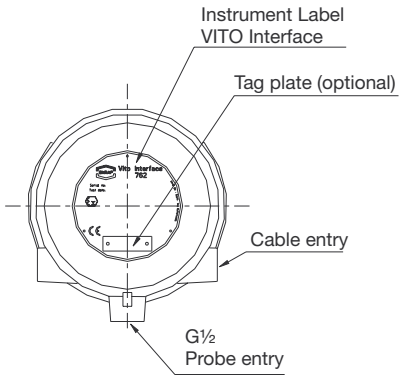


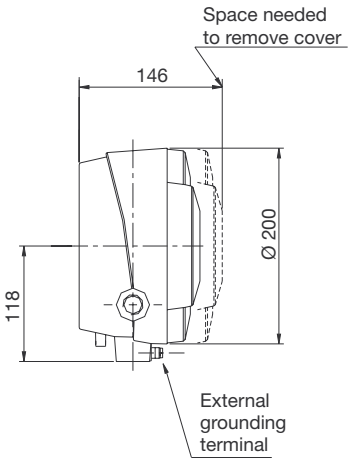
Identification code 765

Pos 1 Application												
U	General purpose											
	Pos 2 Sensitive length for water bottom measurement											
	A	50 cm (standard)										
	B	100 cm										
	C	200 cm										
		Pos 3 Safety approvals										
		A	ATEX Europe									
		F	FM USA									
			Pos 4 Length of flying leads									
			N	35 cm								
				Pos 5, 6, 7 Instrument designation								
				7	**6**	**5**	VITO water probe					
							Pos 8 Not used					
							*****	Position not used				
								Pos 9, 10, 11, 12 Overall length in cm				
								*****	*****	*****	**0**	0260 to 3390 in steps of 10 cm (4”) (if Pos 2 = A)
								*****	*****	*****	**0**	0310 to 3390 in steps of 10 cm (4”) (if Pos 2 = B)
								*****	*****	*****	**0**	0410 to 3390 in steps of 10 cm (4”) (if Pos 2 = C)

U	**A**	**A**	**N**	**7**	**6**	**5**	*****	**0**	**2**	**6**	**0**	**Typical identification code**
			N	**7**	**6**	**5**	*****				**0**	**Your identification code**

VITO Interface





Identification code 762

Pos 1 Application											
U	General purpose										
X	W&M version (additional verification)										
	Pos 2 Version										
	T	VITO interface (for VITO probe or 864 MTT)									
		Pos 3, 4 Not used									
		*	*	Position not used							
				Pos 5, 6, 7 Instrument designation							
				7	**6**	**2**	VITO Interface				
							Pos 8, 9 Not used				
							*	*	Position not used		
									Pos 10 Cable entry		
									G	M20 x 1.5 standard in box (not if Pos 11 = F)	
									N	3/4” NPT via reducer	
									S	PG 16 via reducer (not if Pos 11 = F)	
										Pos 11 Safety approvals	
										A	ATEX Europe
										F	FM USA

U	**T**	*	*	**7**	**6**	**2**	*	*	**G**	**A**	**Typical identification code**
	T	*	*	**7**	**6**	**2**	*	*			**Your identification code**

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