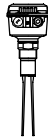

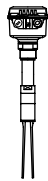
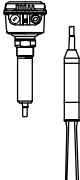


## Table of content

---

	Page
Overview	P2
Specifications	P4
Applications	P5
<hr style="border-top: 1px dashed black;"/>	
VN ..020 Short extension length	P6
	
<hr style="border-top: 1px dashed black;"/>	
VN ..030 Pipe extension	P8
	
<hr style="border-top: 1px dashed black;"/>	
VN ..040 Pipe extension (screwed)	P10
	
<hr style="border-top: 1px dashed black;"/>	
VN ..050 Cable extension	P12
	
<hr style="border-top: 1px dashed black;"/>	
Options	P14
Accessories	P16
Dimensions	P17
Detailed Ex-markings	P20
Spare parts Electronic modules	P21

Subject to technical change.

All dimensions in mm (inches).

We assume no liability for typing errors.

Valid from 01.04.2009 until 31.03.2010 unless otherwise agreed.

By publishing this option list all other option lists become invalid.

Different variations to those specified are possible.  
 Please contact our technical consultants.

## Overview

- Level limit detection in bulk goods / solids
- Compact unit
- Die-casted housing aluminium
- Wide range of applications, no maintenance
- Full, demand, empty detector
- ATEX, FM, CSA GasEx and DustEx approvals

### Series

VN 1000	VN 2000	VN 5000	VN 6000
ATEX approval Small housing Short oscillating rods Sensitivity > 50g/l (3lb/ft <sup>3</sup> ) For extreme mech. load For mounting in down pipes Advantageous design to avoid bridges Also for interface applications	ATEX approval Small housing Standard oscillating rods Sensitivity > 20 g/l (1.2lb/ft <sup>3</sup> ) Option > 5g/l (0.3lb/ft <sup>3</sup> ) Vibrasil® < 5g/l (0.3lb/ft <sup>3</sup> )	ATEX / FM / CSA approval Spacious housing Short oscillating rods Sensitivity > 50g/l (3 lb/ft <sup>3</sup> ) For extreme mech. load For mounting in down pipes Advantageous design to avoid bridges Also for interface applications	ATEX / FM / CSA approval Spacious housing Standard oscillating rods Sensitivity > 20g/l (1.2lb/ft <sup>3</sup> ) Option > 5g/l (0.3lb/ft <sup>3</sup> ) Vibrasil® < 5g/l (0.3lb/ft <sup>3</sup> )

Housing



**VN ..020**  
Short extension length

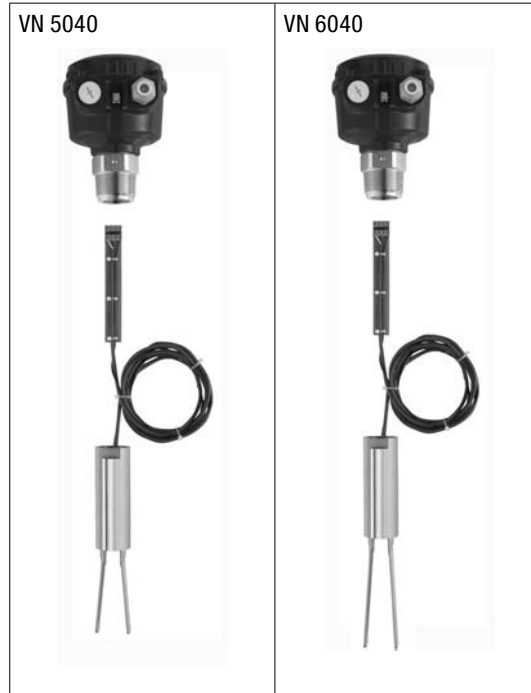
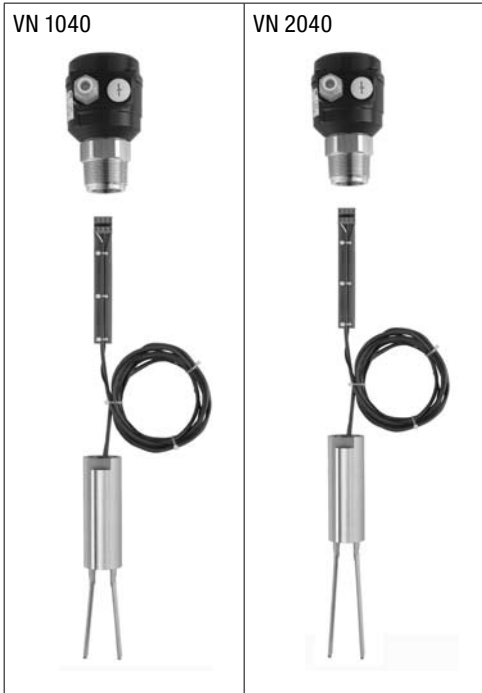


**VN ..030**  
Pipe extension



## Overview

**VN ..040**  
 Pipe extension  
 (screwed)  
 Custom made  
 pipe for flexible  
 lengths



**VN ..050**  
 Cable extension



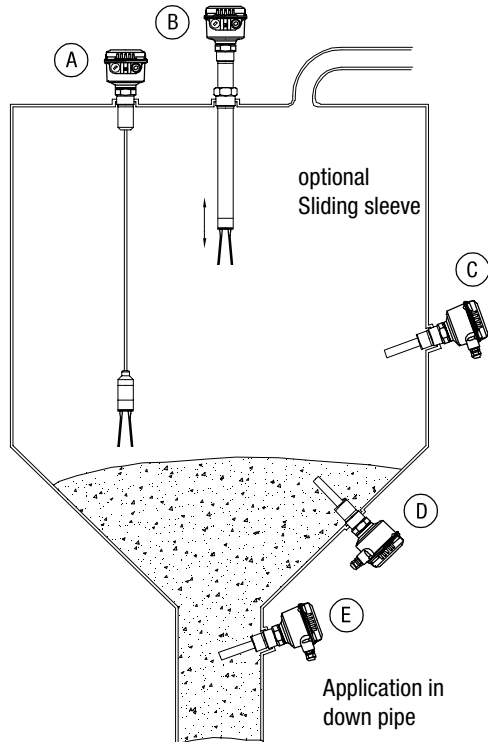
## Specifications

Series		VN 1000	VN 2000	VN 5000	VN 6000	
Approvals	<b>CE</b>	•	•	•	•	
	<b>ATEX:</b>					
	Zone 20/21	Dust Ignition Proof	•	•	•	•
	Zone 0	Intrinsic Safe	•	•	•	•
	Zone 1	Flameproof / Increased Safety			•	•
	<b>FM / CSA:</b>					
	General purp.				•	•
	Cl. II, III Div. 1	Dust Ignition Proof			•	•
	Cl. I Div. 1	Intrinsic Safe			•	•
	Cl. I Div. 1	Explosionproof			•	•
Zone 0	Intrinsic Safe			•	•	
Zone 1	Flameproof / Increased Safety			•	•	
Electronics	Relais SPDT	19..230V AC 19..55V DC	•	•	•	•
	Relais DPDT	19..230V AC 19..36V/55V DC	•	•	•	•
	PNP	18..50V DC	•	•	•	•
	2-wire without contact	19..230V AC/DC	•	•	•	•
	NAMUR	IEC 60947-5-6 2-wire		•		•
	8/16mA	12.5-30/36V DC 2-wire	•	•	•	•

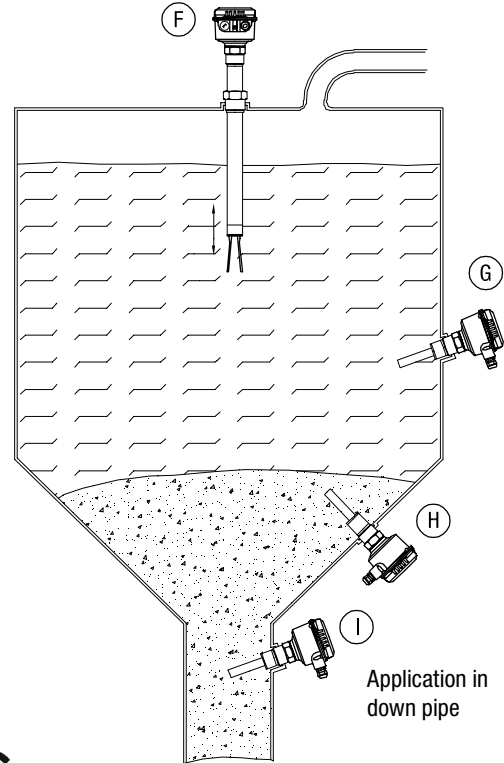
Extensions	VN ..020	Length of extension	165mm (6.47")	235mm (9.25")	165mm (6.47")	235mm (9.25")
		Ambient temperature	-40 .. +60°C (-40 .. +140°F)			
		Process temperature	-40 .. +150°C (-40 .. +302°F)			
		Process pressure	-1 .. +10bar (-14.5 .. +145 psi)			
		Process connection material	1.4301 (SS 304) or 1.4571 (SS 316 TI)			
	VN ..030	Length of extension	300 .. 4.000mm (11.8 .. 157")			
		Ambient temperature	-40 .. +60°C (-40 .. +140°F)			
		Process temperature	-40 .. +150°C (-40 .. +302°F)			
		Process pressure	-1 .. +10bar (-14.5 .. +145 psi)			
		Process connection material	1.4301 (SS 304) or 1.4571 (SS 316 TI)			
	VN ..040	Length of extension	1.500mm (59") or 4.000mm (157")			
		Ambient temperature	-40 .. +60°C (-40 .. +140°F)			
		Process temperature	-40 .. +150°C (-40 .. +302°F)			
		Process pressure	-1 .. +10bar (-14.5 .. +145 psi)			
		Process connection material	1.4301 (SS 304) or 1.4571 (SS 316 TI)			
	VN ..050	Length of extension	750 ... 20.000mm (27.6" .. 787")			
		Ambient temperature	-25 .. +60°C (-13 .. +140°F)			
		Process temperature	-25 .. +80°C (-13 .. +176°F)			
		Process pressure	-1 .. +6bar (-14.5 .. +87 psi)			
		Process connection material	1.4301 (SS 304) Cable isolation: PUR			

## Applications

Detection of solids



Detection of solids in water



Gas and Dust  
(optional)

	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)
VN 1020			•	•	•		•	•	•
VN 1030		•	•			•	•		
VN 1040		•	•						
VN 1050	•								
VN 2020			•	•	•				
VN 2030		•	•						
VN 2040		•	•						
VN 2050	•								
VN 5020			•	•	•	•	•	•	•
VN 5030		•	•			•	•		
VN 5040		•	•						
VN 5050	•								
VN 6020			•	•	•				
VN 6030		•	•						
VN 6040		•	•						
VN 6050	•								

## VN ..020 Short extension length

VN 1020



VN 2020



VN 5020



VN 6020



### Housings VN 5020 / 6020



Standard

d (flameproof)

de (flameproof / increased safety)

### Cable entries

Depending on model selected, the following cable entries are supported (options see pos 23 on page 14):

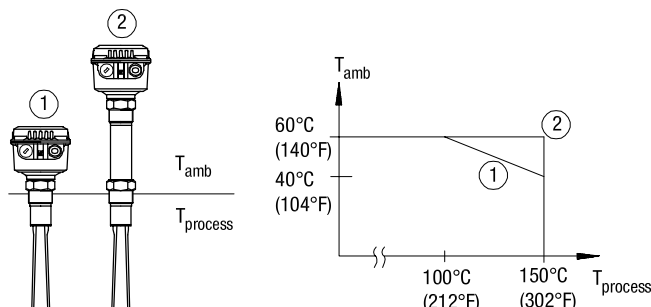
Version:	Cable entries:
ATEX flameproof (pos.2 T)	M20x1.5 (1x conduit + 1x Ex-d blind plug)
FM and CSA (pos.2 M,N,P,S,U)	NPT 1/2" tapered ANSI B1.20.1 (1x conduit + 1x Ex-d blind plug)
All other versions	M20x1.5 (1x screwed cable gland + 1x blind plug)

### Dimensions

see pages 17-20

pos. 3  
 Temperature extended shaft  
 applications up to 150°C (302°F)

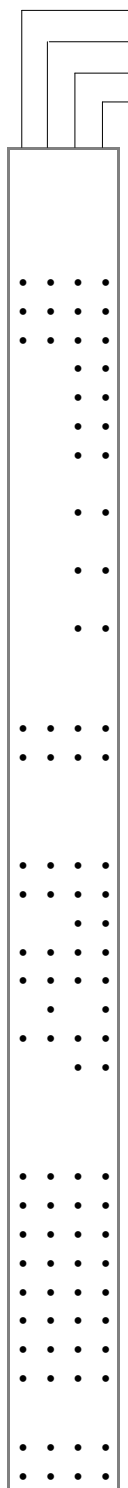
- 1 without
- 2 with



## VN ..020 Short extension length

### Basic type

- VN 1020 .....
- VN 2020 .....
- VN 5020 .....
- VN 6020 .....



### pos. 2 Certificate (detailed Ex-markings: see page 20)

Certificate	Zone / Div		Protection method
	Dust	Gas	
0 CE	-	-	
W ATEX	Zone 20/21	-	Dust Ignition Proof
Y ATEX	Zone 20/21	Zone 0	Intrinsic Safe / Dust Ignition Proof
R ATEX	Zone 20/21	Zone 1	Flameproof / Increased Safety / Dust Ignition Proof
T ATEX	Zone 20/21	Zone 1	Flameproof / Dust Ignition Proof
M FM / CSA	-	-	General purpose
N FM / CSA	Cl. II, III, Div.1	-	Dust Ignition Proof
	CSA A 20/21		
P FM / CSA	Cl. II, III, Div.1	Cl. I Div.1 / Zone 0	Intrinsic Safe / Dust Ignition Proof
	CSA A 20/21		
S FM / CSA	Cl. II, III, Div.1	Zone 1	Flameproof / Increased Safety / Dust Ignition Proof
	CSA A 20/21		
U FM / CSA	Cl. II, III, Div.1	Cl. I Div.1 / Zone 0	Explosion Proof / Dust Ignition Proof
	CSA A 20/21		

### pos. 3 Temperature extended shaft

- 1 without (upto  $T_{process} = 150^{\circ}C$  (302°F) at  $T_{amb} < 40^{\circ}C$  (104°F)) .....
- 2 with (upto  $T_{process} = 150^{\circ}C$  (302°F) at  $T_{amb} > 40^{\circ}C$  (104°F)) .....

### pos. 4 Electronic module

- E Relay SPDT 19..230V AC 19..55V DC .....
- L Relay DPDT
  - └ 19..230V AC 19..55V DC .....
  - └ 19..230V AC 19..36V DC .....
- D PNP 18..50V DC .....
- K 2-wire without contact 19..230V AC/DC .....
- M NAMUR IEC 60947-5-6 2-wire .....
- N 8/16mA
  - └ 8/16mA or 4-20mA 12,5..36V\*\* DC 2-wire
  - └ 8/16mA 12,5..36V DC 2-wire .....

applicable for certificates (pos.2)									
O	W	Y	R	T	M	N	P	S	U
•	•	•	•	•	•	•	•	•	•
•	•		(1)	(1)	•	•	(1)	(1)	
			(2)	(2)			(2)	(2)	
•	•		•	•	•	•	•	•	•
•	•		•	•	•	•	•	•	•
•	•	•	(1)	(1)	•	•	(1)	(1)	
			(2)	(2)			(2)	(2)	

(1) with pos.3 1  
 (2) with pos.3 2 or pos.26 1/2

### pos. 5 Process connection

- A Thread R 1½ inch, conical DIN 2999 .....
- B Thread NPT 1½ inch, conical ANSI B1.20.1 .....
- P Triclamp 2" (DN 50) ISO 2852 .....
- L Flange DN 100 PN6, EN1092-1 (max. 6 bar (87psi)) .....
- M Flange DN 100 PN16, EN1092-1 .....
- S Flange 2" 150lbs ANSI B16.5 .....
- T Flange 3" 150lbs ANSI B16.5 .....
- U Flange 4" 150lbs ANSI B16.5 .....

### pos. 8 Material of process connection / extension "L"

- 1 Stainless steel 1.4301 (304) .....
  - 2 Stainless steel 1.4571 (316TI) .....
- Teflon coating on request

Further options and accessories: see page 14-16

### Basic type

Position	1	2	3	4	5	6	7	8	

← Order code

All positions are available with special design (use code "Z").

## VN ..030 Pipe extension

VN 1030



VN 2030



VN 5030



VN 6030



Housings VN 5030 / 6030



d (flameproof)



de (flameproof / increased safety)

### Cable entries

Depending on model selected, the following cable entries are supported (options see pos 23 on page 14):

Version:	Cable entries:
ATEX flameproof (pos.2 T)	M20x1.5 (1x conduit + 1x Ex-d blind plug)
FM and CSA (pos.2 M,N,P,S,U)	NPT 1/2" tapered ANSI B1.20.1 (1x conduit + 1x Ex-d blind plug)
All other versions	M20x1.5 (1x screwed cable gland + 1x blind plug)

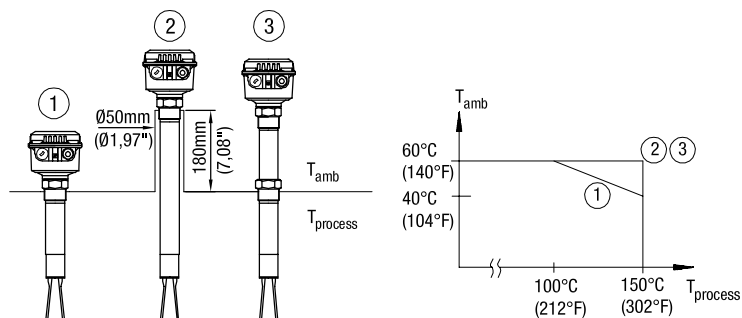
### Dimensions

see pages 17-20

pos. 3

Temperature extended shaft applications up to 150°C (302°F)

- 1 without
- 2 without and with extended socket
- 3 with





## VN ..040 Pipe extension (screwed)

VN 1040



VN 2040



VN 5040



VN 6040



Housings VN 5040 / 6040



Standard



d (flameproof)



de (flameproof /  
increased safety)

### Cable entries

Depending on model selected, the following cable entries are supported (options see pos 23 on page 14):

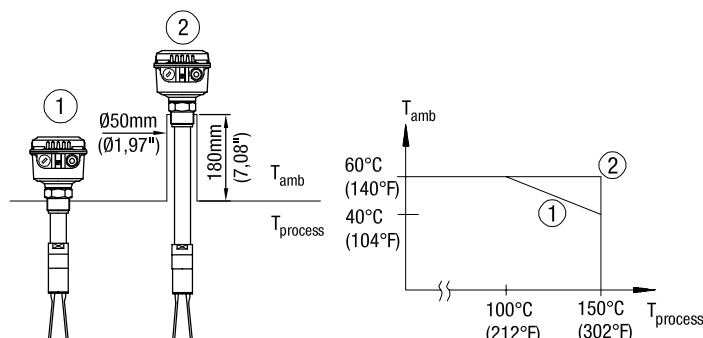
Version:	Cable entries:
ATEX flameproof (pos.2 T)	M20x1.5 (1x conduit + 1x Ex-d blind plug)
FM and CSA (pos.2 M,N,P,S,U)	NPT 1/2" tapered ANSI B1.20.1 (1x conduit + 1x Ex-d blind plug)
All other versions	M20x1.5 (1x screwed cable gland + 1x blind plug)

### Dimensions

see pages 17-20

applications up to 150°C (302°F)

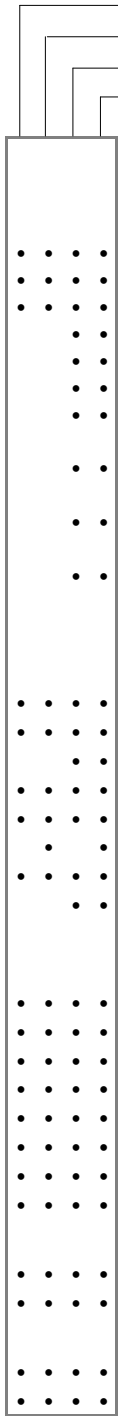
- 1 without extended socket
- 2 with extended socket



## VN ..040 Pipe extension (screwed)

### Basic type

- VN 1040 .....
- VN 2040 .....
- VN 5040 .....
- VN 6040 .....



### pos. 2 Certificate (detailed Ex-markings: see page 20)

Certificate	Zone / Div		Protection method
	Dust	Gas	
O CE	—	—	
W ATEX	Zone 20/21	—	Dust Ignition Proof
Y ATEX	Zone 20/21	Zone 0	Intrinsic Safe / Dust Ignition Proof
R ATEX	Zone 20/21	Zone 1	Flameproof / Increased Safety / Dust Ignition Proof
T ATEX	Zone 20/21	Zone 1	Flameproof / Dust Ignition Proof
M FM / CSA	—	—	General purpose
N FM / CSA	Cl. II, III, Div.1 CSA A 20/21	—	Dust Ignition Proof
P FM / CSA	Cl. II, III, Div.1 CSA A 20/21	Cl. I Div.1 / Zone 0	Intrinsic Safe / Dust Ignition Proof
S FM / CSA	Cl. II, III, Div.1 CSA A 20/21	Zone 1	Flameproof / Increased Safety / Dust Ignition Proof
U FM / CSA	Cl. II, III, Div.1 CSA A 20/21	Cl. I Div.1 / Zone 0	Explosion Proof / Dust Ignition Proof

### pos. 4 Electronic module

- E Relay SPDT 19..230V AC 19..55V DC .....
  - L Relay DPDT 19..230V AC 19..55V DC .....
  - 19..230V AC 19..36V DC .....
  - D PNP 18..50V DC .....
  - K 2-wire without contact 19..230V AC/DC .....
  - M NAMUR IEC 60947-5-6 2-wire .....
  - N 8/16mA 8/16mA or 4-20mA 12,5..36V\*\* DC 2-wire .....
  - 8/16mA 12,5..36V DC 2-wire .....
- \*\*30V intrinsic safe

applicable for certificates (pos.2)									
O	W	Y	R	T	M	N	P	S	U
•	•		•	•	•	•		•	•
•	•				•	•			
				•	•			•	•
•	•			•	•	•		•	•
•	•		•						
								•	•

### pos. 5 Process connection

- A Thread R 1½ inch, conical DIN 2999 .....
- B Thread NPT 1½ inch, conical ANSI B1.20.1 .....
- P Triclamp 2" (DN 50) ISO 2852 .....
- L Flange DN 100 PN6, EN1092-1 (max. 6 bar (87psi)) .....
- M Flange DN 100 PN16, EN1092-1 .....
- S Flange 2" 150lbs ANSI B16.5 .....
- T Flange 3" 150lbs ANSI B16.5 .....
- U Flange 4" 150lbs ANSI B16.5 .....

### pos. 7 Length of extension "L"

- L 1.500mm (59") (cutable cable length) .....
- M 4.000mm (157") (cutable cable length) .....

### pos. 8 Material of process connection / extension "L"

- 1 Stainless steel 1.4301 (304) .....
- 2 Stainless steel 1.4571 (316Ti) .....
- Teflon coating on request

Further options and accessories: see page 14-16

Basic type

	C	1	3				
--	---	---	---	--	--	--	--

← Order code

Position 1 2 3 4 5 6 7 8

All positions are available with special design (use code "Z").

## VN ..050 Cable extension

VN 1050



VN 2050



VN 5050



VN 6050



### Housings VN 5050 / 6050



Standard



d (flameproof)



de (flameproof /  
increased safety)

### Cable entries

Depending on model selected, the following cable entries are supported (options see pos 23 on page 14):

Version:	Cable entries:
ATEX flameproof (pos.2 T)	M20x1.5 (1x conduit + 1x Ex-d blind plug)
FM and CSA (pos.2 M,N,P,S,U)	NPT 1/2" tapered ANSI B1.20.1 (1x conduit + 1x Ex-d blind plug)
All other versions	M20x1.5 (1x screwed cable gland + 1x blind plug)

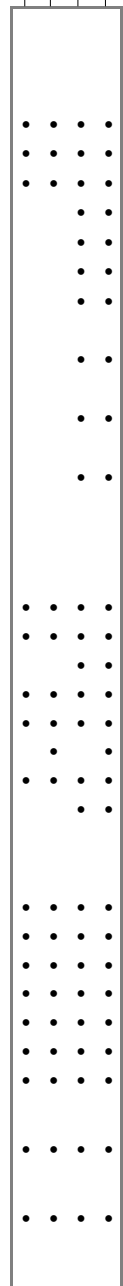
### Dimensions

see pages 17-20

## VN ..050 Cable extension

### Basic type

- VN 1050 .....
- VN 2050 .....
- VN 5050 .....
- VN 6050 .....



### pos. 2 Certificate (detailed Ex-markings: see page 20)

Certificate	Zone / Div		Protection method
	Dust	Gas	
0 CE	–	–	
W ATEX	Zone 20/21	–	Dust Ignition Proof
Y ATEX	Zone 20/21	Zone 0	Intrinsic Safe / Dust Ignition Proof
R ATEX	Zone 20/21	Zone 1	Flameproof / Increased Safety / Dust Ignition Proof
T ATEX	Zone 20/21	Zone 1	Flameproof / Dust Ignition Proof
M FM / CSA	–	–	General purpose
N FM / CSA	Cl. II, III, Div.1	–	Dust Ignition Proof
	CSA A 20/21		
P FM / CSA	Cl. II, III, Div.1	Cl. I Div.1 / Zone 0	Intrinsic Safe / Dust Ignition Proof
	CSA A 20/21		
S FM / CSA	Cl. II, III, Div.1	Zone 1	Flameproof / Increased Safety / Dust Ignition Proof
	CSA A 20/21		
U FM / CSA	Cl. II, III, Div.1	Cl. I Div.1 / Zone 0	Explosion Proof / Dust Ignition Proof
	CSA A 20/21		

### pos. 4 Electronic module

- E Relay SPDT 19..230V AC 19..55V DC .....
- L Relay DPDT
  - └ 19..230V AC 19..55V DC .....
  - └ 19..230V AC 19..36V DC .....
- D PNP 18..50V DC .....
- K 2-wire without contact 19..230V AC/DC .....
- M NAMUR IEC 60947-5-6 2-wire .....
- N 8/16mA
  - └ 8/16mA or 4-20mA 12,5..36V\*\* DC 2-wire .....
  - └ 8/16mA 12,5..36V DC 2-wire .....

applicable for certificates (pos.2)									
0	W	Y	R	T	M	N	P	S	U
•	•	•	•	•	•	•	•	•	•
•					•				
•	•	•	•	•	•	•	•	•	•
•					•				
•	•					•			
•	•	•	•	•	•	•	•	•	•

### pos. 5 Process connection

- A Thread R 1½ inch, conical DIN 2999 .....
- B Thread NPT 1½ inch, conical ANSI B1.20.1 .....
- L Flange DN100 PN6, EN1092-1 (max. 6 bar (87psi)) .....
- M Flange DN100 PN16, EN1092-1 .....
- S Flange 2" 150lbs ANSI B16.5 .....
- T Flange 3" 150lbs ANSI B16.5 .....
- U Flange 4" 150lbs ANSI B16.5 .....

### pos. 7 Length of extension "L"

- Z more than 500mm (19,7") each initial 500mm (19,7") .....

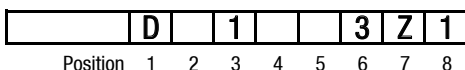
### pos. 8 Material of process connection / extension "L"

- 1 Stainless steel 1.4301 (304) .....
- Stainless steel 1.4571 (316Ti) .....
- Teflon coating .....

Further options and accessories: see page 14-16

Extension "L":  
 min. 750mm (29,6")  
 max. 7.000mm (276") for VN 1050/5050  
 max. 20.000mm (787") for VN 2050/6050  
 max. 10.000mm (394") for VN 2050/6050 with pos.4M

Basic type



Position 1 2 3 4 5 6 7 8

All positions are available with special design (use code "Z").

**L= mm** ← **Order code**

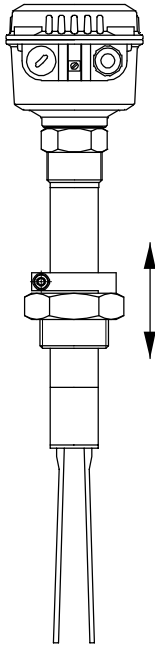
## Options

Short extension length				Pipe extension				Pipe extension (screwed)				Cable extension			
VN 1020	VN 2020	VN 5020	VN 6020	VN 1030	VN 2030	VN 5030	VN 6030	VN 1040	VN 2040	VN 5040	VN 6040	VN 1050	VN 2050	VN 5050	VN 6050
• • 1 1	• • 1 1	• • 1 1	• • 1 1	• • 1 1	• • 1 1	• • 1 1	• • 1 1	• • 1 1	• • 1 1	• • 1 1	• • 1 1	• • 1 1	• • 1 1	• • 1 1	• • 1 1
pos. 21 <b>Weather-protection cover</b> ..... (for Ex only approved for Zone 2 or 22 or Div. 2)															
<b>Mounting set for flange mounting</b>															
process connection flange		for counter flange with		consists of											
				screws*			nuts*			washers*			sealing**		
L		hole ø18		4 pcs M16x60			4 pcs M16			4 pcs			1 piece		
L		thread M16		4 pcs M16x40			4 pcs M16			4 pcs			1 piece		
M		hole ø18		8 pcs M16x60			8 pcs M16			8 pcs			1 piece		
M		thread M16		8 pcs M16x40			8 pcs M16			8 pcs			1 piece		
* material stainless steel A2 **max. 125°C (256°F)															
<b>Cable entry</b>															
Optional available:															
• • 2 2		• • 2 2		• • 2 2		• • 2 2		• • 2 2		• • 2 2		• • 2 2		• • 2 2	
pos. 23x M20x1,5 2x screwed cable gland .....															
• • 3 3		• • 3 3		• • 3 3		• • 3 3		• • 3 3		• • 3 3		• • 3 3		• • 3 3	
pos. 23y M20x1,5 1x screwed cable gland +1x blind plug .....															
• • • •		• • • •		• • • •		• • • •		• • • •		• • • •		• • • •		• • • •	
pos. 23a NPT 1/2" tapered ANSI B1.20.1 (1x conduit + 1x Ex-d blind plug) .....															
• • • •		• • • •		• • • •		• • • •		• • • •		• • • •		• • • •		• • • •	
pos. 23b NPT 3/4" tapered ANSI B1.20.1 (1x conduit + 1x Ex-d blind plug) .....															
<b>Sliding sleeve</b> (max. 10bar (145psi), max. 150°C (302°F))															
process connection as follows or flange as chosen; with Triclamp on request															
Not for Ex applications Zone 0/1 (Cat. 1/2) with separation wall															
• • • •		• • • •		• • • •		• • • •		• • • •		• • • •		• • • •		• • • •	
pos. 25w G2" ISO 228 material 1.4301 (304) .....															
• • • •		• • • •		• • • •		• • • •		• • • •		• • • •		• • • •		• • • •	
pos. 25x G2" ISO 228 material 1.4571 (316 TI) .....															
• • • •		• • • •		• • • •		• • • •		• • • •		• • • •		• • • •		• • • •	
pos. 25u NPT 2" ANSI B1.20.1 material 1.4301 (304) .....															
• • • •		• • • •		• • • •		• • • •		• • • •		• • • •		• • • •		• • • •	
pos. 25v NPT 2" ANSI B1.20.1 material 1.4571 (316 TI) .....															
<b>Special versions</b>															
• •		• •		• •		• •		• •		• •		• •		• •	
pos. 26x Enhanced sensitivity (> 5g/l (0,3lb/ft <sup>3</sup> )) .....															
4 4		4 4		4 4		4 4		4 4		4 4		4 4		4 4	
pos. 26a Vibrasil 70 (sensitivity <5g/l (0,3lb/ft <sup>3</sup> )) .....															
4 4		4 4		4 4		4 4		4 4		4 4		4 4		4 4	
pos. 26b Vibrasil 90 (sensitivity <5g/l (0,3lb/ft <sup>3</sup> )) .....															
4 4		4 4		4 4		4 4		4 4		4 4		4 4		4 4	
Pos. 26c Adjustable sensitivity for interface applications (only with CE) .....															
5 5		• •		• •		• •		• •		• •		• •		• •	
pos. 26.1 Separate housing cable length 1,5m (59") .....															
5 5		• •		• •		• •		• •		• •		• •		• •	
pos. 26.2 Separate housing cable length 4,0m (157") .....															
<b>Signal lamp</b>															
6 6 6 6		6 6 6 6		6 6 6 6		6 6 6 6		6 6 6 6		6 6 6 6		6 6 6 6		6 6 6 6	
pos. 27a Bulb in cable gland, 2W green .....															
7 7 7 7		7 7 7 7		7 7 7 7		7 7 7 7		7 7 7 7		7 7 7 7		7 7 7 7		7 7 7 7	
pos. 27b LED (glass window in lid) .....															
8 8 8 8		8 8 8 8		8 8 8 8		8 8 8 8		8 8 8 8		8 8 8 8		8 8 8 8		8 8 8 8	
pos. 29 <b>Plug 4-pole (incl. PE)</b> .....															

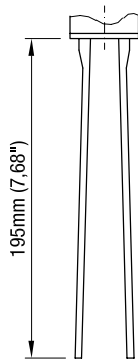
- 1 available for all versions except explosionproof / flameproof versions (pos.2 R,T,S,U)
- 2 available for all versions except flameproof version (pos.2 T,U)
- 3 available for FM/CSA versions (pos.2 M,N,P,S) except flameproof version (pos.2 U)
- 4 available only with electronic module "Relais SPDT" (pos.4 E)
- 5 available for all versions except ATEX Zone 20/21 (pos.2 W) with electronic Relay DPDT or 8/16mA (pos.4 L,N); for ATEX Zone 20/21 (pos.2 W) with electronic 2-wire without contact (pos.4 K) on request
- 6 available for CE and FM/CSA general purpose (pos.2 O, M), not in combination with weather protection cover (pos 21)
- 7 available for all versions except explosionproof / flameproof version (pos.2 R,T,S,U)
- 8 available only for CE (pos.2 O)

## Options

pos. 25  
**Sliding sleeve**

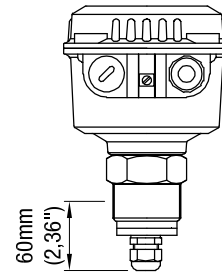


pos. 26x  
**Enhanced sensitivity**



pos. 26b  
**Vibrasil® 90**

pos. 26 1-2  
**Seperate housing**



max. ambient temperature:  
 60°C (140°F)

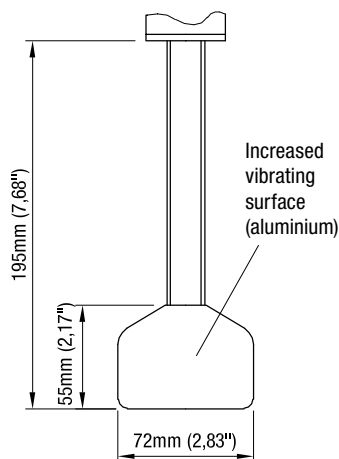
cable must be installed in the steel hose or in a metal tube

in case of Ex approvals: steel hose is part of delivery

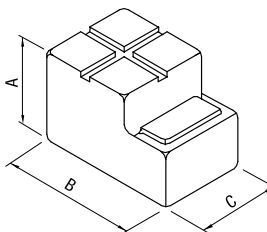
cable gland for version with Ex approval

max. Process temperature:  
 150°C (302°F)  
 (Ex 110°C (230°F))

pos. 26a  
**Vibrasil® 70**

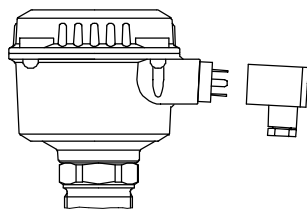


pos. 21  
**Weather-protection cover**



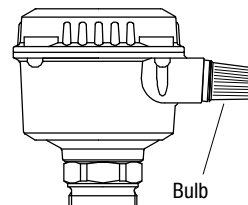
	VN 10..0 VN 20..0	VN 50..0 VN 60..0
A	100mm (3.94")	130mm (5.12")
B	165mm (6.5")	200mm (7.87")
C	88mm (3.46")	125mm (4.92")

pos. 29  
**Plug 4-pole**

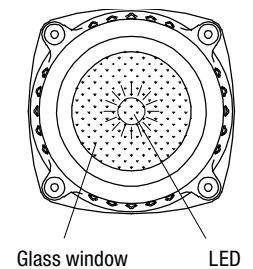


**Signal lamp**

pos. 27a  
 Bulb in cable gland



pos. 27b  
 LED (glass window in lid)



## Accessories

**NAMUR Isolating Switching Amplifier** Protection method [EEx ia] IIC  
 (for Electronic module pos.4 M)



Terminal housing. Switchable signal output logic. Each channel has one independent output.

Channels	Signal output	Monito-ring*	Supply	Manufacturer / Type	Manufacturer / Type
				Pepperl & Fuchs	Turck
1	Relay (SPDT)	x	24V DC	KFD2-SR2-Ex1.W	MK13-11Ex0-R/24VDC
		x	115V AC	KFA5-SR2-Ex1.W	MK13-11Ex0-R/115VAC
		x	230V AC	KFA6-SR2-Ex1.W	MK13-11Ex0-R/230VAC
	PNP	x	24V DC	KFD2-ST2-Ex1.LB	MK13-PN-Ex0/24VDC
2	Relay (SPDT)	x	24V DC	KFD2-SR2-Ex2.W	MK13-22Ex0-R/24VDC
		x	115V AC	KFA5-SR2-Ex2.W	MK13-22Ex0-R/115VAC
		x	230V AC	KFA6-SR2-Ex2.W	MK13-22Ex0-R/230VAC
	PNP	x	24V DC	KFD2-ST2-Ex2	MK13-22P-Ex0/24VDC
			24V DC		MK13-22P-Ex0/24VDC
3	Relay (SPDT)	x	24V DC		MK13-33Ex0-R/24VDC
		x	115V AC		MK13-33Ex0-R/115VAC
		x	230V AC		MK13-33Ex0-R/230VAC
	PNP	x	24V DC		MK13-33Ex0-T/24VDC
4	Relay (SPDT)	x	24V DC		MK13-451Ex0-R/24VDC
		x	115V AC		MK13-451Ex0-R/115VAC
		x	230V AC		MK13-451Ex0-R/230VAC
	PNP	x	24V DC		MK13-451Ex0-T/24VDC

\* Input circuit monitoring for wire-break, partial for short-circuit.  
 Partial additional monitoring signal output.

**8/16mA Limit Value Monitor**  
 (for Electronic module pos.4 N)



**Limit Value Monitor** Type IM43-13-R .....

Input: 1 channel 4-20mA.

Output: 2 Limit Value Relays for separate output of level and diagnose.

Terminal housing. Supply: 20-250V AC/DC. Manufacturer: Turck.

Use in Hazardous Locations only with additional connected Isolating Transducer IM33.

**Isolating Transducer** Type IM33-11Ex-Hi/24VDC (1 channel) .....

**Isolating Transducer** Type IM33-22Ex-Hi/24VDC (2 channels) .....

Protection method [EEx ia] IIC.

Terminal housing.

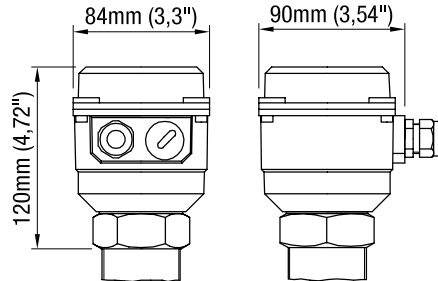
Input/Output: 4-20mA (galvanic isolated). Supply: 19-29V DC.

## Dimensions

### Housing versions

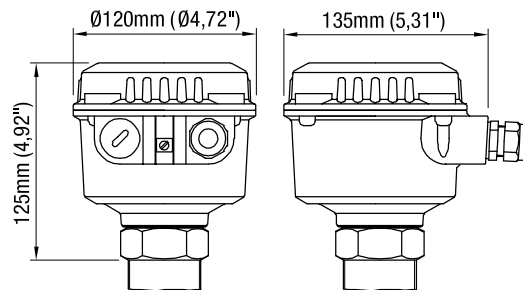
#### Series VN 1000 / 2000

##### Standard



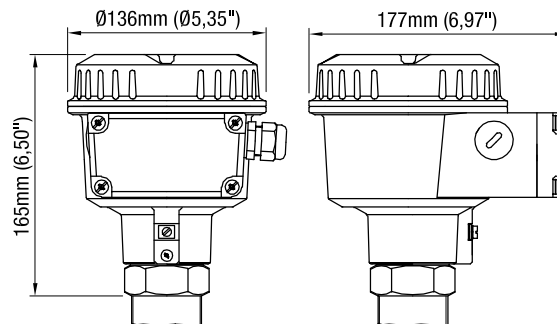
#### Series VN 5000 / 6000

##### Standard



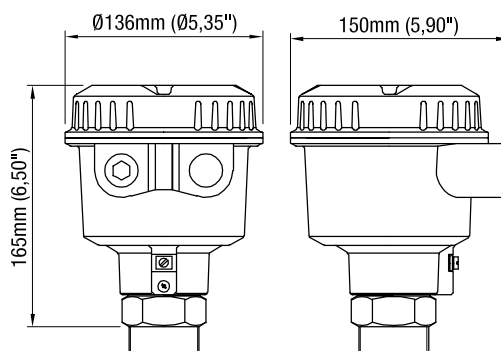
##### de

Explosionproof with  
 increased safety  
 terminal box



##### d

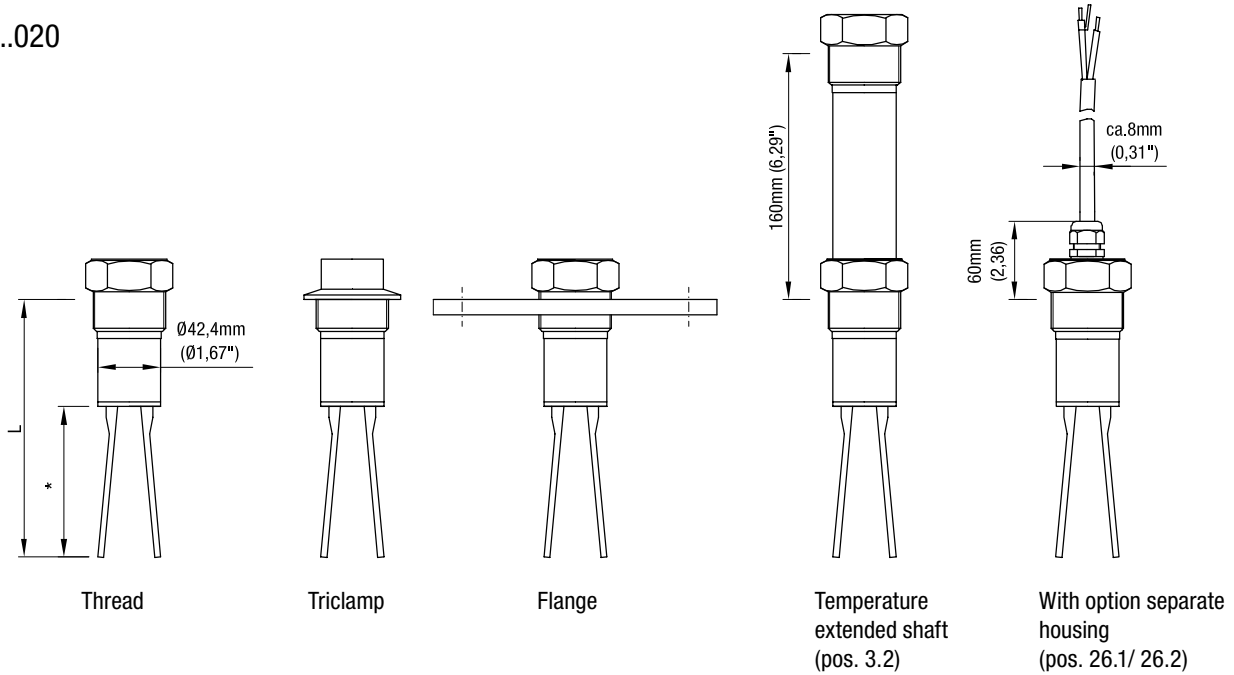
Flameproof /  
 explosionproof



## Dimensions

### Extensions

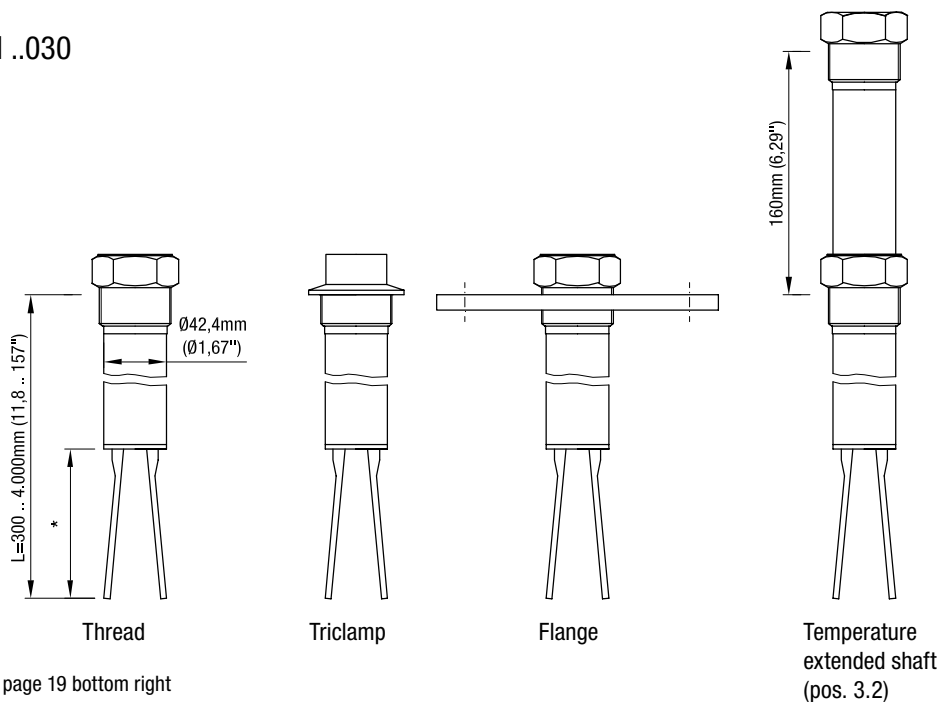
VN ..020



	L	
	without option	with option: Enhanced sensitivity (pos. 26x) Vibrasil® 70 (pos. 26a) Vibrasil® 90 (pos. 26b)
VN 1020 VN 5020	165mm (6.5")	
VN 2020 VN 6020	235mm (9.25")	260mm (10.24")

\* see page 19 bottom right

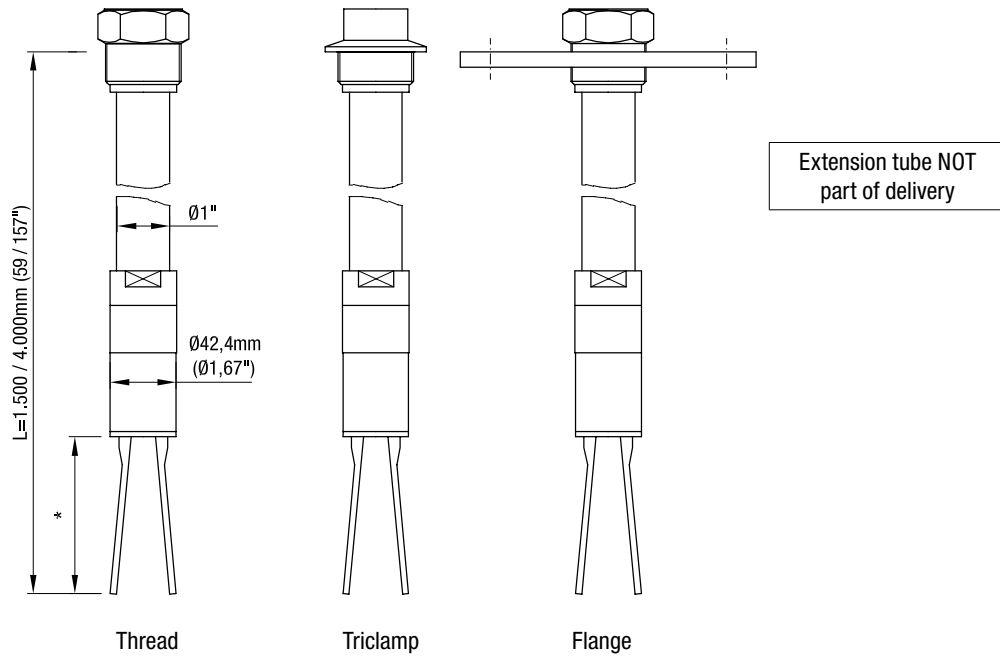
VN ..030



\* see page 19 bottom right

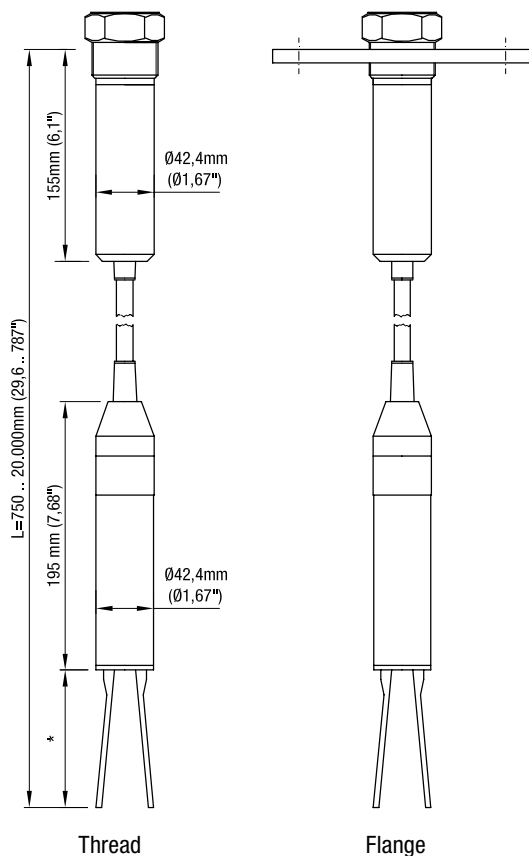
## Dimensions

VN ..040



\* see below right

VN ..050

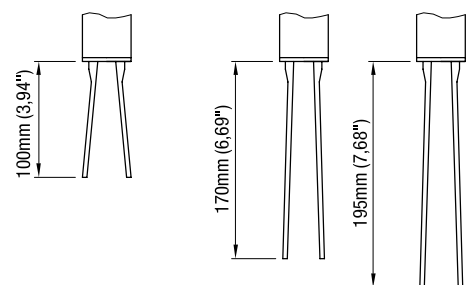


\* see right

\* Length of oscillating rods

VN 10..0  
 VN 50..0

VN 20..0  
 VN 60..0

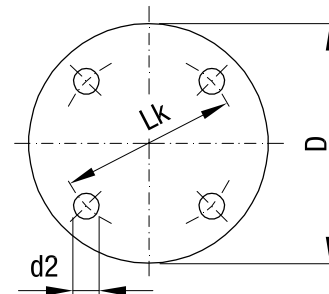


with option  
 Enhanced sensitivity (pos.26x)  
 Vibrasil® 70 (pos.26a)  
 Vibrasil® 90 (pos.26b)

## Dimensions / Detailed Ex-markings

### Flanges

Code	type	number of holes	d2	Lk	D	T (thickness)
L	Flange DN100 PN6	4	18mm (0.71")	170mm (6.69")	210mm (8.27")	16mm (0.63")
M	Flange DN100 PN16	8	18mm (0.71")	180mm (7.09")	220mm (8.66")	20mm (0.79")
S	Flange 2" 150lbs	4	19.1mm (0.75")	120.7mm (4.75")	152.4mm (6.01")	19.1mm (0.75")
T	Flange 3" 150lbs	4	19.1mm (0.75")	152.4mm (6.01")	190.5mm (7.5")	23.9mm (0.94")
U	Flange 4" 150lbs	8	19.1mm (0.75")	190.5mm (7.5")	228.6mm (9")	23.9mm (0.94")



### Detailed Ex-markings

pos. 2	Certificate	Housing
O	CE .....	Standard
W	ATEX II 1/2D .....	Standard
Y	ATEX II 1G and 1/2G EEx ia IIC; ATEX II 1D and 1/2D .....	Standard
R	ATEX II 2G EEx de [ia] IIC* and ATEX II 1/2D .....	de
T	ATEX II 2G EEx d [ia] IIC* and ATEX II 1/2D .....	d
M	FM / CSA general purpose .....	Standard
N	FM / CSA DIP Cl. II, III Div. 1 Gr. E,F,G CSA Ex DIP A20/21 .....	Standard
P	FM / CSA IS Cl. I, II, III Div. 1 Gr. A-G FM Cl. I Zone 0 and 0/1 AEx ia IIC CSA Cl. I Zone 0 and 0/1 Ex ia IIC and CSA Ex DIP A20 and A20/21 .....	Standard
S	FM Cl. I Zone 1 AEx de [ia] IIC* and FM / CSA Cl. II, III Div. 1 Gr. E,F,G CSA Cl. I Zone 1 Ex de [ia] IIC* and CSA Ex DIP A20/21 .....	de
U	FM XP-IS Cl. I, II, III Div. 1 Gr. B-G* and FM Cl. I Zone 1 AEx d [ia] IIC* CSA XP-IS Cl. I, II, III Div. 1 Gr. B-G* CSA Cl. I Zone 1 Ex d [ia] IIC* and CSA Ex DIP A20/21 .....	d

\* [ia] or IS is not applicable for versions VN ..020 without temperature extended shaft (pos. 3.1)  
 (In this case no intrinsic safe connection between Electronic module and Vibrating fork is used)

## Spare parts

### Electronic modules VN 1000 / VN 5000

Electronic module	Electronic module number	VN 1020	VN 1020 separate housing	VN 1030	VN 1030 separate housing	VN 1050
<b>Relay (SPDT)</b> 19..230V AC 19..55V DC	p1100932	0, W	0	0, W	0	0
	p1100120 *		W		W	W
	p1100247	0, W	0	0, W	0	0
<b>Relay (DPDT)</b> 19..230V AC 19..55V DC	p1100052 *					
	p1100246	0, W	0	0, W	0	0
<b>PNP</b> 18..50V DC	p1100123 *		W		W	W
		0, W	0	0, W	0	0
<b>2-wire without contact</b> 19..230V AC/DC	p1100242	0, W	0	0, W	0	0
	p1100122					
	p1100122 *		W		W	W
<b>8/16mA or 4-20mA</b> 2-wire	p1100093	0, W	0	0, W	0	0
	p1100062 *					
<b>8/16mA or 4-20mA</b> 2-wire intrinsic safe	p1100090 **	Y	Y	Y	Y	Y

Electronic module	Electronic module number	VN 5020	VN 5020 temp. extended shaft	VN 5020 separate housing	VN 5030	VN 5030 separate housing	VN 5040	VN 5050
<b>Relay (SPDT)</b> 19..230V AC 19..55V DC	p1100932	O, M, W, N, R, S, T, U	O, M, W, N	O, M	O, M, W, N	O, M, W, N	O, M, W, N	O, M
	p1100120 *		R, S, T, U	W, N, R, S, T, U	R, S, T, U	R, S, T, U	R, S, T, U	W, N, R, S, T, U
	p1100247	O, M, W, N, R, S, T, U	O, M, W, N	O, M	O, M, W, N	O, M, W, N	O, M, W, N	O, M
<b>Relay (DPDT)</b> 19..230V AC 19..55V DC	p1100052 *		R, S, T, U	W, N, R, S, T, U	R, S, T, U	R, S, T, U	R, S, T, U	W, N, R, S, T, U
	p1100246	O, M, W, N, R, S, T, U	O, M, W, N	O, M	O, M, W, N	O, M, W, N	O, M, W, N	O, M
<b>PNP</b> 18..50V DC	p1100123 *		R, S, T, U	W, N, R, S, T, U	R, S, T, U	R, S, T, U	R, S, T, U	W, N, R, S, T, U
		O, M, W, N, R, S, T, U	O, M, W, N	O, M	O, M, W, N	O, M, W, N	O, M, W, N	O, M
<b>2-wire without contact</b> 19..230V AC/DC	p1100242	O, M, W, N, R, S, T, U	O, M, W, N	O, M	O, M, W, N	O, M, W, N	O, M, W, N	O, M
	p1100122							
	p1100122 *		R, S, T, U	W, N, R, S, T, U	R, S, T, U	R, S, T, U	R, S, T, U	W, N, R, S, T, U
<b>8/16mA or 4-20mA</b> 2-wire	p1100093	O, M, W, N, R, S, T, U	O, M, W, N	O, M	O, M, W, N	O, M, W, N	O, M, W, N	O, M
	p1100062 *							
<b>8/16mA or 4-20mA</b> 2-wire intrinsic safe	p1100090 **	Y, P	Y, P	Y, P	Y, P	Y, P	Y, P	Y, P

\* Intrinsic safe connection between Electronic module and Vibrating fork

\*\* Intrinsic safe from supply and intrinsic safe between Electronic module and Vibrating fork

## Spare parts

### Electronic modules VN 2000 / VN 6000

Electronic module	Sensitivity (see pos. 26)	Electronic module number	Electronic modules are used for following certificates (see pos. 2 of optionlist):					
			VN 2020 separate housing	VN 2030 VN2040	VN 2050	VN 6020 temp. extended shaft	VN 6020 separate housing	VN 6030 VN 6040
<b>Relay (SPDT)</b> 19..230V AC 19..55V DC	20g/l (1,2lb/ft³)	pl100930	0, W	0, W	0	O, M, W, N, R, S, T, U	O, M, W, N	O, M
	5g/l (0,3lb/ft³)	pl100931	0, W	0, W	0	O, M, W, N, R, S, T, U	O, M, W, N	O, M
	Vibrasil® 70	pl100312						
	Vibrasil® 90	pl100310						
	20g/l (1,2lb/ft³)	pl100124 *	W		W	R, S, T, U	W, N, R, S, T, U	W, N, R, S, T, U
	5g/l (0,3lb/ft³)	pl100128 *						
<b>Relay (DPDT)</b> 19..230V AC 19..55V DC 19..230V AC 19..36V DC	20g/l (1,2lb/ft³)	pl100193	0, W	0, W	0	O, M, W, N, R, S, T, U	O, M, W, N	O, M
	5g/l (0,3lb/ft³)	pl100194	0, W	0, W	0	R, S, T, U	W, N, R, S, T, U	W, N, R, S, T, U
	20g/l (1,2lb/ft³)	pl100050 *						
	5g/l (0,3lb/ft³)	pl100051 *						
	20g/l (1,2lb/ft³)	pl100176	0, W	0, W	0	O, M, W, N, R, S, T, U	O, M, W, N	O, M
	5g/l (0,3lb/ft³)	pl100173	0, W	0, W	0	R, S, T, U	W, N, R, S, T, U	W, N, R, S, T, U
<b>PNP</b> 18..50V DC	20g/l (1,2lb/ft³)	pl100127 *	W		W	W, N, R, S, T, U	W, N, R, S, T, U	W, N, R, S, T, U
	5g/l (0,3lb/ft³)	pl100131 *						
	20g/l (1,2lb/ft³)	pl100182	0, W	0, W	0	O, M, W, N, R, S, T, U	O, M, W, N	O, M
	5g/l (0,3lb/ft³)	pl100187	0, W	0, W	0	R, S, T, U	W, N, R, S, T, U	W, N, R, S, T, U
	20g/l (1,2lb/ft³)	pl100126						
	5g/l (0,3lb/ft³)	pl100130	W		W	W, N, R, S, T, U	W, N, R, S, T, U	W, N, R, S, T, U
<b>2-wire without contact</b> 19..230V AC/DC	20g/l (1,2lb/ft³)	pl100126 *	Y	Y	Y	Y, P	Y, P	Y, P
	5g/l (0,3lb/ft³)	pl100130 *						
	20g/l (1,2lb/ft³)	pl100081 **	0, W	0, W	0	O, M, W, N, R, S, T, U	O, M, W, N	O, M
	5g/l (0,3lb/ft³)	pl100082 **	0, W	0, W	0	R, S, T, U	W, N, R, S, T, U	W, N, R, S, T, U
	20g/l (1,2lb/ft³)	pl100094	Y	Y	Y	Y, P	Y, P	Y, P
	5g/l (0,3lb/ft³)	pl100098						
<b>NAMUR</b> IEC 60947-5-6 2-wire intrinsic safe <b>8/16mA or 4-20mA</b> 2-wire	20g/l (1,2lb/ft³)	pl100060 *	0, W	0, W	0	O, M, W, N, R, S, T, U	O, M, W, N	O, M
	5g/l (0,3lb/ft³)	pl100061 *	0, W	0, W	0	R, S, T, U	W, N, R, S, T, U	W, N, R, S, T, U
	20g/l (1,2lb/ft³)	pl100091 **	Y	Y	Y	Y, P	Y, P	Y, P
	5g/l (0,3lb/ft³)	pl100092 **						
	20g/l (1,2lb/ft³)	pl100092 **	Y	Y	Y	Y, P	Y, P	Y, P
	5g/l (0,3lb/ft³)	pl100092 **						

\* Intrinsic safe connection between Electronic module and Vibrating fork  
 \*\* Intrinsic safe from supply and intrinsic safe between Electronic module and Vibrating fork