



## Level measurement – Radar

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## VEGAPULS:

### Non-contact measurement of liquids and solids under arduous process conditions

#### Measuring principle

Extremely short microwave pulses are emitted by the antenna system to the measured product, reflected by the product surface and received again by the antenna system. They spread with light velocity and the time from emission to reception of the signals is proportional to the level in the vessel. A special time spreading procedure enables reliable and accurate measurement of extremely short time periods. The radar instruments work with low emitted power in the C and K-band frequency range.

Latest microcomputer technology and proven ECHOFOX software detect the level echo reliably out of a number of false echoes and measure it precisely.

By simply entering the vessel dimensions, a level-proportional signal can be displayed. An adjustment with emptied and filled vessel is not necessary.

#### Unaffected by temperature and pressure

The propagation of microwaves is practically unaffected by the ambient temperature and pressure. Hence these radar sensors are ideal for use under extremely difficult process conditions. Pressures from vacuum up to 160 bar and temperatures from -40...400°C are no problem for radar measurement.

#### Unaffected by product properties

Fluctuations in product composition or even complete product changes do not influence the measuring result. A fresh adjustment is not necessary.

#### Frequency ranges for all applications

VEGA radar sensors are available in two different frequency ranges and thus offer a wide application range.

K-band sensors operate in a frequency range of more than 20 GHz. Thanks to this, very small antennas and compact process fittings can be used. Due to the high signal focussing, a very high accuracy of the measuring system can be achieved. C-band sensors characterize by a low frequency of 6 GHz. In most cases, buildup and pollution of the antenna system or foam on the product surface do not influence the measurement result.





## Overview

**VEGAPULS 61**



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Applications: aggressive liquids in small vessels, under easy process conditions

Measuring range: up to 20 m

Process fitting: G1½A mounting loop or flange

Process temperature: -40...80°C

Process pressure: -1...3 bar (-100...300 kPa)

Accuracy: +/- 5 mm

Emitting frequency: K-band

Applications: storage and process vessels under arduous process conditions

Measuring range: up to 35 m

Process fitting: thread or flange

Process temperature: -40...200°C

Process pressure: -1...40 bar (-100...4000 kPa)

Accuracy: +/- 3 mm

Emitting frequency: K-band

Applications: aggressive liquids under arduous process conditions

Measuring range: up to 20 m

Process fitting: flange or hygienic fitting

Process temperature: -40...150°C

Process pressure: -1...16 bar (-100...1600 kPa)

Accuracy: +/- 3 mm

Emitting frequency: K-band

**VEGAPULS 65**



**VEGAPULS 66**



**VEGAPULS 68**



Applications: aggressive liquids under easy process conditions

Measuring range: up to 35 m

Process fitting: G1½A or flange

Process temperature: -40...150°C

Process pressure: -1...16 bar (-100...1600 kPa)

Accuracy: +/- 10 mm

Emitting frequency: C-band

Applications: storage and process vessels under arduous process conditions

Measuring range: up to 35 m

Process fitting: flange

Process temperature: -40...400°C

Process pressure: -1...160 bar (-100...16000 kPa)

Accuracy: +/- 10 mm

Emitting frequency: C-band

Applications: large solid vessels under arduous process conditions

Measuring range: up to 70 m

Process fitting: G1½A or flange

Process temperature: -40...200°C

Process pressure: -1...40 bar (-100...4000 kPa)

Accuracy: +/- 15 mm

Emitting frequency: K-band



## VEGAPULS 61

### Radar sensor for continuous level measurement with encapsulated antenna system (K-band)

Especially suitable for small vessels for measurement of aggressive liquids and open vessels or flumes

- wetted parts: PVDF or PP
- measurement up to 50mm to the antenna edge possible
- accuracy +/- 5mm
- ECHOFOX signal processing with Fuzzy-Logic
- adjustment with PLICSCOM, HART handheld or PC
- instrument from the plics® family





**Approval**

- XX** without .....
- XM** Ship approval .....
- CX** ATEX II 1G, 1/2G, 2G EEx ia IIC T6 .....
- CA** ATEX II 1G, 1/2G, 2G EEx ia IIC T6 + WHG .....
- CM** ATEX II 1G, 1/2G, 2G EEx ia IIC T6 + Ship approval .....
- DX** ATEX II 1/2G, 2G EEx d ia IIC T6<sup>1)</sup> .....

**Version / Material / Process temperature**

- A** with encapsulated horn antenna ø40mm / PVDF / -40...80°C .....
- B** with plastic horn antenna ø80mm / PP / -40...80°C .....

**Process fitting / Material**

- XX** without compression flange<sup>2)</sup> .....
- GP** Thread G1½A PN3 / PVDF<sup>3)</sup> .....
- NP** Thread 1½NPT PN3 / PVDF<sup>3)</sup> .....
- CA** Tri-Clamp 2" PN3 / 316L<sup>3)</sup> .....
- CB** Tri-Clamp 3" PN3 / 316L<sup>3)</sup> .....
- RA** Bolting DN50 PN3, DIN 11851 / 316L<sup>3)</sup> .....
- RB** Bolting DN80 PN3, DIN 11851 / 316L<sup>3)</sup> .....
- XC** Mounting loop / 1.4301<sup>2)</sup> .....
- YD** Compression flange DN80PN16, ANSI3", JIS DN80 10K / PPH<sup>2)</sup> .....
- AE** Adapter flange DN100PN16 / PPH<sup>2)</sup> .....
- AH** Adapter flange DN150PN16 / PPH<sup>2)</sup> .....
- FK** Adapter flange ANSI 4"150psi / PPH<sup>2)</sup> .....
- FM** Adapter flange ANSI 6"150psi / PPH<sup>2)</sup> .....
- UC** Adapter flange JIS DN100 10K / PPH<sup>2)</sup> .....
- UE** Adapter flange JIS DN150 10K / PPH<sup>2)</sup> .....

**Electronics**

- H** Two-wire 4...20mA/HART® .....
- V** Four wire 4...20mA/HART®<sup>1)</sup> .....
- P** Profibus PA .....
- F** Foundation Fieldbus .....

**Housing / Protection**

- K** Plastic / IP66/IP67 .....
- A** Aluminium / IP66/IP68 (0.2 bar) .....
- D** Aluminium double chamber / IP66/IP68 (0.2 bar) .....
- V** Stainless steel 316L / IP66/IP68 (0.2bar) .....

**Cable entry / Plug connection**

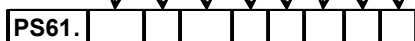
- M** M20x1.5 / without .....
- N** ½NPT / without .....

**Indicating/adjustment module (PLICSCOM)**

- X** Without .....
- A** Top mounted .....

**Additional equipment**

- X** without .....



<sup>1)</sup> Only in conjunction with Housing / Protection "D"  
<sup>2)</sup> Only in conjunction with Version / Material / Process temperature "B"  
<sup>3)</sup> Only in conjunction with Version / Material / Process temperature "A"

- Further process fittings and options on request



## VEGAPULS 62

### **Radar sensor for continuous level measurement with horn antenna or with mounted 1/2" standpipe (K-band)**

Especially suitable for storage tanks or process vessels for measurement of virtually all substances under arduous process conditions

- non-contact measurement unaffected by process pressure, process temperature and process gas
- measurement up to 50mm to the antenna edge possible
- accuracy +/- 3mm
- ECHOFOX signal processing with Fuzzy-Logic
- adjustment with PLICSCOM, HART handheld or PC
- instrument from the plics® family





- Approval**  
**XX** without .....  
**XM** Ship approval .....  
**CX** ATEX II 1G, 1/2G, 2G EEx ia IIC T6 .....  
**CA** ATEX II 1G, 1/2G, 2G EEx ia IIC T6 + WHG .....  
**CM** ATEX II 1G, 1/2G, 2G EEx ia IIC T6 + Ship approval .....  
**DX** ATEX II 1/2G, 2G EEx d ia IIC T6 <sup>1)</sup> .....

- Version / Material**  
**B** with horn antenna ø40 mm / 316L .....  
**C** with horn antenna ø48 mm / 316L .....  
**D** with horn antenna ø75 mm / 316L .....  
**E** with horn antenna ø95 mm / 316L .....  
**K** with parabolic antenna ø245mm / 316L .....  
**F** with ½"-standpipe / 316L <sup>2)</sup> .....

- Process fitting / Material**  
**GA** Thread G¾A PN40 / 316L <sup>3)</sup> .....  
**NA** Thread ¾NPT PN40 / 316L <sup>3)</sup> .....  
**GD** Thread G1½A PN40 / 316L .....  
**ND** Thread 1½NPT PN40 / 316L .....  
**FC** Flange DN50PN40 Form C, DIN2501 / 316L .....  
**FD** Flange DN80PN40 Form C, DIN2501 / 316L .....  
**FE** Flange DN100PN16 Form C, DIN2501 / 316L .....  
**FK** Flange DN150PN16 Form C, DIN2501 / 316L .....  
**AE** Flange 2" 150lb RF, ANSI B16.5 / 316L .....  
**AI** Flange 3" 150lb RF, ANSI B16.5 / 316L .....  
**AK** Flange 4" 150lb RF, ANSI B16.5 / 316L .....  
**AM** Flange 6" 150lb RF, ANSI B16.5 / 316L .....

- Seal / Process temperature**  
**2** FKM (Viton) / -40...130°C .....  
**3** Kalrez 6375 / -20...130°C .....  
**5** Kalrez 6375 / -20...200°C .....

- Electronics**  
**H** Two-wire 4...20mA/HART® .....  
**V** Four wire 4...20mA/HART® <sup>1)</sup> .....  
**P** Profibus PA .....  
**F** Foundation Fieldbus .....

- Housing / Protection**  
**K** Plastic / IP66/IP67 .....  
**A** Aluminium / IP66/IP68 (0.2 bar) .....  
**D** Aluminium double chamber / IP66/IP68 (0.2 bar) .....  
**V** Stainless steel 316L / IP66/IP68 (0.2bar) .....

- Cable entry / Plug connection**  
**M** M20x1.5 / without .....  
**N** ½NPT / without .....

- Indicating/adjustment module (PLICSCOM)**  
**X** Without .....  
**A** Top mounted .....

- Additional equipment**  
**X** without .....



<sup>1)</sup> Only in conjunction with Housing / Protection "D"  
<sup>2)</sup> Only in conjunction with Seal / Process temperature "4" or "5"  
<sup>3)</sup> Only in conjunction with Version / Material "F"

**Length standpipe / Total length with horn antenna (mm)**  
per 100 mm of 316L

- Further process fittings and options on request

## VEGAPULS 63

### Radar sensor for continuous level measurement with plastic encapsulated antenna system (K-band)

Particularly suitable for measurement of very aggressive liquids or under hygienic process conditions

- only one wetted material
- measurement up to 50mm to the antenna edge possible
- accuracy +/- 3mm
- ECHOFOX signal processing with Fuzzy-Logic
- adjustment with PLICSCOM, HART handheld or PC
- instrument from the plics® family







**Approval**

- XX** without .....
- XM** Ship approval .....
- CX** ATEX II 1G, 1/2G, 2G EEx ia IIC T6 .....
- CA** ATEX II 1G, 1/2G, 2G EEx ia IIC T6 + WHG .....
- CM** ATEX II 1G, 1/2G, 2G EEx ia IIC T6 + Ship approval .....
- DX** ATEX II 1/2G, 2G EEx d ia IIC T6 <sup>1)</sup> .....

**Version / Material / Process temperature**

- P** with encapsulated horn antenna / TFM-PTFE / -40...150°C .....
- V** hyg.encaps.horn ant. / TFM-PTFE+Viton / -25...130°C <sup>2)</sup> .....
- E** hyg.encaps.horn ant. / TFM-PTFE+EPDM / -40...130°C <sup>2)</sup> .....

**Process fitting / Material**

- CA** Tri-Clamp 2" / 316L .....
- CB** Tri-Clamp 3" / 316L .....
- CC** Tri-Clamp 4" / 316L .....
- RA** Bolting DN50 PN16, DIN 11851 / 316L .....
- RB** Bolting DN80 PN16, DIN 11851 / 316L .....
- LB** Hyg.fitting w. tension flange DN32PN16 / 316L <sup>3)</sup> .....
- LA** Hyg.fitting w. compression nut F40 PN16 / 316L <sup>3)</sup> .....
- TB** Tuchenhausen Varivent DN25...; PN10 / 316L <sup>3)</sup> .....
- QB** Neumo biocontrol sz. 50 PN16 / 316L <sup>3)</sup> .....
- FC** Flange DN50PN40 Form C, DIN2501 / 316L .....
- FD** Flange DN80PN40 Form C, DIN2501 / 316L .....
- FE** Flange DN100PN16 Form C, DIN2501 / 316L .....
- FK** Flange DN150PN16 Form C, DIN2501 / 316L .....
- AE** Flange 2" 150lb RF, ANSI B16.5 / 316L .....
- AI** Flange 3" 150lb RF, ANSI B16.5 / 316L .....
- AK** Flange 4" 150lb RF, ANSI B16.5 / 316L .....
- AM** Flange 6" 150lb RF, ANSI B16.5 / 316L .....

**Electronics**

- H** Two-wire 4...20mA/HART® .....
- V** Four wire 4...20mA/HART® <sup>1)</sup> .....
- P** Profibus PA .....
- F** Foundation Fieldbus .....

**Housing / Protection**

- K** Plastic / IP66/IP67 .....
- A** Aluminium / IP66/IP68 (0.2 bar) .....
- D** Aluminium double chamber / IP66/IP68 (0.2 bar) .....
- V** Stainless steel 316L / IP66/IP68 (0.2bar) .....

**Cable entry / Plug connection**

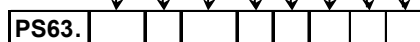
- M** M20x1.5 / without .....
- N** ½NPT / without .....

**Indicating/adjustment module (PLICSCOM)**

- X** Without .....
- A** Top mounted .....

**Additional equipment**

- X** without .....



<sup>1)</sup> Only in conjunction with Housing / Protection "D"  
<sup>2)</sup> Only in conjunction with Process fitting / Material "LA","LB", "QB" or "TB"  
<sup>3)</sup> Only in conjunction with Version / Material / Process temperature "V" or "E"

- Further process fittings and options on request



## VEGAPULS 65

### Radar sensor for continuous level measurement with rod antenna system (C-band)

Especially suitable for vessels with small process connection  
For measurement of aggressive liquids under easy process  
conditions

- wetted parts: PVDF or PTFE
- measurement up to 100mm to the antenna edge possible
- accuracy +/- 10mm
- ECHOFOX signal processing with Fuzzy-Logic
- adjustment with PLICSCOM, HART handheld or PC
- instrument from the plics® family





**Approval**

- XX** without .....
- XM** Ship approval .....
- CX** ATEX II 1G, 1/2G, 2G EEx ia IIC T6 .....
- CA** ATEX II 1G, 1/2G, 2G EEx ia IIC T6 + WHG .....
- CM** ATEX II 1G, 1/2G, 2G EEx ia IIC T6 + Ship approval .....
- DX** ATEX II 1/2G, 2G EEx d ia IIC T6<sup>1)</sup> .....

**Version / Material / Process temperature**

- K** Rod antenna for sockets 50mm / PVDF a. PTFE / -40...130°C<sup>2)</sup> .....
- L** Rod antenna for sockets 100mm / PTFE / -40...130/150°C<sup>3)</sup> .....
- M** Rod antenna for socketd 250mm / PTFE / -40...130/150°C<sup>3)</sup> .....

**Process fitting / Material**

- GD** Thread G1½A PN16 / 316L .....
- GP** Thread G1½A PN3 / PVDF .....
- ND** Thread 1½NPT PN16 / 316L .....
- NP** Thread 1½NPT PN3 / PVDF .....
- FC** Flange DN50PN40 Form C, DIN2501 / 316L PTFE-plated .....
- FD** Flange DN80PN40 Form C, DIN2501 / 316L PTFE-plated .....
- FE** Flange DN100PN16 Form C, DIN2501/316L PTFE-plated .....
- FK** Flange DN150PN16 Form C, DIN2501 / 316L PTFE-plated .....
- AE** Flange 2" 150lb RF, ANSI B16.5 / 316L PTFE-plated .....
- AI** Flange 3" 150lb RF, ANSI B16.5 / 316L PTFE-plated .....
- AK** Flange 4" 150lb RF, ANSI B16.5 / 316L PTFE-plated .....
- AM** Flange 6" 150lb RF, ANSI B16.5 / 316L PTFE-plated .....

**Electronics**

- H** Two-wire 4...20mA/HART® .....
- V** Four-wire 4...20mA/HART®<sup>1)</sup> .....
- P** Profibus PA .....
- F** Foundation Fieldbus .....

**Housing / Protection**

- K** Plastic / IP66/IP67 .....
- A** Aluminium / IP66/IP68 (0.2 bar) .....
- D** Aluminium double chamber / IP66/IP68 (0.2 bar) .....
- V** Stainless steel 316L / IP66/IP68 (0.2bar) .....

**Cable entry / Plug connection**

- M** M20x1.5 / without .....
- N** ½NPT / without .....

**Indicating/adjustment module (PLICSCOM)**

- X** Without .....
- A** Top mounted .....

**Additional equipment**

- X** without .....

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1) Only in conjunction with Housing / Protection "D"  
 2) Only for Process fitting / Material "GP" or "NP"  
 3) With Process connection / Material "GP" or "NP" process temperature only -40...130°C

- Further process fittings and options on request

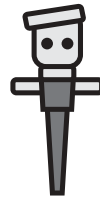


## VEGAPULS 66

### Radar sensor for continuous level measurement with horn antenna or with mounted 2" standpipe (C-band)

Especially suitable for the measurement of liquids and solids  
under arduous or extreme process conditions

- non-contact measurement unaffected by process pressure,  
process temperature and process gas
- measurement up to 100mm to the antenna edge possible
- accuracy +/- 10mm
- ECHOFOX signal processing with Fuzzy-Logic
- adjustment with PLICSCOM, HART handheld or PC
- instrument from the plics® family





**Approval**

- XX** without .....
- XM** Ship approval .....
- CX** ATEX II 1G, 1/2G, 2G EEx ia IIC T6 .....
- CA** ATEX II 1G, 1/2G, 2G EEx ia IIC T6 + WHG .....
- CM** ATEX II 1G, 1/2G, 2G EEx ia IIC T6 + Ship approval .....
- DX** ATEX II 1/2G, 2G EEx d ia IIC T6<sup>1)</sup> .....

**Version / Material**

- A** without horn antenna for standpipe .....
- D** with horn antenna ø75 mm / 316L<sup>2)</sup> .....
- E** with horn antenna ø96 mm / 316L<sup>2)</sup> .....
- H** with horn antenna ø145 mm/316L .....
- I** with horn antenna ø195 mm / 316L .....
- J** with horn antenna ø 240 mm / 316L .....
- F** with standpipe ø50 mm / 316L .....

**Process fitting / Material**

- FC** Flange DN50PN40 Form C, DIN2501 / 316L .....
- FD** Flange DN80PN40 Form C, DIN2501 / 316L .....
- FE** Flange DN100PN16 Form C, DIN2501 / 316L .....
- FK** Flange DN150PN16 Form C, DIN2501 / 316L .....
- FL** Flange DN200PN16 Form C, DIN2501 / 316L .....
- FI** Flange DN250PN16 Form C, DIN2501 / 316L .....
- AE** Flange 2" 150lb RF, ANSI B16.5 / 316L .....
- AI** Flange 3" 150lb RF, ANSI B16.5 / 316L .....
- AK** Flange 4" 150lb RF, ANSI B16.5 / 316L .....
- AM** Flange 6" 150lb RF, ANSI B16.5 / 316L .....
- AN** Flange 8" 150lb RF, ANSI B16.5 / 316L .....
- AP** Flange 10" 150lb RF, ANSI B16.5 / 316L .....

**Seal / Process temperature**

- 2** FKM (Viton) / -40...150°C .....
- 3** Kalrez 6375 / -20...150°C .....
- G** Graphite and ceramic / -60...250°C .....
- H** Graphite and ceramic / -60...400°C .....

**Electronics**

- H** Two-wire 4...20mA/HART® .....
- V** Four-wire 4...20mA/HART®<sup>1)</sup> .....
- P** Profibus PA .....
- F** Foundation Fieldbus .....

**Housing / Protection**

- K** Plastic / IP66/IP67 .....
- A** Aluminium / IP66/IP68 (0.2 bar) .....
- D** Aluminium double chamber / IP66/IP68 (0.2 bar) .....
- V** Stainless steel 316L / IP66/IP68 (0.2bar) .....

**Cable entry / Plug connection**

- M** M20x1.5 / without .....
- N** ½NPT / without .....

**Indicating/adjustment module (PLICSCOM)**

- X** Without .....
- A** Top mounted .....

**Additional equipment**

- X** without .....

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<sup>1)</sup> Only in conjunction with Housing / Protection "D"  
<sup>2)</sup> Only for measurement in Standpipes / Bypass tubes

**Length standpipe / Total length with horn antenna (mm)**  
 per 100 mm of 316L

- Version with standpipe possible from flange DN 80/ANSI 3"
- Further process fittings and options on request



## VEGAPULS 68

### Radar sensor for continuous level measurement for solids with horn or parabolic antenna (K-band)

Especially suitable for the measurement of solids with optional swivelling holder

For optimum adaptation to the vessel geometry and material cone

- non-contact measurement unaffected by dust generation and pneumatic filling
- accuracy +/- 15mm
- ECHOFOX signal processing with Fuzzy-Logic
- adjustment with PLICSCOM, HART handheld or PC
- instrument from the plics® family





**Approval**

- XX** without .....
- CX** ATEX II 1G, 1/2G, 2G EEx ia IIC T5 .....
- CK** ATEX II 1G, 1/2G, 2G EEx ia IIC T5+ATEX II 1/2 D IP6X T<sup>1)</sup> .....
- DX** ATEX II 1/2G, 2G EEx d ia IIC T5<sup>2)</sup> .....
- GX** ATEX II 1/2 D IP6X T<sup>1)</sup> .....

**Version / Material**

- B** with horn antenna ø40 mm / 316L .....
- C** with horn antenna ø48 mm / 316L .....
- D** with horn antenna ø75 mm / 316L .....
- E** with horn antenna ø95 mm / 316L .....
- K** with parabolic antenna ø245 mm / 316L .....

**Process fitting / Material**

- GD** Thread G1½" PN40 / 316L .....
- ND** Thread 1½" NPT PN40 / 316L .....
- 1C** Swivelling holder with flange DN50 / 316L .....
- 1D** Swivelling holder with flange DN80 / 316L .....
- 1E** Swivelling holder with flange DN100 / 316L .....
- FC** Flange DN50 PN40 Form C, DIN2501 / 316L .....
- FD** Flange DN80 PN40 Form C, DIN2501 / 316L .....
- FE** Flange DN100 PN16 Form C, DIN2501 / 316L .....
- FK** Flange DN150 PN16 Form C, DIN2501 / 316L .....
- AE** Flange 2" 150lb RF, ANSI B16.5 / 316L .....
- AI** Flange 3" 150lb RF, ANSI B16.5 / 316L .....
- AK** Flange 4" 150lb RF, ANSI B16.5 / 316L .....
- AM** Flange 6" 150lb RF, ANSI B16.5 / 316L .....

**Seal / Process temperature**

- 2** FKM (Viton) / -40...130°C .....
- 3** Kalrez 6375 / -20...130°C .....
- 5** Kalrez 6375 / -20...200°C .....

**Electronics**

- H** Two-wire 4...20mA/HART® .....
- V** Four-wire 4...20mA/HART®<sup>2)</sup> .....
- P** Profibus PA .....
- F** Foundation Fieldbus .....

**Housing / Protection**

- K** Plastic / IP66/IP67 .....
- A** Aluminium / IP66/IP68 (0.2 bar) .....
- D** Aluminium double chamber / IP66/IP68 (0.2 bar) .....
- V** Stainless steel 316L / IP66/IP68 (0.2bar) .....

**Cable entry / Plug connection**

- M** M20x1.5 / without .....
- N** ½" NPT / without .....

**Indicating/adjustment module (PLICSCOM)**

- X** Without .....
- A** Top mounted .....

**Additional equipment**

- X** without .....

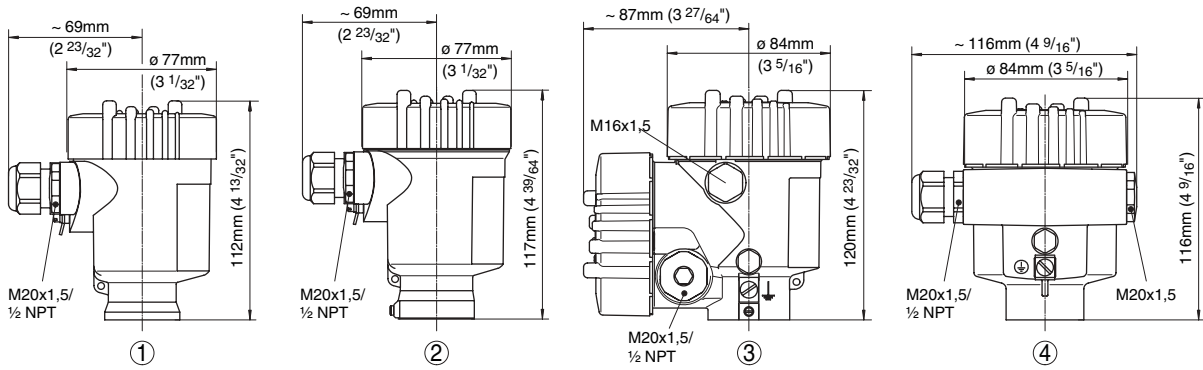


<sup>1)</sup> Only in conjunction with Housing / Protection "A", "D" or "V"

<sup>2)</sup> Only in conjunction with Housing / Protection "D"

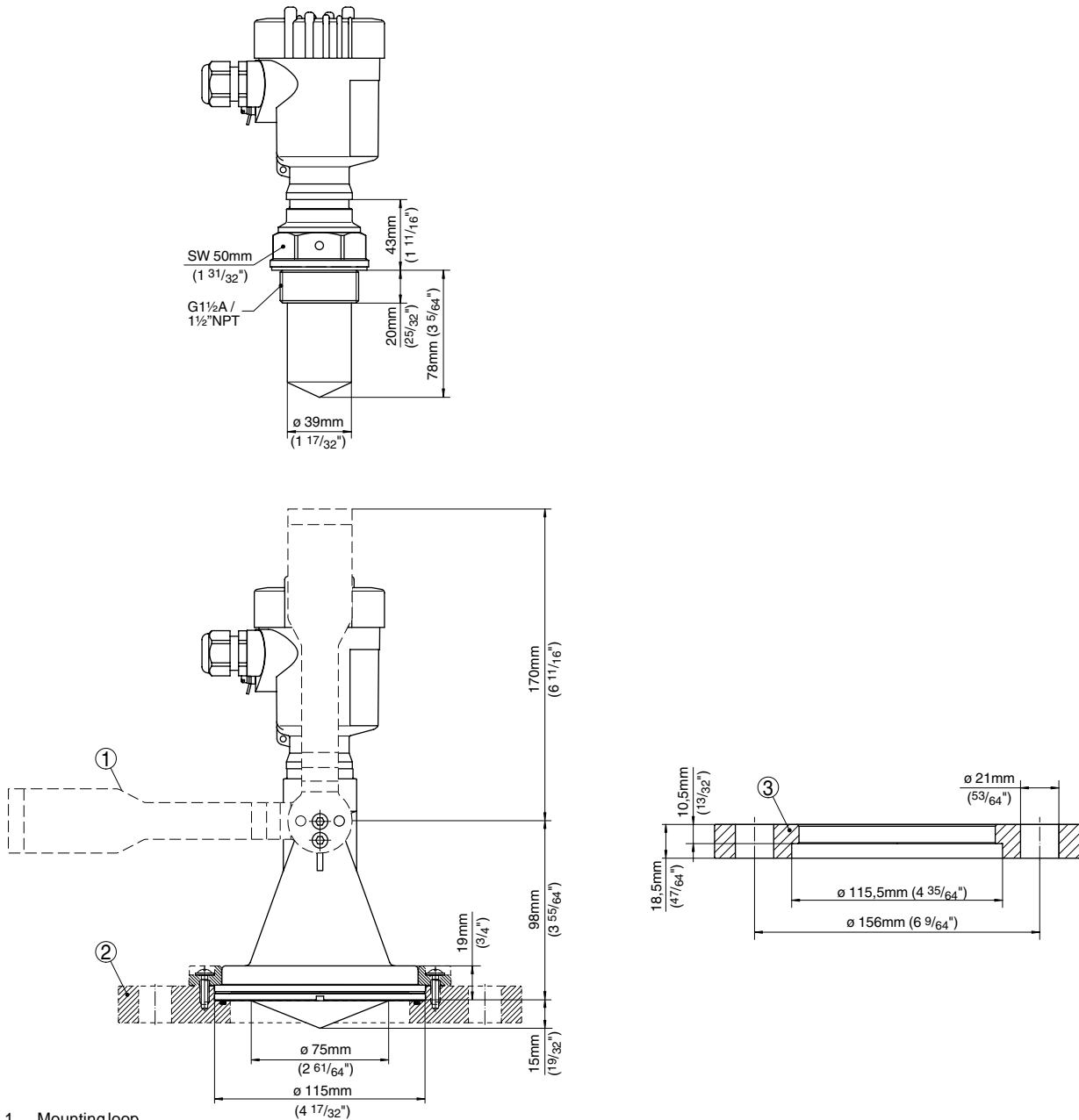
- Further process fittings and options on request

### Housings



- 1 Plastic housing
- 2 Stainless steel housing
- 3 Aluminium double chamber housing
- 4 Aluminium housing

### VEGAPULS 61

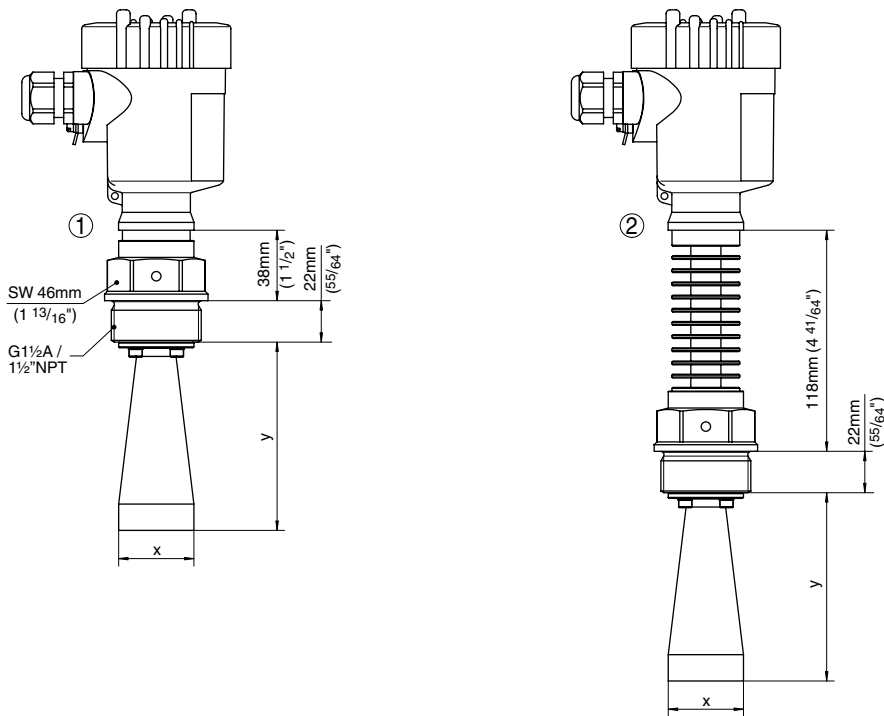


- 1 Mounting loop
  - 2 Adapter flange
  - 3 Combi compression flange
- Specifications in mm or inch

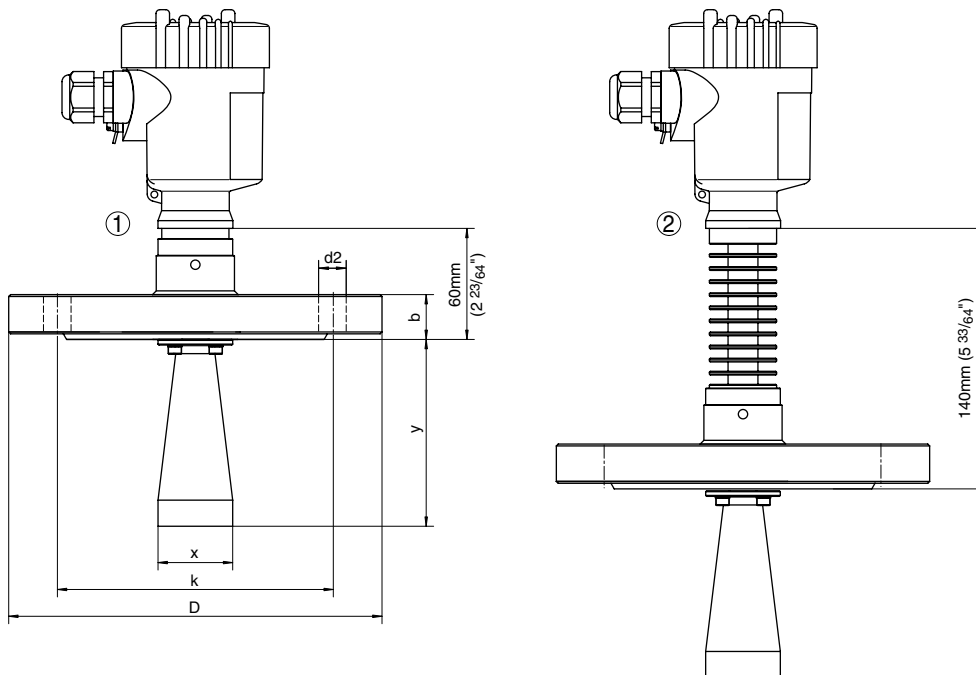




**VEGAPULS 62 - threaded version with horn antenna**



**VEGAPULS 62 - flange version**

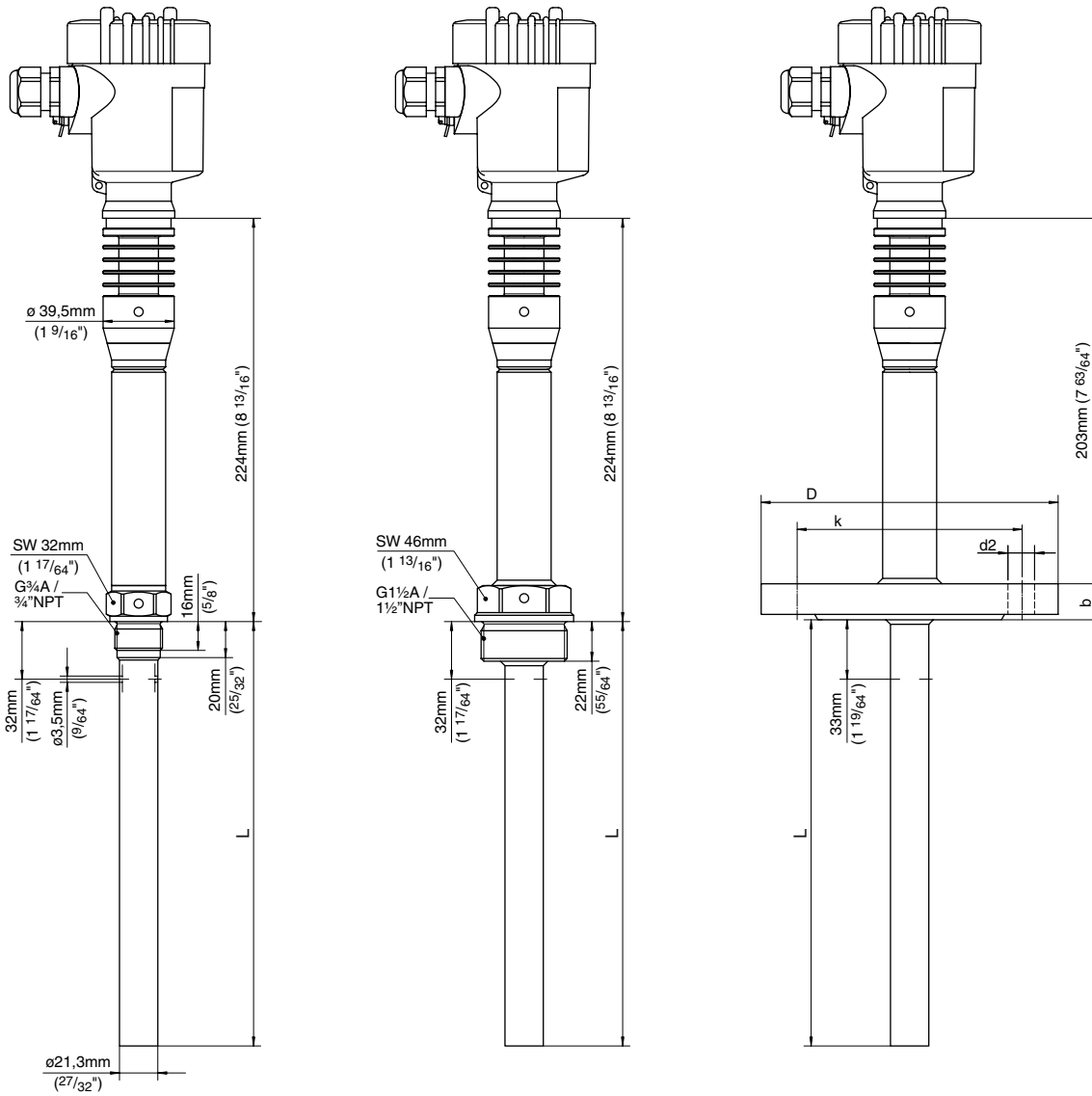


mm	x	y
ø40	100	
ø48	120	
ø75	216	
ø95	430	

inch	x	y
ø1 37/64"	3 15/16"	
ø1 57/64"	4 23/32"	
ø2 61/64"	8 1/2"	
ø3 47/64"	16 59/64"	

- 1 Standard
  - 2 with temperature adapter
- Specifications in mm or inch

**VEGAPULS 62 - standpipe antenna**

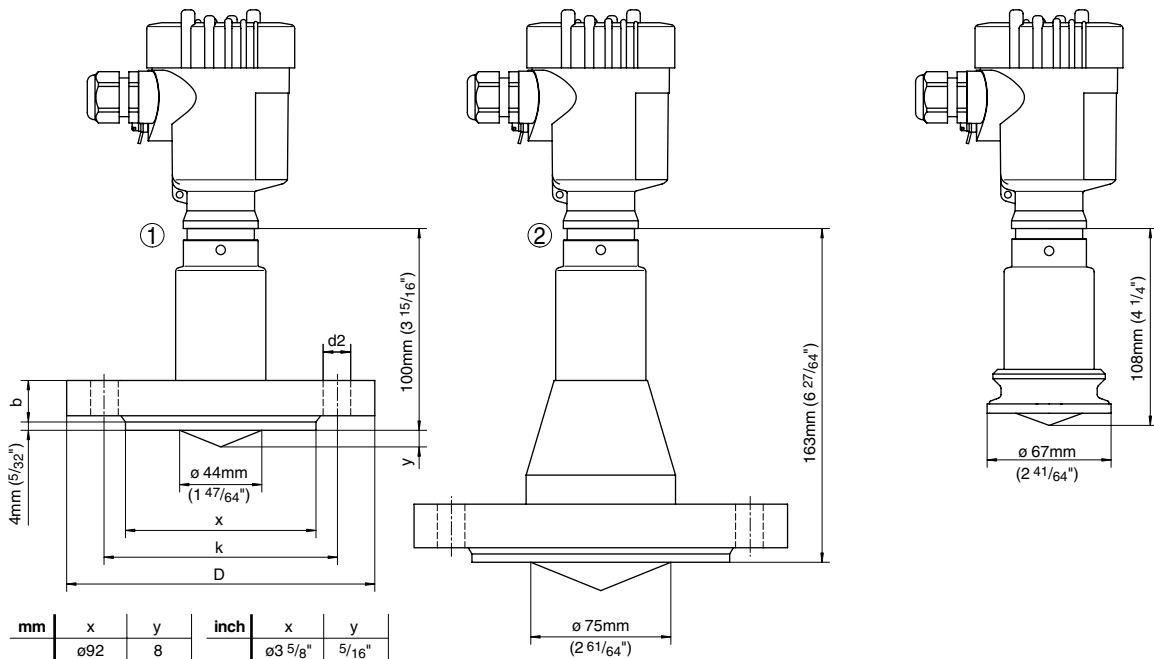


Specifications in mm or inch



**VEGAPULS 63**

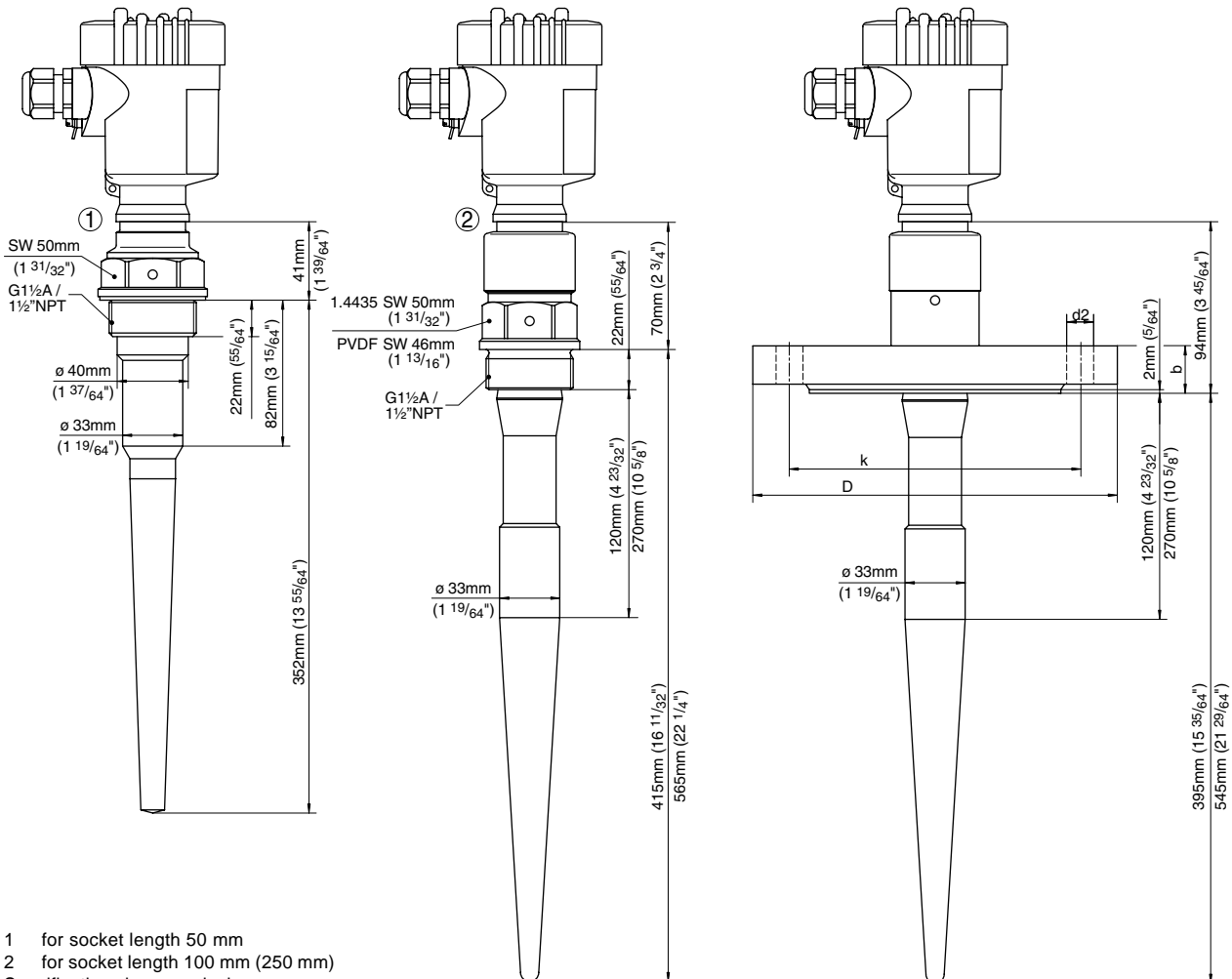
**VEGAPULS 63 - Tri-Clamp**



mm	x	y	inch	x	y
ø92	8		ø3 5/8"	5/16"	
ø102	8		ø4 1/64"	5/16"	
ø127	14		ø5"	35/64"	
ø138	14		ø5 7/16"	35/64"	
ø157	14		ø6 3/16"	35/64"	
ø158	14		ø6 7/32"	35/64"	
ø212	14		ø8 11/32"	35/64"	
ø216	14		ø8 1/2"	35/64"	

1 Flange DN50/2"  
 2 Flange DN80...150/3"...6"  
 Specifications in mm or inch

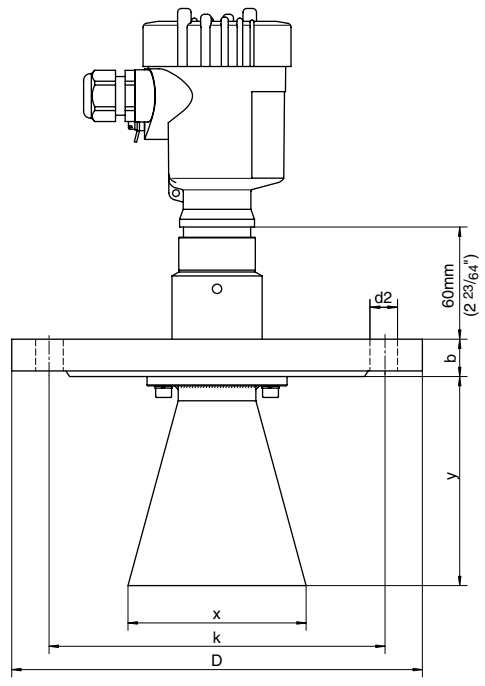
**VEGAPULS 65**



1 for socket length 50 mm  
 2 for socket length 100 mm (250 mm)  
 Specifications in mm or inch



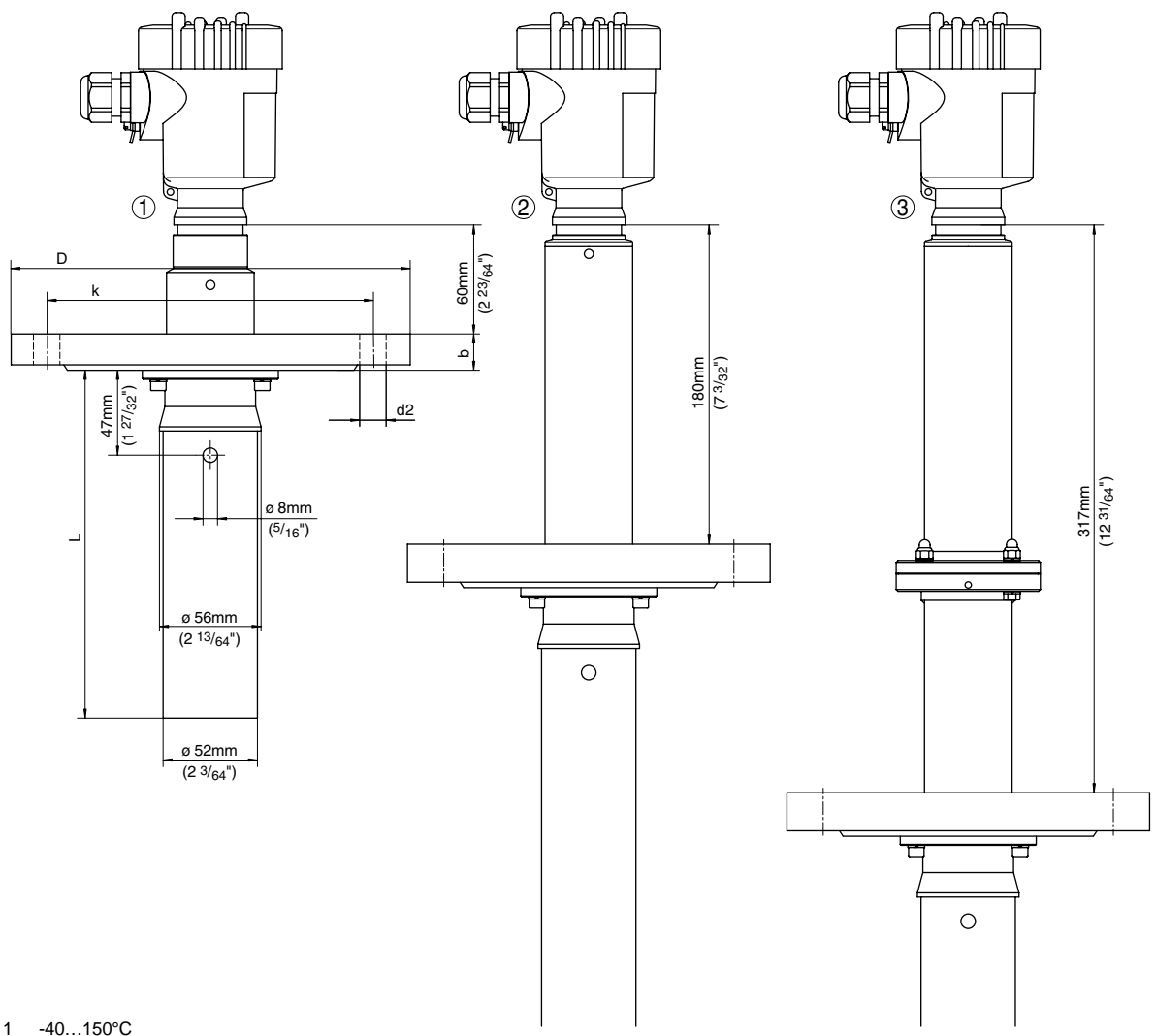
## VEGAPULS 66



mm	x	y
	ø75	75
	ø96	110
	ø146	205
	ø190	300
	ø240	380

inch	x	y
	ø2 61/64"	2 43/64"
	ø3 25/32"	4 9/64"
	ø5 3/4"	7 9/32"
	ø7 31/64"	10 35/64"
	ø9 29/64"	14 11/64"

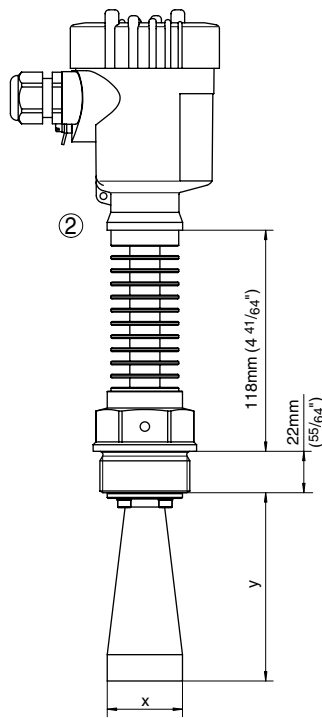
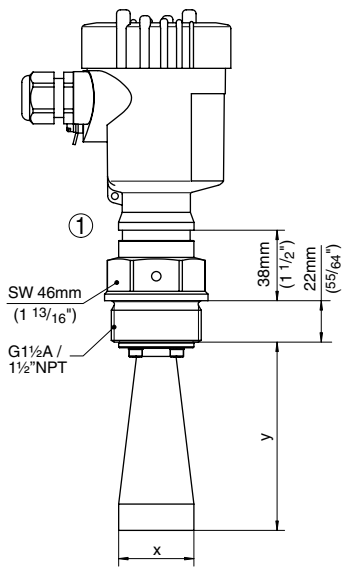
## VEGAPULS 66 – pipe antenna



- 1 -40...150°C
  - 2 -60...250°C
  - 3 -60...400°C
- Specifications in mm or inch

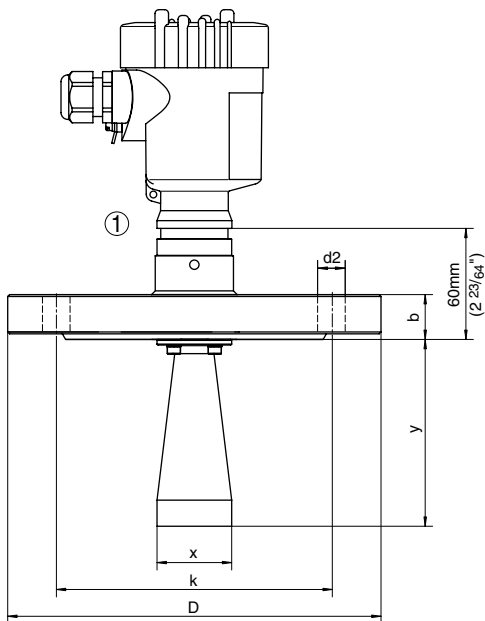


**VEGAPULS 68 – threaded version with horn antenna**

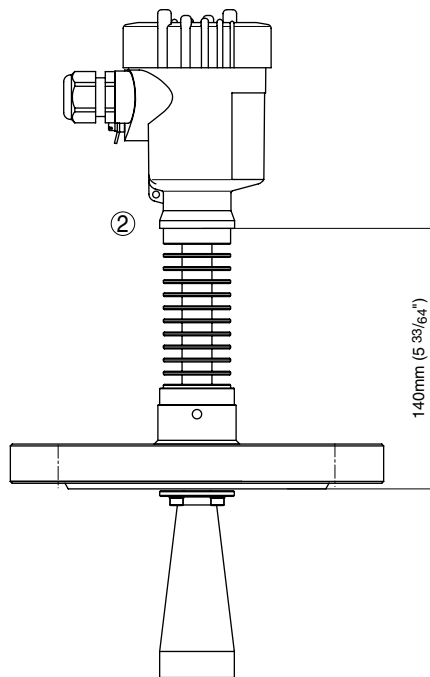


**VEGAPULS 68 – flange version with horn antenna**

-40...130°C



-40...200°C

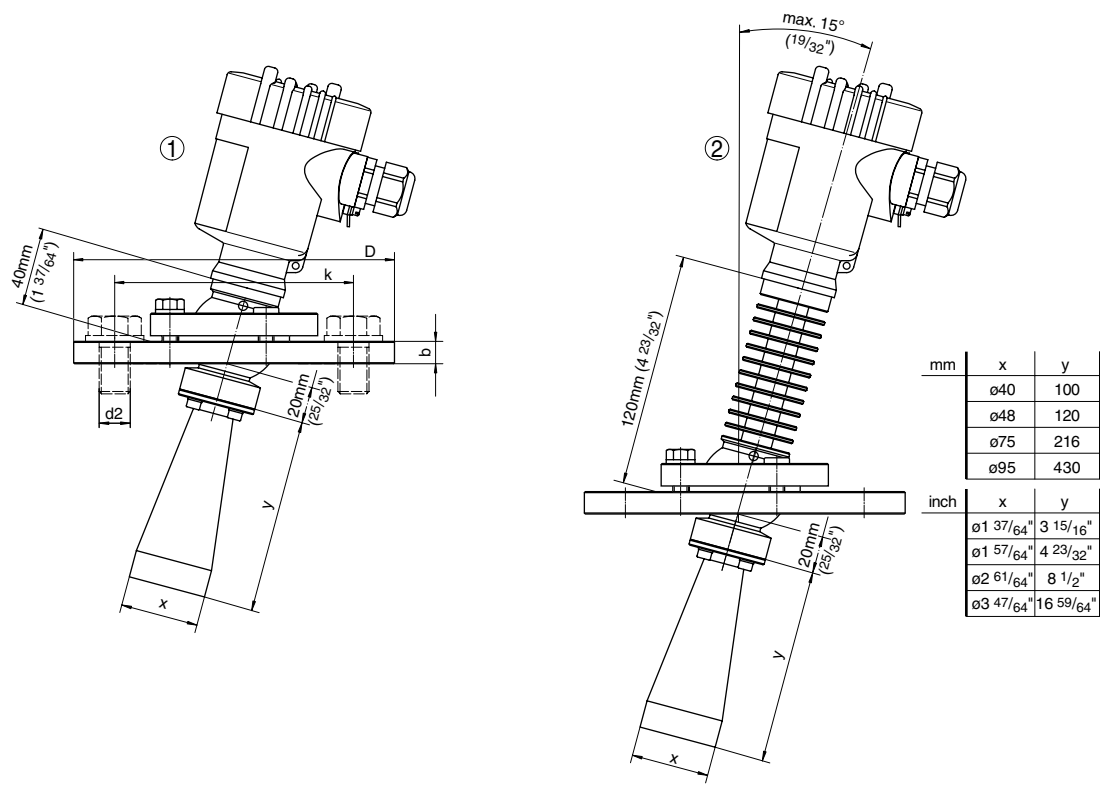


mm	x	y
	ø40	100
	ø48	120
	ø75	216
	ø95	430
inch	x	y
	ø1 37/64"	3 15/16"
	ø1 57/64"	4 23/32"
	ø2 61/64"	8 1/2"
	ø3 47/64"	16 59/64"

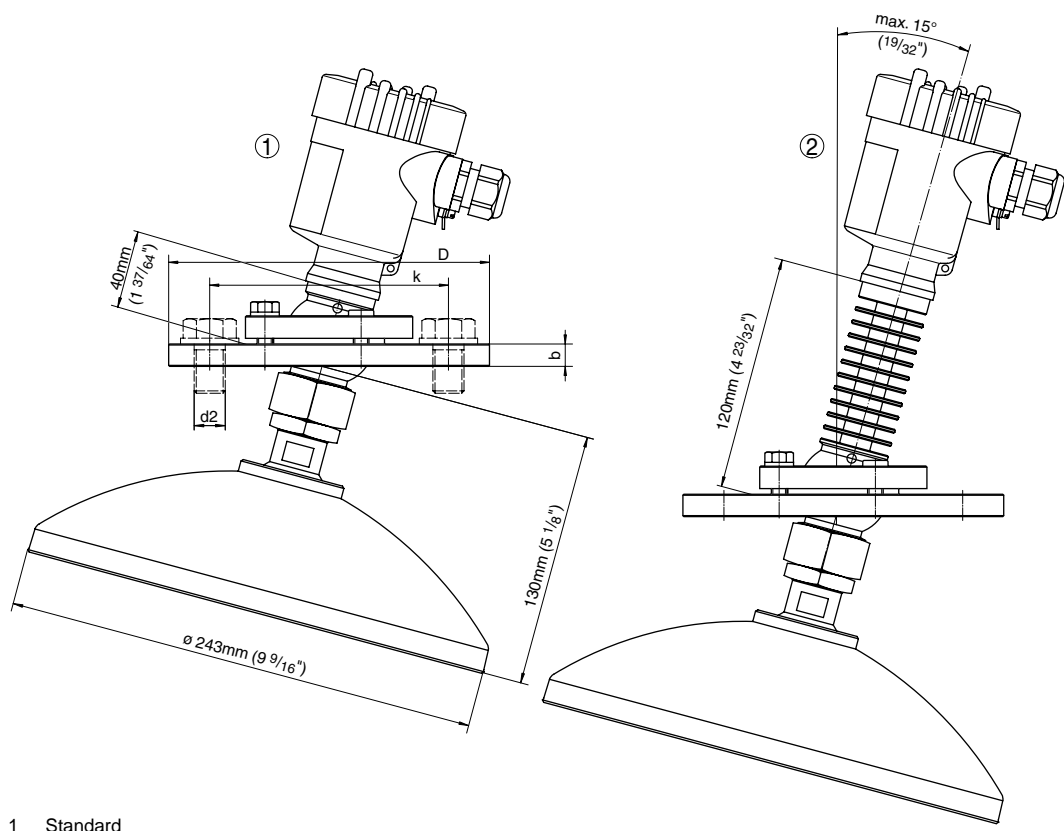
1 Standard  
 2 with temperature adapter  
 Specification in mm or inch



## VEGAPULS 68 – swivelling holder with horn antenna



## VEGAPULS 68 – swivelling holder with parabolic antenna



- 1 Standard
  - 2 with temperature adapter
- Specifications in mm or inch