



## 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 with low emitted power in the C-band and K-band frequency range are emitted by the antenna system to the measured product, reflected from 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 the reliable and precise measurement of extremely short time periods.

Latest microcomputer technology and the proven ECHOFOX software detect the level echo reliably out of a number of false reflections and measure the echo exactly.

By simply entering the vessel dimensions, a level-proportional signal can be displayed. An adjustment with emptied and filled vessel is no longer necessary!

#### Unaffected by temperature and pressure

The spreading of microwaves is practically unaffected by ambient temperature and ambient pressure. Radar sensors are ideal for use under arduous process conditions. Pressures from vacuum to 160 bar and temperatures between -40 and 400°C are no problem for radar level measurement.

#### Unaffected by product properties

Fluctuating product compositions or complete product changes do not influence the measurement result. A fresh adjustment is not necessary.





**Overview**

**VEGAPULS 61**



**VEGAPULS 62**



**VEGAPULS 63**



Applications:

aggressive liquids  
in small vessels, under  
easy process conditions

storage and process vessels  
under arduous process  
conditions

aggressive liquids  
under arduous process  
conditions

Measuring range:

up to 10 m

up to 30 m

up to 20 m

Process fitting:

G1½A of PVDF

thread or  
flange

flange or hygienic  
fitting

Process temperature:

-40...130°C

-40...200°C

-40...150°C

Process pressure:

-1...3 bar (-100...300 kPa)

-1...40 bar (-100...4000 kPa)

-1...16 bar (-100...1600 kPa)

Accuracy:

+/- 5 mm

+/- 3 mm

+/- 3 mm

Emitting frequency:

K-band

K-band

K-band

**VEGAPULS 65**



**VEGAPULS 66**



**VEGAPULS 68**



Applications:

aggressive liquids  
under easy process  
conditions

storage and process vessels  
under arduous process  
conditions

large solid vessels  
under arduous process  
conditions

Measuring range:

up to 30 m

up to 30 m

up to 60 m

Process fitting:

G1½A or flange

flange

G1½A or flange

Process temperature:

-40...150°C

-40...400°C

-40...200°C

Process pressure:

-1...16 bar (-100...1600 kPa)

-1...160 bar (-100...16000 kPa)

-1...40 bar (-100...4000 kPa)

Accuracy:

+/- 10 mm

+/- 10 mm

+/- 15 mm

Emitting frequency:

C-band

C-band

K-band



## VEGAPULS 61

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

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

- wetted parts: PVDF
- 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 PVDF/-40°C...130°C .....

**Process connection/Material**

- GP** Thread G1½A PN3/PVDF .....
- NP** Thread 1½NPT PN3/PVDF .....
- CA** Tri-Clamp 2" PN3/316L .....
- CB** Tri-Clamp 3" PN3/316L .....
- RA** Bolting DN50 PN3,DIN 11851 316L .....
- RB** Bolting DN80 PN3,DIN 11851 316L .....

**Electronics**

- H** 4...20mA HART® .....
- V** Four wire 20...72VDC,20...250VAC/4...20mA HART®<sup>1)</sup> .....
- P** Profibus PA .....
- F** Foundation Fieldbus .....

**Housing/Protection**

- K** Plastic/IP66/IP67 .....
- A** Aluminium/IP66/IP67 .....
- D** Aluminium double chamber/IP66/IP67 .....
- V** Stainless steel 316L/IP66/IP67 .....

**Cable entry/Plug connection**

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

**Indicating-adjustment module (Plicscom)**

- X** without .....
- A** top mounted .....

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<sup>1)</sup> Only in conjunction with housing version "D"  
 • Further process fittings and options on request

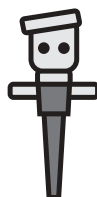


## VEGAPULS 62

### Radar sensor for continuous level measurement with horn antenna or 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 the 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 ø 40 mm/316L .....
- C** with horn antenna ø 48 mm/316L .....
- D** with horn antenna ø 75 mm/316L .....
- E** with horn antenna ø 95 mm/316L .....
- K** with parabolic antenna ø240mm 316L .....
- F** with ½"-standpipe/316L<sup>2)</sup> .....

**Process connection/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** Viton/-40...130°C .....
- 3** Kalrez 6375/-20...130°C .....
- 4** Viton/-40...200°C with temperature adapter .....
- 5** Kalrez 6375/-20...200°C w. temperature adapter .....

**Electronics**

- H** 4...20mA HART® .....
- V** Four wire 20...72VDC,20...250VAC/4...20mA HART®<sup>1)</sup> .....
- P** Profibus PA .....
- F** Foundation Fieldbus .....

**Housing/Protection**

- K** Plastic/IP66/IP67 .....
- A** Aluminium/IP66/IP67 .....
- D** Aluminium double chamber/IP66/IP67 .....
- V** Stainless steel 316L/IP66/IP67 .....

**Cable entry/Plug connection**

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

**Indicating-adjustment module (Plicscom)**

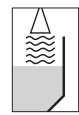
- X** without .....
- A** top mounted .....

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<sup>1)</sup> Only in conjunction with housing version "D"  
<sup>2)</sup> Only in conjunction with seal/process temperature "4" or "5"  
<sup>3)</sup> Only in conjunction with version "F"

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

**Process connection/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.connection w. tension flange DN32PN16/316L<sup>3)</sup> .....
- LA** Hyg.connection w. compression nut F40 PN16/316L<sup>3)</sup> .....
- TB** Tuchenhausen Varivent DN25...,PN10/316L<sup>3)</sup> .....
- QB** Neumo biocontrol sz.50PN16/316L<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** 4...20mA HART® .....
- V** Four wire 20...72VDC,20...250VAC/4...20mA HART®<sup>1)</sup> .....
- P** Profibus PA .....
- F** Foundation Fieldbus .....

**Housing/Protection**

- K** Plastic/IP66/IP67 .....
- A** Aluminium/IP66/IP67 .....
- D** Aluminium double chamber/IP66/IP67 .....
- V** Stainless steel 316L/IP66/IP67 .....

**Cable entry/Plug connection**

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

**Indicating-adjustment module (Plicscom)**

- X** without .....
- A** top mounted .....

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<sup>1)</sup> Only in conjunction with housing version "D"  
<sup>2)</sup> only in conjunction with process connection/material "LA", "LB", "QB" or "TB"  
<sup>3)</sup> only in conjunction with version/material/process temperature "V" oder "E"

- Further process fittings and options on request

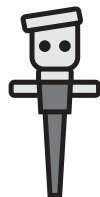


## VEGAPULS 65

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

**Process connection/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 .....
- 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 4...20mA HART® .....
- V Four wire 20...72VDC,20...250VAC/4...20mA HART® <sup>1)</sup> .....
- P Profibus PA .....
- F Foundation Fieldbus .....

**Housing/Protection**

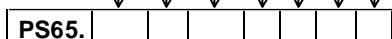
- K Plastic/IP66/IP67 .....
- A Aluminium/IP66/IP67 .....
- D Aluminium double chamber/IP66/IP67 .....
- V Stainless steel 316L/IP66/IP67 .....

**Cable entry/Plug connection**

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

**Indicating-adjustment module (Plicscom)**

- X without .....
- A top mounted .....



<sup>1)</sup> Only in conjunction with housing version "D"

<sup>2)</sup> Only for process fitting "GP" or "NP"

<sup>3)</sup> with process fitting "GP" or "NP" process temperature only -40...130°C

- Further process fittings and options on request

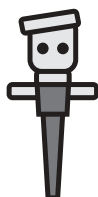


## VEGAPULS 66

**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 the 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 ø 75 mm/316L<sup>2)</sup> .....
- E** with horn antenna ø 96 mm/316L<sup>2)</sup> .....
- H** with horn antenna ø 145 mm/316L .....
- I** with horn antenna ø 195 mm/316L .....
- J** with horn antenna ø 240 mm/316L .....
- F** with ø50mm-standpipe/316L .....

**Process connection/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 .....
- AQ** Flange 10"300lb RF,ANSI B16.5/316L .....

**Seal/Process temperature**

- 2** 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** 4...20mA HART® .....
- V** Four wire 20...72VDC,20...250VAC/4...20mA HART®<sup>1)</sup> .....
- P** Profibus PA .....
- F** Foundation Fieldbus .....

**Housing/Protection**

- K** Plastic/IP66/IP67 .....
- A** Aluminium/IP66/IP67 .....
- D** Aluminium double chamber/IP66/IP67 .....
- V** Stainless steel 316L/IP66/IP67 .....

**Cable entry/Plug connection**

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

**Indicating-adjustment module (PLICSCOM)**

- X** without .....
- A** top mounted .....

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<sup>1)</sup> Only in conjunction with housing version "D"  
<sup>2)</sup> only for measurement in standpipes/bypass tubes

**Length standpipe or antenna extension in mm**  
 per 100 mm of 316L

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



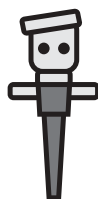
## VEGAPULS 68

### 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

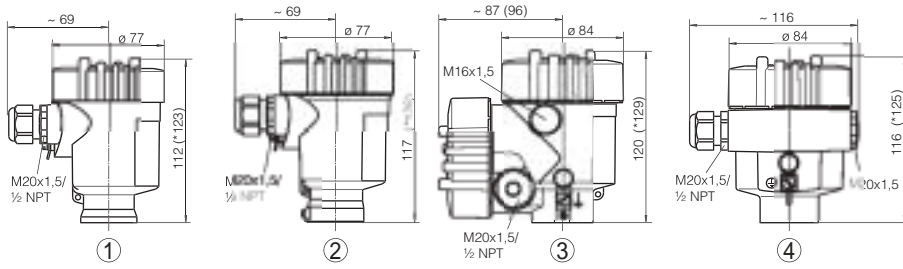
- non-contact measurement unaffected by dust generation and pneumatic filling
- accuracy +/- 15mm
- ECHOFOX signal processing with Fuzzy-Logic
- adjustment with PLICSCOM, HART handheld or PC
- instrument from the plics® family





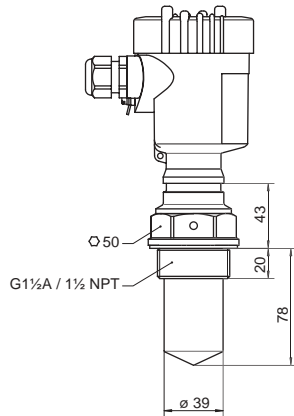


## Housings

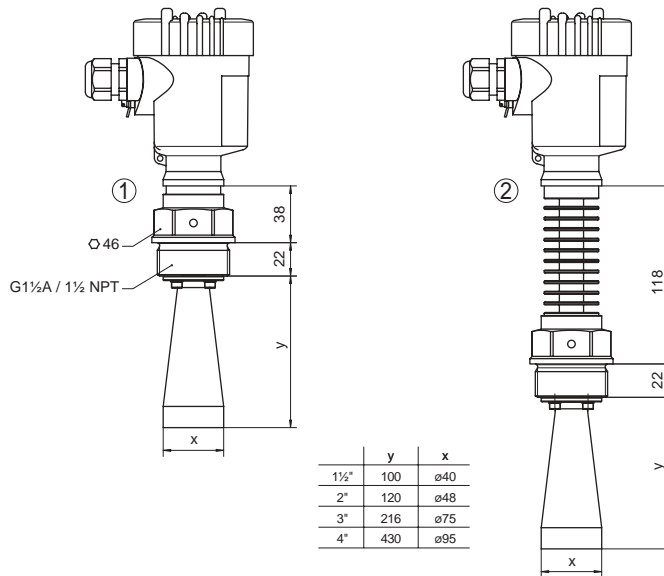


- 1 Plastic housing (\* dimension with integrated PLICSCOM)
- 2 Stainless steel housing (\* dimension with integrated PLICSCOM)
- 3 Aluminium double chamber housing (\* dimension with integrated PLICSCOM)
- 4 Aluminium housing (\* dimension with integrated PLICSCOM)

## VEGAPULS 61



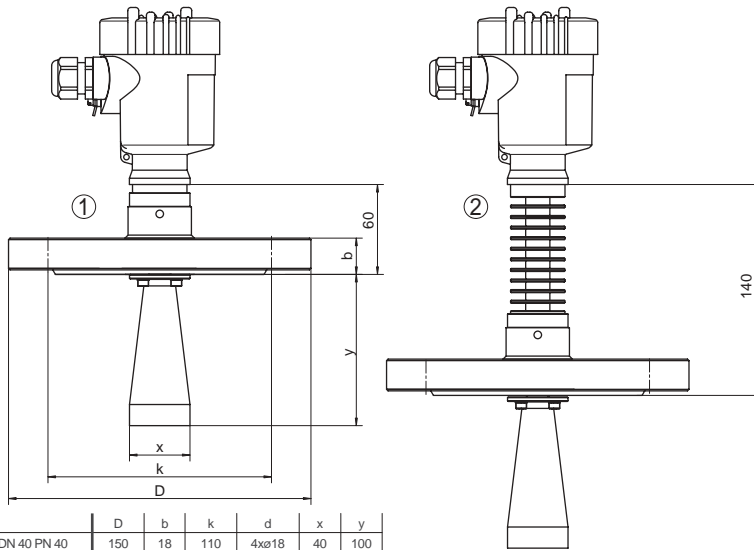
## VEGAPULS 62 - screwed version with horn antenna



- 1 Standard
- 2 with temperature adapter



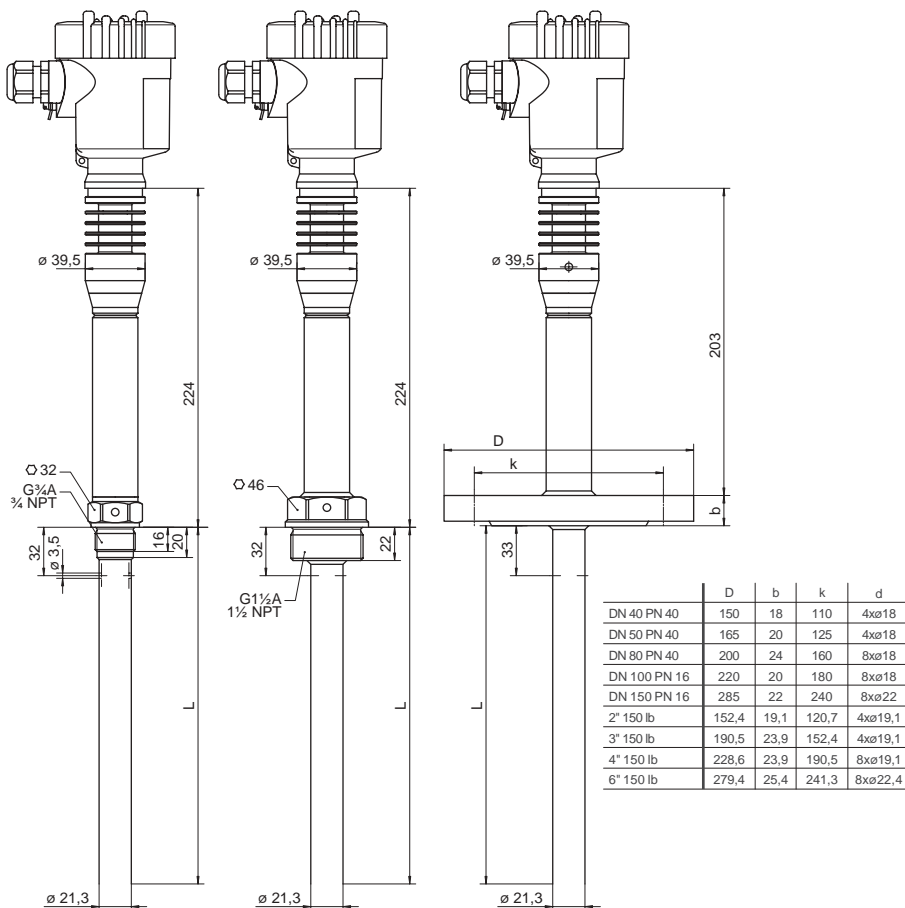
### VEGAPULS 62 - flange version



	D	b	k	d	x	y
DN 40 PN 40	150	18	110	4xø18	40	100
DN 50 PN 40	165	20	125	4xø18	48	120
DN 80 PN 40	200	24	160	8xø18	75	216
DN 100 PN 16	220	20	180	8xø18	95	430
DN 150 PN 16	285	22	240	8xø22	95	430
2" 150 lb	152,4	19,1	120,7	4xø19,1	48	120
3" 150 lb	190,5	23,9	152,4	4xø19,1	75	216
4" 150 lb	228,6	23,9	190,5	8xø19,1	95	430
6" 150 lb	279,4	25,4	241,3	8xø22,4	95	430

- 1 standard
- 2 with temperature adapter
- d diameter and number of holes in the flange

### VEGAPULS 62 - standpipe antenna

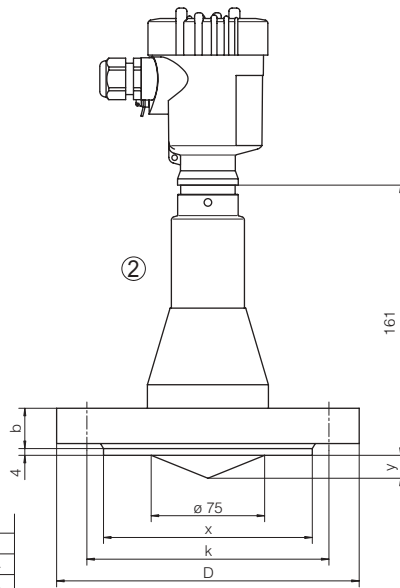
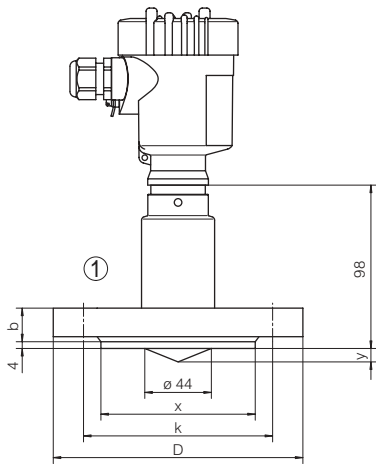


	D	b	k	d
DN 40 PN 40	150	18	110	4xø18
DN 50 PN 40	165	20	125	4xø18
DN 80 PN 40	200	24	160	8xø18
DN 100 PN 16	220	20	180	8xø18
DN 150 PN 16	285	22	240	8xø22
2" 150 lb	152,4	19,1	120,7	4xø19,1
3" 150 lb	190,5	23,9	152,4	4xø19,1
4" 150 lb	228,6	23,9	190,5	8xø19,1
6" 150 lb	279,4	25,4	241,3	8xø22,4

- d diameter and number of holes in the flange



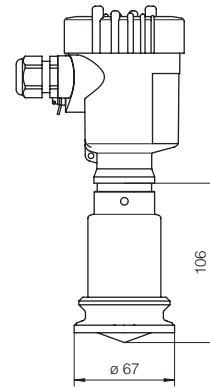
## VEGAPULS 63



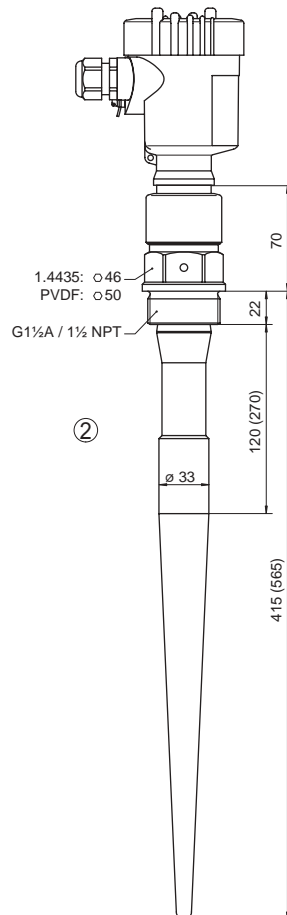
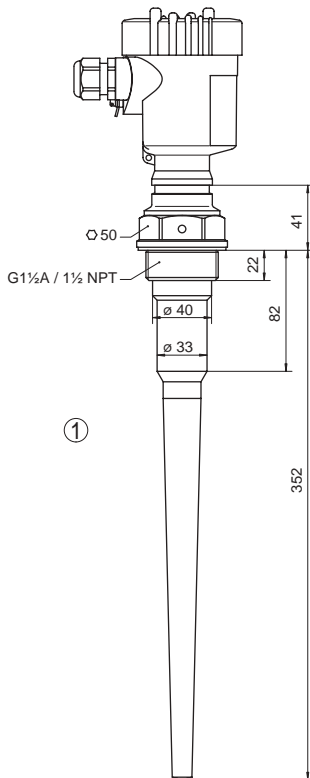
	D	b	k	d	x	y
DN 50 PN 40	165	20	125	4xø18	102	8
DN 80 PN 40	200	24	160	8xø18	138	14
DN 100 PN 16	220	20	180	8xø18	158	14
DN 150 PN 16	285	22	240	8xø22	212	14
2" 150 lb	152,4	19,1	120,7	4xø19,1	91,9	8
3" 150 lb	190,5	23,9	152,4	4xø19,1	127	14
4" 150 lb	228,6	23,9	190,5	8xø19,1	157,2	14
6" 150 lb	279,4	25,4	241,3	8xø22,4	215,9	14

- 1 flange DN50/2"
- 2 flange DN80...150/3"...6"
- d diameter and number of holes in the flange

## VEGAPULS 63 - Tri-Clamp

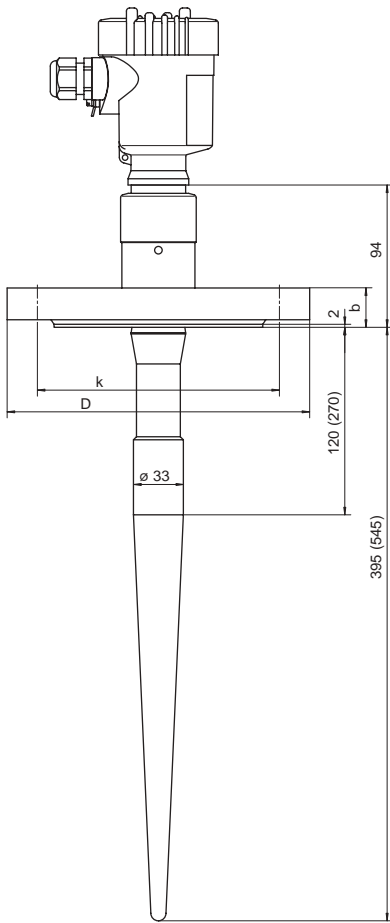


## VEGAPULS 65 - screwed version



- 1 for socket length 50 mm
- 2 for socket length 100 mm (250 mm)

**VEGAPULS 65 - flange version**



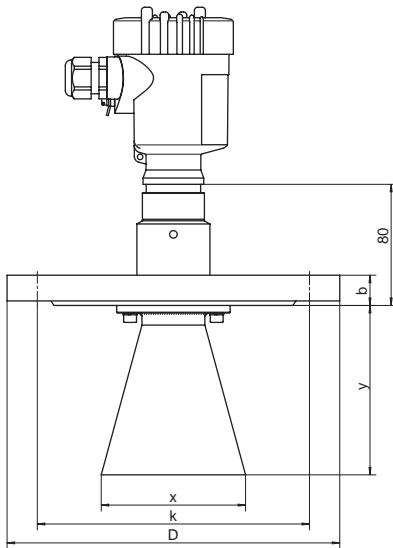
	D	b	k	d
DN 50 PN 40	165	20	125	4xø18
DN 80 PN 40	200	24	160	8xø18
DN 100 PN 16	220	20	180	8xø18
DN 150 PN 16	285	22	240	8xø22
2" 150 lb	152,4	19,1	120,7	4xø19,1
3" 150 lb	190,5	23,9	152,4	4xø19,1
4" 150 lb	228,6	23,9	190,5	8xø19,1
6" 150 lb	279,4	25,4	241,3	8xø22,4

d diameter and number of holes in the flange  
for socket length 100 mm (250 mm)



## VEGAPULS 66

-40...130°C



	D	b	k	d	x	y
DN 50 PN 40	165	20	125	4xø18	-	-
DN 80 PN 40	200	24	160	8xø18	75	68
DN 100 PN 16	220	20	180	8xø18	96	105
DN 150 PN 16	285	22	240	8xø22	146	185
DN 200 PN 16	340	24	295	12xø22	190	268
DN 250 PN 16	405	26	355	12xø26	240	360
2" 150 lb	152,4	19,1	120,7	4xø19,1	-	-
3" 150 lb	190,5	23,9	152,4	4xø19,1	75	68
4" 150 lb	228,6	23,9	190,5	8xø19,1	96	105
6" 150 lb	279,4	25,4	241,3	8xø22,4	146	185
8" 150 lb	342,9	28,4	298,5	8xø22,4	190	268
10" 150 lb	406,4	30,2	362	12xø25,4	240	360

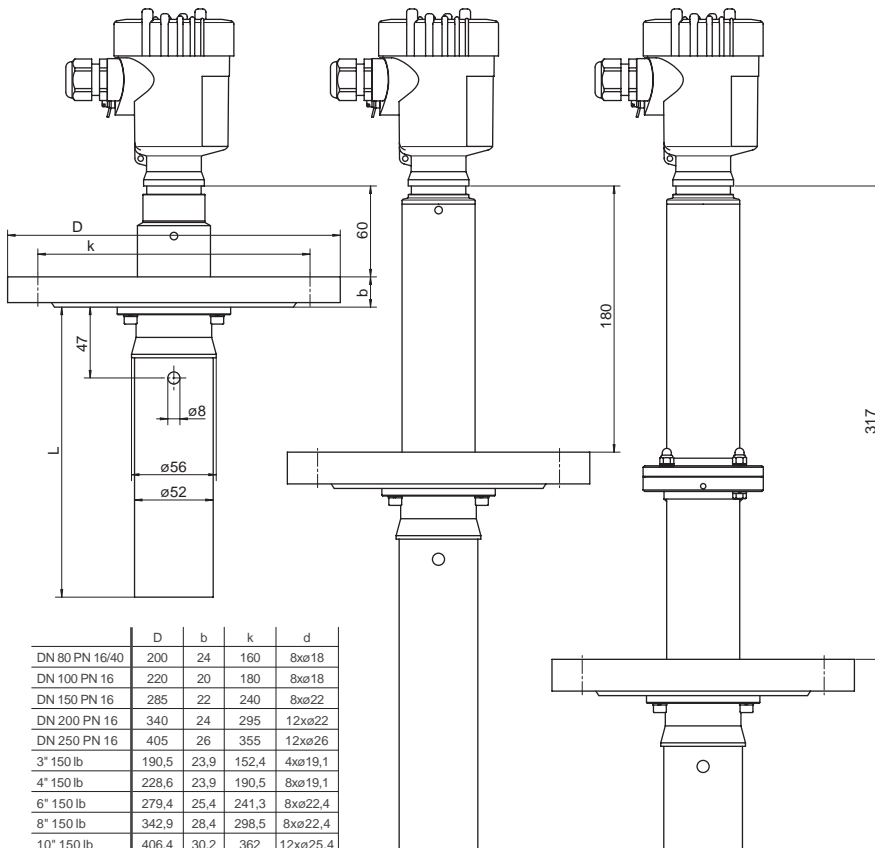
d diameter and number of holes in the flange

## VEGAPULS 66 - pipe antenna

-40...130°C

-40...250°C

-40...400°C

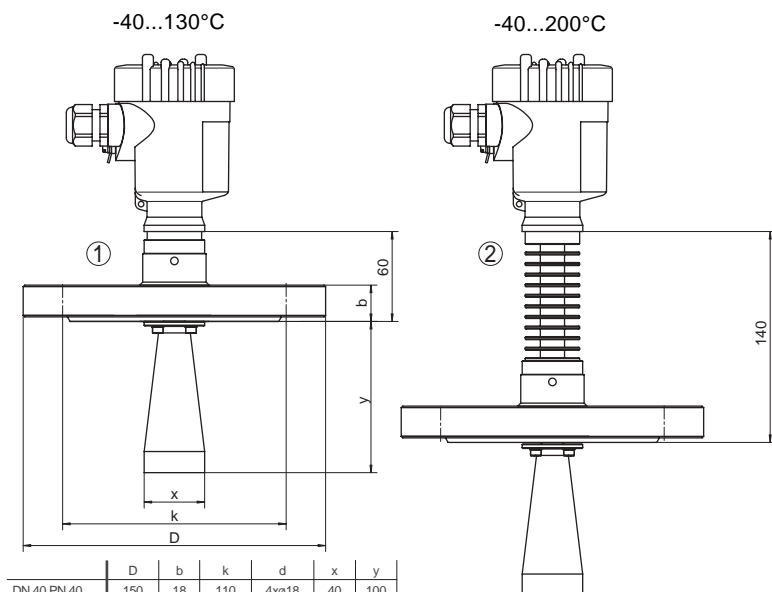


	D	b	k	d
DN 80 PN 16/40	200	24	160	8xø18
DN 100 PN 16	220	20	180	8xø18
DN 150 PN 16	285	22	240	8xø22
DN 200 PN 16	340	24	295	12xø22
DN 250 PN 16	405	26	355	12xø26
3" 150 lb	190,5	23,9	152,4	4xø19,1
4" 150 lb	228,6	23,9	190,5	8xø19,1
6" 150 lb	279,4	25,4	241,3	8xø22,4
8" 150 lb	342,9	28,4	298,5	8xø22,4
10" 150 lb	406,4	30,2	362	12xø25,4

d diameter and number of holes in the flange



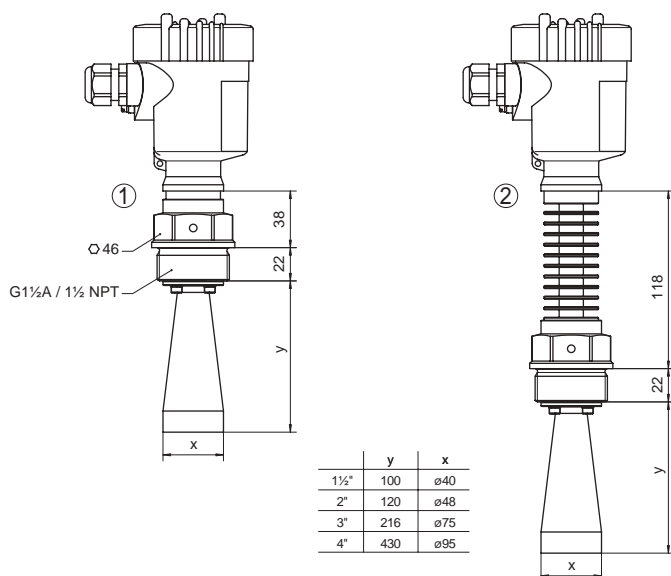
### VEGAPULS 68 - flange version with horn antenna



	D	b	k	d	x	y
DN 40 PN 40	150	18	110	4xø18	40	100
DN 50 PN 40	165	20	125	4xø18	48	120
DN 80 PN 40	200	24	160	8xø18	75	216
DN 100 PN 16	220	20	180	8xø18	95	430
DN 150 PN 16	285	22	240	8xø22	95	430
2" 150 lb	152,4	19,1	120,7	4xø19,1	48	120
3" 150 lb	190,5	23,9	152,4	4xø19,1	75	216
4" 150 lb	228,6	23,9	190,5	8xø19,1	95	430
6" 150 lb	279,4	25,4	241,3	8xø22,4	95	430

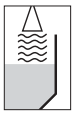
- 1 standard
- 2 with temperature adapter
- d diameter and number of holes in the flange

### VEGAPULS 68 - screwed version with horn antenna

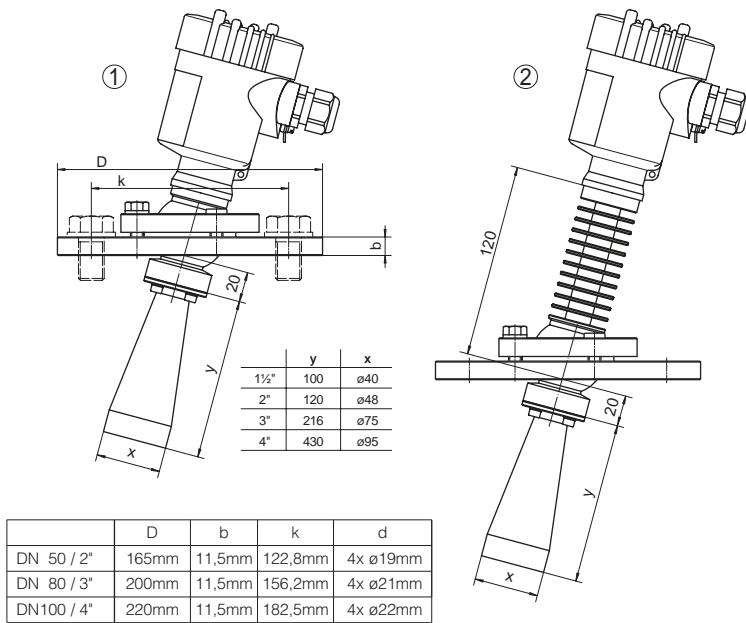


	y	x
1½"	100	ø40
2"	120	ø48
3"	216	ø75
4"	430	ø95

- 1 standard
- 2 with temperature adapter

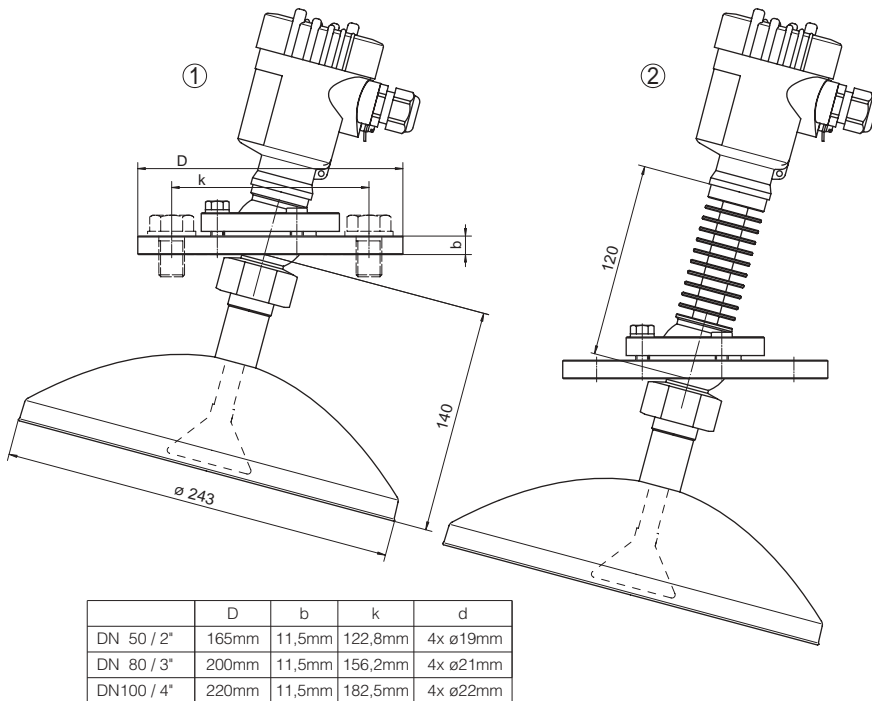


## VEGAPULS 68 - swivelling holder with horn antenna



- 1 standard
- 2 with temperature adapter
- d diameter and number of holes in the flange

## VEGAPULS 68 - swivelling holder with parabolic antenna



- 1 standard
- 2 with temperature adapter
- d diameter and number of holes in the flange