

Radar

Continuous level measurement



Overview

VEGAPULS series 60

Antenna cover

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VEGAPULS

Non-contact measurement under all process conditions

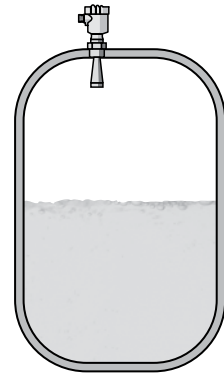
Measuring principle

Extremely short microwave impulses are emitted by the antenna system to the measured product, reflected by the product surface and received again by the antenna system. 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 the extremely short signal running times. The radar sensors are available in different C and K-band frequency ranges, this ensures the optimum solution for the different applications. The proven ECHOFOX signal processing analysis the reflections in the vessel based on long-standing experience and detects the level signal reliably. The adaptation to the respective application is really simple through the selection of the application parameters.

Applications

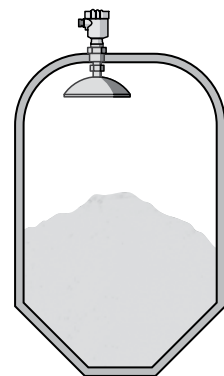
Level in liquids

Two different emitting frequencies are available for these applications. The compact, high frequency K-band sensors VEGAPULS 61, 62 and 63 are particularly suitable for applications where high accuracy is required. Since even with small antenna sizes, an excellent signal focusing is reached, hence mounting on small mounting openings is possible. The low frequency C-band sensors VEGAPULS 65 and 66 can penetrate foam and strong condensation and are thus particularly suitable for arduous process conditions. Unaffected by steam, gas composition, pressure and temperature changes, radar sensors detect the product surface of different products reliably and ensure thus an optimum process.












Level in bulk solids

The high frequency sensors VEGAPULS 67 and 68 in K-band technology are used for these applications. Thanks to the very good focusing of the signals, the level is detected reliably independent of silo installations or buildup on the vessel wall. A high sensitivity electronics optimized to the requirements of the bulk solids measurement, enables a reliable level measurement of different products up to a distance of 75 m. The measuring principle is unaffected by strong dust generation, filling noise, air turbulences by pneumatic filling and temperature fluctuations and ensures a reliable and maintenance-free operation of the systems. The application area covers applications in the food processing industry and the plastic processing up to the steel generation and mineral rock processing.



Overview

Instrument type		Measuring range Accuracy	Process fitting	Process temperature	Process pressure
VEGAPULS WL 61 Liquids, in the water and sewage management		up to 15 m, +/- 2 mm	Thread G1½, mounting strap, compression flanges from DN 80, 3"	-40 ... +80 °C	-1 ... +2 bar (-100 ... +200 kPa)
VEGAPULS 61 Liquids under easy process conditions		up to 35 m, +/- 2 mm	Thread G1½, 1½ NPT, mounting strap, compression flanges from DN 80, 3"	-40 ... +80 °C	-1 ... +3 bar (-100 ... +300 kPa)
VEGAPULS 62 Storage tanks, reactors and process vessels, also with arduous process conditions		up to 35 m, +/- 2 mm	Thread from G1½, 1½ NPT, flanges from DN 50, 2"	-196 ... +450 °C	-1 ... +160 bar (-100 ... +16000 kPa)
VEGAPULS 63 Aggressive liquids or with hygienic requirements		up to 35 m, +/- 2 mm	Hygienic fittings, boltings, flanges from DN 50, 2"	-196 ... +200 °C	-1 ... +16 bar (-100 ... +1600 kPa)
VEGAPULS 65 Liquids under easy process conditions		up to 35 m, +/- 8 mm	Thread from G1½, 1½ NPT, flanges from DN 50, 2"	-40 ... +150 °C	-1 ... +16 bar (-100 ... +1600 kPa)
VEGAPULS 66 Storage tanks, process vessels or standpipes under arduous process conditions		up to 35 m, +/- 8 mm	Flanges from DN 50, 2"	-60 ... +400 °C	-1 ... +160 bar (-100 ... +16000 kPa)
VEGAPULS 67 Bulk solids under easy process conditions		up to 15 m, +/- 2 mm	Mounting strap, compression flanges from DN 80, 3"	-40 ... +80 °C	-1 ... +2 bar (-100 ... +200 kPa)
VEGAPULS SR 68 Bulk solids also under arduous process conditions		up to 30 m, +/- 2 mm	Thread G1½, 1½ NPT, flanges from DN 50, 2"	-40 ... +250 °C	-1 ... +100 bar (-100 ... +10000 kPa)
VEGAPULS 68 Bulk solids also under arduous process conditions		up to 75 m, +/- 2 mm	Thread G1½, 1½ NPT, flanges from DN 50, 2"	-196 ... +450 °C	-1 ... +160 bar (-100 ... +16000 kPa)

VEGAPULS WL 61



Radar sensor for continuous level measurement of water and waste water

Application area

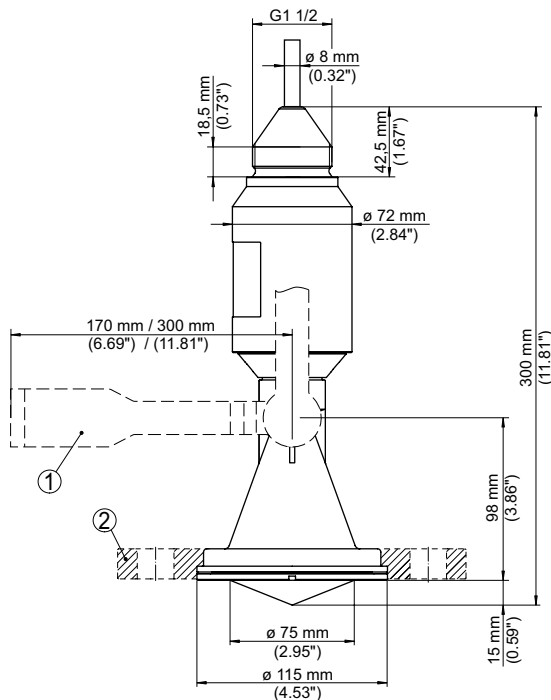
The VEGAPULS WL 61 is the ideal sensor for all applications in water and sewage water applications. It is particularly suitable for use in water processing, pump stations as well as overflow basins, for flow measurement in open flumes and gauge monitoring. The VEGAPULS WL 61 is an economical solution through versatile and simple mounting options. The flood-proof IP 68 housing ensures a maintenance-free permanent operation.

Your benefit

- Maintenance-free operation through non-contact measuring principle
- High plant availability, because wear and maintenance-free
- Exact measuring results independent of product, process and ambient conditions

Technical data

Measuring range:	up to 15 m
Process fitting:	thread G1½ mounting strap compression flanges from DN 80, 3"
Process temperature:	-40 ... +80 °C
Process pressure:	-1 ... +2 bar (-100 ... +200 kPa)
Accuracy:	+/- 2 mm



- 1 Mounting strap
- 2 Combi compression flange

You will find further process fittings and options under www.vega.com/configurator.
 You will find further drawings and tables under www.vega.com/downloads.
 You will find mounting accessory, welded sockets and housing overviews in chapter "Accessory".

Approval

- XX** without
- AX** ATEX II 3G Ex nA IIC T6 Gc X
- CX** ATEX II 1G, 1/2G, 2G Ex ia IIC T6 Ga, Ga/Gb, Gb
- CX** IEC Ex ia IIC T6 Ga, Ga/Gb, Gb

Version / Material / Process temperature

- B** with plastic horn antenna ø80mm / PP / -40...80°C

Process fitting / Material

- XX** without compression flange
- XG** Counter nut G1½ / PPH
- XB** Mounting bracket with 45° - Reflector / 316L
- XC** Mounting strap 170mm / 316L
- XD** Mounting strap 300 mm / 316L
- YD** Combi compr.flange DN80PN16, ANSI3", 150 lb / PPH

Electronics

- H** Two-wire 4...20mA/HART®
- P** Profibus PA
- F** Foundation Fieldbus

Housing / Protection

- K** Plastic / IP68 (2bar) / with cable outlet

Cable / Material

- A** 6 m suspension cable (can be shortened) / PUR
- T** individually selectable length / PUR

Additional equipment

- X** without



Cable length

from >6 m, per additional 100 mm cable of PUR

VEGAPULS 61



Radar sensor for continuous level measurement of liquids

Application area

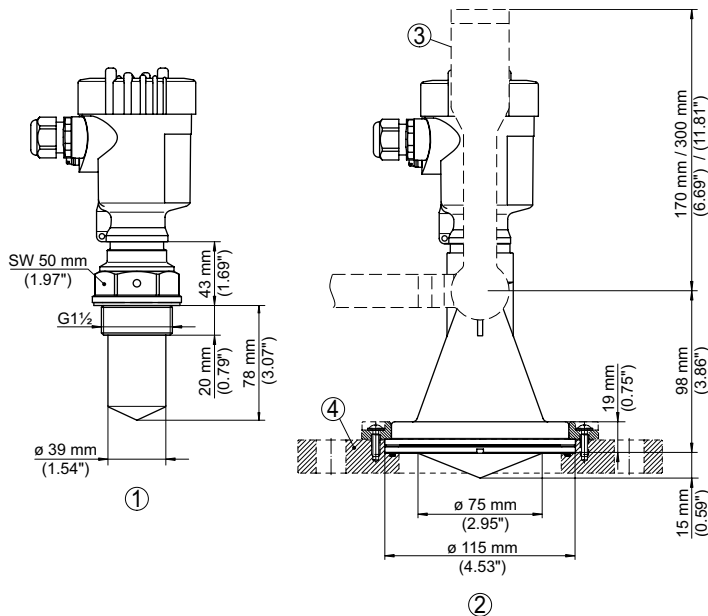
The VEGAPULS 61 is a radar sensor for continuous level measurement of liquids under simple process conditions. The VEGAPULS 61 is an economical solution through its simple and versatile mounting possibilities. The encapsulated antenna system ensures a maintenance-free operation.

Your benefit

- Maintenance-free operation through non-contact measuring principle
- High plant availability, because wear and maintenance-free
- Exact measuring results independent of process conditions

Technical data

Measuring range:	up to 35 m
Process fitting:	thread G1½, 1½ NPT mounting strap compression flanges from DN 80, 3" adapter flanges from DN 100, 4"
Process temperature:	-40 ... +80 °C
Process pressure:	-1 ... +3 bar (-100 ... +300 kPa)
Accuracy:	+/- 2 mm
SIL qualification:	optionally up to SIL2



- 1 Version with encapsulated antenna system
- 2 Version with plastic horn antenna
- 3 Mounting strap
- 4 Adapter flange

You will find further process fittings and options under www.vega.com/configurator.
 You will find further drawings and tables under www.vega.com/downloads.
 You will find mounting accessory, welded sockets and housing overviews in chapter "Accessory".

Approval

- XX without
- XM Ship approval
- CX ATEX II 1G, 1/2G, 2G Ex ia IIC T6
- CA ATEX II 1G, 1/2G, 2G Ex ia IIC T6 + WHG
- CM ATEX II 1G, 1/2G, 2G Ex ia IIC T6 + Ship approval
- CI IEC Ex ia IIC T6
- DX ATEX II 1/2G, 2G Ex d ia IIC T5/T6
- DI IEC Ex d ia IIC T6

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
- GP Thread G1½ (DIN 3852-A) PN3 / PVDF
- NP Thread 1½NPT (ASME B1.20.1) PN3 / PVDF
- XG Counter nut G1½ / PPH
- CA Clamp 2" PN3(ø64mm) DIN32676,ISO2852 / 316L
- CB Clamp 3" PN3(ø91mm) DIN32676,ISO2852 / 316L
- RA Bolting DN50 PN3, DIN 11851 / 316L
- RB Bolting DN80 PN3, DIN 11851 / 316L
- XC Mounting strap 170mm / 316L
- XD Mounting strap 300 mm / 316L
- YD Combi compr.flange DN80PN16, ANSI3", 150 lb / PPH
- AE Adapter flange DN100PN16 FKM(Viton) / PPH
- AH Adapter flange DN150PN16 FKM(Viton) / PPH
- FK Adapter flange ANSI 4"150psi FKM(Viton) / PPH
- FM Adapter flange ANSI 6"150psi FKM(Viton) / PPH
- UC Adapter flange JIS DN100 10K FKM(Viton) / PPH
- UE Adapter flange JIS DN150 10K FKM(Viton) / PPH

Electronics

- H Two-wire 4...20mA/HART®
- 1 Two-wire 4...20mA/HART® and PLICSMOBILE
- B Four-wire 4...20mA/HART®; 90...253V AC; 50/60Hz
- I Four-wire 4...20mA/HART®; 9.6...48V DC; 20...42V AC
- P Profibus PA
- F Foundation Fieldbus

Housing / Protection

- K Plastic / IP66/IP67
- A Aluminium / IP66/IP68 (0.2bar)
- D Aluminium double chamber / IP66/IP68 (0.2bar)
- 8 StSt (electropolished) 316L / IP66/IP68 (0.2bar)
- W StSt double chamber/ IP66/IP68 (0.2bar)
- R Plastic 2-chamber / IP66/IP67

Cable entry / Cable gland / Plug connection

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

Display/adjustment module PLICSCOM

- X Without
- A Mounted

Additional equipment

- X without



VEGAPULS 62



Radar sensor for continuous level measurement of liquids

Application area

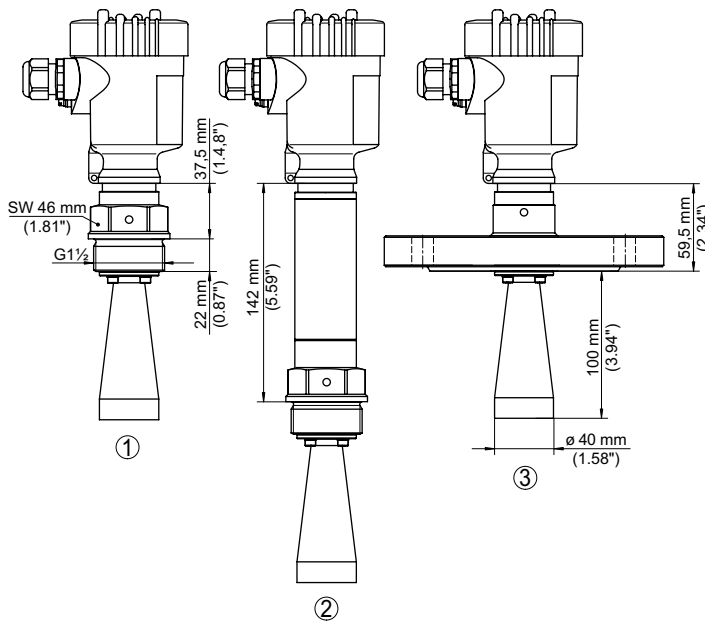
The VEGAPULS 62 is a universally implementable radar sensor for continuous level measurement of liquids. It is suitable for level measurement in storage containers, reactors and process vessels, even under difficult process conditions. With its various antenna versions and materials, VEGAPULS 62 is the optimal solution for almost all applications and processes. Its wide temperature and pressure range makes project planning simple.

Your benefit

- Maintenance-free operation through non-contact measuring principle
- High plant availability, because wear and maintenance-free
- Exact measuring results independent of pressure, temperature, gas and steam

Technical data

Measuring range:	up to 35 m
Process fitting:	thread from G1½, 1½ NPT flanges from DN 50, 2"
Process temperature:	-196 ... +450 °C
Process pressure:	-1 ... +160 bar (-100 ... +16000 kPa)
Measuring accuracy:	+/- 2 mm
SIL qualification:	optionally up to SIL2



- 1 Threaded version
- 2 Threaded version with temperature adapter up to +250 °C
- 3 Flange version

Antenna-ø	Length	Beam angle
40 mm	100 mm	20°
48 mm	120 mm	15°
75 mm	216 mm	10°
95 mm	430 mm	8°
245 mm (parabolic)	138 mm	3°

You will find further process fittings and options under www.vega.com/configurator.

You will find further drawings and tables under www.vega.com/downloads.

You will find mounting accessory, welded sockets and housing overviews in chapter "Accessory".

Approval

XX	without
XM	Ship approval
CX	ATEX II 1G, 1/2G, 2G Ex ia IIC T6
CA	ATEX II 1G, 1/2G, 2G Ex ia IIC T6 + WHG
CM	ATEX II 1G, 1/2G, 2G Ex ia IIC T6 + Ship approval
CI	IEC Ex ia IIC T6
DX	ATEX II 1/2G, 2G Ex d ia IIC T5/T6
DI	IEC Ex d ia IIC T6
CK	IEC Ex ia IIC Ga, Ga/Gb, Gb + Ex t IIIC T... Da, Da/Db, Db
DK	IEC Ex d IIC Ga/Gb, Gb + Ex t IIIC T... Da, Da/Db, Db
RX	IEC Ex t IIIC T... Da, Da/Db, Db

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

Process fitting / Material

GA	Thread G¾ (DIN 3852-A) PN40 / 316L
NA	Thread ¾NPT (ASME B1.20.1) PN40 / 316L
GD	Thread G1½ (DIN 3852-A) PN40 / 316L
ND	Thread 1½NPT (ASME B1.20.1) PN40 / 316L
GB	Thread G1½ (DIN 3852-A) PN100 / 316L
NB	Thread 1½NPT (ASME B1.20.1) PN100 / 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 (SHS FPM 70C3 GLT) and PTFE / -40...130°C
3	FFKM (Kalrez 6375) and PTFE / -20...130°C
F	FFKM (Kalrez 6375) and PEEK / -20...250°C
H	Graphite and ceramic / -196...450°C

Electronics

H	Two-wire 4...20mA/HART®
1	Two-wire 4...20mA/HART® and PLICSMOBILE
B	Four-wire 4...20mA/HART®; 90...253V AC; 50/60Hz
I	Four-wire 4...20mA/HART®; 9.6...48V DC; 20...42V AC
P	Profibus PA
F	Foundation Fieldbus

Housing / Protection

K	Plastic / IP66/IP67
A	Aluminium / IP66/IP68 (0.2bar)
D	Aluminium double chamber / IP66/IP68 (0.2bar)
8	StSt (electropolished) 316L / IP66/IP68 (0.2bar)
W	Stainless steel double chamber / IP66/IP68 (0.2bar)
R	Plastic 2-chamber / IP66/IP67

Cable entry / Cable gland / Plug connection

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

Display/adjustment module PLICSCOM

X	Without
A	Mounted

Additional equipment

X	without
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PS62.																				
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Length standpipe / Total length

316L (200-5850 mm) per 100 mm

VEGAPULS 63



Radar sensor for continuous level measurement of liquids

Application area

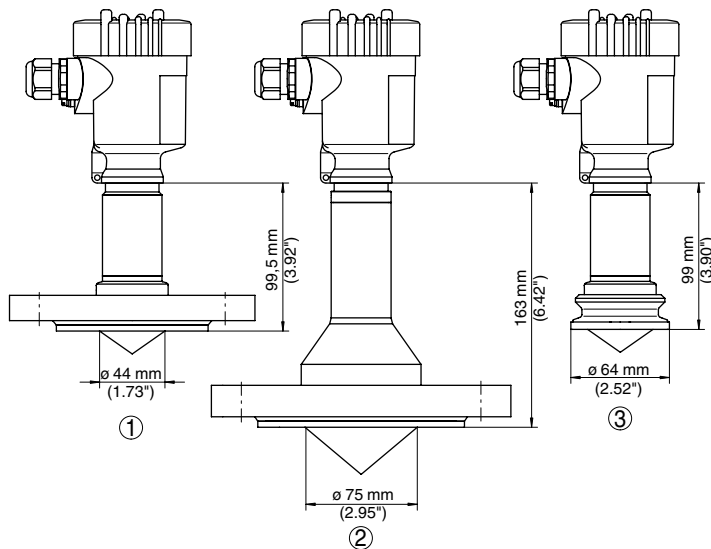
The VEGAPULS 63 is a radar sensor for continuous level measurement of aggressive liquids or with hygienic requirements. It is suitable for applications in storage tanks, process vessels, dosing vessels and reactors. The encapsulated antenna system of VEGAPULS 63 protects the VEGAPULS 63 against pollution and ensures a maintenance-free permanent operation. The front-flush mounting ensures an optimum cleanability even with high hygienic requirements.

Your benefit

- Maintenance-free operation through non-contact measuring principle
- High plant availability, because wear and maintenance-free
- Exact measuring results independent of process conditions

Technical data

Measuring range:	up to 35 m
Process fitting:	hygienic fittings boltings flanges from DN 50, 2"
Process temperature:	-196 ... +200 °C
Process pressure:	-1 ... +16 bar (-100 ... +1600 kPa)
Accuracy:	+/- 2 mm
SIL qualification:	optionally up to SIL2



- 1 Flange version DN 50
- 2 Flange version DN 80
- 3 Clamp version 2"

You will find further process fittings and options under www.vega.com/configurator.
 You will find further drawings and tables under www.vega.com/downloads.
 You will find mounting accessory, welded sockets and housing overviews in chapter "Accessory".

Approval

- XX** without
- XM** Ship approval
- CX** ATEX II 1G, 1/2G, 2G Ex ia IIC T6
- CA** ATEX II 1G, 1/2G, 2G Ex ia IIC T6 + WHG
- CM** ATEX II 1G, 1/2G, 2G Ex ia IIC T6 + Ship approval
- CI** IEC Ex ia IIC T6
- DX** ATEX II 1/2G, 2G Ex d ia IIC T5/T6
- DI** IEC Ex d ia IIC T6
- CK** IEC Ex ia IIC Ga,Ga/Gb,Gb + Ex t IIIC T... Da, Da/Db, Db
- DK** IEC Ex d IIC Ga/Gb,Gb + Ex t IIIC T... Da, Da/Db, Db
- RX** IEC Ex t IIIC T... Da, Da/Db, Db
- TX** ATEX I M2 Ex ia I Mb

Version / Material / Process temperature

- N** Hyg. encapsulated horn antenna / PTFE / -40...200°C
- J** Hyg. encapsulated horn antenna/PTFE / -196...200°C
- A** Hyg. encaps. horn antenna / TFM-PTFE(8mm) / -40...150°C
- V** Hyg. encaps. horn ant. / PTFE+FKM / -25...130°C
- E** Hyg. encaps. horn ant. / PTFE+EPDM / -40...130°C

Process fitting / Material

- CA** Clamp 2" PN16(ø64mm) DIN32676,ISO2852 / 316L
- CB** Clamp 3" PN10(ø91mm) DIN32676,ISO2852 / 316L
- CC** Clamp 4" PN10(ø119mm) DIN32676,ISO2852 / 316L
- RA** Bolting DN50 PN16, DIN 11851 / 316L
- RB** Bolting DN80 PN16, DIN 11851 / 316L
- LB** Hyg. fitting w. tension flange DN32PN16 / 316L
- LA** Hyg. fitting w. compression nut F40 PN16 / 316L
- TB** Tuchenhausen Varivent DN25... PN10 / 316L
- QB** Neumo Biocontrol sz. 50 PN16 / 316L
- FC** Flange DN50PN40 Form C, DIN2501 / 316L
- FD** Flange DN80PN40 Form C, DIN2501 / 316L
- FE** Flange DN100PN16 Form C, DIN2501 / 316L
- LO** Flange DN125PN40 Form V13, DIN2501 / 316L
- FK** Flange DN150PN16 Form C, DIN2501 / 316L
- FM** Flange DN150PN40 Form C, DIN2501 / 316L
- LM** Flange DN150PN40 Form V13, 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®
- 1** Two-wire 4...20mA/HART® and PLICSMOBILE
- B** Four-wire 4...20mA/HART®; 90...253V AC; 50/60Hz
- I** Four-wire 4...20mA/HART®; 9.6...48V DC; 20...42V AC
- P** Profibus PA
- F** Foundation Fieldbus

Housing / Protection

- K** Plastic / IP66/IP67
- A** Aluminium / IP66/IP68 (0.2bar)
- D** Aluminium double chamber / IP66/IP68 (0.2bar)
- 8** StSt (electropolished) 316L / IP66/IP68 (0.2bar)
- W** Stainless steel double chamber / IP66/IP68 (0.2bar)
- R** Plastic 2-chamber / IP66/IP67

Cable entry / Cable gland / Plug connection

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

Display/adjustment module PLICSCOM

- X** Without
- A** Mounted

Additional equipment

- X** without

PS63.

VEGAPULS 65



Radar sensor for continuous level measurement of liquids

Application area

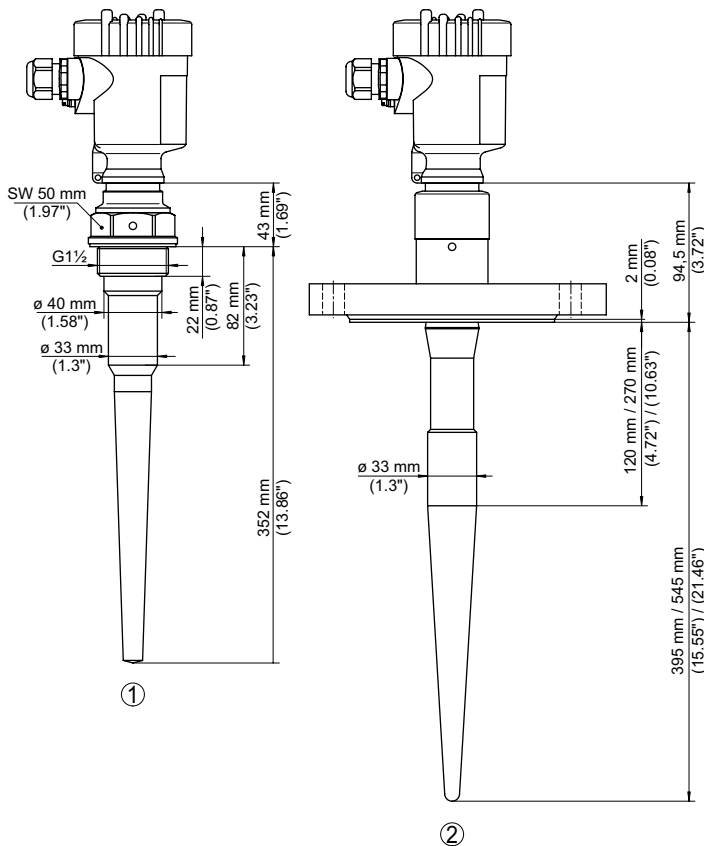
The VEGAPULS 65 is a radar sensor for continuous measurement of liquids under simple process conditions. It is particularly suitable for level measurement in vessels with small process fittings and under simple process conditions. The slim rod antenna enables the installation in small vessel openings.

Your benefit

- Maintenance-free operation through non-contact measuring principle
- High plant availability, because wear and maintenance-free
- Reliable measurement independent of process conditions

Technical data

Measuring range:	up to 35 m
Process fitting:	thread from G1½, 1½ NPT flanges from DN 50, 2"
Process temperature:	-40 ... +150 °C
Process pressure:	-1 ... +16 bar (-100 ... +1600 kPa)
Accuracy:	+/- 8 mm
SIL qualification:	optionally up to SIL2



- 1 Threaded version G1½
- 2 Flange version DN 80

You will find further process fittings and options under www.vega.com/configurator.
 You will find further drawings and tables under www.vega.com/downloads.
 You will find mounting accessory, welded sockets and housing overviews in chapter "Accessory".

Approval

- XX** without
- XM** Ship approval
- CX** ATEX II 1G, 1/2G, 2G Ex ia IIC T6
- CA** ATEX II 1G, 1/2G, 2G Ex ia IIC T6 + WHG
- CM** ATEX II 1G, 1/2G, 2G Ex ia IIC T6 + Ship approval
- CI** IEC Ex ia IIC T6
- DX** ATEX II 1/2G, 2G Ex d ia IIC T5/T6
- DI** IEC Ex d ia IIC T6

Version / Material / Process temperature

- K** Rod antenna for sockets 50mm/PVDF a. PTFE/-40...130°C
- L** Rod antenna for sockets 100mm / PTFE / -40...130/150°C
- M** Rod antenna for sockets 250mm / PTFE / -40...130/150°C

Process fitting / Material

- GD** Thread G1½ (DIN 3852-A) PN16 / 316L
- GP** Thread G1½ (DIN 3852-A) PN3 / PVDF
- ND** Thread 1½NPT (ASME B1.20.1) PN16 / 316L
- NP** Thread 1½NPT (ASME B1.20.1) 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
- AJ** Flange 3" 300lb 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®
- 1** Two-wire 4...20mA/HART® and PLICSMOBILE
- B** Four-wire 4...20mA/HART®; 90...253V AC; 50/60Hz
- I** Four-wire 4...20mA/HART®; 9.6...48V DC; 20...42V AC
- P** Profibus PA
- F** Foundation Fieldbus

Housing / Protection

- K** Plastic / IP66/IP67
- A** Aluminium / IP66/IP68 (0.2bar)
- D** Aluminium double chamber / IP66/IP68 (0.2bar)
- 8** StSt (electropolished) 316L / IP66/IP68 (0.2bar)
- W** Stainless steel double chamber / IP66/IP68 (0.2bar)
- R** Plastic 2-chamber / IP66/IP67

Cable entry / Cable gland / Plug connection

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

Display/adjustment module PLICSCOM

- X** Without
- A** Mounted

Additional equipment

- X** without

PS65.											
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VEGAPULS 66



Radar sensor for continuous level measurement of liquids

Application area

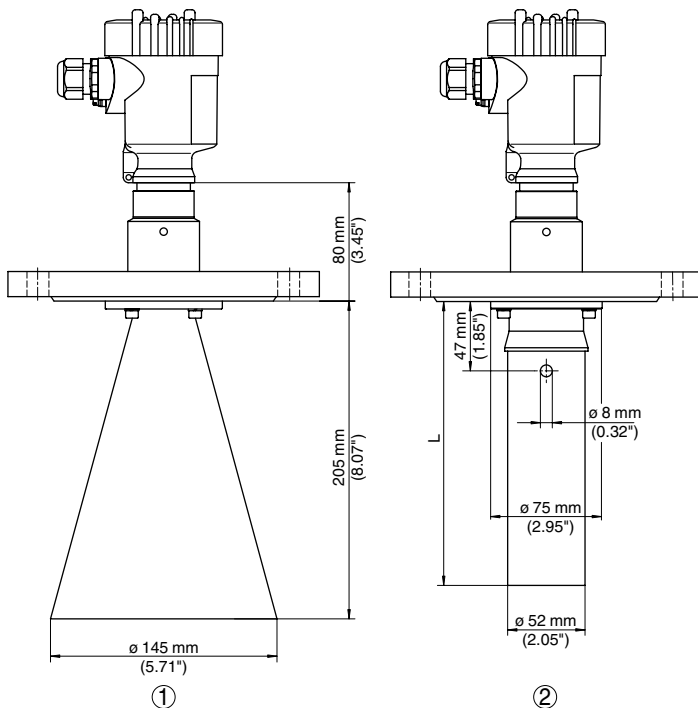
The VEGAPULS 66 is a sensor for continuous level measurement of liquids under arduous process conditions. It is suitable for applications in storage tanks, process vessels or standpipes. The VEGAPULS 66 can be used universally thanks to different antenna versions.

Your benefit

- Maintenance-free operation through non-contact measuring principle
- High plant availability, because wear and maintenance-free
- Reliable measurement independent of process conditions

Technical data

Measuring range:	up to 35 m
Process fitting:	flanges from DN 50, 2"
Process temperature:	-60 ... +400 °C
Process pressure:	-1 ... +160 bar (-100 ... +16000 kPa)
Accuracy:	+/- 8 mm
SIL qualification:	optionally up to SIL2



- 1 Version with horn antenna \varnothing 145 mm
- 2 Version with standpipe antenna

Antenna- \varnothing	Length	Beam angle
75 mm	75 mm	38°
96 mm	113 mm	30°
145 mm	205 mm	20°
195 mm	296 mm	17°
240 mm	380 mm	14°

You will find further process fittings and options under www.vega.com/configurator.

You will find further drawings and tables under www.vega.com/downloads.

You will find mounting accessory, welded sockets and housing overviews in chapter "Accessory".

Approval

- XX without
- XM Ship approval
- CX ATEX II 1G, 1/2G, 2G Ex ia IIC T6
- CA ATEX II 1G, 1/2G, 2G Ex ia IIC T6 + WHG
- CM ATEX II 1G, 1/2G, 2G Ex ia IIC T6 + Ship approval
- CI IEC Ex ia IIC T6
- DX ATEX II 1/2G, 2G Ex d ia IIC T5/T6
- DI IEC Ex d ia IIC T6
- CK IEC Ex ia IIC Ga,Ga/Gb,Gb + Ex t IIIC T... Da, Da/Db, Db
- DK IEC Ex d IIC Ga/Gb,Gb + Ex t IIIC T... Da, Da/Db, Db
- RX IEC Ex t IIIC T... Da, Da/Db, Db

Version / Material

- A without horn antenna for standpipe
- D with horn antenna ø75 mm / 316L
- E with horn antenna ø96 mm / 316L
- H with horn antenna ø145 mm/316L
- K with horn antenna ø140 mm / enamelled
- I with horn antenna ø195 mm / 316L
- J with horn antenna ø 240 mm / 316L
- F with standpipe ø52 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
- LP Flange 10" 150lb RJF, ANSI B16.5 / 316L

Seal / Process temperature

- 2 FKM (A+P GLT FPM 70.16-06) / -40...150°C
- 3 FFKM (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®
- 1 Two-wire 4...20mA/HART® and PLICSMOBILE
- B Four-wire 4...20mA/HART®; 90...253V AC; 50/60Hz
- I Four-wire 4...20mA/HART®; 9.6...48V DC; 20...42V AC
- P Profibus PA
- F Foundation Fieldbus

Housing / Protection

- K Plastic / IP66/IP67
- A Aluminium / IP66/IP68 (0.2bar)
- D Aluminium double chamber / IP66/IP68 (0.2bar)
- 8 StSt (electropolished) 316L / IP66/IP68 (0.2bar)
- W Stainless steel double chamber / IP66/IP68 (0.2bar)
- R Plastic 2-chamber / IP66/IP67

Cable entry / Cable gland / Plug connection

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

Display/adjustment module PLICSCOM

- X Without
- A Mounted

Additional equipment

- X without

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Length standpipe / Total length

316L (500-5950 mm) per 100 mm

VEGAPULS 67



Radar sensor for continuous level measurement of bulk solids

Application area

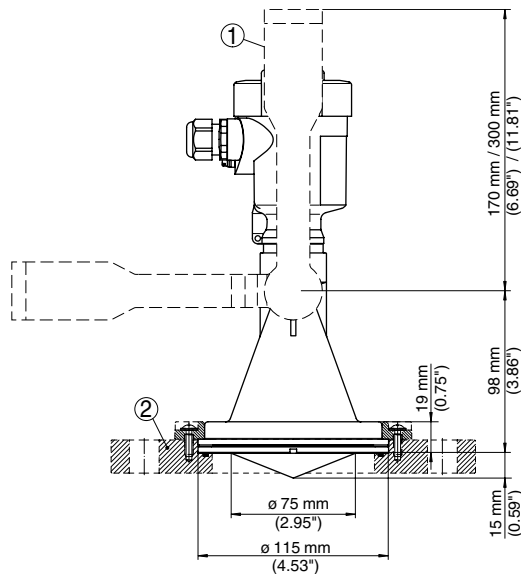
The VEGAPULS 67 is a sensor for continuous level measurement of bulk solids under simple process conditions. It is suitable for smaller silos and vessels. The VEGAPULS 67 is an economical solution through its versatile and simple mounting options. The encapsulated antenna system ensures maintenance-free permanent operation even with strong buildup.

Your benefit

- Maintenance-free operation through non-contact measuring principle
- High plant availability, because wear and maintenance-free
- Reliable measurement independent of vapour, dust and noise

Technical data

Measuring range:	up to 15 m
Process fitting:	mounting strap compression flanges from DN 80, 3"
Process temperature:	-40 ... +80 °C
Process pressure:	-1 ... +2 bar (-100 ... +200 kPa)
Accuracy:	+/- 2 mm
SIL qualification:	optionally up to SIL2



- 1 Mounting strap
- 2 Adapter flange

You will find further process fittings and options under www.vega.com/configurator.

You will find further drawings and tables under www.vega.com/downloads.

You will find mounting accessory, welded sockets and housing overviews in chapter "Accessory".

Approval

- XX without
- RX ATEX II 1D, 1/2D, 2D Ex t IIIC T... Da, Da/Db, Db
- RX IEC Ex t IIIC T... Da, Da/Db, Db

Version / Material / Process temperature

- B with plastic horn antenna ø80mm / PP / -40...80°C

Process fitting / Material

- XX without compression flange
- XC Mounting strap 170mm / 316L
- XD Mounting strap 300 mm / 316L
- YD Combi compr.flange DN80PN16, ANSI3", 150 lb / PPH
- AE Adapter flange DN100PN16 FKM(Viton) / PPH
- AH Adapter flange DN150PN16 FKM(Viton) / PPH
- FK Adapter flange ANSI 4"150lb FKM(Viton) / PPH
- FM Adapter flange ANSI 6"150lb FKM(Viton) / PPH
- UC Adapter flange JIS DN100 10K FKM(Viton) / PPH
- UE Adapter flange JIS DN150 10K FKM(Viton) / PPH

Electronics

- H Two-wire 4...20mA/HART®
- 1 Two-wire 4...20mA/HART® and PLICSMOBILE
- B Four-wire 4...20mA/HART®; 90...253V AC; 50/60Hz
- I Four-wire 4...20mA/HART®; 9.6...48V DC; 20...42V AC
- P Profibus PA
- F Foundation Fieldbus

Housing / Protection

- K Plastic / IP66/IP67
- A Aluminium / IP66/IP68 (0.2bar)
- D Aluminium double chamber / IP66/IP68 (0.2bar)
- 8 StSt (electropolished) 316L / IP66/IP68 (0.2bar)
- W Stainless steel double chamber / IP66/IP68 (0.2bar)
- R Plastic 2-chamber / IP66/IP67

Cable entry / Cable gland / Plug connection

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

Display/adjustment module PLICSCOM

- X Without
- A Mounted

Additional equipment

- X without

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VEGAPULS SR 68



Radar sensor for continuous level measurement of bulk solids

Application area

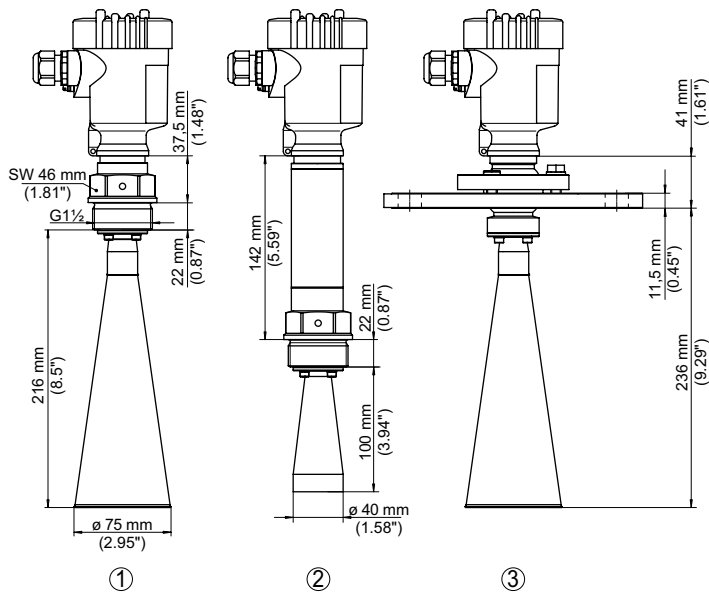
The VEGAPULS SR 68 is a radar sensor for continuous measurement of bulk solids even under difficult process conditions. It is particularly suitable for level measurement in high silos and large bunkers. The VEGAPULS SR 68 is an economical solution thanks to the simple setup and the reliable, maintenance-free operation.

Your benefit

- Maintenance-free operation through non-contact measuring principle
- High plant availability, because wear and maintenance-free
- Reliable measurement independent of vapour, dust and noise

Technical data

Measuring range: up to 30 m
 Process fitting: thread from G1½, 1½ NPT
 flanges from DN 50, 2"
 Process temperature: -40 ... +250 °C
 Process pressure: -1 ... +100 bar (-100 ... +10000 kPa)
 Accuracy: +/- 2 mm



- 1 Threaded version with horn antenna
- 2 Threaded version with horn antenna and with temperature adapter
- 3 Version with horn antenna and swivelling holder

Antenna-ø	Length	Beam angle
40 mm	100 mm	20°
48 mm	120 mm	15°
75 mm	216 mm	10°
95 mm	430 mm	8°

You will find further process fittings and options under www.vega.com/configurator.
 You will find further drawings and tables under www.vega.com/downloads.
 You will find mounting accessory, welded sockets and housing overviews in chapter "Accessory".

Approval

- XX** without
- CX** ATEX II 1G, 1/2G, 2G Ex ia IIC T5
- CK** ATEX II 1, 1/2, 2G Ex ia IIC + II 1, 1/2, 2D Ex t IIIC
- CI** IEC Ex ia IIC T6 Ga, Ga/Gb, Gb
- DX** ATEX II 1/2G, 2G Ex d ia IIC T5/T6
- DI** IEC Ex d ia IIC T6
- CK** IEC Ex ia IIC Ga, Ga/Gb, Gb + Ex t IIIC T... Da, Da/Db, Db
- DK** IEC Ex d IIC Ga/Gb, Gb + Ex t IIIC T... Da, Da/Db, Db
- RX** ATEX II 1D, 1/2D, 2D Ex t IIIC T... Da, Da/Db, Db
- RX** IEC Ex t IIIC T... Da, Da/Db, Db
- TX** ATEX I M2 Ex ia I Mb

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 (DIN 3852-A) PN40 / 316L
- ND** Thread 1½NPT (ASME B1.20.1) PN40 / 316L
- GB** Thread G1½ (DIN 3852-A) PN100 / 316L
- NB** Thread 1½NPT (ASME B1.20.1) PN100 / 316L
- 1F** Swivelling holder for flange 2" 150lb / 316L
- 1G** Swivelling holder for flange 3" 150lb / 316L
- 1H** Swivelling holder for flange 4" 150lb / 316L
- 1O** Swivelling holder for flange DN50 / 316L
- 1P** Swivelling holder for flange DN80 / 316L
- 1Q** Swivelling holder with flange DN100 PN16 / 316L
- FC** Flange DN50PN40 Form C, DIN2501 / 316L
- FD** Flange DN80PN40 Form C, DIN2501 / 316L
- FE** Flange DN100PN16 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

Seal / Process temperature

- 2** FKM (SHS FPM 70C3 GLT) and PTFE / -40...130°C
- 3** FFKM (Kalrez 6375) and PTFE / -20...130°C
- F** FFKM (Kalrez 6375) and PEEK / -20...250°C

Electronics

- H** Two-wire 4...20mA/HART®
- 1** Two-wire 4...20mA/HART® and PLICSMOBILE
- B** Four-wire 4...20mA/HART®; 90...253V AC; 50/60Hz
- I** Four-wire 4...20mA/HART®; 9.6...48V DC; 20...42V AC
- P** Profibus PA
- F** Foundation Fieldbus

Housing / Protection

- K** Plastic / IP66/IP67
- A** Aluminium / IP66/IP68 (0.2bar)
- D** Aluminium double chamber / IP66/IP68 (0.2bar)
- 8** StSt (electropolished) 316L / IP66/IP68 (0.2bar)
- W** Stainless steel double chamber / IP66/IP68 (0.2bar)
- R** Plastic 2-chamber / IP66/IP67

Cable entry / Cable gland / Plug connection

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

Display/adjustment module PLICSCOM

- X** Without
- A** Mounted

Additional equipment

- X** without
- K** Rinsing connection
- V** Rinsing connection with reflux valve

PSSR68.

VEGAPULS 68



Radar sensor for continuous level measurement of bulk solids

Application area

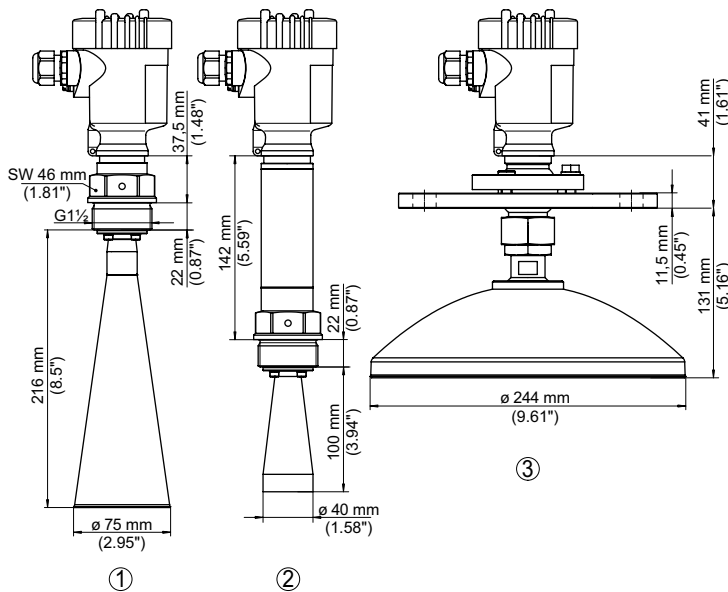
The VEGAPULS 68 is a radar sensor for continuous measurement of bulk solids also under difficult process conditions and with large measuring ranges. The sensor is ideal for level measurement in high silos, large bunkers, stone crushers and in the furnace. The VEGAPULS 68 with different antenna versions and materials is the optimum solution for virtually all applications and processes. Through the wide temperature and pressure range, the sensor can be used universally and enables a simple planning.

Your benefit

- Maintenance-free operation through non-contact measuring principle
- High plant availability, because wear and maintenance-free
- Reliable measurement independent of vapour, dust and noise

Technical data

Measuring range:	up to 75 m
Process fitting:	thread from G1½, 1½ NPT flanges from DN 50, 2"
Process temperature:	-196 ... +450 °C
Process pressure:	-1 ... +160 bar (-100 ... +16000 kPa)
Accuracy:	+/- 2 mm
SIL qualification:	optionally up to SIL2



- 1 Threaded version with horn antenna
- 2 Threaded version with horn antenna and with temperature adapter
- 3 Version with parabolic antenna and swivelling holder

Antenna- \varnothing	Length	Beam angle
40 mm	100 mm	20°
48 mm	120 mm	15°
75 mm	216 mm	10°
95 mm	430 mm	8°
245 mm (parabolic)	138 mm	3°

You will find further process fittings and options under www.vega.com/configurator.

You will find further drawings and tables under www.vega.com/downloads.

You will find mounting accessory, welded sockets and housing overviews in chapter "Accessory".

Approval

- XX without
- XM Ship approval
- CX ATEX II 1G, 1/2G, 2G Ex ia IIC T5
- CM ATEX II 1G, 1/2G, 2G Ex ia IIC T5 + Ship approval
- CK ATEX II 1, 1/2, 2G Ex ia IIC + II 1, 1/2, 2D Ex t IIIC
- CI IEC Ex ia IIC T6 Ga, Ga/Gb, Gb
- DX ATEX II 1/2G, 2G Ex d ia IIC T5/T6
- DI IEC Ex d ia IIC T6
- CK IEC Ex ia IIC Ga, Ga/Gb, Gb + Ex t IIIC T... Da, Da/Db, Db
- DK IEC Ex d IIC Ga/Gb, Gb + Ex t IIIC T... Da, Da/Db, Db
- RX ATEX II 1D, 1/2D, 2D Ex t IIIC T... Da, Da/Db, Db
- RX IEC Ex t IIIC T... Da, Da/Db, Db
- TX ATEX I M2 Ex ia I bzw. I M2 Ex ia I Mb

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 (DIN 3852-A) PN40 / 316L
- ND Thread 1½NPT (ASME B1.20.1) PN40 / 316L
- GB Thread G1½ (DIN 3852-A) PN100 / 316L
- NB Thread 1½NPT (ASME B1.20.1) PN100 / 316L
- 1F Swivelling holder for flange 2" 150lb / 316L
- 1G Swivelling holder for flange 3" 150lb / 316L
- 1H Swivelling holder for flange 4" 150lb / 316L
- 1O Swivelling holder for flange DN50 / 316L
- 1P Swivelling holder for flange DN80 / 316L
- 1Q Swivelling holder with flange DN100 PN16 / 316L
- FC Flange DN50PN40 Form C, DIN2501 / 316L
- FD Flange DN80PN40 Form C, DIN2501 / 316L
- FE Flange DN100PN16 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

Seal / Process temperature

- 2 FKM (SHS FPM 70C3 GLT) and PTFE / -40...130°C
- 3 FFKM (Kalrez 6375) and PTFE / -20...130°C
- F FFKM (Kalrez 6375) and PEEK / -20...250°C
- H Graphite and ceramic / -196...450°C

Electronics

- H Two-wire 4...20mA/HART®
- 1 Two-wire 4...20mA/HART® and PLICSMOBILE
- B Four-wire 4...20mA/HART®; 90...253V AC; 50/60Hz
- I Four-wire 4...20mA/HART®; 9.6...48V DC; 20...42V AC
- P Profibus PA
- F Foundation Fieldbus

Housing / Protection

- K Plastic / IP66/IP67
- A Aluminium / IP66/IP68 (0.2bar)
- D Aluminium double chamber / IP66/IP68 (0.2bar)
- 8 StSt (electropolished) 316L / IP66/IP68 (0.2bar)
- W Stainless steel double chamber / IP66/IP68 (0.2bar)
- R Plastic 2-chamber / IP66/IP67

Cable entry / Cable gland / Plug connection

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

Display/adjustment module PLICSCOM

- X Without
- A Mounted

Additional equipment

- X without
- K Rinsing connection
- V Rinsing connection with reflux valve

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Antenna cover VEGAPULS 68

Antenna cover of plastic or flexible Gore® diaphragm

The antenna cover can be retrofitted and avoids dust layers in the antenna system.
The necessary mounting material is included in the scope of delivery.



Cover for antenna / Material / Temperature max.

- D Horn ø75 mm / PP / 80°C
- F Horn ø75 mm / PTFE / 130°C
- L Horn ø75 mm / PTFE textile for flange / 250°C
- H Horn ø75 mm / PTFE textile with silicone ring / 200°C
- E Horn ø95 mm / PP / 80°C
- G Horn ø95 mm / PTFE / 130°C
- M Horn ø95 mm / PTFE textile for flange / 250°C
- I Horn ø95 mm / PTFE textile with silicone ring / 200°C
- K Parabol ø245 / PTFE textile / 200°C

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Variable seal VEGAPULS 67

Variable seal for sensor inclination



For flange / Material

- 33602 DN80 PN10-40, ANSI 3"150, JIS DN80 10K / EPDM
- 33750 DN100 PN10-16, ANSI 4"150, JIS DN100 10K / EPDM
- 33751 DN150 PN10-16, ANSI 6"150, JIS DN150 10K / EPDM
- 35744 DN200 PN10-16, ANSI 8"150 / EPDM

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