Capacitive

VEGACAP

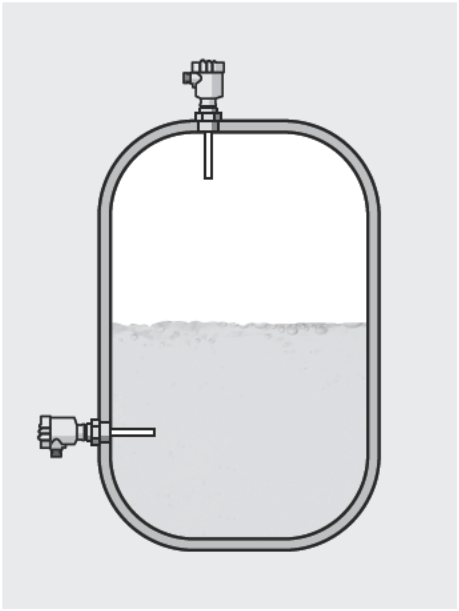
Level detection in bulk solids and liquids

Measuring principle

Sensor and vessel form the two electrodes of a capacitor. A capacitance change caused by a level change is processed by the integrated electronics and converted into a switching signal. The capacitive measuring principle makes no special demands to installation and mounting. Due to cable and rod versions, suitable instruments are available for all applications.

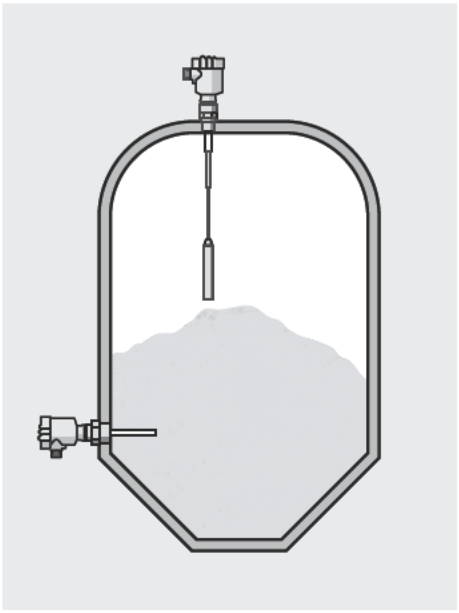
Applications in liquids

Mainly fully insulated instrument versions are used in these applications. Hence level detection of corrosive liquids or adhesive products are no problem. The mounting of the instruments is easy and the rugged construction is the basis for an interference and maintenance-free operation.



Applications in bulk solids

Partly insulated versions are preferably used in bulk solids. Also here, we have the proven, rugged configuration as basis for the manifold and reliable use, e.g. in the aggregates and mining industry.



Overview

	VEGACAP 62
Application	Bulk solids, non-conductive liquids
Version	with partly insulated rod
Process fitting	from thread ¾ NPT, flange
Process temperature	-50 … +200 °C
Process pressure	-1 … +64 bar (-100 … +6400 kPa)

	VEGACAP 63
Application	Conductive liquids
Version	with fully insulated rod
Process fitting	from thread ¾ NPT, flange
Process temperature	-50 … +200 °C
Process pressure	-1 … +64 bar (-100 … +6400 kPa)

	VEGACAP 64
Application	Adhesive, conductive liquids
Version	with fully insulated rod
Process fitting	from thread ¾ NPT, flange
Process temperature	-50 … +200 °C
Process pressure	-1 … +64 bar (-100 … +6400 kPa)

	VEGACAP 65
Application	Bulk solids, non-conductive liquids
Version	with cable
Process fitting	from thread 1 NPT, flange
Process temperature	-50 … +200 °C
Process pressure	-1 … +64 bar (-100 … +6400 kPa)

	VEGACAP 66
Application	Liquids, bulk solids
Version	with insulated cable
Process fitting	from thread 1 NPT, flange
Process temperature	-50 … +150 °C
Process pressure	-1 … +40 bar (-100 … +4000 kPa)

	VEGACAP 67
Application	Bu k solids
Version	with rod or cable
Process fitting	from thread 1½ NPT, flange
Process temperature	-50 … +400 °C
Process pressure	-1 … +16 bar (-100 … +1600 kPa)

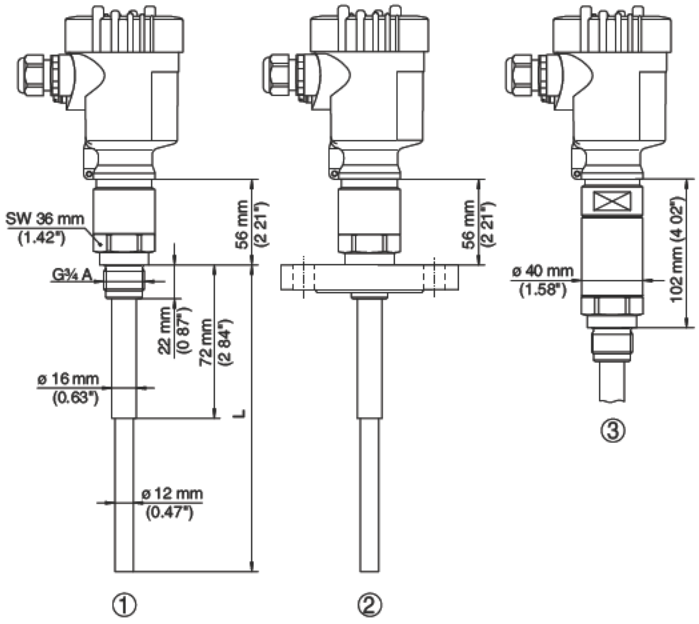
VEGACAP 62

Capacitive rod electrode for level detection

Application area
VEGACAP 62 is a level sensor for level detection in all areas of industry. Partly insulated probes such as VEGACAP 62 are preferably used in bulk solids. However, the probe can also be used in non-conductive liquids such as e.g. oil.

Advantages
Service-proven, robust and maintenance-free
High reliability
Simple mounting and setup
Probe can be shortened

Function
Sensor and vessel form the two electrodes of a capacitor. A level change causes a capacitance change which is converted into a switching signal by the connected processing electronics.



1 Threaded version
2 Flange version
3 Threaded version with temperature adapter 200 °C

You will find further process fittings and options under www.ohmartvega.com/configurator
You will find further drawings and tables under www.ohmartvega.com/downloads

Approval

- **XX** without
- **UX** FM(NI)CL I,DIV2,GP ABCD (DIP)CL II,III,DIV1,GP EFG
- **UF** FM(IS)CL I,II,III, DIV 1,GP ABCDEF
- **KX** CSA (NI) CL I DIV 2 GP ABCD CL II, III DIV 1 GP EFG
- **KF** ~~CSA(IS)CL I,II,III..

Version / Process temperature

- **A** Standard / -50 ... 150°C
- **B** Standard / -50 ... 200°C
- **C** with screening tube 316L / -50 ... 150°C
- **D** with screening tube 316L / -50 ... 200°C

Process fitting / Material

- **NH** Thread ½NPT (ASME B1.20.1) PN64 / 316L
- **NA** Thread ¾NPT (ASME B1.20.1) PN64 / 316L
- **NC** Thread 1NPT (ASME B1.20.1) PN64/316L
- **ND** Thread 1½NPT (ASME B1.20.1) PN64/316L
- **AA** Flange 1"150lb RF,ANSI B16.5/316L
- **BA** Flange 1"300lb RF,ANSI B16.5/316L
- **DA** Flange 1½"150lb RF,ANSI B16.5/316L
- **EA** Flange 1½"300lb RF,ANSI B16.5/316L
- **EC** Flange 1½"300lb ST,ANSI B16.5/316L
- **FE** Flange 1½"600lb RF,ANSI B16.5/316L
- **HA** Flange 2"150lb RF,ANSI B16.5/316L
- **IA** Flange 2"300lb RF,ANSI B16.5/316L
- **KA** Flange 2"600lb RF,ANSI B16.5/316L
- **OA** Flange 3"150lb RF,ANSI B16.5/316L
- **PA** Flange 3"300lb RF,ANSI B16.5/316L
- **2A** Flange 3"600lb RF,ANSI B16.5/316L
- **SA** Flange 4"150lb RF,ANSI B16.5/316L
- **UA** Flange 4"300lb RF,ANSI B16.5/316L
- **3A** Flange 5"150lb RF,ANSI B16.5/316L
- **WA** Flange 6"150lb RF,ANSI B16.5/316L
- **VA** Flange 6"300lb RF,ANSI B16.5/316L

Electronics

- **C** Contactless electronic switch 20...253VAC/DC
- **R** Relay (DPDT) 20...72VDC/20...250VAC (3A)
- **T** Transistor (NPN/PNP) 10...55VDC
- **Z** Two-wire for connection to VEGATOR

Housing / Protection

- **K** Plastic / IP66/IP67
- **A** Aluminium / IP66/IP68 (0.2bar)
- **V** Stainless steel (precision casting) 316L / IP66/IP67
- **8** StSt (electropolished) 316L / IP66/IP67

Cable entry / Cable gland / Plug connection

- **N** ½NPT / without / without

Additional equipment

- **X** Without

CP62.							

Length (from seal surface)
316L (100-6000 mm) per 100 mm

Length screening tube
316L (50-5960 mm) per 100 mm

Insulation length
PTFE insulated (50-5990 mm) per 100 mm

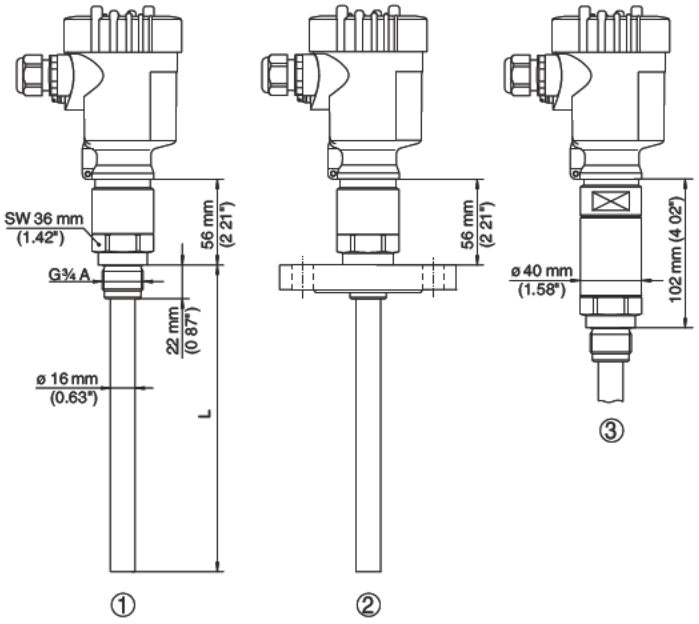
VEGACAP 63

Capacitive rod electrode for level detection

Application area
VEGACAP 63 is a level sensor for level detection in all areas of industry. Fully insulated probes such as VEGACAP 63 are preferably used in conductive liquids.

Advantages
Service-proven, robust and maintenance-free
High reliability
Simple mounting and setup

Function
Sensor and vessel form the two electrodes of a capacitor. A level change causes a capacitance change which is converted into a switching signal by the connected processing electronics.



1 Threaded version
2 Flange version
3 Threaded version with temperature adapter 200 °C

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Approval

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- **UF** FM(IS)CL I,II,III, DIV 1,GP ABCDEF
- **KX** CSA (NI) CL I DIV 2 GP ABCD CL II, III DIV 1 GP EFG
- **KF** CSA(IS)CL I,II,III, DIV1, GP ABCDEFG

Version / Process temperature

- **E** PE insulation / -40...80°C
- **F** PTFE insulation / -50...150°C
- **G** PTFE insulation / -50...200°C

Process fitting / Material

- **NH** Thread ½NPT (ASME B1.20.1) PN64 / 316L
- **NA** Thread ¾NPT (ASME B1.20.1) PN64 / 316L
- **NC** Thread 1NPT (ASME B1.20.1) PN64 / 316L
- **ND** Thread 1½NPT (ASME B1.20.1) PN64 / 316L
- **NS** Thread 1½NPT (ASME B1.20.1) PN64 / Steel
- **AA** Flange 1"150lb RF,ANSI B16.5/316L
- **AD** Flange 1"150lb ANSI/316L PTFE-plated
- **BA** Flange 1"300lb RF,ANSI B16.5/316L
- **DA** Flange 1½"150lb RF,ANSI B16.5/316L
- **DD** Flange 1½"150lb ,ANSI B16.5/316L PTFE-plated
- **EA** Flange 1½"300lb RF,ANSI B16.5/316L
- **EE** Flange 1½"300lb FF,ANSI B16.5/316L
- **EC** Flange 1½"300lb ST,ANSI B16.5/316L
- **FE** Flange 1½"600lb RF,ANSI B16.5/316L
- **HA** Flange 2"150lb RF,ANSI B16.5/316L
- **HD** Flange 2"150lb ANSI B16.5/316L PTFE-plated
- **IA** Flange 2"300lb RF,ANSI B16.5/316L
- **KA** Flange 2"600lb RF,ANSI B16.5/316L
- **KD** Flange 2"600lb, ANSI B16.5/316L PTFE plated
- **OA** Flange 3"150lb RF,ANSI B16.5/316L
- **OD** Flange 3"150lb ANSI B16.5/316L PTFE-plated
- **PA** Flange 3"300lb RF,ANSI B16.5/316L
- **2A** Flange 3"600lb RF,ANSI B16.5/316L
- **SA** Flange 4"150lb RF,ANSI B16.5/316L
- **SD** Flange 4"150lb ANSI B16.5/316L PTFE-plated
- **UA** Flange 4"300lb RF,ANSI B16.5/316L
- **UD** Flange 4"300lb ,ANSI B16.5/316L PTFE-plated
- **3A** Flange 5"150lb RF,ANSI B16.5/316L
- **WA** Flange 6"150lb RF,ANSI B16.5/316L
- **VA** Flange 6"300lb RF,ANSI B16.5/316L

Electronics

- **C** Contactless electronic switch 20...253VAC/DC
- **R** Relay (DPDT) 20...72VDC/20...250VAC (3A)
- **T** Transistor (NPN/PNP) 10...55VDC
- **Z** Two-wire for connection to VEGATOR

Housing / Protection

- **K** Plastic / IP66/IP67
- **A** Aluminium / IP66/IP67
- **V** Stainless steel (precision casting) 316L / IP66/IP67
- **8** StSt (electropolished) 316L / IP66/IP68 (0.2bar)

Cable entry / Cable gland / Plug connection

- **N** ½NPT / without / without

Additional equipment

- **X** Without

CP63.							

Length (from seal surface)

316L/PE fully insulated (100-6000 mm) per 100 mm
316L/PTFE fully insulated (100-6000 mm) per 100 mm

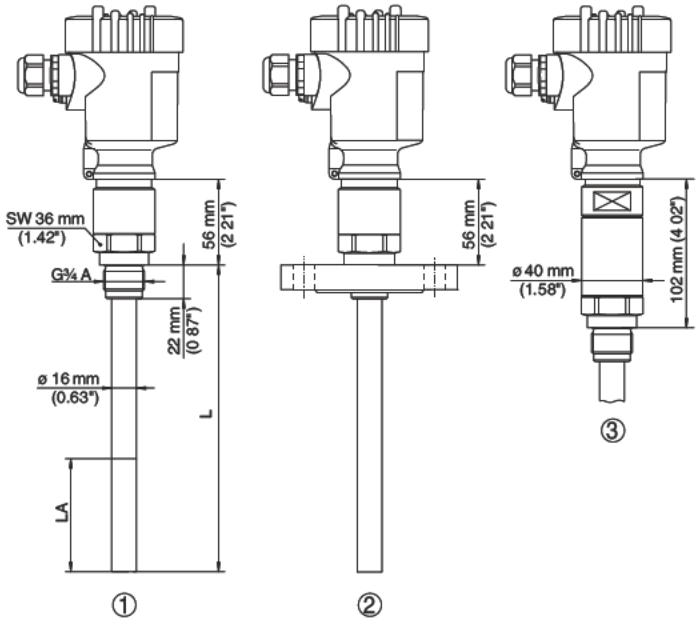
VEGACAP 64

Capacitive rod electrode for level detection

Application area
VEGACAP 64 is a level sensor for level detection in all areas of industry. Fully insulated probes such as VEGACAP 64 are preferably used in conductive liquids. It is particularly suitable for viscous and adhesive products.

Advantages
Precise switching point with very adhesive products
Service-proven, robust and maintenance-free
High reliability
Simple mounting and setup
High resistance insulating material of FEP

Function
Sensor and vessel form the two electrodes of a capacitor. A level change causes a capacitance change which is converted into a switching signal by the connected processing electronics. The configuration with active tip and screen segment allows also applications with very adhesive products.



1 Threaded version
2 Flange version
3 Threaded version with temperature adapter 200 °C

LA Active length (50 … 200 mm)

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Approval

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- **KX** CSA (NI) CL I DIV 2 GP ABCD CL II, III DIV 1 GP EFG
- **KF** CSA(IS)CL I,II,III, DIV1, GP ABCDEFG

Version / Process temperature

- **F** PTFE insulation / -50...150°C
- **G** PTFE insulation / -50...200°C

Process fitting / Material

- **NA** Thread ¾NPT (ASME B1.20.1) PN64 / 316L
- **NC** Thread 1NPT (ASME B1.20.1) PN64 / 316L
- **ND** Thread 1½NPT (ASME B1.20.1) PN64 / 316L
- **NS** Thread 1½NPT (ASME B1.20.1) PN64 / Steel
- **AA** Flange 1"150lb RF,ANSI B16.5/316L
- **AD** Flange 1"150lb ANSI/316L PTFE-plated
- **BA** Flange 1"300lb RF,ANSI B16.5/316L
- **BD** Flange 1"300lb ,ANSI B16.5/316L PTFE-plated
- **DA** Flange 1½"150lb RF,ANSI B16.5/316L
- **DD** Flange 1½"150lb ,ANSI B16.5/316L PTFE-plated
- **EA** Flange 1½"300lb RF,ANSI B16.5/316L
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- **HD** Flange 2"150lb ANSI B16.5/316L PTFE-plated
- **IA** Flange 2"300lb RF,ANSI B16.5/316L
- **ID** Flange 2"300lb, ANSI B16.5/316L PTFE-plated
- **KA** Flange 2"600lb RF,ANSI B16.5/316L
- **KD** Flange 2"600lb, ANSI B16.5/316L PTFE plated
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- **SD** Flange 4"150lb ANSI B16.5/316L PTFE-plated
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- **UD** Flange 4"300lb ,ANSI B16.5/316L PTFE-plated
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- **VA** Flange 6"300lb RF,ANSI B16.5/316L

Electronics

- **C** Contactless electronic switch 20...253VAC/DC
- **R** Relay (DPDT) 20...72VDC/20...250VAC (3A)
- **T** Transistor (NPN/PNP) 10...55VDC
- **Z** Two-wire for connection to VEGATOR

Housing / Protection

- **K** Plastic / IP66/IP67
- **A** Aluminium / IP66/IP68 (0.2 bar)
- **V** Stainless steel (precision casting) 316L / IP66/IP67
- **8** StSt (electropolished) 316L / IP66/IP67

Cable entry / Cable gland / Plug connection

- **N** ½NPT / without / without

Additional equipment

- **X** Without

CP64.							

Length (from seal surface)

316L/PTFE fully insulated (150-6000 mm) per 100 mm

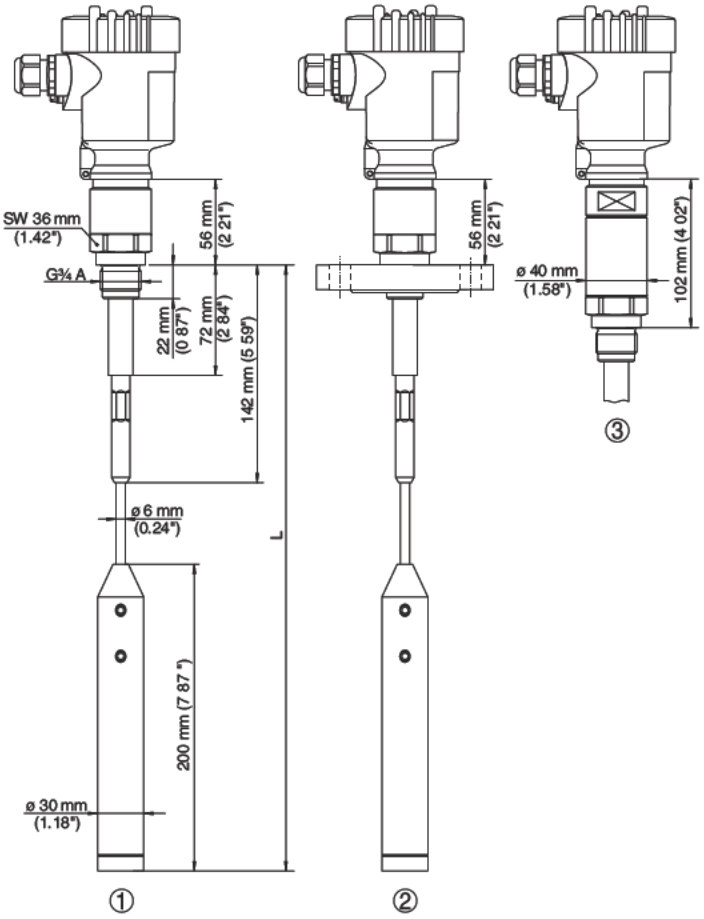
VEGACAP 65

Capacitive cable electrode for level detection

Application area
VEGACAP 65 is a level sensor for level detection in all areas of industry. Partly insulated probes such as VEGACAP 65 are preferably used in bulk solids, for example as overfill protection in bulk solids silos.

Advantages
Service-proven, robust and maintenance-free
High reliability
Simple mounting and setup
Probe can be shortened

Function
Sensor and vessel form the two electrodes of a capacitor. A level change causes a capacitance change which is converted into a switching signal by the connected processing electronics.



1 Threaded version
2 Flange version
3 Threaded version with temperature adapter 200 °C

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Approval

- **XX** without
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- **UF** FM(IS)CL I,II,III, DIV 1,GP ABCDEF
- **KX** CSA (NI) CL I DIV 2 GP ABCD CL II, III DIV 1 GP EFG
- **KF** ~~CSA(IS)CL I,II,III..

Version / Process temperature

- **K** Cable ø 6mm / 316 with gravity weight / -50...150°C
- **S** Cable ø 8mm / Steel with gravity weight / -50...150°C
- **U** Cable ø6mm with screening tube a. gr.weight/-50...150°C
- **L** Cable ø 6mm / 316 with gravity weight / -50...200°C
- **V** Cable ø6mm w.screening tube a. grav.weight/-50...200°C

Process fitting / Material

- **NC** Thread 1NPT (ASME B1.20.1) PN64 / 316L
- **ND** Thread 1½NPT (ASME B1.20.1) PN64 / 316L
- **NS** Thread 1½NPT (ASME B1.20.1) PN64 / Steel
- **HA** Flange 2"150lb RF,ANSI B16.5/316L
- **IA** Flange 2"300lb RF,ANSI B16.5/316L
- **KA** Flange 2"600lb RF,ANSI B16.5/316L
- **OA** Flange 3"150lb RF,ANSI B16.5/316L
- **PA** Flange 3"300lb RF,ANSI B16.5/316L
- **2A** Flange 3"600lb RF,ANSI B16.5/316L
- **SA** Flange 4"150lb RF,ANSI B16.5/316L
- **UA** Flange 4"300lb RF,ANSI B16.5/316L
- **3A** Flange 5"150lb RF,ANSI B16.5/316L
- **WA** Flange 6"150lb RF,ANSI B16.5/316L
- **VA** Flange 6"300lb RF,ANSI B16.5/316L

Electronics

- **C** Contactless electronic switch 20...253VAC/DC
- **R** Relay (DPDT) 20...72VDC/20...250VAC (3A)
- **T** Transistor (NPN/PNP) 10...55VDC
- **Z** Two-wire for connection to VEGATOR

Housing / Protection

- **K** Plastic / IP66/IP67
- **A** Aluminium / IP66/IP68 (0.2 bar)
- **V** Stainless steel (precision casting) 316L / IP66/IP67
- **8** StSt (electropolished) 316L / IP66/IP67

Cable entry / Cable gland / Plug connection

- **N** ½NPT / without / without

Additional equipment

- **X** Without

CP65.							

Length (from seal surface)

316 (400-32000 mm) per 100 mm
Steel/PA fully insulated (400-32000 mm) per 100 mm

Length screening tube

316L per 100 mm

Insulation length

PTFE (50-1000 mm) per 100 mm

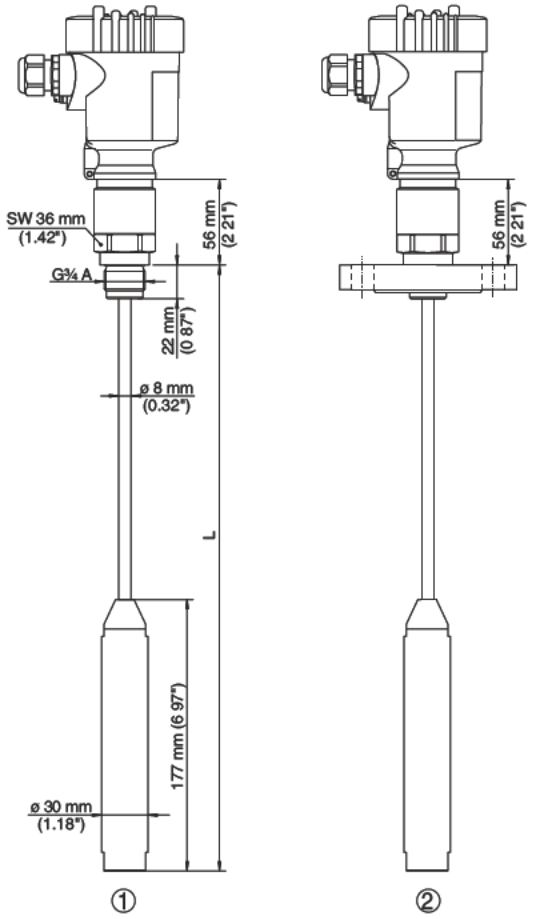
VEGACAP 66

Capacitive cable electrode for level detection

Application area
VEGACAP 66 is a level sensor for level detection in all areas of industry. Fully insulated probes such as VEGACAP 66 are preferably used in liquids and bulk solids.

Advantages
Service-proven, robust and maintenance-free
High reliability
Simple mounting and setup

Function
Sensor and vessel form the two electrodes of a capacitor. A level change causes a capacitance change which is converted into a switching signal by the connected processing electronics.



1 Threaded version
2 Flange version

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Approval

XX without

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UF FM(IS)CL I,II,III, DIV 1,GP ABCDEF

KX CSA (NI) CL I DIV 2 GP ABCD CL II, III DIV 1 GP EFG

KF CSA(IS)CL I,II,III, DIV1, GP ABCDEFG

Version / Process temperature

N PTFE insulated cable ø8mm w. gravity weight/-50...150°C

Process fitting / Material

NC Thread 1NPT (ASME B1.20.1) PN64 / 316L

ND Thread 1½NPT (ASME B1.20.1) PN40/316L

HA Flange 2"150 b RF,ANSI B16.5/316L

IA Flange 2"300 b RF,ANSI B16.5/316L

KA Flange 2"600 b RF,ANSI B16.5/316L

OA Flange 3"150 b RF,ANSI B16.5/316L

PA Flange 3"300 b RF,ANSI B16.5/316L

2A Flange 3"600 b RF,ANSI B16.5/316L

SA Flange 4"150 b RF,ANSI B16.5/316L

UA Flange 4"300 b RF,ANSI B16.5/316L

3A Flange 5"150 b RF,ANSI B16.5/316L

WA Flange 6"150 b RF,ANSI B16.5/316L

VA Flange 6"300 b RF,ANSI B16.5/316L

Electronics

C Contactless electronic switch 20...253VAC/DC

R Relay (DPDT) 20...72VDC/20...250VAC (3A)

T Transistor (NPN/PNP) 10...55VDC

Z Two-wire for connection to VEGATOR

Housing / Protection

K Plastic / IP66/IP67

A Aluminium / IP66/IP68 (0.2 bar)

V Stainless steel (precision casting) 316L / IP66/IP67

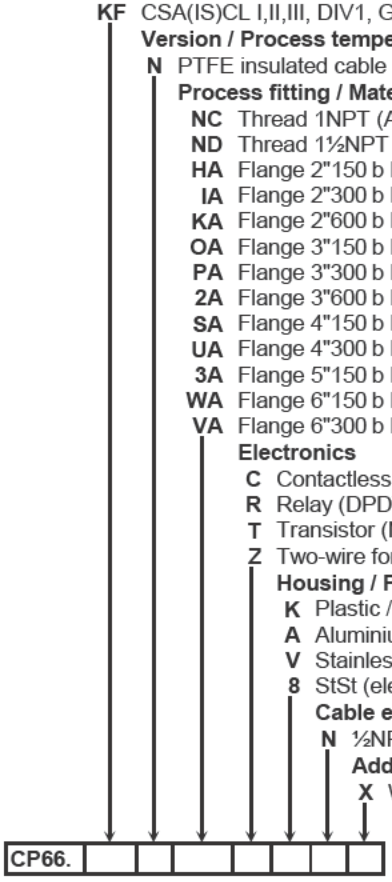
8 StSt (electropolished) 316L / IP66/IP67

Cable entry / Cable gland / Plug connection

N ½NPT / without / without

Additional equipment

X Without



Length (from seal surface)

316/PTFE insulated (400-32000 mm) per 100 mm

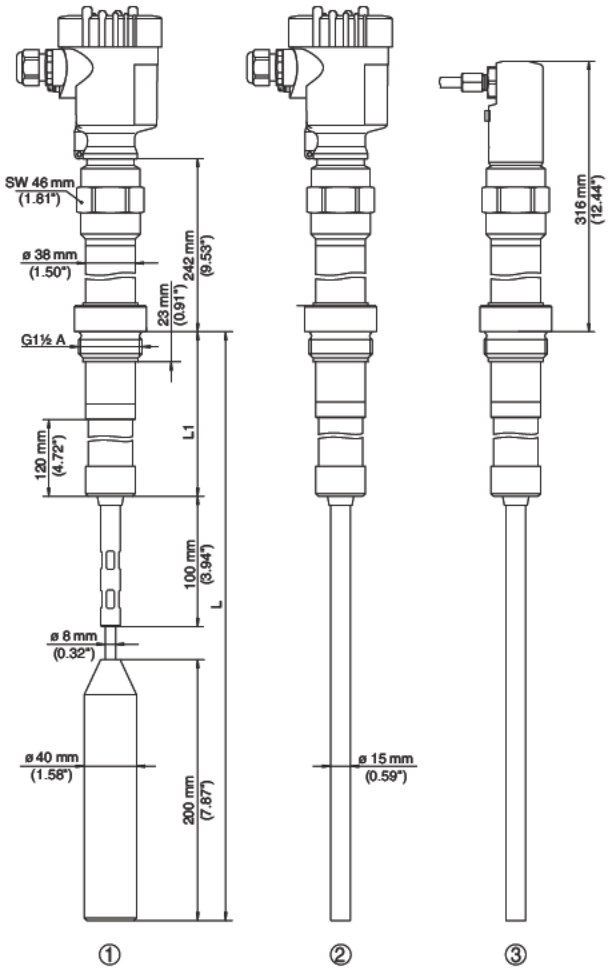
VEGACAP 67

Capacitive cable electrode for level detection

Application area
VEGACAP 67 is a level sensor for level detection in all areas of industry and is preferably used in bulk solids.

Advantages
Temperature resistant up to +400 °C
Service-proven, robust and maintenance-free
High reliability
Simple mounting and setup
Probe can be shortened

Function
Sensor and vessel form the two electrodes of a capacitor. A level change causes a capacitance change which is converted into a switching signal by the connected processing electronics.



1 Cable version 300 °C
2 Rod version 300 °C
3 Rod version 400 °C

You will find further process fittings and options under www.ohmartvega.com/configurator
You will find further drawings and tables under www.ohmartvega.com/downloads

Approval

XX without

Version / Process temperature

1 Ceramic-insulated rod probe / -50...300°C

3 Ceramic-insulated rod probe / -50...400°C

2 Ceramic-insulated cable probe / -50...300°C

4 Ceramic-insulated cable probe / -50...400°C

Process fitting / Material

ND Thread 1½NPT (ASME B1.20.1) PN16/316L

EA Flange 1½"300lb RF,ANSI B16.5/316L

HA Flange 2"150lb RF,ANSI B16.5/316L

IA Flange 2"300lb RF,ANSI B16.5/316L

KA Flange 2"600lb RF,ANSI B16.5/316L

OA Flange 3"150lb RF,ANSI B16.5/316L

PA Flange 3"300lb RF,ANSI B16.5/316L

2A Flange 3"600lb RF,ANSI B16.5/316L

SA Flange 4"150lb RF,ANSI B16.5/316L

UA Flange 4"300lb RF,ANSI B16.5/316L

WA Flange 6"150lb RF,ANSI B16.5/316L

Electronics

C Contactless electronic switch 20...253VAC/DC

R Relay (DPDT) 20...72VDC/20...250VAC (3A)

T Transistor (NPN/PNP) 10...55VDC

Z Two-wire for connection to VEGATOR

Housing / Protection

K Plastic / IP66/IP67

A Aluminium / IP66/IP68 (0.2 bar)

V Stainless steel (precision casting) 316L / IP66/IP67

8 StSt (electropolished) 316L / IP66/IP67

Cable entry / Cable gland / Plug connection

N ½NPT / without / without

Additional equipment

X Without

Length (from seal surface)

Rod 316L (275-6000 mm) per 100 mm

Cable 316L (500-40000 mm) per 100 mm