

Product information

Capacitive

Point Level detection

VEGAPOINT 11
VEGAPOINT 21
VEGAPOINT 23
VEGAPOINT 24
VEGAPOINT 31



Document ID: 62649

Contents

1 Measuring principle 3

2 Type overview 6

3 Instrument selection 7

4 Selection criteria 8

5 Mounting 9

6 Transistor output 11

7 Transistor output with IO-Link 12

8 Adjustment 13

9 Dimensions 14

Take note of safety instructions for Ex applications

Please note the Ex specific safety information that you can find at **www.vega.com** and that comes with each instrument. In hazardous areas you should take note of the corresponding regulations, conformity and type approval certificates of the sensors and power supply units. The sensors must only be operated on intrinsically safe circuits. The permissible electrical values are stated in the certificate.

62649-EN-260928

1 Measuring principle

Functional principle - VEGAPOINT 11, 21, 23, 31

An alternating electric field is generated at the tip of the measuring electrode. If the sensor is covered with medium, the capacitance of the sensor changes. This change is detected by the electronics and converted into a switching command.

Adhesions are compensated as far as possible and therefore have no influence on the measurement.

Area of application - VEGAPOINT 21, 23, 31

The VEGAPOINT is a capacitive sensor for point level detection

It is designed for industrial use in all areas of process technology and can be used in water-based liquids or in bulk solids.

Typical applications are overfill and dry run protection. With a the small sensor unit, VEGAPOINT can be also mounted e.g. in thin pipelines. The sensor allows use in vessels, tanks and pipes. Thanks to its simple and robust measuring system, VEGAPOINT is virtually unaffected by the chemical and physical properties of the medium.

It also works under difficult measuring conditions such as turbulence, air bubbles, strong external vibrations or changing media. In addition, the sensor can also detect foam.

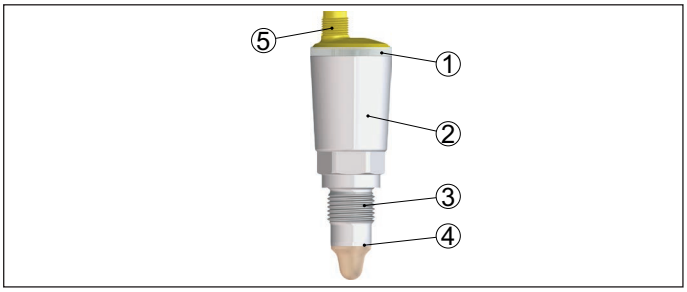


Fig. 1: VEGAPOINT 21, 31

1 LED illuminated ring
2 Instrument housing
3 Process fitting
4 Sensor
5 Plug connection

Functional principle - VEGAPOINT 24

The sensor simultaneously detects the capacitive and resistive part of the measuring signal. If the measuring tip is covered by medium, the sensor can distinguish between adherence and actual coverage. The type of chamnge is recognised by the intelligent measured value acquisition and transformed into a switching command.

Adhesions are compensated as far as possible and therefore have no influence on the measurement.

Area of application - VEGAPOINT 24

The VEGAPOINT is a combined capacitive and conductive sensor for point level detection.

It is designed for industrial applications and is particularly suitable for level detection with highly adhesive and/or pasty media or when front-flush installation is required.

The mechanical structure prevents abrasion effects.

Typical applications are overfill and dry run protection. With a the small sensor unit, VEGAPOINT can be also mounted e.g. in thin pipelines. The sensor allows use in vessels, tanks and pipes. Thanks to its simple and robust measuring system, VEGAPOINT is virtually unaffected by the chemical and physical properties of the medium.

It also works under difficult measuring conditions such as turbulence, air bubbles, strong external vibrations or changing media. In addition, the sensor can also detect foam.

Fault monitoring

The electronics module of VEGAPOINT continuously monitors the following criteria via frequency generation:

- Failure of the signal generation
- Line break to the sensor element

If a malfunction is detected or in case of voltage supply, the electronics takes on a defined switching status, i.e. the output is open (safe state).

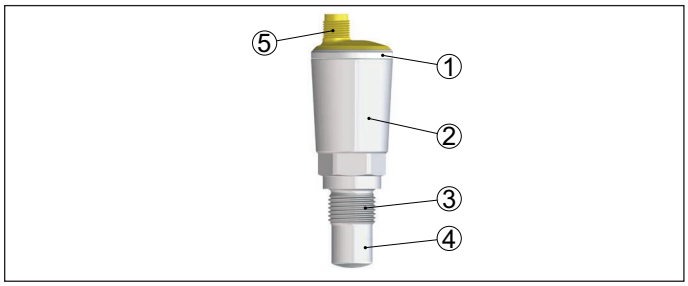


Fig. 2: VEGAPOINT 24

1 360° status indication
2 Instrument housing
3 Process fitting
4 Sensor
5 Plug connection

Fault monitoring

The electronics module of VEGAPOINT continuously monitors the following criteria via frequency generation:

- Failure of the signal generation
- Line break to the sensor element

If a malfunction is detected or in case of voltage supply, the electronics takes on a defined switching status, i.e. the output is open (safe state).

1.2 Application examples

Food industry - Bottle cleaning system

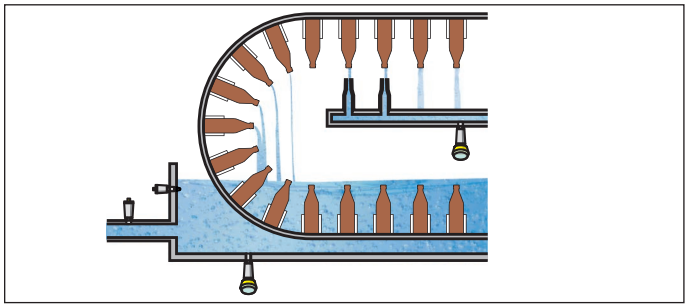


Fig. 3: Point Level detection in bottle cleaning system

Apart from the continuous level measurement, point level detection is an essential safety feature for the process industry. Many modern sensors for continuous level measurement are actually approved as overfill protection system, however, a second, physically different measuring system provides the best safety and redundance.

Thanks to their manifold application possibilities, VEGAPOINT level switches are ideal for all applications in the area of liquid detection. Different electrical and mechanical versions enable simple integration into existing control systems.

Advantages:

- Coloured 360° switching status display for easy recognition of switching status
- Point level detection also with buildup
- Various hygienic fittings available
- Highest chemical resistance even with parts that do not come into contact with the medium

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Chemical industry - Condensation vessel

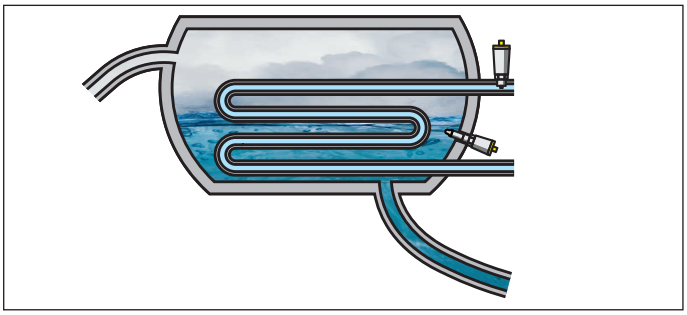


Fig. 4: Dry run protection in condensation vessel

In order to avoid overfilling or dry running of pumps, sensors for point level detection are an important safety element. The VEGAPOINT 21 point level switch is ideally suited for universal applications. Even temperatures up to +115 °C (+239 °F) and pressure ranges up to 25 bar (+363 psig) do not impair the safe function.

Due to the wide range of applications, the level switches VEGAPOINT are ideal for all measuring tasks in the field of stock-keeping of water-based liquids.

Advantages:

- High reliability
- Small mounting dimensions
- Reliable switching point with water and vapour
- Can also be used with oily and adhesive media after media adjustment

Bulk solids

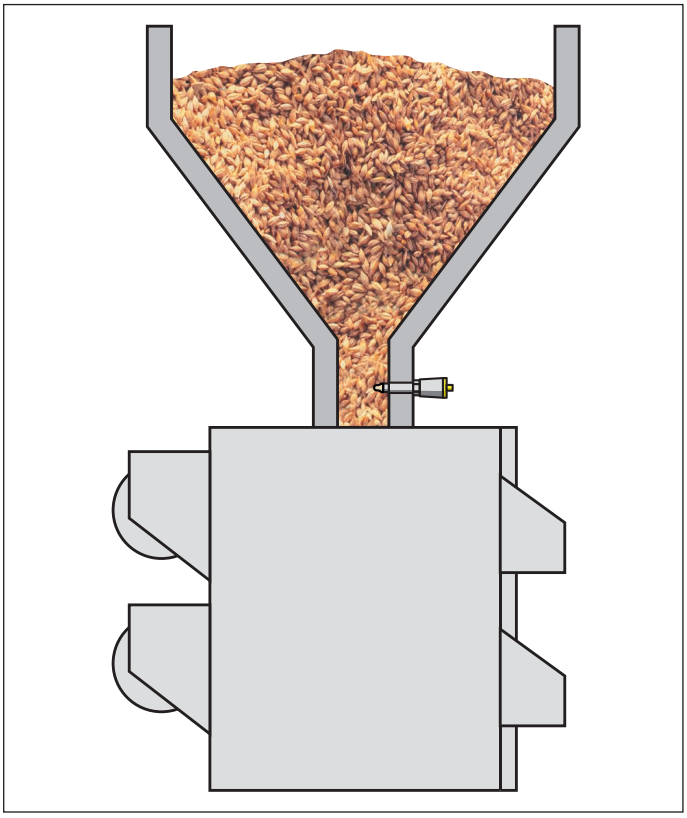


Fig. 5: Level switches in bulk solids storage

Many processes require bulk solids, granules and powdery substances.

The special level switch VEGAPOINT 31 is optimised for the special requirements in bulk solids. It also works, for example, with strong dust generation.

Advantages:

- Special level switch VEGAPOINT 31 for requirements in bulk solids
- Reliable point level detection even with dust generation
- Simple setup via Bluetooth adjustment

Pipelines

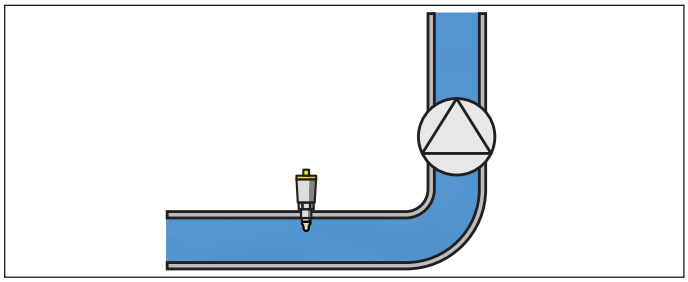


Fig. 6: Dry run protection in pipelines

In order, for example, to transport drinking water even to the remotest drinking water reservoir, pumping stations generate the required water pressure, which is constantly monitored by a pressure transmitter.

Since dry running usually leads to damage or failure of the pumps, a VEGAPOINT 21 level switch serves as dry run protection for the drinking water pumps.

Advantages:

- High plant availability, because wear and maintenance free
- Exact switching function independent of process condition
- Simple setup via Bluetooth adjustment

Food industry - additive mixing plant

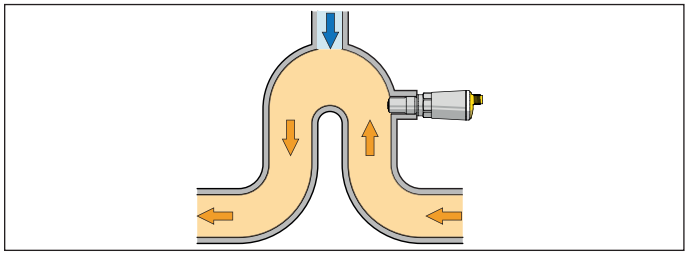


Fig. 7: Pipe monitoring in an additive mixing plant

Pasty mixing additives such as e. g. fruit concentrates or nougat cremes are often used in food processing plants which are fed into the mixing or filling plant under pressure.

The pipeline can be cleaned perfectly by the flat sensor.

Advantages:

- Front-flush installation
- Ideal for CIP cleaning
- Hygienic fittings available
- Mechanically robust

Food industry - cleaning pig

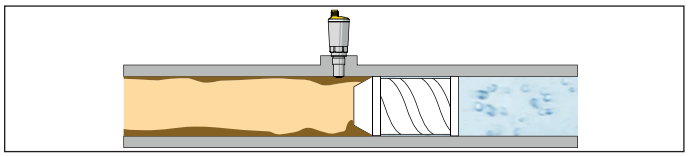


Fig. 8: Reliable pipe monitoring despite cleaning pig

Viscous or pasty filling materials are often pumped through pipelines in the food industry. In order to clean the pipes quickly and economically, so-called cleaning pigs are used which push the media out of the pipe with their sealing lips.

The flush front-mounted VEGAPOINT 24 is no obstruction to the cleaning pig. Neither the pig itself nor the cleaning fluid that follows it can harm the sensor.

Advantages:

- Front-flush installation
- Ideal for cleaning pigs

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- Hygienic fittings available
- Mechanically robust

Food industry - soft cheese filling

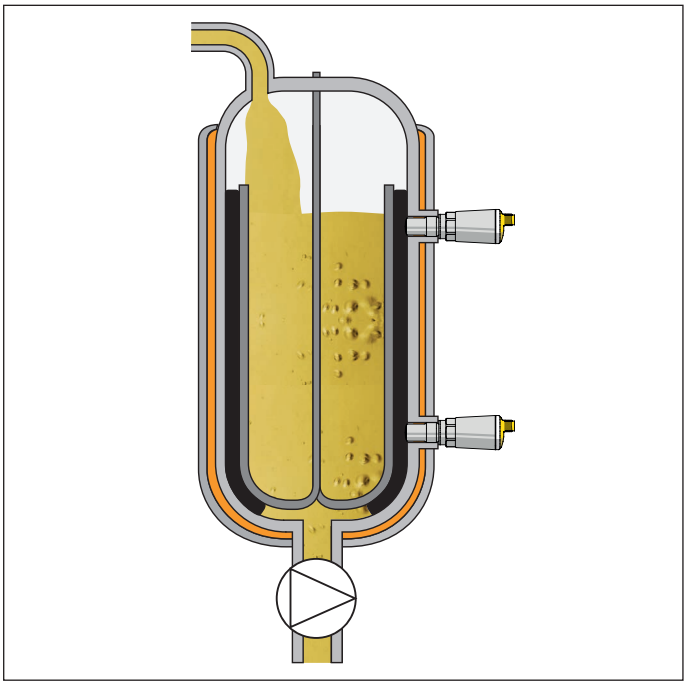


Fig. 9: Level measurement in heated tank with agitator

Cheese is stored in a heated tank for filling or dosing purposes. The liquid cheese is stirred continuously to prevent thickening or lumping.

The agitator has rubber lips over the whole wall length which scrape off the media and prevent caking and buildup on the vessel wall.

The VEGAPOINT 24 is front-flush, therefore no invasive sensor parts protrude into the vessel. The sealing lip thus remains undamaged.

Advantages:

- Permanently temperature-resistant up to +115 °C
- Front-flush installation
- No damage to the agitator

2 Type overview

VEGAPOINT 11	VEGAPOINT 21	VEGAPOINT 23	VEGAPOINT 24	VEGAPOINT 31
				

Applications	Point level detection in water-based liquids	Point level detection in water-based liquids	Point level detection in water-based liquids	Point level measurement in adhesive and sticky media	Point level detection in light bulk solids
Variant	Compact version	Compact version	Compact version with tube extension up to 1 m	Compact version	Compact version
Length	-	-	64 … 1000 mm (2.52 … 39.4 in)	-	-
Process fitting	Thread G½, G¾, G1 Thread M24 x 1.5 Thread ½ NPT, ¾ NPT, 1 NPT Hygienic adapter	Thread G½, G¾, G1 Thread M24 x 1.5 Thread ½ NPT, ¾ NPT, 1 NPT Clamp 1", 1½", 2" Collar socket Hygienic adapter	Thread G½, G¾, G1 Thread ½ NPT, ¾ NPT, 1 NPT Clamp 1", 1½", 2" Collar socket Hygienic adapter	Thread G½, G¾, G1 Thread M24 x 1.5 Clamp 1", 1½", 2" Collar socket Hygienic adapter	Thread G½, G¾, G1 Thread M24 x 1.5 Thread ½ NPT, ¾ NPT, 1 NPT Clamp 1", 1½", 2" Collar socket Hygienic adapter
Process temperature	-20 … +100 °C (-4 … +212 °F) +135 °C for 1 h	-40 … +115 °C (-40 … +239 °F) +135 °C for 1 h	Tube extension < 250 mm -40 … +115 °C (-40 … +239 °F) Tube extension ≥ 250 mm -40 … +80 °C (-40 … +239 °F) +135 °C for 1 h	-40 … +115 °C (-40 … +239 °F) +150 °C for 15 min +140 °C for 30 min +135 °C for 1 h	-40 … +115 °C (-40 … +239 °F) +135 °C for 1 h
Process pressure	-1 … 25 bar (-14.5 … 363 psig)	-1 … 25 bar (-14.5 … 363 psig)	-1 … 25 bar (-14.5 … 363 psig)	-1 … 25 bar (-14.5 … 363 psig)	-1 … 25 bar (-14.5 … 363 psig)
Signal output	Transistor with IO-Link	Transistor (PNP/NPN) Transistor with IO-Link	Transistor (PNP/NPN) Transistor with IO-Link	Transistor (PNP/NPN) Transistor with IO-Link	Transistor (PNP/NPN) Transistor with IO-Link
Bluetooth communication	-	Integrated	Integrated	Integrated	Integrated
Approvals	EG 1935/2004, FDA, ADI	ATEX, EG 1935/2004, FDA, 3A, EHEDG, ASME BPE, USP Class VI, ADI, China FDA, WHG, VLAR-EM, SVTI, ship approval	ATEX, EG 1935/2004, FDA, 3A, EHEDG, ASME BPE, USP Class VI, ADI, China FDA, WHG, VLAR-EM, SVTI, ship approval	ATEX, EG 1935/2004, FDA, 3A, EHEDG, ASME BPE, USP Class VI, ADI, China FDA, WHG, VLAR-EM, SVTI	ATEX, IEC, cCSAus, EG 1935/2004, FDA, EHEDG, ADI, FDA, ship approval

3 Instrument selection

VEGAPOINT 11

VEGAPOINT 11 is an ultra-compact, capacitive point level sensor with smallest installation dimensions.

It is suitable for the detection of water-based liquids.

The optional universal connection for hygienic adapters allows easy installation and meets the hygiene requirements of the food, beverage and pharmaceutical industries.

The small point level switch version has a compact stainless steel housing and is available in the electronic version transistor output with additional digital IO-Link communication.

VEGAPOINT 11 is adjustment free and has a clearly visible, coloured switching status indication that can be seen all around.

- From DK > 2
- From ½ thread
- Universal connection for hygienic adapter
- Transistor output with IO-Link
- M12 x 1 plug
- Hygienic approvals

VEGAPOINT 21

VEGAPOINT 21 is a capacitive point level sensor with small installation dimensions for the detection of water-based liquids.

VEGAPOINT 21 is largely independent of medium properties and therefore adjustment-free. It has a clearly visible, all-round coloured switching status indication.

The optional universal connection for hygienic adapters allows easy installation and meets the hygiene requirements of the food, beverage and pharmaceutical industries.

The small point level switch version has a compact stainless steel housing and is available in the electronic version transistor output or as transistor output with additional digital IO-Link communication.

The sensor can be operated wirelessly via Bluetooth using a tablet or smartphone with an app. This allows you to set the switching behaviour, the application and many other parameters as required.

- From DK > 1.5
- From ½ thread
- Universal connection for hygienic adapter
- Transistor output
- IO-Link output
- Wireless operation
- M12 x 1 plug
- Valve block according to ISO 4400
- Ex and hygienic approvals

VEGAPOINT 23

VEGAPOINT 23 is a capacitive point level sensor with selectable length for the measurement of water-based liquids.

The tube extension of the point level switch is available up to a length of 1 m (39.4 in).

VEGAPOINT 23 is largely independent of medium properties and therefore adjustment-free. It has a clearly visible, all-round coloured switching status indication.

The optional universal connection for hygienic adapters allows easy installation and meets the hygiene requirements of the food, beverage and pharmaceutical industries.

The small point level switch version has a compact stainless steel housing and is available in the electronic version transistor output or as transistor output with additional digital IO-Link communication.

The sensor can be operated wirelessly via Bluetooth using a tablet or smartphone with an app. This allows you to set the switching behaviour, the application and many other parameters as required.

- From DK > 1.5
- From ½ thread
- Universal connection for hygienic adapter
- Tube version up to 1 m (39.4 in) length
- Transistor output
- IO-Link output
- Wireless operation
- M12 x 1 plug
- Valve block according to ISO 4400
- Ex and hygienic approvals

VEGAPOINT 24

The VEGAPOINT 24 is a combined capacitive and conductive point level sensor with small installation dimensions. It is designed for industrial applications and is particularly suitable for detecting heavily adhering or sticky media or when front-flush mounting is required. The mechanical structure prevents abrasion effects.

It also works under difficult measuring conditions such as turbulence, air bubbles, strong external vibrations or changing media. In addition, the sensor can also detect foam.

VEGAPOINT 24 is largely independent of medium properties and therefore adjustment-free. It has a clearly visible, all-round coloured switching status indication.

The optional universal connection for hygienic adapters allows easy installation and meets the hygiene requirements of the food, beverage and pharmaceutical industries.

The small point level switch version has a compact stainless steel housing and is available in the electronic version transistor output or as transistor output with additional digital IO-Link communication.

The sensor can be operated wirelessly via Bluetooth using a tablet or smartphone with an app. This allows you to set the switching behaviour, the application and many other parameters as required.

- From DK > 1.5
- From ½ thread
- Universal connection for hygienic adapter
- Transistor output
- IO-Link output
- Wireless operation
- M12 x 1 plug
- Valve block according to ISO 4400
- Ex and hygienic approvals

VEGAPOINT 31

VEGAPOINT 31 is a capacitive point level sensor with small installation dimensions for the measurement of light bulk solids.

VEGAPOINT 31 is largely independent of medium properties and therefore adjustment-free. It has a clearly visible, all-round coloured switching status indication.

The optional universal connection for hygienic adapters allows easy installation and meets the hygiene requirements of the food, beverage and pharmaceutical industries.

The small point level switch version has a compact stainless steel housing and is available in the electronic version transistor output or as transistor output with additional digital IO-Link communication.

The sensor can be operated wirelessly via Bluetooth using a tablet or smartphone with an app. This allows you to set the switching behaviour, the application and many other parameters as required.

- Optimized for light bulk solids
- From ½ thread
- Universal connection for hygienic adapter
- Transistor output
- IO-Link output
- Wireless operation
- M12 x 1 plug
- Valve block according to ISO 4400
- Ex and hygienic approvals

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4 Selection criteria

Criteria	Feature	VEGAPOINT				
		11	21	23	24	31
Vessel	Compact probe	●	●	–	●	●
	Probe length max. 1 m	–	–	●	–	–
	Pipelines from DN 20	●	●	–	●	●
Visualization Diagnostics Interfaces	Adjustable colour signalling	–	●	●	●	●
	IO-Link	●	●	●	●	●
	Adjustment via the VEGA Tools app	–	●	●	●	●
Process fitting	Threaded fittings G/NPT	●	●	●	●	●
	Hygienic adapter	●	●	●	●	●
	Collar socket	–	●	●	●	–
	Clamp	–	●	●	●	●
Medium	Water-based media > 10 % water content Alcohols, acids, cleaning agents	●	●	●	●	○
	Water-based media < 10 % water content Mineral oils, edible oils	–	○	○	●	○
	Light-weight solids Coffee powder, instant coffee, flour, sugar, salt	–	○	○	○	●
	Adhesive, sticky media Honey, sugar molasses, cream	–	○	○	●	○

● = optimum suitability

○ = with media adjustment possible

– = not recommended / not possible

5 Mounting

Ambient conditions
The instrument is suitable for standard and extended ambient conditions acc. to DIN/EN/IEC/ANSI/ISA/UL/CSA 61010-1. It can be used indoors as well as outdoors.

Process conditions
Caution:

For safety reasons, the instrument must only be operated within the permissible process conditions. You can find detailed information on the process conditions in chapter "*Technical data*" of the operating instructions or on the type label.

Hence make sure before mounting that all parts of the instrument exposed to the process are suitable for the existing process conditions.

These are mainly:

- Active measuring component
- Process fitting
- Process seal

Process conditions in particular are:

- Process pressure
- Process temperature
- Chemical properties of the medium
- Abrasion and mechanical influences

Switching point
In general, VEGAPOINT can be installed in any position. The instrument must be mounted in such a way that the sensor is at the height of the requested switching point.

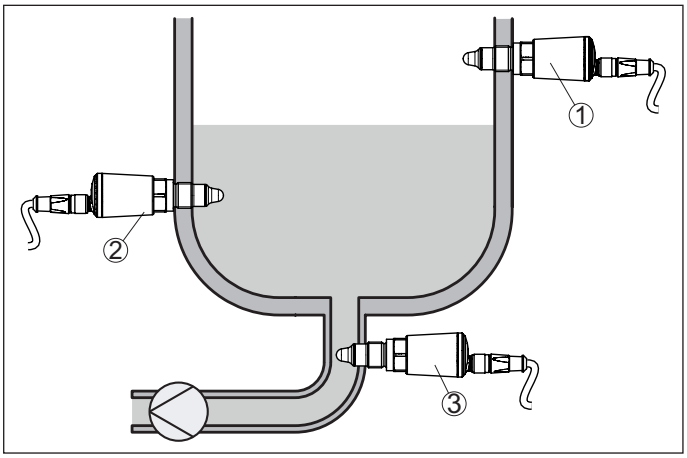


Fig. 10: Installation examples - VEGAPOINT 21

1 Upper level detection (max.) as overflow protection
2 Lower level detection (min.) as dry run protection
3 Dry run protection (min.) for a pump

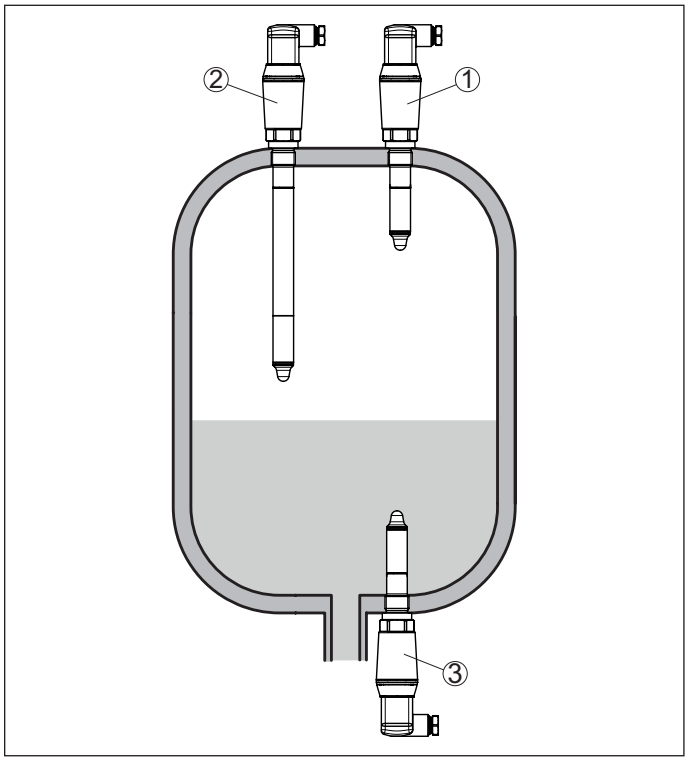


Fig. 11: Installation examples - VEGAPOINT 23

1 Upper level detection (max.) as overflow protection
2 Point level detection e.g. for a process switching point
3 Lower level detection (min.) as dry run protection

Note that the switching point varies depending on the type of medium and the mounting position of the sensor.

Adhesive products (VEGAPOINT 21, 24, 31)
In adhesive and viscous media, the surfaces of the sensor should protrude into the vessel to avoid buildup. Therefore mounting bosses should not exceed a certain length.

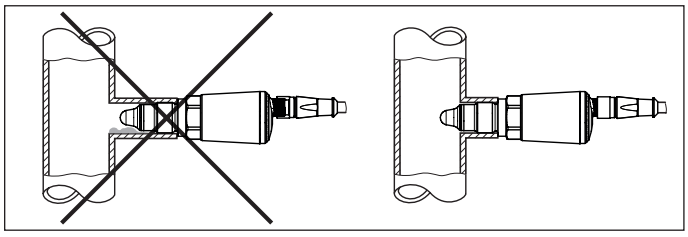


Fig. 12: Adhesive products

In horizontal pipelines, avoid mounting in the upper or lower area of the pipe.

In the upper part of the pipe cavities can form due to air inclusions.

Solids can settle in the lower pipe area. Both can lead to measurement errors.

In horizontal pipelines, lateral installation is therefore recommended.

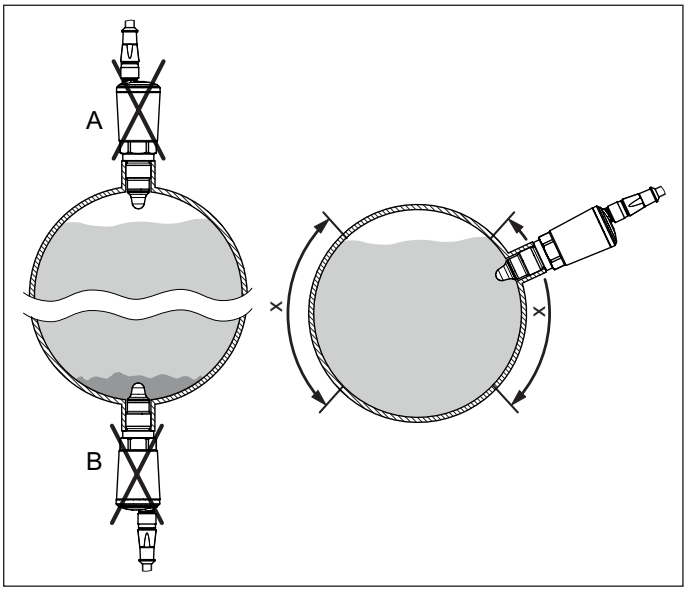


Fig. 13: Installation in horizontal pipelines

x Recommended mounting area
A Not recommended - danger of air inclusions
B Not recommended - Danger of buildup

Adhesive products (VEGAPOINT 23)
Solids can settle in the lower tank area.

With adhesive and viscous media, the sensor should protrude into the vessel.

In case of lateral installation, an instrument version with tube extension can prevent unwanted detection of these deposits.

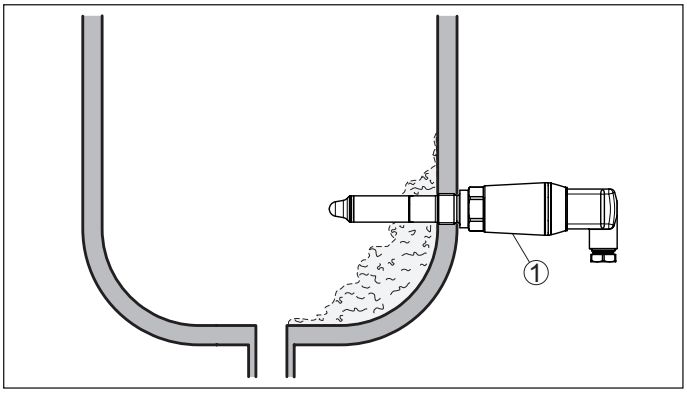


Fig. 14: Lateral installation - buildup

1 VEGAPOINT, laterally mounted

Inflowing medium
If VEGAPOINT is mounted in the filling stream, unwanted false measurement signals can be generated. For this reason, mount VEGAPOINT at a position in the vessel where no disturbances, e.g. from filling openings, agitators, etc., can occur.

Food applications (VEGAPOINT 24)
In food or pharmaceutical application in which an agitator scrapes the filling product from the vessel wall, you should install the sensor set back by 2 mm (0.08 in).

This protects the plastic scrapers of the agitator from being damaged.

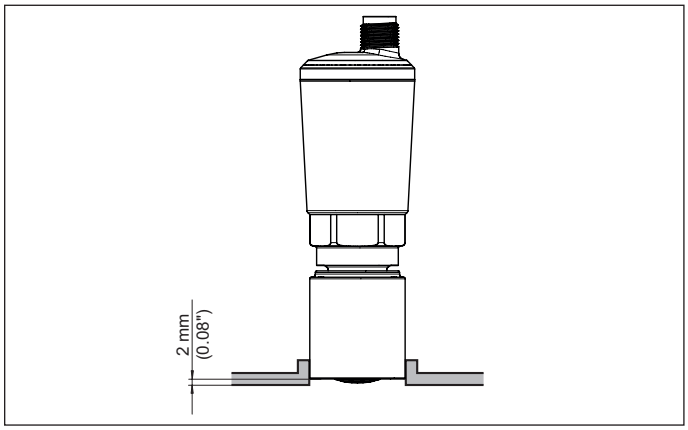


Fig. 15: VEGAPOINT 24 - 2 mm (0.08 in) reset in food application

6 Transistor output

Voltage supply

Note safety instructions
Always keep in mind the following safety instructions:

- Connect only in the complete absence of line voltage

Take note of safety instructions for Ex applications

In hazardous areas you should take note of the corresponding regulations, conformity and type approval certificates of the sensors and power supply units.

Voltage supply
Power the instrument via an energy-limited circuit (power max. 100 W) acc. to IEC 61010-1, e.g.:

- Class 2 power supply unit (acc. to UL1310)
- SELV power supply unit (safety extra-low voltage) with suitable internal or external limitation of the output current

Keep in mind the following additional factors that influence the operating voltage:

- Lower output voltage of the power supply unit under nominal load
- Influence of additional instruments in the circuit (see load values in chapter "*Technical data*")

Connection cable

Use cable with round cross section. Depending on the plug connection, you have to select the outer diameter of the cable respectively so that the seal effect of the cable gland is ensured.

The instrument is connected with standard four-wire cable. If electromagnetic interference is expected which is above the test values of EN 61326-1 for industrial areas, shielded cable should be used.

- Valve plug ISO 4400
- Valve plug ISO 4400 with hinged cover

Connection

Transistor output
We recommend connecting VEGAPOINT in such a way that the switching circuit is open when there is a level signal, line break or malfunction (safe state).

The instrument is used to control relays, contactors, magnet valves, warning lights, horns as well as PLC inputs.

For connection to binary inputs of a PLC.

VEGAPOINT 21, 23, 24, 31 - T

For connection to binary inputs of a PLC.

Valve plug ISO 4400

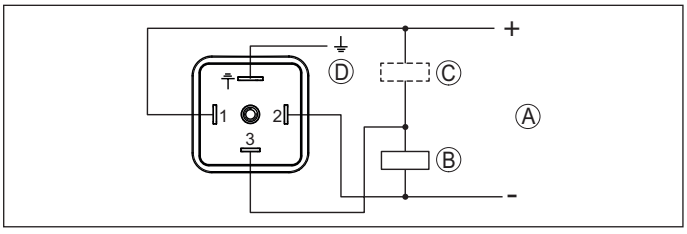


Fig. 16: Wiring plan connector ISO 4400 - transistor output three-wire

1 Voltage supply
2 PNP switching
3 NPN switching
4 PA - Potential equalisation

Contact, plug connector	Function/Polarity
1	Voltage supply/+
2	Voltage supply/-

Contact, plug connector	Function/Polarity
3	Transistor output
4	PA - Potential equalisation

7 Transistor output with IO-Link

Voltage supply

You can find the data for voltage supply in chapter "*Technical data*".

Power the instrument via an energy-limited circuit (power max. 100 W) acc. to IEC 61010-1, e.g.:

- Class 2 power supply unit (acc. to UL1310)
- SELV power supply unit (safety extra-low voltage) with suitable internal or external limitation of the output current

Keep in mind the following additional factors that influence the operating voltage:

- Lower output voltage of the power supply unit under nominal load
- Influence of additional instruments in the circuit (see load values in chapter "*Technical data*")

Connection cable

The instrument is connected with standard four-wire cable. If electromagnetic interference is expected which is above the test values of EN 61326-1 for industrial areas, shielded cable should be used.

- M12 x 1 plug

Connection

Transistor output with IO-Link

VEGAPOINT 11, 21, 23, 24, 31

For connection to binary inputs of a PLC.

M12 x 1 plug

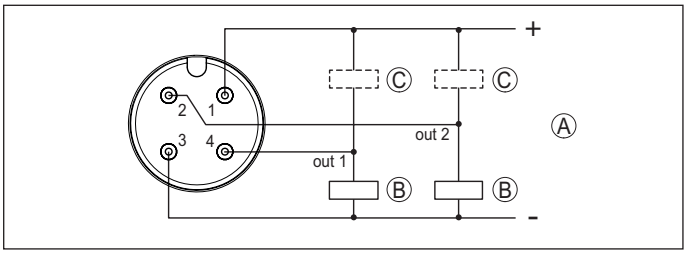


Fig. 17: Wiring plan M12 x 1 plug - Transistor output, three-wire

A Voltage supply
B PNP switching (active by default)
C NPN switching (adjustable via IO-Link)

Contact, plug connector	Function/Polarity
1	Voltage supply/+
2	Transistor output 2
3	Voltage supply/-
4	Transistor output 1/IO-Link

8 Adjustment

8.1 VEGAPOINT 11

The switching status of VEGAPOINT can be checked from outside (signal lamp).

8.2 VEGAPOINT 21, 23, 24, 31

On-site adjustment
The switching status of VEGAPOINT can be checked from outside (LED illuminated ring).

Wireless operation
The optionally integrated Bluetooth module enables in addition a wireless adjustment of VEGAPOINT. This is done via standard operating devices:

- Smartphone/tablet (iOS or Android operating system)
- PC/notebook with Bluetooth LE or Bluetooth USB adapter (Windows operating system)

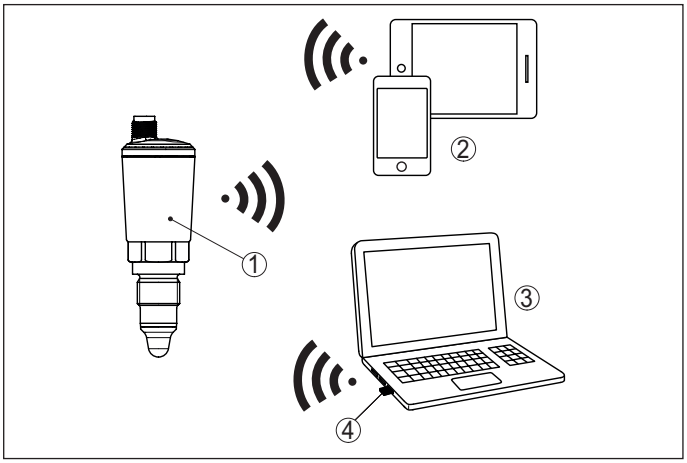


Fig. 18: Wireless connection to standard adjustment devices with integrated Bluetooth LE or alternatively Bluetooth USB adapter.

1 Sensor
2 Smartphone/Tablet
3 PC/Notebook
4 Bluetooth USB adapter

With the operating app you can change the parameters of the sensor and retrieve detailed diagnostic information.

These include, among other things:

- Switching function
- Application
- Switching outputs
- Switching and reset delay
- Display colour and brightness of the illuminated ring
- Units
- Simulation
- Sensor information
- Peak values
- Device status

9 Dimensions

VEGAPOINT 11, standard version - thread

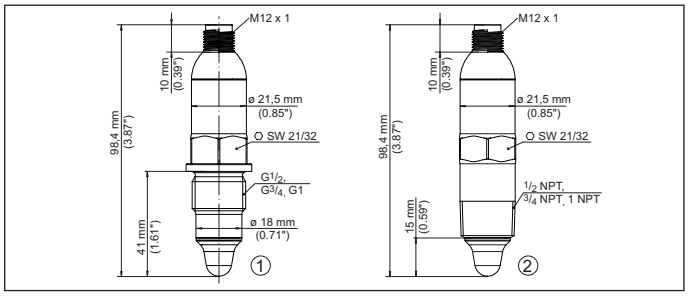


Fig. 19: VEGAPOINT 11, standard version - thread

1 Thread G½, G¾, G1 (DIN ISO 228/1) with M12 x 1 plug connection
2 Thread ½ NPT, ¾ NPT, 1 NPT with M12 x 1 plug connection

VEGAPOINT 11, hygienic version - thread

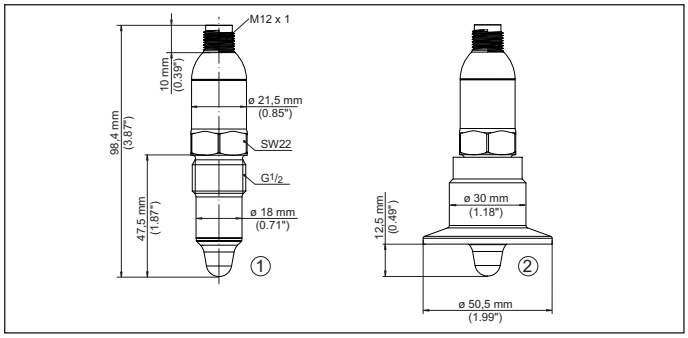


Fig. 20: VEGAPOINT 11, hygienic version - thread

1 Thread G½ for hygienic threaded adapter (DIN ISO 228/1) with M12 x 1 plug connection
2 VEGAPOINT, hygienic version in threaded adapter, Clamp

VEGAPOINT 21, standard version - thread

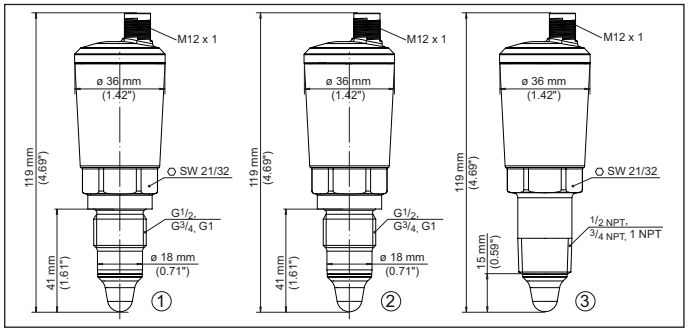


Fig. 21: VEGAPOINT 21, standard version - thread with M12 x 1 plug

1 Thread G½, G¾, G1 (DIN ISO 228/1) with M12 x 1 plug connection
2 Thread G½, G¾, G1 (DIN ISO 228/1), all-metal housing with M12 x 1 plug connection
3 Thread ½ NPT, ¾ NPT, 1 NPT with M12 x 1 plug connection

VEGAPOINT 21, hygienic version - thread

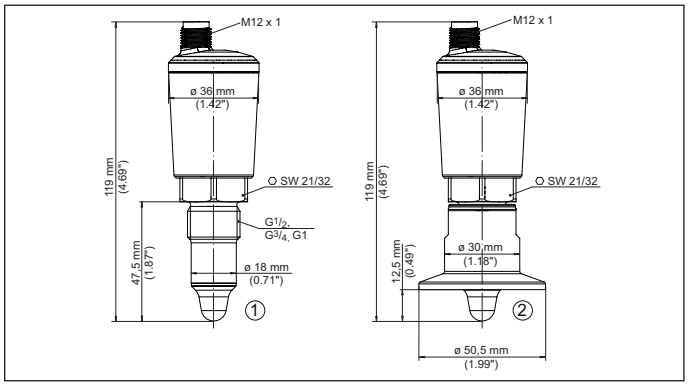


Fig. 22: VEGAPOINT 21, hygienic version - thread with M12 x 1 plug

1 Thread G½, G¾, G1 for hygienic threaded adapter (DIN ISO 228/1) with M12 x 1 plug connection
2 VEGAPOINT, hygienic version in threaded adapter, Clamp

VEGAPOINT 23, standard version - thread

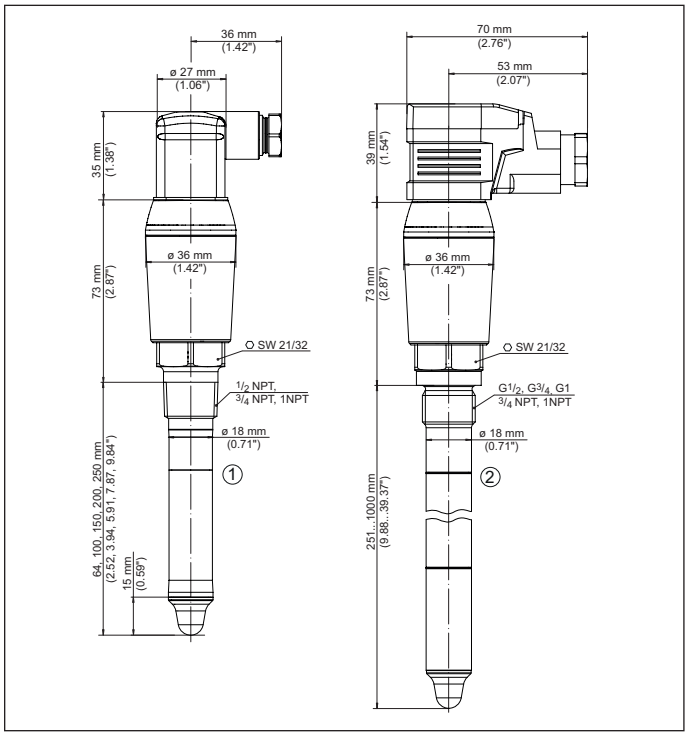


Fig. 23: VEGAPOINT 23, standard version - thread with valve plugs acc. to ISO 4400

1 Thread ½ NPT, ¾ NPT, 1 NPT with ISO 4400 valve plug
2 Thread G½, G¾, G1 (DIN ISO 228/1) or thread ½ NPT, ¾ NPT, 1 NPT, with ISO 4400 valve plug with hinged cover

VEGAPOINT 24, standard version - thread

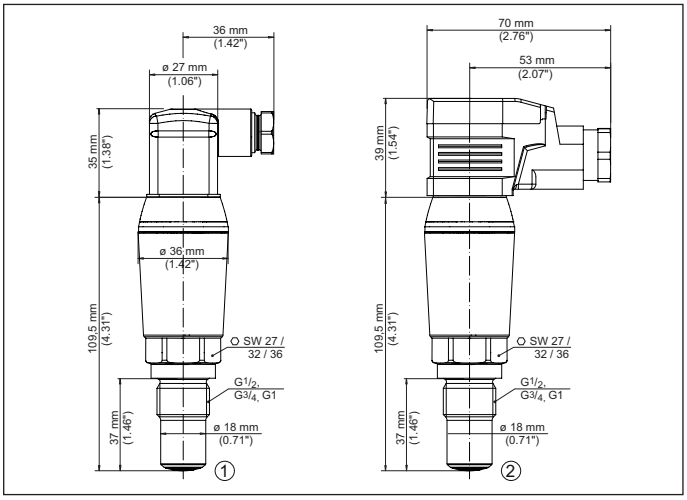


Fig. 24: VEGAPOINT 24, standard version - thread with valve plugs acc. to ISO 4400

1 Thread G½, G¾, G1 (DIN ISO 228/1) with ISO 4400 valve plug
2 Thread G½, G¾, G1 (DIN ISO 228/1) with ISO 4400 valve plug with hinged lid

VEGAPOINT 24, hygienic version - thread

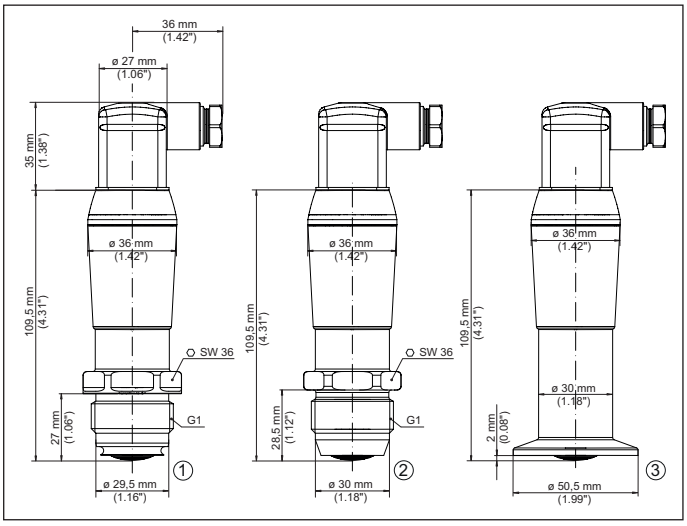


Fig. 25: VEGAPOINT 24, hygienic version - thread with ISO 4400 plug

1 Thread G1 for hygienic threaded adapter (DIN ISO 228/1) with ISO 4400 plug connection
2 Thread G1 with 40° cone for hygienic threaded adapter, metallic sealing, with ISO 4400 plug connection
3 VEGAPOINT, hygienic version in threaded adapter, Clamp

VEGAPOINT 31, standard version - thread

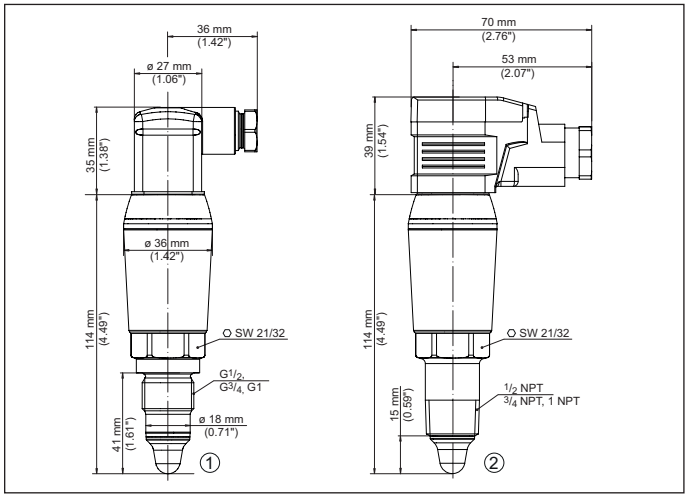


Fig. 26: VEGAPOINT 31, standard version - thread with valve plugs acc. to ISO 4400

1 Thread G½, G¾, G1 (DIN ISO 228/1) with ISO 4400 valve plug
2 Tread ½ NPT, ¾ NPT, 1 NPT with ISO 4400 valve plug with hinged cover

VEGAPOINT 31, hygienic version - thread

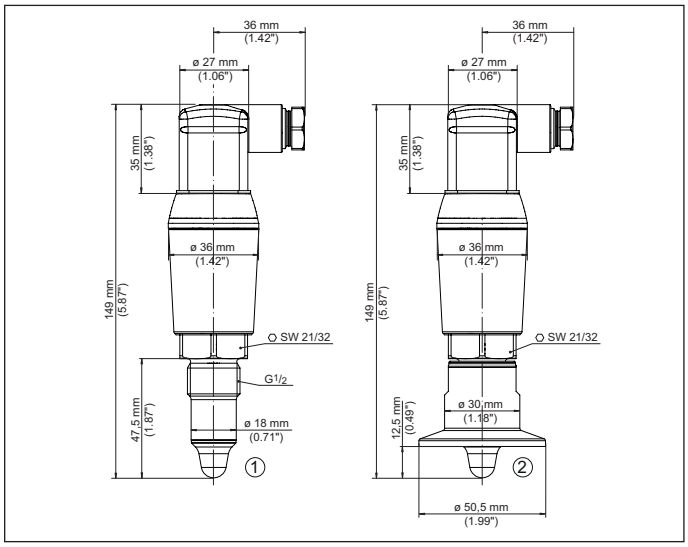


Fig. 27: VEGAPOINT 31, hygienic version - thread with ISO 4400 plug

1 Thread G½ for hygienic threaded adapter (DIN ISO 228/1) with ISO 4400 plug connection
2 VEGAPOINT, hygienic version in threaded adapter, Clamp



All statements concerning scope of delivery, application, practical use and operating conditions of the sensors and processing systems correspond to the information available at the time of printing.
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