Supplementary instructions

Mounting strap

For radar sensors VEGAPULS series 10, 20, 30, Air 40 and other VEGA sensors

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VEGA

Contents

Safety instructions for Ex areas

Please note the Ex-specific safety information for installation and operation in Ex areas. These safety instructions are part of the operating instructions and come with the Ex-approved instruments.

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1 About this document

1.1 Function

This supplementary instructions manual is valid in conjunction with the operating instructions of the instrument. It gives you all necessary information for a quick setup and safe operation of the instrument with accessory. Therefore read both instructions manuals before you start setup.

1.2 Target group

This operating instructions manual is directed to trained personnel. The contents of this manual must be made available to the qualified personnel and implemented.

1.3 Symbols used

Document ID
This symbol on the front page of this instruction refers to the Document ID. By entering the Document ID on www.vega.com you will reach the document download.

Information, note, tip: This symbol indicates helpful additional information and tips for successful work.

Note: This symbol indicates notes to prevent failures, malfunctions, damage to devices or plants.

Caution: Non-observance of the information marked with this symbol may result in personal injury.

Warning: Non-observance of the information marked with this symbol may result in serious or fatal personal injury.

Danger: Non-observance of the information marked with this symbol results in serious or fatal personal injury.

Ex applications
This symbol indicates special instructions for Ex applications.

● **List**
The dot set in front indicates a list with no implied sequence.

→ **Action**
This arrow indicates a single action.

1 **Sequence of actions**
Numbers set in front indicate successive steps in a procedure.

Battery disposal
This symbol indicates special information about the disposal of batteries and accumulators.

2 For your safety

2.1 Authorised personnel

All operations described in this operating instructions manual must be carried out only by trained qualified personnel authorised by the plant operator.

During work on and with the device, the required personal protective equipment must always be worn.

2.2 Appropriate use

The mounting straps are used for mounting VEGAPULS series 10, 20, 30, VEGAPULS Air 40 radar sensors as well as further VEGA sensors on the respective measuring point.

2.3 Warning about incorrect use

Inappropriate or incorrect use of the instrument can give rise to application-specific hazards, e.g. vessel overfill or damage to system components through incorrect mounting or adjustment.

2.4 General safety instructions

The safety information in the operating instructions manual of the respective device must be noted.

2.5 Environmental instructions

Protection of the environment is one of our most important duties. That is why we have introduced an environment management system with the goal of continuously improving company environmental protection. The environment management system is certified according to DIN EN ISO 14001.

Please help us fulfil this obligation by observing the environmental instructions in this manual:

- Chapter " *Storage and transport*"
- Chapter " *Disposal*"

3   Product description

3.1   Configuration

Scope of delivery

The scope of delivery encompasses:

● Mounting strap
● Fixing material:
  – 4 pieces hexagon screws ø6 x 40 mm
  – 4 washers
  – 4 pieces straddling dowel ø8 x 40 mm
  – Counter nut G1½" (with mounting strap with sensor holder 1½")
● Self-adhesive drilling template

● Information sheet " *Documents*" with:
  – QR code with link to device documentation for direct scanning

Types

The mounting brackets are available in different designs:

● For cable holder
● For ceiling mounting
● For wall mounting

The sensor holders of the mounting brackets are intended for sensors with mounting thread G1 or G1½.

3.2   Area of application

Cable holder

This mounting strap is used as cable holder of:
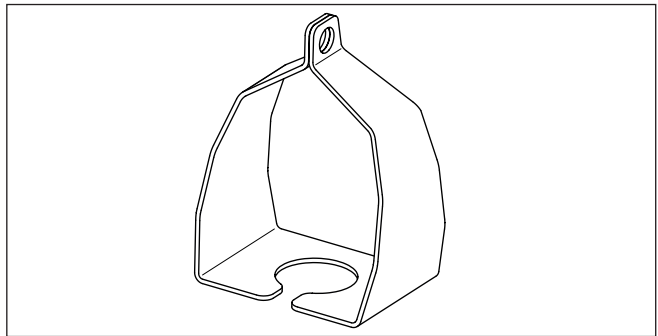
● VEGAPULS C 11, C 21, C 23

Fig. 1: Mounting strap as cable holder

Ceil mounting

These mounting straps are used for ceiling mounting of:

● VEGAPULS C 11, C 21, C 23 (sensor holder 1")
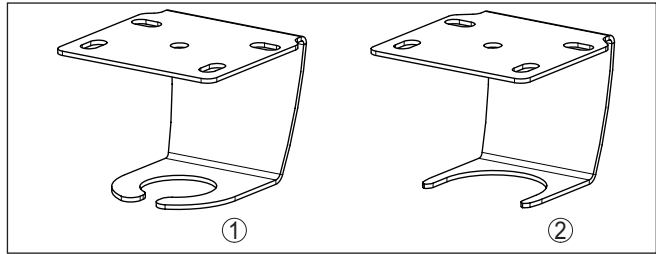● VEGAPULS C 22 (sensor holder 1½")

Fig. 2: Mounting strap for ceiling mounting

1   Sensor holder 1"
2   Sensor holder 1½"

Wall mounting swivelling, rigid

These mounting straps are used for wall mounting of:
- VEGAPULS C 11, C 21, C 22, C 23 (sensor holder 1")
- VEGAPULS 11, 21, 31, VEGAPULS Air 41 (sensor holder 1½")
- Further VEGA sensors with mounting thread G1½
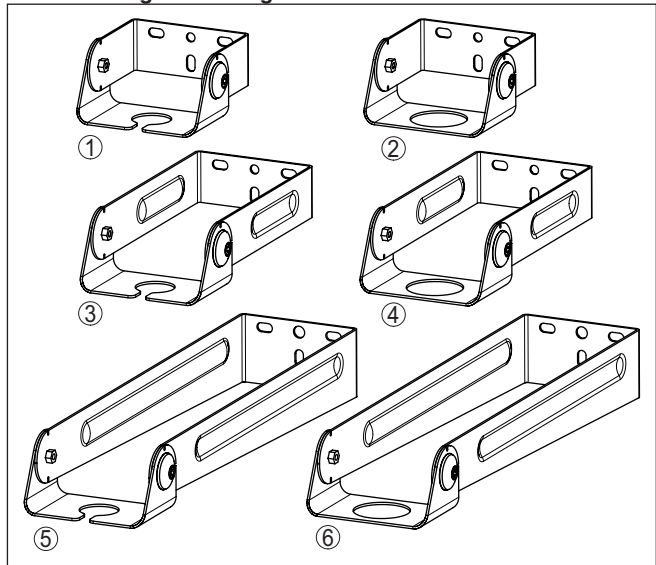
Wall mounting - swivelling

Fig. 3: Mounting strap for wall mounting - swivelling

1   L = 80 mm, sensor holder 1"
2   L = 80 mm, sensor holder 1½"
3   L = 200 mm, sensor holder 1"
4   L = 200 mm, sensor holder 1½"
5   L = 400 mm, sensor holder 1"
6   L = 400 mm, sensor holder 1½"

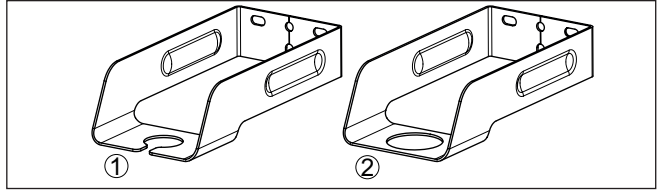**VEGA**

Wall mounting - rigid

Fig. 4: Mounting strap for wall mounting - rigid

1   Sensor holder 1"
2   Sensor holder 1½"

Wall mounting turnable, extendable, foldable

These mounting straps are used for wall mounting of:

● VEGAPULS C 11, C 21, C 22, C 23 (sensor holder 1")
● VEGAPULS 11, 21, 31, VEGAPULS Air 41 (sensor holder 1½")
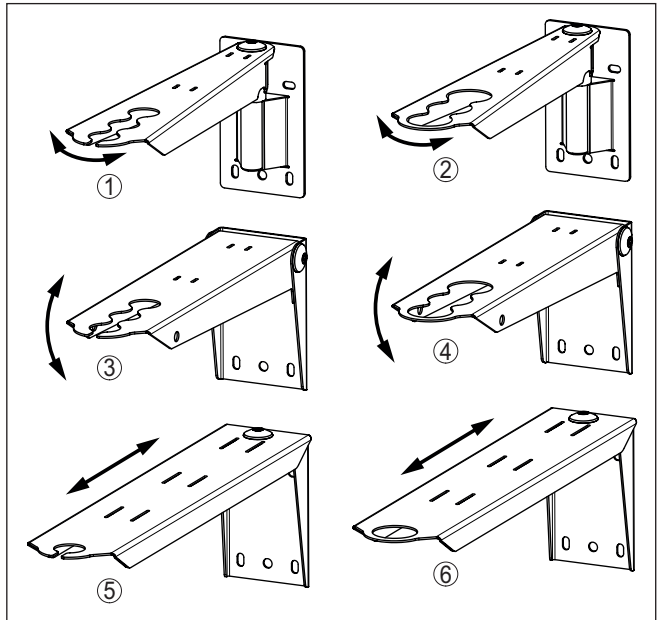● Further VEGA sensors with mounting thread G1½

Fig. 5: Mounting strap for wall mounting - turnable, extendable, foldable

1   Turnable, sensor holder 1"
2   Turnable, sensor holder 1½"
3   Foldable, sensor holder 1"
4   Foldable, sensor holder 1½"
5   Extendable, sensor holder 1"
6   Extendable, sensor holder 1½"

4 Mounting

4.1 Mounting preparations

The following tool is required for mounting:

- Wrench (size 10) for the hexagon screws
- Wrench (size 41) for counter nut 1"
- Wrench (size 60) for counter nut 1½"
- Allen key size 5 for the moving parts

4.2 Cable holder

Proceed as follows:

- Select a cable with sufficient load capacity for the weight of the bracket, sensor and connection cable
- Ensure suitability for the operating conditions
- Secure the cable, e.g. with a suitable snap hook in the opening of the cable holder

Fig. 6: Mounting strap as cable holder

4.3 Ceil mounting

Sensor holder for G1

Proceed as follows:

- Screw the mounting bracket to the ceiling
- Lead the connection cable or mounting thread of the sensor through the opening
- Tighten lock nut, torque see operating instructions of the respective sensor

Fig. 7: Mounting strap for ceiling mounting - Sensor reception for G1
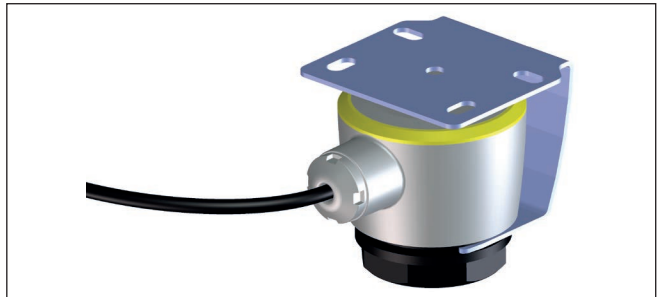
Sensor holder for G1½

Fig. 8: Mounting strap for ceiling mounting - Sensor reception for G1½

4.4 Wall mounting - rigid, swivelling

Proceed as follows:

● Screw the mounting bracket to the wall
● Lead the connection cable or mounting thread of the sensor through the opening
● Tighten lock nut, torque see operating instructions of the respective sensor
● Align the sensor, tighten the hexagon socket screws, for swivel range and torque see chapter " *Technical data*" of this manual
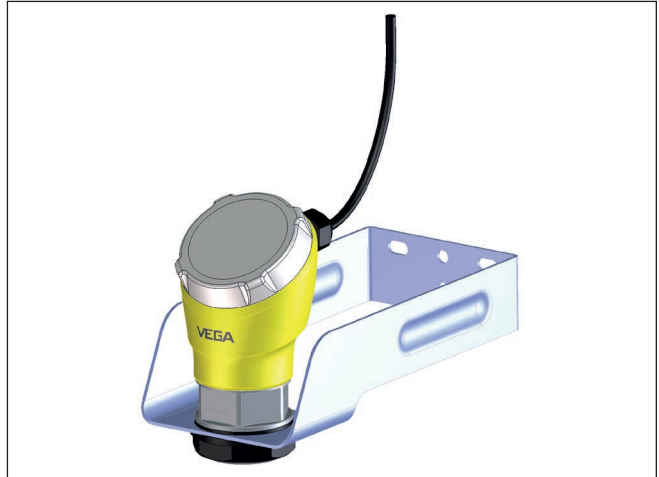
Rigid

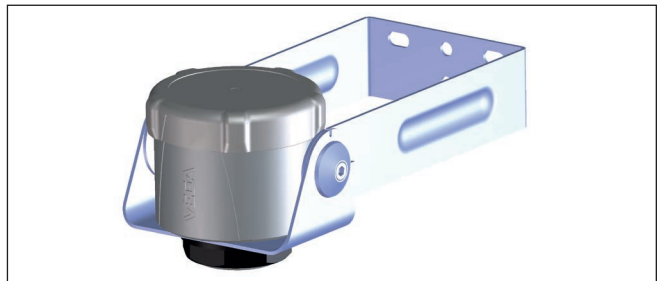*Fig. 9: Mounting strap for rigid wall mounting*

Swivelling

Fig. 10: Mounting strap for swivelling wall mounting

4.5 Wall mounting - turnable, extendable, foldable

Proceed as follows:

- Screw the mounting bracket to the wall
- Lead the connection cable or mounting thread of the sensor through the opening
- Tighten lock nut, torque see operating instructions of the respective sensor
- Align sensor, tighten hexagon socket screws, for movement areas and torque see chapter " *Technical data*" or " *Dimensions*" of this manual
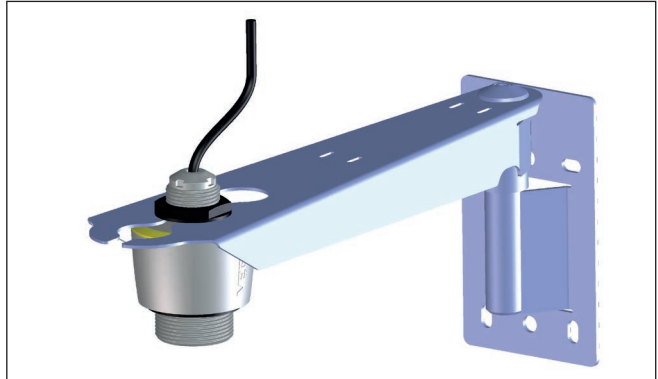
Turnable

Fig. 11: Mounting strap for rotatable wall mounting

⚠️ **Caution:**
The swivel range of this mounting bracket represents a hazardous area, e.g. due to impact or squeezing. To avoid this, do not reach into the swivel joint and do not work next to the mounting bracket or secure the intended position by tightening the hexagon socket screw.
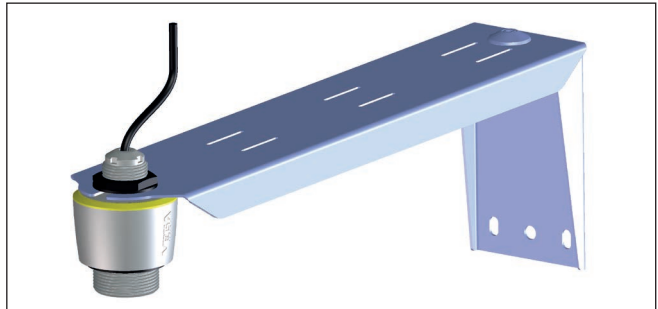
Extendable

Fig. 12: Mounting strap for extendable wall mounting

⚠️ **Caution:**
When extending this mounting bracket, there is a risk of jamming in the guide rails. To avoid this, do not reach into the guide rails or secure the intended position by tightening the hexagon socket screw.
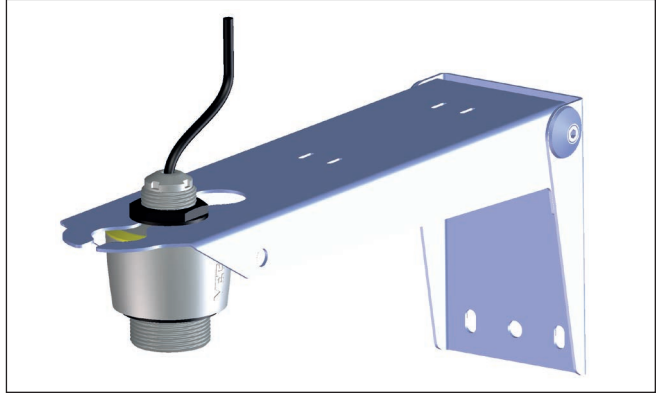
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Foldable

Fig. 13: Mounting strap for foldable wall mounting

⚠ **Caution:**
The folding range of this mounting bracket represents a hazardous area, e.g. due to impact or squeezing. To avoid this, do not reach into the folding joint and do not work below the mounting bracket or secure the intended position by tightening the hexagon socket screws.

4.6 Tube mounting

Proceed as follows:

● Screw the pipe clamps to the pipe at a suitable distance
● Screw mounting bracket to pipe clamps
● Lead the connection cable or mounting thread of the sensor through the opening
● Tighten lock nut, torque see operating instructions of the respective sensor
● Align the sensor, tighten the hexagon socket screws, for torque see chapter " *Technical data*" of this manual
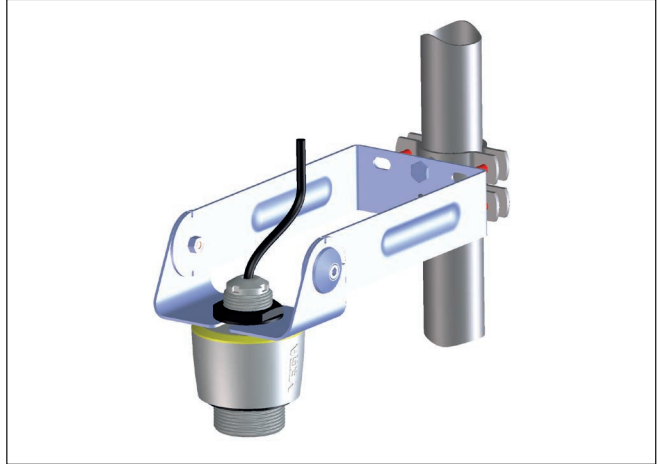
Pipe mounting vertical

Fig. 14: Mounting bracket for pipe mounting vertically over pipe clamps provided by customer

Horizontal pipe mounting

Fig. 15: Mounting bracket for pipe mounting horizontally over pipe clamps provided by customer

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5 Technical data

Materials and weights

Material mounting strap	316L
Material fixing screws	StSt
Weight mounting strap, depending on version	0.5 … 0.7 kg (1.102 … 1.543 lbs)

Movement areas

Wall mounting swivelling	
– Angle to the front	90°
– Angle to the rear	15°
Wall mounting rotatable	
– Angle to the left	85°
– Angle to the right	85°

Torques

Max. torque	
– Hexagon socket screws, swivelling brackets	5 Nm (3.688 lbf ft)
– Hexagon socket screws, rotatable, hinged and extendable brackets	8 Nm (5.900 lbf ft)
– Hexagonal screws (depending on ceiling or wall properties)	5 Nm (3.688 lbf ft)

Mechanical environmental conditions

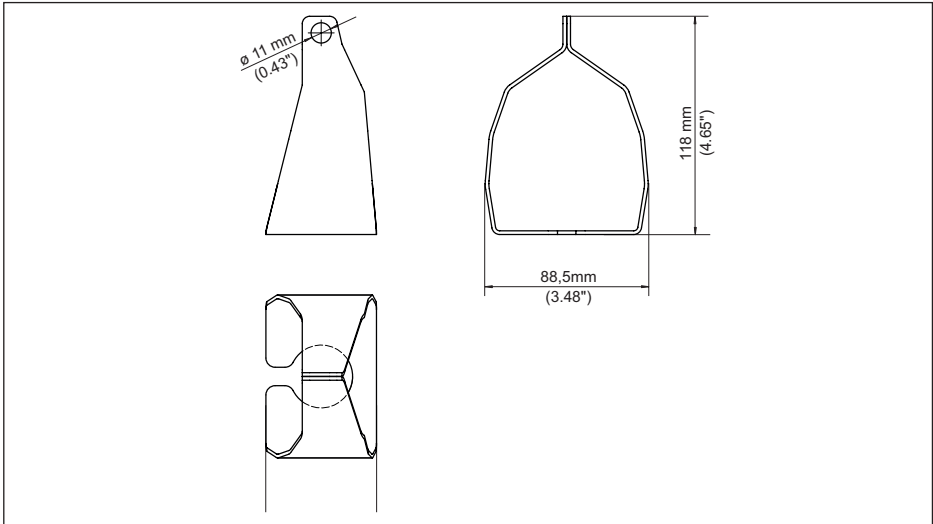|	
Max. static load capacity	
– Ceil mounting	5 kg (11.02 lbs)
– Wall mounting 80 mm	20 kg (44.09 lbs)
– Wall mounting 200 mm	10 kg (22.05 lbs)
– Wall mounting 400 mm	5 kg (11.02 lbs)
Sinusoidal vibrations	Class 4M5 acc. to IEC 60271-3-4
Impacts	50 g, 2.3 ms acc. to IEC 60271-3-6 (mechanical shock)

6   Dimensions

6.1.1 Cable holder

Fig. 16: Mounting strap for cable holder
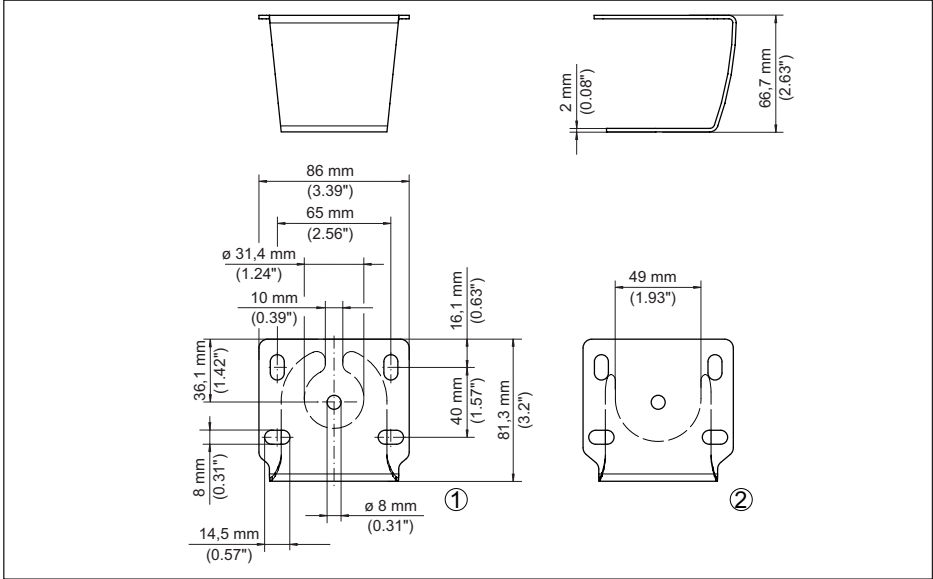
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6.1.2 Ceil mounting

Fig. 17: Mounting strap for ceiling mounting

1   Sensor holder 1"
2   Sensor holder 1½"

6.1.3 Wall mounting

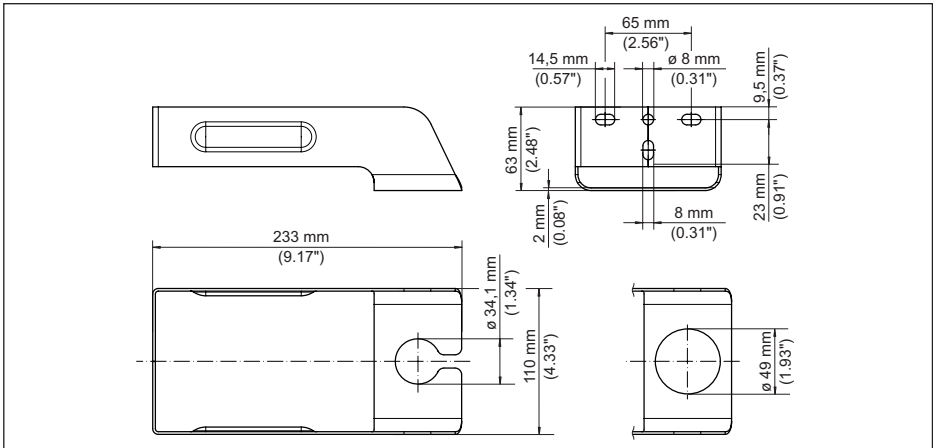**Mounting strap for wall mounting, rigid**

Fig. 18: Mounting strap for wall mounting, rigid - bracket 200 mm

1   Sensor holder 1"
2   Sensor holder 1½"

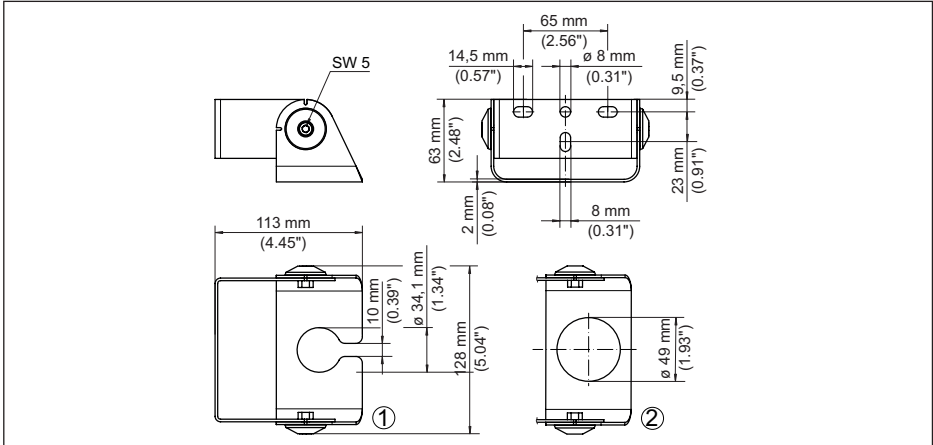**Mounting strap for wall mounting, swivelling - bracket 80 mm**

Fig. 19: Mounting strap for wall mounting, swivelling - bracket 80 mm

1   *Sensor holder 1"*
2   *Sensor holder 1½"*

Mounting strap for wall mounting, swivelling - bracket 200 mm

Fig. 20: Mounting strap for wall mounting, swivelling - bracket 200 mm

1   *Sensor holder 1"*
2   *Sensor holder 1½"*

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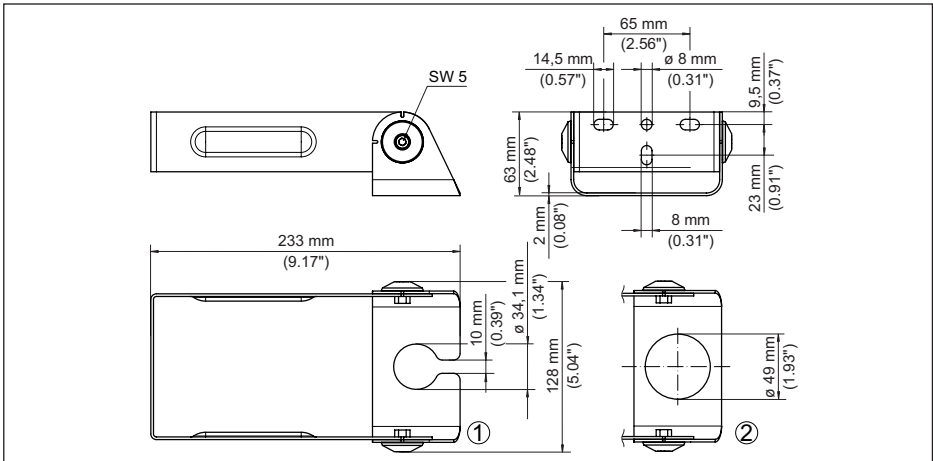**Mounting strap for wall mounting, swivelling - bracket 400 mm**

Fig. 21: Mounting strap for wall mounting, swivelling - bracket 400 mm

1 Sensor holder 1"
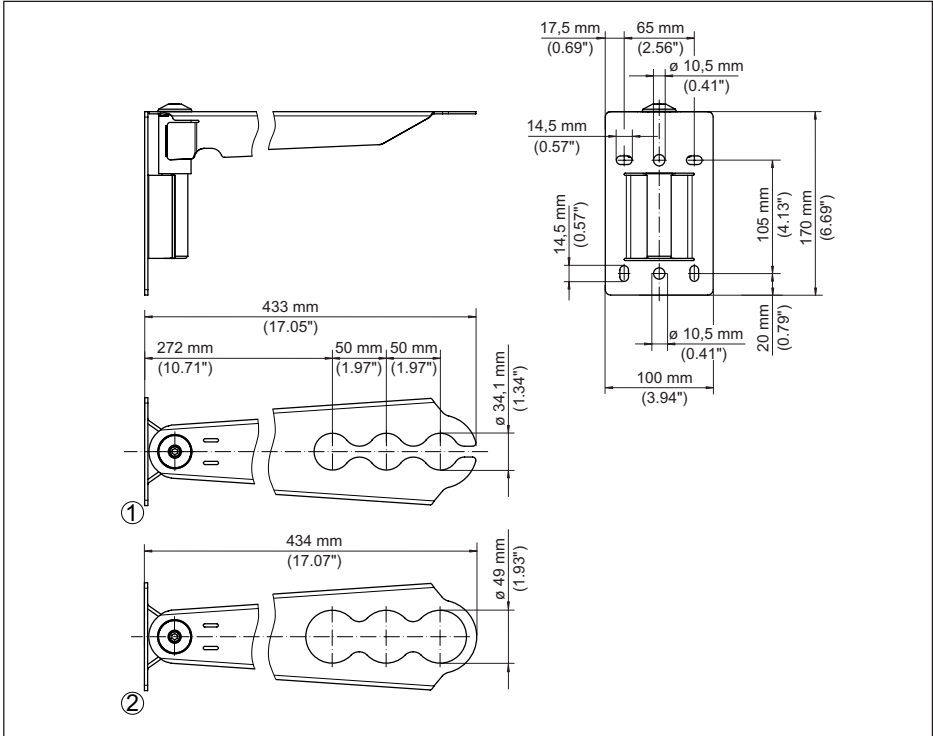2 Sensor holder 1½"

Mounting strap for wall mounting, turnable

Fig. 22: Mounting strap for wall mounting, turnable

1   Sensor holder 1"
2   Sensor holder 1½"

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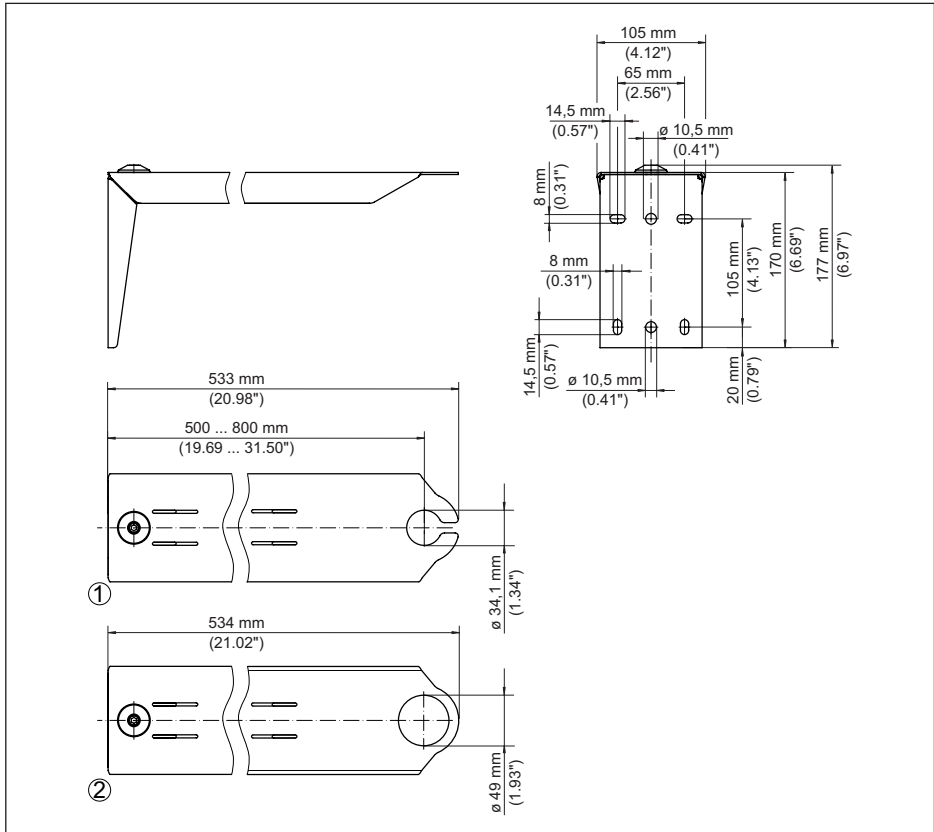## Mounting strap for wall mounting, extendable

Fig. 23: Mounting strap for wall mounting, extendable

1   Sensor holder 1"
2   Sensor holder 1½"

Mounting strap for wall mounting, foldable

Fig. 24: Mounting strap for wall mounting, foldable

1   *Sensor holder 1"*
2   *Sensor holder 1½"*

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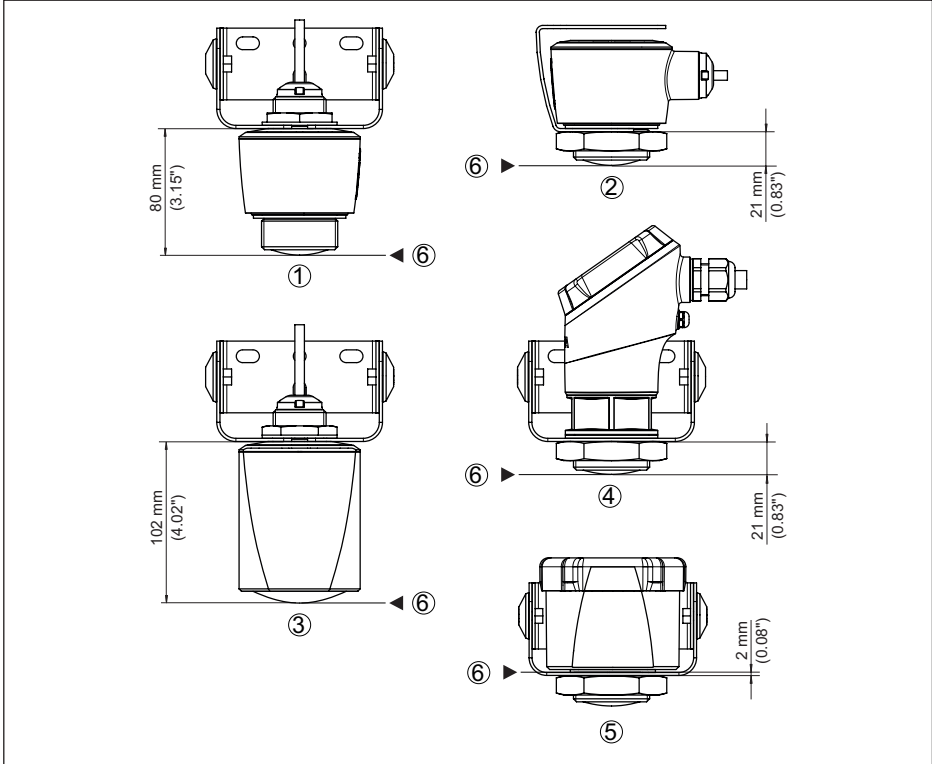## 6.1.4 Reference plane of the sensors

Fig. 25: Mounting bracket for ceiling and wall mounting - Distance of the sensor reference plane to the bottom of the sensor holder

1   *VEGAPULS 11, 21, 31*
2   *VEGAPULS C 21*
3   *VEGAPULS C 22*
4   *VEGAPULS C 23*
5   *VEGAPULS Air 41*
6   *Sensor reference plane*

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Printing date:

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.
Subject to change without prior notice

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