Supplementary instructions

External housing

For pressure transmitter VEGABAR series 80

Document ID: 45081

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Safety instructions for Ex areas

Take note of the Ex specific safety instructions for Ex applications. These instructions are attached as documents to each instrument with Ex approval and are part of the operating instructions manual.

Editing status: 2018-01-04

45081-EN-180104

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

Information, tip, note
This symbol indicates helpful additional information.

Caution: If this warning is ignored, faults or malfunctions can result.

Warning: If this warning is ignored, injury to persons and/or serious damage to the instrument can result.

Danger: If this warning is ignored, serious injury to persons and/or destruction of the instrument can result.

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.

2 For your safety

2.1 Authorised personnel

All operations described in this operating instructions manual must be carried out only by trained specialist 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 external housing is a replacement part for a pressure transmitter VEGABAR series 80 in IP 68 (25 bar) version.

2.3 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*"

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3 Product description

3.1 Configuration

Scope of delivery

The scope of delivery encompasses:

- External housing
- Documentation
  - This operating instructions manual

Constituent parts

The external housing consists of the components electronics housing and base. Both components are available in plastic or stainless steel.

Depending on the order specification, the screw-on cover of the electronics housing is available with or without inspection window for the display and adjustment module.

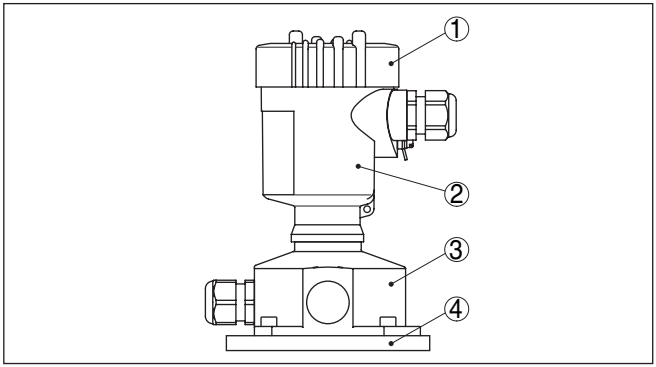

Fig. 1: Components of the external housing for VEGABAR - plastic version

1 Screw-on cover
2 Electronics housing
3 Base
4 Wall mounting plate

3.2 Principle of operation

Application area

The external housing is suitable for the following pressure transmitters in IP 68 (25 bar) version:

- VEGABAR 81, 82, 83
- VEGABAR 86, 87

3.3 Storage and transport

Packaging

Your instrument was protected by packaging during transport. Its capacity to handle normal loads during transport is assured by a test based on ISO 4180.

The outer packaging of standard instruments consists of environment-friendly, recyclable cardboard. PE foam or PE foil is also used for packing the instrument. Dispose of the packaging material via specialised recycling companies.

Storage and transport temperature

- Storage and transport temperature see chapter "*Supplement - Technical data - Ambient conditions*"
- Relative humidity 20 … 85 %

4 Mounting

4.1 Mounting preparations

Tools

The following tools are required for mounting the external housing.

Plastic housing:

- Hexagon socket wrench, size 4
- Fork wrench, wrench size 19

Stainless steel housing:

- Fork wrench, wrench size 8
- Fork wrench, wrench size 19

4.2 Exchange of the electronics module

The electronics module is located in the electronics compartment. The below illustration shows the position of the electronics compartment in an external housing.

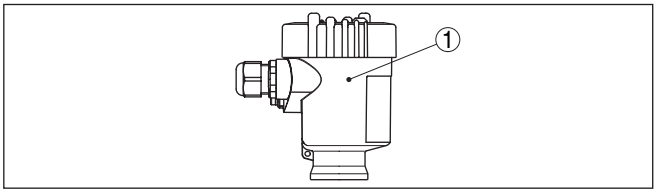

Fig. 2: Single chamber housing

1 Position of the electronics compartment

Dismounting the electronics module

Proceed as follows to remove the electronics module from the existing housing:

1. Switch off power supply
2. Unscrew the lid of the electronics compartment
3. Disconnect the connection cables according to the operating instructions manual of the respective sensor
4. Loosen the two holding screws with a screwdriver (Torx size T 10 or slotted screwdriver size 4)

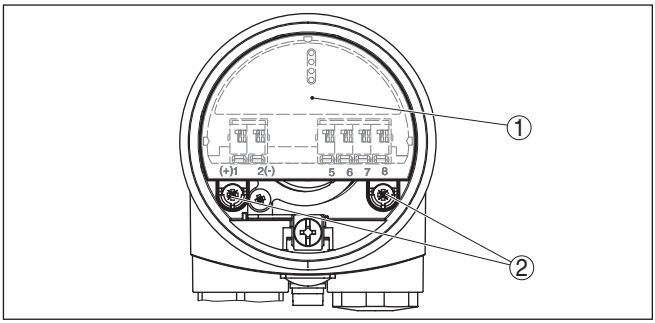

Fig. 3: Loosen the holding screws of the electronics module

1 Electronics module
2 Screws (2 pcs.)

5. Pull the electronics out by holding the opening levers.

Mounting the electronics module

To mount the electronics module into the new housing, proceed as follows:

1. Insert the electronics module carefully into the new housing.

Information:
The electronics module is connected via a plug. Make sure that the plug is in the correct position. The marking notch must be in position "18.00 h".

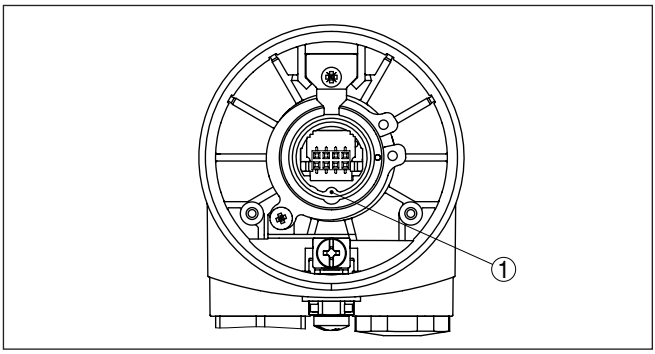

Fig. 4: Plug position in the base of the external housing

1 Notch

2. Screw in and tighten the two screws with the screwdriver.
3. Screw the housing lid back on

The exchange of the electronics module is finished.

As a rule, an exchange of electronics must be documented internally if Ex applications are involved.

4.3 Mounting steps, external housing

Wall mounting - External housing

1. Mark the holes according to the following drilling template
2. Depending on the mounting surface, fasten the wall mounting plate with 4 screws

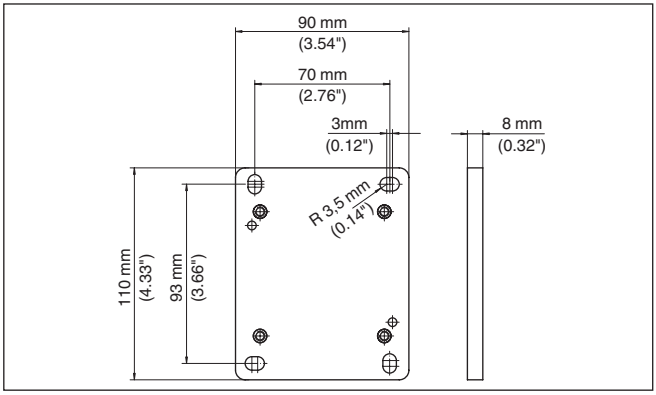

Fig. 5: Hole pattern - wall mounting plate (external housing)

Tip:
Mount the wall mounting plate in such a way that the cable gland of the base points downward. Rain and condensation water can thus drain off.

The base of stainless steel can be displaced in 90° increments on the wall mounting plate, the base of plastic by 180°.

Turn the cable gland of the electronics housing downward. The housing can be turned by 330° without the use of any tools.

Warning:
With the plastic housing, the four screws of the base may only be screwed in hand tight. Exceeding the max. torque specified in chapter "*Technical data*" can damage the wall mounting plate.

5 Connect the sensor to the external housing

5.1 Preparing the connection

Follow the instructions in the operating instructions manual of the sensor.

5.2 Connection procedure

Proceed as follows to connect the external housing:

1. Loosen the four screws on the base with a hexagon key or fork wrench
2. Remove the mounting plate from the base

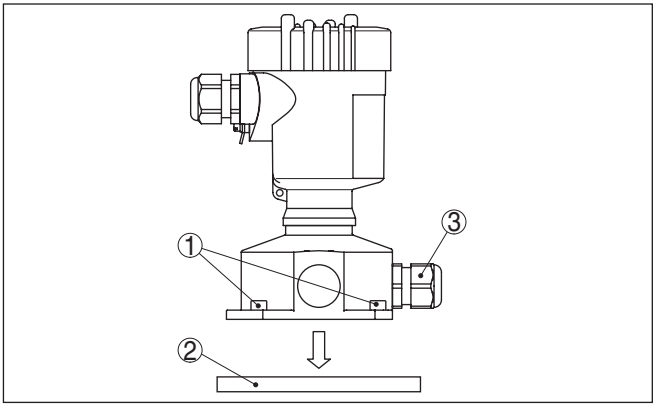

Fig. 6: Removing the mounting plate on the base

1 Screws
2 Wall mounting plate
3 Cable gland

3. Loop the connection cable through the cable entry on the housing base[1)]

Tip:
With plastic housing, the cable gland can be mounted in three positions each displaced by 90°. Simply exchange the cable gland against the blind plug in the fitting threaded hole.

4. Connect the wire ends as described in chapter "*Connection plan*". Take note of the numbering.
5. Connect the screen to the internal ground terminal, connect the external ground terminal to potential equalisation

[1)] The connection cable comes pre-assembled. If necessary, shorten it to the requested length, cut the breather capillaries clean. Remove approx. 5 cm of the cable mantle, strip approx. 1 cm insulation from the ends of the individual wires. After shortening the cable, fasten the type plate with support back on the cable.

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6. Tighten the compression nut of the cable entry gland. The seal ring must completely encircle the cable
7. Attach the mounting plate again and tighten the screws

The electrical connection of the sensor to the external housing is finished.

You find the electrical connection of the electronics module in chapter "*Wiring plan*" or in the operating instructions manual of the respetive sensor.

5.3 Wiring plan

Overview - VEGABAR 81, 82, 83

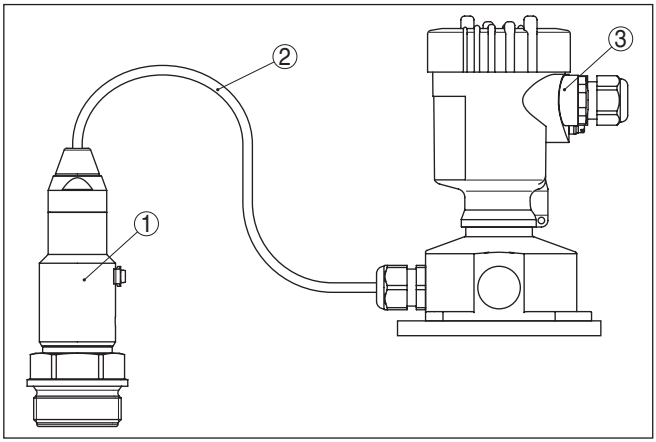

Fig. 7: External housing in conjunction with VEGABAR 81, 82, 83

Overview - VEGABAR 86, 87

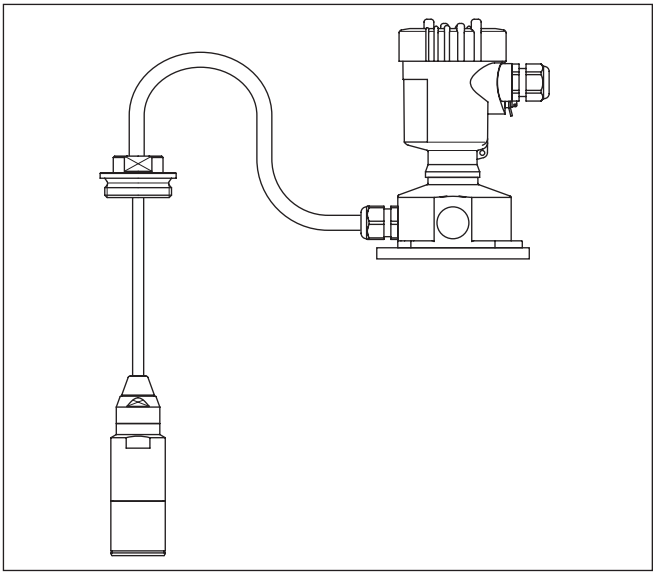

Fig. 8: External housing in conjunction with VEGABAR 86, 87

Terminal compartment

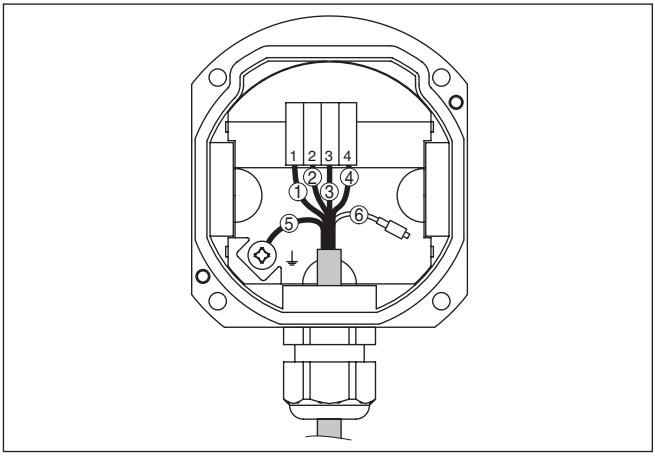

Fig. 9: Connection of the sensor in the housing base

1 *Yellow*
2 *White*
3 *Red*
4 *Black*
5 *Shielding*
6 *Breather capillaries*

Wiring plan external electronics

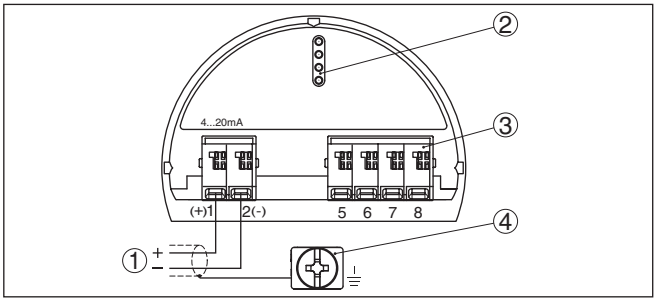

Fig. 10: Electronics and terminal compartment, single chamber housing

1 *Voltage supply/Signal output*
2 *For display and adjustment module or interface adapter*
3 *For external display and adjustment unit or Slave sensor*
4 *Ground terminal for connection of the cable screen*

6 Setup

6.1 Setup

Setup is carried out according to the operating instructions manual of the respective sensor.

7 Maintenance

7.1 How to proceed if a repair is necessary

You can find an instrument return form as well as detailed information about the procedure in the download area of our homepage: www.vega.com

By doing this you help us carry out the repair quickly and without having to call back for needed information.

If a repair is necessary, please proceed as follows:

- Print and fill out one form per instrument
- Clean the instrument and pack it damage-proof
- Attach the completed form and, if need be, also a safety data sheet outside on the packaging
- Please contact the agency serving you to get the address for the return shipment. You can find the agency on our home page www.vega.com.

8 Dismount

8.1 Dismounting steps

Take note of chapters "*Mounting*" and "*Connect sensor to the external housing*" and carry out the listed steps in reverse order.

8.2 Disposal

The instrument consists of materials which can be recycled by specialised recycling companies. We use recyclable materials and have designed the electronics to be easily separable.

Correct disposal avoids negative effects on humans and the environment and ensures recycling of useful raw materials.

Materials: see chapter "*Technical data*"

If you have no way to dispose of the old instrument properly, please contact us concerning return and disposal.

WEEE directive 2002/96/EG

This instrument is not subject to the WEEE directive 2002/96/EG and the respective national laws. Pass the instrument directly on to a specialised recycling company and do not use the municipal collecting points. These may be used only for privately used products according to the WEEE directive.

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9 Supplement

9.1 Technical data

General data

Material 316L corresponds to 1.4404 or 1.4435	
Materials, non-wetted parts	
– Electronics housing	Plastic PBT (Polyester), 316L
– Base	Plastic PBT (Polyester), 316L
– Wall mounting plate	Plastic PBT (Polyester), 316L
– Seal between base and wall mounting plate	TPE (fixed connected)
– Seal between housing and housing lid	Silicone (plastic housing), NBR (stainless steel housing)
– Ground terminal	316L
Torque of base screws for plastic housing max.	5 Nm (3.688 lbf ft)
Weight approx.	0.7 … 2.0 kg (1.543 … 4.409 lbs), depending on housing material

Process conditions

Ambient, storage and transport temperature	
– without display and adjustment module	-40 … +80 °C (-40 … +176 °F)
– With display and adjustment module	-20 … +70 °C (-4 … +158 °F)

Electromechanical data

Options of the cable entry	
– Cable gland	M20 x 1.5 (cable: ø 5 … 9 mm)
– Cable entry	½ NPT
– Blind plug	M20 x 1.5; ½ NPT
– Closing cap	M20 x 1.5; ½ NPT
Wire cross-section (spring-loaded terminals)	up to 2.5 mm² (AWG 14)

Electrical protective measures

Protection, depending on housing version	
– Plastic housing	IP 66/IP 67
– Stainless steel housing	IP 66/IP 68 (0.2 bar)[2)]

[2)] The prerequisites for maintaining the protection rating are a suitable cable as well as correct mounting.

9.2 Dimensions

Electronics housing

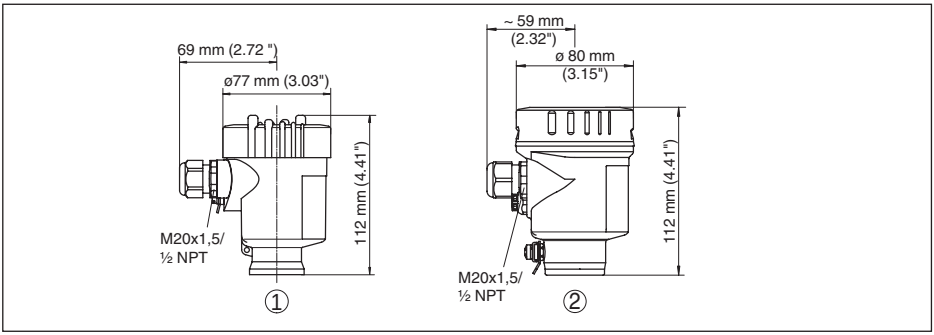

Fig. 11: Electronics housing (with integrated display and adjustment module the housing is 9 mm/0.35 in higher)

1 Plastic housing
2 Stainless steel housing

External housing with sensor in IP 68 (25 bar) version

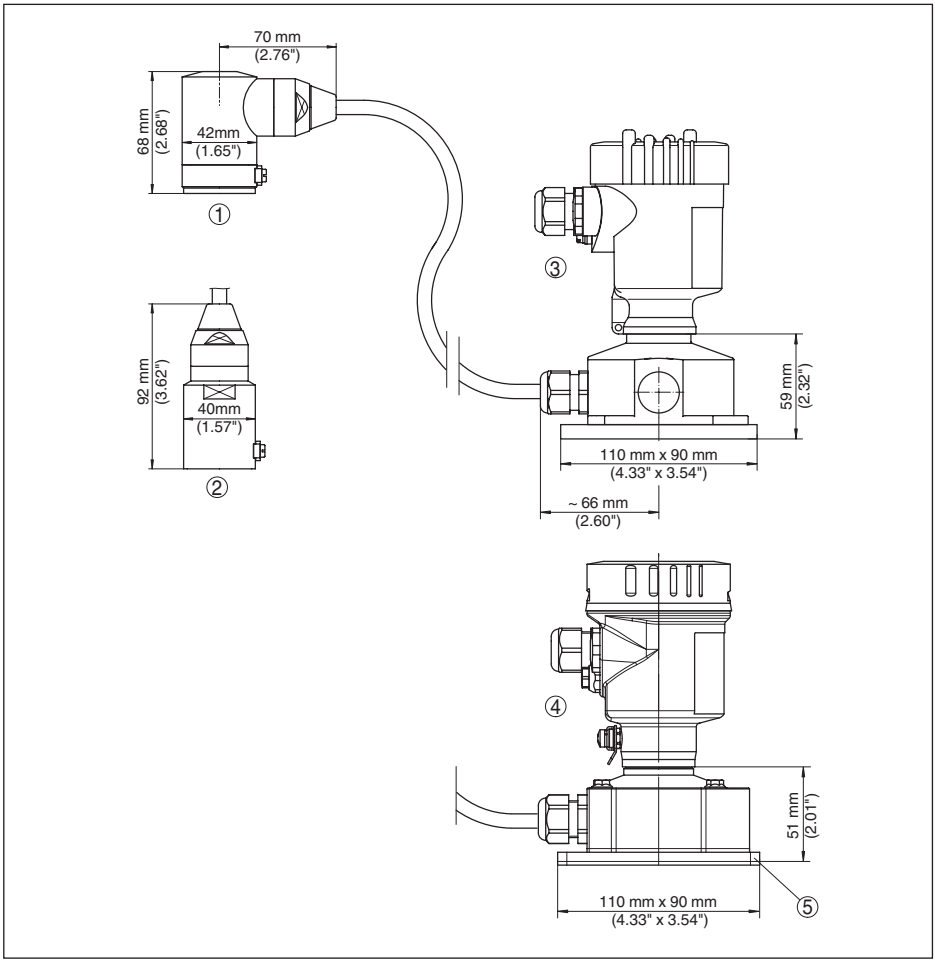

Fig. 12: External housing with sensor in IP 68 (25 bar) version

1 *Lateral cable outlet*
2 *Axial cable outlet*
3 *Plastic version*
4 *Stainless steel version*
5 *Seal 2 mm (0.079 in) - only with 3A approval*

Printing date:

45081-EN-180104

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