# Mounting instructions - Ship-building

## VEGAWELL 52

Service tanks (fuel, coolant)

Fresh water/Waste water tank

Ballast tanks (wing tanks)

Document ID: 41957

# Contents



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# 1 General information

## 1.1 General instructions

This mounting instructions manual provides the necessary guidelines for correct mounting of level sensors VEGAWELL 52 on ships.

The VEGAWELL 52 is suitable for the following applications:

- Ballast tanks
- Fuel tanks
- Coolant tanks
- Lubricants
- Water/Waste water

The mounting instructions manual applies to the following sensors with ship approval:

- VEGAWELL 52 .CM…

Take note of the type label of the sensor. Only the abovementioned versions meet the special requirements for use on ships. The type label is located on the instrument housing.

To ensure proper functioning of the instrument, take careful note of all the information in this mounting instructions manual.

Mount the VEGAWELL 52 exactly according to the instructions in this manual.

Read this manual before selecting the mounting position. Take note of existing installations and discuss the mounting with the shipyard technicians.

Make all necessary information on the mounting position and installation conditions available to the shipyard.

You can find further information on technical data or setup in the operating instructions of VEGAWELL 52. This manual comes with the instrument.

When using in hazardous areas take note of all relevant technical data and special regulations of the Ex-specific safety instructions of VEGAWELL 52 as well as possible devices that supply power. The approval documents are part of the scope of delivery for instruments with Ex approval.

## 1.2 Type plate

**Type plate**

The nameplate contains the most important data for identification and use of the instrument:

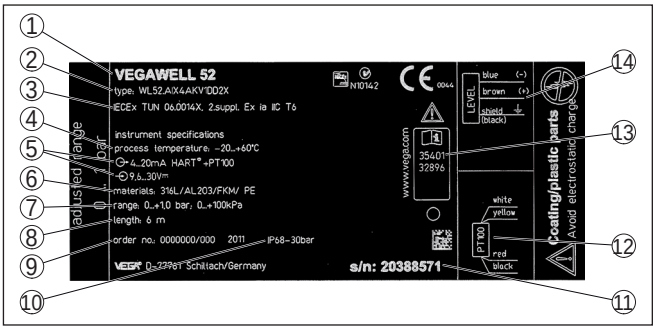


*Fig. 1: Structure type label VEGAWELL 52 (example)*

1 *Instrument type*
2 *Product code*
3 *Approvals*
4 *Process temperature*
5 *Operating voltage and signal output, electronics*
6 *Materials Transmitter/Measuring cell/Measuring cell seal/Connection cable*
7 *Measuring range*
8 *Cable length*
9 *Order number*
10 *Protection rating*
11 *Serial number of the instrument*
12 *Assignment connection cable temperature*
13 *ID numbers, instrument documentation*
14 *Assignment connection cable level*

## 1.3 Configuration

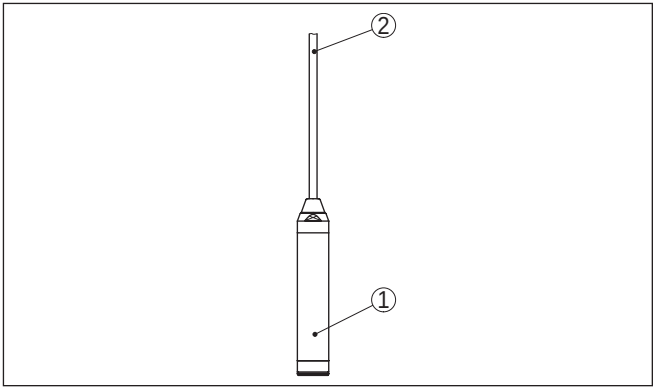


*Fig. 2: Configuration VEGAWELL 52*

1 *Transmitter*
2 *Suspension cable*

## 1.4 Reference point

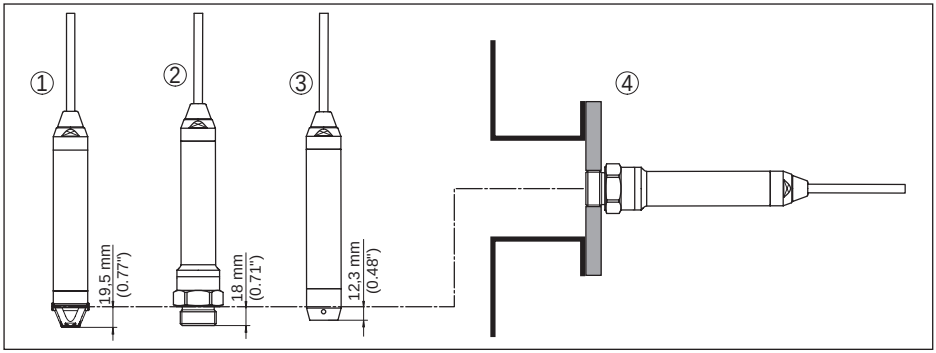


*Fig. 3: Reference point*

*1 Standard version (with plastic cap)*
*2 Version with thread - G1A*
*3 Version with impact protection*
*4 Version with thread - G1A - laterally mounted*

# 2 Mounting

## 2.1 Lateral installation

**Heating in the vessel**

If there are high temperatures in the vessel, +80 … +110 °C (+176 … +230 °F), mount VEGAWELL 52 laterally.

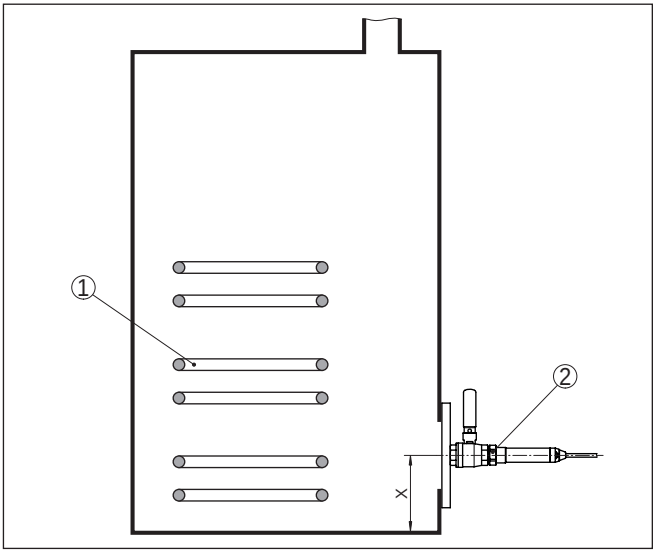


*Fig. 4: VEGAWELL 52 - lateral mounting with shut-off valve*

*1 Heating system - Temperature: approx. +110 °C (+230 °F)*
*2 VEGAWELL 52 - laterally mounted - Temperature: max. +80 °C (+176 °F)*
*x Offset*

**Note:**
Check if the permissible process temperature of the sensor is suitable for your application.

**Pressure compensation**

Gauge pressure in the vessel influences the measured value. For that reason there must be a pressure compensation facility in the vessel.

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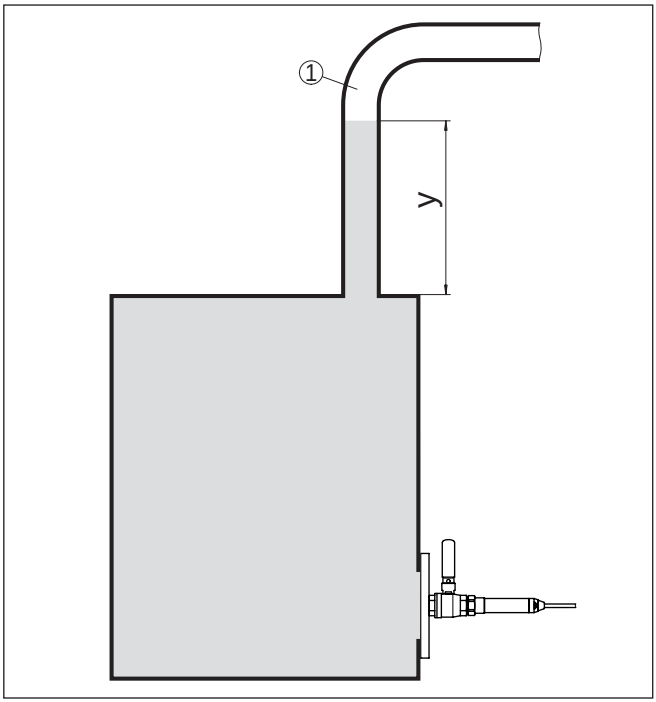


*Fig. 5: Pressure compensation, e.g. via an overflow tube*

*1 Overflow tube*
*y Filling height y is also measured by the sensor.*

**Caution:**
The filling height **y** in the overflow tube is measured by the sensor. This can influence the measured value.

**Do not step on the sensor**

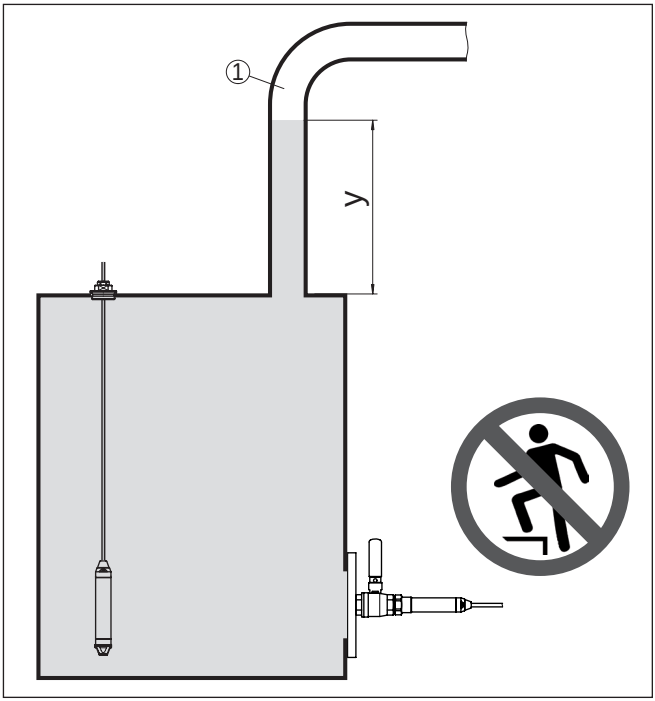


*Fig. 6: Do not step on the sensor*

Do not step on the sensor or use it as a climbing aid.

## 2.2 Installation from above

**Installation with cable ties**

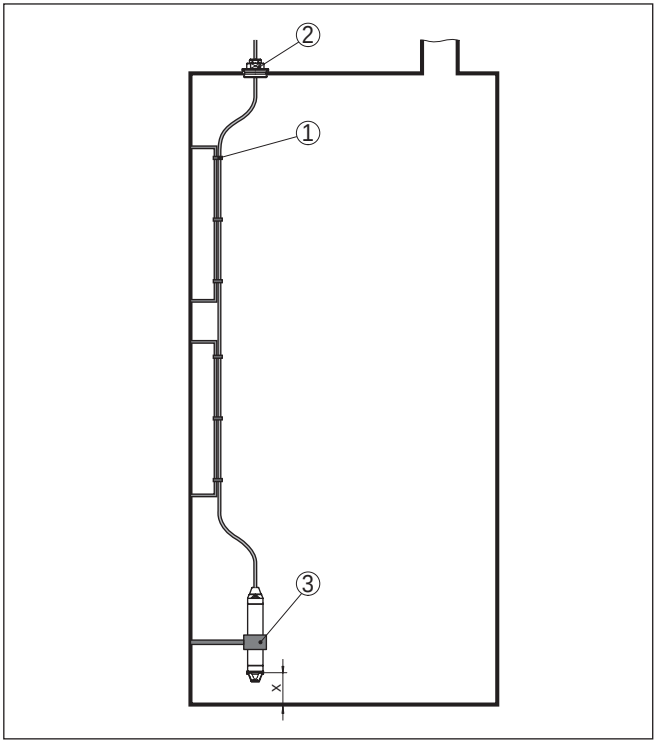


*Fig. 7: VEGAWELL 52 - Mounting with cable ties*

*1 Cable ties*
*2 Threaded fitting, unassembled*
*3 Mounting facility BARMONT*
*x Offset*

**Caution:**
Use plastic-coated cable ties or cable ties of plastic. They protect the cable sheath against damage.

### Installation with cable protection tube

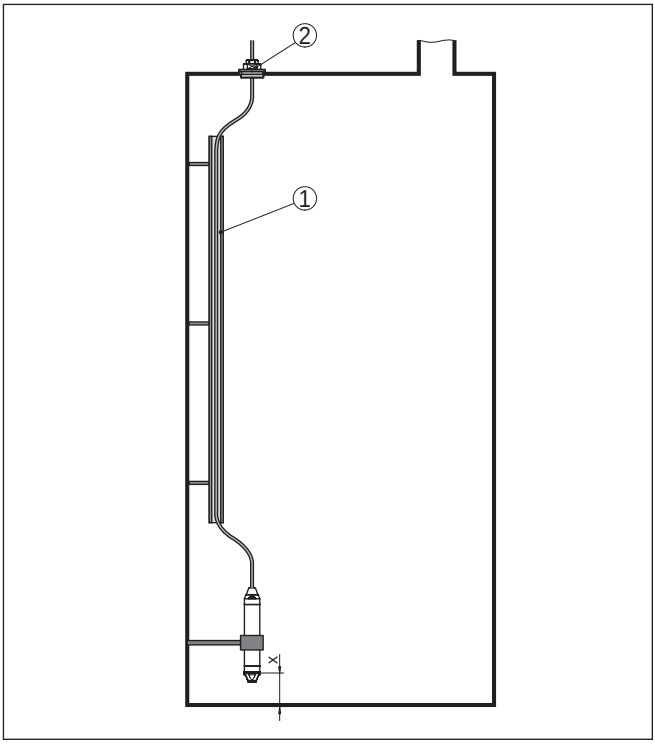


*Fig. 8: VEGAWELL 52 - Mounting with cable protection tube - max. 60 °C (140 °F)*

*1 Cable protection tube*
*2 Threaded fitting, unassembled*
*x Offset*

**Caution:**
Cleanly deburr the cable protection tube at the top and bottom. By doing so, you protect the cable sheath against damage.

### Installation in a guide tube

To keep VEGAWELL 52 from protruding too far out of the tube, you can weld a bar of round or flat material to the lower tube end.

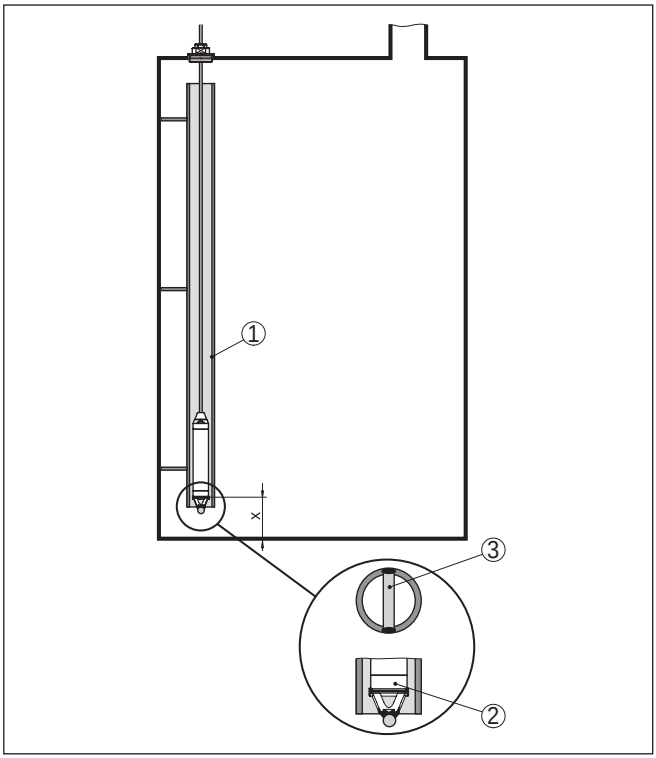


*Fig. 9: VEGAWELL 52 - Mounting in a guide tube*

*1 Guide tube*
*2 VEGAWELL 52 with plastic cap*
*3 Welded bar*
*x Offset*

**Caution:**
Cleanly deburr the cable protection tube at the top and bottom. By doing so, you protect the cable sheath against damage.

**Threaded fitting, unassembled**

Mount VEGAWELL 52 as follows:

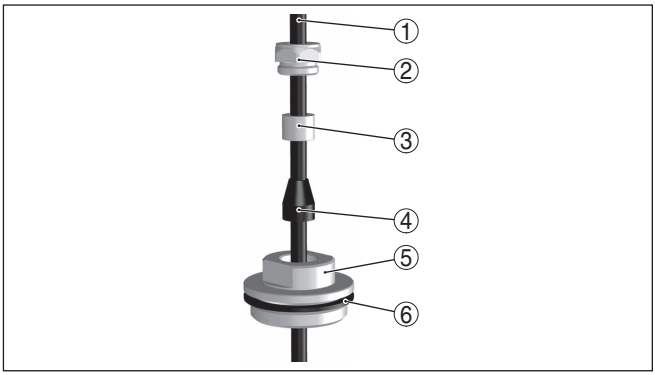


*Fig. 10: Threaded fitting*

*1 Suspension cable*
*2 Seal screw*
*3 Cone bushing*
*4 Seal cone*
*5 Threaded fitting*
*6 Seal*

1. Remove filter element from the breather capillaries (8).
2. Shift the suspension cable from below through the opened threaded fitting.

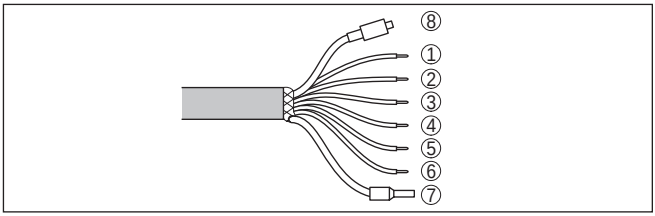


*Fig. 11: Wire assignment connection cable with breather capillaries*

*1 Brown (+): to power supply or to the processing system*
*2 Blue (-): to power supply or to the processing system*
*3 White: for processing of the integrated Pt 100 (power supply)*
*4 Yellow: for processing of the integrated Pt 100 (measurement)*
*5 Red: for processing of the integrated Pt 100 (measurement)*
*6 Black: for processing of the integrated Pt 100 (power supply)*
*7 Shielding*
*8 Breather capillaries with filter element*

3. Slide the seal cone and the cone sleeve over the suspension cable, fasten manually with the seal screw
4. Place the filter element immediately back on the breather capillaries (8)

**Caution:**
The filter element must be plugged back onto the breather capillaries.

Avoid immersing the cable end into liquids

5. Slide seal cone and cone sleeve to the requested position on the cable
6. Screw the screwed connection into the socket, tighten with SW 30 and then tighten seal screw with SW 19

**Mount in low vibration area**

The sensor fastening must be electrically connected to the vessel wall.

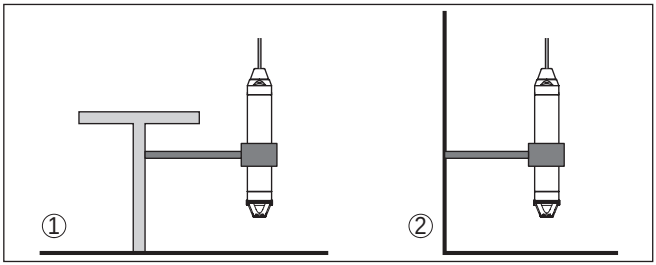


*Fig. 12: Mount the sensor such that it is only subjected to a minimum amount of vibration*

*1 Fastening on steel girder or frame*
*2 Fastening on the vessel wall*

**Pressure compensation**

Gauge pressure in the vessel influences the measured value. For that reason there must be a pressure compensation facility in the vessel.

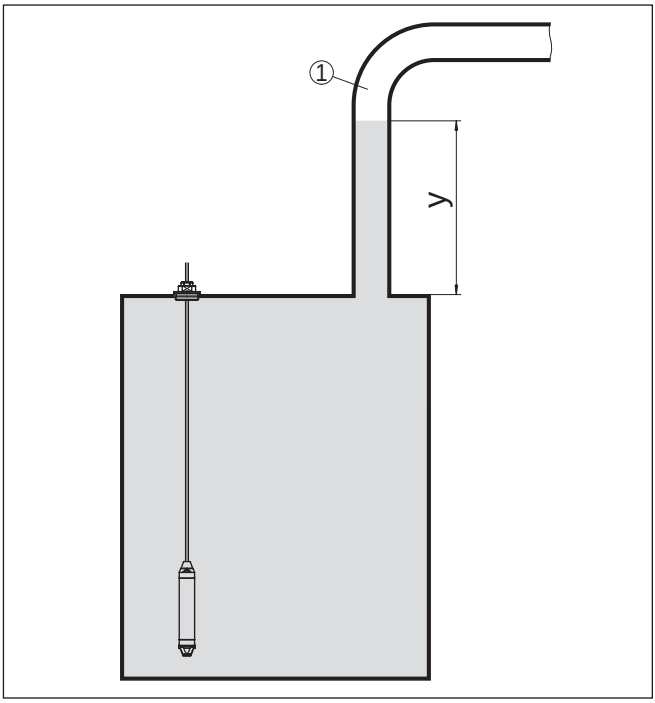


*Fig. 13: Pressure compensation, e.g. via an overflow tube*

*1 Overflow tube*
*y Filling height y is also measured by the sensor.*

**Caution:**
The filling height **y** in the overflow tube is measured by the sensor. This can influence the measured value.

# 3 Electrical connection

## 3.1 Connection with VEGABOX 02

- Lead the cable glands downward
- Close all housing openings
- Enable pressure compensation (liquid-tight ventilation filter)
- Loop the connection cable into a suitable connection box

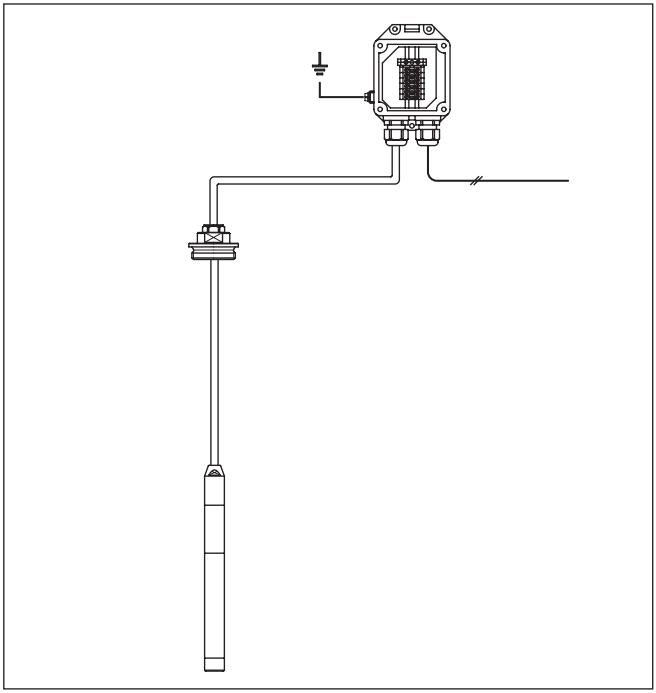

*Fig. 14: Connection of the VEGAWELL 52 to the connection box*

### Grounding

In the plastic housing or VEGABOX 02, the screen must be connected directly to the inner ground terminals. The outer ground terminal on the housing must have a low impedance connection to the potential equalization.

**Note:**
Make sure that the ground cable is applied on bare metal. Varnish can interrupt the potential equalization connection.

### Use in ballast water tanks

On ships, sacrificial anodes of zinc are usually mounted in the ballast water tanks to protect them against corrosion. Due to a low electro-

chemical current flow, the sacrificial anode is destroyed, thus protecting the ballast tanks against corrosion.

When installed sensors have a conductive connection to the tank, this current flow protects the sensor also against corrosion. The sensor is therefore integrated int he protective function of the sacrificial anode.

Take note of the following installation instructions:

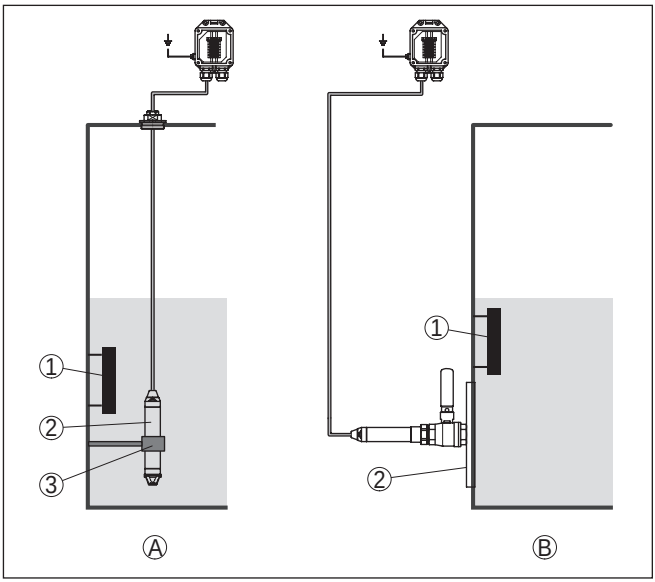


*Fig. 15: Mounting and electrical connecion in ballast water tanks*

*1 Sacrificial anode of zinc*
*2 Sensor - VEGAWELL 52 electrically connected to the vessel*
*3 Metallic connection - electrically conductive*

**A - Installation from top**

Connect the sensor conductively to the vessel wall. Avoid insulating measures such as e.g. insulating tape or rubber rings.

To protect against electromagnetic influences, we recommend connecting the cable screen to the inner ground terminals of VEGABOX 02.

**B - Lateral installation**

Through the installation itself the sensor is already conductively connected to the vessel wall. Avoid insulating measures such as e.g. insulating tape or seals.

To protect against electromagnetic influences, we recommend connecting the cable screen to the inner ground terminals of VEGABOX 02.

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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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