VEGABAR 51
4 … 20 mA/HART

Pressure transmitter with isolating diaphragm

Area of application
The VEGABAR 51 is a pressure transmitter with chemical seal for pressure and level measurement. The chemical seals of the VEGABAR 51 adapted to the process ensure a reliable measurement even in highly corrosive and hot products.

Advantages
- Simple adaptation, thanks to versatile configuration
- Reliable measurement up to temperatures of 400 °C
- Reliable measurement independent of foam generation and tank installations

Function
The heart of the pressure transmitter is the pressure measuring cell transforming the pressure into an electrical signal. This pressure-dependent signal is converted by the integrated electronics into a standardized output signal. The metallic measuring cell allows fully welded versions and also covers higher measuring ranges. With measuring ranges up to 16 bar, a piezo-resistive sensor element with internal transmission liquid is used. From 25 bar upwards, a strain gauge sensor element is used on the back side of the stainless steel diaphragm. This dry system works without additional isolating liquid.

Technical data
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring ranges</td>
<td>-1 ... +400 bar/-100 ... +40000 kPa (±14.5 ... ±5802 psig)</td>
</tr>
<tr>
<td>Smallest measuring range</td>
<td>0.1 bar/10 kPa (1.45 psig)</td>
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<tr>
<td>Deviation</td>
<td>&lt; 0.2 %</td>
</tr>
<tr>
<td>Process fitting</td>
<td>Thread from ½&quot;, flanges from DN 25</td>
</tr>
<tr>
<td>Process temperature</td>
<td>-40 ... +400 °C (-40 ... +752 °F)</td>
</tr>
<tr>
<td>Ambient, storage and transport</td>
<td>-40 ... +80 °C (-40 ... +176 °F)</td>
</tr>
<tr>
<td>Operating voltage</td>
<td></td>
</tr>
<tr>
<td>- Measuring ranges &lt; 100 bar</td>
<td>12 ... 36 V DC</td>
</tr>
<tr>
<td>- Measuring ranges ≥ 100 bar</td>
<td>14 ... 36 V DC</td>
</tr>
<tr>
<td>SIL rating</td>
<td>up to SIL2</td>
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</table>

Materials
The process fitting is made of stainless steel 316L. The process diaphragm is available in 316L and in the high resistance materials Hastelloy C276, Tantalum as well as PTFE on 316Ti. You will find a complete overview of the available materials and seals in the "configurator" on our homepage under www.vega.com/configurator.

Housing versions
The housings are available as single chamber or double chamber version in plastic, stainless steel or aluminium. They are available in protection ratings up to IP 68 (25 bar) with external electronics.

Electronics versions
The instruments are available in different electronics versions. Apart from the two-wire electronics with 4 ... 20 mA or 4 ... 20 mA/HART, two purely digital versions with Profinet PA and Foundation Fieldbus are available.

Approvals
The instruments are suitable for use in hazardous areas and are approved e.g. according to ATEX and IEC. The instruments have also different ship approvals such as e.g. GL, LRS or ABS. You can find detailed information on the existing approvals in the "configurator" on our homepage under www.vega.com/configurator.
### Operation

The adjustment of the instrument is carried out via the optional indicating and adjustment module PLICSCOM or via a PC with the adjustment software PACTware and respective DTM. Further adjustment options are available via HART communicator as well as manufacturer-specific programs such as AMS™ or PDM.

### Dimensions

<table>
<thead>
<tr>
<th>Dimensions VEGABAR 51</th>
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</thead>
<tbody>
<tr>
<td>1  Flange version 150 °C</td>
</tr>
<tr>
<td>2  Version with tube isolating diaphragm 150 °C</td>
</tr>
</tbody>
</table>

### Information

You can find further information about the VEGA product line on our homepage [www.vega.com](http://www.vega.com).

In the download section under [www.vega.com/downloads](http://www.vega.com/downloads) you’ll find free operating instructions, product information, brochures, approval documents, instrument drawings and much, much more.

There, you will also find GSD and EDD files for Profinbus PA systems as well as DD and CFF files for Foundation Fieldbus systems.

### Instrument selection

With the "finder" you can select the most suitable measuring principle for your application [www.vega.com/finder](http://www.vega.com/finder).

You can find detailed information on the instrument versions in the "configurator" on our homepage under [www.vega.com/configurator](http://www.vega.com/configurator).

### Contact

You can find the VEGA agency serving your area on our homepage [www.vega.com](http://www.vega.com).

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### Electrical connection

Electronics and connection compartment, single chamber housing

1  Plug connector for VEGACONNECT (2°C interface)
2  Spring-loaded terminals for connection of the external indication VEGADIS 61
3  Ground terminal for connection of the cable screen
4  Spring-loaded terminals for voltage supply and signal output

You can find details on the electrical connection in the instrument operating instructions on our homepage at [www.vega.com/downloads](http://www.vega.com/downloads).