

### Reliable

Unaffected by extreme process conditions

### Cost effective

Reliable, continuous operation with absolute hygiene

### User friendly

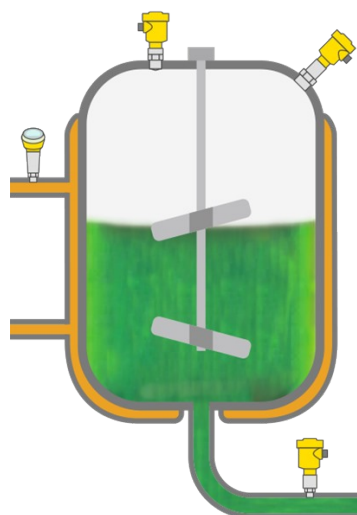
Easy adjustment and setup, as internals do not interfere

## Bioreactor

### Level and pressure measurement in the production of enzymes, proteins and antibodies

Some pharmaceutical companies use bioreactor vessels to cultivate particular cells or microorganisms required for certain treatments. The very high level of hygiene required means the vessels and all associated parts must be easy to thoroughly clean, because even the slightest contamination with other organisms can lead to an aborted production run. These reactors are mainly "batch-fed", where they are completely filled at the start and not emptied again until the process is completed. The pressure and level in the reactor have to be monitored continuously during process in order to obtain a high-quality yield.

[More details](#)



### VEGAPULS 6X

Radar sensor for continuous level measurement in the bioreactor

- The front-flush, encapsulated antenna is easy to clean and resistant to the extreme conditions of the SIP and CIP processes
- Maximum utilization of the reactor, measurement is unaffected by changing products and process conditions
- The small beam angle and good focusing of the sensor allows easy alignment

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### VEGABAR 83

Pressure transmitter for continuous pressure monitoring in the bioreactor and in the pipeline

- The welded, 50 µm-thick Alloy diaphragm with aseptic process fitting is a hygienically optimal and reliable solution
- Neither the chemical cleaning cycles nor the thermal shocks after sterilization can affect the diaphragm
- Pressure measurement in the pipeline for monitoring CIP cleaning processes

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### VEGABAR 38

Pressure monitoring with IO-Link connection in the supply line of the heating medium

- Reliable measurement thanks to fast response time
- Robust ceramic CERTEC® measuring cell guarantees a long service life
- Simple operation thanks to VDMS menu structure and integrated display

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PRO	PRO	BASIC
<b>VEGAPULS 6X</b> <a href="#">Show Product</a>	<b>VEGABAR 83</b> <a href="#">Show Product</a>	<b>VEGABAR 38</b> <a href="#">Show Product</a>
		
<b>Measuring range - Distance</b> 120 m	<b>Measuring range - Distance</b> -	<b>Measuring range - Pressure</b> -1 ... 60 bar
<b>Process temperature</b> -196 ... 450 °C	<b>Measuring range - Pressure</b> -1 ... 1000 bar	<b>Process temperature</b> -40 ... 130 °C
<b>Process pressure</b> -1 ... 160 bar	<b>Process temperature</b> -40 ... 200 °C	<b>Accuracy</b> 0.3 %
<b>Accuracy</b> ± 1 mm	<b>Process pressure</b> -1 ... 1000 bar	<b>Materials, wetted parts</b> PVDF 316L Duplex (1.4462) Ceramic
<b>Frequency</b> 6 GHz 26 GHz 80 GHz	<b>Accuracy</b> 0.075 %	<b>Threaded connection</b> ≥ G¾, ≥ ¼ NPT
<b>Beam angle</b> ≥ 3°	<b>Materials, wetted parts</b> 316L Alloy C22 (2.4602) 316Ti (1.4571) Alloy C4 (2.4610)	<b>Hygienic fittings</b> Clamp ≥ 2", DN50 - DIN32676, ISO2852 Clamp ≥ 1" - DIN32676, ISO2852 Clamp ≥ 1½" - DIN32676, ISO2852 Slotted nut ≥ 1½", ≥ DN40 - DIN 11851 Slotted nut ≥ DN25 - DIN 11851 SMS DN38 Hygienic fittings ≥ DN25 - DIN11864-1-A Hygienic fittings ≥ DN40 - DIN11864-1-A Varivent N50-40 SMS DN25 Ingold connection PN10 Varivent F25
<b>Materials, wetted parts</b> PTFE PVDF 316L PP PEEK	<b>Threaded connection</b> ≥ G½, ≥ ½ NPT	<b>Seal material</b> EPDM FKM FFKM
<b>Threaded connection</b> ≥ G¾, ≥ ¼ NPT	<b>Flange connection</b> ≥ DN25, ≥ 1"	<b>Housing material</b> Plastic
<b>Flange connection</b> ≥ DN20, ≥ ¾"	<b>Hygienic fittings</b> Slotted nut ≥ DN25 - DIN 11851 Varivent ≥ DN25 hygienic fitting with tension flange DN32 Hygienice flange connection ≥ DN50 DIN11864-2 SMS 1145 DN51 SMS DN38 Hygienic fittings ≥ DN33 - DIN11864-1-A Hyg. collar clamp adapter DN40PN40 DIN11864-3-A Hyg. clamp connection DIN11864-3-A; DN50 Rohr ø53 Swagelok VCR screwing Varivent G125	<b>Protection rating</b> IP66/IP67 IP65
<b>Hygienic fittings</b> Clamp ≥ 1½" - DIN32676, ISO2852 Slotted nut ≥ 2", DN50 - DIN 11851 Varivent ≥ DN25 hygienic fitting with tension flange DN32 hygienic fitting F40 with compression nut Hygienic screw connections ≥ DN50 tube ø53 - DIN11864-1-A Hygienice flange connection ≥ DN50 DIN11864-2 Hygienic clamp connection ≥ DN50 pipe Ø53 - DIN11864-3-A DRD connection ø 65 mm SMS 1145 DN51	<b>Seal material</b> no media contact	<b>Output</b> 4 ... 20 mA Three-wire (PNP/NPN, 4 ... 20 mA) IO-Link