

#### Reliable

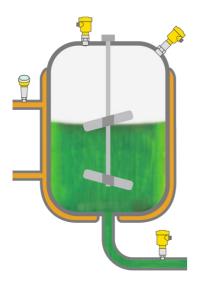
Unaffected by extreme process conditions

#### **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

#### **Show Product**



#### **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

#### **Show Product**



### **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 VDMA menu structure and integrated display

**Show Product** 



# **VEGAPULS 6X Show Product**



Measuring range - Distance

120 m

Process temperature

-196 ... 450 °C

Process pressure

-1 ... 160 bar

Accuracy

± 1 mm

Frequency

6 GHz 26 GHz

80 GHz

Beam angle

≥ 3°

Materials, wetted parts

PTFE

PVDF

316L PP PEEK

Threaded connection

≥ G¾, ≥ ¾ NPT

Flange connection

≥ DN20, ≥ ¾"

Hygenic fittings

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  $\geq$  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

VEGABAR 83 Show Product



Measuring range - Distance

-

Measuring range - Pressure

-1 ... 1000 bar

Process temperature

-40 ... 200 °C

Process pressure

-1 ... 1000 bar

Accuracy

0.075 %

Materials, wetted parts

316L

Alloy C22 (2.4602)

316Ti (1.4571)

Alloy C4 (2.4610)

Threaded connection

≥ G½, ≥ ½ NPT

Flange connection

≥ DN25, ≥ 1"

Hygenic fittings

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

Seal material

no media contact

VEGABAR 38

**Show Product** 



Measuring range - Pressure

-1 ... 60 bar

Process temperature

-40 ... 130 °C

Accuracy

0.3 %

Materials, wetted parts

PVDF

316L

Duplex (1.4462)

Ceramic

Threaded connection

≥ G½, ≥ ½ NPT

Hygenic fittings

Clamp ≥ 2", DN50 - DIN32676, ISO2852

Clamp ≥ 1" - DIN32676, ISO2852

Clamp ≥ 1½" - DIN32676, ISO2852

Slotted nut  $\ge 1\frac{1}{2}$ ",  $\ge DN40$  - DIN 11851

Slotted nut ≥ DN25 - DIN 11851

SMS DN38

Hygienic fittings  $\geq$  DN25 - DIN11864-1-A

Hygienic fittings ≥ DN40 - DIN11864-1-A

Varivent N50-40

SMS DN25

Ingold connection PN10

Varivent F25

Seal material

EPDM

FKM FFKM

Housing material
Plastic

Protection rating IP66/IP67

IP65

**Output** 4 ... 20 mA

Three-wire (PNP/NPN, 4 ... 20 mA)

IO-Link

