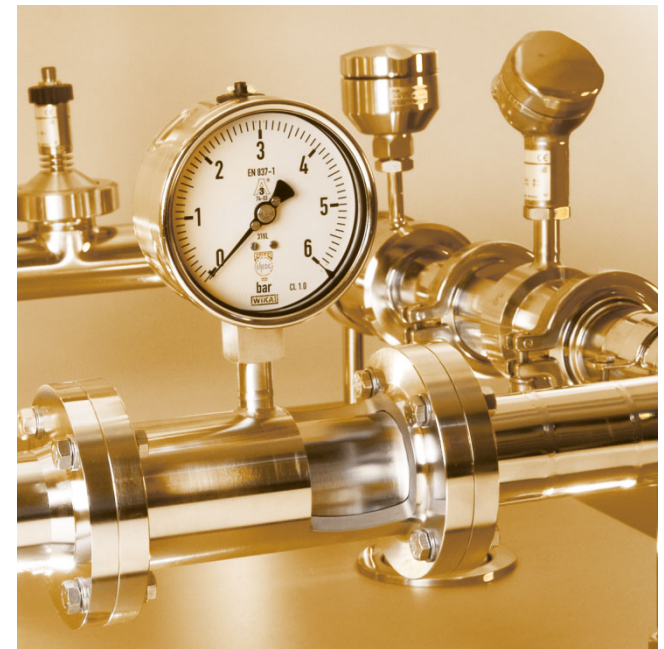


Diaphragm seal systems for sanitary applications

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Agenda

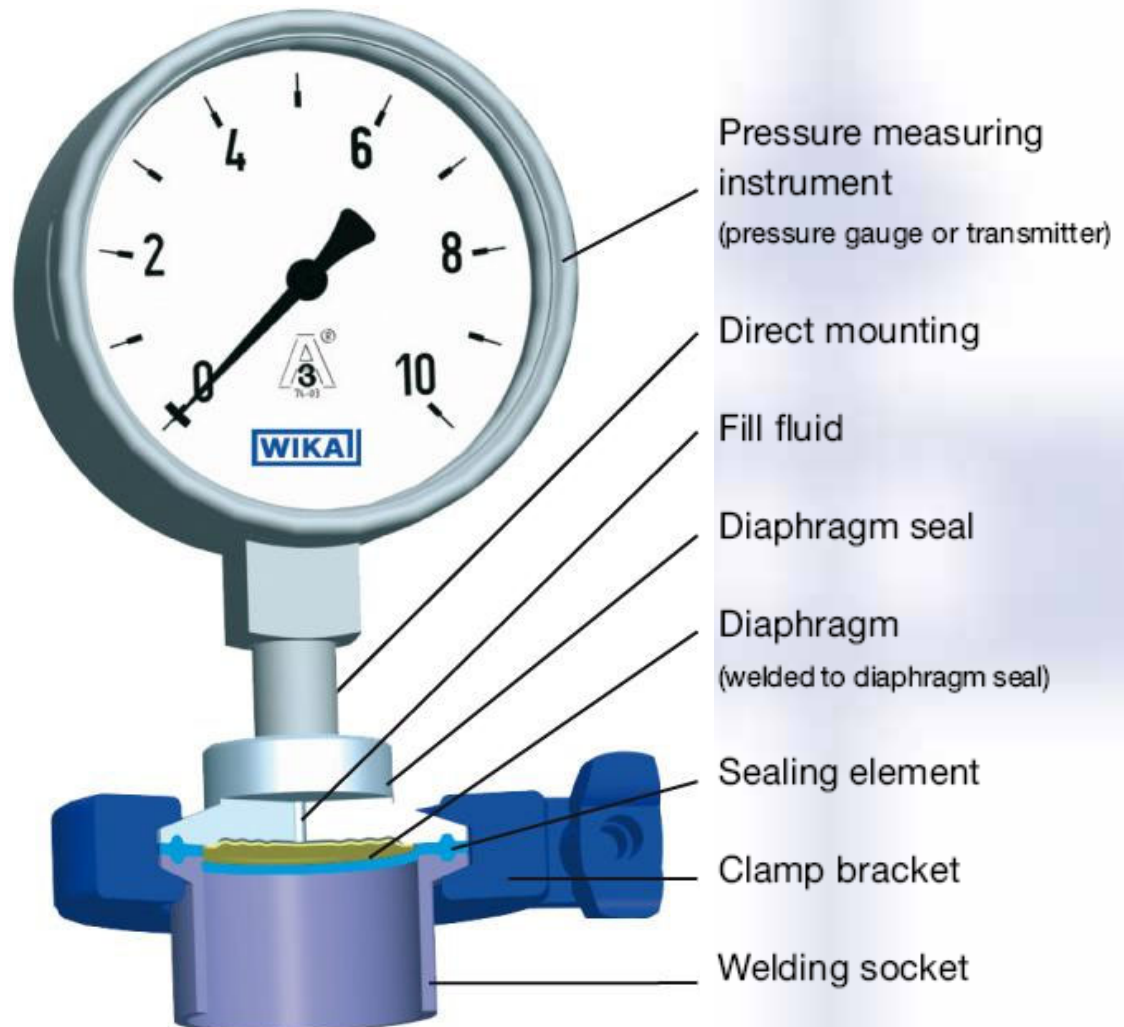
- Function of a diaphragm seal system
- Application
- Cleaning
- Process risks
- Diaphragm Break Monitoring Systems
- Benefit



Diaphragm Break Monitoring System

Function of a diaphragm seal

- A diaphragm seal has two primary tasks:
- 1. Separate the pressure measuring instrument from the process medium
- 2. Transfer the pressure to the pressure measuring instrument



Applications

- Fermentation
- Storage Tank → hydrostatic level measurement
- Overpressure and low pressure protecting systems
- Aseptic filling systems, e.g. for vials
- Pump monitoring
- Cleaning systems
- Sterilization, for example vapor pressure monitoring



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Diaphragm Break Monitoring System

Cleaning

- CIP in industrial plants
 - *Cleaning with alkaline media*
 - *Cleaning with chemical media*
- Sterilization
 - *Vapor sterilization*
 - *Chemical sterilization*



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Process risks

- Highly concentrated media
 - Chemical sterilization
 - Unexpected action during the process
 - Water hammer
 - Cavitation by fault valves
- *Risk of corrosion*
 - *Risk of mechanical damaging of the diaphragm*



Diaphragm Break Monitoring System

- Patented measuring instrument for critical processes, where
 - *the product must not find its way into the environment*
 - *the fill fluid in the diaphragm seal assembly must not come in contact with the product for any reason .*
- Should a diaphragm rupture, an optical, acoustic or electrical warning will be given



Patent No. DE19949831

Diaphragm Break Monitoring System

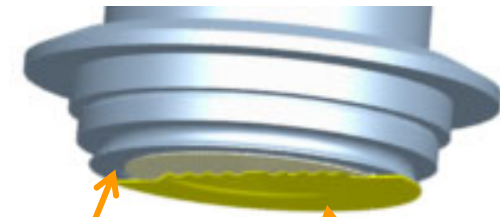
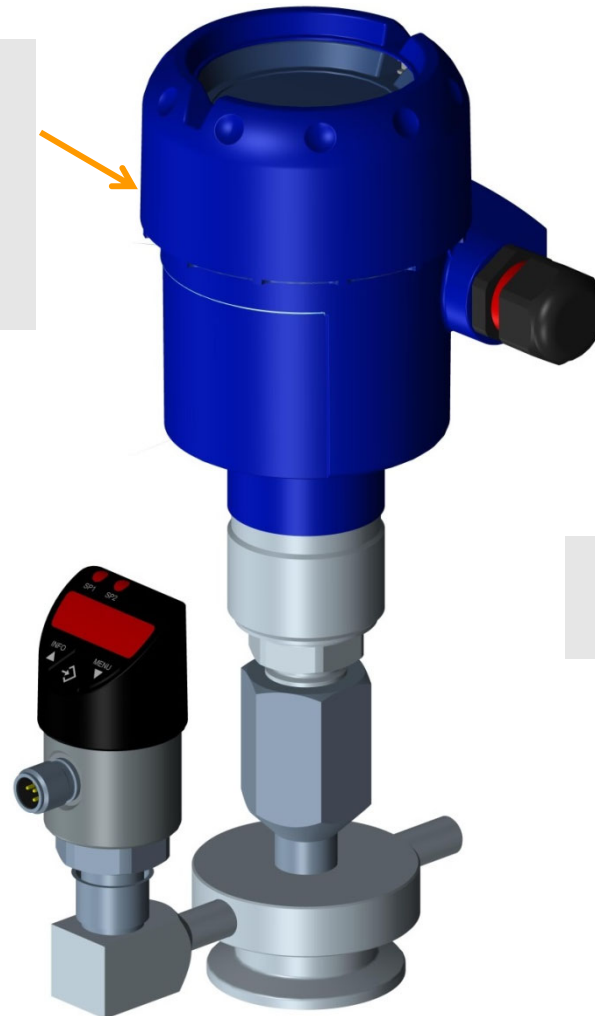
Function

Pressure measuring instrument:

- Process transmitter
- Pressure gauge
- Pressure switch

Diaphragm break monitor:

- Pressure switch
- Mechanical gauge
- Switch-gauge



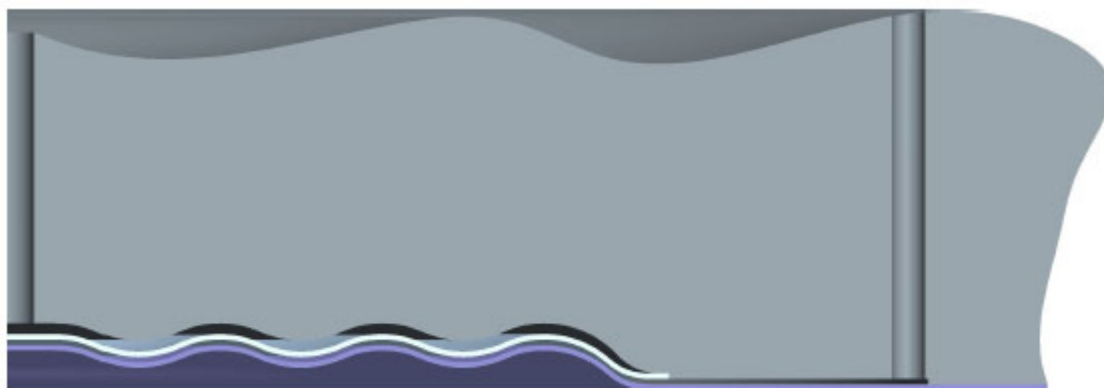
Outer Diaphragm

Inner diaphragm

Patent No. DE19949831

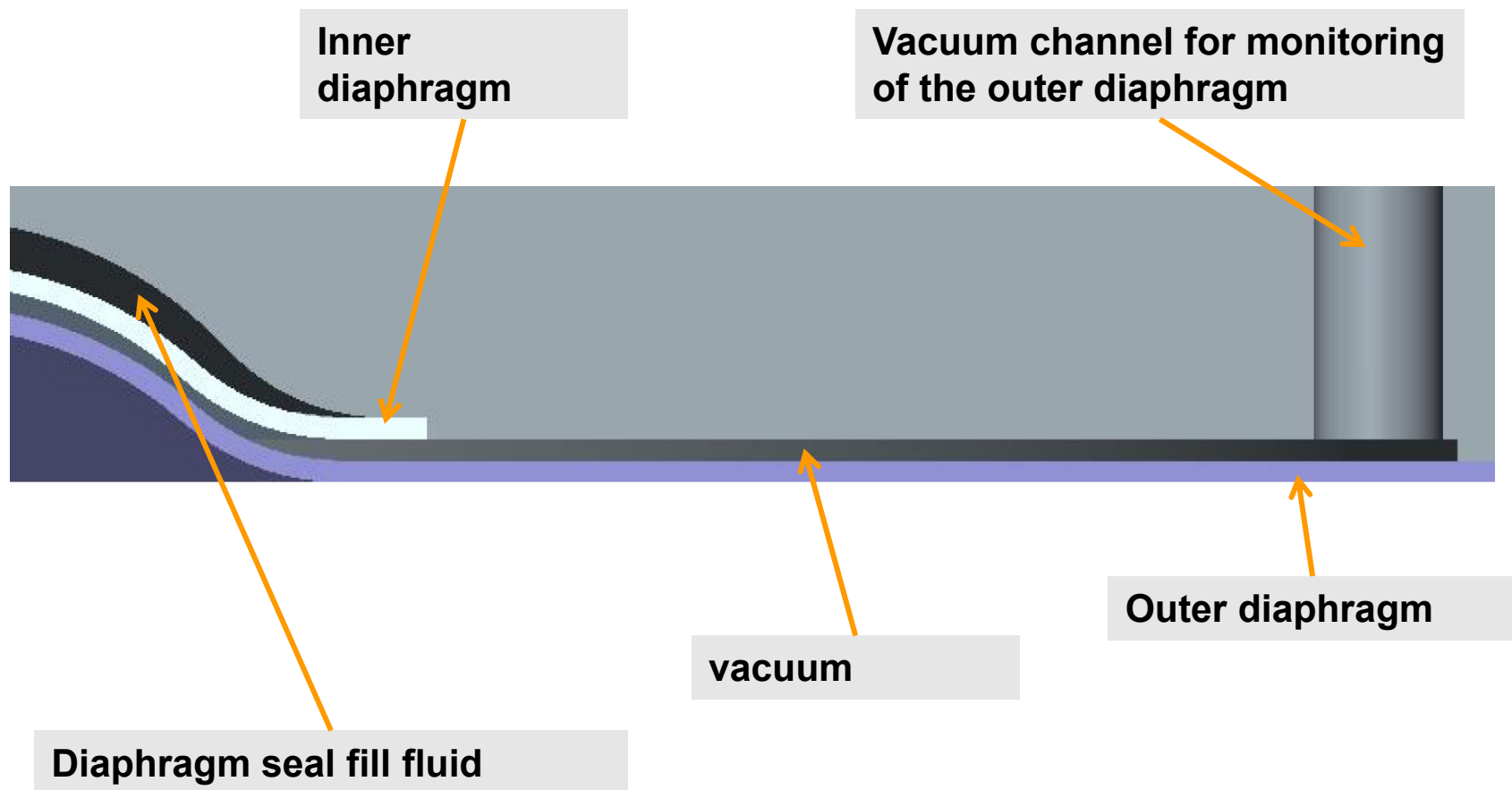
Diaphragm Break Monitoring System

Function



Patent No. DE19949831

Function



Patent No. DE19949831

Diaphragm Break Monitoring System

Diaphragm break monitoring options for automated areas

WIKAL

Part of your business



Digital output signal

HART interface

Profibus PA

Foundation
Fieldbus



Patent No. DE19949831

Diaphragm Break Monitoring System

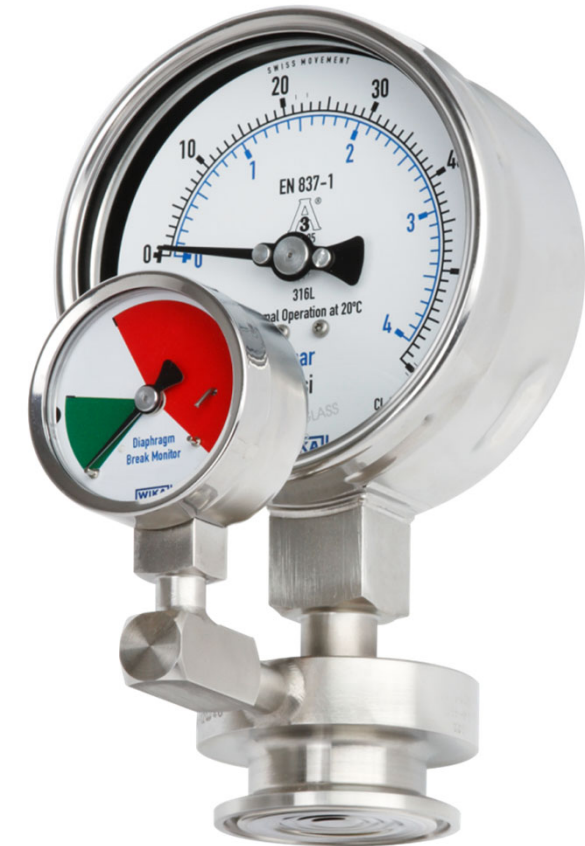
Mechanical gauges for mobile tanks



For mobile tanks

Measuring system
316L

Immediate
detection in case of
a diaphragm break



Patent No. DE19949831

Diaphragm Break Monitoring System

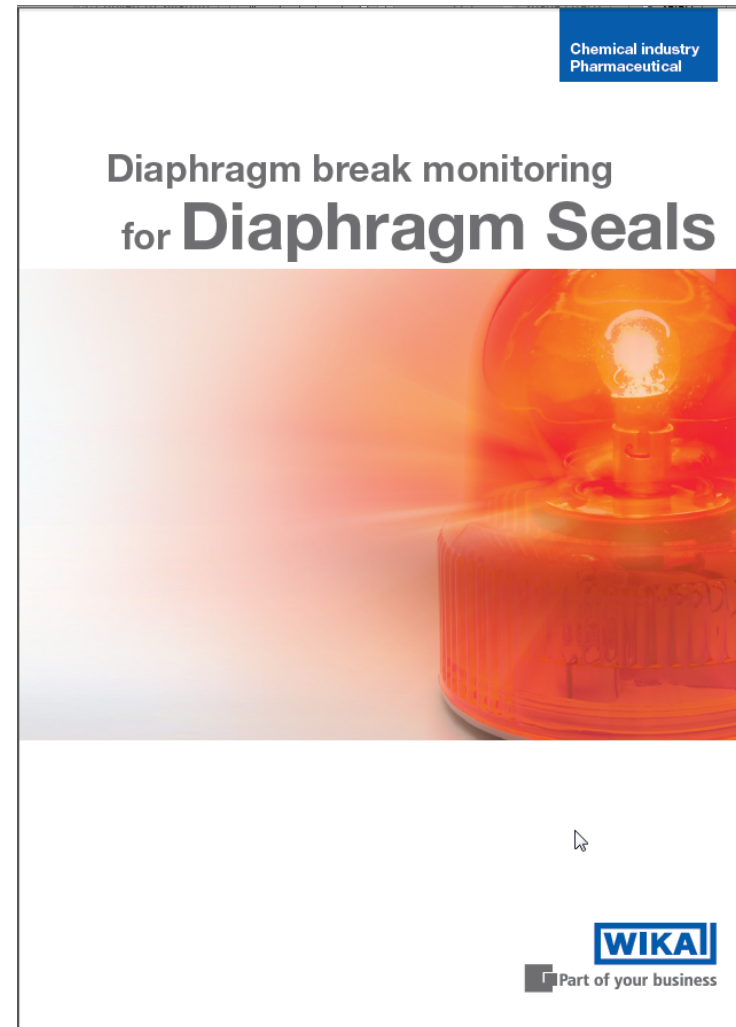
Benefit for the operator

- Risk minimization
- Controlled shut down in case of a diaphragm break
- System fill fluid separated from product
- Product separated from environment

Diaphragm Break Monitoring System

Further information

- Flyer
Internet [Link](#)



Thank you for your attention!

