

Precise pressure and level transmitter for all applications OnC PressSens



High-quality pressure sensors for all requirements

A reliable sensor system is essential for the efficient and malfunction-free operation of any production facility.

Voith's extensive process knowledge combined with innovative technology paves the way for a new generation of high-precision pressure sensors tailored specifically to your requirements.

Applications

The pressure and level transmitter OnC PressSens is specifically designed for reliable measurement in the process industry. It can be used for measuring liquid level, pressure, differential pressure or vacuum, according to application, and is suitable for various media for example: water, gases, steam, stock suspensions, hydraulic oil, coating colors and chemical additives.

Technology

The ceramic-capacitive sensor element with protected radial seal of OnC PressSens 182 enables front-flush mounting of pressure sensors in pipes, vats and chests, tanks and storage towers. Thanks to the extremely abrasion-resistant ceramic, this sensor is ideal for use throughout recovered paper stock preparation lines: from pulping all the way to the headbox.

For applications with high temperatures and aggressive media such as caustic soda, a tough stainless steel diaphragm is used. Since the sensor element works with internal transmission fluid and special temperature compensation, the temperature influence is very slight and measurement error is minimized.

Reliability

To meet the high demands on productivity and availability, particular emphasis has been placed on dependability. The robust housing and sensor easily withstand vibrations, abrasion, pressure surges and dirt. Accordingly, OnC PressSens sensors are available in protection class IP65, IP66/67 or IP68. The electronics module is completely sealed and designed for continuous operation in moist environments. All instruments comply entirely with CE standards. OnC PressSens 182/183 are also available as SIL2 versions.

Should a defect nevertheless arise, OnC PressSens sensors can be easily and quickly exchanged. With OnC PressSens 125 and 181-183, all settings and calibration data can be stored in the control and display module OnC UniCom 910. This saves time and prevents calibration errors.

Process Connection

OnC PressSens sensors are available with all commercial threaded and flanged mountings. Customized mountings for many applications are also available.

The small cell of model 154 can be fully flush-mounted even in small pipes. The optional OnC TransValve replacement valve can be installed under pressure without interrupting operation. The differential pressure transmitter PT125 is delivered with oval type flange, but is also available with integrated flange remote seal.



1



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Housing and signal output

This single-chamber housing in powder-coated diecast aluminum or stainless steel of OnC PressSens 125 and 181-183 is well proven in a lot of applications in rough environments. The OnC PressSens 182 headbox pressure sensor has a tough stainless steel housing to protection class IP68, with separate electronics module. Signal transmission by the integrated electronics system is possible via 4-20 mA/ HART, Profibus PA or foundation fieldbus, according to product configuration. This enables full integration in all control systems.

Electronic pressure gauge with analog display

The electronic pressure sensor with analog display from the PT110 series combines the good readability of pressure gauge display with the advantages of an electronic sensor. The device, which is also referred to as an electronic contact pressure gauge, is used for monitoring, transmitting and simultaneously displaying system pressures within plants. It combines the functions of a switch, a transmitter and an analog display.

OnC PressSens 110-117



Operation

The extremely compact OnC UniCom 910 plug-in display and control module for storage of all settings and calibration data is ideal for permanent or temporary installation, and needs no power connection.

Innovative technology OnC UniCom 910 control module

- **Powered from the sensor: no separate supply required**
- **Convenient local display and control**
- **Plug-in mounting in four positions 90° displaced**
- **Permanent storage of calibration data and settings**
- **Illuminated display for easy reading**
- **Wide choice of units (e.g. mbar, bar, psi, Pa)**
- **Comprehensive service and diagnostics functions**
- **Many different languages selectable**
- **Optional bluetooth-function for wireless connection via smartphone (iOS/Android)**

OnC UniCom 910





- 1 OnC TransValve 310 with OnC PressSens 182
- 2 OnC PressSens 125
- 3 OnC PressSens 110

OnC PressSens product family

■ Standard ■ Optional □ Optional for versions with detached control electronics

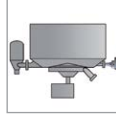
OnC PressSens product type	110	114	117	125	181	182	183
Transmitter for gauge – and absolute pressure	■	■	■	■	■	■	■
Differential pressure transmitter				■			
Special ceramic measuring cell	■	■				■	
Stainless steel measuring cell			■	■	■		■
Measuring cell with fixed chemical seal					■		■
Process temperature > 130°C			■		■		■
Measurement range up to 1,000 bar			■		■		■
Additional temperature data readout				■	■	■	■
Accuracy < 0.5 %	■		■				
Accuracy < 0.3 %		■					
Accuracy < 0.2 %	■				■	■	■
Accuracy < 0.1 %						■	■
Accuracy < 0.075 %				■			■
Accuracy < 0.05 %						■	
Long-term stability < 0.1 % p.a.	■	■		■	■		
Long-term stability < 0.05 % p.a.						■	■
Built-in indication and adjustment module	■			■	■	■	■
Signal output 4...20 mA	■	■	■	■	■	■	■
HART communication				■	■	■	■
Profibus PA				■	■	■	■
Foundation Fieldbus				■	■	■	■
Front-flush mounting	■				■	■	■
Absolutely front-flush mounting						■	
Connection to OnC TransValve						■	
Separated evaluation electronics					■	■	■
SIL qualification						■	■
Protection class IP65		■	■				
Protection class IP66/67	■			■	■	■	■
Protection class IP68					□	□	□

Examples of use for the paper-industry



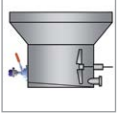
1 Headbox: OnC PressSens 182

High-precision pressure measurement for controlling jet speed at the headbox. Optional electro-polished connection with protection class IP 68 for this critical application.



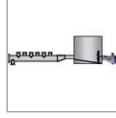
8 Pulping: OnC PressSens 182

Reliable level measurement due to a special ceramic measuring cell and despite exposition to strong pressure pulses, extreme turbulence and heavy shocks.



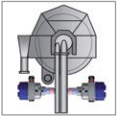
2 Storage tower: OnC PressSens 110/182

Level measurement at the storage tower with changeover device OnC TransValve 300 for replacement or service during operation.



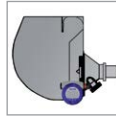
9 Mixing chest/machine chest: OnC PressSens 182

Dependable level measurement at the mixing chest for stock component flow control.



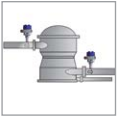
3 Disk filter: OnC PressSens 110/182

Vacuum measurement at the drop legs for monitoring disk filter functioning. Level measurement for disk speed control.



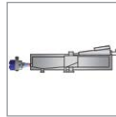
10 Under Machine Pulpers: OnC PressSens 182

Level measurement under extreme turbulent conditions at the paper machine.



4 Pressure screen: OnC PressSens 110/182

Inlet and outlet pressure measurement to determine differential pressure and for stock feed alarm/shutdown.



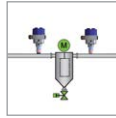
11 Microflotation: OnC PressSens 182

Level measurement during microflotation to ensure constant sludge discharge.



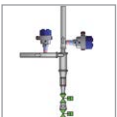
5 Pumps: OnC PressSens 110/182

Pressure or speed control of water system and stock pumps allows energy savings, especially with different primary pressures or a variable number of connected users.



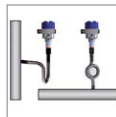
12 Slot filter: OnC PressSens 182

Pressure measurement at the inlet and outlet to determine the degree of filter contamination.



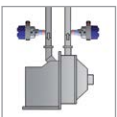
6 HC cleaner: OnC PressSens 110/182

Inlet, outlet and overflow pressure measurement at the HC cleaner and cleaner bank. The extremely high abrasion resistance of the special ceramic guarantees long life.



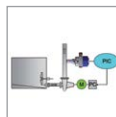
13 Steam/condensate: OnC PressSens 110/117/125/182

Measurement: separator level, differential pressure above trying cylinder, steam amount at main steam pipe (impact pressure sensor with PT125). Recording/control: steam pressure dryer section, steam supply stock preparation (117/182).



7 Refiner: OnC PressSens 110/182

Refiner inlet pressure measurement for locking the fillings setting at minimum pressure or the stock feed pump at maximum pressure.



14 Chemicals: OnC PressSens 117/183

Pressure or speed control of the chemicals pumps for energy savings. The tough metal diaphragm durably withstands high temperatures and aggressive substances.

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