

OnC ConSens 700

Precise measurement of overall consistency



Optical stock consistency measurement

Stock consistency measurement in the paper manufacturing process is often subject to severe fluctuations and is dependent on many factors. For this reason, Voith uses the especially accurate OnC ConSens 700 optical stock consistency sensor for measurement of the stock consistency.

Exact results

The sensor offers an extraordinarily large measurement range of stock consistency from 0% to 11%. The measurement of overall stock consistency also takes into account ash and fines. Thanks to the measurement process, the system is extremely rugged and insensitive to disruptions. The undesirable influence of air and gas bubbles is thus automatically compensated for.

Simple installation and operation

The stainless steel sensor has no moving parts, so the danger of spinning is reduced down to zero. In addition, the smooth surface and measurement window made of sapphire prevents unwanted wear of the sensor head. That facilitates reliable measurements, regardless of flow external impacts, such as temperature or chemicals.

All field devices from Voith are perfectly adapted to paper manufacturing for quick and easy start-up and use. Thus as a rule OnC ConSens 700 only requires simple one-point calibration. All this makes assembly, operation and maintenance easy and substantially reduces the incidental operating costs.

Reliable measurement process

The patented six-channel alternating beam process with short-wave infrared radiation and beam focusing facilitates measurement of the overall stock consistency, including ash content and fine portions. Optionally, the turbidity can also be measured with OnC ConSens.

Many possible applications

OnC ConSens 700 reliably measures the overall stock consistency, even with ash variations in the raw material. The sensor is suitable both for graphic paper, board and packaging paper as well as for deinked stock and pulp.

It can be used for stock consistency control in stock preparation and in the approach flow system, for retention measurement in the white water or for measurement of turbidity and solid content in the clear and turbid filtrate.

Perfect unit

Working alongside the OnC UniCom 930 transducer, the OnC ConSens 700 meets all requirements for stock consistency measurements along the paper manufacturing process.

OnC UniCom 930

The OnC UniCom 930 transducer was developed for use in paper manufacturing. It can be connected with a standard cable via a terminal strip and automatically recognizes all connected devices. Thanks to the protection class IP66, it is also highly suitable for use in demanding environments.

OnC ConSens 700 sensor

- Measuring process: combined multi-beam alternating light process
- Light source: diode system and beam focusing
- Optics: sapphire
- Enclosure and shaft: stainless steel 1.4571
- Connection box: die-cast aluminum, powder-coated
- Process connections: TriClamp NW 40
- Measurement range: 0.01-11% (0.001-10.000 FNU)
- Error of measurement: < 5% of measurement value
- Process temperature: 0-60 °C (short-term up to 80 °C)
- Process pressure: 0-10 bar
- Flow speed: > 0.7 m/s
- Units – stock consistency: g/l, %, mg/l, ppm
- Units – turbidity: FNU, NTU, EBC
- Special features: automatic air bubble compensation

OnC UniCom 930 transducer

- Display: LCD graphic display, back-lit
- Number of probes: max. 2
- Power connection: 90-264 V/AC or 18-36 V/DC
- Protection class: IP66
- Current consumption: max. 20 W
- Outputs: 0/4-20 mA analog, 4 potential-free contacts (max. 2 A)



Thomas Stofer Project Manager EMSR, PM 7, Perlen Papier AG:

"With the PM 7 project, the OnC ConSens 700 optical stock consistency transmitter from Voith was introduced. Many areas of application can be covered with this type of device.

We have obtained good results even with the difficult application after pulping. Due to the optical measurement principle, nothing more can get caught on the sensor. Since the installation location is the key to flawless functioning, Voith supported us in making the right choice. Operation and calibration of the sensor is done with the separate OnC UniCom transducer and is very easy to carry out.

Measurement of overall stock consistency with the OnC ConSens 700 is stable and reliable and thus we can operate the ALPA2 recovered paper system fully automatically."

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