Specifications and process conditions

Sensor part

Measurement
- Measuring range: 0.5 – 7 % Cs
- Repeatability: ± 0.01 Cs
- Sensitivity: 0.002 % Cs

Materials
- Enclosure: Polycarbonate
- Wetted parts: AISI 316L
- O-ring material: Viton

Process conditions
- Temperature: 0 to +120 °C (+32 to +248 °F)
- Flow velocity: From 0.3 m/sec, Turbulent mass flow
- pH: 3 – 10
- Pressure rating: PSIG / 363 psi
- Vibration: Max. 2G (20 m/s²), 10–2000 Hz

Valmet OC Optical TCU

Connection to mill system
- Analog outputs: 2 outputs, 4–20 mA, passive
- HART®: 12 – 35 VDC
- Binary inputs: 2 inputs, galvanically isolated
- 12 – 28 VDC / 10 mA
- PROFIBUS PA slave (option) IEC 61158-2

Connection to PC (configuration & diagnostics)
- DTM HART®
- PC-connection (service) RS-232

Environment
- Ambient temperature: Max. 50 °C (122 °F)
- Enclosure class: IP65 (NEMA 4)

Weights
- TCU: 3 kg (6.6 lbs)

Valmet OC is provided with HART® communication and it can be connected to a FieldCare condition monitoring system. HART® is a registered trademark of Hart Communication Foundation. Foundation Fieldbus is a trademark of Fieldbus Foundation.

Next Step in Inline Consistency Measurement
Valmet Optical Consistency Transmitter
Valmet OC – Inline Consistency Measurement Has Never Been Easier

Long experience
Valmet has utilized optical technique for many years, not only in consistency transmitters but also in more advanced analyzers for the lower part of that range. Typical use in the pulp and paper industry.

Optical transmitters have an obvious position in the consistency transmitter portfolio. Particularly in low-consistency measurements, it is frequently the only possible measurement technique.

New member in the family
Valmet Optical Consistency Measurement (Valmet OC) is part of the consistency transmitter portfolio, and uses the same platform. This makes end customers’ effort cost, since the practical work with various transmitter types is very similar. It also has all relevant communication and buses available, such as HART, PROFIBUS PA and FieldCare, etc.

Applications
Valmet OC is suitable for many fiber consistency installations. Operating range is 0.5 to 7 % consistency, majority of the applications are in the lower part of that range. Typical applications in mechanical pulping TMP, GW and CTMP, grinder, cyclone channel, latency removal, screening, low consistency refining. In chemical pulping: screening, washing, refining, GW and CTMP: grinder, cyclone cleaner, latency removal, screening.

State of the art technology
Now optimum probe design, with multiple optical fiber channels. This probe – together with the newly designed electronics and the latest technology – allows for a fast sampling rate for accurate measurement result. The probe design makes it virtually resistant to dirt build up.

Reliable measurement
Valmet OC uses a single light source, and measures the reflected/backscattered light from the pulp suspension. The probe should be installed in turbulent flow to have the best possible representative measurement. Installating close to the dilution point and pump also means short dead time and favorable control ability – independent of flow, pressure and temperature variations. An easy to use tool is available for a quick function test of the measurement. There are no electronic components or other sensitive parts on the probe, making it resistant to high temperatures, pressure and vibrations. The pencil probe has a self-cleaning design – minimized metal surfaces to avoid process substances that can adhere and accumulate. The new design has also terminated the plugging risk that the measuring gap suffers from.

Simple and safe installation
A small profiled process coupling is designed electronics and the latest technology – allows for a fast sampling rate for accurate measurement result. The probe design makes it virtually resistant to dirt build up.

Quick and easy calibration
Calibration is done in just a few steps. Specific curves for varying pulp types are stored in the memory of the transmitter. When calibrating the transmitter, simply select a pulp type, press the sample button and collect a lab sample. Once the lab evaluation is done, feed the value at the TCU keypad. Since the transmitter has a very linear response, a one-point calibration is all that is needed.

Low life time cost
The installation is simple with a minimum of welding work. Calibration is quick, with just one point needed. The absence of sensitive components close to the process pipe makes it robust. No regular maintenance is needed. All this means that the entire transmitter-related cost stays low.

Transmitter models and dimensions
Valmet OC
Standard set up including operating unit TCU and sensor probe
5 meter optical cable (option 10 meter)
Sensor cable 0.7 meter (option 10 or 30 meter)
Process coupling: profiled for 10° installation, 1/2” valve included

Valmet OCLX (replacement model for smart LX)
Standard set up including operating unit TCU and extended sensor probe
5 meter optical cable (option 10 meter)
Sensor cable 0.7 meter (option 10 or 30 meter)
Adaptor with 1/2” valve for smart LX coupling included (profiled coupling excluded)

Note: the probe is slightly longer on OCLX
For different OC and OCLX process coupling versions see back cover.