

L&W Pulp Tester

Lorentzen & Wettre Products | Pulp Measurements



No matter what kind of pulp is being produced or used, it is important to fully understand the process and have reliable data. Online measurements of pulp quality is a necessity today and the main purpose is to predict the final product potential from wet pulp properties. L&W Pulp Tester is a reliable, repeatable and cost-effective online system for process and laboratory control of pulp. Measurements conform to established standards and together with the latest and fastest technique it is a major help in achieving uniform paper quality and stable runnability.

L&W Pulp Tester offers a combination of different measurements. Additional modules can be added to the main unit to fit the particular needs of the production. It is also possible to incorporate a sample input unit for manual input (up to 3 litre, with a consistency between 1–2% or more). From this unit sample output is also possible, up to 5 litre with a system specific consistency level.

The system can be connected with up to 10 different pulp samplers (and even more if desired) in the process. Lorentzen & Wettre offer 2 different samplers ranging from low consistency (0–6 %) to medium consistency (0–15%).

Reliable and rapid results

Measurement results are displayed as different default and user-defined numerical and graphical reports and can be stored in the L&W Pulp Tester database. After a measurement cycle, results can be transferred through the mill's data



network for immediate action of the operators. L&W Pulp Tester also features communication protocols, networking and remote support possibilities.

Standardized measurements with laboratory precision

Modules can be connected for measurements of different properties according to the customers' requirements, such as optical properties, fibre morphology and freeness. The basis of the system is a sample preparation unit, with dilution tank and up to 10 (or more) different pulp sampler connections. It is also possible to connect a manual input unit and/or a multi manual input station to L&W Pulp Tester.

The sample is diluted to accurate consistency in the sample preparation unit. Thereafter it is distributed to the different measuring modules. After this, the sample is flushed out and the system is cleaned before the next sample is collected. It takes down to 6 minutes to test one sample. This means that when the system is going for full speed, L&W Pulp Tester will report up to 240 measurements of each property in 24 hours!

Benefits

- Automatic and online
- Measurements according to standards
- Quantitative measurements in one system
- Minimize web breaks and optimize production
- Increase mill productivity and profitability
- Optimize usage of raw material
- Control grade changes

Technical specifications

L&W Pulp Tester – code 960

Inclusive	L&W Pulp Tester is delivered and installed to a complete system with following main components: - Sample preparation unit - System software - Computer and UPS - Installation, start-up and training on site by ABB/Lorentzen & Wettre personnel
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Measurements

Properties	Fibre length, fibre width, shape factor, fibril index, fines, vessel cells, kink, coarseness, blend, minishives, process consistency, CSF, SR, brightness, whiteness, fluorescence, colour (L*, a*, b*), VIS-spectrum, ERIC 950, NIR-spectrum
Consistency range	0.5–15%
Measuring cycle	Down to 6 minutes cycle time

Installation requirements

Power	Operating voltage: 230 VAC/110 VAC, 50/60Hz Power total consumption, all modules included: max 2300 W UPS included in analyzer to ensure storing of data and controlled shut down of the system
Air requirements	Instrument air, class 2-4-3 according to ISO 8573-1
Air pressure	0.5–1 Mpa (70–145 psi)
Air consumption	Consumption depends on the number of modules included. Average consumption with sheet former 270 l/min (71.3 gal/min) with a peak consumption of 650 l/min (171.7 gal/min)
Water requirements	Depends on the situation, but at least filtrated to 25 µm Temperature: 30°C ± 2°C (87.8°F ± 35.6°F) (only required for L&W Pulp Tester Fiber Morphology)
Water pressure	0.4–1 Mpa (60–145 psi)
Water consumption	Consumption with both freeness and fibre morphology. Analyser: Qmax = 50 l/min, 60 l/sample (13.2 gal/min, 15.6 gal/sample) Sampling: Qmax= 25 l/min, 10 l/sample (6.6 gal/min, 2.6 gal/sample)
Drainage	1 tube/pipe > 50 mm
Environment	Flush proof cabinet in stainless steel Electronic enclosure and monitor according to IP65, temperature range 5–45°C (41–113°F) Relative humidity 20–90%, no condensation

Connections

Data communication	Ethernet
Protocol	- XML-data file or direct access to data file - OPC (optional) - Analog outputs (4–20 mA, optional)

Options

L&W Sampler, code 915
L&W Pulp Tester Sample Preparation, code 961
L&W Pulp Tester LC Sampler, code 962
L&W Pulp Tester MC Sampler, code 963
L&W Pulp Tester Sample Input/Output, code 973
L&W Pulp Tester Optical Consistency, code 972
L&W Pulp Tester Gravimetric Consistency, code 971
L&W Pulp Tester CSF, code 967
L&W Pulp Tester SR, code 968
L&W Pulp Tester NIR, code 969
L&W Pulp Tester Modelling Tool, code 983
L&W Pulp Tester Fibre Morphology, code 966
L&W Pulp Tester Fibre Morphology Plus, code 966+
L&W Pulp Tester Optical Properties, code 970
L&W Fiber Tester Blend, code 930
L&W Fiber Tester Vessels, minishives and kink, code 931

Dimensions

Sample preparation	2.0 × 1.4 × 0.85 m 78.7 × 55.1 × 33.4 in
Modules	2.0 × 0.55 × 0.68 m 78.7 × 21.6 × 26.7 in

Net weight

Sample preparation	342 kg
(including sheet former and sample input)	754 lb
Modules	80–130 kg 176–265 lb (depending on type)

Applicable standards

Fibre length: ISO 16065-2,
Canadian Standard Freeness: ISO 5267-2,
Schopper-Riegler: ISO 5267-1,
Instrument spec. (Elrepho): ISO 2469,
Brightness: ISO 2470,
Colour: ISO 5631,
ERIC 950: ISO 22754, T567

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