Data sheet

L&W PPS Tester
Lorentzen & Wettre Products | Paper Testing

L&W PPS Tester measures the surface roughness of smooth paper surfaces intended for high quality printing. The instrument estimates the air leakage between the paper surface and a thin metal band under conditions that simulates the printing process. The result is a signicant factor in determining the printability of paper and paperboard.

At delivery the instrument is ready to use. The easy to use colour touch-screen has intuitive menus and large easily accessible buttons. The capacitive colour touch screen has a protective surface for easy cleaning and durability with fast response and high resolution. The operator only chooses appropriate testing sequence and places the test piece in the measuring gap and the instrument begins measuring automatically. An auto cycling function permits the continuous cycling of the measuring head to facilitate repetitive and continuous measurements.

Testing procedure

The sample is placed in the measuring gap. The measurement starts when a photocell detects the presence of a sample or the start button is pushed in manual mode. The sample is automatically clamped against the measuring head with a chosen clamping pressure. The air flow measurement is performed during a predefined testing time. The sample is then released and can be moved to next measuring position. The automatic measuring process prevents handling errors.

Measuring compressibility

The compressibility of the paper sample is determined by measuring its surface roughness at two predetermined clamping pressures, thereby simulating the effects of linear loads in various printing methods. Compressibility is reported as a percentage reduction of surface roughness or as a ratio of the two surface roughness measurements.

Measurement results

The PPS roughness and compressibility measurement results are presented on the colour touch screen, either in tabular or in graphic form. The result can also be printed out with an optional built-in printer, with a network printer or exported via Ethernet.

Strip feeder

Extensive measurements are facilitated with an optional strip feeder. With the strip feeder each position is measured at a fixed interval and continues until the strip ends. To speed up the strip measurement, the strip feeder can be set to measure more frequent at certain positions and less on others. Defined position measurement ensures repeatable testing.

Traceability and reproducibility

Reproducibility is important for all measuring methods. Each L&W PPS Tester is individually calibrated and traceable to Lorentzen & Wettre's master instrument. This ensures that every L&W PPS Tester and measuring head measures identically within set tolerances. Lorentzen & Wettre uses a master system equipped with six measuring heads that are regularly checked against each other.

L&W PPS Master Kit

L&W PPS Master Kit enables regular routine checking of all the PPS instruments used by a mill, thereby ensuring that all measurements are fully comparable and reproducible. L&W PPS Master Kit is traceable to Lorentzen & Wettre's own master system for PPS measuring, thereby guaranteeing reproducibility. The instrument is supplied together with a 1-year subscription which consists of four sets of reference paper samples.

Benefits

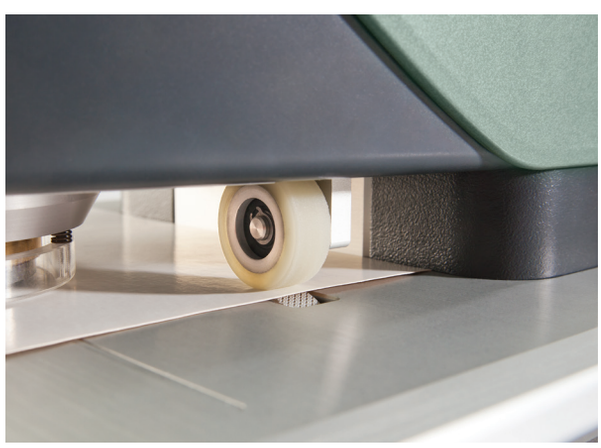
- L&W PPS Master Kit included. Paper samples and backing
- traceable back to L&W PPS reference instrument
- Auto-start, a photocell detects the presence of a sample and automatically initiates a measurement sequence, thus allowing hands-free operation
- Auto-cycling function that permits continuous measurements
- Integrated check function for air pressures, three air flows and three clamping pressures for reliable readings
- Touch screen for ease of use
- Integrated strip feeder (optional)

DEFINITION

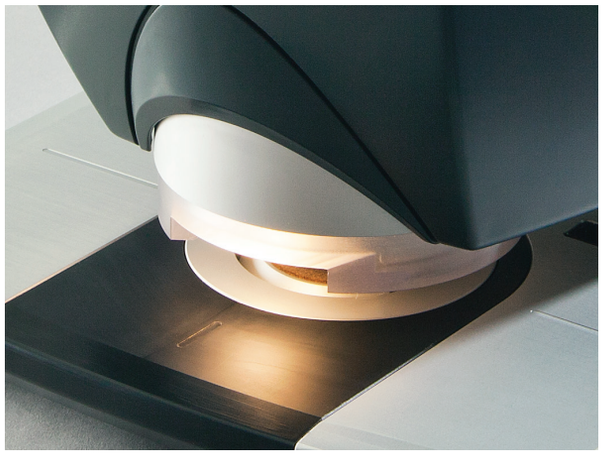
The measuring head, which carries a circular metal measuring land surrounded by concentric guard lands is pressed against the specimen, which is supported by a resilient backing surface consisting of lithographic blanket or other material designed to simulate backing materials used in printing processes. Air under pressure is led into the gap between one of the guard lands and the measuring land and the rate of ow between the edge of the measuring land and the specimen is measured.

The airow between the measurement land and the test piece is expressed as the mean distance in m after conversion.

Built-in thermo printer (optional).



Integrated strip feeder (optional).



Bottom plate can be removed when backing and measuring head need replacing.

Accessories such as check nozzles, extra backings, vaseline and zero film are supplied in an accessory case.

L&W PPS Master Kit contains three different paper samples with set points for PPS surface roughness. A soft backing is also ncluded.

Technical specifications

L&W PPS Tester – code 265

Inclusive	Check equipment comprising three nozzles, a plug and an adaptor. Backing holder with soft and hard backing. Spare discs with soft and hard backing. L&W PPS Master Kit. Zero-check film for inspection of PPS head at very low values.
Measurement range	0.60–6.00 µm

Instrument

Presentation	8.4 in colour touch screen
Max throat depth	112 mm (4.4 in) (from sample edge to centre of measuring head)
Dwell time	Adjustable 2–10 s
Repetitive measurement	Adjustable 1–10 s
Contact pressure	0.5, 1.0, or 2.0 MPa
Test air pressure	19.6 kPa

Results

Measurement values	- PPS Roughness and compressibility
Statistics	- mean value - standard deviation - coefficient of variation - maximum and minimum values of the series

Connections

Data	Ethernet (The instrument acts as a FTP-server. Test results can be retrieved by an FTP-client.)

Installation requirements

Power	100 W
Instrument air	>0.5 MPa (75psi)
Air consumption	0.5 m³/h (19 ft³/h) NTP

Dimensions	0.3 × 0.3 × 0.4 m 12 × 12 × 16 in	**Volume**	0.12 m³ 4.3 ft³
Net weight	16 kg 35 lb	**Gross weight**	26 kg 57 lb

Applicable standards

BS 6563, ISO 8791-4, TAPPI T 555

3 BLW 26500den100

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