PULP AND PAPER

L&W Micrometer

Lorentzen & Wettre Products | Paper testing

L&W Micrometer gives precise and exact thickness measurements of paper, board, corrugated board and tissue. It is used for controlling manufacturing parameters to produce a superior quality product. Thickness (caliper) is an important characteristic that affect bending stiffness. Controlling thickness uniformity means producing printing paper that performs well in the printing press.

There are four versions of L&W Micrometer: Two versions designed for paper and board (versions A-1 and A-2), one for corrugated board (version B-2) and one for tissue (version B-0.2). The different configurations conform to international paper industry standards.

Operator friendly

When the instrument arrives it 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 merely 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.

Benefits

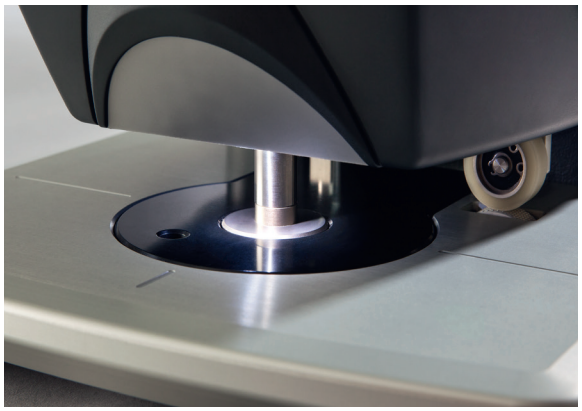
- Measures single sheet and bulking thickness (caliper)
- Specific measurement applications can easily be pre-programmed
- Auto-start, a photocell detects the presence of a sample and automatically initiates a measurement sequence, thus allowing hands-free operation
- Auto-cycling function that permits the continuous cycling of the upper pressure face to facilitate representative and continuous measurements
- Adaptive lifting height optimizes the height adjustment of the upper pressure face to allow whole series to be measured as quickly as possible
- Consistent result, due to high quality manufacturing standards (hardened and polished stainless steel)
- Touch screen for ease of use
- Integrated strip feeder (optional)

Testing procedure
The measurement starts when a photocell detects the presence of a sample and automatically initiates a measurement sequence, thus allowing hands free operation. The upper pressure face now moves upwards so that the test piece can be put in place. Adaptive lifting height optimizes the height adjustment of the upper pressure face after the first measurement in the series to allow the next measurement to be done, in the fastest, most efficient manner possible. The pressure face is lowering with a predefined as per selected standard or customized speed. The measurement is taken after a preset dwell time the pressure face is resting on the sample. An auto cycling function permits the continuous cycling of the upper pressure face to facilitate repetitive and continuous measurements.

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.

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

Instrument settings
The instrument can be configured for specific measurement applications. Such as operational functions as lifting height, auto cycling, dwell time, measurement units etc. directly on the display. This part is password protected to prevent changing the configuration by mistake.


Photocell for automatic start of measurement.

Touch screen for ease of use.


Built-in thermo printer (optional).


Integrated strip feeder (optional).

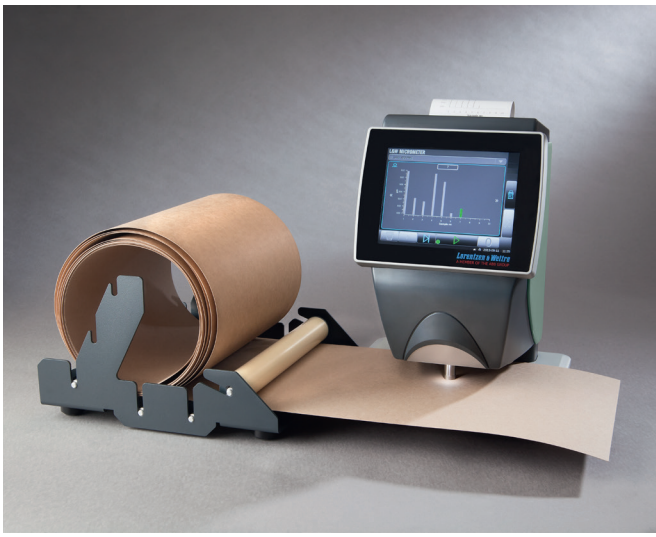
Technical specifications – L&W Micrometer, code 251	
Range	0.0001–20.000 mm 0.1–20 000 µm 0.001–750.0 mil 0.00001–0.7500 in
Indication error	±1 µm or 0.1 % of reading whichever is greater
Instrument	
Presentation	8.4 in colour touch screen
Measuring system	Optical linear encoder
Max throat depth	112 mm (4.4 in)
Test surface	Precision grained hardened stainless steel
Lowering speed	0.2–3 mm/s (0.008–0.118 in/s)
Lifting speed	5 mm/s (0.2 in/s)
Lifting height	Automatic adjustment of lifting height after the first measurement value in a series.
Dwell time	Adjustable 0–20 s
Repetitive measurement	Adjustable 0–10 s
Results	
Measurement values	- thickness (sheet or pad) in µm, mm, mil or inch
Statistics	- mean value (sheet or pad) - 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 a FTP-client.
Installation requirements	
Power	90W
Options	Internal strip feeder Built- in thermo printer Foot switch Slip gauges Strip holder (for guiding of long strips)

Dimensions	0.3 × 0.3 × 0.4 m 12 × 12 × 16 in
Volume	0.12 m^3 4.3 ft^3
Net weight	19 kg 42 lb
Gross weight	28 kg 62 lb
Applicable standards	

Paper and board:
APPITA/AS 1301.426 and 427, BS 3983, CPPA D.4, DIN 53105, EN 20534, ISO 534, NF Q 03-016 and 03-017, SCAN P 7, TAPPI T 411

Corrugated board:
APPITA/AS 1301.426, FEFCO No. 3, ISO 3034, SCAN P 31, BS 4817

Tissue:
ISO 12625-3, EN 12625-3, SCAN P 47, TAPPI T 580



L&W Micrometer here with optional strip holder.

Following versions are available:

Version	Measuring pressure [kPa]	Approx. dead weight	Meassuring surface [cm^2]	Lowering speed [mm/s]	Industry standard
A-1	50	1	2	1	TAPPI 411, PAPTAC D.4
A-2	100	2	2	1 or 2	EN 20534, ISO 534, DIN 53105, BS 3983, APPITA/AS 1301.426/427, NF Q 03-016/017, SCAN P7
B-2	20	2	10	2	ISO 3034, BS 4817, FEFCO No 3, SCAN P31, NF Q 03-030
B-0.2	2	0.2	10	1 or 2	ISO 12625-3, EN 12625-3, SCAN P47, TAPPI T 580

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