

PULP & PAPER

L&W Felt Permeability Meter

Process measurements



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01 L&W Felt Permeability Meter detects clogging and wear by measuring its surface permeability.

Overview

Accurate measurement of felt status is imperative for not only a cost-effective and efficient felt conditioning program, but also for maximizing machine runnability—and profitability.

L&W Felt Permeability Meter provides paper mills, felt and chemical suppliers industry-standard results for felt permeability measurement. By measuring the water permeability of the felts, clogging and wear are easily discovered and the potential to optimize conditioning, dewatering, as well as paper quality, is possible. As a result, suppliers can provide more precise recommendations and paper mills can extend and optimize performance.

Enhancing felt life and performance requires superior detection of clogging, wear and effectiveness of conditioning. ABB's L&W Felt Permeability Meter helps optimize the press section by providing permeability measurements—available with 2D and 3D mapping when used in an online scanner—that can be used to save energy and raw material usage, enhance felt life and performance, and achieve maximum speed and runnability for your paper machine.

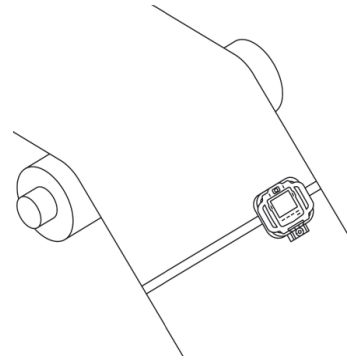
The instrument measures the permeability of the fabric surface using a very narrow water beam that captures the smallest felt pore details in both machine and cross direction (MD and CD) for further analysis. Plus, it captures the water flow with a very narrow beam providing the smallest felt condition details for further analysis.

Features

- Compact, lightweight design
- Proven technology, based on more than 50 years of experience
- Intuitive software user interface provides:
 - MD/CD profiles for regular inspections
 - 2D and 3D-data mapping to safely and easily visualize problem areas at the exact coordinates on your felt
 - Graphical Fast Fourier Transformation (FFT) finds peaks that appear at certain frequencies, linking them to machine problem areas
- Enhanced safety and ease-of-use features available for both manual testing and online scanner operation (keyless start/stop)
- No movable parts ensure durability

Benefits

- Overcomes high energy costs in the dryer section
- Improves planning for shutdowns, while also reducing unplanned ones
- Maximizes machine speed
- Optimizes felt conditioning with optimum levels of vacuum, chemical dosage, and high pressure shower
- Helps achieve the best overall felt lifecycle performance
- Improves paper quality and reduces sheet breaks
- Enables more informed troubleshooting



02 Felt Permeability Meter has dedicated scanner functionality in addition to its handheld use.

One device for multiple uses

With more stringent safety requirements and the increased development of online scanners for felt measurement, ABB's purpose was to build a device to use in multiple modes of operation to maximize your investment. ABB now offers one instrument to serve multiple modes of operation; dedicated functionality for manual testing and for use in online scanners.

03 The L&W PressView 3D PC software has a database for trends and advanced analysis (CD/MD, 2D+3D, FFT, etc.).



Working with your data should be done in a user-friendly manner that avoids large instrument menu structures, which can lead to mistakes and the need for new measurements. The L&W felt instruments are designed for quick and reliable measurements with a minimum of settings to accurately store the data during operation. Data can then be viewed and worked with more easily and safely on a PC using our new L&W PressView 3D. This software comes with an integrated database for long-term data storage and the possibility of direct data communication with other applications.

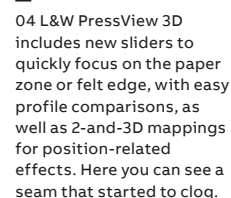
For felt suppliers or paper mills that want to understand the condition of the complete felt surface, ABB has adapted their application for 3D data mapping as a dedicated function for online scanner usage. New scanner 3D capabilities include HD data storage and the ability to save only the data that matters without any direct interaction with the instrument. As a result, additional analysis is now possible without the need for any extra work during measurement. There is also a keyless start/stop for easier interfacing and synchronized setup for each scanner.

Regular measurements with L&W Felt Permeability Meter leads to optimized use of cleaning chemicals, increased felt life, efficient dewatering, high and uniform product quality and reduced machine downtime.

With multiple options for operations, more and more mills are choosing to directly invest in these instruments (including online scanners) to optimize performance and control costs.

As a global supplier with local service organizations in all markets, ABB is the worldwide technical support market leader for paper testing, including both calibration and maintenance services. We provide specialized testing using L&W-specific calibration devices that are regularly certified with traceable calibration from global certification institutes.

Moisture and permeability are of equal importance to understand felt performance and complete proper conditioning. ABB L&W Felt Moisture Meter helps detect press felt compacting, crowning, clogging, and wear as well as the effectiveness of your felt conditioning. By having a separate instrument to measure moisture, operators can ensure pure results on first and repeated operation.



Technical specifications L&W Felt Permeability Meter, code 891

Inclusive	L&W Felt Permeability Meter, battery charger with power cable, 12V cable for car, USB cable, calibration check nozzle, software CD for PC, user manual, carrying case
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Measurement	
Range	50–3000 ml/min
Resolution	1 ml/min
Measuring area	2.5 or 4 mm diam. (0.1 or 0.16 in)
Measurement rate	100 values/s
Measuring series	Max 50
Measuring time/series	Max 30 min
Measurement values	- Flow ml/min - Pressure Bar, kPa, Psi

Instrument	
Battery type	Li-Ion (capacity min 2200 mAh)
Batter time	Approx. 2.5 h
Charging time	Max 6 h
Memory	128 MB
Input voltage	11-24 VDC
Weight	3.3 kg (7.3 lb)
Display	Color 320 x 240 pixels
Data connections	USB 2.0
Water supply	3.5-10 bar (50-140 psi)
Water temperature	10-50°C (50-122°F)
Ambient temperature	10-60°C (50-140°F)
Storage temperature	2-60°C (36-140°F)

Software

Compatible OS systems	Windows 7 and 10
User program	L&W PressView 3D
Data output	Excel, text-files, jpg and direct data-transfer
Graphical reports	MD & CD Profile info 2D & 3D data mappings Fast fourier transformations
Data storage	Database
Compatible instruments	L&W Felt Moisture Meter & L&W Felt Permeability Meter

Installation requirements

Operating temperature	15-60°C (60-140°F)
Operating humidity	Max 100% RH
Dimensions	285 x 263 x 125 mm (11.6 x 10.4 x 4.9 in)
Aluminum carrying case	420 x 320 x 180 mm 16.5 x 12.6 x 7.1 in
Net weight	9.4 kg (20.7 lb.) includes instrument, carrying case and accessories