

PULP AND PAPER

## **L&W Consistency Meter** Lorentzen & Wettre Products | Process Optimization



All pulp and paper products have different dewatering characteristics therefore it is important to have control of the dewatering. To obtain correct fibre orientation, formation, and distribution of fine particles it is important to control the dewatering in the beginning of the wire. To not risk losing other qualities, such as porosity it is important to optimize the dewatering further on, along the wire.

With controlled dewatering, energy consumption can be minimized by not using more vacuum than necessary in the dry suction boxes, and yet ensuring that the material arrives in the press section as dry as possible. Knowing how to correctly adjust the dewatering elements is based on knowledge on how they were set when producing maximum quality. Gain control of drainage at the forming section to get things as fibre orientation, formation, and distribution of fine particles according to specifications. L&W Consistency Meter measures the amount of water at various stages in the forming section, and measurement results make it possible to see if all dewatering elements are correctly adjusted in relation to the product that is currently being produced. It analyses and optimizes dewatering in paper, board, and pulp machinery.

## Features/Benefits

- Reduced energy consumption
- Balanced chemical usage
- Reduced emissions
- Reduced wear and maintenance requirements
- No radioactivity (High frequency technology)

## Storing information for repeatability

With L&W Consistency Meter, all measurements are saved in a database, so that one can at any time download earlier measurement results and use them for comparison with new measurements. Previous results can be displayed while taking new measurements making it possible to immediately see whether any part of the dewatering has changed or needs to be adjusted. This saves time and means that errors can be quickly rectified. The results are shown in both numerical and graphical form on the built-in, well lit colour display. Normally the average of the measured position is displayed, but it is also possible, in appropriate cases, to measure and display CD profiles. The enclosed program contains built-in frequency analysis that, for example, can be used to identify variations caused by pumps or vacuum. Uneven wires and vibrations are other causes of production variations.

All measured data is transferred to the L&W Multiview 3D PC program and saved in a database for analysis and reports to be printed out. The transfer usually takes place wirelessly, either using WiFi, Bluetooth or via a USB connection. The information can also be co-ordinated with measured data from the press section, and all measured data can, if desired, be exported to other file formats such as Excel.

## Specially designed

L&W Consistency Meter has been developed and designed to be used as easily and securely as possible. This means that special attention has been paid to the design of the measuring head, the display, and transfer of collected data to other computers, and the transport design. The instrument uses high frequency technology and is therefore not dependent on a special permit in order to be used or transported. The technology also means that the accuracy increases as measurements are made closer to the end of the wire, or in other words precisely where it is needed. The effect of the wire and the amount of fibre on the measured results is very small, and the results are normally presented in the form of  $gH_2O/m^2$ . It is also possible, if the dry weight is known, to present the result as % dry content.

Technical specifi	ications – L&W Consi	stency Meter,	code 897
Inclusive	L&W Consistency N program for PC, ba power cable, 12 V c USB cable, referenc carrying case	Neter, L&W Mu attery charger cable for car, ce plate, user r	ltiview, 3D with nanual,
Measurement			
Range	30–50 000 grams of water/m²		
Resolution	Approx 2% of measured value but not better than 5 g/m²		
Measuring sampling rate	1 000 values /sec		
Measuring area	25 × 70 mm		
Measuring method	High frequency electromagnetic resonance.		
Measurement type	Single point measurements on forming fabrics between stepfoils and vacuum boxes or CD profiles		
Instrument			
	Consist of 3 parts: Handle with electronics and display, extension rod and measuring head. Can be used with the extension rod for single point measurements or without extension rod for CD measurements.		
Display			
Colour display	320 × 240 pixels		
Results	g H2O / m² % H₂O % dry content		
Dimensions	Length: 1200 – 1600 mm (47.2 – 63 in ) (extendable) Width: 140 mm (5.5 in) (electronic box) Thickness: 80 mm (3.15 in) (electronic box)		
Aluminium carrying case	0.55 x 0.38 x 0.22 (21.6 x 15 x 8.7 in)	Volume	0.046 m <sup>3</sup> 1.6 ft <sup>3</sup>
Net weight	4.3 kg 9.5 lb	Weight incl. accessories	8 kg 17.6 lb

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