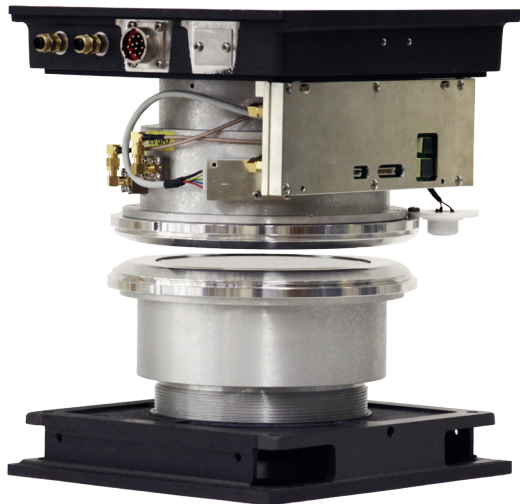


PULP AND PAPER

L&W Moisture Sensors

Lorentzen & Wettre Products | Process Optimization



L&W Moisture Sensors DS are the only sensors on the market that can measure moisture content through all the layers of finished corrugated board. Non-contacting measurements are an advantage when measuring the moisture content of multi-ply products such as boxboard and corrugated cardboard, and when measuring coated paper grades.

L&W Moisture Sensors are based on microwave technology. Measurement results are neither affected by ink residues in recycled paper or by the colour of a sheet; nor are the results influenced by caliper, surface structure, moisture stratification, or by the varying pH or salt content in the process water. Even common fillers such as china clay or whiteners, e.g. titanium dioxide, have virtually no affect on the moisture reading.

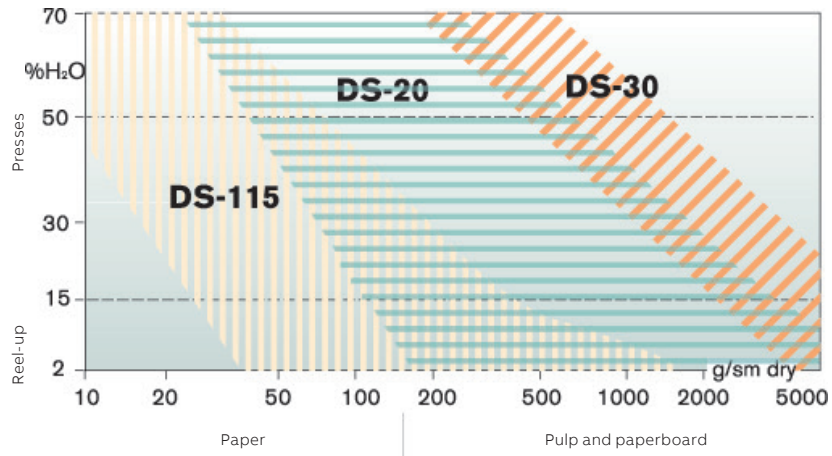
Features/Benefits

- Less sensitive to grade differences including recycled furnishes than other methods, leads to less calibration time
- High accuracy leads to improved process control, energy savings and improved product quality.

Minimum of calibration

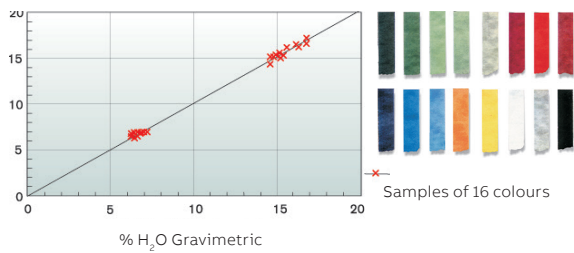
L&W Moisture Sensors are sturdy and thus very reliable. No advanced cooling system is needed and no lamps need to be changed. With a minimum of calibration and a minimum of maintenance, they simply do their job, regardless of the conditions. Just install it and it will take care of itself. What this implies to your maintenance budget goes without saying. L&W Moisture Sensors DS are primarily intended for continuous measurement in online installations. They can be fitted on O- frames or C- frames in order to measure cross direction profiles or machine direction profiles. The measurement signals are transferred to a signal processing unit.

Measures everything from Newsprint to heavy board

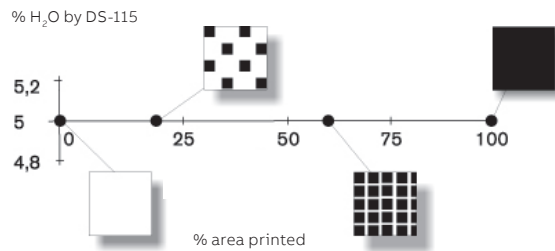


L&W Moisture Sensor DS-115 covers all paper grades from fine paper to paperboard.
For pulp or very heavy paperboard, we provide the well proven moisture sensors;
L&W Moisture Sensors DS-20 and DS-30.

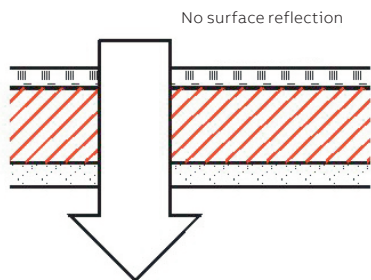
Non-sensitive to the colour of the paper



The measurements are unaffected by ink residues



Penetrates multi-ply board



Very large moisture content and grammage range. True average values for multi-layer sheets as well as thick and wet webs.

DS-115 for fine paper grades to paperboard

L&W Moisture Sensor DS-115 is a moisture sensor with an increased measurement range that covers all types of newsprint, including that manufactured from recycled fibre and containing printing ink residue. It is also perfect for measuring multi-ply material such as boxboard, liner, and coated paper.

To achieve maximum resolution in the control of the cross profile, the measurement area should be as small as possible, therefore, the measurement area of the L&W Moisture Sensor DS-115 is only 40 mm in the cross direction and 60 mm in the machine direction.

L&W Moisture Sensor DS-115 has a sampling frequency of 80 measurements per second, which makes it possible to move very quickly across the web. The resolution in the machine direction is excellent, even at high machine speeds.

The algorithms for calibrating L&W Moisture Sensor DS-115 are the same as those for earlier models. Use of the microwave resonance method is a guarantee of minimum calibration compared to other measurement methods.

DS-20/DS-30 for heavy sheet applications

The wide measurement range allows L&W Moisture Sensors DS-20/DS-30 to be used on all heavy sheet applications like heavy board, pulp sheet, fiber board etc.

L&W Moisture Sensors can measure moisture variations at a sample rate up to 1000Hz. This fast sample rate enable faster scanning across the sheet and ability to detect high frequency variations in the web moisture.

L&W Moisture Sensors has built in diagnostic tools and configurations functions that can be accessed from a PC via RS-232 connection. The algorithms for calibrating L&W Moisture Sensor are the same as those for earlier models.

Upgrade to new functionality

L&W Moisture Sensor (code 844) is backward compatible with older generation signal conversion unit SA-150. Existing L&W Moisture Sensors of older analog generation (code 842) can be upgraded to newer fully digital generation L&W Moisture Sensor (code 844).

Use of the microwave resonance method is a guarantee of minimum calibration compared to other measurement methods. L&W Moisture Sensors delivers a linearized signal for moisture via analog or digital output without need of external signal conversion equipment.

Technical specifications

L&W Moisture Sensor DS 115, code 843

Measurement

Measuring range H ₂ O	max 70 g/m ² 2–70%
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Instrument

Measuring gap	7–11 mm ± 1.5 mm dynamical
Measuring area	Oval 40 × 60 mm
Readout rate	80 mean values/s

Installation requirements

Supply voltage	24V DC
Air flow requirements	
Temperature	max 70°C

Dimensions	119 × 132 × 213 mm 4.7 × 5 × 8 in
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Net weight	3.6kg 7.9lb
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L&W Moisture Sensor DS 20/DS-30, code 844

DS-20*

DS-30

Measurement

Measuring range H ₂ O	max 600 g/m ² 2–70%	600 – 1500 g/m ² 2–70%
Resolution	0.4 gH ₂ O/m ²	0.4 gH ₂ O/m ²

Instrument

Output for moisture and temp.	0–10 V and 0/4–20 mA	0–10 V and 0/4–20 mA
Analogue signal connector	15 pin. D-sub female	15 pin. D-sub female
Digital signal connector	25 pin. D-sub female	25 pin. D-sub female
Digital output	Open collector	Open collector
Measuring gap	13 mm	13 mm
Measuring area	100 mm diameter	100 mm diameter
Readout rate	up to 1000 mean values/s	up to 1000 mean values/s

Installation requirements

Supply voltage	12–30V DC	12–30V DC
Power consumption	5W	5W
Fuse	1A slow	1A slow
Air flow requirements	0.3 MPa 5 l/min	0.3 MPa 5 l/min
Temperature	max 70°C	max 70°C

Dimensions	235 × 235 × 295 mm 9 × 9 × 11.6 in	230 × 235 × 290 mm 9 × 9 × 11.6 in
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Net weight	6.5kg 14.3lb	6.5kg 14.3lb
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* At grammages <200 g/m² not below 6% water content.