
WESTERVILLE, OHIO, USA, JANUARY 19, 2022

ABB launches fastest paper machine moisture sensor on the market, taking 5,000 measurements per second

- ABB's new patented technology offers unprecedented speed and accuracy of moisture measurements, even in difficult locations
- Accurate measurement can lead to significant cost savings; a ~1% change in moisture can generate up to \$400K in energy savings
- Precise measurement helps reduce drying costs and emissions for more sustainable operations

ABB has released its High-Performance Infrared-Reflection (HPIR-R) moisture sensor, which provides the fastest, most precise moisture monitoring available on the market today. Taking up to 5,000 measurements per second, the sensor delivers precise, high-resolution measurement that enables mills to increase throughput while reducing operating costs.

This advanced, patented technology will help pulp, paper and board producers to always know the precise moisture levels, giving them confidence to raise moisture targets and improve their CD profiles, enhancing end product quality with fewer rejects as a result.

Being able to measure and control the moisture levels as the sheet moves through the paper machine is critical to reducing energy requirements. This leads to optimized drying, decreased steam usage, significant energy savings in dryer sections and reduced carbon emissions. In fact, changing the steam pressure to create a moisture change of just 1% can equate to \$400K in energy savings.

The small spot of infrared energy used in the sensor provides excellent streak resolution and accurate edge-to-edge sheet measurement, even in the most difficult environments. Measurement while scanning is continuous, with no beam chopping or filter wheels ensuring optimum signal-to-noise ratio and maximum measurement rate.

ABB's new HPIR-R moisture measurement, which also has a built-in sheet temperature sensor, is designed to be fully air-cooled and field repairable. That, coupled with its insensitivity to dust and disturbances enables high uptime and lower total cost of ownership than similar solutions.

"Unlike competitive offerings, ABB's HPIR-R moisture sensor provides the highest frequency measurements possible, which helps customers to improve quality, reduce downtime, decrease costs and increase yields," said Andy Broomfield, Product Line Manager at ABB. "It has been designed for papermakers looking for accurate and precise moisture measurement in hot, difficult machine environments."

While it can be placed in any location, the highest impact application for this reflection moisture sensor is before a size press, where better precision and accuracy let you raise the moisture target, giving

optimized starch/sizing pickup and reduced drying energy demand. This also applies to pre-coat locations.

Another high-value application is placing it after the wet press section, enabling operators to adjust press loadings to improve the moisture profile and increase sheet dryness going into the dryers. In addition to energy savings, this also gives higher sheet strength in that sensitive area of the machine, meaning improved runnability and sheet break recovery.

Part of the ABB Ability™ Quality Management System, the sensor is fully digital with high-speed measurements provided alongside a rich set of diagnostic data which is ideal for analytics to inform on-site or corporate-level decision-making. It is applicable for all network platform types and can be used to measure publication grades, graphic papers, board, tissue, packaging, specialist and recycled grades.

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