MOISTURE MEASUREMENT IN BAGASSE

Precise analysis and realible control of product moisture

QUALITY
MADE IN
GERMANY

BERTHOLD

ONLINE MOISTURE MEASUREMENT
IN BAGASSE

Across the worldwide sugar production, sugar is extracted from either sugar beet or cane. The byproduct of sugar beet processing is sliced beet, which undergoes moisture control before being mixed with molasses and used as animal feed.

Bagasse, a byproduct of sugarcane processing, contains 40–60% moisture and is widely used in industries such as biofuels (ethanol), paper production, and biodegradable manufacturing due to its rich cellulose, hemicellulose and lignin content. Since moisture content plays a critical role in these applications, precise measurement is essential for optimizing performance, improving product quality, and reducing operating costs.

Berthold's advanced microwave transmission technology provides accurate, continuous, and non-contact moisture measurement for bagasse. Unlike conventional methods, Berthold's microwave system measures the entire product layer, ensuring high accuracy and reproducibility.

Microwave transmission method

Berthold's microwave system generates microwaves that interact with water molecules, which have a high dielectric constant. This interaction results in energy attenuation and phase shift, both of which are directly proportional to the material's moisture content. By analyzing these changes, the system accurately determines moisture concentration or dry substance content.

Berthold's multifrequency technology ensures stable and reliable measurements. The system can be installed on conveyor belts or chutes, providing real-time, representative moisture data for optimized process control. The non-contact measurement method eliminates wear and tear, ensuring maintenance-free operation and long service life.

Applications profile

- **Measurement task**
  Determination of dry substance or moisture in bagasse
- **Location**
  Conveyor belts or chutes, before or after drying and processing
- **Berthold solution**
  Microwave system (e.g., MicroPolar LB 567 with horn antenna)

Measuring sensors

Horn antennas are used in combination with our MicroPolar LB 567 units.

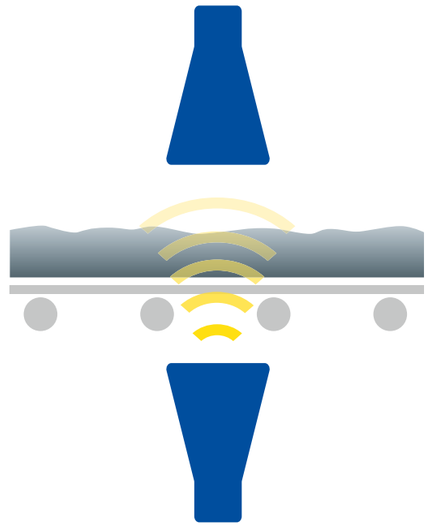
- Assembly outside of the media stream
- Nonintrusive, hence free of wear and tear
- Transmission technology measures the whole product stream
- Most accurate and representative

Customer Benefits

- Accurate determination of moisture and dry substance content
- Reliable process control and improved efficiency
- Precise, real-time data for better decision-making
- Compliance with quality standards and contract requirements
- Reduced laboratory costs through real-time online measurement

Technical Features

- Real-time dry substance measurement: ensures accurate online determination.
- Highly representative: measures the entire cross-section for precise results
- Adaptive compensation: adjusts for height and bulk density variations to enhance performance.
- Quick and easy calibration, minimizing system downtime



Typical arrangement of a online moisture measurement system with horn antennas

THE EXPERTS
IN MEASUREMENT TECHNOLOGY

Berthold Technologies stands for excellent know-how, high quality and reliability. The customer is always the focus of our solution.
Using our varied product portfolio, our enormous specialized knowledge and extensive experience, we develop suitable solutions together with our customers for new, individual measurement tasks in a wide variety of industries and applications.

We are here for you – worldwide!
The engineers and service technicians from Berthold Technologies are wherever you need them. Our global network assures you fast and above all competent and skilled assistance in case when needed. No matter where you are, our highly qualified experts and specialists are ready and waiting and will be with you in no time at all with the ideal solution for even the most difficult measurement task.

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