Moisture measurement and regulation system

Multi Online NIR System for animal feeds

DCMA
Reduced raw material and operating costs. Thanks to intelligent moisture management.

Increase your profit by ensuring the optimal water content
The Multi Online NIR System (DCMA) is a complete system designed for moisture measurement and regulation of animal feeds in the ongoing process. Measurements can be taken either in the batch mixer or in the surge (buffer) hopper above the pellet mill, with the fat content also being determined along with the moisture content. The moisture is corrected directly inside the mixer. Here, both water and a water additive can be admixed. This produces a wide range of benefits for feed producers.

Cost optimization of product formulations
The moisture content of end products depends on numerous factors, but is subject to a legal maximum value. The extreme measurement accuracy of 0.3 % (standard deviation) of this system enables the usual safety margins that have been needed up to now to be significantly reduced.

Consistent product quality, higher production capacity
DCMA ensures a consistent product quality, even in the presence of moisture content fluctuations in the raw material. The fines content is reduced, thereby increasing the uptime of the production line as well as the production capacity.

Reduced pelleting energy consumption
Optimization of the moisture content allows the mechanical energy input in the pellet mill to be reduced, leading to lower energy costs.

Product safety thanks to traceability
The moisture and fat contents are continuously registered and saved. Their values can be retrieved whenever required – increasing product and business safety.

The customer benefits at a glance:
- Cost optimization of product formulations
- Consistent product quality, higher production capacity
- Lower pelleting energy consumption
- Product safety thanks to traceability

The integrated complete solution. Specifically developed for the feed industry.

The NIR components used in the DCMA system have been specifically designed for industrial applications. This makes the system robust, enabling it to withstand outside interferences such as vibrations or temperature fluctuations. The system is characterized by its high measuring accuracy and reliability. The use of a multiplexer (optional) enables up to 6 measurement probes to be integrated per system.

Integrated process adapter
The manner in which the product is presented to the measurement sensor determines the accuracy of the measurement. Therefore, the process adapter has been specifically developed for use inside the mixer. In addition, it allows a product sample to be drawn and a temperature sensor to be incorporated (optional).

Moisture control tailored to specific requirements
The moisture is corrected directly inside the batch mixer by the addition of water or of a water additive solution. In order to improve moisture absorption and the shelf life of the product, it is possible to admix an additive to the water at a rate of 0.5 to 3 %.

The benefits of the system at a glance:
- NIR system specifically designed for industrial applications
- Only 0.3 % standard deviation for moisture and fat
- Water additive system integrated in the complete solution
- Separation of measurement probe and sensitive microelectronics
- Feed-specific, robust calibration model

Automation and process control
The Smart Terminal Box enables the system to be easily integrated in both Bühler and non-Bühler control systems. The associated software provides a clear user interface displaying the actual measurement values as well as numerous visualization possibilities.

Calibration and service
The scope of supply of the DCMA system also includes an extremely accurate calibration model for formulated (compound) feeds that is capable of withstanding outside interferences. If required, additional customer-specific test measurements and calibrations are possible, which will be charged on the basis of the actual cost.
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