POWDEREYE™

The in line analysis platform for the main powder properties

Inline powder analysis (patent pending)
Even the smallest deviation in quality and consistency during the drying process can lead to downstream problems, rejected product or loss of production time.

The POWDEREYE™ from GEA is the in line analysis platform for the main powder properties. The POWDEREYE™ issues warnings to the operator, thereby preventing costly out of spec production and provides a basis for final product control and process adjustments.

Powder properties
The POWDEREYE™ is situated after the last drying stage and measures continuously:
- Residual moisture
- Dark particles (by hi-res imaging)
- Bulk density
- Tapped density
- Optional: Protein and fat content

Powder sampling
The GEA POWDEREYE™ collects a sample in the product flow for presentation to the individual instruments.

The powder is either returned to the product flow or discharged through a sample collection port.

The POWDEREYE™ includes an auto sampler function operated by the local touch panel or from the SCADA system. A 200 ml sample is collected from the product stream and discharged to a sample container.

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Residual moisture
The residual moisture content is measured by NIR (near infrared) technology and provides a precise result with low variation due to a repeatable sample presentation and large measurement area size.

The NIR instrument is setup using product specific algorithms and will provide accurate moisture % readings when calibrated precisely for each product recipe.

Color and dark particles detection
A high resolution camera is used for color determination and detection of discolored particles. The sensitivity of the imaging procedure can be adjusted to detect particles below 100 μm diameter with a given contrast. An alarm for discolored particles can be set up to trigger a sample being sent to the external sample collection container – ready to be picked up for standard scorched particle test.

Product density
Both bulk and tapped density is measured precisely and with high repeatability as there is very limited powder handling.

Hygienic design
All components in contact with product are made of stainless steel, except for the sample cup which is made of anti-static polypropylene complying with EU regulation no. 10/2011. The POWDEREYE™ conforms to ATEX 1999/92/EC (zone 22 Cat. 2D).