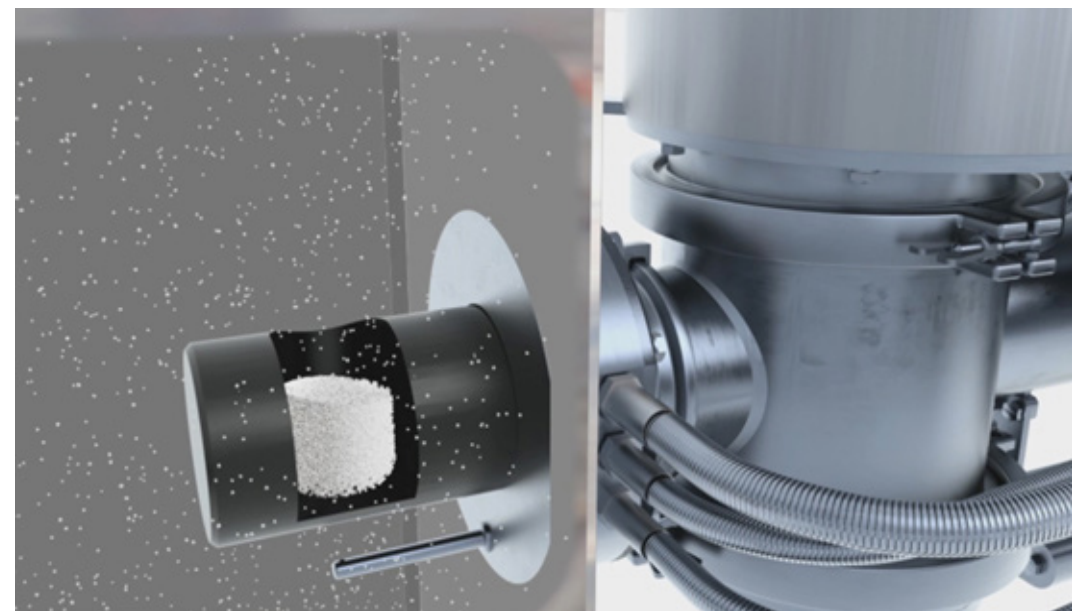


GEA POWDEREYE®

The in-line analysis platform for
the main powder properties



THE IN-LINE POWDER ANALYSIS



POWDEREYE® illustration

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 (patent pending) the inline analysis platform for the main powder properties. The POWDEREYE® provides fast powder measurements to the operator, thereby helping to prevent costly out of spec production. The measurements also form a basis for final product control and process adjustments by the operators or advanced process optimization software such as OptiPartner.

Powder sampling

The 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

an external 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.

Powder properties

The POWDEREYE® is situated after the last drying stage and measures continuously:

- Residual moisture
- Dark particles (by hi-res imaging)
- Bulk density
- Packed density
- Optional: Protein and fat content

POWDER PROPERTIES AND HYGIENIC DESIGN

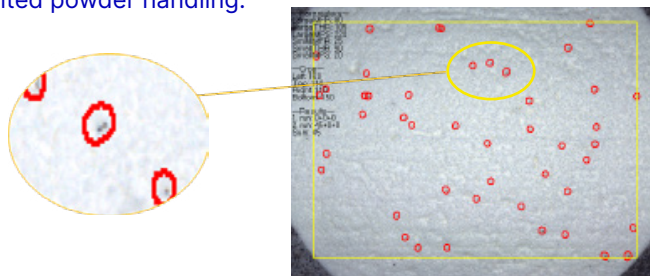
Residual moisture

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.

Product density

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

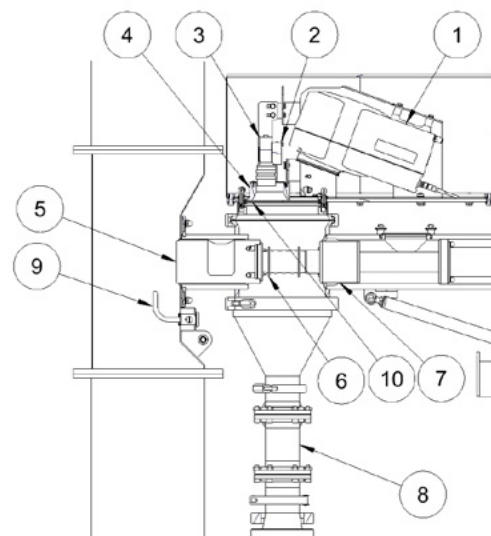


Color and dark particles detection

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

Directives and standards

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 Directive 2014/34/EU (ATEX) and is suitable for Zone 22 D.



Position	Description
1	NIR-sensor
2	Laser distance sensor
3	Camera
4	LED light ring
5	Sampling Cup (217 ml)
6	Load Cell
7	Vibrator
8	External sample port
9	Pneumatic CIP lance
10	Sapphire glass plate

GEA Process Engineering A/S
Gladsaxevej 305
2860 Soeborg, Denmark

Tel +45 39 54 54 54
gea.com/contact