MOISTURE MEASUREMENT
AND ANALYSIS

PFEUFFER

Granolyser | Granolyser HL

Fast, precise and easy to operate:
NIR analysis instrument for grain, oil seeds and pulses

with bulk density module

www.pfeuffer.com

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Analyzer with NIR diode array technology

THE CHALLENGE

Precise classification and quality assurance

The quality of agricultural grain crops such as grain, pulses and oil seeds is influenced by numerous factors such as the type of soil, the weather conditions and modern farming methods. Climate change and the reduced use of fertilizers require increasing numbers of adapted varieties in order to produce stable yields.

These developments lead to natural fluctuations in the characteristics of the raw materials, meaning that precise and reliable quality assessment is very important.
An accurate analysis forms the basis for sound commercial decision-making, optimizes drying and storage processes and safeguards the quality of fodder and food production. It must take place in a direct, efficient and reliable way.

OUR SOLUTION

Extended fully automatic whole grain measurement

Our NIR analysis instrument (near-infrared spectroscopy) is based on state-of-the-art diode array technology, and makes it possible to quickly determine the quality of grains and seeds with a diameter of approximately 1 to 15 mm directly on the whole grain.
The sample is metered and led through the measuring channel of the spectrometer. While this is taking place, part of the radiation from a halogen lamp is reflected by the sample and recorded by the detector. The spectrometer records up to 1500 raw spectra in the wavelength of 950 to 1540 nm per measurement.

When the measurement is complete, internal referencing automatically takes place for calibration. The raw spectra are directly evaluated with multi-variant calibration models directly in the instrument, in order to precisely determine central quality parameters such as moisture, protein, sedimentation index, gluten, oil content and starch. In the HL variant, the bulk density is also determined. The parameters depend on the selected product. In this way, you receive a reliable decision-making basis for your quality control.

Core characteristics

- Precise analysis of various parameters
- In the HL variant, the bulk density (kg/hl) is also determined
- Measurement of the whole grain, without disintegrating the sample beforehand
- Measuring result in less than 20 seconds with the Granolyser and 30 seconds with the Granolyser HL
- Sample volume of 600 ml
- Easy and clear touch screen operation in more than 20 languages
- Integrated thermal printer
- Two USB ports and an RJ45 interface
- Compliant with the calibration law for the moisture parameter in Germany and Austria

Technical data

Product	Voltage	Output	Dimensions	Weight	Item number
Granolyser	100-240 V, 50/60 Hz	70 VA	370x450x380 mm	20 kg	1180 0002
Granolyser HL	100-240 V, 50/60 Hz	70 VA	500x349x507 mm	28 kg	1180 0007

Accessories

Accessories	Item number
Beaker 0.5 liters	3112 8605
Rolls of thermal paper (5 rolls)	3262 8601
Barcode scanner	1920 0900
Pfeuffer DataGateway Windows® desktop application	1180 0120
Database module (MS Access®) for Pfeuffer DataGateway	1180 0121

Easy operation

- Large 7" color display
- International symbols
- Touch operation minimizes input errors
- Setup of favorites
- Tried and tested software with three access levels: User, expert and service

Standard version pre-programmed for:

Product	Parameter
Wheat	Moisture, protein, starch, gluten, sedimentation index
Rye	Moisture, protein
Barley	Moisture, protein
Triticale	Moisture, protein
Oats	Moisture, protein
Durum	Moisture, protein
Maize	Moisture, protein, starch
Millet	Moisture
Rapeseed	Moisture, oil, oil with 9 % moisture
Sunflower seeds	Moisture, oil
Soya beans	Moisture, protein, oil
Peas	Moisture, protein

In addition to the standard calibrations, other products are available. Individual calibrations can also be produced if required by request.

Well thought-out functionality

After putting in the sample, all you need to do is select the product type and press the measuring button. The rest is taken care of by the Granolyser with maximum precision and reliability. After a few seconds, the measurement result is displayed, can be printed out via the integrated thermal printer, stored on a USB medium and/or transmitted via the company network for further processing.

HL variant

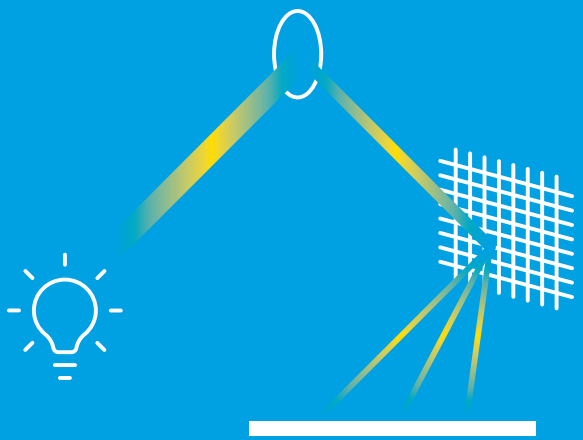
- Automatic filling of the measuring cell ensures that the bulk density is consistent
- A scraper removes excess grains for constant volume and repeat accuracy
- Automatic emptying of the measuring cell into the drawer of the instrument

YOUR BENEFITS

Precise NIR analysis for optimum grain quality

The Granolyser NIR analyzer provides you with a compact, robust and convenient solution for reliable grain analysis:

- Precise NIR diode array technology with 1500 individual scans per sample
- Intuitive operation using a color touch screen
- Pre-configured measurements for 12 typical grains
- Wide range of connection options
- Integrated thermal printer



Extended connectivity

The Granolyser is a real communication talent and provides interfaces for connecting to ERP systems, laboratory information and management systems (LIMS) and quality management software (QMS).
Connections and data export:

- Two USB ports for barcode scanners, keyboard or storage media – for mobile export and easy data processing
- Network connection (Ethernet, RJ45, LAN) for exporting measurement data
- Storage of measurement data in different formats or an Access® database with the DataGateway Windows® app
- Integrated command set for incorporation in automatic process controllers or the Pfeuffer Automation Controller (PAC)

OUR FUTURE-PROOF SOLUTION

Pfeuffer Automation Controller – Grain recording optimization

Correct sampling of grains is decisive for smooth and representative quality control of the delivered goods. The manual sampling which has been used to date is challenging, and requires valuable resources in the laboratory.

Smooth workflow from sampling to NIR analysis

The Rakoraf sampler takes the sample directly from the vehicle and transports it into the laboratory. Where the Pfeuffer Automation Controller takes control: It coordinates the entire transport process, the preparation and the NIR analysis of the sample. The measurement results are collected and automatically sent to your ERP or laboratory system – quickly, efficiently and without manual intervention. Benefit from relieving the strain on your laboratory personnel, and increase your productivity by means of complete automation of the entire sampling and analysis.

Pfeuffer Automation Controller (PAC)

Pfeuffer: Technology for professional quality evaluation

As an internationally operating specialist for sampling and grain measuring technology, we have more than 75 years of experience in equipment for agriculture, trade, mills, compound feed plants, seed cultivation, malthouses and breweries. Our product portfolio covers the entire field of grain quality control. The vertical integration of our company – from development and manufacturing to sales and the maintenance of the systems – provides you with maximum quality, precision and investment security.

The quality assurance of our construction, development and production is certified in accordance with ISO 9001:2015.

We develop, design and manufacture all of our products and systems in house.

Do you have any questions about further details of our Granolyser or Granolyser HL? If so, please call us or send us an e-mail. We would be pleased to advise you!

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