Dedicated Near-Infrared Solution for Flour and Milling Analysis

The Thermo Scientific Antaris flour analyzer is a rugged and easy-to-use instrument for incoming wheat, flour milling, and co-product testing. By rapidly analyzing multiple components simultaneously without consumables, chemicals, or disposable costs, the analyzer saves you both time and money. The Antaris flour analyzer is a pre-calibrated solution that covers the entire spectrum of flour constituent analysis. It includes the Antaris™ II Fourier Transform Near-Infrared (FT-NIR) analyzer with INGOT® flour and milling calibrations. Simple operation of the analyzer and Thermo Scientific RESULT software makes routine analysis quick and easy.

Thermo SCIENTIFIC

Quality Control Testing in Challenging Production Environments

Near-Infrared (NIR) database development requires significant investment in time, analytical resources, and money along with technical expertise in calibration model optimization. The Antaris flour analyzer offers a pre-calibrated solution using world leading FT-NIR technology without the large investment required for NIR database development. INGOT calibration models are developed and supported by the joint cooperation of Aunir and the internationally renowned spectroscopy experts at the Walloon Agricultural Research Center (CRA-W).

The Antaris Flour Analyzer Advantage

- Internal, automatic background collection with sample in place eliminates operator error and sampling variability
- Fourier transform technology provides high spectral resolution
- Dynamically aligned interferometer provides excellent reproducibility in unstable production environments
- Internal calibration for better accuracy and precision
- High throughput integrating sphere for maximum collection of diffusely reflected light
- No sample preparation, consumables, or chemicals
- Heavy-duty, sealed housing protects the system
- Workflow-based software for push button routine analysis

The Antaris Flour Analyzer Includes:

- **Antaris II FT-NIR analyzer**
- **Integrating Sphere Module with 5 or 12 cm sample cup spinner accessory**
- **RESULT™ and Thermo Scientific TQ Analyst software packages**
- **INGOT Level 4 Flour and Milling calibration package**

INGOT Overview

INGOT plug-n-play calibration models are used for the analysis of raw materials and finished products. They offer Antaris II FT-NIR users in flour, milling, grain, animal feeds, and food processing industries a highly cost-effective solution for monitoring key components such as moisture, protein, ash, fat, fiber, starch, and other nutritional and physical parameters. With robust calibration databases and superior method transferability, your INGOT calibration models are ready for use the day they are installed.

The INGOT Advantage

- **Calibrated models ready to use on day one**
- **Full technical support**
- **Improve operator efficiency**
- **Continual calibration updates and data review**
- **20+ years of calibration database development ensures results independent of product variation, location, or year**
- **Proven track record by users in over 42 countries**
- **Reference wet chemistry performed according to official methods by analytical experts**

Benefits of NIR for Flour Analysis

Assess Wheat Quality at Intake

Most wheat purchasing contracts will specify single varieties of wheat, as this is the most important element in determining end use performance. Verifying the quality and grade of wheat prior to it entering the milling process is critical to producing the right flour. NIR technology insures the correct quality and grading so buyers can have complete confidence in the grain they buy.

Optimize your Flour Milling Process

The speed of NIR technology provides quality data for real-time process improvements and product releases to maximize production and profitability. Flour millers can monitor and maximize flour extraction efficiency and optimize blending by determining the level of ash in flour. By using NIR for protein analysis, the wheat blending or gluten addition process can be optimized to increase profitability.

Guarantee Flour Quality

Wheat flour customers have fixed component specifications based on the bread or baking products that they produce. Traditionally, quality tests for wheat and flour have been undertaken by lengthy chemical and rheological methods, which are labor intensive, time consuming, and require experienced technicians. The Antaris flour analyzer replaces a majority of these tests by quickly and accurately quantifying key components, such as moisture, protein, and ash, to guarantee customers receive flour that meets their specifications.

Flour and Milling Calibration Package

The Antaris flour analyzer is a turn-key solution giving customers insight into the quality of the entire flour milling process from incoming material through production to final products. Pre-calibrated with the INGOT Level 4 Flour and Milling calibration package which includes all wheat, flour, and co-product calibrations, the Antaris flour analyzer is a complete analysis package.

Flour and Milling

Flour					Milling			
Bread Flour	Biscuit Flour	Whole Meal Flour	Cake Flour	Specialty Flour	Dried Vital Gluten	Whole Wheat	Ground Wheat	Co-Products
						Hard Wheat	Hard Wheat	Middlings
						Soft Wheat	Soft Wheat	Wheat Feed
						Durum	Durum	Wheat Bran

Available Calibrations: Flour

Parameter	Min%	Max%	Correlation
Moisture	8.45	16.30	0.9833
Water Absorption	47.00	73.80	0.9298
Starch Damage	2.0	47.0	0.8577
Protein	7.80	17.13	0.9968
Kent Jones Color	-3.80	15.80	0.9671
Hagberg Indicator	164	753	0.6775
Ash	0.20	3.18	0.8119
Fiber	0.10	2.50	0.8273
Resistance	90.0	570.0	0.6632
Extensibility	8.00	26.0	0.7699
Bran Scan	0.37	1.71	0.8140
Bran Scan Spec Count	4.73	26.01	0.8380
Minolta L	84.4	100.0	0.6890
Minolta b	-4.49	25.76	0.7890
Minolta a	-4.25	0.79	0.8130
Chopin Alveograph P value	22.0	167.0	0.6330
Chopin Alveograph W value	37.0	471.0	0.6750

Available Calibrations: Wheat

Parameter	Min%	Max%	Correlation
Moisture	10.20	19.30	0.9853
Protein Dry Matter	9.09	17.50	0.9935
SKCS Hardness	8.63	97.00	0.9592
Hagberg Indicator	62	708	0.7337

Available Calibrations: Dried Vital Gluten

Parameter	Min%	Max%	Correlation
Moisture	4.50	8.30	0.9696
Protein	68.10	80.60	0.6341

Available Calibrations: Co-Products

Parameter	Min%	Max%	Correlation
Moisture	6.80	18.10	0.9348
Fat	1.80	5.20	0.7007
Protein	10.80	24.10	0.9735
Fiber	0.10	12.20	0.8930
Ash	0.90	4.65	0.9364

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Ordering Information:
Visit www.thermoscientific.com/flouranalyzer

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