Smarter Food Analysis with OMNIS NIR

Delivering confidence, consistency, and quality at every step of production

PEOPLE
YOU
CAN
TRUST

Metrohm

From edible oil to pet food – NIRS covers it all

NIRS offers exceptional sensitivity for analyzing diverse food matrices, measuring key parameters such as fat, protein, moisture, and fiber.

Its speed and non-destructive nature make NIRS ideal for continuous quality control ensuring product consistency from raw materials to final packaging.

Raw material inspection

Analyze incoming ingredients for **fat**, **protein**, **moisture**, **fiber**, and other key parameters.

ENSURE SUPPLIER CONSISTENCY AND REDUCE VARIABILITY IN PRODUCTION.

In-process control

Monitor **mixing**, **fermentation**, **drying**, and **baking** in real-time.

OPTIMIZE PRODUCTION EFFICIENCY AND REDUCE WASTE.

Final product testing

Verify **product consistency**, **authenticity**, and **compliance** with regulatory standards.

ENSURE EVERY BATCH MEETS QUALITY AND SAFETY STANDARDS BEFORE DISTRIBUTION.

Dairy Products

Meat and Poultry

Bakery and Cereal Products

Nuts and Seeds

Oils and Fats

Beverages

Snack Food

Sugar and Confec-tionery

Coffee and Tea

Spices and Herbs

Lighten your analysis

Traditional wet chemistry methods demand careful procedures, skilled personnel, and valuable time. **Near-Infrared Spectroscopy (NIRS) is different. By using the interaction of light with matter rapid, accurate, analyses are possible without any involvement of chemicals.**
In just seconds, NIRS provides reliable data for multiple parameters along the food production chain.

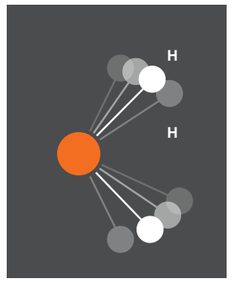
Determine multiple parameters in seconds

1

SPECIFIC INTERACTION

The OMNIS NIR Analyzer measures the non-destructive, specific interaction between light and the sample.

An optical element disperses the spectral components of the light.

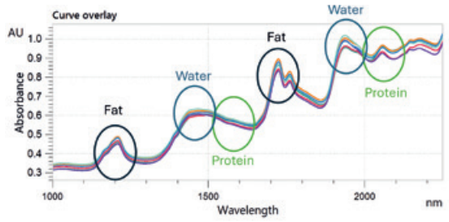


The molecules in the sample absorb and scatter the light based on their chemical and physical structure.

2

CHARACTERISTIC SIGNALS

The resulting spectrum provides information about both chemical and physical properties of the sample.



3

CLEAR RESULTS

OMNIS software automatically interprets the spectrum, calculates the results for each parameter, and displays them clearly on the screen.

Subsample name	Operating...	Determination start	Ash	Moisture	Protein	Fat
Sample 1	Pet Food...	2024-09-25 07:23:08	5.38 %	12.16 %	22.00 %	3.57 %
Sample 2	Pet Food...	2024-09-25 07:23:48	5.55 %	12.01 %	21.29 %	4.50 %
Sample 3	Pet Food...	2024-09-25 07:25:18	6.11 %	11.90 %	24.52 %	4.00 %
Sample 4	Pet Food...	2024-09-25 07:35:10	5.79 %	11.64 %	27.09 %	4.31 %

A new Generation of NIR Analyzers for superior Performance

Since its introduction in the 1960s, NIR technology has evolved into more powerful and user-friendly solutions designed to maximize testing efficiency. The **2060 THE NIR** for use in the process, the **OMNIS NIR Analyzers** for laboratory and at line application, and the **OMNIS SampleRobot NIR** for unattended operation take performance to the next level.

UNIFIED ENVIRONMENT

One platform for titration, spectroscopy, liquid handling, and automation

FLEXIBLE DEPLOYMENT

Standalone or server-client setup supporting up to 1,000 clients

EASY MODEL DEVELOPMENT

Predeveloped by Metrohm or customized and built with just one click with the OMNIS model developer

OMNIS NIR Analyzer

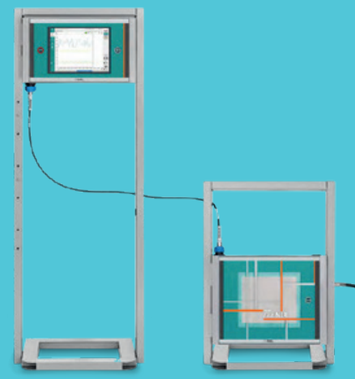
<15 SECONDS PER ANALYSIS
Fast results for routine quality control.

ROBUST OPTICAL DESIGN & IP54 CERTIFICATION
Built for laboratory and atline usage.

2060 The NIR

ENGINEERED MULTIPLEXER WITH FIVE SAMPLE CHANNELS
Efficiently measures multiple streams.

HIGH-THROUGHPUT SPECTROGRAPH WITH TEMPERATURE STABILIZER
Delivers consistent performance and accuracy.



OMNIS Sample Robot NIR

VERSATILE SAMPLE HANDLING
Suitable for both solid and liquid samples.

UNATTENDED OPERATION FOR 200+ SAMPLES
Maximum efficiency for high-volume testing.

Operating Specifications

Measurement Type	
Solids	Holds 60/100 mm petri dishes, 60/100 mm sample cups, and disposable vials – supports single and multipoint scans
Liquids	Interchangeable holders support disposable vials, cuvettes and flow-through cells with heating and cooling option
Spectral Range	1000–2250 nm
Detector Type	TE-cooled InGaAs detector
Calibration	Internal wavelength standard traceable to SRM 2035b
Lamp	Tungsten halogen, >8,000-hour life
Temperature Control	25–80 °C (holder and vessel)
Security	
User Access	Granular permissions, Windows Active Directory integration
Data Security	Access rights managed by MS-SQL database
LIMS Connectivity	Automated report export or direct integration via API
Mechanical Specifications	
Width	14.2 in (360.7 mm)
Height	16.7 in (232.2 mm)
Depth	9.3 in (424.2 mm)
Weight	40.2 lbs (18.2 kg)

OMNIS NIR ANALYZER SOLID

OMNIS NIR ANALYZER LIQUID

OMNIS NIR ANALYZER LIQUID/SOLID

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