MONET-R
FT-NIR ANALYZER

One Device,
A Professional Laboratory

www.ias-glb.com

PRODUCT INTRODUCTION

Innovative Leading Technology Ensures Precise Analysis

Patented interferometer technology significantly enhances the device's resistance to interference, delivering high-precision testresults, reducing the frequency of failures, and ensuring stable performance. The highly sensitive InGaAs detector providesfull-spectrum linear response, guaranteeing optimal accuracy and reproducibility.

Full-Spectrum Ultra-Wide Wavelength Range for Comprehensive Multiple Industries Sample Coverage

The MONET-R Fourier Transform Near-Infrared (FT-NIR) Analyzer,with a wavelength range of 833-2597 nm, fully captures the vibrational absorption information of chemical bonds such asN-H, S-H, C-H, and C=O. It effectively meets the testing needs of diverse samples and parameters in various industries.

Professional Software Configuration for Informed Decision-Making

The analysis software is user-friendly yet powerful, enabling one-click testing of multiple parameters with a tiered management design to ensure data security. The modeling software offers robust capabilities for model creation, evaluation, optimization, and maintenance, allowing users to quickly and easily develop professional near-infrared quantitative analysis models.

ADVANTAGES

833-2597 nm Full-Spectrum Range: Offers rapid analysis, detecting multiple component parameters simultaneously in under one minute.

User-Friendly Software Interface: Seamlessly integrates instrument control, data processing, and modeling, enabling efficient data collection, processing, and evaluation.

Integrating Sphere Diffuse Reflection Technology: Features a rotatable and translatable sample stage, significantly expanding the sampling area to ensure representative and reproducible spectral data.

Exceptionally Long Light Source Lifespan: Meets the demands of daily customer use.

Built-In Unique Reference Material: Automatically performs reference calibration and wavelength monitoring, ensuring wavelength accuracy and stable measurement results.

Pre-Aligned Consumables Design: Light sources, desiccant tubes, and other consumables can be quickly replaced.

Versatile Sample Cup Options and Accessories: Accommodates testing of samples in various physical forms.

APPLICATIONS

Industry	Core Application Fields	Detection Indicators
Agriculture	Quality analysis and component detection of agricultural products and raw materials such as grains, oilseeds, feed, fruits and vegetables, covering the whole-chain quality control of planting, processing and warehousing	Moisture, protein, fat, starch, fiber, ash, calcium, phosphorus, salt, acid detergent fiber (ADF), neutral detergent fiber (NDF), protein solubility (KOH), starch, acid value, freshness (VBN), 18 kinds of amino acids, fatty acids, etc.
Food Industry	Raw material acceptance, in-process quality monitoring, finished product quality evaluation and adulteration identification for subdivided categories including grain and oil products, dairy products, meat products, beverages and condiments	**1.Grain and oil products:** Moisture, crude protein, crude fat, fatty acid value, peroxide value, amylose, ash, impurity content; **2.Dairy products:** Milk fat, milk protein, lactose, total solids, non-fat milk solids, acidity, melamine (trace); **3.Meat products:** Moisture, protein, fat, collagen, nitrite, water activity, volatile basic nitrogen; **4. Beverages/condiments:** Total sugar, reducing sugar, acidity, alcohol content, amino acid nitrogen, characteristic components of spices (e.g., gingerol, xanthoxylin)
Petrochemical Industry	Component analysis and performance evaluation of crude oil, finished oil, lubricating oil, chemical raw materials and intermediates, realizing rapid batch detection and quality screening	**1.Crude oil/finished oil:** Density, viscosity, distillation range, octane number, cetane number, sulfur content, nitrogen content, aromatic hydrocarbon content, olefin content, colloid and asphaltene content; **2.Lubricating oil:** Base oil viscosity index, flash point, pour point, total acid number (TAN), total base number (TBN), additive content (e.g., antioxidant, detergent); **3. Chemical raw materials:** Purity of organic solvents such as methanol, ethanol and ethylene glycol, polymer molecular weight distribution, monomer residue, functional group content
Pharmaceutical Industry	Component analysis, authenticity identification, purity detection and stability evaluation of Chinese medicinal materials & decoction pieces, chemical drugs and biological preparations	**1.Chinese medicinal materials/decoction pieces**: Active ingredient content (e.g., ginsenoside, astragaloside IV, tanshinone), moisture, ash, extract, heavy metals and harmful elements (lead, cadmium, arsenic, copper), pesticide residue, adulterated components (e.g., starch, sodium saccharin); **2.Chemical drugs:** Main component content, related substances (impurities), moisture, dissolution rate, content uniformity; **3. Biological preparations:** Protein content, polysaccharide content, active ingredient purity, degradation products
Materials Industry	Component characterization, structural analysis and performance-quality correlation detection of polymer materials, composite materials and inorganic materials, applicable to laboratory research and production quality control of plastics, rubber, fibers, coatings and other materials	**1.Polymer materials:** Polymer components (e.g., polyethylene, polypropylene, PVC, etc.), monomer residue, plasticizer content (e.g., phthalates), flame retardant content, moisture, ash, crystallinity, molecular weight; **2.Composite materials:** Fiber content, resin content, interface bonding components, filler (e.g., calcium carbonate, talcum powder) content; **3. Inorganic materials:** Oxide content (e.g., SiO_2, Al_2O_3, CaO), moisture, loss on ignition, purity

APPLICATIONS

Industry	Core Application Fields	Detection Indicators
Textile Industry	Component identification and quality detection of textile raw materials, yarns and fabrics, including qualitative analysis of fiber types, quantitative analysis of fiber content and analysis of functional indicators	Fiber components (content of single and blended fibers such as cotton, hemp, silk, wool, polyester, polyamide, acrylic, etc.), moisture, oil content, formaldehyde content, pH value, fiber crystallinity, content of functional components (e.g., antibacterial agent, anti-UV agent)
University and Academic Institute	A core tool for interdisciplinary scientific research in universities and research institutes, supporting qualitative and quantitative component analysis, development of new models and exploration of action mechanisms in materials, food, pharmaceutical and other fields	
And so on		

PRODUCT TECHNICAL PARAMETERS

Parameter	Description
Wavelength range	833-2597nm
Instrument Principle	Fourier Transform(FT)
Detector	InGaAs Detector
Spectral Resolution	4 cm^{-1}
Wavenumber Accuracy	Better than 0.05 cm^{-1}
Wavenumber Repeatability	Better than 0.006cm^{-1}
Absorbance Accuracy	Better than 0.1% T
Scan Speed	1 minute (adjustable)
Protection Rating	IP54
Dimensions	L:405mm/W:330mm/H:290mm
Weight	30kg
Power Supply	AC220V 50HZ
Operating Temperature / Relative Humidity	5-35°C/＜RH80%
Warm-Up Time	None, ready upon startup

*3-year warranty for the entire unit, 10-year warranty for the interferometer and laser source.

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