SpectraMax

FTIR Spectrometer

Description

- Unwavering Optical Stability: Features a precise, high-hardness optical platform for exceptional stability.
- Advanced Electronic Control: Employs a DSP-controlled, electromagnetically driven interferometer with a permanently aligned moving mirror, optimizing performance and minimizing maintenance.
- Robust Environmental Protection: Incorporates industrial-grade and physical moisture-proofing to ensure reliable operation in challenging environments.
- Rich Attachments Options: Single, Multi-Bounce Reflection, UP IR Diffuse Reflection, Gold plated difuse reflection, Multi-bounce Transmission, Gas Cell, Diamond/Germanium ATR , In-situ Reaction Cell ATR etc.

- Detector: Mercury Cadmium Telluride (MCT) cooling infrared detector
- Light Source: Semiconductor laser equipped with a Helium-Neon (HeNe) laser
- Beam Splitter: Multi-layer coated potassium bromide (KBr) with moisture-proof treatment; optional ZnSe beam splitter available
- Scanning Speed: Microcomputer-controlled, with selectable and continuous adjustable speeds, including automatic spectrum comparison features
- Infrared Light Source: High-intensity, air-cooled infrared source with long service life
- Wavenumber Accuracy: ≤ 0.01 cm^{-1}
- Optical Path System: Fully sealed, integrated design combining the optical table, interferometer, and detector to prevent external interference and corrosion. Equipped with rapid identification for temperature and humidity conditions to ensure optimal protection of core components
- Mirrors: Gold-plated conical design for both the moving and fixed mirrors, with adhesion-free structure
- Software System: Operates on a database format with detailed technical specifications provided by the manufacturer
- Electromagnetic Compatibility: Designed per EMC standards to resist electromagnetic interference, with CNAS-certified inspection reports to ensure safety and compliance
- Data Interface & Operating System: Compatible with Windows 7, Windows 10, Windows 11, and other OS; high-speed USB 2.0/3.0 interface for data transmission
- Environmental Control System: Intelligent temperature and humidity monitoring system that provides real-time environmental status, prompts operator intervention in case of abnormal conditions, and helps prevent instrument damage

Applications

Polymers
- Material ID
- Quality Control

Pharma
- QC
- Formulation

Forensics
- Trace Analysis
- Identification

Academia
- Research
- Reaction

Chemicals
- Raw Materials
- Verification

Lubricants
- Oil Quality
- Additive

Coatings
- Thin Films
- Composition

Health & Drugs
- Pharmacies
- Cannabis

Environment
- Soil
- Water

Art/Archeology
- Conservation
- Authentication

Specification

Item	Specification
Technical peram. Spectral Range	7800~350 cm-1
Technical peram. Resolution	≤1 cm-1
Technical peram. SNR	22,000 / 33,000 / 45,000 : 1 (1 minute sample measurement 4 cm-1, peak-to-peak)
Technical peram. Wavenumber Accuracy	<0.01 cm-1
Technical peram. Wavenumber Precision	<0.1 cm-1
Modularization	ATR, In situ, specular reflection, microscope and otherattachments are highly adaptable
Technical peram. Power	AC110-250V / 50Hz / 60Hz
Technical peram. Modularization	Power on and use
Technical peram. Analysis Time	2-5 Seconds
Technical peram. Communication Method	USB3.0, Network port, Wifi
Software. Operating System	Windows 10, 11
Software. Options and features	Software quantitative positioning,AI-based image search, 250,000 library, automated detection of moisture information software, Built-in database function, automatically remove water and carbon dioxide in the air, energy automatic adjustment
Software. GMP comply	Fully Compliant with GMP, 21 CFR 11
Quality and appearance of modules	Rich attachments can be really competing PIKE attachments functions
Software. Libraries	Allow to add self-building libraries into the software for free
Ergonomics	a LCD on the front panel that displays the device's operating parameters in real time. User don't need to turn on computer to check this