

FTIR Spectrometer FM-FTI-A102



Description :

FTIR Spectrometer FM-FTI-A102 is built in with intellectual property and functions with spectral range of 7800 to 350 cm^{-1} and can deliver high SNR up to 20000:1. The instrument obtains the best balance between convenient operation and intelligence, low operation and advance performance and maintenance cost. We will use gas cell to analysis the gas sample. The light path for the gas cell is 100 mm and diameter is 40 mm, so the estimate volume is 125 cm^3 . To ensure detection sensitivity, reflecting corner cube mirrors are coated with gold for maximum light throughput. Equipped with detection sensitivity with multilayer Ge coated KBr beam splitter specification, aluminum based cast design layout structure and high intensity, long lasting air cooled infrared source. The electronic system is designed to meet electromagnetic compatibility requirements and CE certification.

Specifications :

Interferometer	Cube-corner Michelson interferometer
Beam Splitter	Multilayer Ge coated KBr
Detector	Room temperature DLATGS module (standard)
IR Source	High intensity, long lifetime, air-cooled IR source
Wavenumber Range	7800 cm^{-1} to 350 cm^{-1}
Resolution	0.85 cm^{-1}
Signal To Noise Ratio	Better than 20,000:1 (RMS value, at 2100 cm^{-1} to 2000 cm^{-1} or 2100 cm^{-1} to 2200 cm^{-1} , Resolution: 4 cm^{-1} , Detector: DLATGS, 1 minute data collection
Wavenumber Accuracy	$\pm 0.01 \text{ cm}^{-1}$
Scanning Speed	Microprocessor control, different scanning speed selectable
Software	mainFTOS Suite software workstation, compatible to all version Window OS
Communication	Ethernet interface (standard)
Data Output	Standard data format, report generation and output

Status Diagnosis	Power on self-check, real-time temperature and humidity monitoring and reminders
Environment Condition	Temperature: 10°C to 30°C, Humidity: less than 70 %
Power Supply	AC 220 V \pm 22 V, 50 Hz \pm 1 Hz
Dimensions	520×435×255 mm
Weight	24 kg

Features :

- Equipped with High sensitivity Optical system combined with patented fixing mirror alignment technology
- Ensures long term stability by cube-corner Michelson interferometer
- Built in with Real time monitoring and data processing technology
- 24-bit A/D conversion technology, digital filter and network communication
- High sensitive integrated DLATGS detector
- Multiple sealed interferometer and desiccator cartridge with visible window
- Designed with high sensitivity, long lifetime IR source module with the highest energy distributed in the fingerprint region
- Design with large space heat dissipation chamber and external isolated IR source module to provide stable optical interference and higher thermal stability
- Wide sample compartment provides flexibility to accommodate various accessories
- Standard Ethernet interface communication system and optional wireless WI-FI communication system

Applications:

FTIR Spectrometer has wide application in the field of metals and mining, geochemistry, pharmaceuticals and biopharma, energy and fuels, material testing and research, forensic and drug testing. It is commonly used in production quality control science research analysis, production quality control, testing and detection in various fields.

Accessories:

Transmission sample holder

Accessories Optional:

Sr. No	Accessories Name	Unit
1.	Diffuse/Specular Reflectance	1 set
2.	Horizontal ATR for Liquid and Powder (ZnSe crystal)	1 set
3.	Single reflection ATR (Diamond crystal)	1 set
4.	Single reflection ATR (ZnSe crystal)	1 set
5.	Gas cell (with KBr window plates)	1 Piece
6.	Demountable Liquid cell (with KBr window plates)	1 Piece
7.	KBr hydraulic press 15 T (including die set)	1 set
8.	Spare die set for the hydraulic press	1 set

9.	Mortar and pestle ϕ 50	1 set
10.	Mortar and pestle ϕ 70	1 set
11.	Dehumidifier (50 L)	1 set
12.	KBr Window plate (ϕ 25 \times 4, for liquid cell)	1 Piece
13.	CaF ₂ Window plate (ϕ 25 \times 4, for liquid cell)	1 Piece
14.	BaF ₂ Window plate (ϕ 25 \times 4, for liquid cell)	1 Piece
15.	KBr powder spectroscopic grade (10 g/bottle)	1 bottle
16.	KBr powder spectroscopic grade (25 g/bottle)	1 bottle
17.	Window plate polishing kit	1 Piece
18.	FDA 21 CFR Part11	1 kit
19.	WIFI wireless connection module	1 kit

Advance Tools:

Sr. No	Advance Tools Name		Description
1.	Internet + Detection instrument design with multiple communication options:	I.	Adapting to "Internet+ detection" instrument development trend

		II.	WIFI wireless communication as an option
		III.	Data cloud computing
		IV.	Ethernet interface as standard supply for data transfer
		V.	Remote operation and maintenance
		VI.	Setting up a basic platform for interconnected tests
2.	Real-time Diagnosis of instrument status	I.	Instrument's communication, performance, and working status is monitored by real-time
3.	Optional temperature stabilized, high sensitivity DLATGS detector module.	I.	Ensures high sensitivity, stability and good reproducibility of IR spectral analysis. Provides stable detector response
		II.	Provides stable detector response

Software Workstation:

Sr.No	MainFTOS Suite Software	Function
1.	All version Windows OS compatible	Windows XP, Windows 7, Windows 8, Windows 8.1 and Windows 10 (32 bits and 64 bits)

2.	Modular platform design	Data collection, processing and analysis, report print out functions and different special software functions module options
3.	FDA CFR 21 Part 11 Compliance	Access control, authority assignment, audit trail, digital signature
4.	Automatic software updating	Getting the latest software version from the updating center
5.	Real-time instrument status diagnosis	Real-time monitor of working status, specifications and communication status
6.	Secondary development library	Providing C++ and C development sample code for different application development
7.	Specialized IR libraries	Providing various specialized IR libraries
8.	Touch control operation	Satisfying Window 10's touch control function



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