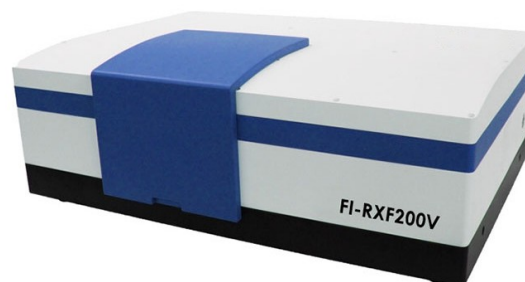


FI-RXF200

FI-RXF200 Research FTIR Spectrometer

A research FTIR spectrometer with resolution better than 0.25 cm^{-1} and a range that extends from the standard $8000\text{--}350\text{ cm}^{-1}$ into the near-infrared to 12800 cm^{-1} . Sources and detectors switch automatically; internal and external accessories, from TG-IR to IR microscopy, are supported.

Best for: Research laboratories needing high resolution, mid- and near-IR on one instrument, and coupled techniques such as TG-IR, GC-IR and reaction monitoring.



0.25 cm^{-1}

Resolution, better than

$12800\text{--}350\text{ cm}^{-1}$

Range with NIR option

$\geq 55,000:1$

Signal-to-noise ratio

$\leq 0.1\text{ \%T}$

Transmittance accuracy

Overview

A research FTIR spectrometer built for the varied needs of scientific users. Resolution is better than 0.25 cm^{-1} and the spectral range extends to $12800\text{--}350\text{ cm}^{-1}$; sources and detectors can be switched automatically, and both internal and external accessories are supported.

Features

Spectral resolution

- Better than 0.25 cm^{-1} over the full spectrum, with very high signal-to-noise ratio
- Upgradeable to higher resolution; covers the great majority of research needs

Extended spectral range

- Automatic switching of optical components extends the standard mid-infrared range ($8000\text{--}350\text{ cm}^{-1}$) into the near-infrared ($12800\text{--}4000\text{ cm}^{-1}$), for mid- and near-IR work on one instrument
- In FT-NIR, samples usually need no dilution, and because glass is transparent in the near-infrared, samples are measured directly in glass vials

Detectors

- Room-temperature DLaTGS as standard
- High-sensitivity options: liquid-nitrogen-cooled MCT, TE-cooled MCT, liquid-nitrogen-cooled InSb and TE-cooled InGaAs, for high sensitivity and throughput
- Every detector uses the latest dual-channel analogue-to-digital converter with 32-bit dynamic range, for lower electronic noise

Software

- Designed for research laboratories and simple to operate
- All operation and evaluation functions can be applied to batches of files
- Integrated fully automatic acquisition and online real-time reaction-monitoring software, for studying intermediate steps in chemical and pharmaceutical synthesis, catalytic and electrochemical reactions

Specifications

Performance	
Spectral resolution	$\leq 0.25 \text{ cm}^{-1}$
Spectral range	8000–350 cm^{-1} standard; 12800–4000 cm^{-1} optional
Wavenumber accuracy	0.005 cm^{-1}
Signal-to-noise ratio	$\geq 55,000:1$
Transmittance accuracy	$\leq 0.1 \%T$
Interferometer	Cube-corner interferometer

Standard and optional configuration

Item	Standard	Optional
Spectral resolution	$\leq 0.25 \text{ cm}^{-1}$	—
Spectral range	8000–350 cm^{-1}	12800–4000 cm^{-1}
Source	Ceramic source	Tungsten lamp
Beamsplitter	Ge-coated KBr	Quartz, CaF_2 , ZnSe and others
Detector	Room-temperature DLaTGS	Liquid-nitrogen-cooled MCT; TE-cooled MCT; liquid-nitrogen-cooled InSb; liquid-nitrogen-cooled Ge; TE-cooled InGaAs; and others
Sample compartment	Transmission sample compartment	Infrared emission port; external sample compartment; vacuum-sealed external chamber for UHV; and others

Applications

Pharmaceuticals and life sciences

- Protein conformation and concentration
- High-sensitivity quantification of drug substances and excipients in aqueous solution
- Identification of microorganisms
- Volatility and stability of pharmaceutical products, coupled with thermal analysis

Polymers and chemicals

- Detection and characterisation of volatilisation and decomposition, coupled with thermal analysis
- Monitoring laboratory reactions, with a mid-infrared ATR fibre probe

Surface analysis

- Ultra-thin films and monolayers
- Corrosion processes

Materials science

- Emissivity of building materials
- Characterisation of optical materials such as infrared windows and mirrors
- Photoacoustic spectroscopy of black materials

Semiconductors and silicon

- Thickness of non-metallic films

- Carbon and oxygen impurities in quality control

Soil analysis

- Nutrients and organic matter in soil
- Soil properties

External accessories and sample-compartment options

- Thermal-analysis–infrared (TG-IR) coupling module
- Gas-chromatography–infrared (GC-IR) coupling accessory
- External sample compartment, evacuated or purged with nitrogen
- Vacuum-sealed external chamber for connection to UHV
- Gas cells from 2 cm to 20 m
- Integrating sphere
- In-situ transmission accessory
- In-situ diffuse reflectance accessory
- Infrared microscopy accessory
- ATR and specular reflectance accessories

Request a quotation

Tell us what you measure and we will configure the FI-RXF200 — sampling accessories, detector and libraries — for it.

info@precisometer.com · www.precisometer.com/spectroscopy/ftir/fi-rxf200