

FI-RXMo100

FI-RXMo100 Portable FTIR Spectrometer

A self-contained portable FTIR spectrometer for identifying unknown substances in the field, built into a carry case: benchtop-class spectral coverage and resolution, a single-reflection diamond ATR, a 10-inch touch screen and 4 hours on battery. Results in seconds, with no sample preparation.

Best for: Incident response, criminal investigation and drug enforcement — explosives, narcotics and unknown chemicals on site.



500–5000 cm⁻¹

Spectral range

1 cm⁻¹

Spectral resolution

4 h

Battery runtime

10 kg

Weight

Overview

Fourier-transform infrared (FT-IR) spectroscopy is a widely used, non-destructive method for analysing organic and inorganic substances, usually from a very small amount of sample. Unknowns are identified by comparison with reference spectra in a library, and ATR (attenuated total reflection) simplifies sample preparation and makes the analysis of solids and liquids quick and easy.

Every chemical has a characteristic infrared spectrum that identifies it as uniquely as a fingerprint. The FI-RXMo100 is a portable FTIR spectrometer built to identify unknown toxic and hazardous substances quickly in harsh environments.

Unlike other portable instruments, it offers the performance of a benchtop FTIR — wide spectral coverage and high spectral resolution. It serves as a general-purpose analyser for powders and liquids or as a dedicated instrument. The 10-inch touch screen makes operation simple, the extensive fingerprint library identifies unknowns quickly, and users can easily add the substances that matter to them.

Designed for incident scenes, explosions, chemical accidents, medical and sanitary incidents, earthquakes and fires, and laboratory research on unknown substances, it samples unknown chemicals on site and identifies solids, liquids, powders and viscous samples within seconds. Every component is built into a portable carry case: ready at switch-on, simple to operate and quick to give a result on site, with automatic data storage for later retrieval and printing. It works in the field for emergencies or moves around the laboratory.

Features

- Identifies unknown chemical or biological samples quickly
- Works in harsh environments
- Simple to use, with no specialist training
- Detects and identifies samples anywhere
- No sample preparation
- Libraries can be added at any time
- Results in seconds

In use

- On-site detection with short analysis times — no waiting for laboratory results
- Simple software: no specialist training, ready for duty
- Operators without a specialist background can analyse sample composition clearly and accurately
- No sample preparation — direct analysis on site
- Networked library updates: fast, convenient and simple
- Rapid identification of explosives and drugs, prohibited items and common medicines
- On-site screening saves time and improves efficiency

Specifications

Spectrometer	
Interferometer	Cube-corner Michelson interferometer
IR source	Air-cooled ceramic source
Beamsplitter	ZnSe
Detector	High-sensitivity DLaTGS
Spectral range	500–5000 cm^{-1}
Spectral resolution	1 cm^{-1}
Sampling	Single-reflection diamond ATR — wear-resistant, corrosion-resistant, easy to clean
Reference libraries	Infrared libraries for white powders, explosives, hazardous chemicals, common chemicals, pesticides, drugs, gases and more

System	
PC and controller	10-inch touch screen, operated by finger or stylus; built-in computer optional; Windows 10; standard USB Type-C port
Power	Built-in battery, 4 hours of continuous operation; can run from an external 18–24 V vehicle battery
Charger	100–240 V AC, 50–60 Hz, 20 W; 18–24 V optional
Operating conditions	–5 to 40 °C; 0–100 % RH
Weight	10 kg
Dimensions	41 × 32 × 17 cm

Applications

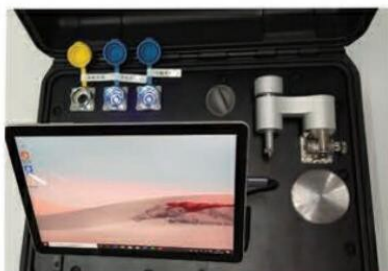
Criminal investigation

- Rapid on-site analysis and detection of explosives: black powder, ammonium nitrate explosives, TNT, RDX, PETN
- Rapid on-site evidence collection for dangerous goods

Drug enforcement

- Drug analysis: morphine, heroin, methamphetamine, cocaine
- New designer drugs

Figures



Measuring liquids

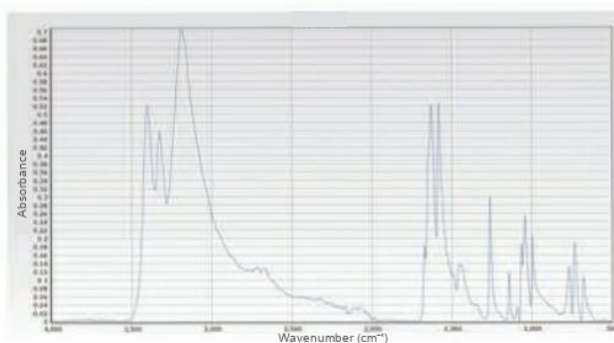


Measuring solids and powders

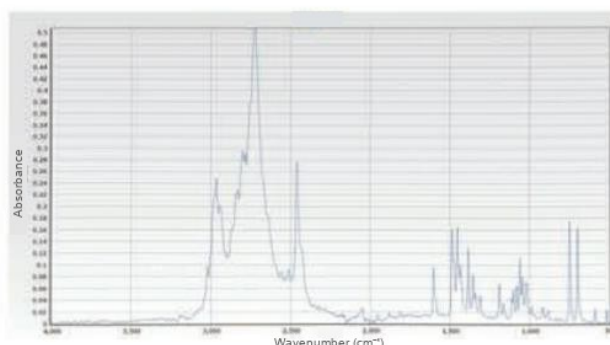


Desiccant replacement window

Measuring liquids, measuring solids and powders, and the desiccant replacement window.



5-Aminotetrazole



Methamphetamine

Example spectra: 5-aminotetrazole (top) and methamphetamine (bottom).

Request a quotation

Tell us what you measure and we will configure the FI-RXMo100 — sampling accessories, detector and libraries — for it.

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