

Unrivaled flexibility. Infinite possibility. Ultimate clarity.

Thermo Scientific Nicolet RaptIR X FTIR Microscope with cutting-edge technology

The Thermo Scientific™ Nicolet™ RaptIR™ X FTIR Microscope helps experts and non-experts quickly and confidently identify, map, and understand the chemical composition of complex samples. Based on decades of Nicolet FTIR innovation, it combines true 5 μm spatial resolution with research-grade performance. The RaptIR X FTIR microscopy delivers speed, precision, and flexibility for quality control, failure analysis, forensics, environmental analysis, and advanced research applications.

A system that grows with your research

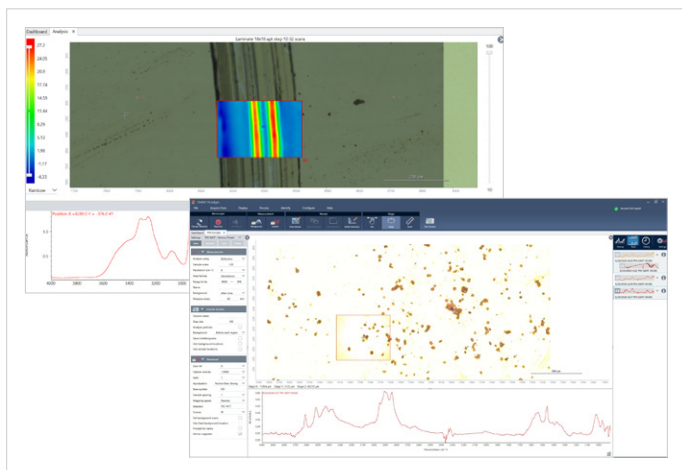
Start with the configuration you need today and expand as your laboratory evolves. Available as a standalone FTIR microscope (RaptIR X-SAM) or combined with Thermo Scientific™ Nicolet™ iS50 or Nicolet™ Apex™ FTIR Spectrometer, the RaptIR X platform can be configured for mid-IR and NIR spectroscopy. FT-Raman, TGA-IR, GC-IR, and NIR modules for FTIR benches expand its analytical capabilities even further.



RaptIR X Stand-Alone FTIR Microscope (RaptIR X-SAM).



RaptIR X Microscope (right) with the Apex FTIR Spectrometer (left).



Sharp image, perfectly defined aperture and simultaneous spectral collection.



RaptIR X Microscope (right) connected to the iS50 Spectrometer with Raman compartment open (center) and an NIR module (far left).

Service and support

Thermo Fisher Scientific's Nicolet service and support team is dedicated to providing exceptional customer assistance globally, ensuring that help is always at your fingertips. With a wide network of experts and resources, we are committed to helping you maximize the value of your Nicolet RaptIR X Microscope and associated accessories, wherever you are in the world.

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Category	Specification	Benefit
Sample viewing	TruView optics	No obscuration due to aperture; full view of sample during data collection, mosaic views, image capture
	Viewing options	Monocular (camera only) or trinocular (camera and eyepieces)
	Illumination	Bright LED illumination for reflection or transmission, and aperture image on sample
	Video camera	5 megapixel
	Visible polarizers	Automated insertion and rotation of polarizer and analyzer in transmission and reflection modes
	Contrast enhancement	Differential interference contrast (Wollaston prism)
	Spatial resolution	1 micron visible, <5 microns IR
Microscope optics	Turret	Manual or automated options to suit a variety of labs workflow requirements
	Aluminum machined optics	Front surface mirrors
	VIS objectives	4X, 10X, 40X glass objectives for high-quality images
	IR objective	15X standard diffraction-limited diamond turned objective and condenser with automated condenser parking in reflection and ATR modes. Automated optimization for transmission operation. Autofocusing.
	Optional objectives	Ge-tip ATR (350 micron), diamond ATR, grazing angle objective
	Aperture	Fully automated four-blade aperture with rotation
	Infrared polarizers	Automated insertion and rotation, useable in transmission and reflection modes
Microscope detector	LN2 MCT-A high sensitivity	Fast data collection for small particles (swappable)
	LN2 MCT-B	Extended low-end range (swappable)
	InGaAs NIR	Extended high-end range, great for pharmaceuticals (swappable)
	TEC-MCT	No LN2 required (swappable)
	DLATGS	Room temperature (fixed)
Stage	Manual/automated	40 mm sample thickness capacity, 5 kg loading
	Speed-automated	10 spectra/second
Validation and performance qualification	ASTM	Factory qualification tests establish performance
	Pharmacopeia	Ph Eur, JP, CP, USP Qualifications workflows with Certified Standards Plate (MCT-A, InGaAs.)
Performance	Signal-to-noise ratio	15,000:1 minimum, 20,000:1 average (100 x 100 micron aperture, transmission mode, MCT-A)
Microscopy software	Microscopy software	Simple user interface, database security, 64-bit, easily generated workflows for automating data collection and analysis sequences
	Rapid, simple collection of single point data	For collection of targeted sample points; identify contaminants or trace evidence fast
	Automatic mosaic	1 cm square sample view in under 20 seconds
	Smooth workflow experience	Thermo Scientific™ OMNIC™ Paradigm™ workflows for qualification and operation
	Real-time preview and search	Move through your sample, analyzing on the fly
Configuration options	Integrated SAM	Mid IR microscope 400–7800 cm ⁻¹
	Apex-RaptIR X	Mid IR microscope 400–7800 cm ⁻¹ , expanded bench flexibility for bulk ATR, TGA-IR
	iS50-RaptIR X	Mid IR-NIR microscope 400–12000 cm ⁻¹ , expanded bench flexibility bulk ATR, TGA-IR, GC-IR, FT-Raman
Other	Dimensions (microscope only)	W = 450 mm; D = 717 mm; H = 495 mm
	Weight	70.3 kg
	Power requirements	130 W, 100–240 VAC, 47–63 Hz
	Regulatory approvals	CE, ETL