

Nicolet FTIR Spectrometer Selection Guide

Choose the right Thermo Scientific™ Nicolet™ FTIR Spectrometer that fits your workload, user skill level and chemical identification needs. Whether you run a Quality Control lab, a cutting-edge Research lab or a supporting Analytical Services lab, trust the leader in infrared spectroscopy to give you reliable data. With our rapid-response support teams, we help keep your labs running anywhere in the world.

Use Fourier transform infrared (FTIR) spectroscopy to:

- Identify unknown materials (e.g., Forensics, Art restoration, Counterfeit testing)
- Conduct contaminant analysis (e.g., Analytical Services, Gemology)
- Reverse engineer new products (e.g., Materials Science research)
- Verify chemical structure and mixture compositions (e.g., Quality Assurance)



	Nicolet Summit FTIR Spectrometer	Nicolet iS20 FTIR Spectrometer	Nicolet iS50 FTIR Spectrometer	Nicolet iS50R FTIR Spectrometer	Nicolet iG50 FTIR Spectrometer
Spectral range	Mid-IR	Mid-IR	Far-IR, Mid-IR, Near-IR, Visible	Far-IR, Mid-IR, Near-IR, Visible	Dedicated Far-, Mid-, or Near-IR
Automated range changing	No	No	Yes (ABX option)	Yes (ABX option)	No
Signal to Noise ‡	LITE 14,000:1; Basic 35,000:1; PRO 40,000:1	50,000:1	>55,000:1	>55,000:1	>55,000:1
Spectral resolution (cm ⁻¹)	LITE, Basic 0.6; PRO 0.45	0.25	<0.09	<0.09	<0.09
Scan modes	Linear	Linear	Linear, Dual Channel option	Linear, Dual Channel, Step-Scan, TRS	Linear
Number of external ports	0	1	4	4	1
Available accessories <i>See details on reverse side</i>	<ul style="list-style-type: none"> • Everest ATR and iD series accessories • Compatible with major third-party accessories 	<ul style="list-style-type: none"> • Smart accessories • Full-size sample compartment • Compatible with major third-party accessories • Microscopy, TGA-IR 	<ul style="list-style-type: none"> • Smart accessories • Full-size sample compartment • Compatible with major third-party accessories • Microscopy, TGA-IR, NIR • Built-in ATR 	<ul style="list-style-type: none"> • Smart accessories • Full-size sample compartment • Compatible with major third-party accessories • Microscopy, GC-IR, TGA-IR, NIR, PM-IRRS, VCD, TRS* • Built-in ATR 	On-line, in-line, at-line sampling
Use environment	Portable and Laboratory	Laboratory	Laboratory	Laboratory	Manufacturing
ASTM, EP/JP/USP, 21CFR-P11 Compliance	Yes	Yes	Yes	Yes	Yes
Microsampling (spatial resolution)	100 microns	10 microns	10 microns	10 microns and monolayer coatings	None
Portable	✓				
Dimensions (W x D x H mm)	Standard: 340 x 320 x 240 With touchscreen: 530 x 320 x 430	550 x 570 x 250	626 x 698 x 276	626 x 698 x 276	450 x 420 x 250 (customizable options)
Ideal for:					
Process Analysis					✓
Materials Research			✓	✓✓	
Analytical Support & Forensics		✓	✓	✓✓	
Quality Control	✓	✓			✓
Teaching	✓	✓			

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Add an accessory to your Nicolet FTIR spectrometer and expand your capabilities as well as your sample knowledge.



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Accessories:					
Diamond ATR	Everest Diamond ATR	Smart iTX Diamond ATR	Built-in Diamond ATR	Built-in Diamond ATR	Customizable
Microsampling	SurveyIR Microspectroscopy	Nicolet iN5 Microscope	Nicolet Continuum Microscope	Nicolet Continuum Microscope	Customizable
Gas Sampling	Yes	Yes	Yes	Yes	None
Near-IR capabilities	Nicolet iS5N FT-NIR spectrometer	Smart Integrating Sphere	NIR Integrating Sphere & Probe Module	NIR Integrating Sphere & Probe Module	No
TGA-IR capabilities	No	TGA-IR Module	TGA-IR Module	TGA-IR Module	No
Automated Beamsplitter Exchanger (ABX)	No	No	Yes	Yes	No
Raman Module	No	No	Yes	Yes	No
GC-IR Module	No	No	Yes	Yes	No
Advanced experiments				PM-IRRAS, VCD, Step-Scan, TRS*	

* PM-IRRAS = Polarization modulation-infrared reflection-adsorption spectroscopy
 VCD = Vibrational circular dichroism
 TRS = Time-resolved spectroscopy

± SNR in one minute, 4 cm⁻¹ resolution, Black-Harris Apodization



Nicolet iS50 built-in ATR with one touch control



Nicolet iS50 Raman module



Nicolet iS50 with TGA module



Nicolet iS50 with NIR module



Nicolet iS50 connected to Thermo Scientific™ TRACE™ 1300 Gas Chromatograph

Discover. Solve. Assure.

Go to www.thermofisher.com/FTIRexpert to request expert advice, a quote or a demonstration.

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