



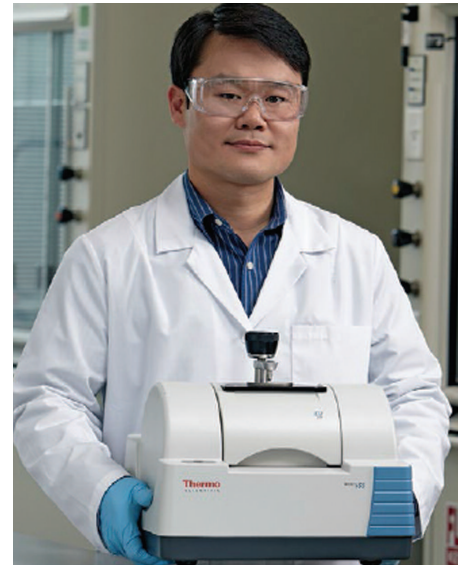
Analytical Instrumentation

Nicolet iS5 FT- IR Spectrometer

FT - IR that you can trust

The Nicolet™ iS™5 FT-IR spectrometer provides the ideal performance and fit for product assurance testing and material identification. This spectrometer delivers maximum confidence and reliability by implementing the same field-proven FT-IR technology found on other Nicolet FT-IR models. Driven by award-winning OMNIC™ software, the Nicolet iS5 spectrometer provides innovative FT-IR solutions and simplicity for businesses large and small.

The lightweight design and small footprint of the Nicolet iS5 FT-IR spectrometer enables you to bring the spectrometer where you need answers most: from your busy laboratory to the production floor or in the warehouse. Additionally, the spectrometer's form factor and low cost-of-ownership make it a perfect match for analytical laboratories seeking to deploy multiple units across manufacturing facilities worldwide.



Premier Performance in a Compact Size

Small and light, the Nicolet iS5 spectrometer features a footprint similar in size to a laptop computer.

- Rugged enough to move around the plant or across campus
- 10 kg (22 lb) weight makes it extremely transportable

Durable Design

The Nicolet iS5 spectrometer is designed to provide trouble-free operation even in challenging environments.

- Field-proven optics encased in a sturdy magnesium-alloy frame
- A thermally-controlled diode laser provides many years of worry-free use
- User-accessible parts minimize service costs

Easy Maintenance

Replacing the IR source or desiccant in your spectrometer does not require a service call, or even opening up the instrument.

We provide easy access to the source from underneath the instrument.





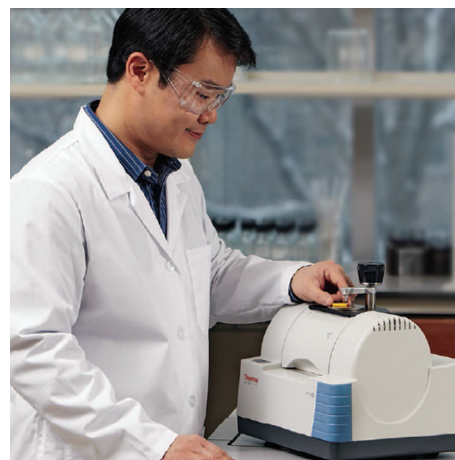
Analytical Instrumentation

Nicolet iS5 FT- IR Spectrometer

From materials identification to final product testing, the Nicolet iS5 spectrometer is your reliable partner

The Nicolet iS5 spectrometer delivers outstanding performance in raw materials inspection and in the identification of unknowns. From “sample-in” to “answer-out”, the spectrometer provides answers you can trust, while helping your business be successful.

- High signal-to-noise for premium-quality results
- Intuitive user interface for fast productivity
- Tools for raw material inspection that provide maximum confidence
- Identification of contaminants and mixtures with no need for spectroscopy expertise



Raw Materials

Inspecting raw materials is a simple task, while obtaining reliable answers from your instrumentation can be a challenge. Natural materials and other raw ingredients can reveal small, yet still acceptable variations, while synthetic materials are highly consistent. Even a small variation, if not caught in time, may cause a product failure in your production. That's why the Nicolet iS5 FT-IR spectrometer includes a complete set of tools for reliable raw material inspection, giving you the highest confidence, no matter the nature of the sample.

- Normal sensitivity QCheck for high confidence PASS/FAIL material inspection of natural and other small variation products
- High sensitivity QCheck for high confidence PASS/FAIL material inspection of synthetic and other high consistency products

Contaminants and Mixtures

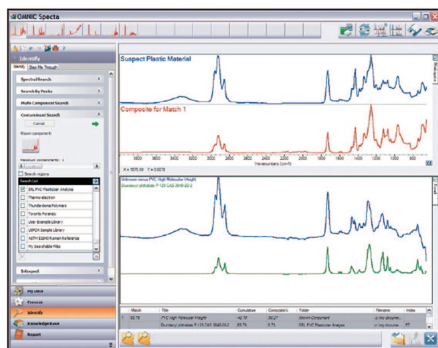
When PASS/FAIL does not provide sufficient information and you need to further understand what failed to take the next action, or when the sample includes several ingredients, the Nicolet iS5 spectrometer is ready to assist. Our optional OMNIC Spectra™ software includes a patented algorithm that greatly improves the way FT-IR finds contaminants and identifies all compounds in a multiple-ingredient material. With OMNIC Spectra software there is no need for specialised spectroscopy skills or the manipulation of the spectral data most FT-IR software requires.

Our patented algorithm reliably, consistently, and simply:

- Identifies contaminants
- Identifies multiple components in mixtures
- Eliminates the need for spectral subtractions or manipulations

OMNIC Spectra software for your Nicolet iS5 spectrometer is available in packages tailored for polymers, forensics, or for more generic applications. Each package includes a collection of at least 9000 high-quality FT-IR spectra. Please contact us about the version that best fits your requirements.

Nicolet iS5 FT-IR: Premium performance made affordable



Bring Your Instrument to the Sample

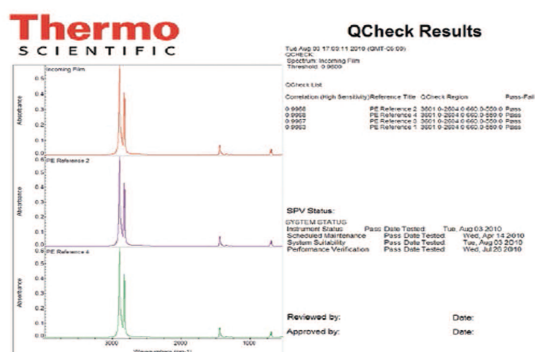
Sometimes solving a manufacturing failure from your laboratory can be difficult or inconvenient. The Nicolet iS5 spectrometer has the size, weight, and most importantly all the processing power you need to bring FT-IR performance and troubleshooting capabilities directly to the sample.

- **Compact and lightweight**
- **All the performance you need, where you need it**

OMNIC Software

The industry's leading software, no compromises

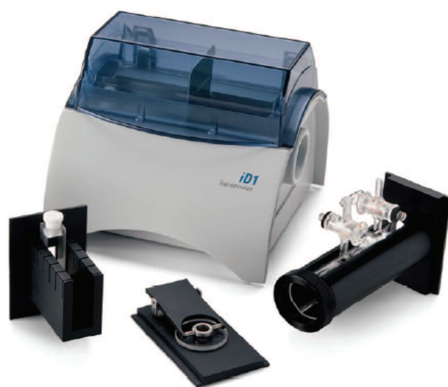
- **Simplifies PASS/FAIL testing**
- **Standardizes operation for consistent results**
- **Identifies the unexpected**
- **Extracts quantitative data**



The Perfect Match for Your Materials

The open sampling compartment of the Nicolet iS5 FT-IR spectrometer provides the freedom to choose the accessory you need

The family of iD sampling accessories offer optimized analysis of solids, liquids, and gases. Options include the iD1 Transmission module, the versatile iD5 ATR accessory, and the high performing iD7 ATR accessory. Both the iD5 and iD7 accessories offer diamond crystal options. And all iD accessories feature automatic accessory recognition which enables high productivity in busy laboratories.



iD1 Transmission Accessory

The iD1 transmission accessory is ideal when you need to make fast and accurate measurements of liquids, solids or gases that are mounted in cells or cell holders and mounts.

- **Holds most liquid cells, pellet and film holders, gas cells and cuvettes**
- **Supports cells up to 10 cm long**
- **Disposable IR cards**
- **KBr pellet holders**

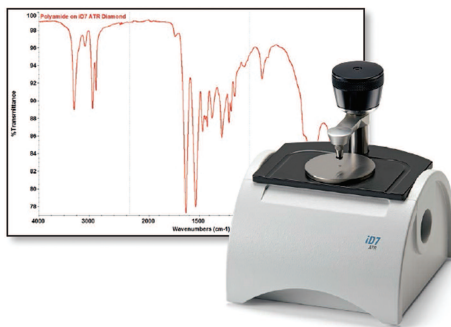
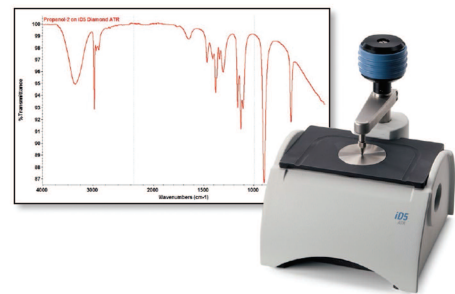
Analytical Instrumentation

Nicolet iS5 FT- IR Spectrometer

iD5 ATR Accessory

Attenuated Total Reflectance (ATR) for maximum versatility.

- High energy throughput diamond laminate for robust sampling
- Interchangeable crystal plates offer good sample analysis versatility
- Slip-clutch pressure tower provides reproducible results
- Heated and multi-bounce crystal plates address special applications
- Specular reflectance plate for deeper surface analysis needs



iD7 ATR Accessory

Attenuated Total Reflectance (ATR) for best performance.

- High energy throughput all-reflective optics for high quality spectra
- Monolithic diamond crystal provides widest spectral range and best robustness
- Interchangeable crystal plates offer good sampling versatility
- Slip-clutch pressure device yields reproducible results



Analytical Instrumentation

Nicolet iS5 FT- IR Spectrometer

iD Base and iD Foundation Adapters

The iD Base and iD Foundation adapters take advantage of the openarchitecture of the Nicolet iS5 spectrometer sample compartment, providing maximum flexibility to use many commercially available accessories. Use standard sample compartment accessories that you already own or may purchase, including Foundation Series Swap-Top modules.

Flexibility for Your Accessories

iD Base and iD Foundation

With the Nicolet iS5 spectrometer you are not limited to what you can use to meet your sample analysis needs. The iD Base adapter fits slide-mounted accessories that cannot be accommodated in the iD1 Transmission accessory. It also allows you to use most full-size sampling accessories.

The iD Foundation adapter allows customers who own Foundation Swap-Top modules to use them with the Nicolet iS5 spectrometer. Any Foundation Swap-Top modules can be accommodated including multi-bounce ATR, diffuse reflectance, and the Performer or Thunderdome single-bounce ATR accessories



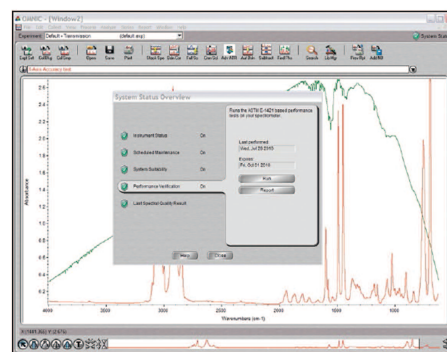
Handle Sample Changes Effortlessly

The Nicolet iS5 spectrometer lets you create pre-set analysis parameters so when accessories or operators are changed you are assured of consistent results. When swapping sampling accessories, the spectrometer recognizes the change and adjusts the sampling conditions appropriate to the accessory. This is done automatically with no user intervention that could introduce operator errors.

COMPLETE SAMPLING ASSURANCE

System Performance Verification (SPV) monitors and provides status indications for the Nicolet iS5 spectrometer

- On-board diagnostics and ASTM E1421 based tests ensure the system is working properly
- Automatic accessory recognition guarantees consistent analysis conditions so you get the best possible data
- System suitability tests with user-defined QC samples verify complete system performance, giving you confidence in your results





Analytical Instrumentation

Nicolet iS5 FT- IR Spectrometer

Bring the TM NicoletTM iSTM5 FT-IR Spectrometer where you need answers most — from your busy laboratory to the production floor to the warehouse.

Combining compact size, affordable price and superior performance, the Nicolet iS5 FT-IR Spectrometer offers the perfect performance, fit and value for an entry-level spectrometer. It is the ideal spectrometer for product assurance testing and material identification for industrial, government and academic labs around the world.



Description

Combining compact size, affordable price and superior performance, the Nicolet iS5 FT-IR offers the perfect fit and value for an entry-level spectrometer.

Applications

Academic teaching, industrial QA/QC, plastics and polymers, pharmaceuticals.

Components

User-replaceable: source, desiccant, power supply, sample compartment windows.

Technical Specification and Ordering Information

Height (Metric)	10.2 in. (26 cm)
Weight (Metric)	22 lb. (10 kg)
Accepts	ID Accessories; Foundation Accessories; Many standard accessories
Applications	Academic teaching, industrial QA/QC, plastics and polymers, pharmaceuticals
Humidity	Tightly sealed to resist ambient humidity.
Width (Metric)	13.5 in. (35 cm)
Interface	PC USB 2.0
Beam Splitter	KBr/Ge mid-infrared optimised
Laser	Temperature controlled solid-state near-IR diode laser
Performance Verification	ASTM E1421 to meet customer ISO/GLP requirements,
Components	User-replaceable: source, desiccant, power supply, sample compartment windows
Power Supply	100-240V 50/60Hz
Depth (Metric)	10.9 in. (28 cm)
Source Type	Mid-infrared Ever-Glo; user replaceable from bottom plate
Description	Combining compact size, affordable price and superior performance, the Nicolet iS5 FT-IR offers the perfect fit and value for an entry-level spectrometer.
Detector	Type Fast recovery deuterated triglycine sulfite (DTGS) (standard)

Ordering Information

Cat. No. IQAADGAAGFAHDMAZA



Analytical Instrumentation

Nicolet iS10 FT- IR Spectrometer

The First FT-IR Spectrometer Designed For You

Using a Nicolet iS10 FT-IR spectrometer means you are up and ready as soon as your instrument is turned on. You do not need to be a spectroscopy expert to get good data from your Nicolet™ iS™10 spectrometer – the expertise is already built into the instrument.

Materials Verification

Validation, data integrity and push-button operation are important requirements, but no longer sufficient in today's fast-paced, continuous-improvement business environment. Your job requires you to manage cost of ownership of your equipment, enhance productivity, save time, and ensure that human errors are at a minimum. You demand unambiguous answers. The Nicolet iS10, with award-winning OMNIC™ software, creates the most effective tool to achieve all your objectives without any compromise.

Materials Identification

Your challenges walk through your lab door every day. Handling last-minute demands from manufacturing, quality control and product development – troubleshooting is your daily “routine.” Your answers determine not only your customers' satisfaction but also your company's image and profitability.

Performance, ease of use, and reliability are of paramount importance. The Nicolet iS10 spectrometer goes the distance with you – risk free.



System is Always Qualified

- Save valuable time and optimise laboratory throughput by running system performance qualification overnight, every night with System Performance Verification (SPV)
- Qualify the spectrometer and the accessory
- System suitability testing complements performance verification
- Constant system monitoring with ASTM validation protocols and NIST certified standards ensure successful audits

Sample Information Loading and Preparation

- Minimise user interaction by loading sample information through bar codes
- Standardise sample preparation and quality of results by using the new Smart iTR™ ATR sampling accessory
- Even method selection can be automated, for error-free operation

Running the Nicolet iS10 FT-IR spectrometer means no typing sample numbers, no printing SOPs, and no manual selection of methods. You don't even need to touch the computer. What you get is:

- **Speed**
- **Consistency**
- **Security**
- **Confidence**



Analytical Instrumentation

Nicolet iS10 FT- IR Spectrometer

Universal Sampling

Attenuated Total Reflectance (ATR) is a powerful sampling technique that virtually eliminates sample preparation. The Smart iTR ATR sampling accessory for the Nicolet iS10 spectrometer offers outstanding performance and universal sampling.

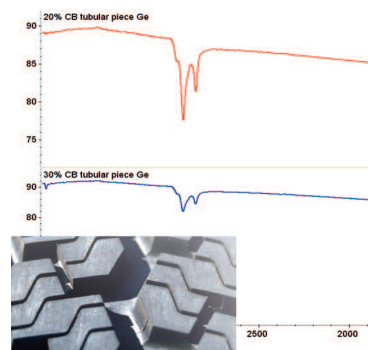
- Multiple crystal options make it possible to sample virtually any liquid or solid
- Automatic recognition, collection parameters, spectral quality check
- Factory-calibrated pressure tower ensures spectral uniformity
- Easy to clean and quickly load your next sample
- Maximum durability; withstands hard and harsh samples with diamond ATR
- OMNIC ATR correction allows spectral search without dedicated ATR libraries
- Validation protocols available for Diamond and ZnSe crystals



Smart iTR Universal ATR Sampling Accessory Reference Chart

	CRYSTAL TYPE*			REFLECTANCE PLATE
	Diamond	ZnSe	Germanium	Mirror
Soft solids, powders	Best	Best	Good	n.a.
Rigid samples	Best	Weak	Weak	n.a.
Harsh chemicals	Best	Weak	Good	n.a.
Coatings on metal	Good	Weak	Weak	Best
Liquid samples, gels	Best	Good	Good	n.a.
Carbon black filled samples	Weak	Medium	Best	n.a.

Carbon black filled samples can be effectively characterized with the Smart iTR universal sampling module by using the germanium crystal.



More than 60% of FT-IR users get their results by using a single reflection HATR. The sensitivity of the spectrometer itself is no longer enough to obtain clear answers. The Smart iTR sampling accessory delivers exceptional throughput performance which allows you to acquire high quality spectra in seconds. The interchangeable crystals with lock-in mechanism answer your needs for ease of cleaning and reproducibility of data.



Empower your Nicolet iS10 with the truly universal sampling accessory, Smart iTR.

Productivity And Efficiency

Want to double your lab's throughput without doubling your budget? The Nicolet iZ10 adds a second FT-IR sampling module while sharing your Nicolet iS10 spectrometer's analytical engine. Each module can be independently validated by our ValPro system qualification package.



Many materials provide good information in the IR spectral region where glass is transparent. The Integrating Sphere accessory for the Nicolet iS10 allows for sampling through vials and verification of samples, both qualitative and quantitative.

Speed of Analysis

- No sample preparation
- Pass / Fail or Quantify analysis
- Sample averaging
- No cleaning

Eliminate Sample Preparation

Material consistency and concentration of principal compounds – through glass vials or large cups with the integrating sphere

Automate Liquids Analysis

High-throughput analysis of liquid materials through sample sipper and autosampler

Run Your Screening Overnight

Sample screening, high-throughput chemical and video information, and statistical analysis for classification of materials by micro well plate sampling

Maximise Sample Throughput

Configure the spectrometer for routine daily use with the main sample compartment



Sample Verification

- Verify raw materials, intermediates and finished products for consistency, purity and concentration
- Regardless of your sample – be absolutely confident in your pass/fail results, thanks to the new and unique compare tools in QCheck™
- Quantify your compounds with classic and chemometric tools in TQ Analyst™

Comprehensive Reports, Quick and Easy

- System validation status and date
- Sampling accessory validation status and date
- Method verification (suitability) status and date
- Sample verification status (Pass or Fail)
- User ID and digital signature (where applicable)
- Generated in PDF format for electronic archival and convenient review throughout your organization



Analytical Instrumentation

Nicolet iS10 FT- IR Spectrometer

Quality, Performance and Support

Built to last and backed by the global customer service network, the Nicolet iS10 spectrometer is designed to be the workhorse of your laboratory.

Sealed and Desiccated Optics Lowers Maintenance Costs

- Standard KBr/BaF2 anti-hygroscopic coating, protective windows
- User rechargeable desiccant canister and humidity inspection window
- High sealing gaskets to protect system from chemical vapors
- Standard integrated multi-level positive pressure purge circuit

Proven Technology for Low Cost, State-of-the-art Operation

- Diamond-turned mirrors and pinned-in-place optics provide excellent wavelength accuracy with no need for spectral correction by software.
- Dynamic alignment provides superior performance and scan velocities.
- IR and halogen sources accessible from the sample compartment are replaceable and interchangeable by the user further extending your capabilities and lowering maintenance costs.

Speed and Sensitivity:

Increase Your Laboratory Throughput

- High spectral resolution standard
- Exceptional band-shape and sensitivity
- Exceptional signal to noise ratio
- High scan rate for kinetic studies

Beyond One-click Operation,

Performance and Ease-of-use

- Highest confidence in identifying impurities and mixtures
- Continuous performance verification
- Error-free sample information loading
- Highest confidence in QC pass/fail results
- Full set of built-in tools for passing audits
- Consistent sample preparation
- Universal sampling tools
- Electronic SOP authoring

You are responsible for providing answers.

You require the highest level of confidence in the results, an efficient learning process and low cost of ownership. The Thermo Scientific Nicolet iS10 FT-IR spectrometer has been designed for you. Discover how the Nicolet iS10 provides the performance, the reliability, and the simplicity you require. Then discover the added value you may not expect from FT-IR.





Analytical Instrumentation

Nicolet iS10 FT- IR Spectrometer

Sample and solve your toughest analytical challenges with minimal time investment — and often with only one click. The Nicolet™ iS™10 FT-IR Spectrometer offers the highest confidence in materials identification and verification. Just load your sample, generate the spectrum and press print.

Designed for rugged, precise and fast-paced operation, the Nicolet iS10 FT-IR Spectrometer simplifies laboratory data collection, combining advanced technology with easy operation for quality performance across technicians of any skill level.



Description

The Nicolet iS10 FT-IR spectrometer is a complete infrared spectroscopy system for routine analytical needs. The Nicolet iS10 delivers the highest confidence in the verification and identification of materials..

Applications

Biodiesel Blending Analysis; Gemstone Analysis; Polymers and Plastics; QA/QC; Pharmaceuticals; Forensics.

Spectral Range

400-7,500 wavenumber or 400-9,000 wavenumber (XTKBr).

Technical Specification and Ordering Information

Height (Metric)	9.8 in. (25 cm)
Weight (Metric)	74lb. (33 kg)
Accepts	SMART Accessories, TGA-IR, Continuum Microscope, Photoacoustic, Most Standard Accessories
Applications	Biodiesel Blending Analysis; Gemstone Analysis; Polymers and Plastics; QA/QC; Pharmaceuticals; Forensics
Humidity	Tightly sealed to resist ambient humidity
Width (Metric)	22.5 in. (57cm)
Interface	PC USB 2.0
Beam Splitter	KBr/Ge mid-infrared optimised (standard); XT-KBr/Ge extended range mid-infrared (optional)
Laser	HeNe
Performance Verification	ASTM E1421 to meet customer ISO/GLP requirements,
Components	Mid-infrared Ever-Glo and Tungsten/halogen (both are user replaceable from sample compartment)
Power Supply	100-240V 50/60Hz
Depth (Metric)	21.7 in. (55 cm)
Source Type	Mid-infrared Ever-Glo and Tungsten/halogen (both are user replaceable from sample compartment)
Spectral Range	400-7,500 wavenumber or 400-9,000 wavenumber (XTKBr)
Description	The Nicolet iS10 FT-IR spectrometer is a complete infrared spectroscopy system for routine analytical needs. The Nicolet iS10 delivers the highest confidence in the verification and identification of materials.
Spectral Resolution	Better than 0.4 wavenumber
Detector	Fast recovery deuterated triglycine sulfate (DTGS) (standard); Liquid-nitrogen-cooled mercury cadmium telluride (MCT) (optional)

Ordering Information

Cat. No. **IQAADGAAGFAHDMAPC**