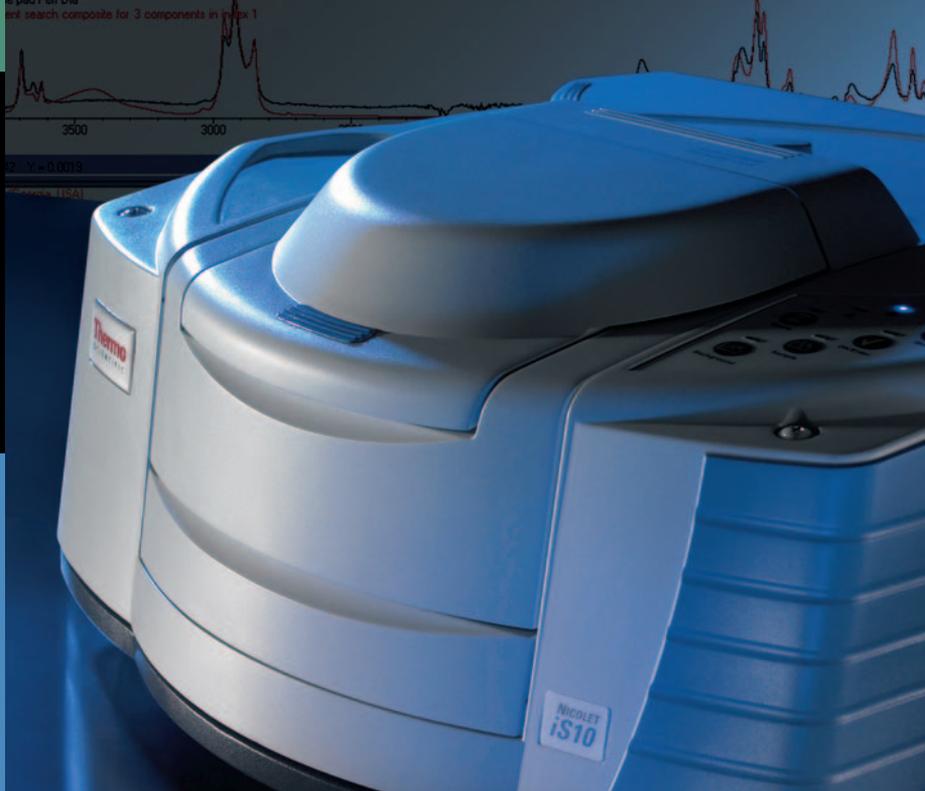


Thermo Scientific Nicolet iS10 FT-IR Spectrometer



Complete Infrared Spectroscopy System for Routine Analytical Needs



iSample

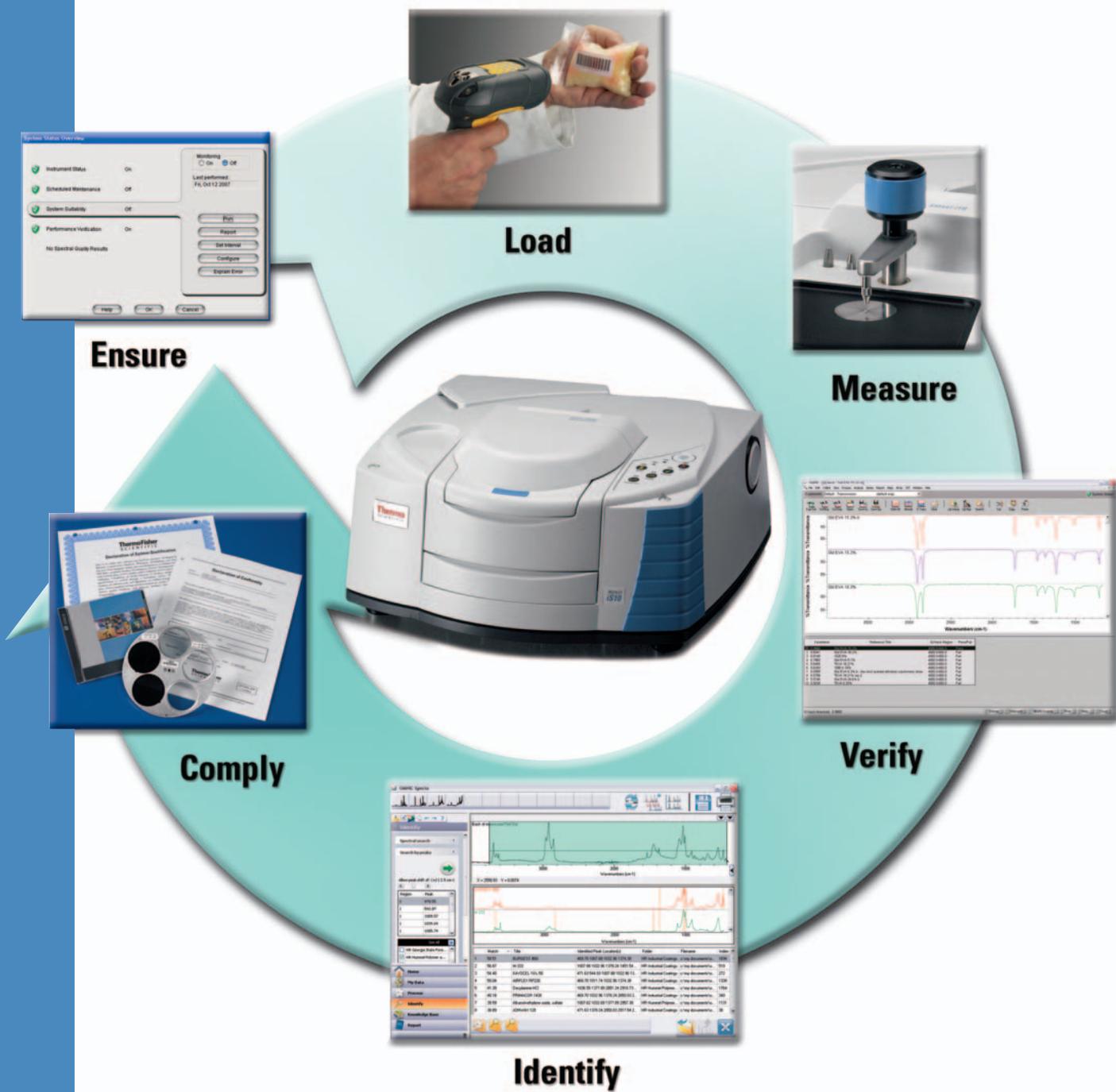


iSolve



i'm Sure

Your Process, Our Answer



Textiles



Chemicals



Pharmaceuticals



Lubricants



Rubbers/Polymers

The First FT-IR Spectrometer Designed For You

Owning a Thermo Scientific 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 iS10™ 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.*



Bio-fuels/Fuels



Packaging



Inks/Pigments/Paints



Cement



Cosmetics

These are only a few of the materials that can be monitored for consistent quality using the Nicolet iS10 FT-IR spectrometer.

QC Analysis – Sample In...

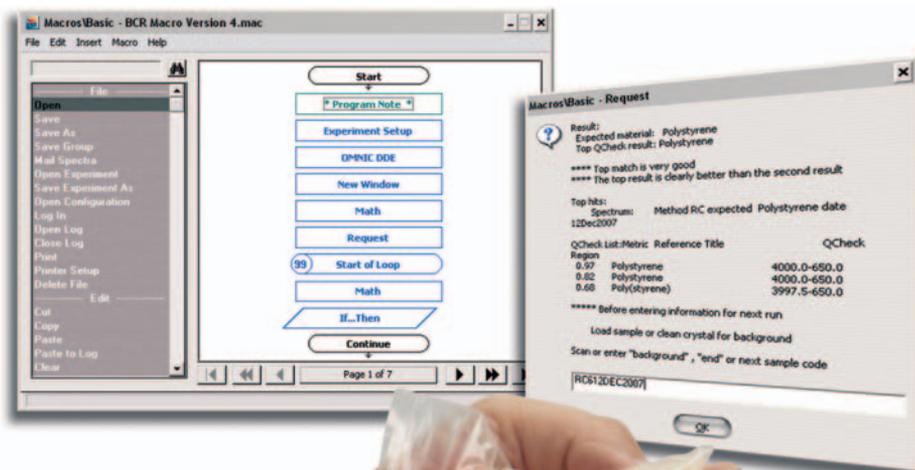


System is Always Qualified

- Save valuable time and optimize 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

- Minimize user interaction by loading sample information through bar codes
- Standardize 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**

Universal Sampling – Reality

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

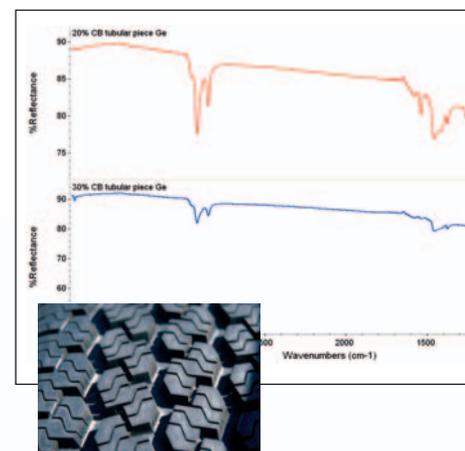
- Multiple crystal options make it possible to sample virtually any liquid or solid
- Automatic recognition, collection parameters, spectral quality check
- Factory-calibrated pressure tower ensures spectral uniformity
- Easy to clean and quickly load your next sample
- Maximum durability; withstands 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 MIRROR
	Diamond	ZnSe	Germanium	
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 Thermo Scientific 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 Thermo Scientific ValPro™ system qualification package.



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

Maximize Sample Throughput

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

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.



The secondary Nicolet iZ10 module doubles your sampling capabilities with one spectrometer.

QC Analysis ...Answers Out



Standard on every Nicolet iS10 spectrometer is an integrated scan button pad that incorporates LED status and humidity indicator.

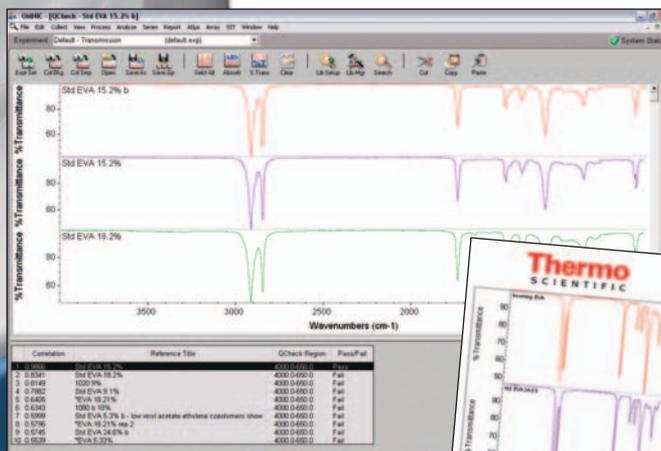


Sample Verification

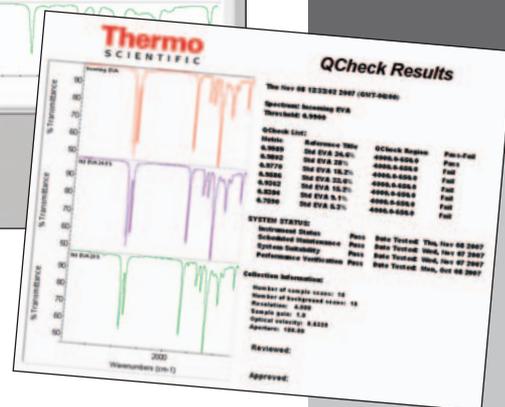
- Verify raw materials, intermediates and finished products for consistency, purity and concentration
- Regardless of your sample – be absolutely confident in your pass/fail results, thanks to the new and unique compare tools in QCheck™
- Quantify your compounds with classic and chemometric tools in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



Clear and simple answers for smooth quality control and assurance



Analytical Support – Problem In, Answer Out

When defects occur in your manufacturing process, when suspected counterfeit goods threaten your brand, or when your quality control laboratory rejects a product – your analytical services day has begun.

Tough Questions...

- Q** Why was the material rejected?
- Q** Why did the failure occur?
- Q** Is the customer correct, or did they not use the product properly?
- Q** What is the root cause?
- Q** What possible actions can we take?

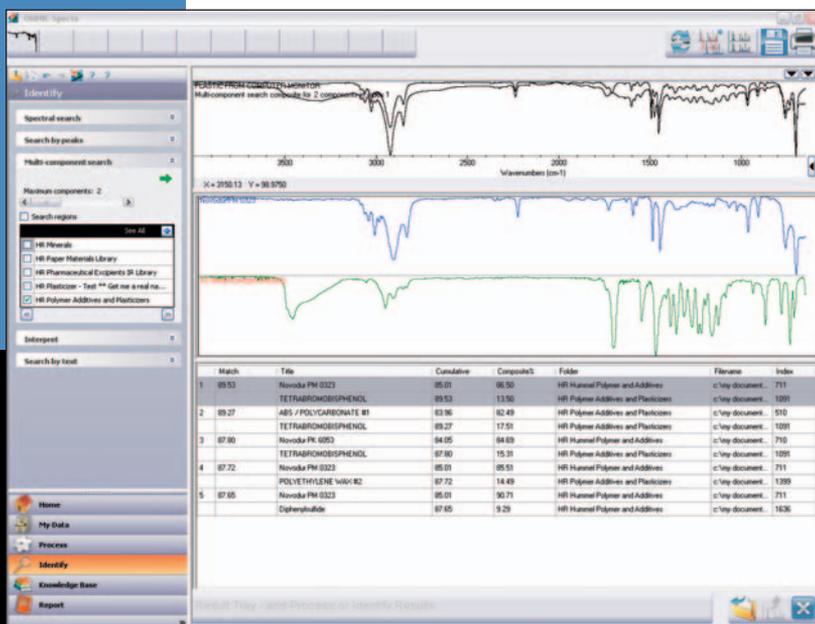
Getting to the core of these questions requires an investment in spectral libraries, ability to identify mixtures and a justification of your results – just a good quality infrared spectrum is not enough!

Meet OMNIC™ Specta™ software, a unique combination of spectral identification tools, interpretation algorithms, and a knowledge-base of scientific documentation that guides you in identifying and certifying assumptions. Combined with a standard collection of several thousand spectra, you now have the capability for:

- Automated qualitative and semi quantitative analysis of pure compounds and mixtures
- Comprehensive search and interpretation tools
- Expert knowledge base
- An all encompassing database that includes every spectrum on your computer

...Require Definitive Answers

- A** OMNIC Specta improves your lab's problem-solving skills – minimizing the cost of external contract lab services.
- A** OMNIC Specta protects and improves your customer satisfaction.
- A** OMNIC Specta reduces inconsistent product quality and product recalls.
- A** Ideal for the analytical services lab, OMNIC Specta also empowers QC laboratories going to minimize costs of external contract lab-services.



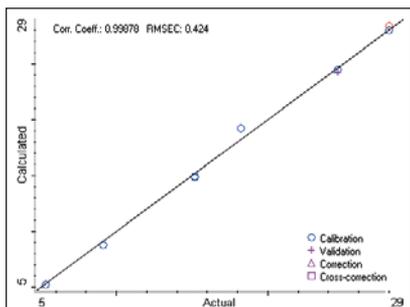
OMNIC Specta provides innovative identification and interpretation tools and a unique expert knowledge base. It converts all of the data on your hard disk into an always-ready database and includes a standard collection of thousands of spectra that enables you to efficiently and effectively identify pure materials and mixtures.

OMNIC Specta can identify multiple compounds in mixtures, simultaneously with a click of the mouse. This example shows a polymer material made of ABS, and a brominated flame retardant as the second component.

Get the highest confidence from infrared spectroscopy materials identification.

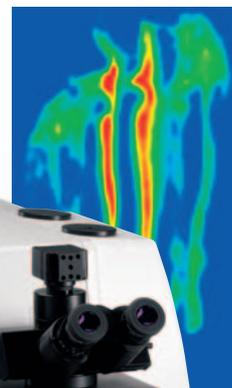
Analytical Support – See, Study, Report

Quantitative Method Development



- Provide better tools to QC laboratories to monitor finished products quality
- Measure the concentration of your ingredients after mixing or before product shipment
- Verify product specifications for quality assurance

OMNIC software includes TQ Analyst quantitative analysis for multiple compounds in simple mixtures. For more complex mixtures and diluted ingredients, chemometric tools such as PLS, PCA and PCR are optionally available.



Contamination and Failure Analysis by Infrared Microscopy

- Measure particles, filtrates and contaminants down to a few microns
- Identify composition of small particles by OMNIC Spectra
- Find the possible cause/source of the failure

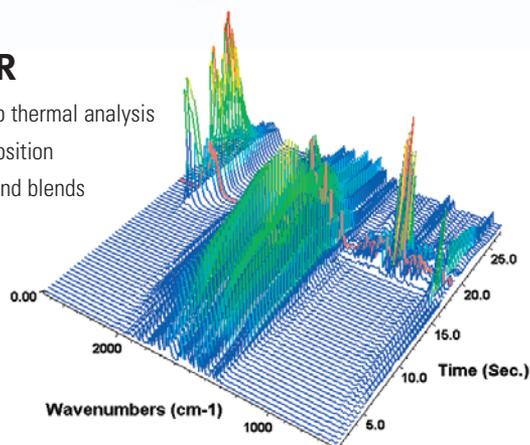
The Nicolet iS10 is compatible with the award-winning Thermo Scientific Nicolet Continuum™ microscope, and with the easy to use Nicolet Centaurus™ microscope. The Nicolet iS10 spectrometer is also the ideal companion to the fully-integrated Nicolet iN10™ Infrared microscope, another innovative solution from Thermo Scientific.



Materials Analysis by TGA-IR

- Learn more about materials by linking infrared to thermal analysis
- Identify species evolved during thermal decomposition
- Elucidate composition of mixtures, copolymers and blends

OMNIC Series software is a time-based analysis tool useful for kinetic studies, curing process studies, stability control, and TGA-IR.



Ensure the quality of your products and identify microscopic contaminants.

Thermo Scientific Nicolet iS10, Auditing Made Easy

Quality-driven businesses, pharmaceutical manufacturers, and other regulated laboratories must provide absolute confidence in the answers they provide – with supporting documentation. The Nicolet iS10 FT-IR spectrometer is the perfect partner for any regulated and quality driven environment. The standard qualification package includes software, hardware and documentation based on industry-standard validation methods, traceable standards, and automated overnight qualification.



System Performance Verification (Standard)

- Fully automated ASTM E-1421 method for FT-IR spectrometers testing, includes report printout for reference purposes
- Fully automated validation wheel with 1.5-MIL (38-micron) serialized NIST traceable polystyrene film, and NG-11 Schott glass
- SPV software for spectrometer, sampling accessory, method performance verification and system suitability testing
- Overnight system verification, user programmable



ValPro System Qualification (Optional)

- Fully automated ASTM methods for FT-IR spectrometers testing, includes printed copy for reference purposes
- European and Japanese pharmacopoeia methods
- ASTM, EP and JP sampling accessory validation
- Fully automated validation wheel with 1.5-MIL (38-micron) serialized NIST traceable polystyrene film, and NG-11 Schott glass
- ValPro software for spectrometer, sampling module and method performance verification
- Design Qualification documentation (DQ)
- OQ, PQ protocols and documentation
- Installation Qualification (IQ) also available

Digital Signature and Electronic Data Security (Optional)

- Digital signature 21 CFR Part 11 compliant package
- Server data security implementation



Every Nicolet iS10 includes software and tools for ASTM method FT-IR validation protocol with capability for comprehensive overnight fully-automated testing, NIST traceable and serialized standard testing, and NIST traceable standard mounted on serialized wheel. ValPro advanced validation package is optionally available for more demanding regulated environments and pharmaceutical industry.

Quality, Performance and Support

Built to last and backed by the Thermo Scientific 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

Worldwide Service and Support

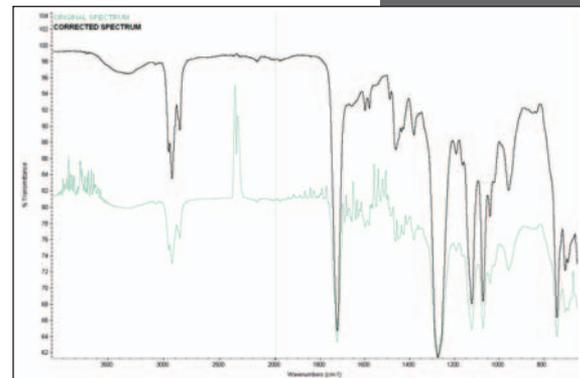
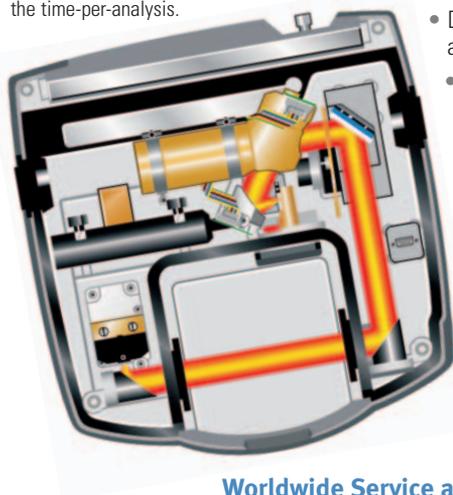
Thermo Scientific FT-IR spectrometers are backed up by the support staff of the largest analytical instrumentation company in the world. Service and support are available almost everywhere. We have more FTIR-trained field service engineers and applications people to support you than any other company. Meeting all of your support needs is our highest priority.

Comprehensive Support for Your Needs

- On-site visits from factory-trained field service engineers
- Technical phone support
- Internet-based technical support
- Performance maintenance programs
- Classroom and on-site training programs
- Contract method and application development programs



The simple optical layout of the Nicolet iS10 spectrometer delivers exceptional sensitivity enhancing the time-per-analysis.



Automatic atmospheric suppression removes water and carbon dioxide from spectra, with no need to select a reference spectrum.

Don't take risks. Empower your laboratory with a reliable, high-performing and warranty protected FT-IR.

Nicolet iS10 FT-IR Spectrometer

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.

In addition to these offices, Thermo Fisher Scientific maintains a network of representative organizations throughout the world.

Africa

+43 1 333 5034 127 • analyze.emea@thermo.com

Australia

+61 2 8844 9500 • analyze.au@thermo.com

Austria

+43 1 333 50340 • analyze.at@thermo.com

Belgium

+32 2 482 30 30 • analyze.be@thermo.com

Canada

+1 800 530 8447 • analyze.ca@thermo.com

China

+86 10 5850 3588 • analyze.cn@thermo.com

Denmark

+45 70 23 62 60 • analyze.dk@thermo.com

Europe-Other

+43 1 333 5034 127 • analyze.emea@thermo.com

France

+33 1 60 92 48 00 • analyze.fr@thermo.com

Germany

+49 6103 408 1014 • analyze.de@thermo.com

India

+91 22 6742 9434 • analyze.in@thermo.com

Italy

+39 02 950 591 • analyze.it@thermo.com

Japan

+81 45 453 9100 • analyze.jp@thermo.com

Latin America

+1 608 276 5659 • analyze.la@thermo.com

Middle East

+43 1 333 5034 127 • analyze.emea@thermo.com

Netherlands

+31 76 579 55 55 • analyze.nl@thermo.com

South Africa

+27 11 570 1840 • analyze.sa@thermo.com

Spain

+34 914 845 965 • analyze.es@thermo.com

Sweden / Norway / Finland

+46 8 556 468 00 • analyze.se@thermo.com

Switzerland

+41 61 48784 00 • analyze.ch@thermo.com

UK

+44 1442 233555 • analyze.uk@thermo.com

USA

+1 800 532 4752 • analyze.us@thermo.com

www.thermo.com



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