

thermoscientific



## Thermo Scientific Nicolet iS20 FTIR Spectrometer

The perfect fit for busy analytical laboratories

**ThermoFisher**  
SCIENTIFIC

# Step into a new dimension of reliable answers

Trusted by thousands of users around the world, the Thermo Scientific™ Nicolet™ iS10 FTIR Spectrometer set the benchmark for analytical FTIR instruments. Now, the Nicolet iS20 FTIR spectrometer resets the standard and pushes the limits of innovation to the next level. With its redesigned optical engine and modern industrial design, the Nicolet iS20 spectrometer creates the perfect combination of the instrument platform FTIR users love with the improvements they need.





## Performance and peace of mind—for a decade

Redesigned with state-of-the-art technology, our Thermo Scientific™ LightDrive™ Optical Engine comes with **10-year warranties** on the interferometer, laser, and IR source, setting a new standard for low cost of ownership. Factory verified specifications, such as our 50,000:1 signal-to-noise ratio and best-in-class spectral resolution ( $0.25\text{ cm}^{-1}$ ), improve spectral quality so users can collect data 30% faster than before.



## Productivity you can't be without

Reduce the number of steps it takes to create and run workflows as well as streamline data analysis with the integrated touch panel designed for fast answers. An instrument scan bar with multi-colored LED lighting provides visual feedback on run, idle and alert modes, so you know what your next action should be.



## Flexibility to analyze challenging samples

Take your failure analysis to the next level. Whether you need to conduct defect analysis of small particles or characterize drug formulations, the Nicolet iS20 spectrometer seamlessly integrates with our FTIR microscopes, TGA-IR systems, and most commercially available accessories.



## Familiarity you love

No need to learn a new software platform. Our Thermo Scientific™ OMNIC™ Software includes Thermo Scientific™ OMNIC™ Spectra™ Analysis Software and OMNIC Anywhere cloud-based spectroscopy software, so you can analyze and share data anytime, anywhere. Compliance, data traceability, and auditing are easier with automated systems that meet international regulations.

When your organization looks to you for answers, the Nicolet iS20 spectrometer is there to help...



### Solve problems quickly

**Chemicals and Polymers**—With its integrated touch-panel simplicity, the Nicolet iS20 spectrometer helps you quickly identify and verify incoming materials to avoid production line downtime as well as conduct failure, contaminant, and defect analysis.



### Keep the world safe

**Pharmaceuticals**—Regulated laboratories must have absolute confidence in the answers they provide. With its full suite of validated software and an innovative Audit Manager compliance package, the Nicolet iS20 spectrometer helps you comply with Ph. Eur., USP, JP, and CP instrument validation.



### Inspire young minds

**Academia**—Designed for easy operation, the Nicolet iS20 spectrometer builds confidence with first time users, helping to prepare students for the technology they will encounter when they enter the workforce. OMNIC Anywhere cloud-based software allows students to upload, share, and analyze their data away from the lab.

# Advanced performance with peace of mind

## Answers at LightDrive speed

At the heart of the Nicolet iS20 FTIR spectrometer is the LightDrive optical engine—developed from years of optical design expertise, innovation, and creativity. See how LightDrive technology enhances spectral performance for answers you can trust. A **10-year warranty** on the interferometer, laser, and IR source adds another level of unmatched reliability.

## LightDrive optical engine technology

### **Interferometer produces market-leading precision**

See the hidden details with high-resolution spectroscopy. The modern Michelson interferometer design delivers  $0.25\text{ cm}^{-1}$  spectral resolution for superior optical quality to uncover answers from difficult samples.

### **Detector yields definitive answers**

Achieve accurate identification and quantification results with the thermoelectrically cooled (TEC) detector, ensuring ideal response profiles.

### **Infrared source delivers unmatched consistency**

Our state-of-the-art infrared light source provides more consistent identification and quantification results. Peak shapes and signal-to-noise ratios are exceptional thanks to a stable hotspot location and energy intensity.

### **Laser supplies maximum accuracy**

Eliminate future maintenance costs with a solid-state diode laser. The long-lifetime, temperature-stabilized design guarantees accurate and precise data acquisitions, scan after scan, day after day.

**Sample**



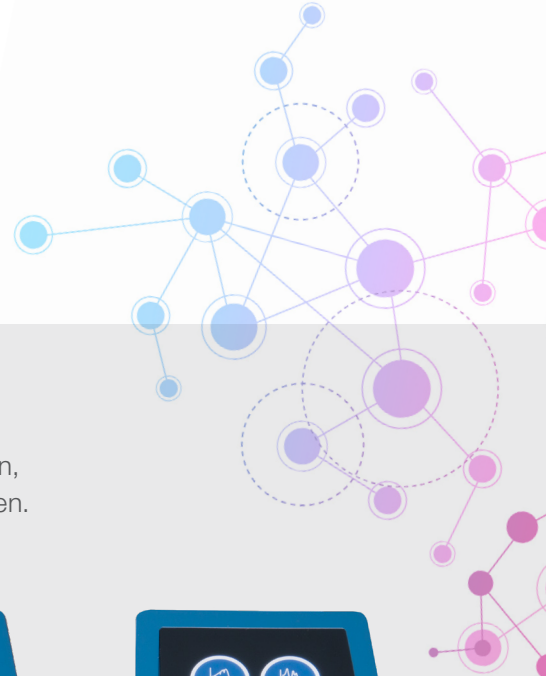
**Answers**

# Productivity enhanced



## Maximize productivity with a modern design

Take the next step in integrated control. Quickly build workflows with OMNIC software. Then, run those workflows with a tap on the intuitive touch panel that uses side-fire LEDs and capacitive touch technology to minimize steps and streamline your analysis. Even untrained users can analyze difficult samples with confidence.



## Light up your work

The multi-colored scan bar helps you know your instrument status at a glance. Whether the instrument is ready for analysis, collecting data, or needing attention, you are notified with a splash of color on the scan bar, not just by text on a screen.

## Scan bar states



### Ready for analysis

A solid-pulsing, green light lets you know your instrument is ready to run.



### Data collection in progress

A moving, green light tells you that data is being collected.



### Maintenance required soon

A solid-pulsing, yellow light indicates that your scheduled maintenance date is approaching.



### Instrument needs attention

A quick-pulsing, red light indicates you should look at your software diagnostics menu for additional information.

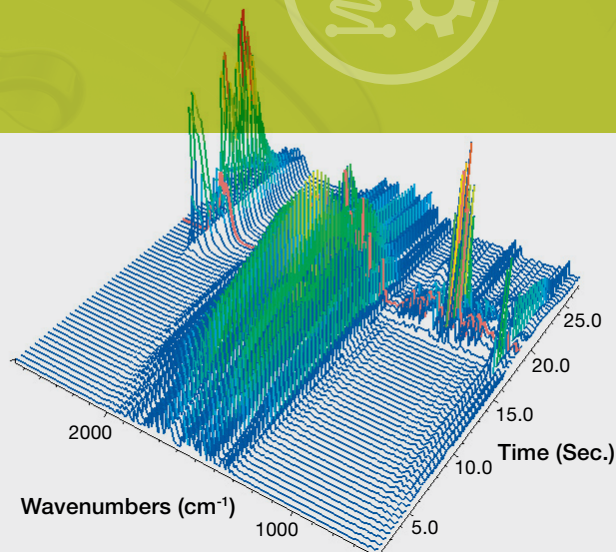


# Flexibility to respond fast



## The perfect fit for any challenge

When complex problems enter your lab, look for an instrument that is up to the challenge. Need to conduct a kinetics analysis for a polymer curing process? Equip your Nicolet iS20 spectrometer with a high-speed MCT detector. Want to analyze gaseous components with ease? The best-in-class spectral resolution ( $0.25\text{ cm}^{-1}$ ) will show you details you've never seen before.



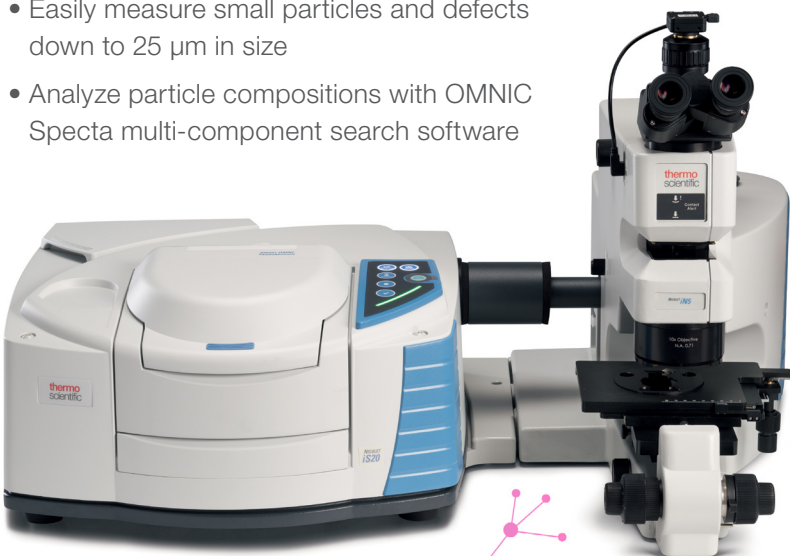
OMNIC Series software, unique Mercury TGA analysis package, and 3D displays allow you to quickly and efficiently extract useful information from TGA-IR (thermogravimetric infrared) and other time-based experiments

## Do more. Be more.

The Nicolet iS20 spectrometer is compatible with hundreds of commercially available accessories, expanding your capabilities into the future. Excel at contaminant and failure analysis by combining the spectrometer with the Nicolet iN5 FTIR microscope (spatial resolution:  $25\text{ }\mu\text{m}$ ) or the Thermo Scientific™ Nicolet™ Continuum™ FTIR Microscope (spatial resolution:  $10\text{ }\mu\text{m}$ ) to help with root cause analysis.

### Nicolet iS20 FTIR spectrometer with the Nicolet iN5 FTIR microscope

- Easily measure small particles and defects down to  $25\text{ }\mu\text{m}$  in size
- Analyze particle compositions with OMNIC Spectra multi-component search software



### Nicolet iS20 FTIR spectrometer with the TGA-IR module

- Understand your materials better by correlating infrared and TGA-IR thermal analysis
- Elucidate composition of mixtures, copolymers, and blends

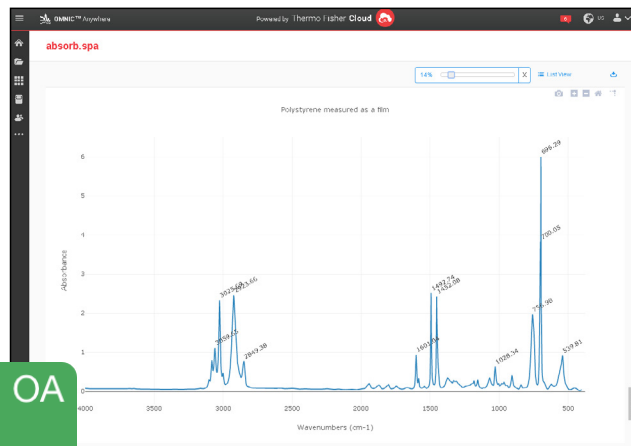


# Familiarity you want— compliance you need



## Software you trust with enhanced features you'll love

- Seamlessly transfer methods, workflows, and libraries to the latest version of our award-winning OMNIC software. Learn more about your chemical mixtures with multi-component search, now included as part of the standard OMNIC platform.
- The OMNIC Anywhere cloud-based FTIR software is a must have for academic laboratories and other crowded lab environments. Let students analyze their data away from the instrument, on any device, anytime. Or share results with colleagues across the globe in a secure environment (Thermo Fisher Cloud).



OMNIC Anywhere spectra can be viewed online on any device

## System verification and compliance simplified

Regulated, quality-driven industries can rely on the Nicolet iS20 software, hardware, and documentation to ease the burden of staying compliant and preparing for audits.











Feature	Nicolet iS20 System Performance Verification (SPV) <i>(Standard)</i>	ValPro System Qualification <i>(Optional)</i>	OMNIC Security Suite with ValPro <i>(Optional)</i>
Fully automated validation wheel with 1.5-MIL (38-micron) serialized NIST traceable polystyrene film, and NG-11 Schott glass	●	●	●
Fully automated ASTM E-1421 method for FTIR spectrometer testing, includes report printout for reference purposes	●	●	●
SPV software for spectrometer, sampling accessory, method performance verification, and system suitability testing	●	●	●
ASTM, Ph. Eur., USP, JP, CP instrument validation*		●	●
Documentation and protocols for Design Qualification (DQ), Operational Qualification (OQ), Performance Qualification (PQ), Installation Qualification (IQ)		●	●
Digital signature and electronic data security compliant with 21 CFR Part 11 using server-based security admin			●
Audit Manager program streamlines audit preparation, supporting data integrity traceability			●

\* Instrument validation from: ASTM International, National Institute of Standards and Technology, European Pharmacopeia, U.S. Pharmacopeia, Japanese Pharmacopeia, and Chinese Pharmacopeia



Evaluate the Nicolet iS20 spectrometer capabilities against other FTIR spectrometers on the market. Here's your checklist.

## Advantage

- |   |   |  |
|---|---|--|
|    | <b>10-year warranty</b>                   | Our powerful LightDrive optical engine provides an unmatched 10-year warranty on the interferometer, laser, and IR source.   |
|    | <b>Enhanced performance</b>               | With a 50,000:1 signal-to-noise ratio and best-in-class spectral resolution (0.25 cm <sup>-1</sup> ), the Nicolet iS20 spectrometer outperforms any mid-level FTIR spectrometer on the market. |
|    | <b>Modern design</b>                      | Integrated touch panel reduces the number of steps for executing workflows. Color-emitting scan bar provides a visual status of the instrument in idle, collect, or alert modes.               |
|    | <b>Factory verified specifications</b>    | Don't accept signal-to-noise ratios that are typical or achievable. The Nicolet iS20 delivers specifications that are proven before each instrument leaves the factory.                        |
|    | <b>Cloud-based connectivity</b>           | Experience the freedom to analyze and share data with your colleagues anywhere, anytime, and on any device and operating system.   |
|   | <b>Efficiency you need</b>                | Integrated capacitive touch panel speeds up your data collection process and streamlines your workflows.   |
|  | <b>Minimize upgrade costs</b>             | Use hundreds of compatible accessories or your current Smart accessories (ATR, TGA-IR, etc.) on the Nicolet iS20 FTIR spectrometer.  |
|  | <b>Optical source stability</b>           | LightDrive IR source technology, first introduced in the Nicolet iS50 research-grade spectrometer, increases data reproducibility, sample after sample.  |
|  | <b>Flexibility for the future</b>         | Microscope interfaces, MCT detector option, TGA-IR experiments, kinetics analysis, mid/near infrared data collection...it's all possible on the Nicolet iS20 instrument.                       |
|  | <b>Market-leading service and support</b> | Feel the confidence that >7,000 service engineers and 1,800 technical support personnel worldwide can bring to you and your lab.   |



## Reduce workplace stress

Keep your business running everywhere around the globe with our technical support, training and maintenance contracts provided by Unity™ Lab Services ([unitylabservices.com](http://unitylabservices.com)) and our qualified dealer network.

Find out more at [thermofisher.com/iS20](http://thermofisher.com/iS20)

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