Thermo Scientific
Nicolet iS5N FT-NIR Spectrometer

Near-infrared for today's laboratory

The Thermo Scientific™ Nicolet™ iS™5N FT-NIR spectrometer provides superior performance in a compact size at an affordable price. Combining flexible sample handling and leading Thermo™ Scientific™ OMNIC™ software, the Nicolet iS5N spectrometer sets the benchmark in its class of FT-NIR instrumentation.

iD1H Heated Transmission Optional Accessory

Based on the popular Thermo Scientific Nicolet iS5 mid-infrared spectrometer, the Nicolet iS5N FT-NIR spectrometer integrates high-performance optics into a small, rugged package. The spectrometer is perfect for use in a wide range of settings, from small industrial facilities to global manufacturing sites.

The Nicolet iS5N spectrometer withstands hot, humid environments while its user-serviceable components greatly reduce service visits and lower maintenance costs.

The Nicolet iS5N FT-NIR Spectrometer
• Affordable price
• Superior performance
• Small footprint
• Flexible sampling

Unique Optical System

The sealed and desiccated optical unit protects the instrument from humidity and solvent vapors. A self-compensating, dynamically aligned interferometer removes any tilt and shear scanning error, automatically tunes the instrument for best throughput and provides analysis speed for real time survey or screening. Pinned-in-place adjustment-free optics guarantee consistent system performance with minimum maintenance.

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Performance

- **Spectral range:** 11,000–3800 cm^{-1} optimized, CaF$_2$ beamsplitter
- **Signal-to-noise:** 10 uABS RMS in less than a minute
- **Spectral resolution:** Better than 4 cm^{-1}
- **Wavelength precision:** 0.01 cm^{-1} at 5300 cm^{-1}
- **Linearity:** Slope 1 ± 0.05

Easy, user-accessible source replacement

Optics

- **Detector:** Extended range indium gallium arsenide (InGaAs)
- **Source:** High intensity halogen NIR; user replaceable from bottom plate
- **Beamsplitter:** CaF$_2$ near-infrared
- **Laser:** Temperature stabilized solid-state Near-IR diode laser

Electronics

- USB 2.0 high-speed bidirectional communication to PC

Dimensions

- **Size:** 35 cm W × 28 cm D × 26 cm H (13.5" W × 10.9" D × 10.2" H)
- **Weight:** 10 kg (22 lbs)

Regulatory

- **Regulatory approvals:** CE, ETL

Performance Verification

- Automated performance verification to meet customer ISO/GLP requirements
- External 0.8 mm polystyrene film
- Automatic accessory detection and performance verification
- System Suitability tests for complete system performance assurance

Humidity and Vapor Protection

- Tightly sealed and desiccated optical bench with protective Quartz windows
- Rechargeable desiccant cartridges with humidity indicator
- Internal diagnostics with electronic humidity and heat sensors

High performance optics in a rugged, lightweight package

Diagnostics

- Automatic accessory recognition
- Temperature
- Humidity

Serviceability

- User-replaceable components (without opening cover):
  – Source
  – Desiccant
  – Power supply
  – Sample compartment windows

OMNIC Software

OMNIC software for the Nicolet iS5N spectrometer includes these standard features:

- Complete collection of spectral processing and analysis tools
- QCheck correlation for material verification
- Live display of data collection and spectral data preview
- Customizable toolbar and menu options
- User logins and password protection
- Peak analysis tools: peak area, peak height
- Data processing, conversions and corrections
- Spectral Search and Library Manager
- Infrared spectral interpretation with online interpretation guide
- Automatic atmospheric suppression
- Full-featured report generator
- Quant prediction for PLS, PCR, Beer's Law, CLS, peak ratio, and Discriminant Analysis
- Windows® 7 (32 or 64 bit) and Windows 8 (64 bit) compatible

Minimum PC Requirements

Microsoft® Windows 7 or 8 OS, 2 GB RAM, 3 GHz processor, 160 GB HDD, USB 2.0 or 3.0, 800 × 600 CRT/LCD display, DVD drive

Thermo Electron Scientific Instruments LLC, Madison, WI USA is ISO Certified.

ISO 9001 Certified System
Class I Laser Product

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