Thermo Scientific
Nicolet iS5 FT-IR Spectrometer

Premium performance in a compact package

The Thermo Scientific™ Nicolet™ iS™5 FT-IR spectrometer provides superior performance in a compact size at an affordable price. Combining flexible sample handling and leading Thermo™ Scientific™ OMNIC™ software, the Nicolet iS5 spectrometer sets the benchmark in its class of FT-IR instrumentation.

The Thermo Scientific Nicolet iS5 FT-IR spectrometer integrates high-performance optics into a small, rugged package. This spectrometer is perfect for use in teaching laboratories, small industrial facilities, or dedicated use in global manufacturing facilities.
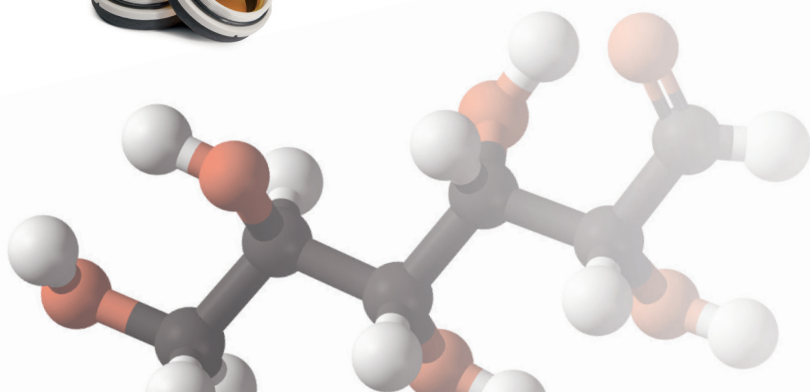
The Nicolet iS5 spectrometer withstands hot, humid environments while its user-serviceable components greatly reduce service visits and lower maintenance costs.

The Nicolet iS5 FT-IR 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. Diamond turned, pinned-in-place adjustment-free optics guarantee long life system performance with minimum maintenance.

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Performance

- Spectral range
  - *7800–350 cm^{-1} optimized, mid-infrared KBr beamsplitter*
- Signal-to-noise*
  - *Guaranteed: 5 seconds: 8000:1 (peak to peak)*
    1 minute: 22,000:1 (peak to peak)
  - *Typical: 1 minute: 28,000:1 (peak to peak)*
- Spectral resolution: better than 0.8 cm^{-1}; better than 0.5 cm^{-1} using aperture
- Wavelength precision: 0.01 cm^{-1} at 2000 cm^{-1}

* KBr optics, 4 cm^{-1} spectral resolution

Easy, user-accessible source replacement

Optics

- **Detector:** Fast recovery deuterated triglycine sulfate (DTGS) detector
- **Source:** Mid-infrared Ever-Glo; user replaceable from bottom plate
- **Beamsplitter:** KBr/Ge mid infrared optimized
- **Laser:** Temperature controlled 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)
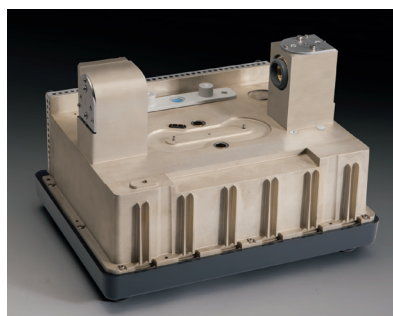
Regulatory

Regulatory Approvals: CE, ETL

Performance Verification

- Automated performance verification as per ASTM E1421 to meet customer ISO/GLP requirements
- Internal NIST-traceable 1.5 MIL polystyrene film (serialized)
- 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 KBr windows
- Optional ZnSe windows available for environments with excessive humidity
- 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 iS5 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® XP, Vista®, Windows 7 and Windows 8 compatible

Minimum PC Requirements

Microsoft® Windows XP OS, 1 GB RAM, 16 GB HDD, USB 2.0, 800 × 600 CRT/LCD display, accel graphics card

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ISO 9001
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