

Features

- Instrument and software specifically designed for the analysis of in-service oil.
- Complies with ASTM E 2412 Standard Practice for condition Monitoring of Used Lubricants by Trend Analysis Using Fourier Transform Infrared (FT-IR) Spectroscopy.
- Quantitative TAN and TBN analyses (in mgKOH/g).
- Patent-pending flip-top sample cell eliminates need for solvents and simplifies cleaning.
- Ability to analyze fluids with a wide range of viscosities, including greases.
- Fixed interferometer, does not require software or manual alignment.
- Exceptional stability and reliability in harsh operating environments.
- Completely sealed and desiccated to prevent humidity interferences.
- Bench-top, requires little counter space.



SpectroFTIR Alpha Q⁴¹⁰ Oil Analyzer

"The SpectroFTIR Alpha Q410 was developed and optimized for predictive maintenance programs according to JOAP and ASTM standards for the rapid determination of oxidation, nitration, sulfation, water, coolant, fuel dilution, soot and wear additive depletion in used oils."



The SpectroFTIR Alpha Q⁴¹⁰ Oil Analyzer

The SpectroFTIR Alpha Q410 Oil Analyzer is specifically designed for the molecular analysis of lubricating oil to determine oil degradation and contamination. It was developed and optimized for predictive maintenance programs according to JOAP and DIN standards for the rapid determination of oxidation, nitration, sulfation, water, coolant, fuel dilution, soot and wear additive depletion in used lubricating oils. It also provides quantitative TBN analysis (in mgKOH/g) for mineral based engine oils and TAN analysis (in mgKOH/g) for polyol ester based synthetic turbine fluids.

The SpectroFTIR Alpha Q410 is a bench-top instrument that requires little counter space for operation. It uses an innovative patent pending flip-top cell to introduce and analyze the sample. Sample introduction is thus extremely simple, reliable and eliminates the need for a peristaltic pump and solvents. The system is easy to use and requires little training for operation since it is optimized for one application: in-service oil analysis.

When coupled with an optional autosampler, the SpectroFTIR Alpha Q410 Oil Analyzer is ideal for condition monitoring laboratories with large sample loads. For automatic operation, the SpectroFTIR Alpha Q410 Oil Analyzer is equipped with a zinc selenide wedge transmission flow cell that improves performance by minimizing fringing associated with normal cells. The transmission cell has high infrared throughput, is optimized for used oil analysis and is easy to clean. The cell assembly is mounted in a pre-aligned base plate for fast and reproducible exchange.

The SpectroFTIR Q410 Spectrometer is a complete in-service oil analysis system.

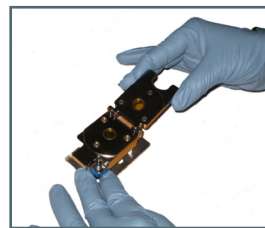
It includes:

- Software specialized for in-service oil analysis. Additional capabilities available.
- Permanently aligned, high sample throughput interferometer.
- Software that continuously monitors all optical components and accessories.
- Infrared source is easily replaced without special training.
- Fixed interferometer which avoids the need for time consuming and complex alignment.
- Internal Validation Unit (IVU) with calibration standards to systematically validate the system.
- Computer and monitor, Windows® XP PRO operating system.
- Ethernet connection for spectrometer operation from a PC, laptop or network.
- Optional QUANT quantitative analysis software uses a full spectrum of multivariate analysis method for setting up models and provides a wide range of pre-processing and validation options and offers an automatic routine for the optimization of calibration methods.

Spectral Range	Manual System: <ul style="list-style-type: none"> • Standard: ZnSe Flip-top cell, windows, beamsplitter (Range: 6,000-500 cm^{-1}) • Optional: ZnSe Flip-top cell, KBr windows, beamsplitter (Range: 7,000-500 cm^{-1}) Automatic System (optional): <ul style="list-style-type: none"> • Standard: ZnSe wedged transmission cell, windows, beamsplitter (Range: 6,000-500 cm^{-1}) • Optional: KBr wedged transmission cell, windows, beamsplitter (Range: 7,500-375 cm^{-1})
Frequency Accuracy	Better than 2 cm^{-1} , optional better than 0.9 cm^{-1}
Signal to Noise	1 Min:> 30,000:1 (1.5×10^{-5} AU noise) peak-to-peak, 4 cm^{-1} resolution
Interferometer	ROCKSOLID™, permanently aligned, high stability
Detector	DTGS
Dimensions (WxDxH)	22 x 30 x 12..5 cm (8.7 x 11.8 x 4.9 inches)
Weight	7 Kg (15.5 lbs)
Power	100 - 240 VAC, 50 - 60 Hz (max 1.3 A)
Environmental Conditions	<ul style="list-style-type: none"> • Operational temperature range: 18°C - 35°C (64 -95°F) • Temperature variation: 1 °C/h and max 2 °C/day • Humidity (non-condensing): less than 80 % (relative humidity) • Installation site: in a closed room • Installation over voltage category: II • Ambient Altitude: 2,000 meters (6,562 feet)
Cleaning Solvent	None with ZnSe Flip Top Cell, Pentane with Wedge Transmission Cell
Computer Interface	Ethernet Connection



1. Remove Cell

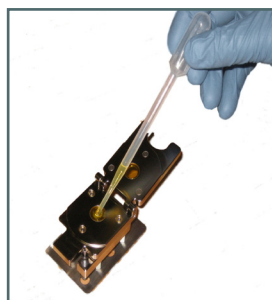


2. Open Cell

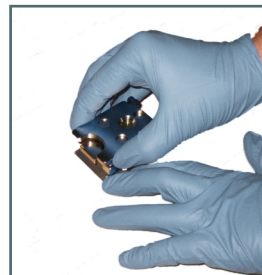


3. Clean Cell

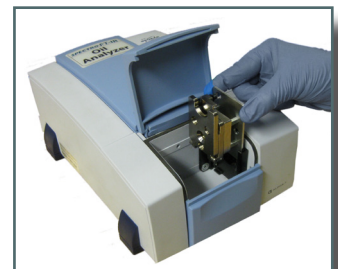
4. Place drop of Oil on Cell



5. Close Cell



6. Replace Cell in Spectrometer and Measure Sample



The SpectroFTIR Alpha Q410 Flip Top Cell Eliminates the Need for Solvents and is Easy to Clean and Use with a Wide Range of Fluid Viscosities.

SPECTRO INC.
QinetiQ North America

160 Ayer Road • Littleton, MA 01460 USA
Tel: (978) 486-0123 • Fax: (978) 486-0030

E-mail: sales@spectroinc.com • World Wide Web: www.spectroinc.com

Spectro Incorporated is an ISO 9001 certified company.