

Spectroil Spectrometer



Overview

SpectrOil M Series Rugged High Performance RDE The latest SpectrOil M series is the eighth generation RDE Optical Emission Spectrometer for elemental Spect.

Key Takeaways

The SpectrOil M is a rugged, portable RDE-OES spectrometer designed for rapid, accurate elemental analysis of lubricants, fuels, coolants, and water. Overview

The SpectrOil M Series is a compact and transportable optical emission spectrometer that uses the Rotating Disc Electrode (RDE) technique to measure trace elements, wear metals, contaminants, and additives in petroleum-based products and coolants . It is designed for both laboratory and field use, meeting military shock, vibration, and environmental standards, making it suitable for extreme conditions and remote locations .

Principle of Operation

The spectrometer operates through three main components:

- **Excitation Source:** A high-voltage AC source applies energy across a small gap formed by a purified graphite rod and rotating disc, which picks up the sample for analysis .
- **Optical System:** Separates the emitted light into component wavelengths for precise elemental detection .

- Readout System: Detects and quantifies the light, applying calibration programs to correct for matrix effects and ensure results comply with ASTM standards .

Applications

The SpectrOil M can analyze:

- Lubricants and hydraulic fluids (commercial and military versions)
- Fuels (light and heavy, including diesel and gas turbine fuels)
- Coolants and industrial process water It supports rapid switching between fluid types using preloaded calibration profiles, allowing analysis in seconds without extensive sample preparation .

Models and Variants

- M/C-W: Commercial oils and hydraulic fluids (24 elements)
- M/F-W: Light and heavy fuels (15 elements)
- M/F-LD: Low-detection diesel fuels (≤ 0.1 ppm)
- M/N-W: Military oil analysis compliant with JOAP standards (15 elements) Some models include the Double Disc Rapid Robot (D2R2) for automated sample handling and electrode replacement, enabling high-throughput analysis of up to 50 samples .

Key Features

- Rapid analysis: Lab-grade results in ~30 seconds
- Minimal sample volume: ~2 mL, no solvents or dilution required
- High sensitivity: Sub-ppm detection for up to 31 elements simultaneously
- Rugged design: Shock, vibration, and environmental resistance for field deployment
- Standards compliance: ASTM D6595 (lubricants), ASTM D6728 (fuels), and JOAP for military applications

Advantages

The SpectrOil M provides fast, reliable, and field-ready elemental analysis, making it ideal for condition monitoring, preventive maintenance, and quality control in both industrial and military settings. Its portability, ruggedness, and automated features allow deployment in remote or harsh environments without sacrificing laboratory-grade accuracy .

Article Content

SpectrOil 100 Series

SpectrOil 100 Series Laboratory Precision the core of the SpectrOil 100 is a precision Rotating Disk Electrode, Optical Emission

Spectro Spectroil M | Analisa Pelumas

The latest SpectrOil M series is the eighth generation RDE Optical Emission Spectrometer for elemental analysis in oil and fuel. It is

SpectrOil 100 Product Information SpectrOil Models and

SpectrOil 100 Series Laboratory Precision is a precision Rotating Disk Electrode, Optical Emission Spectrometer (RDE-O Measure

SpectrOil 100 for Oil Analysis : Quote, RFQ, Price and Buy

The SpectrOil 100 Rotating Disc Electrode Optical Emission Spectrometer (RDE-OES) represents the eighth generation of the

Product Portfolio: SpectrOil M Elemental Spectrometer for Oil Analysis

The Spectroil family of oil analysis optical spectrometers consists of the Spectroil M/C-W for commercial oil analysis, the Spectroil

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