

Benefits of Oil Analysis

- Reduce maintenance cost
- Reduce unexpected downtime
- Increase equipment availability
- Improve safety

Features

- Benchtop and transportable
- Meets stringent Department of Defense requirements (JOAP)
- Simple to operate without special training or background
- 30 second analysis time
- No sample preparation
- Always ready to analyze samples
- Analyzes up to 32 elements simultaneously
- Standard and readily available consumables
- Environmentally sealed
- Requires no special utilities or gases, only AC power
- Windows operating system
- Conforms to ASTM Standard Test Method D6595 requirements
- Optional large particle analysis capability
- Optional robotic sample changer
- Optional sulfur analysis capability
- Optional coolant analysis capability

Spectroil M/N-W Military Oil Analysis Spectrometer



Spectroil M/N-W

“...the easiest and most expedient way to perform the rapid analysis of wear metals, contaminants and additives in lubricants, hydraulic fluids, and coolants”

The Spectroil M/N-W is a compact, rugged, transportable and easy to use spectrometer designed specifically for the analysis of oil samples. It measures trace quantities of elements dissolved or suspended as fine particles in natural or synthetic petroleum based products using the time-tested and reliable rotating disc electrode (RDE) technique.

The Spectroil M/N-W has the capability to analyze all the wear metals, contaminants and additives typically found in used oil samples. The Spectroil M/N-W has been designed for military use and provides additional shielding for operation aboard vessels or in areas near sensitive electronic equipment. It is equally at home in the laboratory or on-site aboard ship, at the flight line, or mobile van where immediate oil analysis results can be vital and sample turnaround time is crucial.

The original Spectroil M/N was tested and selected by the U.S. Government Department of Defense Joint Oil Analysis Program (JOAP) as their “next generation” oil analysis spectrometer. The Spectroil M/N-W is the current upgrade replacement for the Spectroil M/N and is the only mobile spectrometer that has been tested and approved to meet the complete technical and performance requirements of the JOAP CID-0191 Specification for Deployable Spectrometers of 4 June 1999. The Spectroil M/N-W has been assigned separate National Stock Numbers, one each for the Air Force, Army and Navy.

Spectroil M/N Family of Military Oil Analysis Spectrometers

Spectroil Model	Configuration	National Stock Number
Spectroil M/N-W	15 Elements	6650-01-535-4271
Spectroil M/N-W (with Transit Case)	15 Elements	6650-01-415-1767
Spectroil M/N-W	20 Elements	6650-01-535-4276
Spectroil M/N-W (with Transit Case)	20 Elements	6650-01-535-4273
Spectroil M	Military (Obsolete)	6650-01-388-8727

Predictive Maintenance - Used oil Analysis

Spectrometric oil analysis is applicable to any closed loop lubricating system, such as those found in diesel and gasoline engines, gas turbines, transmissions, gear boxes, compressors and hydraulic systems. The spectrometer analyzes samples taken from these systems for trace levels of metal worn from moving parts, as well as for extraneous contamination and additive element levels. The resulting data, when compared to previous analyses and allowable limits, may indicate a sound mechanism showing only normal wear—or it may point out a potentially serious problem in its early stages. With this advance warning, steps may be taken to correct the situation before serious damage or injury occurs.



Spectroil M/N-W and A-RFS

Typical Applications

- Military
- Commercial Laboratories
- Railroads
- Airlines
- Public Transportation Companies
- Electric Power Generation Companies
- Mines
- Refineries
- Construction Equipment Dealers
- Chemical Processors
- Steel Mills
- Manufacturing Plants
- Marine Fleets
- Oil Companies
- Formula 1 Racing Teams

Spectroil Accessories and Options

Large Particle Analysis

Rotrode Filter Spectroscopy (RFS) is an automated analytical technique that enable the Spectroil M/C-W or Spectroil M/N-W to detect and quantify large wear and contaminant particles in a used oil sample.



Automation

The Double Disc Rapid Robot (D²R²) automates the operation of the Spectroil M/C-W or Spectroil M/N-W. It is an innovative design that consists of two parts, a robot to exchange consumables and an automatic sample changer. Up to 80 used oil samples can be analyzed per hour.



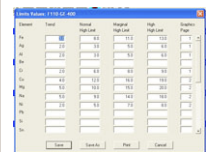
Transit Case

The Spectroil transit case is a complete oil analysis laboratory in a deployable container. It features a shock mounted cradle designed for the Spectroil and its accessories and consumables. A gas cylinder mechanism is used to rise the spectrometer to a comfortable operating height (variable).



Database Software

The PINPOINT software is a database program and report generator based on the JOAP operating requirements. The program has the capability to store, sort, retrieve, do statistical analysis and set alarms for the data.



Unit ID S/N	Component Type	End Item Equipment
999	F100	F-16
Limit Code: 999	Model Number: 12321	End Item Serial Number: 9996

Fe	Mg	Al	Si	Cr	Cu	Mn	Na
2 39.4 T	18.6	25.1	0.0	25.5	6.6	7.2	14.2
3 40.7 T	17.5	26.0	0.0	24.8	6.2	6.8	14.1
4 38.9 T	18.6	26.9	0.0	24.9	6.5	6.9	14.4

NI	Pb	Cl	Sn	Tl	P	Ba	Cd
2 25.9	35.7	17.0	40.0	30.2	26.5	37.7	0.0
3 26.9	37.6	17.3	41.3	31.2	26.0	39.1	80.7
4 26.1	37.4	17.4	40.9	29.4	25.9	42.0	0.0

Mo	Bi	Zn	Ag	Ca	Mg	Li
2 0.0	20.0	0.0	0.0	4962	0.0	0.0
3 0.0	83.9	136	4991	5044	0.0	0.0
4 0.0	157	0.0	0.0	4930	0.0	0.0

Zn	Ca	Al	Ag	Ca	Li	Rec	Urc
2 0.0	0.0	3549	0.0	0.0	0.0	A	11.0
3 0.0	2550	3588	0.0	0.0	2080	C	13.0
4 0.0	12239	3705	0.0	0.0	1557		14.0

Act	Date	Recommendation Codes
2	01/31/2006	
3	01/31/2006	
4	01/31/2006	

SPECTROINC.

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

www.SpectroInc.com

v.1.2/ 30 June 2010