



OIL ANALYSIS SOLUTIONS
PRODUCTS | SUPPORT | SERVICE

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THE RIGHT SOLUTION

Crea Laboratory Technologies provides a range of specialised laboratory testing instrumentation to help you obtain better outcomes from your laboratory practices.

Providing superior testing instrumentation and products for research laboratories across a variety of industry sectors, our products have been categorised in a variety of divisions

Each division providing a complementary product range designed specifically for the unique requirements of different industry sectors and associated applications.

CLIENT SERVICES

At Crea Laboratory Technologies, we work alongside you to provide superior products and technical advice to achieve the best possible solutions for your individual requirements.

Our staff are highly trained technical professionals who listen to your needs, to gain an understanding of your specific application requirements and source the right practical solution to exceed your expectations

Our objective is to achieve a successful business relationship through good advice, superior products and comprehensive after sales services.

CUSTOMER CARE

Crea Laboratory Technologies has a comprehensive after sales service support centre to provide fast and reliable trouble shooting for your business.

Our commitment is to provide reliable service when you need it. Our qualified technicians have a complete knowledge base of our full range of products and are continuously trained to keep up-to-date with product updates and new product ranges.

Our services structure includes both on site and back to factory servicing, spare parts and accessories plus technical advice to ensure you are back up and running.

PRODUCT DIVISIONS



Analytical

Crea's Analytical division provides products that seek to ever improve all of your sample preparation and analysis requirements. In one customised package we can provide you with a range of digestion systems, instrumentation, consumables and standards to your specifications or lab requirements.



Life Science

Crea's Life Science division provides a range of products that can assist you in the analyses and testing of living organisms and life processes.



Materials Testing

Crea's Materials Testing division provides high quality products in the field of test sieves, sieve shakers, sieve calibrations, wire cloth and filters.



PetroChem

Crea's PetroChem division provides a range of laboratory testing equipment to support the petroleum and petrochemical industries.



Particle Science

Crea's Particle Science's division offers a product range with a primary focus on servicing Research Institutes and Universities. We offer specialised research instruments that continue through to pilot plant setup for engineering research and educational training.



AFTER SALES SERVICE

MAXIMISE THE LIFE AND RELIABILITY OF YOUR SPECIALIST INSTRUMENTS

Crea's industry-leading instruments are designed to help your organisation meet its analytical and testing demands.

Preventative care and maintenance offered through our Lifetime Service & Support plans will extend the life of your vital equipment, cut unexpected repair costs and minimise downtime.

Choose from five different plans, each designed to offer flexibility in the level of service and support you receive:

Lifetime Service & Support Plan	Silver	Rhodium	Gold	Platinum	Platinum Plus*
Scheduled visits per year	2	1	2	2	2
2 Working Day On-Site Commitment*	Yes	Yes	Yes	Yes	Yes
Emergency Call Outs	-	1	1	Unlimited	Unlimited
Savings on Parts Purchased	-	-	10%	20%	100%

All Crea Lifetime Service & Support plans includes scheduled visits each year. During these visits we test, calibrate and maintain your instrumentation, with work to be completed in accordance with manufacturer's specifications by trained engineers.

In the event of an emergency requiring on-site attention, we also guarantee we will have one of our senior, qualified technicians on-site within 2 working days* if required.

Crea Lifetime Service & Support helps extend the life of your valuable instrumentation, keeping it operating like new.

**Subject to customer approval*

** In addition Crea provides a Platinum Plus package that is only available for new instrument purchases. (We provide service plans on existing products as well as new purchased products.)*



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The Importance of Lubricant and Fluid Analysis in Predictive Maintenance

Machine condition monitoring or predictive maintenance is the practice of assessing a machine's condition by periodically gathering data on key machine-health indicators to determine when to schedule maintenance. One of the keys to keeping machinery operating at optimal performance involves monitoring and analysing lubricant oils for characteristics such as contamination, chemical content and viscosity.

Billions of dollars are spent annually replacing machinery components that have worn out due to the inability of the lubricants to perform the required task. Knowing how to interpret changing lubricant properties can increase both the uptime and the life of your mission critical capital equipment. The existence or amount of debris and particles from wearing parts, erosion and contamination provide insights about the issues affecting performance and reliability.

Lubricants, fuels and other key fluids analyses provide critical early warning information indicative of machine failure. Analysing and trending the data means you can schedule maintenance before a critical failure occurs. The result – higher equipment availability and productivity, lower maintenance costs, lower total cost of ownership (TCO), fewer outages, optimal equipment performance and a greener operation.

Typical Equipment Components of Concerns:

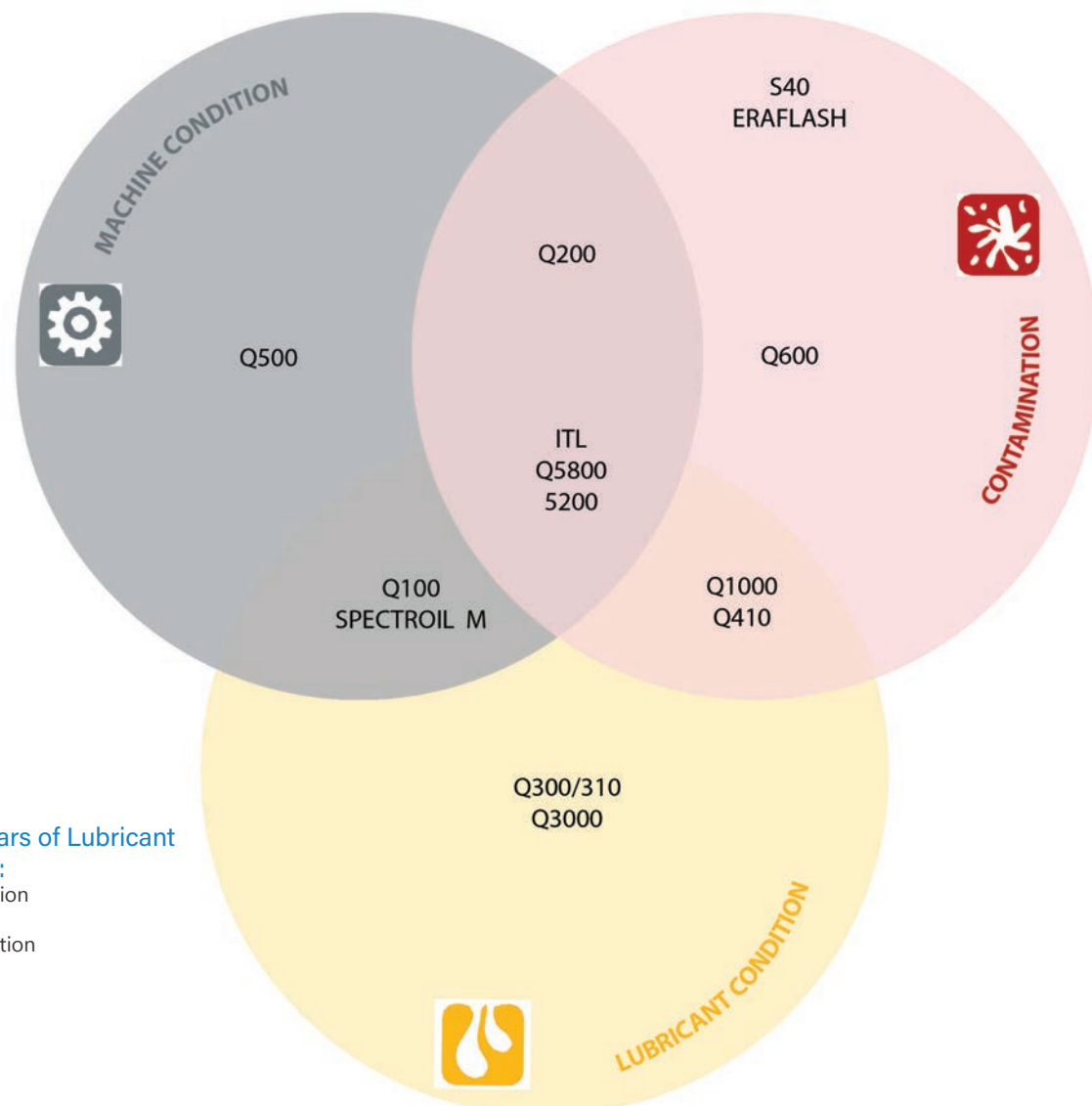
- Blowers Compressors Differentials
- Gas and Steam Turbines
- Gear Boxes and Reducers
- Hydraulic Systems Motors and Bearings Propulsion Systems Pumps
- Roller Element Bearings Rotary/Scroll Compressors Reciprocating Engines Sleeve Bearings Transmissions Transformers
- Wind and Gas Turbines

Common Mission Critical Equipment

- Aircraft
- Boilers and Castings for Steel Production Construction Excavators
- Haul Trucks Locomotives
- Military Equipment and Transport Manufacturing Machinery
- Oil Refinery Drilling Race Car Fleets
- Sag Mills and Mining Equipment Ships and Marine Fleets Turbines in Energy Generation

Asset Optimisation:

- Reduced equipment outages
 - Reduced maintenance costs
 - Reduced lubricant consumption
 - Improved safety
 - Increased equipment life
 - Reduced fuel costs
- = Increased availability and lower TC



The Three Pillars of Lubricant Fluid Analysis:

- Machine Condition
- Contamination
- Lubricant Condition

Product Selection Guide

This table is intended to help guide your specific product selection.

MACHINE CONDITION - WEAR DEBRIS AND SOLID PARTICLES						
	New Oil	In-Use/Used oil	Hydraulic Fluid	Coolants	Grease	QC Fuel
Particle Count and ISO Cleanliness / Wear Mode * Single Channel	Q200 S40	Q5800* Q200 S40	Q5800* Q200 S40	Q200 S40		S40
Elemental Concentration and Identification (Wear Metal Classification)	Spectroil M Q100	Q5800 Spectroil M Q100	Q5800 Spectroil M Q100	Spectroil M Q100	Spectroil M Q100	Spectroil M Q100
Large Particle Spectroscopy ** RFS Option		Spectroil M **	Spectroil M Q5800	Spectroil M Q5800	Spectroil M Q5800	Spectroil M Q5800
Wear Debris Analysis Shape Classification	Q500 Q200	5200 (WDA) Q500 Q200	5200 Q500 Q200		Q500 Q200 (Diluted)	Q200

CONTAMINATION						
	New Oil	In-Use/Used oil	Hydraulic Fluid	Coolants	Grease	QC Fuel
Glycol (Coolant Content)		Q5800 Spectroil M Q100 Q1000 / Q1100 Q410	Q5800 Spectroil M Q100 Q1000 / Q1100 Q410			
Grease Contamination or Lubricant Mix-up	Q5800 Q1000 / Q1100 Q410	Q5800 Q1000 / Q1100 Q410	Q5800 Q1000 / Q1100 Q410			
Fuel Contamination	Q600 Q410 Eraflash	Q600 Q410 Eraflash	Q600 Q410 Eraflash			
Water Contamination	Q5800 5200 Q1000/ Q1100 Q410	Q5800 5200 Q1000/ Q1100 Q410	Q5800 5200 Q1000/ Q1100 Q410			
Soot		Q5800 Q1000/ Q1100 Q410 Q200				

LUBRICANT CONDITION						
	New Oil	In-Use/Used oil	Hydraulic Fluid	Coolants	Grease	QC Fuel
Nitration/ Oxidation/ Sulfation (Lubricant Breakdown)		Q5800 Q1000 / Q1100 Q410	Q5800 Q1000 / Q1100 Q410			
Additive Levels or Depletion	Q5800 Spectroil M Q100 Q1000 / Q1100 Q410	Q5800 Spectroil M Q100 Q1000 / Q1100 Q410	Q5800 Spectroil M Q100 Q1000 / Q1100 Q410	Spectroil M Q100	Spectroil M Q100	
TBN/ TAN ¹ Limited engine oils (TBN) and TAN (polyol esters)	Q5800 Q1000 / Q1100 Q410 ¹	Q5800 Q1000 / Q1100 Q410 ¹	Q5800 Q1000 / Q1100 Q410 ¹			
Viscosity Dynamic Viscosity at 40°C (Q200) or room temperature (Q5200)	Q5800 5200 Q1000/ Q1100 Q410	Q5800 5200 Q1000/ Q1100 Q410	Q5800 5200 Q1000/ Q1100 Q410			



SpectroTrack

Information Management System

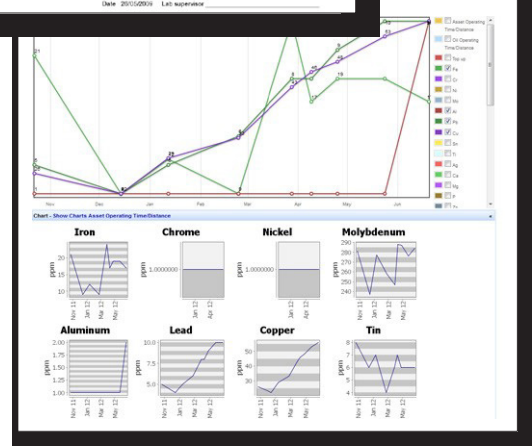
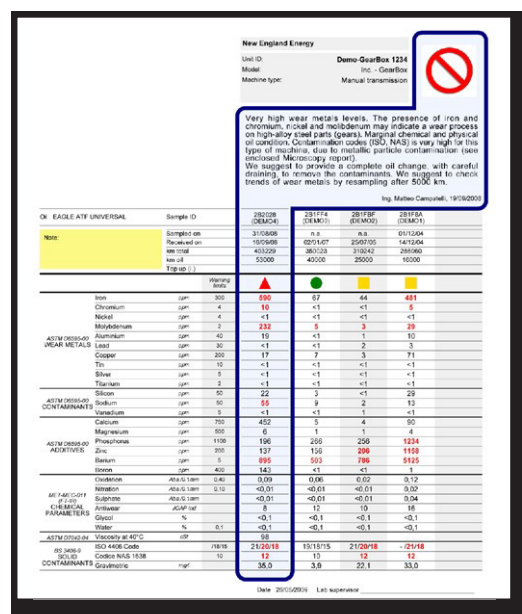
SpectroTrack is an information management system (IMS) optimised for laboratories that specialises in analysis of in-service (used) lubricants in support of machine condition monitoring applications.

The browser-based system is the ideal tool for accessing historical and trend information about an organisation's high-value assets. The software provides a single end-to-end view of a sample lifecycle from sample submission and receipt to results entry. The software also provides all trending, imaging, numerical and textual asset data in one secure location. Clients can see a comprehensive, historical view of fluid condition for an engine, department or an entire fleet.

The software provides a system to define assets and sampling points, manage samples, collect measurement data from instruments, facilitate analysis and recommendations and provide reporting and feedback loops.

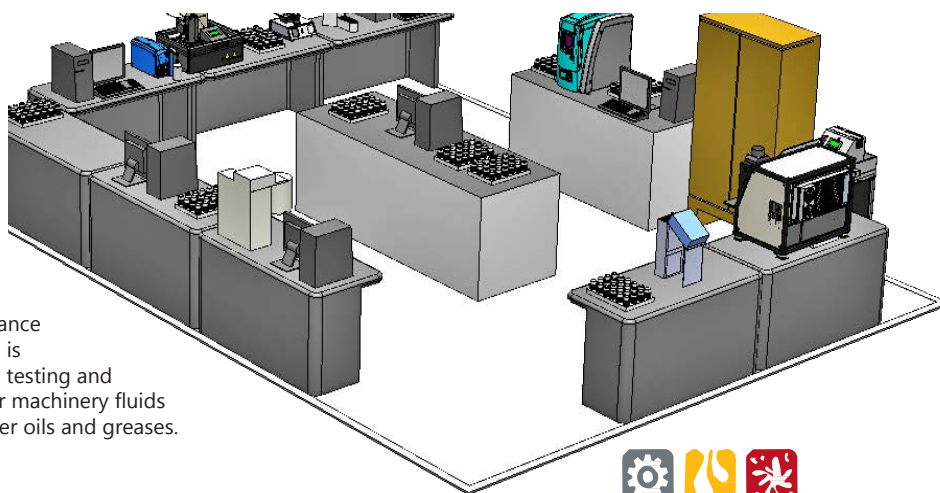
FEATURES

- Self-contained installation on one server
- Designed specifically for oil analysis programs – dedicated or contract testing
- Supports customer (private label) branding
- Remote portals can access systems over the Internet
- Laboratory dashboard for easy workflow management
- Scales well as your business volume grows
- Multi-language support



Crea Industrial Specialist in Onsite Lab Set-Up

The Spectro Inc. Industrial Tribology Laboratory (ITL) is a turnkey system that provides a complete lubricant analysis condition monitoring solution. The measurements made using the Industrial Tribology Laboratory determine lubricant and machine condition, the core of any effective predictive maintenance system. Spectro Inc.'s ITL system is expandable and can incorporate testing and measurement solutions for other machinery fluids such as fuel, coolants, transformer oils and greases.



Crea Laboratory Technologies installs and provides training for all instruments as an integrated system. Since the Industrial Tribology Laboratory is a turnkey system, supplied and installed by one vendor, the worry and learning curve errors associated with new methods and equipment are minimised during the startup process. Condition monitoring of your equipment can begin immediately after the installation of your instruments and during the initial training of your personnel.

The instruments that constitute an ITL are carefully chosen because they provide the necessary data to effectively monitor the condition of your oil lubricated equipment, but also because they are easy to operate and maintain, require a minimum of special utilities to install and provide strong sample throughput (most measurements take about 1 minute). The analytical instruments send results to the central computer (or a network) where they are stored in a database file for subsequent analysis, evaluation and reporting.

BENEFITS

- World standard ITL solution
- A complete monitoring solution
- Measures all parameters of lubricant, machine and contamination conditions
- ASTM testing
- Asset management software, trending, reporting

FEATURES

- Intuitive web interface (SpectroTrack)
- Easily configurable with both Spectro Scientific and non-Spectro Scientific devices
- Supports multiple fluid types
- High productivity and good sample throughput (most measurements take about 1 minute)



ALL-IN-ONE, AUTOMATED LUBRICANT ANALYSIS SYSTEM

Comprehensive, on-location oil testing

The MicroLab, originally developed by On-Site Analysis, has an embedded expert system which translates all of the analytical data into maintenance actions specific to your equipment. The artificial intelligence of the system is built from over 20 years of industry knowledge and more than 10,000 rules statements to generate the diagnostic statements that are specific to each application, the type of equipment and the type of oil.

MicroLab® Applications

The MicroLab is used in virtually every industry that operates equipment powered by engines including:

- Automotive
- Trucking
- Energy
- Mining
- Heavy Equipment
- Government (Military, Municipal)

The two MicroLab models are:

MicroLab 30 – Provides automated comprehensive diagnostic analysis of engine, generator, gear box, power steering, and transmission fluids.

MicroLab 40 – Provides automated comprehensive diagnostic analysis of engine, generator, gear box, hydraulics, power steering, and transmission fluids. Recommended if particle count is needed for hydraulics.

	Infrared Spectrometer CHEMISTRY	OES Elemental Analyzer ELEMENTAL ANALYSIS	Kinematic Viscometer VISCOSITY	Particle Counter PARTICLE COUNT
MicroLab 40	✓	✓	✓	✓
MicroLab 30	✓	✓	✓	—



Reduce Maintenance costs

Extend component lifetime through preventative maintenance

Proactively schedule maintenance based on predictive analysis

Extend oil drain intervals based on oil condition rather than time, allowing savings in labor, oil and waste disposal

Increase equipment availability

Early identification and trending of component wear and failure modes for preventative maintenance before catastrophic failure occurs

Analyser provides a complete analysis of the oil and equipment health

LubeTrak® software makes it easy to track and trend the key oil parameters necessary for optimizing asset health and utilisation

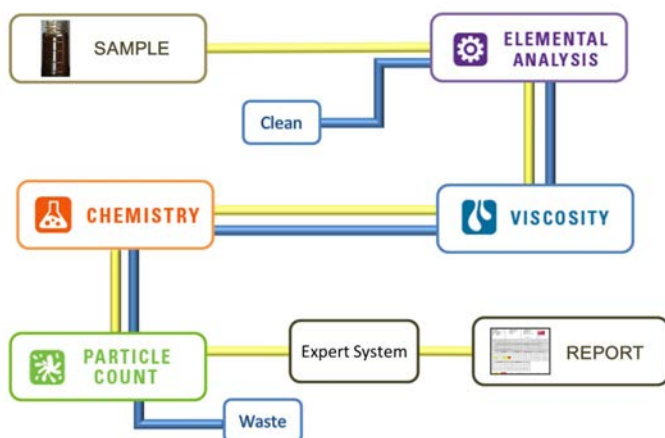
Fast and easy to use

Comprehensive oil analysis in less than 15 minutes instead of waiting days or weeks for outside lab results

Minimal disruption to workflow with fully automated measurement, diagnostics and cleaning

Can be operated by maintenance or support staff, no chemist required

Easy to interpret results with expert system; recommended maintenance actions and color





MiniLab 53

NEXT GENERATION ON-SITE OIL ANALYSIS SYSTEM OR INDUSTRIAL MACHINERY

Oil analysis provides early indications of equipment wear and identifies the root causes of corrosion. On-site oil analysis eliminates the wait associated with sending samples off-site and enables immediate decision making.

With three simple test, the MiniLab 53 delivers comprehensive on-site oil analysis, providing immediate actionable results, saving time and reducing costs. Highlights of this system include:

- One product, delivering lab-quality analysis outside of the lab
- Simplified workflow for the non-expert user, no chemist required
- Simplified data handling and report interpretation via OilView and Trivector reporting

The MiniLab 53 combines three simple tests that take less than 10 minutes to complete

	PARAMETER	Particle Count and Ferrous	Viscosity	Chemical
Contamination	Particle count and ISO codes	✓		
	Non-metallic particle count, distribution and images	✓		
	Boron, Calcium, Sodium, Lithium, and Potassium			
	Water			✓
Chemistry	Viscosity		✓	
	Total Acid Number (TAN)			✓
	Oxidation			✓
	Copper, Chromium, Boron, Magnesium, Calcium, Barium, Zinc, Silicon, Sodium, Molybdenum, and Phosphorus			
Wear	Wear particle images, counts and distribution	✓		
	Total Ferrous content, ppm	✓		
	Ferrous particle count and size distribution	✓		
	Copper, Silver, Chromium, Titanium, Aluminum, Silicon, Magnesium, Nickel, Zinc, Iron, Manganese, Lead, Tin, Molybdenum, Cadmium, and Vanadium			

Fieldlab 58 Portable Oil Lab

The Spectro Q5800 is a rugged, portable expeditionary fluid analysis system that gives operators in the field the ability to perform comprehensive, mobile lubricant sampling. The battery-powered device enables complete lubricant assessment for condition monitoring and rapid results that permit informed maintenance decisions. Marine and mining customers with remote temporary work site conditions and the need for warning of abnormal wear events, lubricant failure, and disruptive contamination ingress.

Features & Benefits

Conforms to ASTM WK38220 - "New Test Method for Coupled Particulate and Elemental Analysis using XRF for In-Service Oils"

- Rugged design for on-site, field-based use
- Immediate results for faster decision making
- Tests all types of lubricating fluids and asset compartments
- Accurately detects potential failures before they happen
- Easy to transport; includes a backpack for device and accessories
- Integrated software for comprehensive fluid analysis
- Touch screen interface; battery operated with Bluetooth and WIFI

Q5800 Modules

The Q5800 is comprised of the following four major modules and the associated technology.

FLUID CHEMISTRY

FluidScan® Q1000 infrared spectrometer with flip top cell design; tests for TAN/TBN, water content, soot, oxidation, new fluid validation

VISCOSITY

SpectroVisc Q3000 Series kinematic viscometer @40°C (cSt); solvent- free; low sample volume

PARTICLE COUNT

Filtration Particle Quantifier (FPQ); solvent-free particle counting > 4 um/ml; handles the dirtiest and wettest samples; filter patch for evaluation of debris

ELEMENTAL ANALYSIS

Wear metals and sand/dirt analysis for abnormal wear and contamination ingress using X-ray Fluorescence (XRF) technology



Highlights

- The FieldLab58 includes three major components:
- Filtration particle quantifier (FPQ) tower for abnormal wear metal analysis using XRF technology and particle counting
- Solvent- free kinematic viscometer at 40C that measures lubricant kinematic viscosity
- Infrared spectrometer featuring an innovative flip-top cell TAN/TBN, water content, soot, oxidation and mixed up fluids using infrared technology

FluidScan® Q1000 & Q1100

The FluidScan® family of handheld spectrometers use a patented, direct infrared technology to provide quantitative measurement of a fluid's condition.

The FluidScan quickly detects contamination, degradation and cross-contamination in both synthetic and petroleum-based engine oils and hydraulic fluids. It detects TAN, TBN, oxidation, nitration, sulfation, additive depletion and lubricant. Unlike alternative approaches that can involve field calibration of optical components, Spectro Inc.'s patented optical wedge is "hardwired" to the specific spectral bands with reproducibility and repeatability that closely correlate to the ASTM D664 standard.



BENEFITS

- High performance reliable test results reduce instrument downtime
- Solvent-free for low environmental impact
- Low cost of ownership
- Fast, highly accurate results
- Handheld operation

FEATURES

- Patented solid state wave guide technology
- No reagents or sample preparation
- Small sample size (0.03µL)
- Software-based lubricant signatures
- 6-8 hours of battery life
- Lightweight, less than 1.4 kg (3 lbs)

Combination Kit

FluidScan® Q1000 and SpectroVisc Q3000

Combining the technologies of two of Spectro's most popular portable products – the FluidScan® Q1000 and the SpectroVisc Q3000, the combination kit offers the following in a transportable case:

- Convenience of on-site analyses
- Immediate feedback on critical properties
- Extension of oil change intervals
- Reduction in operational and maintenance costs
- Elimination of catastrophic equipment failures



ERASPEC OIL

ERASPEC OIL is the first truly portable stand-alone FTIR oil analyzer on the market. It is the ideal solution for on-site measurements, as it provides immediate feedback about the status of the oil also in remote areas, where avoiding equipment breakdown is most critical.

With its compact (weighing just 8 kg / 17.6 lb) and rugged design (full metal housing) the ERASPEC OIL brings lab quality results to the field. Its built-in industry PC and the large full color touch screen allow the direct display of the oil spectra as graphic chart. Like this spectra can immediately be analyzed and compared with other spectra, as several thousand spectra can be saved in the internal instrument memory.

Spectroil M Family – M/C-W, M/F-W, M/N-W



The Spectroil M family is the time tested, reliable choice of the United States Department of Defense's deployable oil analysis requirements. The instrument includes a rotating disc electrode (RDE) engine fluid analyser that analyses dissolved and suspended fine particles in natural or synthetic petroleum-based product and coolants in just 30 seconds.

All versions of the Spectroil M family share the same rugged shock and vibration resistant hardware platform, differing only in application and calibration. The Spectroil M/N-W is the only spectrometer approved to meet the complete technical and performance requirements of the JOAP CID-0191.

BENEFITS

- Greater ROI – buy only the capabilities you need now and add more later when you need them as field upgrades
- No sample preparation required
- Easy to use with minimal training; helps ensure fewer errors and higher productivity
- Small footprint for valuable space and flexibility
- A single platform investment supports multiple types of equipment
- Unattended, multi-sample automation speeds sampling and reduces operator errors



ASTM D6595
ASTM D6728

FEATURES

- Models for analyzing oils, fluids, water and coolants
- Optional configurations detect fuel, sulfur, large particles with ARFS in oil, water, and coolants
- Options models for measuring wear metals or ash forming contaminant elements in oil, gas turbine and diesel engine fuel
- Optional robot controlled multi- sample changer (D2R2)
- ASTM (Standard Test Method) D6595 and D6728 compliant

Viscosity

Element	Symbol	Readout Range in PPM
Aluminum	Al	0-1,000
Barium	Ba	5-6,000
Boron	B	0-1,000
Cadmium	Cd	0-1,000
Calcium	Ca	0-6,000
Carbon	C	Reference
Chromium	Cr	0-1,000
Copper	Cu	0-1,000
Hydrogen	H	Reference
Iron	Fe	0-1,000
Lead	Pb	0-1,000
Magnesium	Mg	0-6,000
Manganese	Mn	0-1,000
Molybdenum	Mo	0-1,000
Nickel	Ni	0-1,000
Phosphorus	P	10-6,000
Potassium	K	0-1,000
Silicon	Si	0-1,000
Silver	Ag	0-1,000
Sodium	Na	0-6,000
Tin	Sn	0-1,000
Titanium	Ti	0-1,000
Vanadium	V	0-1,000
Zinc	Zn	0-6,000
Lithium	Li	0-1,000
Antimony	Sb	0-1000



ASTM D6595
ASTM D7268

Element	Symbol	Readout Range in PPM
Bismuth	Bi	0-100
Arsenic	As	0-100
Indium	In	0-100
Cobalt	Co	0-100
Zirconium	Zr	0-100
Tungsten	W	0-100
Cerium	Ce	0-100

Spectroil Q100

The Spectroil Q100 is an atomic emission spectrometer that analyses wear metals, additives and contaminants in machinery fluids (oil, fuel, cooling/washdown water).

Results are obtained in less than 30 seconds with minimal operator training and no sample preparation.

The quality and stability of the Q100's solid state optics provides reliable trending data to determine the actions required to protect the health of your critical equipment.

BENEFITS

- Increased productivity with rapid testing and reliable trend data
- Reduced waste
- Low cost of operation

FEATURES

- Small footprint
- Smallest rotating disc spectrometer with solid state CCD optics
- No gases, coolants, special chemicals or solvents are needed

SpectroVisc Q3000 Series



The Q3000 kinematic viscometer is an easy-to-use, reliable instrument designed for remote field use when immediate lubricant kinematic viscosity measurement is required.

With no solvents, density checks or thermometer, the 1.8 kg (4 lbs) SpectroVisc Q3000 is ready for use whenever and wherever needed. Each sample is measured at a constant temperature for consistent accuracy without pre-test measurements. The Q3050 provides extended viscosity range and calculated viscosity at 100°C for industrial applications.

BENEFITS

- Fast, simple operation with no pre-checks
- Solvent free and small sample size (60µL)
- Lower cost
- Less environmental impact
- Easy cleanup
- Consistent accurate readings with fast and reliable results
- Portable

FEATURES

- Patent-pending split cell design
- Ability to correct user induced errors
- Lightweight and battery powered
- Multi-language support
- Temperature controlled at 40°C ±0.1°
- 0-350 cSt (Q3000, 40°C)
- 1-700cSt (Q3050, 40°C)

SpectroVisc Q300 and Q310

The Q300 and Q310 bench-top kinematic viscometers analyse fuels and used and new lubricants and provide ASTM accuracy and repeatability.

The SpectroVisc Q300 and Q310 are ideal for laboratories that need to test a wide range of lubricant viscosities. The Q300 and Q310 offer compact footprints and low sample volumes and solvent usage for benchtop viscometers. Optionally, an external computer can control the system for applications requiring more extensive data handling. The Q310 Dual Bath Viscometer can conduct two independent measurements simultaneously.

BENEFITS

- High sample throughput of used oils with less handling
- Low operating costs and environmental impact
- Easy, fast cleaning

FEATURES

- Up to 60 samples per hour at ASTM precisions levels
- Small sample volume (0.3-6 ml)
- Low solvent consumption (2.5 ml) per sample
- Fast, easy tube replacement – No need to drain bath between tests when sooty or highly contaminated oils are tested
- Easy maintenance



ASTM D7279
ISO 3104



ERAVAP

ERAVAP is a compact, highly precise, yet easy to use vapor pressure tester. A small footprint, true portability even with an attached 10 port autosampler and its rugged aluminum casing make it the ideal choice for stationary and mobile laboratories.

Not only does the California Air Resource Board (CARB) rely on the unrivaled precision of ERAVAP but recently the U.S. EPA also decided to use ERAVAP as their reference instrument for vapor pressure testing. The very same instrument is field deployed by the US military in mobile laboratories around the world.

The area of applications ranges from freely programmable test methods for R&D labs to push-button simplicity. With its extended temperature range from -20 °C to 120 °C (4 °F to 248 °F) and V/L ratios ranging from 0.02/1 to 100/1 it can cope with the most difficult measurement scenarios as well as with routine analysis. Vapor pressure testing of up to 1000 kPa is possible. In combination with a 12 V DC adapter it can be even run by a vehicle battery, allowing vapor pressure testing in the field.

With its innovative design ERAVAP is capable of measuring gasoline, oxygenated gasoline as well as any other solvent or even polymers. It is used worldwide by refineries, terminals, oil and pipeline companies as well as authorities and independent laboratories.



Q6000 FDM Series

PORTABLE FUEL DILUTION METERS

Solvent-free, simple to use, fast and accurate results

Lab quality results where and when you need them

Innovative headspace sampling fang design ensures excellent repeatability ($\leq 5\%$ RSD).

0.2 to 15% fuel dilution measurement range.

Disposable FDM vials eliminate carryover contamination.

Onboard memory allows use of up to three stored calibration profiles.

Sample ID entry and data file export via USB cable.

Battery powered, lightweight, optional hard case for transit.

Fast and easy to use

Small sample required in disposable FDM vial – no solvents needed for cleaning.

Test results within a minute for direct measurement of fuel dilution.

Result in % fuel displayed, allowing immediate maintenance actions.

Color touchscreen.

Audio prompt feature guides operators through testing. Languages include English, Spanish, Russian, Chinese and French.



BENEFITS

- Minimizes the worry and errors that come with learning different methods and equipment
- Lets you maintain equipment at peak performance with less downtime
- Fast analysis
- Simple-to-use
- Results correlate to expensive GC methods

FEATURES

- A complete turnkey system from one vendor
- 360° view of lubricant and machine condition
- 0-10% fuel dilution
- 0.2% sensitivity
- Can be calibrated for different fuels

SpectroT2FM Q500

The Q500 is a complete ferrography analysis package for the interpretation of wear and contaminant particles in used lubricant oils, hydraulic fluids, coolants and fuels per ASTM D7690 and D7684.

The Spectro Inc. T2FM Q500 consists of the T2FM Ferrogram maker, a biochromatic microscope, a video camera and image capture software. Comparison of ferrograms allows determination of evolving wear modes inside a machine or engine.

BENEFITS

- Classification of wear and contaminant particles per ASTM and Wear Particle Atlas
- Low maintenance (no need for software or manual adjustment)
- Fast preparation of ferrogram
- No particle deformation

FEATURES

- A complete all-in-one ferrography lab
- Immediate separation of particles from fluid samples
- Particle separation up to 800µm in size
- Thistle tube deposition technique timer



ASTM D7690
ASTM D7684



Eraflash

ERAFLASH is the most flexible flashpoint tester for reliable measurements of all kinds of liquids and solids today on the market. A small footprint, true portability and its rugged aluminum design are ideal for stationary and mobile laboratories.

ERAFLASH also is the instrument of choice for demanding tests, including but not limited to fresh and used oil analysis (fuel dilution curve measurement), product specifications, transport classifications (D.O.T., ADR), forensic analysis, FAME (biodiesel), recycled fuels, hazardous waste (RCRA), etc.

The cost savings for expensive samples and for waste disposal as well as the easy cleaning due to the small sample volume make the ERAFLASH also the preferred flashpoint tester for the flavors & fragrances, the cosmetics, the paints & varnishes and the bitumen & asphalt industries.

The display of the Combustion Graphics TM on the large color touch screen is ideal for R&D applications and for the contamination analysis of demanding samples that contain only small amounts of flammable compounds (e.g. FAME / biodiesel).

As a result, an extensive list of standards can be selected on the ERAFLASH (c = correlation):

- ASTM D6450 – Continuously Closed Cup
- ASTM D7094 – Modified Continuously Closed Cup
- ASTM D93c, EN ISO 2719c, DIN 51758c, IP 34c, JIS K 2265c – Pensky Martens Closed Cup
- ASTM D56c – TAG Closed Cup
- SO 13736c & IP 170c – Abel Pensky Closed Cup
- EN ISO 3679c & 3680c, ASTM D3828c – Small Scale Closed Cup and Flash/No Flash methods

ERAFLASH makes fully automated flashpoint measurements in strict accordance with the latest flashpoint standards ASTM D6450 & D7094.

For your convenience, ERAFLASH additionally offers several correlation methods, which cover all major closed cup methods as well as flash/no flash methods.

The correlation methods were developed by eralytics' internationally renowned flashpoint specialists, Mr. Andreas Schwarzmann and Dr. Roland Aschauer, who are both long-term members of the ASTM D02.08 flashpoint group.

Pamas S40

Portable Particle Counting System designed to count and size particles in oil and hydraulic fluids. A backlit touch screen for menu guided user access, and a additional membrane keypad gives easy operation. The integrated printer provides instant hardcopies of measurement results.

Highly versatile due to a powerful 32-bit microprocessor allows multiple automated sampling and data storage. user-friendly download software for transfer of store measurement data to a PC as a standard feature. Data files are compatible with most spreadsheet software.

Different models of the Pamas S40 are available. All models can be optionally equipped with an alarm feature and built in the rugged case PAMAS GO for harsh environments. The different S40 particle counter models are compatible to most sample fluids.

Pamas S40 - Standard version:

For high and low pressure hydraulics (viscosity range up to 350 cSt).

Pamas S40 - Lube oil version:

Compatible with oil based liquids of higher viscosities up to 1000 cSt like hydraulic oil, gearbox oil, lubrication oil, etc.

Pamas S40 - Fuel version:

Compatible with low viscous liquids like diesel or kerosene

Pamas S40 - Skydrol version:

Compatible with Phosphate - Ester based hydraulic liquids (e.g. aviation hydraulic fluids).

Pamas S40 - AVTUR:

For the analysis of Aviation Turbine Fuel according to EI-IP 577 and DEF-STAN 91 - 91



S40 GO Version also available

PAMAS SBSS

Syringe Bottle Sampling System

The PAMAS SBSS is a particle counting system for batch sampling. The PAMAS SBSS is the standard instrument used as a reference in many testing labs. The instrument may be programmed to measure a sample without the need of an operator, like pre-filling the internal dead volume, degassing the sample with vacuum, pressurising the sample for a number of measurement runs, and relieving pressure at the end. High accuracy and repeatability, fast purging and back flush possibility are the key benefits of the system.

Applications:

The system is used for hydraulic oils, insulation and turbine oils and organic fluids or solvents. With the software PAMAS USP, the system may be also used for pharmaceutical applications with higher viscosities.

Viscosity:

max. 1600 cSt with optional high pressure pump or with external pressure supply

FEATURES

- CCD-based image capture
- Built-in, software-based particle analysis
- Lubricant condition indicator
- Automatic laser gain control
- All-in-one device for measuring viscosity, soot (%) and free water (ppm) up to ISO 320 oil without dilution
- NAS and ISO reporting
- Kinematic Viscometer at 40° C • All-in-one dev for measuring viscosity, soot (%) and free water (ppm) up to ISO 320 oil without dilution
- NAS and ISO reporting
- Kinematic Viscometer at 40°C



Our Current Range of Products

Smart Titrator *model PAT940*

This new potentiometer has pre-programmed methods for TAN/TBN, H₂S, Mercaptan Sulphur, Saponification Number, Iodine Value in Petroleum products and Organic Chlorides in Crude oils. PAT940 uses the latest in touch screen technology and is a very simple to navigate.



Aquamax KF *Plus*

A truly versatile Coulometric Karl Fischer Titrator for water content determination of gases, liquids and solids. The Aquamax KF PLUS is a small foot print titrator with a full numeric keypad for data entry and results manager software for data storage and retrieval. As well as being a stand-alone instrument, this titrator can be combined with accessories such as an Oil Evaporator or a Solids Evaporator system.

Aquamax KF *Portable*

The truly mobile coulometer for use in the lab and in the field. Designed primarily for the oil and power industries, the Aquamax KF PORTABLE is the only model with a carry handle attached directly to the unit. The Low Drift Cell glassware, which has been specially designed for outdoor use, avoids the need for PTFE sleeves or grease on the electrodes to seal titration cell from moisture invasion. A carry case for transportation in the field is also included along with a protective sleeve which protects the reagents from direct sunlight.



Aquamax KF *Volumetric*

A simple, easy to use Volumetric Karl Fischer that is ideally suited to direct titration of petroleum products which contain additives and viscous samples. The Aquamax KF VOLUMETRIC can be used with any type of volumetric Karl Fischer reagents and is suitable for determination from few ppm up to 100% of water.



Aquamax KF *Oil Evaporator*

Designed as a standalone system that can be linked to any Karl Fischer titrator. It is a simple evaporator conforming to ASTM D-6304 allowing the end user to measure water contents in heavy crudes, greases, waxes and lubricants containing additives that cause an interference with Karl Fischer reagent when directly injected.

