

Q5800

EXPEDITIONARY FLUID ANALYSIS SYSTEM



Critical asset owners in the military, mining and marine industries need immediate information about oil and equipment condition. The portable Q5800 eliminates the need to wait for lab results, miss early signs of abnormal wear and avoid messy hazmat test kits. The Q5800 integrated system maintains readiness of critical assets while lowering maintenance costs.

The Q5800 is a multi-purpose, portable measurement tool combining abnormal wear metals analysis, particle counting, viscosity and IR spectroscopy into a compact, field-based system. The battery-powered device is an ideal tool for maintainers of mobile, high cost equipment who need a complete lubricant assessment for condition monitoring and immediate results for condition-based decisions. Its rugged design accommodates a variety of environments requiring transport in the field.

Q5800 Modules

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

FLUID CHEMISTRY	VISCOSITY	PARTICLE COUNT	ELEMENTAL ANALYSIS
FluidScan® Q1000 infrared spectrometer with flip top cell design; tests for TAN/TBN, water content, soot, oxidation, new fluid validation	SpectroVisc Q3000 Series kinematic viscometer @40°C (cSt); solvent-free; low sample volume	Filtration Particle Quantifier (FPQ); solvent-free particle counting > 4 µm/ml; handles the dirtiest and wettest samples; filter patch for evaluation of debris	Wear metals and sand/dirt analysis for abnormal wear and contamination ingress using X-ray Fluorescence (XRF) technology

Features and Benefits

- Solvent free with minimal sample waste
- Tests all types of lubricating fluids and asset compartments
- Accurately detects potential failures before they happen
- Easy-to-use, integrated software with touch screen
- Easy to transport with a custom backpack designed to move the device and all accessories
- Rugged design for field use



The easily transportable Q5800 is ideal for on-site analysis.



Q5800 Ordering Information

The Q5800 includes the device, battery-charger, USB cables, USB flash drive, CD manual and Fluid Manager software CD. Also includes a T wrench and enough consumables for 100 samples.

PRODUCT INFORMATION		
Part Number	Q5800 EFA	Comprehensive (All)
	Q5800 FPX	Particle Count and Elemental only
	Q5800 VFS	Viscosity and Fluid Chemistry
Applications	Mineral and synthetic lubricants including gear, engine, transmission, hydraulics, turbine as well as military, marine and mining applications.	
Operating Mode	Single test or multi-parameter analysis	
Output		
Elemental (ppm): (dependent on fluid type)	Silicon (Si); Aluminum (Al); Chromium (Cr); Titanium (Ti); Iron (Fe); Nickel (Ni); Lead (Pb); Copper (Cu); Tin (Sn); Molybdenum (Mo); Silver (Ag); Zinc (Zn); Vanadium (V)	
Fluid Chemistry:	TAN & TBN (mg KOH/g); Oxidation, Nitration, Sulfation (Abs/.1mm); Water (parts per million); Glycol (% by weight); Soot (% by weight); Incorrect fluid (% by weight) Antioxidant Depletion (% remaining); Antiwear Depletion (% by weight)	
Viscosity:	Kinematic viscosity at 40°C (cSt)	
Particle Count:	Particles > 4 µm/ml on filtergram	
Methodology	ASTM D7889; Mod ASTM D7279 (visc); Mod ISO 21018-3 (Particle Count)	
Repeatability	Viscosity: +/- 5% Fluid Chemistry: per ASTM D7889 Particle Count: per ASTM D7467 Elemental: reliant on particle count	
Calibration	Factory, Verification Standards: NIST traceable verification standards provided	
CONSUMABLES		
34682210	Q5800 Startup Consumable kit (100 samples)	
P-11160	3ml Luer syringe (100 pack)	
PV1012	60 µm disposable Pipettes & Non-Abrasive Cleaning Pad kit (100 pack)	
34682210	Felt wick (3 pair)	
34683143	FPQ waste container (3 pack)	
34682166	Q5800 verification standards (6 bottles)	
FL310	IR Check Fluid 5 ml	
34683142	FPQ filtergrams (25 pack)	
34683014	Q5800 consumable kit (500 samples)	
OPTIONAL ACCESSORIES		
A5052ZM-DM	52ZM Stereo Zoom Microscope, 115 VAC, 1 Ph, 60 Hz	
A5052ZM-IN	52ZM Stereo Zoom Microscope, 220 VAC, 1 Ph, 50 Hz	
34682120	Backpack	

ELEMENTAL MODULE	
Detector	10 mm ² SDD Detector; peltier cooled
Resolution	145 eV at 100,000 Cps
Excitation Source	X-ray tube with Rhodium target; max voltage 45kV
OPERATIONAL SPECIFICATIONS	
Sample Volume Required (all tests)	Less than 5 ml per sample
Sample Time Required	Viscosity: 20 secs to 10 mins, dependant on grade Fluid Chemistry: less than 60 secs Particle Count: 20 secs to 3 minutes, sample dependent
Solvents/Reagents	None
Ambient Operating Temperature	-10° to +50°C (all modules w/o viscosity) With viscosity: 0° to 40°C
Operational Humidity	RH< 80% non-condensing
Ambient Altitude	Up to 5,000 meters (16,404 feet)
USER INTERFACE SPECIFICATIONS	
Instrument Controller OS	SQL db on Windows CE
Display	Fixed angle color touchscreen display
Data Storage	Internal flash memory (SD Card Expansion)
Data Transfer	Ethernet, mini USB
Security	Password protected
Data Entry	Touchscreen/ FluidManager Desktop Software (Asset loading and Synchronize)
Communication	WIFI (optional); Bluetooth (optional)
POWER REQUIREMENTS	
Battery Power Source	Exchangeable lithium-ion battery pack
Charge Power	AC 110/240 V, 50/60 Hz, 10 watts
Typical Runtime	4-6 hours
Recharge Time	2.5 hours
MECHANICAL SPECIFICATIONS	
Dimensions	48 cm (L) x 39 cm (W) x 23 cm (H); 19.2" x 15.2" x 9"
Weight	16.5 kg (36.4 lbs); 20 kg (44.4 lbs with backpack and power supply)
COMPLIANCE	
CENELEC EN 60610-1:2010	