

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 A5052ZM-IN | 52ZM Stereo Zoom Microscope, 115 VAC, 1 Ph, 60 Hz 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 | |