Spectro Scientific
Confidence in knowing

FDM 6000 Series

PORTABLE FUEL DILUTION METER

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

The Need for Fuel Dilution Measurement

If left unchecked, fuel dilution in lube oil causes serious engine damage. In diesel engine crankcases, fuel dilution can be caused by:

- Excessive idling
- Defective injectors
- Loose connections
- Intercooler leakage (aircraft hydraulic systems)

Therefore fuel dilution is a common test item for both on site and off site in-service engine oil analysis.

FDM 6000 Series is a portable fuel dilution meter that measures direct fuel dilution in engine oil.

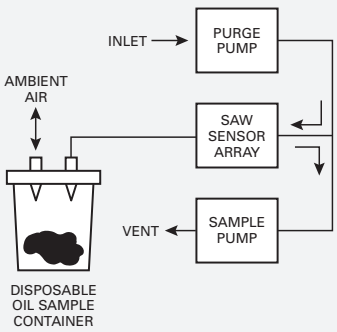
Lab quality results where and when you need them

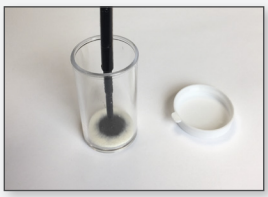
- 0.2 to 15% fuel dilution measurement range.
- Excellent repeatability (≤5% RSD).
- Disposable FDM vials eliminat e carryover contamination.
- Onboard memory allows use of up to three stored calibration profiles.
- Sample ID entry and data file export via USB cable.
- Battery powered, lightweight, optional hard case for transit.
- Complies to ASTM D8004.

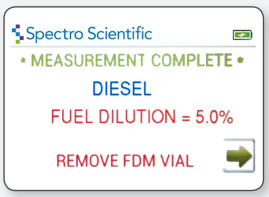
Fast and easy to use

- Small volume – 0.5 ml of sample required.
- No solvent needed for cleaning.
- Less than one minute test time.
- Direct reading of fuel dilution percentage.
- Easy touch screen interface with voice guidance.

PATENTED FDM SAMPLING SYSTEM







Innovative design

The FDM analyzer employ a Surface Acoustic Wave (SAW) vapor sensor to measure the concentration of fuel in used oil samples by sampling the “headspace” in the vial. The device assumes (based on Henry’s Law) that the fuel concentration in the headspace vapor is directly related to the fuel present in the oil sample. The surface of the SAW sensor has a polymer coating with specific solubility to fuel vapors. The sample pump draws the headspace vapor through the SAW sensor where it is absorbed onto the polymer coating and detected. The purge pump then pushes air through the SAW to clean the system so it is ready for the next sample.

FDM 6000 Series Ordering Information

Both the FDM 6000 and 6001 include the base fuel dilution meter, soft tip stylus, battery charger, USB cable, CD manual, FDM vials and disposable pipettes for 100 samples.

	FDM 6000	FDM 6001
Stored Calibration	1	3

PART NUMBER	
SpectroFDM-Q6001	FDM 6001 Fuel Dilution Meter System – Multiple Calibration. Requires SA1019 Standard Accessory Kit.
SpectroFDM-Q6000	FDM 6000 Fuel Dilution Meter System – Single Calibration. Requires SA1019 Standard Accessory Kit.
SA1019	Spectro-Q6000 Standard Accessories
PRODUCT INFORMATION	
Application	Mineral and Synthetic Lubricants used in liquid fueled engines
Output	% (wt or vol)) Fuel dilution
Methodology	ASTM D8004
Standard Analytical Range	0.2 -15% fuel in oil (fuel dilution)
Accuracy	≤± 0.2% fuel dilution in range 0.2-2% ≤± 10% of measurement in range 2-15%
Repeatability	≤± 5% RSD of measurement + 0.2% fuel dilution
Calibration	Single point, User developed or Certified Check Standard (optional)
OPERATIONAL SPECIFICATIONS	
Sample Volume	0.5 mL
Solvents/Reagents	None
Ambient Operating Temperature	5°C to 35°C (41°F to 95 °F)
Relative Humidity	0 to 90%, non-condensing
Ambient Altitude	up to 2,000 meters (6561 feet)
USER INTERFACE SPECFICATIONS	
Display	4.3" TFT color screen (480 X 272)
Data Storage	4 GB
Data Transfer	USB
Data Entry	Touch-screen with stylus
POWER REQUIREMENTS	
Battery Power Source	Built in Rechargeable Lithium Ion Battery
Power	AC 110/240 V, 50/60 Hz, 9 Watts, 9 Volts
Typical Runtime	3-4 hours
Recharge Time	4 hours

MECHANICAL SPECIFICATIONS	
Dimensions	15 cm (W) x 19.75 cm (D) x 13.5 cm (H) (5.9 in x 7.77 in x 5.31 in)
Weight	1.4 kg (3 lbs)
Shipping Package Dimensions	17.1 cm (H) x 6.3 cm (W) x 5.5 cm (L) (18 in x 16 in x 14 in)
Shipping Package Weight	8.1 kg, (18 lbs)

COMPLIANCE

CENELEC EN 61010-1 (2010/10/01 Ed:3); CENELEC EN 61326-2-1 (2006/05/01); FCC 47CFR 15B; RoHS

CONSUMABLES AND STANDARDS	
346162035	FDM Vials Kit (50 pk)
346162037	FDM Vials Kit (500 pk)
346162036	500 µL Disposable Pipettes (50 pk)
P-11185	500 uL Disposable Pipettes (500 pk)
DSL5%DEV-100	5% Devolatized diesel in oil fuel dilution standard, NIST traceable, 100ml
DSLBLK-15W40-100	Diesel blank standard for fuel dilution standard, 100 ml
GASFD-2P-100	2% Devolatized gasoline in oil standard, NIST traceable, 100 ml
OPTIONAL ACCESSORIES	
P-11186	Positive Displacement Pipette 100-1000 µl
P-11187	Pipette Tips 100-1000 µl (182 pk)
P-11189	Transport Case FDM 6000 Series

Standards and optional positive displacement pipette

FDM consumable and preparation kit

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