

Portable Fuel Analyzer

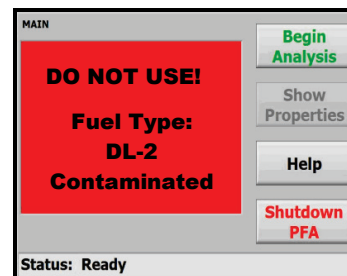
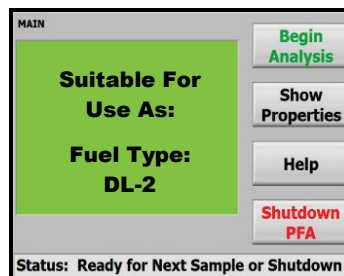


- Is this a fuel?
- What type is it?
- Is it contaminated?
- Can I use it?

In 3 minutes the **Portable Fuel Analyzer** determines:

- **Liquid Type:** fuel, lubricant, solvent (including water)...
- **Fuel Type:** diesel, gasoline, jet, biodiesel, synthetics...
- **Contaminants:** lubricants, solvents, adulterants (sodium silicate), comingled fuels (specifically biodiesel)...
- **Critical Properties:** cetane index, density, sulfur, viscosity, cloud point, flash point, and distillation points
- **Additional Properties:** freeze and pour points, acid number, dissolved water, percent aromatics, olefins, saturates, and FSII

Based on the Critical Properties the **Portable Fuel Analyzer** determines if a fuel can be used in USMC ground equipment and vehicles (**GO / NO GO**).



The **Portable Fuel Analyzer** is field usable:

- No Sample Preparation
- 2 Minute Start-up
- 3 Minute Measurement
- Easy-to-Use (4 step operation)
- Man Portable (53 pounds)
- Battery Operated (5 hours)
- Vibration & Spill Resistant
- Drop Tested
- Operates 35 to 110 °F

Validated by Southwest Research Institute

The **Portable Fuel Analyzer** is a completely self-contained system with the following components:

- 1 NATO 28 VDC Power / Recharge Cable (in bag)
- 2 Reference Vial
- 3 17 Re-Usable Sample Vials and Pipettes
- 4 Quick Start & Troubleshooting Guide
- 5 110/240 VAC Power / Recharge Cable (in bag)
- 6 Touch Screen Computer
- 7 Start-Up Instructions
- 8 USB Port
- 9 Power Switches (under cover)
- 10 Temperature Gauge
- 11 Sample Holder
- 12 Rechargeable / Removable UBI 2590 Battery





Specification	Portable Fuel Analyzer	
Laser	Diode, CW, 0.5W at 1064 nm	
Detector	InGaAs (thermo-electrically cooled)	
Probe	Filtered Raman probe, configured as fixed sample holder w/cover	
Spectral Resolution	8 cm ⁻¹	
Spectral Range	250 to 3250 cm ⁻¹	
Warm-up/Analysis Time	120/150 seconds	
Dimensions	22.06 x 17.93 x 10.43" (56 x 45.5 x 26.5 cm)	
Weight	54 lbs (25.4 kg), Man Portable per MIL-STD 1472	
Power Supply	UBI-2590 Battery (12V Li ion- 5 hours)	
Back-up Power Supply	28 VDC or 120/240 VAC (50/60Hz)	
	Computer	
CPU	AMD Geode LX800 (500 MHz)	
Hard Disk Drive	4 GB Compact Flash	
Memory	512 MB	
Data Access	USB Port	
Display	6.5" TFT LCD Touch Screen (4 wire resistive) with Protective Film	
	Software	
Name	Fuel Analysis	
OS Supported	Windows XP/XP-Embedded/Vista/7	
Data Export	Various formats supported	
Critical Properties * Validated by SWRI	Analysis (Range & Error)	
	Diesel-2	JP-5 or JP-8
Cetane Index*	40 ± 2.4 °C, minimum	Does not apply
Cloud Point*	-5 to -35 ± 4.5 °C (>6 °C<ambient)	Does not apply
Density*	0.82 to 0.86 ± 0.003 g/mL	0.775 to 0.845 ± 0.003 g/mL
Distillation*	282 to 338 ± 9.5 °C @ 90%	300 ± 10.5, maximum @ 100%
Flash Point*	52 ± 6 °C, minimum	38 (JP-5:60) ± 6 °C, minimum
Viscosity*	1.9 to 4.1 ± 0.15 cSt @ 40 °C	8.5 ± 0.25 cSt, maximum @ -20 °C
Sulfur	0.5 ± 0.05 % mass, maximum	0.3 ± 0.05 % mass, maximum
Additional Properties	** Unspecified Range	
Aromatics	35 ± 3 % volume, maximum	25 ± 3 % volume, maximum
Olefins & Saturates	± 3 (10 and 70, typical**)	Does not apply
Pour Point	Regional ± 5 °C	Regional ± 7 °C
Acid Number		0.015±0.05 mg KOH/g, maximum
Lubricity	0.52 ± 0.05 scar/mm, maximum	Unspecified ± 0.05 scar/mm
Dissolved Water	Does not apply	Unspecified ± 40 ppm
Freeze Point	Does not apply	-47 ± 2.5 °C, maximum
	Environmental	
Operation Temperature	35 to 110 °F (2 to 43 °C)	
Storage Temperature	-25 to 140 °F (-32 to 60 °C)	
Humidity	Operates at up to 95 % relative humidity	
Vibration	Certified: MIL-STD 810f, Vibration 514.5, Category 4, C.2:	
Shock	Composite Wheeled Vehicles – Restrained Cargo International Safe Transit Association – ASTM D 5276	