

Conforms to ASTM E1655

The Portable Fuel Property Analyzer (PFPA) provides rapid fuel analysis anywhere it's needed: the plant, port, or field. Analysis is obtained in seconds using only a 2 mL fuel sample. The PFPA uses Near Infrared Spectroscopy combined with Advanced Multivariate Analysis to determine key fuel properties that influence engine performance. The PFPA property determinations were developed and validated according to ASTM E1655 "Standard Practice for Infrared Multivariate Quantitative Analysis" using the property values of a diverse matrix of over 800 fuels from around the world determined by traditional ASTM methods.



PFPA 7x13x16", 14 lbs.

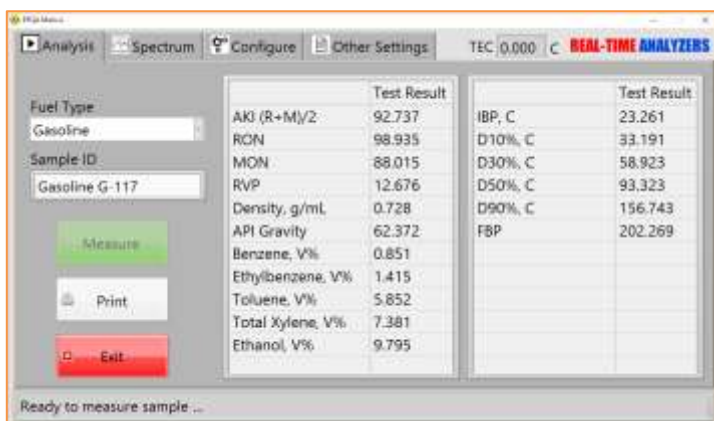
The PFPA is used as follows:

- 1) The PFPA is turned *On* (warm-up takes 1 minute)
- 2) The type of fuel, Diesel, Jet or Gasoline is selected
- 3) A Reference Vial is placed in the PFPA and measured by pressing RUN (measurements take 10 seconds).
- 4) The Sample is placed in a disposable 2 mL vial, sealed, placed in the PFPA and measured by pressing RUN.
- 5) The Results are displayed in 10 seconds, and can be printed by pressing PRINT RESULTS.

There is no cleaning or flushing required between samples!

Properties Predicted by the PFPA According to Fuel Type.

Diesel	Jet Fuel	Gasoline
Density / API Gravity	Density / API Gravity	Density / API Gravity
Distillation Fractions (IBP, 10%, 50%, 90%, FBP)	Distillation Fractions (IBP, 10%, 50%, 90%, FBP)	Distillation Fractions (IBP, 10%, 50%, 90%, FBP)
Cetane Index	Freeze Point	Octane (RON, MON, AKI)
Viscosity 40C	Flash Point	Reid Vapor Pressure
Flash & Cloud Points	Fuel System Icing Inhibitor	Ethanol & MTBE
Aromatics & Biodiesel		BTEX



Advantages

- **One Analyzer for All Fuel Types: Diesel, Jet and Gasoline**
- **Only 2 mL of Fuel Required**
- **No Sample Preparation Required**
- **Analyzer Warm-Up takes <1 Minute**
- **Complete Analysis in 10 Seconds**
- **Permanently Aligned and Calibrated**
- **Light Weight, Portable, and Easy To Use**
- **Rugged Design, No Moving Parts**
- **Analysis Based on ASTM Data, Developed and Validated According to ASTM E1655 using Eigenvector PLS Toolbox**
- **Analysis Software and Tablet Computer Included**
- **Imbedded Printer**
- **Optional 4 Hour Rechargeable Battery Pack**
- **Economically Priced!**

Analysis specific to regional fuels or new fuel types can be easily added to the PFPA without making any modifications to the hardware.

US Patent 8,781,757

The PFPA was developed with the support and cooperation of the United States Marine Corps, Army, and Navy.

System Specifications

Operation

Warm-up Time	1 minute
Measurement Time	10 seconds
Sampling	2 mL glass vials (disposable)

Analyzer

Measurement Type	Near Infrared Spectroscopy
Optical Design	Dispersive (no moving parts)
Light Source	Incandescent Lamp
Detector	256 pixel InGaAs (thermo-electrically cooled)
Spectral Resolution	3-6 nm (20-30 cm ⁻¹)
Spectral Range	1000 to 1600 nm
Calibration	Factory set using NIST standard lamp

Analysis

Fuel Properties	Developed and validated according to ASTM E1655.
Calibration	Each unit is calibrated with a diverse matrix of over 800 fuels
System Check	Diesel 2 Sample
Outlier Detection	Non fuel or contaminated fuel rejected

Data System

Computer	Tablet computer
Operating System	Windows 8.1
Sample Storage	Over 1000 measurements on computer
Data Export	USB Port, Ethernet, WiFi
Data Printout	Thermal printer

Environment

Dimensions	7x13x16" (17.4x33x40.6 cm)
Weight	14 lbs (6.24 kg)
Power	120/240 VAC 50/60Hz or 12 VDC with automotive lighter adapter
Power	Optional rechargeable battery pack
Operating Temperature Range	-25 to 135 F (-31 to 57 C)