Benchtop Fuel Property Analyzer (BFPA)

Conforms to ASTM E1655

The ***Benchtop Fuel Property Analyzer*** (***BFPA***) provides rapid fuel analysis in support of production or change of custody needs. Analysis is obtained in seconds using only a 2 mL fuel sample. The BFPA uses Near Infrared Spectroscopy combined with Advanced Multivariate Analysis to determine key fuel properties that influence engine performance. The BFPA 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.

Advantages

- ***One Analyzer for 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***
- ***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 Laptop Computer Included***
- ***Economically Priced!***

The BFPA is used as follows:

1) The BFPA 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 BFPA and measured by pressing RUN (measurements take 10 seconds).
4) The Sample is placed in a disposable 2 mL vial, sealed, placed in the BFPA 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 BFPA According to Fuel Type.

Diesel	Jet Fuel	Gasoline
Density / API Gravity	Density / API Gravity	Density / API Gravity
Distillation Fractions	Distillation Fractions	Distillation Fractions
(IBP, 10%, 50%, 90%, FBP)	(IBP, 10%, 50%, 90%, FBP)	(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

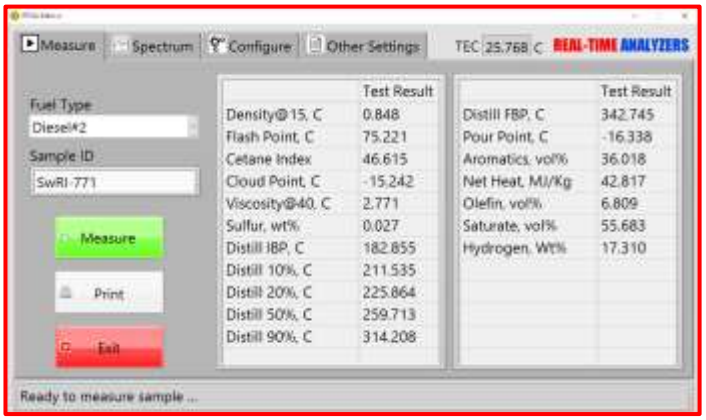
US Patent 8,781,757

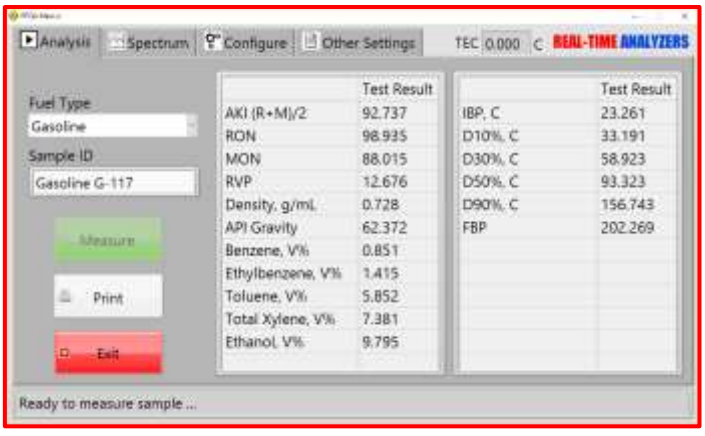
RTA is located at 362 Industrial Park Rd (#8) / Middletown, CT 06457
www.rta.biz, Phone: 860-635-9800, Facsimile: 860-635-9804

REAL-TIME ANALYZERS
Providing Chemical Information When & Where You Need It

Specifications	
Operation	
Warm-up Time	1 minute
Measurement Time	10 seconds
Sampling	2 mL glass vials (disposable)
Analyzer	
Measurement Type	Near IR Spectroscopy
Optical Design	Dispersive (no moving parts)
Light Source	Incandescent Lamp
Detector	256 pixel InGaAs (thermo-electrically cooled)
Spectral Range	1000 to 1600 nm
Spectral Resolution	3-6 nm (20 – 30 cm^{-1})
Calibration	Factory set using NIST standard lamp and methylene chloride reference sample
Analysis	
Fuel Properties	Develop and validated according to ASTM E1655
Calibration	800+ fuel model is transferred and tested using cross-check samples
System Check	Diesel 2 Sample
Outlier Detection	Non fuel or contaminated fuel rejected
Data System	
Computer	Laptop computer
Operating System	Windows 8.1 or better
Sample storage	Over 1000 measurements on computer
Data Export	USB Port, Ethernet, WiFi
Environment	
Dimensions	9.6x8.0x3.75” (24.3x22.8x9.5 cm) Shipped in 1450 Pelican Case
Weight	14 lbs (6.35 kg) in Pelican Case
Power	120/240 VAC 50/60Hz or 12 VDC with automotive cigarette lighter adapter
Temperature Range	35 to 95 ºF (0 to 40 ºC)

Typical User Interfaces (custom Interfaces also available)





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

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

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