Benchtop Fuel Quality Analyzer (BFQA)

The Benchtop Fuel Quality Fuel Analyzer (BFQA) provides rapid fuel quality assessment using Near-Infrared Analysis combined with advanced Chemometric methods. Key fuel properties that determine engine performance are obtained in seconds with only 2 mL of fuel sample.

The BFQA is calibrated at the factory using a diverse matrix of over +800 fuels from around the world. The results obtained with the BFQA are based on fuel property data obtained by ASTM methods. New fuel types can be easily be added to the BFQA without modifying the hardware in any way.

In use, the fuel to be tested is placed in a disposable 2 mL container and sealed. The sealed vial is then placed in the BFQA; there is no cleaning or flushing between running samples.

BFQA 9.63 x 8 x 3.75" (5.2 lbs)

Advantages

- **Light Weight, Portable, and Easy to Use**
- **No Technical Training Required**
- **Rugged Design, No Moving Parts**
- **Permanently Aligned and Calibrated**
- **No scheduled Maintenance Required**
- **Complete analysis in 10 seconds**
- **Only 2.0 mL of sample required**
- **No sample preparation required**
- **Short Warm-up Time (1 min)**
- **Can be used in the laboratory or field**
- **One analyzer for three fuel types**
- **Analysis based on ASTM Data**
- **Economical**

The Benchtop Fuel Quality Analyzer provides the following properties

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	Flash Point	Octane (RON, MON, AKI)
Viscosity 40C	Viscosity -20C	Reid Vapor Pressure
Flash Point	Freeze Point	Ethanol
Cloud Point	Pour Point	MTBE
Biodiesel	Fuel System Icing Inhibitor	BTEX
Sulfur		

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

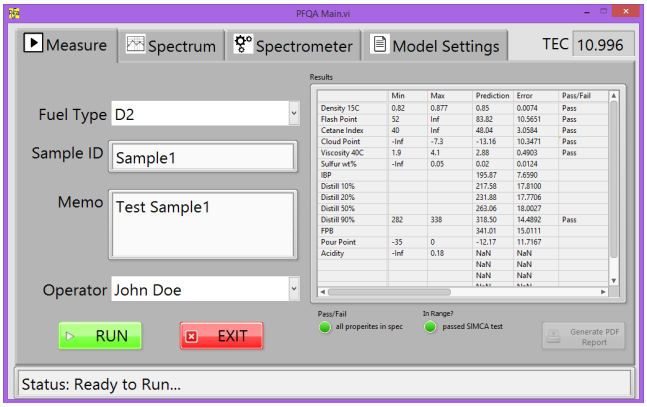
Benchtop Fuel Quality Analyzer (BFQA)

Property	*Range*	*RMSEC*	*Method* [3]
Density	0.78-0.87 g/mL	±0.0033	D1298
Cetane Index	35-60	±1.43	D976
Distillation 0%	140-210 °C	±6.5	D86
Distillation 50%	185-300 °C	±6.5	D86
Distillation 90%	225-350 °C	±4.3	D86
Distillation 100%	245-365 °C	±4.4	D86
Viscosity 40C [1]	1.9-4.1	±0.19	D445
Sulfur [1]	0.01-0.05 %	±0.01	D4294
Flash Point	38-100 °C	±6.2	D93
Cloud Point [1]	-20 to 0 °C	±2.2	D2500
Freezing Point [2]	-60 to -40 °C	±2.0	D5297
Aromatics[1]	10-25 %	±3.85	D1319
Olefins	2-18 %	±4.45	D1319
Saturates[1]	75-90 %	±6.0	D1319
FSII [2]	0 to 0.20	±0.02	D4530
Biodiesel[1]	5-20%	±2	D96

Due to continuing product development, specifications may change at any time.

(1) Diesel #2 only
(2) JP8 only
(3) Correlation to ASTM method

Typical User Interfaces(custom Interfaces also available)



Specifications

Operation	
Warm-up Time	1 minute
Measurement Time	10 seconds
Sampling	2 mL glass vials (disposable)
Calibration	Factory set using NIST standard lamp
Analyzer	
Measurement Principle	Near IR 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	1.0 to 1.6 um
Analysis	
Calibration	Each unit is calibrated with a diverse worldwide matrix of +800 fuels
Sample Induction	2mL glass vial (reusable)
Outlier Detection	Non fuel or contaminated fuel rejected
Fuel Analysis	Validated to ASTM methods
Data System	
Computer	Laptop or tablet computer
Operating System	Windows 8.1
Sample storage	Onboard computer; able to store >1000's of measurements
Data Export	USB Port, Ethernet, WiFi
Environment	
Dimensions	9.6 x 8.0 x 3.75" 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
Operating Temperature Range	-4 to 110 °F (-20 to 45 °C)

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

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