



**SX-300 Analyzer**

In the past, trying to determine the Octane or Cetane rating of fuels was an extremely expensive and difficult undertaking. Only two types of analyzers were available.

First, the “CFR Engine,” which is a very specialized, laboratory engine that is not portable and costs several hundred thousand dollars. These engines are relatively hard to use, and expensive to maintain and keep calibrated.

The second choice was the “NIR” or “Near Infrared” type system. These types of systems are portable, almost as accurate as a standard “CFR Engine,” but unfortunately prone to damage due to its delicate optical detectors. These systems range from around \$10,000 to over \$50,000 and must be calibrated by the manufacturer often.

Shatox has now added a third device and method to measuring Octane and Cetane which combines the accuracy of the “CFR Engine” and the portability of the “NIR” device at a fraction of the cost!

The Octane Meter provides a portable hand-held device with the ability to accurately measure the Octane value of gasoline, as well as the Cetane value of diesel fuel.

The Octane Meter uses a unique detector system which relies on the changes in the fuel’s dielectric permeability and electromagnetic induction.

This proven scientific method is a vast improvement over NIR systems because it contains no moving parts or fragile optics. Using this type of rugged detector system, near CFR engine accuracy, can be repeatedly observed both in the laboratory and in the field at a small fraction of the price of any other method used in the world.

The Octane Meter is so reliable and accurate compared to other systems, that fuel manufacturing companies rely on it to blend their fuels. Maintaining the Octane/Cetane ratings of the fuels these manufacturers produce are vital to maximum profits, as well as fulfilling governmental fuel specifications. Read the recent email we received from one of our customers:

*Dear Sir,*

*We just finished testing our new Octane Meter in our petroleum lab. Our intended use for the instrument is to conduct multiple samples while blending our gasoline.*

*Calibrating the analyzer is easy. With just a few clicks we were able to adjust the device to lab-verified R and M factors.*

*After running a half a dozen samples of regular gasoline, we were impressed with the Octane Meter’s ease of use and accuracy. The deviation from the known octane of our gasoline samples ranged from 0.0 to 0.1 octane points.*

*With an uncomplicated setup and simple calibration routine, I think the Octane Meter will be ideal for our operation. Checking the octane of our gasoline while it is being blended will allow us a higher degree of accuracy in our operation, which should result in a more consistent product, as well as a higher profit margin.*

*Keep up the good work!*

*Fred Meyer*

*Quality Control Manager (A Leading Fuel Manufacturing/Blending Company)*

## Available Models

### **SX-100M and SX-100K**

- RON/MON/AKI Octane rating of gasoline. Complies with ASTM D 2699-86, D 2700-86
- Cetane measurement of diesel fuel Complies with ASTM D 4737-03, ASTM D 613, EN ISO 5165
- Solidification temperature of diesel fuel

### **SX-200**

- RON/MON/AKI Octane rating of gasoline. Complies with ASTM D 2699-86, D 2700-86
- Cetane measurement of diesel fuel Complies with ASTM D 4737-03, ASTM D 613, EN ISO 5165
- Solidification temperature of diesel fuel
- Transformer oil disruption voltage and dielectric dissipation measurement
- Fuel and oil dielectric conductivity measurement

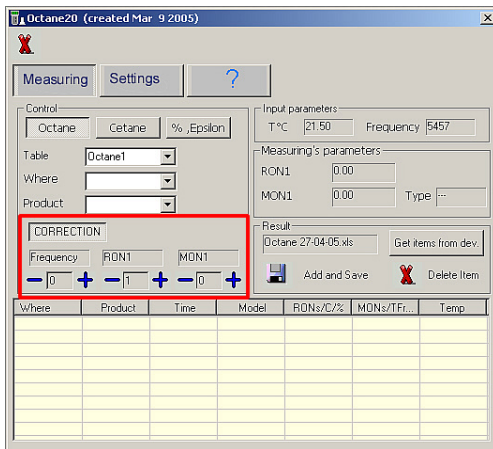
### **SX-300**

- RON/MON/AKI Octane rating of gasoline. Complies with ASTM D 2699-86, D 2700-86
- Cetane measurement of diesel fuel Complies with ASTM D 4737-03, ASTM D 613, EN ISO 5165
- Solidification temperature of diesel fuel
- Content of antiknock compounds boosting the octane number of gasoline.
- Content of pour-point depressants for diesel fuels.
- Content of kerosene in diesel fuel.
- Petrol breakdown time (oxidative stability). Complies with ASTM D 525.
- Loss angle tangent of circuit-breaker, machine and engine oil.
- Level of engine, machine and circuit-breaker oil clarity.
- Manufacturer, engine oil brand.
- Engine oil base number.
- Dielectric permeability of oil products.
- Oil products volume resistivity.
- Determining the mechanical impurities content in oil products.
- Determining water-in-oil percentage of oil and oil products. (Complies with GOST 14203-69 Oil and oil products. Dielectric humidity measuring method.)

## Features Include

- SX-100K and SX-200 use a RS-232 serial port and the SX-300 use a USB port for a PC computer
- User available calibration and memory storage functions
- Calibration tables and firmware upgradeable (SX-100K, SX-200 and SX-300)
- Save/Print test data via Microsoft Excel Spreadsheet or standard text file formats (SX-100K, SX-200 and SX-300 only)

The screen shot below is of the Windows based software provided with the SX-100K and SX-200 and SX-300 analyzers.



Four different Octane Meter models are also available in a convenient carrying case configuration in the "2M7 Laboratory Set" (seen below) which incorporates several additional products for additional petroleum testing.



Other Shatox products include the

## OIL PRODUCT LOW-TEMPERATURE CHARACTERISTICS METER



Used to analyze temperature characteristics of Oils and Anti-freezes.

*Featured Products*



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USER-DRIVEN INNOVATION



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**THE RCI TECHNOLOGIES FUEL PURIFIER**  
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Visit our website at [www.spiritpfc.com](http://www.spiritpfc.com) for product information.

# SHATOX

## Octane Meter



## Real-time Octane Cetane and Transformer Oils Measurement

Now, equipment used by Military branches, Laboratories and fuel manufacturers to monitor production fuel quality is available to everyone in a user-friendly, rugged, affordable, hand-held package!