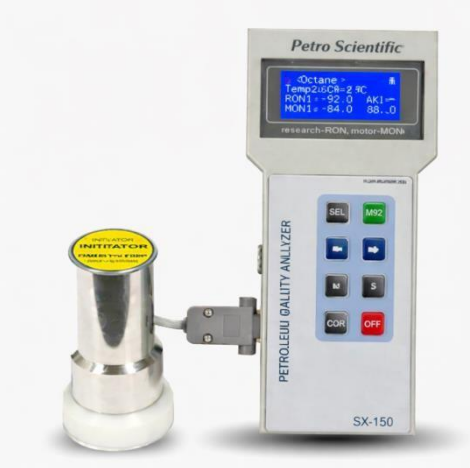
PETRO SCIENTIFIC



PETRO SCIENTIFIC SX-150

The SX-150 analyzer is designed for testing fuel quality. It is a portable small-sized device intended for rapid analysis of oil products quality in field and laboratory conditions.

It is an upgraded generation of fuel analyzers that superseded SX-200 and was designed based on SX-300 analyzer.

SX-150 has additional modes for determining gasoline oxidation breakdown time and kerosene percentage in diesel fuel.

The device can be used together with a PC or a laptop through a USB interface. SX-150 supports the automatic computer-based calibration. Measurement results, including the analysis date and time, can be saved in the instrument memory and transferred to the PC (in .xlsx or .txt format).

SX-150 has an 8-key antiglare keyboard, which is easy for operation, wear-proof and resistant to aggressive environments.

Operating conditions: air temperature range from -10°C up to +45°C.

The device is powered from 4 elements of AA type (R6) or from a computer USB port.

Delivery Package:

- Electronic computing module
- Sensor #1
- Sample imitator
- Mini-USB cable
- User manual
- Warranty certificate
- Quick start guide
- Tool canvas bag

The instrument can determine the following parameters:

- Gasoline octane level in compliance with ASTM D 2699-86, ASTM D 2700-86.
- Diesel fuel Cetane level in compliance with ASTM D 4737-03, ASTM D 613, EN ISO 5165.

Reference parameters:

- Diesel fuel type and cold filter plugging point (CFPP).
- Gasoline breakdown time (oxidation stability).
- Kerosene percentage in diesel fuel.

Technical specifications:

Range of measured gasoline octane level - 40-135 ON

Max. permissible error in octane number measurement - ±0.5 ON

Max. permissible discrepancy between parallel octane number measurements - ±0.2 ON

Range of measured gasoline breakdown time - 50-2400 min

Max. permissible error in gasoline breakdown time measurement - 10 min

Range of measured cetane level - 20-100 CN

Max. permissible error in cetane number measurement - ±1.0 CN

Max. permissible discrepancy between parallel cetane number measurements - ± 0.5 CN

Max. permissible error in diesel CFPP measurement - ± 5 ºC

Range of measured kerosene percentage in diesel - 0-95 %

Max. permissible error in kerosene percentage measurement - 3%

Measurement time - 1-5 sec

Threshold value for insufficient power supply alarm - 5.4 V

Instrument useful life - minimum 6 years

Overall dimensions of:

- electronic module - 211x100x45 mm
- sensor #1 - 60x100 mm

Instrument and sensor weight - 680 g

Package size 25x19x13 cm

Package weight net – 1.0 kg

PETRO SCIENTIFIC SX Series
Capability Comparison Table

Capability	SX-150	SX-250	SX-300
Determining octane numbers for motor gasoline. Complies with ASTM D 2699-86, ASTM D 2700-86.	v	v	v
Determining cetane numbers for diesel fuel. Complies with ASTM D 4737-03, ASTM D 613, EN ISO 5165.	v	v	v
Cold filter plugging point and diesel type.	v	v	v
Content of kerosine in diesel fuel.	v	v	v
Petrol breakdown time (oxidative stability). Complies with ASTM D 525.	v	v	v
Content of water in diesel fuel.		v	v
Level of engine and machine oils clarity.		v	v
Dielectric permeability of oil products. (Eps)		v	v
Determining cetane numbers for biodiesel.			v
Content of oil in gasoline.			v
Content of antiknock compounds boosting the octane number of petrols.			v
Transformer oil dielectric dissipation.			v
Transformer oil fission voltage.			v
Fuel oil conductivity.			v
Engine oil grade.			v
Engine oil base number.			v
Oil products volume resistivity.			v
Determining the mechanical impurities content in oil products.			v

PETRO SCIENTIFIC SX Series
Technical Parameters Comparison Table

Technical Parameters	SX-150	SX-250	SX-300
Measured petrols octane numbers range	40–135 ON	40–135 ON	40–135 ON
Acceptable limit of octane number measurement basic error, max	±0.5 ON	±0.5 ON	±0.5 ON
Limit of acceptable difference between parallel octane number measurements, max.	±0.2 ON	±0.2 ON	±0.2 ON
Petrol oxidation breakdown time measurement range.	50-2400 min.	50-2400 min.	50-2400 min.
Acceptable basic error limit of petrol oxidation breakdown time.	10 min.	10 min.	10 min.
Cetane numbers measurement range.	20-100 CN	20-100 CN	20-100 CN
Acceptable basic error limit of cetane numbers, max.	±1.0 CN	±1.0 CN	±1.0 CN
Acceptable difference limit between cetane numbers parallel measurements, max.	±0.5 CN	±0.5 CN	±0.5 CN
Acceptable error limit when determining diesel-fuel pour point.	±5°C	±5°C	±5°C
Kerosine content determination range in diesel fuels.	0-95%	0-95%	0-95%
Acceptable basic error limit when determining kerosene content in diesel fuels.	3%	3%	3%
Measurement time.	1-5s	1-5s	1-5s
Insufficient power supply indication operation threshold.	5.4V	5.4V	5.4V
Instrument useful life.	6 Years	6 Years	6 Years
Motor oils clarity level measurement range.		95-100%	95-100%
Acceptable difference limit between motor oils clarity parallel measurements.		0.01%	0.01%
Water-in-oil content determination range for oil products.		0-4%	0-4%
Acceptable basic error limit when determining water-in-oil content of oil products.		0.01%	0.01%
Fuel and lubricants dielectric permeability measurement range.		1-5 Units	1-5 Units

PETRO SCIENTIFIC SX Series
Technical Parameters Comparison Table

The determination range of antiknock additives content in petrols.			0.1-15%
Acceptable basic error limit of antiknock additives content determination in petrols.			0.1%
Petrol quality determination mode basing on volume resistivity.			10^6-10^{14} Om
Acceptable basic error limit of volume resistivity measurements .			3%
Acceptable error limit of motor oils clarity level measurement.			0.1%
Acceptable error limit of dielectric permeability measurement, max.			0.001 Units
Acceptable difference limit between Fuel and lubricants dielectric permeability parallel measurements, max.			0.001 Units
Oils base number determination range.			0-24 Units
Acceptable basic error limit when determining oils basic number.			1 BN Unit
Motor oils manufacturer and brand determination.			Manufacturer
Circuit-breaker oils (dielectrics) breakdown voltage measurement range			5-100kV
Acceptable error limit of circuit-breaker oils breakdown voltage measurement, max.			1kV
Acceptable difference limit between circuit-breaker oils breakdown time parallel measurements, max.			0.2kV
Measurement range of circuit-breaker oils loss angle tangen.			0.01-5%
Acceptable error limit of circuit-breaker oils loss angle tangent, max.			0.01%
Acceptable difference limit between circuit-breaker oils loss angle tangent parallel measurements, max.			0.001 Units
Determination range for mechanical impurities content in oil products.			97-100%
Acceptable basic error limit when determining mechanical impurities content in oil products.			0.01%

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