

EQUIPMENT FOR PETROLEUM QUALITY ANALYSIS

1. OCTANE NUMBER METER WITH AUTOMATIC COMPUTER SELF-CORRECTION

Octane number meter provides measurement of the octane number of benzines of petrolic origin irrespective of additives types upon motor and research methods, measurement of the cetane number of diesel fuel irrespective of additives types, defines antiknock index AKI (“pumping” octane number), provides measurement of the temperature of measured benzine (diesel fuel).



The instrument overcomes by its performance capabilities the best analogous devices because it allows to analyze benzines with any additives including metaldetonators, etheric, amine and other additives.

Technical possibilities

- Provides measurement of the octane number of benzines of petrolic origin irrespective of additives types upon motor and research methods.
- Provides measurement of the cetane number of diesel fuel irrespective of additives types.
- Defines antiknock index AKI (“pumping” octane number).
- Provides measurement of the temperature of measured benzine (diesel fuel).
- Principle of measurement is based on comparison of octane (cetane) numbers of certified benzines (diesel fuels) samples and the controlled benzines (diesel fuels).
- Used tables of the certified benzines (diesel fuels), program of interpolation and corrections for temperature of the analyzed sample are input in a specially designed processor.
- A set of software is supplied together with the Octane meter, enabling to connect Octane Meter to a computer through USB port.
- Data of measured octane (cetane) numbers are indicated on the screen of the Octane Meter and computer, connected to the Octane Meter.
- Additionally on the screen of a computer data on modes of Octane Meter operation, used corrections, data on the performed measurements is indicated in a convenient and understandable form.
- Automatically calculates with a help of a personal computer a necessary correction for any motor petrol by two values of octane number.
- Calculated correction is written to the nonvolatile device memory. It allows to increase measurement accuracy of benzines made using different manufacturing techniques.
- Allows to storage up to 10 values of measurements with a consequent their transfer to a personal computer.
- Results of analyses can be storaged in popular formats (MS Word and Excel) for a consequent processing and analyse.
- Etalon program installed in the device does not require calibrations at performance of measurements.
- Together with the software a specialized reference system is supplied, regulating quality control in the establishment of petroleum products provision.
- Use of low-voltage low-current power supply allows to exploit the Octane Meter in premises of any kind of fire and explosion hazard.

Technical characteristics

Benzines of all marks

- Range of octane numbers – 66-98
- Error of measurement of octane number value – 0,6

Diesel fuels of all marks

- Range of diesel fuels – 30-70
- Error of measurement of cectane number value – 0,6

Duration of measurement – 3 sec

Power supply – accumulator of 6F22 9V type, ac-power adapter 220/9 V.

Electricity consumption – 40 +/- 5 mA

Duration of continuous operation – not less than 10 hours

Operating conditions of Octane Meter use – -10...+35 °C

Dimensions:

- electronic unit – 76 x 210 x 23 mm
- sensor – 48 x 110 mm

Weight – not more than 1,1 kg



Software on a CD for work on the personal computer in Windows XP is supplied together with a octane number meter

Recommended for use at petrol stations, petrol storage depots, petroleum refineries, customs, environmental and supervise organisations, electricity power stations as a portable universal tool for quality control of combustive-lubricating materials.

2. HAND LABORATORY KIT FOR RAPID ANALYSIS OF PETROLEUM

Laboratory kit is intended for collection of samples and conduction of acceptance analysis of fuels and lubricants.



Technical characteristics

Laboratory kit allows:

1. Determination of octane number (by motor and research methods).
2. Determination of cetane number.
3. Determination of lead content in motor petrols.
4. Determination of petroleum product density.
5. Determination of mechanical impurities and water in motor petrols.
6. Determination of color of motor petrols.
7. Determination of heavy hydrocarbons content in motor petrols.
8. Determination of presence of water-soluble acids and alkali.
9. Determination of summary water content (quantitative method).
10. Determination of undissolved water content (quantitative method).
11. Determination of resins content in motor petrols.
12. Determination of acid electrolyte density.
13. Determination of structure and freezing temperature of refrigerating fluid and its density.
14. Collection of petroleum products samples.
15. Quantitative determination of water in reservoir (tank truck, rail tank).
16. Seabed sampling of petroleum products from reservoirs and determination of presence of settling-vat water and mechanical impurities.
17. Determination of water content in anticrystallization additives (quantitative method).
18. Determination of anticrystallization additives content in fuels for jet engines.

Structure of Laboratory kit

№	Equipment name	Unit of measure	Quantity
Inside a case			
1.	Octane number meter	piece	1
2.	Sample taker	piece	1
3.	Densimeter ANT-2 0,670-0,750	piece	1
4.	Densimeter ANT-2 0,750-0,830	piece	1
5.	Densimeter ANT-2 0,830-0,910	piece	1
6.	Reserve power supply battery	piece	1
7.	Cylinder 1 - 50	piece	1
8.	Cylinder 1 - 250	piece	1
9.	Densimeter AON-1 1,060-1,120	piece	1
10.	Densimeter AON-1 1,240-1,300	piece	1
11.	Densimeter AON-1 1,060-1,120	piece	1
12.	Densimeter AON-1 1,240-1,300	piece	1
13.	Cup V-1-100 or PP 50	piece	1
14.	Water indicator paste	gr	60
15.	China cup № 2 or 3	piece	1
16.	Indication pipe IT-TES	piece	10
17.	Indication pipe IT-SV-10	piece	10
18.	Indication pipe IT-NB-15	piece	10
19.	Indication pipe IT-PVK	piece	10
20.	Indication pipe IT-SV-50	piece	10
21.	Pipette 2-1-2-2	piece	1
22.	Magnet for correction	piece	1
23.	Compressor of indication pipes	piece	1
24.	Cutter (broach file)	piece	1
25.	Rubber bulb	piece	1
26.	Case	piece	1
In a case cover			
1.	Laboratory kit documentation	piece	1
2.	Ruler	piece	1
3.	Paper	piece	1
4.	Pencil	piece	1
5.	Plasticine	piece	1
6.	Medical syringe with a pipe	piece	1
7.	Calculator	piece	1
8.	CD-disk with software	piece	1
9.	RS-232 cable	piece	1