

NXA

آرتین آزما مهر نمایندگی انحصاری شرکت NXA روسیه؛ تولید کننده تجهیزات کنترل کیفی در فرآیند تولید سوخت، قیر، آسفالت



LinteL®ATV-21

Automatic closed cup tester Pensky – Martens method

Standards implemented

GOST R EN ISO 2719-2008 GOST ISO 2719-2013
GOST 6356-75

FEATURES OF LINTEL ATV-21 TESTER

- ❖ Lintel ATV-21 tester provides complete automation of the testing process. Preinstalled test programs. Each test program contains test standard and parameters. Thus, when program selected, all necessary parameters and test conditions are set and maintained automatically.
- ❖ Unique design of built-in electric spark ignition – there is no open flame, there is no risk of fire in the laboratory. Accuracy of flash point determination with an electric spark ignition does not differ from testers with gas ignition.
- ❖ Test logging provides storage of up to 1,000 test results and the last 100 diagrams.
- ❖ Integration with Lintel Link Data Collection System enables collection and transfer of laboratory test results from the tester to a personal computer via wireless communication. Integration with the laboratory information system Lintel LIS, provides a comprehensive automation of laboratory activities.
- ❖ Convenient intuitive menu for selecting the analysis program, navigation in the test log, diagnostics and setup of the tester.

Flash point range	Automatic flash point determination in temperature range from +28 up to +370 °C
Heating	Automatic product heating and maintaining the product heating rate according to the selected test program
Ignition	Automatic ignition with an electric spark of controlled capacity for complete simulation of gas ball 4 mm in diameter
Stirrer	Stirring rate corresponds with selected test program requirements and is maintained automatically



Lintel®ATVO-21

Automatic open cup tester(with gas ignition)
Cleveland method

Standards implemented

GOST 4333-2014
GOST 33141-2014
ASTM D-92
ISO 2592-73

FEATURES OF LINTEL ATVO-21 TESTER

- ❖ The tester automatically performs heating of the product at a specified rate, testing its vapor using gas ignition, flash detecting, introducing correction for atmospheric pressure, storing the result in non-volatile memory
- ❖ Size of the flame ball is maintained automatically and is independent of gas pressure fluctuations
- ❖ The tester resumes burning of the gas ball automatically in the event of its fading
- ❖ The tester has a built-in gas leak detector. When leak detected, the tester switches off the gas and heater, and gives an appropriate message
- ❖ Integration with Lintel Link Data Collection System enables collection and transfer of laboratory test results from the tester to a personal computer via wireless communication. Integration with the laboratory information system Lintel LIS, provides a comprehensive automation of laboratory activities
- ❖ Built-in pressure sensor for automatic introduction of correction for atmospheric pressure
- ❖ Built-in fan for cooling the heater allows to proceed quickly to the next test
- ❖ The log maintenance provides storage of up to 1000 test results (test method, product name, expected flash point, flash point, barometric pressure, test completion date and time, operator).
- ❖ Automatic test stop with sound signal about the test completion
- ❖ The product overheating detection with automatic test completion
- ❖ The burning product extinguishing at the end of the analysis by closing the cup with a lid
- ❖ Universal inlet for connecting mini-cylinders
- ❖ High-accurate product temperature sensor
- ❖ Complete self-diagnosis system with fault indication on the display
- ❖ Convenient intuitive menu for selecting the analysis program, navigation in the test log, diagnostics and setup of the tester
- ❖ Search of test result by parameters (test method, product name, expected flash point, flash point, test

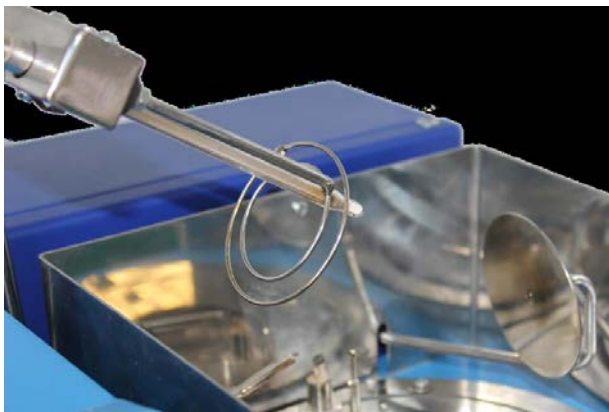
LinteL ATVO – 21 Automatic open cup tester (with gas ignition) JSC NEFTEHIMAVTOMATIKA Bashkir Special Design Bureau Automatic tester LinteL ATVO -21 uses up-to-date technologies and components to ensure high quality of the tester and convenience of its operation to reduce test timing and improve work efficiency. Tester LinteL ATVO -21 provides a number of advantages to our customers:

НАГРЕВ		00:10:00
Температура продукта, °C		50
Скорость нагрева, °C/мин		6
Атмосферное давление, мм.рт.ст.		760
Метод испытания	ГОСТ 4333-87	
Продукт	АМГ-10	
t предполагаемая, °C	100	
Исполнитель:	Исполнитель 1	
График		Стоп

Automatic maintenance of test conditions in accordance with the selected test program



Monitoring of the test process. Displaying of important test process parameters



Ionization flash sensor. Automatic determination of petroleum product flash point



SPECIFICATIONS	
Measuring range	from +79 to +400 °C;
Discreteness of the flash-point result determination	1 °C
Type of the product vapor ignition	gas ignition
Product heating rate	5–6 °C/min
Product heating rate up to temperature by 56 °C below expected flash point	14–17 °C/min
ACCURACY PARAMETERS	5 °C max
Reading repeatability limit of the tester	5 °C max
Reading reproducibility limit	16 °C max
Barometric pressure	±1 mm Hg
PERFORMANCE DATA	
Power consumption under standby mode	150 max
Power consumption under test mode	1,000 W max
Overall dimensions	330 x 420 x 310 mm (depth x width x height)
Weight	21 kg max
Ambient air temperature	from +15 to +35 °C
Relative air humidity	75 % max
Voltage	from 187 to 242 V
Frequency	from 49 to 51 Hz;
Probability of failure-free operation within 1,000 h, min	0.96;
Service life	6 year, but 15,000 hours max
Guaranteed service life	1 year, but 2,500 hours max
SAFETY	
Audio signals	Beeping at the end of the test and failure detection
Diagnostic and setting	Built-in algorithms for self-diagnostics, user notification about causes of malfunctions
Electrical safety	Differential automatic circuit breaker, preventing electric shock for the user and the tester damage due to short circuit, complete tester disconnection from power supply under all modes, except test one.



Dealers within the territory of RF	COMPLETE SET	
<p>Dealers within the territory of RF:</p> <p>"PTF" EUROTTEST "LTD 191167, St. Petersburg ul. Alexandra Nevskogo, 9 tel. (812) 327-84-51, 327-84-52 fax (812) 327-82-90 info@euro-test.ru</p> <p>"AytoLabKomplekt"LTD 195279, St. Petersburg, shosse Revolutsii, 69, lit. V, compartment 13N tel. 8-965-098-98-99, 640-13-25, 8-931-353-71-90 fax (812) 300-14-12, 300-14-13 autolabkomplekt@yandex.ru</p> <p>"LabTech" LTD 105264, Moscow, Izmailovsky Boulevard, 1/28 tel. (495) 276-77-00, 777-51-66 post@labteh.com</p> <p>"NPO MOSLK" LTD 125466, Moscow, ul. Yurovskaya, 92 office 1 tel. (495) 665-23-54 sorkin.mihail@gmail.com</p> <p>Electronpribor LLC Fryazino, Moscow Region, 141190 ul. Barskie Prudy 1, office 4 (495) 258-91-11, (496) 255-54-55 info@electronpribor.ru</p> <p>RNPO "RosPribor"LTD ul. Akademika Koroleva 40, of. 3, Chelyabinsk, 454000, the Russian Federation tel. (351) 727-99-50, 727-99-60, 727-99-80 mail@rupsu.ru</p> <p>Dealers within the territory of Kazakhstan</p> <p>"ELEMENTUM" LLP Almaty, 050000 ul. Gogolya, 86, office 214 tel. (727) 250-89-76, 329-68-75 fax (727) 250-89-73</p> <p>Dealers within the territory of Belarus</p> <p>"FIVE OCEANS" CJSC Minsk, 220007 ul. Moskovskaya, 12 tel.+375 17 210-42-58 fax: +375 17 228-17-47</p>	Lintel ATVO-21-02 tester	1 pc.
	Cup	2 pcs.
	Detachable cup handle	1 pc.
	Fuse H520-8A /250 V	2 pcs.
	Operating Manual	1 pc.
	Passport	1 pc.

EQUIPMENT FOR CERTIFICATION

Measuring devices used during certification shall be approved by State authorities as per GOST 8.513-84 and have a valid Verification Certificate (reports, stamps).

Measuring devices recommended for use during tester certification are given in table

Title	Properties	Purpose	Standards
Stopwatch SOSpr-26-2-000	accuracy class 2	heating rate measurement	TU 25-1894.003-90
Petroleum product reference samples certified according to GOST 4333-87	one sample per each range: - from +79 to +100 °C; - from +180 to +200 °C; - from +250 to +270 °C.	volume check	GOST 25336-82
Barometer M-110 or similar by characteristics		Check of built-in atmospheric pressure meter	



ARNS-21

Automatic device for determination of fractional composition of oil and oil products

Implemented standards

EN ISO 3405
ASTM D 86

- ❖ Preinstalled test programs. Each test program contains a standard, a group, test parameters and a report form. Thus, when selecting a program, all the necessary parameters and test conditions are set and maintained automatically.
- ❖ The report form editor allows you to set the required points, both in temperature and overtaking, to determine the need for corrections for atmospheric pressure and losses. The required report parameters can be changed while viewing the result.
- ❖ Built-in cooling system based on Peltier elements allows to automatically maintain the temperature of the bath and the receiver for all the standards implemented in the apparatus.
- ❖ Automatic fire extinguishing system.
- ❖ Integration with the data collection system Lintel Link allows the collection and transfer of laboratory test results from the device to a personal computer via wireless communication. Integration with the laboratory information system Lintel LIS, provides a comprehensive automation of laboratory activities.
- ❖ Record the temperature of the beginning and end of the boiling point, the decomposition temperature, the temperature of the dry point, and the percentage of distillation.
- ❖ The test log provides storage of up to 1000 test results and distillation schedules, as well as additional information on compliance with test conditions.
- ❖ Measurement of vapor temperature, bath temperature and receiver temperature.
- ❖ Measurement of volume in a graduated cylinder.
- ❖ Measurement of the remainder, both in manual and in automatic mode.
- ❖ Automatic correction for barometric pressure in the range from 630 to 810 mmHg.



- ❖ The sound signaling of the beginning of boiling and the end of the distillation.
- ❖ Automatic cooling of the heater at the end of the distillation, with cooling the heater to a temperature of 5 °C above room temperature.
- ❖ A convenient intuitive menu for selecting the test program, navigating in the test log, diagnosing and tuning the device.
- ❖ Full self-diagnosis system with fault indication on the display.

Ability to update the software of the device remotely

SPECIFICATIONS	
Discharge temperature	Oil and oil products with a boiling point of +18 to +400 °C
Speed of distillation	Automatic maintenance of the distillation rate depending on the selected test program in the range 2 to 10 ml / min
Oil product groups	dark oil products, oil, paraffin oil, paraffins according to GOST 2177 (ISO 3405) Method B; 1, 2, 3, 4 according to GOST 2177 (ISO 3405) Method A; 1, 2, 3, 4 according to GOST R EN ISO 3405; 1, 2, 3, 4 according to ASTM D 86.
PRECISION CHARACTERISTICS	
The volume of the distilled product, ml	± 0.3
Product vapor temperature	from 0 to 300: ± 1.0, from 300 to 400: ± 1.5
Barometric pressure	± 1
Cooling bath temperature	from 0 to 60: ± 0.5
Receiver temperature	from 13 to 60: ± 0.5
Speed of distillation, ml / min	from 0 to 9: ± 0.5
OPERATING CHARACTERISTICS	
Power Consumption	not more than 1500 V · A
Dimensions	750 x 585 x 515 mm (height x width x depth)
Weight	not more than 50 kg (without taking into account the coolant in the bath)
Ambient temperature	+15 to +35 °C
Relative humidity	not more than 75%
Voltage	from 187 to 242 V
Frequency	from 49 to 51 Hz
Life time	6 years, no more than 15 000 hours
Warranty period of operation	1 year, not more than 2 500 hours (does not apply to glassware)
Life time	6 years, no more than 15 000 hours
Warranty period	1 year, not more than 2 500 hours





Supplied Package	
Apparatus Lintel ARNS-21	1 PC.
Glass Temperature Sensor with Nipple Assembly	1 PC.
The Engler flask (KPH-125 TC GOST 25336-82)	2 pcs.
Measuring Cylinder	2 pcs.
Ramrod	1 PC.
Plate heat-insulating (stand bulb ot.50 mm)	1 PC.
Plate heat-insulating (stand bulb ot.o38 mm)	1 PC.
Glass inspection	1 PC.
Droplet separator	1 PC.
Hose Plug	1 PC.
Ring	1 PC.
Silicone plug 10/13, 6 mm H = 18 (drain plug)	2 pcs.
Cork silicone 14/20 ot.6.5 mm H = 18 (stopper bulb)	1 PC.
Fuse 8A 250B	2 pcs.
Manual	1 PC.
Passport	1 PC.

Optional equipment	
Thermoelectric converter KTXA	Dry Point Temperature Sensor
Thermocouple adapter ATXA 1450-κ1 - 1600	A connecting element that allows the connection of a dry point sensor to the unit
Lintel Link Collection System	Software and hardware intended for collection and transmission of test results from devices manufactured by JSC "BSCB Neftekhimavtomatika" to a personal computer via wireless communication
Laboratory information system Lintel LIS	Software and hardware intended for the integrated automation of laboratory activities





Lintel® PSB – 10

Apparatus for determining the aging of bitumen under the influence of high temperature and air RTFOT method

EN 12607-1
AASHTO T240
CTM 346

ASTM D2872

- ❖ The device Lintel PSB-10 for determining the aging of bitumen under the influence of high temperature and air is designed to carry out the effect of high temperature and air on a moving thin film of bitumen
- ❖ The device automatically maintains and controls the temperature of the air inside the working area, the speed of rotation of the drum with samples, the speed of rotation of the centrifugal fan and the flow rate of air exiting through the nozzle
- ❖ The built-in compressor with low noise level (no more than 38 dBA) allows using PSB-10 without connection to the compressed air supply system (compressor)
- ❖ The camera of the device is made of stainless steel with reliable thermal insulation. The door has a two-layer window for visual inspection of the testing process
- ❖ To ensure safe operation, the device is equipped with a shutdown system for all actuators when the door is opened or the control unit fails, and the safety shutdown device will switch off the power supply in a timely manner in case of emergency situations
- ❖ The device is supplied complete with a flowmeter for verification and calibration of the air flow sensor

- ❖ To check the accuracy of the device during certification and calibration of the built-in temperature sensor, it is possible to install a thermometer (optional)
- ❖ The device is controlled by the built-in keyboard, test parameters and results are displayed on the digital display in real time
- ❖ Full self-diagnosis system with indication of the causes of faults on the display

SPECIFICATIONS

Furnace temperature after stabilization	from 162 to 164 ° C
Air flow through the flow sensor	from 3.8 to 4.2 l / min
Drum speed after acceleration	from 14.8 to 15.2 rpm
Fan speed after acceleration	from 1625 to 1825 rpm
Test duration	from 84 to 86 min
The heating time of the furnace after placing the samples in the furnace	no more than 15 min

OPERATING CHARACTERISTICS

Power consumption	no more than 2100 W
Dimensions	916.6 x 823 x 826 mm (length x depth x height)
Weight	no more than 120 kg
Voltage	from 187 to 242 V
Frequency	from 49 to 51 Hz
Warranty period of operation	1 year, no more than 2 500 hours

SUPPLIED PACKAGE

Lintel PSB-10 device	1 PC.
Scraper	1 PC.
Glass	8 pieces
Model Rotameter	1 PC.
Manual	1 PC.
Passport	1 PC.
Program and methods of certification	1 PC.



Lintel® DB – 20-100

Automatic apparatus for determining ductility and tensile force of bitumen with built-in thermocryostat.

ASTM D 113-99
ASTM D 6084-04
EN 13398: 2010
EN 13587: 2010
EN 13589: 2008
EN 13703: 2003

- ❖ Lintel DB-20-100 provides automatic testing of bitumen samples for tensile properties (ductility), elasticity, strain energy, as well as tensile testing of plastics and polymers
- ❖ The device provides the desired temperature in the test zone due to the built-in thermocryostat from -10 to +40 °C
- ❖ Lintel DB-20-100 allows testing from 1 to 3 samples with a maximum breaking force of up to 30 kg per sample
- ❖ Automatic carriage movement at a given speed
- ❖ Integration with the Lintel Link Data Acquisition System allows for the collection and transmission of laboratory test results from the device to a personal computer over a wireless connection. Integration with the laboratory information system Lintel LIMS provides comprehensive automation of laboratory activities
- ❖ Built-in pump for mixing bath coolant and modern cooling system provide minimum temperature gradient in different parts of the bath
- ❖ A test log provides storage of up to 100 test results and 30 sample loading schedules.
- ❖ Memorization of the tensile value and the sample number in the automatic mode by the drop of the tension force or by the operator pressing the remote button for fixing the sample break
- ❖ The ability to check the correctness of temperature sensors in the bath with external thermometer
- ❖ The system of interaction with the operator based on a color touch screen facilitates the development and daily operation of the device
- ❖ A set of collapsible molds for samples supplied with the device comply with GOST, ASTM, EN and provide convenient preparation of samples for testing.



- ❖ Transparent ergonomic cover
- ❖ Full self-diagnosis system with indication of the causes of faults on the display
- ❖ The testing process is stopped at the end of the analysis with an audible alarm
- ❖ The ability to start the thermostat on a timer - "delayed start"

SPECIFICATIONS	
Maximum length of elongation of test samples	1,000 mm
The number of simultaneously tested samples	from 1 to 3
Maximum load on each sample	300 N
Carriage speed	from 0.1 to 100 cm / min
Bath volume	17 l
Range of maintained bath temperature	from -10 to +40 ° C
ACCURACY	
Force measurement accuracy	± 1%
Irregularity of the temperature of the coolant in the bath	not more than 0.5 ° C
Temperature measurement error	no more than ± 0.2%
Carriage Speed Accuracy	no more than ± 0.25 cm / min
Length measurement accuracy: - in the range from 0 to 300mm - in the range from 300 to 1 000mm	no more than ± 2 mm no more than ± 3 mm
Shape deviation	meet standards
OPERATING CHARACTERISTICS	
Power consumption	no more than 650 W
dimensions	370 x 260 x 1750 mm, (depth x height x width)
Weight	no more than 50 kg
Ambient temperature	from +15 to +35 ° C
Relative humidity	humidity at a temperature of + 20 ° C, not more than 75%
Voltage	from 187 to 242 V
Warranty period of operation	1 year, no more than 2 500 hours





Supplied package	
Device Lintel DB-20-100	1 PC.
Half ring shape	12 pcs.
Type 1 liner for testing according to EN 13398: 2010, ASTM D 113-99, GOST 11505-75, GOST R 52056-03, GOST 33138-2014	12 pcs.
Type 2 liner for testing according to ASTM D 6084-04, EN 13589: 2008	12 pcs.
Shape plate	6 pieces
A table for forms with samples	1 PC.
Clamp for testing according to GOST 11262-80	2 pcs.
Remote button	1 PC.
Knife	1 PC.
Coolant filter	1 PC.
Medical silicone tube 10x2	3.5 m
1/2 "quick coupling	2 pcs.
The fir-tree union of 14 mm - 1/2 "	2 pcs.
Clamp 16 mm	2 pcs.
13 mm clamp	2 pcs.
Sieve number 7	1 PC.
10SL 1/2 "Main Filter Housing	1 PC.
Main filter BF-10SL (iron and scale)	1 PC.
Accessory box	1 PC.
Manual	1 PC.
Passport	1 PC.
Program and methods of certification	1 PC





LinteL®
KISH-20M4
AUTOMATIC SOFTENING POINT TESTER FOR
PETROLEUM BITUMEN
Standards implemented
GOST 11506-73
GOST 33142-2014

FEATURES OF LINTEL KISH-20M4

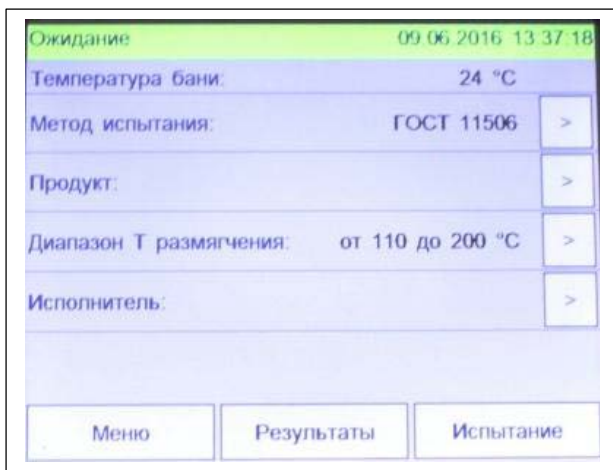
- ❖ LinteL KISH-20M4 provides automatic sample preparation for testing, its testing and result recording in non-volatile memory. All parameters and test condition required are maintained automatically
- ❖ Possibility of quantity selection for cells with samples provides testing of up to 4 samples simultaneously
- ❖ Test log maintenance provides storage of up to 300 test results
- ❖ Integration with LinteL Link Data Collection System enables collection and transfer of laboratory test results from the tester to a personal computer via wireless communication. Integration with the laboratory information system LinteL LIS, provides a comprehensive automation of laboratory activities
- ❖ Automatic stirring system provide uniform temperature in the bath
- ❖ Termination of stirrer rotation and liquid heating in the bath: at test completion; upon operator's request; when current temperature exceeds limit value
- ❖ To check the tester readings while certification and calibrate built-in temperature sensor provision is made for standard thermometer installation
- ❖ Operator interface based on color display with touchscreen simplifies mastering and everyday operation of the tester
- ❖ Complete self-diagnosis system with fault indication on the display
- ❖ Test stop at the end of analysis with audible alarm

Automatic tester Lintel KISH-20M4 uses up-to-date technologies and components to ensure high quality of the tester and convenience of its operation to reduce test timing and improve work efficiency.

Tester Lintel KISH-20M4 provides a number of advantages to our customers:



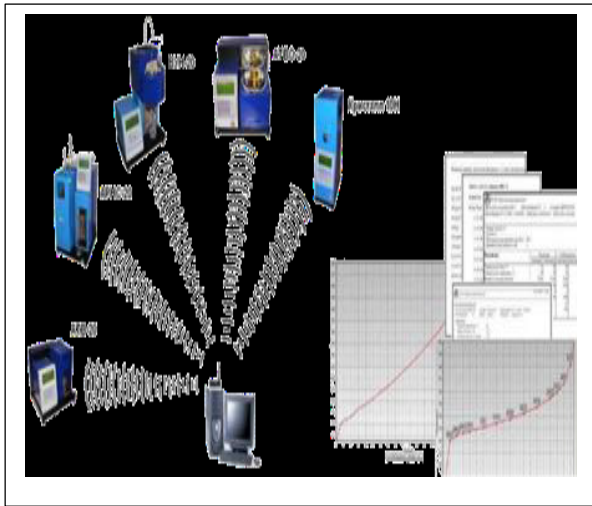
❖ Test block for simultaneous testing of up to 4 samples



❖ Color touchscreen LCD is used as an data input (keyboard) and output device simultaneously



❖ Test results obtained and stored in the tester memory can be compared due to the test log



- ❖ Rapid transfer of test results through a data collection system. Lintel Link data collection system allows to transfer test results from the instrument to a computer using wireless data transmission

SPECIFICATIONS

Softening point measuring range	from +20 to +200 °C;
Quantity of tested samples	4

ACCURACY PARAMETERS

Softening point range	Reading repeatability limit of the tester, °C		Reading reproducibility limit, °C
	typical value *	maximum value	
up to 80 °C	1	1	4
more than 80 °C	1	2	

Values in the column with "*" are obtained based on results of the tester internal testing.



PERFORMANCE DATA

Power consumption	1,200 V·A, max
Overall dimensions (L * D * H)	400 × 275 × 280 mm
Weight	15 kg max
Weight	15 kg max
Ambient air temperature	from +15 to +35 °C
Relative air humidity	from 30 to 80 %
Voltage	187–253 V
Frequency	from 47 to 65 Hz;
Service life	6 year, but 15,000 hours max
Guaranteed service life	1 year, but 2,500 hours max

SAFETY

Audio signals	Beeping at the end of the test and failure detection
Diagnostic and setting	Built-in algorithms for self-diagnostics and settings, user notification about causes of malfunctions



Dealers within the territory of RF	COMPLETE SET	
<p>"PTF" EUROTEST "LTD 191167, St. Petersburg Alexandra Nevskogo Str., 9 tel. (812) 327-84-51, 327-84-52 fax (812) 327-82-90 info@euro-test.ru "AvtoLabKomplekt" LTD 195279, St. Petersburg, shosse Revolutsii, 69, lit. V, compartment 13N tel. 8-965-098-98-99, 640-13-25, 8-931-353-71-90 fax (812) 300-14-12, 300-14-13 autolabkomplekt@yandex.ru "LabTech" LTD 105264, Moscow, Izmailovsky Boulevard, 1/28 tel. (495) 276-77-00, 777-51-66 post@labteh.com "NPO MOSLK" LTD 125466, Moscow, Yurovskaya Str., 92 office 1 tel. (495) 665-23-54 sorkin.mihail@gmail.com Electronpribor LLC Fryazino, Moscow Region, 141190 Barskie Prudy Str., 1, office 4 (495) 258-91-11, (496) 255-54-55 info@electronpribor.ru RNPO "RosPribor" LTD Akademika Koroleva Str., 40, of. 3, Chelyabinsk, 454000, the Russian Federation tel. (351) 727-99-50, 727-99-60, 727-99-80 mail@rupsu.ru</p>	Lintel KISH-20M4 tester	1 pcs
	Disk	8 pcs
	Knife	1 pcs
	Stepped ring	8 pcs
	Smooth ring	8 pcs
	Plate	1 pcs
	Guide	4 pcs
	Clamp screw	1 pcs
	Plate	1 pcs
	Plug	1 pcs
	Box for accessories	1 pcs
	Sieve (mesh 07 GOST 6613-86)	1 pcs
	Beaker H-1-1000 TS GOST 25336-82	1 pcs
	Ball according to GOST 11506-73	8 pcs
	Tubular fuse 8 A, 250 V, 5 × 20 mm	2 pcs
	Operating Manual	1 pcs
	Passport	1 pcs
OPTIONS		
<p>"ELEMENTUM" LLP Almaty, 050000 Gogolya Str., 86, office 214 tel. (727) 250-89-76, 329-68-75 fax (727) 250-89-73 Dealers within the territory of Belarus "FIVE OCEANS" CJSC Minsk, 220007 Moskovskaya Str., 12 tel.+375 17 210-42-58 fax: +375 17 228-17-47</p>	Lintel Link Data collection system	Software and hardware intended for collection and transmission of test results from devices manufactured by Neftehimavtomatika to a personal computer by wireless communication
	Laboratory information system Lintel LIS	
	Extension cable RS-232	Connecting element providing connection of the tester with PC through RS-232 serial port

EQUIPMENT FOR CERTIFICATION

Measuring devices used during certification shall be approved by State authorities as per GOST 8.513-84 and have a valid Verification Certificate (reports, stamps).

Measuring devices recommended¹ for use during tester certification are given in table

Tester description	Measuring range	Accuracy class, measurement error	Purpose during tester certification	Standards setting requirements for measuring devices
Micrometer MK	(0–25) mm	Reading error \pm 0.004 mm	Ball diameter measurement	Ball diameter measurement
Sliding caliper ShTs-II-160-0.05	(0–160) mm	Error \pm 0.05 mm	Measurements of the ring size, gap between the plate and check disk	GOST 166-80
Stopwatch SOSpr-2b-2-000		Class 2	Measurement of the bath temperature change rate	
Laboratory balance	(0.05–200) g	Class 3, error \pm 2 mg	Ball weight measurement	GOST 24104-88
Standard thermometer TTsM 9410/M2	(-50 ... 200) °C	Scale division 0.1 °C	Bath temperature measurement	GOST 6651-94

¹ Given devices can be replaced with analogous means providing measurement of corresponding parameters with required accuracy.



PN-10E

Penetrometer for petroleum products (bitumen)

Implemented standards

EN 1426

- Lintel PN-10 allows you to set the following test conditions:
 - penetration time in 1s increments;
 - time delay before performing penetration in 1s increments.
- The device determines the amount of penetration with an error of no more than ± 0.05 mm.
- The device is equipped with a built-in illuminator and a magnifying glass to help determine when the needle touches the bitumen surface.
- The device provides storage of up to 9 results of definitions with the calculation of their average value.
- Integration with the Lintel Link Data Acquisition System allows for the collection and transmission of laboratory test results from the device to a personal computer over a wireless connection. Integration with the laboratory information system Lintel LIS provides comprehensive automation of laboratory activities.
- The device is supplied with a bath filled with a heat exchanger liquid for connecting a thermocryostat (for example, Lintel TKS-20). Thermocryostat is not included.
- Control of the movement of the table in three modes: the slow rise of the table, the rapid rise of the table, the rapid return of the table.
- Display in standby mode: the number of the last test; specified number of tests; table lifting speed; specified penetration time; set delay time.

- Display during the test: the number of the last test; specified number of tests; penetration time (countdown); current value of penetration.
- The four-line OLED display provides an intuitive user interface with the output of all the necessary information when testing and viewing results.
- Full self-diagnosis system with fault indication on the display
- The test process is stopped at the end of the analysis with alarm sound

SPECIFICATIONS	
Range of penetration (1 penetration unit = 0.1mm)	0 to 630 units of penetration
PRECISION CHARACTERISTICS	
Displacement error	no more than ± 0.1 mm
Penetration time	from 1 to 3599 c
Delay time before performing penetration	from 0 to 3599 c
Table speed	from 0.02 to 5 mm / s
OPERATING CHARACTERISTICS	
Power Consumption	not more than 50 V · A
Dimensions	280 x 245 x 505 mm, (depth x width x height)
Weight	not more than 12 kg
Ambient temperature	+15 to +35 ° C
Relative humidity	Up to 75%
Voltage	from 187 to 242 V
Frequency	50 \pm 1 Hz
Warranty period of operation	1 year, not more than 2 500 hours
Supplied Package	
Apparatus for determining the penetration of petroleum products Lintel® PN-10	1 PC.
Calibration rod, 63 mm	1 PC.
Calibration rod, 40mm	1 PC.
Calibration rod, 50mm	1 PC.
Calibration rod	1 PC.
Plate	1 PC.
Level, L <400 mm	1 PC.
Manual	1 PC.
Passport	1 PC.
Accessories for EN 1426	



Penetrometer bath	1 PC.
Perforated stand	1 PC.
Insulation cover	1 PC.
Cup, 35 mm	5 pieces.
Cup, 60 mm	5 pieces.
A pen	1 PC.
Needle	10 pieces.
Weights, 50g	1 PC.
Weights, 150 g	1 PC.

