ECROS
group of companies

CATALOGUE 2025

LABORATORY EQUIPMENT

LIQUID HANDLING INSTRUMENTS

PLASTICWARE AND TIPS

CERTIFIED REFERENCE MATERIALS

Dear customers!

ECROS Group of Companies is glad to present you the new catalogue of products!

The catalogue you are holding in your hands presents general laboratory equipment and specialized equipment for environmental, analytical, petrochemical, medical, research and school laboratories.

The best specialists of the company worked on the development of the products presented in the catalogue. For many years, the equipment produced by ECROS Group of Companies has been carefully developed and modified in accordance with the needs of laboratories of various fields. Understanding current requirements for laboratory equipment, we have not only expanded the product range, but also made it more practical, functional and, no less importantly, cost-efficient. Laboratory equipment of ECROS Group of Companies – innovative design solutions, new modern materials and high consumer qualities.

The catalogue of general laboratory equipment produced by ECROS Group of Companies unites on its pages both well-known, proven equipment and absolutely innovative developments in the chemical and analytical fields.

A convenient structure and original design of the new catalogue allows to easily find and get acquainted with the technical characteristics of the presented equipment.

We hope that the catalogue of laboratory equipment produced by ECROS Group of Companies will be an assistant for you in solving research, production and analytical tasks.

CONTENTS

UNIVERSAL BENCHTOP X-RAY FLUORESCENCE SPECTROMETER ECROS XRF-9700 STARFISH

Purpose: The X-ray fluorescence spectrometer provides a non-destructive elemental analysis of various samples. This instrument meets the highest requirements and can be used both in research projects and in industry.

Key features:

- **Automatic change of primary X-ray radiation filters:** one of the primary X-ray filters can be installed automatically to mitigate the impact of matrix elements and the background components.
- **Complete automation of measurements:** the three-axis manipulator can analyze up to 144 samples without the operator intervention.
- **Versatility:** the instrument is able to perform a wide range of analytical tasks.
- **Quick analysis:** the results of the preliminary quantitative analysis are ready in 5 seconds.
- **Visualization of the analyzed sample:** the precision of sample positioning is controlled via a video camera with additional illumination.
- **Measurement of light elements:** to get the best performance for light elements, liquid and dusty samples are analyzed under helium, while solids are analyzed under vacuum.
- **Simultaneous multi-elemental analysis:** in just one measurement the spectrometer delivers accurate concentrations for all elements from C^{6} to Fm^{100} in the range of 100 % down to 1 ppm.
- **Automatic qualitative and quantitative analysis:** the qualitative analysis results are automatically displayed on the spectrum. The quantitative determination of serial samples is carried out according to previously saved techniques.
- **Additional spectral analysis and processing features:** filtration, normalization, subtraction, spiking test, account of the mutual influence of elements, regression graphic charts, etc.

ECROS XRF-9700 STARFISH

Technical specifications	ECROS XRF-9700
Range of defined elements	C^{6} – Fm^{100}
X-ray tube	50 W (side or end window), anode Rh (Mo,Ag,W,Cu,Cr), air cooling
Detector	SDD, resolution < 127 eV, carbon shield
Light elements analysis	vacuum or helium
Autosampler, samples quantity	up to 144
Primary X-ray filtration	10-position filter wheel
Primary X-ray collimation, mm	automatic from 0.5 to 15
Sample rotation	available
Oversized samples measurement, mm	up to 400×500×200
Dimensions, mm	650×750×600
Weight, kg	60

COMPACT MODULAR X-RAY FLUORESCENCE SPECTROMETER ECROS XRF-9710 PEARL

Purpose: The compact X-ray spectrometer is designed for elemental analysis at manufacturing sites, integration on a conveyor belt, studying the basics of the X-ray fluorescence analysis method and performing research projects in schools and universities.

Key features:

- **Modular design:** the design makes it possible to replace the sampler with a protective casing and allows to measure non-standard samples as well as to integrate the spectrometer on a conveyor belt.
- **Safety:** the design features and safety interlock enhance the security during the process of sample changing and measurement.
- **Portability:** the small size and light weight enable easy movement to the measuring point.
- **Sample placement:** the compact design and ergonomic features of the spectrometer allow to place the sample both above and below the measuring system.

ECROS XRF-9710 PEARL

Technical specifications	ECROS XRF-9710
Range of defined elements	Na^{11} – Am^{95}
X-ray tube	10 or 4 W (end window), anode Rh (Mo,Ag,W,Cu,Cr), air cooling
Detector	SDD, resolution < 127 eV, carbon shield
Light elements analysis	helium
Autosampler, samples quantity	up to 6
Primary X-ray filtration	manual
Primary X-ray collimation, mm	manual from 0.5 to 10
Sample rotation	available
Oversized samples measurement, mm	up to 170×170×60
Dimensions, mm	220×230×275
Weight, kg	6

BENCHTOP X-RAY DIFFRACTOMETERS ECROS XRD-9500/9510/9520

Purpose: Benchtop X-ray diffractometers ECROS XRD are designed for a wide range of analytical, scientific and technical tasks in materials engineering using X-ray diffraction analysis.

Key features:

- Bragg-Brentano and Debye-Scherrer X-ray optics
- Vertical Θ/Θ goniometer
- X-ray position sensitive detectors: gas flow detector or semiconductor detector
- Cr/Cu/Co/Fe anodes
- Soller slit and replaceable divergence slits on primary beam
- Beta filter on secondary beam
- Sample holders and attachments for various analytical tasks
- No external cooling required

ECROS XRD-9500/9510

Research objects: powders, plates, cylindrical objects (including wires), micro- and macro-objects, single-crystals.

Software and database: software includes integrated diffraction database and all the necessary tools for qualitative, semi-quantitative and quantitative phase analysis.

Individual approach: software, methodological and technological adaptation of the diffractometer for the customer requests.

Installation of position sensitive detectors: it is possible to install the position sensitive gas flow detector which is capable of simultaneous registration of diffraction pattern in the range 2Θ = 43°, as well as semiconductor position sensitive detector which provides high resolution of diffraction peaks.

- Processing of diffraction pattern
- Qualitative and semi-quantitative analysis
- Integrated database (~250 000 compounds)
- Database editing
- Calculation of the lattice parameters, crystallite size and microstrain analysis
- Creating of calibration for quantitative analysis
- Automatic processing integration into the measuring program

INTERCHANGEABLE ATTACHMENTS

1-SLOT ATTACHMENT

- Analysis of powders
- Sample rotation
- D=20 mm sample holders
- Sample sizes: ≤ 20×20×20 mm

AZIMUTHAL ATTACHMENT

- Analysis of powders
- Orientation determination of single-crystals
- Precise ϕ positioning (~0.1°)
- Sample sizes: ≤ 20×20×20 mm

6-SLOT ATTACHMENT

- Automatic powder analysis
- Sample rotation
- D=20 mm sample holders
- Sample sizes: ≤ 20×20×20 mm

SINGLE-CRYSTAL ATTACHMENT

- Analysis of single-crystals: plates, boules, rods
- Orientation and mosaicity determination of single-crystals
- Precise ϕ positioning (~0.1°)
- Sample sizes: D ≤ 200 mm, H ≤ 100 mm

UNIVERSAL ATTACHMENT

- Analysis of powders, wires, micro-objects
- Sample rotation
- Sample sizes: ≤ 20×20×20 mm

TEXTURE ANALYSIS ATTACHMENT

- Analysis of texture and orientation
- ϕ rotation 0 - 360°
- ϰ axis tilt 0 - 90°
- Sample sizes: ≤ 20×20×20 mm

Technical specifications	ECROS XRD-9500	ECROS XRD-9510
Goniometer	Vertical, Θ/Θ	
Tube and detector moving	Manual	Automatic
Scan modes	–	Stepwise, continuous
Minimal scan pitch, °	–	0,005
Maximum goniometer velocity, °/min	–	10
Full registration range, 2Θ	0-154°	
Standard deviation of 2Θ angular position measurement	≤0.02°	
X-ray tube (power, anode)	200 W, anode Cr (Cu, Co, Fe)	
Anode voltage, kV	≤30	
Anode current, mA	≤8	
X-ray tube cooling	Internal water cooling system	
Position sensitive detector	Yes	
Semiconductor position sensitive detector	No	Optional
Interchangeable sample attachments	1-slot, 6-slot, universal	1-slot, 6-slot, universal, azimuthal, single-crystal, texture
Power supply	Single-phase AC network 220 V (± 2%), 50 Hz (± 1%);	
Consumed power	500 W	
Overall dimensions (L×W×H), no more than	630×550×580 mm	
Weight, kg	60	

Technical specifications	ECROS XRD-9520
Full registration range, 2Θ	35-75
X-ray tube (power, anode)	200 W, anode Cr (Cu, Co, Fe)
Anode voltage, kV	≤30
Position sensitive detector	Yes
Elemental analysis detector	Energy resolution ≤ 2 keV
Interchangeable 20-slot disks (D = 20 mm)	Yes
Consumed power	500 W
Overall dimensions (L×W×H), no more than	630×550×580 mm
Weight, kg	60

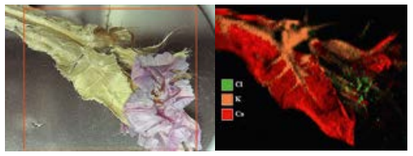
X-RAY ANALYTICAL MICROSCOPE ECROS XRF-9720 STINGRAY

Purpose: Benchtop X-ray microscope allows to perform elemental analysis of micro- and macro- objects, as well as to study the composition homogeneity by means of elemental maps and X-ray images of objects.

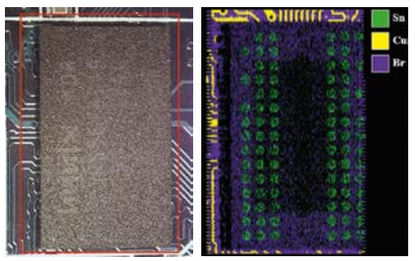
Key features:

- **Elemental mapping.** The intuitive MEAS9720 software makes it possible to generate elemental maps in the range from Na^{11} to Fm^{100} as well as to study the objects homogeneity.

- **Microanalysis.** The ultra-narrow 20 μm X-ray beam allows to perform high-resolution elemental mapping, X-ray qualitative and quantitative analysis.
- **Non-standard samples sizes.** Allows to analyze large uneven samples of irregular size.
- **No sample preparation needed.** No additional sample preparation is needed for the analysis.

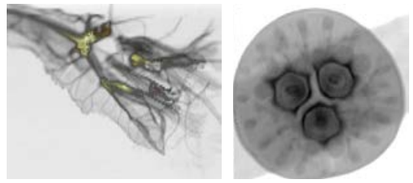


- **Highly precise position.** The design including high-precision sample stage and optical microscope/camera provides high accuracy of the set area analysis.
- **Video capture of the scanning area.** The area to be mapped is selected while viewing the sample on the monitor. The parallax-free optical system provides a perfect merge of the optical/microscopic sample-observation, X-ray mapping image and X-ray transferring image.



ECROS XRF-9720 STINGRAY

- **X-ray transmission image.** The transmissive X-ray detector under the sample makes it possible to get X-ray transmission image and to get a view of the internal structure of the sample.



- **3D-visualisation.** The software allows to get 3D mapping image of the sample showing the distribution of elements.

Technical specifications	ECROS XRF-9720
Range of defined elements	Na^{11} – Am^{95}
X-ray tube	50 W (side or end window), anode material Rh (Mo,Ag,W,Cu,Cr), air-cooling
Detector	SDD, resolution < 127 eV, carbon shield
Light elements analysis	vacuum
Primary X-ray filtration	7-position filter wheel
The size of beam formed by polycapillary lens, μm	20
Sample sizes, mm	up to 148x148 at X and Y axes, up to 150 at Z axis
Positioning accuracy of XY (two-axis) table, μm	5
Overall dimensions, mm	550×730×610
Weight, kg	80

AUTOMATIC COULOMETRIC TITRATOR FOR MOISTURE DETERMINATION BY KARL FISCHER'S METHOD PE-9210

Purpose: Fast and accurate determination of extremely low moisture content in a wide range of products and materials in liquid phase by coulometric titration. The titrator can be used in analytical and chemical technological laboratories, in control and supervisory authorities.

PE-9210

Fields of application:

- Petroleum products

  ISO 12937:2000 Determination of water. Coulometric by Karl Fischer's titration method.
- Petroleum

  ASTM D4928-00(2010) Standard Test Method for Water in Crude Oils by Coulometric Karl Fischer Titration.
- Oils
- Organic substances
- Mineral fertilizers
- Paints and varnishes industry

Features:

- Adjustable titration algorithm guarantees high accuracy when titrating samples with low moisture content.
- Color touch screen display VGA 5,7".
- Graphic presentation of the titration process.
- An integrated technique for a quick start.
- Creating and storing user techniques in memory (up to 200 techniques).
- Storing measurement results in memory (up to 1000 series).
- Reagent resource counting.
- An integrated magnetic stirrer.
- RS-232 port for connecting weighting scales.
- USB-ports for connecting PC and thermal printer.
- The titrator is equipped with a diaphragm cell or a cell without diaphragm depending on the sample to be tested.

Technical specifications	PE-9210
Titration method	Karl Fischer coulometric titration
Titration cell volume	100 ml/150 ml, total volume 280 ml
Iodine generation	Fixed duration current pulses with amplitude up to 2000 mA
Titration speed	~ 1,5 mg H_2O/min (6 mg H_2O/min max)
Titration end point indication	Voltammetric on alternating current up to 50 microampere
Moisture detection range	From 10 mcg to 200 mg H_2O
Resolution capability	0,1 mcg H_2O
Permissible relative inaccuracy	≤ 3,0 %
RMSD limit	≤ 1,5 %
Indication	Drift, potential, titration time, titration speed
Stirrer	100–900 RPM
Voltage supply	200-240 V, 50 Hz
Power consumption, W	170

REAGENT REPLACEMENT UNIT ECROS-3210

Purpose: For automatic replacement of the used anolyte solution in the coulometric cell of Karl Fischer titrator PE-9210 to minimize contact with toxic reagent and increase the productivity of analysis.

The device can also be used in semi-automatic and manual mode with titrators from other manufacturers and as a part of various laboratory equipment for similar procedures.

When working with the PE-9210 titrator, the device is controlled via the titrator interface. While working in an autonomous mode – by means of the device control panel with keyboard and graphic display. Optional connection of the device to PC via special port for working under control of special app is possible.

ECROS-3210

Technical specifications	Reagent replacement unit ECROS-3210
Voltage supply	100-240 W; 50/60 Hz
Power input	25 volt-ampere
Dimensions (L×W×H)	380×180×185 mm
Weight	3,2 kg

Delivery set:

Item	Quantity
ECROS-3210 unit	1
1 L glass bottle	1
Mains cable	1
Cable RS-485 for titrator connection	1
Safety switch 1 A/250 V	2
Molecular sieves	100 g
Operation manual and technical datasheet	1

Main functions

Operation modes:

1. Reagent pumping out of the bottle with stoppage:
- by operator command;
- by specified time;
- by the internal algorithm for determining the bottle emptying.

2. Bottle filling with stoppage:
- by operator command;
- by specified time;
- by a signal from the titrator electrode system (only available for PE-9210).

Additional functions:
- signal of emptying of the supply bottle;
- signal of filling of the receiving bottle;
- diagnostic notification in case of malfunction.

ENERGY DISPERSIVE X-RAY FLUORESCENCE SULFUR-IN-OIL ANALYZER ECROS-7700

Purpose: Determination of sulfur mass fraction in crude oil, petroleum products (motor and jet fuel, kerosene, fuel oil, lubricating and hydraulic oils) and other samples in accordance with ASTM D 4294-16, ISO 20847, 13032.

Features:
- Fast analysis and high accuracy;
- Automatic compensation of the influence of the carbon matrix by measuring the intensity of two energy windows;
- Calibration correction by set-up samples;
- Easy-to-use color touch screen display;
- Noiseless thermal printer;
- Ability to output data to a PC and connect to the LIMS system;
- Compact and lightweight;
- The robust metal housing guarantees reliable protection against X-ray fluorescence radiation as well as long service life.

Constant availability of consumables in stock: cuvettes, film, sets of original certified reference materials of mass fraction of sulfur in oil and petroleum products

ECROS-7700

Technical specifications	ECROS-7700	
Measurement range of sulfur mass fraction, %	From 0,0005 to 5,0	From 0,0003 to 5,0
Statistical limit of detection of sulfur mass fraction, %	Less than 0,0004	Less than 0,0003
Sulfur mass fraction indication range, %	From 0,0002 to 10,0	
Calibration	By certified reference materials	
Instrumental drift correction	By set-up samples	
Measuring cuvette	Disposable	
Sample volume, ml	5-18	
Measurement time, sec	10-600	
X-ray tube capacity, W	6	
X-ray detector	Gas proportional counter	
Energy resolution of the detector, electron volt	600	
Data output	Display, printer, RS-232C	
Supply voltage, V	100-240	
Frequency, Hz	50/60	
Energy input, V*A	80	
Dimensions, L×W×H, mm	270×360×130	
Weight, kg	8,5	

CONSUMABLES FOR ENERGY DISPERSIVE X-RAY FLUORESCENCE SULFUR-IN-OIL ANALYZER

Measuring cuvettes

Purpose: Used for the analysis of liquid, solid and powder samples in X-ray fluorescence sulfur analyzers. Double-sided cuvettes with lid.

Technical specifications	Measuring cuvette 28	Measuring cuvette 32
Outer diameter, mm	34	31
Inner diameter, mm	28	24,4
Height, mm	30	22,1
Volume, ml	18	7
Quantity in one package	100	100

Thermal paper

Purpose: Designed for integrated printers of X-ray fluorescence sulfur analyzers and is also suitable for any industrial and analytical equipment with built-in thermal printers.

Technical specifications				
Roll width, mm	111	112	57	80
Paper length in the roll, mm	30	9	30	30

CONSUMABLES FOR ENERGY DISPERSIVE X-RAY FLUORESCENCE SULFUR ANALYZER

Sets of certified reference materials (CRM) for sulfur mass fraction in oil and petroleum products.

The CRM for sulfur mass fraction in mineral oil are intended for calibration of X-ray sulfur-in-oil analyzers according to ASTM D 2622, ASTM D 4294, ISO 13032.

The reference materials, included in the sets, are made on the basis of white mineral oil and dibutyl disulfide. Sulfur content in white mineral oil is controlled by ultraviolet fluorescence method. The reference materials are supplied in glass vials of 50 cm^3 volume.

The shelf life – 2 years.

The characteristics of CRM, included in the sets, are presented in the tables below.

CRM number	Certified value of mass fraction of sulfur, %	Relative inaccuracy limits under P=0,95, %
8170-2002	0,0001	10
8174-2002	0,060	2,0
8175-2002	0,100	2,0
8494-2003	0,200	2,0
8176-2002	0,500	2,0
11032-2018	0,750	2,0
8177-2002	1,000	2,0
8496-2003	2,000	2,0
8497-2003	3,000	2,0
8498-2003	4,000	2,0
8179-2002	5,000	2,0

Metrological characteristics of CRM mass fraction of sulfur in crude oil and petroleum products with low sulfur content:

CRM number	Certified value of mass fraction of sulfur, % mass.*0,0001	Relative inaccuracy limits under P=0,95, %
8170-2002	1	10
11028-2018	2	± 2,5
11028-2018	3	± 2,5
11028-2018	5	± 2,5
11028-2018	10	± 2,5
11029-2018	20	± 2,5
11029-2018	25	± 2,5
11029-2018	50	± 2,5
11029-2018	100	± 2,5
11030-2018	150	± 2,5
11030-2018	200	± 2,5
11030-2018	300	± 2,5
11031-2018	400	± 2,5
11031-2018	500	± 2,5
11032-2018	600	± 2,0
11032-2018	700	± 2,0
11032-2018	750	± 2,0
11032-2018	800	± 2,0
11032-2018	900	± 2,0
11032-2018	1000	± 2,0
11033-2018	2000	± 2,0
11033-2018	3000	± 2,0
11033-2018	4000	± 2,0
11034-2018	6000	± 2,0
11034-2018	7500	± 2,0
11034-2018	8000	± 2,0
11034-2018	10000	± 2,0

PETROLEUM PRODUCTS IN WATER CONTENT METER ECROS-5700

Purpose: Measuring the content of petroleum products, fats and non-ionic surfactants in water samples of various sources, bottom sediments in laboratories of industrial enterprises, research institutions, control authorities, educational institutions, environmental and analytical laboratories.

Operation principle: Absorption of infra-red radiation by hydrocarbon molecules of oil, fats and surfactants at a wavelength of 3.42 μm (2930 cm^{-1}) in samples. Carbon tetrachloride (CCl_4), dichlorethane (C_2Cl_6) or other halogenated hydrocarbons are used as an extractant.

Key benefits:

- High measurement accuracy
- Use of eco-friendly solvents
- Measurement log in the device memory
- Single-wavelength measurement mode for heavily contaminated samples
- Compact and lightweight
- Control of calibration accuracy
- User-friendly menu with instructions displayed during operation
- Self-diagnosis of the device during operation
- Solvent purity control

Technical specifications	ECROS-5700
Range of readings of mass concentration of oil products, fats, surfactants in extracts, mg/dm³	from 0 to 150
The range of measurements of mass concentration of oil products, fats and surfactants in extracts, mg/dm³	from 0 to 100
Permissible absolute accuracy limits of the content meter when measuring the mass concentration of petroleum products or fats, mg/dm³	±(0,5 + 0,04·K) where K – is a mass concentration of petroleum products or fats, mg/dm³
Basic absolute accuracy limits of the content meter when measuring the mass concentration of surfactants	±(1,0 + 0,04·K) where K – is a mass concentration of surfactants, mg/dm³
Dimensions (L×W×H), mm	180×180×60
Weight, kg	1,0
Energy input	9 W
Power supply	207-253 V/49-51 Hz
Average operational life	10 years

ECROS-5700

Delivery set:

Petroleum products in water content meter ECROS-5700, measuring cuvette, mains cable, operation manual, device datasheet, verification certificate, measurement certificate, CRM of oil products in carbon tetrachloride, chromatographic columns

PORTABLE SAMPLE CYLINDER FOR OIL AND PETROLEUM PRODUCTS ECROS-165 (PE-1650)

Purpose: Sampling of light oil, oils, light petroleum products and special liquids from truck and railroad tanks, stationary containers. Allows to take samples from any level of the container.

Delivery set:

Portable sample cylinder (1 pc), metal steel rope (1 pc).

Technical specifications	ECROS-1650
Sample volume, L	0,5
Sampling depth (depends on the chain length), m	from 0 to 5 from 0 to 10 from 0 to 15 from 0 to 20 from 0 to 25 from 0 to 30
Inlet diameter, mm	18-20
Material of the sample cylinder housing	brass
Material of the rope	stainless steel
Dimensions of the sample cylinder, mm	89×320
Weight without the rope, kg	1,22

ECROS-1650

PORTABLE SAMPLE CYLINDER FOR OIL AND PETROLEUM PRODUCTS ECROS-1630 (PE-1630)

Purpose: Sampling of oil and petroleum products. Used for quality control of petroleum products.

ECROS-1630 is designed for gasoline, diesel fuel, kerosene from truck and railroad tanks. Allows to take samples from any level of the container.

Delivery set:

Portable sample cylinder, metal steel rope (1 pc), earth terminal (1 pc).

Additional accessories:

A steel rope.

Technical specifications	ECROS-1630
Sample volume, L	0,9
Sampling depth, m	from 0 to 5 from 0 to 10
Material of the sample cylinder	steel
Dimensions of the sample cylinder, mm	80×290
Weight, kg	2,14

ECROS-1630

SAMPLE CYLINDERS FOR OIL AND PETROLEUM PRODUCTS ECROS-1600(PE-1600), ECROS-1610(PE-1610)

Purpose: Sampling of oil and petroleum products from transportation tanks and stationary containers from a specified depth.

Recommendations:

- ECROS-1610 for petroleum and oil sampling;
- ECROS-1600 for gasoline, diesel fuel, kerosene

Delivery set:

Portable samples cylinders (1 pc), brass chain (12 m).

ECROS-1610 ECROS-1600

Technical specifications	ECROS-1600	ECROS-1610
Sample volume, L	0,88	
Sampling depth, m	Determined by the chain length	
Material of the sample cylinder	brass	
Dimensions of the sample cylinder, mm	80×286	80×283
Weight of the sample cylinder, kg	2,69	2,68
Weight of the chain 12 m long, kg	1,05	
Limiter of the cap	yes	no

SAMPLING SYSTEMS ECROS-1110 (PE-1110), ECROS-1220 (PE-1220)

Purpose: Sampling of natural and waste water from wells, water bodies of natural and artificial origin, including ice-covered water reservoirs. ECROS-1110 is used for sampling and subsequent determination of the content of ultralow concentrations of pollutants, and ECROS-1220 - for determination of the content of oil products and other pollutants with guaranteed protection from surface films and micro-layers.

Delivery set:

Sampling system (1 pc), capron rope (5 m), polyethylene carboy (1 pc), glass carboy (1 pc), adapter ring for polyethylene carboy (1 pc), adapter ring for glass carboy (1 pc).

ECROS-1110 ECROS-1220

Technical specifications	ECROS-1110	ECROS-1220
Sample volume, L	1,0	
Minimum depth of the water reservoir, m	0,3	0,5
Sampling depth, m	0,3 – 2,0	0,4 – 3,0
Type of sample container	polyethylene and glass carboy	
Sample container volume, L	1,0	
Material of the system	PTFE, stainless steel	
Method of system suspension	capron rope 6 mm diameter	
Minimal diameter of the hole in the ice, well, mm	130	
Dimensions without the carboy/with the jar/with the carboy, mm	98/99/98×186/314/426	98/99/98×386/541/626
Weight of the system with no sample without carboy/with the jar/with carboy, kg	2,7/2,8/3,3	3,7/3,7/4,3

CONVECTION DRYING OVENS ECROS-4610M (PE-4610M), ECROS-4630M (PE-4630M), ECROS-4620M (PE-4620M)

Purpose: Drying, heating, temperature control, heat treatment of various materials and products in the air environment.

Key features:

- fast and even heating of the oven chamber;
- digital smart PID controller with the fuzzy logic application;
- stainless steel chamber;
- forced air circulation (with an air fan);
- overheating protection;
- a possibility to equip ovens with additional shelves.

ECROS-4610M

ECROS-4620M

ECROS-4630M

Technical specifications	ECROS-4610M	ECROS-4630M	ECROS-4620M
Chamber volume, L	60	120	25
Temperature range, °C	+50 … 320		
Temperature unevenness in the chamber, °C	± 2,5		
Increment of temperature setting, °C	0,1		
Maximum timer setting time, min	5999		
Increment of timer setting, min	1		
Number of shelves in standard/maximum configuration, pcs	3/5	2/7	2/3
Energy input, W	1600	2500	1500
Dimensions of the chamber W×D×H, mm	390×400×400	550×410×550	280×300×300
Dimensions of the oven W×D×H, mm	755×630×660	820×660×890	510×480×670
Weight, kg	50	70	37

HEATING MANTLES ECROS-4100(M) (PE-4100(M)), ECROS-4110 (M) (PE-4110(M)), ECROS-4120 (M) (PE-4120(M)), ECROS-4130(M) (PE-4130(M))

Purpose: Heating of liquids in round bottom flasks from 250 to 2000 ml, with smooth heating regulation.

Key features:

- a heating element is woven into a fabric made of safe non-toxic glass fiber, which prevents the heating element from deformation during operation, minimizing heat loss;
- dual-zone heating element, a possibility to switch off the upper heating zone.

Analog heating mantles:

- the heating mantle is equipped with an electronic voltage regulator and has no transformer;
- automatic shutdown of the heating mantle when overheating occurs (the device resumes operation when the temperature reaches the permissible level).

Digital heating mantles:

- informative LCD display; electronic temperature regulator (PID);
- automatic and manual setting of heating intensity;
- timer function with visual and audible signaling of the end of heating;
- control interlock to prevent accidental change of the operating mode;
- detection and indication of possible faults and malfunctions;
- additional option – a possibility to connect a remote temperature sensor.

ECROS-4110M (analog)

A remote temperature sensor (optional)

ECROS-4120 (digital)

Technical specifications	ECROS-4100(M)	ECROS-4110(M)	ECROS-4120(M)	ECROS-4130(M)
Flask volume, ml	500	1000	250	2000
Maximum temperature of the heating element, °C	450			
Housing material	steel, coated with chemically resistant powder paint			
Heating element material	glass fiber with nichrome wire			
Ultimate capacity, W	230	330	150	470
Voltage, V	220 ± 10 %			
Analog heating mantles				
Dimensions (L×W×H), mm	220×325×120	220×345×130	220×325×120	220×345×130
Weight, kg	3,3	3,7	3,2	3,8
Digital heating mantles				
Dimensions (L×W×H), mm	220×310×120	220×330×130	220×310×120	220×330×130
Weight, kg	3,4	3,7	3,3	3,8

HEATING MANTLES ES-4100, ES-4110, ES-4120, ES-4130

Purpose: Heating of liquids in round-bottom flasks from 250 to 2000 ml, with smooth heating regulation.

Key features:

- a heating element is woven into a fabric made of safe non-toxic glass fiber, which prevents the heating element from deformation during operation, minimizing heat loss

ES-4110

Technical specifications	ES-4100	ES-4110	ES-4120	ES-4130
Flask volume, ml	500	1000	250	2000
Maximum temperature of the heating element, °C	450			
Housing material	steel, coated with chemically resistant powder paint			
Heating element material	glass fiber with nichrome wire			
Ultimate capacity, W	230	330	140	450
Voltage, V	220 ± 10 %			
Dimensions, mm	200×150	240×165	170×135	280×180
Weight, kg	1,6	2,2	1,4	3,5

FABRIC HEATING MANTLES ESF-41XX, BEAKER HEATER ESB-41XX AND SOFT SHELL HEATING MANTLE ESF-4110S (1 L)

Purpose: Heating of liquids in round bottom flasks and flat bottom beakers from 100 to 2000 ml, with smooth heating regulation.

ESF-4120 ESB-4110

ESF-4110S

ES-2100

Key features:

- a heating element is woven into a fabric made of safe non-toxic glass fiber, which prevents the heating element from deformation during operation, minimizing heat loss;
- flasks and beakers can be heated simultaneously with the use of the magnetic stirrer (mounted directly on the magnetic stirrer);
- voltage regulator is not included in the delivery set (to be purchased separately). It is recommended to use the voltage regulator ES-2100 or an equivalent regulator available in the laboratory;
- the mantle housing is resistant to blows, falls from the height of the table, as it is made of woven glass fiber material.
- two voltage regulators should be used. It is recommended to use voltage regulators ES-2100, or regulators of the similar type.

Technical specifications	ESF-4100	ESF-4110, ESB-4110	ESF-4120, ESB-4120	ESF-4130	ESF-4140	ESF-4110S
Volume of flask / beaker, ml	500	1000	250	2000	100	1000
Maximum temperature of the heating element, °C	450					400
Housing material	E-Glass reinforced fiber fabric coated with silicone					
Heating element material	glass fiber with nichrome wire					
Ultimate capacity, W	230	330	150	470	85	520
Voltage, V	220 ± 10 %					
Dimensions (W×H), mm/ (L×W×H) mm for ESF-4110S	170×85	205×95/190×125	145×75/130×80	235×120	115×55	210×210×180
Weight, kg	1,0	1,3	0,9	1,5	0,7	1,4

THREE-POSITION HEATING MANTLES ECROS-4100-3(PE-4100-3), ES-4100-3, ES-4110-3

General features:

- a heating element is woven into a fabric made of safe non-toxic glass fiber, which prevents the heating element from deformation during operation, minimizing heat loss;
- independent control of each heating element.

ECROS-4100-3

ES-4110-3

Key features of PE mantles:

- dual-zone heating element;
- a possibility to switch off the upper heating zone; informative LCD display;
- electronic temperature regulator (PID);
- automatic and manual setting of heating intensity;
- timer function with visual and audible signaling of the end of heating;
- control interlock to prevent accidental change of the operating mode;
- additional option – a possibility to connect a remote temperature sensor;
- detection and indication of possible faults and malfunctions;
- a set of rack stands is included in the delivery set;
- clamps for rack stands should be ordered additionally.

Key features of ES mantles:

- rack stands and clamps should be ordered additionally

Technical specifications	ECROS-4100-3	ES-4100-3	ES-4110-3
Flask volume, ml	500	500	1000
Maximum temperature of the heating element, °C	450		
Housing material	steel, coated with chemically resistant powder paint		
Heating element material	glass fiber with nichrome wire		
Ultimate capacity, W	690 (230×3)		990 (330×3)
Voltage, V	220 ± 10 %		
Dimensions (L×W×H), mm	610×310×120	670×400×140	670×400×140
Weight, kg	8,4	11,6	12,6

HOT PLATES ES-H

ES-H (ceramics)

Purpose: Fast and even heating of beakers, flasks and other vessels, e.g. vessels with sand (sand bath). The large surface area of the plate allows to conduct sample preparation (decomposition of several samples using concentrated acids and alkalis during heating) and other chemical reactions during heating.

ES-H 3040

Key features:

- reverse timer (the hot plate stops working after a set time has elapsed);
- digital temperature controller;
- the heating plate is resistant to concentrated acids and alkalis, except hydrofluoric acid.

Technical specifications	ES-H3040	ES-H4040	ES-H3060
Dimensions of the heating plate, mm	300×400	400×400	300×600
Temperature range, °C	+ 5 … 320		
Housing material	steel, coated with chemically resistant powder paint		
Heating plate material	aluminium alloy coated with ceramic		
Permissible continuous operation time, max., hours	16		
Ultimate capacity, W	1800	2000	2600
Voltage, V	220 ± 10 %		
Dimensions of the device (L×W×H), mm	420×410×165	420×510×165	620×410×165
Weight, kg	11,0	13,5	15,5

LABORATORY WATER BATHS ECROS-4300 (PE-4300), ECROS-4310 (PE-4310)

Purpose: For handling a wide range of laboratory procedures for chemical, biological, pharmaceutical research. Ensures temperature control in the range from ambient temperature +5 °C to 200 °C in laboratory conditions.

Key features:

- the housing is coated with powder paint resistant to mechanical and chemical impact;
- the bath is made of high quality stainless steel;
- additional electro-mechanical overheating protection;
- stand rods for the ECROS-4300 are included into the delivery set.

ECROS-4300

ECROS-4310

Technical specifications	ECROS-4300 (6 sockets)	ECROS-4310 (29 L deep)
Heat carrying fluid	water or a mixture of water and glycerin	
Temperature range, °C	+ 5 ... 100	
Increment of temperature setting, °C	0,1	
Accuracy of temperature maintenance at nominal fluid volume, °C	± 0,5	
Temperature unevenness in the water bath volume, °C	± 1,0	± 1,0
Number of sockets	6	–
Maximum diameter of the socket, mm	110	–
Bath volume, L	26	29
Bath dimensions (L×W×D), mm	542×320×150	495×295×200
Used bath dimensions	542×320×110	495×295×150
Overall dimensions (L×W×H), mm	780×415×275	560×440×360
Weight, kg	18	22
Ultimate capacity, W	3000	2000
Voltage input, V	220 ± 10 %	

ONE-POSITION MAGNETIC STIRRER ECROS-6100 (PE-6100), ECROS-6110 (PE-6110)

Purpose: Stirring liquids with a stirring bar. Designed for sample preparation and analysis.

Key features:

- a magnetic stirrer is an electronic-mechanical device, which ensures the performance of operations on mixing reagents at a given constant speed of rotation of a magnetic bar placed in a vessel with liquid;
- the stirrer housing is made of polypropylene;
- a stirring bar is made of PTFE (10x27 mm);
- ECROS-6110 model has a function of heating.

Delivery set:

a magnetic stirrer (1 pc), a stirring bar (2 pcs).

ECROS-6100

A stirring bar for a magnetic stirrer

ECROS-6110

Technical specifications	ECROS-6100	ECROS-6110
Maximum stirring volume, ml	1000	1000
Temperature, °C	–	100
The stirring bar speed rotation range, RPM	200 – 2000	200 – 2000
Heater capacity, W	–	40
Voltage input, V	220	220
Dimensions, mm	105×50	105×50
Weight, kg	0,3	0,4

MULTI-POSITION MAGNETIC STIRRER WITHOUT HEATING ECROS 6600 (PE-6600/PE-0165)

Purpose: Stirring liquids simultaneously in several vessels (up to 9) or in one vessel at several points on the bottom surface.

Key features:

- designed for sample preparation and analysis in chemical, biological and other laboratories and production facilities;
- the duralumin surface;
- stirring bars are made of ferrite and have a low-pressure polyethylene membrane;
- cyclic operation mode of 12 hours with a break of 1 hour is recommended.

Delivery set:

a magnetic stirrer (1 pc), a stirring bar (9 pcs).

Technical specifications	ECROS-6600
Operation mode	continuous, 24-hour
Total weight of vessels with liquid placed on the stirrer, kg, no more than	10
The stirring bar speed rotation range, RPM	200 – 800
Capacity input, W, no more than	20
Voltage, V	220
Dimensions (L×W×H), mm	380×270×65
Weight, kg	8

Quantity of vessels:

Vessel volume, ml	Quantity, pcs
5000	1
1000	4
400	5
150	9

OVERHEAD STIRRERS ECROS-8100 (PE-8100), ECROS-8300 (PE-8300),ECROS-8310 (PE-8310), ES-8300, ES-8300D, ES-8400

Purpose: Stirring liquids in flasks, beakers, bottles and other vessels, preparing emulsions and dispersions.

Key features:

- integrated control unit;
- the shaft of the device has a through hole, which allows to use the stirrers of different lengths;
- steady and constant stirring speed even if sample viscosity changes (ECROS line, ES-8300D);
- large LCD display, timer, memory, motor overload protection (ECROS line).

Delivery set:

ECROS-8300 – an overhead stirrer (1 pc), propeller stirrers IM 5 (1 pc).

ES-8300, ES-8300D – an overhead stirrer (1 pc), propeller stirrers IM 2 (1 pc).

ECROS-8100 – an overhead stirrer (1 pc), rack ES-2720 (1 pc), propeller stirrers IM 5 (1 pc), holding ring (1 pc), clamp for attaching the overhead stirrer to a rack (1 pc), clamp for attaching the holding ring to a rack (1 pc).

ECROS-8310 – an overhead stirrer (1 pc), rack PE-2730 (with three stands) (1 pc), propeller stirrers IM 5 (1 pc), holding ring (1 pc), clamp for attaching the overhead stirrer to a rack (1 pc), clamp for attaching the holding ring to a rack (1 pc), 2-finger grip (for flasks) (2 pcs), 3-finger grip (for coolers) (2 pcs), clamp for grips (4 pcs).

ES-8400 – an overhead stirrer (1 pc), propeller stirrers IM 4 (1 pc).

Characteristics of solutions	Viscosity in mPa/s
Water	1,0
Very liquid adhesives and paints	70-500
The majority of paints and enamels	500-3000
Thick paints	3000-30000
Thick adhesives (for parquet or linoleum)	30000-50000
Sealants or mastics	50000-100000

ECROS-8100

ECROS-8310

ECROS-8300

ES-8300 D

ES-8300

ES-8400

Technical specifications	ECROS-8100	ECROS-8300	ECROS-8310	ES-8300	ES-8300D	ES-8400
Sample stirring volume, L	0,25-20,0			0,25×18		0,25 – 40,0
Stirrer shaft rotation speed, RPM	100 – 3000					50 – 1000
Maximum stirrer shaft diameter, mm	8(10)[1]					
Maximum length of the stirrer shaft, mm	No limits					
Maximum viscosity of the solution, mPa/s	50 000			18 000		100 000
Maximum torque, n/cm	60			50		200
Display	LCD			no	LED	no
Rack included in the delivery set	ES-2720 rack with one stand rod	optional	PE-2730 rack with three stand rods	optional		
Dimensions (LxWxH), mm	420×380×800	100×190×255	420×380×800	350×140×215		140×400×170
Weight, kg	8.0	4.4	12.0	4.1	4.3	3.1
Motor capacity, W	100			90		50
Voltage, V	220 ± 10 %					

ACCESSORIES FOR OVERHEAD STIRRERS

Optional accessories:

- ES-2720 rack with one stand rod;
- ECROS-2730 rack with three stand rods;
- ECROS-2740 rack with two stand rods;
- Fastening clamps;
- 2-finger grips;
- 3-finger grips;
- Holding ring;
- PTFE adapter TS-2 for joint 29/32;
- Propeller stirrers IM 2-IM 14.

Fastening clamp

PTFE adapter TS-2 for joint 29/32

Holding ring

PTFE adapter TS-3

ES-2720 rack

ECROS-2730 rack

2-finger grip (for flasks), max – up to 60 mm

3-finger grip (for coolers), max – up to 60 mm

ECROS-2740 rack

Technical specifications	ES-2720	ECROS-2730	ECROS-2740
Base dimensions, (L×W×H), mm	420×380×120	420×380×90	430×583×121
Base material	powder paint coated steel		
Racks material	stainless steel tube		
Diameter of the main stand rod, mm	22		
Length of the main stand rod, mm	800		
Number of additional stand rods in the delivery set, pcs (12×800 mm, stainless steel)	–	2	–
Maximum number of additional stand rods, pcs	–	10	–
Rack weight, kg	3,5	6,5	4,4

ACCESSORIES FOR OVERHEAD STIRRERS

Propeller stirrers IM 2, IM 4, IM 5:

Propeller stirrers are used for preparation of alkaline and acid solutions. Propeller stirrers are used for stirring liquids with viscosity not exceeding 2-10 cPs (water viscosity ~ 1 cPs), for dissolution, formation of suspensions, rapid stirring, chemical reactions in liquid medium, formation of low-viscosity emulsions and homogenization of large volumes of liquid.

Dissolver stirrer IM 3:

The stirrer is used for dissolving and breaking up particles. It creates radial flows throughout the volume of the stirred liquid, which ensures high mixing efficiency.

Paddle stirrer IM 7:

The paddle stirrer has a semicircle (half-oval) shape and is ideal for vessels with convex bottoms (round bottom flasks). The paddle stirrer is used for stirring liquids with a viscosity of less than 1000 cPs.

Centrifugal stirrers IM 6, IM 8:

Centrifugal stirrers are used for stirring in beakers, round bottom flasks and other vessels during chemical reactions. The stirring efficiency is comparable to that of a four-bladed paddle stirrer.

Turbine stirrer IM 9:

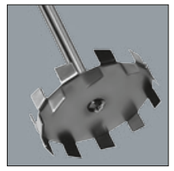
PTFE turbine stirrers provide efficient mixing without splashing and emulsions, evenly distribute the extraction agent throughout the sample volume. Used for extraction of oil products from water.

Paddle stirrer with holes IM 14:

Paddle stirrers with holes are used for mixing low-viscosity liquids (viscosity less than 50 cPs), intensification of heat transfer processes, dissolution. Used for extraction of chloride salts from oil.

Propeller stirrers:

IM 2



IM 3

IM 4

IM 5

IM 6

IM 7

IM 8

IM 9

IM 14

Technical specifications	IM 2	IM 3	IM 4	IM 5	IM 6	IM 7	IM 8	IM 9	IM 14
Diameter of the stirrer shaft, mm	8								6
Stirrer length, mm	350 or 450		450						
Stirrer paddles length, mm	25	30	45	35	50	45	40	∅20	30×32
Material	stainless steel						stainless steel and PTFE	stainless steel and PTFE	stainless steel

Stirrers IM 6 and IM 8 can be folded.
When folded
IM 6: max diameter – 16 mm, max length – 560 mm
IM 8: max diameter – 19 mm, max length – 580 mm

EXTRACTORS ECROS-8000 (PE-8000), ES-8000, ES-8000D

Purpose: Extraction concentration of heavy metals, petroleum and polyaromatic hydrocarbons, organo-chlorine compounds and other pollutants from water samples with any organic solvents in dividing vessels, round bottom and flat bottom flasks. PTFE turbine stirrer creates high-speed radial flows of liquid, providing effective mixing and even distribution of extraction agent throughout the sample volume.

Key features:

- integrated control unit;
- the extractor can be used as a conventional stirrer for various applications with additional stirrers IM 2 and IM 14;
- ECROS-8000 – with a timer and a large liquid crystal display showing all functions: operating mode, speed, remaining time, etc. The PE-8000 extractor is equipped with additional motor overload protection and memory function;
- ES-8000D – with LED display indicating RPM only;
- ES-8000 – without display.

Standard package:

Overhead stirrer (1 pc), rack ES-2720 (1 pc), turbine stirrer IM 9 (1 pc), holding ring (1 pc), clamp for fastening the overhead stirrer on the rack (1 pc), clamp for fastening the holding ring on the rack (1 pc), PTFE hermetic seal (1 pc), round separating funnel (1 pc).

Extractor ES-8000

Extractor ES-8000D

Extractor ECROS-8000

IM 9

Technical specifications	ECROS-8000	ES-8000D	ES-8000
Sample stirring volume, L	1,0		
Speed range, RPM	100 – 3000		
Material	PTFE and stainless steel		
Display	LCD	LED	no
Timer	yes	no	
Dimensions (L×W×H), mm	420×380×800		
Weight, kg	9,0	8,5	7,5
Power consumption, W	100	90	
Voltage, V	220±10%		

EXTRACTORS ECROS-8110 (PE-8110), ES-8110, ES-8110D

Purpose: Extraction of chlorine salt out of crude oil using water.

Key features:

- integrated control unit;
- the extractor can be used as a conventional stirrer for various applications with additional stirrers IM 2 and IM 14;
- ES-8110 – without display;
- ES-8110D – with LED display indicating RPM only;
- ECROS-8110 – with a timer and a large LCD display showing all functions: operating mode, speed, remaining time, etc. The ECROS-8110 extractor is equipped with additional motor overload protection and a memory function for settings.

Delivery set:

overhead stirrer (1 pc), rack ES-2720 (1 pc), paddle stirrer IM 14 (1 pc), holding ring (1 pc), clamp for fastening overhead stirrer on the rack (1 pc), clamp for fastening the holding ring on the rack (1 pc), PTFE hermetic seal (1 pc), round separating funnel (1 pc).

Extractor ES-8110

ECROS-8110

Extractor ES-8110D

IM 14

Technical specifications	ECROS-8110	ES-8110D	ES-8110
Sample stirring volume, L	0,5		
Speed range, RPM	100 – 3000		
Material	stainless steel		
Display	LCD	LED	no
Timer	yes	no	
Dimensions (L×W×H), mm	420×380×800		
Weight, kg	9,0	8,5	7,5
Power consumption, W	100	90	
Voltage, V	220±10%		

LABORATORY SHAKERS ECROS-6500 (PE-6500), ECROS-6300 (PE-6300), ECROS-6410 (PE-6410)

Purpose: Stirring of liquids in vessels with a volume of 100 to 1000 ml.

Key features:

- ECROS-6500 has no heating function;
- ECROS-6300 has the heating function;
- ECROS-6410 has the heating function.

ECROS-6500

ECROS-6300

ECROS-6410

Technical specifications	ECROS-6500	ECROS-6300	ECROS-6410
Shaking motion	reciprocating	orbital	orbital
Speed range, RPM	20-200	20-200	20-200
Amplitude of rotation, mm	10	24	24
Maximum heating temperature, °C	without heating	80	80
Plate capacity: Flat bottom flasks 1000 ml, pcs Flat bottom flasks 500 ml, pcs Flat bottom flasks 100 ml, pcs Separating funnels 1000 ml, pcs	 2 2 4 –	 2 2 4 –	 6 6 12 2
Timer	yes	yes	yes
Power consumption, W	120	200	200
Voltage, V	(50 c/s) - 220 ± 10 V		
Dimensions (L×W×H), mm	350×295×150	350×300×155	470×390×185
Weight, kg	13	15	27

LABORATORY WARE DRYERS ECROS-2000 (PE-2000), ECROS-2010 (PE-2010)

Purpose: Fast laboratory ware drying with a warm air flow.

Key features:

- the updated model ECROS-2010 has a timer, air filter, built-in protection against overheating and heating element failure, as well as a compartment for drying small objects. In addition, one of the main advantages of this model is the possibility of mounting on the wall, which saves the working space in the laboratory. It gives a signal at the end of the drying process or in case of an error during the operation;
- the updated model ECROS-2000 has an ergonomic design, built-in protection against overheating and failure of the heating element, as well as an air filter.

ECROS-2000

ECROS-2010

Technical specifications	ECROS-2000	ECROS-2010
Maximum temperature of the air flow, °C	65+/-5	Plasticware “P” 50+/-5 Glassware “G” 75+/-5
Maximum continuous operation time, hours	8	
Power consumption, W	1000	1500
Voltage, V	220 ± 10 %	
Dimensions, mm	∅ 347×625	550×281×515
Number of pegs, pcs × ∅, mm	27×∅ 12	26×∅12 and 13×∅ 6,5
Weight, kg	5,6	17

TEMPERATURE CONTROLLERS ECROS-2100 (PE-2100), ES-2100

Purpose: Voltage control of heating or lighting devices, including fabric heating mantles ESF and beaker heaters ESB.

ECROS-2100:

- the possibility to connect an external control unit (contact thermometer)

ES-2100:

- modern ergonomic design

ECROS-2100

ES-2100

Technical specifications	ECROS-2100	ES-2100
Voltage, V	220 ± 10%	
Power consumption, W	2500	1000
Maximum load current, A	12	7
Dimensions (L×W×H), mm	210×170×70	80×115×75
Weight, kg	0,8	0,5

METAL LABORATORY HOLDERS ECROS-2700 (PE-2700), ECROS-2710 (PE-2710)

ECROS-2700: For fastening laboratory ware and equipment.

Key features:

- grips,clamps for grips and holding rings are made of stainless steel;
- the holding ring is made of steel covered with powder paint.

ECROS-2710: For fastening burettes.

Key features:

- grips and clamps are made of polypropylene, screws are made of galvanized steel;
- a holder base is made of steel, covered with powder paint; a stand rod is made of stainless steel.

Delivery set:

ECROS-2700 – stand base (1 pc), stand rod (1 pc), 2-finger grip (2 pcs), holding ring 1 pc (diameter – 75 mm), clamp for grip and holding ring (3 pcs)

ECROS-2710 – stand base (1 pc), stand rod (1 pc), grip for burettes (2 pcs), clamp for grips (2 pcs)

Optional:

3-finger grip and clamp for the grip

PE-2700

PE-2710

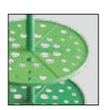
Technical specifications	ECROS-2700	ECROS-2710
Holder rod, (∅×H), mm	12×720	
Base dimensions (L×W×H), mm	230×150×10	
Weight, kg	5,0	3,0

POLYPROPYLENE LABORATORY HOLDERS ECROS-2910 (PE-2910), ECROS-2970 (PE-2970)

Purpose: Installation and storage of pipettes, cylindrical, round or pear-shaped separating funnels.

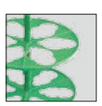
Technical specifications	
Material	polypropylene
Dimensions (∅×H), mm	220×425
Weight, kg	2,5

Steel base ensures stand rigidity. The design of the stands allows adjusting of plates height



ECROS-2910 for 48 pipettes

ECROS-2920 for 6 cylindrical separating funnels, 100 ml volume

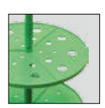


ECROS-2930 for 6 cylindrical separating funnels, 250 ml volume

ECROS-2940 for 3 cylindrical separating funnels, 500 ml

ECROS-2950 for 3 cylindrical separating funnels, 1000 ml

ECROS-2960 for3 round or pear-shaped separating funnels, 250 ml or 500 ml



ECROS-2970 for glass chromatic tubes

PUMPS FOR AGGRESSIVE LIQUIDS ECROS-3000 (PE-3000), ECROS-3010 (PE-3010)

Purpose: Pumping aggressive liquids (mineral acids, alkali solutions, solvents, etc.) out of standard glass or polyethylene bottles (20L capacity) having a neck for screw type cap (60 mm diameter) into any other vessels.

Key features:

- extreme air pressure in the bottle is produced by foot diaphragm pump (ECROS-3000) or manual bellow pump (ECROS-3010)
- ECROS-3010 is completed with the overflow valve that excludes contact with aggressive vapors during pumping process.

Technical specifications	ECROS-3000	ECROS-3010
Output, L/min	up to 4,5	
Material	PTFE or polyethylene	
Bottle neck diameter / screw pitch, mm	60/5	
Dimensions (L×W×H), mm	241×244×612	110×250×670
Outside tube diameter, mm	12	
Weight, kg	0,6	0,7

Delivery set:

ECROS-3000 – pump (1 pc), foot diaphragm pump (1 pc)
ECROS-3010 – pump (1 pc), manual bellow pump (2 pcs)
A glass carboy is not included into delivery set.

ECROS-3010

ECROS-3000

VIBRATORY SIEVE SHAKER ECROS-6700 (PE-6700)

Purpose: Sieving of bulk materials and sample preparation on laboratory sieves with a diameter of 120-300 mm.

Key features:

- the vertical movement of the plate ensures sieving of wet materials;
- smooth adjustment of vibration amplitude allows choosing effective sieving conditions;
- built-in timer helps to set the necessary operating time;
- the display shows the remaining time of the operation.

Sieves are optional.

ECROS-6700

Technical specifications	ECROS-6700
Power consumption, W	no more than 100
Voltage, V	220
Motion	reciprocating
Vibration frequency, c/s	12 – 25
Amplitude, mm	0,25 – 4
Operation time setting range	1 sec ... 99 min 59 sec
Permissible total load on the plate, kg	6
Maximum number of installed sieves	7
Dimensions (W×H×D), mm	320×155×385
Weight, kg	45

ECROS
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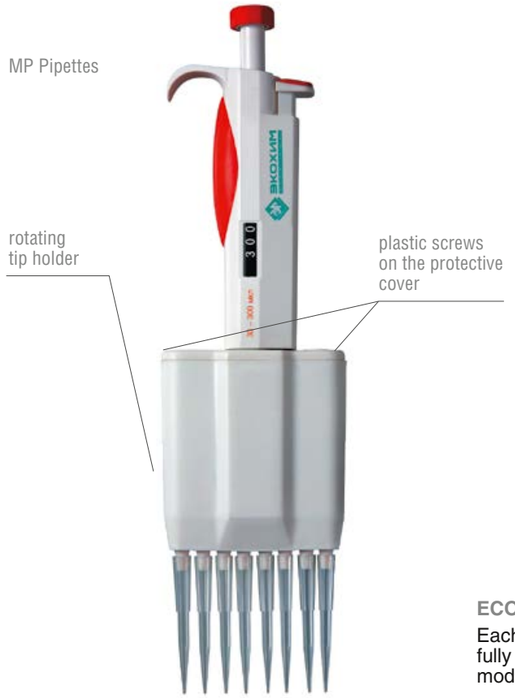
CATALOGUE 2025

LIQUID HANDLING INSTRUMENTS AND TIPS

GENERAL DESCRIPTION:

- The piston mechanism of ECOHIM pipettes provides smooth operation and high reproducibility of liquid pipetting.
- A tip ejector ensures easy ejection of the tips.
- Ergonomic design ensures convenient and easy use.
- The volume is shown on the display.
- All pipettes can be easily disassembled for preventive maintenance.
- The tip cones are made of chemical-resistant materials and are fully autoclavable for all pipettes.
- A perfect housing shape allows pipetting into narrow, deep vessels.
- Functionality and easy handling allow simple calibration of the pipettes.
- Low weight of pipettes reduces the constant physical exertion on the wrists.
- The tip holder in multi-channel pipettes easily rotates 360 °C and can be adapted for any convenient position.
- ECOHIM pipettes are designed for microbiological, immunological, biochemical, genetic, analytical research.

MP Pipettes

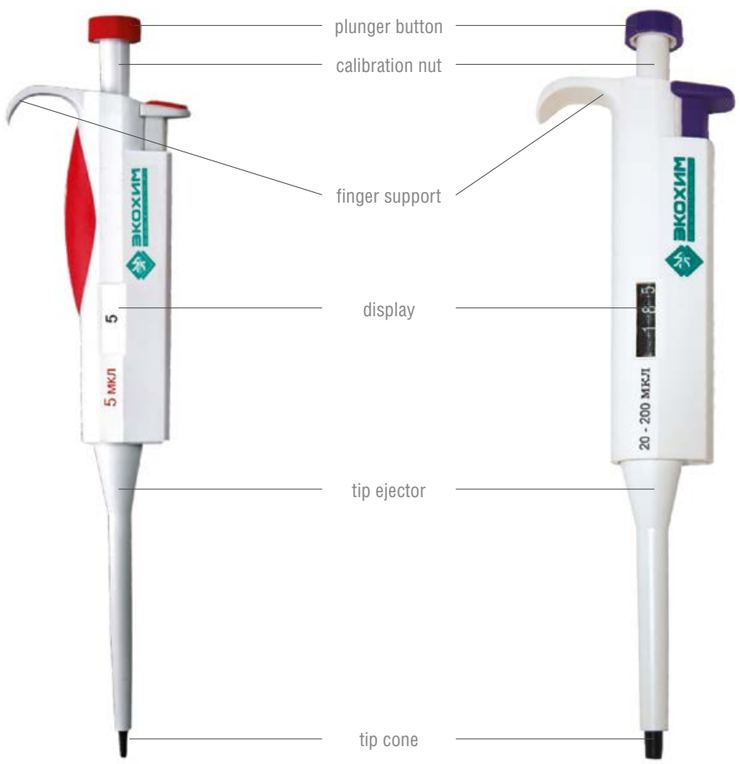


ECOHIM PIPETTES

Each pipette is presented in two variations – fully autoclavable and partially autoclavable model.

OP Pipettes

OPA Pipettes



TECHNICAL SPECIFICATIONS

SINGLE-CHANNEL VARIABLE VOLUME PIPETTES (PARTIALLY AND FULLY AUTOCLAVABLE)

Model	Color	Increment, µl	Volume range, µl	Inaccuracy, %, ±	Standard deviation, %	ECROSKHIM tips
ECOHIM-OP-1-0,5-10		0,1	0,5-10	±8.....2,5	7.....3	10, 20 µl; 10 µl with filter
ECOHIM-OP-1-0,5-10-A		0,1	0,5-10	±8.....2,5	7.....3	
ECOHIM-OP-1-2-20		0,1	2,0 – 20,0	±8.....2	6.....3	
ECOHIM-OP-1-2-20-A		0,1	2,0 – 20,0	±8.....2	6.....3	
ECOHIM-OO-1-5-50		0,5	5,0 – 50,0	±5.....2	5.....2,5	200 µl without filter; 250 µl; 300 µl
ECOHIM-OP-1-5-50-A		0,5	5,0 – 50,0	±5.....2	5.....2,5	
ECOHIM-OP-1-10-100		0,5	10,0 – 100,0	±2,5.....1,5	3.....2	300 µl; 200 µl with filter; 200 µl without filter; 250 µl
ECOHIM-OP-1-10-100-A		0,5	10,0 – 100,0	± 2,5.....1,5	3.....2	
ECOHIM-OP-1-20-200		1,0	20,0 – 200,0	±2.....1,5	3.....2	
ECOHIM-OP-1-20-200-A		1,0	20,0 – 200,0	±2.....1,5	3.....2	
ECOHIM-OP-1-100-1000		5,0	100,0 – 1000,0	±1,5.....1	2.....1	1000 µl; 1000 µl with filter
ECOHIM-OP-1-100-1000-A		5,0	100,0 – 1000,0	±1,5.....1	2.....1	
ECOHIM-OP-1-500-5000		50,0	500,0 – 5000,0	±1……1	1……1	5000 µl
ECOHIM-OP-1-500-5000-A		50,0	500,0 – 5000,0	±1……1	1……1	
ECOHIM-OP-1-1000-10000		100,0	1000,0 – 10000,0	±1……1	1……1	10000 µl
ECOHIM-OP-1-1000-10000-A		100,0	1000,0 – 10000,0	±1……1	1……1	

SINGLE-CHANNEL VARIABLE VOLUME PIPETTES (PARTIALLY AND FULLY AUTOCLAVABLE)

Model	Color	Volume range, µl	Inaccuracy, %, ±	Standard deviation, %	ECROSKHIM tips
ECOHIM-OF-1-5		5,0	± 5	5	200 µl without filter; 250 µl; 300 µl
ECOHIM-OF-1-5-A		5,0	± 5	5	
ECOHIM-OF-1-10		10,0	± 2,5	3	
ECOHIM-OF-1-10-A		10,0	± 2,5	3	
ECOHIM-OF-1-20		20,0	± 2	3	
ECOHIM-OF-1-20-A		20,0	± 2	3	
ECOHIM-OF-1-25		25,0	± 2	3	
ECOHIM-OF-1-25-A		25,0	± 2	3	
ECOHIM-OF-1-50		50,0	± 2	2	
ECOHIM-OF-1-50-A		50,0	± 2	2	
ECOHIM-OF-1-100		100,0	± 1,5	2	200 µl without filter; 250 µl; 300 µl; 200 µl with filter
ECOHIM-OF-1-100-A		100,0	± 1,5	2	
ECOHIM-OF-1-200		200,0	± 1,5	2	
ECOHIM-OF-1-200-A		200,0	± 1,5	2	
ECOHIM-OF-1-250		250,0	± 1,5	2	1000 µl; 1000 µl with filter
ECOHIM-OF-1-250-A		250,0	± 1,5	2	
ECOHIM-OF-1-500		500,0	± 1	1	
ECOHIM-OF-1-500-A		500,0	± 1	1	
ECOHIM-OF-1-1000		1000,0	± 1	1	
ECOHIM-OF-1-1000-A		1000,0	± 1	1	
ECOHIM-OF-1-2000		2000,0	± 1	1	5000 µl
ECOHIM-OF-1-2000-A		2000,0	± 1	1	
ECOHIM-OF-1-5000		5000,0	± 1	1	
ECOHIM-OF-1-5000-A		5000,0	± 1	1	
ECOHIM-OF-1-10000		10000,0	± 1	1	10000 µl
ECOHIM-OF-1-10000-A		10000,0	± 1	1	

EIGHT-CHANNEL AND TWELVE-CHANNEL PIPETTES (PARTIALLY AUTOCLAVABLE)

Model	Color	Increment, µl	Volume range, µl	Inaccuracy, %, ±	Standard deviation, %	Tips
ECOHIM-MP-8-0,5-10		0,1	0,5-10	±8.....2,5	7.....3	10, 20 µl; 10 µl with filter
ECOHIM-MP-8-5-50		0,5	5,0 – 50,0	±5.....2	5.....2,5	300, 350 µl; 200 µl with filter; 200 µl without filter; 250 µl
ECOHIM-MP-8-10-100		0,5	10,0 – 100,0	±2,5.....1,5	3.....2	
ECOHIM-MP-8-30-300		1,0	30,0 – 300,0	±2.....1,2	2,6.....1,8	
ECOHIM-MP-12-0,5-10		0,1	0,5-10	±8……2,5	7……3	10, 20 µl; 10 µl with filter
ECOHIM-MP-12-5-50		0,5	5,0 – 50,0	±5……..2	5……2,5	300, 350 µl; 200 µl with filter; 200 µl without filter; 250 µl
ECOHIM-MP-12-10-100		0,5	10,0 – 100,0	±2,5……1,5	3……2	
ECOHIM-MP-12-30-300		1,0	30,0 – 300,0	±2……1,2	2,6……1,8	

UNIVERSAL PIPETTE TIPS

Pipette tips are designed for liquid intake and transferring with the use of pipettes. Tips are made of high quality polypropylene and can be fully autoclaved (121 °C temperature, 1 atm pressure, for 15-20 min).

ECROSKHIM tips are certified and meet all the necessary requirements.

Volume, µl	Type	Volume range, µl	Tip cone size, mm	Length, mm	Package	Product code
10	without filter	0,1–10	4	31	1000 pcs/package	1.75.30.30.0090
	without filter, in the plate-holder				960 pcs/package	1.75.30.30.0090Ш
	with filter	0,5–10			1000 pcs/package	1.75.30.30.1010
	with filter, in the rack				1×96 pcs in the rack	1.75.30.30.1010Ш.1
200	without filter	2–200	5	53	1000 pcs/package	1.75.30.30.0100
	without filter, in the rack				1×96 pcs in the rack	1.75.30.30.0100Ш
	with filter	2–200	5	53	1000 pcs/package	1.75.30.30.1020
	with filter, in the rack				1×96 pcs in the rack	1.75.30.30.1020Ш.1
250	without filter	0,5–250			1000 pcs/package	1.75.30.30.0101
300	without filter	5–300			1000 pcs/package	1.75.30.30.0093
	without filter, in the rack				1×96 pcs in the rack	1.75.30.30.0093Ш
1000	without filter	100–1000	7,5	83	500 pcs/package	1.75.30.30.0099
					1000 pcs/package	1.75.30.30.0096
	without filter, in the rack				1×96 pcs, in the rack	1.75.30.30.0097Ш
	with filter				1000 pcs/package	1.75.30.30.1030
	with filter, in the rack				1×96 pcs in the rack	1.75.30.30.1030Ш.1
5000*	without filter	500–5000	13	120	100 pcs/package	1.75.30.30.0095
10 000**	without filter	1000–10 000	16	150	40 pcs/package	1.75.30.30.0140
					100 pcs/package	1.75.30.30.0094

* compatible with Biohit Sartorius Picus pipettes, ECOHIM (ECROSKHIM) pipettes
** compatible with Thermo Fisher Scientific pipettes, ECOHIM (ECROSKHIM) pipettes

SINGLE-CHANNEL AND MULTI-CHANNEL PIPETTES

PIPETTE STANDS

Plastic vertical stand-holders are used to keep the pipettes in an upright position when the pipette is not in use. Available in two variations: 4 positions and 6 positions.

TIP RACKS

Designed for pipette tips storage. Material: polypropylene. Autoclaved at the temperature +121°C.

Tip Rack 1000 µl, 96 sockets, PP
Product code: 1.75.30.30.0096.ШН
Designed for the tips with the product code 1.75.30.30.0096, 1.75.30.30.1030

Tip Rack 200/300 µl, 96 sockets,PP
Product code: 1.75.30.30.0093.ШН
Designed for the tips with the product code 1.75.30.30.0093, 1.75.30.30.1020

ADDITIONAL PIPETTING INSTRUMENTS

E-PIPETTE
Automatic pipette-filler with a charger

The automatic pipette-filler is an electric mini-pump for use with glass or plastic pipetting tubes from 0.1 ml to 100 ml volume.

It allows to take and eject liquids from the tip by using the necessary buttons.

Features:

- Use of glass or plastic pipetting tubes from 0.1 ml to 100 ml volume range.
- The retainer is equipped with a hydrophobic protective teflon (PTFE) filter with a mesh size of 0.2 μm, which prevents fluid entering to the pipette-filler.
- The notches inside the retainer allow tight insertion of small pipetting tubes.
- High speed of fluid intake and ejection saves time.
- Innovative speed control. Three-position switch. The speed of fluid intake is controlled by pressing the buttons on the handle (the stronger the pressure, the faster the fluid intake).
- Continuous operation without recharging for 10 hours.
- Ability to work while being charged.
- The pipette retainer and filter holder are autoclavable.
- The device is equipped with a battery charge status indicator on the housing (a red light lamp) that lights up when the battery is low.

BOTTLE-TOP DISPENSERS (with a recirculation valve)

HF dispensers

A new line of high quality and user-friendly dispensers.

Our dispensers are used with a wide range of reagents and ensure high accuracy due to their features.

The bottle-top dispenser is equipped with a recirculation valve for transferring liquid into the bottle, which prevents the air bubbles formation and allows dispensing without reagent loss. Special attention has been paid to ensuring smooth and soft piston movement, as well as to convenient operation in complicated laboratory conditions.

HF dispensers are made of chemically resistant materials for work with hydrofluoric acid (HF) and other aggressive chemicals.

The HF dispensers demonstrate high accuracy while working with high-purity substances and do not emit metal ions. This feature allows the dispensers to be used for trace analysis.

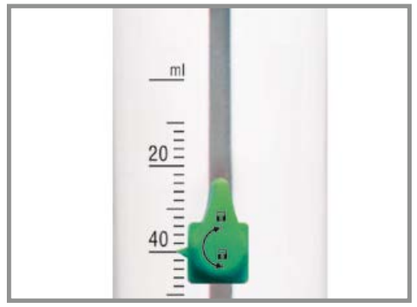
FEATURES:
6 VOLUME RANGES:

- 0.25 – 2.5 ml
- 0.5 – 5 ml
- 1 – 10 ml
- 2.5 – 30 ml
- 5 – 60 ml
- 10 – 100 ml

The dispenser is fully autoclavable at the temperature 121 °C and 1 atm pressure for 10-15 minutes

ADJUSTABLE FLEXIBLE DRAIN

Adjustable flexible drain ensures convenient dispensing in any laboratory conditions.



SET VOLUME RETAINER

The volume fixation with a plunger turning by 180°.

360° ROTATION

Specially designed adapters turning by 360° (ability to turn the lower part of the dispenser by 360°).

SPRINGLESS VALVE

Specially developed PTFE springless valve guarantees high chemical resistance and trouble-free operation.

UNIQUE PISTON

PTFE piston ensures chemical resistance and smooth operation.

ADAPTERS

The delivery set includes adapters for different types of bottles with various bottle neck sizes: 28, 30, 32, 36, 40 и 45 mm.

CALIBRATION

A delivery set includes a dispenser with a special calibration instrument for convenient and fast calibration according to international standards and requirements.

removable cap

calibration instrument

TECHNICAL SPECIFICATIONS

Volume range, ml	Increment, ml	Accuracy		Standard deviation	
		± %	± ml	%	± ml
0.25 – 2.5	0.05	0.6	0.015	0.2	0.005
0.5 – 5	0.1	0.6	0.03	0.2	0.01
1 –10	0.2	0.6	0.06	0.2	0.02
2.5 – 30	0.5	0.6	0.18	0.2	0.06
5 – 60	1	0.6	0.36	0.2	0.12
10 – 100	2	0.6	0.6	0.2	0.2

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PLASTIC LABORATORY WARE

MAIN MATERIALS

PP
Polypropylene

Laboratory polypropylene ware is designed for:
- concentrated acids and alkalis dissolving;
- hot filtering without preliminary warming up of filtering funnels;
- preparation of solutions and analysis of samples with the low content of chloride- and sulphate- anions;
- analysis of traceable quantities of metal cations (calcium, magnesium, aluminum).

Physical and chemical properties:
- operation temperature range: -10 °C to +135 °C;
- sterilization by steam at a temperature of 121 °C for 20 minutes, by gas (ethylene oxide) or by chemical compounds (formalin, ethanol);
- hydrophobic and anti-adhesive surface;
- high chemical resistance to strong concentrated and diluted acids, alkalis, aldehydes, aliphatic alcohols and aliphatic hydrocarbons;
- high chemical resistance to halogen substituted hydrocarbons and hydrocarbons of an aromatic series, simple and alcohol esters and ketones at chemical interaction with them within 7-30 days.

LDPE, HDPE
low density polyethylene
high density polyethylene

Advantages of polyethylene:
- suitable for chemical production, in the household, for food products and baby food, for medical products, for cosmetics, for household chemicals, for pharmaceutical production and winemaking;
- well transported and stored on pallets and in a stack;
- resistant to deformation;
- non-breakable;
- easily utilized and burned, with no smoke.

Physical and chemical properties of polyethylene:
- chemically resistant to mineral and organic acids, salts and alkalis, mineral oils, oil processing products (solubility in aromatic hydrocarbons at temperatures +80 °C to +120 °C);
- solid and highly elastic material resistant to impact and rupture. It has a high tensile strength and compressive strength;
- frost-resistant material, operates at a temperature down to -60 °C;
- resistant to exposure of ultra-violet rays;
- waterproof with no taste and smell, non-toxic.

PET
Polyethylene terephthalate

Advantages of polyethylene terephthalate:
- used in all areas of industry;
- high degree of transparency similar to glass products.

Physical and chemical properties:
- low gas-tightness and excellent barrier properties;
- resistant to chemical exposure of fats, mineral acids, organic solvents;
- well-recycled and easily modified;
- impact-resistant in the wide range of temperatures;
- frost-resistant, doesn't get fragile when cooling down to -60 °C, resistant to heating up to +70 °C;
- elastic;
- non-toxic;
- low coefficient of moisture absorption.

POLYPROPYLENE WARE

***different colors are optional**

Low Beakers *colored printing according to customer requests

Code	Option	Material	Volume, ml	Outer/internal diameter, mm	Height, mm	Division, ml	First mark, ml	Photo
4.04.01.0090/ 4.04.01.0161	without scale/ with scale	PP	50	47/42	60	2	10	
4.04.01.0100/ 4.04.01.0171		PP	100	58,5/52	70	5	20	
4.04.01.0110/ 4.04.01.0180		PP	250	78/70	95	10	50	
4.04.01.0120/ 4.04.01.0190		PP	500	96/87	116	20	100	
4.04.01.0130/ 4.04.01.0200		PP	800	108/99	134	50	200	
4.04.01.0141/ 4.04.01.0210		PP	1000	117/108	145	50	200	

Laboratory funnels

Code	Material	Diameter, mm	Stem outer diameter, mm	Stem length, mm	Height, mm	Photo
4.04.01.0009	PP	25	6	22	40	
4.04.01.0010	PP	56	10,4	40	80	
4.04.01.0020	PP	75	10,4	65	120	
4.04.01.0030	PP	100	14	76	150	
4.04.01.0040	PP	150	16	116	230	
4.04.01.0050	PP	200	23	128	280	

Spouted cylinders with volumetric scale

Code	Material	Volume,ml	Outer/inner diameter, mm	Height, mm	Division, ml	First mark, ml	Photo
4.04.01.0311	PP	50	25,5/ 22,3	174	1	5	
4.04.01.0320	PP	100	32/29	230	1	10	
4.04.01.0300	PP	250	45/42	300	2	20	
4.04.01.0310	PP	500	56/53	360	5	50	
4.04.01.0312	PP	1000	66,6/ 62,3	399	10	100	

Graduated measuring beakers with handle and volumetric scale

Code	Material	Volume, ml	Outer/inner diameter, mm	Height, mm	Division, ml	First mark, ml	Photo
4.04.01.0060	PP	500	91/80	117	25	25	
4.04.01.0070	PP	1000	117/101	130	50	50	
4.04.01.0080	PP	2000	135/125	190	125	250	

POLYPROPYLENE, POLYETHYLENE AND POLYETHYLENE TEREPHTHALATE LABORATORY WARE

Storage jars

Code	Item	Material	Volume, ml	Base size, mm×mm	Height without cap, mm	Outer/inner neck diameter, mm	Color	Photo
4.04.01.0500	Jar with cannula	Jar – HDPE Cover cap - HDPE Cap – HDPE Tube – HDPE	250	64	133	36,3/30,7	natural	
4.04.01.0501			500	78	164	36,3/30,7		
4.04.01.0502			1000	90	219	36,3/30,7		
4.04.01.0230	Jar with dropper with PE dropper-cap	HDPE	40	35,6	58	12/9	natural	
4.04.01.0231	Jar with dropper with PE transporting cap							
4.04.01.0232	Jar with dropper with PE dropper-cap and PE transporting cap							
5.01.02.050	Jar with cap	Jar – PP Cap – LDPE	20	31,4	35,5	32,4/29,5	natural	
5.01.02.035	Jar for reagents with cap ECROS	Jar – HDPE Cap – 50% LDPE, 50% HDPE	40	35,6	63	25/22	transparent-matte	
5.01.02.0388	Round pharmaceutical jar with cap	PP	130	49	75	50/48	natural	
5.01.02.0389		PP	150	49	85	50/48		
5.01.02.038	Round jar with cap	PET	250	72	83	58/55	white	
5.01.02.037		PET	500	87	118			
5.01.02.036	Square jar with cap	PET	250	63×73	83	58/55	natural	
5.01.02.033	Rectangular jar with cap	Jar – HDPE Cap – LDPE	500	95×72	120	57/53	white	
5.01.02.0331							natural	
5.01.02.032		Jar – HDPE Cap – LDPE	750	95×72	165	57/53	white	
5.01.02.0321							natural	
5.01.02.031		Jar - HDPE Cap – LDPE	1000	95×72	208	57/53	white	
5.01.02.0311							natural	
5.01.02.0322		Jar - HDPE Cap – LDPE	2000	110×85	250	57/53	white	
5.01.02.0323							natural	

Storage bottles

Code	Item	Material	Volume, ml	Base size, mm	Height without cap, mm	Outer/ inner neck diameter, mm	Color	Cap	Photo
5.01.02.0361	Square bottle	PET	125	42×42	112	24/22	brown	cap PET	
5.01.02.0366								cap and bearer ring PET	
5.01.02.0362							transparent	cap PET	
5.01.02.0368								cap and bearer ring PET	
5.01.02.0371	Square bottle	PET	270	60×60	121,5	24/21	brown	cap PET	
5.01.02.0373								cap and bearer ring PET	
5.01.02.0372							transparent	cap PET	
5.01.02.0375								cap and bearer ring PET	
5.01.02.0381	Square bottle	PET	510	66×66	169,5	24/21	brown	cap PET	
5.01.02.0395								cap and bearer ring PET	
5.01.02.0382							transparent	cap PET	
5.01.02.0384								cap and bearer ring PET	
5.01.02.0391	Square bottle	PET	540	66×66	176	24/21	brown	cap PET	
5.01.02.0393								cap and bearer ring PET	
5.01.02.0392							transparent	cap PET	
5.01.02.0394								cap and bearer ring PET	
5.01.02.0401	Square bottle	PET	1000	80×80	221	24/21	brown	cap PET	
5.01.02.0400									
5.01.02.0402							transparent	cap and bearer ring PET	
5.01.02.0403									
5.01.02.034.1	Rectangular bottle 1000 ml with a cap № 242 PE	HDPE	1000	70×85	210	28/26	natural	cap № 242 PE	

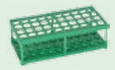
Storage bottles

Code	Item	Material	Volume, ml	Base size, мм	Height without cap, mm	Outer/inner neck diameter, mm	Color	Cap	Photo
5.01.02.0500	Round bottle ECROS	PET	125	49	120	24/21	brown	cap PET	
5.01.02.0501								cap and bearer ring PET	
5.01.02.0502							transparent	cap PET	
5.01.02.0503								cap and bearer ring PET	
5.01.02.0504	Round bottle ECROS	PET	270	60	145	24/21	brown	cap PET	
5.01.02.0505								cap and bearer ring PET	
5.01.02.0506							transparent	cap PET	
5.01.02.0507								cap and bearer ring PET	
5.01.02.0508	Round bottle ECROS	PET	520	74	179,1	24/21	brown	cap PET	
5.01.02.0509								cap and bearer ring PET	
5.01.02.0510							transparent	cap PET	
5.01.02.0511								cap and bearer ring PET	

Stoppers

Code	Material	Thin section	Max. head diameter, mm	Diameter under the head, mm	Min. diameter, mm	General height, mm	Head height, mm	Photo
4.04.01.0081	LDPE	10/19	19	10	8	31	5	
4.04.01.0082	LDPE	14/23	20	14	11	33	5,5	
4.04.01.0083	LDPE	19/26	30	19	16	37	8	
4.04.01.0084	LDPE	29/32	42	29	23	44	9	

Test tube racks

Code	Material	Quantity of sockets	Socket diameter, mm	L×W×H, mm	Photo
4.07.01.0220	PP	14	17,2	123×71×51	
4.07.01.0211	PP	14	17,2	123×71×77	
4.07.01.0250	PP	20	18	241×59×75	
4.07.01.0260	PP	40	18	241×116×74	

Microplates for drop reaction

Code	Material	Quantity of sockets	Socket diameter, mm	L×W×H, mm	Photo
4.04.01.0140	PP	14	17,2	123×71×14	
4.04.01.0233	PP	20	18	242×67×13	
4.04.01.0240	PP	40	18	242×116×13	

Trays

Code	Material	L×W×H, mm	Photo
4.07.0150	PP	262×158×20	

Two-tier plate

Code	Material	L×W×H, mm	Quantity of sockets	Socket diameter, mm	Photo
4.07.01.0160	LDPE	243×142×54	22	36	

Clamp-holder for titration units

Code	Material	Length, mm	Base diameter, mm	Holder hole, mm	Photo
4.04.01.1350	PP	151	12/12,8	10/30	

Clamp-holder for test tubes

Code	Material	Length, mm	Base diameter, mm	Holder hole, mm	Photo
4.04.01.2020	PP	151	12/12,8	10/30	

Spatula spoons

Code	Material	Type	L×W×H, mm	Photo
4.07.01.0191	PP	narrow	150×12×2	
4.07.01.0201	PP	wide	150×22×2	

Polypropylene cup

Code	Material	L×W×H, mm	Length of the drainage duct, mm	Outer diameter of the drainage duct, mm	Inner diameter of the drainage duct, mm	Inner diameter of the cup, mm	Cup depth, mm	Photo
2.95.01.6021	PP	160×160×158	40	40	35	135	110	

Based on our own production of laboratory plastic ware, we provide printing services for applying information/logos by screen printing (silkscreen printing).

To order printing, please provide a layout and technical assignment.

MICRO-LABORATORY

Micro-laboratory – a set for chemical studies

Designed for conducting laboratory and practical work in chemistry classes in accordance with the requirements of curricula and methodology.
Functional and aesthetic polypropylene and polyethylene items ensure safety, durability and easy use.

The set for 2 students includes:

- Polypropylene trays – 6 pcs
- Polyethylene jar for dry reagents, 40 ml – 20 pcs
- Polyethylene jar with dropper for solutions, 40 ml – 30 pcs
- Polypropylene two-tier plate – 2 pcs
- Polypropylene test tube rack (14 sockets) – 2 pcs
- Polypropylene funnel – diameter 75 mm – 2 pcs
- Polypropylene spatula spoons – 2 pcs
- Polypropylene beaker, 100 ml – 2 pcs
- Polypropylene beaker, 250 ml – 1 pc
- Transparent polypropylene microplate for top reaction (14 sockets) – 2 pcs
- Polypropylene holder for test tubes – 2 pcs
- Stickers for jars – 2 sheets
- Mendeleev's Periodic Table – 2 sheets
- Tables for solubility, electronegativity, metal activity – 2 sheets

Micro-laboratory is designed for student desk with sliding blocks, as well as for standard student desks.

Code	Item	L×W×H, mm	Worktop material
56.0204.00.14-01	Student desk with sliding blocks	1200×600×1025	grey laminate
56.0204.20.14-01	Student desk with sliding blocks	1200×600×965	
56.0214.01.14-01	Student desk with sliding blocks and electrical sockets	1200×600×1025	
56.0214.21.14-01	Student desk with sliding blocks and electrical sockets	1200×600×965	

PLASTIC LABORATORY WARE

Universal Pipette Tips

Pipette tips are designed for liquid intake and transferring with the use of pipettes. Tips are made of high quality polypropylene and can be fully autoclaved (121°C temperature, 1 atm pressure, for 15-20 min).

ECROSKHIM tips are certified and meet all the necessary requirements.

Volume, µl	Type	Volume range, µl	Tip cone diameter outer/inner	Length, mm	Package	Code
10	without filter	0,1–10	6,0/4,4	31	1000 pcs/package	1.75.30.30.0090
	without filter, in the rack				960 pcs/package	1.75.30.30.0090Ш
	with filter	0,5–10			1000 pcs/package	1.75.30.30.1010
	with filter, in the rack				1×96 pcs in the rack	1.75.30.30.1010Ш.1
20	without filter	2-20	6,0/4,0	45,7	1000 pcs/package	1.75.30.30.0102
	without filter, in the rack				1×96 pcs in the rack	1.75.30.30.0102Ш
	with filter				1000 pcs/package	1.75.30.30.1009
	with filter, in the rack				1×96 pcs in the rack	1.75.30.30.1009Ш
100	with filter	2-100	7,4/5,5	53	1000 pcs/package	1.75.30.30.1011
	with filter, in the rack				1×96 pcs in the rack	1.75.30.30.1011Ш
200	without filter	2–200	7,4/5,5	53	1000 pcs/package	1.75.30.30.0100
	without filter, in the rack				1×96 pcs in the rack	1.75.30.30.0100Ш
	with filter				1000 pcs/package	1.75.30.30.1020
	with filter, in the rack				1×96 pcs in the rack	1.75.30.30.1020Ш.1
250	without filter	0,5–250			1000 pcs/package	1.75.30.30.0101
300	without filter	5–300			500 pcs/package	1.75.30.30.0093.5
					1000 pcs/package	1.75.30.30.0093
	with filter, in the rack				1×96 pcs in the rack	1.75.30.30.0093Ш
1000	without filter	100–1000	8,75/7,5	83	500 pcs/package	1.75.30.30.0099
					1000 pcs/package	1.75.30.30.0096
	without filter, in the rack				1×96 pcs in the rack	1.75.30.30.0097Ш
	with filter				1000 pcs/package	1.75.30.30.1030
	with filter, in the rack				1×96 pcs in the rack	1.75.30.30.1030Ш.1
5000*	without filter	500–5000	15,4/13,3	119,75	100 pcs/package	1.75.30.30.0095
10 000**	without filter	1000–10 000	18,5/16,0	150	40 pcs/package	1.75.30.30.0140
					100 pcs/package	1.75.30.30.0094

* compatible with Biohit Sartorius pipettes, ECOHIM (ECROSKHIM) pipettes
** compatible with Thermo Fischer Scientific pipettes, ECOHIM (ECROSKHIM) pipettes

Tip Racks

Designed for pipette tips storage. Material: polypropylene.
Autoclaved at the temperature +121 °C.

Tip Rack 1000 µl, 96 sockets, PP
Product code: 1.75.30.30.0096.ШН
Designed for the tips with the product code 1.75.30.30.0096,1.75.30.30.1030

Tip Rack 200/300 µl, 96 sockets, PP
Product code: 1.75.30.30.0093.ШН
Designed for the tips with the product code 1.75.30.30.0093, 1.75.30.30.1020

Tip Rack 1000 µl

Tip Rack 200/300 µl

ECROS
group of companies

CATALOGUE 2025

CERTIFIED REFERENCE MATERIALS FOR OIL AND PETROLEUM PRODUCTS ANALYSIS

The section “CERTIFIED REFERENCE MATERIALS FOR OIL AND PETROLEUM PRODUCTS ANALYSIS” contains the following items produced by the laboratory of ECROS Group of Companies:

- Certified Reference Materials for Analysis of Oil and Petroleum Products
- Non-Certified Reference Materials for Oil and Petroleum Products Analysis
- Non-Certified Gas Chromatography Reference Materials
- Paper filters
- PH Indicator Paper
- Volumetric standards

CERTIFIED REFERENCE MATERIALS FOR OIL AND PETROLEUM PRODUCTS ANALYSIS

NON-CERTIFIED REFERENCE MATERIALS FOR OIL AND PETROLEUM PRODUCTS ANALYSIS

CERTIFIED REFERENCE MATERIALS FOR ANALYSIS OF OIL AND PETROLEUM PRODUCTS

ECROSKHIM Ltd. produces a wide range of certified and non-certified reference materials for analysis of oil and petroleum products. The delivery set includes technical data sheet with metrological characteristics and application instructions. Our company is able to offer chemical products produced according to customer requests.

ASTM D445

Kinematic and Dynamic Liquid Viscosity

CRM №	Temperature, °C	Kinematic viscosity, nominal quantity	Dynamic viscosity, nominal quantity
9498-2009	20.00±0.02	1.5 – 2.5	1.2 – 2.0
9499-2009	20.00±0.02	3.5 – 6.5	2.8 – 5.2
9500-2009	20.00±0.02	8.0 – 13.0	6.5 – 11.0
9501-2009	20.00±0.02	15.0 – 25.0	13.5 – 22.5
	40.00±0.02	7.0 – 12.0	–
	50.00±0.02	5.0 – 9.0	–
	100.00±0.02	1.5 – 2.5	–
9502-2009	20.00±0.02	25.0 – 36.0	21.5 – 31.5
	50.00±0.02	6.5 – 11.0	–
9503-2009	20.00±0.02	50.0 – 70.0	44.0 – 62.0
	40.00±0.02	14.5 – 22.0	–
9504-2009	40.00±0.02	30.0 – 43.0	–
9505-2009	20.00±0.02	80.0 – 120.0	71.0 – 107.0
	50.00±0.02	18.0 – 28.0	–
9506-2009	20.00±0.02	160.0 – 240.0	128.0 – 192.0
	40.00±0.02	50.0 – 75.0	–
9507-2009	20.00±0.02	250.0 – 350.0	220.0 – 308.0
	50.00±0.02	50.0 – 75.0	–
	100.00±0.02	8.5 – 14.0	–
9508-2009	20.00±0.02	800.0 – 1350.0	710.0 – 1200.0
	100.00±0.02	14.0 – 30.0	–

ASTM D1298, ASTM D70, ASTM D941, ASTM D148, ASTM E100, ASTM 4052

Liquid Density

CRM №	Nominal quantity, kg/m³
8614-2004	682.0 – 694.0
8615-2004	716.0 – 732.0
8616-2004	740.0 – 751.0
8617-2004	777.0 – 789.0
8618-2004	808.0 – 812.0
8619-2004	842.0 – 850.0
8620-2004	865.0 – 870.0
8621-2004	877.0 – 881.0
8622-2004	898.0 – 902.0
8623-2004	997.0 – 1000.0
8624-2004	1320.0 – 1330.0

ASTM D4929

Organic Chlorides in Crude Oil

CRM №	Nominal quantity, µg /g
8852-2007	1.5 – 2.5

ASTM D3230

Chloride Salt in Crude Oil

CRM №	Nominal quantity, mg/dm³
7897-2001	4.5 – 5.5
7898-2001	9.5 – 10.5
7899-2001	47.5 – 52.5
7900-2001	95 – 105
7901-2001	291 – 309
7902-2001	891 – 909

ASTM 1266, ASTM D4294, ASTM D2622

Sulfur in Isoctane/Decane

CRM №	Nominal quantity, %
7992-2002	0
7993-2002	0.020 – 0.025
7994-2002	0.05 – 0.06
7995-2002	0.09 – 0.11
7996-2002	0.18 – 0.22
7997-2002	0.50 – 0.55

ASTM D323

Saturated Vapour Pressure

CRM №	Nominal quantity, kPa
8523-2004	10 – 14
8524-2004	20 – 25
8525-2004	32 – 38
8526-2004	42 – 49
8527-2004	49 – 55
8528-2004	60 – 65

Solids Particles in Oil and Petroleum Products

CRM №	Nominal quantity, %
7855-2000	0.004 – 0.006
7856-2000	0.012 – 0.018
7857-2000	0.045 – 0.055
7858-2000	0.200 – 0.300
7859-2000	0.900 – 1.100

ASTM D95, ASTM D1744

Water in Oil and Petroleum Products

CRM №	Nominal quantity, %
7928-2001	0.095 – 0.105
7929-2001	0.450 – 0.550
7930-2001	0.90 – 1.10
7931-2001	1.35 – 1.65
7932-2001	1.80 – 2.20
7933-2001	4.50 – 5.50

ASTM D95, ASTM D1744

Water in Oil and Petroleum Products

CRM №	Nominal quantity, %
8170-2002	0.00001 – 0.00005
8171-2002	0.004 – 0.006
8172-2002	0.009 – 0.001
8173-2002	0.027 – 0.033
8174-2002	0.054 – 0.066
8175-2002	0.090 – 0.110
8494-2003	0.180 – 0.220
8176-2002	0.450 – 0.550
8177-2002	0.900 – 1.100
8495-2003	1.350 – 1.650
8496-2003	1.800 – 2.200
8178-2002	2.250 – 2.750
8497-2003	2.700 – 3.300
8498-2003	3.600 – 4.400
8179-2002	4.500 – 5.500

ASTM D2622, ASTM D4294, ISO 13032

Sulfur in Oil and Petroleum Products (New)

CRM №	Nominal quantity, %* 0,001 ppm
11028-2018	2,3,5,10
11029-2018	20,25,50,100
11030-2018	150,200,300
11031-2018	400,500
11032-2018	600,700,750,800,900,1000
11033-2018	2000,3000,4000
11034-2018	6000,7500,8000,10000

Sulfur in Oil and Petroleum Products (New)

CRM №	Nominal quantity, %
8415-2003	0,0009 – 0,0011
8416-2003	0,0027 – 0,0033
8417-2003	0,0045 – 0,0055
8418-2003	0,0090 – 0,0110
8419-2003	0,0270 – 0,0330

ISO 6619-88

Total Base Number in Petroleum Products

CRM №	Nominal quantity, mg/g
8640-2004	0,90 – 1,10
8641-2004	4,5 – 5,5
8642-2004	9,0 – 11,0
8643-2004	18,0 – 22,0

Iodine Value in Petroleum Products

CRM №	Nominal quantity, I_2/100 g
8863-2007	0,09 – 0,11
8864-2007	0,45 – 0,55
8865-2007	0,90 – 1,10
8866-2007	2,70 – 3,30
8867-2007	5,40 – 6,60

ISO 6619-18

Acidity of Petroleum Products

CRM №	Nominal quantity, mg/100 m³
7855-2000	0.004 – 0.006
7856-2000	0.012 – 0.018
7857-2000	0.045 – 0.055
7858-2000	0.200 – 0.300
7859-2000	0.900 – 1.100

ISO 6619-88

Acidity Value in Petroleum Products

CRM №	Nominal quantity, mg/g
8499-2003	0,018 – 0,022
8500-2003	0,045 – 0,055
8501-2003	0,09 – 0,11
8502-2003	0,27 – 0,33
8503-2003	0,45 – 0,55
8504-2003	0,90 – 1,10

ASTM D4929

Organochlorine Compounds in Naphtha

CRM №	Nominal quantity, mcg/g
8860-2007	0,3 – 0,5
8861-2007	12,0 – 14,0
8862-2007	120,0 – 140,0

NON-CERTIFIED REFERENCE MATERIALS FOR ANALYSIS OF OIL AND PETROLEUM PRODUCTS

ASTM D92

Open Cup Flash Point Standard

CRM №	Nominal quantity, °C
8150-2002	78 – 95
8151-2002	110 – 125
8152-2002	145 – 165
8153-2002	185 – 215
8154-2002	225 – 250
8155-2002	255 – 290

ASTM D93

Closed Cup Flash Point Standard

CRM №	Nominal quantity, °C
8133-2002	29 – 40
8134-2002	45 – 60
8135-2002	75 – 90
8136-2002	105 – 120
8137-2002	135 – 150
8138-2002	165 – 205

ASTM D86

Fractional Distillation of Petroleum Products

CRM №	Certified characteristics of Petroleum and Oil Standards temperature	Nominal quantity, °C
8170-2002	– initial boiling point	35.0 – 45.0
	10% distilling	60.0 – 65.0
	50% distilling	112.0 – 117.0
	90% distilling	187.0 – 193.0
	– end-boiling point	194.0 – 200.0
8170-2002	– initial boiling point	135.0 – 150.0
	10% distilling	155.0 – 165.0v
	50% distilling	180.0 – 185.0
	90% distilling	237.0 – 245.0
	– end-boiling point	243.0 – 261.0
8170-2002	– initial boiling point	180.0 – 185.0
	10% distilling	195.0 – 205.0
	50% distilling	245.0 – 255.0
	90% distilling	295.0 – 315.0
	96% distilling	340.0 – 360.0

NON-CERTIFIED GAS CHROMATOGRAPHY REFERENCE MATERIALS

Gas chromatography reference materials are chemically pure organic substances for high-quality chromatographic analysis and calibration of chromatograph. The metrological characteristic of materials is the purity of base substance, which is set chromatographically. Mass fraction of water is defined by the method of coulometric titration.

There are two chromatograms in specification attached to the material which are made in different sensitivities of chromatography.

The materials are delivered in 3 ml sealed glass bulb. Shelf life of samples is 3 years.

Substance	Mass fraction of base substance, not less than, %	Mass fraction of water, not more than, %
Acetone	99,5	0,2
Acetonitrile	99,5	0,1
Benzene	99,5	0,1
n-Butanol	99,3	0,2
2-Butanol	99,3	0,2
Butyl acetate	99,5	0,1
Hexane	99,3	0,1
Heptane	99,3	0,1
Decane	99,3	0,1
1,2-Dichloroethane	99,5	0,09
Diethylamine	99,5	0,1
Dodecane	99,3	0,1
2,2,4-Trimethylpentane (isooctane)	99,3	0,1
Cumene (isopropylbenzene)	99,3	0,1
o-Xylene	99,5	0,1
m-Xylene	99,5	0,1
p-Xylene	99,3	0,1
Methanol	99,5	0,2
Dichloromethane (methylene chloride)	99,5	0,03
Butanone	99,5	0,2
Methyl tert-butyl ether	99,5	0,1
Isobutanol	99,5	0,2
Nonane	99,3	0,2
Octane	99,3	0,1
Pentane	99,3	0,1
1-Propanol	99,3	0,1
2-Propanol	99,3	0,2
Tetradecane	99,3	0,2
Tetrachloromethane	99	0,1
1,2,3-trimethylbenzene	99,5	0,03
1,2,4-trimethylbenzene (pseudocumene)	99,5	0,1
Trichloroethylene	98,5	0,1
Undecane	99,5	0,03
Chlorobenzene	98,5	0,1
Chloroform	99,5	0,1
Cyclohexane	99,5	0,03
Cyclohexanol	99,3	0,1
Cyclohexanone	99	0,2
Ethanol	99,5	0,2
Ethyl acetate	99,5	0,1
Ethylbenzene	99,2	0,1

PAPER FILTERS

Paper filters are used in qualitative and quantitative analytical techniques to determine and identify materials. Paper filters are produced from high-grade stock materials (viscose sulphite bleached chemical pulp) and strengthening polymeric additives.

100 pieces/package (∅ from 9 to 18 cm)

1000 pieces/package (∅ from 5.5 to 7 cm)

Filter marking	Possible diameter, cm	Paper density g/ cm²	Filtration speed, no more than, sec.	Application
Red tape	5.5; 7.0; 9.0; 11.0; 12.5; 15.0; 18.0	75±3	26.0	Separation of curdy and macro-crystalline precipitates from solutions
White tape	5.5; 7.0; 9.0; 11.0; 12.5; 15.0; 18.0	75±3	45.0	Separation of medium grain sediment from solutions
Blue tape	5.5; 7.0; 9.0; 11.0; 12.5; 15.0; 18.0	85±3	100.0	Separation of fine- crystalline precipitates from solutions
Yellow tape	5.5; 7.0; 9.0; 11.0; 12.5; 15.0; 18.0	75±3	16.0	Analysis of oil and fat products
Black tape (ashen)	5.5; 7.0; 9.0; 11.0; 12.5; 15.0; 18.0	75±3	45.0	Tasks which are not attached to the following gravimetric analysis

PH INDICATOR PAPER

PH paper of different marks which is used for pH determination of water solutions, presence of hydrogen sulphide in solutions and oxidants are widely used in chemical and agrochemical laboratories.

ECROSKHIM Ltd. (ECROS Group) produces 9 types of pH paper (100 strips in one package).

Type of pH indicator paper	pH range	Color range	Application
Universal	0 – 12.0	from yellow to red in acid medium or from yellow to blue in alkaline medium	PH determination in water solutions
Phenolphtalein	8.2 – 10.0	from white to magenta-red	Indications of alkalinity of solution
Lacmoid (blue)	6.5 – 4.5	from blue to red	Indications of acidic properties of solution
Congo (red)	5.2 – 3.0	from red to blue	It is the analogue of indicator paper litmus blue; but the color is more intense
Litmus (blue)	<5.0	from blue to red	Indications of acidic properties of solution
Litmus (neutral)	5.0 – 8.0	from pale purple to red in acid medium, from pale purple to blue in alkaline medium	Indications of main acidic properties of solution
Litmus (red)	>8.0	from red to blue	Indications of alkalinity of solution
Potassium iodide starch	–	from white to blue	Identification of oxidants in solution
Lead acetate	–	from white to black	Identification of sulphide in solution and hydrogen sulphide in air

VOLUMETRIC STANDARDS

ECROSKHIM Ltd. produces 40 items of volumetric standards for titrimetry, which are vials (with dry substances) or glass ampoules (solutions of iodine, sodium and potassium hydroxide, hydrochloric, sulfuric and nitric acids) with precise chemical reagents for the preparation of titrated (standard) solutions with a given volume and molar concentration equivalent.

Type of pH indicator paper	Packaging	Shelf life
Nitric acid	10 ampoules	3 years
Ammonium thiocyanide	10 vials	3 years
Ammonium muriate	10 vials	3 years
Ammonium oxalate	10 vials	3 years
Barium chloride	10 vials	3 years
Iodine	10 ampoules	2 years
Potassium bromide-bromate	10 vials	3 years
Potassium bromide	10 vials	3 years
Potassium bromate	10 vials	3 years
Potassium hydroxide	10 ampoules	6 months
Potassium bichromate	10 vials	3 years
Potassium ferricyanide	10 vials	3 years
Potassium iodide	10 vials	3 years
Potassium iodate	10 vials	3 years
Potassium permanganate	10 vials	3 years
Potassium rhodanide	10 vials	3 years
Potassium chloride	10 vials	3 years
Potassium chromate	10 vials	3 years
Potassium oxalate	10 vials	3 years
Magnesium sulphate	10 vials	3 years
Sodium hydroxide	10 ampoules	6 months
Sodium hydrocarbonate	10 vials	3 years
Sodium hyposulphite	10 vials	3 years

Type of pH indicator paper	Packaging	Shelf life
Sodium tetraborate	10 vials	3 years
Sodium carbonate	10 vials	3 years
Sodium chloride	10 vials	3 years
Sodium oxalate	10 vials	3 years
Sulphuric acid	10 ampoules	5 years
Ferrous ammonium sulphate	10 vials	3 years
Hydrochloric acid	10 ampoules	5 years
Trilon B (disodium dihydrogen ethylenediaminetetraacetate)	10 vials	3 years
Oxalic acid	10 vials	3 years
Amber acid (ethane dicarboxylic acid)	10 vials	3 years
Volumetric pH-standard, pH 1,65 (type 1)	6 vials	2 years
Volumetric pH-standard, pH 3,56 (type 2)	6 vials	2 years
Volumetric pH-standard, pH 4,01 (type 3)	6 vials	2 years
Volumetric pH-standard, pH 6,86 (type 4)	6 vials	2 years
Volumetric pH-standard, pH 9,18 (type 5)	6 vials	2 years
Volumetric pH-standard, pH 12,43 (type 6)	6 vials	2 years
Volumetric pH-standards, set of 6 types (1 vial for each of the 6 standards)	6 vials	2 years

ECROS
group of companies

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