

TOMOGRAPH «MICRON»

The tomograph "Micron" is designed for quick and safe for human X-ray examination of various objects by means of microfocus radiography and tomography.

The tomograph allows obtaining two-dimensional and three-dimensional images of the internal structure of objects without damaging.

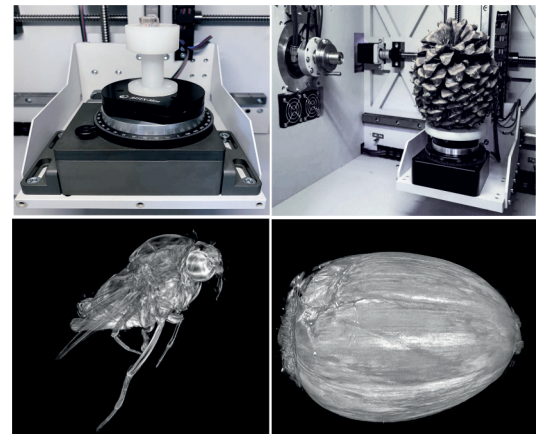


The unit has special devices for positioning objects and the software allows to realize the following functions:

- managing research parameters;
- X-ray image acquisition and processing;
- control of study parameters; importing results in tiff, bmp, jpg;
- measuring linear parameters of objects;
- possibility to change the histogram of the research area;
- application of filters
 - smoothing;
 - sharpening
 - inverting the image;
 - contouring;
 - automatic contrast irony function;
- reconstruction and visualization of a 3-dimensional image;
- tools for selecting an area of interest (cropping).

APPLICATIONS:

- quality control of grain and vegetable seeds, food and fodder grain;
- control of grafting of seedlings of fruit trees and shrubs;
- control of finished products and various stages of the technological process in the electronic industry;
- forensics and forensic medical examination;
- archaeology;
- control of three-dimensional modeling in science and production, etc.



- The manufacturer provides warranty, post-warranty and after-sales service of the apparatus.
- Staff training.
- Advisory assistance.

MAIN TECHNICAL CHARACTERISTICS OF THE TOMOGRAPH «MICRON»

Anode voltage control range, kV	50–130
Step of anode voltage adjustment, kV	1
Anode current control range, mA	0,05 — 0,1
Maximum output radiation power, W	10
Nominal effective focal spot size	≤ 0,03x0,03
X-ray tube exit window material	Be (beryllium)
X-ray tube target material	Re (rhenium)
Operating mode	continuous
Maximum dimensions of the research object (LxDxH), mm	100 x 100 x 200
Number of degrees of freedom of movement of the research object	3
Adjustable X-ray parameters	anode voltage, anode current
Method of X-ray image acquisition	digital
Maximum resolution, μm	5
Image conversion speed	up to 15
Sensitive area size of the detector	430x430 (114x145)
Pixel size of the detector	≤ 139 (49,5)
ADC digit capacity	≥ 14
Signalization of switched on X-ray radiation	light and sound
X-ray source control	software — synchronized with the X-ray image detector
Power supply, kV	1,0
Nominal overall dimensions of the unit (LxDxH)	≤ 1160 x 650 x 750
System weight, kg	≤ 500

SYSTEMS «PRDU»

The multifunctional mobile X-ray system PRDU is designed for non-destructive testing, industrial defectoscopy and scientific research by the method of microfocus radiography.



MAIN ADVANTAGES:

- flat panel X-ray detector;
- the design of the PRDU system provides full protection from X-rays and is exempt from radiation control in accordance with OSPORB-99.



The warranty period is 1 year.

- The manufacturer provides warranty, post-warranty and service maintenance of the devices.
- Organizes personnel training.
- Provides consulting assistance.

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MAIN TECHNICAL CHARACTERISTICS OF THE PRODUCED SYSTEMS

Product Name	PRDU (I)	PRDU (II)	PRDU (III)
Application	Agro-industry, plant breeding, botany, plant breeding, research in medicine	Archaeology, paleontology, biology, history, food industry	Electronics and microelectronics, output control in printed circuit board production
Anode voltage range, kV	20–50	40–60	80–110
Maximum anode current, mA	0,1	0,1	0,1
Nominal effective focal spot size, mm	≤ 0,1x0,1	≤ 0,1x0,1	≤ 0,03x0,03
Size of the sensitive area of the detector at not less than, mm	240x300	430x430	114x145
Detector pixel size not less than, microns	69	139	49,5
ADC digit capacity	14	14	14
System control	specialized software	specialized software	specialized software
Maximum object size	250x200x50	400x400x100	300x300x50
Maximum geometric magnification coefficient	30	50	100
Overall dimensions of the system (LxDxH), mm	≤ 450x450x700	≤ 630x600x850	≤ 770x850x1250
System weight not more than, kg	150	200	500
Power supply, kV	0,5	0,5	1,0

X-RAY APPARATES OF «RAP» SERIES

X-ray apparatuses of "RAP" series are designed for X-ray radiography in stationary and field conditions

They are used for X-ray defectoscopy, non-destructive testing, quality assessment of electronic and metallurgy products, for research of art objects, archaeological objects, etc.



MAIN ADVANTAGES:

- compatibility with all types of visualization systems;
- customizable operating modes for specific tasks;
- high operational reliability;
- parameter stability over the entire operating range;

The warranty period is 1 year.

- The manufacturer provides warranty, post-warranty and service maintenance of the devices.
- Organizes personnel training.
- Provides consulting assistance.

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MAIN TECHNICAL CHARACTERISTICS OF THE PRODUCED DEVICES OF THE «RAP» SERIES

Product Name	RAP 100-12H-3	RAP 120-0,5H-1	RAP 150-0,15H-1
Anode voltage range, kV	30-100	30-120	50-150
Maximum anode current, mA	12	0,5	0,1
Output power, W: — continuous average — maximum	100 800	12 60	8 15
Stability, %	Ua: ± 1 Ia: ± 1	Ua: ± 1 Ia: ± 1	Ua: ± 1 Ia: ± 1
Ripples, %	Ua: 1-3 Ia: 1-3	Ua: 1-3 Ia: 1-3	Ua: 1-3 Ia: 1-3
Operating mode	short-term, continuous	short-term, continuous	continuous
Overall dimensions, mm — monoblock — power supply unit	$\leq 315 \times 150 \times 310$ $\leq 365 \times 200 \times 70$	$\leq 240 \times 210 \times 80$	$\leq 420 \times 150 \times 400$ $\leq 230 \times 220 \times 90$
Weight, kg: — monoblock — power supply unit	≤ 13 ≤ 5	≤ 6	≤ 15 ≤ 3
Anode/target design	anode is internal, target is massive	anode is internal, target is massive	the anode is external, the target is transmitting
Minimum focal distance, mm	≤ 85	≤ 40	≤ 3
X-ray output angle	cone, 40x60	cone, 50	cone, ≥ 90
Nominal effective focal spot size, mm	$\leq 0,8 \times 0,8$	$\leq 0,5 \times 0,5$	$\leq 0,03 \times 0,03$

* It is possible to design the source according to private specifications with change of technical characteristics and massdimensional parameters.

HIGH-VOLTAGE SOURCES «STUB-1ST»

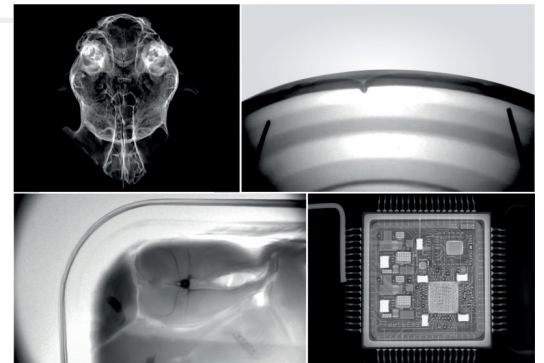
Small-size portable high-voltage source is designed to supply X-ray tubes and charge high-voltage capacitors.

The electrical circuit is equipped with a network filter to eliminate the influence of the electrical network parameters on the source operation. Controls for indication of operating parameters of the source are located on the front side. The process of reaching the operating mode of the source is accompanied by additional light.



The design of the source for the X-ray tube provides:

- selection, setting and stabilization of the set value of the output voltage;
- selection, setting and stabilization of the set maximum value of the X-ray tube filament current;
- selection, setting and stabilization of the anode current value;
- automatic lock;
- output parameters of the source can be controlled remotely from an external PC.



The warranty period is 1 year.

- The manufacturer provides warranty, post-warranty and after-sales service of the apparatus.
- Staff training.
- Advisory assistance.

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MAIN TECHNICAL CHARACTERISTICS OF PRODUCED POWER SUPPLIES

Product Name	Stub-Ist 25-2,5	Stub-Ist 50-0,5	Stub-Ist 50-2,0
Appointment	power supply of X-ray tubes for X-ray diffractometry and spectrometry		
Overall dimensions of the source: (LxDxH), mm	≤ 490x585x225	≤ 370x320x210	≤ 490x585x178
Maximum output voltage/polarity, Kv	25 / negative	50 / negative	50 / negative
Maximum output power, KW	2,5	0,5	2,0
Output connector	CA1 (RCA1)	CA1 (RCA1)	CA1 (RCA1)
Filament current adjustment range, A	0-10	0-6	0-10
Maximum filament supply voltage, V	10	10	10
Stability, %	≤ 0,5	≤ 0,5	≤ 0,5
Ripples, %	≤ 1,0	≤ 1,0	≤ 1,0
Output parameter control	manual/software (RS232)	manual/software (RS232)	manual/software (RS232)
Cooling	forced air	forced air	forced air
Single-phase power supply, V/Hz	~ 220/50	~ 220/50	~ 220/50

PORTABLE X-RAY APPARATUS RAP-120-0,5N-1

X-ray apparatus is designed for X-ray radiography in stationary and field conditions. It is used for X-ray defectoscopy, non-destructive testing, quality assessment of electronic and metallurgy products, art objects, archaeological objects, for security luggage inspection, etc.

The flat panel detector is designed for acquisition and processing of X-ray images of various objects.



MAIN ADVANTAGES:

- portable design, light weight;
- ability to customize operating modes for specific tasks;
- high operational reliability;
- stability of parameters over the entire operating range;
- high resolution and low level of noise in the obtained images;
- change of brightness and contrast, application of various filters;
- export of research results in various formats.



The warranty period is 1 year.

- The manufacturer provides warranty, post-warranty and after-sales service of the apparatus.
- Staff training.
- Advisory assistance.

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MAIN TECHNICAL CHARACTERISTICS

Power consumption, W	≤ 300
Anode voltage range, kV	30–120
Maximum anode current, mA	0,5
Output power, W: — continuous average — maximum	12 60
Stability, %	Ua: ± 1 Ia: ± 1
Ripples, %	Ua: 1-3 Ia: 1-3
Operating mode	short-term, continuous
Overall dimensions, mm	≤ 240x210x80
Weight, kg	≤ 6
Anode/target design	anode is internal, target is massive
Minimum focal distance, mm	≤ 40
X-ray output angle	cone, 50
Nominal effective focal spot size, mm	≤ 0,5x0,5
Maximum exposure time at maximum power, sec	15
Pause between exposures, sec	60