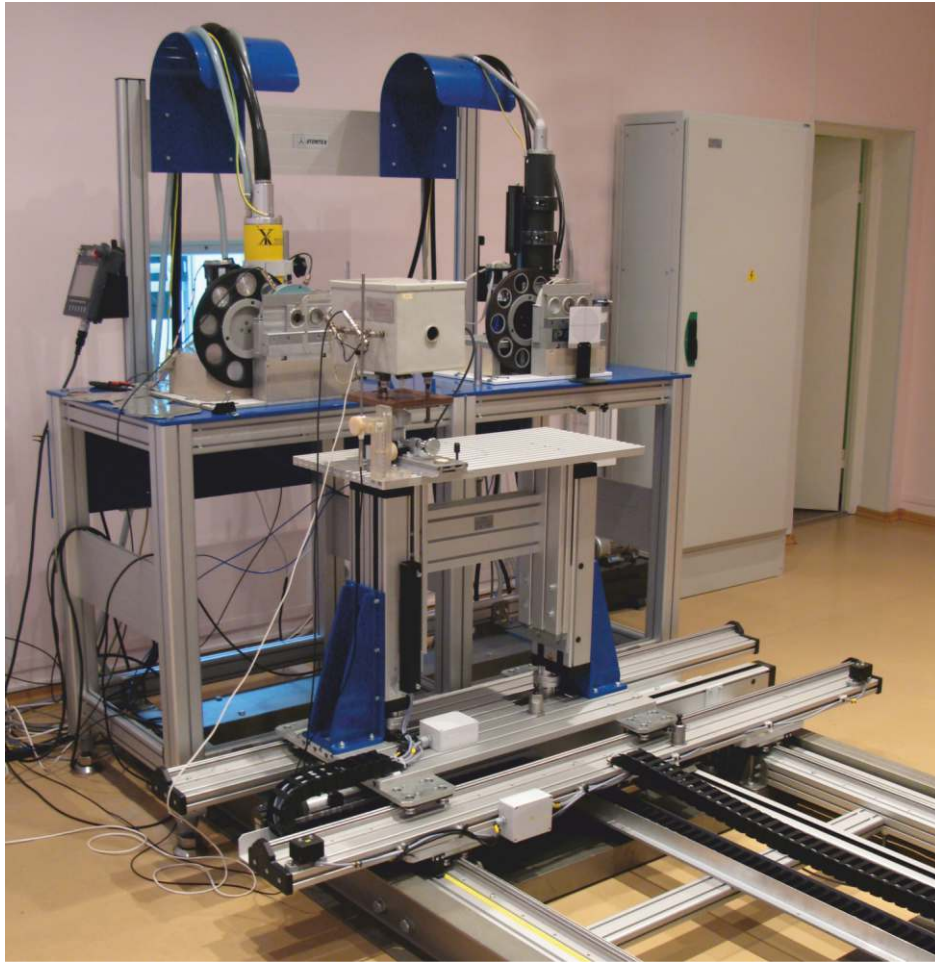


Calibration Bench AT-03



AT-03 Automated calibration stand is designed for positioning of standard and calibrated dose rate and dose measuring instruments in X-ray field.

Operation principle

Calibration stand provides positioning of standard and calibrated equipment on the desktop and moving them to a specified working distance from the X-ray irradiators using a positioning system.



Stand coordinates are linked to the center of the irradiator and of the X-ray beam axis based on the alignment results using the measuring rods and laser systems.

Stand management functions are carried out by the software and a portable control panel.

The video surveillance system is used for remote reading of indications on the scales of calibrated devices.

Applications

- Metrological assurance of x-ray dosimetry:
 - Application in the X-ray standard and calibration dosimetric installations
 - Metrology laboratories for dosimetry equipment proofing and calibration
 - Second standard dosimetry laboratory (SSDL)

Features

- Precision positioning of standard and calibrated equipment
- X-, Y-, Z-coordinate positioning of the moving table using digital servomotors
- Centering the standard and calibrated equipment using stands, measuring rods and laser systems
- Snapping the X-coordinate to the center of irradiator
- Automatic and manual positioning
- Remote monitoring of calibrated instruments indicated value using video surveillance system
- Equipment protection functionality:
 - Control and limitation of movement range of platform and desktop
 - Feed and control circuit protection with automatic circuit breaker and quick-break fuse
- One or two X-ray irradiators with filter system can be used



ATOMTEX[®]

INSTRUMENTS AND TECHNOLOGIES FOR NUCLEAR
MEASUREMENTS AND RADIATION MONITORING

Calibration Bench AT-03

Specification

Moving table travel range:

Along the radiation beam axis (axis X)	0 mm...2300 mm
Across the radiation beam axis	
- Horizontal (axis Y)	0 mm...1120 mm
- Vertical (axis Z)	0 mm...200 mm
Around a vertical axis (using the rotary table)	360° with 15° increments

Radiation beam height	1200 mm...1300 mm
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Relative error of ranging during standard and calibrated equipment positioning in the radiation beam:

Along the radiation beam axis (axis X)	≤0.02%
Across the radiation beam axis (axis Y)	≤0.05%

Reproducibility of moving table travel function:

Along the radiation beam axis (axis X)	≤0.02 mm
Across the radiation beam axis	
- Horizontal (axis Y)	≤0.05 mm
- Vertical (axis Z)	≤0.05 mm

Minimal discrete steps of the moving table:

Along the radiation beam axis (axis X)	≤0.005 mm
Across the radiation beam axis	
- Horizontal (axis Y)	≤0.01 mm
- Vertical (axis Z)	≤0.01 mm

Operation mode setup time	≤1 min
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Continuous operation time	≥24 h
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Power supply	230 (± 23) V, (50 ± 1) Hz
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Required power	≤1000 VA
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Operating temperature range	+15°C...+25°C
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Relative humidity	≤80%
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Dimensions, no more:

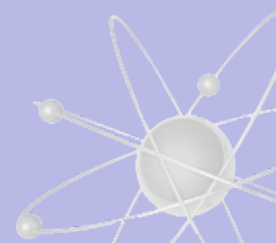
Position system mechanism	3850x2030x207 mm
Control unit	800x430x2000 mm
Control panel	220x176x95 mm
Laser unit	1120x420x230 mm

Weight, maximum:

Position system mechanism	430 kg
Control unit	130 kg
Control panel	1 kg
Laser unit	20 kg

Complete set

- Positioning system:
 - Positioning system mechanism, including base, moving platform, lifting table and table for irradiators
 - Control unit
 - Control panel
 - Alarm
 - Push-button station
 - Uninterruptible power supply
 - Associated cables
 - Associated electric bus lines
- Laser system:
 - Laser unit
 - Lasers power supply unit
 - Cable
- Video surveillance system
 - Video camera with a power supply unit
 - Video monitor with a power supply unit
 - Mobile monitor with a power supply unit
 - Associated cables
 - Holder
 - Support for video monitor
 - Extension cord
- Accessory tool set
- Set of mounting elements
- Set of spare parts
- User's Manual



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