

# AT-03

High quality calibrations in radiotherapy and metrology

## MECHANICAL CALIBRATION BENCH

### Features

- Cooperation with gamma therapeutic devices such as AGAT-S, x-ray therapeutic apparatus, UPGD and their modifications
- Positioning simultaneously up to 2 ionization chambers or other dosimetry instruments on platform precision moving tables with different degrees of freedom
- High accuracy of ionizing chambers' positioning along radiation beam axis using high resolution optical visual devices
- Turnkey bench



### Application

- Ionizing radiation metrology
- Laboratories to research, adjust and serialize dosimetry equipment
- Metrology laboratories to calibrate and verify dosimetry equipment
- Second standard dosimetry laboratories (SSDL)

Calibration bench AT-03 is used for positioning ionization chambers and other dosimetry instruments in collimated beam of x-ray and gamma radiation. Positioning is performed manually by a user:

- by positioning moving platform along radiation beam axis;
- by positioning moving table perpendicularly to radiation beam axis using precision guides placed on moving platform;
- by positioning two moving tables along radiation beam axis using precision guides on movable platform.

Supports to mount ionizing chambers of clinical dosimeters are on moving tables. Lifting table to place different dimensional instruments can be placed instead of supports.

To pose ionizing chambers in necessary position and define their coordinates along radiation beam axis use laser device and measurement scale. If necessary it is possible to use optical system (the level) to pose accurately ionization chambers. The level and laser device are placed on moving table of bench platform and measurement scale is mount on radiation bin wall parallel to radiation beam axis.



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**INSTRUMENTS AND TECHNOLOGIES FOR  
NUCLEAR MEASUREMENTS AND RADIATION MONITORING**

## Specification

<b>The range of operational movements of platform</b> along radiation beam axis .....	0 - 10 m
<b>Platform dimensions</b> (maximum) .....	1000 ÷ 1000 mm
<b>The range of operational movements of moving tables:</b>	
for ionizing chambers .....	0 - 500 mm
for level and laser device .....	0 - 650 mm
<b>Absolute error of ionization chambers' positioning</b> along radiation beam axis .....	not more than 0.3 mm
<b>Operating temperature range</b> .....	10 - 35 °Ñ
<b>Bench weight</b> , not more than:	
bench foundation with cylinder-shaped guides.....	180 kg
moving platform .....	80 kg
<b>Average original life</b> .....	not less than 10000 h
<b>Average service life</b> .....	not less than 15 years

**Complete set:** bench foundation with cylinder-shaped guides, moving platform with operation moving table and small tables, laser device for alignment, laser device and wall scale to define coordinates of equipment to verify, supports to mount ionization chambers, rotating table for phantom, set of spare parts and accessories and Manual. TV monitoring system of placed on the platform instruments' readings, optical device (the level) to pose accurately equipment to verify, lifting table, safety TV monitoring system (video camera, video monitor, cable), gamma radiation alarm dosimeter AT2327 and standard dosimeter AT5350 are options and they supplied **on additional order**.

Calibration bench configuration is performed according to the customer requirements.

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