

# AT-02

High quality calibrations in radiotherapy and metrology

## Features

- Cooperation with gamma therapeutic units such as AGAT-S.PGD and their modifications
- Positioning simultaneously up to 3 ionizing chambers and other dosimetry instruments on fixed or movable platform, moving tables with different degrees of freedom
- High accuracy of ionization chambers' positioning along radiation beam axis using high resolution optical devices
- Simultaneous positioning up to 3 chambers on movable platform, water phantom of 300x300x300 mm, optical and laser system TV monitoring system
- Turnkey bench



Calibration bench AT-02 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 two moving tables perpendicularly to radiation beam axis using precision guides placed on moving platform;
- by positioning three moving tables along radiation beam axis using precision guides on movable platform.

Supports to mount ionization chambers of dosimeters and water phantom to measure absorbed dose rate are on moving tables. Moving table with water phantom could rotate on vertical axis. Lifting table to place different dimensional instruments can be placed instead of the water phantom.

To pose ionization 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 tables of bench platform, and measurement scale is mount on radiation bin wall parallel to radiation beam axis.

## MECHANICAL CALIBRATION BENCH



## Application

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



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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) .....	2000 ÷ 1000 mm
<b>The range of operational movements of moving tables:</b>	
for ionizing chambers .....	0 - 800 mm
for level and laser device .....	0 - 650 mm
for phantom .....	0 - 560 mm
<b>Absolute error of ionization chambers' positioning</b> along radiation beam axis .....	not more than 0.3 mm
<b>Angle moving table</b> with water of phantom rotation on vertical axis .....	on 360° (in increment) 15°
<b>Operating temperature range</b> .....	+15°Ñ +35 °Ñ
<b>Bench weight</b> , not more than:	
bench foundation with cylinder-shaped guides .....	200 kg
moving platform .....	150 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 operating 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 instruments' reading on the platform, 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 are supplied **on additional order**  
Calibration bench configuration is performed according to the customer requirements.

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