

# AT1316

Express monitoring and measuring of gamma radiation radioactivity in a human body, dose evaluation of internal irradiation

## Features

- Stabilized spectrometric path
- Spectrometric and radiometric measuring modes
- Effective algorithm of spectra processing by the maximum likelihood method
- Possibility to extend radionuclides to control in the radiometric measuring mode
- Radionuclide identification
- Expected effective dose of internal irradiation calculation
- Flexible program control over whole body counter functions, data base management and result reports
- Compact chair design
- Rapid background (phantom) spectra measuring using the generation function of operating spectra

# WHOLE BODY COUNTER

**300 Bq for 3 minutes**  
Check-up to 15 persons per hour



## Application

- People and staff monitoring within and after radiation accident
- Dose burden control of internal irradiation from incorporated radionuclides
- Working in nuclear industry or with open radiation sources staff monitoring



# ATOMTEX

INSTRUMENTS AND TECHNOLOGIES FOR  
NUCLEAR MEASUREMENTS AND RADIATION MONITORING

The whole body counter operation is based on measuring gamma radiation from incorporated radionuclides and processing spectrometric data by firmware to evaluate internal contamination taking into account anthropometric personal features.

## Specification

<b>Detecting radiation energy range</b> .....	0.05 - 3 MeV
<b>Minimum measuring activity of <sup>137</sup>Cs in an adult human body (for 3 min)</b> .....	300 Bq
<b>Radionuclides to control in the standard mode</b> .....	<sup>137</sup> Cs, <sup>40</sup> K
<b>Measuring geometry (sitting in a chair)</b> .....	opening angle of 100°
<b>Intrinsic measurement error</b> .....	±15%
<b>MCA</b> .....	1024 channels
<b>Integral non-linearity</b> .....	not more than ±1%
<b>Relative energy resolution on <sup>137</sup>Cs</b> .....	not more than ±12%
<b>Operation mode setup time</b> .....	10 min
<b>Continuous operation time</b> .....	24 h
<b>Reading instability</b> .....	not more than ±3%
<b>Check-up at express control</b> .....	15 persons/hour
<b>Operating temperature range</b> .....	+10 +35 °C
<b>Relative humidity at 30 °C</b> .....	up to 75 %
<b>Power requirements -AC mains</b> .....	220 (+22;-33) V, 50 Hz
<b>Required power</b> .....	not more than 200 VA
<b>Protection class against current damage</b> .....	1, type B
<b>Radio disturbance</b> CEI/IEC CISPR 22:1997	
<b>Electromagnetic compatibility</b> CEI/IEC 61000-4-2:1995 IEC 61000-4-4:1995 IEC 61000-4-11:1994	
<b>Weight</b> .....	250 kg
<b>Minimum area for placement</b> .....	2000 x 1500 mm

**Complete set:** spectrometric smart probe, protective lead shield (smart probe collimator), measuring chair with protective lead shield, processing unit, AC adapter, reference <sup>137</sup>Cs gamma radiation source, 9 kBq, reference source holder, manual, user's guide, measuring technique, applied software, PC, scales, auxanometer and package.

The whole body counter AT1316 has pattern approval certificates of Republic of Belarus, Russian Federation, Ukraine and Kazakhstan.  
It complies with IEC 61582 International standard requirements. It also conform with the 89/336/EEC directive complying with EN 61326 standard requirements and 73/23/EEC directive complying with EN61010-1, EN 50371 standard requirements.

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