

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

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