

AT1315

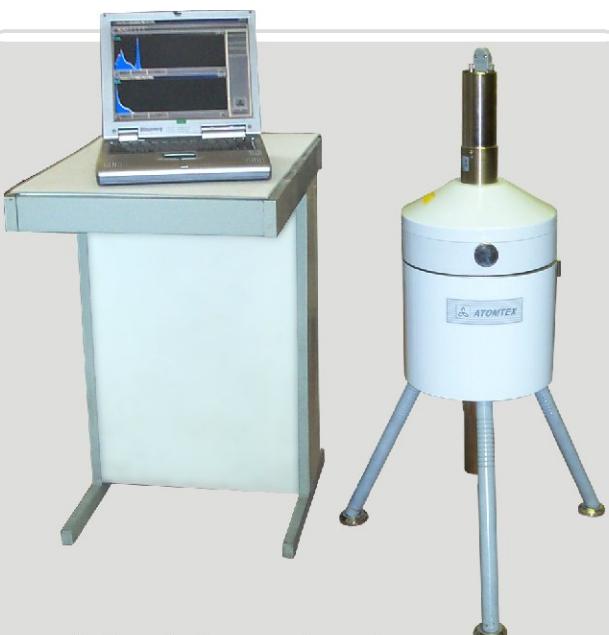
Two-crystal scintillation spectrometer with protection on anticoincidence to measure simultaneously and selectively specific ^{137}Cs , ^{90}Sr and ^{40}K radioactivity in environmental targets, evaluate specific effective activity of natural radionuclides in buildings materials and perform metal radiation monitoring

Features

- Identification of ^{137}Cs , ^{90}Sr , ^{40}K , ^{226}Ra , ^{232}Th and others isotopes
- 1024-channel MCA
- Continuous automatic LED stabilization while measuring
- Calibration from a radioisotope reference source
- PC spectra processing by the maximum likelihood method
- Automatic account of sample spectra acquisition in real time on PC display
- Simultaneous spectra acquisition and processing
- Multitask PC operation
- Library of gamma radiation radionuclides

GAMMA BETA RADIATION SPECTROMETER

^{137}Cs from 2 Bq/l ^{90}Sr from 0.2 Bq/l



Gamma beta radiation spectrometer



Gamma radiation spectrometer

Application

Spectrometric and radiometric monitoring of gamma and beta radiation radionuclides in water, food, agricultural, industrial and building materials, metal products, timber and environmental targets (soil, vegetation etc.).



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*INSTRUMENTS AND TECHNOLOGIES FOR
NUCLEAR MEASUREMENTS AND RADIATION MONITORING*

Specification

Detectors	Intrinsic measurement error
scintillation NaI(Tl) Ø63x63 mm	at P=0.95 ±20 %
plastic scintillator Ø128x10 mm	
Energy range	Lower measuring range limit of ⁹⁰Sr of concentrated samples (on natural sample basis)
gamma radiation 50 - 3000 keV	drinking water 0.2 Bq/l
beta radiation 150 - 3500 keV	milk, children's food 1.5 Bq/l
	potatoes, bread, grain, agricultural materials 2.0 Bq/kg
Integral non-linearity <1 %	Power requirements - AC mains
Relative energy resolution	voltage 220 V
for gamma line of 662 keV < 8.5 %	frequency 50 Hz
Maximum input statistical load 10 ⁴ s ⁻¹	Required power not more than 100 VA
Continuous operation time not less than 24 h	Operating temperature range +10 ÷ +35 °C
Calibration instability	Radio disturbance
for continuous operation < 2 %	CEI/IEC CISPR 22:1997
Instrument data instability	Electromagnetic compatibility
for continuous operation < 5 %	CEI/IEC 61000-4-2:1995
Operation mode setup time < 30 min	IEC 61000-4-4:1995
Number of channels	IEC 61000-4-11:1994
gamma spectra 1024	
beta spectra 1024	
Volume (specific) activity measuring range	Weight
for natural samples	gamma radiation smart probe 3 kg
¹³⁷ Cs 2 - 10 ⁶ Bq/l (Bq/kg)	beta radiation smart probe 3 kg
⁴⁰ K 20 - 2·10 ⁴ Bq/l (Bq/kg)	processing units 0,6 kg
⁹⁰ Sr 20 - 10 ⁶ Bq/l (Bq/kg)	protection unit 120 kg
²²⁶ Ra 3 - 10 ⁴ Bq/l (Bq/kg)	
²³² Th 3 - 10 ⁴ Bq/l (Bq/kg)	
Dimensions	Dimensions
	gamma radiation smart probe Ø97.5x420 mm
	beta radiation smart probe Ø138x358 mm
	processing units 193x123x59 mm
	protection unit Ø600x730 mm
Measuring vessels for natural samples	
	Marinelly 1 l
	flat 0.5 and 0.1 l
Measuring vessels for concentrated samples	
	flat 0.2 and 0.03 l

Complete set: spectrometric gamma and beta radiation smart probes, protection unit, processing units, AC adapter, PC, applied software, reference ¹³⁷Cs gamma radiation source, 9 kBq, sample compactor, measuring vessels, Manual, User's guide and measuring techniques.

The gamma beta radiation spectrometer AT1315 has pattern approval certificates of Republic of Belarus, Russian Federation and Kazakhstan.
It complies with IEC 61563 and IEC 61562 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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