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High sensitive wide-range selective spectrometric scintillation radioactivity monitors to measure volume and specific ^{137}Cs radioactivity in environmental targets and specific effective activity of natural radionuclides ^{40}K , ^{226}Ra , ^{232}Th in buildings materials and to perform metal radiation monitoring

Features

- Spectrometric smart probe (Wilkinson MCA, 512 channels)
- Built-in continuous automatic LED stabilization of the energy scale and it's periodical calibration using a KCl check sample
- Background value keeping in the memory and its automatic subtraction
- Instrument spectrum processing using "energy windows"
- Spectrometric data output on a matrix backlit LCD 128x64
- Logging up to 300 measured spectra in the nonvolatile memory
- PC interface
- Recalibration to other radionuclides and measuring geometries
- Optional ^{222}Ra measuring in soil, soil air and indoor air
- Radiation monitoring of mushrooms and berries in standard 10l boxes for 20 s

Application

Radioactivity monitoring

- Food (drinking water, agricultural products etc.)
- Minerals, buildings materials, timber, etc.
- Metal and petrochemical products, raw materials and scrap, industry
- Nuclear wastes

GAMMA RADIOACTIVITY MONITORS

from 3.7 to 1 000 000 Bq/kg



ATOMTEX

INSTRUMENTS AND TECHNOLOGIES FOR
NUCLEAR MEASUREMENTS AND RADIATION MONITORING

Specification

Detector scintillation NaI(Tl) Ø63 x 63 mm	Continuous operation time not less than 24 h
Volume (specific) activity measuring range	Instrument data
¹³⁷ Ns 3/7 - 1000000 Bq/l (Bq/kg)	instability for 24 h not more than 3 %
⁴⁰ K 50 - 20000 Bq/l (Bq/kg)	Operating temperature range from 0 to 40 °C
²²⁶ Ra 10 - 10000 Bq/l (Bq/kg)	Power requirements 220 (+22; -33) V, (50±2) Hz
²³² Th 10 - 10000 Bq/l (Bq/kg)	Required power not more than 8 VA
Intrinsic error	Radio disturbance
of volume (specific) activity	EN 55022:2006
measurement at P=0,95 not more than ± 20 %	Electromagnetic compatibility
Density range of measured samples 0.1 - 3.0 g/cm ³	IEC 61326-1:2005
Minimum measuring ¹³⁷Cs volume activity	EN 61000-4-3:2002
in a Marinelly vessel filled with drinking water for 3 h with statistical error of ± 50 % (D = 0.95) 3.0 Bq/l	Operating mode setup time 10 min
Energy range of detected gamma radiation 50 - 3000 keV	Measuring vessels
Integral non-linearity not more than 1 %	Marinelly 1 l
Proper background	flat 0.5 l or 0.1 l
in ¹³⁷ Cs window less than 2 cps	plastic box, 380x280x100mm 10 l
Relative energy resolution on ¹³⁷Ns 7.0 - 9.5 %	Dimensions, weight
	Smart probe Ø98x350 mm, 3.0 kg
	Processing unit 220x106x35 mm, 0.62 kg
	Protection unit Ø600x700 mm, 125 kg
	AC adapter 92x62x52 mm, 1.0 kg

Instrument	Radionuclides to control	Measuring vessels
AT1320	¹³⁷ Ns, ⁴⁰ K, ²²⁶ Ra, ²³² Th	1 l, 0.5 l, 0.1 l
AT1320A	¹³⁷ Ns, ⁴⁰ K	1 l, 0.5 l, 0.1 l
AT1320B	¹³⁷ Ns, ⁴⁰ K	1 l, 0.5 l, 0.1 l, 10 l (without protection unit lid)

Complete set: smart probe, protection unit, processing unit, AC adapter, Manual, measuring techniques, measuring vessels, sample compactor and check sample KCl.
Applied software for spectra processing on PC is an option and it is supplied on **additional order**

The gamma radioactivity monitor AT1320 (AT1320A, AT1320B) has pattern approval certificate of Republic of Belarus, Russian Federation, Ukraine, Lithuania and Turkmenistan.
It complies with IEC 61563 International standard requirements. They also conform with the 89/336/EEC directive complying with EN 61326 standard requirements and 73/23/EEC directive complying with EN61010-1 standard requirements.

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