

AT1320, AT1320A AT1320B

High-sensitive wide-range selective scintillation activity monitors of spectrometric type to measure volume and specific activity of ^{137}Cs , evaluate effective specific activity of natural radionuclides ^{40}K , ^{226}Ra , ^{232}Th in environmental targets

Features

- Intelligent detection unit of spectrometric type (Willkinson's MCA, 256 channels)
- Built-in automatic continuous LED stabilization of monitor energy scale, control of calibration safety and automatic calibration from radioisotope reference source
- Background keeping in the memory and its automatic subtraction
- Processing by "energy windows"
- Spectrometric data output on matrix LCD 128x64 with a backlighting
- Record and keeping up to 500 measuring spectra in the memory
- Special control panel
- PC interface
- Possibility to re-calibrate to other radionuclides and measuring geometries
- Rapid radiation monitoring of mushrooms and berries in standard box of 10 l

Application

- Monitoring of drinking water
- Monitoring of agroindustrial products
- Monitoring of minerals, raw materials, timbers, etc.
- Monitoring of products, raw materials and scraps in metallurgy, mining and petrochemical industries
- Monitoring of wastes and chops in nuclear industry

GAMMA ACTIVITY 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)	63 x 63 mm
Volume (specific) activity measuring range	
¹³⁷ Cs	3.7 - 1000000 Bq/l (Bq/kg)
⁴⁰ K	50 - 20000 Bq/l (Bq/kg)
²²⁶ Ra	10 - 10000 Bq/l (Bq/kg)
²³² Th	10 - 10000 Bq/l (Bq/kg)
Relative intrinsic volume (specific) activity measurement error at P=0.95	not more than ± 20 %
Measuring sample density range	0.1 - 3.0 g/cm ³
Minimum measuring volume activity of ¹³⁷ Cs in drinking water with Marinelly's vessel for 3 h at statistic error of ±50 % (P=0.95)	3.0 Bq/l
Detecting gamma radiation energy range	50 - 3000 keV
Integral nonlinearity	not more than 1 %
Proper background in the window of ¹³⁷ Cs	less than 2 cnt/s
Relative energy resolution on ¹³⁷ Cs	7.0 - 8.5 %
Continuous operating time	not less than 24 h
Reading instability for 24 h operation	not more than 3 %
Operating temperature range	0 +40°C
Power requirements	220 (+22; -33) V, (50±2) Hz
Required power	not more than 8 VA
Operation mode setup time	15 min
Measuring vessels	
Marinelly	1 l
flat	0.5 l and 0.1 l
plastic box, 380x280x100 mm	10 l

Electromagnetic compatibility
 CEI/IEC 61000-4-2:1995
 IEC 61000-4-3:1995
 IEC 61000-4-4:1995
 IEC 61000-4-11:1994

Radio disturbance characteristics
 CEI/IEC CISPR 22:1997

Dimensions, weight

detection unit	97x405 mm, 3.0 kg
processing unit	200x109x35 mm, 0.62 kg
protection unit	600x700 mm, 110 kg
AC adapter	92x62x52 mm, 0.8 kg

Warranty

18 months

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

Complete set: detection unit, protection unit, processing unit, AC adapter, Manual, measuring technique, measuring vessels for each modification, sample compactor, reference sample, applied software to operate with spectra. By additional order it is possible to recalibrate the monitor to measure other radionuclides and measuring geometries.

The gamma activity monitor AT1320 has pattern approval certificate of Republic of Belarus.

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