

# AT1320, AT1320A AT1320B

High sensitive wide-range selective spectrometric scintillation radioactivity monitors to measure volume and specific  $^{137}\text{Cs}$  radioactivity in environmental targets and specific effective activity of natural radionuclides  $^{40}\text{K}$ ,  $^{226}\text{Ra}$ ,  $^{232}\text{Th}$  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  $^{222}\text{Ra}$  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

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

Instrument	Radionuclides to control	Measuring vessels
AT1320	<sup>137</sup> Cs, <sup>40</sup> K, <sup>226</sup> Ra, <sup>232</sup> Th	1 l, 0.5 l, 0.1 l
AT1320A	<sup>137</sup> Cs, <sup>40</sup> K	1 l, 0.5 l, 0.1 l
AT1320B	<sup>137</sup> Cs, <sup>40</sup> 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.

**5, Gikalo st., 220005 Minsk,  
Republic of Belarus**  
**tel. +375 17 2928142**  
**tel. / fax +375 17 2928142, 2882988**  
**e-mail: info@atomtex.com**  
**http://www.atomtex.com**



# ATOMTEX