BALTIC SCIENTIFIC INSTRUMENTS

Laboratory HPGe Spectrometer with Lead Shield

(Liquid Nitrogen cooled)

Application

Radionuclide monitoring of environmental objects (solid, powder, liquid), medicine and biological objects, materials and food.

Complete set

- HPGe Coaxial or Planar detector
- Well-type and N-type detectors are availbale
- Lead Shield for lower back signal with a support
- Liquid nitrogen sensor and level monitor LN_2 Monitor
- Digital or Analog-Digital Multi Channel Analyzer
- Analytical software for quantitative and qualitative analysis

Features

- Adopting precision gamma-spectrometery methods
- Radionuclide identification and determination of their specific activity
- Low level of instrumental background
- Low threshold for radionuclide detection
- Separate and simultaneous measurement of activity of 100 radionuclides
- Ultra-low background materials are available with U + Th content less than 1 Bq/kg
- Spectrometer can be equipped with automated liquid nitrogen filling system

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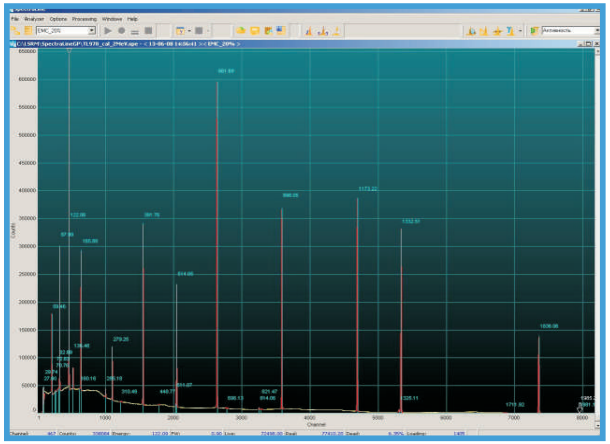
Specification

Parameter	Value
Detection limit for ^{137}Cs radionuclide specific activity, measurement time 1 hour, Bq/kg	0.5
Absolute sensivity to gamma flux for 30%* efficiency detector, pulse/quantum	4.5×10^{-3}
Instrumental background intensity for energy range from 40 keV to 3 MeV, pulse/keV x s	$< 5 \times 10^{-4}$
^{137}Cs radionuclide specific activity measurement error for 1 hour measurement time, %	< 20
Shield thickness	
Lead wall, mm	100
Copper wall, mm	10
AC power supply	
Voltage, V	230
Frequency, Hz	50
Detection Unit with Lead Shield dimensions, mm	1300 x 580 x 480
Detection Unit with Lead Shield weight, kg	800

* Detectors with higher efficiency are available



Spectrum of source Lt978 in 1l Marinelli beaker, including:
Americium-241
Cadmium-109
Cobalt-57
Cerium-139
Mercury-203
Tin-113
Strontium-85
Cesium-137
Yttrium-88
Cobalt-60