BALTIC SCIENTIFIC INSTRUMENTS

Bringing Solutions

HPGe Spectrometer with Lead Shield

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DESCRIPTION

The Coaxial HPGe Detector with Lead Shield is designed for high-resolution gamma spectrometry, allowing precise identification and quantification of radionuclides in a wide range of environmental samples. It is commonly used to measure gamma radiation in rocks, minerals, sludge, slag, soil, plants, sediments, and food. The integrated lead shielding minimizes background radiation, significantly improving detection sensitivity and accuracy, making it ideal for laboratory analysis in environmental monitoring and radiological assessments.

FEATURES

- Available in Vertical and U-type cryostat
- Adopting precision gamma-spectrometry 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
- Several grades of instrument material (Al, Cu, etc.) radiopurity:
    - Standard spectrometric
    - Low-background
    - Ultra low-background
- All HPGe cooling types are welcome (Monolith/Nicole/LN2)
- Lead thicknesses: 100mm and 150mm

COMPLETE SET

- Detection Unit based on HPGe detector
- Lead Shield with a support
- Multi Channel Analyzer MCA
- Analysis Software GammaPRO
- Cable set
- Documentation

ADD-ONS

- Advanced software package MCC-MT
- Liquid nitrogen level monitor (LN2 Monitor)
- Etc.

Parameter	Value
Detection limit for Cs137 radionuclide specific activity, measurement time 1 hour, Bq/kg	0.5
Absolute sensitivity to gamma flux for 30% efficient detector, pulse/quantum	4.5×10^{-3}
Instrumental background intensity for energy range from 40 KeV to 3 MeV, pulse/KeV x sec	5×10^{-4}
Cs137 radionuclide specific activity measurement error for measurement time 1 hour, %	20

Baltic Scientific Instruments
Ramulu str. 3
Riga, LV-1005
Latvia

Phone: +371 67383947
E-mail: sales@bsi.lv
www.bsi.lv

Gamma-rays