



Robotic Gamma Spectrometer

with sample changer

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DESCRIPTION

The Automated Spectrometer is intended for the detection and analysis of radio nuclides from various types of environmental objects such as rocks, minerals, sludge, slag, soil, plant, sediment and particulate matter in air and water. The spectrometric system is able to determine the composition of a sample based on the photon energy and the activity based on the photon flux. The low-background lead shielding together with the HPGe detector gives precise results even for low activity materials.

FEATURES

The fully automated sample changer enables the user to measure more than 40 samples, without having to interact with the Robotic Gamma Spectrometer. This reliable robotic sample changer increases the productivity and reduces the possibility of health risks for the operator

COMPLETE SET

- Gamma-ray detector based on HPGe detector in U-style cryostat with remote preamplifier and 30L Dewar vessel
- Lead shield
- Multichannel analyzer
- Software for spectra processing, identification of radionuclides and calculation of their activities
- Software for efficiency calibration of arbitrary shaped objects
- Automatic sample changer based on robot arm with compact controller
- Table with sample holders and safe cabinet
- Barcode reader together with barcode printer
- Control software for robotic arm
- Master controller with process managing software
- Liquid nitrogen sensor and monitor (for LN2 solutions)
- Cable set of 3m length

Robotic Arm

The seven-axis robot handles a payload of up to 3kg and with, practically, unlimited reach, the robot is able to carry out a series of operations using flexible rather than hard automated solutions. In addition to a horizontal reach, the robot has the ability to reach below its base. Furthermore, the robot has a very compact turning radius, which is enabled by the robot symmetric architecture, without offset on axis 2. This ensures the robot can be mounted close to other equipment.

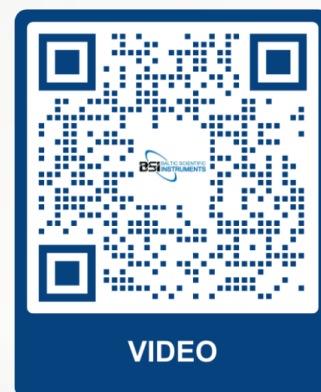
Basic characteristics of Robot arm:

- Seven-axis manipulator
- Machine vision
- Payload: 3 kg
- Reach: per request
- Accuracy: ± 0.01 mm
- Weight: 25 kg
- All motors and cablings enclosed
- Compact controller
- Sample holder tool for vessels with diameter in range 40 – 110 mm.

SAMPLES

Measurement geometries are:

- Bottles
- Denta
- Marinelli
- Petri vessels
- Test tubes
- Etc.



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Gamma-rays