

SPECTROMETRIC MOBILE SYSTEM FOR EASY, FAST AND PRECISE CHARACTERIZATION OF RADIOACTIVE DRUMS

EASYSKAN

MAIN FEATURES

- *Efficient alternative to HPGe-based systems*
- *Fully characterized with Monte Carlo simulations*
- *Characterization of drum sub-volumes, up to 400 liters*
- Robust mechanical structure
- Detectors: 4 NaI(Tl) scintillators 3"x3" with compact MCA
- 20 mm lead shielding/collimator for each detector
- Geometries database and release limits calculation
- Data archive and measurement reports
- MDA (Co-60): down to 0.05 Bq/g (15 min)



DESCRIPTION

The **EASYSKAN** spectrometric mobile system is a robust and handy system designed to perform an easy, fast and precise spectrometric analysis of radioactive material contained in drums, where the fine spectroscopy provided by HPGe-based systems is not needed.

The main components are:

- 3"x3" NaI(Tl) scintillators coupled to MCA (4 in total)
- Lead shielding for collimating the scintillator field-of view
- Mechanical support structure for detectors
- Control laptop with user-friendly software

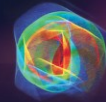
The detectors are distributed over a vertical array of 4 units. Each detector is provided with a 20 mm lead shielding, which acts as a collimator: this way each scintillator "sees" one of the four vertical layers of the radioactive drum. The system can achieve an MDA of 0.05 Bq/g (15 minutes measurement, 0.2 g/cc density, 220 l drum).

The mechanical support structure is robust and very easy to move around. It can be easily moved around in different locations without the need of dismantling the scintillators or the electronics. Thanks to the anti-vibration absorbers, it can well resist accidental bumps.

Radioactive drums of different volume can be characterized with the **EASYSKAN**, i.e. 220, 300, 400 liters and even bigger ones. The position of the scintillators can be set in a quick and fast way thanks to four manual wheels, located on top of the structure.

The operator interacts with the **EASYSKAN** through a sophisticated yet easy-to-use software. To perform the measurement, the operator uses a one-button procedure, by setting only the pre-set measurement time. A 15-minute measurement time is enough for most cases where low to very-low radioactive concentrations shall be measured. Measurement reports are provided at the end of each scan.

The **EASYSKAN** comes with a full Monte Carlo characterization of the response function of each scintillator. Both the response functions and the measurement report can be customized according to the customer's specific needs in terms of different isotopes to be searched, material density, drum volume, etc...



TECHNICAL SPECIFICATIONS

Detectors and electronics

- Type: 3"x3" NaI(Tl) scintillator crystals coupled to PMT
- Number of units: 4 in total, distributed on a vertical array
- Energy resolution: < 7.5 % for Cs-137
- Compact MCA with 4k channels
- Battery back-up in case of power failure
- Lead collimator thickness: 20 mm

Management software

- Representation of detector – collimator – drum
- Efficiency curves calculation
- Calculation of specific activity (Bq/g)
- Drum geometry database
- Customizable release concentration limits
- Customizable analysis reports and printing options
- Good functioning verification

MDA levels

- For a typical drum filled with concrete material (2 g/cc)
- Co-60: 0.20 Bq/g
- Cs-137: 0.80 Bq/g
- Eu-152: 0.42 Bq/g
- For a typical drum filled with plastic material (0.2 g/cc)
- Co-60: 0.05 Bq/g
- Cs-137: 0.21 Bq/g
- Eu-152: 0.11 Bq/g

The EASY SCAN operates with no moving parts, as it is a totally manual system. This avoids any risk generated by engine-related issues, and helps in reducing potential risks caused by improper use.



ACCESSORIES AVAILABLE UPON REQUEST

1. Warranty extension from 12 months to 24 months