



Waste Assay Monitor HERCULES

(based on HPGe and/or scintillation detectors)

Application

Waste Assay Monitor Hercules is intended for the measurement and determination of activities, activity concentration, total activities and total activity concentrations of selected radionuclides which emit gamma radiation in a range from 100 to 1500 keV. Solids and subjects are measured with average density up to 2055kg/m³ located in standard drums with volume of about 0.2m³ and 0.4m³ and not standard packages of wastes of different matrixes.

Features

Waste Assay Monitor Hercules is a complex measuring system which is intended for monitoring of radioactive waste in standard 200-litre drums and not only.

Hercules includes following systems:

- Spectrometric unit based on High-resolution HPGe detector (or multiple HPGe detectors) suitable to perform segmented gamma-spectrometric scanning for determination of activities of selected radionuclides in individual drum segments with vertical motion and collimator,
- Dose rate monitor, which measures dose rate of the segment in defined distance from the drum,
- Dose rate monitor measures the background dose rate,
- Rotary table,
- Control and power supply switchboards.

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Specification

Parameter	Value
Energy range, keV	100 to 2500 keV
Radionuclides measured *	¹³⁴ Cs, ¹³⁷ Cs, ⁶⁰ Co, ⁵⁴ Mn, ⁵⁹ Fe, ⁹⁵ Nb, ⁶⁵ Zn, ⁹⁵ Zr, ⁵⁸ Co, ⁵¹ Cr, ¹⁴⁴ Ce, etc.
Measuring range	from 2.5 kBq (for background of 300 nSv/h, for ⁶⁰ Co in 0.2 m ³ drum with an average material density of 300 kg/m ³ and measuring time of 30 min.) up to 1GBq
Measurement precision	+/-20% (for the uniform activity distribution and the density in the volume measured) maximum 50% for the material density of 1000 kg/m ³ in the drum
Material density	up to 2500 kg/m ³
Material volume	up to 0.4 m ³ (or other by request)
Material weight	up to 1000 kg (or other by request)
Measured object	Different drum, boxes, containers made of steel concrete, etc.
Detector	HPGe, NaI, LaBr, Srl and other
Dimensions	2500 x 700 x 2200 mm (depends on modification)
Communication interface	X2X, CAN, RS-485, Wi-Fi
Protection Marking	IP 54 or better

* Nuclide list can be changed accordingly

Modifications



Equipped with roller based conveyor



Segmented scanner based on scintillators