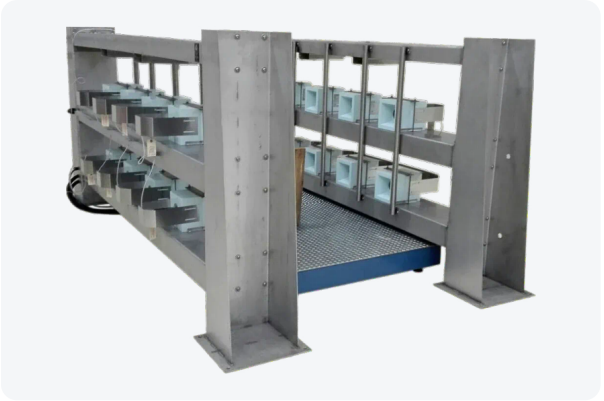
ELSE NUCLEAR

FREE-AND 16

Spectrometric station with 16 NaI(Tl) for waste characterisation

Rugged spectrometric station for analysing waste when the fine spectroscopy of HPGe systems is not needed. Sixteen collimated NaI(Tl) detectors in two arrays on each side each measure their own sub-section of the container, revealing inhomogeneities and hot spots, and the measurement starts automatically when the container is placed on the scale. Dimensions and number of detectors can be adapted.



Detector type

16 NaI(Tl) 3 × 3 in crystals with PMT and MCA, eight on each side in two arrays [2]

Specifications

DETECTOR

Detector type	16 NaI(Tl) 3 × 3 in crystals with PMT and MCA, eight on each side in two arrays	[2]

PERFORMANCE

Energy resolution at 662 keV	<7.5% (^{137}Cs)	[2]

SOFTWARE & DATA

Software	Measurement starts when the container is placed on the scale; efficiency curves, specific activity (Bq/g), geometry database, customisable release limits and reports, non-gamma emitters via scaling factors	[2]

MECHANICAL

Maximum container size	Up to 100 × 100 × 200 cm (W × H × D), max. 2 m³	[2]
Dimensions	Max. 202 × 150 × 360 cm (W × H × D)	[2]

GENERAL

Use	Spectrometric analysis of waste where the fine spectroscopy of HPGe-based systems is not needed	[1]
Lead shielding	5 cm lead per detector, also defining the field of view (collimation)	[2]
MDA	0.04 Bq/g for ^{137}Cs in 15 min (300 kg of material, density 1 g/cm³)	[2]
Scale	Platform 150 × 250 cm, max. payload 6,000 kg, resolution 1 kg	[2]

Sources

[1] **FREE-AND 16 Spectrometric Station with Scintillators for Characterization of Radioactive Waste**
ELSE NUCLEAR · product-page · Product page · checked 2026-10-16
https://www.elsenuclear.com/portfolio/free-and/

[2] **FREE-AND 16 Spectrometric Station with Scintillators for Characterization of Radioactive Waste (datasheet)**
ELSE NUCLEAR · datasheet · p. 2, Technical Specifications; p. 1; p. 2, Technical Specifications; p. 1 · checked 2026-10-16
https://www.elsenuclear.com/wp-content/uploads/2025/05/DAT_FREEAND16_EN_1.04.pdf

Every value is taken from the manufacturer’s own document; the number after the value refers to the source list. Always check against the latest datasheet before ordering.

The data comes from the manufacturer’s published documents. Manufacturers may change specifications; the current configuration and performance are confirmed in the quotation.