ELSE NUCLEAR

GSU

Shielded NaI(Tl) spectrometry unit for small samples

Gamma spectrometry unit with a 3 × 3 in NaI(Tl) crystal in a lead well with inner tin and copper layers. It measures small samples such as foundry castings, air filters and environmental samples in sample holders or Marinelli beakers, and calculates specific activity and MDC. The GSU-NORM version determines naturally o ccurring ^{40}K, ^{232}Th and ^{238}U in rocks, sediments and soils.



Detector type	Energy range	Spectrum channels
NaI(Tl) 3 × 3 in with PMT or SiPM and MCA [1]	**30 keV–3 MeV** [2]	**Up to 2,048** [2]

Specifications

DETECTOR		
Detector type	NaI(Tl) 3 × 3 in with PMT or SiPM and MCA	[1]
Sample geometry	Sample holders fitting the detector head, or Marinelli beakers 250 mL–1 L	[1]
PERFORMANCE		
Energy resolution at 662 keV	<7.5%	[2]
MEASURING RANGE		
Energy range	30 keV–3 MeV	[2]
ELECTRONICS & SIGNAL		
Spectrum channels	Up to 2,048	[2]
SOFTWARE & DATA		
Software	ELSE GSU software: specific activity and MDC (Bq/kg, Bq/l, Bq/m³), background subtraction, customisable isotope libraries and password-protected isotope-specific alarm thresholds	[1]
MECHANICAL		
Total weight	240 kg including support	[2]
ORDERING & ACCESSORIES		
ptions	ORM version, 10 cm lead well, other detector size or type; calibration sources a nd warranty extension (24 months) on request	[2]
GENERAL		
Lead shielding	5 cm lead with 1 mm tin and 1 mm copper layers; 10 cm lead well as an option	[2]
Typical MDC	Casting samples: 0.02 Bq/g for ^{137}Cs in 300 s; GSU-NORM: 0.002 Bq/g ^{40}K, 0 .001 Bq/g ^{238}U and 0.003 Bq/g ^{232}Th in 6 h	[2]

Sources

[1] **GSU Gamma Spectrometry Unit with NaI(Tl)**
ELSE NUCLEAR · product-page · Product page · checked 2026-10-16
https://www.elsenuclear.com/portfolio/gsu/

[2] **GSU Gamma Spectrometry Unit with NaI(Tl) (datasheet)**
ELSE NUCLEAR · datasheet · p. 2, Technical Specifications · checked 2026-10-16
https://www.elsenuclear.com/wp-content/uploads/2025/05/DAT_GSU_EN_1.07.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.