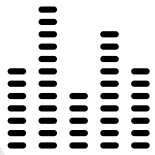




# HERMES GSU

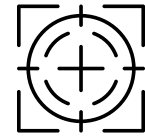
## PORTABLE SAMPLE ANALYSER AND GAMMA SPECTROMETER



Real-time, in-field  
gamma spectrometry



Portable self-contained  
fully-integrated solution



Automatic energy calibration  
(no source needed)

Detector: 2"x2" NaI(Tl)  
coupled with SiPM and MCA

Self-contained in a rugged  
IP67 technical case

Built-in lead shielding for  
low MDC in the field

Simple and intuitive user  
interface

Automatic activity calculation  
for multiple isotopes

**HERMES GSU** is a portable gamma spectrometry system designed for rapid and precise in-field analysis of environmental samples. It features a rugged, modular, and self-contained design housed in a high IP-rated technical case, ensuring durability and reliability in demanding conditions.

**HERMES GSU** quantifies isotope activity concentrations based on a rich built-in, yet fully-editable, isotope library. Its portability make it ideal for both routine monitoring and emergency response scenarios. The software user interface is installed on a control tablet.

Samples can be placed in 500 ml Marinelli beakers, and inserted into the built-in 1 cm lead-shielded well, minimizing background radiation for on-the-spot, low MDC analysis. The system automatically calculates activity concentrations, making it a powerful tool for in-situ, laboratory-grade measurements.

**HERMES GSU** features advanced routines for gain stabilization, dead time correction, and automatic energy calibration.

Efficiency calibration curves are generated using validated Monte Carlo simulations. Predefined efficiency curves are available for different sample matrices, including soil, water, and foodstuffs, across various densities.

An automatic anomalous background and anomalous peaks detection algorithm continuously surveys the system. If deviations exceed the expected statistical range, the system alerts the operator, indicating a potential anomaly.

## TECHNICAL SPECIFICATIONS

### Detector probe

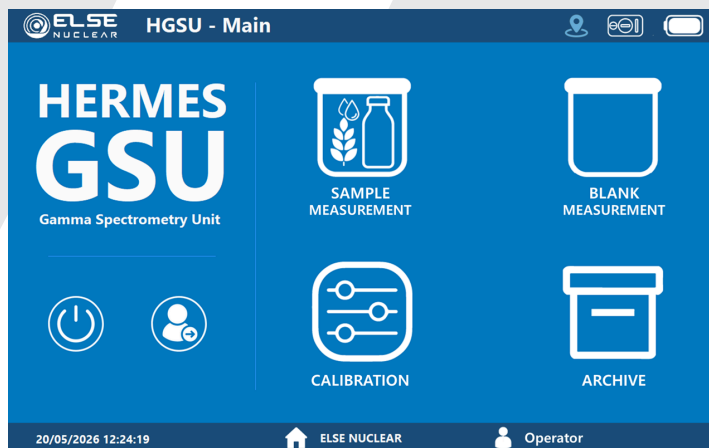
- NaI(Tl) dimension: 2" x 2"
- SiPM-based, compact MCA (2048 channels)
- Lead shielding well thickness: 1 cm
- Operative temp. range: -20°C ÷ +50°C
- Energy range: 30 keV – 3 MeV
- Resolution (Cs-137): < 7.5% (typical)

### System performances

- Default isotope library: more than 30 isotopes, including medical, industrial, SNM and NORM, fully editable
- Maximum measurable activity: about 1 MBq/kg
- No source needed for energy and efficiency calibration
- Multi-threshold alarm management

### Mechanical info and protection rating

- Overall dimensions: 51.8 × 30.5 × 44.5 cm
- Total weight: ~22 kg
- IP rating:
  - closed lid, transportation: IP67
  - operative setup: IP65



HERMES GSU software interface

Calculated MDC in Bq/kg of the system, at ambient H\*(10) rate equal to 100 nSv/h

Isotope	1 minute meas. time	5 minutes meas. time	10 minutes meas. time
<sup>131</sup> I	85	40	30
<sup>137</sup> Cs	140	60	45
<sup>60</sup> Co	230	105	75
<sup>134</sup> Cs	160	70	50

## OPTIONS

- Monte Carlo efficiency curves for custom material types

## ACCESSORIES AVAILABLE UPON REQUEST

- Cs-137 point source, < 10 kBq, for periodical quality control
- Weighing scale
- Warranty extension from 12 months to 24 months

