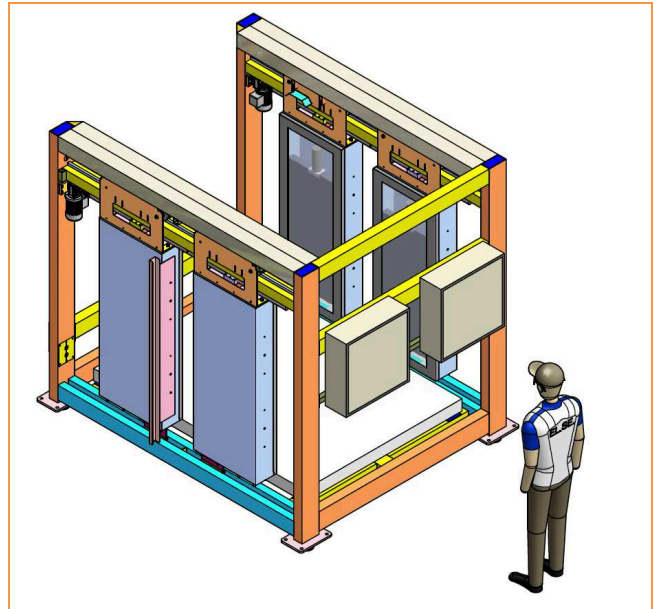


## RADIATION PORTAL MONITOR FOR EXCAVATION MATERIALS

# ARCHIMEDES III

### MAIN FEATURES

- *Wide measurement area for scanning of big containers*
- *Adjustable detectors position*
- *High counting efficiency*
- Portal-shaped structure equipped with platform scale
- Detectors: 100x50x5 cm high-sensitivity plastic scintillators
- Energy range: 50 keV ÷ 2 MeV
- Data archive, shareable in local network
- MDA (Cs-137): down to 5 Bq/g (10 min)



### DESCRIPTION

The radiation portal monitor **ARCHIMEDES III** is designed to measure the radioactivity level in excavation materials of various nature.

The portal is composed, in its standard configuration, of two couples of large surface detectors (5000 cm<sup>2</sup>), each mounted on one of the two sides of the portal structure.

The portal configuration provides a wide measurement area and it guarantees the best sensitivity. The monitor has an open top; this allows to easily place the containers and boxes to be monitored on the platform.

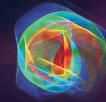
The boxes have specific and defined standard dimensions, which can be inserted in the system database so that they can be recalled during the measurements. The relative position of the detectors is adjustable through a PLC, to maximize the counting efficiency according to the different geometries.

The portal is equipped with a platform scale, installed at the base of the measurement area, to measure the weight of the boxes.

The whole **ARCHIMEDES III** system is managed by the user-friendly software installed on the control PC. The software performs the following main functions:

- Commands the PLC for the detector movement and adjustment
- Receives as an input the measurement parameters (box dimensions)
- Detects the weight of the box
- Acquires and processes the data
- Receives as an input new measurement geometries, if needed
- Manages the alarm and malfunctioning statuses
- Saves the measurements in dedicated archives

The environment background is automatically and continuously measured, and it is automatically subtracted from the measurements.



## TECHNICAL SPECIFICATIONS

### Detection units

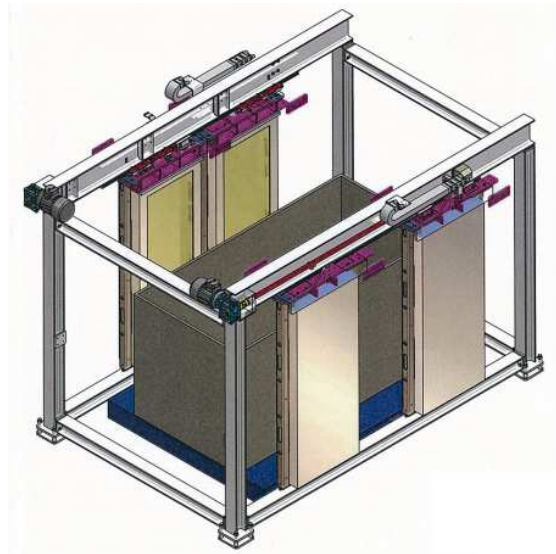
- Detectors: 4 plastic scintillators
- Detectors dimensions: 100x50x5 cm
- Energy range: 35 keV ÷ 2 MeV

### Weighting system

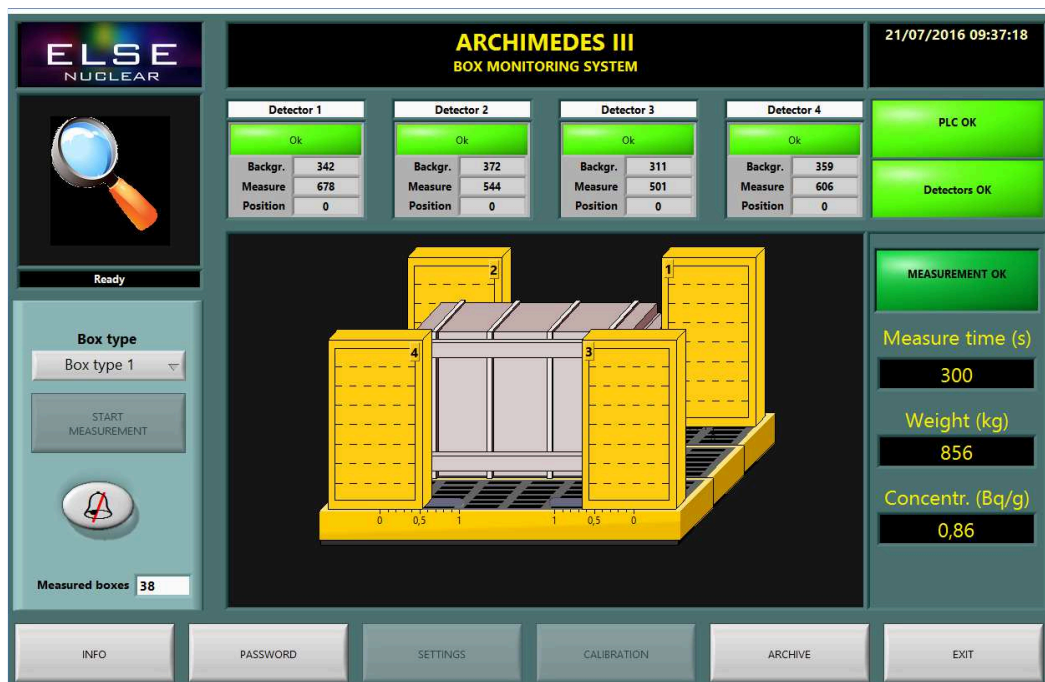
- Max weight: 5000 kg
- Resolution: 1 kg

### Management software

- Software for data analysis, visualization and archive
- Archives shareable via LAN
- Data acquisition from detectors and platform scale
- PLC interface
- Alarm and malfunctioning status management



*Adaptive measurement geometry*



*Software main panel*

## ACCESSORIES AVAILABLE UPON REQUEST

1. Warranty extension from 12 months to 24 months