

NuCLEARANCE

Portal Monitoring System for Scrapyards



The detection gate is equipped with two 25 l scintillation detectors, designed for quick and easy inspection of cars and trucks transporting scrap metal. The high sensitivity of the detection system guarantees high reliability of detection of potential sources of ionizing radiation.

Benefits

- In accordance with the standard IEC 62022:2004
- Modular system - possibility of using other types of detectors
- Fully automatic
- Protects the object from contamination by a radioactive source
- Possibility of connecting a camera system to determine the vehicle registration plate

Key Figures

50 keV - 2 MeV

Energy range

10 km/h

Max vehicle speed

600 kBq

MDA < 600 kBq for Cs-137

System description

The detection system is equipped with two 25 l scintillation detectors which effectively detect radioactive material located or hidden in the cargo space of the vehicle which transporting scrap metal for processing. The system ensures a continuous inspection of vehicles passing through the detection gate. In the event of detecting a source of ionising radiation, the operator can take rapid action in accordance with applicable legislation.

Configuration of the standard solution:

- 2x 25 l scintillation detectors
- Control unit with audible and visual alarm
- Lead shielding - width 10 mm
- Control SW NuSOFT PortIS and user PC (language versions EN, CZ, FR, IT, SK, DE)
- Passage detection sensors
- 2x iron structures for installing detectors

Options:

- 2x camera - with license plate recognition
- Additional detectors

Specifications

Power supply	230 V / 50 Hz
Detectors	2 x 25 l plastic scintillation detectors
Gamma measurement range	50 keV - 2 MeV
Recommended vehicle speed	Less than 10 km/h
Signaling	Audible and visual (red light or traffic light)
Control unit	Local control and integrated PC
Software	NuSOFT PortIS data analysis and management package
Environmental protection	IP54
Optimal detector distance	From 3000 to 4500 mm
Operating temperature	From - 10°C to 50°C
Relative humidity	93% (non-condensing)

Minimum detectable activity (MDA)

The listed MDAs meet the measurement conditions according to IEC62244 standard

Radionuclides	Activity
Cs-137	0.6 MBq
Co-60	0.15 MBq
Am-241	1.7 MBq
Am-241 (shielded)	17 MBq

Usage options

- Inspection of vehicles transporting scrap metal for processing
- Inspection of vehicles leaving the scrapyard area
- Inspection of incoming vehicles delivering scrap material to the yard
- Inspection of internal scrap transport within the recycling facility
- Inspection of outbound shipments of processed scrap to end customers

NuSOFT PortIS

- Processing of signals from all sensors
- Analysis and development of measured data
- Management of portal gateway parameter settings
- Self-diagnostic functions of the portal gate
- Management of setting of alarms and detection limits
- Traffic management
- Display of recorded data
- Report system and passage database
- Control module for connecting multiple portals within a single site

