

NuCLEARANCE MAX

Portal Monitoring System for Scrapyards



The detection gate is equipped with two 40 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 automated
- Protects the object from contamination by a radioactive source
- Possibility of connecting a camera system to determine the vehicle registration plate
- Additional horizontal detector

Key Figures

50keV - 2 MeV
Energy range

8km/h
Recommended vehicle speed

3 μ Ci
MDA < 3 μ Ci for Co-60

System description

The detection system is equipped with two 40 l scintillation detectors which effectively detect radioactive material located or hidden in the cargo space of the vehicle 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 40 l scintillation detectors
- Control unit with audible and visual alarm
- Lead shielding - width 10 mm
- Controll SW NuSOFT PortIS and user PC (language versions EN, CZ, FR, IT, SK, DE)
- Passage detection sensors
- 2x structures for installing detectors

Options:

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

Specifications

Power supply	120 V (60 Hz)
Detectors	2 x 40 l plastic scintillation detectors
Gamma measurement range	50 keV - 2 MeV
Recommended vehicle speed	5 MPH or less
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	IP65
Panel-to-panel distance	12 ft. optimal
Operating temperature	From - 22°F to + 131°F
Relative humidity	93% (non-condensing)

Minimum detectable activity (MDA)

The MDAs below are given for natural background conditions, the radioactive source moving at 5mph between the detector panels (12 ft. apart).

Radionuclides	Activity
Cs-137	12 µCi
Co-60	3 µCi
Am-241	34 µCi
Am-241 (shielded)	338 µCi

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

