

# NuCLEARANCE Lite

Cost effective portal detection system for scrapyards



The NuCLEARANCE Lite is equipped with one 4.5L scintillation detector, designed for quick and easy inspection of vehicles transporting scrap metal. The high sensitivity of the detection system guarantees high reliability of detection of potential sources of ionizing radiation for a minimal investment.

## Benefits

- Cost effective system to monitor unwanted radioactive material
- Fully automated
- Easy installation and operation

## Key Figures

50 keV - 2 MeV  
 ↳ Energy range

10 km/h  
 ↳ Maximum vehicle speed

180 kBq  
 ↳ MDA < 180 kBq for Cs-137

## System Description

The detection system is equipped with one 4.5L scintillation detector, which effectively detects radioactive material located in the cargo space of the vehicle transporting scrap metal for further processing. The system guarantees continuous inspection of vehicles passing through the detection gate. If an ionizing radiation source is detected, the operator can react quickly in accordance with current legislation. The configuration of the portal parameters are set directly on the portal using a PC with operating software through the RS485 communication interface.

For remote operation of the portal, an optional PC with our NuSOFT PortIS control software is available.

## Basic equipment

- 1 x 4.5L scintillation detector
- 1 x steel stand for detector installation
- 1 x control switchboard with USB communication interface
- Visual alarm – flashing light, audible alarm

## Options

- External signaling unit with audible and visual alarm
- User PC with NuSOFT PortIS (language versions CZ, EN, FR, IT, SK) connectable through RS485 interface
- Sensors for passage detection

## NuSOFT PortIS package description (optional extension)

- Management of detection system parameter settings
- Vehicle passage control
- Display of measured data
- Database of vehicle scans and measurement results

## Application

- Ideal for smaller recycling sites with limited budget
- Cost effective solution to avoid any costly radioactive incident and reporting

## Product Specifications

<b>Power supply</b>	230 V / 50 Hz
<b>Detector</b>	1 x 4.5L plastic scintillation detector
<b>Energy range</b>	50 keV – 2 MeV
<b>Recommended vehicle speed</b>	Less than 10 km /hour
<b>Control unit</b>	Local control unit
<b>IP</b>	IP65
<b>Operating temperature</b>	-30 to + 55°C
<b>Operating rel. humidity</b>	93 %
<b>Options</b>	
<b>Alarm unit</b>	Visual and sound alarm (red light)
<b>Software</b>	NuSOFT PortIS software package

## Minimum Detectable Activities

The following Minimum Detectable Activities were calculated according to the ISO11929 and they were calculated for point source at a 1 meter distance.

<b>Radionuclide</b>	kBq
<b>Am-241 MDA</b>	650
<b>Cs-137 MDA</b>	180
<b>Co-60 MDA</b>	60