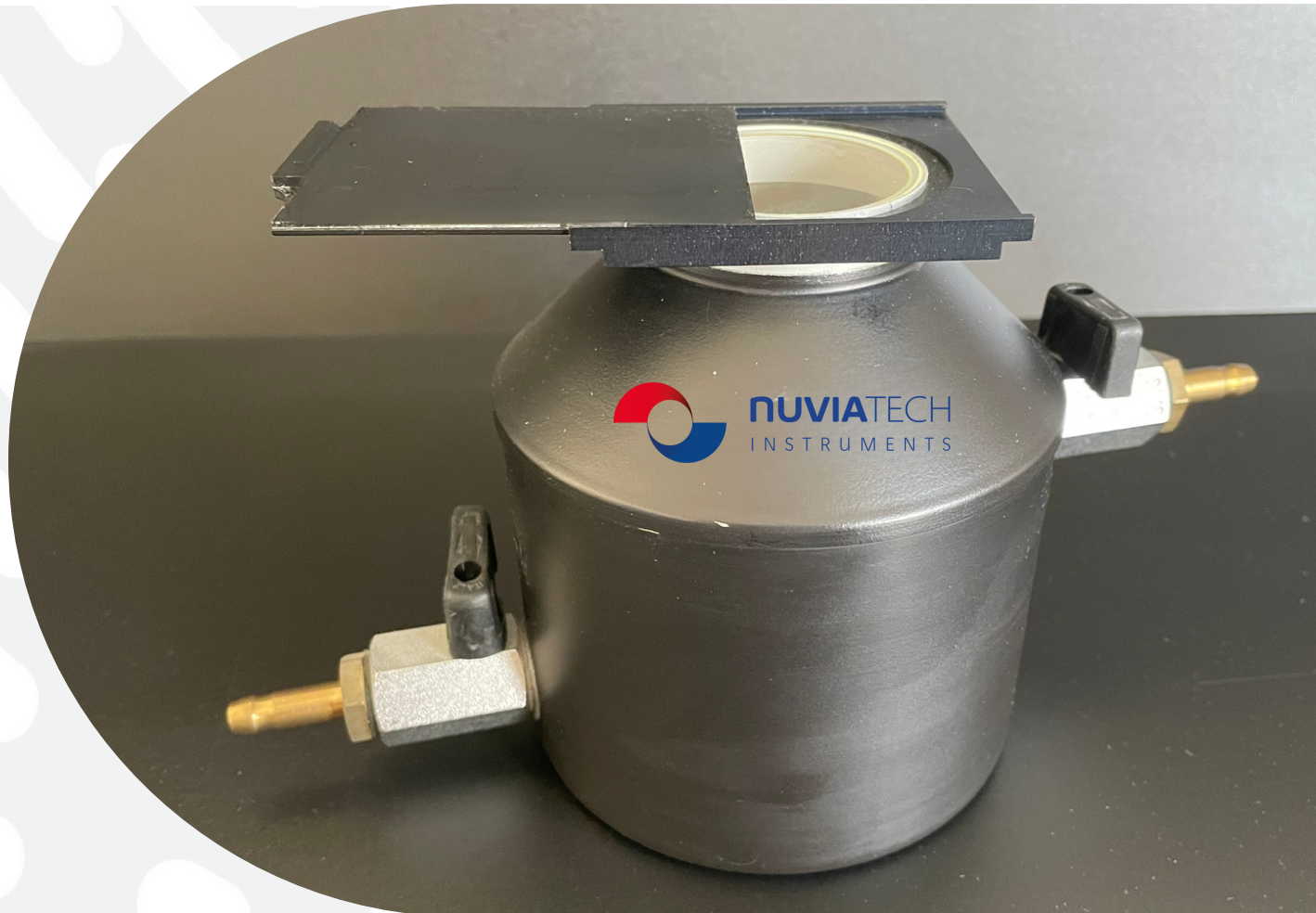


# LUCAS

## RADON VOLUME ACTIVITY DETECTION SYSTEM



LUCAS is a complete detection system designed for radon volume activity measurement in air, soil and water samples.

### BENEFITS

- *Easy to handle*
- *User friendly*
- *Portable*
- *Designed for in-situ measurements*
- *Additional software for radon volume activity calculation*

### KEY FIGURES

$>70\%$

*Efficiency*

1000 ml

*Active volume of the scintillation chamber*

$<10 \text{ Bq/m}^3$

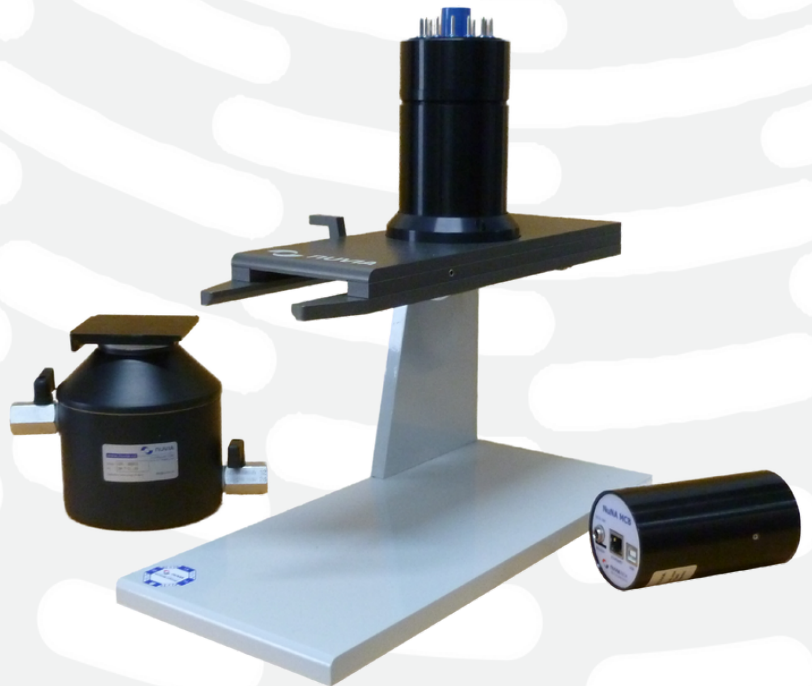
*Minimum detectable activity*

## PRODUCT DESCRIPTION

The LUCAS detection system consists of Lucas chamber detection unit, a stand with an inbuilt photomultiplier and optionally a MCB multichannel analyser. The detection principle is based on the scintillation chamber coated with the ZnS:Ag scintillation powder. The chamber is light-tight with an entrance glass window and two high-pressure spherical valves with screwed metal sleeves for hose attachments. The diameter of the glass window is 70 mm.

The metal stand construction is designed to allow the chamber to slide continuously while maintaining the light-tightness. The material of the stand is a combination of steel and duralumin.

The stand includes an inbuilt PMT compatible with the MCB multichannel analyser. The inner layer of the stand cylinder contains a magnetic shield that protects the body of the PMT.



## PRODUCT SPECIFICATION

- Lucas chamber
  - Scintillation detector, silver activated zinc sulfide inside layer
  - 1000 ml volume
- MCB
  - Digital multichannel analyzer with high voltage divider, integrated preamplifier, and high voltage power supply
  - RS232/TCPIP connection, MicroSD card slot
  - Gedcke-Hale Live-Time correction
  - +1100 V DC power supply
  - Trapezoidal shaper, 0.5 – 6  $\mu$ s rise time, 0.5 – 2  $\mu$ s flat-top
- 14-pin PMT base
- GAMWIN
  - user SW for radon volume activity calculation with half-life correction



## PRODUCT APPLICATIONS

- Environmental monitoring
  - Soil
  - Air
  - Water