

# RADHOME HR3

FOR CONTINUOUS MEASUREMENT OF RADON\* VOLUME ACTIVITY AND ENVIRONMENTAL PARAMETERS IN BUILDINGS.

## ❑ APPLICATIONS

- Air quality monitoring in buildings and public places.
- Monitoring of radon volume activity vs time
- Expertise



- ❑ **High sensitivity radon measurement** obtained by the association of an optimized measurement chamber and an electric field.
- ❑ **Passive** measurement, no disturbance of the environment.
- ❑ Continuous measurement with programmable cycle.
- ❑ Operation from the mains or battery, 1 month of operating time.
- ❑ Protected access by PIN code entry
- ❑ Display on high resolution OLED screen of:
  - instant volume activity
  - mean volume activity
  - temperature
  - humidity
  - operating parameters
- ❑ Settings and data readout with **RnView3** software.
- ❑ Compliant with international standards **ISO 11665-4** and **ISO 11665-5**.

Specifications



\* In this document, RADON refers to radon 222

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**Radon measurement:**

Radon penetrates the detection volume through a filter collecting all solid descendants.

Radon activity is determined by measuring the  $\alpha$ -activity of  $^{218}\text{Po}$ , collected by an electric field on the surface of a silicon based detector.

Volume activity of  $^{222}\text{Rn}$  is calculated with the calibration factor.

**Measurement sensitivity:**

2 Bq.m<sup>-3</sup> per pulse.h<sup>-1</sup> (typical).

Detection threshold: 13 Bq.m<sup>-3</sup> for 1 hour of data acquisition.

Maximum concentration > 1 MBq.m<sup>-3</sup>

*The radon chamber used for calibration is linked to LNHB, the French national metrology lab for ionizing radiations.*

**Environmental parameters:**

Temperature: 0.1°C accuracy (absolute)

Humidity: 10 to 95 %,  $\pm 3$  %, accuracy allowing adjustment of the radon result

**Additional sensors:**

Shock sensor: detection of impacts on the instrument

Battery voltage: 0.1 V (resolution)

**Measuring cycle:**

Intervals of 15 min (recommended), 20, 30, 60, 120, 180 or 240 min.

**Functions available locally via 2 buttons pad:**

PIN code entry

Measure/clock/settings/informations

**Screen:** OLED technology 256 \* 64

**Memory capacity:**

16 000 measures (5 months @ 15min)

**Power supply :**

230V AC mains power supply

Li ion battery, 3.7V / 6.8 Ah ,

Autonomy: 1 month with screen powered down, 1 week with screen active.

**Housing:** AlMgSi painted alloy

H\*L\*w = 120\*232\*241 mm.

3.5 kg.

**Operating conditions:**

5°C to +40°C

10-90% of relative humidity

**Parameters setting and data download:**

USB port

**Radhome HR3 is delivered with :**

- **RnView3** software
- USB drivers
- Carrying case
- Power and USB cables
- Calibration certificate indicating the calibration factor of the radon sensor
- User guide

**RnView3 software:**

PC Software operating under Windows XP, Windows Vista, Windows 7.

**Monitoring:**

- Radhome HR3 initialisation,
- Complete data readout of the memory contents,
- display of radon measures, temperature, and relative humidity vs time,
- display of mean radon volume activity over a selected time period,
- Data transfer towards MS Excel, printout.

**Reference:**

Radhome HR3 P-563-112