

Durridge RAD7 radon measurement system

Continuous measurement of radon levels in air

Main features:

- **continuous mode**
- **sniffer mode**
- **simple operation**
- **rapid measurements**
- **audible count signal**
- **very high sensitivity**
- **protective case**
- **PC communication**
- **accessories for water and soil measurements**



The RAD7 continually measures radon and thoron concentration, showing both on a spectrum printout, and also functions as a sniffer with audible count signal to locate radon entry points. The unit features the fastest response and recovery time of any system on the market, and is able to measure radon concentrations at the 200 Bq/m³ action level (UK and EU new buildings) in less than 1 hour with 10% standard deviation. The virtual absence of intrinsic background (0.2 Bq/m³) gives the RAD7 an extremely low detection threshold, easily measuring below 4 Bq/m³. The instrument is microcomputer controlled, featuring step-by-step instructions for ease of use. Data can be displayed on the unit's LCD, printed on external printer (supplied) or downloaded to a PC for further analysis. The unit is a complete, portable stand-alone system with a built-in air pump, supplied in a rugged carrying case, total weight 5 kg. Additional accessories allow measurement of radon in soil and water (continuous and sample measurement); the RAD AQUA continuous water measurement accessory allows measurement of water radon to extremely low concentrations.

Specifications:

MODES OF OPERATION	<ul style="list-style-type: none"> - Continuous radon gas monitoring - Long-term/short-term screening - Sniffer mode to search for radon and thoron entry points - Grab mode protocols for radon in air and water
MEASUREMENT TYPES	Measurement of radon in air, soil (with Soil Probe accessory) and water (with RAD H ₂ O or RAD AQUA accessories)
SENSITIVITY	Monitor: 0.5 counts/min/pCi/l (0.8 counts/hr/Bq/m ³) Sniffer: 0.25 counts/min/pCi/l (0.4 counts/hr/Bq/m ³)
RANGE	0.1 - 10,000 pCi/l (4 - 400,000 Bq/m ³)
MEMORY	1,000 radon concentrations, and associated data. Can be read out on LCD, downloaded to PC and/or printed out on HP IR printer. Summary of run shows high, low, average and standard deviation of readings

PRINCIPLE OF OPERATION	Electrostatic collection of alpha-emitters with spectral analysis
BUILT-IN AIR PUMP	Nominal 1 litre/minute flow rate; inlet air filter; inlet and outlet air connectors
SPECTRUM PRINTOUT	High-precision alpha-energy spectrum identifies isotopes in radon and thoron decay chains; shows instructions for correct operation of the RAD7
RECOVERY TIME FROM VERY HIGH RADON LEVELS	Recovers from high radon exposure with a 3.05 minute half-life: to less than 10% of peak value in 12 minutes; to less than 1% of peak value in less than 30 minutes. <i>Drops from 20,000 to 1 pCi/l in one hour</i>
LCD DISPLAY	2 lines x 16 characters, alpha-numeric
AUDIBLE RADON COUNT	Indicates presence and intensity of radon and thoron; may be turned on or off
POWER SUPPLY	AC or battery powered - 5 AH 6V batteries; automatic battery charge when plugged in and switched on; optional low voltage input
BATTERY LIFETIME	Monitor mode - 72 hours Sniffer mode - 24 hours
PRINTER	Hewlett-Packard model HP 82240B
PC COMMUNICATION	RS-232 Port
OPERATING CONDICIONS	Temperature: 0°C - 40° C Humidity: 0 - 100%, non-condensing
DIMENSIONS	24 x 19 x 27 cm
WEIGHT	5 kg
PROTECTIVE CASE	High density polyethylene