

Durridge RAD7 Radon Detector

The Durridge RAD7 is a portable detector that measures radon and thoron concentrations in water, soil, and air. Commonly used for vapor intrusion entry points and gushers, RAD7 can also be used to investigate soil or ground-water contamination. The instrument is simple to use, offers preprogrammed setups for common tasks, and comes complete with a built-in air pump, rechargeable batteries, and wireless printer.

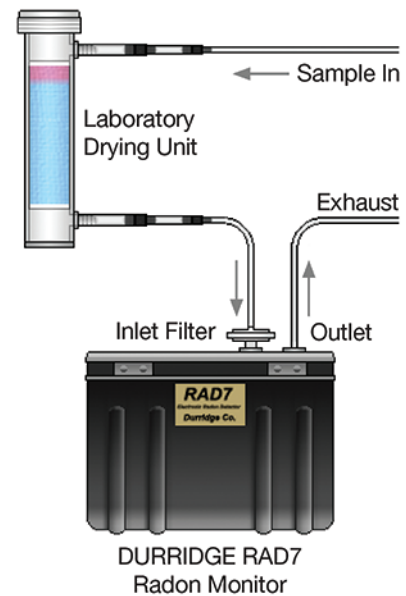
FEATURES

- Fastest response and recovery times of any electronic monitor/sniffer on the market.
- Measures EPA action level of 4 pCi/L in under two hours.
- Recovers from radon highs in minutes – not hours.
- Spectrum printout verifies correct operation of instrument in field.
- Tamper-proof key-lock command secures RAD7 and assures uninterrupted testing.
- Easily portable: weighs 9.6 pounds (4.35 kg).
- Display, print, and download radon data in your choice of units.
- Immunity to build-up of 210pb.
- CAPTURE software for data retrieval and analysis.



RAD7 RADON DETECTOR KIT INCLUDES

- RADLink Remote Control Software
- Wireless Infrared Printer with 6 rolls of paper
- External 12V Power Adaptor
- 2 Velcro Tabs
- 4 Drying Tubes
- Laboratory Drying Unit
- 5 lb. Indicating Desiccant (8 mesh)
- 1 Dust Filter and 6 Inlet Filters
- Vinyl Tubing
- USB to Serial Adapter Cable
- CAPTURE Data Acquisition and Analysis Software



RAD7 Standard Configuration

CALL GEOTECH TODAY (800) 833-7958

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Durridge RAD7 Radon Detector

SPECIFICATIONS

RAD7 Functional Specifications

Modes of Operation	<ul style="list-style-type: none"> • SNIFF Rapid response and rapid recovery radon measurement • NORMAL High sensitivity radon measurement • AUTO Automatic switch from SNIFF to NORMAL after three hours • THORON Radon and thoron measured simultaneously and independently • GRAB Analysis of air "grabbed" from a discrete sample • WAT Automatic analysis of water samples with optional RAD H₂O accessory
Measurements	<ul style="list-style-type: none"> • Radon in air measurement with Sniff protocol for quick, spot reading • Thoron protocol for searching for radon entry points • Radon in air 1-day, 2-day or weeks protocol for long term measurement • Radon in water samples with optional RAD H₂O and Big Bottle RAD H₂O kits • Continuous radon in water testing with optional RAD AQUA and Water Probe • Radon in soil gas with optional Soil Gas Probe and DRYSTIK • Radon emission from soil and hard surfaces with optional accessory • Bulk radon emission from bulk materials and objects with optional accessory
Data Storage	1,000 records, each with 23 fields of data Log of printer output also stored
Sample Pumping	Built-in pump draws sample from chosen sampling point Flow rate typically 800 mL/min
Print Output	Short, Medium, or Long format data printed after each cycle Run summary printed at end of run, including averages and spectrum
PC Connectivity	RS232 serial port, full remote control implemented in CAPTURE Software Optional serial to Bluetooth adaptor for wireless PC connectivity
Audio Output	<ul style="list-style-type: none"> • GEIGER Tone beeps for radon and thoron counts • CHIME Chime only at the end of each cycle, otherwise silent • OFF No sound
Tamper Resistance	TEST LOCK command locks keypad to secure against tampering

RAD7 Technical Specifications

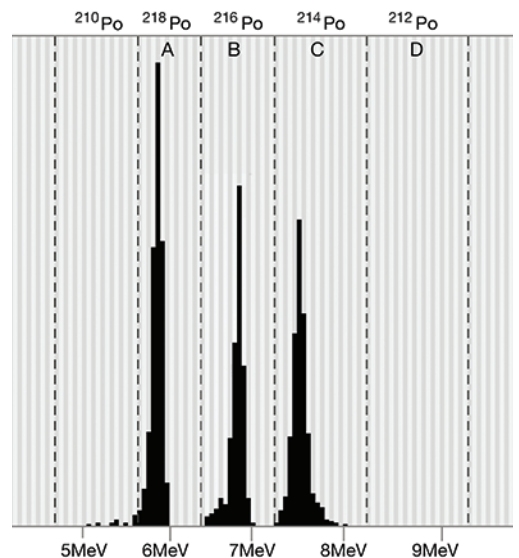
Principle of Operation	Electrostatic collection of alpha-emitters with spectral analysis Passivated Ion-implanted Planar Silicon detector SNIFF mode counts polonium-218 decays NORMAL mode counts both polonium 218 and polonium 214 decays
Built-In Air Pump	Nominal 1L/min flow rate Inlet and outlet Luer connectors
Connectivity	RS-232 port up to 19,200 baud rate USB adaptor is included with every RAD7
Measurement Accuracy	±5% absolute accuracy, 0%-100% RH
Nominal Sensitivity	SNIFF mode, 0.25 cpm/(pCi/L), 0.0067 cpm/(Bq/m ³) NORMAL mode, 0.5 cpm/(pCi/L), 0.013 cpm/(Bq/m ³)
Radon Concentration Range	0.1-20,000 pCi/L (4.0-750,000 Bq/m ³)
Intrinsic Background	0.005 pCi/L (0.2 Bq/m ³) or less, for the life of the instrument
Recovery Time	Residual activity in Sniff mode drops by factor of 1,000 in 30 minutes
Operating Ranges	Temperature: 32°-113°F (0°-45°C) Humidity: 0%-100%, non-condensing
Cycle Range	User controllable number of cycles, from 1 to 99 to unlimited, per run User controllable cycle time, from 2 minutes to 24 hours
CAPTURE Software	<ul style="list-style-type: none"> • Compatible with Microsoft Windows 7 through 10, and macOS • Automatic RAD7 connection and data download • Graphs radon, thoron, temperature and humidity over time • Automatic humidity correction • Statistical analysis tools track concentration averages and uncertainties • Chart Recorder mode provides real-time RAD7 status monitoring • Control RAD7 operations from computer via direct or remote connection • Automatic calculation and display of radon in water with optional accessories • Automatic combination of data from multiple RAD7s

RAD7 Physical Specifications

Dimensions	11.5" x 8.5" x 11" (29.5 cm x 21.5 cm x 27.9 cm)
Weight	9.6 pounds (4.35 kg)
LCD Display Output	2 line x 16 character, alpha-numeric display
Case Material	High density polyethylene
Infrared Printer	Omniprint OM1000 Wireless Infrared Printer included
Power Supply	11-15V DC (12V nominal) @ 1.25A, center pin positive, or included internal EnerSys sealed lead acid rechargeable battery pack (6V nominal, 30Wh, 5Ah)
Battery Longevity	24 hours in SNIFF mode; 72 hours in Monitor mode



Durridge RAD7
Serial-to-Bluetooth Adaptor



Durridge RAD7 Spectrum



OPTIONAL ACCESSORIES

RAD H₂O – Radon Water Sample Accessory

RAD H₂O is an accessory that enables measurements of radon concentration in water within an hour of taking the sample. The water sample collected is connected to the RAD H₂O close loop system. The RAD7 pump aerates the sample for five minutes to distribute radon through the loop. Once the 218Po count rates approach equilibrium the radon concentration is calculated directly.

RAD H₂O Features

- **Portable:** Complete kit provided in fitted case; weighs just 13 lbs.
- **Automatic:** Procedure is controlled fully by the connected RAD7. Printouts provide data on radon concentration in water.
- **Fast:** Analysis can be completed within one hour of taking the water sample.
- **Accurate:** The RAD H₂O provides results as accurate as liquid scintillation.
- **Sensitive:** More sensitive than liquid scintillation. Lowest limit of detection is 10 pCi/L (20 min. count).
- **Clean and Safe:** Involves no hazardous materials or chemicals.
- **Proven:** Used by individuals and labs throughout the world for over ten years.
- **Great Value:** Practically no running costs.

RAD H₂O Case Package

- Rugged Pelican brand case with sculpted foam inserts
- Drying and Charcoal Tube Kit
- 250 ml glass vial with Septum Cap (x6)
- 40 ml glass vial with Septum Cap (x12)
- Labels for 40 ml glass vials
- Small adjustable Retort Stand and Clamp

RAD H₂O Aerator Cap Kit

- RAD H₂O Aerator Cap Kit
- Aerator Cap (x2)
- Tubing for 40 ml and 250 ml vials

RAD AQUA – Radon Water Flow-Through Sample Accessory

RAD AQUA is an accessory that enables continuous monitoring measurements of radon concentration from groundwater and surface water. Water being monitored flows through the RAD AQUA closed air loop flow-through system – where radon concentrations in water is determined from the air and the temperature of the air/water interface. RAD AQUA is the fastest, most sensitive method of measuring radon in water.

RAD AQUA Features:

- The RAD AQUA is capable of flow rates at .19gpm, 1.14 gpm and 4 gpm at 20 psi.
- **Radon and Thoron Measurement:** Continuous monitoring in water.
- **Simple to Use:** Just connect it to the tap and hook it up to the RAD7.
- **Fast:** 95% response in 30 minutes.
- **Sensitive:** Can monitor radon even in concentrations below 1 pCi/L.
- **Accurate:** Measurements are precise within ±5%.
- **Clean and Safe:** Involves no hazardous materials or chemicals.
- **Complete:** Includes temperature logger and necessary software.
- **Great Value:** Practically no running costs.

RAD AQUA Kit Package:

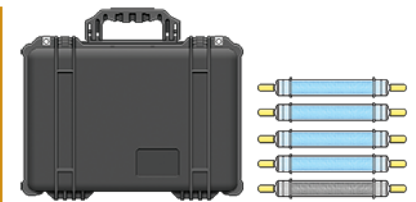
- Omega Temperature Probe
- Omega OM-EL-USB-TC Temperature Logger
- Three pairs of spray nozzles
- Roll of Teflon Tape

AMS SOIL GAS PROBES

Kits provide semi-permanent or dedicated points for shallow subsurface and sub slab vapor gas sampling. Either are essential for collecting samples without exposing them to the outside air. See the AMS Stainless Steel Soil Gas Probe and AMS GVP (Gas Vapor Probe) Kits.

OTHER RELATED RAD 7 ACCESSORIES

- **Big Bottle System:** High sensitivity radon in water sampling
- **Water Probe:** For radon sampling in large bodies of water
- **Drystik:** Active moisture exchanger to reduce humidity of air samples
- **Natural Rock Sample:** Sample radon emissions from rock samples



Rugged Pelican Case

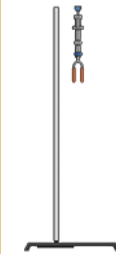
Drying and Charcoal Tubes



250 ml Glass Vials



40 ml Glass Vials



Retort Stand and Clamp



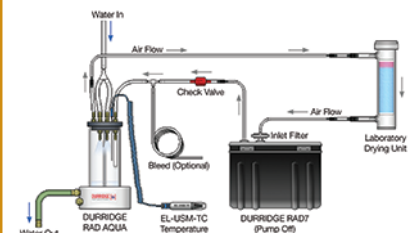
40 ml Glass Vial Labels



Aerator Cap Kit



RAD AQUA with Omega Temperature Probe



RAD AQUA Standard Configuration