

## THE DURRIDGE RAD AQUA

Continuous Radon-in-Water Accessory for the RAD7

### Simple to Use

Just hook it up to the tap and connect it to the RAD7.

### Fast

95% response in 45 minutes

### Sensitive

Easily measure below 1pCi/L

### Accurate

Within +/- 5%

### Clean & Safe

No hazardous chemicals

### Complete

Includes temperature logger, software and shipping case

### Great Value

No running costs

Water passes through the RAD AQUA, and air flows in a loop through the RAD AQUA and the RAD7. Radon in the air and water come into equilibrium, and the concentration of radon in water is calculated by DURRIDGE software.



## THE DURRIDGE RAD H<sub>2</sub>O ACCESSORY

Unequaled for On-Site Measurement of Radon-in-Water

### Portable

Complete kit, in sturdy fitted case, just 13 lbs.

### Automatic

Procedure under full microprocessor control. Printed result gives radon concentration in the water.

### Fast

Analysis completed within an hour of sampling.

### Accurate

As accurate as liquid scintillation.

### Sensitive

Superior to liquid scintillation: LLD 10 pCi/L in 20 min.

### Clean & Safe

No hazardous chemicals

### Proven

Used worldwide by individuals and labs. Mature technology that has undergone generations of refinements.

### Great Value

Practically no running costs



The RAD H<sub>2</sub>O has a special aerator that allows water vials to be purged of radon directly into the RAD7, which automatically controls pumping and counting cycles. With the RAD H<sub>2</sub>O you can take samples on-site, and then make the measurements anywhere. The RAD H<sub>2</sub>O kit comes with aerators, collection vials, tubing, and a rugged carrying case.

# RAD7

## Electronic Radon Detector



The Best:

# TECHNOLOGY FUNCTIONALITY EXPANDABILITY VALUE

- Both a radon sniffer and a continuous radon monitor
- Measures radon and thoron
- Fastest response and recovery times in the industry
- Recovers from radon highs in minutes - not hours
- Easiest to use
- All-in-one, complete, compact, portable instrument
- Rugged carrying case
- Weighs under 10 pounds
- Sensitive, reliable readings
- Provides continuous updates of radon level, in your choice of concentration units
- Tamper-resistant
- Spectrum readout verifies correct operation of instrument
- The RAD7 is everything you want in an electronic radon monitor

# RAD7

The #1 choice across the world of:  
Universities • Laboratories • Environmental Firms  
Government Agencies • Mitigators • Home Inspectors

## DURRIDGE [ ]

Radon Capture & Analytics

524 Boston Road, Billerica, MA 01821 USA  
Phone: (978) 667-9556 Fax: (978) 667-9557  
Web: <http://www.durridge.com>

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## RAD7 PROFESSIONAL RADON DETECTOR

### "A remarkable machine!"

The RAD7 is a truly versatile radon detector of mature and yet still state-of-the-art design. Its specifications match or exceed those of the most expensive models in the world. At the same time, it incorporates a number of exclusive features that are found in no other radon detector, regardless of price. Incredibly, the RAD7 is affordable.

The RAD7 is a sophisticated instrument that is able to handle complex measurements. It is used in laboratories and research work around the globe, in mines and deserts, at extremes of temperatures.

The RAD7 is the simplest, easiest electronic detector to use, with pre-programmed set-ups for common tasks. The instrument directs you step by step. It is built to withstand everyday use in the field. A rugged, handsome case encloses the detector, which is self-contained and self-sufficient. The RAD7 comes with a built-in air pump, rechargeable batteries, and a detachable alpha-numeric graphics printer. The RAD7 also includes our CAPTURE software for radon data graphing and analysis.



The DURRIDGE DRYSTIK Accessory - A ruggedized active moisture exchanger to reduce the humidity of the air entering the RAD7

The RAD7 is a Sniffer that uses the 3-minute alpha decay of a radon daughter, without interference from other radiations, and the instantaneous alpha decay of a thoron daughter. Sniffs out entry points and radon gushers. Recovers in minutes from high radon exposures. The RAD7 is also a Continuous Monitor that measures the EPA action level of 4 pCi/l, with 10% standard deviation, in just one hour.

At the end of each run, the detector prints out a complete report. Audible radon and thoron counts. Lets you hear the hot spots. Check it out. You will see the possibilities of this machine. Then call us for more information about the extraordinary RAD7 and its wide array of accessories to customize to your every need.



A scientist using the RAD7 at the rim of a volcano  
Photo courtesy of Kenneth Sims, taken by John Catto

### Your RAD7 Partnership

The RAD7 is very easy to use. It's ready to operate from the moment you turn it on. The first thing you will see is the Setup Review, showing the current settings. This allows you to check that your machine is set up the way you want it for your intended use. Now you and your RAD7 are ready to go to work.

The RAD7 can be run in several protocols. It can start a test in "Sniff" mode for a quick response and a good base-line reading. After 3 hours it automatically switches to "Normal" mode for the remainder of the test, assuring high statistical precision. You can leave your RAD7 for a 24-hour, 48-hour or any-hour test, knowing that the measurements will be correct, thanks to an exclusive RAD7 feature - a "Test Lock" option that locks the machine until you return. When the RAD7 is Locked the test will continue as usual, and no amount of tampering - intentional or otherwise, can influence it.

### THORON

Sniffing for short-lived THORON can be the fastest way to determine points of RADON entry. The RAD7 responds to thoron almost instantaneously.

### ACCURACY

When international intercomparisons of competing radon detectors are performed, most devices record radon concentrations within 10% of the actual value, while the RAD7 invariably records concentrations within 2% of the actual value. At the most recent intercomparison the RAD7 was off by less than 1%.



The Soil Gas Probe Accessory - for soil gas sampling

## FEATURES & SPECIFICATIONS FOR THE DURRIDGE RAD7

### MULTI-MODES

Continuous Radon Gas Monitor  
Long-Term/Short-Term Screener  
Sniffer to search for radon and thoron entry points

### MULTI-MEASUREMENTS

Measures radon in air, soil and water (with RAD H<sub>2</sub>O, RAD AQUA, and Soil Probe accessories)  
Measures thoron in air and water

### SENSITIVITY

Monitor: 0.5 cpm / (pCi/L)  
Sniffer: 0.25 cpm / (pCi/L)

### RANGE

0.1 - 20,000 pCi/L (4.0 - 750,000 Bq/m<sup>3</sup>)

### MEMORY

1,000 readings of radon and associated data. Can be displayed on LCD, printed, or downloaded to a Windows or macOS computer. Also 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 liter/minute flow rate. Inlet air filter. Inlet and outlet air connectors.

### SPECTRUM READOUT

The energy spectrum verifies radon/thoron readings and shows that the RAD7 is operating properly. The spectrum makes it easy to distinguish radon and thoron alpha particles from those of other isotopes.

### FAST LOW-LEVEL READINGS

The RAD7 can measure the EPA action level of 4 pCi/L in under 2 hours, with standard deviation of 10%. The RAD7 has virtually no background and a very low detection limit, down to 0.1 pCi/L.

### RECOVERY IN MINUTES

The RAD7 recovers from high radon exposure with a 3.05 minute half-life. Therefore it drops to less than 10% the peak value in 12 minutes, and to less than 1% of peak value in 30 minutes.

### TAMPER-RESISTANT

A 'Test Lock' command is programmed into the machine to secure your RAD7 against all kinds of intentional or unintentional tampering.

### AUTO MODE

This setting starts a test run in "Sniff" Mode, then switches to "Normal" Mode after the first 3 hours. No more waiting for equilibrium. Gives quick response, followed by statistical precision.

### LCD DISPLAY

2 line x 16 character, alpha-numeric display. Easy to read.

### AUDIBLE RADON COUNT

Indicates presence and intensity of radon and thoron. May be turned on or off.

### POWER

Runs on DC input or battery power - 5AH 6V batteries. The battery life is 24 hrs in Sniff mode, or 72 hrs in continuous monitoring mode.

### PRINTER

Omniprint OM1000 Infrared thermal printer.

### RS-232 PORT

Connects to PC via USB adaptor or Bluetooth. CAPTURE software graphs and analyzes data.

### OPERATING RANGE

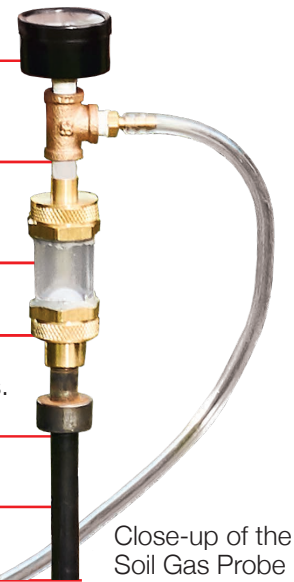
Temperature: 32° - 113°F (0° - 45° C)  
Humidity: 0 - 100%, non-condensing

### WEIGHT/SIZE

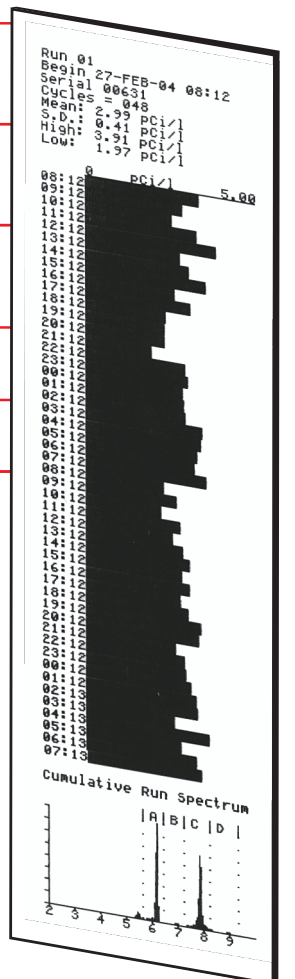
9.6 pounds (4.35 kg). 11.5" x 8.5" x 11"

### CASE MATERIAL

High density polyethylene



Close-up of the Soil Gas Probe



Sample output from the RAD7 infrared printer



The RAD AQUA Accessory for monitoring radon in water