



# Become a Radon Measurement Professional!

**The E-PERM System** is a truly outstanding radon measurement tool for achieving the best accuracy and reliability. By owning your own equipment, you save money compared with the cost of outside laboratory services. It is the ideal radon gas monitor for radon testing companies, environmental consultants, building inspectors and government laboratories because of its ease-of-use, high accuracy and low cost. Testing companies that have used other methods find that electrets are the all-round best

and most cost-effective radon monitors for both screening tests and long-term confirmatory tests. You will benefit by being able to make your own inexpensive on-site measurements. It replaces charcoal screening detectors for short-term measurements and replaces alpha-track detectors for long-term measurements at a much lower cost per measurement. You will become one of the many E-PERM professionals throughout the world that are satisfied users of the electret ion-chamber method.

## E-PERM® - It's All That You Need!

With the Basic Starter Kit from Biomation, you have all of the testing equipment needed to handle a business level of about five homes per week for screening tests. The kit is very affordable. It includes an E-PERM training course on DVD. A set of reference electrets is included with the kit to verify correct operation of the readout unit. Additional radon detectors and electrets can be added as your volume of radon work grows or if you want to do long-term testing.

### IT'S EASY TO USE

It only takes a few seconds to measure the electret voltage using a small portable voltmeter, the Model SPER-1E Surface Potential Electret Reader. The final exposure voltage subtracted from the initial exposure voltage is divided by a calibration factor and the number of days of exposure to give the average radon concentration value, expressed in Bq/m<sup>3</sup>. The radon level can alternately be expressed in picocuries per liter (pCi/L) where 1 pCi/L=37 Bq/m<sup>3</sup>. You can use a convenient Casio hand-held computer to calculate the radon level on-site, or you can use a smart phone with an Internet connection. You can enter the readings into the WINSPER software on your office computer to print a customer letter and report. A spreadsheet template is included if you want to produce the results using Excel.

### PERMANENTLY CALIBRATED

The system is designed so that correct operation can be easily verified to ensure reliable and accurate results. Checking the readout unit weekly with the reference electrets is important. Two reference electrets are provided to guard against possible reference electret malfunction. Radon measurement proficiency can be demonstrated by participating in a radon spiking test. Annual recalibration of the SPER-1E Reader is recommended. Because the radon sensitivity of the E-PERM system is dependent primarily on the manufactured dimensions of the electret ion-chamber, more frequent calibration is not necessary.



The E-PERM System will contribute to your professional image. The E-PERM monitors that are left in the home have a high quality, professional appearance, as does the readout unit and the computer output report. The client is likely to place a high level of credibility in your firm and is likely to recommend your firm to other home owners.

Because results are immediately available, you can finalize the testing on the spot without a further phone consultation or visit.

If the radon level is low, you can provide peace of mind and assure the home owner that no further tests are needed. If intermediate or high radon levels are found, the options and costs of follow-up work can be discussed frankly and professionally. The E-PERM system is sold only to reputable, responsible firms that will provide professional radon services with a high level of quality and integrity.

### RELIABLE AND EFFECTIVE

A home with a high radon level is a health hazard to its occupants. Purchasers will want written assurance the home they are buying has been tested and has an acceptably low radon level. The seller will need a radon test when preparing the house for sale. The test duration is not critical because the electret integrates all variations in the radon concentration and provides an accurate average reading over the exposure time. The longer the reading, the more representative of the true average the measurement will be, although an exposure beyond seven days does not increase significantly the quality of a short-term radon test. A shorter test of three days is often preferred for faster results with only a slight increase in variability.

Where fast response is essential, such as for a real estate transaction, a two-day test will normally determine whether or not the house meets the Health Canada radon guideline of 200 Bq/m<sup>3</sup>. You should follow the short-term test with a 3-month confirmatory long-term test.

For a short-term test, only two brief visits to the house are usually needed: the first is to place two or three E-PERM monitors in the house; the second visit is arranged with the client for a convenient time, usually three to seven days later, to retrieve the monitors and to pick up the cheque. A written computer report or a letter can then be generated and mailed to the client. Whenever possible, a long-term E-PERM test of three to twelve months is recommended to determine whether mitigation is needed.



## BIOMATION

Authorized representative of Rad Elec E-PERM system.

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