

AquaKIT



Fast method for the determination Of Radon in water

Completing the AlphaGUARD state-of-the-art radon monitoring system

Accessory for radon in water measurement in
combination with the radon monitor AlphaGUARD

AquaKIT is an optional accessory to the radon monitoring systems AlphaGUARD DF2000, AlphaGUARD PQ2000 PRO / P1000F. In combination with the radon monitor (and the external electronic pump AlphaPUMP or LabPUMP needed for AlphaGUARD PQ2000 PRO / P1000F) the AquaKIT allows to determine the radon concentration in water samples directly and precisely.

The portable combination AquaKIT – AlphaGUARD DF2000 or AquaKIT – AlphaPUMP – AlphaGUARD PQ2000PRO / P1000F can be used for operation in the field. The batteries of AlphaGUARD (and AlphaPUMP if needed) assist mains-independent operation of more than 12 hours.

Radon measurement of water samples by using AquaKIT are precise and correct. This is assured by the calibration of AlphaGUARD which is traceable to different national standards and because the system disposes of an integrated quality assurance system. The glass vessels of the AquaKIT measuring equipment grant a hermetically sealed enclosure of the radon expelled of the water samples as well as a fast change of samples which prevents incorrect measurements as a consequence of leakages.



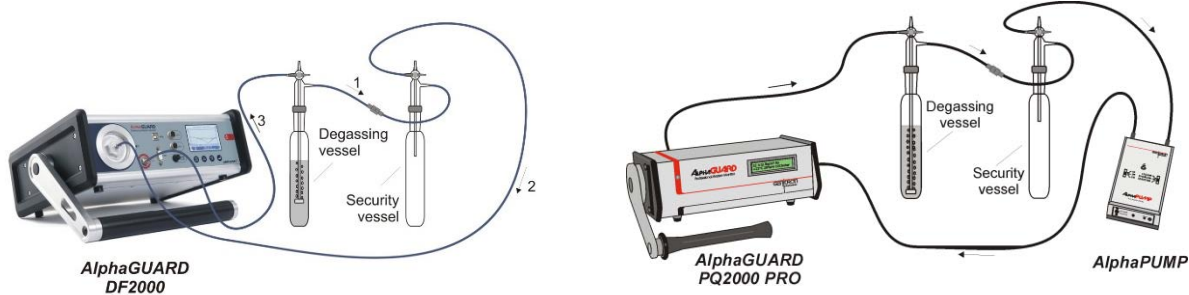
MAIN CHARACTERISTICS

- Direct determination of the radon concentration in water samples
- Portable measuring equipment for laboratory and field measurement
- Heat resistant active coat filter cartridge for minimizing the radon background prior to precision measurements
- Comprehensive range of accessories

AquaKIT

AquaKIT MEASUREMENT SET-UP

With the AquaKIT set-up the AlphaGUARD user can determine radon directly and radium indirectly in water samples. In a closed gas cycle radon is expelled from the water sample by means of the internal pump of the AlphaGUARD DF2000 (or by means of the AlphaPUMP or LabPUMP when using the AlphaGUARD PQ2000 PRO / P1000F). With the AlphaGUARD, whose ionization chamber is also part of the gas cycle, the radon concentration in the system is determined and stored in its memory (1-resp. 10-min. cycle) in form of a radon concentration time series.



CHARACTERISTICS

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|-----------------------------|---|
| Typ. operating range | 5 ... 20 000 Bq/L (direct measurement) |
| Time of execution | < 15 min / sample (sampling, degassing, measuring, analyzing) |
| Statistical error | ≤ 10 % at Bq/L (1-sigma error) |

Larger sampling volumes (up to 500 ml) and longer measuring times (≥ 45 min) decrease the statistical error band and enlarge the lower limit of the measuring range up to 0,1 Bq/L.

COMPONENTS

The complete AquaKIT measuring set-up is placed in a special transport – and storage case resistant to fracture. The set includes the following components:

- Degassing vessel for gas washing modified for the particular measuring task
- Security vessel for minimization of the stress for the radon monitor
- Universal spare vessel for the usage in case of fracture or loss of the degassing – or security vessel
- Storage vessels for sampling for the gastight storage of water samples (2 x 100 ml, 2 x 500 ml)
- Plastic injections for sampling (4 x 100 ml)
- Mounting socket for a stable set-up of the measuring equipment
- Connecting tubes (7 x)
- Measuring cylinder for the determination of the sample volume
- Thermometer for laboratory use (-10° C ... + 50° C)
- Heat resistant active coal filter cartridge for minimizing the radon background in the system prior to precision measurements (volume; 1 000cm³)

