

AlphaPM



Continuous monitoring of radon decay product concentration

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

AlphaPM radon progeny meter is a professional active monitor with high sensitivity which measures time-resolved air-borne radon progeny concentration

The device is designed to be connected to the AlphaGUARD radon monitor for measuring the radon progeny concentration in parallel to the radon gas.

AlphaPM samples air and collects airborne radio nuclides on a filter. The alpha activity is counted using a sensitive semiconductor (PIPS). The cumulated pulses are evaluated and converted to appropriate units (MeV/l, Bq/m³ EEC, J/m³, WL). The result is displayed and transferred to the AlphaGUARD to be stored along with the other AlphaGUARD data.

AlphaPM is optimized for easy, accurate performance. The internal battery allows independent operation of at least 24 h at a flow rate of 2 l/min.

AlphaPM is suitable for short-term applications, e.g. for checking of the used equilibrium factor as well as for long-term surveillance of the radon decay products.



MAIN CHARACTERISTICS

- Professional active monitor with high sensitivity 130 pulses/h at 1Bq/m³ EEC (0.03MeV/cm³)
- Detection principle: quasi-continuous sampling in 10 min interval
- Sensitive semiconductor (PIPS)
- Microcontroller based design, optimized for easy, accurate performance

AlphaPM

FEATURES

- Sampling period from 0,5 h ... 24 h or continuously
- Battery operation of at least 24 h
- Long-lived swinging lever pump
- Small, portable and easy to operate

APPLICATIONS

- Continuous monitoring as well as fast screening measurement
- Radon surveillance and mitigation at workplaces (according to valid radiation protection regulations)
- Exposure monitoring of personnel in specific areas
- Studies of building characteristics

SPECIFICATIONS

Detection principle	Quasi-continuous (sampling in 10 min interval)
Detection efficiency	130 pulses/h at 1 Bq/m ³ EEC (0,03 MeV/cm ³) and a pump rate of 2 l/min
Measurement range	0,5 ... 1 000 000 Bq/m ³ EEC (0,02 ... 35 000 MeV/cm ³)
Lower detection limit	2 Bq/m ³ EEC (0,07 MeV/cm ³) at 10 min and 2 l/min flow
Measurement periods	Selectable at 0,5, 1, 2, 4, 6, 12, 24 h or continuously
Measurement Units	Bq/m ³ EEC, µJ/m ³ , MeV/cm ³ , mWL
Operating temperature range	0° C ... +50° C (32° F ... 122° F)
Data display	2 x 20 digit LCD
Signal output	TTL, connecting to AlphaGUARD via EXT1 socket (AlphaGUARD D series) or MINI-DIN socket (AlphaGUARD PQ2000 PRO with TTL module)
Filter	Glass fiber filter, thickness 0,35 mm, retention capacity 0,6 µm
Power supply	12 V Battery and mains adapter at 100 ... 240 VAC
Battery life (rechargeable)	> 24 h at a flow rate of 2 l/min
Dimensions	8.7 x 3.9 x 13.4 in (220 x 98 x 340 mm)
Weight	5.5 lbs (2.5 kg)

