

Continuous monitoring of Radon decay products concentration



AlphaPM

MAIN ADVANTAGES

- Professional active monitor with high sensitivity
130 pulses/h at 1 Bq/m³ EEC (0.03 MeV/cm³)
- Detection principle: quasi-continuous sampling in 10 min interval
- Sensitive semiconductor (PIPS)
- Microcontroller based design, optimized for easy, accurate performance
- Storing the data in connection with AlphaGUARD DF2000 or AlphaGUARD PQ2000 PRO
- Completing the AlphaGUARD state-of-the-art radon monitoring system



DESCRIPTION

AlphaPM Radon progeny meter is a professional active monitor with high sensitivity, measuring time-resolved air-borne Radon progeny concentration.

The device is designed to be connected to the AlphaGUARD Radon monitor in order to measure Radon progeny concentration in parallel to 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 into appropriate units (MeV/l, Bq/m³ EEC, J/m³, WL). The result is displayed and transferred to the AlphaGUARD to be stored along with other data saved by the device.

AlphaPM is optimized for easy, reliable and 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.

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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

FEATURES

Battery operation of at least 24 h
Long-lived swinging lever pump
Small, portable and easy to operate

PHYSICAL FEATURES

Detection principle	Quasi-continuous (sampling with a 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 to 1 000 000 Bq/m ³ EEC (0,02 to 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 cycle	Selectable at 0,5, 1, 2, 4, 6, 12, 24 h or continuously
Measurement units	Bq/m ³ EEC, μ J/m ³ , MeV/cm ³ , mWL
Pumping unit	Long-lived swinging lever pump, flow controlled and adjustable (0,0 – 0,5 – 1,0 – 1,5 – 2 l/min), according to required sensitivity

ENVIRONMENTAL FEATURES

Operating temperature range	0° C to +50° C (32° F to 122° F)
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MECHANICAL FEATURES

Dimensions	220 mm x 98 mm x 340 mm
Weight	2,5 kg
Filter	Glass fiber filter, thickness 0,35 mm, retention capacity 0,6 μ m

ELECTRICAL FEATURES

Power supply	12 V Battery and mains adapter at 100 to 240 VAC
Battery life (rechargeable)	> 24 h at a flow rate of 2 l/min

INTERFACE

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)