ThoronScout

The instrument allows the simultaneous activity concentration measurement of Radon (Rn222) and Thoron (Rn220) based on a diffusion type measurement chamber.



The required fast exchange rate of sampled air is realized by a highly permeable chamber placed outside the instruments enclosure. The relative Thoron sensitivity is comparable with the one of pump based instruments.

The modified measurement chamber has been derived from the Radon-Scout while the electronics come from the RTM1688-2. That means, more than 2000 data records including a complete alpha spectrum can be stored. Of course, sensors for barometric pressure, temperature and humidity are integrated too.

The Thoron Scout offers a larger Display compared with the Radon Scout. The replaceable bat-teries allow an autonomous operation of approximately one month. It is possible to operate the unit by mains power resulting in unlimited sampling periods. eded (independent of measurement cycle)

There is also a switch output which can be used for alert purposes or to control ventilation equipment.

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ThoronScout – Technical Data

0 10 MBq/m3 Measurement Range

Sensitivity Optimized high voltage measurement chamber electrostatic collection of Radon progenies generated inside the

chamber on a semiconductor detector

doubling of sensitivity for Radon in slow mode through

inclusion of Po-214

▶ no contamination with long-living radon progenies

▶100% quality assurance through output of alpha spectrum for

▶ no influence of humidity on sensitivity

▶ high sensitivity with small chamber volume (only ca. 60 ml)

► Thoron: 0.42 cpm@kBq/m3, for Radon: 0.85/1.50 cpm@kBq/m3 (fast/slow mode)

► Thoron: 200 Bq/m3 with 25% statistical error (1) at 4h

measurement Interval

Response Time Spectrometric analysis of short-living Thoron and Radon

> progenies measurement of Thoron (Rn-220) concentration fastest possible response time: immediately for Thoron, 95% of

the final value after 12 minutes in fast mode for Radon

Internal Sensors for Rel. Humidity 0 ...100%, uncertainty ± 2%

Temperature -20 ... 40°C, uncertainty ± 0.5°C

Bar. pressure 800 ... 1200mbar, uncertainty 0,5% MW

1 minute to 4 hours adjustable in minute increments Integration interval

> Non-volatile memory for 2047 data records, each incl. alpha spectrum RS232 and USB interface for set-up or data transfer

(GSM, ZigBee connec-table)

Integrated real time clock

Controlling Backlit display (4 lines x 20 characters)

► Controllable by a single switch, measurement/stand-by (lock-

function)

► Measurement principle: diffusion (no moving parts e.g. pump)

► Internal buzzer for alert function and Radon-"Sniffing"

Dimensions/ 175 mm x 135 mm x 90 mm,

Weight

1.1 kg (incl. batteries)

2 x D-size cell, NiCd, NiMH or Alkaline and mains power Power supply

Operation time of battery: > 30 days

Power supply 230 VAC- 50 Hz

Software Radon Vision Software

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