CoMo 170

Portable Contamination Monitor with thin plastic scintillation detector for highly sensitive measurement of α-, β- and γ-contamination

Regulations for Radiation Protection Ordinance require that anyone working with unsealed radioactive materials must be checked regularly to see whether work areas, protective clothing or the body surface has become contaminated.

System Features

- the innovative detector technology with thin-layer plastic scintillator provides key benefits over gas-filled or gas flow proportional detectors. These include reduced operating expenses, i.e consumable gas and high repair costs in the case of Xenon detectors
- α-, β- and γ-radiation can be measured using one detector. The measuring system automatically detects the presence of α-radiation. Simultaneous, selective measurement of α- and β-/γ-contaminations is possible
- user-friendly, menu-driven configuration
- important measurement parameters are protected by pass code number
- calibrated reference nuclide file with integrated auto calibration
- lightweight
- integrated storage of measurement data, software for read-out and processing of measurement data
- connection option for different external detectors, e.g. for dose rate measurement
- automatic detector identification
- fixed location operation with wall mount including of inductive charging, controlling of measurement time and switching between background measurement and contamination measurement

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Technical Data:

Detector type:	thin-layer plastic scintillation detector with ZnS coating
Detector size:	170 cm²
Background:	α: approx. 0.1 cps α/β: approx. 15 - 25 cps
Background subtraction:	with adjustable background measurement time
Measurement electronics:	µ-controller supported electronics
Keyboard:	foil keyboard, 5 function keys
Alarm:	separately adjustable for each nuclide, acoustic alarm
Result display:	either in cps or nuclide-specific in Bq or Bq/cm²
Nuclides:	25 nuclides, preset calibration factors, user-specific nuclides may be added integrated auto calibration
Measurement time:	continuous, for stationary operation adjustable in s
Display:	large-area, graphical LC display 128 x 64 pixels, with illumination, duration of illumination adjustable
Power supply:	2 batteries, AA Mignon or corresponding rechargeable batteries, (NiCd, NiMH), can be charged via charge unit, in stationary mode via wall station with inductive charge conservation
Temperatur range:	- 10° C to 40° C, no condensation special version up to - 20° C
Dimensions:	280 x 125 x 135 mm (L (with handle) x W x H)
Weight:	ca. 750 g (including batteries)
Housing:	ergonomically shaped plastic housing
Interfaces:	- serial interface RS 232 - boost charge / line operated - external detectors

Subject to technical change without notice. 11/02 500


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Efficiences for various radionuclides
Average values from measurments with 100 cm² compound

C-14	approx. 14 %
F-18	approx. 18 %
P-32	approx. 25 %
S-35	approx. 12 %
Cl-36	approx. 42 %
K-40	approx. 30 %
Co-57	approx. 7 %
Co-60	approx. 27 %
Sr-89	approx. 27 %
Sr-90 / Y-90 (realated to Sr-90)	approx. 42 %
Tc-99m	approx. 3 %
In-111	approx. 8 %
I-123	approx. 7 %
I-125	approx. 12 %
I-131	approx. 21 %
Cs-137	approx. 35 %
Au-198	approx. 23 %
Ti-204	approx. 43 %
Am-241 α	approx. 22 %
P-238 α	approx. 12 %
U-238 α	approx. 26 %

① Stationary operation of CoMo-system in active wall station
② CoMo with connected detector for dose rate measurement
③ CoMo placed in floor control device