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MEDICINE

PAM-525

PORTABLE ACTIVITY METER



MAIN ADVANTAGES

- Simultaneous measurement of surface contamination by alpha/beta emitting radionuclides and ambient gamma dose equivalent rate
- Large active area
- User friendly, easy to use
- Gasless scintillation detector
- High detection efficiency and uniformity of response, thanks to two photomultipliers
- Possibility of quick replacement of the light-tight foil of the detector
- Up to 200 hours operation due to new integrated rechargeable battery
- Two pre-settable alarm levels
- Easy decontamination

PURPOSE

The PAM-525 series meters are portable hand-held instruments primarily intended for the measurement of alpha/beta surface contamination. Because of their large detectors, more extensive areas can be quickly monitored.

Two models are available:

- **PAM-525BG** – Single channel meter, with a high sensitivity to beta contamination
- **PAM-525CG** – Double channel meter, can distinguish between alpha and beta contamination, slightly lower beta sensitivity than PAM-525B

The detection unit is equipped with a single plastic scintillator, with two photomultiplier tubes and associated processing electronics. The display unit has a backlit graphic display, a membrane keyboard and a lithium-ion battery to power the meter. The display unit also includes an integrated GM tube for measuring the gamma dose equivalent rate.

The meter allows the measurement of the surface contamination in two modes:

- **Ratemeter** - continuous measurement of the average pulse frequency to aid searching for a contaminated surface.
- **Contamat** - integration measurement for deciding on contamination or cleanliness of a specific area in comparison with the set threshold.

The measured values can be displayed as count rate, or for specific selected radionuclides in units of activity, surface activity, emission and surface emission. The display shows the selected quantity digitally and/or as a bar-graph.

For each channel the background radiation level can be measured manually and stored in memory. This background is then automatically deducted from the measurement results indicated on the display.

The measurement of the gamma dose equivalent rate is an additional measurement independent of the measurement of surface contamination. It can warn the operator about higher ambient radiation.

If detected contamination is higher than a pre-set threshold, a warning alarm will sound. One or two alarm levels can be set or they can be turned off. Exceeding the first or second levels is indicated by different tones.

The meter can also acoustically indicate pulses generated by the detector. Dual-channel monitors distinguish between pulse detection in the alpha channel and in the beta channel by a different sound.

The currently measured values in the "Ratemeter" mode and the results of the integration measurements in the "Contamat" mode can be stored in the measurement archive together with a time stamp. The archive can then be exported to a file.

Service software is used to export the archive and set the essential parameters by means of a PC/notebook connected by a service port.

SPECIFICATION

Detector type	plastic scintillator
Active area	525 cm ²
Dimensions (W × H × D)	180 × 170 × 470 mm
Weight	< 2,4 kg with batteries
Power supply	Li-Ion batteries mains adapter
Battery life	min. 200 hours (without back illumination)
Temperature range	from -10 to +45 °C
Humidity range	max. 90 % non-condensing
Units	cps, cps/cm ² Bq, Bq/cm ²

MEASUREMENT OF THE DOSE
EQUIVALENT RATE

Detector type	GM tube
Measurement range	100 nSv/h to 500 mSv/h
Energy range	50 keV to 3 MeV

EXAMPLE OF RADIOMETRIC PARAMETERS

Model	Channel	Radionuclide	Efficiency [%]	Detection threshold [Bq/cm ²]
PAM-525BG	α	²⁴¹ Am	38	0.03
	β	³⁶ Cl	45	0.02
PAM-525CG	α	²⁴¹ Am	38	0.01
	β	³⁶ Cl	40	0.02

AVAILABLE TYPES

Name	1. channel	2. channel	3. channel
PAM-525BG	alfa + beta	-	gama
PAM-525CG	alfa	beta	gama

OPTIONAL ACCESSORIES

51-A-0000259	Service cable, USB A – Fischer 5 pin
50-A-0017232	Transport case

RELATED PRODUCTS

PAM-170	Portable Activity Meter
PAM-100	Portable Activity Meter
HF series	Hand-Foot Contamination Monitor with 6 detectors
HF-4	Hand-Foot Contamination Monitor with 4 detectors
HM-4	Hand Contamination Monitor
FCM-11	Frisking Contamination Monitor