POSHUK | Search Dosimeter-Radiometer MKS-07

ТУ У 22362867.003-99

Number U1207-07 in State Register for Measuring Instruments

Hygienic conclusion of the State Sanitary-Hygienic Expertise # B-7.02/28 of November 04,1999

Branches of Use

- Customs and Border Service
- Ministry of Internal Affairs
- Nuclear power industry
- Metallurgy and scrap metal storage
- Mining industry
- Vehicles monitoring, seaports and airports
- Construction industry
- Logging and woodworking industry
- Sanitary dosimetry and ecology (environmental inspectorates, sanitary and epidemiological services, radiological laboratories, labor protection)
- Medicine

Purpose of Use

- Measurement of gamma and X-ray radiation ambient dose equivalent rate (DER).
- Measurement of gamma and X-ray radiation ambient dose equivalent (DE).
- Measurement of surface beta-particles flux density.
- Measurement of surface alpha-particles flux density with the help of the BDPA-07 detecting unit of alpha radiation (on demand).
- Measurement of thermal and fast neutron flux density with the help of the BDPN-07 detecting unit of neutron radiation (on demand).

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Radiation Measurement Instruments

Specifications

Measurement ranges and main relative errors:		
Gamma and X-ray radiation dose equivalent rate (^{137}Cs)		0.1 μSv/h ... 2.0 Sv/h
Main relative permissible error limit of DER measurement with confidence probability of 0.95: - in precise measurement mode - in search mode		±(15+2/$\dot{H}$*(10)) %, ±(25+2/$\dot{H}$*(10)) %, where $\dot{H}$*(10) is a numeric value of measured DER equivalent to μSv/h
Gamma and X-ray radiation ambient dose equivalent (^{137}Cs)		1.0 μSv ... 9 999 mSv ±15 %
Beta-particles flux density (^{90}Sr+^{90}Y)		5 ... 100 000 1/(cm^2×min)
Main relative permissible error limit of surface beta-particles flux density measurement with confidence probability of 0.95: - in precise measurement mode - in search mode		±(15+200/$\phi\beta$) %, ±(25+200/$\phi\beta$) %, where $\phi\beta$ is a numeric value of measured flux density equivalent to part./(cm^2×min)
Energy ranges of measurement and energy dependence:		
Gamma and X-ray radiation	MeV	0.05 ... 3.0 ; ±25%
Beta radiation	MeV	0.15 ... 3.0
Measurement time intervals	seconds	2 ... 5
Storage battery life (four NiMH AA batteries)*	hours	not less than 400
Operating temperature range	°C	-25 ... +55

Weight and dimensions:	Weight (kg)	Dimensions (mm)
Control panel	0.5	154 x 86 x 35
Gamma radiation detecting unit	0.6	214 x 80 x 36
Beta radiation detecting unit	0.5	154 x 82 x 43
Delivery kit in packing	4.2	445 x 255 x 85

* under gamma background not more than 0.3 μSv/h, switched off display backlight and alarm system

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Features

- Geiger-Muller counters without return run of counting response.
- Analog indicator of radiation intensity.
- Up to 4096 measurement results recording in the nonvolatile memory with further transfer to the computer through infrared port.
- Review of the recorded measurement results on the display.
- "Precisely" channel with the average result indicated on the display for the fixed measurement time from 1 to 99 minutes, and "start-stop" measurement mode.
- Detection of soft beta radiation.
- Programmable threshold levels of gamma and X-ray radiation dose equivalent rate and beta-particles flux density.
- Audio signaling of detected gamma-quanta, beta-particles, and exceeded programmed threshold levels of dose equivalent rate of gamma and X-ray radiation or beta-particles flux density.
- Display backlight.
- Multilevel indication of battery discharge.

Delivery Kit

- control panel;
- gamma radiation detecting unit;
- beta radiation detecting unit;
- telescopic tube;
- connecting cable;
- technical description and operating manual;
- logbook;
- battery charger;
- packing bag of close and waterproof cloth used to carry the device on one's shoulder;
- exchange infrared port adapter and software (at the customer's request).

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