

AT1103M

Unique high-sensitive instrument to control dose burden of crystalline lens, mucous membranes and skin. It measures directional dose equivalent rate $\dot{H}^*(0.07)$ of continuous x-ray radiation with the energy from 5 keV.

X-RAY RADIATION DOSIMETER

5 - 160 keV 50 nSv/h - 100 μ Sv/h

Features

- X-ray and low-energy gamma radiation source search
- Fast response to radiation background change
- Audible and visual alarm at threshold exceeding
- Large digital backlit LCD with analog scale
- Keeping up to 100 measurement results in the dosimeter nonvolatile memory
- Built-in LED stabilization system providing no need to use a reference source
- 256-channel ADC
- Logging and transfer to PC measurement results
- Dust and splash-proof case
- Three power types



Applications

- Control of acceptable low energy and intensity x-ray levels from video monitors, night vision equipment, oscillographs, TV receivers, microwave generators, ion implantation devices, inspection and medical sets
- Certification testing of instruments and equipment containing unused x-ray radiation sources, safeguards effectiveness control
- Dosimetry control of radioisotopes ^{55}Fe , ^{239}Pu , ^{241}Am , ^{129}I , etc.



ATOMTEX

INSTRUMENTS AND TECHNOLOGIES FOR
NUCLEAR MEASUREMENTS AND RADIATION MONITORING

The dosimeter has scintillation NaI(Tl), Ø9x2 mm, with a beryllium window as a x-ray radiation detector. The measuring method of directional dose equivalent rate is based on measuring the instrument spectrum and its interval standardized weighing per a dose rate unit. The relevant energy response correction for the count rate mode is also provided.

Specification

Detector ... NaI(Tl) - Ø9x2 mm with a beryllium window	Sensitivity on ²⁴¹Am 400 cps/µSv · h ⁻¹
Directional dose equivalent rate Í'(0.07) measuring range 50 nSv/h - 100 µSv/h	Operating temperature range 0 ÷ +40°Ñ
Directional dose equivalent Í'(0.07) measuring range 50 nSv - 5 mSv	Relative humidity at +35°Ñ up to 90%
Intrinsic measurement error not more than ±15%	Protection class IP54
Energy range 5 - 160 keV	Power requirements Internal Ni-MH accumulator unit 6 V AC mains, frequency 50 Hz 220 V DC supply 12 V
Energy sensitivity response relatively ²⁴¹Am 5 - 60 keV ±35% 60 - 160 keV ±30%	Continuous operation time from fully charged accumulator unit not less than 24 h
Calibration error ⁵⁷ Ci, ¹⁰⁹ Cd, ⁵⁵ Fe, ²⁴¹ Am not more than ±5%	Radio disturbance EN 55022:1998+A1:2000+A2:2003
Maximum statistical load 6 · 10 ⁴ s ⁻¹	Electromagnetic compatibility CEI/IEC 61000-4-2:1995 IEC 61000-4-3:1995
Operation mode setup time not more than 5 min	Weight 0.9 kg
Detecting count rate range 0,01 - 6 · 10 ⁴ s ⁻¹	Dimensions 233õ85x67 mm
Detectable activity of ²⁴¹Am at the distance of 0.5 m for 1-2 s 1000 kBq (27 µCi)	

Complete set: dosimeter, AC adapter, hand strap, handle, holster and Manual. Telescopic bar 1.1 m, cable to connect PC and applied software, cable for DC supply, packing case or bag are options and they are supplied **on additional order**.

The x-ray radiation dosimeter AT1103M has pattern approval certificates of Republic of Belarus, Russian Federation, Ukraine, Kazakhstan and Uzbekistan. It complies with IEC 60846 International standard requirements.

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