

Saphydose Gamma i

Gamma & X electronic dosimeter

Key features

- Compliance with IEC 61526
- High immunity against electromagnetic perturbations
- Long battery autonomy: up to 8000 hours
- Can be integrated into an operational dosimetry system or used as a stand-alone device



Saphydose Gamma i

The **Saphydose γi** is an isotropic electronic dosimeter which complies with the IEC 61526 standard.

This ergonomic, user-friendly instrument provides measurement of the personal dose equivalent for whole body Hp(10).

The **Saphydose γi** has gained popularity due to its high immunity against electromagnetic perturbations, reliability and the robustness given by its aluminum box.

Four alarm thresholds are included within, each one warning the user by triggering a buzzer, enabling a front-side LED and showing a clear message on the display. A dosimeter management software, EasyDose Gamma, can help to customize these alarms.

The **Saphydose γi** can be used as a stand-alone device (individual mode) or be integrated into a dosimetry system (system mode). In such case, the data concerning the worker's doses are sent wirelessly to the operational dosimetry system through a dosimeter reader.

The **Saphydose γi** is aimed for people working in a controlled area (nuclear power plant, fuel reprocessing plant, research center hospital, non-destructive testing service, etc.) or likely to be exposed to ionizing radiations (Armed Forces, policemen, fire brigades, etc.).

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PHYSICAL CHARACTERISTICS

- **Detector:** Dual Silicon diode
- **Radiation type:** X and gamma rays
- **Measurement range of dose equivalent:** From 1 μ Sv to 9 999.9 mSv
- **Dose equivalent uncertainty:** $< \pm 15 \%$
- **Measurement range for dose equivalent rate:** From 0.5 μ Sv/h to 5 Sv/h
- **Energy response:** Compliant with IEC 61526 from 50 keV to 7 MeV
- **Dose response linearity function of dose rate:**
 - $< \pm 20 \%$ from 0.5 μ Sv/h to 2 Sv/h
 - $< \pm 25 \%$ from 2 Sv/h to 5 Sv/h
- **Angular response:**
 - Compliant with IEC 61526 from 50 keV to 7 MeV
 - Isotropy in the air to ^{60}Co 360°
- **Adjustment of warning and alarm thresholds for dose equivalent:** from 1 μ Sv to 9 999.9 mSv
- **Alarm for dose equivalent overload:** Above 9,999.9 mSv
- **Adjustment of warning and alarm thresholds for dose equivalent rate:** from 0.5 μ Sv/h to 5 Sv/h
- **Response time for the alarm of the dose equivalent rate:**
 - < 1 second above 3.6 mSv/h
 - < 40 seconds at 100 μ Sv/h
- **Alarm for overload of dose rate equivalent:** above 5 Sv/h

ENVIRONMENTAL CHARACTERISTICS

- **Operating temperature:** from -10°C to +50°C
- **Storage temperature:** from -20°C to +70°C
- **Ingress Protection Marking:** IP 65
- **Vibrations resistance:** 20 m/s², 15 min, from 10 to 33 Hz, on the 3 axis
- **Drop resistance:** Height of drop: 1 m on concrete
- **Radiated RF EM field immunity:**
 - 20 V/m from 80 MHz to 1 GHz / >100 V/m from 1.8 GHz to 2 GHz
- **Electrostatic discharges immunity:** ± 4 kV on contact, ± 8 kV in the air
- **Magnetic fields immunity:** 30 A/m at 50 Hz

MECHANICAL CHARACTERISTICS

- **Dimensions:** 98 x 64 x 24 mm³
- **Weight:** 145g with 1 battery; 160 g with 2 batteries

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ELECTRICAL CHARACTERISTICS

- **Power supply:** 1 or 2 3,6V lithium batteries (AA type)
- **Autonomy in use:** 4,000 h with 1 battery; 8,000 h with 2 batteries

INTERFACES

- **Audible alarm:** front-side buzzer, sound level > 85 dBA at 30 cm
- **Visual alarm:** Red high-luminosity front-side LED (alarm type text-displayed)
- **Fault warnings:** Low battery, detector failure, memory error
- **LCD:** 5 scrolling alphanumeric characters
- **Panel lights:**
 - Overload; Fault (low battery, detector, memory, etc.)
 - Maintenance advised; Worn/dropped dosimeter (option)