DoseRAE
Electronic Personal Dosimeter

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For Personal Radiation Dosage Monitoring

DoseRAE is a rugged, lightweight, direct-reading electronic personal dosimeter that provides superior dose monitoring accuracy.

Accurate Readings

The sensitive and sturdy Geiger-Mueller tube of the DoseRAE provides accurate dose readings with a resolution of less than 0.02 µSv (2 µR).

Loud Alarm

DoseRAE alerts the wearer with a loud 75+dB alarm and big, bright flashing LEDs.

Stay-Time Readings and Alarms

DoseRAE tracks stay-time, the amount of time left until the dose alarm level is reached if the wearer stays in the current radiation field. An absolute stay-time alarm and a stay-time warning alarm give the wearer plenty of advance notice to finish work in a radiation area before reaching the dose alarm threshold.

Programmable Alarms

Two versions of dosimeter are available:

- **DoseRAE-P** allows alarm settings to be changed "on-the-fly" using the dosimeter's buttons.

- **DoseRAE's** settings can only be changed using the dosimeter reader, preventing wearers from inadvertently changing alarm setpoints.

Key Features

- Geiger-Mueller tube for superior accuracy and protection from RFI, microphonic and temperature effects
- Prominent visual and audible alarm alerts
- Extended 0 to 999 Sv (0 to 999 R) dose range
- Easy-to-read autoranging LCD provides dose, dose rate and stay-time information
- A single AA battery lasts more than 750 hours
- Dose history stores 200 data points
- Dust and shock resistant
- Multiple alarms based on dose, dose rate and stay-time
- Long calibration life
- Built-in self-test continuously monitors the condition of the radiation sensor, and alerts the wearer if the dosimeter is not functioning properly

Applications

Monitor dose to individuals in nuclear power plants and research facilities, hospitals, and industrial locations that manufacture or use radioactive gauges and imaging technology

ISO 9001 CERTIFIED CE

RAE SYSTEMS

Specifications*

Dosimeter Specifications

SENSOR	
Radiation Detector	Miniature, energy-compensated Geiger-Mueller tube
Energy Response	Tissue equivalent to ± 25% from 55keV to 6MeV
Dose Range	0µSv to 9.99 Sv (0µR to 999 R)
Dose Resolution	≤ 0.02 µSv (≤ 2 µR)
Dose Rate Range	0 to 5 Sv/h (0 to 500 R/h)
Dose Rate	± 15% or ± (20 µR/h)
Accuracy	Does not include counting statistics which are less than ± 20% (1 sigma) for rates > 0.20 mSv/h (20 mR/h)
Foldover	No foldover up to 100 Sv/h (10,000 R/h)
User Calibration	User calibration recommended at least every two years Factory calibration not required
ALARMS	
Alarm Alerts	• Loud 75+ dB @ 30 cm for noisy environments • Highly visible LED lights on both sides of LCD graphic display
Alarm Settings	• **Dose:** 0.10 µSv to 9.99 Sv (10 µR to 999 R) • **Dose Warning:** 0.10 µSv to 9.99 Sv (10 µR to 999 R) • **Dose Rate:** 0.40 µSv/h to 5.00 Sv/h (40 µR/h to 500 R/h) • **Stay Time:** 6 seconds to 109 hours • **Stay Time Warning:** 6 seconds to 109 hours • **"Chirp" alarm:** 1 beep per accumulated dose increment (0.02 µSv to 0.50 mSv or 2 µR to 50mR) • Low battery alert when 24 hours of life remain
DATALOGGING AND COMMUNICATION	
Data Storage	200 data points
Datalog Interval	6 seconds to 109 hours
Communication	Datalog accessible using SAIC Dosimeter Reader PDR-1™
POWER	
Battery	1 AA alkaline battery, 1.25 V to 3.6 V, easily accessible with a coin
Operating Period	More than 750 hours
OPERATING ENVIRONMENT	
Temperature	-28° C to 60° C (-18° F to 140° F)
Humidity	0% to 95% (non-condensing)
Shock Resistance	Passes drop test from 1 m (39") onto concrete
IP Rating	IP54
PHYSICAL CHARACTERISTICS	
Display	LCD display with pushbutton backlight Three-digit floating-point readout
Direct Readout	• Dose and dose rate, autoranging in units of µSv, mSv, or Sv (µR, mR, or R) • Access status: toggles normal display or "Out" (logged out)
Tamper Status	Readable flag indicates temporary, unauthorized battery removal
Reliability	Built-in continuous self-test monitors power supply and G-M tube. Abnormal operation indicated on LCD
Key Pad	2 operation buttons
Size	52mm x 89mm x 24mm (2.0" x 3.5" x 0.9")
Weight	130 g (4.6 oz)
Attachments	Rugged metal alligator clamp and belt clip

*Specifications are subject to change

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Detector kit includes:
• DoseRAE or DoseRAE-P dosimeter
• Belt clip
• Alligator clip
• 1 AA alkaline battery

Optional Equipment:
• SAIC Dosimeter Reader (PDR-1™)

DoseRAE®
SYSTEMS