Gamma-ray dosimeter for the general public



D-Shuttle

This compact personal dosimeter was developed for people around the Fukushima Nuclear Power Plant after the accident on March 11, 2011 caused by the Great East Japan Earthquake and Tsunami. Chiyoda Technol has collaborated with the National Institute of Advanced Industrial Science and Technology (AIST) to develop an accessible dosimeter for those who remained in the surrounding area and were at risk of radiation. The dosimeter is light, compact, and easy to carry to check daily accumulated dose and the previous day's dose. A dedicated workstation displays the dose graphically for easy comprehension.



Effective Workstation

- Hourly data displayed graphically on the PC, showing times when the
- user received high doses. Long battery life—one year continuous operation with two readouts per day.
- Annual inspection, calibration, and battery change services are available by Chiyoda Technol (additional charge)



Monitor sample

Applications

- Residents in areas at risk of radiation • Personnel in radiation test
- facilities
- Environmental monitoring after dedicated calibration • International comparison of daily dose, decontamination control, etc.

Specifications

Personal cumulative dosimeter	Scope of radiation	Gamma ray
(D-shuttle main unit)	Calibration	¹³⁷ Cs gamma ray
	Detector	Semiconductor
	Erroneous detection	Equipped with erroneous detection prevention function
	prevention function	using shock sensor
	Measurement range	0.1 μSv to 99.9999 mSv (total cumulative dose)
	Dose rate linearity	$\leq \pm 10\%$ (2 μ Sv/h or higher) (In the range of 2 μ Sv/h to 3 mSv/h with ¹³⁷ Cs- γ)
	Alarm	LED blinking in high dose environment
	Recording	Dose record per hour
	Power supply	Coin type lithium battery (CR2450)
	Battery life	Approximately one year (viewing digital readout twice daily)
	Measurement record display	Option 1: Download the data to the dedicated PC to display the measurement record. Option 2: Insert the dosimeter into the accessory indicator to display the record.
	Size / weight	Approximately 68 mm x 32 mm x 14 mm / 23 g
	Factory setting	Dose set to "0" when shipping
Indicator	Size / weight	Approximately 68 mm x 44 mm x 37 mm / 50 g
	Power supply	Button battery
	Display values	Total cumulative dose, number of days, and cumulative dose readout of the previous day
Dedicated workstation	Function	Downloading the recorded data, resetting the dose record
	Connection method with dosimeter	Optical and wireless connections
	Display values	Total cumulative dose (number of days) and average dose rate
		Dose trend graph over the last 24 hours
		Dose trend graph over the last 7 days
		Monthly cumulative dose, and the trend graph
		Daily cumulative dose, and the trend graph for one month
		Hourly dose and the trend graph



Collaborated with National Institute of Advanced Science (AIST)



D-shuttle in the dedicated neck pouch