

# VISION™

## The Ergonomic Lens of Eye Dosemeter



The International Commission on Radiological Protection (ICRP) has recommended to lower the dose to the lens of the eye to 20 mSv in a year. Ensure your workers are being monitored with the newest lens of eye dosimeter. VISION dosimetry service is approved by the HSE under Ionising Radiations Regulations 2017 and Ireland's EPA.

### A DOSEMETER DESIGNED FOR YOU

Ergonomic, light and small, the VISION dosimeter does not affect the user's activity and view. It is made from a plastic resistant to twisting. The dosimeter is flexible and can be placed close to the eye, providing a more accurate measurement of the lens of eye dose. The VISION lens of the eye dosimeter is to be worn in conjunction with radiation safety glasses or safety shields, with the detector behind the shielding. If the field is uniform or shielding is not present, the VISION dosimeter should be placed as close to the eye as possible without interfering with the field of view.

- **Ergonomic** – lets the user wear it without any interference with field of vision
- **Small and Compact** – allows wearing near lens of eye for worker monitoring
- **Flexible** – makes it possible to install in front or behind, in horizontal or vertical orientation on most Personal Protective Equipment (PPE)
- **Laser etched wearer information** – provides clear user identification and wear period
- **Sensor protected inside an ultrasonically sealed cap** – enables easy sterilization by cold wiping or brushing
- **H<sub>p</sub>(3) individual dose equivalent** – reports consistent and accurate lens of eye dose data

### MEASUREMENT METHOD

The VISION dosimeter is composed of a polyamide holder with a cap, which contains a lithium fluoride thermoluminescent dosimeter (TLD) chip. When the chip is heated, visible light is emitted in proportion to the exposure of ionizing radiation.



### LASER-ETCHED IDENTIFICATION

The cap with titanium oxide particles is laser etched for permanent marking and identification. This also allows for easy cleaning.

### COMPLIANCE WITH STANDARDS

EN 62387-1 : 2015 – Passive integrating dosimetry systems for personal and environmental monitoring of photons and beta radiation – Radiation protection instrumentation



## LABORATORY QUALIFICATIONS

- Dosimeter characterization carried out by an independent reference laboratory: Henri Becquerel French National Laboratory (LNHB) - CEA
- Participation in national and international inter-comparisons
- HSE and Ireland's EPA approved dosimetry service

## GENERAL CHARACTERISTICS

**Radiation measured** – Photons (X and Gamma)

**Detector** – Single element, one TLD

## SUITABLE FOR PERSONNEL INVOLVED IN:

- Interventional radiology (e.g. fluoroscopy)
- Diagnostic procedures
- Other medical procedures resulting in prolonged radiation exposure to lens of eye
- Nuclear medicine
- Nuclear industry (e.g. planned or emergency maintenance at nuclear power plants)

**The VISION dosimeter is recommended to be sterilized by cold wiping with one of the following disinfectants:**

**1) Cidex® 2) Betadine®**

*We do not recommend heat sterilization with temperatures that exceed 40°C.*

## TECHNICAL PERFORMANCE

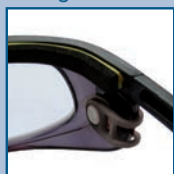
Types of radiation measured	Photons (X or gamma)
Personal dose equivalent	$H_p(3)$
Dose range	from 0.1 mSv to 10 Sv
Minimum reporting value	0.1 mSv
Linearity response	from 0.1 mSv to 10 Sv Standard deviation < 9 %
Energy response (mean energy)	from 24 keV to 1.25 MeV
Angular response	$\pm 60^\circ$ from 24 keV to 1.25 MeV

## ENVIRONMENTAL RESISTANCE CHARACTERISTICS

Operating and storage temperature	No effect on detector sensitivity up to 40°C
Humidity	No effect on detector up to 90% humidity
Exposure to light	No effect on detector

## SIMPLE AND PRACTICAL TO USE

VISION can be applied to glasses, visors and caps\*. Self-gripping pads ensure a secure fit. It can be worn with or without PPE. Non-lead glasses without PPE are optional.



Lead glasses



Lead mask protection



Caps



Non-leaded glasses



Rotating cap

\*When worn with protective equipment, the vision dosimeter is recommended to be worn behind the shielding.