



WBDose OSL Dosimetry System

Quick and easy dose measurement by OSL Technology

Regulatory authorities (IAEA, ICRP, AAPM, EURATOM) recommends monitoring and measuring the doses exposed by those of working in the field of radiation. For this purpose, **Wbdose OSL dosimetry system**, has smooth and stable design, was developed to measure personal radiation dose using the **Optically Stimulated Luminescence (OSL)** technique.

Wbdose OSL dosimetry system technologically enhanced by using tissue equivalent **Beryllium-Oxide (BeO)** crystal for personal monitoring.

The Wbdose OSL dosimeter is all-purpose and made available for radiation workers for dose measurement of whole body dose $H_p(10)$ and skin dose $H_p(0.07)$.

The International Commission on Radiological Protection (ICRP) determines annual dose limits of radiation workers are shown at the table as below

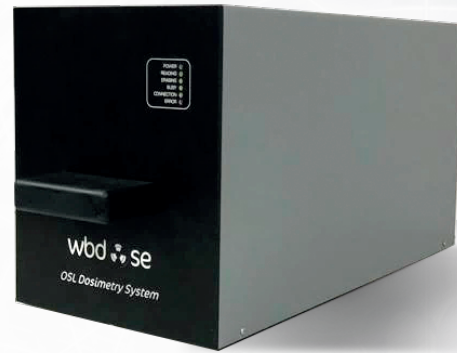
Annual dose limits of radiation workers	
Equivalent dose for whole body $H_p(10)$	20 mSv/year
Equivalent dose for skin $H_p(0.07)$	500 mSv/year

*As reference to the International Commission on Radiological Protection (ICRP)

BeO crystal provides biggest advantage is lower photon energy dependency through effective atomic number (perfect tissue equivalent).

Current **QUALITIES** of BeO become it an excellent chose in field of personal and environmental dosimetry applications. Also OSL System consist of high optic sensitivity, accurate dose measurement, portable size and advanced mechanical strength.

Wbdose OSL Reader/Eraser;



Wbdose OSL Dosimetry System :

- OSL reader-eraser
- Computer
- Software
- Dosimeters
- QC & QA sets
- Server (for multi system)



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Specifications of the Wbdose OSL dosimetry system are given as;

System Technical Specifications

- Use of crystals that have Optically Stimulated Luminescence (OSL) features,
- Tissue equivalent BeO crystal (effective atomic number $Z = 7.11$),
- Measuring all photons in 16 keV-6.7 MeV energies,
- Measuring in 0.05 mSv-10 Sv doses,
- reading time < 2 sec for typical dose,
- reading time < 20 sec as a function of high irradiated dose,
- Re-erasing and using several times,
- Performing automatically daily quality control tests (Mechanical and electronical control tests),
- Verification with re-reading (second read),
- Give dose results in SI units (mSv).

Wbdose OSL dosimeter was developed to measure whole body ($H_p(10)$) and skin ($H_p(0.07)$) doses. The dosimeter includes two BeO crystals and special designed filters.



The special QC-QA sets are improved for radiation quality control tests according ISO IEC standards (Radiation Performance Tests / ISO 14146).



*QA Dosimeter Set

*QC Dosimeter Set

Usage steps of the specially developed Wbdose OSL dosimetry system;

- *performing daily quality tests automatically*
- *measuring dosimeters into the reader*
- *erasing dosimeters into the eraser*
- *doing verification process as second readout*
- *saving data*

The Wbdose OSL dosimetry system provides proficiency tests;

- ISO/IEC 62387:2012 standart
- ISO/IEC 61000:2019 standart
- ISO/IEC 60950:2019 standart
- CE

The RADKOR Quality system provides proficiency tests;

- ISO 9001:2015
- ISO/IEC 17025:2017

(For irradiation and calibration laboratories)

