



WBDOSE OSL Dosimetry System

Quick and easy dose measurement by OSL Technology

Wbdose OSL dosimetry system measures personal radiation dose using Optically Stimulated Luminescence (OSL) technique. Tissue equivalent Beryllium-Oxide crystals are used in the wbdose OSL dosimetry system. It is made available for radiation workers for dose measurement and tracking of whole body dose Hp(10) and skin dose Hp(0.07). The wbdose OSL dosimetry system provides proficiency tests in ISO/IEC 62387:2012 standart. **Developed whole body dosimetry system, based on OSL technology, shows unique property as including reader and eraser in one system accredited in scope of ISO/IEC 62387:2012 standart.**

System Technical Specifications

- Use of crystals that have Optically Stimulated Luminescence (OSL) features,
- Applicable for photon (X-ray, Gamma) and Beta irradiation measuring,
- Measuring all photons (X-ray, Gamma) in 16 keV-6.7 MeV energies,
- Measuring in 0.05 mSv-10 Sv doses,
- Tissue equivalent BeO crystal (effective atomic number $Z = 7.11$),
- Verification with re-reading (second read),
- < 20 sec dosimeter reading time,
- Give dose results in SI units (mSv),
- Re-erasing and using several times,
- Performing automatically daily quality control tests (Mechanical and electrical control tests),



Wbdose OSL Dosimetry System contains;

- Wbdose OSL reader-eraser
- Wbdose OSL dosimeters,
- OSL reader-eraser control software
- Computers with server
(Depends on dosimeter Number)



Each dosimeter includes IDs codified by RADKOR. It is easier to register wbdose dosimeters and tracking them. wbdose dosimeter's size is quite suitable for whole body dosimeter usage. Wbdose dosimeters consist of BeO crystals ($Z_{eff}=7.11$). Those dosimeters, which have OSL characteristic, are delivered to users as calibrated and ready for use.





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Wbdose OSL dosimeters provide whole body dosimetry usage by special designed light protective holders. Each one of holders has been codified with unique ID as seeing by users.

The International Commission on Radiological Protection (ICRP) remarks tracking the whole body doses. Annual dose limits of radiation workers are shown at the table as below.

| | |
|--|--------------|
| Equivalent dose for whole body ($H_p(10)$) | 20 mSv/year |
| Equivalent dose for lens ($H_p(0.07)$) | 500 mSv/year |

* REFERENCE FROM ICRP PUB. 103

Wbdose OSL dosimetry system consists of reader unit, dosimeters and such holders that what a system needs for dose measurement and tracking. It has been developed with the purpose of personal monitoring in medical, industrial and different radiation applications. In despite of, specially enhanced software and the dosimeters enable saving records, evaluating dosimeters into the reader automatically, doing verification process as second readout, generating dose report and performing daily quality tests.

The dosimetry systems need eraser unit for preparation for re-using. **Wbdose OSL dosimetry system contains eraser part into its structure.**

Wbdose OSL dosimetry system provides easy transportation and protection of reader-eraser unit, whole body dosimeters and their accessories with designed carrier box.

The special QC-QA sets are provided for radiation quality control tests according ISO IEC standarts.



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