

# Best<sup>®</sup> Dosimetry Services



**CNMG+**  
a Best Medical company



Best Dosimetry Services tel: 866 492 8058 [www.bestdosimetry.com](http://www.bestdosimetry.com)  
CNMC tel: 615 391 3076 toll free: 800 635 2662 [www.cnmcco.com](http://www.cnmcco.com)

AFRICA | ASIA | EUROPE | LATIN AMERICA | MIDDLE EAST | NORTH AMERICA



# Introducing... Best Dosimetry Services

As a leader in innovative technology, our goal is to uphold our excellent reputation and consistently exceed the expectations of our customers in the field of radiation dosimetry service by developing and delivering cost-efficient, high quality services. Accordingly, BDS requires all personnel concerned with testing activities of the laboratory familiarize themselves with the quality documentation and implement the policies and procedures in their work. Furthermore, laboratory management is committed to comply with NIST Handbooks 150 and 150-4 and to continually improve the effectiveness of the management system.



## Personal dosimetry for all radiation environments:

- Hospitals
- Clinics
- Dental Offices
- Chiropractic
- Veterinary
- Industrial
- Homeland Security
- Reactor Facilities
- Regulatory Agencies



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# BDS Commitment to Service

**BDS's team of service and technical professionals is committed to providing high quality dosimetry services at economical prices!**

**Our service features include:**

- **Competent, friendly customer service —  
No voice mail necessary!**
- **Timely delivery of dosimeters and reports**
- **No charges for the following ancillary services:**
  - **Additions or deletions of wears**
  - **Setting up new accounts**
  - **Departmentalization of account**
  - **Emailing of dose reports**
  - **Adding dose histories**
  - **One control dosimeter**

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# Whole Body Dosimetry

## BDS 8840 Whole Body Dosimeter

- A whole body dosimeter for occupationally exposed radiation workers based on well-established TLD technology
- Accurately determines deep, shallow and lens of the eye radiation dose over a broad range of photon energies



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# BDS 8840 WBD Specifications

## Minimum Exposure Fluoro:

High-sensitivity LiF: Mg, Cu, P

**Badge Configuration:** Holder containing 4-chip barcoded TLD Card with strap clip

## Holder:

- The holder covers each TL chip with its own unique filter, providing different radiation absorption thickness to allow estimation of Shallow, Deep and Lens of the Eye Doses.

## Card Components:

- The TLD card consists of four LiF: Mg, Cu, P sintered pellets, 3.6 mm (.0142 in.) diameter, mounted between two PTFE sheets on an aluminum substrate with a six digit bar code.
- Three of the TL elements (chips) are fabricated from TLD-700H ( $^7\text{LiF}$ : Mg, Cu, P); two are 0.38 mm (0.015 in.) thick, and one is 0.26 mm (0.010 in.) thick.
- One chip is made of TLD-600H ( $^6\text{LiF}$ : Mg, Cu, P), 0.38 mm (0.015 in.) thick.

**Fading:** Negligible, over 6 months

**Minimum Reportable Dose:** 1 mrem

**Radiations Detected:** Photon, Beta, Neutron

**Photon Energy Response:** From 20 keV to 1.25 MeV, LiF: Mg, Cu, P has a maximum deviation in the photon deep and shallow dose equivalent response of  $\pm 22$  and  $\pm 21\%$ , respectively.



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# Extremity Dosimetry

## BDS Extremity Ring Dosimeter

- An extremity ring dosimeter for occupationally exposed radiation workers based on well-established TLD technology
- Accurately determines shallow radiation dose over a broad range of photon and beta energies



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# BDS ERD Specifications

**Minimum Exposure Fluoro:** High-sensitivity LiF: Mg, Cu, P

## **Dosimeter Configuration:**

- The BDS Extremity Ring Dosimeter consists of a LiF: Mg, Cu, P, 7 mg/cm<sup>2</sup> TLD disc bonded to a Kapton7 film. A flat ring is also bonded to the Kapton surrounding the TLD disc.
- The ringlet has a unique 5-digit identification number visible in both barcode and numeric format. This TL element assembly is placed in the recess of an adjustable finger ring.
- A plastic cap, 3.3 mg/cm<sup>2</sup> is pressed into the recess to provide hermetic sealing of the TL chip and a 2X magnification to aid in reading the Chip ID.

## **Ring:**

- The finger ring is made of durable low density polypropylene plastic available in a variety of colors.
- Continuously adjustable for a wide range of ring sizes
- Cold sterilizable

**Fading:** Negligible, over 6 months

## **Minimum Reportable Dose:**

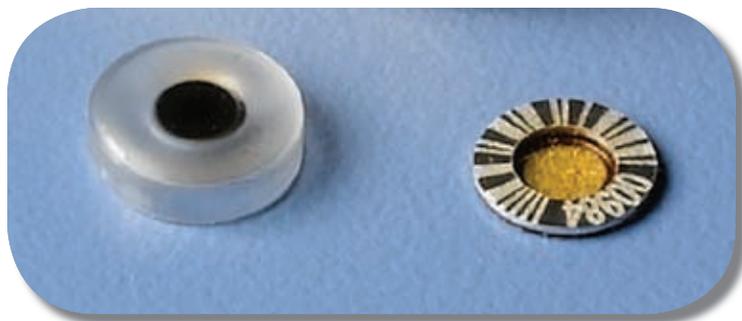
10 mrem

## **Radiations Detected:**

Photon, Beta

## **Energy Response Relative to Cs:**

- Photon  $\pm 20\%$  from 20 keV to 1.2 MeV
- Beta  $\pm 30\%$  from <sup>90</sup>Sr/<sup>90</sup>Y to <sup>204</sup>Tl



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# CNMC Calibration Services

- **Barometer and Thermometer Calibrations**
- **Contamination Meter Calibrations for:**
  - Alpha Monitors
  - Beta Monitors
  - I-125 Monitors
- **Ionization Chamber Calibrations (ADCL)**
- **Electrometer Calibrations (ADCL)**
- **Brachytherapy Calibrations (ADCL)**
- **Diagnostic Calibrations**
  - Exposure Meters
  - Non-invasive kVp & Multifunction Meters
  - kVp Test Cassettes
- **Tungsten Anode X-ray Beam**
- **Molybdenum Anode X-ray Beam**
- **Survey Meters**
- **Special Projects (RCS)**
  - Pocket Dosimeter Irradiation
  - TLD Irradiation
  - Artifact Testing

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# Radiation Protection

## Model 7008 RT Area Monitor

The Model 7008 RT is a wall-mounted radiation monitor designed to operate continuously from an AC power line. In the event of power failure, the built-in, continuously trickle charged NiMH battery automatically switches in to begin supplying power immediately, assuring interruption-free operation at all times. The monitor features a digital display of radiation rate, audible and visual alarms, and alarm indicator, alarm setpoint adjustability over the entire range, and self diagnostic functions such as low battery, overrange, detector saturation and detector failure conditions.



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# Digital Electrometers

## Model 206 Electrometer

The CNMC Model 206 electrometer maintains the simplicity of classic electrometer styling while utilizing contemporary design and state-of-the-art electronics.

- External feedback module interface
- 1,000-hour operation on “D” cell batteries
- Bias select switch  $\pm 300$  V,  $\pm 150$  V, external, off
- Less than 5 fA leakage current
- 4-1/2 digit custom LCD



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# Water Phantoms • 1D, 2D & 3D Models

## WP-3040 & WP-3840 Water Phantoms

The CNMC WP-3040 and WP-3840 are calibration-grade water phantoms with a convenient-to-use manual ion chamber depth positioning system. The water tanks are constructed of 3/8 inch acrylic, have side-mounted handles for easy transport and have a drain with a ball valve.



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# Physics Accessories — Cables & Reels



## Small Cable Reel

CNMC cable reel assemblies offer a great convenience in winding and storage of extension cables. A cable reel will extend the life of a cable significantly by eliminating kinks and providing protection during storage. Only as much cable as needed has be reeled out at any time.

## Extension Cables

CNMC supplies triaxial and coaxial extension cable assemblies in standard 10-meter or custom lengths, terminated with connectors to fit almost any commercially available electrometer/dosimeter and ion chamber. The CNMC triaxial cable assemblies are made of flexible, white, 3 mm diameter, shielded, low-noise, high-impedance, radiation-resistant cable, designed to carry the extremely small currents generated by ion chambers without signal degradation.



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# Digital Barometers/Thermometers

## Models DBT-100 & DBT-100T

The Model DBT-100 is a portable digital barometer and thermometer combination the size of a handheld calculator. Featuring a digital display and high measurement accuracy, the DBT-100 is an ideal portable barometer and thermometer combination. Atmospheric pressure can be displayed in mmHg or mbar and ambient temperature in °C with 0.1 degree resolution. The DBT-100 operates on two 9 Volt alkaline batteries for 100 hours. A Model DBT-100T, a DBT-100 enclosed in a sturdy metal enclosure for bench-top use, is also available.



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