

# VALIDATOR

## Blood Irradiator Dosimetry System

The VALIDATOR, model TN-ID-60, is an economical, compact, and stand-alone dosimetry system for measuring and recording absorbed dose in blood irradiators. This is easy-to-use system enables technicians to immediately verify the minimum absorbed dose delivered to blood or research specimens, providing an important quality assurance tool for medical and research applications.

The VALIDATOR Dosimetry System consists of a set of replaceable dosimeter sensors, a radiation-resistant plastic holder module, and a compact desktop reader. VALIDATOR Connect software for data transfer to a PC and reporting is also available.

Dosimetry data is available at the touch of a button, and displayed on the LCD screen, with no need for software. The VALIDATOR supports MOSFET dosimeters with two different sensitivities (TN-502P and TN-252P). For each measurement, dosimetry data is automatically stored in memory for later viewing, or downloaded to a computer via a USB connection. A simple menu-driven interface allows customization of user parameters.

Irradiation centers can utilize the VALIDATOR for quality assurance of blood irradiation processes by measuring the minimum dose.

### Easy to Use:

#### Three easy steps for dose verification

- ▶ The Dosimeter Module and sensor are connected to the Reader and zeroed out.
- ▶ The Dosimeter Module is then placed inside the irradiator container.
- ▶ After irradiation the dosimeter is inserted into the reader; absorbed dose and time are displayed on the LCD screen.



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### Features:

- ▶ Compact reader with LCD display
- ▶ Quick set-up time
- ▶ Immediate dose verification and readout
- ▶ Simple menu operation
- ▶ Two MOSFET sensitivities
- ▶ Data export via USB for dose reporting
- ▶ Reliable, accurate and reproducible
- ▶ Radiation-resistant dosimeter holder
- ▶ Keypad technology for easy cleaning

### Applications:

#### Quality Control and Assurance of Blood Irradiators

- ▶ Minimum dose measurement for Gamma or X-ray based irradiators
- ▶ Dose reports and electronic records

#### Dose Verification in Research Irradiators

- ▶ Immediate dose verification for irradiated specimens

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### DOSIMETER SENSOR:

- ▶ **Sensor**  
MOSFET Transistor TN-502P & 252P
- ▶ **Dose Range**  
Up to 200 Gy and 600 Gy at <sup>60</sup>Co for TN-502P and TN-252P, respectively
- ▶ **Calibration**  
Performed under Gamma beam <sup>60</sup>Co source (NRC, Ottawa) under tissue equivalent build-up material. Calibration Factors marked on sensor shipping tubes.
- ▶ **Irradiator Traceability**  
Canadian Ionizing Radiation Standards, NRC, Ottawa, Canada
- ▶ **System Dose-to-Dose Reproducibility**  
(@68% confidence using <sup>60</sup>Co)

Dose	Reproducibility (%)	
	TN-502P	TN-252P
1500 cGy	< 1%	< 1%

- ▶ **Accuracy**  
Dosimeter accuracy over its dose life is within ±5%, using supplied CFs at <sup>60</sup>Co.
- ▶ **Fade**  
< 1% for 1500 cGy, rad or mV after 15 min.



VALIDATOR READER

### READER:

- ▶ **Measurement Units**  
mV, Gy, cGy, Rad, or kRad (KR)
- ▶ **Display Resolution**  
0.1 cGy, Adaptive for other units
- ▶ **Display Type**  
LCD display with 4 lines of 20 characters
- ▶ **User Controls**  
Power (On/Off) switch, INITIALIZE and READ commands. Menu navigation switches.
- ▶ **Dosimeter Module**  
Cross linked polystyrene: 6.3 x 6.3 cm<sup>2</sup>, 1.8 cm thick

### CONTACT US:

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