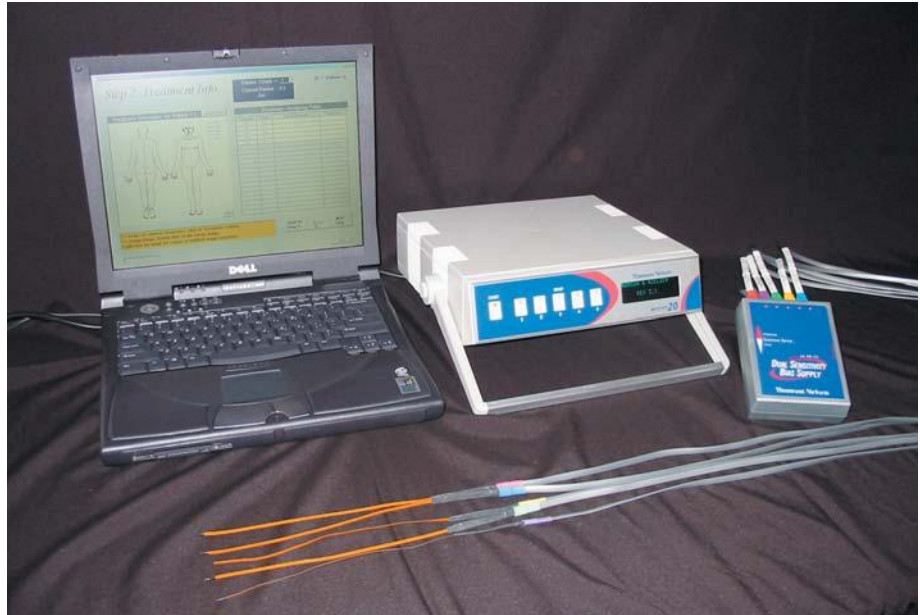


MOSFET 20

Dose Verification System

Model 37-100

- Small, isotropic, direct read dose verification system
- 1 to 20 dosimeters
- Accurate, non-shielding
- Brachytherapy, IMRT
- Radiosurgery, TBI (total body irradiation), diagnostic x-ray



Features

- Active region of 0.2 x 0.2 mm
- Suitable for photons and electron modalities
- Dose-rate and temperature independent
- Isotropic ($\pm 2\%$ for 360°)
- Immediate reading of dose and computer record
- Multiple dosimeter capability with one Reader
- Unobtrusive in procedures
- Lightweight and flexible

Introduction

The MOSFET 20 patient dose verification system is a high-performance, cost-effective dosimetry system. It combines pinpoint accuracy with the convenience of instant dose readout. MOSFET dosimeters, with an active area of less than 0.04 mm² do not attenuate the beam and make pinpoint dose measurement a reality. The same MOSFET is suitable for both photons and electrons in all radiotherapy and radiology applications. There is no need to purchase separate dosimeters for various energies. MOSFET dosimeters are also dose-rate and temperature independent.

Applications

In addition to regular patient dose verification and QA applications, these isotropic dosimeters are used in IMRT, brachytherapy, and intracavitary dosimetry. The high performance system is expandable from a standard configuration of 1-5 dosimeters to a maximum of 20. Dose readings are available in user-selected units, including cGy, mV, or R. Battery backup preserves up to 20 calibration factors, time and date settings after power-down.

The standard MOSFET 20 system includes a self-contained reader, an external bias supply with five dosimeter ports, a power adapter, five MOSFET dosimeters, and connecting cables. TABULA™ Dose Reporter Software provides a user-friendly Graphic User Interface (GUI) to the system using Windows® 95, 98, 2000, and NT® platforms. It expands the system by giving the medical physicist an effective tool to plan, execute, and record patient dose measurement in one operation. The report generated by TABULA contains all the data input by the user on the patient, radiation machine, MOSFET system, dosimeter sites (graphical and descriptive), target doses, measured doses, deviation between measured and target doses, calibration and correction factors, and comments added by the user.

Specifications

Dosimeter

- 0.04 mm² active detection area
- Standard size is 2 mm wide
- microMOSFET is 1 mm wide
- Permits pinpoint measurement without patient shielding
- Lightweight and flexible
- Isotropic response of $\pm 2\%$ for 360°
- Temperature and humidity effects are negligible

Reader

- Vacuum fluorescent display
- Direct readout in user-selected units – cGy, mV, R
- Resolution of one unit up to a total accumulated dose of 20,000 mV
- Battery backup retains calibration factors and time/date settings after power down
- Stores up to 20 operator-entered calibration factors
- Readings automatically scaled
- Internal clock stores time and date with battery backup

System dose-to-dose reproducibility at σ

Dose	Bias supply	
	Standard	High
200 cGy	< 2%	< 0.8%
100 cGy	< 3%	< 1.2%
20 cGy	< 8%	< 3%

Sensitivity

Under full buildup

- 1 mV/cGy on standard bias
- 2.7 mV/cGy on high-sensitivity bias

Higher sensitivities available

X-ray energies

- 9 mV/R on high-sensitivity bias

Software

TABULA software This Dose Reporter Software provides an interface to the Reader in order to record dose information and provide a final dose report for patient records and QA

Operating system Microsoft® Windows 95, 98, 2000, and NT

System components (Model 37-100)

Model	Description
	Reader
37-100-2000	TABULA Dose Reporter Software, includes two years software support, reader to PC cable, and one license (for extra licenses, see Optional Accessories)
37-100-1002	MOSFET Dosimeters, package of five
37-100-5000	Dual Bias Supply
37-100-3001	Bias Supply to Reader Cable, 3 ft (1 m)
	Power Adapter

Optional accessories

Model	Description
37-100-1001	MOSFET Dosimeters, package of two
37-100-1002	MOSFET Dosimeters, package of five
37-102-1001	High Sensitivity MOSFET Dosimeters, package of two
37-102-1002	High Sensitivity MOSFET Dosimeters, package of five
37-103-1001	microMOSFET Dosimeters, package of two
37-103-1002	microMOSFET Dosimeters, package of five
37-104-1001	High Sensitivity microMOSFET Dosimeters, package of two
37-104-1002	High Sensitivity microMOSFET Dosimeters, package of five
37-100-2000	TABULA Dose Reporter Software, includes 2 years software support, reader to PC cable, and 1 license
37-100-2001	Extra licenses for TABULA Dose Reporter Software (cable to be purchased separately if required)
37-100-3000	Reader to PC Cable, RS-232, 3 ft (1 m)
37-100-3001	Bias Supply to Reader Cable, 3 ft (1 m)
37-100-3003	Bias Supply to Reader Cable, 10 ft (3 m)
37-100-3005	Bias Supply to Reader Cable, 16 ft (5 m)
37-100-3008	Bias Supply to Reader Cable, 26 ft (8 m)
37-100-3010	Bias Supply to Reader Cable, 33 ft (10 m)
37-100-3012	Build-up Cap, 1 cm, package of one
37-100-3002	Build-up Cap, 1 cm, package of five
37-100-3009	Build-up Cap, 1.5 cm, package of one
37-100-3004	Build-up Cap, 1.5 cm, package of five
37-100-3011	Build-up Cap, 2 cm, package of one
37-100-3006	Build-up Cap, 2 cm, package of five
37-100-3007	Build-up Caps, 3 pack: 1, 1.5 and 2 cm
37-100-4000	XWU-IMRT Phantom, for a minimum of 9 dose points and film (only to be used with the MOSFET System)
37-100-5000	Dual Bias Supply, supports five dosimeters

Available model(s)

Model	Description
37-100	MOSFET 20 Dose Verification System

For more information, receive our full product catalog, or order online, contact **Radiation Management Services** business of **Fluke Biomedical**: 440.248.9300 or www.flukebiomedical.com/rms.

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