

In vivo patient dosimetry system
DPD-12pc



Accurate and versatile dosimetry system

Due to the rapid development of advanced treatment techniques and planning, the demand for *in vivo* patient dosimetry is increasing. This places higher demands on the verification of the treatment and of the delivered dose to the patient. *In vivo* dosimetry is therefore an essential element in the quality assurance of today's radiotherapy department.

The DPD-12pc system consists of two products, the DPD-12 channel electrometer and the application software DPDpc (alternative to DPDpc: OmniPro™-InViDos dosimetry management system).

Versatility

With twelve channels, the system is ideal for a wide variety of applications such as entrance and exit dose measurements, risk organ monitoring, TBI and intracavitary measurements in both teletherapy and brachytherapy.

Air Measurements

Increased versatility allows the electrometer to be used with the LDA-25 detector array system for quality assurance.

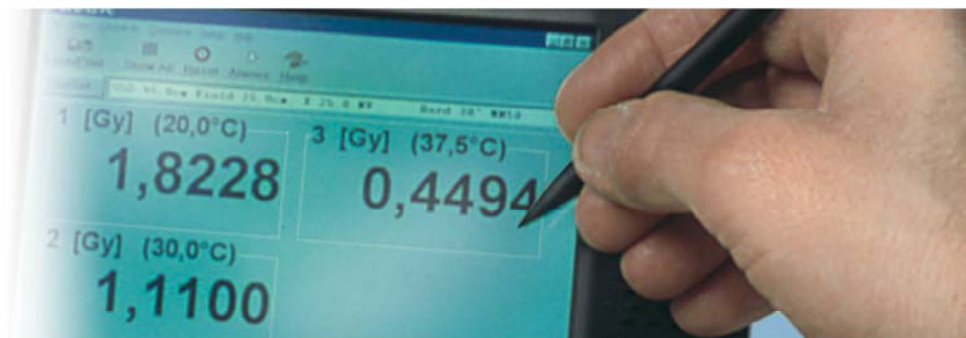
DPDpc – user friendly software

- Intuitive graphical user interface
- Select measure mode with one mouse click (dose, dose rate, difference or ratio)
- Easy access buttons for frequently used functions (save/print, alarm on/off, reset electrometer etc.)
- Quick toggle between display of active channels or all channels
- Individual alarm levels for each channel
- Unlimited number of correction sets and alarm sets
- Password protected calibration data
- Separate handling of corrections and sensitivity calibration
- Wizard for calibration process:
 - Use MU or reference detector as dose reference
 - Calibrate one or several detectors at the same time
 - Unlimited number of cycles for mean value calculation

OmniPro™-InViDos

As an alternative to the DPDpc software, OmniPro™-InViDos, the advanced dosimetry management system including automated link to the record and verification system, is available.

Technical specifications



DPD-12 Electrometer

Input channels:	12
Input sensitivity in dose mode:	10 – 70 nC/Gy
Input sensitivity in dose rate mode:	0.16 – 1.2 nA/Gy/min
Range for dose rate measurements:	
– with 2% resolution:	0.7 – 20 Gy/min
– with 5% resolution:	0.1 – 0.7 Gy/min
Range* for dose measurements with 0.005% resolution:	0.3 – 14 Gy (example: EDP-10 ³⁰ typical measurement range and an accuracy of 1%)
Time constant for dose rate measurements:	typically averaged over 5 sec
Accuracy:	1% (in specified range)
Leakage current:	< 0.04 pA (zero drift compensated by software)
Warm-up time:	20 min
Operating temperature:	18°C to 27°C (64°F to 80°F)
Relative humidity:	30 – 70%, non condensing
Interface:	RS232
Electrometer cable:	10 m BNC cable, between detector(s) and electrometer
Serial cable:	RS232, 15 m
Dimensions:	390 x 360 x 75 mm ³
Weight:	approx. 6.5 kg

* The range is dependent on the detector sensitivity and the selected operating range.
For a typical detector (EDP-10³⁰) the range is selectable up to 25 Gy. The maximum collected charge in the electrometers is 1000 nC.

Standards/Requirements

Type of instrument:	Class I BF according to IEC 601-1
Regulatory requirements:	European MDD 93/42 EEC (Annex II, Class IIb); US Medical Device Regulation, CFR Title 21
Electrical standards:	EN 60601-1, EN 60601-1-2, EN 60601-2-9

Technical data is subject to change without prior notice.

Product range

Dosimetry in Radiotherapy

- Relative Dosimetry
- IMRT
- Absolute Dosimetry
- In Vivo Dosimetry
- Software Applications
- Film Dosimetry
- Quality Assurance
- Patient Positioning Lasers

Dosimetry in Radiology

- Patient Dose Monitoring
- QA of Film Processing Units
- QA of X-Ray Units
- QA of Computed Tomography
- QA of Ultrasound Units

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