

StripDoseReader1

A strip shaped radiochromic film reader with USB data transfer

The StripDoseReader1 is a portable optical densitometer for measuring strip shaped radiochromic film dosimeter (particularly Gafchromic® HD-V2) response for applied radiation in the dose range from 30Gy. In different irradiation facilities a lot of small dosimeters are used simultaneously, which can be replaced by this single strip dosimeter. E.g. in e-beam processing facilities periodical checks are required that the accelerator beam is still the same as was the case when the plant was originally validated. This requires beam dose uniformity measurements along the conveyor (movement direction) and across the carrier (beam scan direction). They must also irradiate aluminum wedges to measure beam energy (from the dose vs. depth in aluminum). These measurements are repeated every few months. This can be done using lots of small dosimeters but is then very labor intensive and it is easy for a mix-up or mistake to happen. Having a continuous dosimeter film is ideal for these applications. The measurement of the distribution of the irradiation is important in other applications as the sterile insect programmes.

The StripDoseReader1 measures the optical density (OD) of 10 mm wide strip shape radiochromic film dosimeters at two wavelengths (for "high and low" doses) and automatically transfers the results to a PC via a USB connection.

Technical Data

- minimum dynamic range 0 – 3.000 OD, resolution 4 decimal places;
- precision is $\pm 0.2\%$;
- repeatability $\pm 0.4\%$;
- reading area in a 3 mm diameter circle centered on the 10 mm wide dosimeter strip;
- selectable distance between reading areas 5/10 mm
- automatic measurement without supervision until the end of the strip;
- data is transferred to the USB port after every reading;
- resolution of strip positioning is 0.1 mm;
- accept strip dosimeters up to 11 x min 200 x max 0.25 mm;
- two wavelength (590 and 458nm) readout system;
- two more wavelength (532nm and 625nm) are optional;
- ambient temperature: 10-40 °C , humidity: 20-80 %;
- automatic data transfer as ASCII coded characters terminated by a CR/LF pair to USB port. Data consists of OD at 458 nm, OD at 590 nm, temperature at film in Celsius (resolution 0.1 °C);
- maximum temperature of the film during reading 5 °C above ambient;
- includes necessary USB drivers for recent versions of Windows (XP, Vista, 7);
- power supply 230 VAC mains
- software wedge program to capture the data at the USB port and transfer it to the keyboard buffer is included in the package;
- Weight: 2000 g Size: 270 X 200 X 110 mm



Radiation General Ltd.

info@rad-gen.com

+36 30 313 6940