

EXRADIN W2 SCINTILLATOR

MEASUREMENT WITHOUT PERTURBATION

The optimal water equivalent detector for small field dosimetry

SIGNIFICANT CLINICAL ADVANTAGES

Unlike other detector types, the water equivalent W2 scintillator does not perturb small field dose distributions when it is placed in the beam, so you can measure small fields with greater accuracy.

HIGH DEFINITION

The W2 system features a fiber with a 1x1mm scintillator, improving measurement resolution for the smallest field characterization measurements.

MULTIPLE DETECTORS INCLUDED

Easily switch out fibers to meet your measurement needs. Use a 1 x 1 mm detector when resolution is the primary need and a 1 x 3 mm detector when higher signal strength is required.



HIGHEST QUALITY ELECTRONICS

The MAX SD is a dedicated optical detection and signal processing unit that corrects for Cerenkov signal and provides point measurement capability through a web page interface on desktop or mobile.

SMALL FIELD SCANNING

Scintillation signal can be sent from the MAX SD to a water tank scanning electrometer in real time, so the W2 can be used for scanning your small field profiles and depth doses.

EXRADIN W2 SCINTILLATOR

- AAPM/IAEA TRS 483 states the scintillator is the only detector with a kQ of 1.000, making the W2 the ideal SRS detector
- All corrections are built in
- Water equivalent
- Inherently waterproof
- Can be used for both water scanning and point dosimetry
- User replaceable fiber, includes both 1x1 mm and 1x3 mm
- No dose rate, temperature, or energy dependencies
- The W2 system features Čerenkov corrected measurement signals that can be converted to a proportional analog output, which can be read by any electrometer. This allows the W2 system to be connected to a water phantom system for scanning.



The Exradin W2 Scintillator is the ideal small field measurement tool overcoming dependencies present in conventional detectors

EXRADIN W2 SCINTILLATOR SPECIFICATIONS

SCINTILLATING FIBER COLLECTING VOLUME

W2-1x1 — 1.0 mm diameter x 1.0 mm long // **W2-1x3** — 1.0 mm diameter x 3.0 mm long

SCINTILLATOR HOUSING — 2.8 mm diameter x 42 mm long

OPTICAL FIBER — 1.0 mm diameter core x 2.2 diameter jacket x 4 m long

MATERIALS

SCINTILLATING FIBER — Polystyrene with ABS plastic enclosure and polyimide stem

OPTICAL FIBER — Acrylic (PMMA) with Polyethylene jacket

OPTICAL FIBER MINIMUM BEND RADIUS — 6 cm

SCINTILLATING FIBER PHYSICAL DENSITY — 1.05 g/cm³

RADIATION DEGRADATION — ~2% / kGy

OPERATING PARAMETERS

PRESSURE — 650 to 770 mm Hg // **TEMPERATURE** — 15 to 30° C // **RELATIVE HUMIDITY** — 20 to 80%

PRODUCT STANDARDS — Designed to meet IEC60601-1, CE 0413

MAX SD

MAX SD SIZE — 21 x 16 x 9 cm // **MAX SD WEIGHT** — 3.6 kg (7.9 lbs)

INPUT — Scintillating fiber optical (SMA-905) // **OUTPUT** — Analog current (Two lug triaxial BNC)

US PATENT NUMBER 8183534

POINT DOSE MEASUREMENT MODE - DISPLAY RANGE

RATE — -4.8pA to 1.2nA, 1fA resolution (corrected output) // **CHARGE** — 0.000pC to ± 999.9µC, 1fC resolution

SCANNING MODE - DISPLAY RANGE

RATE — -4.8pA to 100pA, 1fA resolution (corrected output)

CHARGE COLLECTIONS

TRIGGER — Automatic start, stop, reset based on user defined thresholds (0.01 to 100pA).

TIMED — User set range (0.5 to 9999.9 seconds, 0.1 second increments)

CONTINUOUS — Unlimited duration with manual stop.