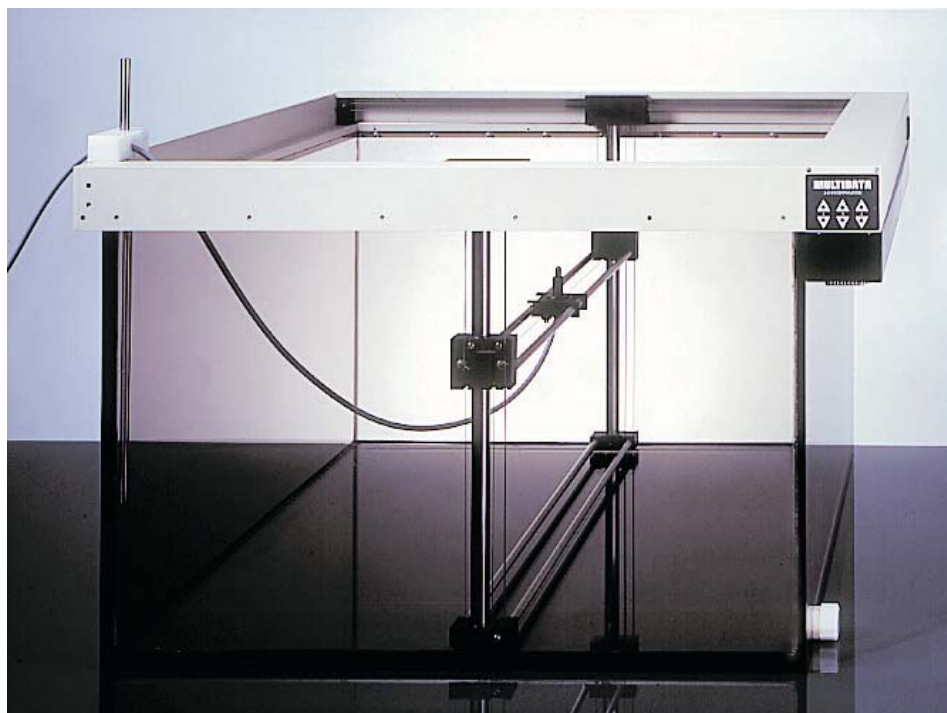


RTD

Realtime Dosimetry

3D Waterphantom Systems for Relative Dosimetry



Waterphantom Dosimetry from Multidata: Robust Hardware & Software for the Clinical Routine

A 3D waterphantom system from Multidata delivers the highest standards in measurement accuracy and reproducibility combined with exceptional user convenience.

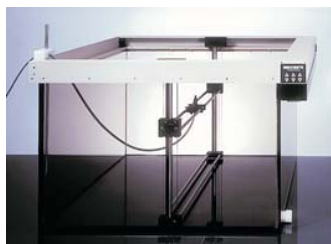
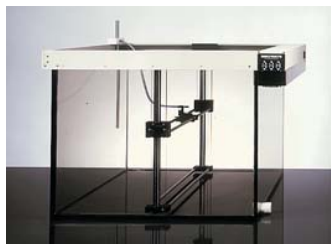
The unsurpassed data processing facilities of the RTD Realtime Dosimetry Beam Scanning and Data Management software make the Multidata waterphantom system the ideal tool for the medical physics professional.

The universal 9850 and the extra-large 9860-XL waterphantoms are suitable for all relative dosimetry measurements. Each is ideal for commissioning and reference measurements, periodic quality assurance and the acquisition of beam data for treatment planning systems. The compact 9840 waterphantom can be set in its leveling frame directly on the treatment couch, but is large enough to allow the acquisition of a complete commissioning data set. Also available in a tomotherapy configuration.

All waterphantom systems are delivered with the superior 9855 electrometer and the RTD Beam Scanning and Data Management software package. The advanced pre-scanning and post-scanning utilities assure efficient scanning sessions and convenient post-processing. Datalinks for the conversion and transfer of beam data to all major commercial RTP systems are available.

RTD

Waterphantom System Configuration Overview



RTD WATERPHANTOM SYSTEM CONFIGURATIONS

Every RTD waterphantom system is Windows and PC-based and delivered with the RTD Beam Scanning and Data Management software package, installed either on a desktop or portable PC. Various transport and storage carts are available to accommodate the different tank sizes offered. All waterphantoms operate with the 9855 electrometer. All systems are delivered with two 9732-2 ion chambers and the standard cable and connector kit, custom lengths and connectors are available. A wide range of additional chambers and diodes is supported.

9850/9860-XL/9840 WATERPHANTOM SPECIFICATIONS

Sampling Resolution mechanical 0.1 mm increments, electronic 0.05 mm
Positional Repeatability +/- 0.5 mm absolute, long term; after warm-up, repeatability during an 8 hour period is 0.1 mm or better

Scanning speed 5 cm/sec slew rate maximum in each axis

9850 Universal Tank Dimensions

(Internal)
Width (X-Axis) 60.0 cm
Length (Y-Axis) 55.0 cm
Height (Z-Axis) 49.5 cm

Scanning Dimensions

Diagonal Scan 67.0 cm
X-Axis 48.0 cm
Y-Axis 48.0 cm
Z-Axis 41.5 cm

9860-XL Tank Dimensions

(Internal)
Width (X-Axis) 76.0 cm
Length (Y-Axis) 70.5 cm
Height (Z-Axis) 49.5 cm

Scanning Dimensions

Diagonal Scan 89.0 cm
X-Axis 63.0 cm
Y-Axis 63.0 cm
Z-Axis 41.5 cm

9840 Tank Dimensions

(Internal)
Width (X-Axis) 60.5 cm
Length (Y-Axis) 41.0 cm
Height (Z-Axis) 44.5 cm

Scanning Dimensions

X-Axis 48.0 cm
Y-Axis 33.5 cm
Z-Axis 33.5 cm

More & Custom Waterphantom Sizes Available Upon Request

9855 ELECTROMETER SPECIFICATIONS

- Single, wide dynamic range allows a complete set of scans to be acquired without adjustments, capturing the relationships between scans without post-processing.
- Compatible with all ion chambers, including pinpoint chambers and solid state (diode) detectors.
- Features two identical channels with very fast response and minimal signal phase shift, time-dependent signal conditioning.
- 300V, 150V or 0V (diode) modes, plus or minus polarity.
- Single USB v2.0 cable between electrometer and computer.
- Reference class electrometer for relative dosimetry and absolute dosimetry (software option required).

9732-2 ION CHAMBER SPECIFICATIONS

Vented, rigid stem thimble chamber, 140cm cable length, triax-BNC connector

Volume: 0.125 cm³

Sensitivity: 4 x 10⁻⁹ (Amp/Gray) x Sec.

Leakage: 4 x 10⁻¹⁵A

Collection Time: 0.5m/Sec. at 300V

Polarizing Voltage: Maximum 500 Volts

Max. Dose at 99% & 300 V: 9.1 Gy/Sec.

Max. Dose Pulsed at 99.5% & 300 V: 0.3 mGy

Wall Thickness: 0.75 mm

Weight Per Unit Area: 90 mg cm⁻²

Cable Leakage: 1 x 10⁻¹² (Amp/Gray) x cm

Wall Material: C₅H₈O₂ (Acrylic)

Range of Temperature: +10° to + 40°C

Relative Air Humidity: < 75%