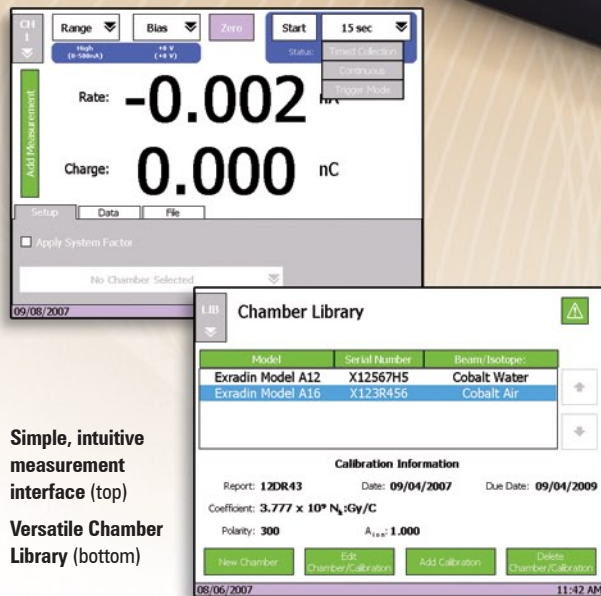# SUPERMAX ELECTROMETER

ADVANCED DOSIMETRY

A next generation, two channel, reference grade electrometer with an advanced, intuitive touchscreen interface, built-in chamber library for real-time dose and dose rate display, and 1 fA resolution

Simple, intuitive measurement interface (top)

Versatile Chamber Library (bottom)

COMPREHENSIVE BUILT-IN CHAMBER LIBRARY

A versatile chamber library is built into the SuperMAX interface, so no additional PC or software is necessary to apply system factor and temperature/pressure corrections. These factor applied measurements are even displayed in real-time side by side with raw measurement values for increased analysis capability. Over 100 different chambers and calibrations can be stored within the SuperMAX internal memory. Individual factors can be applied to either or both measurement channels.

TWO INDEPENDENT MEASUREMENT CHANNELS

The SuperMAX Electrometer features two measurement channels with independent control over range, bias voltage, and applied system factor. Both channels feature extensive range (0.001 pA to 500.0 nA, 0.001 pC to 999.9 µC) for use in a wide range of applications such as cross calibration between two chambers, isocenter versus off-axis and in-air versus in-water comparisons. The SuperMAX is designed to maximize flexibility encouraging the freedom to experiment with its measurement capabilities.

POWERFUL, YET EASY TO USE INTERFACE

The 6.4" color TFT display has a built-in touchscreen to make measurement control and data entry intuitive and enjoyable. Measurement values are shown with large type and corrected values are shown in a different color for easy viewing and confirmation of settings, even from a distance. An on-screen keypad and familiar pull down menus makes entry of settings such as bias voltage, **threshold detection settings**, and chamber library data nearly effortless.

ADVANCING RADIATION QA™

STANDARD IMAGING

Features and Benefits

Versatile Charge Collection Modes

- Triggered collection with automatic start, stop, and saving of data
- Threshold detection levels programmable for both high and low range
- Timed collection from 1-600 seconds, set in 1 second increments
- Continuous Collection with manual start and stop
- Built-in speaker provides audible alert to completion of charge collection and other operations or system events

Measure with Confidence

- Ready in less than 2 minutes after power on; The SuperMAX has been designed to minimize warm up time and make a stable, repeatable measurement whenever called upon
- Designed to exceed AAPM, ADCL, and reference grade instrument specifications
- Reference class electrometer according to IEC 60731

Powerful Data Management

- Store up to 100 different chamber/system factors in the built-in chamber library, each with unique calibration

- Measurement data can be exported to .csv format as easily as saving a word processing document. The included USB flash drive can be used to transfer measurement data to a PC for further analysis.
- Create a database of sources and calculate projected source strength with the Check Source Utility

Superior Flexibility

- User-updatable software and firmware allows for future SuperMAX updates
- The adjustable handle accommodates comfortable operation and viewing angle if operator is sitting or standing

Applications

- External Beam IMRT
- LDR or HDR Brachytherapy
- Two channel operations such as cross calibration between two chambers, isocenter versus off-axis, and in-air versus in-water comparisons
- Any task where a high quality reference grade electrometer is required

SUPERMAX (REF 90018) SPECIFICATIONS

DISPLAY RANGE

RATE: *Low Range* 0.001 pA – 500.0 pA, 1 fA resolution
High Range 0.001 nA – 500.0 nA, 1 pA resolution

CHARGE: *Low Range* 0.001 pC – 999.9 µC, 1 fC resolution
High Range 0.001 nC – 999.9 µC, 1 pC resolution

CHARGE COLLECTIONS

TRIGGER: Automatic start, stop, reset and save data based on user defined thresholds (*Start:* 0.2 – 9.9 pA; *Stop:* 0.1 – 9.8 pA)

TIMED: User set duration (*Range:* 0 – 600 seconds; *Increment:* 1 second)

CONTINUOUS: Unlimited duration with manual stop

REAL TIME CLOCK Date and time stamp for all measurements for easy identificator

INTERNAL MEMORY Store preferences, >100 sources, >100 chamber/system factors

RANGE SWITCHING User selectable — High or Low

REPEATABILITY ± 0.1% (IEC 60731 requirement: ± 0.5%)

LONG-TERM STABILITY ± 0.5% (over one year)

STABILIZATION TIME ± 0.1% (IEC 60731 requirement: ± 0.5% of value at 1 hr for measurements taken at 15 min and 6 hrs)

RESPONSE TIME < 2 s on high range (IEC 60731 requirement: < 3 s)

NON-LINEARITY ± 0.25% (IEC 60731 requirement: ± 1.0%)

CONFORMITY CE 93/42/EEC Reference class according to IEC 60731

ZERO DRIFT ± 0.25% (IEC 60731 requirement: ± 0.5%)

ZERO SHIFT ± 0.25% (IEC 60731 requirement: ± 0.5%)

DISPLAY 6.4" color TFT, touchscreen

INPUT (2) BNC two lug, triaxial connector

BIAS VOLTAGE Nominal ± 1000 volt bias

USER SETTINGS: – 1000 to – 100, 0; 100 to 1000 (set in 1 volt increments)

ACCURACY: ± 0.3 volt

POWER 100-240 VAC, 0.5 A max, 50/60 Hz input to external power supply, 9 VDC, 1.7 A power supply output to electrometer input, UL/TUL listed power supply

ZEROING Automatic zero function, user activated

OUTPUT (2) USB ports

DIMENSIONS *Height:* 8.1 cm, 3.2 in *Width:* 26.7 cm, 10.5 in
Length: 21.1 cm, 8.3 in *Weight:* 1.4 kg, 3.0 lbs

OPTIONS

SuperMAX Accessory Kit (REF 72245)
Includes extra stylus, extra USB flash drive, and set of 5 extra screen protectors

Specifications subject to change without notice.

STANDARD IMAGING
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