

# X-RAY COMPLIANCE TEST METER

Model # TBM-IC-XRAY w/Built-in Detector

FDA Regulation 21 CFR1020.40 mandates exposure rate limit of 0.5mR/h at 5 cm from Xray system as measured with 10cm<sup>2</sup> aperture

## FEATURES:

- X-RAY MACHINES, TV, and MONITORS
- LUGGAGE and PEOPLE SCANNERS
- ONE HAND OPERATION - Both Models
- DIGITAL READOUT: 6 digit-rate, 6 digits integrate
- SMALL LIGHTWEIGHT: 3 lbs with sleeve
- SEES AXIALLY BELOW 15 KeV GAMMA OR X-RAYS
- FLAT RATE RESPONSE - AIR EQUIVALENT
- SCINTILLATOR - ION CHAMBER

**APPLICATION:** Model TBM-IC-XRAY allow accurate compliance testing of a wide variety of X-Ray machines, TV's and computer monitors, luggage and people x-ray scanners. Protects the health and safety of airport and shipping personnel while they protect the public. The TBM-IC-XRAY are now smaller and lighter. Based on newest, more stable, essentially drift-free electrometer technology.

**DESCRIPTION:** The TBM-IC-XRAY consist of an air-equivalent probe coupled to a stable solid state MOSFET input electrometer with built in A to D converter to read out directly in mR/h or mR. Rate Range is 0.01 mR/h to 100.00 mR/h in one range. Dose range is 0.01 mR to 10 R.



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## SPECIFICATIONS:

- Detector:** ION CHAMBER.
- Window:** Light-tight 0.9 mg/cm<sup>2</sup> Mylar laminate. 10 sq cm area. 36 mm (1.4") dia.
- Readout:** LCD 8 digits
- Indicator Light:** Green LED 10 pulses/min per mR/h.  
Red LED Over-range Indicator.
- Range:**  
Rate 6 digits 0.01 mR/h to 100 mR/h in one range.  
Integrate 6 digits 0.01 mR to 9.9R.
- Photon Energy Range:** 15 KeV - 500 KeV ± 20%
- Bias Voltage:** 45 VDC
- X-Ray Rep Rate:** Use either rate or integrate mode for pulses with repetition rate more frequent than 1.0 Sec. Use Integrate Mode for pulses separated by more than 1.5 Sec.

**TA** TECHNICAL ASSOCIATES

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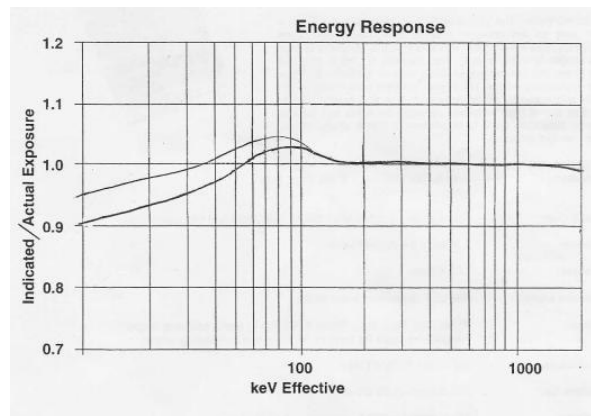
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## SPECIFICATIONS (Continued):

- Electrometer:** Solid State MOSFET input.
  - Electronics:** Pulse Shaper. A-D converter LCD drivers. Test and display functions.
  - Pulse Duration and Content:** With sufficient repetitions, TBM-IC-Xray can accurately integrate pulses of less than a microsecond duration and longer and including continuous emission. Pulse content of 0.5 nanoR are measurable with sufficient repetition rate to give at least .01 mR/hr for at least 5 to 10 seconds.
  - Environment:**
    - Temperature of Operation from -20° to 50° C
    - Relative Humidity 0 - 95%
    - Radio-frequency 10 mW/cm<sup>2</sup> up to 4 GHz affects meter viewing < ± 10%
    - Magnetic 200 Gauss ± 5% effect
    - Geotropism < ± 2% effect
  - Response Time:** 2-3 seconds for rate and for integrate at 1 mR/h or greater.
  - Time to Zero:** If count-rate goes to zero, the digital display will hold the old count for 12 seconds before displaying "0.0."
  - Batteries:** Front panel battery test is provided.  
6 ea. (AA) NEDA 15A - over 100 hrs of operation.
  - Dimensions:]**  
5.5" x 3.5" (including handle)
  - Weight:** TBM-IC-XRAY complete with batteries and internal detector: 3 lbs with sleeve
- Options:**
- Readout in Si units Ra-UBG - Check source.
  - Other entrance window material or thickness.
  - 5 cm nylon positioning bumpers.

Signal without sleeve



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