

# X-RAY COMPLIANCE TEST METER

X-RAY 符合性测试仪

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 X-ray system as measured with 10cm<sup>2</sup> aperture**

FDA21 CFR 1020.40 要求,距离 X 射线系统 5cm , 横截面 10cm<sup>2</sup> 的接受面积上进行测量辐射暴露限制量为 0.5mR/h

## FEATURES:特点

- X-RAY MACHINES, TV, and MONITORS  
X 光机 , 电视和显示器
- LUGGAGE and PEOPLE SCANNERS  
行李和人员扫描
- ONE HAND OPERATION - Both Models  
单手操作—两个型号
- DIGITAL READOUT: 6 digit-rate, 6 digits integrate  
数字读数 , 6 位数字率 , 6 位数整合
- SMALL LIGHTWEIGHT: 3 lbs with sleeve  
小巧轻量 : 包括套筒 3 磅
- SEES AXIALLY BELOW 15 KeV GAMMA OR X-RAYS  
看到轴心低于 15 keV 的  $\gamma$  或 X 射线
- FLAT RATE RESPONSE – AIR EQUIVALENT  
平坦频率响应——空气当量
- SENSOR - ION CHAMBER  
传感器---电离室



**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.

应用 : 型号 TBM-IC-XRAY 允许精确符合性测试各种 X 光机、电视、电脑显示器、行李和人员 X 光扫描器。在保护公众的同时 , 也保护了机场和海运人员的健康与安全。基于最新的更稳定的根本上零漂移静电计技术 , 此机型现在更小、更轻。

**TA**

**TECHNICAL ASSOCIATES**

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**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 0.1 mR/h to 10,000 mR/h in one range. Dose range is 0.01 mR to 10 R.

描述：TBM-IC-XRAY 包含一个空气当量探头，并耦合到一个稳定的固态 MOSFET 输入静电计，其带有内置 A 到 D 转换器，直接读出单位 mR/h or mR。在一个量程内范围 0.1 mR/h 到 10,000 mR/h，剂量范围是 0.01 mR 到 10 R。

### SPECIFICATIONS:规格

•Detector: ION CHAMBER. 探头：电离室

•Window: Light-tight 0.9 mg/cm<sup>2</sup> Mylar laminate. 10 sq cm area. 36 mm (1.4") dia.

窗：轻而密封 0.9 mg/cm<sup>2</sup> 聚酯薄膜压层。面积 10 平方厘米，直径 36 毫米(1.4")

•Readout: LCD 8 digits

读数：LCD，读出 8 位数

•Indicator Light: Green LED 10 pulses/min per mR/h. Red LED Over-range Indicator.

指示灯：绿灯 LED，每 mR/h 10 脉冲/分钟，红灯 LED 超范围指示器

•Range:范围

Rate 6 digits 0.1 mR/h to 10,000 mR/h in one range.

6 位数率，单量程 mR/h 到 10,000 mR/h

Integrate 8 digits 0.01 mR to 9.9R.

整合 8 位数 0.01 mR 到 9.9R

•Photon Energy Range: 5 KeV - 3 MeV

光子能量范围：5 KeV - 3 MeV

•Energy Range: 能量范围

15 KeV - 500 KeV  $\pm$  20%. TBM-IC-X-Ray can be re-optimized for use with higher energy emissions, if desired.

15 KeV - 500 KeV  $\pm$  20%。如果需要，型号 TBM-IC-X-Ray 可以被调整用于较高能量排放。

•Bias Voltage: 45 VDC

偏压：45 V 直流电

•X-Ray Rep Rate:

X-Ray 重复率

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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.

使用率模式或整合模式的重复率脉冲高于 1.0 秒，使用单独整合模式脉冲高于 1.5 秒

### SPECIFICATIONS(Continued):

#### 规格

- Electrometer: Solid State MOSFET input. 静电计：固态 MOSFET 输入
- Electronics: Pulse Shaper. A-D converter LCD drivers. Test and display functions.

电子学：脉冲形成器。A-D 转换器 LCD 驱动器。测试和显示功能

- Pulse Duration and Content: 脉冲持续时间和内容

With sufficient repetitions, TBM-IC-X-ray 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.

如果有足够重复，TBM-IC-X-ray 能够精确整合持续时间小于一毫秒脉冲，包括持续发射。足够的重复率，在至少 5-10 秒内不少于 .01 mR/hr 0.5 nanoR 脉冲内容可以测量

- Environment: 环境

Temperature of Operation from -20° to 50° C 操作温度 -20° --50° C

Relative Humidity 0 - 95% 相对湿度 0 - 95%

Radio-frequency 10 mW/cm<sup>2</sup> up to 4 GHz affects meter viewing < ± 10% 无线电频率 10 mW/cm<sup>2</sup> 到 4 GHz 影响米表查看。

Magnetic 200 Gauss ± 5% effect 磁性 200 高斯的 ±5% 的效果

Geotropism < ± 2% effect 向地性 < ± 2% 效果

- Response Time: 2-3 seconds for rate and for integrate at 1mR/h or greater.

反应时间：表：2-3 秒，整合 1mR/h 或更大

- Time to Zero: 归零时间

If count-rate goes to zero, the digital display will hold the old count for 12 seconds before displaying "0.0."

如果计数率归零，在显示"0.0."之前，先前的数字将停留 12 秒

- Batteries: Front panel battery test is provided

电池：提供前板电池测试

6 ea. (AA) NEDA 15A - over 100 hrs of operation.

6 个(AA) NEDA15A-超过 100 小时操作时间

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•Dimensions: 尺寸

5.5" x 3.5" (including handle)

5.5" x 3.5" 包括把手

•Weight: 重量

TBM-IC-XRAY complete with batteries and internal detector: 3 lbs with sleeve

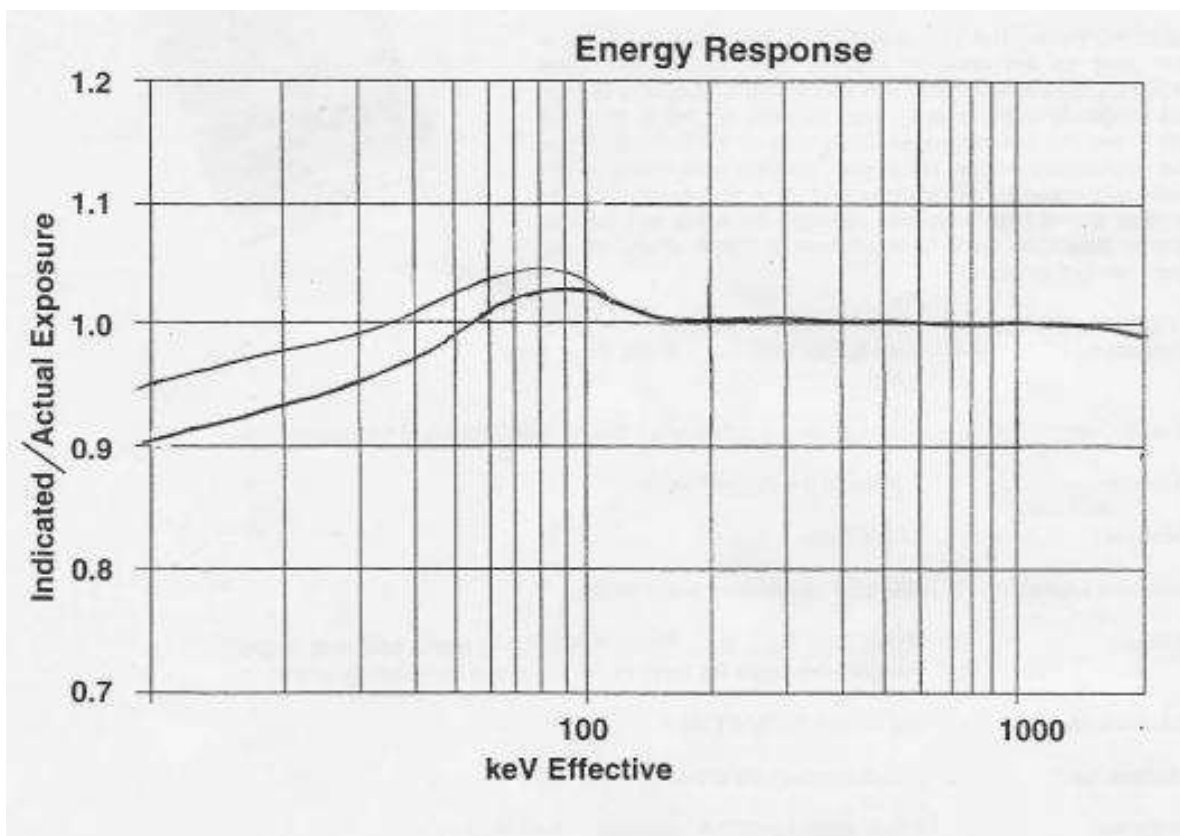
TBM-IC-XRAY 带电池盒内部探头 : 3 磅 , 包括套筒

Options: 选购

Readout in Si units Ra-UBG - Check source. 读出单位 Si , Ra-UBG 检测源

Other entrance window material or thickness. 其它入口窗材质和厚度

5 cm nylon positioning bumpers. 5cm 尼龙定位保护



Signal without sleeve

无套筒信号

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