

GAMMA - X-RAY SURVEY METER “CUTIE PIE”

γ -X射线检测仪 “CUTIE PIE”

GENERAL PURPOSE ION CHAMBER

通用电离室

Model ~ TBM-IC-MARK V

FEATURES: 特点

- PORTABLE ION CHAMBER
- 便携式电离室
- OMNI DIRECTIONAL RESPONSE TO LOW ENERGY X-RAYS & SCATTER
全方位响应低能X-rays及其散射
- SEES AXIALLY BELOW 5 KEV GAMMA OR X-RAY
- 可见向轴低于5KEV伽马或X射线
- WIDE RANGE: 0.1 mR/hr to 10.000 mR/hr
- 宽量程: 0.1 mR/hr - 10.000 mR/hr
- BOTH DOSE RATE & TOTAL DOSE 8 DIGIT READ OUT
- 读出剂量率&总计数, 8位数读数
- SMALL LIGHTWEIGHT TBM PACKAGE; 26 oz.
- 小巧轻量TBM组件, 26盎司
- FLAT RESPONSE - FREE AIR ION CHAMBER
- 平坦响应-自由空气电离室
- SEES ALPHA, BETA, GAMMA, X-RAY
- 可见α β γ, x-ray
- FAST RESPONSE
- 快速响应
- **OPTIONAL** X-RAY COMPLIANCE SLEEVE
- 选购x-ray符合套筒



APPLICATION: 应用

Whenever the TBM-IC, a fast, sensitive ion chamber instrument is needed, the **TBM-IC-MARK-V** is the latest in a series. Important for use in medical departments including Oncology, Treatment & Diagnostic Areas, Radiology & Imaging, PET Scanners, and Gamma Knife.

当你需要一款快速灵敏电离室仪器时, **TBM-IC-MARK V**是TBM-IC系列中最新款, 主要使用医疗科室包括肿瘤科, 医疗诊断区域, 放射&影像科, PET扫描, 伽马刀。

DESCRIPTION:



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Divisions of



US NUCLEAR CORP

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The **TBM-IC-MARK V** is a general purpose Gamma X-Ray Survey Meter known as the “Cutie Pie”. It consists of a 2.5" dia x 3.5" long air ion chamber 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. The **TBM-IC-MARK V** ion chambers are now smaller and lighter. Stable, essentially drift-free electrometer technology.

TBM-IC-MARK V为通用伽马X线监测仪，又称为“Cutie Pie”由直径2.5"x长3.5"电离室耦合到一个稳定固态MOSFET输入，带内置A-D转换器的静电计上，直接读出mR/h或mR。基于稳定无漂移静电计技术，**TBM-IC-MARK V**电离室现在更小更轻量。

Rate range is 0.1 mR/h to 10.000 mR/h in a single range. Integrated Dose Range is 0.01mR – 100 R in a single range. 180 mg/cm² graphite lined methacrylate walls accurate ``air equivalence."

计数率量程: 单量程0.1 mR/h - 10.000 mR/h; 总剂量: 单量程0.01mR – 100 R, 密度180 mg/cm²石墨里衬亚克力壁精确了“空气当量”。

Thin (0.5 mg/cm²) Mylar window allows high sensitivity readings for alpha and for low energy Beta such as C14 in addition to higher energy Betas, Gammas and X-rays.

除了高能β，伽马和X线之外，薄迈拉窗(0.5 mg/cm²)还允许读出高精度α和低能β，如C14。

Unlike other instruments the TBM-IC-Mark-V protects staff workers by detecting low energy scattered radiation which other instruments ignore.



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SPECIFICATIONS:规格

Detector: 探测器:	Free Air ion chamber 2.5" dia x 3.5" long. Internal volume 260 cc 自由空气电离室, 直径2.5" x 长3.5", 内容积260cc
Wall & Cap: 壁&帽	Methacrylate, graphite lined 180 mg/cm ² walls and 540 mg/cm ² cap. Optional: 1g/cm ² walls. 密度180 mg/cm ² 石墨里衬亚克力壁, 和密度540 mg/cm ² 帽, 可选壁厚1g/cm ²
Window: 窗	2.0" dia. x 0.5 mg/cm ² Mylar. 直径2.0" x 0.5 mg/cm ² 迈拉窗
Readout: 读数	LCD 8 digits. 8位LCD
Indicator Lamp: 指示灯	Green LED: High Range; Red LED: Over-Range Indicator 绿色LED; 红色LED过量程指示器。
Range: Rate: 量程: 计数率:	8 digit 0.1 mR/h to 10,000 mR/h in a single range 单量程8位数0.1 mR/h - 10,000 mR/h
Integrated Total Dose: 总计数:	8 digits 0.01 mR to 100 R in a single range. 单量程8位数0.01 mR - 100 R

ELECTRONICS:电子学

Electrometer: 静电计	Solid State MOSFET input. 固态MOSFET输入
Electronics: 电子学:	A-D converter LCD drivers. A-D转换器 LCD驱动
Batteries:	15 ea. (Button) NEDA CR-1220 - shelf life 7 years. 6 ea. (AA) NEDA 15A - 1000hr. 电池: 15节纽扣电池NEDA CR-1220-货架期7年 6节AA NEDA 15A-1000小时

DIMENSIONS & WIEGHT

尺寸&重量

Dimensions: 尺寸:	5-1/2" x 3-1/2" x 8" including handle. 包括把手5-1/2" x 3-1/2" x 8"
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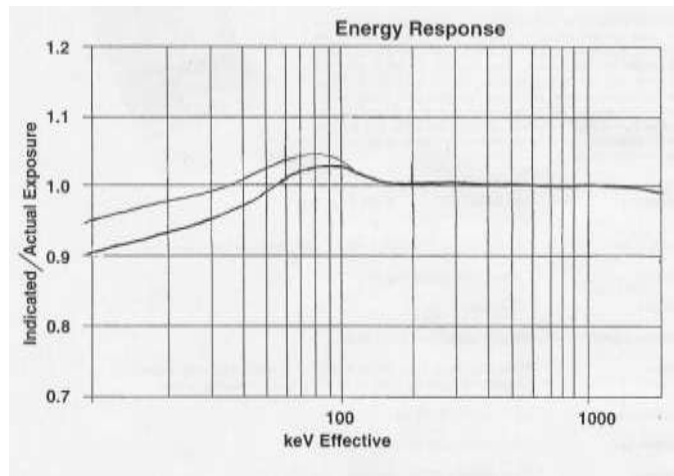
GENERAL PURPOSE ION CHAMBER 通用电离室

Model ~ TBM-IC-MARK V

Weight: 26 oz. complete with batteries.
重量: 26 oz. 带电池

OPTIONS: Readout in SI units: Sv and Sv/h.
选项: 读出SI单位: Sv和Sv/h

X-Ray-SLV is optional X-Ray compliance sleeve with 10cm² aperture.
X-Ray-SLV选择带10m²孔径符合套筒



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PORTABLE ION CHAMBER COMPARISON

便携式电离室比较

Model型号	Range量程	Decades量级	Chamber Volume 电离室容量	Variation From Mark V (MV) 与Mark V比较
TBM-IC-MARK V	0.1-10,000 mR/h	5	300 cc	300cc Utilizes essentially drift-free electrometer technology. 无漂移静电技术 NOTE: Most popular model. *最受欢迎型号 Fits in a brief case. Great stability 可置于手提箱中
TBM-IC-MV-R	0.1-50,000 mR/h	5.5	450 cc	Rugged aluminum chamber. Up to 50R/h. 耐用铝电离室，量程达50R/h NOTE: Rugged for use in power plants, industry, and military *可用于核电站，工业和军队
TBM-IC-AJI	0.05-10,000 mR/h	5	800 cc	More stable below 2mR/h. 2MR/h以下更稳定 NOTE: Best-in-Field for all medical users *适用于医疗用途
TBM-IC-LR	0.01-1,000 mR/h	5	2,000 cc	Sees 10 times lower, 2 litre chamber. 2升电离室可见10倍以下限值 NOTE: Detects background levels in 10 sec *10秒检测本底辐射值
TBM-IC-HLS	0.1 mR/h-1,000 R/h	7	300 cc	Plus second range to 1,000 R/h. 高限到1,000 R/h. NOTE: This very wide range conforms to ANSI N42.33 Homeland Security Type 2 *符合ANSI N42.33，美国国土安全局2型标准



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TBM-IC-BW	1 μR/h-10 R/h	5	300 cc	Built-in microprocessor, auto ranging, built-in data logger. 内置微处理器, 自动量程, 内置数据录入。 NOTE: Down to 0.0001 mR/h *低到0.0001 mR/h
TBM-IC-XRAY	0.1-10,000 mR/h	5	300 cc	Includes 10cm ² aperture sleeve 包括10cm ² 孔径套筒 NOTE: Complies with FDA regulation 21 CFR1020.40 *符合美国食品药品管理 规定
CP-MU-D1	0.1-1,000 KR/h	4	1 cc	60 foot cable, up to 10 ⁶ R/h 60英尺缆线, 测量到10 ⁶ R/h NOTE: Water proof design allows for underwater monitoring in reactor and in spent fuel pool to 1 million R/h. OPTIONAL: 100 ft cable *防水设计允许反应堆和乏燃料池中水下监测到 1,000 KR/h, 可选100英尺缆线
CP-MU-D1000	0.1-1,000 R/h	4	1,000 cc	60 foot cable, up to 10 ³ R/h 60英尺缆线, 测量到10 ³ R/h NOTE: Water-proof design allows for monitoring in both reactor and spent fuel pools *防水设计允许反应堆和乏燃料池中水下监测
CP-MU-7-D1 & D1000	1.0-10 million R/h	7	1 & 1,000 cc	System includes one electronics and two chambers 系统包括一个电子学和两个电离室 NOTE: Unplug one detector and plug in the other to switch ranges *更换探测器更换量程



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