

# FIRST RESPONDER'S RADIATION DETECTION EMERGENCY KIT 应急响应人员辐射监测急救包

Model ~ TBM-6SPE

## FEATURES:产品特点

- DETECTS:  
ALPHA, BETA, GAMMA, X-RAYS, POSITRONS & NEUTRONS
- 检测  $\alpha$   $\beta$   $\gamma$  X 射线、正电子和中子
- FIVE SEPARATE DETECTORS: 5 个独立探测器  
(1) INTERNAL 2" GM BETA  
(4) EXTERNAL SCINTILLATION  
1 个内置 2"  $\beta$  GM 管探头, 4 个外置闪烁探头
- EASY SWITCH FROM INTERNAL TO EXTERNAL PROBES  
容易从内置切换到外置
- LIGHTWEIGHT - FITS INTO A BRIEFCASE  
轻量-可装进手提箱
- FAVORED BY FIRST RESPONDERS  
深受应急响应人员喜欢
- IP67 等级
- CE MARK 认证



TBM-6SPE

## DESCRIPTION:

The **TBM-6SPE** features an internally mounted 2 inch Beta pancake GM detector (T-1190) with window looking downward from bottom of case.

描述: **TBM-6SPE**配置内置2英寸 $\beta$ 扁平GM探头(T-1190), 箱底带窗

A sliding shield protects pancake detector when not in use.

探闲置时滑动屏保护扁平管探头。

### Four external probes: 4个外置探测器:

- ✓ Alpha (PAS-8);  
 $\alpha$  PAS-8)
- ✓ Low energy Gamma (PGS-3T),  
低能  $\gamma$  (PGS-3T)
- ✓ All Neutrons (PNS-20T),  
所有中子(PNS-20T),
- ✓ Gamma Search Probe (PGS-3L).  
 $\gamma$  搜索探测器 (PGS-3L).

This system is half the weight of other systems.

此系统重量为其它系统重量一半



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### SPECIFICATIONS:

### 规格

<b>Meter:</b>	Rugged, recessed 2-1/2" meter.
<b>读数器:</b>	结实内凹式2-1/2"读数器
<b>Range Switch Positions:</b>	Off; Battery Test; X1; X10; X100; X1,000.
<b>量程切换:</b>	关, 电池测试, X1; X10; X100; X1,000.
<b>Detector Switch (Toggle):</b>	Internal (pancake), External (4 Additional Probes).
<b>探测器切换 (棒式):</b>	内置(扁平管), 外置 (4个附加探头)
<b>Time Constant Switch:</b>	Fast, Slow (approx. 2 & 11 sec.).
<b>时间常数切换:</b>	快, 慢 (大约2 & 11 秒.).
<b>Ranges 4 linear for each detector: External Detector:</b>	0-500; 5,000; 50,000; 500,000 cpm.
<b>每个探头4线性:</b>	外置探头: Internal Detector: 0-0.15; 1.5; 15; 150 mR/hr. 内置探头:
<b>Engineering Units:</b>	<b>Internal &amp; External Detectors:</b> R/h, cpm, or User Settable other units
<b>单位:</b>	内置&外置探头: R/h, cpm或用户设定其它单位
<b>Internal Detector:</b>	T-1190 2" O.D. Beta Pancake Geiger.
<b>内置探头:</b>	直径2" β 扁平盖革管
<b>Internal Detector:</b>	T-1190 2" O.D. Beta Pancake Geiger.直径2" β 盖革管探头 Gamma Sensitivity: 500 cps/mR/h 伽马灵敏度 Lowest Beta Sensitivity: 70 KeV 最低β灵敏度 X-Rays or Gamma Exposure 40KeV – 2 MeV X-Ray或γ辐射40KeV – 2 MeV

### Sample of External Detectors: 外置探头:

External Detectors:	PAS-8	PGS-3T	PGS-3L	PNS-20T
<b>Detects:</b>	<b>Alpha</b>	<b>Low Energy Gamma.</b> 低能伽马	<b>Gamma Search Probe.</b> 伽马搜索探头	<b>Fast &amp; Slow Neutrons.</b> 快慢中子
<b>Efficiency:</b>	Alphas above 5MeV20-40% 2		1,000,000 cpm/mR/hr	20 cpm per thermal neutron/cm <sup>2</sup> /sec
<b>I<sup>125</sup></b>	–	87%		–
<b>Co<sup>57</sup></b>	–	78%		–
<b>Tc<sup>99m</sup></b>	–	75%		–
<b>Cs<sup>137</sup></b>	–	30%		–



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#### External Detector Description:

##### 外置探头描述:

- PAS-8:** Alpha Scintillation Probe with 1-3/4" diameter x 0.8 mg/cm<sup>2</sup> window.  
α 闪烁探头, 带直径1-3/4" x 0.8 mg/cm<sup>2</sup> 窗
- For use wherever a high efficiency, low background Alpha detector is indicated.
  - 应用于要求高效率, 低本底使用 α 探测器的任何地点。
- PGS-3T:** Low Energy Gamma Scintillation Probe, 1" diameter x 1mm NaI(Tl) crystal protected by a 5 mil. Aluminum window.  
低能伽马闪烁探测器, 直径 1" diameter x 1mm NaI(Tl) 晶体, 由5毫米铝窗保护。
- Sees X-rays and Gammas > 10KeV and Betas > 100KeV.
  - 可见X光和大于10KeV的伽马, 大于100KeV的 β
- PGS-3L:** Gamma Scintillation Search Probe utilizing a highly gamma sensitive crystal (NaI(Tl)).  
伽马闪烁体搜索探头, 使用高灵敏伽马晶体(NaI(Tl)).
- 2" diameter x 2" long hermetically sealed crystal optically coupled to photomultiplier tube.
  - 直径 2" x长 2"密封晶体光学耦合到光电倍增管。
  - Gamma sensitivity is 100 times greater than GM tubes.
  - 伽马灵敏度是GM管100倍
  - Will also detect X-rays > 25KeV.
  - 还将探测X-rays > 25KeV
  - Sensitivity of the PGS-3L is in the order of 1,000,000 cpm per mR/hr.
  - PGS-3L灵敏度为每mR/hr 1,000,000 cpm
- PNS-20T:** Fast & Slow Neutron Scintillation Probe. The n-p reaction is used to measure energy deposited by Fast Neutrons.  
快&慢中子闪烁探头, 使用n-p反应测量快中子存储的能量
- Thermal Neutrons are detected by means of the Boron n-Alpha reaction.
  - 通过硼 n- α 反应探测热中子
  - Probe delivers approximately 20 cpm per neutron/cm<sup>2</sup>/second and requires a 900 volt supply. The probe is 8" long x 1.5" in diameter.
  - 探头要求900V电源, 探头计数大约20cpm /中子/cm<sup>2</sup>/秒
  - It is completely insensitive to Gammas in fields below 10 R/hr.
  - 10 R/hr以下伽马场探测器完全不灵敏
  -

#### Electronics:

**TBM-6SP Analog, Low Light, 3" Diameter**  
**TBM-3D Digital**

#### 电子学:

TBM-6SP模拟, 低光, 直径3", TBM-3D数字

**Read Out:** 2 Separate Scale Factors For Rate & Total  
8 Digit LCD Display  
2" Display Screen

显示: 2个独立标定因子用于计数率和总计数, 8位数显示2寸显示屏



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### Model ~ TBM-6SPE

**Power:** High Voltage 400v-1200v DC  
0.1-99 Sec Time Constant for Ratemeter

电源: 高压400v-1200v DC, 计数率时间常数0.1-99秒

Ideal for Long Count - Up to 24 Hours or More

理想用于长时计数-24小时以上

Use Any GM Or Scintillation Alpha, Beta, Gamma, X-Ray, Positron Detector.

使用GM探头或闪烁 $\alpha$ ,  $\beta$ ,  $\gamma$ , X-ray,正电子探头

**OPTIONAL:** Alarm  
RS-232 Serial Output

选项: 报警, RS-232接口

**Calibration:** Single master Cal Pot for each detector, plus individual Cal Pot for each scale.  
Pots adjust from outside case.

标定: 每个探头单独标定电位计, 加每个量程独立标定电位计, 可箱外调节。

**Power:** **TBM-6SP - Analog:** (1) 9V  
**TBM-3D - Digital:** (6) AA

电源: TBM-6SP模拟1节9V电池, TBM-3D数字6节AA电池

**Battery Life:** 100 hrs. Normal operation.

电池寿命: 正常操作使用100小时

**Dimensions of Meter:** 3" Wide x 5-1/4" Long x 2-1/4" Deep. (7.6 m 13.3 cm x 6cm).

仪器尺寸:

**Total Weight:** 10 lbs – Case, Electronics & Detectors..

总重量: 机箱, 电子学&探头共10磅



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