

GM AND PROPORTIONAL PROBES FOR PORTABLE INSTRUMENTS

GM 和正比探测器，用于便携式仪器

GM & Proportional Probes:

P-13

Side-viewing, energy compensated GM Probe with a 30mg/cm² wall. Energy response is $\pm 40\text{KeV}$ to 1.25 MeV $\pm 20\%$. Housed in high impact plastic, which is splash-proof and rugged. Dimensions, 1-3/8" dia. x 6" long. **(Figure 1)**

侧视，能量补偿GM管探头，带30mg/cm²厚壁，能量响应 $\pm 40\text{KeV}$ 至1.25 MeV $\pm 20\%$ ，外罩为高强度塑料，防溅且坚固耐用。尺寸：直径1-3/8"x 6"长（图一）



Figure 1.

P-13A

Identical to the P-13 with Beta window and sliding beta shield. **(Figure 1)**

和P-13相似，带 β 窗和滑动式 β 屏蔽（图一）

P-15

Alpha, Beta, Gamma Probe (GM) for rapid checking of laboratory bench and equipment surfaces and for checkout of personnel, the P-15 uses a 1-3/4" mica window diameter, 1.5 mg/cm² pancake tube. Background is normally 50 to 60 counts per minute. Extremely sensitive to α , and alphas with sufficient energy to penetrate window (Betas $> 50\text{ KeV}$). Window is protected by a 79% open, grill to prevent puncture or other damage while presenting minimum absorption to incoming radiation. Detects 5 KeV X-Rays and above. **(Figure 2)**

α - β - γ 探头 (GM)，用于快速检测实验室长椅和设备表面及检测人员辐射。P-15 使用直径 1-3/4" 云母窗，厚度 1.5 mg/cm² 扁平管。本底正常 50-60 每分钟计数。对能量足够穿透窗的 α ($\beta > 50\text{ KeV}$) 极度敏感。窗由一个 79% 开放的栏栅保护以防在进行最小辐射吸收量时被刺穿或其它损害。检测大于或等于 5 KeV 的 X 射线（图二）



Figure 2.

P-15A Same as P-15 with 1/4" lead shielding. **(Figure 2)**

P-15A和P-15一样，带1/4"铅屏（图二）

P-23 Same detector as P6-LB with 3 PIN connector on the probe.

P-23和P6-LB一样，探头上带3针接头

TA

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P-24

Underwater probe uses gamma sensitive GM tube. Constructed of anodized, welded aluminum with O-ring seal compressed by stainless steel bolts. The system has been tested by cycling to 60 feet of water pressure. Lifetime of the detector is approximately 10^{10} counts. (Figure 3)

水下探头使用 γ 敏感GM管，构建在带不锈钢螺栓固定O型密封圈的氧化焊接铝中。此系统经过60英尺水深压力测试，探头寿命接近 10^{10} 计数（图三）



Figure 3.

P-28

“Long Arm” Probe consists of 1-3/4” net diameter pancake tube mounted at the end of a 40” wand. For rapid checking of laboratory bench and equipment surfaces, floors and walls. Sensitive to soft betas, from C^{14} and to alphas. The 1.5 – 2mg/cm² window is protected by an easy to decontaminate grill. Wand is balanced and weighs only 23 ounces. The angle of the detector can be adjusted, then locked in place. (Figure 4)

“长臂”探测器组成：一个净直径1-3/4”扁平管安装在一个40”长板末端，用于快速检测实验室长椅，设备表面，地板和墙壁辐射。对碳14中的软 β 和 α 敏感。厚度1.5 – 2mg/cm²的窗由容易去污的格栅保护。长板平衡，仅重23盎司，探头角度可调整，调整之后再锁住。（图四）



Figure 4.

P-28/4

Same as P-28 but includes 4 pancake tubes in head for faster more complete monitoring. (Figure 5)

和P-28一样，但是包括头部4个扁平管以便更快更完整地监测。（图五）

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Figure 5.

P-1212

Alpha, Beta Spot Probe, highly directional, small window, small volume GM probe designed for locating and measuring sources of alpha and beta radiation. The tube has a 6 mm dia. x 1.5 mg/cm² mica window. Low background (typically less than 2 cpm) makes it ideal for measurements of low level sources. Dimensions, 13mm dia. x 137mm long. **(Figure 6)**

α - β 放置式探头，高度定向，小窗，小容量 GM 探头，为定位和测量 α - β 辐射源设计。管带直径 6mm

x 1.5 mg/cm² 厚度云母窗。低本底（典型小于 2cpm）理想适合测量低限辐射源。尺寸：直径 13mm x 137mm 长。
(图六)



Figure 6.

P6-LB

Low Background Probe; end window detects alpha, beta and gamma radiation. It offers low background without loss of alpha or beta sensitivity. The 2 cm dia. x 1.5 mg/cm² mica window is protected by a removable, cleanable grill. The primary use of probe is for locating surface contamination. Dimensions, 30 mm dia. x 110 mm long excluding cord. Operates at 500 Volts. Detects 5 KeV X-Rays and above. **(Figure 7)**

低本底探头，带端窗，检测 α - β - γ 射线，提供低本底同时 α - β 灵敏度无损失，直径 2cm x 1.5 mg/cm² 厚度云母窗被一个可移动可清洗的格栅保护。探头主要用于定位表面污染。尺寸：直径 30mm. x 110 mm 长，不包含电线，操作电压 500V，检测 5 KeV 或以上 X 射线。

P6-A Similar to P6-LB but operates at nominal 900 Volts. **(Figure 7)**

P6-A 和 P6-LB 相似，但正常操作电压 900v

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Figure 7.

PN-13

Energy compensated neutron detector consisting of a BF-3 proportional neutron tube within a 10" low density polyethylenesphere. Detects neutrons from thermal to above 15 MeV. Sensitivity is approximately 120 cpm per mRem/hr. Dimensions, 10" W x 10" D x 12" H including stand and hanger. Close adherence to the ICRP Neutron Response Curve. (Figure 8)

能量补偿中子探测器，包含一个BF-3正比中子管，在10"低密度聚乙烯球体内，检测范围从热中子到15 MeV以上中子，灵敏度接近每毫雷姆/小时120cpm计数率。尺寸：10"宽 x 10"深 x 12"高，包括底座和吊架。遵守ICRP中子响应曲线。（图八）



Figure 8.

PPG-31:

A Flat, Gas Flow Detector. Excellent sensitivity to Beta and/or Alpha Radiation over an area which measures 6" x 9". Can operate as a Proportional or GM counter. It weights 2 1/2 lbs. For Proportional Operation the counting gas is typically 90% Argon and 10% Methane (P-10 Gas). Operational voltage of 1100 Volts. Output signal is about 2V.

平板型流气探测器，对 β - α 极其敏感，测量面积6" x 9"，可用作正比或GM管计数器。重2.5磅，正比操作计数气体为典型的90%氩气和10%甲烷(P-10 Gas)。操作电压1100v，输出信号2v以上。

For GM Operation the counting gas is usually 99.05% helium and 0.95% isobutane. Operational voltage of 1725 Volts. Output signal between 2 and 200V.

用作GM操作，计数气体通常99.05%氦和0.95%异丁烷。操作电压1725v，输出信号2 -200V

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For Alpha Only count the Detector is configured as a thinwindow proportional counter with an operational voltage of 1300 Volts.

对于仅计数 α ，探头配有薄窗正比计数器，操作电压 1300V

Optional one-way inlet and outlet valves allows the detector to be recharged at intervals for use away from the gas supply.

可订购单路进气和出气阀允许探头

PPG-41:

Identical to the **PPG-31** except that its sensitivity area is 6" x 15". It weighs 3 1/2 lbs.

除了敏感区 6" x 15" 外，和 PPG-31 完全相同，重量 3 1/2 磅

PPG-31T:

Gas Flow Detector which has three times the Gamma sensitivity of the **PPG-31**. The chamber and interior are tungsten plated. Otherwise similar to the **PPG-31**.

气流探测器对 γ 灵敏度为 PPG-31 的三倍。室及内部镀钨，其它和 PPG-31 相似。

PPG-41T:

Gas Flow Detector which has three times the Gamma sensitivity of the **PPG-41**. The chamber and interior are tungsten plated. Otherwise similar to the **PPG-41**.

气流探测器对 γ 灵敏度为 PPG-41 的三倍。室及内部镀钨，其它和 PPG-41 相似。



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