

GM and Proportional Probes for Use with Portable Instruments

**Models: P-13; P-13A; P-15; P-15A; P-23; P-24; P-28; P-28/4; P-55; P-1212
P6-LB; P6-A; PN-13; PPG-31; PPG-31T; PPG-41; PPG-41T**

Description

GM and Proportional Probes:

P-13: Side-viewing, energy compensated GM Probe with a 30 mg/cm wall.

Energy response: 0.40 KeV to 1.25 MeV 20%.

Housing: high impact plastic, which is splash proof and rugged.

Dimensions: 1-3/8" dia. x 6" long. Range: 0.01 to 1,000 mR/h.



P-13 and P-13A

P-13A: Identical to the P-13 with Beta window and sliding Beta shield.

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/cm pancake tube. Background is normally 50 to 60 counts per minute. Extremely sensitive to Alphas with sufficient energy to penetrate window and Betas > 50 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.



P-15 and P-15A

P-15A: Same as P-15 with 1/4" lead shielding.

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

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. Primary use of P6-LB is for locating surface contamination.

Dimensions: 30 mm dia. x 110 mm long excluding cord.



P-23 and P6-LB



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GM and Proportional Probes:

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 1010 counts.



P-24

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 and to Alphas. The 1.5 – 2 mg/cm 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 and locked in place.



P-28

P-28/4: Same as P-28 but includes 4 pancake tubes in head for faster more complete monitoring.



P-28/4

P-55 Series The **P-55-LR** (Low Wide Range) probe is 7" long and 1" in diameter for low wide range measurement Gamma-Betas. Has dual low range GM thin side wall probes one on each end.

Sensitivity: 5 μ R/h to 10 R/h (0.05 μ Sv/h to 100 mSv/h)

The **P-55-W** (High-Low Wide Range) and **P-55-HR** (High, Narrow Range) probe are 7" long and 1/2" in diameter. It contains two GM tubes for high and low range Gamma -Betas, measurements of the ambient Gamma radiation field. The low range GM tube is near the tip, and the high range GM tube is near the cable connection.

Sensitivity: TBM-55-W: 1R/h to 50 R/h (0.01 Sv/h to 0.05 Sv/h).

TBM-55-HR: 1R/h to 1,000 R/h (0.01 Sv/h to 10 Sv/h)

The **P-55 probe series** is supplied with 15 ft. cable

Energy Dependence: 20% from 100KeV to 1.2 MeV.



P-55

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.



P-1212



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P6-LB; P6-A; PN-13; PPG-31; PPG-31T; PPG-41; PPG-41T

Description: GM and Proportional Probes:

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/cm mica window is protected by a removable, cleanable grill. Primary use of **P6-LB** is for locating surface contamination.

Dimensions: 30 mm dia. x 110 mm long excluding cord.

Operational Voltage: 500 Volts. **Detects:** 5 KeV X-Rays and above.



P-23 and P6-LB
and P6-A

P6-A: Similar to **P6-LB** but operates at nominal 900 Volts.

PN-13: Energy Compensated Neutron Detector consisting of a **BF-3** proportional neutron tube within a 10" low density polyethylene sphere. Detects neutrons from thermal to above 15 MeV. Sensitivity is approx. 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.



PN-13

PPG-31: 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.

Weight: 2 1/2lbs.

Proportional Operation: Counting gas is typically 90% Argon and 10% Methane (P-10 Gas).

Operational Voltage: 1100 Volts. **Output Signal** is about 2V.

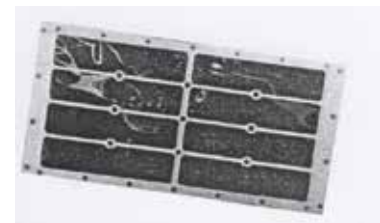
GM Operation: Counting gas is usually 99.05% helium and 0.95% isobutane.

Operational Voltage: 1725 Volts. **Output Signal** between 2 and 200V.

Alpha Only Count: the Detector is configured as a thin window proportional counter.

Operational Voltage: 1300 Volts.

Optional: One-way inlet and outlet valves allow detectors to be recharged at intervals for use away from the gas supply.



PPG-31, PPG-31T,
PPG-41, PPG-41T

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

PPG-41: Identical to the **PPG-31** except that it's sensitivity area is 6" x 15". **Weight:** 3 1/2 lbs.

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**.



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