

Model 44-9 GM Pancake Probe

Radiation Detection for a Safer World



Ludlum Measurements, Inc.

Introduction

The GM pancake-type detector in the Model 44-9 is arguably the most popular radiation detector used throughout the world. This detector is sensitive to alpha, beta, and gamma radiation, is enclosed within a rugged metal enclosure, and is conveniently shaped and sized for checking contamination on people and objects.

This detector operates between 850 to 1000 volts, and is compatible with any Ludlum instrument capable of supplying 900 Vdc and an input sensitivity of 30 mV or higher.



Part Number: 47-1539

Specifications

INDICATED USE: alpha beta gamma survey; frisking
DETECTOR: pancake type halogen quenched GM
COMPATIBLE INSTRUMENTS: general purpose survey meters, ratemeters, and scalers
WINDOW: 1.7 ± 0.3 mg/cm² mica
WINDOW AREA:
Active - 15 cm² (2.3 in²)
Open - 12 cm² (1.9 in²)
EFFICIENCY (4π geometry): typically 5% for ¹⁴C; 22% for ⁹⁰Sr/⁹⁰Y; 19% for ⁹⁹Tc; 32% for ³²P; 15% for ²³⁹Pu; 0.2% for ¹²⁵I
SENSITIVITY: typically 3300 cpm/mR/hr (¹³⁷Cs gamma)
ENERGY RESPONSE: energy dependent, see Ludlum's optional energy filters
DEAD TIME: typically 80 μ s
OPERATING VOLTAGE: 900 volts
CONNECTOR: series "C" (others available)
CONSTRUCTION: aluminum housing with beige powder-coat finish, and stainless steel protective screen (79% open)
TEMPERATURE RANGE: -15° to 50° C (5° to 122° F) May be certified to operate from -40° to 65° C (-40° to 150° F)
SIZE: 4.6 x 6.9 x 27.2 cm (1.8 x 2.7 x 10.7 in.) H x W x L (other handle lengths are available)
WEIGHT: 0.5 kg (1 lb)

Options

The Model 44-9 GM pancake detector has a significant over response at low energies which can be corrected using the snap-on filters offered below:

Exposure Filter Kit: flattens the response to within $\pm 20\%$ referenced to ¹³⁷Cs (662 keV) over an energy range of 33 keV to 1.2 MeV Part Number: 4002-1066

Ambient Dose Equivalent Filter: flattens the response to within $\pm 20\%$ referenced to ¹³⁷Cs (662 keV) over an energy range of 20 keV to 1.2 MeV. Part Number: 2002-1050

Model 44-9EXP (Model 44-9 with Exposure Filter installed) Part Number: 47-3788

Model 44-9DOSE (Model 44-9 with Dose Filter installed) Part Number: 47-3789