

# Model 44-9

## GM Pancake Probe



Ludlum

This product is available through **JRT** Associates 800-221-0111

### 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:**  $1.7 \pm 0.3$  mg/cm<sup>2</sup> mica

**WINDOW AREA:**

Active - 15 cm<sup>2</sup> (2.3 in<sup>2</sup>)

Open - 12 cm<sup>2</sup> (1.9 in<sup>2</sup>)

**EFFICIENCY** ( $4\pi$  geometry): typically 5% for <sup>14</sup>C; 22% for <sup>90</sup>Sr/<sup>90</sup>Y; 19% for <sup>99</sup>Tc; 32% for <sup>32</sup>P; 15% for <sup>239</sup>Pu; 0.2% for <sup>125</sup>I

**SENSITIVITY:** typically 3300 cpm/mR/hr (<sup>137</sup>Cs gamma )

**ENERGY RESPONSE:** energy dependent, see Ludlum's optional energy filters

**DEAD TIME:** typically 80  $\mu$ 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 <sup>137</sup>Cs (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 <sup>137</sup>Cs (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

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