

Model 44-9-18 Telescoping GM Pancake Probe

Introduction

The GM pancake-type detector in the Model 44-9-18 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. The telescoping handle extends the reach to 0.9 m (36 in.) for greater versatility, and the detector head is mounted on a flexible tube for easy head angle adjustment.

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.



Specifications

INDICATED USE: alpha beta gamma survey; frisking

DETECTOR: pancake type, halogen quenched GM

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

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

DEAD TIME: typically 80 microseconds

COMPATIBLE INSTRUMENTS: general purpose survey meters, ratemeters, and scalers

OPERATING VOLTAGE: 900 volts

CONNECTOR: series "C" (*others available*)

CONSTRUCTION: aluminium housing with beige powder-coat finish, and stainless steel protective screen (*79% open*)

TEMPERATURE RANGE: -15° to 50° C May be certified to operate from -40° to 65° C

SIZE: 4.6 x 6.9 x 58.4 cm (H x W x L); 0.9 m fully extended with gooseneck type flexible extension handle

WEIGHT: 0.7 kg

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: 47-37