

Model 44-9-18

Telescoping GM Pancake Probe



Ludlum Measurements, Inc.

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

Part Number: 47-2940

INDICATED USE: alpha beta gamma survey; frisking

DETECTOR: pancake type, halogen quenched GM

WINDOW: 1.7 ± 0.3 mg/cm² mica with 79% open stainless steel screen

WINDOW AREA:

Active - 15.51 cm² (2.4 in²)

Open - 12.26 cm² (1.9 in²)

EFFICIENCY (4 π 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 microseconds

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

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 58.4 cm (1.8 x 2.7 x 23 in.) (H x W x L); 91.4 cm (36 in.) fully extended, with gooseneck type flexible extension handle

WEIGHT: 0.7 kg (1.5 lb)

Options

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

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

Model 44-9-18 Extended Reach GM detector mounted on gooseneck-type mount provides up to 0.9 m (36 in.) extension (Part Number 47-2940)

Model 180-2 Sample Holder provides repeatable geometry for counting wipes, filter paper, or slides, for samples up to 4.7 cm (1.8 in.) diameter. (Part Number 47-1665)

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 (serial #97000 and up):

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 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)

Ludlum Measurements, Inc. P.O. Box 810, Sweetwater, Texas 79556

Web: <http://www.ludlums.com> Tel: 800-622-0828 / 325-235-5494 / Fax: 325-235-4672 / Email: sales@ludlums.com

Note: specifications subject to change without notification. We are not responsible for errors or omissions.

Mar 2014