

Model 43-37-1 Gas Proportional Detector



Ludlum Measurements, Inc.

Introduction

The Ludlum Model 43-37-1 is a large-area gas proportional detector, designed to be used with the Ludlum Model 239-1 Floor Monitor. It is designed for alpha and beta survey and is compatible with a number of counting instruments.



Specifications

Part Number: 47-2243

DETECTOR TYPE: large-area gas proportional

RECOMMENDED COUNTING GAS: P-10 (10% methane, 90% argon) is recommended. Other counting gases are also acceptable.

GAS RECHARGE: expected time of operation on static charge with 39-inch cable:

Gross counting mode - 15 hours or longer

Alpha-beta mode - 5 hours or longer

WINDOW:

alpha only: 0.8 mg/cm² (2 layers of aluminized mylar)

beta-gamma: 3.4 mg/cm² (1 layer of aluminized mylar and 1 layer of clear mylar)

gamma: 11.8 mg/cm² (1 layer of aluminized mylar and 1 layer of drafting mylar)

WINDOW AREA: 821 cm² (323.2 in²) active, 609 cm² (239.7 in²) open

TYPICAL EFFICIENCY (4π):

gross counting: 20% - ²³⁹Pu (alpha only); 30% - ⁹⁹Tc (beta only); 30% - ⁹⁰Sr/⁹⁰Y; less than 1% gamma

alpha-beta counting: 17.5% - ²³⁹Pu; 20% - ⁹⁹Tc; 20% - ⁹⁰Sr/⁹⁰Y; less than 1% gamma

TYPICAL BACKGROUND (10μR/hr FIELD):

alpha: less than 10 cpm when operating at alpha-only plateau region

beta-gamma: 1000-1800 cpm

OPERATING VOLTAGE: alpha: typically 1100-1400 volts; beta-gamma: typically 1700-1800 volts

COUNTER THRESHOLD SETTING: typically 4 mV for scaler or gross counting instrument

GAS CONNECTORS: double-end quick disconnects

SIGNAL CONNECTORS: series "C", unless specified

SIZE: 2.5 x 15.9 x 64.1 cm (1 x 6.25 x 25.25 in.) (H x W x L) (not including fittings)

WEIGHT: 2.4 kg (5.4 lb)

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

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