

LUDLUM MEASUREMENTS, INC.

Model 239-1F Series Alpha-Beta Floor Contamination Monitor

Features

- 584 cm² or 821 cm² Active Area
Gas Proportional Detector
- Adjustable Detector Height
- Compatible with Multiple Survey Meters

Introduction

The Model 239-1F Floor Monitor is a gas proportional floor monitor detector mounted on a roll-around cart. The instrument features a flow system, quick-connects, a gas bottle mount, and a means to adjust the height of the detector from the floor for optimum performance. A nuclear counting gas bottle, gas regulator, and a survey instrument are required for the operation of the floor monitor.



Model 239-1F with Model 2221

Available Configurations

METER	PART NUMBER	DETECTOR	WINDOW AREA	DETECTOR SIZE
Model 3002	Meter: 48-4037 Cart & Detector: 48-4310	Model 43-37	Active: 584 cm ² (90.5 in ²) Open: 434 cm ² (67.3 in ²)	2.5 x 15.9 x 46.4 cm (1 x 6.25 x 18.25 in.)
Model 12	48-1702			
Model 2221	48-2085			
Model 2350-1	48-2594			
Model 2360	48-2922			
Model 2224-1	48-2748	Model 43-37-1	Active: 821 cm ² (127 in ²) Open: 609 cm ² (94.4 in ²)	2.5 x 15.9 x 64.1 cm (1 x 6.25 x 25.25 in.)

Specifications

INDICATED USE: floor monitoring for alpha, beta, and gamma

DETECTOR: gas proportional

RECOMMENDED COUNTING GAS: P-10 (10% methane; 90% argon)

CYLINDER SIZE: will hold a cylinder 15.2 cm x 48.3 cm (6 x 19 in.) or smaller (Linde size "Q", Matheson size 3, Airgas size "R")

WINDOW: 0.8 mg/cm² aluminized Mylar (window thicknesses of 0.4, 3.9, or 7.9 mg/cm² are available). See configuration table for active and open areas.

EFFICIENCY (4 π): ²³⁹Pu - 17%; ⁹⁰Sr/⁹⁰Y - 25%; gamma < 1%

GAS RECHARGE: will operate on static charge for 2 hours

DETECTOR HEIGHT: adjustable from 0.32 to 7.6 cm (0.125 to 3 in.) from surface

DETECTOR OPERATING VOLTAGE:

ALPHA: typically 1000 to 1200 V

BETA-GAMMA: typically 1600 to 1800 V

THRESHOLD: typically 2 to 4 mV

FLOW METER:

IN: adjustable from 0–100 cc/min

OUT: flow indicator from 0–100 cc/min

GAS CONNECTORS: double-end quick disconnect for 0.6 cm (0.25 in.) OD tubing

GAS CONSUMPTION: typically 50 cc/min

CONSTRUCTION:

DETECTOR: anodized aluminum housing with stainless steel hex protective screen (79% open)

CART: 2.5 cm (1 in.) square tubular steel and aluminum with beige powder coat paint, 19.1 cm (7.5 in.) diameter rear wheels, and 10.2 cm (4 in.) diameter swivel casters

CART SIZE (H x W x L): 106.7 x 40.6 x 69.9 cm (42 x 16 x 27.5 in.) (excluding detector)

WEIGHT: 11.4 kg (25 lb), excluding gas bottle and meter