

Model 239-1F with 12 Floor Contamination Monitor

Radiation Detection for a Safer World



Ludlum Measurements, Inc.

Features

- Adjustable Detector Height
- 4-Decade Analog Ratemeter
- 425 cm² Gas Proportional Detector
- Rugged Roll-around Cart

Introduction

This system features a flow system, quick-connects, gas bottle mount, and height-adjustable detector for optimum floor-monitoring performance. A nuclear counting gas bottle and gas regulator are required for the operation of the floor monitor. This system is supplied with the Model 12 General Purpose Ratemeter. A variety of meter faces are available for the Model 12 to support different measurement units and ranges for the external detector.



Part Number: 48-1702
(gas bottle not included)

Specifications

INDICATED USE: floor monitoring for alpha, beta-gamma radiation

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.) (Dia x H) 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)

ACTIVE AREA: 584 cm²

OPEN AREA: 425 cm²

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

GAS RECHARGE: will operate on static charge for 2 hours

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

DETECTOR OPERATING VOLTAGE:

ALPHA: typically 1000–1200 volts

BETA GAMMA: typically 1600–1800 volts

THRESHOLD: typically 2–4 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

DETECTOR SIZE: 2 x 16 x 46.5 cm (0.8 x 6.3 x 18.3 in.) (H x W x L)

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

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



Model 12 face, shown with
handle removed for clarity