

Model 44-3

Low Energy Gamma Detector

Radiation Detection for a Safer World



Ludlum Measurements, Inc.



Part Number: 47-1533

Specifications

INDICATED USE: ^{125}I and low energy gamma survey

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

DETECTOR TYPE: scintillator, 2.5 cm (1 in.) diameter x 1 mm thick NaI(Tl) crystal

ENTRY WINDOW: 18.4 mg/cm²

WINDOW AREA: 5 cm² (0.8 in²) active and open

SENSITIVITY: 675 cpm/ $\mu\text{R/hr}$ (^{125}I)

BACKGROUND (10 $\mu\text{R/hr}$): less than 250 cpm

EFFICIENCY (4 π): 33.5% for ^{125}I (based on ^{129}I efficiency of 18%)

RECOMMENDED ENERGY RANGE: 10 to 60 keV

ENERGY RESPONSE: energy dependent

PHOTOMULTIPLIER TUBE: 3.8 cm (1.5 in.) diameter

OPERATING VOLTAGE: typically 500 to 1200 volts

CONSTRUCTION: aluminum housing with beige powder coat finish

TEMPERATURE RANGE: -20 to 50 °C (-4 to 122 °F); may be certified to operate from -40 to 65 °C (-40 to 150 °F)

CONNECTOR: series "C" (others available)

SIZE: 5.1 X 17.8 cm (2 x 7 in.) (Dia x L)

WEIGHT: 0.5 kg (1 lb)

Options: Model 180-1, Model 180-1L, and Model 180-24 Sample Holders provide repeatable geometry for counting wipes, filter paper, or slides at user-selectable spacings of 0.32, 0.64, 1.3, 2.5, and 5.1 cm (0.125, 0.25, 0.5, 1, and 2 in.) from the detector.

Model 180-1: anodized aluminum frame, sample tray, and collimator (P/N 47-1675)

Model 180-1L: as above, but with 0.64 cm (0.25 in.) painted lead collimator (P/N 47-2988)

Model 180-24: anodized aluminum frame and sample tray (no collimator) (P/N 47-2631)

Planchets: 5.1 cm x 3.2 mm (2.0 x 0.125 in.) (Dia x thickness) in stainless steel or aluminum
Stainless Steel (P/N 7525-371-01); Aluminum (P/N 7525-371) Minimum order quantity of 500

Model L-4002-227: lead shielding/collimator for 5.1 cm (2 in.) OD detectors (P/N 4002-227)