

Model 44-142 Beta Scintillation Detector



Specifications

Part Number: 47-3161

INDICATED USE: beta survey

DETECTOR TYPE: 0.25 mm (0.01 in.) thick plastic scintillator

WINDOW: 1.2 mg/cm² metalized polyester

WINDOW AREA:

Active: 100 cm² (15.5 in²)

Open: 88 cm² (13.6 in²)

PROTECTIVE SCREEN: 0.76 mm (0.031 in.) thick stainless steel,

6.5 mm (0.26 in.) square openings, 88% open

Outer Dimensions (L x W): 168 x 92 mm (6.6 x 3.6 in.)

Tool-less removal for quick window replacements

EFFICIENCY (4 π): ⁹⁹Tc: 20%; ⁹⁰Sr/⁹⁰Y: 30%; ¹⁴C: 4%

TYPICAL BACKGROUND: 300 cpm or less

DETECTOR UNIFORMITY: within 10% of average reading

GAMMA SENSITIVITY: approx. 20 cpm per μ R/hr (¹³⁷Cs)

DEAD TIME: typically 5 μ s or less

PHOTOMULTIPLIER TUBE: 29 mm (1.125 in.) diameter;
magnetically shielded

OPERATING VOLTAGE: typically 500 to 1200 V (1500 V max.)

TEMPERATURE RANGE: -20 to 50 °C (-4 to 122 °F)

ENVIRONMENTAL RATING: IP rating of 63

CONNECTOR: series "C" (others available)

CONSTRUCTION: aluminum with beige powder coating

SIZE (H x W x L): 6.4 x 9.5 x 31.1 cm (2.5 x 3.8 x 12.3 in.)

WEIGHT: 0.5 kg (1.0 lb)

Optional Protective Screens

- **PN 7393-209:** 0.79 mm (0.031 in.) thick, 4 mm (0.16 in.) square openings, 81% open
- **PN 7393-208:** 0.79 mm (0.031 in.) thick, 4.8 mm (0.19 in.) hex openings, 83.5% open
- **PN 7393-138:** 0.51 mm (0.020 in.) thick, 6.5 mm (0.26 in.) square openings, 88% open