

Model 43-147 Alpha-Beta Scintillation Detector



Specifications

Part Number: 47-4092

INDICATED USE: simultaneous alpha and beta survey

SUGGESTED INSTRUMENTS: Model 2360, Model 3002,
Model 3003

DETECTOR TYPE: ZnS(Ag) adhered to 0.25 mm (0.01 in.) thick
plastic scintillator

WINDOW: 1.2 mg/cm² metalized polyester

WINDOW AREA:

Active: 200 cm² (31.0 in²) active

Open: 176 cm² (27.3 in²) open

PROTECTIVE SCREEN: 0.79 mm (0.03 in.) thick, 6.5 mm
(0.26 in.) square openings, 88% open

Outer Dimensions (L x W): 225 x 114 mm (8.875 x 4.75 in.)

Tool-less removal for quick window replacements

EFFICIENCY (4 π): ⁹⁹Tc: 13%; ⁹⁰Sr/⁹⁰Y: 20%; ²³⁹Pu: 20%

TYPICAL BACKGROUND:

Alpha: 3 cpm or less

Beta: 400 cpm or less

CROSS TALK:

Alpha to Beta: 10% or less

Beta to Alpha: 1% or less

DETECTOR UNIFORMITY: 10% or less from average reading

GAMMA SENSITIVITY: 15 to 20 cpm per μ R/hr (¹³⁷Cs)

PHOTOMULTIPLIER TUBE: 29 mm (1.125 in.) diameter

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", unless otherwise specified

CONSTRUCTION: aluminum with beige powder coating

SIZE (H x W x L): 10.7 x 12.1 x 35.6 cm (4.2 x 4.75 x 14 in.)

WEIGHT: 0.7 kg (1.5 lb)