

Model 43-93 Alpha-Beta Scintillation Detector

Part Number: 47-2556



Specifications

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: 100 cm² (15.5 in²)

Open: 88 cm² (13.6 in²)

PROTECTIVE SCREEN: 0.79 mm (0.031 in.) thick, 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 (4π): ⁹⁹Tc: 15%, ⁹⁰Sr/⁹⁰Y: 20%, ²³⁹Pu: 20%

TYPICAL BACKGROUND:

Alpha: 3 cpm or less

Beta: 300 cpm or less

CROSSTALK:

Alpha to Beta: 10% or less

Beta to Alpha: 1% or less

DETECTOR UNIFORMITY: 15% or less from average reading

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

PHOTOMULTIPLIER TUBE: 29 mm (1.125 in.) diameter

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

TEMPERATURE RANGE: -20 to 40 °C (-4 to 104 °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): 6.4 x 9.5 x 31 cm (2.5 x 3.8 x 12.3 in.)

WEIGHT: 0.45 kg (1.0 lb)

Also Available

High Temperature Version: This version has a plastic scintillator designed for use at higher temperatures, up to 50 °C (122 °F). [PN: 47-4468]

Optional Protective Screens

- **PN 7393-208:** 0.79 mm (0.031 in.) thick, 4.8 mm (0.19 in.) hex openings, 83.5% open
- **PN 7393-209:** 0.79 mm (0.031 in.) thick, 4.0 mm (0.16 in.) square openings, 81% open
- **PN 7393-138:** 0.51 mm (0.020 in.) thick, 6.5 mm (0.26 in.) square openings, 88% open
- **PN 2393-345:** 0.79 mm (0.031 in.) thick, fine stainless steel mesh openings, 88% open