

# Model 44-1 Beta Detector



Ludlum Measurements, Inc.



## Specifications

Part Number: 47-1531

**INDICATED USE:** beta survey

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

**CONNECTOR:** series "C" (others available)

**DETECTOR TYPE:** 4.3 x 0.03 cm (1.7 x 0.01 in.) (Dia x Thickness) plastic scintillator

**EFFICIENCY (4 $\pi$ ):** 7% for <sup>14</sup>C

**WINDOW:** 1.2 mg/cm<sup>2</sup> aluminized polyester

**WINDOW AREA:** 9.7 cm<sup>2</sup> (1.5 in<sup>2</sup>) active and open

**BACKGROUND (10  $\mu$ R/hr):** typically 100 cpm

**ENERGY RESPONSE:** N/A

**NON-UNIFORMITY:** less than 10%

**PHOTOMULTIPLIER TUBE:** 3.8 cm (1.5 in.) diameter

**OPERATING VOLTAGE:** typically 500–1200 volts

**CONSTRUCTION:** aluminum housing with beige powder coat

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

**SIZE:** 5.1 X 18.5 cm (2 x 7.3 in.) (Dia x L)

**WEIGHT:** 0.3 kg (0.6 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)

Ludlum Measurements, Inc. P.O. Box 810, Sweetwater, Texas 79556

Web: <http://www.ludlums.com> Tel: 800-622-0828 / 325-235-5494 / Fax: 325-235-4672 / Email: [sales@ludlums.com](mailto:sales@ludlums.com)

Note: specifications subject to change without notification. We are not responsible for errors or omissions.

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