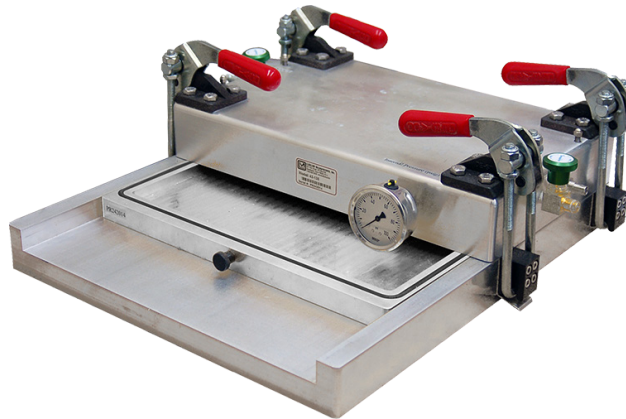


Model 43-135-1

Large Area 2π Proportional Detector



Ludlum Measurements, Inc.



Introduction

The Ludlum Model 43-135-1 is a large-area, 2π proportional detector designed for calibrating large-area alpha and beta sources. The windowless detector and source tray are sealed together via heavy duty clamps, which permit operating at higher pressures (up to 0.2 MPa).

Specifications

Part Number: 47-4117

ALPHA BACKGROUND: Approximately 0.06 cps

BETA BACKGROUND: Approximately 30 cps

DETECTOR UNIFORM RESPONSE: $\pm 1\%$ within the active area

COUNT RATE: Typically 10 to 2000 cps

EFFICIENCIES (4 π): ^{239}Pu is 42%, ^{230}Th is 33%, ^{99}Tc is 55%, ^{63}Ni is 37%, $^{90}\text{Sr}/^{90}\text{Y}$ is 55%; Efficiencies determined using sources with nickel or stainless steel electroplated backing

ANODE WIRE: 0.025 mm (0.001 in.) platinum on 25 mm (1 in.) spacing, mounted on Teflon insulated posts

DISTANCE FROM SAMPLE TO ANODE WIRE: 6 mm (0.25 in.)

OPERATING VOLTAGE: Less than 2500 VDC

PLATEAU LENGTH: > 200 volts with a slope of approximately 1%

DETECTOR CONNECTOR: Hermetically sealed MHV connector

DETECTOR ASSEMBLY SEAL: Viton O-Ring

ELECTRONIC NOISE: Produces signals less than obtained by sources with energies 50 keV or greater

COUNTER THRESHOLD: Typically -5 mV for gross counting instrument

WORKING PRESSURE: 4 to 30 psi (27 to 207 kPa)

MAXIMUM PRESSURE: 45 psi (310.3 kPa)

EQUIPPED WITH:

- Inlet and outlet for counting gas
- Pressure relief valve for over pressure protection
- Pressure gauge (0-30 psi, 0-200 kPa, two-inch dial)

SIZE (H x W x L): Approximately 18.3 x 43.2 x 53.3 cm (7.2 x 17 x 21 in.)

MAX. SOURCE SIZE (H x W x L): 1.3 x 34.9 x 21 cm (0.5 x 13.75 x 8.25 in.)

WEIGHT: Approximately 37.2 kg (82 lb)

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

May 2019