

**LUDLUM MODEL 43-32  
AIR PROPORTIONAL PROBE**

**November 2011**



# LUDLUM MODEL 43-32 AIR PROPORTIONAL PROBE

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## Introduction

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The Ludlum Model 43-32 is an air proportional probe used for the detection of alpha radiation. The probe requires an instrument with a -2 mV or less input sensitivity and a minimum of 2500 volt power supply, such as a Ludlum Model 12.

The probe will detect alpha energy of 3 MeV or greater, with a 10% efficiency ( $4\pi$ ).

The window is secured to the body of the probe by four screws. The window is covered by 0.4 mg/cm<sup>2</sup> metalized polyester and has an active area of 99 cm<sup>2</sup>.

The operating voltage for the Model 43-32 is 2325 volts at sea level, decreasing approximately 50 volts per 610 m (2000 ft) altitude.

The unit is strung with two equally spaced 0.0026 cm (0.001 in.) diameter platinum wires with tension of approximately 62.2 g (2 oz). The wire is soldered to stand-offs, which place the wire midway between the window and the floor of the chamber.

## Unpacking and Repacking

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Remove the calibration certificate or detector functional check certificate and place it in a secure location. Remove the detector(s) and accessories (if applicable) and ensure that all

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items listed on the packing list are in the carton. If multiple detectors are included, refer to the calibration certificates for serial number (SN) matches. To return an instrument or detector for repair or calibration, provide sufficient packing material to prevent damage during shipment and affix appropriate warning labels to promote careful handling. The following items and information should also be included to ensure quick turnaround time of your equipment:

- instrument(s) and related cable(s)
- brief description as to the reason for return
- description of service requested
- return shipping address
- customer name and telephone number

## Specifications

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Window: 0.4 mg/cm<sup>2</sup>

Window Active Area: 99 cm<sup>2</sup>

Efficiency for <sup>239</sup>Pu: 10% (4π)

Operating Voltage: Altitude Dependent

2325 volts at sea level

2275 volts at 610 m (2000 ft)

2225 volts at 1524 m (5000 ft)

2175 volts at 2134 (7000 ft)

Finish: anodized

Size: 1.8 x 5.1 x 23.1 cm (0.7 x 2.0 x 9.1 in.) (H x W x L)

Weight: 0.91 kg (2 lb)

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### Parts List

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#### Model 43-32 Air Proportional Probe

Reference	Description	Part Number
UNIT	Completely Assembled Model 43-32 Air Proportional Probe	47-1512

#### Assembly View, Drawing 251 x 4

1 ea	Window with metalized polyester	4251-001-03
1 ea	Model 43-32 Face	7251-001-02
1 ea	Cardboard Cover	7251-005
1 ea	Stand-off cover	7251-003
1 ea	Model 43-32 Body	7251-001-01
1000 ft roll	Wire 0.001 Diameter	21-9327
4 ea	Stand-off	18-8899
2 ea	Screw 2-56 x 1/8 BH	17-8727
8 ea	Screw 4-40 x 3/16 BH	17-8509
1 ea	Receipt UG 568/U Panel CF	13-7752
1 ea	Label – Serial Number	03-6005
1 inch	Buss Wire #22	03-5363



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