

# Model 182 Radon Flask Detector



Ludlum Measurements, Inc.



Model 182 Radon Flask  
Detector open (left) and  
closed (right)



## Introduction

The Model 182 Radon Flask Counter is a light-tight sample box that uses scintillation techniques for the detection of radiation material. It consists of a light-tight cylindrical well, a two-inch photomultiplier tube (PMT) optically coupled to a light pipe, and an automatic high voltage On-Off switch.

During sample counting the radon flask is placed on the acrylic light pipe. The upper tube body assembly is held in place with two thumbscrews. A push-rod assembly will then automatically activate a microswitch allowing high voltage (HV) to be applied to the PMT. The HV is automatically disconnected upon removal of the tube. The cover may be removed without turning off the high voltage on the accompanying scaler/count-rate meter type instrument.

The Series "C" connector uses a one-wire system combining the HV and signal. A capacitor located in the tube socket blocks the signal part of the PMT. A terminal strip containing a filter circuit prevents unwanted noise from the microswitch's actuations.

## Specifications

Part Number 47-1633

**INDICATED USE:** detection of radiation materials

**PHOTOMULTIPLIER TUBE (PMT):** 5.1 cm (2 in.) diameter, 14-pin 10-stage dynode string

**OPERATING RANGE:** 400 to 1250 V

**MAXIMUM PMT VOLTAGE:** 1500 V

**CONNECTOR:** standard Series "C"

**DARK ADAPTION:** function of scintillation material (ranges from 20 minutes to 48 hours)

**MAXIMUM SAMPLE SIZE:** 6.1 X 12.7 cm (2.4 x 5 in.) (Dia x H)

**FINISH:** black powder coat (inside and outside)

**TEMPERATURE RANGE:** -20 TO 50 °C (-4 TO 122 °F); may be certified for operation from -40 to 65 °C (-40 to 150 °F)

**ENVIRONMENTAL:** maximum humidity of less than 95% (non-condensing)

**DYNODE STRING RESISTANCE:** 60 Megohm

**SIZE:** 8.9 x 38.1 cm (3.5 x 15 in.) (Dia x H) with a 15.2 x 15.2 cm (6 x 6 in.) square base

**WEIGHT:** 4.5 kg (10 lb)

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

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