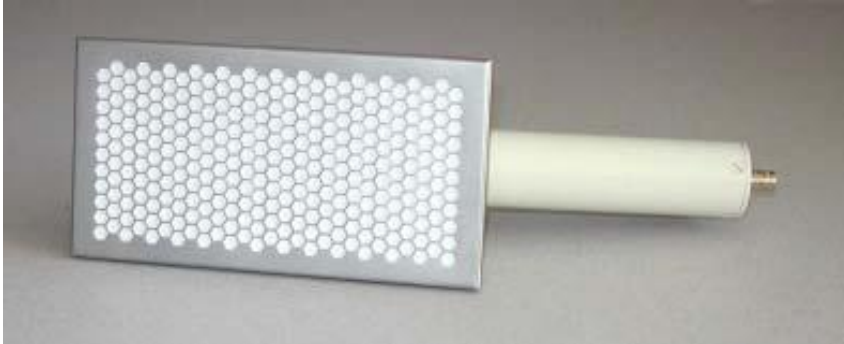


# 100 cm<sup>2</sup> Beta/Gamma Scintillation Probe

Model 190-100BGS



- Large detector area
- Plastic scintillator
- Model 190 Survey Meter compatibility
- Detects beta particles and low energy gamma radiation
- Lightweight, rugged aluminum housing
- High efficiency HEX protective grill

## Introduction

The Model 190-100BGS is a large area scintillation detector suitable for measurement of beta particles and low energy gamma radiation. When used in combination with the Model 190 or 190F, it is an excellent choice for surveying of large surfaces, frisker applications, and environmental assessments where regulations, or common practice, require the use of a large area detector.

The probe has high efficiencies for key isotopes used in the nuclear medicine field. This detector, coupled with the Model 190, makes a particularly effective measurement solution.

## Applications

The Model 190-100BGS is designed to measure isotopes that are typically found in hospital nuclear medicine departments, radiopharmaceutical production facilities, and environmental surveying applications where large surface area Beta/Gamma detectors are required. The 190-100BGS is specifically designed for use with the Model 190 Survey and Count Rate Meter or the Model 190F Frisker Area Monitor/Frisker Count Rate Meter.

## Features

- Compatible with Model 190 and 190F instruments for both general surveys and frisker applications
- Open area of 100 cm<sup>2</sup> meets international requirements
- Ergonomic handle design reduces fatigue during surveys

# Specifications

**Detector** Plastic scintillator

**Active area** Approximately 126 cm<sup>2</sup>

**Open area** Approximately 100 cm<sup>2</sup> (approximately 80% open)

**Window** 1.2 mg/cm<sup>2</sup> mylar, metalized

**Calibration** The probe is calibrated to <sup>137</sup>Cs gamma radiation. Other radionuclide calibrations available upon request

**Cable** (Model 50-183) Shielded, approximately 4.5 ft (1.3 m) long with MHV connector

**Adapter module** (Model 190060) Required to interface to the Model 190 or Model 190F

**Operating voltage** 1300 V (nominal)

**Operating temperature** - 4° to 122°F (- 20° to 50°C)

**Weight** Approximately 1.1 lb (0.5 kg)

## Efficiency gamma

### Minimum gamma sensitivity and efficiency

Nuclide	Energy (max Mev)	Sensitivity cpm/μCi	Efficiency %*
<sup>129</sup> I	0.039	44,400	2.0
<sup>241</sup> Am	0.060	133,200	6.0
<sup>133</sup> Ba	0.356	44,400	2.0
<sup>137</sup> Cs	0.662	44,400	2.0
<sup>60</sup> Co	1.200	66,600	3.0

\* Efficiency = cpm/dpm minimum

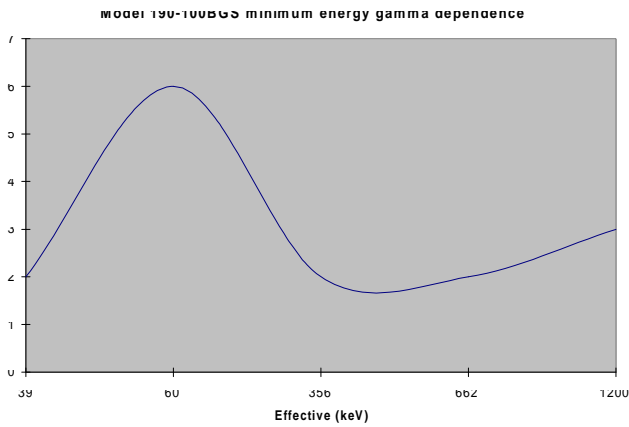
## Efficiency beta

### Minimum beta sensitivity and efficiency

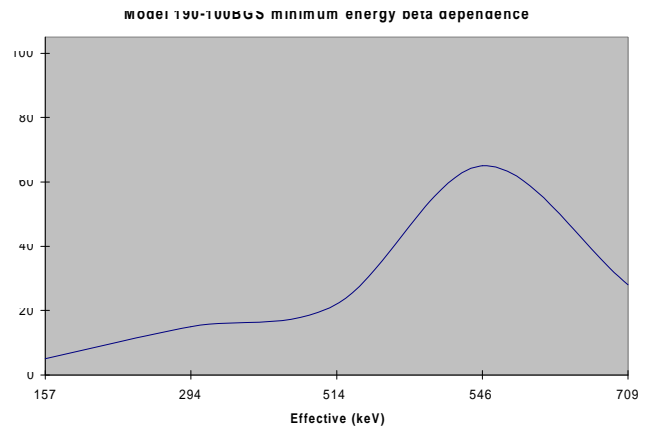
Nuclide	Energy (max Mev)	Sensitivity cpm/μCi	Efficiency %*
<sup>14</sup> C	0.157	111,000	5.0
<sup>99</sup> Tc	0.294	333,000	15.0
<sup>137</sup> Cs	0.514/1.17	488,400	22.0
<sup>90</sup> Sr	0.546	1,443,000	65.0
<sup>36</sup> Cl	0.709	621,600	28.0

\* Efficiency = cpm/dpm minimum

## Typical energy dependence gamma



## Typical energy dependence beta



## Available model(s)

**190-100BGS** cm<sup>2</sup> Beta/Gamma Scintillation Probe

For more information, receive our full product catalog, or order online, contact **Radiation Management Services** business of **Fluke Biomedical**: 440.248.9300 or [www.flukebiomedical.com/rms](http://www.flukebiomedical.com/rms).

Specifications are subject to change without notice.

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