

# Gas-Filled Radiation Detectors

## Pancake Geiger-Mueller Tubes

Saint-Gobain offers a broad line of standard Geiger-Mueller detectors and probes. The design of a Geiger-Mueller tube is often optimized for a specific application.

Shaped like a pancake, the Pancake GM tube provides for a larger detection area compared to a regular cylindrical GM tube. In addition to gamma radiation, the large circular mica window allows for detection of beta particles and high energy alpha particles.

### Applications -

#### Personal Safety

- Body Frisking
- Survey Instruments
- Area Monitors

#### Recording Exposure Levels

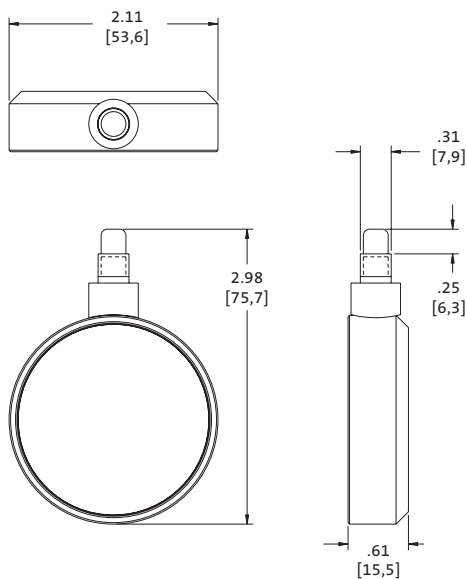
- Digital Pocket Dosimeters
- Area Monitors
- Survey Instruments

#### Contamination Monitoring

- Area Monitors
- Environmental Monitors
- Stack Monitors

#### Non-destructive Density & Thickness Gauging

- Highway asphalt and concrete aggregate measurements
- On-line density or thickness monitoring in manufacturing



Standard Pancake Mechanical Dimensions  
inches [mm]



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Electrical Characteristics		
Drawing No.	S800-1192	S800-1193
Maximum Starting Voltage (volts)	750	425
Recommended Operating Voltage (volts)	900	500
Operating Voltage Range (volts)	850 - 1000	475 - 675
Maximum Dead Time @ 900 V (micro sec)	20	40
Maximum Plateau Slope (1%/100 volts)	10	10
Minimum Anode Resistor (MΩ)	3.3	3.3
Recommended Anode Resistor (MΩ)	3.3	3.3
Gamma Sensitivity Cs137 (cps/mR/hr)	65	65
Max Background Shielded 50mmpb+3mmAl (cpm)	30	30
Tube Capacitance (pf)	3	3
Mechanical Characteristics		
Weight (grams)	125	125
Active Length (inch/mm)	0.5 / 12.7	0.5 / 12.7
Active Diameter (inch/mm)	1.75 / 44.5	1.75 / 44.5
Mica Window Thickness (mg/sq cm)	2	2
Fill Gas	Ne / Ar + Halogen	Ne / Ar + Halogen
Operating Temperature Range (°C)	-55 to +75	-55 to +75
Type of Connector	Grid Cap	Grid Cap

### Recommended Operating Voltage

The recommended operating voltage generally appears in the center of the plateau. One can deviate from this suggestion as long as the applied voltage is still on the plateau.



Saint-Gobain Crystals

[www.crystals.saint-gobain.com](http://www.crystals.saint-gobain.com)

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