



RADIATION
SOLUTIONS

Radiation Survey Meters



- No regulatory requirement for you to own a radiation survey meter
- Must have access to a radiation survey meter in the event of an emergency
- Highly recommend you have one or two on hand at all times anyway
- Key tool for the RSO
- Only way to independently verify radiation levels are safe



Which Meter is Best?



Ion Chambers



Pro's:

1. Most accurate detector for measuring dose rate
2. Best measurement for calculating estimated doses

Con's:

1. Slow response in low background levels
2. More expensive
3. Need to treat with more care
4. Do not measure contamination

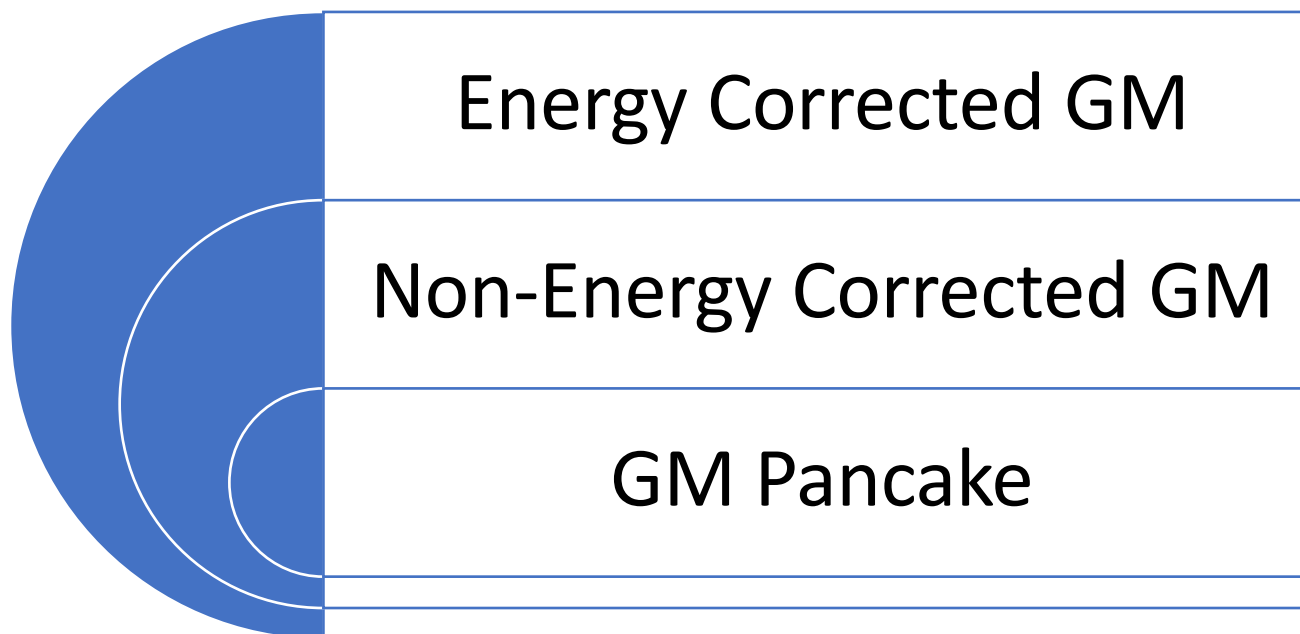


Pro's:

1. Very sensitive and responsive to low background changes
2. If equipped with activity readout can measure contamination

Con's:

1. Different response to different energies, not good for true dose rate measurements unless measured energy is equal to energy it was calibrated to (typically 660 keV, Cs-137)





Pro's:

1. GM tube is surrounded by an energy compensation shield to flatten out the detector response to varying energies
2. Preferred detector type when establishing dose

Con's:

1. Cost a little more.
2. Not the right type of detector for measuring contamination.

Geiger Counter – Non Energy Corrected



Pro's:

1. Least expensive GM type of detector

Con's:

1. Can produce a very incorrect reading at lower energies
2. Not recommended

Geiger Counter – GM Pancake



Pro's:

1. Great detector for seeking contamination and displaying activity in cpm
2. Most will also provide dose rate measurements making them both versatile and affordable

Con's:

1. Very inefficient when measuring gamma dose rate
2. Not energy corrected

Readout Display Types

Analog

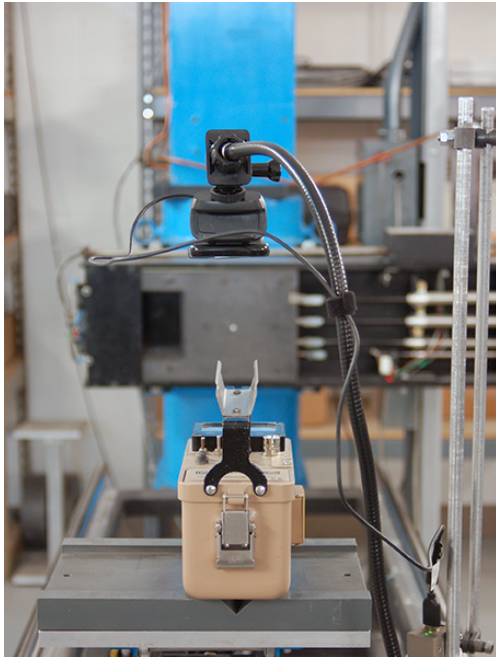


Digital





1. Verify your meter is qualified for your operational environment
 - Temperature
 - Pressure
 - Moisture
 - Humidity
 - EMI/FRI Field
 - Ambient Noise Levels
2. Rapid changes to temperature or pressure can damage the detector
3. Cold weather may require a warm up time before use
4. ANSI N42-17 Test Report



- Annual Calibration
- NIST Traceable Source
- ISO-17025 Accredited Calibration Laboratory
- Spare survey meter a good idea
- Store Calibration Records for 3 Years

Radiation Meter Storage



- Scientific Instrument – take good care
- Keep meter in well protected area and in good environmental conditions
- Remove batteries if storing for longer periods

Radiation Alert **RANGER**



- Simple to use and operate
- Digital readout, backlit LCD
- Measures both Dose rate and contamination
- Intuitive user interface
- Affordably priced
- Built in the USA
- Excellent manufacture reputation and support

Radiation Solutions is an authorized dealer and can supply you with these instruments



- Not required by regulations
- Highly recommend you have two on hand
- Waiting to get one after an incident is a bad strategy
- Very affordable
- Know your problems before inspectors discover them for you
- A primary tool for the RSO

This completes this section.
Proceed to the next one when you are ready.



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