

RAD Safety Water Monitor

Model - MEDA-SP

FEATURES:

- QUICK CHECK OF QUESTIONABLE WATER
- TWO SEPARATE DETECTORS
 - INTERNAL - T-1190 ALPHA, BETA, GAMMA DETECTOR
 - EXTERNAL - SUBMERSIBLE GAMMA DETECTOR
- LIGHTWEIGHT – FITS IN BRIEFCASE
- RUGGED, IP 63
- CE MARK



APPLICATION ~ QUICK CHECK:

- Roadside Chemical Spill
- Industrial Accident
- Terrorist Water Poisoning
- Dumping of Medical/Industrial Waste

SITE LOCATION:

- Use MEDA-SP Anywhere

MEASUREMENT CAPABILITIES:

- Gamma emitters, submersible sensor probes for reservoir, stream or sump.
- Alpha & Beta emitters in water samples
- Quick determination of water contamination
- Easy detection of surface contamination-Alpha, Beta, Gamma; hands, boots, clothing and equipment
- Identify personnel needing decontamination
- Search out stored radioactive materials or dirty bombs using Gamma probe

DESCRIPTION:

The MEDA-SP RATEMETER features an internally mounted 2 inch pancake GM detector with window looking downward from bottom of case and an external crystal scintillation probe for detection of low energy Gammas. A sliding shield protects pancake detector when not in use. This system is half the weight of other systems.

DESCRIPTION OF USE

1. Arrive at location of accident or attack

- Submerge Gamma sensor into reservoir, stream or sump.
- Increasing count rate indicates contamination by Gamma emitters.

2. Use PAN-AL (disposable Planchet)

- Place sample of suspect water in evaporator (EVAP-SP) for one minute
- Place sample under built-in pancake detector on bottom of ratemeter
- Increased count rate indicates contamination with Alpha or Beta emitters



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To Separate Alphas, Betas, and Gammas

1. Built-in sliding beta filter is standard
2. Alpha filter is optional

If count rate exceeds 2 times background, water is not safe.

3. Use built-in pancake GM detector on bottom of ratemeter to check people, clothing and objects for surface contamination.
4. If count rate exceeds 2 times background, the person should take off the contaminated clothing.

If count rate continues to exceed 2 times the background, hose them down and measure again.

5. Gamma probe count rate will increase as you approach a cache of radioactive materials. Knowing this you can search a car or check-out suspicious objects.

SPECIFICATIONS:

- **Read Out:** Digital recessed 2-1/2" display.
- **Ranges:** 4 linear for each detector:
 - ❖ 0-500; 5,000; 50,000; 500,000 cpm for external
 - ❖ 0-0.15; 1.5; 15; 150 mR/hr. for internal detector.
 - ❖ Other scales and overlays available: Sieverts, etc.
- **Face Plate Switches:** On/Off; Battery Test with Light; Pulse Rate Light;
Range Switch Positions: X1; X10; X100; X1,000;
Reset; Dose Rate or Integrate without Accumulated; Volume Control
Detector Switch (Toggle): Internal (pancake), External (scintillator)
Submersible Probe (PGS-3SUB)
Time Constant Switch: Fast, Slow (approx. 2 & 11 sec.)
- **Detectors:**
 - 2" O.D. Pancake Geiger for internal Alpha/beta,
 - Submersible, high sensitivity Gamma scintillation probe 1"x1". NaI (TI) crystal standard.
 - 2"x2" crystal optional.
- **Calibration:** Single master Cal Pot for each detector, plus individual Cal Pot for each scale. Pots adjust from outside case.
- **Power:** (6) AA
 - ❖ Battery life - 100 hrs with normal operation.
- **Dimensions:** 3" (7.6cm) wide x 5-1/4" (13.3cm) long x 2-1/4" (6cm) deep.
- **Total Weight:** 2.5 lbs. (including probe and battery)

ACCESSORIES INCLUDE:

- EVAP-SP: Sample evaporator with vehicle adaptor or battery.
- PAN-AL: Disposable aluminum Planchets for sample evaporation.



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OPTIONS:

- PRS-232 Serial Port
- AN-SP: Re-usable planchets.
- PGS-3LSUB: 2"x2" crystal probe
- STB-3: Shielded pancake tube detector for enhanced Alpha beta sensitivity
- BAT-EVAP: Battery for evaporation process.

MEDA-SP

| | INTERNAL DETECTOR | EXTERNAL DETECTOR |
|---------------------------------|---|---|
| Radiation Detected | Alpha, Beta, Low Energy Gamma | Gamma |
| Sensor Size | 2" dia x 1/2" thick | 1" dia x 1" thick for water OPTIONAL: 2" dia x 2" thick for spills & pollution in water |
| Model | T-1190 Geiger Tube | PGS-3SUB Scintillator (NaI(Tl)) |
| Window | Mica 1.5 mg/cm ² | 0.06" Anodized Aluminum |
| Gamma Sensitivity | 500 cps/mR/h | |
| Lowest Beta | 70 KeV | |
| Range of Gamma or X-ray | 40KeV – 2 MeV | |
| | | |
| Optional | Alpha Filter Shielded STB-3 Detector | |
| Use/Method | Detects residue after quick evaporation of water in sample planchet | Submerge detector in reservoir, stream, or sump |
| Mounting | Faces downward from inside ratemeter case | Clips onto side of instrument |
| | | |
| | Radiation Detected T-1190 | |
| No Filter | (1) Alpha, Beta, Low Energy Gamma | |
| Optional Alpha Filter | (2) Beta, Low Energy Gamma | |
| Optional Beta Filter | (3) Higher Energy Gamma, Background Radiation | |
| Calculation Formulas | | |
| Net Alpha | (1) minus (2) | |
| Net Beta | (2) minus (3) | |
| Gross Counts | (1) | |



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