Next Generation
Drinking Water Radiation Safety Monitor
Model Nexgen-SSS

Description

Model NEXGEN-SSS is a multi-detector water monitor /controller for simultaneous measuring of alpha, beta and gamma-emitting radio nuclides. The electronics are microprocessor with color LCD display. The pre-amps are plug in modules allowing change or addition of functions at a later date, and allow rapid repair by module replacement in the field. The modular system is covered by TA's unique exchange warranty system in addition to the full one year warranty. On-site warrantees available in many areas.

Detector shields are made of lead encased in welded housing for long useful life and easy decontamination. The Alpha and Beta flow cells are easily changed via disconnect fittings. Gamma Spec shield can be opened for cleaning with minimum effort. All connections are sealed against leaks. The standard water moving system is based on a high precision pump. It has a 10 liter per minute capacity.

A wide range of pump capacities are available to meet users specific needs. The entire system is mounted in a wheeled, self-contained rugged cabinet. The NEXGEN-SSS comes complete with all cabling tubing and connectors in place and is ready to operate. 115 Volt 60Hz is standard; 220 Volt 50/60 Hz is optional.
Three principal detectors make up the NEXGEN-SSS system.

1. **Alpha Detectors:**
   A special plastic Alpha scintillator that consists of a light-tight detector assembly interfaces with the sample via quick disconnect coax cables and medical grade hoses. A matched pair of 5" diameter photo-multiplier tubes display the sample.
2. **Beta Scintillation Detectors:**
   Sensitive area: 1,100cm^2.
3. **Gamma Detectors:**
   Choice of NaI (Tl) Scintillation or HPGe Solid State:

Description of Alpha, Beta Pulse Analysis

This system conditions and analyzes the output from the photo-multiplier tubes by pulse height, duration and coincidence. In this way the system eliminates counting most background and noise counts. Sensitivity is enhanced by the use of stochastic resonance plus high gain, low noise PM tubes and pre-amps.

Isotope Identification System

Peak Detection and Isotope Identification

TA SMART-PEAK™ Software detects radiation peaks even at very low gamma concentration, in the event of high activity and during system calibration; the isotope identifier function takes over and displays the exact radioactive nuclides in water.

Gamma Detector: Water is measured for Gamma-emitter content, using a MCA analyzer with greater than 1,000 channels and a user setter energy range. For example the MCA can be set for Gamma energy of 10 KeV to 3 MeV.

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