

SCINTILLATION PROBES

GAMMA NaI(Tl) & X-RAY

DESCRIPTION:

- **PGS-3**

Gamma Scintillation NaI(Tl) Probe utilizing a highly gamma sensitive crystal (NaI(Tl)). 1" diameter x 1" long hermetically sealed crystal optically coupled to photomultiplier tube. Gamma sensitivity is 100 times greater than GM tubes Will also detect X-rays > 25KeV.

- **PGS-3-SUB**

Same as PGS-3 but ruggedized and waterproof. Can sustain immersion for more than 1 hour.

- **PGS-3L**

Same as the PGS-3 except it has a 2" x 2" crystal NaI(Tl). Eight times the sensitivity of the PGS-3. Since sensitivity of the PGS-3L is in the order of 1,000,000 cpm per mR/hr, probe should only be used with instruments allowing high count rates, or having background suppress circuits or pulse height selection circuit (PRS-7 or FM-9W).

- **PGS-3Lmo**

Same as the PGS-3L specific for the MoRad instrument (Mobile Radiation Detector)

- **PGS-3L-SUB**

Same as PGS-3L but ruggedized and waterproof. Can sustain immersion for more than 1 hour.

- **PGS-3L-SW**

Same as the PGS-3Lmo specific for the MoRad instrument (Mobile Radiation Detector) but on a swivel mount.

- **PGS-3T**

Low Energy Gamma Scintillation NaI(Tl) Probe, 1" diameter x 1mm NaI(Tl) crystal protected by a 5 mil. aluminum window, sees X-rays and Gammas > 10KeV and Betas > 100KeV.

- **PGS-22**

Low Energy Gamma Scintillation NaI(Tl) Probe with built in linear preamplifier and discriminator maximizes sensitivity to low energy gamma radiation and allows use with gamma spectrometers. Thin crystal NaI(Tl) (2" diameter x 2mm thick) decreases sensitivity to background. The internal linear preamp is powered by a long life battery (6 months of normal operation) and may be used with portable instruments, such as the PUG-7 and with line operated instruments. Sees X-rays and Gamma >10KeV.

- **PGS-3I**

This Low Energy Gamma NaI(Tl) Probe incorporates a 37mm x 2mm (1.46" x .07") NaI(Tl) crystal and thin (5mil) window for use with T/A's iodine localizer and monitor as well as other systems requiring sensitivity to low energy photons, such as those from I-125 as well as sensitivity to high energy photons, such as I-131 and other isotopes. It is designed to accept shields and collimators and to couple to charcoal impregnated cartridges or filters for determining total radioiodine content of air, both gaseous and particulate. Sees X-rays and Gamma >10KeV.



PGS-3, PGS-3-SUB, PGS-3T



PGS-I



TECHNICAL ASSOCIATES
OVERHOFF TECHNOLOGY

Divisions of  US NUCLEAR CORP

7051 Eton Ave., Canoga Park, CA 91303
818-883-7043 (Phone) 818-883-6103 (Fax)

sales@usnuclearcorp.com

WWW.TECH-ASSOCIATES.COM

SCINTILLATION PROBES

GAMMA NaI(Tl) & X-RAY

- **PGS-3x3**

Sensitive Large Crystal Gamma Scintillation NaI(Tl) Probe. Over 21 cubic inches of NaI(Tl) makes this probe very useful for truck, vehicle, exit, and remote monitoring. Rapidly detects minute changes in very low ambient radiation fields. Includes 3" x 3" diameter NaI(Tl) crystal and optically coupled photomultiplier tube. The highly efficient crystal with large active volume provides background rate of approximately 60,000 cpm. Therefore, probe should be used only with instruments allowing high count rates, or having background suppress circuit or pulse height selection circuit, such as the LAM-SCA or FM-9W.

- **PGS-32T**

Low Energy Gamma Scintillation NaI(Tl) Probe. The thin crystal (55 mm diameter by 2 mm thick) decreases sensitivity to background while maximizing response to X-rays and low energy photons \geq KeV being examined. This probe may be used with portable instruments such as the T/A PUG-7 and PRS-5 and with line operated instruments as well as with all other systems designed for Geiger and scintillation counting. Sees X-rays and Gamma \geq 15KeV.

- **PGS-3IBe**

Very Low Energy Gamma and X-Ray Probe. 1.5" diameter x 1mm thick NaI(Tl) probe. Sees X-rays and Gammas > 6KeV.

- **PGS-3TBe**

Very Low Energy Gamma and X-Ray Probe. 1" diameter x 1mm thick NaI(Tl) probe. Sees X-rays and Gammas > 6KeV.

- **PGS-3LS**

- **LED Stabilized for pulse height.** 2" diameter x 2mm NaI(Tl) probe.

- **PGS-3LW**

Low Energy Gamma Scintillation NaI(Tl) Probe with a well. It yields high count efficiency for liquid and solid samples. The well is 1.5" deep by 21/32" in diameter, accepts vials and test tubes and is set within the probe's NaI(Tl) crystal, which has 2" diameter x 2" thick. The well is lined with 0.01" aluminum. Used with model SSS-11.

- **PGS-8M**

Plutonium Spot Detector : the 1/4" diameter x 2mm thick NaI(Tl) scintillation crystal is coupled to a PM tube with spectrally matched light pipe. The crystal, light pipe, and a collimator are contained within the 3/4" diameter x nominal 1.5" long detector assembly. The detector is mounted at the end of a 2" diameter by 10" long handle which contains PM tube, dynode string and pre-amplifier.



PGS-IBe, PGS-3TBe



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