



DYNAMIC FLOOD PHANTOM



For precise evaluation of the performance of gamma cameras.

Ensures rapid, thorough mixing of the solution...within just 2 minutes.

Improves QC efficiency and minimizes radiation exposure to the user.

Provides control over detector homogeneity and allows for the acquisition of nuclide-dependent correction matrices.

Bubble-free field of view, due to a sealed chamber system with an injection port.

High geometric stability, due to defined expansion volume of the solution.

High-quality materials and construction prevent "bowing" of the phantom.

Suitable for large field of view cameras.

For performing uniformity quality control checks of gamma cameras at the same energy level as patient scan.

Versatile...different isotope solutions can be used.

A TRUE BREAKTHROUGH IN GAMMA CAMERA QUALITY CONTROL...

Improved quality control is made quick and easy by using Nuclear Associates' Dynamic Flood Phantom with the built-in pump. The pump automatically mixes the radioactive solution, thus eliminating tedious manual mixing that is required when using conventional phantoms.

How it works...The phantom (cold) is first positioned, and the camera made ready for acquisition. Before

turning the phantom on, activity is injected via a shielded syringe. Next, the integrated mixing pump is turned on and left running for approximately 5 minutes. Then, an acquisition is started, which can be run overnight.

The phantom can be used to replace a cobalt-57 phantom conventionally used to generate and store correction tables used to correct for inhomogeneity.

This may eliminate the need to purchase or replace a solid cobalt flood source every 12 to 18 months.

A significant savings for your department.

The phantom can be loaded with a tracer having the same energy used in patient studies. For example, 201 Tl can be used to generate correction tables used in cardiac studies.

It is well known that flood tables acquired at 120 keV (with cobalt-57)

can be altered when the energy window is set from 140 keV

to 80 keV, for example. Using SPECT, any spatial deviation undergoes error propagation with all of the acquired projections.

This can result in ring artifacts observed in reconstructed slices.

The Dynamic Flood Phantom is a rugged phantom that is manufactured using the highest quality materials, to prevent "bowing."

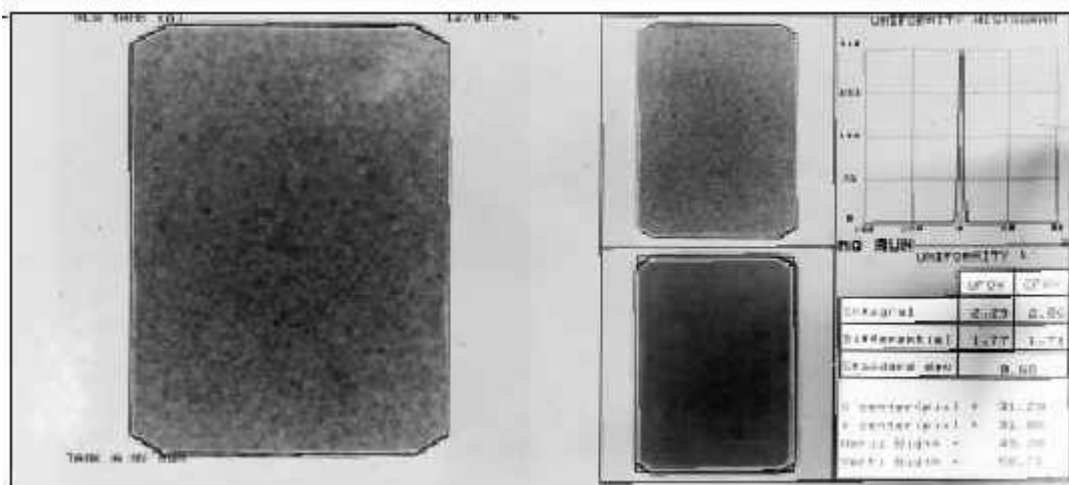
The injection-port design is useful to facilities that primarily use one isotope for uniformity testing.

The Dynamic Flood Phantom Stands Up to Testing...

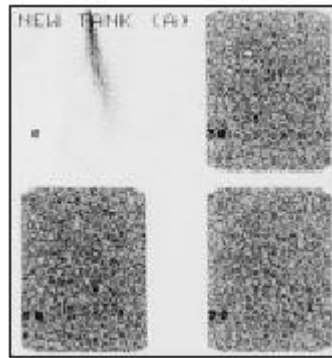
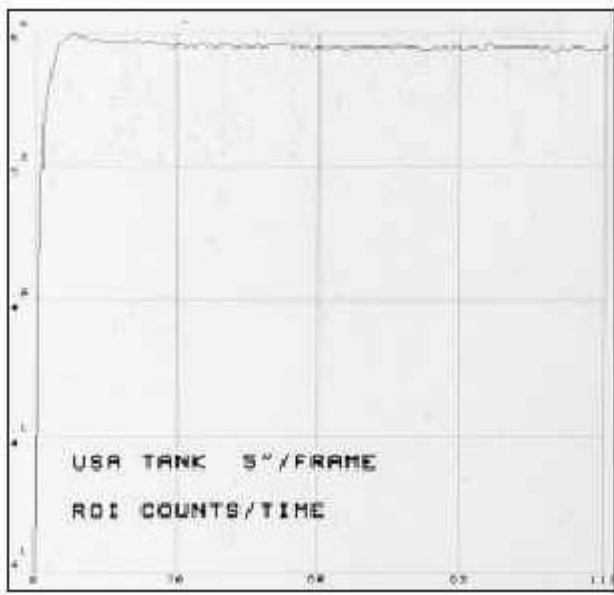
During tests at the University of Illinois at Chicago, dynamic activity (total frame counts) versus time (5-second intervals) were compared.

Both defined Region of Interest (ROI) and near total field of view

areas were taken. With the motor on, acquisition was started with the act of injection and continued for 119 frames (approximately 10 to 12 minutes).



10 million count flood. Image demonstrates complete homogeneity of the flood field.



The Dynamic Flood Phantom promotes consistent uniformity of solution during continuous acquisition of activity.

Graph illustrates consistent uniformity through the whole field after injection of ^{99m}Tc

...With Remarkable Results: Results of this test show remarkable consistency in total counts over time after equilibrium is reached. This dynamic study could not be performed using a conventional flood phantom without an injection port or internal motor for mixing! Features a built-in motorized pump!

SPECIFICATIONS:

Effective Field of View: 15.6" x 20.8" (390 x 520 mm)

Field of View: 17.2" x 22.4" (430 x 560 mm)

Dimensions of the Cuvette: 26.5" x 19.2" x 3.2"
(663 x 480 x 80 mm)

Dimensions Including Handles: 27.3" x 22.8" x 3.6"
(683 x 570 x 90 mm)

Wall Thickness: .8" (20 mm)

Filling Volume: 2.86 gal. (11 liters)

Filling Medium: Distilled water

Power Supply: 110 Volt, 220 Volt plug-in

Weight: 34 lbs (15.3 kg)

76-808 Dynamic Flood Phantom, 110 Volt

76-808-2200 Dynamic Flood Phantom, 220 Volt

76-808-5000 Lead-Vinyl Drape, 0.5 mm LE

Ensure Radiation Protection with a Lead-Vinyl Drape

The drape (0.5mm lead-equivalence) can be placed over

the Dynamic Flood Phantom, to provide additional radiation protection.

CUSTOM-MADE PHANTOM SIZES AVAILABLE

The Dynamic Flood Phantom is available in any specifications/ dimensions required. Simply provide us with the field of view you require, and a price quote will be sent to you.

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