Pro-NM Performance ECT

08-501

The phantom for **NM systems performance evaluation: routine quality assurance tests,** as well as extensive acceptance tests. It can be used to evaluate: pixel size, spatial linearity, RMS noise, signal to noise ratio (SNR), slice width, uniformity, spatial resolution, point spread function, slice position verification, slice incrementation, accuracy, center of rotation, verification, volume sensitivity and low contrast sensitivity.

Technical data (can be modified to customer specifications):

- main cylinder:
  - internal cylinder diameter: 206 mm – internal cylinder height: 186 mm
  - cylinder wall thickness: 7 mm
- main insert (slice width, pixel size and high resolution):
  - external diameter 200 mm
  - free square internal 80 x 80 mm
  - consists of 10x 5 mm discs, 2 spacers and 3 mounting screws
  - contains a pair of channels 20 x 10 mm thick forming two hot ramps whose slope angle tangent is equal to 0.5
  - contains four hot holes 5mm in diameter that are located in corners of the 120 x 120 mm square
  - contains four groups of hot and cold resolution patterns that are 2, 4, 6 and 8 mm thick and correspond to 2.5, 1.25, 0.83 and 0.625 LP/cm
- point source insert (PSF - point spread function):
  - the fill plug can be positioned at the center or at radial plug location
  - source screw contains a well (Ø3 x 5 mm) that can be filled with appropriate solution
  - source screw can be mounted outside of or inside the phantom (for in air or scatter measurements)
- low contrast inserts:
  - can be threaded into the phantom in a radial pattern 75 mm of the center axis
  - three cold low contrast rods comprised of three parts: 10, 15 and 20 mm in diameter and 40 mm long
  - three optional hot low contrast rods comprised of three parts: 10, 15 and 20 mm in diameter and 40mm long that can be filled from the outside
- heavy duty carrying case

Product features:

- Complies with:
  - NEMA Standards Publication (NU 1-2001) Performance Measurements of Scintillation Cameras
  - NEMA Standards Publication (NU-1 2007) Gamma Cameras
  - AAPM Report No. 9 - Computer Aided Scintillation Camera Acceptance Testing
  - AAPM Report No. 22 - Rotating Scintillation Camera SPECT Acceptance Testing and Quality Control
  - ACR–SNM (Res. 5 – 2011) technical standard for diagnostic procedures using radiopharmaceuticals
- the Manual provides detailed guidelines for carrying out each test, results assessment and registration