

Phantech

NEMA NU 4-2008 and SPECT-IQ Phantoms *Technical Specifications*



INNOVATIVE HARDWARE AND SOFTWARE FOR MEDICAL IMAGING



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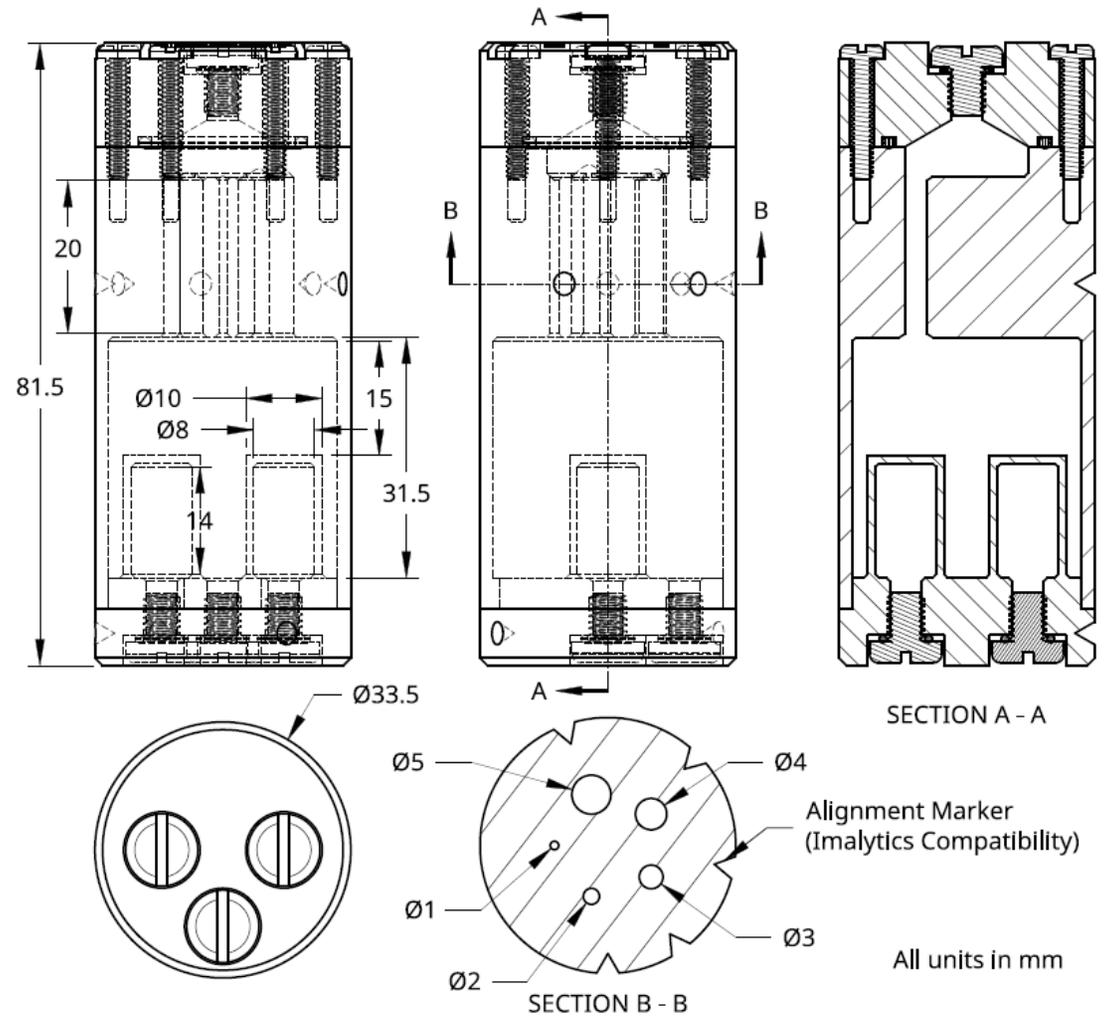
Product: NEMA NU 4-2008 Phantom

Note:

All units are in mm unless otherwise noted. This assembly consists of three manufactured components (two of which are sealed permanently together) and four separate pieces of commercial hardware for assembly. The NEMA NU 4-2008 phantom has five hot rods with varying diameters and a large uniform region with two separately fillable chambers within it. See Page 3 for filling instructions

Parts List

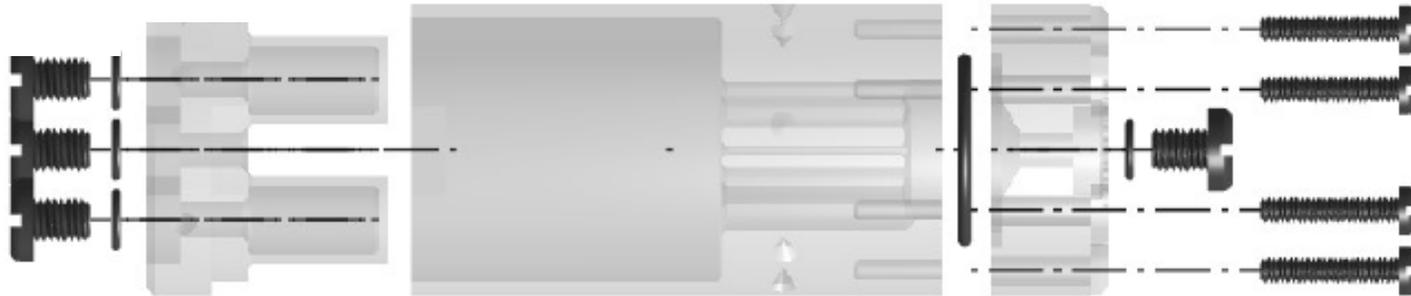
Description	Quantity	Manufacturer
Phantom Top	1	N/A (Custom)
Phantom Bottom (2 parts sealed)	1	N/A (Custom)
Large O-Ring	1	McMaster-Carr
Screw O-Ring	4	McMaster-Carr
4-40 Nylon Bolts	6	McMaster-Carr
10-32 Nylon Bolts	4	McMaster-Carr



10-32 Bolts

Bottom and Middle
(Sealed Together)

Top



Small O-Rings

Large O-Ring

4-40 Bolts

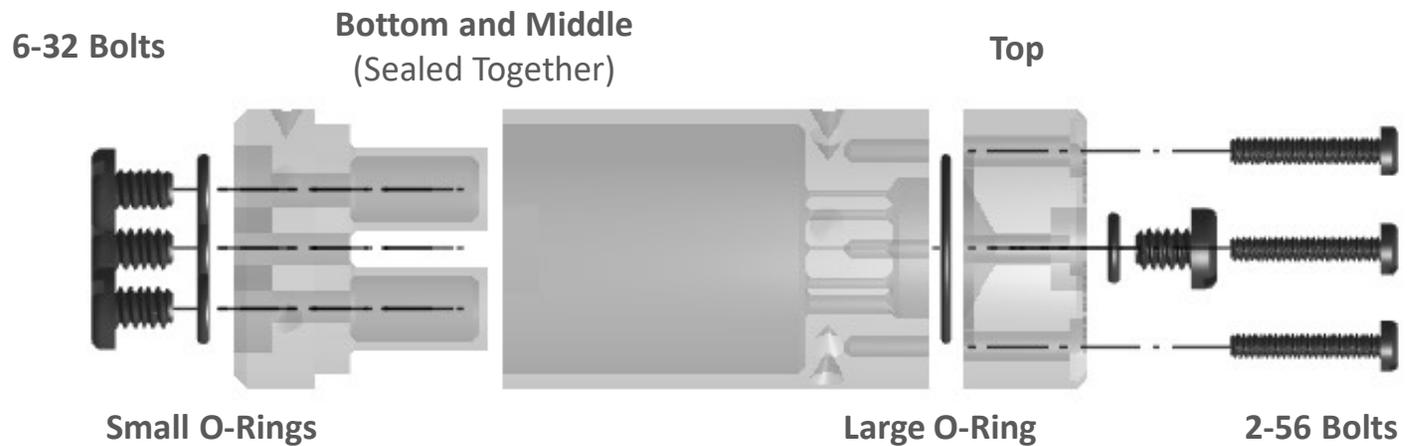
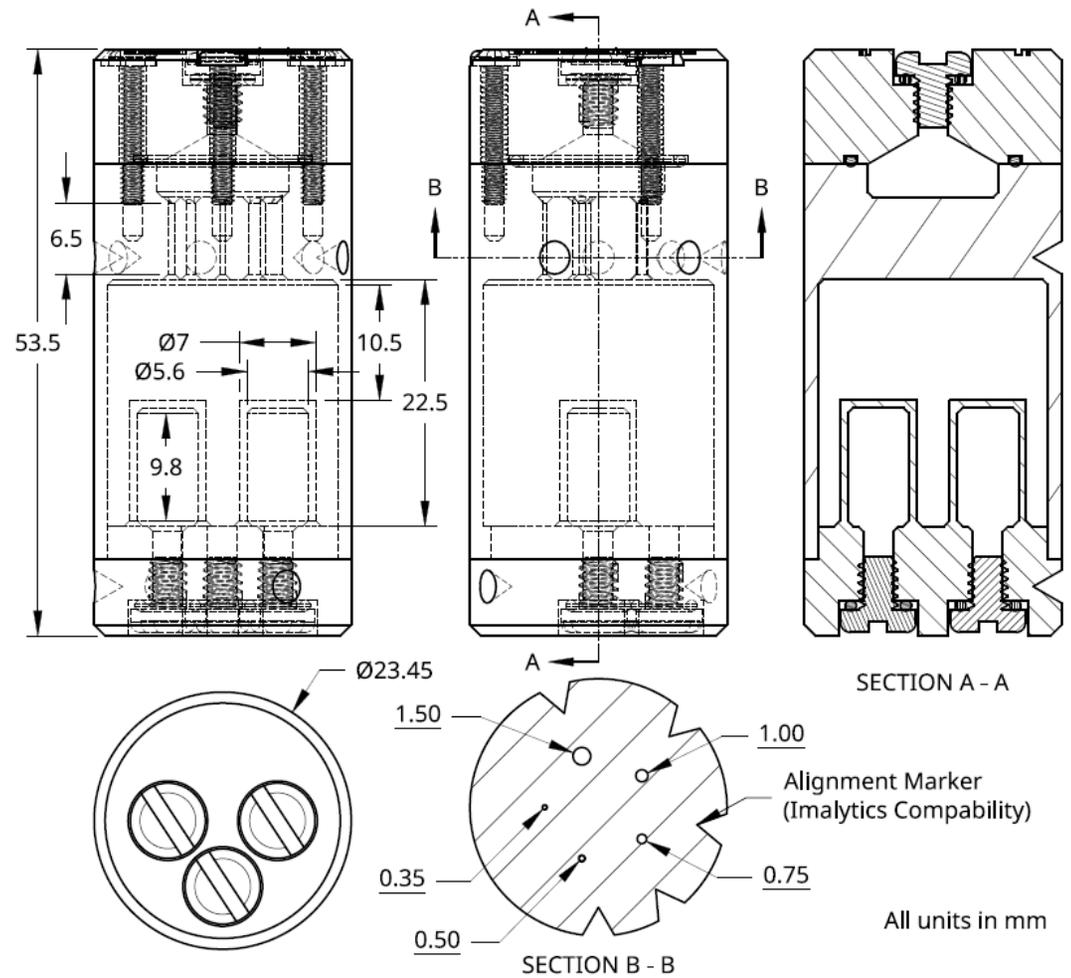


Product: SPECT-IQ Phantom

Note:

All units are in mm unless otherwise noted. This assembly consists of three manufactured components (two of which are sealed permanently together) and four separate pieces of commercial hardware for assembly. The SPECT-IQ phantom has five hot rods with varying diameters and a large uniform region with two separately fillable chambers within it. See Page 3 for filling instructions

Parts List		
Description	Quantity	Manufacturer
Phantom Top	1	N/A (Custom)
Phantom Bottom (2 parts sealed)	1	N/A (Custom)
Large O-Ring	1	McMaster-Carr
Screw O-Ring	4	McMaster-Carr
2-56 Nylon Screws	3	McMaster-Carr
6-32 Nylon Bolts	4	McMaster-Carr



Filling Considerations:

Typically filling these phantoms is a multi-stage process, which is made simpler by Phantech's multiple filling and sealing points. First, fill one of the two separate compartments from the bottom with water (one is for water, one is for air). Make sure the third screw is tightened to seal the bottom of the uniformity region. Second, remove the screws that hold the cap. With the cap/O-ring removed, fill the uniformity region through the largest rod. Ensure that each rod is filled and bubble-free. Third, replace the cap/O-ring and install the bolts until light resistance is felt and then give an extra 1/8 turn (do not overtighten). Lastly, top off the phantom through the center hole and seal it with the bolt/O-ring.

1. Fill small individual compartment and seal the bottom.



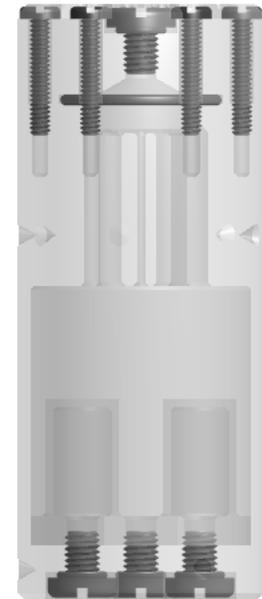
2. Fill uniformity region and rods



3. Place the top piece on and seal



4. Top off and seal final screw opening



NEMA NU 4-2008 Quality Control

Designed Rod Diameter	5mm	4mm	3mm	2mm	1mm
Pin Guage Measurement					

SPECT-IQ Quality Control

Designed Rod Diameter	1.5mm	1.0mm	0.75mm	0.5mm	0.35mm
Pin Guage Measurement					

Leak Tested