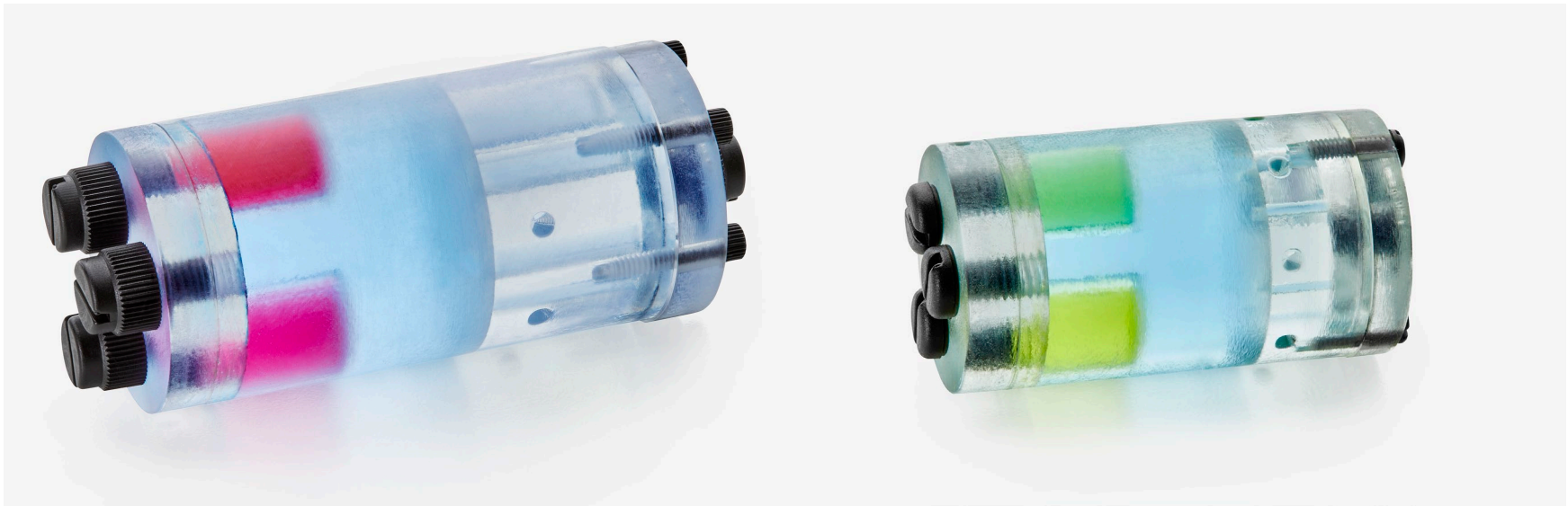




NEMA NU 4-2008 and SPECT-IQ Phantoms
Technical Specifications



INNOVATIVE HARDWARE AND SOFTWARE FOR MEDICAL IMAGING

Contact us today at:

Email: info@phantechmedical.com

Web: www.phantechmedical.com

Phantech LLC
Madison, WI, USA

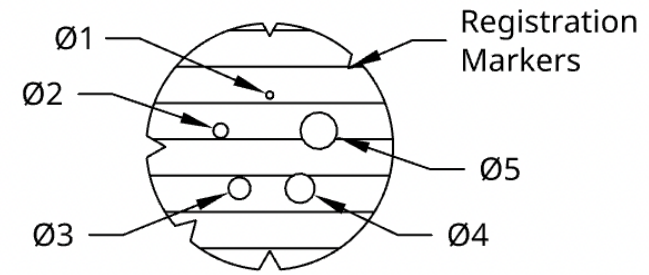
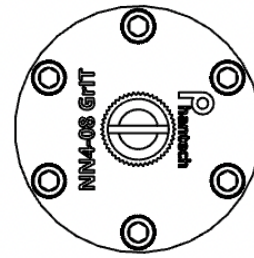
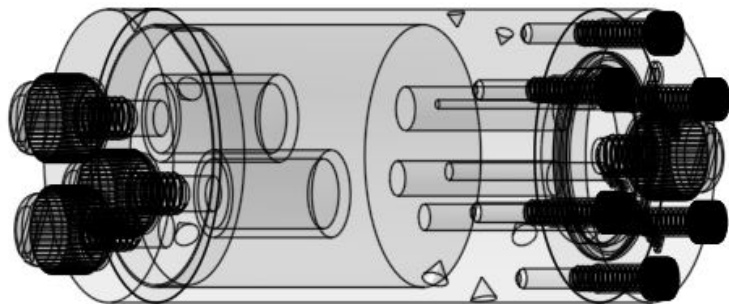
Product: NEMA NU 4-2008 Phantom

Note:

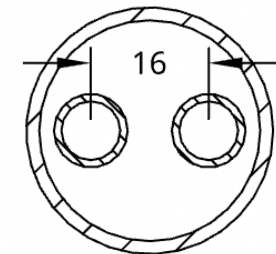
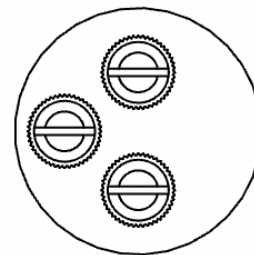
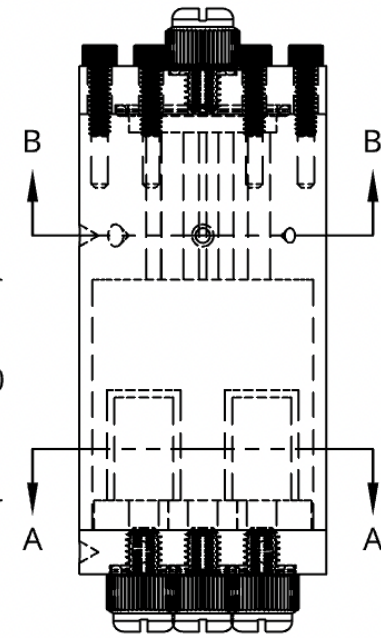
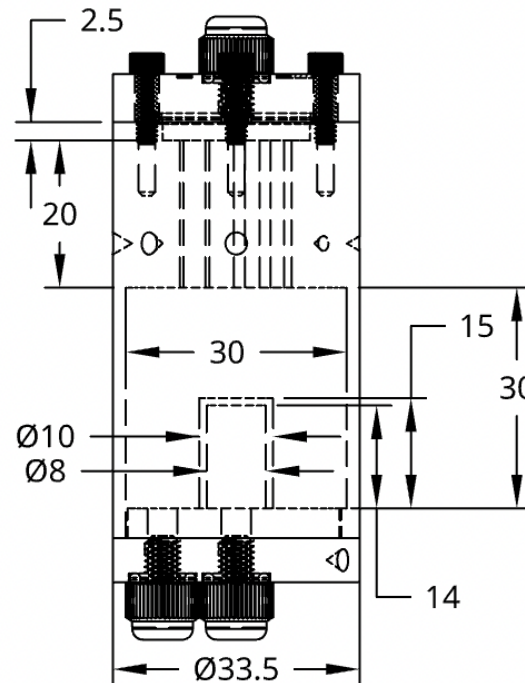
All units are in mm unless otherwise noted. This assembly consists of three manufactured components (two of which are sealed permanently together) and four separate pieces of commercial hardware for assembly. The NEMA and SPECT-IQ phantoms have five hot rods with varying diameters and a large uniform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

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



SECTION B - B



SECTION A - A

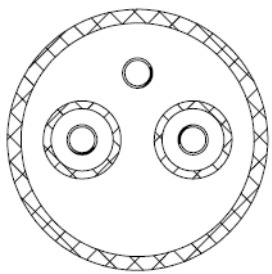
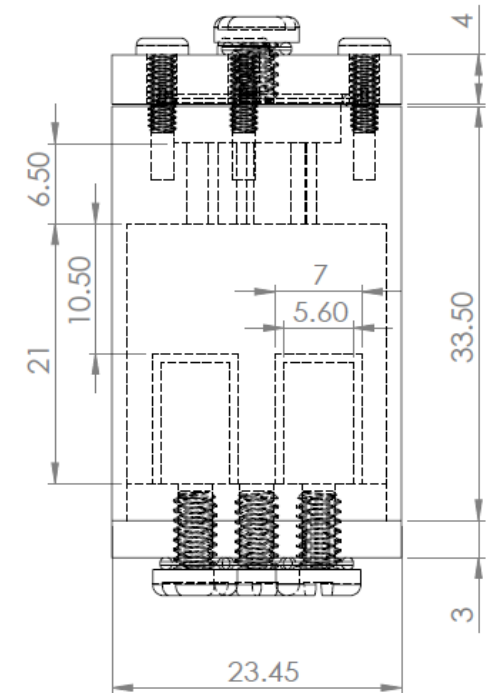
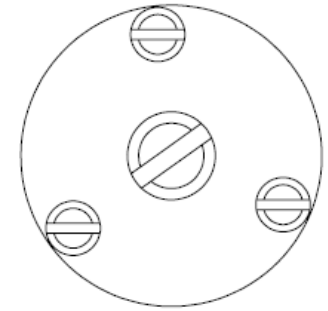
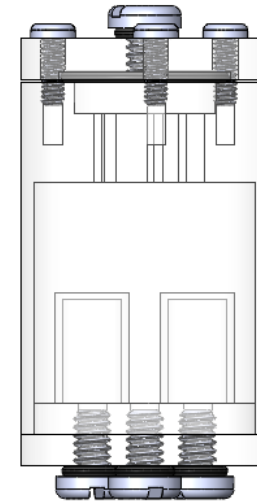


Product: SPECT-IQ Phantom

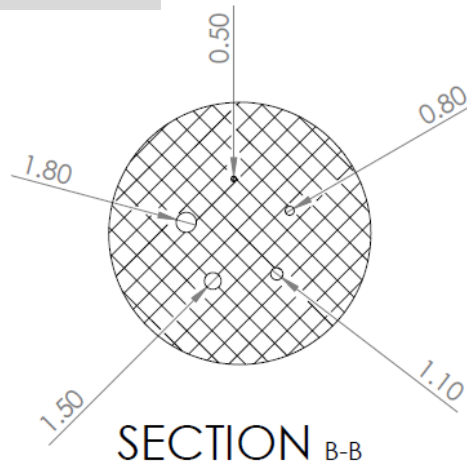
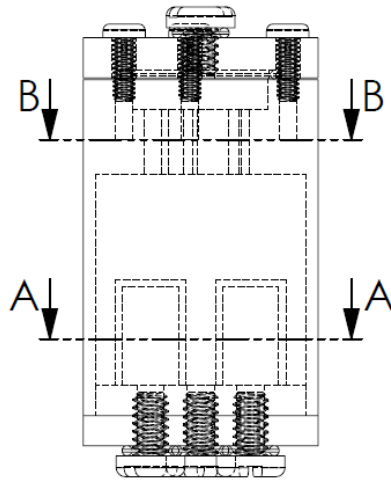
Note:

All units are in mm unless otherwise noted. This assembly consists of three custom 3D printed components (two of which are sealed permanently together) and four separate pieces of commercial hardware for assembly. This phantom has a hot rod region with five different sized rods and a large uniform region with two separately fillable chambers within it. See Page 3 for filling considerations

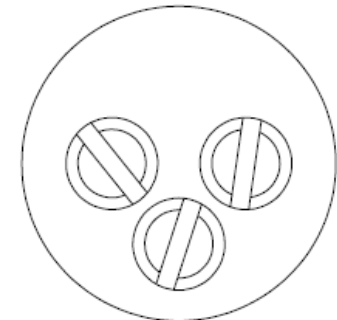
Parts List		
Description	Quantity	Manufacturer
Phantom Top	1	N/A (Custom)
Phantom Bottom (2 parts sealed)	1	N/A (Custom)
Large O-Ring	1	McMaster-Carr
Screw O-Ring	4	McMaster-Carr
2-56 Nylon Screws	3	McMaster-Carr
6-32 Nylon Bolts	4	McMaster-Carr



SECTION A-A



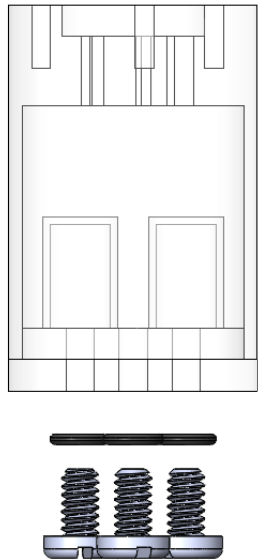
SECTION B-B



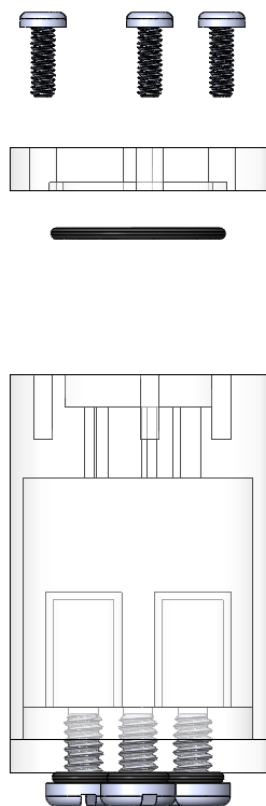
Filling Considerations:

Typically filling these phantoms is a multi-stage process, which is made simpler by the multiple sealing/filling points designed into this phantom. First, you would fill the two separate compartments from the bottom and make sure the third screw is tightened to seal the bottom of the uniformity region. Second, you would fill up the uniformity region through the largest rod from the top with the top piece completely removed. During this time you would also make sure each rod is filled with fluid. Third you would place the top piece on with the o-ring and seal it into place with the three top screws. Fourth, and lastly, you would top off the phantom through the center hole and seal it with the final screw and o-ring.

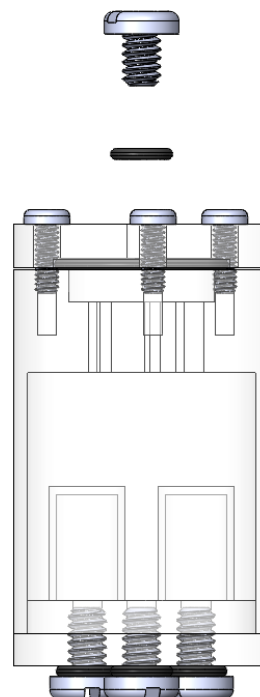
1. Fill small individual compartments and seal the bottom.



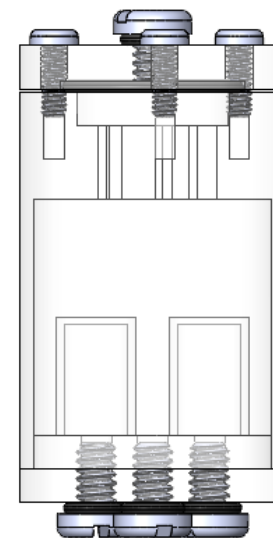
2. Fill uniformity region and rods



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