

# Sono408™ Spherical Lesion Phantom

Precisely measure spatial resolution  
in three dimensions.

- Test axial, lateral and elevational resolution simultaneously
- Tailor your testing to the unique qualities of spherical lesions
- Test high frequency transducers used in echocardiography



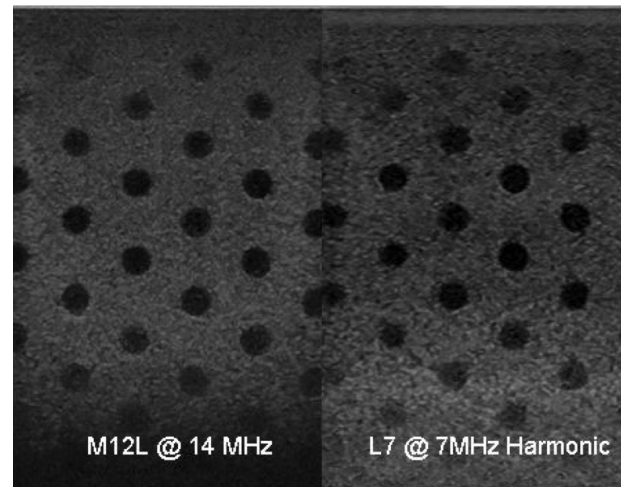
Spherical lesions demand a different kind of testing. They have negligible echogenicity and produce no distal enhancement or shadowing. Therefore, spatial resolution should be measured in the axial, lateral and elevational directions. The thinner the ultrasound beam, the better the elevational resolution of the system.

The Sono408 Phantom allows you to:

- Check for targets at both 0.5 cm and 0.75 cm depth intervals
- Test multiple resolutions at depths from 0.5 to 16 cm with 2 mm and 4 mm diameter lesions

Sun Nuclear's HE (High Equivalency) Gel™, featured in Sono408 Phantoms, is optimized for use with tissue harmonics imaging.

- HE Gel-based phantoms have a near-linear response of attenuation-to-frequencies between 2 to 18 MHz
- The response of attenuation-to-frequencies over 8 MHz supports accurate axial resolution and penetration depth representative of human tissue<sup>1,2</sup>



The Sono408 Phantom incorporates both 2mm and 4mm diameter tissue mimicking spherical lesions which lie in a single plane at the center of the phantom.

*"The tissue-like properties in these ultrasound phantoms make them ideal for testing the performance of scanners."*

James A. Zagzebski, Ph.D., FAAPM  
Professor Emeritus, Retired Chair  
Department of Medical Physics,  
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## Sono408 Spherical Lesion Phantom

- Test axial, lateral and elevational resolution simultaneously
- Test high frequency transducers used in echocardiography
- HE Gel offers high uniformity and a nonlinearity parameter (B/A) equivalent to human liver
- Rejuvenate and re-certify your phantom any time to strengthen your investment

## Specifications

Attenuation Coefficient <sup>1</sup>	0.5 or 0.7 dB/cm/MHz
Variation of Attenuation with Frequency <sup>2,3</sup>	f <sup>1.08</sup> at 0.5 dB/cm/MHz f <sup>1.1</sup> at 0.7 dB/cm/MHz
HE Gel Freezing Point	< 0°C
HE Gel Melting Point	>100°C
Frequency Range	2 - 18 MHz
Speed of Sound	1540 m/s
Scanning Surface	Composite Film
Case Material	Extruded ABS Plastic
Weight	2.8 kg (6 lbs. 5 oz)
Dimensions	23.2 x 8.25 x 18.5 cm (9.25 x 3.25 x 7.25 in)

## Target Specifications

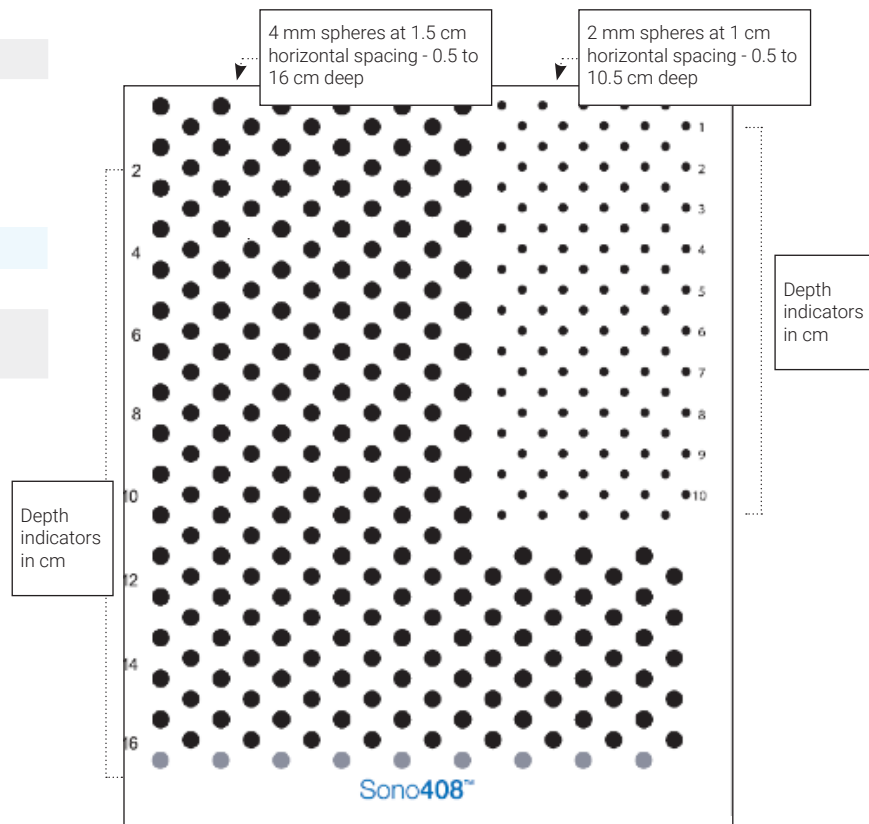
Cystic Targets	
Diameters	2 and 4 mm
Placement	2 mm at 0.5 to 10.5 cm deep 4 mm at 0.5 to 16 cm deep

## Accessories

- Padded travel case with shoulder strap



## Target Schematic



<sup>1</sup> Browne, J., Ramnarine, K., Watson, A., Hoskins, P., Assessment of the Acoustic Properties of Common Tissue-mimicking Test Phantoms. Ultrasound in Medicine and Biology, Vol. 29 (7), pp. 1053-1060, 2003.

<sup>2</sup> Goldstein, A., The Effect of Acoustic Velocity on Phantom Measurements. Ultrasound in Medicine and Biology, Vol. 26, pp. 1133-1143, 2003.

<sup>3</sup> An attenuation coefficient of 0.5 dB/cm/MHz represents healthy human liver tissue and 0.7 dB/cm/MHz represents fatty liver tissue.

<sup>4</sup> Near-linear responses of attenuation with frequencies between 2 to 18 MHz support accurate axial resolution and penetration depth representative of human tissue.