

Sono404™ Small Parts Phantoms

Enhance the accuracy of your QC measurements in vascular and cardiology ultrasounds.

- Efficiently test and train for the most difficult cases
- Ensure all transducers and system settings are fully tested across the entire clinical frequency range from 2 to 18 MHz with patented HE (High Equivalency) Gel™
- Test your high frequency transducers routinely to ensure accurate patient measurements



Sono404 Phantoms are in use today in breast care centers diagnostic ultrasound departments around the world.

Their continued widespread adoption is attributed to a design that keeps pace with advancing ultrasound imaging technologies for measuring image quality of small parts and intra-cavity ultrasound systems.

Sono404 Phantoms:

- Support compliance with ACR, AIUM, ESTRO and other QA program requirements
- Have been designed with medical physicists, and include closely spaced pin targets, ideal for testing high frequency transducers
- Feature durable and reliable HE Gel, with a near-linear-response of attenuation with with frequencies between 2 and 18 MHz
- Offer response of attenuation with frequencies over 8 MHz to support accurate axial resolution and penetration depth representative of human tissue



Closely spaced pin targets are ideal for testing high frequency transducers.

"The Sono404 was used in our breast center for over 11 years. Gammex rejuvenated and serviced it. Now it has been restored to its original state, identical to when it was purchased."

James A. Zagzebski, Ph.D., FAAPM
Professor Emeritus, Retired Chair
Department of Medical Physics,
Wisconsin Institutes for Medical Research



Sono404 Small Parts Phantoms

- Primarily designed to meet specialized needs in vascular and cardiology ultrasound applications
- Features closely spaced pin targets, ideal for testing high frequency transducers
- Includes HE Gel, which can be rejuvenated so your phantom can be re-validated to strengthen your investment
- Supports compliance with ACR, AIUM, ESTRO and other QA program requirements

Accessories

- Precision Sono Transducer Holder
 - Securely holds a transducer in a precise location for reproducible tests over time
 - Fits all Gammex B-Mode & Doppler Flow phantoms
- Padded travel case with shoulder strap



Specifications

HE Gel™: Gammex's multi-frequency tissue mimicking material

Attenuation Coefficient ³ :	0.5 or 0.7 dB/cm/MHz
Variation of Attenuation with Frequency ^{1,4} :	f ^{1.08} at 0.5 dB/cm/MHz f ^{1.1} at 0.7 dB/cm/MHz
HE Gel Freezing Point:	<0°C
HE Gel Melting Point:	>100°C
Frequency Range ¹ :	2 - 18 MHz
Speed of Sound:	1540 m/s
Anechoic Cysts:	10 Cysts, 1, 2, 3 and 7 mm diameter

Feature	Sono404 SCG
Grey Scale Targets:	3 Targets, -6, +6 and +12 dB, 7 mm diameter
Horizontal Geometry Groups:	3 Groups, at 1, 3.5 and 6 cm deep
Vertical Geometry Targets:	17 pins, 0.1 mm diameter at 1 to 9 cm deep at 5 mm spacing
Horizontal Geometry Targets:	12 pins, 0.1 mm diameter at 1 and 5 cm deep at 10 mm spacing
Dead Zone Detection (Cross Targets):	1 Group

Feature	Sono404 SCG	Sono404 SC
Tissue Mimicking Material, Patented Multi-Frequency HE Gel™:	✓	✓
Scanning Surface, Patented Composite Film:	✓	✓
Uniformity Assessments:	✓	✓
Geometry Assessments:	✓	✓
Sensitivity Assessments:	✓	✓
Resolution Assessments:	✓	✓
Depth of Penetration:	✓	✓
Dead Zone Detection:	✓	✓
Harmonic Imaging	✓	✓
Anechoic Cysts:	✓	✓
Grey Scale Targets:	✓	

¹ 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.

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

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

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