



# Precision Multi-Purpose Phantoms

## GAMMEX 403GS LE AND 403 LE

The Precision Multi-Purpose Grey Scale Phantom Gammex 403GS LE offers new advanced technology for measuring the image quality of high resolution ultrasound systems. Grey scale targets are provided for monitoring contrast and temporal resolution, distinguishing different intensities of brightness and border delineation capabilities of the ultrasound system. The Gammex 403 LE has the same general target layout and specifications as the 403GS LE but does not include grey scale targets.

The Gammex 403GS LE offers carefully placed targets to measure resolution, depth of penetration and electronic caliper distance accuracy. Axial resolution pin spacing patterns are small, offering better axial

resolution tests. The resolution patterns as well as all vertical and horizontal targets are constructed of 0.1 mm nylon fibers for better detail definition and spatial resolution. Grey scale targets are set at -6 dB, +6 dB with high scatter relative to the background material and with attenuation properties equivalent to the Tissue Mimicking (TM) material. A 10 mm anechoic cyst is also provided to evaluate system noise and geometric distortion.

The 403GS LE and 403 LE phantoms incorporate our new Tissue Mimicking (TM) gel which provides a smoother background texture than conventional tissue mimicking gels. This gel reduces the backscatter that is inherent in other TM gels and is fully compatible with the latest in tissue harmonics equipment and

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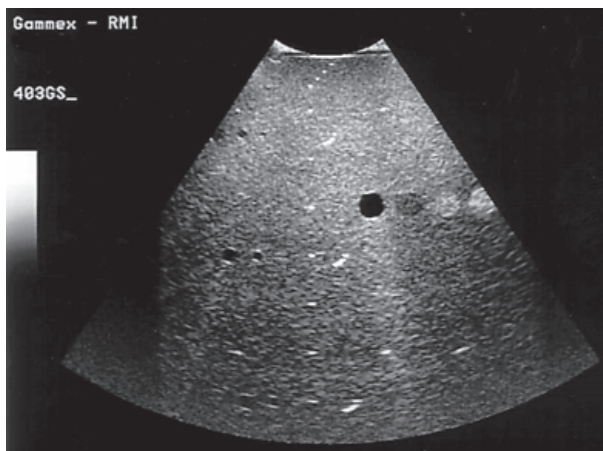


# GAMMEX 403GS LE AND 403 LE

ULTRASOUND

*continued from front...*

technology. The 403GS LE also has a composite film scanning surface that has improved transmission properties so more of the ultrasonic beam can be transmitted and received.



*This ultrasound image demonstrates a sector scan of the Precision Multi-Purpose Grey Scale Phantom Gammex 403GS LE.*

## The Gammex 403GS LE features:

- Axial and lateral resolution targets at depths of 3, 8 and 14 cm for precise resolution measurements of any ultrasound system
- Anechoic cysts of 2, 4, 6 and 10 mm diameter
- -6 dB, +6 dB and high scatter grey scale targets
- Convertible water dam for gel or water coupled scanning
- Integral cover to protect scanning surface
- Durable ergonomic design for ease of handling
- Available in 0.5 and 0.7 dB/cm/MHz attenuation

Optional accessories for the Gammex line of Ultrasound phantoms include Soft Foam-Lined Carrying Case, Rigid Case, or the Precision Ultrasound Transducer Guide.

## SPECIFICATIONS

### Tissue Mimicking Material

Speed of sound . . . 1540  $\pm$ 10 m/s at 22 $^{\circ}$ C

Attenuation . . . . 0.5 or 0.7  $\pm$ 0.05 dB/cm/MHz

### Targets

#### Anechoic Cysts

Diameters . . . . . 2, 4, 6 and 10 mm

Speed of sound . . . 1540  $\pm$ 10 m/s at 22 $^{\circ}$ C

Attenuation . . . . 0.05  $\pm$ 0.01 dB/cm/MHz

#### Grey Scale Targets

Contrast. . . . . -6, +6 and +12dB relative to background

Diameter . . . . . 10 mm

Speed of sound . . . 1540  $\pm$ 10 m/s at 22 $^{\circ}$ C same as background

#### Pin Targets

Diameter of

nylon lines . . . . . 0.1 mm (0.004 in)

Vertical spacing. . . 20 mm at 2 to 16 cm deep

Horizontal

spacing . . . . . 30 mm at 2 and 12 cm deep

Axial resolution . . . 3, 8 and 14 cm

### Construction

Scanning

surface . . . . . Composite Film

Walls . . . . . Extruded ABS

Dimensions . . . . . 23.2x8.25x18.5 cm  
(9.25x3.25x7.25 in)

Weight . . . . . 2.8 kg (6 lbs 2.5 oz)

All acoustic measurements at 4.5 MHz, 22 $^{\circ}$ C