

## Precision Multi-Purpose Phantoms 403GS LE and 403 LE

The Precision Multi-Purpose Grey Scale Phantom 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 and distinguishing different intensities of brightness and border delineation capabilities of the ultrasound system. The 403 LE has the same general target layout and specifications as the 403GS LE but does not include grey scale targets.



The 403GS LE offers carefully placed targets to measure resolution, depth of penetration and electronic calliper 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 and high scatter relative to the background material and with equivalent attenuation properties. A 10 mm anechoic cyst is also provided to evaluate system noise and geometric distortion.

The phantoms incorporate our new Tissue Mimicking™ gel which provides a smoother background texture than conventional TM 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 technology. The 403GS LE also has a new composite film scanning surface that has improved transmission properties so more of the ultrasound beam can be transmitted and received.

### The 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 and 6 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 foam-lined carrying case.

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



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## Specifications:

### Tissue Mimicking Material:

Speed of sound 1540 ±10 m/s at 22 °C  
 Attenuation 0.5 or 0.7 ±0.05 dB/cm/MHz at 4.5 MHz

### Targets:

Grey Scale Targets (403GS only) -6 dB, + 6 dB, high scatter relative to background  
 Contrast 10 mm  
 Diameter 1540 ±10 m/s at 22 °C  
 Speed of sound Same as Tissue Mimicking material  
 Attenuation

### Anechoic Cysts:

Diameter 2, 4, 6 and 10 mm  
 Speed of sound 1540 ±10 m/s at 22 °C  
 Attenuation 0.5 ±0.01 dB/cm/MHz at 4.5 MHz

### 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 to 12 cm deep

### Container:

Walls Extruded ABS  
 Scanning surface Composite Film  
 Size 23.2 x 8.25 x 18.5 cm (9.25 x 3.25 x 7.25 in.)

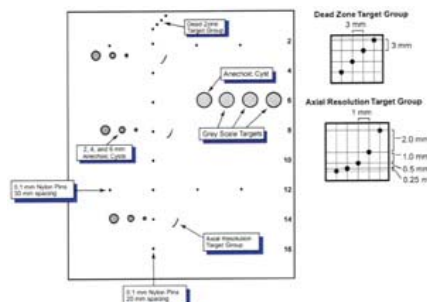
### Phantom weight:

2.8 kg (6 lbs. 2.5 oz.)

### Options:

Foam-line carrying case on request

**NOTE:** The 403 LE has the same general target layout and specifications as the 403GS LE but does not include grey scale targets.



Stand: 15/01/2008