



Model 540 Rectal Scan Phantom



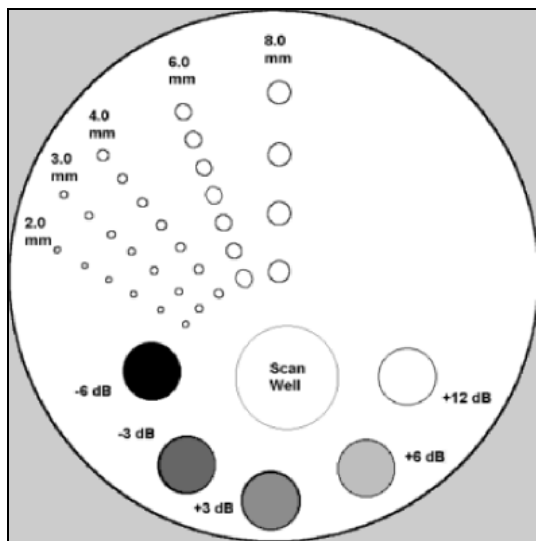
Product Description

Model 540 is a rubber based tissue-mimicking rectal scan phantom. It is suited primarily for performance testing of rotary-type transducers, resulting in a displayed image of a full 360°. The phantom may also be used to evaluate the performance of bi-planar and end-fired transducers. Model 540 is contained in a protective housing. An internal scan well permits insertion of the transducer directly into the body of the phantom, thereby mimicking the application. The phantom contains five groups of cystic-like targets of varying sizes and depths, and five levels of gray scale. The target structures are arranged in a radial pattern from the center of the scan well. **Lifetime warranty.**

Tests Performed

- Sensitivity
- Focal Zone
- Functional Resolution
- Image Uniformity
- Gray Scale
- Displayed Dynamic Range

Target Diagram



Specifications

General

Overall Dimensions: 18.2 cm
Scanning Well: 1
Scan Surface Dimensions: 3.5 cm (tapered)
Weight: 1.6 Kg
Tissue Mimicking Material: Urethane rubber
Freezing Point: $<-40^{\circ}\text{C}$
Melting Point: $>100^{\circ}\text{C}$
Attenuation Coefficient: $0.5 \text{ dB/cm/MHz} \pm 5.0\%$
Speed of Sound: $1450 \text{ m/s} \pm 1.0\%$ at 23°

Anechoic Target Structures

Type: Non-echogenic, cylindrical
Diameters: 2, 3, 4, 6, 8 mm
Depth: 1 – 8 cm

Gray Scale Target Structures

Type: Echogenic, Cylindrical
Diameters: 20 mm
Depth: 2 cm
Contrast relative to background material (dB) +12, +6, +3, -3, -6