

# 3D Calibration Phantom

Performance measures:

- Uniformity
- Depth of Penetration
- Beam Profile/ Focal Zone/ Lateral Response Width
- Vertical Distance Measurement
- Horizontal Distance Measurement
- Axial and Lateral Resolution
- Contrast Resolution
- Volume Measurements
- Dead Zone Assessment

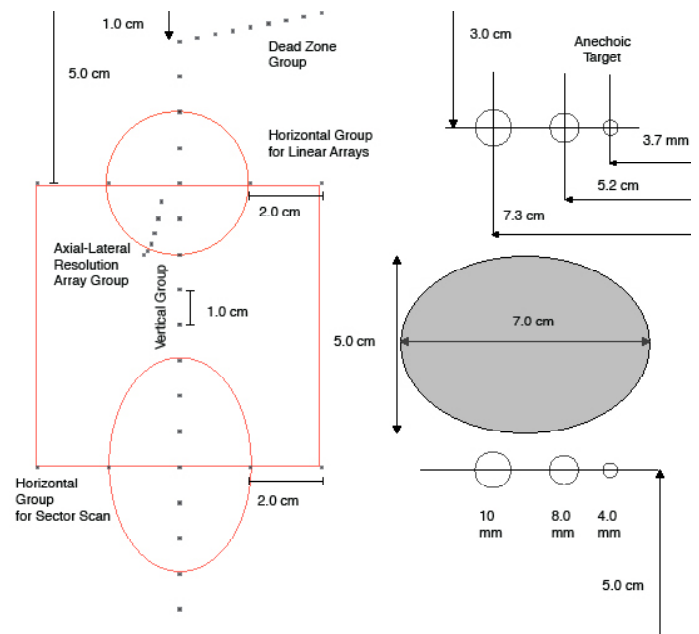


## Evaluate Image System Performance

The CIRS Model ATS 560H rubber-based, tissue-mimicking phantom provides a basic means of evaluating an imaging system's performance along with its 3D volumetric measurements.

The phantom combines monofilament line targets, six non-echogenic cylindrical targets of varying sizes and a 3D egg-shaped target structure. The monofilament targets have a diameter of 0.12 mm and are arranged in four groups of line targets to evaluate the vertical and horizontal calibration measurements, axial-lateral resolution and the dead zone.

## Target Schematic



## Specifications

<b>Dimensions</b>	23.4 cm x 20.5 x 9.5 cm (9" x 8" x 4")
<b>Weight</b>	7 lbs (3.1 kg)
<b>Housing Material</b>	PVC
<b>Scan Surface Dimensions</b>	(2) 17 x 8 cm; (2) 19 x 8 cm
<b>Tissue-Mimicking Material</b>	Urethane Rubber
<b>Urethane Properties</b>	Freezing Point: < -40° C Melting Point: Above 100° C Speed of Sound: 1450 m/s at 23° Attenuation: 0.5 dB/cm/MHz (measured at 3.5 MHz)
<b>Line Targets</b>	Material: Monofilament nylon Diameter: 0.12 mm

## Items Included with CIRS Model ATS 560H

Quantity	Description
1	3D Calibration Phantom
1	User Guide
-	Certificate of Compliance

### Vertical Distance Group (17 targets)

Depth range 1 - 18 cm

Spacing 1 cm

### Horizontal Distance Group (2 groups)

Number of targets 2

Depths 5 cm from scanning surfaces 1 & 3

Number of targets 10

Spacing 2 cm

### Dead Zone Group (9 targets)

Lateral displacement 5 mm

Depth range 2 - 10 mm

Spacing 1 mm

### Axial and Lateral Resolution Groups (6 targets)

Lateral displacement 1 mm

Spacing 5, 4, 3, 2 & 1mm

Axial depth 5.5 & 12.5 cm

Lateral depth 5.5 & 14 cm

### Anechoic Stepped Cylinders (6 targets)

Type Non-echogenic, cylindrical

Diameter 4, 8, 10 mm

Depth 3, 5, 12, 15 cm

Spacing 1 cm

### 3D Egg Test Object

Type Echogenic, 3D ellipsoid

Major axis 7 cm

Minor axis 5 cm

Volume 91.6 cm<sup>3</sup>