

# Small Parts Ultrasound Phantom

Model 050



**ZERDINE® Inside**  
A registered trademark of CIRS

## Quality Assurance for Small Parts Ultrasonic Imaging

- Detachable water wells allow for testing curvilinear and endocavity probes
- Ensure over ten years of reliable use through reinspection and repair services

***Includes best in industry four-year warranty***

The CIRS Small Parts Ultrasound Phantom features a compact design ideal for high-resolution imaging systems with limited depth of penetration.

Model 050 is made up of a proprietary tissue-simulating material called Zerdine®<sup>(1)</sup>, which accurately simulates the ultrasound characteristics found in human liver.

A series of wire targets included in the Model 050 will appear as bright dots or lines on the ultrasound image. These targets are made from nylon with a diameter of 0.1 mm.

Our phantom also contains two known volumes, a 10 mm combination cyst-like/hyperechoic mass and anechoic focal lesions embedded within the phantom. These masses are made from Zerdine with a different contrast and attenuation relative to the background material.

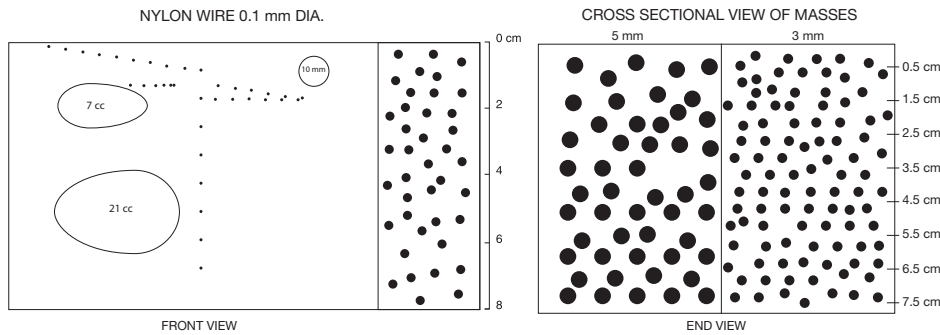
## Key Tests with Model 050

- Focal Lesion Detectability
- Uniformity
- Depth of Penetration
- Beam Profile/ Focal Zone/ Lateral Response Width
- Vertical Distance Measurement
- Horizontal Distance Measurement
- Axial and Lateral Resolution
- Elevational Resolution
- Low-Contrast Target Detectability
- High-Contrast Target Detectability
- Volumetric Measurement Accuracy
- Dead Zone Assessment

<sup>(1)</sup> US PATENT# 5196343

# CIRS

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Phantom includes detachable scanning wells and air tight case.

**SPECIFICATIONS**

<b>DIMENSIONS:</b>	20 cm x 15 cm x 10 cm (8.5 in x 6 in x 4 in)
<b>PHANTOM WEIGHT:</b>	6.7 lbs. (3 kg)
<b>HOUSING MATERIAL</b>	ABS Plastic
<b>MEMBRANE</b>	Saran laminate <sup>1</sup>
<b>SCANNING WELL</b>	16.5 cm x 10 cm x 1 cm deep
<b>TISSUE-MIMICKING MATERIAL</b>	Zerdine <sup>®</sup> solid elastic hydrogel

**MODEL 050 INCLUDES**

QTY	DESCRIPTION
1	Small Parts Ultrasound Phantom
1	Carry Case
1	Removable Scanning Well
-	48-Month Warranty
-	User Guide
-	Certificate of Compliance

**WIRE TARGET**

Material: 0.10 mm nylon monofilament

**NEAR FIELD GROUP**

Number of targets: 10  
 Depth range: 1 to 10 mm  
 Vertical Spacing: 1.0 mm

**VERTICAL GROUP**

Depth Range: 10 to 80 mm  
 Spacing: 10 mm

**AXIAL RESOLUTION GROUP**

Number of Targets: 12  
 Depth: 20 mm  
 Spacing: 0.5, 1, 2, 3, 4 & 5 mm

**LATERAL RESOLUTION GROUP**

Number of targets: 6  
 Depth range: 15 mm  
 Vertical Spacing: 1, 2, 3, 4 & 5 mm

**HIGH CONTRAST/ CYSTIC ROD**

Material: Zerdine<sup>®</sup>  
 Diameter: 10 mm  
 Depth: 10 mm  
 Cystic Half: Anechoic, with water-like attenuation  
 Dense Half: Hyperechoic with high attenuation

**FOCAL LESIONS**

Diameter of Targets: 3 & 5 mm (randomly distributed)

**LATERAL RESOLUTION GROUP**

Number of targets: 2  
 Contrast: Hyperechoic  
 Depths: 20 mm, 47 mm  
 Volumes: 7 cc, 21 cc

<sup>1</sup> The standard Saran laminate has been validated for use with clinical small parts probes up to 15 MHz. Users wishing to test higher frequency preclinical imaging systems should contact CIRS for alternate membranes more suitable for high frequency imaging.

