

Ultrasound Phantoms for 2D & 3D Evaluation

Models 055 & 055A



ZERDINE® Inside
A registered trademark of CIRS

Designed for Compliance with AIUM Standards

- Perform spatial measurement system checks according to published AIUM standard
- Ensure over ten years of reliable use through reinspection and repair services

Includes best in industry four-year warranty

The CIRS Model 055 3D Ultrasound Calibration Phantom and 055A 3D Wire Test Object, may be used to perform the following tests of the accuracy of spatial measurements, which is especially for 3-D and 4-D ultrasound systems equipped with spatial encoding algorithms.

In the Model 055, these tests are performed with the aid of three volumetric targets, while in the Model 055A they are performed using wire targets. The test methodology is described in the AIUM publication “Standard Methods for Calibration of 2-Dimensional and 3-Dimensional Spatial Measurement Capabilities of Pulse Echo Ultrasound Imaging Systems,” which is provided with the phantoms. The phantoms may be purchased separately or as part of a set, and may also be used to perform Image uniformity and depth of penetration tests.

Both phantoms are made of CIRS, proprietary Zerdine® hydrogel polymer, which has been formulated to provide tissue mimicking properties including compatibility with

harmonic imaging. To maximize phantom lifetime, this gel is contained in a rugged ABS plastic housing with a Saran-based laminate membrane.

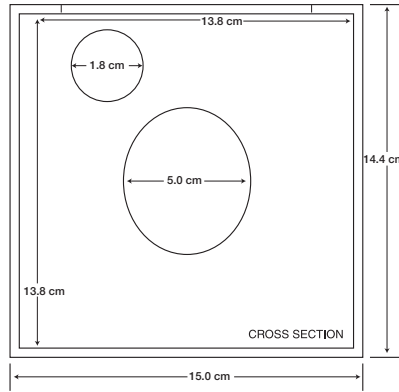
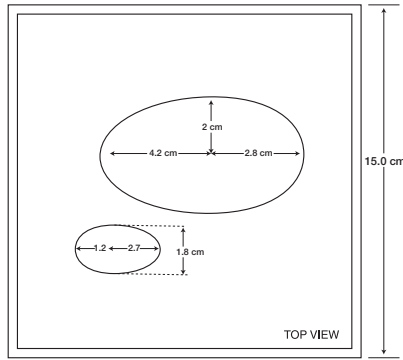
CIRS ultrasound QA phantoms come standard with a robust housing, carry case, 48-month warranty, and user guide.

Key Tests with Models 055 & 055A

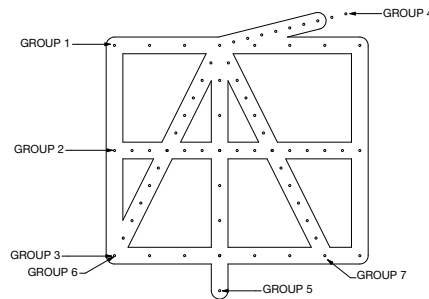
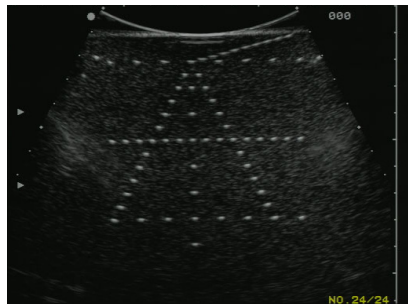
- Linear Distance
- Perimeter
- Area
- Surface Area
- Volume

CIRS

900 Asbury Ave • Norfolk, Virginia 23513 • USA • Tel: 757-855-2765 • WWW.CIRSINC.COM



Model 055



Model 055A

SPECIFICATIONS

ZERDINE® PROPERTIES (BOTH PHANTOMS)

Description: Solid elastic water-based polymer
 Freezing point: 0° C
 Melting point: Above 100° C
 Speed of Sound: 1540 m/s
 Other: Compatible with harmonic imaging

MODEL 055

CONTAINER

Dimensions: 15 x 15 x 15 cm
 Material: ABS Housing

SCAN WINDOWS

Membranes: Saran-based laminate
 Dimensions (Top): 12 cm x 12 cm
 Dimensions (Side): 11 cm x 11 cm

SMALL VOLUME

Nominal Volume: 6.9 cc
 Depth of target: 2-6 cm from scanning surface
 Appearance: Hyperechoic

LARGE VOLUME

Nominal Volume: 75 cc
 Depth of target: 2-6 cm from scanning surface
 Appearance: Hyperechoic

MODEL 055 INCLUDES

- 3D Ultrasound Calibration Phantom
- Carry Case
- Certificate of Compliance
- QA Worksheet
- 48-month Warranty

MODEL 055A

CONTAINER

Dimensions: 13 x 18 x 11 cm
 Material: ABS Housing

SCAN WINDOW

Scanning Membrane: Saran-based laminate
 Dimensions: 14 cm x 9 cm

WIRE TARGETS

Material: 0.1 mm Nylon Monofilament
 Positions: See table below

| GROUP | STARTING POSITION (X, Y) | SUBSEQUENT WIRE MOVES |
|-------|--------------------------|--|
| 1 | (0 cm, 0 cm) | $\Delta x= 1 \text{ cm}, \Delta y= 0 \text{ cm}$ |
| 2 | (0 cm, 4 cm) | $\Delta x= 0.5 \text{ cm}, \Delta y= 0 \text{ cm}$ |
| 3 | (0 cm, 7 cm) | $\Delta x= 1 \text{ cm}, \Delta y= 0 \text{ cm}$ |
| 4 | (3 cm, 0 cm) | $\Delta x= 0.4 \text{ cm}, \Delta y= -0.1 \text{ cm}$ |
| 5 | (3 cm, 0 cm) | $\Delta x= 0 \text{ cm}, \Delta y= 1 \text{ cm}$ |
| 6 | (3 cm, 0 cm) | $\Delta x= -0.25 \text{ cm}, \Delta y= 0.5 \text{ cm}$ |
| 7 | (3 cm, 0 cm) | $\Delta x= 0.25 \text{ cm}, \Delta y= 0.5 \text{ cm}$ |

MODEL 055A INCLUDES

- 3D Wire Test Object Phantom
- Removable water well
- Removable endocavity cover
- Removable storage cover
- Carry Case
- Certificate of Compliance
- 48-month Warranty

