

# Brachytherapy QA Phantom

Model 045A



## Part of a Complete Solution as Described by AAPM TG128

- Designed for use with biplane transrectal ultrasound probes
- Ensure over ten years of reliable use through reinspection and repair services

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

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

A robust quality assurance prostate brachytherapy QA program is essential to ensure accurate image-guidance and dosimetry calculations. The CIRS Model 045A, offers a complete solution for implementing a QA program specific to transrectal ultrasound used for guidance of prostate brachytherapy, as recommended by AAPM Task Group 128<sup>1</sup>.

The phantom is made of CIRS' proprietary Zerdine®2 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, rugged carry case, 48-month warranty and user's guide.

## Consistency Measurements with Model 045A

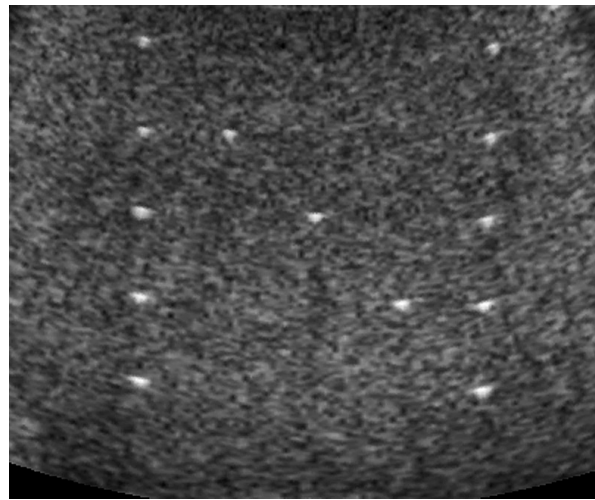
- Depth of Penetration
- Axial and Lateral Resolution
- Distance Measurement Accuracy
- Area Measurements
- Volume Measurements
- Geometric Consistency with the treatment-planning computer

### References:

1. Pfeiffer, Douglas, et al., AAPM Task Group 128: Quality assurance tests for prostate brachytherapy ultrasound systems. Med. Phys., vol. 35 (12), pgs. 5471-5489, December 2008.
2. US Patent #5196343.

# CIRS

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**SPECIFICATIONS**

<b>DIMENSIONS</b>	15.2 cm x 11.4 cm x 11.4 cm (6" x 4.5" x 4.5")
<b>PHANTOM WEIGHT</b>	4 lbs. (1.5 kg)
<b>HOUSING MATERIAL</b>	PVC Plastic with ABS covers
<b>MEMBRANE</b>	Vinyl
<b>TISSUE-MIMICKING MATERIAL</b>	Zerdine® solid elastic hydrogel

**MODEL 045A INCLUDES**

QTY	DESCRIPTION
1	Brachytherapy QA Phantom
1	Carry Case
-	User Guide
-	48-Month Warranty
-	Certificate of Compliance

**ZERDINE® PROPERTIES**

Freezing point: 0° C  
 Melting point: Above 100° C  
 Speed of Sound: 1540 m/s  
 Other: Compatible with harmonic imaging

**INTERNAL "N" GRID**

Number of targets: 13  
 Wire: 500-micron, nylon monofilament

**PROBE RETRACTION GRID**

Number of targets: 5  
 Wire: 100-micron, nylon monofilament  
 Spacing: 0.5 cm and 1 cm

**VOLUME TARGETS**

Material: Zerdine® gel-hyperechoic with respect to back ground  
 Size of target 1: ~4 cc  
 Size of target 2: ~9 cc  
 Size of target 3: ~20 cc

