Contrast Enhanced Spectral Mammography Phantom

Model 022

A SIMPLE COMPREHENSIVE PHANTOM FOR ROUTINE CESM QA

The CIRS Contrast Enhanced Spectral Mammography (CESM) Phantom is designed to address the need for QC of CEDM systems. The phantom demonstrates the presence and absence of iodine in tissues by containing different iodine concentrations and non-iodine breast tissue substitutes. The CESM phantom represents an average human breast in size and shape.

The phantom consists of four slabs. A target slab is made from breast-equivalent material in 50/50 ratio of gland and adipose tissue. The slab contains two sets of five plugs. Four plugs have iodine concentrations of 0.2, 0.5, 1.0 and 2.0 mg/cm^2. These concentrations have been chosen to cover the clinical range of iodine concentrations. A fifth plug is made of 100% glandular tissue equivalent material. This plug is positioned in the center of each plug group to mimic a glandular lesion. The contrast slab consists of half 100% adipose material and half 100% glandular material to test iodine separation from the background over a wide range of densities. The top and bottom slabs are made from 100% Adipose material and have rounded edges to mimic the realistic shape of a compressed breast.

The phantom includes a magnetic fixture for easy repeatable alignment and positioning.

Benefits

- Daily and routine QC
- Tests performance and stability of CESM
- Contains clinically relevant iodine concentrations
- Represents both dense and fatty breasts
- Background provides clinically relevant challenge for target detection

References:

1. Klausz, R, et al. Introduction of a Comprehensive Phantom for the Quality Control of Contrast Enhanced Spectral Mammography. 2018. Poster No.: ECR 2018, DOI: 10.1594/ecr2018/C-2647

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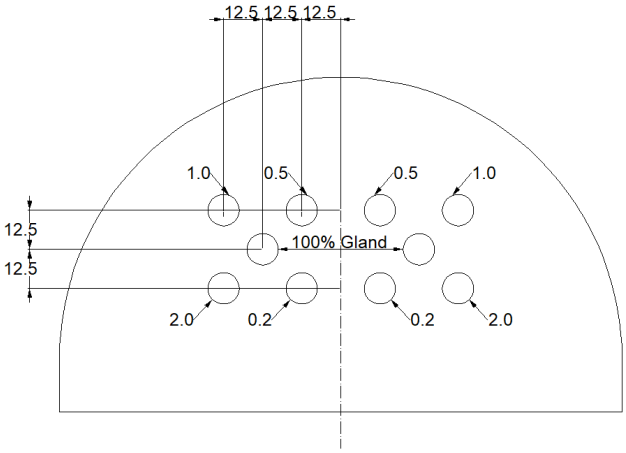
CONTRAST ENHANCED SPECTRAL MAMMOGRAPHY PHANTOM

Model 022



TARGET SLAB

TARGETS
Qty: 4 with Iodine, 1 100% Gland Equivalent Material
Size: 10 mm x 10 mm
Concentration: 0.2, 0.5, 1.0 & 2.0 mg/cm^2
Target locations are indicated in the diagram to the left

SPECIFICATIONS

OVERALL DIMENSIONS	180 mm x 127 mm x 100 mm
INDIVIDUAL SLAB DIMENSIONS	3 Slabs: 180 mm x 110 mm x 10 mm, 1 Slab: 180 mm x 110 mm x 25 mm,
PHANTOM WEIGHT	1.4 kg (3.09 lb)
MATERIALS	BR50/50, 100% Gland and Adipose

MODEL 022 INCLUDES

PART #	QTY	COMPONENT DESCRIPTION
-	2	Solid Homogeneous Slabs 10 mm thick
-	1	Target Slab 10 mm thick
-	1	Contrast Slab 25 mm thick
-	1	Positioning Holder with Magnetic Fixation
-	-	User Guide
-	-	60-month warranty

OPTIONAL ACCESSORIES

PART #	COMPONENT DESCRIPTION
021-01	BR3D Background Slab
021-02	Solid Homogeneous Slab (50/50 % Glandular/Adipose ratio)

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