

Contrast Detail Phantom for Mammography

Nuclear Associates Model 18-252

- Optimized for digital imaging
- Easy-to-use, compact and lightweight
- Closely simulates scattering conditions of the breast
- Rotatable support plate accommodates prone-position x-ray units. The plate can be returned to a position which does not interfere with placement of the phantom on flat surfaces
- Geometrically-increasing hole depths result in linearly-increasing x-ray transmission
- Geometrically-increasing hole diameters enable quantitative measurement of the contrast threshold of the mammographic system



Rotatable support plate accommodates prone-position x-ray units

Specifications

Phantom material Plexiglas®

Dimensions 2.47 (w) x 2.47 (d) x 2.47 in (t)
(6.27 x 6.27 x 6.27 cm)

Weight 1.2 lb (0.58 kg)

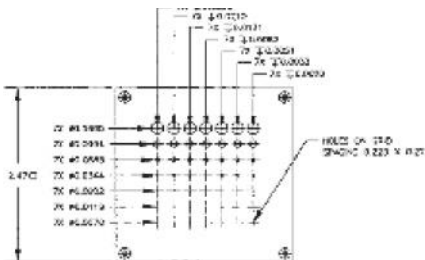
Available model(s)

18-252 Contrast Detail Phantom for Mammography

A good imaging system should resolve at least the following objects:

Row number	Minimum number of objects detected
1	6
2	6
3	5
4	4
5	2
6	1
7	0

Minimum detectability score: 24/49



Introduction

The Contrast Detail Phantom for Mammography is designed to provide a means of quantitatively testing and monitoring the total performance of an entire mammographic imaging chain. Its small size, as well as the number and distribution of holes simulating embedded objects, make this phantom particularly useful in evaluating digital spot mammography systems. With 49 holes generating subtle contrast variations, the phantom makes it possible to detect small changes in overall system performance.

The Contrast Detail Phantom for Mammography contains a 7 x 7 matrix of objects. The diameter of each row of objects decreases from 0.169 to 0.007 inch. In each row, the subject contrast decreases from approximately 6.6% to 0.41% at mammographic energies.

Applications

The Contrast Detail Phantom for Mammography is easy to use...Simply place the phantom on the image receptor surface in the same position as a breast. Position the x-ray tube and compression device as in a craniocaudal examination. When using the phantom on prone-position breast biopsy systems, use the rotating top plate of the phantom and the compression device to secure the phantom against the image receptor. Choose the appropriate kV and mAs factors (26 kV and 60 mAs works well on most systems), or select automatic exposure control.

Object diameter and contrast		
Column number	Object depth (inches) (mm)	Typical contrast at mammographic energies (%)
1	0.033 0.853	6.60
2	0.021 0.533	4.20
3	0.013 0.332	2.60
4	0.008 0.208	1.70
5	0.005 0.129	1.00
6	0.003 0.080	0.65
7	0.002 0.050	0.41

Object diameter		
Row number	Object diameter (inches) (mm)	
1	0.169	4.292
2	0.099	2.524
3	0.058	1.485
4	0.034	0.873
5	0.020	0.513
6	0.011	0.302
7	0.007	0.177

For more information, receive our full product catalog, or order online, contact **Radiation Management Services** business of **Fluke Biomedical**: 440.248.9300 or www.flukebiomedical.com/rms.

Specifications are subject to change without notice.

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