

Phantom to assess Digital Mammography

DIGIMAM



Quality control in digital mammography

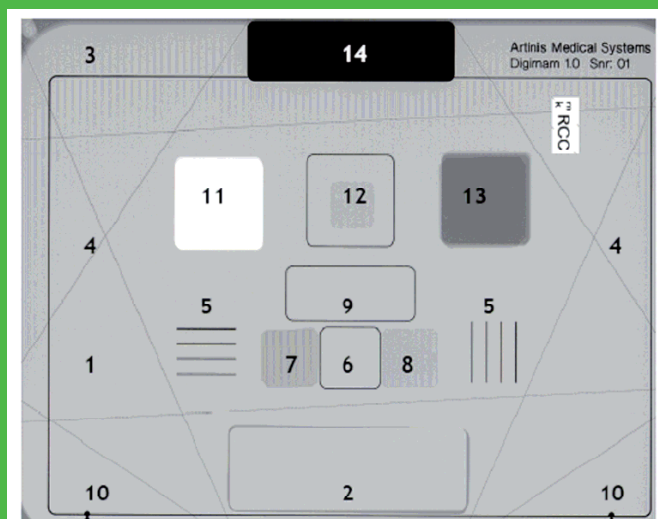
Introduction

The DIGIMAM Phantom was developed in cooperation with the physical-technical quality control group of the European Breast Cancer Network. The phantom complies with the European Guidelines for Quality Assurance in Digital Mammography Screening.

Functionality

- Phantom thickness and material chosen to simulate the average breast
- Contrast Detail analysis tool containing gold discs
- Check of geometric distortion
- Quick check of bad columns
- Rulers to allow distance measurement
- CNR measurement
- Reference point for SNR measurement
- Check for missed tissue at chest wall
- Inserts to check on dynamic range with low contrast insert
 - In "fatty" tissue
 - In "normal" tissue
 - In "dense" tissue
- Sheet for dynamic range evaluation

Technical specifications



- 1) Phantom thickness of 53 mm. Composed of 45 mm of PMMA and air chamber of 8 mm. Thus simulating the average breast.
- 2) Contrast Detail analysis tool
- 3) Engraved lines with lead inlet for check of geometric distortion
- 4) Thin (0.1 mm) metal wires for quick check of bad columns
- 5) Rulers to allow distance measurement nominal distance between two lines 5 mm, length of lines 20 mm
- 6 - 8) CNR measurement. 6 Indication of reference point, 7 Al sheet 0.2 mm, 8 Al sheet 0,1 mm
- 9) Reference point to fix dosimeter or calculate SNR
- 10) Check for missed tissue at chest wall. 5 metal balls with diameter 2 mm each.
- 11) Insert to check on dynamic range with low contrast insert in "fatty" tissue. Hole of 10 mm depth in PMMA in one part only 9.3 mm is taken out
- 12) Insert of 0.7 mm PMMA to check dynamic range with low contrast insert in "normal" tissue
- 13) Insert of 7.1 mm PMMA combined with 0.2 mm Aluminium and in one part an extra insert of 0.7 mm PMMA. Enables to check dynamic range with low contrast insert in "dense" tissue.
- 14) Sheet of 2 mm Stainless Steel for dynamic range evaluation

The Philosophy of Precision & Simplicity.

Note:

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Manufacturer:

Artinis Medical Systems B.V.
St. Walburg 4
6671 AS Zetten
The Netherlands

Sales Contact:

Germany
IBA Dosimetry GmbH
Bahnhofstr. 5
90592 Schwarzenbruck
Tel.: +49 9128 607 0
Fax: +49 9128 607 10

USA

IBA Dosimetry America
3150 Stage Post Drive, Suite 110
Bartlett, TN 38133
Tel.: +1 901 386 2242
Fax: +1 901 382 9453

Sweden

IBA Dosimetry AB
P.O. Box 1004
751 40 Uppsala
Tel.: +46 18 18 07 00
Fax: +46 18 12 75 52

China

IBA Dosimetry China
No.6, Xing Guang Er Jie Beijing
OPTO-mechatronics
Industrial Park (OIP),
Tongzhou District
Beijing 101111
Tel.: +86 10 8080 9288
Fax: +86 10 8080 9299

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