

A photograph of the Artinis CDMAM 4.0 phantom, a rectangular device with a grid of gold discs on a dark surface. The device is shown from an angled perspective, highlighting its depth and the arrangement of the discs. The text 'CDMAM 4.0 Str.' is visible on the left side of the grid.

# CDMAM 4.0

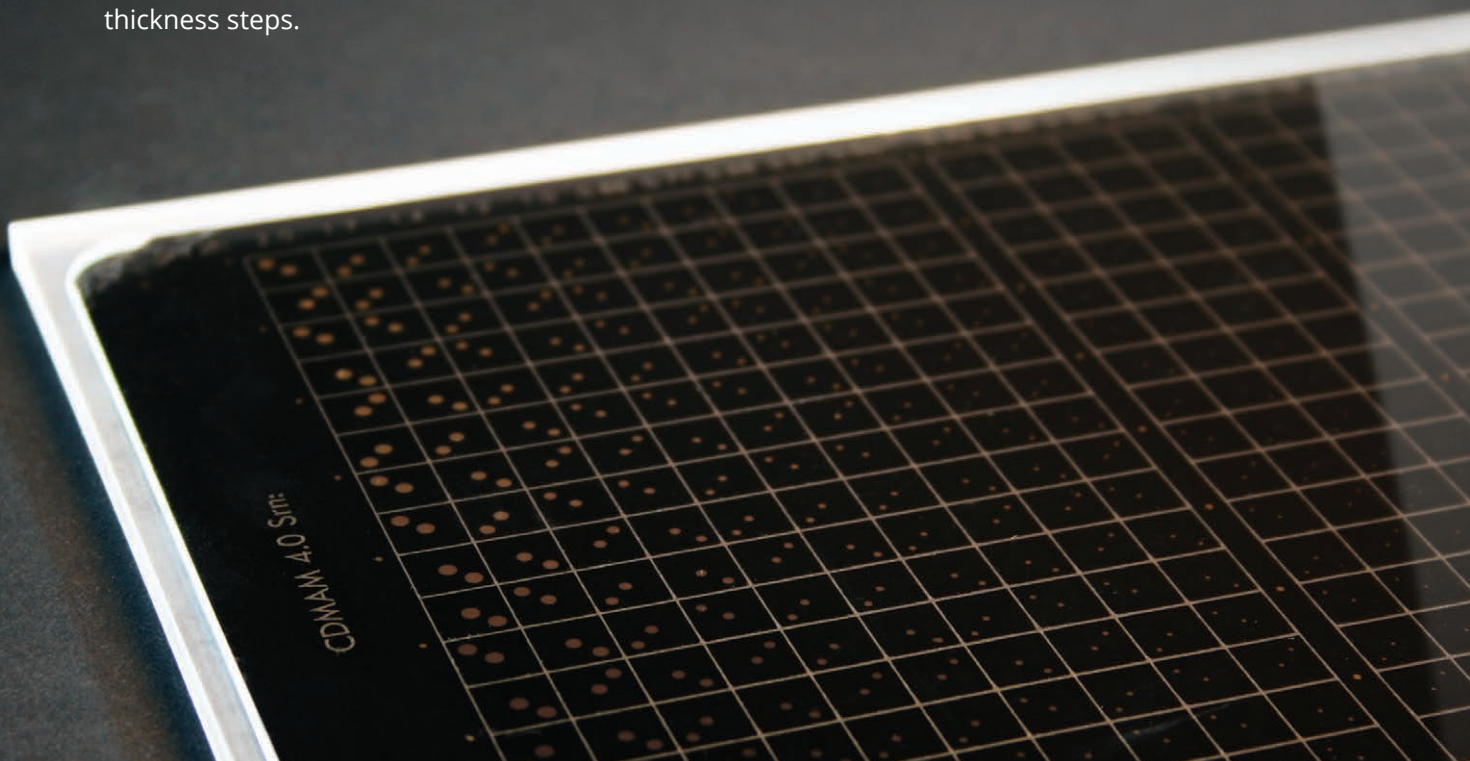
**artinis**  
medical systems

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The Artinis CDMAM 4.0 is the next generation Mammography Contrast Detail Phantom with improved specifications, created from a highly accurate production process. The phantom is optimized for European Guidelines for Quality Assurance in Digital Mammography. The gold discs are placed in the area of interest of the psychometric curve for accurate determination of Contrast Detail curves.

## SPECIFICATIONS

- + 672 gold discs divided in 21 exponential steps, diameter ranging from 0.08 to 2.0 mm.
- + Every single diameter has its own optimized gold thickness range with 16 different thickness steps.
- + 0.5 mm polished aluminium (99.5%) base.
- + PMMA cover (240 x 162 x 3 mm).
- + Includes 4 PMMA plates (10 mm polished, thickness tolerance  $\pm 0.1$  mm).



# SPECIFICATIONS

Diameter (mm)

	2.00	1.70	1.40	1.20	1.00	0.88	0.77	0.66	0.57	0.50	0.42	0.35	0.30	0.25	0.21	0.18	0.15	0.13	0.10	0.09	0.08
16	0.103	0.105	0.106	0.106	0.129	0.147	0.168	0.191	0.208	0.240	0.264	0.341	0.446	0.549	0.675	0.849	1.195	1.396	2.434	2.633	2.800
15	0.094	0.096	0.098	0.097	0.109	0.128	0.148	0.170	0.192	0.210	0.239	0.308	0.401	0.493	0.601	0.763	1.105	1.310	2.228	2.411	2.601
14	0.087	0.089	0.090	0.090	0.099	0.109	0.130	0.149	0.171	0.193	0.208	0.269	0.351	0.448	0.554	0.681	0.964	1.205	2.019	2.179	2.380
13	0.078	0.078	0.079	0.079	0.091	0.100	0.110	0.130	0.150	0.171	0.191	0.242	0.312	0.401	0.493	0.606	0.865	1.111	1.854	2.000	2.180
12	0.069	0.069	0.071	0.071	0.080	0.091	0.100	0.110	0.130	0.150	0.169	0.209	0.272	0.350	0.442	0.554	0.777	0.970	1.680	1.830	1.958
11	0.056	0.056	0.057	0.057	0.071	0.080	0.092	0.100	0.110	0.130	0.148	0.192	0.243	0.310	0.396	0.490	0.690	0.860	1.560	1.655	1.787
10	0.048	0.048	0.049	0.049	0.057	0.071	0.080	0.091	0.100	0.109	0.129	0.170	0.210	0.270	0.344	0.440	0.610	0.770	1.440	1.531	1.623
9	0.042	0.042	0.043	0.043	0.049	0.057	0.071	0.080	0.091	0.100	0.108	0.147	0.190	0.240	0.304	0.390	0.550	0.678	1.330	1.415	1.508
8	0.037	0.037	0.038	0.038	0.043	0.049	0.057	0.070	0.080	0.090	0.098	0.127	0.167	0.206	0.264	0.338	0.485	0.598	1.210	1.304	1.386
7	0.032	0.032	0.033	0.033	0.038	0.043	0.049	0.057	0.070	0.079	0.089	0.107	0.144	0.186	0.234	0.297	0.429	0.538	1.100	1.184	1.273
6	0.027	0.027	0.028	0.028	0.033	0.038	0.043	0.049	0.056	0.070	0.077	0.096	0.125	0.163	0.200	0.256	0.379	0.467	0.947	1.081	1.165
5	0.023	0.024	0.024	0.024	0.028	0.033	0.038	0.042	0.048	0.056	0.069	0.088	0.104	0.142	0.181	0.227	0.327	0.416	0.833	0.928	1.047
4	0.020	0.021	0.021	0.021	0.024	0.028	0.032	0.037	0.042	0.048	0.055	0.076	0.093	0.121	0.158	0.194	0.285	0.366	0.731	0.810	0.890
3	0.017	0.018	0.018	0.018	0.021	0.024	0.027	0.032	0.037	0.041	0.047	0.067	0.085	0.101	0.136	0.173	0.245	0.313	0.640	0.716	0.782
2	0.015	0.015	0.015	0.015	0.018	0.021	0.024	0.027	0.032	0.036	0.040	0.053	0.073	0.090	0.116	0.150	0.216	0.273	0.557	0.617	0.684
1	0.012	0.012	0.012	0.012	0.015	0.018	0.021	0.023	0.027	0.031	0.035	0.045	0.064	0.081	0.096	0.129	0.165	0.231	0.493	0.535	0.590

Nominal Thicknesses of the CDMAM 4.0 gold disks ( $\mu\text{m}$ )

- + Thickness from 0.012  $\mu\text{m}$  to 2.8  $\mu\text{m}$ , tolerance  $\pm 3\%$  (Mean  $\pm 2\text{SD}$ ).
- + Diameter from 0.08 mm to 2.0 mm, tolerance  $\pm 0.005$  mm (Mean  $\pm 2\text{SD}$ ).
- + 43 additional reference discs for optimal computerized scoring.

## ANALYSIS SOFTWARE

The CDMAM 4.0 phantom has been specially designed for automatic image scoring. For analysis of the phantom images we have developed CDMAM 4.0 Analyser software, based on CDCOM for CDMAM 4.0 ([www.euref.org](http://www.euref.org)).

With the analyser software the threshold contrast thicknesses are determined according the Supplement to the European Guidelines fourth edition Diagnosis.

