HOLOGIC®
The Science of Sure

Better Detection. Clinically Superior. Low Dose.

Selenia® Dimensions® Mammography System

The Selenia® Dimensions® mammography system provides superb image quality, high productivity and a variety of advanced applications. Its Genius™ 3D MAMMOGRAPHY™ exam strives to set new standards for earlier detection of breast cancers,[1-6] clearer lesion images,[7] and fewer false positive recalls[1,4] and biopsies.[1,7] That's less patient anxiety and burden,[8-10] more business efficiency and cost savings;[10,11] and, more confidence.[1,4]

The system, designed from the ground-up for breast tomosynthesis, offers superior clinical performance, proven to benefit women of all breast densities, compared to 2D mammography.[1,12,13] The Selenia Dimensions platform is designed to keep evolving as new technologies emerge — as we strive for even better patient outcomes.



Optional equipment shown.

NEW

Selenia Dimensions Custom Packages

All Selenia Dimensions packages can progress with you, making it a smart choice for your facility today and tomorrow. From low-dose 3D MAMMOGRAPHY™ imaging, 3D™ biopsy, to Contrast Enhanced 2D imaging co-registered with breast tomosynthesis imaging, Selenia Dimensions is the most comprehensive mammography system available today.

A broad range of customizable, ergonomic Selenia Dimensions system packages are available to match your specific needs. Start with 3D MAMMOGRAPHY™ imaging or select from 2D imaging capabilities. Then add more ergonomic and workflow features to enhance your facility's performance.



Customize Your 3D MAMMOGRAPHY™ Package Today!

15-40% fewer recalls[4]

+

41% more invasive cancer detection[5]



Selenia Dimensions System Avia 3000 Package (2D-only)

- Ideal for 2D screening.
- Also available for routine 2D diagnostic.
- Evergreen system, with multiple upgrades available as your needs change.
- Offers fully functional workflow, basic technologist ergonomics and enhanced patient ergonomics.



Selenia Dimensions System 6000 Package

- Ideal for mid to high volume screening and advanced diagnostics.
- Offers enhanced workflow, enhanced technologist ergonomics and enhanced patient ergonomics.
- Additional options are available to customize your package.



Selenia Dimensions System 9000 Package

- Ideal for high volume screening and advanced diagnostics.
- Offers elevated workflow, harmonized communications, optimal technologist ergonomics and enhanced patient ergonomics.

Overall System Specifications

General Operating Conditions

Temperature Range	20°C to 30°C
Max. Rate of Temperature Change	<10°C / hr
Relative Humidity Range	20% to 80% non-condensing

Electrical Specifications

System Protection	
Integrated UPS■	1000 VA
Electrical Requirements	
Input Line Voltage	100/120/220/230/240 VAC
Input Current	2.0 A max. @ 200/220/230/240 VAC 3.5 A max. @ 100/120 VAC
Frequency	50/60 Hz

General Specifications

Computer and Reconstruction Subsystem	
Design	Fully integrated, zero footprint
CPU Type	Multi-core Intel
Memory	8 GB RAM (min): Avia 3000 16 GB RAM (min): 6000/9000
Hard Drive	1.0 TB (min.)
Operating System	Win 7/64 Embedded
Ethernet	10/100/1000 base-T
Removable Storage	CD/DVD+/- R/W
USB Ports	Dual USB 2.0
Local Image Buffer Capacity	
Image buffer	2D: ~9,000 4-view studies; 3D™: ~3,000
Graphics Processors■✚	
Advanced capabilities	Generated 2D Imaging

Additional Options✚

Biopsy■◆
Affirm™ breast biopsy guidance system
Affirm stereotactic biopsy additional system license
Affirm 3D™ biopsy license
Affirm 3D™ biopsy additional system license
Advanced Diagnostics■◆
I-View™ software license for Contrast Enhanced 2D Imaging

Advanced Imaging■
C-View™ software license for Low-dose 3D MAMMOGRAPHY™ Imaging
Image Analytics
Cenova® server
ImageChecker™ 2D CAD License
ImageChecker CAD for C-View 2D License
ImageChecker 3D™ CAD License*
Quantra™ 2D and 3D™ breast density analysis software license
Quantra 3D™ License

Documentation

Manuals and Reference Documents
User Manual
Service Manual
Quality Control Manual
DICOM Conformance Statement

System Options and Accessories

Paddles and Accessories	Selenia Dimensions Packages				
	Avia 2D 3000	2D 6000	2D 9000	3D™ 6000	3D™ 9000
Screening Compression Paddles					
24x29 cm Screening Paddle	●	●	●	●	●
18x24 cm Screening Paddle	●	●	●	●	●
Small Breast Screening Paddle	○	○	●	○	●
Diagnostic Compression Paddles					
10 cm Contact Paddle	○	●	●	●	●
15 cm Contact Paddle	○	○	○	○	○
7.5 cm Spot Contact Paddle	○	○	●	○	●
Frameless Spot Contact Paddle	○	○	●	○	●
Magnification Compression Paddles					
10 cm Magnification Paddle	○	●	●	●	●
15 cm Magnification Paddle	○	○	○	○	○
7.5 cm Spot Magnification Paddle	○	○	●	○	●
Localization Compression Paddles					
10 cm Open Localization Paddle	○	○	○	○	○
15 cm Open Localization Paddle	○	○	○	○	○
10 cm Open Magnification Localization Paddle	○	○	○	○	○
10 cm Perforated Localization Paddle	○	○	○	○	○
15 cm Perforated Localization Paddle	○	○	○	○	○
10 cm Perforated Magnification Localization Paddle	○	○	○	○	○
Ultrasound Compression Paddles					
Ultrasound Paddle	○	○	○	○	○
Imaging Accessories					
Magnification Platform	○	●	●	●	●
Localization Cross-hairs	○	○	○	○	○
Magnification Localization Cross-hairs	○	○	○	○	○
Other Accessories					
Dual-function footswitches (2)	●	●	●	●	●
Integrated UPS	○	●	●	●	●

● – Included capability

○ – Optional capability on some configurations, sold separately

▲ – Recommended for biopsy and contrast applications.

◆ – Not available for mobile configurations.

✚ – Please consult your Hologic sales representative for details on requirements.

■ – Optional future capability, sold separately for the Avia 3000 package. Not available at the time of initial purchase. Please consult your Hologic sales representative for details on additional requirements.

★ – At time of initial order only.

* Not FDA approved or available for sale in the U.S.

Imaging, Acquisition Workstation and Workflow Features

Initial Imaging Modes

Initial Imaging Modes	Selenia Dimensions Packages				
	Avia 2D 3000	2D 6000	2D 9000	3D™ 6000	3D™ 9000
Full Field Digital Mammography					
2D Screening	●	●	●	●	●
2D Diagnostic	○	●	●	●	●
Genius™ 3D MAMMOGRAPHY™ Exam					
3D™ Screening: Combo (3D™+2D)	■	○	○	●	●
Low-dose 3D™ Screening with C-View™ software: TomoHD (3D™ exam+generated 2D)	■	○	○	○	○
3D™ Screening: ComboHD (3D™ exam+2D+generated 2D)	■	○	○	○	○
3D™ Diagnostic	■	○	○	●	●
Biopsy◆					
Stereotactic biopsy	■	○	○	○	○
Tomosynthesis biopsy	■	○	○	○	○
Contrast Enhanced 2D (CE2D)◆					
CE2D imaging with I-View™ software	■	○	○	○	○
CE2D imaging combined with 3D™ Diagnostic: (CE2D+3D™ exam)	■	○	○	○	○

Image Acquisition

Image Acquisition	Imaging Modes						
	2D	3D™	Combo	TomoHD	ComboHD	CE2D	CE2D Combo
Parameters							
3D™ exam Scan Angle (°)		15°	15°	15°	15°		15°
3D™ exam Projection Images		15	15	15	15		15
3D™ exam Scan Time		3.7s	3.7s	3.7s	3.7s		3.7s
Cycle Time, Exposure to Exposure	26s	30s	40s	30s	40s	33s	42s
Time to 2D Image View	10s		22s		22s	11s	25s
Time to 3D™ exam Slice View		11s	11s	11s	11s		11s
Time to C-View 2D Image View				21s			
Time to CE2D Subtraction Image View						14s	28s
Based on ACR phantom 4.2 cm compressed breast.							

Software/Connectivity

DICOM Services
Print
Query
Storage
Storage Commitment
Worklist
IHE Profiles
Mammography Image
Patient Information Reconciliation
Scheduled Workflow

Additional Options

Workflow Management
Advanced Workflow Manager server and license package
Advanced Workflow Manager additional licenses

Workflow

Workflow	Selenia Dimensions Packages				
	Avia 2D 3000	2D 6000	2D 9000	3D™ 6000	3D™ 9000
Working Environment					
Powered height adjustment	○	●	●	●	●
Powered memory height adjustment			●		●
Fingerprint user identification	○	○	●	○	●
Integrated barcode reader	○	○	●	○	●
Flat work surface	●	●	●	●	●
Stowable keyboard drawer	●	●	●	●	●
Left/right control position selection	●	●	●	●	●
Safety Features					
Emergency stop button	●	●	●	●	●
Emergency compression release button	●	●	●	●	●
System Control					
Keyboard and mouse	●	●	●	●	●
1.2 MP color LCD control monitor	●	●	●	●	●
LCD touch-screen control			●		●
Image Monitor					
2 MP medical-grade color LCD display	●	●		●	
3 MP medical-grade grayscale LCD display	○	○	●	○	●
Image monitor tilt and swivel	●	●	●	●	●
Dual-articulating swing-arm▲	○	○	○	○	○
Left/right image monitor position selection	●	●	●	●	●
Radiation Protection					
Integrated leaded acrylic X-ray shield; H x W: 203 cm x 86 cm (80 in x 34 in)	●	●	●	●	●
Lead equivalence: 0.5 mm	●	●	●	●	●
Installation Flexibility*					
Mobile coach travel kit	○	○	○	○	○
Software Licenses◆					
Advanced Connectivity License Package: MPPS License Radiation Dose SR License	○	○	●	○	●
Notices License	○	○	●	○	●
Diagnostic Imaging License	○	●	●	●	●
Dynamic Tube Head Motion License	■	●	●	●	●
Tomosynthesis Imaging License	■	○	○	●	●
C-View™ software license for Low-dose 3D MAMMOGRAPHY™ Imaging	■	○	○	○	○
I-View software license for Contrast Enhanced 2D Imaging◆	■	○	○	○	○

X-ray Gantry Specifications

Gantry Mechanics

C-Arm	
Design■	Split C-arm, biopsy and tomosynthesis capable
Vertical Range	70.5 cm +5.1/-0 cm (27.75 in +2.0/-0 in) to 141 cm +0/-17.8 cm (55.5 in +0/-7.0 in)
Vertical Travel	Motorized
Rotation	2D: +195° to -155° Biopsy and 3D™ exam: +180° to -140°
Source-Image Distance (SID)	70 cm
Patient Face Shield	2D: Removable 3D™ exam: Retractable and removable
Breast Compression	
Modes of Operation	Selected by Operator
Pre-compression Range	70 to 134 N (15.6 lbs to 30 lbs)
Full-compression Range	89 to 178 N (20 lbs to 40 lbs)
Dual-compression Function	1st activation: pre-compression Subsequent activations: incremental increase up to full-compression
Manual-compression Force Limit	300 N (67.4 lbs) maximum
Compression Tilt	Standard or FAST™ paddle, User-selectable
Magnification■	
Platform	Lightweight carbon fiber with frame
Magnification Factors	1.5x, 1.8x
X-ray Collimation	
Collimation Modes	Fully-automatic or User-selectable
Pre-defined Collimation Sizes	24x29 cm, 18x24 cm 15x15 cm, 10x10 cm, 7x8.5 cm,■ 18x29 cm■

Digital Image Receptor

Technology	
Type	TFT-based direct capture
X-ray Absorption Material	Amorphous selenium
Image Receptor Size	Single plate 24 cm x 29 cm
Pixel Size	70 microns
Limiting Spatial Resolution	2D: 7.1 lp/mm 3D™ exam: 3.5 lp/mm
Dynamic Range	Linear response over 400:1 in X-ray exposure
Captured Image Bit Depth	14-bits
Saturation X-ray Exposure Level	> 500 mR
Image Capture Geometry	
Non-magnified	24 cm x 29 cm (3328 x 4096) center position 18 cm x 24 cm (2560 x 3328) left, center and right positions
Magnified	18 cm x 24 cm (2560 x 3328) center position
Anti-scatter Grid	
Grid Structure	HTC™ High Transmission Cellular Grid
Grid Behavior	Auto-retracts for magnified 2D and all 3D™ exam views
Storage Environment	
Storage Temperature Range	10° C to 30° C (50° F to 86° F)
Maximum Rate of Temperature Change	< 10° C per hour
Relative Humidity Range	10% to 80%, non-condensing

X-ray Subsystem

Integrated Generator	
Design	Zero footprint, fully integrated
Type	Constant Potential High Frequency Inverter
Rating	7.0 kW max. (ISOwatt); 200 mA @ 35 kV
Electrical Power Capacity	9.0 kW max.
kV Range	2D: 20 to 39 kV, 2D, 1 kV steps (0.5 kV steps option) 3D™: 20 to 49 kV, 2D, 1 kV steps
mAs Range	3.0 to 500 mAs
mA Range	200 mA, large focal spot 50 mA, small focal spot✚
X-ray Tube	
Anode Type	Tungsten, rotating
Anode Design	Bi-angular
Anode Speed	9500 RPM (high speed)
Heat Capacity	222 kJ (300,000 HU)
Target Tube Angle	16°, large focal spot; 10°, small focal spot✚
Focal Spot Size	0.3 mm, large focal spot; 0.1 mm, small focal spot✚
Filtration	0.05 mm Rhodium (Rh) 0.05 mm Silver (Ag) 0.70 mm Aluminum (Al) (3D™ exam) 0.30 mm Copper (Cu) (CE2D)
Port	0.63 mm Beryllium
Electrical Requirements	
Input Line Voltage	200/208/220/230/240 VAC
Input Current	3.5 A standby 65 A for 5 s at 208 VAC 40 A max. breaker rating
Frequency	50/60 Hz ± 5%
Number of Phases	Single, permanently wired

X-ray Control

Exposure Modes	
Manual	User selects all parameters
Auto-Time	System selects mAs; User selects filter, kV
Auto-kV	System selects kV, mAs; User selects filter
Auto-Filter	System selects filter, kV, mAs
X-ray Activation	Single exposure, either table-top button or Integrated footswitch✚

● – Included capability

○ – Optional capability, sold separately

▲ – Recommended for biopsy and contrast applications.

◆ – Not available for mobile configurations.

✚ – Please consult your Hologic sales representative for details on requirements.

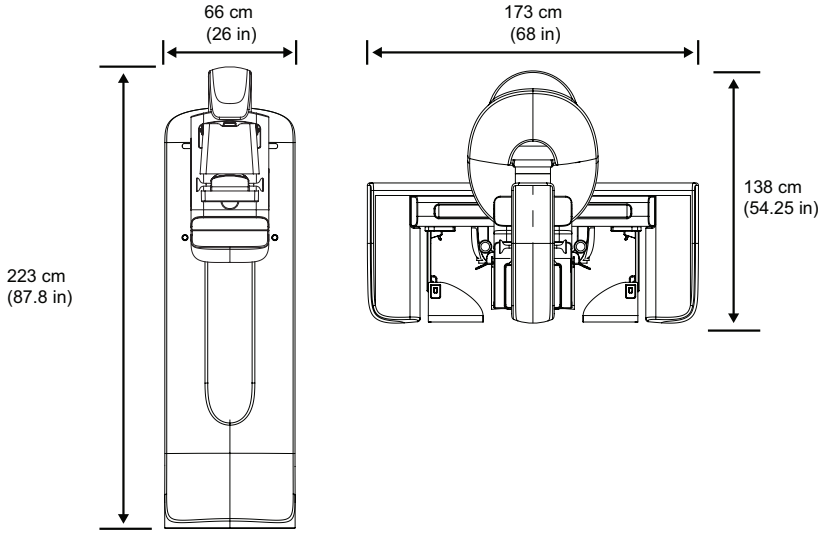
■ – Optional future capability, sold separately for the Avia 3000 package. Not available at the time of initial purchase. Please consult your Hologic sales representative for details on additional requirements.

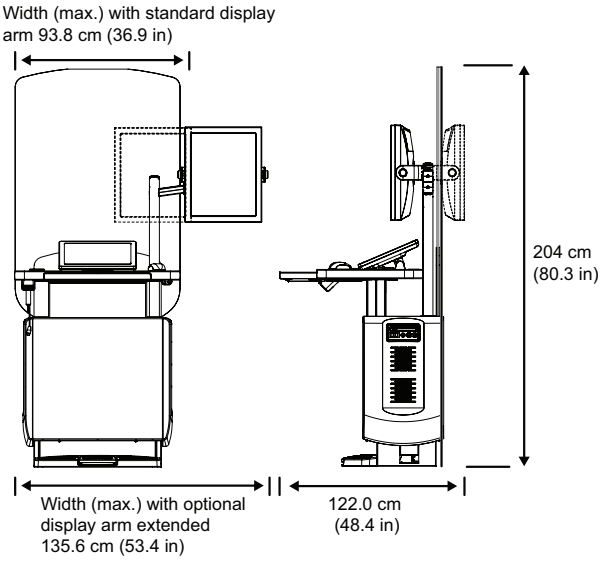
★ – At time of initial order only.

For further detailed specifications, please see the Selenia Dimensions User Guide.

Selenia Dimensions System

Optional equipment shown.





Complementary site planning is available with your purchase, including connectivity planning and custom room drawings.

1. Friedewald S, Rafferty E , Rose S, et al. "Breast Cancer Screening using Tomosynthesis in Combination with Digital Mammography." Journal of the American Medical Association. 2014 July;311(24):2499-2507. Epub 2014 June 24. **2.** Skaane P, Bandos A, Gullien R, et al. "Comparison of Digital Mammography Alone and Digital Mammography Plus Tomosynthesis in a Population-based Screening Program." Radiology. 2013 Apr; 267(1):47-56. Epub 2013 Jan 7. **3.** Ciatto S, Houssami N, Bernardi D, et al. "Integration of 3D Digital Mammography with Tomosynthesis for Population Breast-Cancer Screening (STORM): A Prospective Comparison Study" The Lancet Oncology. 2013 Jun;14(7):583-589. Epub 2013 Apr 25. **4.** Rose S, Tidwell A, Bujnock L, et al. "Implementation of Breast Tomosynthesis in a Routine Screening Practice: An Observational Study." American Journal of Roentengenology. 2013 Jun; 200(6): 1401-1408. Epub 2013 May 22. **5.** McCarthy A, Kontos D, Synnestvedt M, et al. "Screening outcomes following implementation of digital breast tomosynthesis in a general-population screening program." J Natl Cancer Inst. 2014 Oct 13;106(11). **6.** Greenberg J, Javitt M, Katzen J, et al. "Clinical Performance Metrics of 3D Digital Breast Tomosynthesis Compared With 2D Digital Mammography for Breast Cancer Screening in Community Practice." AJR Am J Roentgenol. 2014 Sept; 203:687-693. Epub 2014 Jun 11. **7.** Zuley M, Bandos A, Ganott M, et al. "Digital Breast Tomosynthesis versus Supplemental Diagnostic Mammographic Views for Evaluation of Noncalcified Breast Lesions." Radiology. 2013 Jan; 266(1):89-95. Epub 2012 Nov 9. **8.** Brodersen J, Siersma V. "Long-Term Psychosocial Consequences of False-Positive Screening Mammography." The Annals of Family Medicine 2013 Mar;11(2):106-15. **9.** Alcusky M, Philpotts L, Bonafede M, et al. "The patient burden of screening mammography recall." J Womens Health 2014 Sep;23 Suppl 1:S11-9 **10.** Bonafede M, Miller J, Lenhart G, et al. "Health Insurer Burden of Patient Recall Following Breast Cancer Screening Mammography: Potential Impact of 3D Mammography." Value Health. 2014 May;17(3): A82. **11.** Kalra V, Haas B, Forman H et al. "Cost-Effectiveness of Digital Breast Tomosynthesis." (paper presented at the annual meeting of the Radiological Society of North America, Chicago, Il, November 2012). **12.** Rafferty E, Park J, Philpotts L, et al. "Assessing Radiologist Performance Using Combined Digital Mammography and Breast Tomosynthesis Compared with Digital Mammography Alone: Results of a Multicenter, Multireader Trial." Radiology. 2013 Jan; 266(1):104-13. Epub 2012 Nov 20. **13.** FDA PMA submission P080003

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Breast and Skeletal Health

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