Changing the paradigm of breast cancer detection through innovation

Selenia® Dimensions® is a sophisticated digital mammography system designed for leading breast centers that desire superb image quality, high productivity and a flexible platform designed for advanced applications. Selenia Dimensions can be used to perform screening and diagnostic mammography, as well as interventional procedures and breast tomosynthesis.

The addition of Selenia Dimensions breast tomosynthesis system to breast cancer screening increases cancer detection by 27% and increases invasive cancer detection by 40%.

In addition, studies show Hologic tomosynthesis reduces unnecessary callbacks by 20-40%.

Selenia Dimensions with Acquisition Workstation (AWS) 8000 is a state-of-the-art system designed to streamline workflow and improve productivity. One-touch controls, a biometric login and ergonomically designed exposure switches are just a few of the unique system features to help improve exam efficiency.
Selenia® Dimensions® with AWS 8000 System Specifications

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

Acquisition Workstation
CPU ..................................... Multi-Core Intel Based CPU
Memory ................................ 16 GB RAM
Hard Drive ............................ 1.0 TB (min)
Storage Media ...................... DVD +/- R/W
Image Display Technology ....... 3 Megapixel Grayscale Medical Grade LCD Display
User Interface Display ........... 1.2 Megapixel Touchscreen Color LCD Display
Operating System ................. Microsoft Windows 7/64, Embedded
DICOM Services .................... Worklist, Print, Storage, Storage Commitment, Query/Retrieve, Modality Performed Procedure Step
IHE Profiles ....................... Scheduled Workflow, Patient Information Reconciliation, Mammography Image
User Interface ....................... Keyboard, trackball, touchpad, biometrics scanner,
bar code scanner
Local Image Store Capacity ....   Approximately 9,000 screening mammography
studies; or 3,000 combined screening
mammography and tomosynthesis studies
Ergonomic Enhancements ......  Touchscreen user interface (no-lift advantage), biometrics user login, automated barcode reader, articulated image display

Exposure Modes
Manual.................................. Operator selects all parameters
Auto-Time ............................ System selects mAs, operator selects filter and kV
Auto-kV ................................ System selects kV and mAs, operator selects filter
Auto-Filter ............................ System selects filter, kV and mAs

Integrated Radiation Shield
H x W ................................... 80 in x 34 in (203 cm x 86 cm)
Lead Equivalence ................... 0.5 mm
Material ............................. Leaded glass

Electrical Requirements
Input Line Voltage ................. 100/120/220/230/240 VAC
Input Current ........................ 3.5 Amps maximum @ 100/120 VAC
......................................................... 2.0 Amps maximum @ 200/220/230/240 VAC
Frequency ............................ 50/60 Hz

Digital Image Receptor
Type ..................................... TFT-based direct capture technology
X-ray Absorption Material ...... Amorphous selenium
Image Receptor Size ............. Single plate 24 cm x 29 cm
Imaging Modes ................... Conventional mammography; tomosynthesis; combined conventional mammography and tomosynthesis
Screening Views ................. 18 cm x 24 cm nominal (2560 x 3328) at center, left and right detector locations; 24 cm x 29 cm (3328 x 4096) at center location
Diagnostic Views ................. 18 cm x 24 cm nominal at center, left and right detector locations
Magnification Views .............. 18 cm x 24 cm nominal at center detector location
Pixel Size .............................. 0.070 mm
Limiting Spatial Resolution .... 7.1 lp/mm, conventional mammography; 3.5 lp/mm, tomosynthesis

Dynamic Range ...................... Linear response over 400:1 in x-ray exposure
Output Image ...................... 14 bit image data
Saturation ............................. X-ray exposure level at which image pixels are saturated is not less than 500 mR
Anti-scatter Grid ................... HTC™ High Transmission Cellular Grid with auto-retract for geometric magnification views and tomosynthesis

Storage Environment
Storage Temperature Range ... 10° C to 30° C
Maximum Rate of Temperature Change ..........<10° C/hour
Relative Humidity Range ........ 10% to 80% non-condensing
**X-ray Gantry**

**Generator**
- Type: Constant potential high frequency inverter type
- Rating: 7.0 kW, maximum (isowatt), 200 mA at 35kV
- Electrical Power Capacity: 9.0 kW maximum
- kV Range: 20 kV to 49 kV in 1 kV increments
- mAs Range: 3.0 mAs 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: High speed (9500 RPM)
- Target-Tube Angle: 16° (large focal spot), 10° (small focal spot)
- Heat Capacity: 300,000 HU (222 kJoules)
- Focal Spot Size: 0.1 mm (small), 0.3 mm (large)
- Filtration: 0.050 mm rhodium (Rh); 0.050 mm silver (Ag); 0.70 mm aluminum (Al)
- Port: Beryllium

**Electrical Requirements**
- Input Line Voltage: 200/208/220/230/240 VAC nominal ±10%
- Input Current: 3.5 Amps standby, 65 Amps for 5 seconds at 208 VAC (40A input breaker rating) maximum
- Frequency: 50/60 Hz ± 5%
- Number of Phases: Single, permanently wired

**C-Arm Assembly (Biopsy-Ready)**
- Vertical Travel: 27.8 in to 56.0 in (71 cm to 142 cm) motorized
- Rotation: +195° to -155°, Conventional mammography; +180° to -140°, Biopsy, tomosynthesis
- SID: 70 cm
- Patient Face Shield: Removable, retractable

**Compression Modes (Operator Selectable)**
- Pre-compression: 15.7 lbs to 30 lbs (70 to 134 Newtons [N]), motorized
- Full Compression: 20 lbs to 40 lbs (89 to 178 N), motorized
- Dual Compression: First activation provides pre-compression force; incremental increase of compression with each subsequent activation up to full compression
- Manual Compression: 67.4 lbs (300 N) maximum
- Compression Tilt: Standard, FAST; user-selectable

**Magnification**
- Magnification Factor: 1.5x; 1.8x

**Collimation System**
- Collimation Mode: Fully automatic or user-selectable
- Predefined Collimation
- Size Settings: 24 cm x 29 cm, 18 cm x 29 cm, 18 cm x 24 cm, 15 cm x 15 cm, 10 cm x 10 cm, 7.5 cm x 8.0 cm

**Components**

**Standard Components**
- Screening Compression
  - Paddles: 24 cm x 29 cm, 18 cm x 24 cm, Small breast paddle
- Diagnostic Compression
  - Paddles: 10 cm contact paddle, 7.5 cm spot contact paddle, Frameless spot paddle
- Magnification Compression
  - Paddles: 10 cm magnification paddle, 7.5 cm spot magnification paddle
- Accessories: Magnification platform, Dual-function footswitches (2)
- Manuals: User, Service and Quality Control

**System Options**
- Diagnostic Compression
  - Paddles: 15 cm contact paddle
- Magnification Compression
  - Paddles: 15 cm magnification paddle
- Needle Localization
  - Paddles: 10 cm open localization paddle, 15 cm open localization paddle, 10 cm perforated localization paddle, 15 cm perforated localization paddle, 10 cm open localization paddle for magnification
- Accessories: Localization crosshair assemblies (contact, magnification)
- Needle Localization Kit: 10 cm open localization paddle, 10 cm open localization paddle for magnification, Localization crosshair assemblies
- Tomosynthesis: Tomosynthesis Modality Imaging License, Tomosynthesis retractable face shield, Tomosynthesis Image Review License (single workstation)
- Upright Biopsy: Affirm™ Breast Biopsy Guidance System
- Image Analysis Tools: ImageChecker® CAD, Quantra™ Breast Density Assessment
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4 Available when the tomosynthesis option is installed.
5 The kV range is limited to 39 kV if the tomosynthesis option is not installed.

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