## Hologic Affirm Prone Biopsy System

Introducing the first and only dedicated prone stereotactic biopsy system with 2D/3D"w imaging. Hologic brings $3 D^{m "}$ imaging to prone procedures and enables high-resolution 2D imaging - for those who haven't yet moved to 3D ${ }^{\text {m" }}$ breast screening. Explore the technical details of the Hologic Affirm ${ }^{\circledR}$ prone biopsy system on the following pages. Contact your Hologic representative to learn more about this next-generation solution.


## ©

## Superior image quality.*

Using the same proven detector technology as our Selenia ${ }^{\circledR}$ Dimensions ${ }^{\circledR}$ mammography system, Hologic's Affirm ${ }^{\circledR}$ prone system helps you pinpoint subtle lesions and faint calcifications found during mammography exams.


## Streamlined workflow.

With automated tube-head motion, programmed biopsy needle parameters, and one-click targeting for 3D ${ }^{\text {w }}$ breast biopsies, you can generate high quality images in seconds - for fast procedures and an exceptional patient experience.


Easy $360^{\circ}$ breast access.
A fully integrated C-arm enables $360^{\circ}$ breast access to challenging lesions. Go seamlessly from standard to our exclusive lateral needle approach to accelerate procedures.

## Technical Specifications

Overall System Specifications

| General Operating Conditions |  |
| :--- | :--- |
| Temperature range | $10^{\circ} \mathrm{C}$ to $30^{\circ} \mathrm{C}\left(50^{\circ} \mathrm{F}-86^{\circ} \mathrm{F}\right)$ |
| Max rate of temperature change | $10^{\circ} \mathrm{C}$ per hour |
| Relative humidity range | $10 \%$ to $80 \%$, non-condensing |

Electrical Specifications

| System Protection |  |
| :---: | :---: |
| Uninterruptable power supply | $700 \mathrm{VA}, 420 \mathrm{~W}$ output power |
| Electrical Requirements |  |
| Input line voltage | $\begin{aligned} & \text { 200/208/220/230/240 } \\ & \text { VAC } \pm 10 \% \end{aligned}$ |
| Average line current over 24 hours | $<5 \mathrm{~A}$ |
| Line current | 4 A <br> (65 A maximum for $<5$ seconds) |
| Frequency | $50 / 60 \mathrm{~Hz} \pm 5 \%$ |

General Specifications

| Acquisition Workstation | Multi-core Intel |
| :--- | :--- |
| CPU type | 4 GB |
| Memory | 1 TB |
| Hard drive size | Windows 7/64-bit Embedded |
| Operating system | $100 / 1000$ BASE-T Ethernet |
| Ethernet | $71.1 \mathrm{~cm}(28$ in) to $111.8 \mathrm{~cm}(44 \mathrm{in})$ |
| Height range (Floor to work surface) | $40.6 \mathrm{~cm}(16$ in) |
| Adjustable vertical travel | Electronic |
| Adjustment type | CD/DVD +/- R/W |
| Removable storage | $6 \times$ USB 2.0 |
| USB ports | 2 D Images: 200,000 images |
| Local image buffer | $3 D^{\text {mw }}$ Images: 5,000 images |
| Workflow display monitor | $17^{\prime \prime} 1280 \times 1024$ resolution |
| Image display monitor | 2 MP or 3 MP DICOM display |

## X-ray Gantry Specifications

| Gantry Mechanics |  |
| :--- | :--- |
| Gantry weight | $445 \mathrm{~kg}(980 \mathrm{lbs})$. |
| Generator weight | $136 \mathrm{~kg}(300 \mathrm{lbs})$. |
| Acquisition workstation weight | $114 \mathrm{~kg}(252 \mathrm{lbs})$. |


| Patient Support Platform |  |
| :---: | :---: |
| Type | Bidirectional patient positioning |
| Motorized height range | 86.4-145 cm (34-57 in) |
| Patient weight limit (lift and support) | 181.4 kg (400 lbs.) |
| Lighting | LED: Under table and biopsy field work light |
| C-arm |  |
| Design | Fully integrated and independently rotating tube-arm, biopsy arm, detector mechanism |
| Lateral needle approach | Fully integrated into biopsy arm |
| Rotation | $180^{\circ}$ continuous |
| Source-Image Distance (SID) | 80 cm (31.5 in) |
| Breast Compression |  |
| Pre-compression | Motorized |
| Compression | Manual, handwheel driven |
| Release | Motorized |
| Controls | Handwheel or footswitch |
| Manual compression force | $67.4 \mathrm{lb} .(300 \mathrm{~N})$ maximum |
| Motorized compression force | $14 \mathrm{lb} .(62.3 \mathrm{~N})$ minimum $45 \mathrm{lb} .(200 \mathrm{~N})$ maximum |
| Paddles | ```5cm }\times5\textrm{cm}\mathrm{ (biopsy window) standard, 6cm}\times7\textrm{cm}\mathrm{ standard, 5cm x 5 cm axillary, 15 cm (total width) lateral``` |



## Digital Image Receptor

| Technology | TFT-based direct capture |
| :--- | :--- |
| Type | Amorphous selenium |
| X-ray absorption material | $33 \mathrm{~cm}(13 \mathrm{in}) \times 21.5 \mathrm{~cm}(8.46 \mathrm{in})$ |
| Image receptor size $(\mathrm{H} \times \mathrm{W})$ | $14.3 \mathrm{~cm}(5.63 \mathrm{in}) \times 11.7 \mathrm{~cm}(4.6 \mathrm{in})$ |
| Field of view size | $70 \mu \mathrm{~m}$ |
| Pixel size | $2 \mathrm{D}: 7.1 \mathrm{lp} / \mathrm{mm}$ <br> Limiting spatial resolution <br> Dynamic range <br> Linear response over greater <br> Captured image bit depth <br> than $400: 1$ dynamic range <br> Seometric magnification <br> Storage Environment |
| Storage temperature range | 1.18 |
| Relative humidity range | $10^{\circ} \mathrm{C}$ to $35^{\circ} \mathrm{C}$ |

X-ray Subsystem

| Stand-Alone Generator | Constant potential three-phase <br> high frequency inverter |
| :--- | :--- |
| Type | 7.0 kW (large focus) maximum, <br> at 34kV) |
| Rating | 9.0 kW maximum |
| Electrical power capacity | $20-49 \mathrm{kVp}$ in 1 kVp increments |$|$| kV Range | $3-500 \mathrm{mAs}, 45 \mathrm{steps}: 3.2,3.6,4,4.5$, |
| :--- | :--- |
| mAs Range | $18,20,22,25,28,32,36,40,45,50$, |
|  | $56,63,71,80,90,100,110,125,140$, |
| mA Range | $160,180,200,220,250,280,320$, |
| X-ray Tube | $360,400,450,500 \mathrm{mAs}$ |
| Anode type | $10-200 \mathrm{~mA}$ |
| Focal spot size | Tungsten |
| Filtration | 0.3 mm nominal |
| Port | Aluminum, 0.70 mm nominal |



## Biopsy Guidance

| Specifications | Cartesian coordinate |
| :--- | :--- |
| Needle guidance | $+/-1 \mathrm{~mm}$ |
| Accuracy | $+/-15^{\circ}$ |
| Stereotactic angle | $+/-7.5^{\circ}$ |
| Tomosynthesis angle | 2 axis motorized, manual advance |
| Guidance movements | Heedle into the breast <br> Verizontal: -3.5 cm to +3.5 cm <br> Range of movement 0 to 5.0 cm <br> Biopsy control module 0 to 10.0 cm |

## Acquisition Workstation

## Connectivity

## DICOM services

Print, query, storage, storage commitment, worklist

## Integration profile: Scheduled workflow

Actor: Acquisition modality

- Option: Assisted acquisition protocol setting
- Option: PPS exception management
- Option: Broad worklist query
- Option: Patient-based worklist query


## Integration profile: Patient information reconciliation

Actor: Acquisition modality

- Option: None

Integration profile: Access to radiology information
Actor: Image display

- Option: None


## Integration profile: Portable data for imaging

Actor: Portable media creator

- Option: None

Note: Tomosynthesis guided biopsy optional upgrade for 2D configuration.

|||||||||||||||||||| The Science of Sure

## Figure 1: Gantry and Generator Dimensions



Figure 2: Acquisition Workstation Dimensions

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