

# Helianthus DBT

HIGH RESOLUTION MAMMOGRAPHY



# METALTRONICA

Metaltronica takes full advantage of many decades of experience in the diagnostic imaging field and believes in engaging in a continuous dialogue with clinicians and technologists to ensure that its systems address their most demanding requirements.

Helianthus DBT is the best digital mammography solution for making an accurate and thorough breast examination.





*Tomo images can be acquired with the C-arm positioned to any ACR projection angle.*

# TRIPLE SCAN ANGLE FOR TOMOSYNTHESIS

Each mammography exam is unique and requires a personalized approach. Helianthus DBT is an advanced digital breast tomosynthesis system intended to meet all patient's diagnostic needs.

The new top-of-the-line Helianthus digital mammography system, the DBT version, is already configured for all mammography procedures including tomosynthesis. It is easily upgradable with cutting-edge biopsy techniques in tomosynthesis and contrast mammography (Dual Energy).

Helianthus DBT allows the operator to perform tomosynthesis exams by choosing between three scan angles: 15°, 24°, or 50°. Image acquisition is always carried out at the maximum resolution of the digital detector.

# DIFFERENT MODALITIES FOR YOUR EXAMINATIONS

## Screening mammography

The narrowest angle is optimal when an extremely short scan time is required (2.5 s with an FFDM detector) to minimize movement, artifacts, and patient discomfort due to breast compression. This selection allows the operator to manage a large number of daily examinations and is particularly suitable for conducting screening programs.

## Standard diagnostics in only 4 seconds

The intermediate angle has a short scan time (4 s with an FFDM detector) and excellent sharpness. It guarantees a better resolution and is an optimal choice for standard diagnostics procedures.

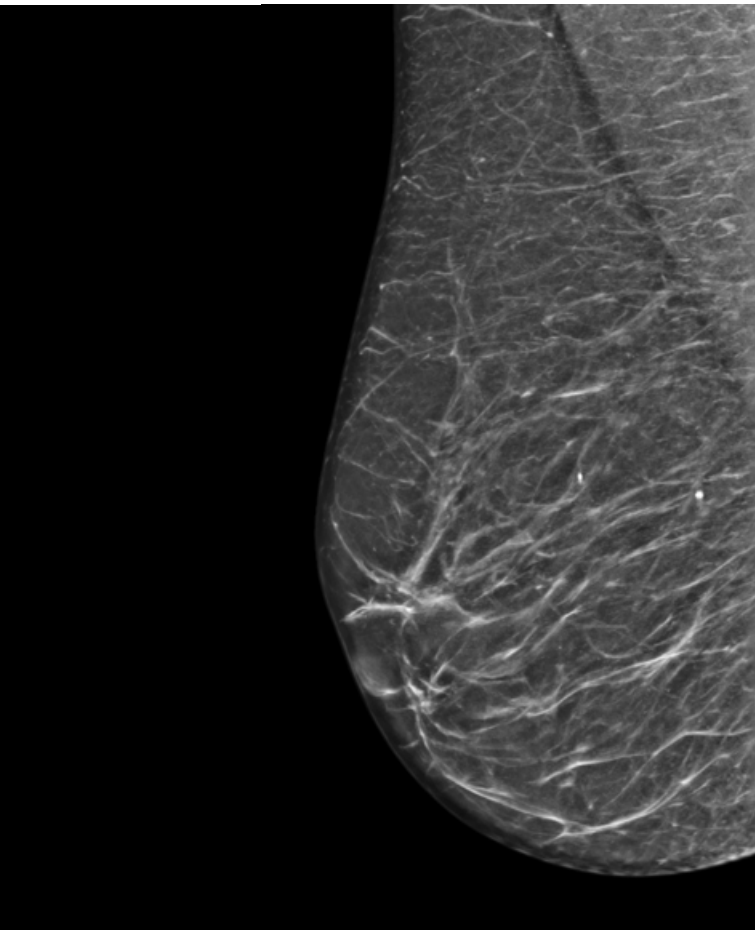
## Diagnostics

The wide angle, requiring a longer scan time (7.7 s with an FFDM detector) improves the discrimination of overlapping tissues and is the recommended choice in case of in-depth analysis and second-level readings.



# VERSATILE PERFORMANCE

**Helianthus DBT** produces images of excellent quality while minimizing the radiation dose. In particular, the mammography system benefits from:



**Three digital full-field flat-panel detectors with both amorphous selenium and amorphous silicon technology.**

All panels have the same resolution (85  $\mu\text{m}$ ) even in tomosynthesis and guarantee the acquisition of excellent diagnostic images. They differ only in the cost and execution times of the procedure, thereby allowing the user to adapt the set-up of the system based upon his/her specific needs.

**COMBO modality produces 2D and 3D images during the same compression cycle**

while applying a total radiation dose lower than the limits imposed by the EUREF protocol's limits for conventional mammography.

**"M-View/VI" Software** produces 2D images directly from tomosynthesis images, without administering an additional radiation dose to the patient.



Triple scan angle  
in Tomosynthesis

2 Mp Medical display  
(3-5 MP optional)

Protective  
screen

Integrated Acquisition  
Workstation

Potter-Bucky  
with anti-scatter  
grid

Two multifunctional  
foot-controls

Integrated X-Ray generator  
(Dual Energy predisposed)

# OPTIMIZED ERGONOMIC DESIGN

## Automatic collimation

Helianthus DBT is outfitted with a size and position recognition device for the compression paddle that automatically adapts to the X-ray beam collimation in all procedure modes: 2D standard, tomosynthesis, geometric magnification, biopsy. As a safety measure that prevents exposures that do not comply with the used accessories, the operator can manually select the collimation setup.

## "Smart $\mu$ Press" compression system

The image quality directly correlates to the correct compression of the breast. Helianthus DBT lets the mammography technician perform this operation automatically or in a motorized mode with manual fine adjustments via rotary controllers or fully manually. In the first two modes, the remarkably gentle progression of the set force significantly reduces the patient's discomfort and allows the operator to stretch the tissues optimally. The available range of standard and optional compressors addresses all diagnostic needs.

## Protective screens

To protect the X-ray beam from other parts that are extraneous to the exam procedure, the Helianthus DBT is equipped with two different polycarbonate screens.









# RADIATION DOSE OPTIMIZATION

## “SensROI” - Pre-exposure mode

In the Helianthus DBT, the digital detector is also used to set optimal exposure parameters in an automatic or a semi-automatic mode. According to the compression paddle employed, a continuous portion of the sensitive area of the detector is selected for a particular procedure and the actual density of the tissue to be examined is determined using a short pre-exposure pulse.

## FAST exposure mode

When implants are present or when it is difficult to carry out a correct compression of the breast, it is still possible to optimize the delivered radiation dose with another exposure modality, called FAST, which is based on the thickness of the tissue to be examined.

## Better speed and convenience

The design of the state-of-the-art Helianthus DBT has allowed a further improvement in terms of the versatility of the system thanks to the isocentric servo-assisted movements of the C-arm that enables smoother and more controlled movements.

Three multi-switches placed on the sides of the C-arm and on the front of the X-ray tube, assist the operator in managing the motorized movements of the arm thus allowing a quick and precise positioning of the patient.

Two 7" color touchscreen displays placed on the C-arm's sides assist the technician in viewing and managing all the exam parameters.

When rotating the C-arm, a sensitive and precise obstacle detection system ensures maximum patient safety.

# RELIABILITY AND PRECISION FOR AN ACCURATE DIAGNOSIS



## Anti-scatter grid

A unique anti-scatter grid, made with the same production process that is used for semiconductors, is mounted in the Potter-Bucky of Helianthus DBT.

The use of the grid in all procedures, including tomosynthesis, makes the operation of this mammography system practical, reliable, and able to always deliver excellent diagnostic images.

## "POEt" Image optimization algorithm

Helianthus DBT employs a powerful "POEt" (Processing for Optimal Enhancement) software that generates diagnostic images directly from the acquired data. The software processes the acquired images in a "For Processing" format that enhances the tissue structure and reduce noises. Extremely versatile, the software includes a set of filters dedicated to the study of breasts with prosthesis or with metal findings, anatomical samples, or biopsy specimens.

# OPTIONS

## Bym 3D DMD

For stereotactic or tomosynthesis biopsy procedures, the Helianthus DBT can be integrated with the Bym 3D DMD biopsy device which is easily interchangeable with the Potter-Bucky and the magnification kit. The positioning of the C-arm for the stereotactic biopsy examination ( $\pm 15^\circ$ ) is motorized and activated with the Bym 3D DMD device. The system has no marking limits and allows the collection of multiple samples. A wide range of supports and adapters allows the use of common needles, biopsy guns, and VABs.

## Geometric magnification kit

As an option, a geometric magnification kit is available. It includes a platform (with 1.5x or 1.8x or 2x factors) and a 9 x 21 cm compression paddle without an anti-diffusion grid.

## Compression paddles

In addition to the standard equipment, other compression paddles are available as options (i.e. specific for the geometric magnification, for the examination of details, and perforated for two-dimensional biopsy procedures).



# STAND-ALONE ACQUISITION WORKSTATION

The Helianthus DBT acquisition and control workstation (AWS) can be offered as a stand-alone unit equipped with a transparent anti-X Ray protection barrier allowing the operator to optimize and manage remotely the workflow.

This configuration includes a 15" touchscreen monitor that facilitates the complete control of the mammography system. It is possible to supply the display monitor with a resolution of 2, 3, or 5 MP.



# VISUALIZATION AND REPORTING

A dedicated and independent review station for the high-resolution visualization of diagnostic imaging is available as an option. It includes:



- Tools to manage operations, process and analyze images.
- Workstation with CD/DVD burner
- Dual 5 MP LCD monochrome monitors
- Color LCD service monitor, keyboard, mouse and dedicated key-pad

*Drawings and images in this document are to be considered indicative and do not bind the manufacturer, who may avail himself of the right to make changes at any time and without prior notice.*



METALTRONICA

*For a brighter future.*

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