



Helianthus DBT

High
definition
and low dose



METALTRONICA

INNOVATION IS WHAT DRIVE US



THINKING ABOUT THE FUTUTRE

Preventive diagnostics remains an essential weapon in defeating breast cancer. Metaltronica's forward-thinking design simplifies the technician's operativity, thereby improving workflow, and ensuring that the mammography assessment is a comfortable experience for the patient.

DAY AFTER DAY

Metaltronica has been supporting physicians in breast cancer prevention for over 40 years, providing high-resolution mammography imaging, with a significant reduction in radiation.

In order to deliver to deliver optimal mammography systems for customers worldwide, Metaltronica has put at the radiologist's disposal its vast experience in the field of mammography and the significant know-how of its technical staff.

DIGITAL BREAST TOMOSYNTHESIS SYSTEM



HELIANTHUS DBT With a Digital Breast Tomosynthesis system (DBT), multiple low-dose x-ray images are acquired in an arc and then reconstructed to create a three-dimensional image. This procedure, avoids the problem of overlapping structures that are seen in conventional 2D mammography and minimizes the impact of overlapping breast tissue, which significantly enhances the detection and characterization of breast lesions.

Helianthus DBT is an advanced digital breast tomosynthesis system, designed to meet the diagnostic needs of radiologists, while ensuring patient comfort and ease of use by technicians.



Helianthus DBT

"In mammography, the objective is to produce images that provide maximum visualization of breast anatomy and the signs of disease without subjecting the patient to unnecessary radiation."

IAEA (International Atomic Energy Agency)

CUTTING-EDGE TECHNOLOGY FOR ACCURATE DIAGNOSIS

While scanning the breast, Helianthus DBT takes a series of low dose x-ray exposures at different angles, and through a sophisticated algorithm, allows **volumetric breast tissue reconstruction**.

The outstanding image quality allows a clear display of lesions and areas of interest and offers radiologists **the best diagnostic accuracy** with a low level of radiation as compared to conventional mammography.

TRIPLE SCANNING ANGLE

DOSE OPTIMIZATION

Metaltronica understands that each exam is unique and requires specific settings. Helianthus DBT was designed to perform tomosynthesis examinations using 3 different angles (15°, 24° and 36°) selectable by the operator.

These three modalities release variable doses at each exposure:

NARROW: 15° angle allows a quick image acquisition (5 seconds) is a particularly fast exam with minimal discomfort for the patient. This modality is highly recommended for screening. The Average Glandular Dose is the lowest among the three modalities.

INTERMEDIATE: 24° angle is the best compromise to obtain excellent image quality and minimum Average Glandular Dose (acquisition time 6 seconds). This modality is recommended for dense and medium size breasts.

WIDE: 36° angle offers the highest resolution to clearly detect and focus on areas of interest (acquisition time 9 seconds). This modality is usually recommended for diagnostic, in-depth analysis.

Tomosynthesis images can be acquired with the C arm positioned on any ACR projection (CC, MLO, ML, LM, SIO). Once finished, the scan reconstructs the tissue as a series of bi-dimensional images (slices) 1 mm thick.





KEY FEATURES

Acquisition station

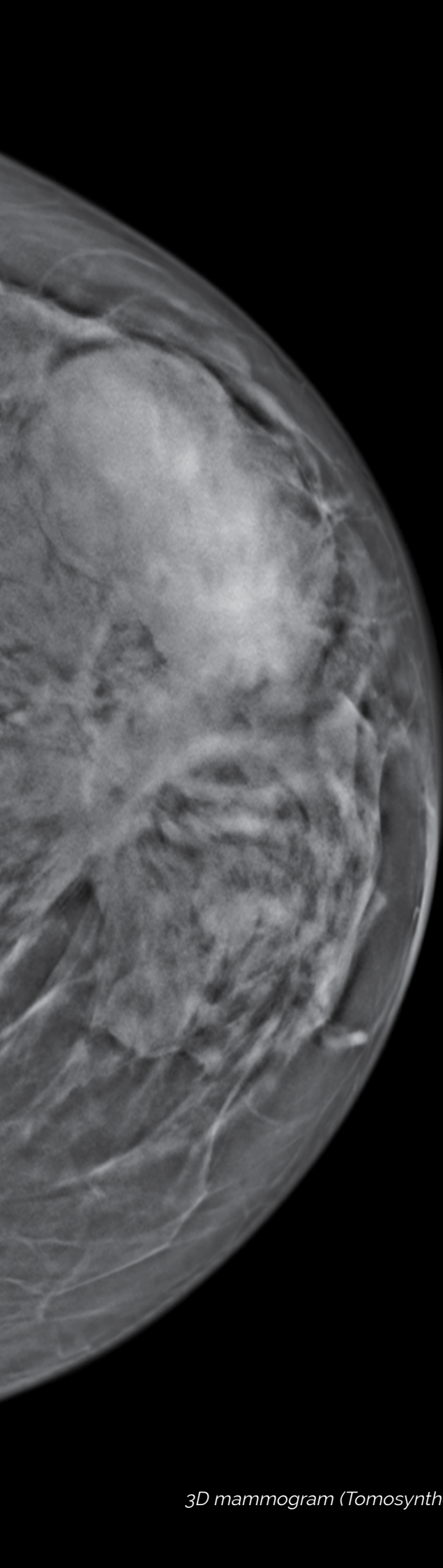
With 15" touchscreen display and 3MP HD monitor. The Helianthus DBT Acquisition Station, integrated with an anti-X protection glass, has been properly designed to optimize the workflow through intuitive solutions customizable by the operator.

Smart μ Press compression system

ensures an optimal compression of the breast with minimal discomfort for the patient. The exclusive "FTSE" function automatically adjusts the force to be applied according to breast density.

SENS ROI automatic exposure control

dual operating mode which sets the exposure parameters based on breast density (PRE) or breast thickness (FAST)



HIGH QUALITY IMAGING

Helianthus DBT generates images of excellent quality, offering a clear view of lesions while careful of the dose delivered to the patient. For this purpose, the system uses:

Amorphous selenium detector direct digital image acquisition with native pixel resolution (no binning) in both 2D and tomosynthesis exams.

Anti-scatter grid specific for Tomosynthesis, produces excellent diagnostic images in 2D screening, tomosynthesis and three-dimensional biopsy.

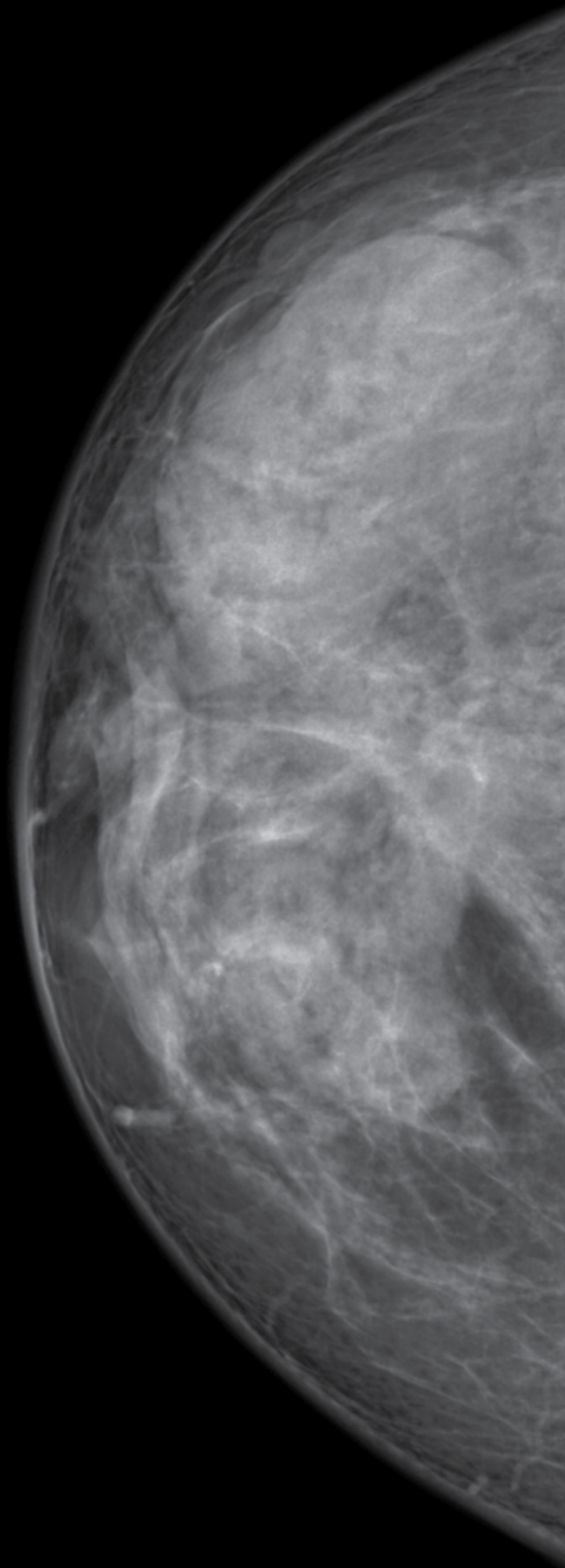
COMBO modality produces 3D and 2D images during the same compression cycle while applying a total dose lower than the limits imposed by the EUREF protocol for conventional mammography.

VI software (Volume Imaging) produces 2D images directly from tomosynthesis images, without administering an additional dose to the patient.

POEt SOFTWARE

Helianthus DBT is equipped with a powerful "POEt" (**P**rocessing **f**or **O**ptimal **E**nhancement) software that generates excellent quality diagnostic images, which **enhance the structure of the tissues** of different types of breasts while reducing noise.

Extremely versatile, it provides a set of filters, dedicated even to breasts with implants and/or with metallic markers, anatomical pieces or cores from vacuum-assisted biopsies.



WORKFLOW OPTIMIZATION

USER ADVANTAGES

The Helianthus DBT Acquisition Station allows to optimize the operator workflow through:

- **15" touchscreen display** to fully control the mammography system and exam settings.
- **21" high-resolution preview monitor** for displaying diagnostic images.
- **Acquisition software** developed to simplify use and increase productivity.
- **Trackball** and scroll wheel to access image reviewing tool.





CUSTOMIZED IMAGING ACQUISITION

Helianthus DBT can use different acquisition protocols, based on the diagnostic events to be processed:

STANDARD

The acquisition protocol is updated in accordance to current mammographic screening procedures and allows the acquisition of the 4 ACR projections (2 CC and 2 MLO) both in 2D and in TOMO mode.

USER

Allows the operator to set the most responsive image acquisition protocol according to the type of exam being performed. All the ACR projections are available in 2D, in TOMO and in COMBO modality or using the "VI" function (synthetic 2D image obtained from the projections acquired in tomosynthesis).

STEREO

Is a protocol for the execution of stereotactic biopsies which can be performed through dedicated needles, biopsy guns and VAB devices.

DUAL ENERGY

Enables the Contrast-Enhanced Spectral Mammography with contrast agent under an effective and safe protocol (available soon).

ERGONOMICS AND USABILITY

Helianthus DBT has been designed for the everyday needs of the operator and has the following features:

- 1 **Two colour displays** placed on both sides of C-Arm, show information regarding compression force, compressed breast thickness, collimation format, magnification factor, projection angle and patient name. Through a touchscreen the operator can select breast laterality and ACR codes.



- 2 **Four multi-switches** placed in strategic positions are easily accessible for the operator to control the movement of the isocentric C arm through continuous and pre-set selections.
- 3 **Two rotating controllers** allow the operator to set the maximum force value and to execute fine manual compressions.
- 4 **Advanced dynamic collimation system.** The mammography system automatically selects the proper collimation format according to the type of exam and to the format and position of the compression paddle.

HELIANTHUS DBT **VARIATIONS** AND OPTIONS



BYM 3D

Helianthus DBT is upgradable with the Bym 3D DBT device for digital stereotactic biopsy. It is easily interchangeable with the Potter-Bucky and the magnification kit.

The control software is integrated into the Acquisition Station and includes a database for the selection of needles, biopsy guns and VABs associated with the respective user selectable codes. The positioning of the C-arm in the necessary angulations for biopsy ($\pm 15^\circ$) is motorized and selectable once the Bym 3D DBT has been inserted.

GEOMETRIC MAGNIFICATION AND COMPRESSION PADDLES

A geometric magnification device (1.5x o 2x) can be supplied as an option. Without an anti-diffusion grid, it significantly reduces the dose. Once inserted, a detection system automatically selects the small focus and adjusts the collimation set-up.

As an option, a 9x21 cm sized flat compression paddle (to be used with the geometric magnification device), a $\varnothing$ 7.5 cm round sized compression paddle to examine details and a 18x24 cm sized perforated compression paddle for two-dimensional biopsy examinations can also be supplied.



VISUALISATION AND REPORTING

A dedicated and independent station for the high-resolution visualization of diagnostic imaging is available as an option. It includes: **Workstation with DVD or Blu-Ray burner; Tools to manage, analyze and process images; Dual 5 Mpixel LCD monochrome monitor; Colour LCD service monitor; DICOM 3.0 MG compliance; Interface for HIS-RIS-PACS systems to transfer images and data from/to the hospital network.**

Optionally, the visualization and reporting software can be integrated with a mammography CAD system for assisted diagnosis which, by using appropriately developed algorithms, is a valid tool for the detection of potential breast lesions.



METALTRONICA S.p.A.
Pomezia (Roma) - ITALY
Via delle Monachelle, 66
ph: +39 06 66 160 206
info@metaltronica.com