Digital mammography – dedicated screening solution

MAMMOMAT Novation S

Answers for life.

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Your benefits at a glance

Going digital presents a unique opportunity to optimize the entire clinical workflow in mammography. Now the opportunity is more compelling than ever as Siemens, a leader in high quality imaging and networking solutions, introduces its dedicated screening digital mammography system MAMMOMAT Novation S.

Easy storage and transmission of images

MAMMOMAT Novation S features the *syngo*-based Acquisition Workstation (AWS) with full DICOM capabilities, which allows digital storage and transmission of images. This enables improved patient management, as previous exams are more easily available and images can be sent electronically without a loss of quality.

Shorter examination times

As a digital mammography system, MAMMOMAT Novation S allows quick review of the images when determining the need for additional images or studies. Patients can be scheduled with maximum efficiency and waiting times for the patient can be reduced.

Increased utilization of Computer-Aided Detection

With MAMMOMAT Novation S, you can benefit from Computer-Aided Detection (CAD), which is becoming an integral part of the mammography workflow. CAD technology enables accurate detection of clinically-relevant lesions, thereby helping to enhance confidence in the detection of breast cancer.

Improved capability to diagnose dense breasts

Digital mammography improves cancer detection in dense breasts. Women of any age with heterogeneous or extremely dense breasts benefit from digital screening mammograms.* At present, only eight percent of the mammography units in the U.S. are digital systems, while approximately 40 percent of women undergoing screening mammography have dense breasts.

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*DMIST study results

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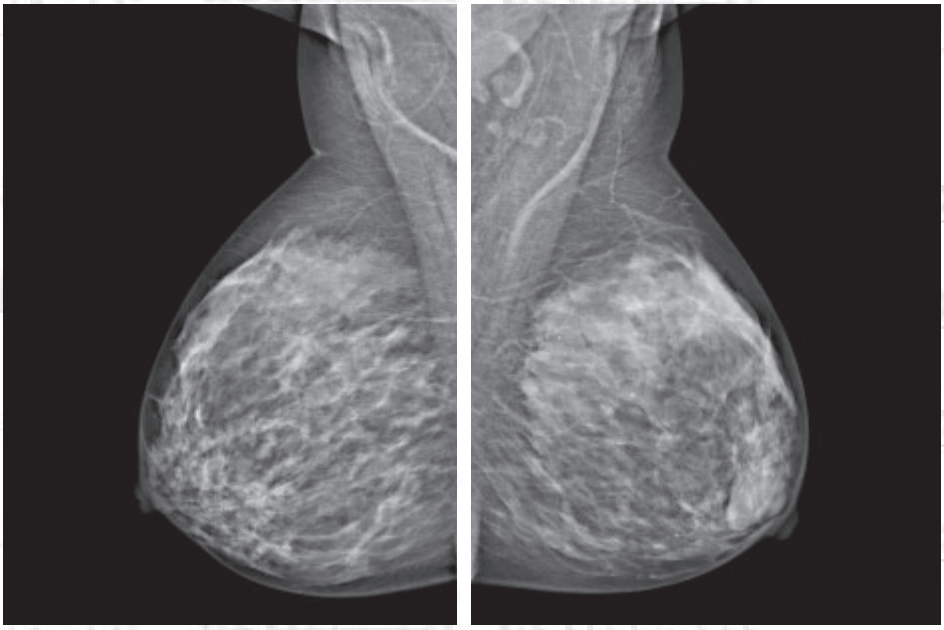
Outstanding image quality



MAMMOMAT Novation S utilizes the latest full-field detector technology based on amorphous selenium (aSe). The flat detector uses a photoconductor to absorb the x-rays and directly generates the electrical signal without any intermediate steps. This direct-to-digital technology yields excellent image quality.

Compared to indirect technologies, the key advantages of direct-to-digital technology are:

- Significantly better x-ray absorption, providing excellent Detective Quantum Efficiency (DQE)* and enabling better detection of small and low-contrast objects
- Increased spatial resolution (> 7 lp/mm) realized as a result of smaller pixel size

The digital detector of MAMMOMAT Novation S provides excellent image quality at the lowest possible dose. The large format size (24 cm x 29 cm) allows imaging of virtually all breast sizes. The field of view for both large- and small-format images adjusts automatically to the compression plate in use.

Image quality in mammography depends greatly on the characteristics of the x-ray tube. MAMMOMAT systems offer three anode/filter combinations at the tube head to match breast density and thickness: Mo/Mo, Mo/Rh and W/Rh. With dual-target Tungsten tube technology and high mA output, even dense breasts are examined in shorter exposure times and with significantly reduced dose.

*DQE measures the efficiency of the detection process of an image detector given by squared ratio of the output signal-to-noise ratio to the input signal-to-noise ratio.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Outstanding patient comfort

To maximize patient comfort, the flat panel detector of MAMMOMAT Novation S features rounded edges and the revolutionary Opfocus compression plate. Opfocus allows a larger area of the pectoral muscle to be included in the image, thus facilitating efficient use of the detector area.

With MAMMOMAT Novation S, you gain all the advantages of digital mammography, plus patient comfort and user-friendly features such as:

- SoftSpeed slows down the compression plate after initial contact with the breast and then adjusts the speed according to compression resistance
- Opcomp compresses only as long as the breast is soft and pliable, and stops at the point of optimal compression for maximum image quality
- Opdose automatically selects the best anode/filter combination (Mo/Mo, Mo/Rh, W/Rh) and the lowest dose for the individual breast characteristics
- Isocentric and motorized movements of the swivel arm enable precise and easy positioning of the breast in all projections


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Optimized workflow

Siemens uses its expertise in high quality imaging and IT to create a digital mammography solution to optimize your clinical workflow. The importance of workflow is especially evident today, as an aging population has increased the demand for mammography. On account of this, breast imaging centers are experiencing a surge in the number of mammography appointments. To accommodate the additional volume, workflow efficiency has become more critical. Siemens' digital mammography solution is designed to address these needs. Combined with *syngo* MammoReport* and PACS*, MAMMOMAT Novation S handles your workflow – from patient registration and image acquisition to reading and reporting through final data storage – and the benefits are undeniable.

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Patient registration

Once the patient is registered at the patient registration desk, the associated data is retrieved from the HIS/RIS by the Acquisition Workstation (AWS) via DICOM Modality Worklist. All patient information, such as previous exams and reports from other modalities, can then be accessed from the AWS. In addition, the AWS supports virtually all DICOM 3.0 functions, seamlessly integrating your data management process into the HIS/RIS world.

Image acquisition

With the pre-defined procedures set at the AWS, the patient is positioned and the exposure is taken at the MAMMOMAT Novation S digital mammography system.

Image processing and image quality check

After the exposure is taken, the image is transferred to the Acquisition Workstation (AWS), where it is displayed for the technologist to review before moving on to the next exposure. This can reduce the examination time per patient as well as recall rates. Images from the AWS are sent to the storage management system and/or the *syngo* MammoReport* breast care workplace.

*Optional

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Reading and reporting

Physicians can review and evaluate acquired images and prepare diagnostic reports on the *syngo* MammoReport breast care workplace. *syngo* MammoReport allows all steps of the reading and reporting process to be individually tailored to meet your needs. Images and previous examinations from other modalities, including MR and Ultrasound, can be viewed on *syngo* MammoReport, as well as mammograms from third-party mammography vendors.

Storage management

Throughout the examination, information can be retrieved from the storage system and/or documented on film or paper. Storage management enables long-term storage of the complete medical case and images are immediately available at every workplace during the entire examination. MAMMOMAT Novation S can be integrated with virtually any storage management system – independent of the manufacturer. Siemens offers a wide range of storage management solutions to meet an institution's needs for low, medium or high patient volume. The scalable PACS solution *syngo* Imaging* provides the appropriate solution for high to low patient volumes.

*Optional

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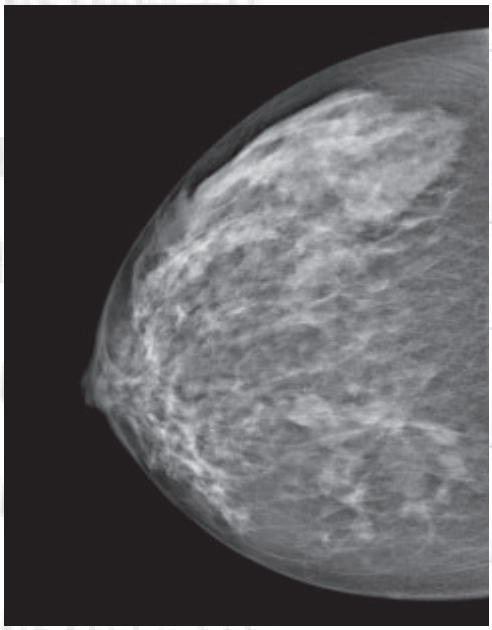

MAMMOMAT Novation S merges all the advantages of full-field digital mammography with Siemens' longstanding networking expertise and a wide array of unique product features.

Together with the dedicated Acquisition Workstation (AWS), MAMMOMAT Novation S is an ideal, comprehensive solution for optimized mammography screening. Through DICOM compatibility, patient data can be stored in existing digital clinical archives and is readily available for view or print.

"We have to continue enhancing mammography for even earlier detection of tumors, so that we can further reduce the number of women who are given inconclusive diagnoses after their initial examinations, and thus require additional tests. With digital mammography we have taken a huge step forward in reaching our objective. It took a long time to obtain the technical prerequisites for high-quality digital mammography. Today's results are brilliant images with excellent resolution."

Detlev Uhlenbrock, M.D., Ph. D.

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The product is only available in the U.S.

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The required features should therefore be specified in each individual case at completion of contract. Siemens reserves the right to modify the design and specifications contained herein without prior notice. Please contact your local Siemens sales representative for the most current information.

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