



**MAMMOMAT *Novation*<sup>DR</sup>**  
Digital Mammography at its Very Best

**SIEMENS**  
medical



## MAMMOMAT *Novation*<sup>DR</sup>

### The leading edge in clinical workflow

Going digital presents a unique opportunity to optimize the entire clinical workflow in mammography. Now the opportunity is more compelling than ever as Siemens Medical Solutions, a leader in high quality imaging and networking solutions, introduces its digital mammography system, MAMMOMAT<sup>®</sup> *Novation*<sup>DR</sup>.

MAMMOMAT *Novation*<sup>DR</sup> combines the proven and favorite features of MAMMOMAT 3000 Nova analog mammography system with the latest digital full-field technology. It offers the best of both worlds – and so much more.

#### **Unique workflow advantages in digital data handling and communication**

MAMMOMAT *Novation*<sup>DR</sup> features the Acquisition Workstation (AWS) with full DICOM capabilities combined with the superior speed of MammoReport<sup>Plus</sup>, the dedicated breastcare softcopy reporting workstation. All patient information, such as previous examinations and reports from other modalities, is just a mouse-click away.

#### **Unique workflow advantages in a digital all-in-one unit**

As with all high-end Siemens mammography systems, MAMMOMAT *Novation*<sup>DR</sup> is equipped with a pivoting bucky. This enables one unit to perform it all – full-field digital mammography, digital spot imaging and digital-imaging-based stereotactic biopsy.

#### **Unique workflow advantages in a digital mammography stand**

Last but not least, MAMMOMAT *Novation*<sup>DR</sup> features a large digital plate that can image large breasts just as an analog system does. A specially designed compression plate allows central isocentric breast positioning, making full use of the large detector.

**MAMMOMAT *Novation*<sup>DR</sup> –  
The benchmark in clinical workflow.**



*MammoReport<sup>Plus</sup>*  
Dedicated softcopy  
reporting workstation

*Pivoting bucky  
(digital stereotaxy)*

*Opfocus<sup>TM</sup>, optimized  
compression plate*



*Acquisition  
Workstation (AWS)*

*Digital detector  
(a-Se; 24 cm x 29 cm)*



## MAMMOMAT Novation<sup>DR</sup>

### Outstanding image quality and patient comfort

MAMMOMAT Novation<sup>DR</sup> utilizes the latest full-field detector technology based on amorphous selenium (a-Se). The new flat panel detector uses a photoconductor to absorb the X-rays and directly generate the electrical signal without any intermediate steps. This direct-to-digital technology yields excellent image quality.

#### Compare the key advantages of the direct-to-digital technology a-Se to indirect technologies

- Significantly better X-ray absorption showing superior DQE\* for better detection of small and low contrast objects
- Smaller pixel size for increased spatial resolution (> 7 lp/mm)

The digital detector of MAMMOMAT Novation<sup>DR</sup> provides excellent image quality with minimal dose. The large format size with 24 cm x 29 cm allows imaging of almost all breast sizes. The field of view for both large- and small-format images adjusts automatically to the compression plate in use. In addition, both 1.5 and 1.8 magnifications are possible with only one magnification table.

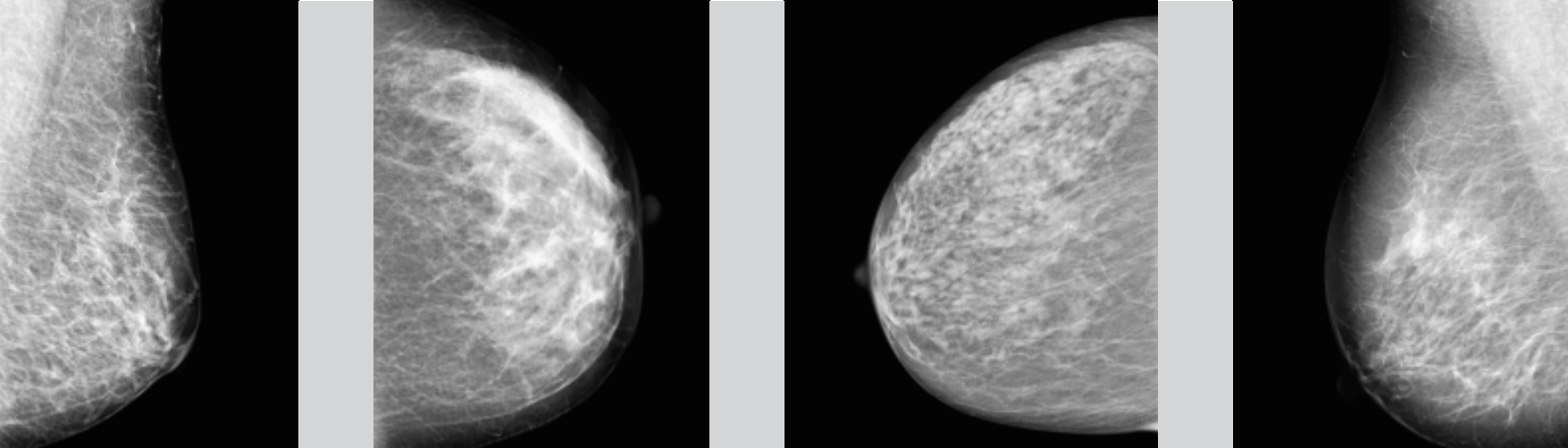
Image quality in mammography greatly depends on the characteristics of the X-ray tube. MAMMOMAT systems offer three anode/filter combinations at the tube head to perfectly match breast density and thickness: Mo/Mo, Mo/Rh and W/Rh.

With dual-target Tungsten tube technology and the high mA output, MAMMOMAT Novation<sup>DR</sup> features the possibility to examine even dense breasts with shorter exposure times and significantly reduced dose.

To maximize patient comfort, the flat panel detector of MAMMOMAT Novation<sup>DR</sup> features rounded edges and the revolutionary Opfocus<sup>TM</sup> compression plate. Opfocus allows central positioning of the breast and the most efficient use of the detector area. This new compression technique excludes no information and allows a larger area of the pectoral muscle to be included in the image.

\*DQE = Detective Quantum Efficiency: 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.





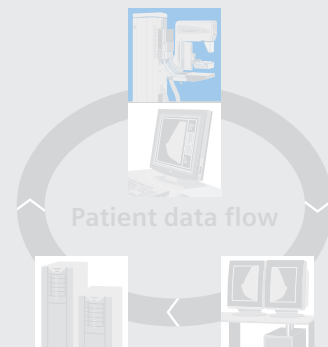
With MAMMOMAT *Novation*<sup>DR</sup> you gain all the advantages of a digital system, plus all the patient comfort and user friendly features of MAMMOMAT 3000 Nova:

- **SoftSpeed** slows down the compression plate after its initial contact with the breast and then adjusts the speed according to compression resistance
- **Opcomp**<sup>®</sup> compresses only as long as the breast is soft and pliable and stops at the point of optimal compression for maximum image quality
- **Opdose**<sup>®</sup> 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.

MAMMOMAT *Novation*<sup>DR</sup> features an integrated generator and movable glass protection – room space requirements are minimized.

**MAMMOMAT *Novation*<sup>DR</sup> –**  
**Outstanding finishing touches add up to unparalleled workflow advantages.**

## MAMMOMAT *Novation*<sup>DR</sup> For the entire digital work-up

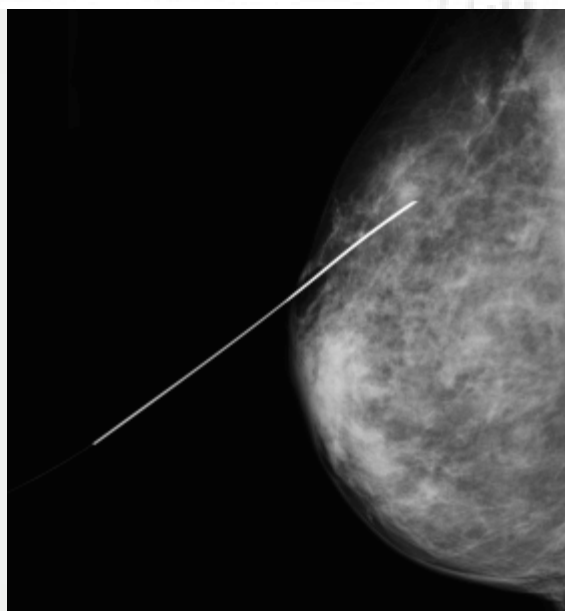
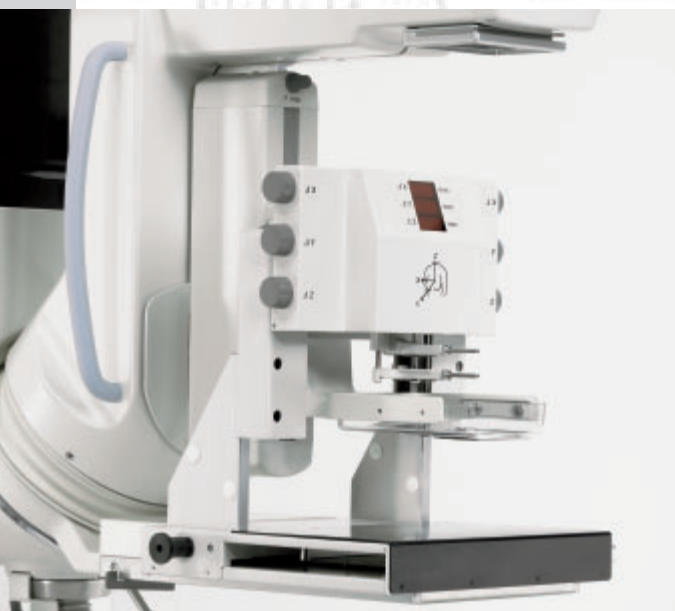


MAMMOMAT *Novation*<sup>DR</sup>, equipped with the world-renowned, extremely popular pivoting bucky, allows the integration of Opdima® digital spot imaging and digital biopsy systems. As a result, MAMMOMAT *Novation*<sup>DR</sup> can host the entire digital mammography work-up in one unit, maximizing system utilization. Opdima features the highest available resolution – up to 20 lp/mm.

MAMMOMAT *Novation*<sup>DR</sup> with Opdima – providing the advantages of an all-in-one digital unit for the entire digital mammography work-up:

- Digital mammography screening and diagnostics
- Digital and geometrical magnification
- Digital high resolution spot imaging
- Digital stereotaxy – fine and core needle biopsy
- Digital needle localization
- Digital specimen radiography
- Digital galactography





Digital screening and stereotactic biopsy can be performed in a comfortable sitting or recumbent position. Thanks to the special ergonomic design of MAMMOMAT Novation<sup>DR</sup>, patient and operator access is excellent and without compromise – imaging patients in wheelchairs or positioned on a table is no problem.

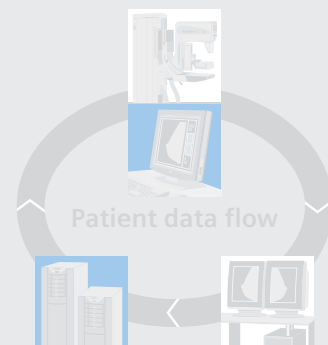
**MAMMOMAT Novation<sup>DR</sup> –  
The all-in-one digital solution.**





## MAMMOMAT *Novation*<sup>DR</sup>

### Superior digital workflow



To take full advantage of the benefits of digital mammography, Siemens has developed two dedicated workstations for MAMMOMAT *Novation*<sup>DR</sup>. These ideally matched units, Acquisition Workstation (AWS) and MammoReport<sup>Plus</sup> softcopy reporting workstation, combine with MAMMOMAT *Novation*<sup>DR</sup> to provide an ideal, comprehensive system solution for clinical processes in mammography. Through DICOM compatibility, the patient data is readily stored in existing clinical archives of any scale or printed as needed.

DICOM functions such as send, query/retrieve and worklist support enable a smooth and streamlined workflow. Access to reports, examination requests and other patient-data provides complete information for qualified reporting. Siemens know-how and experience in IT systems means fully integrated solutions. Thus, radiology information systems such as Novius or MagicSAS can run on the same hardware platform as the workstations.

Siemens also offers a wide range of archiving solutions to meet an organization's individual needs for low, medium or high patient volume. Archiving solutions range from MagicStore for high patient volumes to MagicView 300 with DVD as the storage medium for low patient volumes.





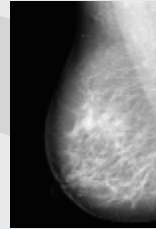
Image Acquisition



Patient Administration



Acquisition Workstation



## Patient data flow



Archive



MammoReport<sup>Plus</sup>

### Patient data flow

Demographic data is gathered from RIS via DICOM Worklist or entered manually. Access to previous images and reports is possible at any time. After patient positioning, the exposure is initiated at the control unit while the generated images are displayed at the AWS. Here, post-processing is handled and annotations can be added.

Immediately afterward, the entire patient study is transferred to the MammoReport<sup>Plus</sup> for detailed reporting. The patient study can be stored in the clinical archive and/or be documented on film or paper.

## MammoReport<sup>Plus</sup>

### Satisfying the highest demands in screening and diagnostics



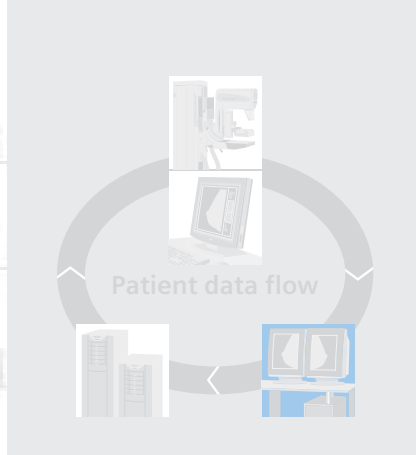
MammoReport<sup>Plus</sup>, the dedicated mammography softcopy reporting workstation features fast image loading speed, easy operation, customized workflow and quick image reviewing.

MammoReport<sup>Plus</sup> yields exceptional advantages. The entire softcopy reading and reporting process, from initial image display to image processing and reporting, can be tailored to specific needs. MammoReport<sup>Plus</sup> is the first dedicated workstation for mammography with the following important features:

- Ultra-short image loading time  
(1 case with 8 images in less than 1 second)
- Easy operation with a user specific keypad
- Ideally suited for screening applications
- Display of the full spatial resolution with magnification glass (including panning)
- Planned future CAD application\*

"Second reading" is supported, including marking of image details. Reporting can be handled via Bi-rads, a worldwide standard for "speaking the same language".

*\*Works-in-progress*

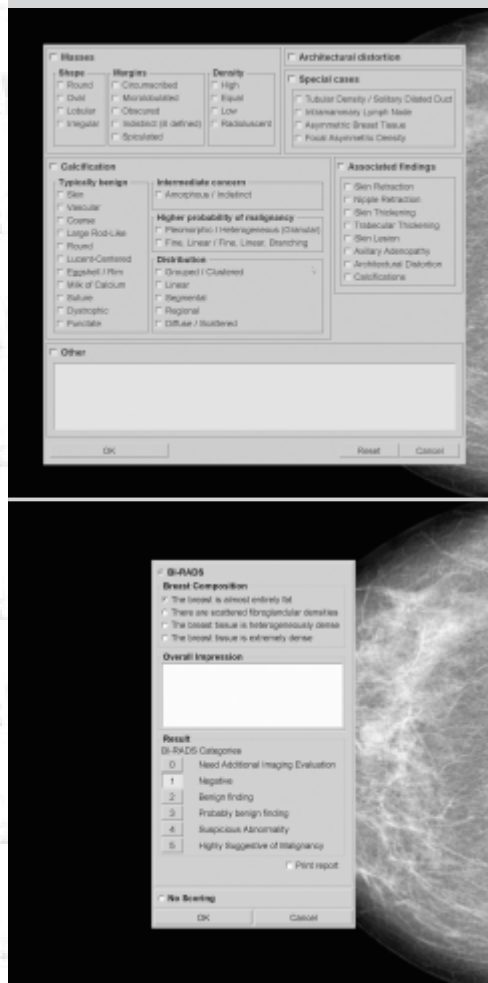


Proven Outcomes. This is what Siemens is helping to deliver right now. Outcomes that result from truly efficient workflow. Outcomes that improve your bottom line. Outcomes that lead to a level of care that feels exceptional to the patient and the care provider. Proof positive of the value of integrating medical technology, IT, management consulting and services. In a way that only Siemens can.

With additional functions, the system's potential for use is virtually unlimited:

- Advanced hanging protocols allow viewing of images from MR, US, etc., to make workflow easy and fast
- 2D tools such as distance-measuring and magnifications and post-processing simplify the daily routine
- Access and review of previous examinations, including data from other modalities like MR and US, help to optimize diagnostic reporting
- The user can define the reporting flow to fulfill his or her individual needs
- Printout of Bi-rads reports is standardized and includes image thumbnails for direct support of the referring physician

**MAMMOMAT Novation<sup>DR</sup> –**  
**Optimal network communication**  
**for the best possible workflow.**



**MAMMOMAT Novation<sup>DR</sup>, Acquisition Workstation and MammoReport<sup>Plus</sup>**  
 represent the leading all-in-one system solution for optimizing workflow  
 throughout the entire digital mammography work-up. The opportunity  
 to put it to work is today. The investment can pay off both now and far into  
 the future.

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