SIEMENS

Mammomat Inspiration
Mammomat Inspiration PRIME Edition

The reference in low-dose mammography

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Answers for life.

Mammomat Inspiration
PRIME Edition:
The reference in low-dose
mammography

Imagine a machine that looks familiar, but is different. Introducing the new Mammomat Inspiration with PRIME Technology.

One in ten women will be diagnosed with breast cancer in her lifetime. Thankfully screening saves countless lives every year. But especially for healthy women, low dose is of upmost importance. At the same time, image quality is key for detecting the smallest detail. We at Siemens rose to the challenge of combining both, seeking to improve – but ending up revolutionizing.

Siemens proudly introduces the new Mammomat Inspiration and the new Mammomat Inspiration PRIME Edition[1]. On the Mammomat Inspiration PRIME Edition the unique PRIME Technology allows for **up to 30% less dose[2] and uncompromised image quality**. The new, faster direct-to-digital aSe detector and multiple dose-saving algorithms individually calculate the exposure in both systems. Meanwhile, appealing design, calming MoodLight[3] and intelligent compression work together for **greater comfort and relaxed patients**.

Helpful features like Single-Touch Positioning make both Mammomat Inspirations **easy-to-use and outstandingly quick**. Get a unique all-in-one system thanks to **true tomo and breakthrough innovations**. True 3D Breast Tomosynthesis[1,3] features the industry's widest angle of 50° for enhanced diagnostic capabilities and new HD Volume Reconstruction for high definition image quality. Innovations like Stereotactic Biopsy[3] ensure a more seamless, straight-forward procedure while *syngo*.Breast Care[1,3] gives you the full picture in mammography reading.

Now is your chance to join the revolution.
Read on to discover the benefits of Mammomat Inspiration and Mammomat Inspiration PRIME Edition:

- **Up to 30% less dose[2], uncompromised image quality**
- **Greater comfort, relaxed patients**
- **Easy-to-use, outstandingly quick**
- **True tomo, breakthrough innovations**

[1] The products mentioned are not available in all countries. Due to regulatory reasons their future availability cannot be guaranteed. Please contact your local Siemens organization for further information.
[2] Compared to grid-based acquisition with Mammomat Inspiration, depending on breast thickness.
[3] Option

Courtesy of MVZ Prof. Dr. Uhlenbrock & Partners, Dortmund, Germany

"We wanted to improve, but ended up revolutionizing.

From the beginning, our target was to develop a dose-lowering technology. But reducing it by up to 30%[1] with the exact same image quality? PRIME Technology marks a new era in breast care imaging! Which proves the difference between improvement and revolution lies in the details."

Wilhelm Hanke, Research & Development, Siemens X-ray Products, Erlangen, Germany

[1] Compared to grid-based acquisition with Mammomat Inspiration, depending on breast thickness.

Revolutionary PRIME Technology

PRIME: Progressive **R**econstruction **I**ntelligently **M**inimizing **E**xposure allows you to use less dose without compromising image quality.

Calming MoodLight

An integrated LED panel with a broad range of colors to choose from emits a soothing light. For a more relaxing exam.

Convenient Single-Touch Positioning

Easy positioning with a single touch makes your workflow more efficient.

True 3D Breast Tomosynthesis

Features the industry's widest angle of 50° for enhanced diagnostic capabilities and HD Volume Reconstruction for outstanding image quality.

Stereotactic Biopsy

The system intuitively guides you through the entire procedure. Efficient and reliable for optimum diagnostic confidence.

Personalized OpDose®

Ensures the right dose for each woman individually, selecting the best anode/filter combination.

Flexible OpView

Selection of five so-called flavors for image impressions. Choose the one for your needs.

Individualized OpComp®

Compression stops automatically as soon as it reaches best image quality. For added comfort, more efficiency and, often, lower dose.

Up to 30% less dose[1],
uncompromised image quality
Greater comfort, relaxed patients
Easy-to-use, outstandingly quick
True tomo, breakthrough innovations

[1] Compared to grid-based acquisition with Mammomat Inspiration, depending on breast thickness.


PRIME
SIEMENS

Dose reduces by up to 30%[1]

2

1

3

Grid slides back

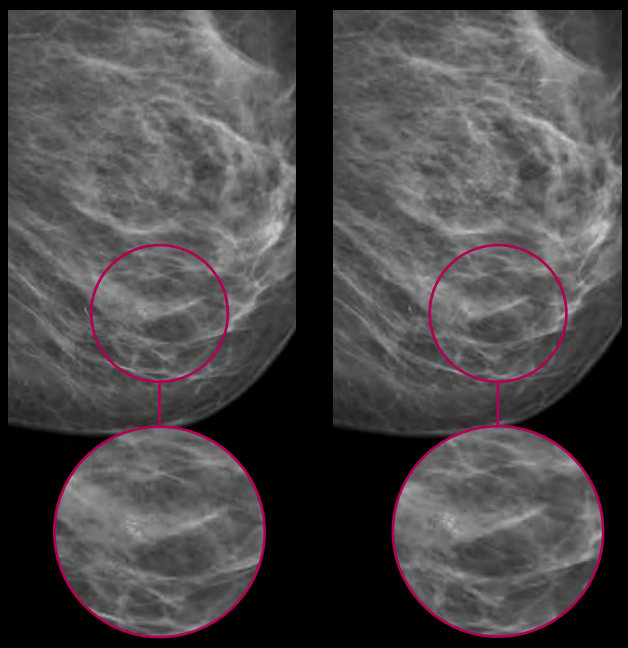
Grid in

Grid out

Progressive Reconstruction occurs

Without PRIME (68 mAs)

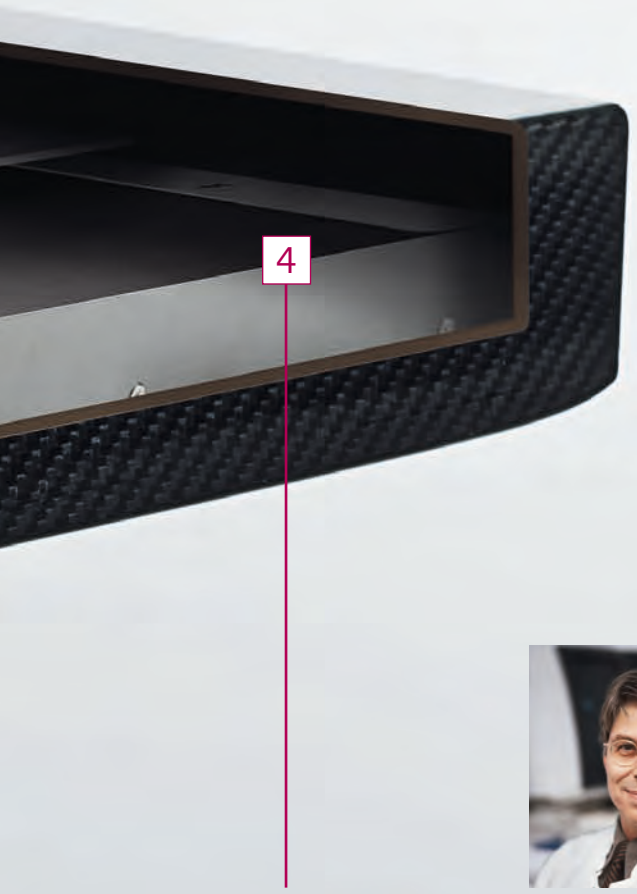
With PRIME (45 mAs) **~30%**



Courtesy of MVZ Prof. Dr. Uhlenbrock & Partners, Dortmund, Germany

Up to 30% less dose[1], uncompromised image quality

Discover how less becomes more: revolutionary PRIME Technology.



Uncompromised image quality results

New PRIME Technology starts a revolution in mammography: it minimizes dose by up to 30%[1] and still delivers the outstanding image quality you rely on for your diagnosis.

PRIME Technology defined

Progressive Reconstruction Intelligently Minimizing Exposure, or PRIME Technology, is the world's first software-based anti-scatter solution for mammography.

Behind the technology

Up to 30% less dose[1]: Sliding back the mechanical grid means there is no longer a fixed object absorbing radiation between the breast and detector. So you benefit from 100% of the primary radiation and use less dose.

Uncompromised image quality: To compensate for reduced contrast caused by the scatter-effect, Progressive Reconstruction identifies scatter-causing structures and optimizes the image.

"To give women exceptional care, I need exceptional technology. Women react extremely positively when I tell them that I can now save around 30% dose[1]. It reassures them we take their screening seriously."

Detlev Uhlenbrock, MD, PhD MVZ
Prof. Dr. Uhlenbrock & Partners, Dortmund, Germany

[1] Compared to grid-based acquisition with Mammomat Inspiration, depending on breast thickness.

The statements by Siemens' customers described herein are based on results that were achieved in the customer's unique setting. Since there is no "typical" hospital and many variables exist (e.g., hospital size, case mix, level of IT adoption) there can be no guarantee that other customers will achieve the same results.

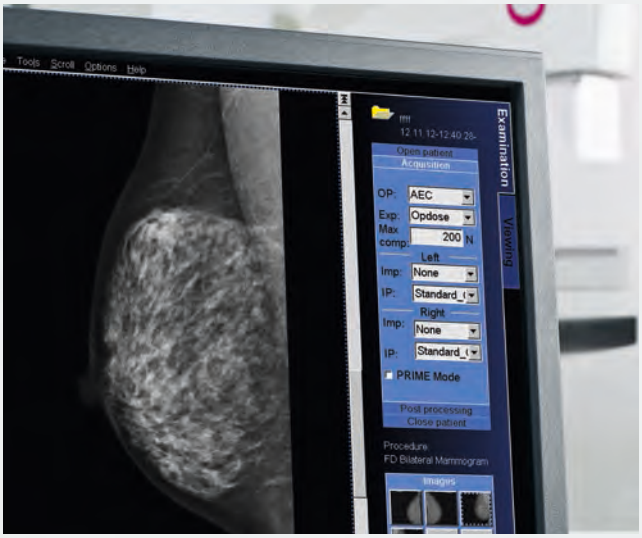
Up to 30% less dose[1], uncompromised image quality

Optimize the dose further with renowned technologies.

The As Low as Reasonably Achievable (ALARA) principle is impetus for our role as an innovation leader. That's why we at Siemens reduce women's exposure during screenings with CARE technologies. Many of which are refined and enhanced.

Time-tested Tungsten Tube

Over a decade ago, we at Siemens invented the Tungsten tube. Compared to Molybdenum/Molybdenum systems, it can save up to 50% dose by using the Tungsten/Rhodium combination. And it's especially good at capturing dense breast tissue.



Unique Siemens technologies contribute to lowering the dose and guaranteeing excellent image quality.

Personalized OpDose®

Optimally sets exposure parameters for each breast and ensures the right dose for each dedicated object. It selects the best anode/filter combination depending on breast thickness, density and institution specific definition, such as Mo/Mo, Mo/Rh, or W/Rh[2]. Five different dose levels further enhance optimal exposure.

Adaptive AEC algorithm

To optimize exposure parameters for each individual breast size and composition, the Automatic Exposure Control (AEC) determines the dose based on the contrast needed for the image. Enhancements allow it to work in every scanning position and view, such as CC and MLO, and to automatically eliminate the pectoral muscle as a reference.

[1] Compared to grid-based acquisition with Mammomat Inspiration, depending on breast thickness.

[2] PRIME is only supported by W/Rh.

Up to 30% less dose[1], uncompromised image quality

See what you need to see: advancements for excellent image quality.

With improved and reliable ways to view breast tissue, Mammomat Inspiration and Mammomat Inspiration PRIME Edition enable you to see lesions at a very early stage.

Flexible OpView

Enjoy sharper, easily adjustable images with a newly-refined image processing software. With a range of predefined image impressions, you can select the best for your clinical needs. Also choose from five different so-called flavors, including Contrast Enhancement, Edge Enhancement and more.

Fast direct-to-digital aSe Detector

Making it easier to detect small and low contrast objects, the direct-to-digital amorphous selenium (aSe) detector directly converts X-ray energy into an electric charge. Your advantage: higher Detective Quantum Efficiency (DQE[2]). Its fast speed also reduces time between exposures for optimized workflow and patient throughput.

"The image quality is outstanding! Especially for patients with dense breasts and implants.[3]"

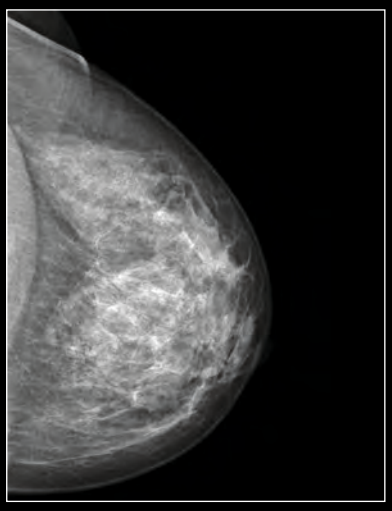
Connie Rogers, (M), (CT), (R)
Gunnison Valley Health, Gunnison, CO, USA.

[1] Compared to grid-based acquisition with Mammomat Inspiration, depending on breast thickness.

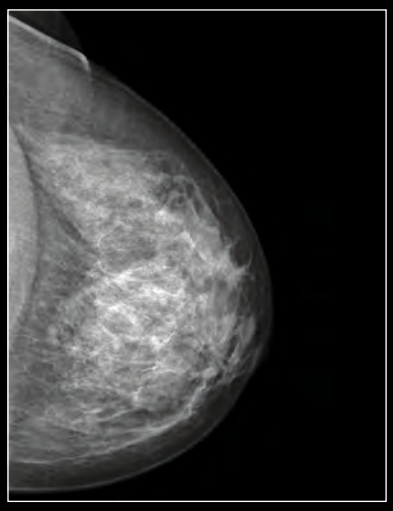
[2] DQE measures the efficiency of the detection process of an image detector given by squared ratio of the output signal-to-noise ratio to the input signal-to-noise ratio.

[3] PRIME Technology is not released for implants.

Traditional grid vs. PRIME Technology

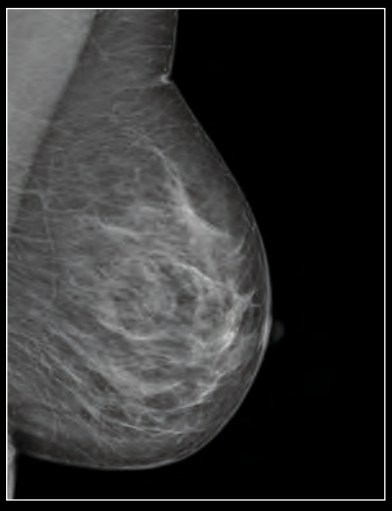


138 mAs without PRIME

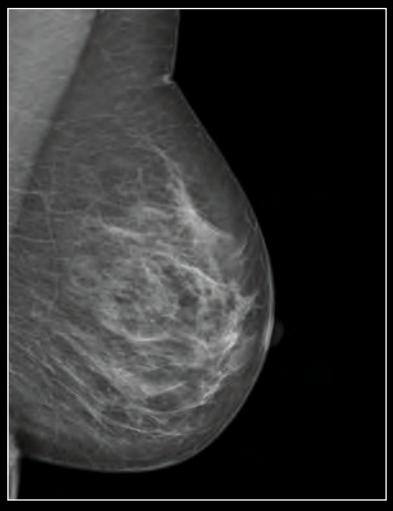


110 mAs with PRIME

20% less dose



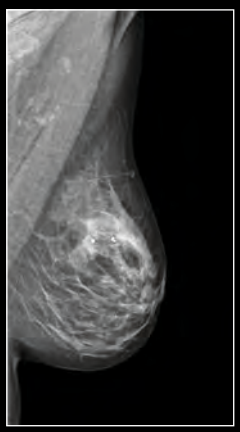
67 mAs without PRIME



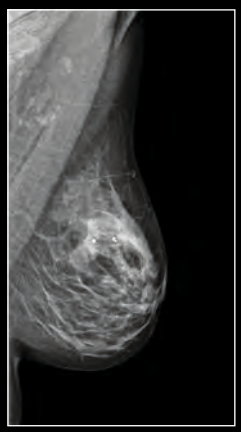
45 mAs with PRIME

~30% less dose

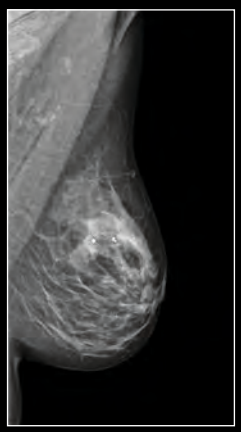
OpView's selection of five flavors



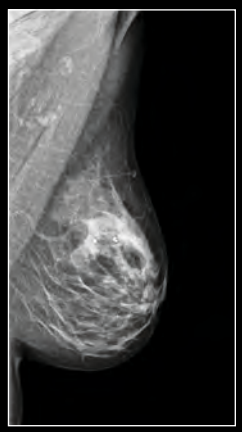
Standard



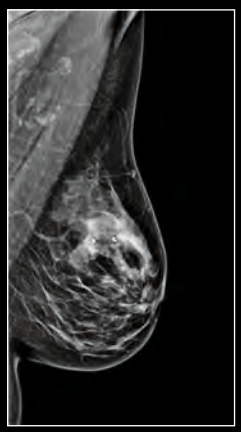
Smooth



Contrast Enhanced



Edge Enhanced



Contrast & Edge Enhanced

Courtesy of MVZ Prof. Dr. Uhlenbrock & Partners, Dortmund, Germany

“Our patients love the MoodLight.”

Barbara Marshall, RT,
Director of Battlefield Imaging,
Ringgold, GA, USA

Greater comfort, relaxed patients

Put women at ease: features for a relaxing exam.

One-of-a-kind features on both Mammomat Inspiration systems soothe and calm women during the entire mammography procedure. A win-win situation resulting in shorter screenings and better image quality.

Appealing design

Smooth shapes, non-intrusive lines, a color palette of pastel pink, lime and silver throughout, even on the operating buttons: the design offers visual comfort during the exam.

Calming MoodLight

Getting women to relax – your goal during mammograms – might be as simple as changing the lighting. The unique MoodLight LED panel lets you select between changing colors and a specific one of your choice.

Individualized OpComp®

Instead of using a standard compression level, OpComp® compresses only as long as a woman's breast is soft and pliable. As soon as it has reached optimal compression for best image quality, it stops automatically. For added comfort, more efficiency and, often, lower dose.

Easy-to-use, outstandingly quick

Work with ease and efficiency: designed for a seamless workflow.

Time-consuming tasks become quick and simple. For more time to focus on women and for easy transitions from one screening to the next.

Seamless Isocentric Rotation

No matter which position is next, the center of the detector always stays at the same height, letting you transfer to the next exam just by pushing a button.

Multiple release options

Three varying options for X-ray release give you efficiency and flexibility during screenings. Choose between the standard control box, the hand switch* or the foot switch*, depending on what best fits your needs.

Convenient Single-Touch Positioning

Moves the tube head from cranio-caudal to mediolateral-oblique in an instant. With only a single touch.

Ergonomic Acquisition Workstation

"Less is more" best describes the new Acquisition Workstation (AWS). Enjoy the comfort of working on one central console and swiftly adjust the table's height to your needs.

*Option

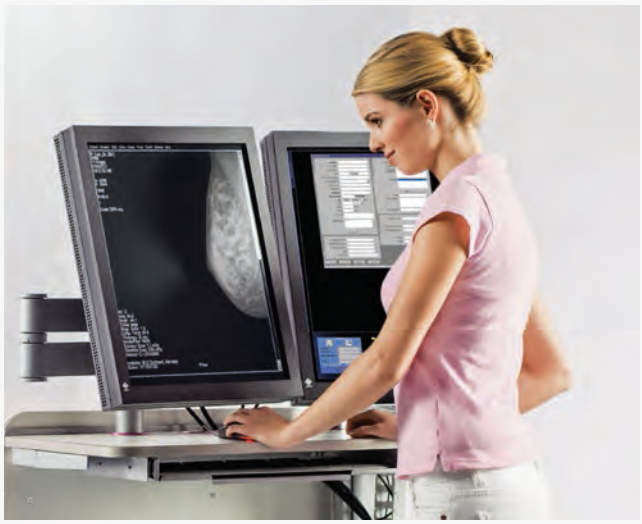
Automated Quality Control

Our Automated Quality Control[1] is a smart quality assurance application available for both Mammomat Inspirations. It offers various tests based on the international Quality Control Manual.

The Automated Quality Control automatically evaluates the results, generates a test report and stores it as PDF file.[1]

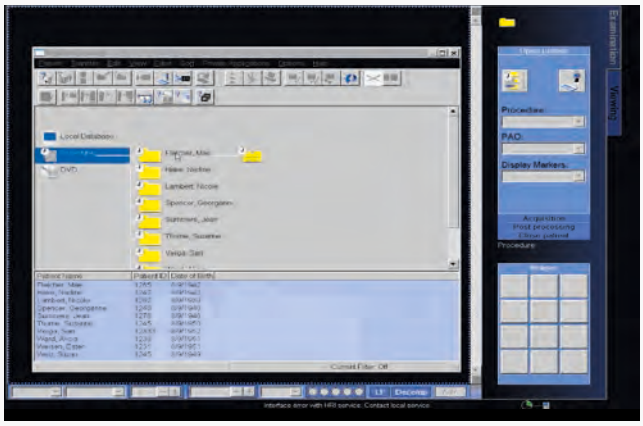
Instant image preview

A preview image appears just a few seconds after the X-ray is taken, allowing you to quickly evaluate the quality of the positioning and then proceed with the next exam. A true timesaver compounded over the course of a day.



Efficient one-click-to-image

Automatically opens the scheduler when the exam is completed, allowing you to work seamlessly. Clicking once moves to your next exam where the user interface is already ready for the first exposure.



Variable compression plates

A variety of compression plates help achieve excellent image quality for each exam. Simply detach them for easy cleaning.

[1]Automated Quality Control is an option. It is not commercially available in all countries. Due to regulatory reasons its future availability cannot be guaranteed. Please contact your local Siemens organization for further information.

True tomo, breakthrough innovations

Operate seamlessly and confidently with integrated Stereotactic Biopsy.

Clear-cut procedures and intuitive operation are key to fast but highly accurate examinations. With this in mind, we designed a Stereotactic Biopsy solution that consistently reduces the necessary work steps and guides the operator intuitively through the entire procedure. The results are rather impressive: Both Mammomat Inspirations help speed up the biopsy procedure considerably without compromising on diagnostic confidence.

Biopsy-enhancing features

Enjoy better usability and improved workflow thanks to the easy-to-use control box holder and direct reprocessing of images during the procedure. Get more flexibility with Easy Load: the gantry can be moved to either side for easier access to the woman being screened. Additionally, up to 25 targets – including the coordinates – are sent directly to the biopsy device and PACS system.

Automated clinical workflow

Integrated procedures for stereotactic biopsy along with elaborate yet easy-to-use functions save you valuable time and increase your efficiency. Here are the steps, one-by-one:

1 Prepare system:
Simply slide the biopsy unit on the detector and all hardware and software configuration settings will automatically switch to Stereotactic Biopsy.

2 Load patient data from RIS:
The already prepared system offers a preset biopsy procedure, so it's just click and go.

3 Acquire scout and stereo images:
Without walking to and from the system since tube angulation is controlled directly on the AWS.

4 Set target and send to biopsy unit:
Fully automated with just one click.

5 On target position:
For vertical and lateral access to lesions.

6 Get pre-fired images:
All information available on a single monitor.

7 Perform biopsy:
With a large variety of needle types, including vacuum core, core, fine, and localization needles from various vendors.

8 View post-fired images:
Great performance from beginning to end of the procedure, including specimen and a control mammogram.

“With its wide, 50° angle perspective, only Siemens tomosynthesis can generate real 3D images. To me, there’s no better choice.”

Nachiko Uchiyama, MD,
National Cancer Centre, Tokyo, Japan

Experience new perspectives in mammography: True 3D Breast Tomosynthesis.

Creating new diagnostic possibilities, True 3D Breast Tomosynthesis signifies a quantum leap in mammography. Images with heightened sensitivity give you clearer results and a higher detection rate (see image 1). Even in women with denser breasts.

How tomosynthesis works

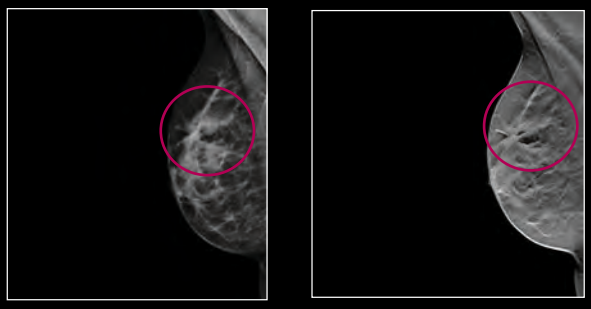
With tomosynthesis, a full-field digital mammography system acquires multiple projection images of the breast. The X-ray tube moves through an isocentric arc above the stationary detector. It acquires several images of the breast at various angles. The projection images are then reconstructed into a 3D volume in DICOM format for flexible display on reading and reporting workstations.

Why True 3D Breast Tomosynthesis?

The angular range and the number of projection images directly affect the quality of the resulting 3D image. Mammomat Inspiration and Mammomat Inspiration PRIME Edition offer the widest angle in the industry of 50°. This large angular range directly affects the depth resolution of the system (see image 2).

Objects in different depths can be better separated. In other words, the physical slice width decreases with a larger angular range and tissue overlap is reduced. Both Mammomat Inspirations acquire 25 projections, one every two degrees. This is important in order to reconstruct a real 3D volume. Fewer projection views would render less information (see image 3).

Image 1: More lesions are visible in 3D.



2D 3D

Image 2: Separation of the two spheres for superior depth resolution with a wider angle.

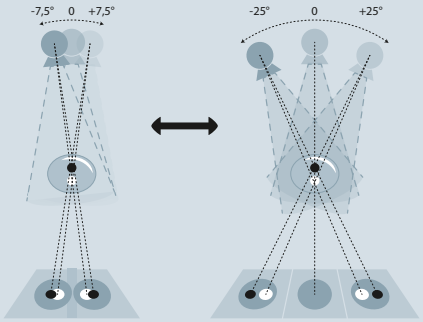
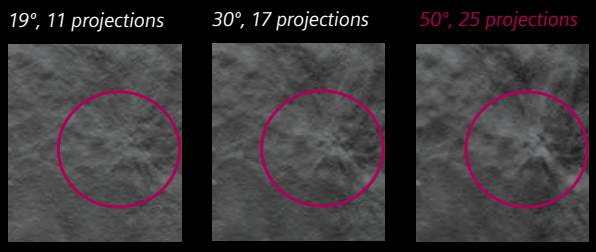


Image 3: Better depth and contrast resolution.



RMLO 3D Tomosynthesis; Invasive ductal carcinoma (IDC); Subtle architectural distortion not detected prospectively in 2D MLO and CC

True tomo, breakthrough innovations

Benefit from high definition in True 3D Breast Tomosynthesis: HD Volume Reconstruction.

New Siemens HD Volume Reconstruction takes tomosynthesis to the next level. Three specially developed features are optimally brought together – helping you achieve outstanding high-definition image quality with enhanced spatial and depth resolution for especially reliable diagnosis. Advantages, as you'll see, that are nothing short of excellent.

Full-resolution Readout

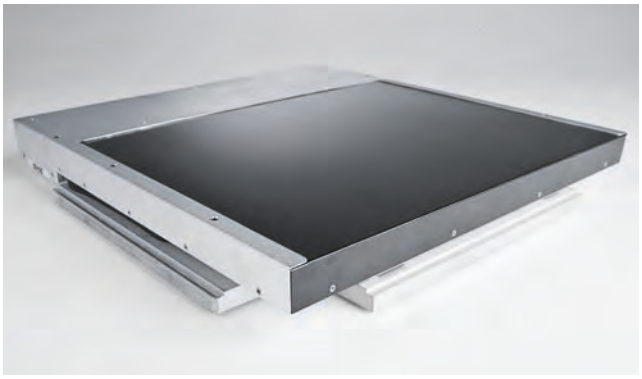
True 3D Breast Tomosynthesis from Siemens – in combination with the direct-to-digital aSe detector – offers a superior detector readout with increased spatial resolution of 85µm. This results in a highly-precise evaluation of calcifications.

Excellent image balance with EFBP

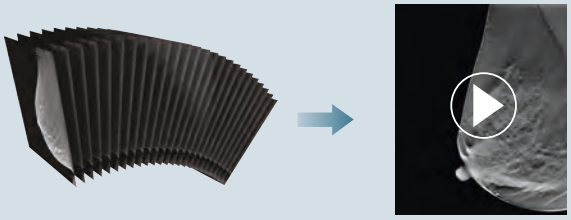
Equalizing Filtered Back Projection (EFBP) reconstructs the 25 projections acquired with the industry's widest angle of 50°. A unique equalizing algorithm preprocesses the projections for an optimized and balanced image appearance. This allows for increased depth resolution and reduced tissue overlap for better and clearer separation of lesions.

Differentiate better with Mass Enhancement

This algorithm highlights mass margins and spiculations for improved lesion visualization for the human eye. Which can aid in better characterizing and differentiating better malignant and benign lesions.

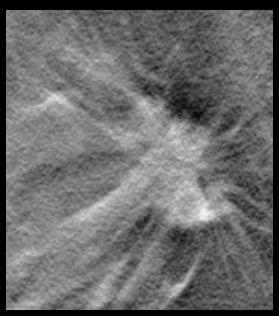


50° – 25 projections

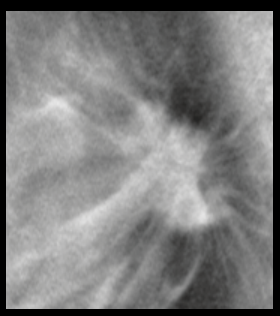


With courtesy of Duke University, North Carolina, USA

Mass Enhancement



With Mass Enhancement



Without Mass Enhancement

The bottom line: True 3D Breast Tomosynthesis allows for unprecedented image quality in mammography, making possible the better detection of low-contrast mass lesions and the identification of subtle lesions and architectural distortion. However, the dose required for 3D tomosynthesis with Mammomat Inspiration and Mammomat Inspiration PRIME Edition can be similar to that of conventional breast mammography.
Be confident. Be precise. Be sure.

True tomo, breakthrough innovations

Get the full picture in mammography reading with *syngo*.Breast Care.

syngo.Breast Care is the client-server application for state-of-the-art mammography and unique tomosynthesis reading – marked by outstanding flexibility. Shape your workflow according to your personal preferences. Compare prior and follow-up exams. Set your layouts, sizes, and tools. And include images from other modalities you need, such as ultrasound and MRI – wherever[1] you are, even with simultaneous users.

In short, *syngo*.Breast Care completely fulfills your need for high quality and efficient daily work – anywhere[1].

[1] prerequisites include: Internet connection to clinical network, DICOM compliance, meeting of minimum hardware requirements, and adherence to local data security regulations

Invest in tomorrow's technology today.

Two outstanding all-in-one mammography systems, Mammomat Inspiration and Mammomat Inspiration PRIME Edition, represent an excellent investment – for today and for tomorrow. Dose-saving revolutionary PRIME Technology reassures healthy women about exposure and gives radiologists the images necessary for diagnosis. Easy upgrades such as True 3D Breast Tomosynthesis or Stereotactic Biopsy help that your institution can detect with upmost confidence.

Closer by design

Closer to technology and closer to you, Siemens Healthcare Customer Services delivers extensive experience combined with innovative solutions to help protect and maximize your investment in both Mammomat Inspirations over the entire product lifecycle; services that help improve uptime, increase performance and optimize workflow for sustainable healthcare, while ensuring that your staff is trained to deliver excellent quality results.

Service tailored for you

Helping you prevent unscheduled downtime and improve workflow, Siemens comprehensive service options can be tailored to your precise requirements. From preventive maintenance to technical phone support and system updates, our Performance Plans are proven service packages that cover proactive services and fast technical on-site response designed to help improve reliability while ensuring predictable costs, lower risk and greater efficiency.

The problem's solved. Before you know it!

An efficient and comprehensive infrastructure offering device-related remote services, with Siemens Remote Services your system is monitored for parameter deviations so that remedial action can be taken proactively before problems arise. Plus, remote diagnosis allows defective parts to be identified and ordered, avoiding downtime and keeping repair times to a minimum.

"With its ability to be upgraded, Mammomat Inspiration protects my investments and ensures state-of-the-art functionality. This translates into cost efficiency and helps me to achieve my strategic goals."

Ilse Vejborg, MD
Head of Department of Radiology, University Hospital of Copenhagen, Copenhagen, Denmark

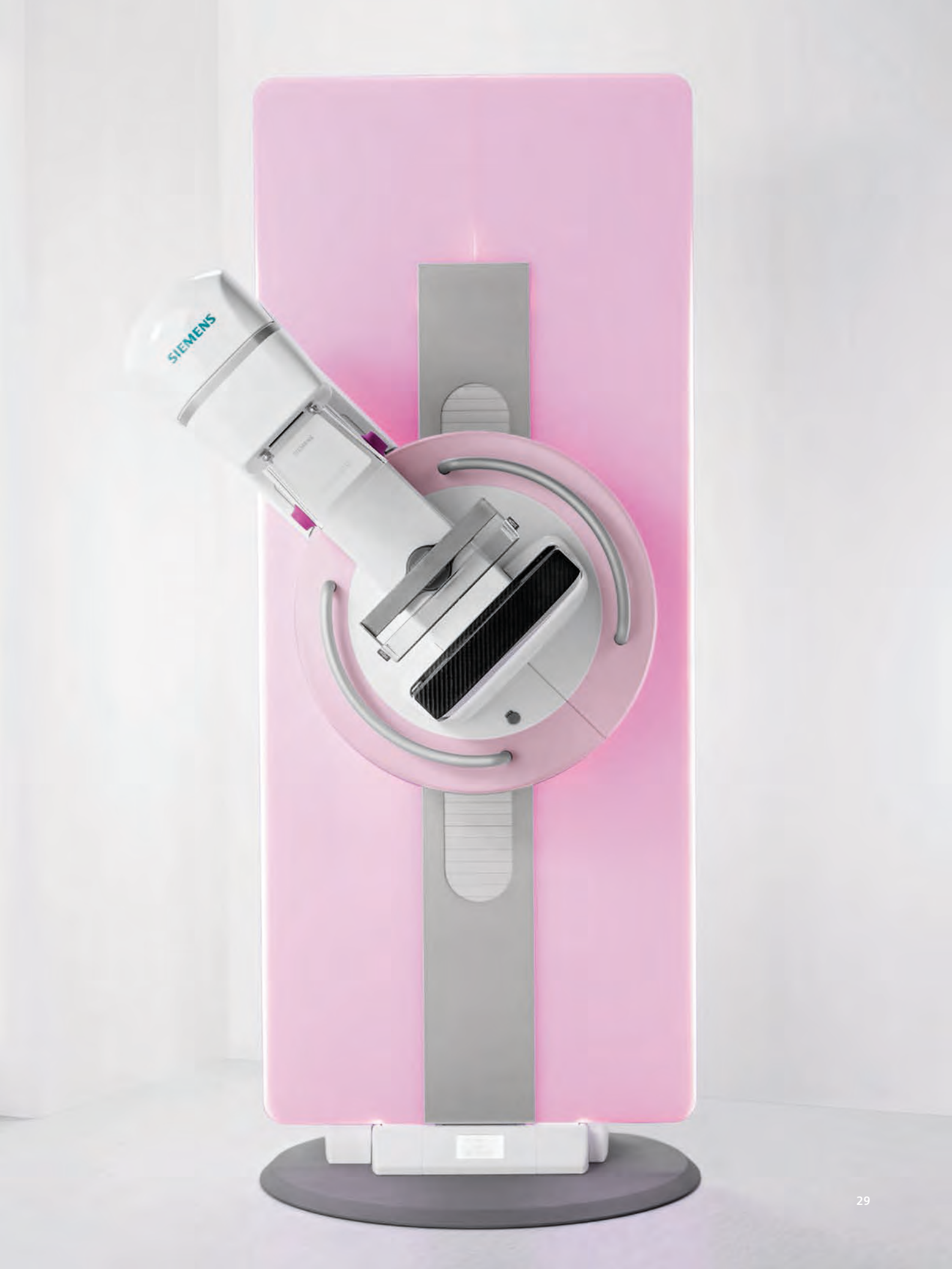
Join the revolution: because detail matters.

Mammomat Inspiration and Mammomat Inspiration PRIME Edition ignited the revolution in mammography by optimizing every aspect – making screening better for everyone involved.

Revolutionary PRIME Technology, personalized OpDose®, flexible OpView and additional CARE technologies enable **up to 30% less dose and uncompromised image quality**[1]. Calming MoodLight and individualized OpComp create **greater comfort and relaxed patients.** With features that are **easy-to-use and outstandingly quick**, such as Single-Touch Positioning and one-click-to-image, you save time and increase efficiency. True 3D Breast Tomosynthesis with its unique 50° angle and HD Volume Reconstruction, seamless Stereotactic Biopsy, and the client-server based reading workstation *syngo*.Breast Care give you **true tomo and breakthrough innovations** for greater diagnostic confidence.

Bringing these components together solidifies our position as leaders in our field: at Siemens we are the reference in low-dose mammography. With every feature playing an essential role, we create a sum that is much more valuable than its parts. Which proves that in mammography, detail matters.

[1] Compared to grid-based acquisition with Mammomat Inspiration, depending on breast thickness.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