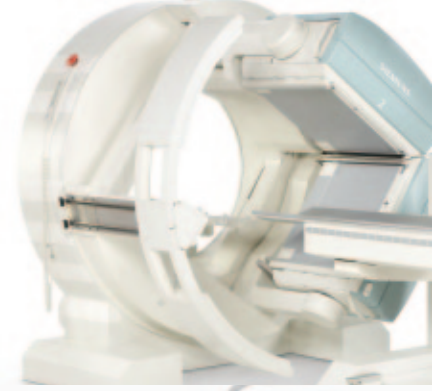


Symbia SPECT

Working For You

www.siemens.com/mi

SIEMENS

Work with confidence.

What does it mean to work with confidence? It's clarity—not only image clarity but the clarity of mind you can obtain from viewing images in which you have the highest measures of clinical certainty. Symbia SPECT ensures this clarity through its advanced HD detector, innovative bed design, BiCORE™ collimators with AUTOFORM® technology, Flash reconstruction, and attenuation correction. Additionally, our global service network provides you the reliability you need to operate your practice with confidence.

HD Detectors

Symbia's latest HD Detector technology offers outstanding and consistent image quality. The energy independent response of the highly integrated detector electronics eliminates isotope-specific floods. Real-time corrections and individual photomultiplier tuning further minimize scheduled system calibrations and user interaction. Together with Siemens' AUTOFORM collimators, Symbia has the industry's highest sensitivity enabling more counts and better image quality.

Best-in-class performance and reliability of the HD Detectors include:

- Siemens' proprietary NaI crystals produced in-house
- Large, true rectangular field of view
- Energy independence including ^{131}I
- Up to 26 percent higher sensitivity
- Easy quality control
- High reliability with fewer components and cabling
- Monitoring and trending of key performance indicators
- Remote diagnostics

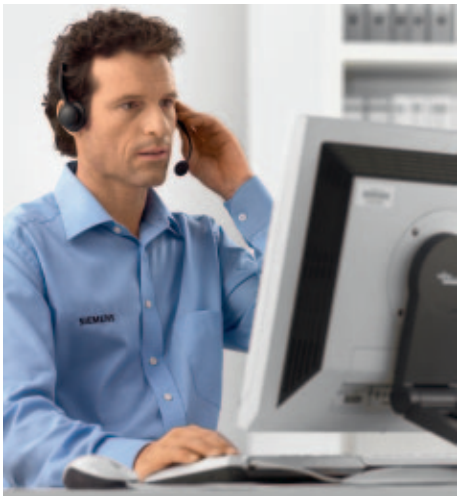
Innovative Bed Design

With its ultra-thin imaging pallet, the patient bed is not only easy for you to use, it is comfortable for your patients. The bed uses a 2.5-mm thick aluminum pallet, which allows detector positioning close to the patient, reduces attenuation and handles patients up to 227 kg (500 lb). A complete set of arm and head rests provides further patient comfort and easy positioning. In fact, the lowest bed position guarantees easy access even for patients with limited mobility.

Data courtesy of
University of Erlangen,
Erlangen, Germany

State-of-the-Art Reconstruction

A leading iterative SPECT reconstruction method, Flash significantly improves image quality. How? Reconstructed image fidelity depends on the accuracy of the physical models used in image formation. With *onco*•Flash and *cardio*•Flash, you benefit from higher spatial resolution, reduced distortion, and reduced artifacts. As a result, Flash images are more accurate and easier to interpret.



Support You Can Rely On

Clinical confidence goes beyond working with trusted image quality. You not only need images you can believe in, you need a system you know will deliver them. Symbia systems combine the newest generation HD detector with an easy-to-use interface and control system to provide you with the reliability you need day in and day out.

Siemens Remote Service (SRS) enables our engineers to check your system status through full remote access. SRS can run remote diagnostics, download HD detector and control software, perform software fixes, and check virus protection. Monitoring and trending of key performance indicators allows proactive service planning. The result? Siemens Remote Service program offers a short mean time to repair, and high first-time fix and remote-fix rates.

Higher Collimator Sensitivity

Symbia provides a wide variety of collimators for general purpose and specialized imaging applications. A BiCORE collimator set consists of two patented AUTOFORM cores while the shielding remains part of the detector housing. Together with Symbia HD Detectors, AUTOFORM technology provides up to 26 percent higher sensitivity and precise angulation while optimizing image resolution. What does that mean for you? More imaging options for a wider variety of radiopharmaceuticals.

Accelerate your workflow.

Operational costs and workflow. Diagnosis and treatment. Time affects every aspect of your daily imaging from your patients' well-being to your staff's efficiency. Designed with these needs in mind, Symbia's automation and fast image acquisition enable you and your staff to perform at imaging speeds that may have been previously unattainable—which leads to the opportunity to provide faster patient diagnosis and treatment and to support increased patient volumes.

Integrated Collimator Changer

By integrating the collimator changer into the system, Symbia eliminates the need for a collimator cart by providing a storage area underneath the patient bed for both low and medium energy collimators. Initiated from the touch-screen patient positioning monitor, the integrated collimator changer (ICC) features automatic collimator attachment and robotic detector positioning.

ICC Benefits:
- Saves space
- Easy to use
- Eliminates risk of damage
- Faster changing
- Safe for the operator

Automated Collimator Changer

The automated collimator changer (ACC) provides motorized collimator motion to the integrated collimator changer.

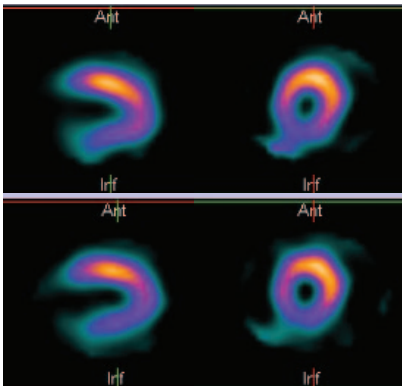
In addition to the ICC benefits, ACC provides the user:
- More time to perform other tasks
- More scheduling flexibility

Auto Contour

Automatic body contouring minimizes detector-to-patient distance for the best resolution in whole-body and SPECT imaging. Infrared sensors automatically maintain the optimum distance from the detector to the patient. Reduced scan set-up time and real-time contouring further help increase efficiency. And, the system does not need any user interaction—it's fully automatic.

Note: Some features are available on Symbia S only.

Data courtesy of Iowa Heart Centre Des Moines, IA



Full Time FBP

Half Time with *cardio*•Flash

Fast Image Acquisition

Imagine acquiring images in half the time or with half the injected dose while still obtaining quality as good as or better than full-time images or full-dose images reconstructed the conventional way. Is this possible? It is with *onco*•Flash and *cardio*•Flash, key features of the Symbia system. Flash technology restores image quality from count-reduced patient scans acquired in less time or with lower injected dose. Perform planar, whole-body and SPECT studies with Flash and achieve better lesion separation, better resolution, and better contrast.

Internal ECG

Symbia's integrated ECG eliminates the need for a separate ECG box and monitor, so no additional space is needed for extra equipment. This further ensures a safer work environment by eliminating external wires.

Automated Quality Control

With automated daily, weekly, and monthly quality control (QC), you can take comfort in the knowledge that QC is performed routinely and consistently. Automatic Quality Control (AQC) automatically starts the specified QC tasks so they are finished before your first scheduled patient arrives. AQC uses built-in shielded sources: a point source for peaking and tuning, a line source for extrinsic flood, and a sleeve with five slits for center of rotation and multiple head registration. The process finishes with a report of the completed QC results and integrates with SRS.

AQC Benefits:

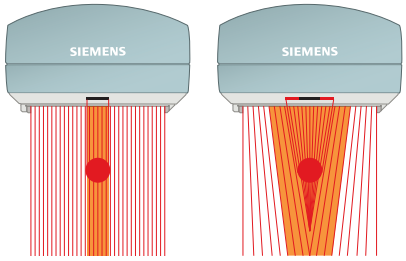
- Reliable, consistently reproducible QC
- Performance trending
- Eliminated risk of spillage with open sources
- Operator dose reduction
- Remote Service Access monitoring to prevent un-scheduled downtime

Accelerate your workflow.

IQ•SPECT – The World's First Intelligent SPECT Enabling the 5-Minute Cardiac Workup

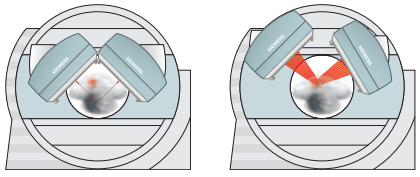
With IQ•SPECT, you can get more information from the heart in 5 minutes than you'd get with a conventional SPECT in 20 minutes. Its dual **SMART**ZOOM collimators work in tandem to track the heart and keep it in the sweet spot at all times so the acquisition can be quick and accurate, resulting in supreb patient comfort and high throughput. IQ•SPECT's three core technlogies are:

Collimation



Collimators center on the heart, collecting up to 4 times more counts than parallel hole collimators. These collimators magnify the heart while still capturing counts from the entire body, so truncation is virtually eliminated.

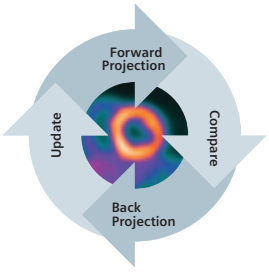
Acquisition



Conventional SPECT IQ•SPECT

IQ•SPECT's cardiocentric orbit is centered on the heart instead of the gantry's mechanical center. This ensures that the heart is always in the **SMART**ZOOM collimators' magnification area.

Reconstruction



The Flash-based 3D iterative reconstruction algorithm models 48,000 collimator holes for virtually artifact-free image reconstruction.

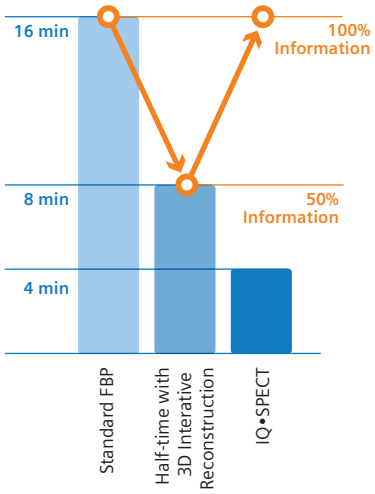
Intelligent because it gets more information faster

IQ•SPECT needs only 4 minutes for a full-count SPECT scan and just 60 seconds more for CT-based attenuation correction and calcium scoring. Its inventive **SMART**ZOOM collimators, placed in a cardio-centric orbit, collect maximum information from the heart in the least amount of time.

Intelligent because it adapts to every situation today and tomorrow.

The intelligent technology intuitively adapts to various patient populations. Acquire full-count images four times faster or with significantly lower injected dose. This gives you the flexibility to adapt to current and future conditions concerning patients, throughput, and isotope supply.

IQ•SPECT is upgradeable for all Symbia S systems, so Symbia can now have more IQ than ever before.



Fast, full count scans

IQ•SPECT delivers as many counts as a conventional full-time SPECT in 1/4th of the time.

	Regular SPECT			IQ•SPECT		
	DOSE	TIME	IMAGE QUALITY	DOSE	TIME	IMAGE QUALITY
Average	Full	16 minutes	Excellent	Full	4 minutes	Excellent
Pediatric	Half	16 minutes	Sub-Optimal	Half	8 minutes	Excellent
Obese	Full	16 minutes	Sub-Optimal	Full	8 minutes	Excellent

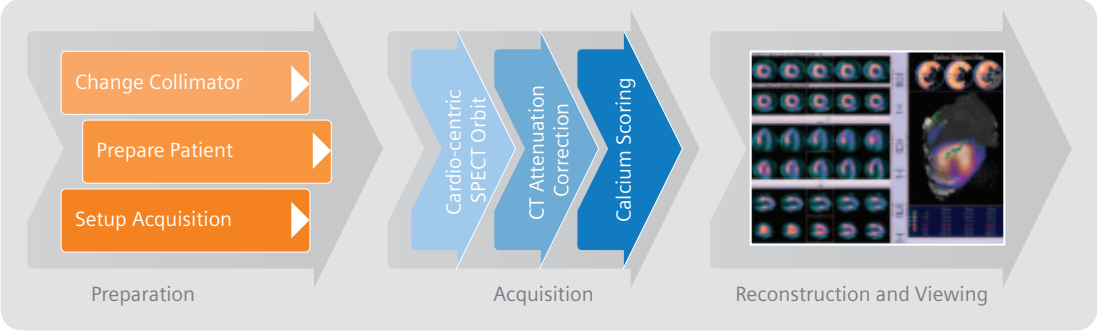
Adaptability for various patient populations

IQ•SPECT's short scan time minimizes motion artifacts and enhances patient comfort, resulting in excellent image quality for various patient populations. IQ•SPECT also provides the flexibility to adapt to challenging image situations, offering outstanding image quality for bariatric patients or for pediatric patients with low dosage.

Intelligent because it integrates seamlessly with your automated workflow.

IQ•SPECT is fully compatible with all of Symbia's industry-best, productivity features like automatic collimator changer and automatic quality control. It intelligently combines the newest technology with automatic image processing and display functions to give you superb, convenience that is right at your fingertips and that fits right into your workflow.

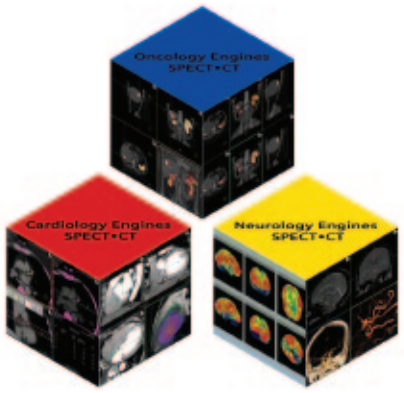
IQ•SPECT Workflow



Experience versatility.

syngo

An intelligent post-processing workplace, *syngo*® integrates your entire workflow from order and scheduling to imaging, viewing, reporting, and distribution. This integration enables a high level of interoperability, flexible staff use, shorter training, and, ultimately, reduced costs. You can combine multiple tasks into one and bring together all of the solutions that are critical to you and your patients. With easy access to all patient data from anywhere and support for more than 50 different syngo applications, you have the solution you need for diagnostic and therapeutic cycles.

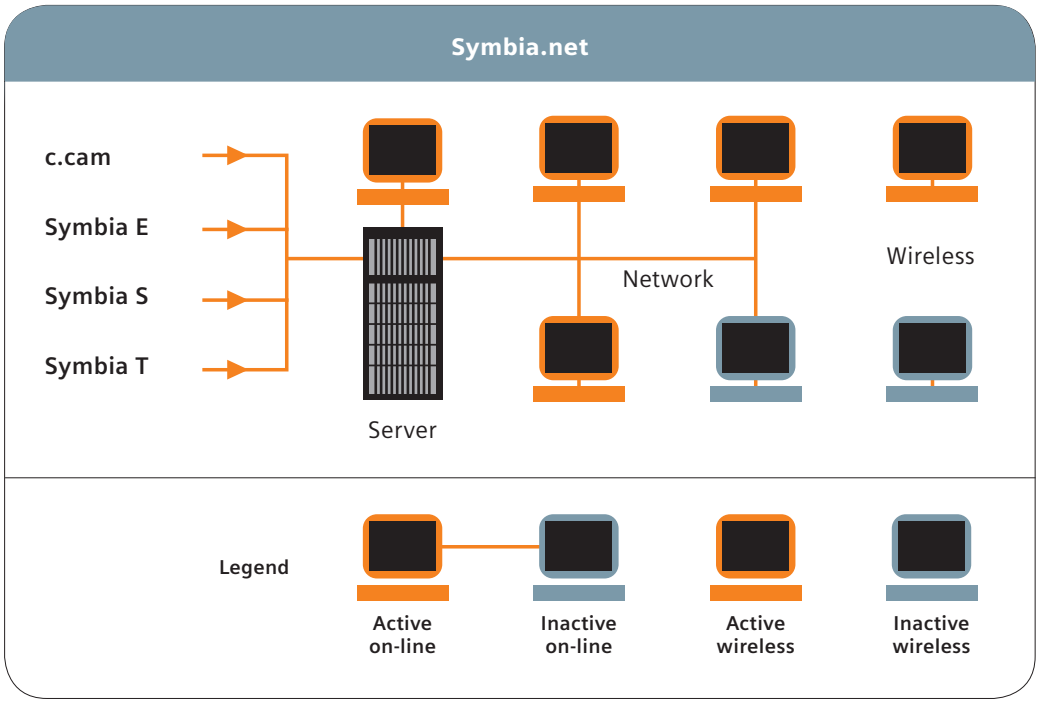


Clinical Engines

Clinical engines are a unique combination of software applications with a disease orientated focus. They provide clinical workflows for oncology, cardiology and neurology and each of these is available in three levels of increasing functionality. Depending on your patient volume you can mix and match ologies and levels to meet your specific needs.

Symbia.net Clinical Workflow Server – Information Access Made Easy

Symbia.net is a cost-effective, client-server solution for anywhere, anytime processing and reading of SPECT and SPECT·CT studies.



Symbia.net is ideal for hospital imaging departments requiring an affordable and expandable client-server solution enabling SPECT and SPECT•CT information access for up to five concurrent users. For more information, please visit www.siemens.com/symbianet.

Anytime Access to full processing and reading capabilities

Whether you are within or outside your imaging department, you have full access to your studies. Any PC or Mac with appropriate network connection and minimal hardware requirements can be used as a client, and up to five concurrent users can access the clinical network simultaneously. Symbia.net is the only client-server solution that provides full processing and reading capabilities and includes advanced clinical applications such as Corridor 4DM, Cedars, or Emory cardiac packages.

Easy to install and operate

Symbia.net easily integrates with your existing cameras, RIS, and PACS systems. A virtually unlimited number of client computers can be installed in minutes. Designed for the needs of molecular imaging, Symbia.net offers a user-friendly interface and advanced automation features.

Economical to maintain and expand

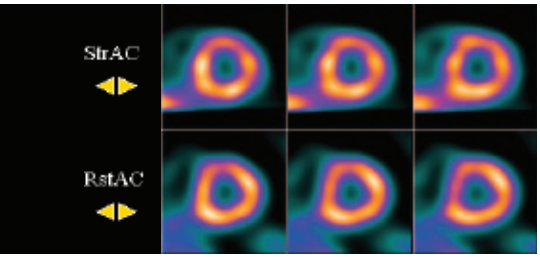
Symbia.net scales efficiently as demand increases. Floating licenses and clients can be added at any time. One server with floating licenses provides access for up to five concurrent users. Symbia.net requires less capital investment than two stand-alone workstations with comparable configuration. The server provides fast and efficient network updates and maintenance, remote installation, and monitoring of the client system. With only one server to administrate, Symbia.net reduces total cost of ownership and increases uptime.

Experience versatility.

Confidence and speed can only take you so far. In the healthcare industry, the ability to do more with less is often a call to action for operational and departmental managers. To help, Symbia provides you with the clinical flexibility to manage your entire workflow, integrate and customize clinical applications, and easily upgrade to the next level of imaging.

Imaging Obese Patients

Imaging bariatric patients can prove difficult on some equipment. Designed for patient comfort and quality images, Symbia* offers a 227 kg (500 lb) patient weight limit, 102 cm (40.2 in) tunnel opening, and 200 cm (6 ft 7 in) maximum scan length—all of which enable you to image larger patients with ease. In addition, the patient bed lowers to a convenient 53 cm (21 in) for easy patient access.



440 lb (198 kg) female patient with BMI of 74.

Data courtesy of Cleveland Clinic, Cleveland, OH

Detector Flexibility

To complete Symbia's full range of versatility, the detector heads easily rotate into numerous positions including caudal/cephalic tilt offering comprehensive imaging positions for general purpose, cardiology, oncology, and neurology studies. Together, these features enable faster set-up and image acquisition and make a whole range of otherwise difficult scans possible.

You can perform:

- Planar imaging of ambulatory, wheelchair, and gurney patients
- Cardiac SPECT on all patient sizes
- 180° whole-body and SPECT scans
- Imaging of thyroid, and small structures with pinhole collimator
- Outer room position for standing and sitting patients

* Values are for Symbia S only. See specification sheet for Symbia E.

e.media for Relaxed, Comfortable Patients

e.media is a patient information and education system that can make an impact in the area of patient comfort, reducing patient movement and associated motion artifacts. e.media can also be used for hospital promotions, patient education, and staff training presentations.

Upgradeability

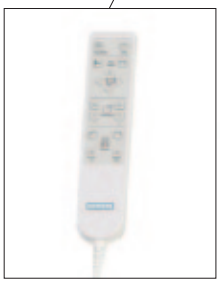
When you are ready, the path to upgrade is a smooth, efficient transition that will enable you to continue to image your patients quickly and effectively.

Symbia E can be upgraded easily to c.clear attenuation correction. c.clear provides multiple line sources without moving parts, flash reconstruction of emission and transmission data, proven truncation correction, and down-scatter correction for high-quality mu-map and increased clinical confidence. It's body-optimized source geometry also provides excellent image quality for all patient sizes. What's more, Symbia attenuation correction leads to reduced operating cost by a unique source replenishment schedule.

Siemens can add TruePoint SPECT•CT to your Symbia S ight in your lab. Symbia then aquires CT data in less than 30 seconds—a fast scan time that reduces motion artifacts. The high quality of this CT data improves attenuation correction accuracy for cardiology as well as general SPECT applications while CARE Dose4D allows you to minimize patient dose.

All these upgrades let your Symbia grow with your clinic providing investment protection and non-obsolescence.

Symbia E

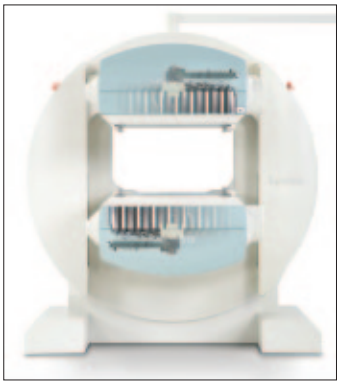


Intuitive Hand Controller
Easy to use

c.clear Attenuation Correction
Body-optimized source geometry provides excellent image quality for all size patients

Integrated Source Holder
For accurate and efficient quality control procedures

Patient Positioning Monitor
Self-guided touch screen user interface with configuration icons and the optional e.media entertainment system



HD Detector
High definition digital detectors provide energy independent performance

Autocontour
Infrared body contour system minimizes patient-to-detector distance and reduces patient set-up time

Detector Flexibility
Open gantry and a wide variety of detector configurations to accommodate any patient

Innovative Bed Design
Low patient bed for easy access with ergonomic patient comfort accessories and an ultra-thin pallet for improved image quality

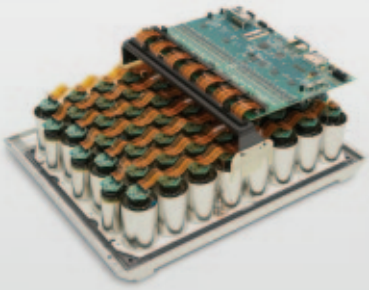
Symbia S

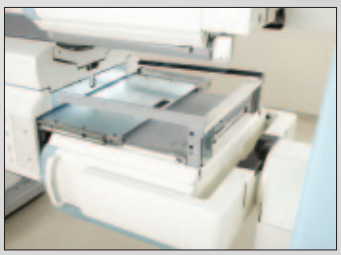
Intuitive hand controller
Easy to use with backlit icon

Autocontour
Infrared body contour system minimizes patient-to-detector distance and reduces patient set-up time

Open Gantry
Patient friendly gantry design with 102 cm x 78 cm (40.2 x 30.7 in) opening

HD Detector
High definition digital detectors provide energy independent performance





Automated Collimator Changer (ACC)
Completely automatic functions including motorized collimator motion initiated from the patient positioning monitor

Patient Positioning Monitor
Self-guided touch screen user interface with configuration icons and the optional e.media entertainment system

Automated Quality Control (AQC)
Built-in point and line sources for fully automated quality control

Internal ECG
Patient lead input for integrated ECG

Innovative Bed Design
Low patient bed for easy access with ergonomic patient comfort accessories and an ultra-thin pallet for improved image quality

Siemens Molecular Imaging reserves the right to modify the design and specifications contained herein without prior notice. Please contact your local Sales representative for the most current information. Some options and functionality will not be available immediately on product release. Where certain options and functionality are not available on delivery, these will be delivered as part of subsequent software or hardware releases. Please confirm availability and timing with your representative.

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