

# Millennium MG

## Multi-Geometry Nuclear Medicine System

For more than 100 years, healthcare providers worldwide have relied on GE Medical Systems for medical technology, services and productivity solutions.

So no matter what challenges your healthcare system faces – you can always count on GE to help you deliver the highest quality healthcare.

For details, please contact your GE representative today.



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imagination at work



## Robust performance meeting your needs

The nuclear medicine department of the 21st century needs to be fast-paced, fiscally responsible and capable of keeping up with emerging technology and changing departmental needs.

Designed for the most demanding workloads, the Millennium MG offers a superb, innovative solution to meet your nuclear imaging challenges and daily clinical requirements.

As a compact, all-purpose multi-geometry system, the Millennium MG performs a full range of nuclear imaging studies and equips you with unsurpassed clinical flexibility and exceptional image quality.

The Millennium MG features a technological platform enriched with new, optional functionality features that deliver the high reliability and level of performance demanded by busy nuclear medicine departments. This scalable system gives you the functionality you need today, with the flexibility to expand tomorrow.

Look to GE to look ahead.





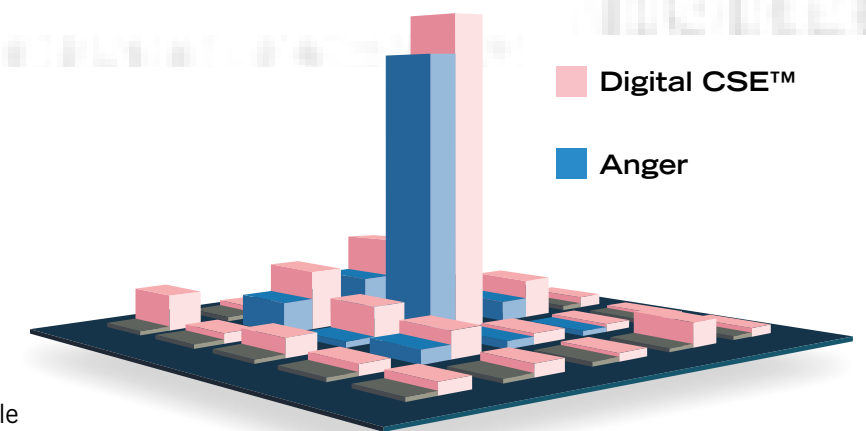
## Powerful platform for outstanding image quality

### Digital CSE detectors

The Millennium's exceptional image quality starts with the unique, GE-patented Digital CSE™ (Digital Correlated Signal Enhancement) detectors.

Unlike other conventional Anger-camera nuclear imaging techniques, Digital CSE detectors gather and sum up all the available signals – even the small, distant signals typically discounted and discarded by regular Anger cameras – before any signal processing is performed. When combined with the perfect “tile coverage” of the entire field of view that the square-shaped photomultiplier tubes (PMTs) provide, the CSE detectors deliver outstanding count rate and superb uniformity.

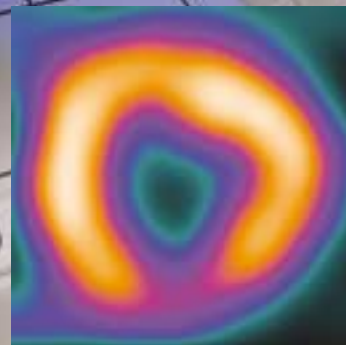
This advanced CSE detector technology is further enhanced with AutoTune™ for continuous, automatic PMT gain adjustments. It utilizes sophisticated calibration algorithms, variable integration time and effective count-less correction, and improved dynamic range for fast tuning. The result: outstanding image quality, study after study.



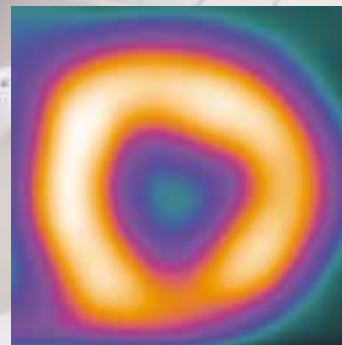
*Using an array of large, square photomultiplier tubes, Digital CSE detectors gather and sum signals from all rows and columns prior to signal processing. That way small, distant signals, often ignored by conventional Anger cameras, help improve count rate and uniformity.*

## Millennium ACuscan

Millennium empowers you to include ACuscan at any time. It utilizes dual scanning line sources to generate an anatomically specific correction map. This high-quality transmission map can significantly reduce attenuation artifacts associated with breast, muscle and diaphragm. ACuscan improves image quality by removing these artifacts.



No attenuation correction.



Attenuation correction applied.

## Automatic Body Contouring

Consistent image quality is ensured with real-time Automatic Body Contouring (ABC). As an optional feature on the MG, it automatically follows the individual patient anatomy, maintaining minimal distance between the moving detectors and the patient throughout the entire scan, thus eliminating the need for pre-scan patient-contour learning and time-consuming camera setup.

Utilizing a double layer of infrared sensors attached to the detector, ABC electronic circuitry detects and follows the patient's anatomy by moving the scanning detectors along the patient contour for maximal detector-to-patient proximity and for consistent image quality in 180° geometry SPECT and WB scans.



## The elements of productivity

When it comes to accommodating growing volumes of patients, the Millennium MG is equipped to handle all your needs.

### A unique gantry simplifies exams

Compact and self-contained, the Millennium MG features dual, variable geometry detectors mounted externally on the gantry.

This configuration can improve patient care and productivity issues. It can ease patient positioning and provide faster access in

emergencies, while reducing the risk of claustrophobic reactions. Plus, it's able to acquire a 180 dataset with a quick, 101 rotation.

This gantry also offers pre-programmed gantry motions for frequently used detector positions, including collimator changing and switching rotation angles between 101° and 180°.

*The Millennium table features an extra-wide, sculptured cradle to comfortably support patients up to 440 pounds (200 kilograms) and to accommodate scanning lengths up to 6 feet, 3 inches (1.9 meters).*



*The Millennium MG combines the capabilities of two systems in a single compact package with its 101° rotation angle for cardiac studies and 180° rotation angle for whole body exams.*

### A 3-axis table speeds positioning

The MG takes full advantage of the unique Millennium mobile table. It wheels easily to the gantry for locking into an unobtrusive floor plate, and wheels away with equal ease for imaging patients who are seated or undergoing stress or ergometer tests.

Then, to make setup just as effortless – even for patients who require transfer from wheelchairs or stretchers – it lets you use pre-programmed commands to raise and lower the table automatically.

### Optimal system for cardiac SPECT

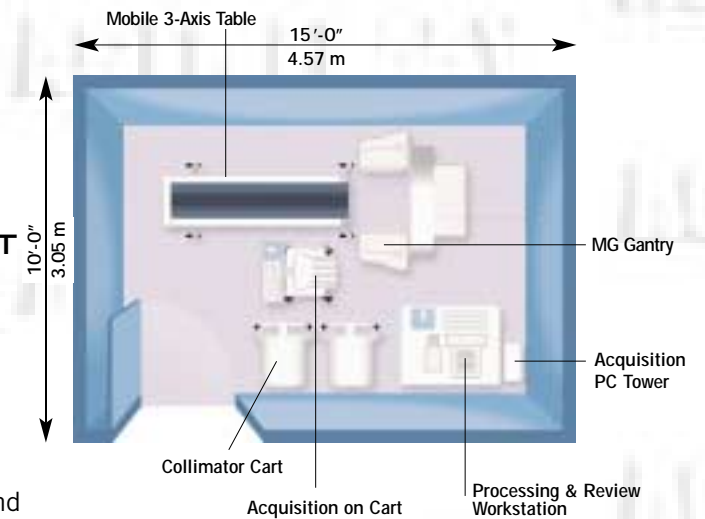
The dual-head detector on the Millennium MG allows you to capture cardiac data at the optimal 101° for cardiac SPECT.

This 101° configuration doubles the tomographic cardiac scanning sensitivity and keeps the detectors closer to the patient, thus eliminating the need for long-bore collimators that inherently compromise sensitivity. The results: excellent image quality and fast acquisitions.

### Fast collimator changes save time

Although the major contribution of the Digital CSE detectors lies in the realm of clinical results, they also enhance productivity. Consider collimator changing: with the MG's dual-collimator transport carts, you can change both collimators simultaneously – without worrying about the need for time-consuming manual counterweight adjustments.

And, you don't have to worry about delays due to patient-safety concerns. In the unlikely event of contact between patient and detector, collision-detection sensors and automatic braking stop all motion, while safeguarding the data you've already acquired. Plus, a Pause/Resume function allows you to continue the study from the point of interruption.



*With its small footprint, the Millennium MG system can be installed in small rooms, without any site modifications. It even fits through standard doorways. And the rail-free design and plug-in power supply permit installation in just two or three days – rather than the weeks required for other systems.*

## Acquisitions redefining ease of use



The Millennium MG provides a truly intuitive user interface that helps to ensure maximum productivity.

Highly graphical, it keeps the tools you need in clear sight so that launching an application is just a click away. It also incorporates a wide range of additional productivity-enhancing tools, all accessed via universally recognized icons. By anticipating your needs, the Millennium automatically adjusts controls to match the requirements of your current displayed application.

But don't be fooled by its ease of use. Behind the acquisition station's simplicity lies powerful flexibility. For example, you can easily modify any of the preprogrammed parameters or create your own custom settings.

What's more, it's extremely compact. The acquisition station resides on a mobile cart that can be wheeled anywhere in the scan room. Adjustment to the cart height is easy so you can position it at full height if you're standing, or lower it for comfortable seated viewing.

When combined with our state-of-the-art processing and review workstation's full complement of nuclear processing, analysis and review protocols, you receive a complete nuclear solution.

With its sophisticated architecture, it easily handles true simultaneous operation of its reconstruction, display, analysis, networking, filming and archiving functions – for the ultimate in productivity.

## Outstanding clinical flexibility



The Millennium MG will usher your department into a new era of performance and productivity. With a wide range of collimators, the Millennium MG is the epitome of an all-purpose system, easily performing an extensive variety of clinical studies. The Millennium MG's dual-head

detector gives you the flexibility of capturing data at 180° for whole body, planar and general-purpose SPECT scans, and at the optimal 101° for cardiac SPECT – effectively combining the capabilities of two systems in a single compact package.

## Generations sharing family traits

If you want to invest in nuclear medicine equipment that will continue meeting your clinical requirements as they evolve, you've come to the right place.

From the advanced flexibility of single head to the productivity of dual head cameras, GE's broad family of nuclear medicine systems are all built with the same commitment to quality and reliability.

The Millennium family is proof of the GE Continuum, our commitment to keeping you at the forefront of technology through cost-effective upgrades.