



Philips PET/CT Gemini GXL

**Total performance.
Total confidence.**

PHILIPS

Gemini GXL – The one for all.

Healthcare isn't about to slow down.

Your best bet?



Accelerate.

**All patients.
All applications.
All the time.**

Imagine every study you'd like to do, every patient you'd like to accommodate, every minute used as efficiently as possible. Imagine consistently superior image quality. And while you're at it, imagine entirely new levels of throughput performance. Then step outside of your imagination and meet Gemini GXL.



We developed Gemini GXL as the member of the Philips PET/CT family with the highest potential for determining more effective courses of therapy and realizing greater workflow efficiencies, while securing a high return on investment.

Once you've experienced it, there's no going back.

Unique OpenView gantry design creates greater comfort and acceptance for claustrophobic and pediatric patients, as well as for patients who have a difficult time lying still. Industry-leading 190 cm scan length for both PET and CT allows true whole body imaging for almost all patients in one scan.

Here **today**, here **tomorrow**.

The power of performance.

We understand your need to consistently achieve high-quality images while maintaining maximum patient throughput with minimal radiation dose. That's why we designed Gemini GXL for faster acquisition, review, and reporting: to help you attract and retain the referrals you seek, while improving overall economic performance.

RapidResolve PET technologies featuring LOR reconstruction

Gemini GXL performance is driven by breakthrough RapidResolve PET technologies. Advances in the crystal and electronics detect and process more events up front. Exclusive LOR (Line of Response) reconstruction utilizes all events detected, eliminating the less precise sampling and averaging that cause image degradation with conventional techniques. Valuable today, these technologies are designed to also accommodate the higher count rates required by the isotopes used in emerging applications.

Combining these PET advances with the innovative Brilliance CT platform delivers the PET/CT platform to power you today and into the future. Leading technologies in x-ray generation, detection, processing and reconstruction capabilities are the basis for the Brilliance CT platform.

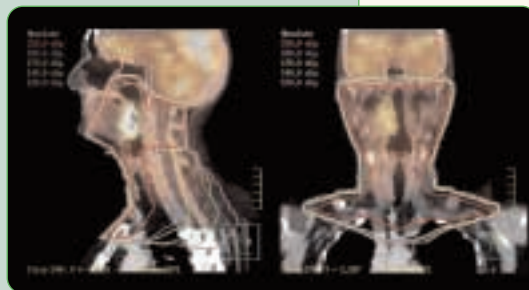
Complementing these platforms is the leading edge Gemini GXL Workspace featuring Guided Flow productivity enhancers.

Taken together, these capabilities provide an uncompromising system to provide you the right information at the right time and in the right way to be most usable for you and your clients.

Oncology

Oncology: Diagnostic accuracy from the start.

Your challenge is diagnostic accuracy, particularly the ability to detect small lesions and to assess disease progress over time. Consistent and reproducible imaging plus the ability to provide post-therapy evaluation and monitoring are critical to your success. Gemini GXL meets these needs and more with the design, implementation and performance critical to achieving consistently high image quality over time and across patient populations and sizes.



Gemini GXL can be conveniently located within the radiation oncology department as a therapy simulation system with options including flat tabletop, external laser system and immobilization accessories.



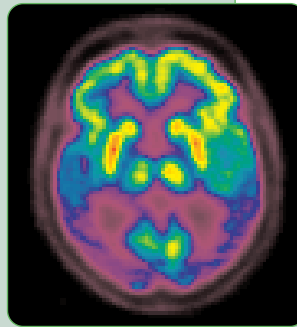
Neurology

Neurology: Smarter now and in the future.

Gemini GXL provides fully 3D acquisition and data processing, as well as high spatial resolution to enable high-quality brain studies. Integrated brain imaging protocols optimize workflow. Future advances in brain imaging are being accelerated by Philips through internal research and development as well as collaboration with academic centers.



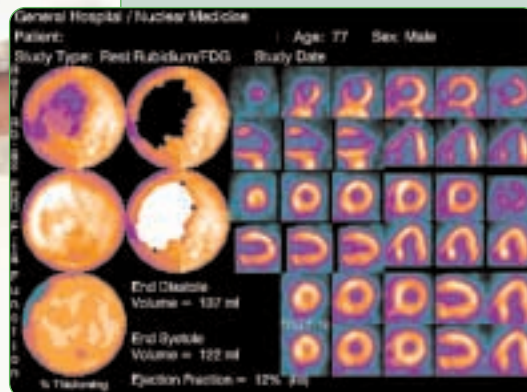
FDG PET imaging can be successfully used in diagnosis and treatment of dementia. Gemini GXL is well-positioned for this clinical application by providing a patient-friendly imaging environment, excellent image quality, and comprehensive data display tools.



Cardiology

Cardiology: One exam for comprehensive evaluation and analysis.

The value of PET/CT is growing rapidly in cardiology as a tool to help assess and measure myocardial perfusion, tissue viability, and cardiac function with PET, as well as coronary artery anatomy and calcification with CT. Gemini GXL provides these capabilities in an integrated package and enables a comprehensive cardiovascular evaluation within a single exam.



The Emory Cardiac Toolbox, an option integrated within Gemini GXL, enables fast, accurate analysis of the myocardium with minimal operator interaction.

- Comparative slice review
- Comparison of perfusion data with viability data
- Three dimensional image displays
- Functional analysis in gated studies
- Single summary page

Advanced PET and CT technologies today...

Gemini GXL introduces breakthrough RapidResolve PET technologies featuring LOR (Line of Response) reconstruction. Coupled with the advanced technologies of Brilliance CT, this powerhouse combination delivers a flexible platform to expand the realm of viable clinical studies, enhance image quality and reduce scan times.

RapidResolve PET technologies encompass:

* **Photon detection:** Advances in the GSO crystal enable detection efficiencies for demanding applications, today and tomorrow.

* **Signal processing:** New electronics significantly improve count rate performance. These improvements enable enhanced performance for today's radioisotopes plus provide broad acceptability for the higher specific activities inherent in radioisotopes used in emerging applications.

• **Reconstruction:** LOR reconstruction creates a robust platform for optimizing image quality by utilizing a complete representation of the PET image data set. Eliminating the sub-sampling required in conventional techniques, LOR removes averaging and consequent image degradation. An innovative, scalable reconstruction engine of powerful multi-processors supplies the horsepower to make it all happen.

Specifications	
Gemini GXL PET/CT scanner	
Minimum room size	24 ft x 14 ft
Gantry cooling	air-cooled
Patient port	70 cm (PET) and 70 cm (CT)
Patient scan range	190 cm
PET specifications	
Physical axial FOV	18 cm
Detector material	GSO
Crystal size	4 x 6 x 30 mm
System sensitivity kcps/ μ Ci/cc	3D LLD 410 keV 1,520 (Trues + Scatter) (NU-2 1994)
Transverse resolution @ 1 cm	5.1 (NU-2 2001), 4.8 (NU-2 1994)
Peak noise equivalent count rate	70 kcps (NU-2 2001)
Scatter fraction - 3D	35% (NU-2 2001)
Reconstruction	3D LOR, 3D RAMLA, OSEM, FBP
CT specifications	
Multislice capability	16-, 10- and 6-slice
Rotation speed	.5 sec (.4 optional)
Spatial resolution	24 lp/cm
Minimum slice thickness	0.5 mm

...secure tomorrow's return on investment.

The biggest contributor to the high return on investment with Gemini GXL is its capability to image a wide range of patients over a wide range of applications with superior image quality and high throughput performance.

Flexibility is designed in from the start. The Gemini GXL CT platform is available in 16-, 10-, and 6-slice configurations. Customers can conveniently upgrade their CT configuration as clinical requirements evolve.

We're also working toward a future of more personalized healthcare. Aggressively embracing the potential of molecular imaging, Philips is conducting research with a range of partners to develop and simplify new molecular imaging technologies to provide tomorrow's breakthroughs for you and your patients.



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Interested?

Would you like to know more about our imaginative products? Please do not hesitate to contact us. We would be happy to provide specific information about our products and services, or put you on our mailing list for news about new product developments, upcoming events or for our clinical journal, *Medica mundi*. We would be glad to hear from you.

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