



Revolution™ Frontier Gen 3

From Innovation
to Outcomes...
Everyday



gehealthcare.com/ct



Surpass the everyday potential of CT

One of the biggest challenges with today's CT is that conventional systems often lack the fine detail and tissue composition needed to clearly characterize a disease. This puts you in the position of having to order additional follow-up tests to complete a diagnosis.

It's time for CT to evolve beyond anatomy to function. From detailed images of inner structures to an understanding of what those structures are made of. It's time for both high sensitivity and high specificity.

Introducing Revolution Frontier Gen 3. Built to push the boundaries of what you expect from your CT, Revolution Frontier Gen 3 includes an innovative imaging chain, a streamlined spectral imaging experience and a robust toolkit of imaging modes right at your fingertips. It takes CT innovation to a whole new level of everyday capability.

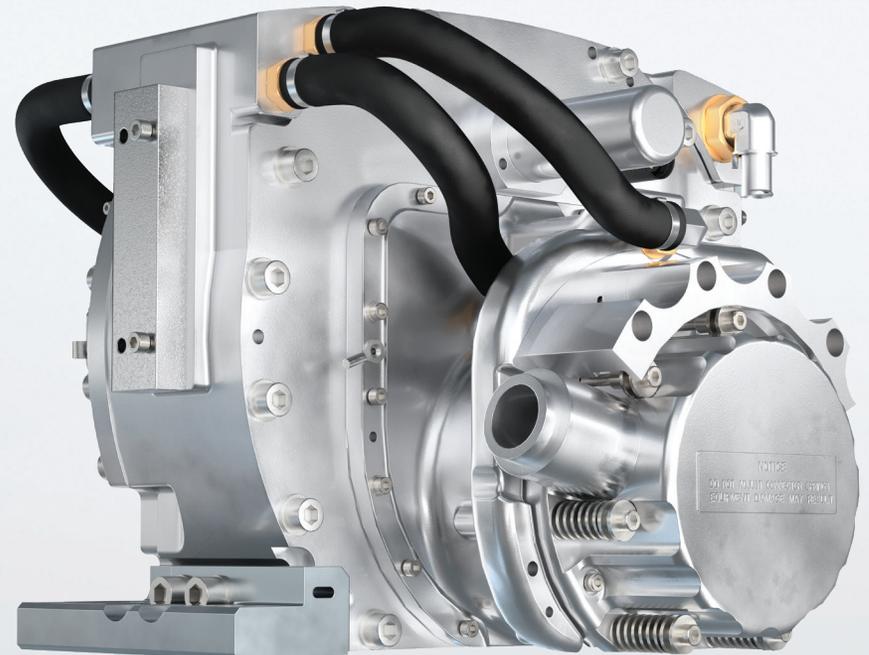


Innovation

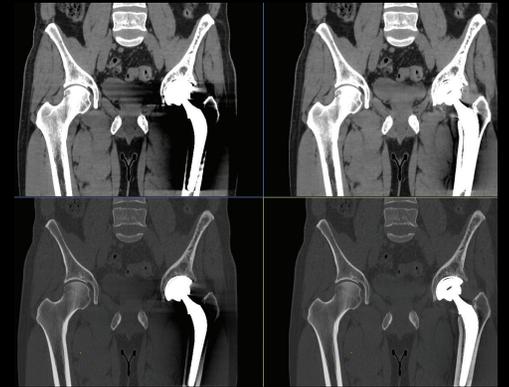
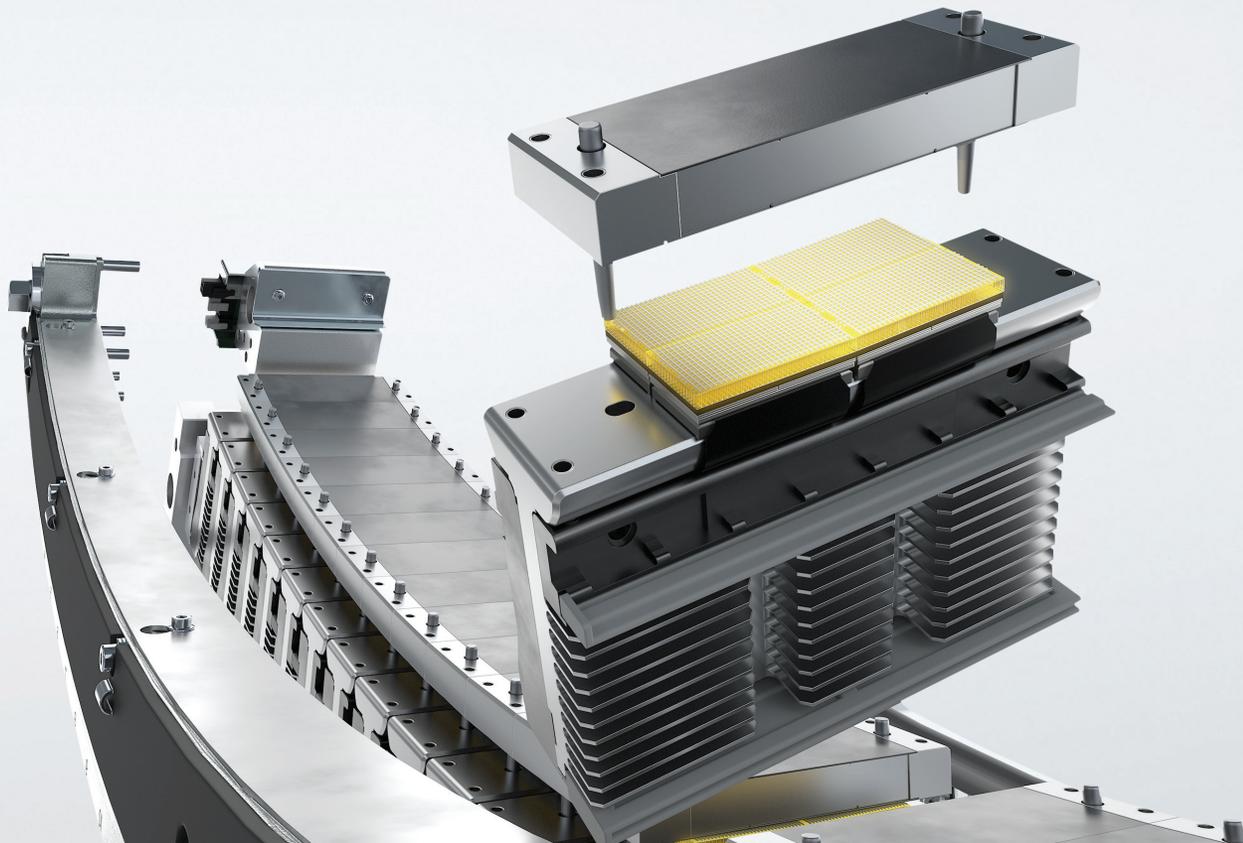
Innovation along the entire imaging chain

Our Revolution™ family of CT systems is known for its exceptional imaging technology. Revolution Frontier Gen 3 was designed to take this technology to the next level for your high-performance clinical needs.

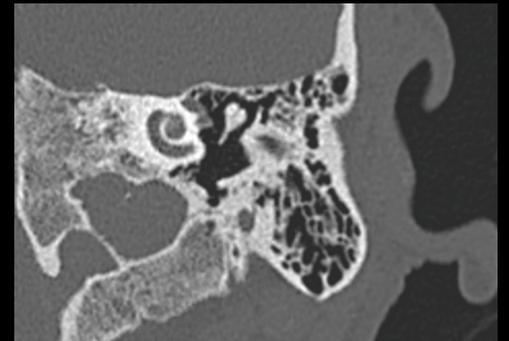
Its innovative imaging chain features the powerful Performix™ HD Plus. This liquid metal bearing X-ray tube significantly reduces the wear that is typical with conventional ball bearing technology. The result is shorter tube warm-up times between scans as well as up to two times longer tube life.



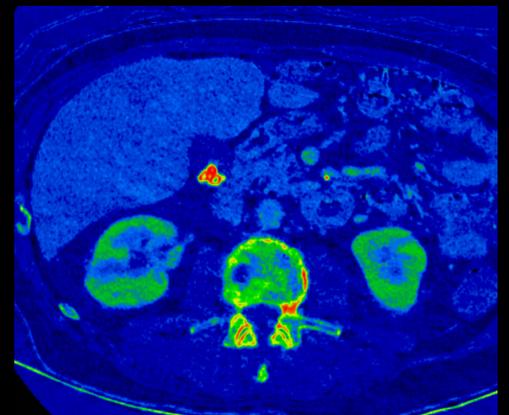
It also includes our Gemstone™ Clarity detector modules. Built with the proven Gemstone material known for its high primary speed and low afterglow, the miniaturized design of each detector module shortens the distance information has to travel. For the most challenging cases, you can easily implement High Definition mode to further improve spatial resolution to 0.23 mm.



Significant reduction in electronic noise

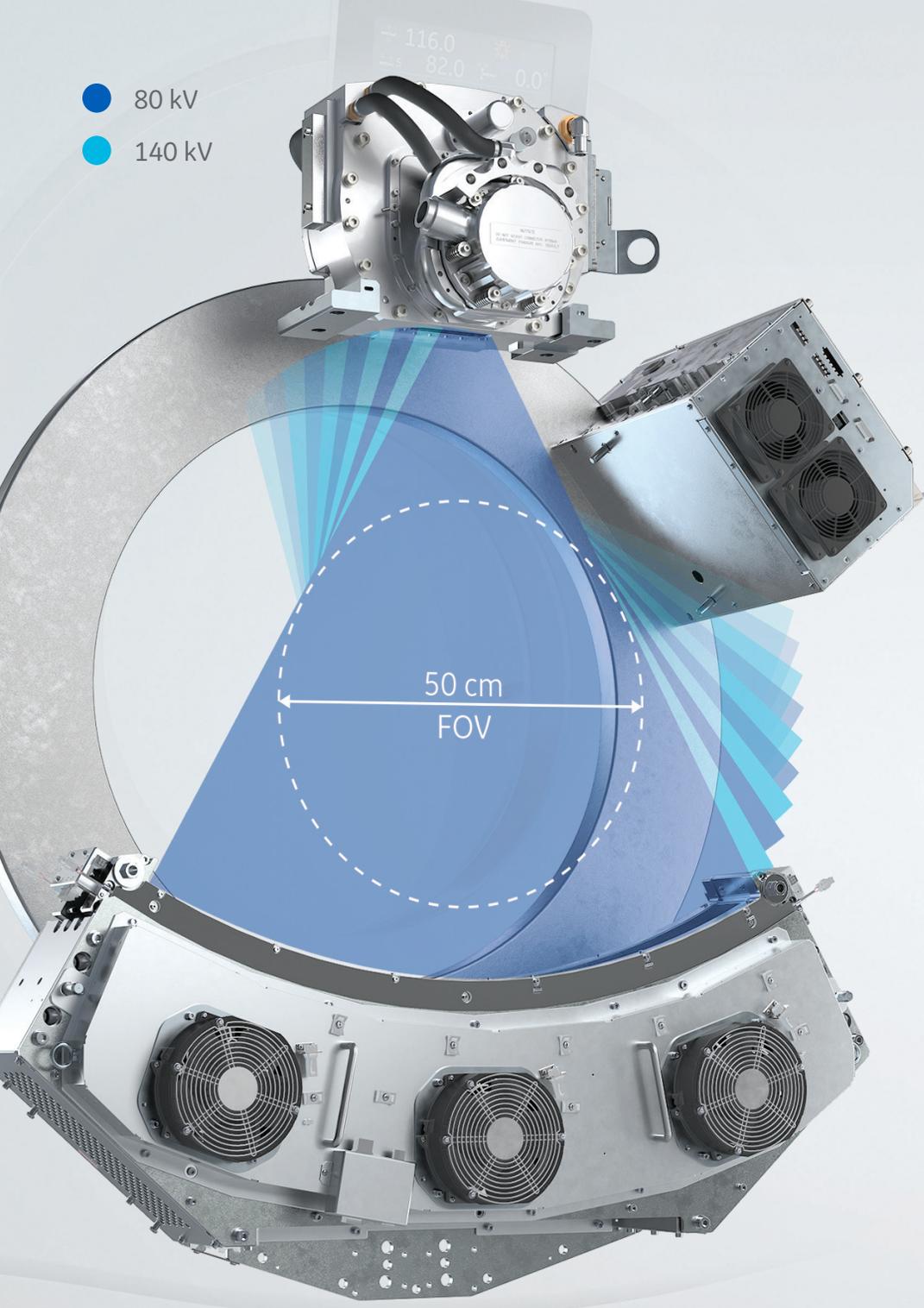


Impressive spatial resolution



Routine spectral imaging capabilities

- 80 kV
- 140 kV



Outcomes

The spectral CT you've been waiting for

New technology, like spectral imaging, can be difficult to adopt if it has limited utility or doesn't fit into the processes you already have in place. We addressed these challenges with Gemstone Spectral Imaging (GSI) Pro.

GSI is our proven spectral imaging application. It uses our Gemstone detector and rapid kV switching to acquire dual energy samples from a single source. With GSI Pro, we improved the GSI experience by allowing it to seamlessly integrate with AW applications. We also significantly reduced reconstruction times with a breakthrough in spectral CT technology that effortlessly processes gigabytes of data at a time.

0.25 ms

kV switching rate

4 cm

of spectral data

50 cm

material
decomposition
over the full FOV

Over

165

times faster
temporal registration

These improvements to spectral imaging technology make the clinical benefits of GSI routinely accessible. It gives you the freedom to explore the benefits of up to a 50 percent improvement in beam-hardening artifacts and non-contrast-like images that subtract detected iodine.

Beyond that, by incorporating the latest in iterative reconstruction technology, ASiR-V™,¹ GSI Pro also enables dose neutrality, lower image noise and improved low-contrast detectability for patients of any size.



Reduce unnecessary follow-ups due to inconclusive results

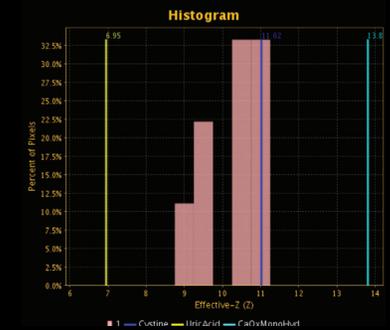


Reduce non-interpretable scans due to metal artifact

Accurate kidney stone characterization



Kidney stone identified with ROI placed

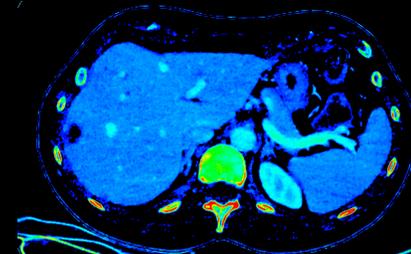


Histogram suggesting effective-Z value correlating to cystine

Improved liver lesion visualization

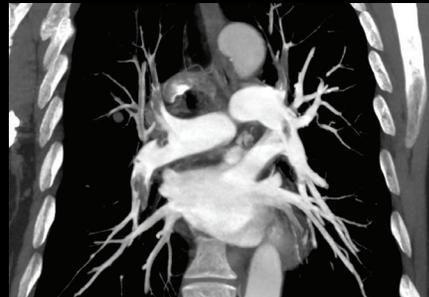


40 keV



Iodine map

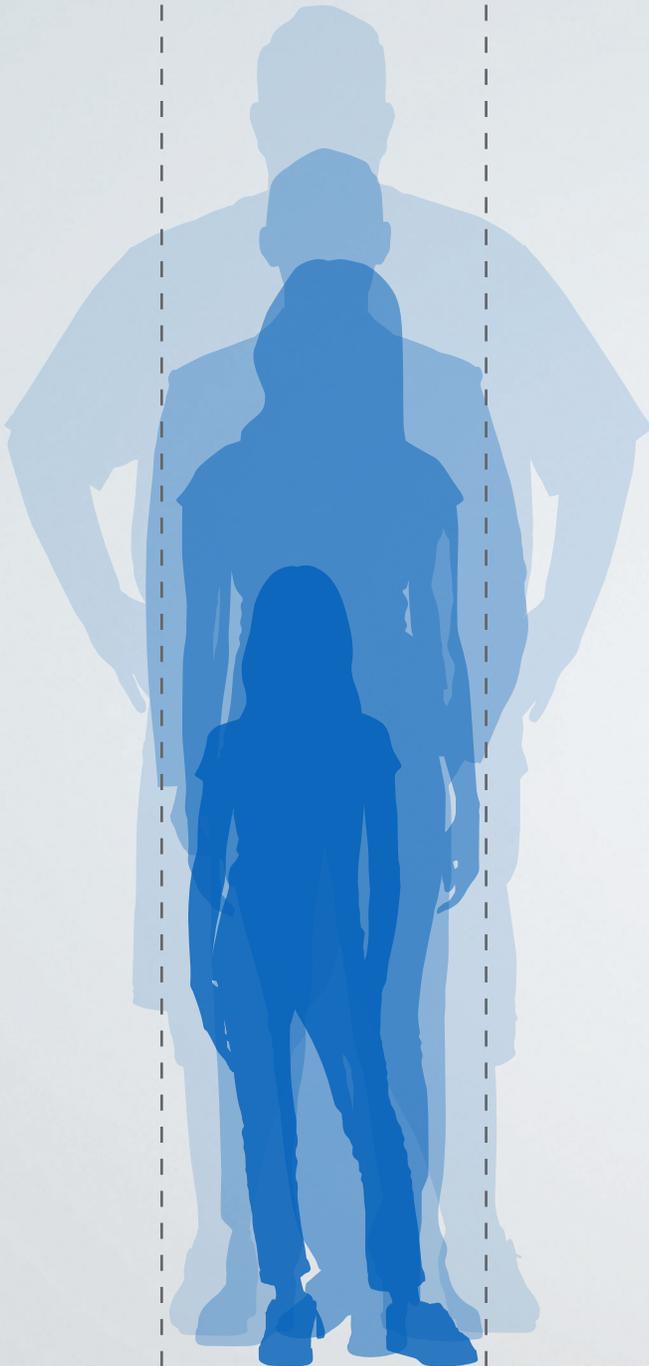
Optimize iodinated contrast



"I was absolutely stunned to see through the metal artifact and actually see the bladder in a patient with bilateral hip replacement."

- Dr. K. Conner, CT Section Chief, Intermountain Healthcare, USA

50 cm FOV



Everyday

Ready to adapt to every patient

Revolution Frontier Gen 3 was designed around the principle that no two examinations are ever the same. To do this, we made sure you can address individual clinical needs by moving seamlessly from one scan mode to the next. You can image with a stunning 0.23 mm spatial resolution and then switch to rapid kV switching for full 50 cm FOV spectral imaging of the entire body. Ensure low dose across all exams with ASiR-V¹ and use 0.35 second rotation routinely.

0.35

second rotation speed

Up to

82%

less radiation dose with ASiR-V¹



0.35 second rotation for minimal breath hold and less motion artifact

"We are getting fantastic images at low dose in routine scanning with ASiR-V."

- Dr. K. Conner, CT Section Chief, Intermountain Healthcare, USA



This level of clinical versatility is supported by key service solutions to keep your CT up and running. As an original equipment manufacturer, we know more about our systems than anyone else. We offer a complete package of predictive and proactive service solutions to ensure your system stays at peak performance.



Original
equipment
manufacturer



Predictive and
proactive service



Reduce unplanned
X-ray tube replacement
downtime



FBP



ASIR-V 50%



TrueFidelity

TrueFidelity

How the Best See Better

Image quality is the key to accurate diagnosis. TrueFidelity, one of the first deep learning-based image reconstruction engines on the market, combines the ground truth image quality of “high-fidelity” filtered back projection with the low-dose capabilities of iterative reconstruction to generate images with outstanding spatial resolution, low-contrast detectability, and natural-looking image texture.

TrueFidelity images have the potential to improve reading confidence in a wide range of clinical applications—such as head, whole body, and cardiovascular—for patients of all ages. Because TrueFidelity runs on a cutting-edge reconstruction server, it has the power to achieve fast reconstruction for routine CT use, even in acute care settings. TrueFidelity’s CT images are more than a radical, next-generation improvement. They elevate the vision of what you and deep learning-based image reconstruction can achieve—together.

Auto positioning

Right place, less time

Revolution Frontier Gen 3 simplifies the entire patient setup process. Innovative auto centering technology is at the core of our improved scan experience, but it starts with related protocol recommendations. By comparing the exam description against a database of scan protocols, the system displays a short list of protocols to choose from. What used to take valuable time searching for the right protocol and then manually positioning the patient in the bore, can now be done with a quick selection and the simple click of a button.



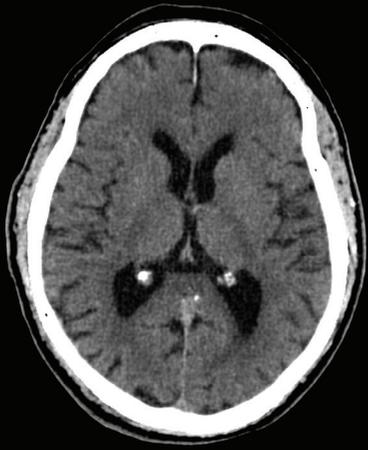
A CT that keeps getting better

CT application development never stops, yet traditional purchase models make it difficult for you to keep up. Smart Subscription, our new subscription-based service for CT applications, automatically keeps all of your systems up to date. For one annual fee per device, you can be sure your CT fleet is always equipped with the latest software capabilities, saving you time and money.



Clinical Image Gallery

Clear delineation of grey/white matter and bone structure reconstruction with TrueFidelity



Low dose imaging for Chest-Abdomen-Pelvis with high resolution image quality

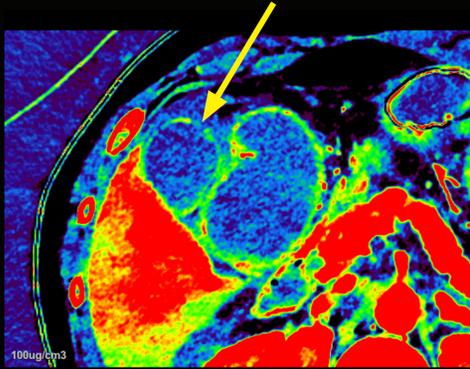


1024 recon matrix high resolution imaging to identify foot fracture

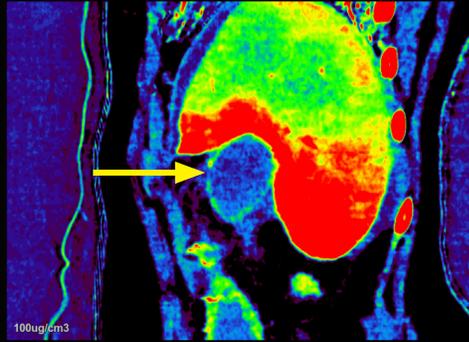


Clinical Image Gallery

GSI Pro of abdomen with iodine color overlay to demonstrate gall bladder perforation



MD Iodine/Water

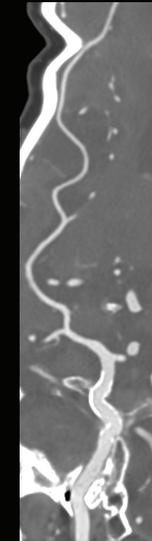
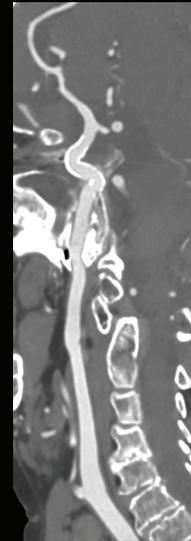
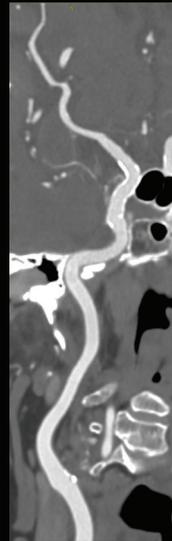


MD Iodine/Water



65 KeV

High resolution imaging for improved segmentation and tracking of carotids artery





Specifications

Everything you expect from CT. And more.

Our entire Revolution brand of CT systems is built out of our passion to enable you with extraordinary technologies that will allow you to reach the right diagnosis, effortlessly. Revolution Frontier Gen 3 is no exception to this mission. With new features and capabilities that allow you to image more patients, in new ways, Revolution Frontier Gen 3 is a phenomenal clinical tool for pushing the boundaries of CT.

"This scanner can help us further build our chronic thromboembolic pulmonary hypertension treatment clinics by looking at perfusion in addition to filling defects. Also, we expect it will help our urology partners in identifying the composition of renal stones. We are also excited to use the new system in planning complex pancreatic cancer treatment, as it appears we can see the lesions as well as liver metastases better than without spectral imaging."

- Dr. K. Conner, CT Section Chief, Intermountain Healthcare, USA

Gantry

| | |
|---------------------------|--------------------|
| Bore size | 70 cm |
| Gantry tilt | +/- 30 degrees |
| SFOV (single energy mode) | 50 cm |
| Rotation speed | Up to 0.35 seconds |

Tube and Generator

| | |
|---------------|---|
| Tube | Performix HD Plus |
| Maximum power | 100 kW |
| Tube current | 10 to 835 mA, in mA increments |
| Tube voltage | 80, 100, 120, 140 |
| Heat storage | 8 MHU (equivalent with ASiR-V 37.4 MHU) |

Reconstruction

| | |
|--------------------------|--------------|
| Iterative reconstruction | ASiR-V |
| Reconstruction time | Up to 70 fps |

Gemstone Spectral Imaging

| | |
|----------------------------|---------------------------------|
| Technique | Fast kVp switching (80/140 kVp) |
| SFOV | 50 cm |
| Temporal registration | Up to 0.25 ms |
| Monochromatic energy range | 40 to 140 keV |

Detector and DAS

| | |
|---------------------------------|--------------------------------|
| Detector material | Gemstone Clarity |
| Detection efficiency (@120 kVp) | 98% |
| Views per rotation | Up to 2,496 views per rotation |
| Spatial resolution | 21.4 lp/cm |

Table

| | | |
|---------------------|------------------|------------------|
| Table specification | GT 1700/2000 | GT 2000x |
| Table load capacity | 227 kg/500 lb | 306 kg/675 lb |
| Horizontal range | 1700 mm/2000 mm | 2000 mm |
| Vertical range | 430 mm to 991 mm | 525 mm to 991 mm |



¹In clinical practice, the use of ASiR-V may reduce CT patient dose depending on the clinical task, patient size, anatomical location and clinical practice. A consultation with a radiologist and a physicist should be made to determine the appropriate dose to obtain diagnostic image quality for the particular clinical task.

²A 6x improvement of motion-blur reduction while maintaining high spatial resolution is demonstrated in cardiac phantom testing. The reduction in motion artifacts is comparable to a 0.058 s Equivalent Gantry Rotation Speed with effective temporal resolution of 29 msec, as demonstrated in mathematical phantom testing.

GE Healthcare provides transformational medical technologies and services to meet the demand for increased access, enhanced quality and more affordable healthcare around the world. GE (NYSE: GE) works on things that matter – great people and technologies taking on tough challenges.

From medical imaging, software & IT, patient monitoring and diagnostics to drug discovery, biopharmaceutical manufacturing technologies and performance improvement solutions, GE Healthcare helps medical professionals deliver great healthcare to their patients.

Building a world that works

© 2022 General Electric Company – All rights reserved.

GE Healthcare reserves the right to make changes in specifications and features shown herein, or discontinue the product described at any time without notice or obligation. Contact your GE Healthcare representative for the most current information. Revolution Frontier Gen 3, Revolution, Performix, Gemstone, ASiR-V, SnapShot, Imagination at work, GE and the GE Monogram are trademarks of General Electric Company. GE Healthcare, a division of General Electric Company. GE Medical Systems, Inc., doing business as GE Healthcare.

JB56757XX