Revolution Apex with Quantix™ 160

When Power Meets Coverage

Jean-Baptiste Thibault, Michael Utschig

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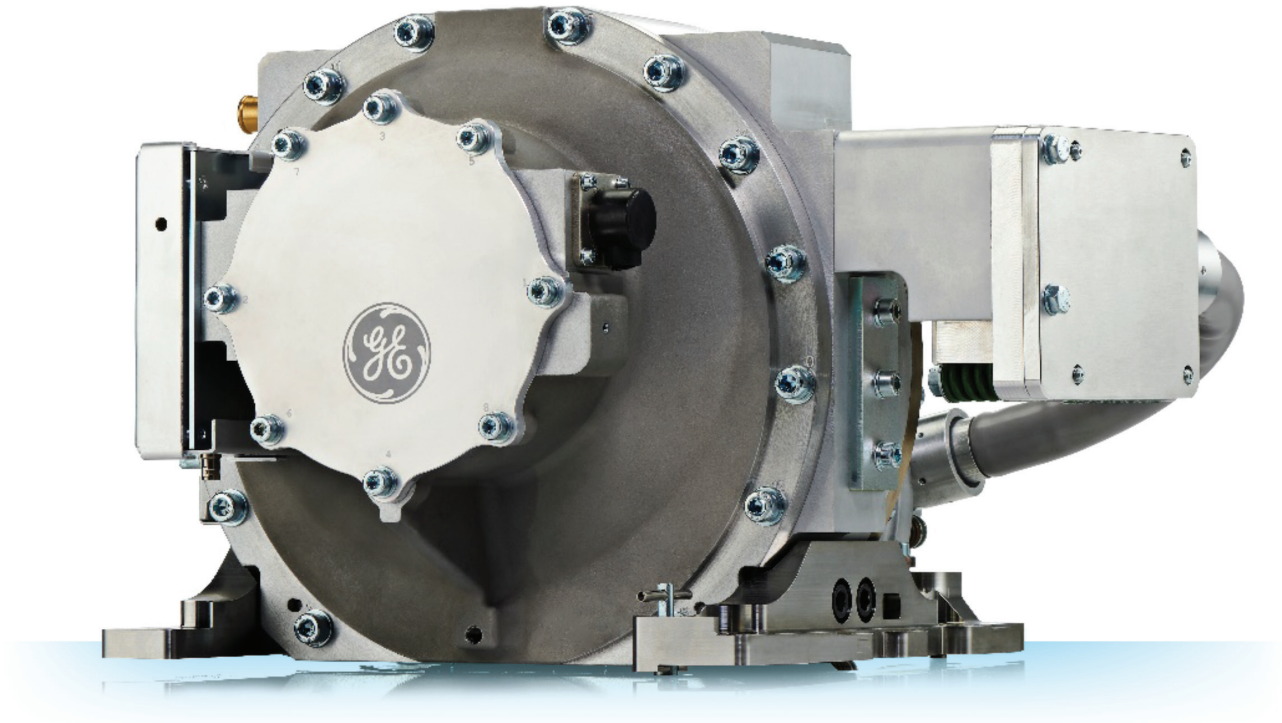


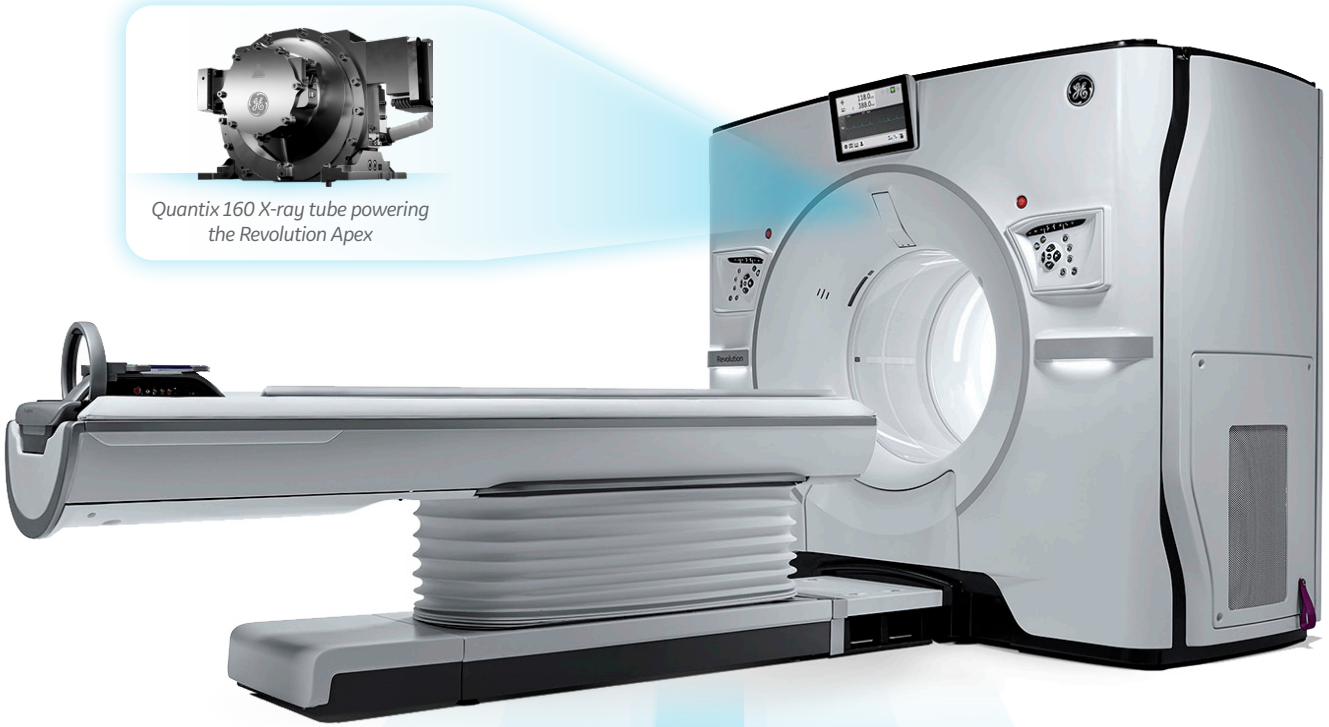
Quantix 160 X-ray tube powering the Revolution Apex

Introduction

When GE Healthcare introduced the Revolution CT scanner in 2014, it quickly became a new benchmark for CT imaging. This new CT platform resolved the traditional compromises between image quality and wide coverage, providing combined high spatial and high temporal resolution together with precise spectral imaging to enable whole-organ imaging and robust 1-beat cardiac for any patient condition. Now with the Quantix 160 X-ray tube, GE gave it a new heart, to elevate the platform to new heights as we introduce the Revolution Apex. This new heart is beating strong, delivering a maximum of 1300 mA flux output with up to 160 mm axial z-coverage in a 110 kW package. Quantix 160 is one of the rare technology breakthroughs that propels CT imaging capability forward: with Quantix, CT users no longer need to trade off power for wide coverage. Building upon the foundation of TrueFidelity image quality, this tube upgrade positions the Revolution Apex to best address the toughest challenges in modern CT imaging: obese patients, ultra-fast gated and ungated chest scanning, low kV imaging for large patients, precise spectral lesion detection and characterization, and many other applications.

Revolution Apex

The new way to your best image



Quantix 160 X-ray tube powering the Revolution Apex

When **POWER** meets **COVERAGE**

Quantix 160 is the world's first combination of 1300 mA output and 160 mm z-coverage ***in a single axial exposure***, a momentous achievement for an X-ray tube. On Revolution Apex, this translates into unmatched capability to address the clinical needs of modern CT, when both power and coverage are critically demanded at the same time.

- **Optimal image quality** for all patient sizes
- **Ultra-fast scanning** without compromising mAs
- **Unconstrained access** to low kV for soft tissue and vascular imaging
- **High-resolution images** without increasing noise
- **Precise spectral imaging** for lesion detection and characterization

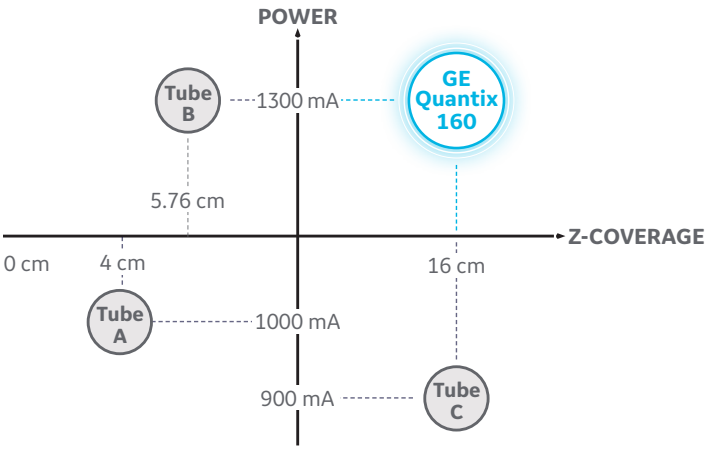
This unique clinical capability of ***power plus coverage*** allows higher effective flux utilization per unit of time than any other X-ray tube on the market. At the high level, X-ray tube flux, also called fluence rate ϕ, is given by the total number of emitted photons over the imaged area and exposure time:

$$\Phi = \frac{Photons}{Area \times Time} \left(cm^{-2}s^{-1}\right)$$

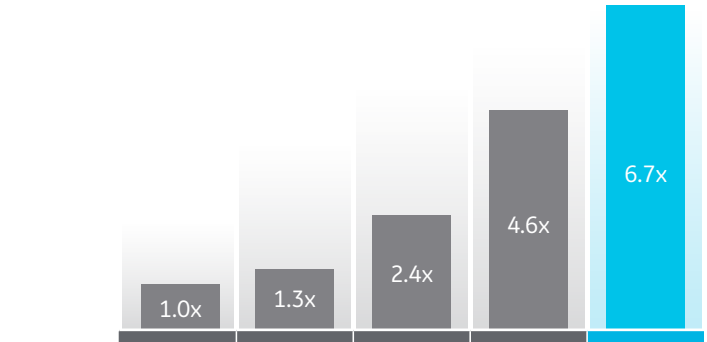
So the clinical effectiveness of the tube can be viewed as the number of effective photons available for clinical imaging, or **ϕ × Area × Time**, which for a fixed field of view and fixed scan duration can be simply calculated as the product of maximum mA and detector coverage.

*With this simple metric, using published data on manufactured high-end CT tubes, Revolution Apex with Quantix 160 delivers for general imaging as much as **2.8x more available flux** in a single axial whole-organ acquisition than other CT manufacturers.*

Quantix 160 retains this advantage even when compared against systems powered by two large individual X-ray tubes: on those systems, both tubes complement each other for temporal imaging sampling trajectories in cardiac and high-pitch modes, and output flux does not add up. On Revolution Apex, maximum power is always available to benefit all clinical applications including whole-organ imaging in a rotation and regardless of the acquisition mode, e.g. cardiac, chest, whole body, high-pitch helical, low kV, high-resolution, etc.



Only Quantix 160 can combine 1300 mA with 160 mm coverage in a single axial rotation.

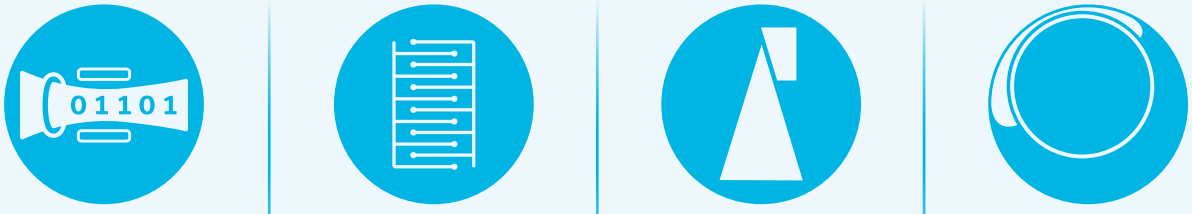


	Baseline	Tube A	Tube B	Tube C	Quantix
Flux (mA)	780	1000	1300	900	**1300**
Cov (mm)	40	40	57.6	160	**160**

Quantix 160 combination of power and coverage allows higher effective flux utilization than the competition (specifications from OEM Data Sheets). The baseline here is the Revolution HD scanner with the Performix tube.

QUANTIX 160 – The Next Generation X-ray Tube Platform

Quantum leaps in X-ray tube technologies are rare, requiring advances in electron optics, electronic controls, material science, high voltage physics, or system architecture. Quantix 160 has advanced the state-of-the-art in all these areas to deliver not one, but ***four sophisticated groundbreaking technologies:***



Digital Cathode
Real-time X-ray Control

Dual Flat Emitter
High-Power Scanning

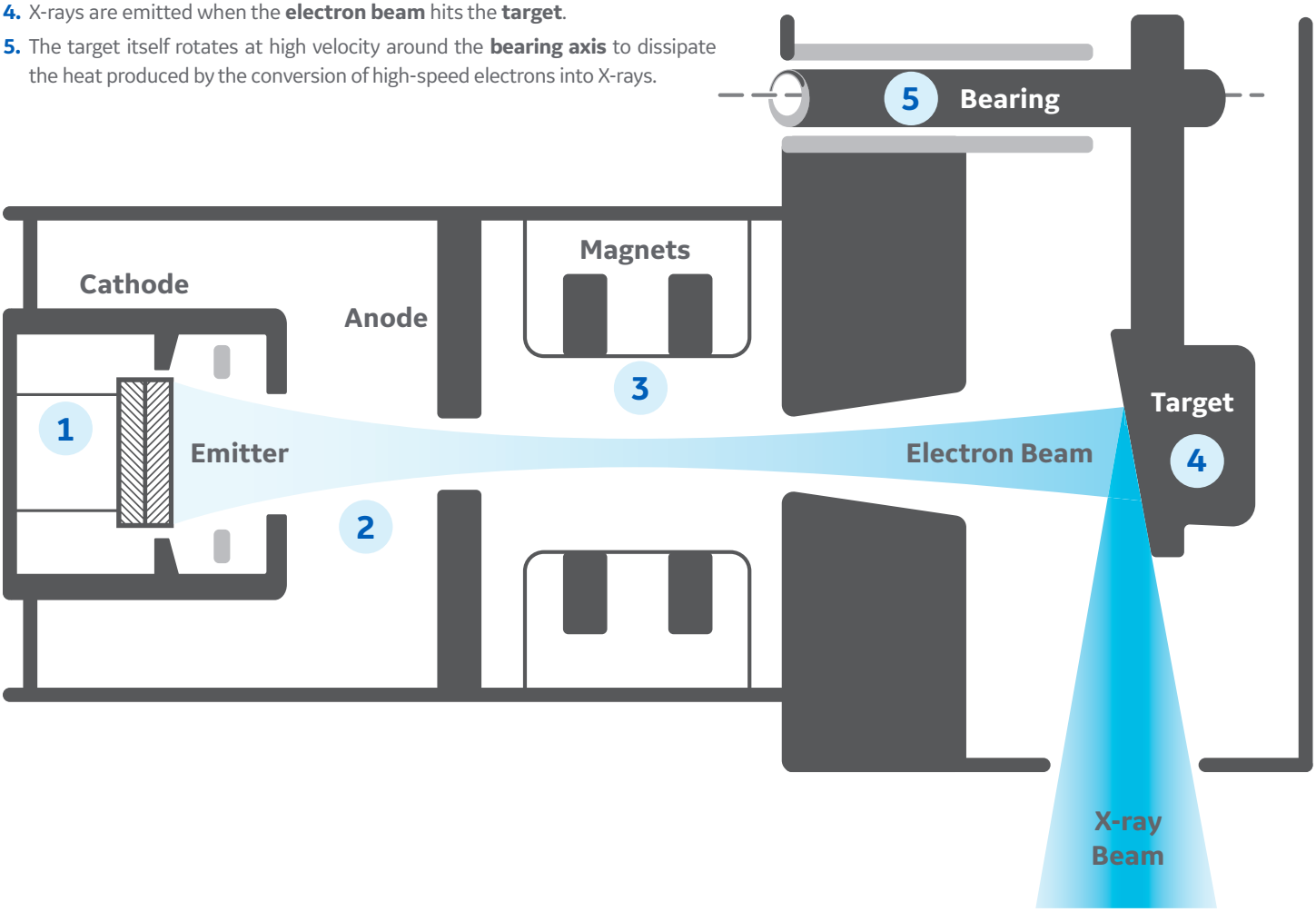
Wide-View Target
Whole-Organ Axial Coverage

Liquid Metal Bearing
Superior Reliability

General anatomy of the Quantix 160 X-ray tube

Basic operation of an X-ray tube:

1. Electrons are emitted in the **cathode** by applying a current to a filament.
2. The electrons are accelerated by a high difference of potential between the **cathode** and the **anode**.
3. The **electron beam** is shaped either electrostatically or magnetically to produce a controlled focal spot on the **target** (Quantix 160 uses **quadrupole magnets**).
4. X-rays are emitted when the **electron beam** hits the **target**.
5. The target itself rotates at high velocity around the **bearing axis** to dissipate the heat produced by the conversion of high-speed electrons into X-rays.



Digital Cathode for Real-time X-ray Control

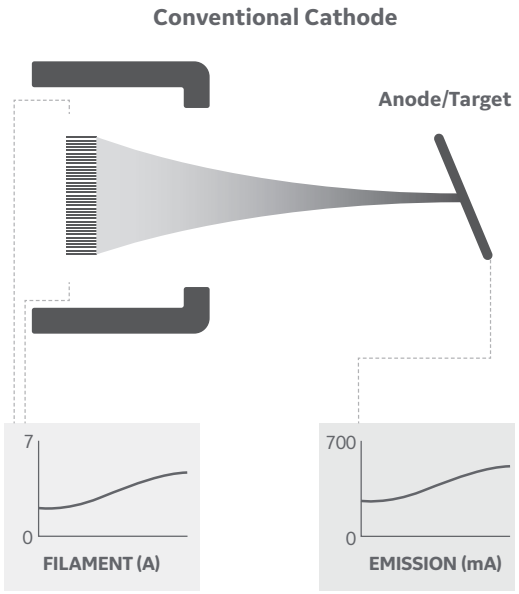
Conventional tubes can only slowly respond to commands to change output X-ray flux because of the time it takes to heat up and cool down the filament. With Quantix 160, the new X-ray tube and high voltage tank together deliver microsecond mA control by enhancing the physics of standard X-ray beam technology with modern electronics to operate the cathode in an entirely new regime, free of the traditional constraints of thermionic emission. Although gridded cathodes have existed in vascular tubes for decades to instantaneously start & stop exposures in fluoroscopy, the technology so far did not meet the high-power demands of clinical tomographic imaging.

Quantix 160, in an industry first, combines an ***extraction electrode*** with beam shaping electrodes in a compact, high-power CT cathode. High-speed electronics control the electron beam flux and timing continuously to a very high precision and allow instantaneous changes of the output flux from view to view, independent of kV.

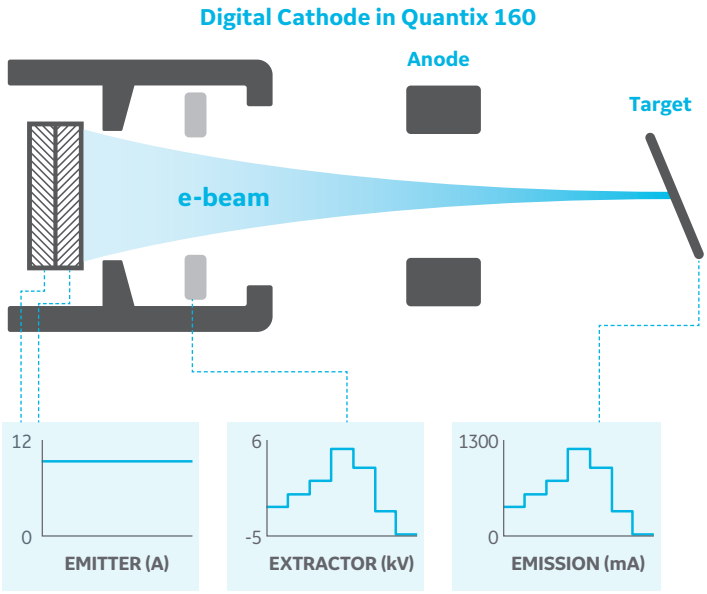
Real-time magnetic controls shape the resulting electron beam to produce accurate and controlled focal spots throughout the exposure. *The extraordinary result is a cathode that can transition from one technique to another* ***2000x faster*** *than any analog cathode, with direct benefits to tube current modulation and kV switching techniques to optimize dose and image quality.*

The desired focal spot size can be programmed into the exposure sequence, and more importantly, consistent MTF (modulation transfer function) is achieved over the whole kV-mA range. In traditional cathodes, even if it is calibrated for each kV, focal spot size varies as a function of mA due to blooming of the electron beam even during a single X-ray exposure. The Quantix cathode instead produces consistent spots by calibrating and controlling MTF over the whole usage space, which is important for mA modulated profiles. This is made possible by the integrated development of high-fidelity controls with this new cathode and allows GE Healthcare to offer unmatched view-by-view mA capability – a ***Digital Cathode*** for the clinician.

2000x
Faster



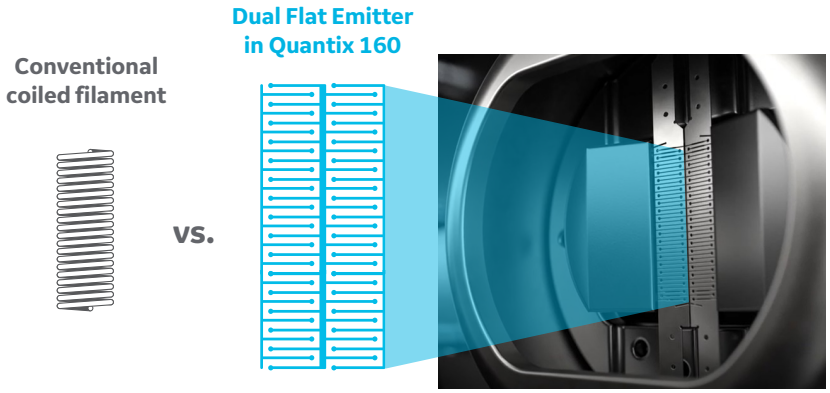
In a conventional cathode, the emission of electrons is determined by the filament temperature, which is controlled via the filament heater current. Changes to the emission occur at the relatively slow rate at which the filament temperature responds to changes in filament current, thereby limiting the rate of change in output flux.



With its Digital Cathode, Quantix 160 overdrives the emitter at a fixed current for the duration of the exposure and uses the very responsive extractor electrode to rapidly control the emission within the exposure, thus precisely producing the commanded mA in real-time.

Dual Flat Emitter for High-Power Scanning

Conventional cathodes are also limited in how many electrons they can emit to support high-power X-ray generation over the range of supported kV's. *In Quantix 160, the new cathode is powered by a patented **Dual Flat Emitter** design with 400% larger electron emission area that enables a maximum 1300 mA output at 70kV and 80kV.* The Quantix 160 cathode uses a pair of power-matched flat emitters precisely positioned to shape the high-energy electron beam into a single balanced focal spot. Full power emission is supported at ***low kV*** where it is needed the most, with low kV operation no longer cathode limited. Together with the Digital Cathode instantaneous mA control, this enables ***constant power dual-energy*** acquisitions with Gemstone Spectral Imaging (GSI) [1,2], where increased mA capability at low kV can now match the power of high kV views for optimal flux utilization. The oversized flat emitters also reduce loading and extend tube life versus coiled emitters.

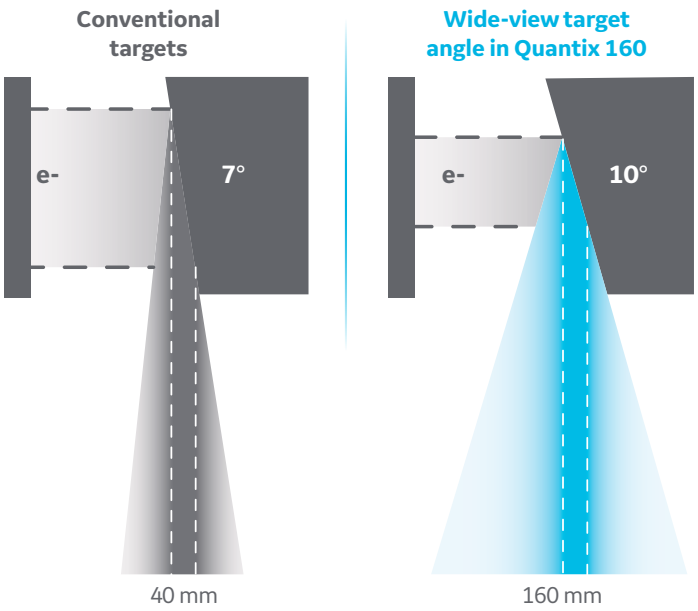


The Dual Flat Emitter (right) in the Quantix 160 cathode significantly increases the surface area that emits electrons relative to a conventional coiled filament (left). Two power-matched elements shape the electron beam output to assist in creating precise focal spots across the power range and are specifically designed to handle the thermal and loading constraints of the high-stress operating environment of clinical scanners.

4x
Emission Area

Wide-view Target to Enable High-Power Whole-Organ Imaging

It is when the high-speed electron beam hits the target that it is converted to X-rays. Traditionally, wide apertures simply lower power output because the target angle must be increased, resulting in higher impact temperatures for a given focal spot size. X-ray beam quality can also be degraded with different energy spectrum distribution on either side of the beam. *For Quantix 160, the **wide-view target** is built with a 10-degree angle to produce a high-quality X-ray beam with 160 mm z-aperture in a single axial exposure.* An optimized target design with large diameter and fast rotation speed works together with the new cathode to enable both high-power and long-duration exposures up to 60 seconds. The properties of the output energy spectrum factor into the VHD reconstruction algorithm to produce images of uniform attenuation over the whole detector coverage even for long exposure durations. This offers uncompromised scanning capability on the Revolution Apex for 1-beat Cardiac HD and whole-organ dynamic perfusion, as well as whole-body helical vascular scans such as long runoffs exposures, on a single platform.



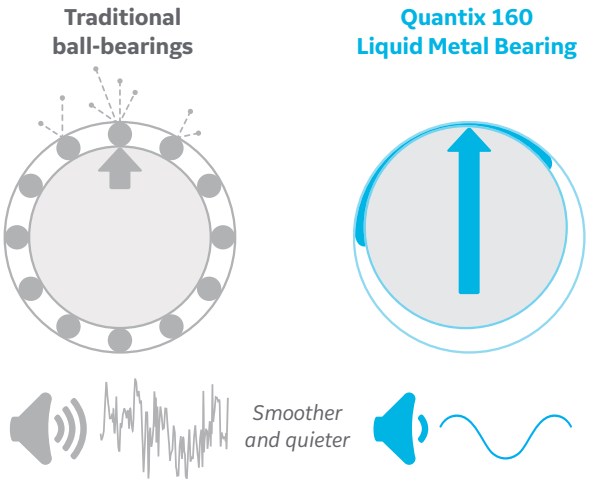
Compared to conventional targets only supporting limited apertures, the wide-view target angle in Quantix 160 is designed to produce a uniform X-ray beam with high spectral quality over the 160 mm wide aperture of the Revolution Apex detector to support whole-organ imaging.

4x
Coverage

Liquid Metal Bearing for Superior Reliability

Finally, the ***Liquid Metal Bearing*** allows high-speed rotation of the wide-view target for reliable and quiet operation. By eliminating the contact points of traditional ball bearings and redistributing the load over a wider surface area, *this advanced hydrodynamic journal bearing can sustain much greater bearing loads for both current and future gantry rotation speed capabilities.* Under continuous rotation, the bearing utilizes grooves to actively pressurize and pump a liquid metal into the bearing to eliminate the friction between the shaft and the sleeve, sustaining the high forces that gantry rotation creates on the target. The bearing fluid is unique for this application, a metal that is both liquid at the high operating temperatures of the tube under a wide range of conditions, and stable in a high-vacuum environment, allowing operation under the high g-loads experienced during high-speed acquisitions.

These new target and bearing technologies, combined with controls valves and active cooling in a closed circuit, enable a paradigm shift in tube thermal management: *Quantix 160 on Revolution Apex launches GE Healthcare's first on-demand, user-transparent tube conditioning,* that automatically provides only the energy needed to warm up the tube for the immediate need,[1] rather than overheat the target generically. In this way, without disruption to user workflow, maximum mA is always available without cold tube constraints, and tube cooling delays from prior patient exams are eliminated. Overall, this is designed to maximize system uptime in high throughput environments and results in more consistent image quality across patients.



In Quantix 160, a proprietary liquid metal is used to lubricate the bearing surface area where the high rotational g-load is distributed (right), thereby eliminating the failure modes associated with individual contact points in conventional ball-bearing technology (left). Quantix 160 Liquid Metal Bearing can sustain much higher loads than traditional ball-bearings, and operates more quietly and with less vibration.

2x Bearing Reliability

Revolution Apex with Quantix 160 – your best images for every patient

The combination of these advanced technologies in a single X-ray tube platform now elevates what CT imaging is capable of. Designed for "power + coverage," Quantix 160 on Revolution Apex pushes the boundaries of whole-organ wide-cone imaging for the largest of patients, spanning the whole range of adult oncology scenarios, supporting the fastest gantry rotation speeds without the compromise of lower flux, and becoming the enabler for uncompromised high-resolution and multi-spectral imaging, all on one CT scanner.

With 1300 mA maximum flux available over the full detector aperture of 16 cm at the gantry isocenter, the Quantix 160 X-ray tube on Revolution Apex provides the power necessary to image comfortably all anatomies regardless of patient size, supporting whole-organ imaging without compromising image noise or Contrast-to-Noise Ratio (CNR). Image quality is further elevated with TrueFidelity,™ the first Deep Learning Image Reconstruction algorithm applied to clinical CT to produce natural image texture across all anatomies and dose levels for easy adoption across the whole Radiology practice [3,4]. The ***Quantix 160 tube combined with TrueFidelity***, a standard offering on the Revolution Apex, expands CT imaging capabilities into a comprehensive solution that easily addresses the most challenging clinical scenarios.

[1] When SmartScout is used.

Uncompromised Images for All Patient Sizes

With Quantix 160, tube power and maximum flux is always available to comfortably image all anatomies regardless of patient size. Bariatric imaging can be freed of the traditional challenges that accompany high-BMI studies. Figure 1 illustrates a typical example of a BMI 62 bariatric patient (400 lbs/180 kgs) presenting with abdominal pain scanned on the Revolution Apex with Quantix 160. All images are reconstructed with TrueFidelity with 0.625 mm slice thickness, showing excellent image quality in all reconstruction planes even with thin 0.625 mm slices. Such a case would have previously demanded thicker slices up to 5 mm for diagnostic use. All details are preserved, with low noise and excellent texture for this very large patient, equivalent to expected results at lower BMI. Here, the Revolution Apex helps retain anatomic details without excessive noise or degraded texture for a comfortable read.

Scan type	Helical
Rotation time, s	0.8
Reconstruction	DL-H
Pitch	0.531
BMI	62
Slice, mm	0.625
kV	140
mA	Smart mA
Noise index	12.5

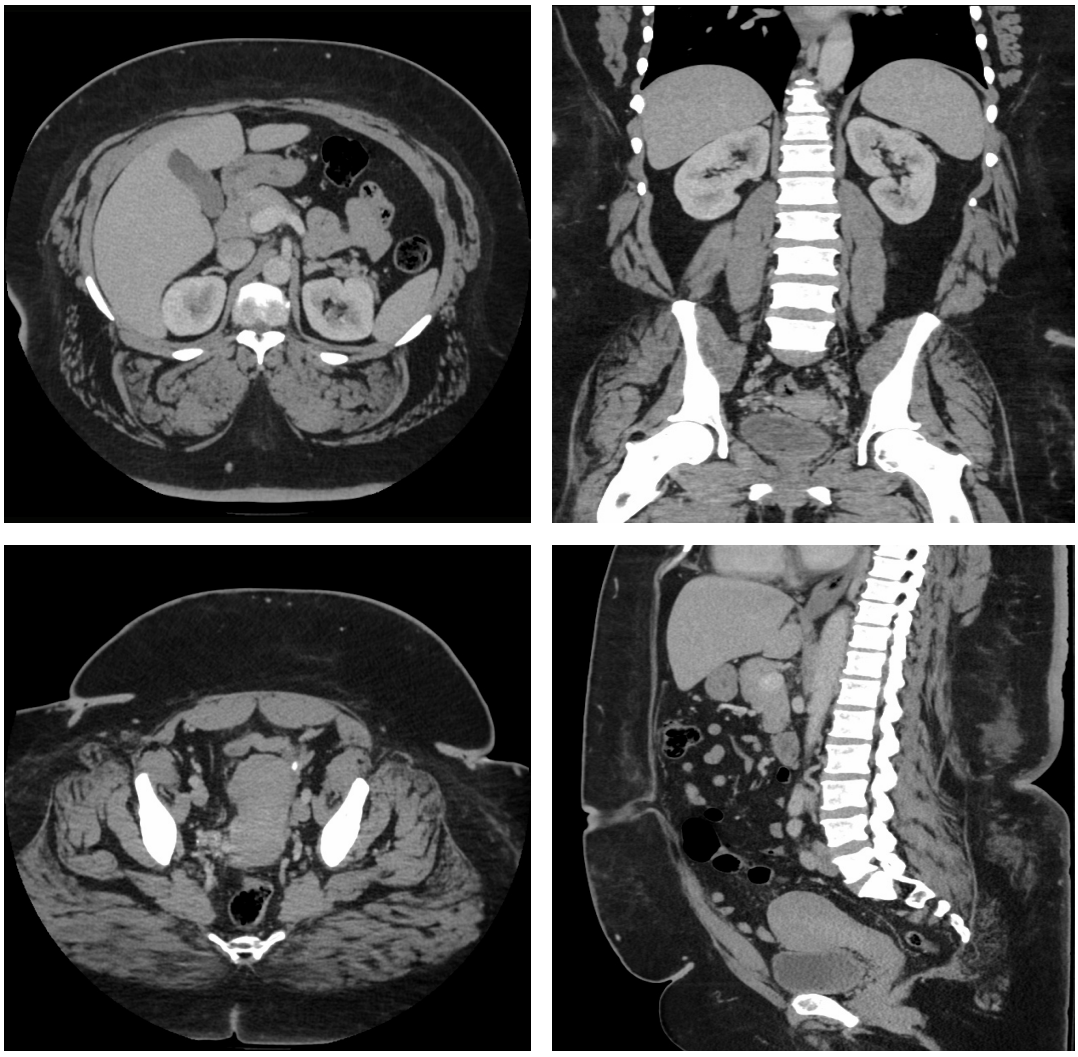


Figure 1. Bariatric imaging on the Revolution Apex with Quantix 160.

"Revolution Apex is able to generate excellent images even for patients with morbid obesity. Look at the quality of 0.625 mm images of a 62 BMI patient (400 lbs/180 kg). All the details are preserved, image noise and noise texture look like 5 mm images. It's impressive."

Dennis Foley, MD
Froedtert & The Medical College of Wisconsin

Low kV for Soft Tissue and Vascular Images with Optimal Dose and CNR

Increasing kV for improved X-ray penetration when imaging large patients in oncology is detrimental to the diagnostic needs of lesion detection and assessment that require both low noise and adequate contrast. Since Quantix 160 is no longer cathode-limited compared to traditional tubes, maximum power remains available even at low kV so that low contrast does not need to be compromised for overall flux and dose. 1100 mA is available at 100 kV and the full 1300 mA is available at both 80 kV and 70 kV. Available power provides the flexibility to leverage ***low kV scanning*** to ***reduce radiation dose, reduce iodine dose,*** or ***improve contrast-to-noise ratio.*** Quantix 160 supports the necessary flux/dose throughout the range of kV's for simultaneous whole-organ and low kV imaging.

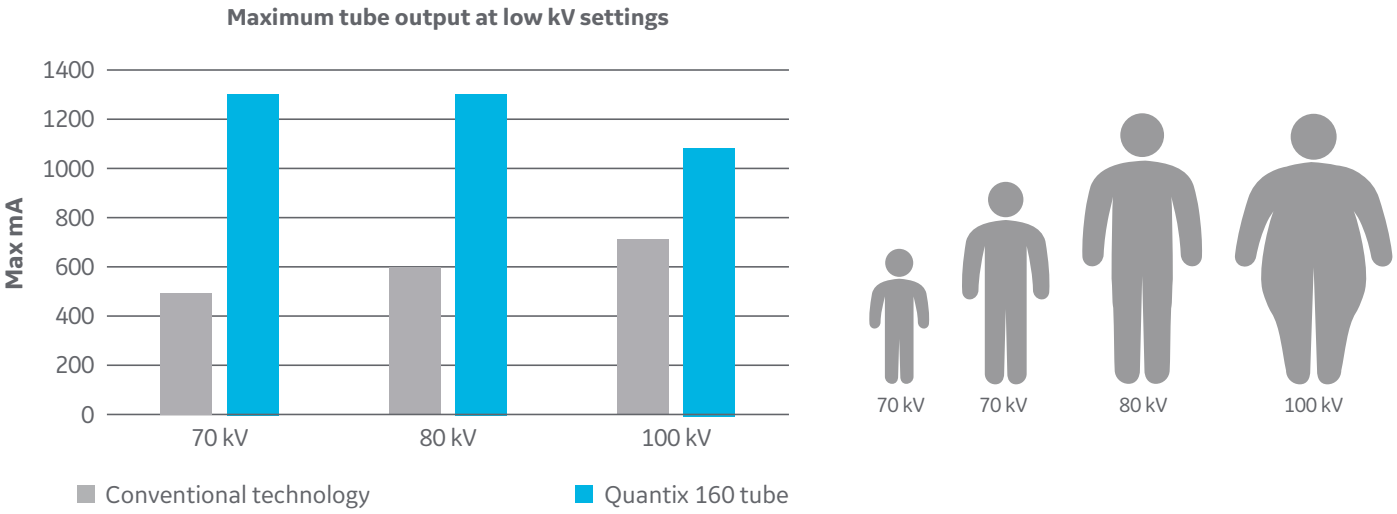


Figure 2: Quantix 160 supports low kV imaging even for large patients.

At fixed tube current and exposure time, using low kV allows significant reduction in patient radiation dose [5]: 33% dose reduction by lowering tube voltage from 120 kV to 100 kV, and 65% from 120 kV to 80 kV. In practice of course, low kV must be balanced with image quality performance, where for typical tasks the Contrast to Noise Ratio (CNR) must be preserved or even increased to help with better lesion detection and assessment. Figure 3 illustrates the concept of expected increase in CNR by moving to lower kV at the same radiation dose, demonstrated with the Kyoto Lungman chest phantom with Gammex 10 mg/ml iodine rod inserts using a 80 mm gated axial acquisition with 6.2 mGy CTDIvol and ASiR-V 0%. While this trend varies by size and clinical intent, generally this capability exists only if the necessary tube flux is available to conserve the dose, so that tube current can be increased to compensate for lower kV. With its maximum 1300 mA output available at 70 and 80 kV, the Revolution Apex with Quantix 160 is uniquely positioned to deliver these benefits to radiologists.

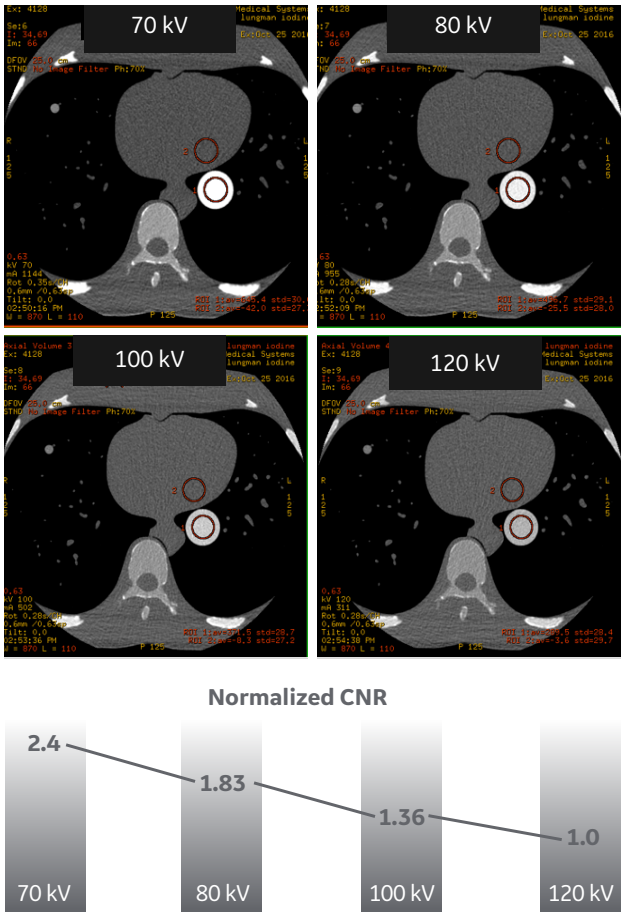


Figure 3: Example of CNR increase with low kV.

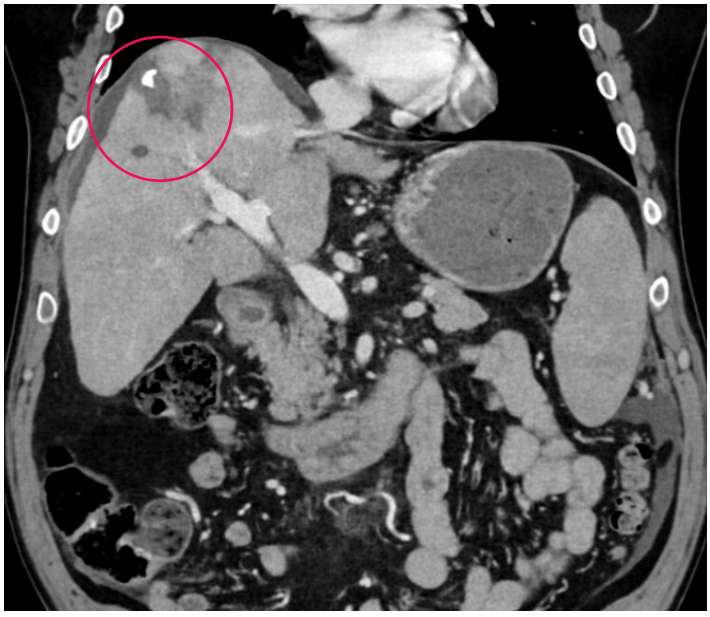
Low kV for Soft Tissue and Vascular Images with Optimal Dose and CNR, *continued*

The system also works with the ***kV Assist 2.0*** intelligent algorithm [6] to optimize kV selection based on specific patient attenuation and clinical requirements built into scanning profiles linked to the scan protocol. kV Assist profiles include Size-Adjusted Noise Index and scanner AEC settings to fine-tune image quality performance to specific clinical tasks across patient sizes. The resulting automation of scan parameter settings allows protocol consolidation from size-based protocols into simplified universal protocols for different clinical indications.

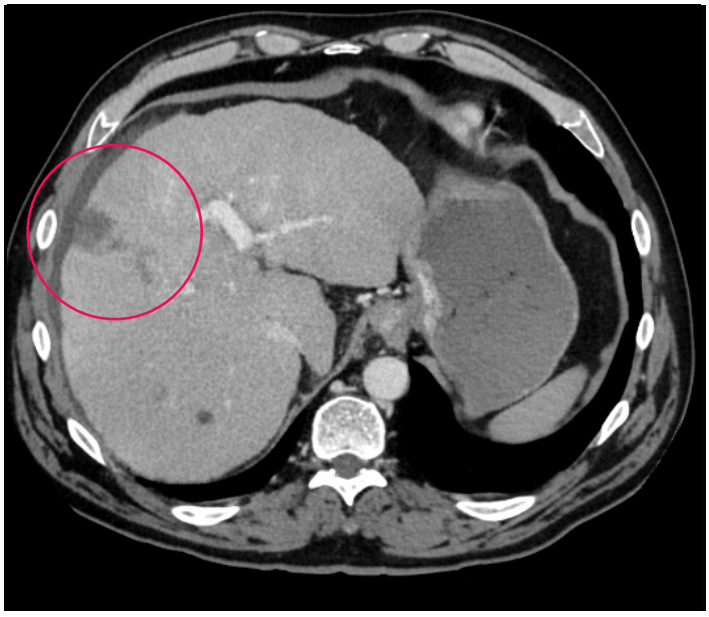
Figure 4 illustrates putting this concept into practice even for large patients with Revolution Apex and Quantix 160 for 100 kV imaging on a BMI 44 hepato-carcinoma patient with a history of HCC post TACE to segments 6/7 and radioembolization to segments 5/8, imaged at 100 kV on Revolution Apex with Quantix 160 and reconstructed at 0.625 mm with TrueFidelity. Findings indicate cirrhotic liver morphology with dominant treated right hepatic lobe lesion and persistent heterogeneous arterial enhancement. This case would nominally have required 140 kV on other platforms. Compared to nominal 140 kV for larger patients, 100 kV can improve the conspicuity of cancer lesions (red circles), even in 0.625 mm thin images with TrueFidelity.

Scan type	Helical
Rotation time, s	1
Pitch	0.992
BMI	42
Slice, mm	0.625
Scan length, mm	237 / 353
Scan time, s	4.2
kV	100
mA	573-890
Noise index	11.4 / 12.5
Contrast ml mgI/ml	 120 350

0.625 mm Arterial



0.625 mm Venous



0.625 mm Venous

Figure 4: Large Patient Oncology on the Revolution Apex with Quantix 160.

Ultra-fast Scanning with High Effective Flux

Quantix 160 maximum flux output supports access to faster rotation speed in imaging scenarios that would previously have been constrained with limited mAs. This can provide the benefits of ***reduced motion without higher noise,*** for instance for Chest studies as illustrated in Figure 5 with 70 kV chest CT scanned on Revolution Apex with Quantix 160 using HyperDrive for a 0.6 s acquisition covering the whole chest with only 33 ml of iodine contrast and reconstructed with TrueFidelity. Patient history includes restaging of a metastatic neuroendocrine tumor, with findings of stable 2.3 x 1.5 cm nodule in the right middle lobe, a confident measurement given good contrast and low noise. This is a good example of faster acquisition on Revolution Apex with HyperDrive that is built into the kV Assist 2.0 profiles, or for PE studies that may otherwise suffer from motion blur.

Scan type	Helical
Rotation time, s	0.28
Pitch	1.531
Slice, mm	0.625
Primary recon, mm	2.5
Scan length, mm	370
Scan time, s	0.6
kV	70
mA	790-1289
Noise index	18.2
Contrast ml mgI/ml	 33 350
CTDIvol, mGy	2.6
DLP, mGy-cm	107
Eff. dose, mSv	1.5
k, *DLP	0.014

Figure 5: 70 kV Chest CT on Revolution Apex with Quantix 160.

"The power of the Apex tube now provides an opportunity to reduce IV contrast by 50%, while still maintaining equal opacification. In addition, the speed of the system supports rapid acquisitions which reduces the chance for motion artifacts and is key for patients with poor pulmonary function."

Bret Barnes
Froedtert & The Medical College of Wisconsin

High Resolution Without the Trade-off of Increased Noise

Expanded tube capabilities continue to improve the performance of high-resolution imaging, further pushing the boundaries of both temporal resolution and spatial resolution. Figure 6 shows a 1-beat whole heart cardiac CT coronary angiography study for a medium size BMI 24 patient with 70 kV and 1180 mA for only 0.75 mSv radiation dose. Here the Revolution Apex with Quantix 160 provides great depiction of contrast-enhanced vascular structures, with an ***ultra-low iodine contrast volume*** of 25 cc appropriate even for patients with kidney deficiencies.

Scan type	Cardiac
Rotation time, s	0.28
BMI	24
Slice, mm	0.625
Scan length, mm	160
Scan time, s	0.28
kV	70
mA	1180
Noise index	34.2
Contrast ml mgI/ml	 25 350
CTDIvol, mGy	3.36
DLP, mGy-cm	53.7
Eff. dose, mSv	0.75
k, *DLP	0.014

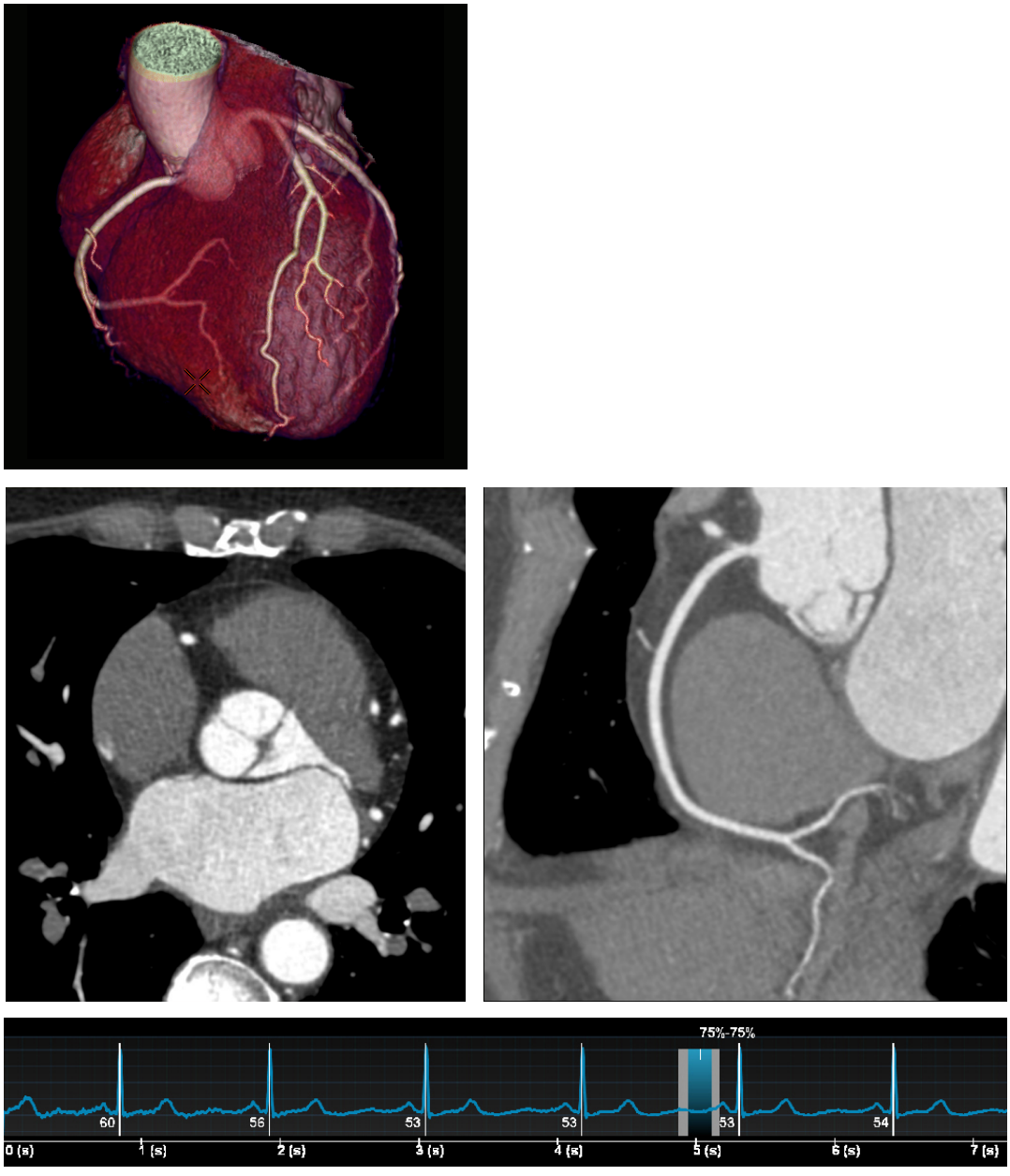


Figure 6: 1-beat Cardiac CT Coronary Angiography on the Revolution Apex with Quantix 160.

High Resolution Without the Trade-off of Increased Noise, *continued*

Quantix 160 also supports expanded access to high-resolution imaging by making higher mA available for the HD mode on Revolution Apex. Together with the Flat Emitter, high-frequency control of the X-ray beam in the Digital Cathode supports small focal spots wobbled on the target to increase sampling rate with as much as 75% higher flux than previous technology. Building on this functionality, Figure 7 illustrates a challenging BMI 26 patient who presented with chest pain and atrial fibrillation imaged on the Revolution Apex with Quantix 160 using the HD scan mode. High-resolution images reconstructed with TrueFidelity indicate heavily calcified coronary arteries (Agatston calcium score of 5334) with long 13.7 mm calcified plaque on the RCA and significant stenosis on the LAD, for a clear depiction of the lumen without compromise to image noise or texture, thanks to the higher mA that the tube provides and the natural image appearance that is unique to TrueFidelity at this dose level. Smaller distal branches and septal vessels can also be visualized, as further evidence that greater detail is available. With good image quality, a confident diagnostic assessment is possible even in this challenging clinical scenario. With Quantix 160 and TrueFidelity, the most challenging cardiac patients with large calcium burden can benefit from high-resolution coronary imaging even with higher BMI.

Scan type	Cardiac HD
Rotation time, s	0.28
Reconstruction	DL-H
Slice, mm	0.625
kV	120
mA	493
Contrast ml mgI/ml	 55 350
Kernel	HD Standard
BMI	26
BPM	63
CTDIvol, mGy	16
DLP, mGy-cm	224
mSv (*0.014)	3.1

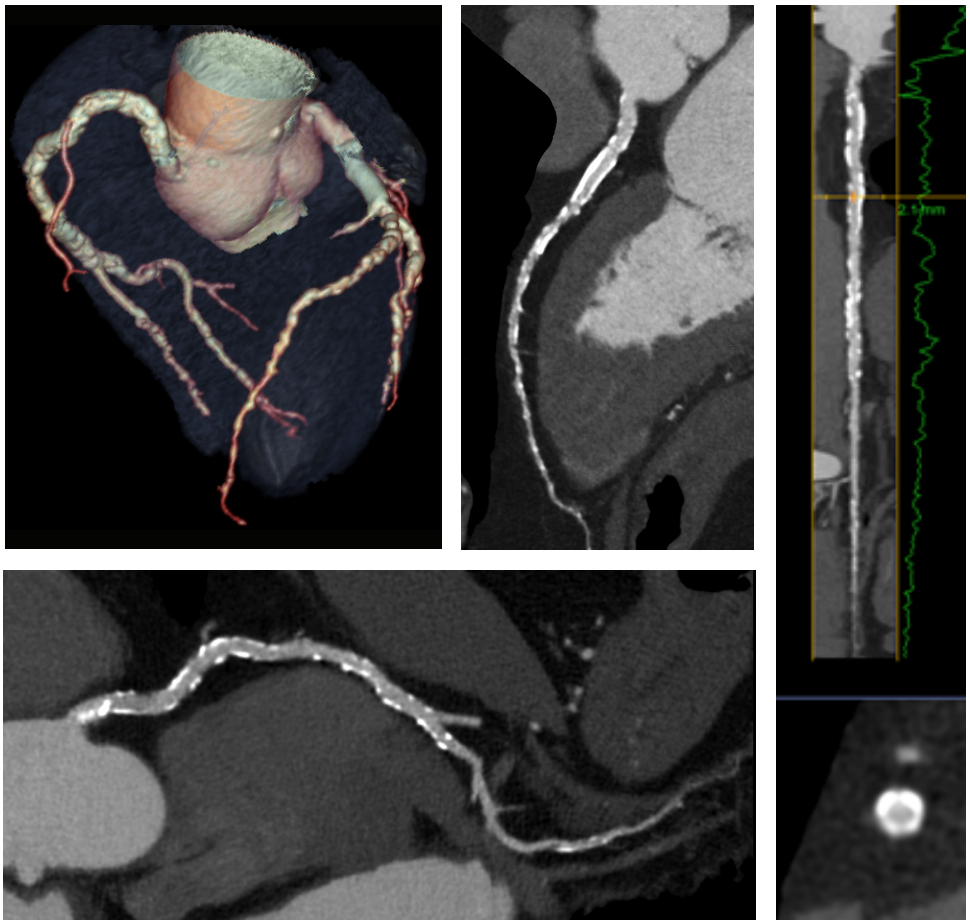


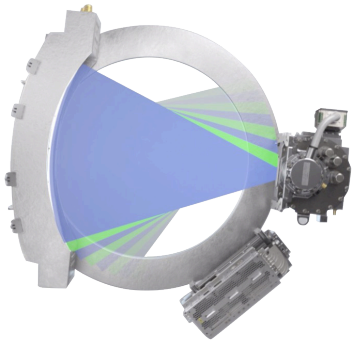
Figure 7: High-resolution CCTA on the Revolution Apex with Quantix 160.

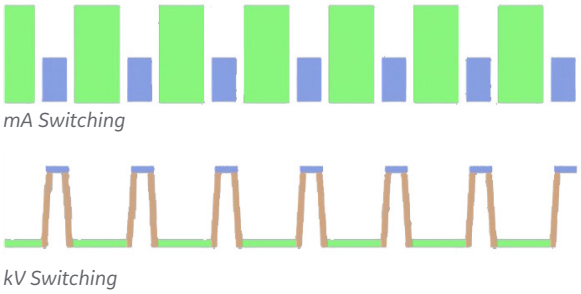
"The Quantix tube and TrueFidelity together allow an improvement in the reproducibility and quality of all coronary exams: obese patients with reduced noise; improved contrast-to-noise ratio at low kV; and more frequent usage of the high resolution mode to increase detail and reduce blooming, particularly for highly calcified coronaries and/or stents. With these technical improvements, Revolution Apex further establishes CT scanning as the first line exam for ischemic heart disease."

Jean-Louis Sablayrolles, MD
Centre Cardiologique du Nord, Saint Denis, France

Precise Spectral Images for Lesion Detection and Characterization

Quantix 160 unique ability to instantaneously change both kV and mA with its Digital Cathode allows balanced flux for dual-energy acquisitions with Gemstone Spectral Imaging (GSI) [2] using Fast kV Switching on Revolution Apex. ***Synchronized kV and mA switching*** makes it possible to increase the flux associated with the low kV projections match the high kV projections. Tube output flux is instantaneously increased at low kV to match the power of the high kV views, without compromise to high angular sampling rate and spatial resolution performance. Improving low kV signal has greatest positive impact on the quality of the iodine MD images and low keV monochromatic images, precisely where the need is greatest for the detection and assessment of small hypo- and hyper-dense lesions. At equal dose, Revolution Apex with Quantix 160 realizes more than a 10% reduction in image noise at low keV and in the iodine maps compared to conventional technology, with corresponding improved texture by keeping projections above the low signal domain. With the power of the tube, this is available even for the largest of patients.



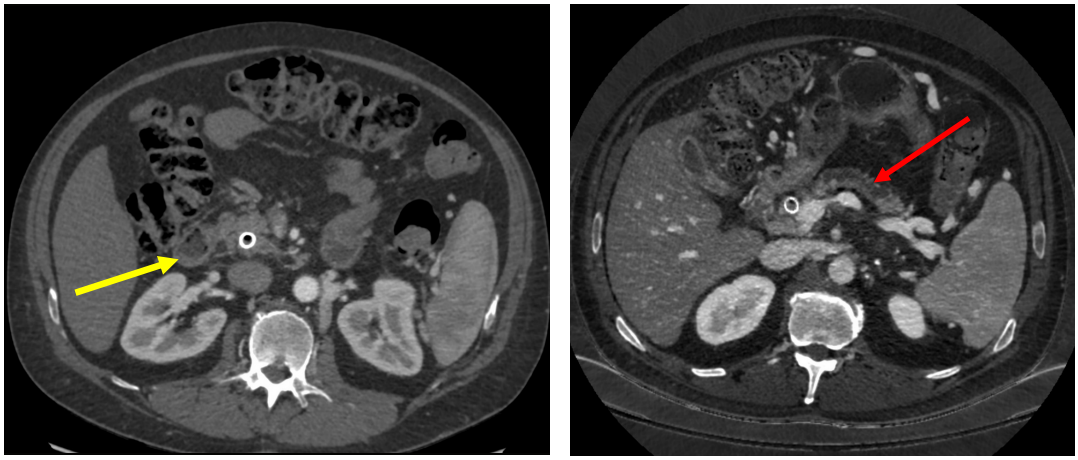


kV and mA synchronized switching

Quantix 160 allows synchronized kV and mA switching for GSI dual energy imaging.

Figure 8 illustrates this for a chest/abdomen/pelvis scan of a BMI 42 patient with GSI reconstructed with ASiR-V 50% [7] with great image quality. The 50 keV 0.625 mm thin-slice image shows an ill-defined low density infiltrative soft tissue mass (yellow arrow) in the pancreatic head/neck. The complementary iodine image shows a diffuse glandular atrophy, stable position of a pancreatic duct stent, and ductal dilation (red arrow). With great image quality and power available where needed, the Revolution Apex with Quantix 160 extends the benefits of spectral imaging to large patients.

Scan type	GSI Helical 80 mm
Rotation time, s	0.8
Pitch	0.508:1
BMI	42
Slice, mm	0.625
Reconstruction	ASiR-V 50%
Scan time, s	9.1 (2 groups)
kV	80/140
mA	445
Noise index	11.4 /12.5
Contrast ml mgI/ml	 90 350
CTDIvol, mGy	36/ 26.9
DLP, mGy-cm	3287



50 keV **Iodine**

Figure 8: Chest/abdomen/pelvis scan of a BMI 42 patient with Gemstone Spectral Imaging (GSI) on Revolution Apex with Quantix 160.

"Revolution Apex's kV and mA synchronized switching generates high-quality GSI images for this BMI 42 patient. The 0.625 mm 50 keV and iodine images make it easier to see the postsurgical pancreas changes."

Naveen Kulkarni, MD
Froedtert & The Medical College of Wisconsin

CONCLUSION:
A CT Scanner That Meets Both Today's and Tomorrow's Clinical Needs

The Quantix 160 X-ray tube integrates several major technological component breakthroughs to resolve the traditional trade-off between power and wide coverage in CT systems. Powered by this new X-ray tube, the Revolution Apex is positioned to address the challenges of modern CT imaging with the combined benefits of power, coverage, speed, individualized scanning, and image quality powered by deep learning, all integrated in a single CT platform.

With Quantix 160, GE also continues to deliver on the promise of continuous upgradeability for our existing customer base by making this new technology available for Revolution CT as well, transforming the system into the Revolution CT with Apex edition. Both systems expand clinical CT imaging capabilities to patients of all sizes across all clinical indications. The Quantix 160 tube platform with its digital cathode, high-frequency controls, and liquid metal bearing also promises to open up new applications and diagnostic capabilities in high-power, high-resolution, high-speed, and high-fidelity spectral imaging in the future.

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About GE Healthcare

GE Healthcare is a leading global medical technology and digital solutions innovator. GE Healthcare enables clinicians to make faster, more informed decisions through intelligent devices, data analytics, applications and services, supported by its Edison intelligence platform. With over 100 years of healthcare industry experience and around 50,000 employees globally, the company operates at the center of an ecosystem working toward precision health, digitizing healthcare, helping drive productivity and improve outcomes for patients, providers, health systems and researchers around the world. Follow us on Facebook, LinkedIn, Twitter and Insights, or visit our website ***www.gehealthcare.com*** for more information.

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