Personalized CT solution

Optima* CT520

Product Data Sheet

At GE Healthcare CT, we believe great care happens by design.

So, when we set out to design the new Optima CT520 scanner, we started with a broad vision: to help healthcare providers deliver the best patient care.

We listened to your recommendations and responded with a next generation, intelligent 16 slice CT scanner that features 32 slice post reconstruction of images by Overlapped Recon*

Customer-inspired enhancements include superb image quality with advanced dose optimizing features. Streamlined workflows to help you better manage your daily routine. And a host of technological innovations, such as Smart Dose, Smart Flow and more.

Smart Dose – ASiR*[1]

Adaptive statistical iterative reconstruction (ASiR) is GE's industry advanced technology. Leading the way with image reconstruction, the ASiR technique enables reduction in image noise and improvement in image quality, low contrast detectability and contrast resolution.

The Optima CT520 scanner with the ASiR reconstruction algorithm demonstrates the same image standard deviation performance at 40% lower dose.

Utilizing ASiR, images obtained can have equivalent IQ to an acquisition with 1.67 times the mA and Kw which means 70kW, 583mA.

1. In clinical practice, the use of ASiR 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.

ASiR is licensed for use with a GE x-ray tube. Use of a third-party x-ray tube will require an additional license for these features.

Smart Dose – VISR[2]

Volumetric Image Space Reconstruction (VISR2) provides a 3D Neuro filter that reduces noise without compromising resolution, for clear visualization of brain, tumor, and pediatric cases. With the VISR 3D filter, the scanner delivers up to 20% image quality improvement at the same dose, or the same image quality with up to 36% dose reduction.
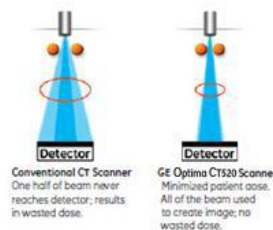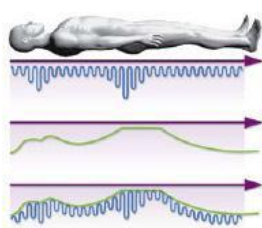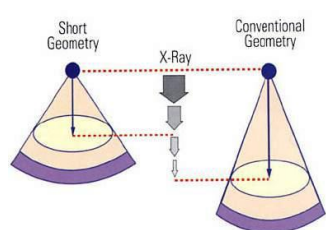
2. In clinical practice, the use of VISR may reduce CT patient dose depending on the clinical task, patient size, anatomical location and clinical practice. A consultation with a radiologist and a physicist should be made to determine the appropriate dose to obtain diagnostic image quality for the particular clinical task.
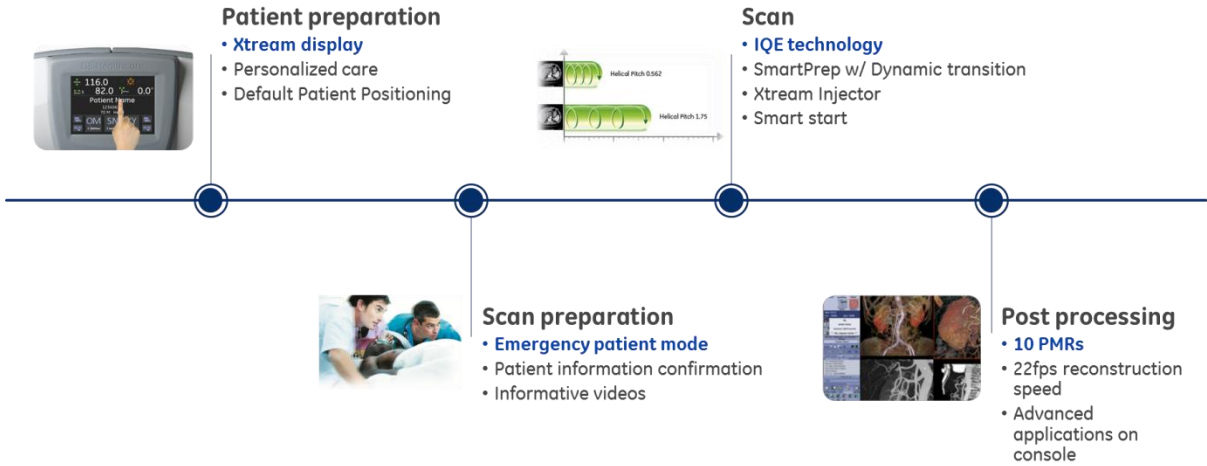
When ASiR is installed, 3D Neuro filter will be disabled.

Smart Dose – Opti-Dose

Opti-Dose	
Dose Check	Provides the user tools to guide dose given in clinical practice and is based on the standard XR-25-2010 published by the Association of Electrical and Medical Imaging Equipment Manufacturers (NEMA). Dose Check provides the following • Checking against a Notification Value if the estimated dose for the scan is above your site typical dose value • Checking against an Alert Value where the user needs specific authority to continue the scan at the current estimated dose without changing the scan parameters. • Defining Alert Values for Adult and Pediatric with age threshold • Audit logging and review • Protocol Change Control
DICOM Dose reporting	In conjunction with Prospective display of CTDIvol, DLP and Dose Efficiency, helping clinicians reach ALARA dose, and keep track of it.
Dose computation and display	CTDIvol (CTDI volume), DLP (Dose Length Product), and Dose Efficiency computation and display during scan prescription provide patient dose information to the operator.
Color coding for kids' protocols	Providing pediatric scan protocols based on the Broselow-Luten™ Pediatric System, designed to facilitate pediatric emergency care and reduce medical errors.
3D Dose modulation	Before the scan, clinicians can select the desired Noise/IQ: CT then tailored automatically exposure parameters, patient to patient and real-time x-y-z during each scan, resulting in average of 40% dose reduction
Beam tracking techniques	Providing real-time X-ray follow-up, guarantying that high spatial resolution is reached with no post-patient collimation and no dose penalty.
Short gantry geometry	In conjunction with Hyper generator and the Solarix X-Ray Tube affords to get up to 350 mA and seamless throughput.

Patient preparation
- **Xtream display**
- Personalized care
- Default Patient Positioning

Scan
- **IQE technology**
- SmartPrep w/ Dynamic transition
- Xtream Injector
- Smart start

Scan preparation
- **Emergency patient mode**
- Patient information confirmation
- Informative videos

Post processing
- **10 PMRs**
- 22fps reconstruction speed
- Advanced applications on console

Smart Flow – Xtream Display

Xtream Display is a multi-purpose LCD display.

Xtream Display can show basic patient information on Gantry monitor. The user can confirm patient information in the scan room improving workflow and reducing the opportunity for error.

Smart Flow – Default Patient Positioning (DPP)
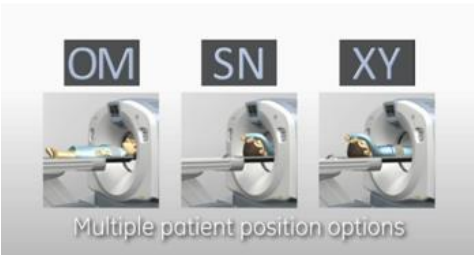
Xtream Display provides workflow improvement by preset positioning (Default patient positioning) on new gantry display.

The Default patient positioning provides easy and simple positioning. After setting up patient on the table, the operator touch target reference point button on Xtream Display, then holding foot pedal. The table is transferred to the target reference point.
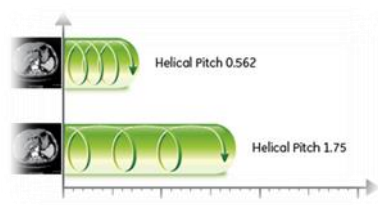
Smart Flow – One Stop Mode

Exceptional one stop scanning mode provides a streamlined workflow on the Xtream Display such as "Patient selection", "Protocol selection" and "Confirm". Pre-scanning can be accomplished in as few as five touches.

Smart Flow – IQ Enhancement

IQ Enhancement (IQE) may reduce helical artifacts which are important for image quality of thin-slice helical scans. The Optima CT520 series scanner with this feature can accelerate its helical pitch up to 70% (e.g. 0.562 to 1.75, @16slice) when acquiring the same helical artifact level compared with the same scanner with IQ Enhance disabled. This coverage speed is equivalent to that of a 50-slice wider detector CT scanner at same table speed.

Smart Flow – Emergency Patient Mode

Optima CT520 series has a dedicated User Interface (UIF) for emergency cases to start examination quickly. Patient Name and Patient ID are assigned automatically. Once a protocol is selected, scan setup interface displays.

Smart Flow - 10 PMRs

Prospective Multiple Reconstruction (PMR): Up to 10 sets of reconstructions can be pre-programmed as part of the scan protocol prior to acquisition. The operator can select different start/end location, slice thickness, interval, reconstruction algorithms and display fields of view for each reconstruction.

Smart Flow - Overlapped Reconstruction*
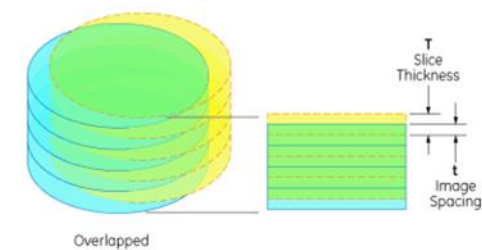
The system needs to have the overlapped reconstruction* feature, which enables 32 slices per rotation in axial scanning modes and delivers improved Z-axis visualization performance relative to non-overlapped reconstruction.

Smart Flow – Energy saving

With its Energy Saving Mode activated, GE's Optima CT520 Series scanner is designed to reduce electricity consumption for operation and ambient cooling by more than 12,085 kWh per machine annually, an energy savings up to 40% compared to prior GE technology.

A robust, single-acquisition metal artifact reduction technology

Without Smart MAR

With Smart MAR
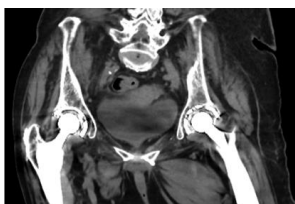
Without Smart MAR

With Smart MAR

Smart MAR* helps reducing photon starvation, beam hardening, and streak artifacts caused by metal in the body, such as hip implants.

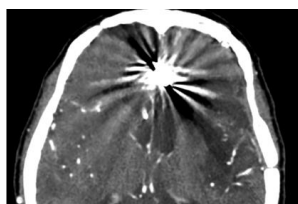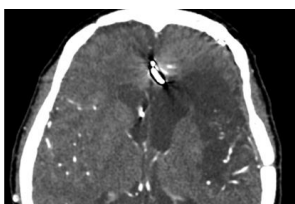| System Hardware	Description
Gantry	Aperture: 70 cm Tilt: ± 30° Rotation Speeds: 360° in 0.8 s fastest
Table	Vertical Range: 44.1 cm to 99.1 cm Horizontal Range: Up to 1620 mm Table load capacity 205 kg
Generator	Max power 42 kW ASiR equivalent 70 kW
X-ray Tube	Anode Heat Storage Capacity: 3.5 MHU ASiR equivalent 6.3 MHU
Detector and DAS	20 mm z- width 0.625 mm slice thickness
System Software	**Description**
VISR; Opti-Dose; IQE; DPP; Emergency Patient Mode; 10 PMRs	See above
Chest kernel	Chest Kernel Allows the operator to recon once (instead of twice – lung kernel and Standard kernel separately) and can diagnose the Lung or Mediastinum area by adjusting the WW/WL. The new Chest Kernel provides up to 2-times productivity and 50% HDD space saving for Chest exams.
Dual energy	GE's protocol management is improved with addition of a workflow improvement feature, which allows easy configuration of back to back Axial or helical scans of the same anatomy at two different X-ray energies (kVps). To further improve registration accuracy patient immobilization may be utilized. The additionally acquired dual energy data can be post-processed on console or AW WS using Add/Sub function to gain additional clinical information.
Auto Exam Description	Optima CT520 can automatically suggest an exam description based on the protocol chosen by you.
Imaging Protocol Manager	GE Healthcare's Imaging Protocol Manager is a cloud-based multimodality, protocol-management solution that provides access, insight, and governance for protocols on imaging devices to help providers effortlessly deliver the right exam for each patient and meet regulatory and accreditation requirements in an efficient manner. See Imaging Protocol Manager datasheet for more functionalities.
Real-time Scout	Scout image can be displayed simultaneously as the acquisition. With the real-time scout image, you could decide to stop scout acquisition once necessary anatomy.
Up to 10 fps transfer speed	images real-time transferring during acquisition to up to 4 different destinations

Direct MPR	Direct MPR with Auto-Batch feature, affording automatic real-time direct reconstruction and transfer of fully corrected multi-planar images, also allows customer to move from routine 2D review to prospective 3D image review of axial, sagittal, coronal, and oblique planes while enabling automated protocol-driven batch reformats to be created and networked to their desired reading location.
Series Split	Series Split provides to split multi groups prescribed in a View Edit series to separated series by groups. This capability allows the workflow improvement to diagnose an examination to compare groups taken with same location.
Enhanced filming workflow	The new filming tool provides you a friendly and powerful user interface. It allows you to open multiple sessions at the same time for one or more patients.
SmartPrep with Auto Trigger	SmartPrep allows intermittent monitoring of IV contrast enhancement in an area of interest. The contrast flow is monitored by Low-Dose scans until the contrast enhancement reaches the preferred point and then auto trigger function will automatically initiate the scan prescription.
3-click Scan start	The pre-programmable protocol setting functions enable a minimum of 3 clicks to start a scan as minimum.
Direct connect	Direct Connect allows remote Advantage Workstation (AW) access to the Xtream FX console's thin-slice data. (AW4.3* and later)
Graphic Retro	Graphic Retro provides the capability to graphically prescribe your reconstructions using an existing image.
Auto transfer	Auto transfer by Series to distribute images where you need them when you need them.

»Optional System Configuration

Core reconstruction technique & Advanced application*	• ASiR • Overlapped Reconstruction* • Ultra Kernel • ODM (Organ Dose Modulation) • Volume Viewer • SmartScore Pro • ECG Trace on OC • Exam Split • CT Perfusion 4 Neuro • Smart Score • Smartview • SmartStep • AutoBone Xpress for CT Operator Console • Advanced Vessel Analysis Xpress • Recon Enhancement (SW) • 1024 x 1024 recon* • Anti-Virus Software
Accessories	• Multi-language keyboard • Long/Short cable set • Xtream injector/Enhanced Xtream Injector • Recon Enhancement (HW Kit) • Gantry Rear Raceway • Rear side Gantry Control • Barcode Reader • UPS • Console Anti-Seismic kit • Table tray and IV Pole • Catheter Bad Holder • Coronal/low profile Head Holder • Arm support • Long Body Strap • Strap Auto Traction • Dolly Collector • Small Room Dolly Collector • Big cabinet • Main Disconnect Panel • IVY7800 EKG monitor

Options commercial availability depends on each country's regulatory approval status

Gantry	
Aperture	70 cm
Tilt	± 30°
Tilt Speed	1°/sec
Maximum SFOV	50 cm
Rotational Speeds	360° in 0.8, 1.0, 1.5, 2.0, 3.0, 4.0 sec
Focal spot to detector distance	949 +/-1 mm
Focal spot to ISO center	541 +/-1 mm
Laser Alignment Lights	Define both internal and external scan planes to ± 1 mm accuracy. Operate over full range of gantry tilt; activated any time during exam (with tube stationary). Coronal light remains perpendicular to axial light as gantry tilts.
Patient Table	
Table Load Capacity	205 kg (450Ib)
Vertical Range	44.1 cm to 99.1 cm
Position repeatability accuracy	+/- 0.25 mm
Vertical Scannable Range	77.7 cm to 99.1 cm
Horizontal Range	Up to 1620 mm
Horizontal Scan range	Axial: up to 1600 mm; Scout: up to 1460 mm; Helical: up to 1450 mm ISO -25 mm
IV Pole*	integrated at the foot-end of the table helps prevent IV lines from becoming crossed and tangled, and helps ensure that the lines stay securely in place on the patient

Table automatically re-centers on scan plane with changes in vertical position (after setting internal landmark with alignment lights on)

X-Ray Tube	
Tube assembly heat storage capacity	6.98 MHU
Anode heat storage capacity	3.5 MHU
Heat Dissipation	Anode (max) 820 KHU/min
Fan Angle	56.8º minimum
Focal Spots Size	Small Focal Spot: 0.8 mm (W) x 0.5 mm (L) Nominal Focal Spot Size (IEC 60336:2005) Loading factors 120 kv 125 mA Large Focal Spot: 1.1 mm (W) x 1.0 mm (L) Nominal Focal Spot Size (IEC 60336:2005) Loading factors 120 kV 250 mA

Use of ASiR allows scanning at a lower mA and less tube heat output, resulting in the ability for longer duration helical scans similar to the capability of a 6.3 MHU tube.

Generator	
Max Rating Power	• 53.2 kW
Max generator power	Max Power with 120 kV on Optima CT520 system: 70kW equivalent with ASiR
mA range and step size	10 to 350 mA, 5 mA increments with 120 kV
kVp setting	80, 100, 120, 140
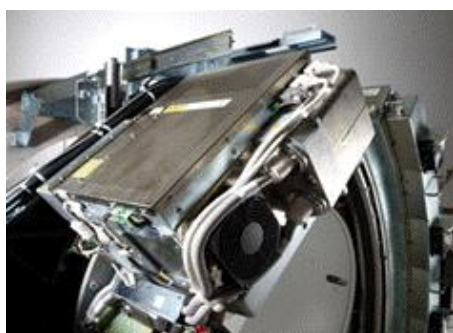
Utilizing ASiR, images obtained can have equivalent IQ to an acquisition with 1.67 times the mA and kW, which means 70 kW, 583 mA.

Imaging System	
	HiLight* Scintillator with DAS on Detector
Max number of slices/rotations	16/32* slice is enabled by overlapped recon as Option*
Number of physical detector rows	24
Number of physical detector channels/row	912
Number of detector individual elements	21888
Slice thickness	0.625 mm ~ 10 mm

Host Computer

- Dual Intel Xeon 4215 CPU 2.5 GHz 8 Core
- 64 GB as 4x16 GB, DDR4 16 GB ECC 288-Pin Registered DIMM 2666 MHz or higher frequency
- 1TB SATA 7200 RPM HDD*1, 512 GB SATA SSD*1, 512 GB M.2 TLC SSD*1

Image Processor

- NVIDIA Quadro P620 Graphics Card
- 4 mDP Outputs
- 2 GB GDDR5, 2000 MHz, Memory Interface: 128-bit, Memory Bandwidth: 64 GB/s
- GP107 GPU
- 512 CUDA cores
- PCI Express 3.0 x16
- up to 4x 5120 x 2880 x 24 bpp @ 60Hz

Hard disk

Total of 3 hard disk drives system

- System disk drives
  - High Performance Drive
  - 3.5 inch
  - 7, 200 RPM

- SAS interface
- Assigned to system and application software only

- Scan data **512 GB M.2 TLC SSD**
  - Assigned to scan raw data only
  - Store scan raw data up to 9,600 scan rotations at 16 slice mode or up to 1,500 scan data files

- Imaging data **512 GB SATA SSD**
  - Assign to image file only
  - 460,000 uncompressed 512x512 images

Software Architecture
Software architecture based on industry standards and client-server design

- Peripherals:
  - DVD-R/CD-R (DICOM Interchange)*:
    - 4.7 GB capacity (DVD)
    - Up to 7,168 image storage (DVD)
    - 20x DVD, 48x CD Max
    - Supports CD-R, DVD-R

- USB:
  - 64 GB
  - Assigned to scan data file and protocol file storage/retrieval

- Color monitors:
  - 19 inch diagonal width
  - 1280 x 1024 dot resolution
  - Non-interlaced flicker-free presentation
  - 76 kHz Horizontal deflection frequency
  - 72 Hz Vertical deflection frequency

- Scan control keyboard (English language) assembly with intercom speaker, microphone and volume controls
- 2-Button Scroll Mouse
  *Option

Anti-Virus software

Standard McAFee Anti-Virus software

Image Networking

- Exam transfer 10 frames per second on dedicated 1 GB connection
- Standard auto-configuring 100 BaseT/10 BaseT Ethernet (UTP connection)
- Supports gigabit ethernet capability
- Direct network connection; multi-suite ethernet card not required for gateway out of suite
- Protocols supported:
  - DICOM 3.0 network send (one IP address at a time) and receive, pull/query, and storage commitment push
  - AdvantageNet (GenesisNet) point-to-point send, receive and pull/query (no broadcast)
  - InSite® point-to-point
  - TCP/IP (for system administration)

Compatible options

- Options on CT Console
  - A DICOM Print Interface is standard on the system
  - English UIF & USB Keyboard
  - Asian USB Keyboard
  - Chinese UIF & USB Keyboard
  - French UIF & USB Keyboard
  - German UIF& USB Keyboard
  - Scandinavian UIF & USB Keyboard
  - Danish UIF & USB Keyboard
  - Dutch UIF & USB Keyboard
  - Italian UIF & USB Keyboard
  - Norwegian UIF & USB Keyboard
  - Spanish UIF & USB Keyboard
  - Swedish UIF & USB Keyboard
  - Portuguese, Braz UIF & USB Keyboard
  - Euro Misc USB Keyboard
  - Finnish UIF
  - Japanese UIF
  - ConnectPro HIS/RIS Interface with Performed Procedure Step (PPS) M4 compatibility
  - USB Bar Code Reader
  - Exam Split
  - Xtream™ injector/Enhanced Xtream Injector
  - SmartStep
  - Neuro 3D Filter
  - ASiR™
  - LCD Monitor
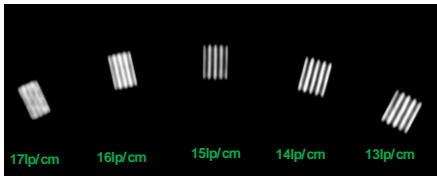 - GE Color Printer
  - Table Tray

‡Option

High Contrast Spatial Resolution

With Optima CT520 being a sub-millimeter isotropic CT scanner, it is now possible to specify coronal and sagittal image quality. Reformatted resolution (0.35 mm+/-0.05 mm) is visually demonstrated on the Catphan High Contrast Resolution Insert Module CTP528.

Standard Algorithm – typical	X/Y – lp/cm	Z – lp/cm
50%	4.0	
10%	6.5	
0%	8.5	
Hi-Res Algorithm (Edge) – typical		
50%	8.5	
10%	13.0	
0%	15.4	
Detail Kernel		
50%		5.92
10%		10.98
4%		12.78

High Contrast Spatial Resolution

Visual resolution	Z
17lp/cm 16lp/cm 15lp/cm 14lp/cm 13lp/cm	0.31 mm+/-0.02 mm

Low-Contrast Detectability

5 mm @0.30% at 6.9 mGy CTDIvol with ASiR (ASiR 60% enabled)
3 mm @0.30% at 18.0 mGy CTDIvol with ASiR (ASiR 60% enabled)
5 mm @0.30% at 9.0 mGy CTDIvol when ASiR is disabled
3mm @0.30% at 23.5 mGy CTDIvol when ASiR is disabled

»Image Quality

Noise	
Helical	=< 0.35% at 11.8 mGy CTDIvol with ASiR (ASiR 40% enabled) =< 0.35% at 22.2 mGy CTDIvol when ASiR is disabled
Axial	=< 0.35% at 26.5 mGy CTDIvol with ASiR (ASiR 40% enabled) =< 0.35% at 44.95 mGy CTDIvol when ASiR is disabled

CTDIw (Helical)	
Head	18.43 mGy/100 mAs
Small Large	8.55 mGy/100 mAs 9.21 mGy/100 mAs

CTDIw (Axial)	
Head	17.29 mGy/100mAs
Small	8.02 mGy/100 mAs
Large	8.64 mGy/100 mAs

Helical - high resolution collimation mode table speed (mm/rotation)				
Slice Thickness (mm)	Pitch 0.5625:1	Pitch 0.9375:1	Pitch 1.375:1	Pitch 1.75:1
0.625	5.625	9.375	13.75	17.5
1.25	5.625 11.25	9.375 18.75	13.75 27.5	17.5 35
2.5	5.625 11.25	9.375 18.75	13.75 27.5	17.5 35
3.75	5.625 11.25	9.375 18.75	13.75 27.5	17.5 35
5	5.625 11.25	9.375 18.75	13.75 27.5	17.5 35
7.5	11.25	18.75	27.5	35
10	11.25	18.75	27.5	35

Helical scan parameters	
Scan Speed	Full 360° rotational scans in 0.8 s, 1.0 s
Multiple Acquisition Maximum Scan Time	Multiple scans can be acquired in one series to produce up to 3000 contiguous helical images. Up to 2000 rotation helical coverage are possible in multiple series.
Minimum Inter-Group Delay (IGD)	1 sec between adjacent helical scans.
Scan Fields of View	25 cm for adult head; 25, 50 cm for body; 25 cm for pediatric head
AutoScan™	Fully automates longitudinal table movement and start of each scan.
AutoVoice™	3 preset in 17 user-defined messages automatically deliver patient breathing instructions with a programmable delay; especially useful for multiple helical scanning and SmartPrep. Preset massages are supported in 9 different languages: Chinese, English (Male/Female), French, German, Italian, Japanese, Korean, Spanish, and Mexican Spanish.

Trauma Patient	Allows patient scans and image display/analysis without entering patient data before scanning.
Biopsy	Simplified prescription for single or multiple scans around an arbitrary table position aids biopsy studies.

Helical scan time vs mA – Single helical

Scan Time (sec)	Maximum mA
10 sec	350
20	310-350
30	260-335
40	225-260/295
50	200-260/265
60	175-240
70	145-215
80	135-200
90	120-185
100	110-175
110	100-165
120	90-140
120 s (80 KV)	140-235

Multiple Helical Scans: (continuous helical coverage with 5-second IGD)

Scan Time	IGD	No. Scans	Max mA
10 sec	5 sec	3	275-345
		4	235-305
		5	210-250/270
		6	185-240
20 sec	5 sec	2	225-295
		3	180-235

		4	135-195
30 sec	5 sec	2	180-235
		3	120-185
		4	95-140

Helical scan: 16x0.625 mm, 1.375 pitch, 0.1 mm image interval, the image number (slice number) vs different rotation cycles, shows in below table

Rotations cycle#	Z coverage mm	Total image#
1.76	10.2	103
2	13.5	136
3	27.2	273
4	41	411
5	54.7	548
6	68.5	686

Generating images at fine intervals, as small as 0.1 mm, enables reconstructed images that exceed 64 images per gantry rotation. The number of images able to be generated per gantry rotation is a function of rotations and coverage.

Axial Multi-slice Modes	
1i Mode	Produces 1 image per rotation Nominal Thickness: 1.25, 5, 10 mm
2i Mode	Produces 2 images per rotation Nominal Thickness: 0.625, 2.5, 5, 7.5, 10 mm
4i Mode	Produces 4 images per rotation Nominal Thickness: 1.25, 2.5, 3.75, 5 mm
8i Mode	Produces 8 images per rotation Nominal Thickness: 1.25, 2.5 mm
16i Mode	Produces 16 images per rotation Nominal Thickness: 0.625, 1.25 mm
32i Mode	Produces 32 images per rotation Nominal Thickness: 0.625 mm

Scout Scan Parameters	
Aperture	0.625 mm x 8 effective aperture
Table speed	100 mm/sec
Orientation	AP, RLAT, PA, LLAT (preset); or any angle from 0° - 359° with 1° inclement (manually selected)

Axial scan parameters	
Scan Time	0.8, 1.0, 1.5, 2.0, 3.0, 4.0 sec full scans (360° acquisition)
Interscan Delay (ISD)	Minimum ISD with table moves of 0-10 mm: 1.0 sec. Minimum ISD with table moves of more than 10 mm and up to 20 mm: 1.3 sec
Intergroup Delay (IGD)	Minimum IGD is the same as minimum ISD, also user selectable.
Scan Fields of View	25 cm for adult head; 25, 50 cm for body; 25 cm for pediatric head Scan with 0 table increment, contiguous image location, or skipped image location are possible.
Scan-to-Scan Cycle	Minimum scan-to-scan cycle of 1.8 sec possible for 0.8 sec scan speed with minimum ISD's.

Overlapped Reconstruction*	The system needs to have the overlapped reconstruction feature, which enables 32 slices per rotation in axial scanning modes and delivers improved Z-axis visualization performance relative to non-overlapped reconstruction.
Reconstruction Algorithms	Soft, Standard, Detail, Bone, Bone Plus, Lung, Edge and chest
Reconstruction Matrix	512,1024*
Display Matrix	1024
Display FOV	Freely variable center/off-center, Prospective/retrospective target selection
CT Number Scale	-1024 to 3071 HU or extended -31743 to 31743
Helical Reconstruction Times	Up to 6 frames per second reconstruction time
	Up to 30 frames per second[4] reconstruction time when ASiR installed
Minimum DFOV	9.6 cm
Minimum Pixel Size	0.19 mm
Queued Recon	Requests will be processed continuously and simultaneously with other processes on the system including scanning. Prospective recon will be prioritized over retrospective recon.
Priority Recon Queuing	One touch selection marks most recent rotation for next available recon. Available during or after scanning.

*Option
4 commercial availability depends on each country's regulatory approval

Patient Scheduling	Image Review Layouts	ImageWorks
Patient Data Entry	Image Access	Image Analysis
Exam Protocol Selection	Routine Image Display	Image Display
Protocol View/Edit	Routine Measurements	Image Annotation
Scan Data Acquisition	Display Preferences	Image Management
Dose Computation & Display	Auto Image Management	Image Networking
AutoView Layouts	Manual Image Filming	

Application	
Volume Viewer	Volume Viewer is an innovative and powerful suite of productivity enhancers (Volume Rendering, Volume Analysis and Navigator) that includes: • Dynamic Volume Review™ for Fast Screening • Curved Volume of Interest • Protocol Management and Loading • Review Layout Presets • Multiple VR Objects Merge • Pseudo Surface Shading Mode • Predefined Cut Planes • Volume Rendered Navigator views • VR Preset save/recall • 3D Rendered Lumen View • Automatic Path Tracking • Path Bridging (in case of occlusions) • SmartCursor™ for Easy Navigation • Synchronized Reformatted Views • Cut visualization mode
Advanced Vessel Analysis	Advanced Vessel Analysis† is the ultimate tool to assess and quantify vascular structures, including stenosis analysis, stent planning procedures, post stenting or vascular surgery follow-up. Protocol driven tools to perform quick, flexible and accurate quantitative analysis of vascular anatomy. Provides maximum, minimum and mean intraluminal diameter measurements Provides cross-sectional areas of true orthogonal sections of the aortoiliac systems at selected anatomical points Clinical benefits include stenosis sizing, pre- and post- surgical assessment, stent planning Measurements in % stenosis or mm of stenosis, and measurement of length and dimension of stenosis.
Autobone	Autobone is an exclusive image analysis software package that facilitates segmentation of bony structures from abdominal and extremity CT Angiography data in one-click.

Options commercial availability depends on each country's regulatory approval status

Interventional	
SmartView Fluoro	Offers real-time 12 frames per second CT fluoroscopy with image latency of less than about 200 ms. Detailed targeting is supported by multiple acquisition modes, up to and including high-resolution acquisition at 1.25 mm (16x0.625 mode only). High dose efficiency is made available with continuous and quick check scan modes.

	A simple and efficient user interface provides six user-selectable display layouts, in-room image review and WW and WL control Flip, rotate, roam and zoom capabilities maintained during acquisition. Feature ceiling-mounted in-room LCD monitor and full-featured handheld / cradle-mounted controller.
Smart Step	SmartStep enables a step and shoot-imaging mode for performing biopsies and other interventional procedures. A Highly Functional Image Display presents a set of 3 interventional images in 3 viewports.
CT Perfusion 4 Neuro	CT Perfusion Neuro allows the user to process dynamic image data of the brain & generate information with regard to changes in image intensity over time.
SmartScore	SmartScore provides prospective/retrospective software designed for computing Coronary Artery Calcification scores from a single scan.

Options commercial availability depends on each country's regulatory approval status

Components

Dimensions	Width+/-10%	Depth+/-10%	Height+/-10%	Weight+/-10%
Gantry	2050 mm	1044 mm	1930 mm	1716 kg
Table	650 mm	2347 mm***	1043 mm	320 kg
Power Distribution Unit	700 mm	550 mm	1062 mm	370 kg
XOC16 Console	400 mm	672 mm	576 mm	64.2 kg
LCD Monitor	420 mm	247 mm	411-561mm	9 kg
Smart desk	1300 mm	895 mm	850 mm	40.5 kg

***ELEC, up limit; ****Excluding monitor arm

Power supply

Input Voltage	200/220/240/380/400/420/440/460/480 V nominal, 3 phase Delta or Wye, 50/60 Hz, 50 KVA / 75 KVA** service, 20 KVA average power; 50 KVA / 75 KVA** service, 20 KVA average power;
Main disconnect	to be located within 32 feet (10 m) of the PDU. The facility must also provide a protective disconnect device with low voltage, low energy local and multi-point remote capability, in the line feeders to the PDU.

Cooling Requirement

Recommended cooling values should not be used for calculating system input power requirements.
*** Recommended Allowance: 7,200/24,566
Growth Allowance: 9,825/33,520

	Minimum Allowance	
Subsystem	Watts	BTU/hr
Gantry	5500	18766**
Table	200	682
PDU	1000	3400
Operator Console	2165	7400

Suite Size

Scan Room	Minimum: 3.9 m x 5.6 m = 22.1 m^2

|	Recommended: 4.0 m x 6.3 m = 25.2 m^2
Control Room	Recommended: 3.0 m x 1.7 m = 5.1 m^2
Equipment Room	Not applied
Room Environment	
Temperature range (Scan and Control Room)	64°-78° F (18°-26° C) at 30%-60% relative humidity (non-condensing).
Temperature range (Equipment Room)	64°-78° F (18°-26° C) at 30%-60% relative humidity (non-condensing).
Relative Humidity Rate of Change	5% RH/hour max
Temperature Rate of Change	3° C/hour max

DICOM Conformance Standards	DICOM 3.0 Storage Service Class • Service Class User (SCU) for image send • Service Class Provider (SCP) for image receive DICOM 3.0 Query/Retrieve Service Class DICOM 3.0 Storage Commitment Class Push DICOM 3.0 Modality Worklist (including Performed Procedure Step) † (through ConnectPro option) DICOM 3.0 Print DICOM Gray Scale Presentation state for image presentation DICOM Structured Dose Report
HIPPA	Password protected User login and Authentication Image anonymization tool Product Network Filters restricts access to scanner system by IP address, services type (IE ftp, telnet) and DICOM port number. User configurable
Filming Protocol	3M-952 Standard

Warranty

The published Company warranty in effect on the date of shipment shall apply. The Company reserves the right to make changes.

All specifications are subject to change.
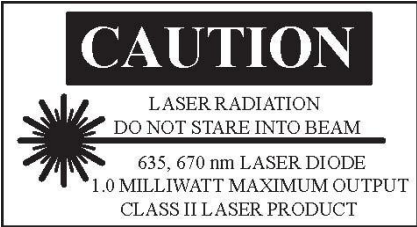
Regulatory Compliance

This product is designed to comply with applicable standards under the Radiation Control for Health and Safety Act of 1968.

Laser alignment devices contained within this product are appropriately labeled according to the requirements of the Center for Devices and Radiological Health.

This product is a certified device which satisfies regulations regarding Electro-Magnetic Compatibility (EMC) and Electro-Magnetic Interference (EMI), pursuant to IEC-60601-1-2

*Option

Disclaimer:

The Optima CT520 system is not validated with any Flat Table Top (FTT) for use in providing image data for RADIOTHERAPY TREATMENT PLANNING (RTP), additionally GEHC does not offer any FTT to be optionally sold for RTP.

About GE Healthcare

GE Healthcare provides transformational medical technologies and services that are shaping a new age of patient care. Our broad expertise in medical imaging and information technologies, medical diagnostics, patient monitoring systems, drug discovery, biopharmaceutical manufacturing technologies, performance improvement and performance solutions services helps our customers to deliver better care to more people around the world at a lower cost. In addition, we partner with healthcare leaders, striving to leverage the global policy change necessary to implement a successful shift to sustainable healthcare systems.

Our "healthymagination" vision for the future invites the world to join us on our journey as we continuously develop innovations focused on reducing costs, increasing access, and improving quality around the world. Headquartered in the United Kingdom, GE Healthcare is a unit of General Electric Company (NYSE: GE). Worldwide, GE Healthcare employees are committed to serving healthcare professionals and their patients in more than 100 countries. For more information about GE Healthcare, visit our website at www.gehealthcare.com.

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