Data

Efficiency in CT
SOMATOM Emotion

6-Slice Configuration
syngo CT 2006A

SIEMENS
medical

SOMATOM Emotion – Standard Configuration

System Hardware	
0.8 s rotation time	●
Multislice UFC™ (Ultra Fast Ceramic) Detector	●
5.0 MHU liquid bearing X-ray tube	●
40 kW generator	●
CT patient table (200 kg/440 lbs table load)	●
Workplaces	
*syngo® Acquisition Workplace**	●
19" (48 cm) monitor	●

CARE Applications	
CARE Filter	●
CARE Topo	●
CARE Dose4D™	●
System Software	
syngo Examination	●
syngo Viewing	●
syngo Filming	●
syngo Archiving & Network	●
syngo Dynamic Evaluation	●
syngo Service Solutions	●
Image Filter	●
SureView™	●
SOMATOM® LifeNet	●
Video Capture and Editing Tool	●
Applications	
Real-time MPR	●
syngo 3D SSD (Surface Shaded Display)	●
Volume Measurements	●
syngo VRT (Volume Rendering Technique)	●
CT-Angiography	●

● *Standard feature*

* *syngo, our unique multimodality software-platform brings together solutions for your clinical workflow. This complete integration is now evident in the consistent naming of our workplaces. syngo Acquisition Workplace replaces the Navigator. syngo CT Workplace replaces today's Wizard and syngo MultiModality Workplace replaces today's LEONARDO.*

SOMATOM Emotion 6-slice configuration is registered/licenced as SOMATOM Emotion 6

SOMATOM Emotion – Options

System Hardware	
0.6 s rotation time	○
50 kW power generator	○
Additional 19" (48 cm) monitor	○
Second 19" (48 cm) monitor with dual display functionality	○
Radiation Treatment Planning Enhancement	○
Workplaces	
*syngo CT Workplace**	○
*syngo MultiModality Workplace**	○
Additional 19" (48 cm) monitor	○
Second 19" (48 cm) monitor with dual display functionality	○
2 GB Volume Pro Graphics Accelerator	○
CARE Applications	
CARE Contrast CT	○
CARE Bolus CT	○
CARE Vision CT with HandCARE™	○
ECG-pulsing (included in syngo HeartView CT)	○
System Software	
Extended FOV (Field of View)	○
syngo Security Package	○
Siemens Virus Protection	○
Recon Card syngo CT Workplace	○

***syngo* Applications**	
syngo VRT for syngo CT Workplace and syngo MultiModality Workplace	○
syngo InSpace4D	○
syngo Fly Through	○
syngo Dental CT	○
syngo Osteo CT	○
syngo Pulmo CT	○
syngo HeartView CT (including ECG-pulsing)	○
*syngo Circulation***	○
*syngo InSpace4D AVA (Advanced Vessel Analysis)***	○
syngo Calcium Scoring	○
syngo Neuro Perfusion CT	○
*syngo Neuro DSA CT (Digital Subtraction Angiography)***	○
syngo Body Perfusion CT	○
syngo Colonography CT	○
*syngo Colonography CT with PEV (Polyp Enhanced Viewing)***	○
syngo LungCARE CT	○
syngo LungCARE CT with NEV (Nodule Enhanced Viewing)	○
syngo Image Fusion	○
Respiratory Gating and Triggering CT	○

○ *Optional feature*

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** *On syngo MultiModality Workplace only*

SOMATOM Emotion – *syngo* CT.3D

***syngo* CT.3D (on *syngo* CT Workplace*)**	○
*syngo CT Workplace**	
19" (48 cm) monitor	
2 GB Volume Pro Graphics Accelerator	
syngo 3D Basic	
syngo VRT	
syngo Fly Through	
syngo InSpace4D	
syngo Volume Calculation	
syngo Dynamic Evaluation	
***syngo* CT.3D (on *syngo* MultiModality Workplace*)**	○
*syngo MultiModality Workplace**	
19" (48 cm) monitor	
2 GB Volume Pro Graphics Accelerator	
syngo 3D Basic	
syngo VRT	
syngo Fly Through	
syngo InSpace4D	
syngo Volume Calculation	
syngo Dynamic Evaluation	

○ *Optional feature*

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SOMATOM Emotion – CT Engines

CT Neuro Engine*	○
syngo Neuro Perfusion CT	
syngo Neuro DSA CT	
CT Oncology Engine*	○
CARE Vision CT with HandCARE	○
syngo Colonography CT with PEV	
syngo LungCARE CT with NEV	
syngo Image Fusion	
syngo Body Perfusion	

○ *Optional feature*

* *syngo software feature of CT Clinical Engines available within syngo MultiModality Workplace*

System Hardware

Gantry	
Aperture	*70 cm*
Scan field	*50 cm*
Tilt	*± 30°*
Rotation time	*0.6*, 0.8, 1.0, 1.5 s*
Temporal resolution	*down to 150 ms (syngo HeartView CT*)*
Continuously rotating tube-detector unit with optimized geometry for high-resolution data acquisition across the entire scan field	
Data acquisition system	
Max. number of slices/rotation	*6*
Number of physical detector rows	*16*
Number of physical detector channels/slice	*736*
Number of detector channels	*4,416*
Number of detector elements	*11,776*
Total channels per slice	*1,472*
Number of projections	*up to 1,875 (1/360°)*
Sequence acquisition modes	*6 x 1 mm, 6 x 2 mm, 6 x 3 mm, 2 x 5 mm*
Spiral acquisition modes	*6 x 0.5 mm, 1 x 1 mm, 6 x 1 mm, 6 x 2 mm, 6 x 3 mm, 2 x 5 mm*
Speed and efficiency based on UFC (Ultra Fast Ceramic) detector with ultra short afterglow	
Designed to effectively suppress scattered radiation	

** Optional*

System Hardware

Tube assembly	
Tube	*DURA 422MV* *High performance CT X-ray tube*
Tube current range	*20–240 mA, 20–345 mA with Power Package**
Tube voltage	*80, 110, 130 kV*
Tube assembly heat storage capacity	*6.0 MHU*
Tube anode heat storage capacity	*5.0 MHU*
Focal Spot size according to IEC 60 336	*0.8 x 0.5 mm/7°* *0.8 x 0.7 mm/7°*
Computer controlled monitoring of anode temperature	
Multifan principle with Flying Focal Spot for all rotation times	

CARE Filter	
Al equivalent	*tube: 6.3 mm Al*
Beam limiting device	*collimator: 0.5 mm Al*
Generator	
Max. power	*40 kW, 50 kW with Power Package**
Patient table	
Max. table load	*200 kg/440 lbs*
Table feed speed	*1–100 mm/s*
Vertical table travel range	*45–83 cm (at table top) (17.7–32.7")*
Vertical travel speed	*≤ 22.4 mm/s*
Scannable range	*153 cm (60")*
Distance between gantry front and table base	*42 cm (16.5")*

* *Optional*

syngo Workplaces

***syngo* Acquisition Workplace**
The syngo Acquisition Workplace provides an intelligent and reliable workflow for data acquisition, image reconstruction, and routine postprocessing at the CT scanner. Built on the unique syngo platform, the syngo Acquisition Workplace is intuitive and user friendly.
High-performance computer
2 x Xeon 3.6 GHz processor
Graphics accelerator
NVIDIA graphics card for fast 3D postprocessing
Standard monitor
Flat screen 19" (48 cm) monitor
1,280 x 1,024 resolution
1,024 x 1,024 image display matrix
0.29 mm pixel size
Additional monitor*
Flat screen 19" (48 cm) monitor
Replication of primary monitor at remote location
Distance from host max. 30 m
Second monitor with dual display functionality*
Flat screen monitor 19" (48 cm)
Enables splitting of the syngo task cards onto two monitors. One monitor displays the viewing task card, for instance for the interactive review of images. All other syngo task cards are displayed on the second monitor.

RAM storage	
2 GB	
Image storage	
146 GB; 240,000 uncompressed images	
Additional storage	
CD-R 700 MB; 1,100 images	
*MOD DICOM**	*4.1 GB cartridge* *6,500 images*
External USB 2.0 disks for quick and easy raw data storage are supported	
DICOM viewer	
Included on each CD; automatically started on the viewer's PC	

* *Optional*

syngo Workplaces

syngo* CT Workplace
The syngo CT Workplace is a dedicated CT processing workplace that provides instant access to image and scan data via a shared database with the syngo Acquisition Workplace. With access to our comprehensive portfolio of CT clinical applications, the syngo CT Workplace can be customized to further enhance clinical performance. It can be networked via 1 GB LAN.
High-performance computer
2 x Xeon 3.6 GHz processor
Graphics accelerator
NVIDIA graphics card for fast 3D postprocessing
Volume Pro Graphics Accelerator;* *2 GB on-board image memory additionally accelerates applications*
Standard monitor
Flat screen 19" (48 cm) monitor
1,280 x 1,024 resolution
1,024 x 1,024 image display matrix
0.29 mm pixel size
Second monitor with dual display functionality*
Flat screen monitor 19" (48 cm)
Enables splitting of the syngo task cards onto two monitors. One monitor displays the viewing task card, for instance for the interactive review of images. All other syngo task cards are displayed on the second monitor.

RAM storage	
2 GB	
Image storage	
Shared database with syngo Acquisition Workplace	
Additional storage	
CD-R Media 700 MB; 1,100 images	
*MOD DICOM**	*4.1 GB cartridge* *6,500 images*
DICOM viewer	
Included on each CD; automatically started on the viewer's PC	

* *Optional*

syngo Workplaces

syngo* MultiModality Workplace
syngo MultiModality Workplace provides the unique advantage of an efficient multi-modality diagnostic workflow at a single workplace. Based on the unique syngo platform, it manages the clinical diagnostic workflow anywhere within the clinical environment. With the syngo MultiModality Workplace radiologists and clinicians benefit from access to our comprehensive syngo applications for Computed Tomography, Magnetic Resonance, PET and SPECT imaging, Angiography and Radiation Therapy Planning. The syngo MultiModality Workplace can be networked via 1 GB LAN.
High-performance computer
2 x Xeon 3.6 GHz processor
Graphics accelerator
NVIDIA graphics card for fast 3D postprocessing
Volume Pro Graphics Accelerator;* *2 GB on-board image memory additionally accelerates applications*
Standard monitor
Flat screen 19" (48 cm) monitor
1,280 x 1,024 resolution
1,024 x 1,024 image display matrix
0.29 mm pixel size
Second monitor with dual display functionality*
Flat screen monitor 19" (48 cm)
Enables splitting of the syngo task cards onto two monitors. One monitor displays the viewing task card, for instance for the interactive review of images. All other syngo task cards are displayed on the second monitor.

RAM storage	
6 GB	
RAID	
RAID 0 for enhanced read/write performance	
Image storage	
146 GB; 240,000 uncompressed images	
Additional storage	
CD-R Media 700 MB; 1,100 images	
DVD DICOM Drive	*4.7 GB* *8,400 images*
DICOM viewer	
Included on each CD; automatically started on the viewer's PC	

* *Optional*

CARE Applications

UFC Detector

Up to 30% dose reduction compared to conventional CT detectors.

High efficiency for low mAs requirements enable best possible image quality with low patient dose

Ultra short afterglow. Specially developed for sub-second and multislice applications.

SureView – Multislice Spiral Image Reconstruction

Brilliant image quality and dose savings up to 20% in spiral mode

CARE Filter

Specially designed X-ray exposure filter installed at the tube collimator. Up to 25% dose reduction with increased image quality.

CARE Contrast CT*

Facilitates contrast enhanced CT examinations

Enables the synchronization between scanning and contrast injection

One button control for easy use

Pediatric protocols

Special clinical protocols with 80 or 110 kV selection and a wide range of mAs settings. The X-ray exposure is adapted to the child's (and small adult's) weight and age, substantially reducing the effective patient dose.

CARE Topo

Real-time topogram

Manual interruption possible once desired anatomy has been imaged

CARE Dose4D – minimizing dose, maximizing quality – patient by patient

Automated real-time tube current adjustment for best diagnostic image quality at lowest possible dose, independent of patient size and anatomy

Fully automated dose management for adults and children with up to 68% dose reduction

ECG-pulsing**

Dose modulated cardiac spiral for dose reduction during the systolic heart phase (part of the syngo HeartView CT). Up to 50% dose savings for the patient.*

CARE Bolus CT*

Scan mode for contrast bolus triggered data acquisition

Significant improvement of the planning procedure and diagnosis by enabling an optimum spiral scan start after contrast injection

The procedure is based on repetitive low dose monitoring scans at one slice level and analysis of the time density curve in a ROI (Region of Interest)

CARE Vision CT* with HandCARE

Perform interventions with real-time image guidance, including CT fluoroscopic mode. Single slice or simultaneous display of 3 slices for optimal navigation with two alternate display methods:
A) 256 x 256, 1024 x 1024, 256 x 256
B) 512 x 512, 512 x 512, 512 x 512

Includes Real-time image guidance:

Image rate	*up to 8 frames/s*
Image matrix	*512 x 512*

Foot switch. *Radiation release directly at the gantry.*

Additional monitor. *For parallel image display in the examination room.*

Flat screen 19" (48 cm) monitor

Distance from host max. 30 m

HandCARE. *Real-time dose modulation during the CT-guided intervention. The tube current is automatically switched off to avoid direct X-ray exposure to the physician's hands. HandCARE yields dose savings of up to 70% for the physician and up to 30% for the patient.*

* *Optional*
** *Requires syngo HeartView CT option*

System Software

Patient registration
Direct input of patient information on syngo Acquisition Workplace immediately prior to scan
Pre-registration of patients at any time prior to scan
Special emergency patient registration (allows examination without entering patient data before scanning)
Patient information from HIS/RIS via DICOM Get Worklist
Transfer of examination information from scanner into HIS/RIS via MPPS (Modality Performed Procedure Step)
Protocols
Up to 10,000 protocols can be edited, modified and stored
Patient communication
Integrated patient intercom
Automatic Patient Instruction (API) • *Freely recordable* • *30 API text pairs* • *Presets in nine languages available*
Integrated display panel
*Gantry front display showing current scan parameters such as kV, mA, scan time, table position, gantry tilt, and ECG trace***
Gantry front control panels
For convenient patient positioning (e.g. in case of trauma or interventional exams)
Gantry tilt control from the operator's console
Synchronized scanning and contrast injection*
CARE Contrast facilitates enhanced CT examinations through the hardware and software integration of CT scanner and injector
Three laser light markers
*Coronal, sagittal, and axial laser light, that show the isocentric position of the scan plane. With RTP (Radiation Treatment Planning) Enhancement, the laser lights can be easily adjusted.****

Topogram	
Length	*128–1,500 mm (5–59")*
Scan times	*1.5–15.8 s*
Views	*a.p., p.a., lateral*
CARE Topo	
Real-time topogram	
Manual interruption possible once desired anatomy has been imaged	
Sequence Acquisition	
Reconstructed slice widths	*1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 9.0, 10.0, 12.0, 18.0 mm*
Scan times full scan (360°)	*0.6*, 0.8, 1.0, 1.5 s (± 5%)*
Partial scan times (240°)	*0.4*, 0.53 s (± 5%)*
No. of uninterrupted scans per range	*99*
No. of ranges in autorange	*8*
Standard scan cycle time	*2.0 s (± 10%) at 0.8 s scan time*
Acquisition with or without table feed	
Automatic clustering of scans	
Dynamic Multiscan:	
Multiple (continuous) sequence scanning without table movement for fast dynamic contrast studies	
Dynamic scan cycle time	*1.2 s (± 10%) at 0.8 s scan time* *0.9 s (± 10%) at 0.6 s scan time**
Patient breath-hold time indicator	
Patient-friendly display at the back of the gantry for indication of the remaining breath-hold time	
Automatic patient positioning	
Two user-configurable buttons on the gantry panel	
One touch, quick patient positioning for pre-selected clinical protocols – e.g. head, thorax	

* *Optional*
** *Requires syngo HeartView CT option*
*** *Optional for RTP*

System Software

Multislice Spiral Acquisition	
Standard reconstructed slice widths	*1.0, 1.25, 2.0, 2.5, 3.0, 4.0, 5.0, 6.0, 8.0, 10.0 mm*
High resolution reconstructed slice widths	*0.63, 0.75 mm*
Scan times full scan (360°)	*0.6*, 0.8, 1.0, 1.5 s*
Reconstruction increment	*0.1–10 mm*
Pitch factor	*0.416–1.8*
Volume pitch	*3.0–10.8*
Spiral scan time	*max. 100 s*
Scan length	*max. 150 cm (59")*
Extended Field of View*	
*Special image reconstruction algorithms that provide visualization of objects using a FOV up to 70 cm***	

SureView: Siemens' patented solution for Multislice CT reconstruction
Excellent for clinical workflow: *Forget about compromises in your clinical workflow. Just specify the slice thickness in your protocols according to your clinical needs. SureView automatically takes care of providing excellent volume image quality – with exceptional performance.*
Multiply your clinical performance with SureView: *High-quality imaging at any scanning speed. SureView allows the CT scanner to automatically select the necessary pitch value to achieve the coverage and scan time defined by you, while keeping selected slice thickness.*

* *Optional*

** *The image quality for the area outside the standard 50 cm scan field does not meet the image quality specifications shown in the technical data sheet and image artifacts may appear, depending on the anatomy scanned*

System Software

Image reconstruction	
Real-time display	*Real-time image display (512 x 512) during spiral acquisition*
Slice thickness	*1.0–18.0 mm*
High resolution	*0.63–0.75 mm*
Scan field	*50 cm*
Recon field	*5–50 cm, 5–70 cm with extended FOV**
Standard recon time	*up to 6 images/s*
Recon matrix	*512 x 512*
HU scale	*–1,024 to +3,071*
Extended HU scale	*–10,240 to +30,710*
Wide range of selectable slice thickness for prospective selection and/or retrospective reconstruction for spiral scans	
Real-time image display in 512 x 512 matrix parallel to spiral acquisition (e.g. for trauma)	
CINE display	
Display of image sequences	
Automatic or interactive with mouse control	
Max. image rate	*10 frames/s*
Windowing	
Window width and center freely selectable	
Single window	
Double window (e.g. bone/soft tissue)	
Multiple window settings for multi-image display	
Organ-specific window settings, e.g. for soft tissue and bones	

Filming	
Digital film documentation; connection to suitable digital camera	
Connection via DICOM Basic print	
Automatic filming	
Interactive virtual film sheet	
Customizable film formats with up to 64 images	
Filming parallel to other activities	
Independent scanning and documentation	
Freely selectable positioning of images onto film sheet	
Configurable image text	
Printing	
Documentation on postscript printer supported	
Image transfer/Networking	
Interface for transfer of medical images and information using the DICOM standard. Facilitates communication with devices from different manufacturers.	
DICOM Storage (Send/Receive)	
DICOM Query/Retrieve	
DICOM Basic print	
DICOM Get Worklist (HIS/RIS)	
DICOM MPPS	
DICOM Storage Commitment	
DICOM Viewer on CD	
Raw data	
Drive size	*128 GB*
Capacity	*5,500 scan-seconds*
External USB 2.0 disks for quick and easy raw data storage are supported	

* *Optional, reconstruction area outside the standard 50 cm FOV is for visualization purposes only and is not of diagnostic image quality*

System Software

Evaluation tools

Parallel evaluation of more than 10 Regions of Interest
- *Circle*
- *Irregular*
- *Polygonal*

Statistical evaluation
- *Area/Volume*
- *Standard deviation*
- *Mean value*
- *Min./max. values*
- *Histogram*

Profile cuts
- *Horizontal*
- *Vertical*
- *Oblique*

Distance measurement

Angle measurement

Online measurement of a 5 x 5 pixel size ROI

Freely selectable positioning of coordinate system

Crosshair

Image annotation and labeling

***syngo* Dynamic Evaluation**

Evaluation of contrast enhancement in organs and tissues

Calculation of
- *Time-density curves (up to 5 ROI's)*
- *Peak-enhancement images*
- *Time-to-peak images*

Video Capture and Editing Tool

Integrated solution for imaging and visualization of 4D information, allowing the generation and editing of video files for improved diagnoses, recording, and teaching. A wide range of multimedia formats are supported, e.g. AVI, Flash (SWF), GIF, QuickTime (MOV), streaming video.

2D postprocessing

Image zoom and pan

Image manipulations
- *Averaging, subtraction*
- *Reversal of gray-scale values*
- *Mirroring*

Advanced image algorithms
- *Posterior Fossa Optimization for reduction of beam hardening artifacts in head images*
- *Low Contrast Enhancement for improving low contrast detectability*
- *High Contrast Enhancement for increased sharpness of high contrast structures*
- *Advanced Smoothing Algorithm edge preserving and smoothing filter, dedicated to cardiac exams*

syngo* Security Package

Provides functionality for user management and flexible access control for patient data

Siemens Virus Protection*

Offers top-level defense in safeguarding CT systems against viruses

* *Optional*

Image Quality

Low-contrast resolution	
Low-contrast resolution is the ability to see	
• *a small object (mm)*	
• *with a certain contrast difference (HU)*	
• *on a particular phantom (Ø)*	
• *at a certain mAs value (mAs)*	
• *with a particular patient dose (mGy)*	
Phantom	**CATPHAN (16 cm)**
Object size	*3 mm*
Contrast difference	*3 HU*
Dose at the surface	*19.2 mGy* at 100 mAs*
Technique	*1.0 s, 0.8 s, 0.6 s***
	10 mm, 130 kV
Phantom	**CATPHAN (20 cm)**
Object size	*5 mm*
Contrast difference	*3 HU*
Dose at the surface	*14.2 mGy* at 90 mAs*
Technique	*1.0 s, 0.8 s, 0.6 s***
	10 mm, 130 kV

High-contrast resolution			
0% MTF (± 10%)	*17.5 lp/cm, 0.29 mm*		
2% MTF (± 10%)	*15.6 lp/cm, 0.32 mm*		
10% MTF (± 10%)	*13.6 lp/cm, 0.37 mm*		
50% MTF (± 10%)	*10.0 lp/cm, 0.50 mm*		
Technique	*Tungsten wire in air*		
	60 mAs, 130 kV,		
	*0.8 s, 0.6 s** 1.0 mm*		
Homogeneity			
Cross-field uniformity	*max. ± 4 HU*		
in a 20 cm	*typ. ± 2 HU*		
water phantom			
Phantom positioned near center of rotation			
Dose, $CTDI_{100}$ values			
Phantom Ø		*110 kV*	*130 kV*
	mGy/100 mAs		
16 cm	*A*	*13.8*	*20.0*
	B	*14.4*	*20.7*
32 cm	*A*	*4.1*	*6.3*
	B	*7.7*	*11.7*
A: at center	*B: 1 cm below surface*		
Technique	*PMMA-Phantom*		
	Absorbed dose for		
	reference material air		
	Max. deviation ± 30%		
	Expected deviation 15%		
	Slice 1 x 10 mm		

* *Air KERMA, measured on the surface of the phantom with max. deviation ± 30%*

** *Optional*

Applications

Real-time MPR

Real-time multiplanar reformatting of secondary views

Variable slice thickness (MPR thick, MPR thin) and distance with configurable default values

Viewing perspectives

- *Sagittal*
- *Coronal*
- *Oblique*
- *Double oblique*
- *Freehand (curvilinear)*

***syngo* 3D SSD (Surface Shaded Display)**

Three-dimensional display of surfaces with different density values

- *Soft tissue*
- *Bone*
- *Contrast-enhanced vessels*

Volume measurements

Measurements of various tissues and organs with HU-based region growth algorithms and interactive ROI definition

syngo* VRT (Volume Rendering Technique)*

Advanced 3D application package for the optimal display and differentiation of different organs through independent control of color, opacity, and shading in up to 4 tissue classes

CT-Angiography

MIP: Maximum Intensity Projection

MinIP: Minimum Intensity Projection

Thin MIP function for projection within a small slab to focus on particular vascular structure

Evaluation of spiral images and display of vessels, vascular anomalies, aneurysms, plaques, and stenoses

***syngo* InSpace4D* – real-time interactive evaluation, in space and time**

One-click bone removal

Automated segmentation and removal of bony structures for vascular analysis

4D evaluation of the beating heart with full resolution

Real-time navigation through moving anatomy in user selectable arbitrary planes

High performance volume reading for physician's diagnosis and pre-surgical planning in daily clinical routine

syngo* Fly Through

Virtual Endoscopy software enabling visualization of vessels, airways, and the intestines

syngo* Dental CT

Reformatting of panoramic slices and paraxial sections through the lower and upper jaw for analysis in connection with implantation surgery

syngo* Osteo CT

Non-invasive measurement of the bone mineral density of the lumbar spine to help early diagnosis of osteopenia and osteoporosis, and to assess the effectiveness of treatment

Osteo CT measurements are standardized to the ESP Phantom (ESP: European Spine Phantom)

Includes table mat and reference Phantom for Osteo CT studies

syngo* Pulmo CT

Quantitatively evaluates lung density and structure to help early diagnosis and treatment of lung disease and surgical intervention planning

syngo* HeartView CT

ECG-synchronized volume acquisition using prospective ECG triggered or retrospective ECG-gating mode

Basis for 3D cardiac reconstructions, e.g. CT-Angiography of the coronary vessels and Calcium Scoring

Quality control tools enable retrospective ECG viewing and interactions as well as computer-assisted heart phase definition

The ECG signal used for scanning and image reconstruction is acquired by an integrated ECG device. The ECG signal is displayed on the gantry front cover.

ECG-gated, multi-phase 4D reconstruction in up to 24-phases enabling dynamic evaluation of the heart and thoracic anatomy

* *Optional*

** *Standard on syngo Acquisition Workplace, optional on syngo CT Workplace and syngo MultiModality Workplace*

Applications

syngo* Circulation*
Fully automated cardiac evaluation
Automatic quantification of stenoses
One-click heart isolation
One-click coronary segmentation
Full evaluation of left-ventricular function
syngo* InSpace4D AVA (Advanced Vessel Analysis)*
Optional plug-in for syngo InSpace4D
Dedicated syngo-based application for analysis of vessel lesions
Automatic vessel segmentation plus accurate quantification of vascular lesions. Compatible with CT and MR datasets.
syngo* Calcium Scoring
Displays the quantity and distribution of coronary calcification for the diagnosis and treatment of cardiac disease
syngo* Neuro Perfusion CT
Evaluates dynamic CT data of the brain. Used for the early differential diagnosis of acute ischemic stroke. Additionally, it allows imaging of blood brain barrier disruptions in brain tumors.
syngo* Neuro DSA CT (Digital Subtraction Angiography)*
A fully automated workflow, facilitates optimal visualization and evaluation of complex intracranial vascular structures and helps to delineate aneurysms and other vascular diseases
syngo* Colonography CT
For non-invasive visualization and quantitative evaluation of colon polyps
Enables real-time virtual 3D endoluminal viewing
syngo* Colonography CT with PEV (Polyp Enhanced Viewing)*
Computer-assisted identification of polyps with virtual second reader support

syngo* LungCARE CT
Software for fast 3D-based visualization and quantitative evaluation of lung nodules, with lowest possible radiation dose. Includes fully automated follow-up.
syngo* LungCARE CT with NEV (Nodule Enhanced Viewing)
Provides computer supported identification of lung nodules. Functions as a second reader opinion.
syngo* Body Perfusion CT
For functional analysis of organs and tumors. Useful for interventional procedures and radiation therapy monitoring and planning.
syngo* Image Fusion
Registration and composite display of CT, MR, NM, and PET images. Provides for optimal physician's diagnosis by fusion of morphological data with functional information.
RTP Enhancement*
Hardware and software components to optimize the RTP process
Respiratory Gating and Triggering CT*
Hardware and software components that allow for the capture and storage of a patient's respiratory signal data during a spiral (for gated reconstruction) or triggered sequence acquisition
Respiratory data is synchronized with the CT acquisition data
The user can select the image reconstruction points (based on respiratory cycle amplitude)
Preselection of up to 8 phases for respiratorily gated reconstruction
Organ motion artifacts caused by respiration are minimized or eliminated and better accuracy is obtained regarding organ position, size, and volume

* *Optional*
** *Optional on syngo MultiModality Workplace only*

Installation

Dimensions	Height (mm/inch)	Width (mm/inch)	Length (mm/inch)	Weight (kg/lbs)
Components				
Gantry	*≤ 1,780 / 70,1*	*≤ 790; 680 / 31,1; 26,7*	*≤ 2,300 / 90,5*	*≤ 1,200 / 2,640*
Patient table	*≤ 940 / 37,0*	*≤ 680 / 26,7*	*≤ 2,230 / 87,8*	*≤ 430 / 946*
*Operator's console**	*≤ 700 / 27,5*	*≤ 800 / 31,5*	*≤ 1,140 / 44,8*	*≤ 65 / 143*
UPS	*≤ 550 / 21,6*	*≤ 200 / 7,8*	*≤ 400 / 15,7*	*≤ 25 / 62,5*
Line Connection Box (LCB)	*≤ 720 / 28,3*	*≤ 300 / 11,8*	*≤ 600 / 23,6*	*≤ 80 / 176*
Image reconstruction system	*≤ 445 / 17,5*	*≤ 205 / 8,1*	*≤ 560 / 22,1*	*≤ 30 / 66*
Computer system				
syngo Acquisition Workplace	*≤ 445 / 17,5*	*≤ 205 / 8,1*	*≤ 560 / 22,1*	*≤ 30 / 66*
syngo CT Workplace	*≤ 445 / 17,5*	*≤ 205 / 8,1*	*≤ 560 / 22,1*	*≤ 30 / 66*

* *Includes monitor, keyboard, mouse, scan control box, and operator's desk (optional)*

Installation

Power supply	
Nominal voltage ± 10%	*380–480 V*
Nominal line frequency ± 10%	*50; 60 Hz*
Max. power consumption	*≤ 70 kVA*
Power consumption	*≤ 3.0 kW standby*
Mean power consumption	*≤ 7.0 kW scanning*
Protection against input power instability	
X-ray	*100 ms*
Controllers	*300 ms*
Computer	*3 min*
Frequency stability ± 5%	*50; 60 Hz*

Electromagnetic compatibility		
This product is in compliance with IEC 60601-1-2 and fulfills CISPR 11 Class A		
Examination room environment		
Temperature range	*18–30 °C*	
Relative air humidity without condensation	*20–85%*	
Heat dissipation (Gantry)	*≤ 6.8 kW scanning* *≤ 1.5 kW standby*	
Heat dissipation (Computer)	*≤ 1.0 kW*	
Surface area for installation		
	min.*	***recommended***
Complete system	*18.5 m^2*	*22.0 m^2*
Gantry & table only	*15.5 m^2*	*17.0 m^2*

* *Full performance in terms of gantry tilt and scannable range*

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