VAMC BALTIMORE, MD
PO# 512-B30609

TRADE IN
SIEMENS 64 SLICE SENSATION
SERIAL# 54574
ACQ DATE: 2/13/2006

SOMATOM Definition Flash

All items listed below are included for this system: *(See Detailed Technical Specifications at end of Proposal.)*

Qty	Item Description
1	**SOMATOM Definition Flash** The SOMATOM Definition Flash features second generation Dual Source CT, using two X-ray sources and two new Stellar Detectors at the same time, to open a door to unprecedented levels of patient friendliness with the speed to cover the entire thorax in less than a second - if necessary even without breath hold. Besides, it enables reduction in dose for all scans, resulting, e.g. in dose down to sub-mSv for cardiac imaging. In its second generation, Dual Energy automatically provides a second contrast for the best possible diagnosis without any extra dose. The revolutionary new Stellar Detectors are the first fully integrated detectors that minimize electronic noise and cross-talk through their TrueSignal Technology. They take CT imaging where it has never gone before by generating ultra-thin 0.5 mm slices with the Edge Technology. With the highest spatial resolution in CT they visualize even finest image details, for example for more accurate stenosis quantification, plaque and stent analysis. Finally, FAST CARE focuses on patient-centric productivity. FAST functions simplify time-consuming and complex procedures, such as scan or recon preparations, ideally to a single click, for more reproducible and quicker results. The new additional CARE Features continuously reduce radiation dose to the lowest achievable minimum in every scan from pediatric to bariatric imaging - while preserving the image quality - to make the benefits of CT scanning safer for your patients.
1	**SAFIRE #AWP** The Sinogram Affirmed Iterative Reconstruction (SAFIRE) enhances spatial resolution, reduces image noise and increases sharpness by introducing multiple iteration steps in the reconstruction process. The resulting higher image quality enables to reduce dose by up to 60%*. *In clinical practice, the use of SAFIRE 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. The following test method was used to determine a 54 to 60% dose reduction when using the SAFIRE reconstruction software. Noise, CT numbers, homogeneity, low-contrast resolution and high contrast resolution were assessed in a Gammex 438 phantom. Low dose data reconstructed with SAFIRE showed the same image quality compared to full dose data based on this test. Data on file.
1	**FAST CARE Platform** Siemens' unique FAST CARE platform is set to raise the standard of patient-centric productivity. Utilizing FAST - Fully Assisting Scanner Technologies - typically time-consuming and complex procedures during the scan process are extremely simplified and automated, not only improving workflow efficiency, but optimizing the clinical outcome by creating reproducible results, making diagnosis more reliable and reducing patient burden through streamlined examinations. Siemens' desire for as little radiation exposure as possible lies at the heart of the CARE - Combined Applications to Reduce Exposure - research and development philosophy offering a unique portfolio of dose saving features, many of them being introduced as industry's first.

Qty	Item Description
1	**CARE Child** Dedicated pediatric CT imaging, including 70 kV scan modes and specific CARE Dose4D curves and protocols
1	**FAST Advanced Package** Utilizing Siemens' unique FAST - Fully Assisting Scanner Technologies - time-consuming and complex procedures such as scan or recon preparations are extremely simplified - ideally reduced to a single click. The FAST Advanced Packages offers an attractive bundle of FAST features to comprehensively optimize scan and recon preparations.
1	**FAST Planning #AWP** Immediate, organ-based setting of scan and recon ranges aiming for a faster and more standardized workflow at the scanner.
1	**FAST Spine #AWP** Accurate and anatomically aligned preparation of spine recons with just a single click.
1	**FAST Cardio Wizard** On-screen step-by-step guide to cardiac scanning for higher reliability and reproducibility in cardiac CT.
1	**ELEVATE R 40-/64-slice> Def. Flash** Elevate from 40-/64-slice configuration system to the new SOMATOM Definition Flash.
1	**syngo Dual Energy Scan with SPS** The syngo Dual Energy Scan with SPS (Selective Photon Shield) option allows the use of both SOMATOM Definition Flash X-ray sources simultaneously at different energies, while the Selective Photon Shield reduces dose and at the same time increases energy separation by blocking unnecessary parts of the energy spectrum. syngo Dual Energy offers the possibility to acquire two spiral data sets simultaneously from a single scan running the tubes at 80/140 kV or 100/140 kV. The results are two data sets with diverse information.
1	**FAST DE (DE WorkStream 4D)** FAST Dual Energy (DE) is a 4D workflow for the Dual Energty data with direct generation of axial, sagittal, coronal, or double-oblique images from standard Dual Energy scanning protocols. The Advantage: the elimination of time consumuing, error prone, manual reconstruction steps and a reduction of data volume up to a factor of 10, since virtually all diagnostic information is captured in 3D slices.
1	**CT Acute Care Engine @via#1** The CT Acute Care Engine provides disease oriented workflows which allow lifesaving diagnostics when every second counts. The workflows consist of dedicated scan modes & software modules and cover the wide variety of challenging acute situations, from efficient acute chest pain management to abdominal imaging, as well as stroke imaging. Scan modes - Extended FOV of 78 cm for obese patient imaging - HeartView Flash, including FlashSpiral (e.g. for sub-mSv cardiac scanning) - ECG-Gated Spiral for high and irregular heart rates - Flash Cardio Sequence for moderate heart rates - 0.28 s rotation time to freeze any motion (e.g. cardiac motion) - MinDose ECG Pulsing for 30-50% dose saving in cardiac function - syngo Volume Perfusion CT Neuro (on syngo Acquisition Workplace) Software Modules: - syngo.CT CaScoring for quick risk assessment - syngo.CT Coronary Analysis for quantitative assessment of coronary arteries - syngo.CT Cardiac Function for left ventricular functional assessment - syngo.CT Vascular Analysis for assessment of general vascular pathologies, such as AAA - syngo.CT Neuro DSA for bone-free visualization of cerebral vessels - syngo Volume Perfusion CT - Neuro for dynamic 4D quantification of stroke (single user) - syngo Neuro Perfusion Weighted Map (PWM) for static 3D visualization of cerebral blood volume (single user) Additional integrated Dual Energy (DE) functionality: (To enable the DE functionality at least 1 user license of the respective DE application has to be purchased) - syngo.CT Vascular Analysis - DE Direct Angio - DE integration of syngo.CT DE Heart PBV

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1	**CT Acute Care Engine Pro @via#1** The CT Acute Care Engine Pro extends the dynamic range for stroke imaging beyond detector widths. It allows the assessment of even smallest bone details and provides Right Ventricular Assessment for prognostic evaluation of pulmonary disease. The automated segmentation, anatomical labeling and display of the main vessels speed up the reading process for faster diagnosis. Additional Scanner Options: - Adaptive 4D Spiral Plus acquisition for whole organ perfusion - z-UHR for ultra high isotropic resolution, e.g. in inner ear down to 0.24 mm - Tiltable (adjustable) head holder for optimal positioning of stroke patients Additional Software Modules: - syngo.CT Cardiac Function - Enhancement for visualization of ischemia from early or late enhanced images - syngo.CT Cardiac Function - Right Ventricle for right ventricular functional assessment - syngo.CT Vascular Analysis - Autotracer for automatic identification and anatomical labeling of main vessels - syngo.CT Dynamic Angio for the assessment of time-resolved CT images. At least 5000 images will be supported. - syngo Volume Perfusion CT - Neuro for dynamic 3D quantification and visualization of stroke and brain tumors (additional user)
1	**syngo.CT DE Advanced Package #1** The syngo.CT Dual Energy Advanced Package includes all Dual Energy Applications that are available for syngo.via.
1	**Keyboard English** Keyboard in the above-mentioned language.
1	**Cooling System Water/Air #split** Water-to-air heat exchanger for the dissipation (to the air outside) of heat, generated in the gantry.
1	**Trafo for cooling system water/air** For adequate power consumption the chiller system may need an additional transformer: If the electrical connection to be used can not provide either 400V at 50Hz or 460V at 60Hz this transformer is needed.
1	**Service Switch** Service switch to shut off the outdoor cooling unit for maintanance or in case of emergency
1	**Hose pipe 30 m insulated** Hose pipes to connect the "Cooling System" with the gantry.
1	**Cable loom 25 m** Cable loom used to connect the power distribution system (PDS) with the gantry.
1	**Patient Table Flash** Patient table to support ultra-fast spiral scanning and up to 200cm scan range. Motor-driven table height adjustment from min. 48 cm to max. 92 cm, longitudinal movement of the tabletop 200 cm in increments of 0.5 mm, positioning accuracy +/- 0.25 mm from any direction. Horizontal scan range 200 cm. Table height can be controlled alternatively by means of foot switch (2 each on both sides of the patient table). In the case of emergency stop or power failure, the tabletop can also be moved manually in horizontal direction. Max. table load: 220 kg/485 lbs, Table feed speed: 2-430 mm/s, Distance between gantry front and table base 40 cm. Positioning aids: Positioning mattress, mattress protector, head-arm support (inclusive cushion), non-tiltable and tiltable head holders with positioning cushion set, patient restraining system for head fixation, restraining-strap set with body fixation strap that can be directly connected to the patient table top, headrest, table extension with positioning mattress, knee-leg support.
1	**Physiological Monitoring Module** The Physiological Monitoring Module allows to connect a 3 Channel ECG cable for ECG controlled cardiac acquisition.
1	**ECG Cable IEC2 #D** ECG cable, IEC2 (AHA/US color coding).

Qty	Item Description
1	**Mattress w. improved table protect.** This mattress is ideal for trauma and acute care settings. The mattress has wide flaps and offers additional protection by preventing liquids spilling into the table by covering the gaps between table top and the table base.
1	**Table Side Rails** Side rails enable the quick and easy attachment of additional accessories such as an infusion bottle holder and i-control intervention module to the standard patient table.
1	**Computer Desk** New CT desk to accommodate the control components and color monitor. Width: 1200 mm, Depth: 800 mm, Height: 720 mm.
1	**Computer Cabinet** New cabinet to accommodate the computer system and UPS. Matched to the design of the control console table. Width: 800 mm, Depth: 800 mm, Height: 720 mm
1	**syngo.via Advanced User #1** One Advanced User License of the syngo.via client server solution for multi-modality image reading. It provides 2D, 3D, 4D image reading capabilities at almost every workplace for various modalities (e.g. CT, MR, PET/CT, CR, XA image types). The syngo.via client runs on standard Windows computers in the network and integrates into radiologist's reading workplace (RIS; PACS) for efficient image reading based on a wide range of imaging applications (advanced visualization applications) for different clinical cases. Those applications are available as additional options for syngo.via. The syngo.via licensing model is flexible and tailored to the number of concurrent users (users working at the same time). The service support for syngo.via requires the provision of an administrator with dedicated tasks and a minimum broadband Internet connection bandwidth.
1	**syngo.via Advanced User #1+** The additional syngo.via Advanced User license provides Advanced 2D, 3D, 4D image reading capabilities for an additional Advanced User
1	**syngo Dual Energy #MM** The syngo(r) Dual Energy option allows the initial evaluation of Dual Energy DICOM data. Requires the syngo Dual Energy Scan option. The resulting two data sets (80/140 kV or 100/140 kV) that contain diverse information can be reviewed with a generic viewer located on a dedicated syngo task card.
1	**syngo Dual Energy Advanced #MM** The syngo Dual Energy Advanced includes all Dual Energy Applications that are not available for syngo.via.
1	**Server HW Config XL** syngo.via server hardware configuration XL
1	**Software License Ext. Server HW XL** Mandatory license extension for embedded applications on Hardware systems with more than one CPU. Second CPU license.
1	**HP Care Pack. 5y 24x7 HW Support** HP Care Pack Services upgrade or extend the standard warranty with enhanced, customized on-site and remote support for hardware for 5 years.
1	**HP Rack 14 Units 19"** HP Rack Type Rittal for syngo(r).via server configurations. Physical Characteristics: Rack S10614
1	**UPS 100/110/120/127 V** Uninterruptible Power Supply for HP server with 3KVA capacity. The HP 3KVA UPS requires 2 units height in the rack.

Qty	Item Description
1	**Monitor for Administration** HP LCD monitor 20"for syngo.via administration.
1	**syngo MMWP Client #1** This is a syngo MultiModality Workplace advanced post-processing workstation, comprising Windows XP PC with syngo(r) base user software, syngo 3D, syngo Expert-i and monitor. The syngo MMWP Client workplace is already prepared for advanced 3D post-processing regarding hardware performance and graphics card. The software functionality can be extended to suit specific user clinical needs by adding optional cross-modality and modality-specific application modules.
1	**Modality Integration CT** Modality integration of the syngo MMWP Client with primary use CT.
1	**syngo Keyboard USA English** English (US) syngo(r) keyboard
1	**Basic Implementation Package** This Basic Implementation Package includes installation and integration services for syngo.via dedicated to one modality. This package includes professional services, such as: - Installation of the syngo.via server software - Installation of the syngo.via client software on one clinical user's computer for one user - Connection to up to 5 DICOM nodes - Configuration of basic syngo.via workflows and rules - Installation and integration of one syngo.via client workplace on one syngo MultiModality Workplace.
1	**Implementation without SRS** Implementation without Siemens Remote Services connection of the customer's syngo.via server systems to the Siemens Headquarters requires additional work for the Siemens Engineers. If no functional SRS connection is provided, as specified in the data sheet, additional work as well as travel expenses for implementation and troubleshooting during the implementation project will arise as a result.
1	**Server HW Installation Service** Basic installation service for the syngo.via server hardware with the operating system at the customer's site. Integration into the Local Area Network of the customer and to Siemens Remote Service over internet connection.
1	**MMWP Client HW Implemention Service** Implementation services for one syngo MultiModality Workplace include the tasks for installation, configuration and integration of one syngo MMWP 2010A (VE40A).
1	**VIA Govt Trng in Basic Imp** Per agreement, credit for initial training in Basic Implementation 14412662
1	**VIA Govt Server HW Install** Per agreement, credit for syngo.via hardware installation by 3rd party integrator 14412656
1	**Apps Training and Basic Config 1day** Apps Training and Basic Config 1day On-Site Application Training - targeted to give the user a solid base for understanding and applying syngo.via workflows and to operate the system within the clinical routine. The training is focused on three key users which have to be selected.
1	**syngo.via for Clinical Administrators**
1	**Virtual syngo.via IT Admin Training**
1	**G syngo.via CT Cl Eng Classroom (No T&L)** Tuition for (1) government attendee to attend a Classroom Course of choice at one of the Siemens training centers. This educational offering must be completed (12) months from install end date. If training is not completed within the applicable time period, Siemens obligation to provide the training will expire without refund.

Qty	Item Description
1	**CT with syngo.via purchase** CT with syngo.via (identifier)
1	**CT Project Management** A Siemens Project Manager (PM) will be the single point of contact for the implementation of your Siemen's equipment. The assigned PM will work with the customer's facilities management, architect or building contractor to assist you in ensuring that your site is ready for installation. Your PM will provide initial and final drawings and will coordinate the scheduling of the equipment, installation, and rigging, as well as the initiation of on-site clinical education.
1	**CT Standard Rigging and Installation** This quotation includes standard rigging and installation of your CT new system. Standard rigging into a room with reasonable access, as determined by Siemens Project Management, during standard working hours (Mon. - Fri./ 8 a.m. to 5 p.m.) It remains the responsibility of the Customer to prepare the room in accordance with the SIEMENS planning documents. Any special rigging requirements (Crane, stairs, etc.) and/or special site requirements (e.g. removal of existing systems, etc.) is an incremental cost and the responsibility of the Customer. All other "out of scope" charges (not covered by the standard rigging and installation) will be identified during the site assessment and remain the responsibility of the Customer.
1	**Initial onsite training 32 hrs** Up to (32) hours of on-site clinical education training, scheduled consecutively (Monday - Friday) during standard business hours for a maximum of (4) imaging professionals. Training will cover agenda items on the ASRT approved checklist. Uptime Clinical Education phone support is provided during the warranty period for specified posted hours. This educational offering must be completed (12) months from install end date. If training is not completed within the applicable time period, Siemens obligation to provide the training will expire without refund.
1	**Initial onsite training 32 hrs GovOffset**
1	**Additional onsite training 32 hours** Up to (32) hours of on-site clinical education training, scheduled consecutively (Monday - Friday) during standard business hours for a maximum of (4) imaging professionals. Training will cover agenda items on the ASRT approved checklist if applicable. This educational offering must be completed (12) months from install end date. If training is not completed within the applicable time period, Siemens obligation to provide the training will expire without refund.
1	**Flash Elevate R 40 64 Bonus**
1	**Stellant Dual Flow CT Inj.(Ceiling-long)**
1	**Surge Protective Device (SPD)**
1	**Riedel Chiller Start-up by SBT**
1	**Low Contrast CT Phantom & Holder**
1	**One complimentary biomedical tuition is included with the purchase of this system. This training must be completed before the end of the warranty period.**
1	**TWO SETS OF SERVICE AND OPERATORS MANUALS**
1	**Offset One Additional onsite training 32 hrs**
1	**Elevate Standard Deinstallation**

Detailed Technical Specifications

SOMATOM Definition Flash

/ Product	Description
SOMATOM Definition Flash	The SOMATOM Definition Flash is Siemens' state-of-the-art high-end Dual Source CT that provides the possibility to scan with Flash speed for lowest dose. The SOMATOM Definition Flash is founded on the two highly integrated Siemens' Stellar Hardware Detector systems, with two revolutionary STRATON X-ray sources, the Flash Spiral scanning up to 450 mm/s, the z-Sharp Technology, Dual Energy with Selective Photon Shield and a range of proven CARE solutions from X-CARE to the Adaptive Dose Shield. Using Siemens' z-Sharp technology the SOMATOM Definition Flash can provide the fastest sub-millimeter volume coverage at industry's highest spatial resolution. The high rotation time of 0.28 seconds delivers excellent temporal resolution up to 75 ms independent from the heart rate. The SOMATOM Definition Flash opens a door to new levels of patient friendliness with the speed to cover the entire thorax in less than a second - if necessary even without a breath hold. A whole-body scan requires only five seconds, while for perfusion or dynamic vascular imaging long-range scans become routine and pediatric scans become sub-second procedures. Your patients will be off the table faster than ever before - with positive feelings about their scan experience. Flash is also the solution for scanning your most difficult patients (i.e. obese and trauma patients, restless children, patients who cannot hold their breath for long), thus causing no time-consuming interruptions in your daily practice. And now Siemens is once again redefining speed: the new SOMATOM Definition Flash, with the new FAST CARE technology platform, allows you to maximize clinical out comes - meaning you will have the best possible clinical results, but with significantly less resources bound to the CT

/ Product	Description
(Continued) **SOMATOM Definition Flash**	system. The ultimate goal is to provide you with more time for patients and diagnosis - in effect, patient-centric productivity. The complete examination - from scan preparation, scanning, reconstruction, and data assessment - is streamlined, leading to a fast and reliable diagnosis with less patient burden. Ultimately, the combination of highest image quality and highest patient-centric productivity is the lever to maximizing your clinical outcomes. Maybe even more important - and impressive - is the significant reduction in dose which allows e.g. for sub-mSv scanning in case of cardiac imaging Furthermore, the second generation of dual source systems also enables the user to acquire Dual Energy data and benefit from Dual Energy post processing without compromising image quality or dose. Due to the introduction of the selective photon shield and the latest technical improvements each scan on the Flash can now become a Dual Energy scan. At the same time, X-CARE protects individual organs and the most radiation-sensitive body regions - for example, female breasts - by accurately and efficiently minimizing exposure while preserving image quality. With the new SOMATOM Definition Flash with FAST CARE, Siemens introduces several innovative Combined Applications to Reduce Exposure (CARE). CARE kV, for instance, is the industry's first tool that automatically solves the complex equation for optimal image quality at lowest possible dose for each individual CT exam while considering tube voltage, tube current, and contrast changes at different voltages and attenuation. This allows you to benefit from the industry's widest tube voltage range - not only 140 kV for bariatric imaging but now, if necessary, also down to 70 kV for new safety and image quality standards in pediatric imaging. Add SAFIRE, the first, raw-data-based iterative reconstruction (with an FDA approved dose saving potential from 54 - 60%), and define low dose for all body regions to take best care of your patients' well-being. **The SOMATOM Definition Flash** System Overview - Definition Flash Gantry The SOMATOM Definition Flash gantry is founded on two highly integrated Siemens' Stellar Hardware Detector systems, with two revolutionary STRATON X-ray sources, the Flash Spiral scanning up to 450 mm/s, the z-Sharp Technology, Dual Energy with Selective Photon Shield and a range of proven CARE solutions from the Adaptive Dose Shield to X-CARE. The 78 cm large bore, the 200 cm scan range - with patient weight up to 307 kg (676 lbs) (opt.) - and the 200 kW generator power, it can scan most acute patients independent of size or condition, helping to save precious time from scan to diagnosis. It's Ultrafast rotation time of 0.28 sec. (optional) leads to acquired (not reconstructed) 75 ms temporal resolution to freeze any cardiac motion even in high and irregular heart rates. The optional Dual Source Flash Spiral mode acquisition of 2 x 128 x 0.6 mm allows for increased scan speed up to 450 mm/s e.g. for pediatric head or chest CT scans without the need of sedation or routine sub-mSv heart examinations in patients with stable/low heart rate and a weight of up to 90kg. - Straton MX-P tubes with z-Sharp Technology The two STRATON sources provide direct oil cooling of the anode, eliminating the need for heat storage capacity (0 MHU). The resulting small and compact design (120 mm diameter) enables an unprecedented cooling rate of 7.3 MHU/min as well as the reliable performance when operating two x-ray sources at an ultrafast rotation time of 0.28 sec. Utilizing the Flash Spiral scanning technology in combination with Siemens' own z-Sharp Technology it routinely enables the industry's highest isotropic, scan field position and pitch independent spatial resolution. This allows a highly beneficial combination of exceptional image detail and unmatched sub-millimeter volume coverage of 450 mm/sec enabling whole body examinations within sub-seconds and seconds, even without the need for breath hold - adapting to challenging patients such as poly-trauma and incautious or uncooperative patients, leading to an improvement in image quality (e.g. minimized motion artifacts) and patient comfort (e.g. no breath hold, no sedation in pediatric patients). In addition, the STRATON Tubes are equipped with the Adaptive Dose Shields world's first dynamic tube collimation that protects the patient from clinically irrelevant radiation in every spiral scan. - Stellar detector The revolutionary Stellar Detector, the first fully-integrated detector, is designed to minimize electronic noise using Siemens' innovative TrueSignal Technology. It thus significantly improves the signal-to-

/ Product	Description
(Continued) **SOMATOM Definition Flash**	noise-ratio (SNR). In combination with Siemens' propriatary UFC (Ultra Fast Ceramics) scintilator the SOMATOM Definition Flash acquires 2 x 128 slices per rotation at outstanding dose efficiency. Herein the new Stellar detector hardware minimizes electronic noise (~20-30%) and cross-talk, through its TrueSignal Technology. By further applying Edge Technology the spatial resolution can now be increased to an unprecedented 0.30 mm in daily clinical routine, which makes it finally suitable for clinical practice as the signal-to-noise ratio is adequate without an additional increase in dose. In combination with z-UHR (optional), it delivers a spatial resolution of 0.24 mm voxel size, allowing to visualize extremely small anatomical structures with exceptional quality, for example the complex inner-ear bones, outstanding fine details of the coronary tree or intracranial, pulmonary, mesenteric, renal and peripheral vessels. It also helps to perform accurate stenosis measurements or stent planning with outstanding precision. - Power Generator The generator power of up to 2 x 100 kW delivers sufficient resources for every clinical challenge and thus helps to acquire exceptional image quality and save precious time from scan to diagnosis. - Patient table The patient table with a scan range of up to 200 cm and a load capacity of up to 307 kg / 676 lbs. (optional) in combination with the 78 cm gantry diameter of the SOMATOM Definition Flash virtually adapts to any patient independent of size or condition thus avoiding patient exclusions. - FAST CARE With the introduction of Siemens' unique FAST CARE platform, the SOMATOM Definition Flash is set to raise the standard of patient-centric productivity. Utilizing FAST - Fully Assisting Scanner Technologies - , typically time-consuming and complex procedures during the scan process are extremely simplified and automated, not only improving workflow efficiency, but optimizing the overall clinical outcome by creating reproducible results, making diagnosis more reliable and reducing patient burden through streamlined examinations. For example FAST Spine automatically labels all vertebrae and discs after the data acquisition and prepares typical reconstruction ranges to up to 30 minutes in spine examinations. - Low Dose with CARE Siemens has developed many significant products and protocols that follow the “As Low as Reasonably Achievable” (ALARA) principle to reduce radiation dose to the lowest possible level. This desire for as little radiation exposure as possible lies at the heart of our CARE - Combined Applications to Reduce Exposure - research and development philosophy. The SOMATOM Definition Flash consequently offers a unique portfolio of dose saving features; many of them being industry's first like the Adaptive Dose Shield, CARE kV or 70kV scan modes. Using Siemens' CARE solutions radiation dose can be significantly reduced compared to conventional CT systems. Clinical Applications The SOMATOM Definition Flash introduces the second generation of Siemens Dual Energy imaging, proven by more than 900 installations worldwide and a wide range of clinical publications. With the all-new Selective Photon Shield and a 25% larger field of view (500 mm FOV visual, 330 mm full Dual Energy FOV), it offers up to 80% increased energy separation and 80/140 kV as well as 100/140 kV modes to adjust even for larger patients, all the while the additional diagnostic information of Dual Energy is available without additional dose (see SOMATOM Flash data sheet; publication list). Adaptive 4D Spiral Plus With its unique Adaptive 4D Spiral Plus scan mode (optional) the SOMATOM Definition Flash overcomes the coverage limitations in dynamic CT imaging when using a static detector and allows for up to 48 cm or 18.89“ coverage in dynamic CT imaging. It even enables for 4D CT DSA evaluation. 3D Interventional Suite In addition the SOMATOM Definition Flash optionally offers a built in 3D minimal invasive suite, enabling 3D guided interventions with full control of the radiologist due to the all new wireless in-room control. Neuro BestContrast

/ Product	Description
(Continued) **SOMATOM Definition Flash**	Neuro head image quality is significantly improved with Neuro BestContrast, by optimizing grey/white matter differentiation without increase in radiation dose. HeartView Flash With the HeartView CT option the SOMATOM Definition Flash achieves the industries lowest heart rate independent temporal resolution of 75 ms. It allows to reliably scan all heart rates - even highest and irregular heart rates (atrial fibrillation), e.g. in acute chest pain evaluation, in coronary visualization, dynamic myocardial stress perfusion imaging and in functional analysis of the heart. Heart Perfusion (dynamic, stress, quantitative) The optional Heart Perfusion mode, for quantitative, dynamic myocardial stress perfusion imaging, is a sequence shuttle mode to dynamically cover up to approximately twice the detector width for myocardial perfusion studies with sufficient temporal resolution of 75 ms even for high heart rates. For a heart rate of 63 beats per minute or less every single heartbeat and for a heart rate of greater than 63 beats per minute every second heartbeat, images were acquired. This it provides sufficient temporal resolution even for high heart rates. **SOMATOM Definition Flash** System specification in detail **1. System Gantry and Detector:** Aperture: 78 cm; power supplied via low-voltage slip ring. Patient Table: Standard table (200 cm) or Multi-purpose table (opt.) are available. The standard table consists of: - Motor-driven table height adjustment from min. 48 cm to max. 92 cm - longitudinal movement of the tabletop 200 cm in increments of 0.5 mm, positioning accuracy +/- 0.25 mm from any direction - Horizontal scan range 200 cm - Control elements on both sides on the front and rear panel of the gantry - Table height can be controlled alternatively by means of foot switch (2 each on both sides of the patient table) - Max. table load: 227 kg/500 lbs (optional 307kg/676lbs) - Table feed speed: 2-458 mm/s - Distance between gantry front and table base 40 cm, e.g. for convenient positioning of a mobile C-arm between gantry and table or for convenient access during CT-intervention. - Positioning aids: Positioning mattress, mattress protector, head-arm support (inclusive cushion), non-tiltable and tiltable head holders with positioning cushion set, patient restraining system for head fixation, restraining-strap set with body fixation strap that can be directly connected to the patient table top, headrest, table extension with positioning mattress, knee-leg support - 4 pairs of optional Foot Pedals, available for high capacity table, conveniently allow table lifting and lowering from various positions - Optional Multi-purpose table: Additional exchangeable table tops for High-capacity patient and trauma table top; RTP table top - In the case of emergency stop or power failure, the tabletop can also be moved manually in horizontal direction Scanning system: Adaptive Array Detector (AAD) systems based on UFC (ultra fast ceramics) with 47,104 elements for measurement system A and 30,720 for system B. 2 x 128 detector electronic channels (DAS) utilized for up to 2 x 128 slices/rotation acquisition, and 1,472 for measurement system A and 960 for system B, measuring channels per slice (The measuring system can contain replacement components). In cases of very low signal at the detector (e.g. when scanning bariatric patients), the Adaptive Signal Boost improves image quality by amplifying individual pixels based on an analysis of the surrounding image data. It reduces streaks and noise and maintains the correct HU values for large patients. Spiral acquisition modes: 128 x 0.6 mm, 64 x 0.6 mm, 40 x 0.6 mm, 32 x 0.6 mm, 20 x 0.6 mm, 10 x 0.6 mm, 32 x 1.2 mm, 16 x 0.3 mm*, 8 x 0.3 mm*, 16 x 0.6 mm*, 8 x 0.6 mm*.

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(Continued) **SOMATOM Definition Flash**	Sequence acquisition modes 64 x 0.6 mm, 32 x 0.6 mm, 32 x 1.2 mm, 12 x 1.2 mm, 1 x 5 mm, 1 x 10 mm, 8 x 0.3 mm*, 8 x 0.6 mm* (* optional). The scan field diameter is 50 cm. Three laser light markers: Horizontal, sagital, and vertical laser light that shows the isocenter position of the scan plane. **2. Tube Assembly:** Source: The two STRATON sources provide direct oil cooling of the anode, eliminating the need for heat storage capacity (0 MHU). The resulting small and compact design (120 mm diameter) enables an unprecedented cooling rate of 7.3 MHU/min as well as the reliable performance when operating two x-ray sources at an ultrafast rotation time of 0.28 sec. - 2 x STRATON high performance X-ray source - Tube current range: Single source 20-800 mA - Dual Source 40-1600 mA - Tube anode heat storage capacity 0 MHU - Cooling rate 7.3 MHU/min (5,400 kJ/min) - Focal spot size according to IEC 60336: 0.7 x 0.7 mm/7°, 0.9 x 1.1 mm/7° - Computer controlled monitoring of anode temperature - Multifan principle with flying focal spot - 2 x Adaptive Dose Shields **3. z-Sharp Technology:** The unique STRATON X-ray source with z-Sharp Technology utilizes an electron beam that is accurately and rapidly deflected, creating two precise focal spots alternating 4,608 times per second. This doubles the X-ray projections reaching each detector element. The two overlapping projections result in an oversampling in z-direction. The resulting measurements interleave half a detector slice width, doubling the scan information without a corresponding increase in dose. Siemens' Stellar Detector hardware and the highly integrated 2 x 128-slice detector electronics enable a virtually simultaneous readout of two projections for each detector element - 2 x 2 x 64 slices for every viewing angle - resulting in a full 2 x 128-slice acquisition. z-Sharp Technology, utilizing the STRATON X-ray sources and the Stellar Detector hardware, provides scan speed independent visualization of 0.33 mm isotropic voxels and a corresponding elimination of spiral artifacts in the daily clinical routine at any position within the scan field. - 2 x 128-slice acquisition with z-Sharp technology - Industry's highest isotropic and scan field position independent spatial resolution of 0.33 mm voxel size - Visualization of the smallest anatomical structures with exceptional image quality in complex inner-ear bones or small sized vessels such as the intracranial, mesenterical and coronary system. Based on that accurate stenosis measurements or stent planning with outstanding precision are enabled. **4. High Power X-ray Generator:** 2 microprocessor-controlled, low-noise high-frequency generators with integrated, automatic self-testing system for continuous monitoring of operation. Settings: High-voltage range 70, 80, 100, 120 and 140 kV; power max. 2 x 100 kW (depends on clinic network) - for no compromises in obese imaging - adjustable in fine steps. The kV Steps are automatically selected through CARE kV based on patient body habitus and examination type for lowest possible dose at constant signal to noise ratio (image quality). **5. Control and Evaluation Unit:** Control box: CT control with patient intercom, user-recordable patient instruction system, 30 automatic patient instruction (API) text pairs are available in nine languages. *syngo* Acquisition Workplace: The *syngo* Acquisition Workplace provides an intelligent and reliable workflow for data acquisition, image reconstruction and routine post-processing at the CT scanner. Built on the unique *syngo* platform, the *syngo* Acquisition Workplace is intuitive and user friendly. Computer system: High-performance computer with 1x Xeon QC6700, 2.66GHz, NVIDIA Quadro FX1700 DVI graphics card for fast 3D post-processing. High resolution, flicker free, 19-inch (48 cm) color flat panel display for medical diagnostic applications combining

/ Product	Description
(Continued) **8 SOMATOM Definition Flash**	the demanding requirements of medical imaging with the advantages of liquid crystal displays. This display provides a resolution of 1280 x 1024 and has a wide viewing angle, features high contrast even under high ambient light conditions. Display light output stability is ensured by controlled backlight throughout the whole lifetime. Keyboard and mouse, 8 Gbyte RAM, 2 x 146 Gbyte image storage for 260,000 uncompressed images, CD-R 700 MB for 1,100 images. DVD DICOM with 4.7 GB media for 8,400 images. External USB 2.0 devices for data storage are supported (recommended: Iomega 160 Gbyte External Hard Drive Hi-Speed USB 2.0; Maxtor One Touch 160 Gbyte External Hard Drive). **6. CT Image Computer System:** Reconstruction computer for the preprocessing and reconstruction of the CT raw data. The reconstruction computer contains of a cluster of 2,2 GHz dual kernel high-performance processors performing the preprocessing and reconstruction of the CT data with up to 50 images per second. Recon time (512 x 512 matrix) up to 60 fps with weighted filtered 3D back projection (WFBP) and z-Sharp technology at full image quality. Up to 20 fps with WFBP and iterative reconstruction (SAFIRE) with z-Sharp technology at full image quality. The raw data memory is 3.8 Tbyte. External USB 2.0 disks for quick and easy raw data storage are supported Reconstruction fields of 5 cm to 50 cm through raw data zoom with the possibility of freely selecting the image center either prospectively before each scan or retrospectively. Reconstructions of different slice thicknesses from a single raw data record, e.g. lung soft tissue and lung high-contrast with CombiScan, with simultaneous suppression of partial volume artifacts. Up to 8 reconstructions per scan range can be predefined with the examination protocol. Patient-related storage of the image and raw data. Image display: 1024 x 1024 display matrix; screen splitting configurable up to 64 image segments. CT value scale from -1024 to +3071 HU. For very dense objects, the CT value scale can be extended from -10240 to +30710 HU (extended CT scale) e.g. for suppressing metal artifacts.10,000 pre definable examination protocols **7. Cooling System:** Gantry is cooled with a water/water cooling system. An optional split cooling (water/air) is available to reduce reconstruction efforts and costs. System operating temperature: 18-28°C, 20 - 75 % rel. air humidity (not condensing). **8. *syngo* User Software:** *syngo* features an intuitive and thus easy-to-learn user interface developed from prototypes in close cooperation with users. *syngo* visualizes the examination in individual process steps on so-called task cards, such as patient registration or examination card. A large number of functions and input parameters as well as the language used can be selected according to individual requirements. Frequently repeated processes can be automated and saved. Patient registration: The system can accept patient data in different ways. These include entering the data via keyboard or transfer of a work list via network. DICOM work list: Software module for accepting lists of patient data and exam requirements from a Radiology Information Systems (RIS) via DICOM Get Work list functionality. The program enables very efficient working and ensures consistent patient data. In emergency cases, fast registration is possible. Here the system automatically assigns an emergency number which can later be replaced by the actual patient number. The input profile can be designed individually. Examination card: The SOMATOM Definition Flash is delivered with a large number of predefined examination protocols (e.g. for pediatric applications), making examination planning a very fast and efficient procedure. Example: A three-phase examination of the liver available as independent protocol only needs to be adapted to the patient's individual situation. Each examination is represented pictorially as a so-called "chronicle", which views the individual phases of the examination separately. This has the advantage that the individual phases of the examination can be accessed quickly and selectively and changes to the protocol can be made easily in graphical mode via drag-and-drop using the mouse. With a so-called routine window, it is possible to adapt individual examination parameters, representing a submenu of the essential parameters and giving information at a glance about the parameterization of the examination. Viewing card: On the viewing card it is possible to move interactively with the mouse through the image volume of the ongoing examination. The images of different examinations can be displayed simultaneously for comparison. A large number of functions are available for evaluation, documentation and archiving.

/ Product	Description
(Continued) **SOMATOM Definition Flash**	Filming card: A virtual film sheet shows a 1:1 display of the film sheets to be printed out, thus enabling an effective preview of filming jobs and rewindowing of the images, as well as providing a large number of evaluation functions. Layout changes are possible interactively with up to 64 images. The printout parameters for the autofilming process running in parallel to acquisition or reconstruction are also defined with the filming card. Freely selectable positioning of images onto film sheet, configurable image text. 3D card: Secondary reconstruction calculation: Real-time MPR for real-time reformatting of secondary reconstructions. Slice orientation: coronary, sagital, oblique and double-oblique. Secondary reconstructions can be determined from the topogram, other MPR views or from a 3D surface reconstruction. Reconstruction with selectable slice thickness. WorkStream4D with Asynchronous Recon: *syngo* Workstream 4D, the standardized workflow guide for confident patient management. Up to 8 pre definable axial, coronal, sagittal and oblique MPR and MIP up to sub mm recon jobs possible. The Asynchronous Recon allows for multiple image reconstructions and reformats, parallel to scanning. With this feature, up to eight reconstruction job requests can be loaded into a scan protocol. Immediately upon completion of the scan acquisition, these reconstruction jobs are automatically executed in the background without delaying the start of next patient examination. WorkStream4D eliminates manual reconstruction steps and reduces the data volume up to a factor of 10, since virtually all diagnostic information is captured in 3D slices. CT Angio: Software for the reconstruction of angular projections from the images of a spiral data record for the display and diagnosis e.g. of aneurysms, plaques, stenoses, vascular anomalies or vascular origins. MIP: Maximum Intensity Projection, MinIP: Minimum Intensity Projection and Thin MIP available. Interfering or irrelevant parts of the image can be eliminated with the integrated volume editor. The angular projections are reconstructed around a definable axis, whereby the maximum CT values in this direction are selected for each angular projection. The resulting images can be viewed with the CINE function as a series of images with a 3D image effect. 3D Display: Software for the three-dimensional display of surfaces of a body region from a series of continuous slices, for display and analysis of complex anatomies, e.g. the visceral cranium, pelvis, hips, for the purpose of planning surgical interventions. The 3D objects can be tilted and rotated interactively on the monitor and can also be displayed in relation to multiplanar reconstruction (MPR). Volume card: Volume scans of tissues and organs, based on a "region-growing" algorithm and interactive ROI definition. DynEva card: Software for dynamic evaluation of the contrast enhancement in organs and types of tissues, enabling the reconstruction of - Time-density curves (up to 5 ROIs) - Peak-enhancement images - Time-to-peak images. Video Capture and Editing Tool: Software contains 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 is supported, e.g. AVI, Flash (SWF), GIF, QuickTime (MOV), streaming video. Additional task cards available as an option. **9. Examination and Evaluation Functions:** Topogram: scanning perspectives: a.p., p.a., lat.; length of scan field: 128 - 2000 mm; width of scan field: 512 mm, 2.0 - 21 s. The topogram can be switched off manually when the desired examination length is reached. Scan field size: 50 cm. Rotation times (360°): 0.28 s (opt.), 0.33, 0.5, 1.0 s. Slice thickness in sequence: 0.4 (z-UHR*), 0.5 (z-UHR*), 0.5, 0.6, 0.75, 1.0, 1.2, 1.5, 2.0, 2.4, 3.0, 4.0, 4.8, 5.0, 6.0, 7.0, 7.2, 8.0, 10.0, 14.4, 15.0, 20.0 mm (* optional). The Dynamic Multiscan allows continuous sequence scanning without table movement for fast dynamic contrast studies with maximum slice thickness of 38.4 mm. Scan times (full scan) 0.28 (opt.), 0.33, 0.5, 1.0 s. Slice thickness in spiral: 0.4 (z-UHR*), 0.5 (z-UHR*), 0.5 ,0.6, 0.75, 1.0, 1.5, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 10.0 mm (* optional) real-time image display. Real-time image display for immediate image preview when every second counts. Immediate image reconstruction

. / Product	Description
(Continued) **SOMATOM Definition Flash**	and display without time delay simultaneously to data acquisition in 512 x 512 matrix size. Spiral Scanning technique for continuous volume scans with continuous table feed in multirotation mode possible. Max. scan time 100 seconds with full low-contrast resolution. Volume length 197 cm with full low-contrast resolution (max. 200 cm scan range possible using multiple automatic ranges). Selection of the pitch factor between 0.35 and 3.4 depending on scan mode. Selection of up to 33 free definable scan ranges per protocol and individual anatomic sections can be successively combined and then scanned automatically. In addition individual anatomic sections can be successively combined and then scanned automatically. Storage of up to 10,000 examination protocols. Rotation times/cycle (360°): 0.28 s (opt.), 0.33, 0.5, 1.0 s. Dynamic Multiscan spiral examination without table feed: Continuous multirotational data acquisition in one slice position with up to 100 scans in uninterrupted, continuous sequence without table feed. Scan cycle time: 0.75 - 60 seconds with quantitative evaluation and graphical display of time-density curves. Adaptive 4D Spiral Plus (optional): Continuous multirotational data acquisition with continuous smooth bi-directional table movement for quantitative evaluation and graphical display of time-density curves over entire organs. It facilitates volume perfusion studies in head (Stroke) and body applications (e.g. liver, kidneys, etc.) for a perfusion range of up to 14 cm/5.51”. Moreover it allows dynamic studies up to a scan range of 48.0 cm/18.9”, e.g. after aortic stent graft operation or for dynamic vascular (filling) studies of the peripheral vessels. The intelligent algorithm Neuro BestContrast improves native head image quality especially grey/white matter differentiation. Images are decomposed into high and medium/low spatial frequencies. While relevant tissue information is contained in medium and low frequencies noise is dominated by high frequencies. Separate processing of medium and low frequency information improves the tissue contrast without amplifying image noise resulting in a better signal to noise ratio. Image reconstruction and storage: Image reconstruction in full resolution (512 x 512 matrix) takes place during the examination with up to 60 images per second, with full cone beam reconstruction, z-Sharp Technology and full image quality. Reconstruction fields of 5 cm to 50 cm through raw data zoom with the possibility of freely selecting the image center either prospectively before each scan or retrospectively. Reconstructions of different slice thicknesses from a single raw data record, e.g. lung soft tissue and lung high-contrast with CombiScan, with simultaneous suppression of partial volume artifacts. Up to 8 reconstructions per scan range can be predefined with the examination protocol. Patient-related storage of the image and raw data. Image display: 1024 x 1024 display matrix; screen splitting configurable up to 64 image segments; CT value scale from -1024 to +3071 HU. For very dense objects, the CT value scale can be extended from -10240 to +30710 HU (extended CT scale) e.g. for suppressing metal artifacts. Image evaluation: Complete software-controlled image evaluation program for all diagnostic requirements. CINE Display: Dynamic display technique for the visualization of time or volume series. A series of up to 1024 images can be displayed at a frame rate of at least 30 f/s. Automatic or interactive mouse-operated control. Multitasking functions: Simultaneous processing during operation of the scanner. Real-time Display: Image reconstruction in pace with the examination in full image quality (512 x 512 matrix) with up to 40 images/second (with full cone beam reconstruction and z-Sharp Technology). Metro Display: Simultaneous display, processing and evaluation of images from other patients while the current patient is being scanned. Metro Documentation: Simultaneous documentation of images from any previously examined patient while the current patient is being scanned. Metro Copy: Automatic transfer of image data to the *syngo* CT Workplace (optional) or a DICOM network node. **10. Network Module:** For the connection to a local Ethernet (10, 100 Mbit or 1-Gigabit) in order to communicate with networked printers, diagnostic and therapy workstations, RIS or HIS systems and teleradiology routers. Scope of functions: - Configurable network stations. - Unlimited selection of stations. - DICOM Standard (Digital Imaging and Communications in Medicine) for the transfer of information between

. / Product	Description
(Continued) **SOMATOM Definition Flash**	DICOM-compatible units from different manufacturers. The scope of functions is described in detail in the DICOM Conformance Statement, and the standard version comprises the functions Send/Receive, Query/Retrieve and BasicPrint, Work list, Storage Commitment, MPPS (Modality Performed Procedure Step). **11. Integrated CARE Solutions:** 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. Adaptive Dose Shield: world's first dynamic tube collimation that protects the patient from clinically irrelevant radiation in every spiral scan. Adaptive Dose Shield Both tubes are equipped with an Adaptive Dose Shield and X-CARE allows to reduce direct peripheral exposure in Spiral CT for the most dose-sensitive body regions by up to 40% while preserving constant high image quality e.g. the ovary/breast during a chest CT exam or the eye lenses during neuro CT exams. X-CARE: Partial scanning to reduce direct X-ray exposure for the most dose-sensitive body regions, e.g. the breasts, thyroid gland or eye lens. Flash Spiral scanning: Ultra-fast spiral scanning in Dual Source mode with up to 450 mm/s, allows for additional dose saving especially in ECG-triggered scans*, e.g., cardiac or chest scanning (* optional) CARE Dose4D uses at first an automated adjustment of the dose level depending on patient size based on the attenuation values obtained from the standard (singular) topogram along the patient z axis. In addition CARE Dose4D uses a real-time adaptation of the tube current during the scan based on the actual attenuation of the X-ray beam measured around the patient. It delivers significant x-ray dose reduction (up to 68 %) possible for all body regions scanned compared with standard sequence or spiral scanning; Up to 2,320 projections are evaluated per second to optimize the mA level instantaneously. In combination with the extreme adjustment speed of the tube current, CARE Dose4D ensures consistent high quality images in every anatomical position. Thinner axial slices and/or longer scan ranges become possible because of reduced tube loading; It also enables ultra-low dose examinations for pediatric patients. CARE Filter: Specially designed X-ray exposure bow-tie filter installed at the tube collimator. Up to 25% dose reduction with increased image quality. Additional protocol dependent bow-tie filtration e.g. cardiac and pediatric body protocols. CARE kV First automated, exam-specific voltage setting to optimize contrast-to-noise-ratio and significantly reduce dose. Pediatric Protocols: Special examination protocols with 80 kV and a large range of adjustable mAs values for optimum adaptation of the radiation exposure to the age and weight of the child to be examined. CARE Topo: Real-time topogram, Manual interruption possible once desired anatomy has been imaged. CARE Bolus: Operating mode for CM-enhancement triggered data acquisition. The objective is optimum utilization of the contrast medium bolus in its "plateau" phase in the target organ. This option has been especially adapted to the increased speed and timing requirements resulting from the multirow capability and faster rotation. The CM enhancement is observed via monitoring scans in a user-defined ROI with a trigger threshold. As soon as the enhancement reaches its predefined threshold, the spiral scan is triggered as quickly as possible. License for software use on one modality. **12. Siemens Remote Service:** Siemens Remote Service (SRS) offers a wide range of medical equipment-related remote services resulting in increased system availability and efficiency. SRS employs sophisticated authentication and authorization procedures, state-of-the-art encryption technologies and logging routines together with strictly enforced organizational measures that provide optimal patient data security and access protection. The following SRS services are included for all service agreement customers and during warranty period: Remote Diagnosis & Repair: In case of an unforeseen system malfunction, Siemens competent experts may directly connect with the CT system in order to identify the problem quickly. Moreover the remote repair function enables Siemens to often correct software errors immediately. Should an engineer on site be required, Remote Diagnosis & Repair allows Siemens to identify defective parts efficiently and accelerate their delivery, thereby keeping repair times to a minimum. Event Monitoring: Event Monitoring screens the performance of the system. If a parameter deviates from a predefined value, a status message is automatically sent to the Siemens UPTIME Service Center. Service

/ Product	Description
(Continued) **8** **SOMATOM Definition Flash**	Engineers may evaluate the status message at periodic intervals and may initiate appropriate action within the scope of the service agreement. SOMATOM LifeNet: An information and service portal directly at the CT Scanner consoles, featuring up to date information on CT products, application guides, accessories and training schedules as well as download of the latest scan protocols and 90 day free trial licenses on available software applications. Notes on software use: Use of the entire integrated software, including optional software programs, is restricted exclusively to the application with this system. Note: This product is in compliance with IEC60601-1-2 and fulfills CISPR 11 Class A. Note: In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures. **13. The Welcome Package** The package contains a welcome letter, three current versions of the customer magazine SOMATOM Sessions, CARE Analytics CD (dose analysis and evaluation software), three Siemens Mouse Pads, pens and an e-Learning CD
SAFIRE #AWP	Dose reduction with CT has been limited by the currently used filtered back projection (FBP) reconstruction algorithm. When using this conventional reconstruction of acquired raw data into image data, a trade-off between spatial resolution and image noise has to be considered. Higher spatial resolution increases the ability to see the smallest detail; however, it is directly correlated with increased image noise in standard filtered back projection reconstructions as they are used in CT scanners today. Iterative reconstruction approaches allow decoupling of spatial resolution and image noise. With the Sinogram Affirmed Iterative Reconstruction (SAFIRE), correction loops are introduced into the image generation process. These iteration loops utilize raw-data information to significantly improve image quality. Additionally, image noise is removed in the iterative corrections without degrading image sharpness. The noise texture of the images is comparable to standard well-established convolution kernels. The new technique results in a significantly superior image quality with reduced noise and increased image sharpness that can be translated to dose savings of up to 60%* for a wide range of clinical applications. *In clinical practice, the use of SAFIRE 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. The following test method was used to determine a 54 to 60% dose reduction when using the SAFIRE reconstruction software. Noise, CT numbers, homogeneity, low-contrast resolution and high contrast resolution were assessed in a Gammex 438 phantom. Low dose data reconstructed with SAFIRE showed the same image quality compared to full dose data based on this test. Data on file.
FAST CARE Platform	Siemens has always been at the forefront to deliver highest image quality and reduce radiation dose to the lowest possible level at the same time. But today, an additional barrier has to be mastered to maximize clinical outcome: overcome the growing restrictions and limitation of resources. With FAST CARE, Siemens opens a new chapter in CT, explicitly focusing on the optimization of patient-centric productivity in modern healthcare delivery. With FAST CARE, time-consuming and complex procedures such as scan or recon preparations are extremely simplified – ideally reduced to a single click. The scanning process gets more intuitive and the results become more reproducible. The FAST CARE platform consists the following features: FAST Scan Assistant: An intuitive user interface for solving conflicts by changing the scan time, resp. the pitch and/or the maximum tube current manually. CARE kV: First automated, organ-sensitive voltage setting to improve image quality and contrast-to-noise-ratio while optimizing dose and potentially reducing it by up to 60%. CARE Child: Dedicated pediatric CT imaging, including 70 kV scan modes and specific CARE Dose4D curves and protocols CARE Profile: Visualization of the dose distribution along the topogram prior to the scan CARE Dashboard: Visualization of activated dose reduction features and technologies for each scan range of an examination to analyze and manage the dose to be applied in the scan

/ Product	Description
(Continued) **FAST CARE Platform**	CARE Dose Configurator: Enhancement of Siemens‘ renowned real-time dose modulation CARE Dose4D, introducing new reference curves for each body region and for each body habitus allowing to adjust the configuration even more precisely to the patient‘s anatomy. Dose Notification: As requested by the new release of the standard IEC 60601 3rd editions, the SOMATOM Definition Flash provides the ability to set dose reference values (CTDIvol, DLP) for each scan range. If these reference values are exceeded the Dose Notification window informs the user. Dose Alert: As requested by the new release of the standard IEC 60601 3rd editions, the SOMATOM Definition Flash automatically adds up CTDIvol and DLP depending on z-position (scan axis). The Dose Alert window appears, if either of these cumulative values exceeds a user-defined threshold.
CARE Child	With Siemens’ unique STRATON tubes, the tube voltage can now be reduced to 70kV which helps to reduce radiation exposure to patients. With prior tube technology, the minimum tube voltage setting was 80 kV. The new tube voltage setting of 70 kV helps to further reduce the radiation dose to small pediatric or neonate patients. CARE Child consists of: - dedicated 70 kV scan modes - new CARE Dose4D curves for children - respective Children Protocol utilizing these features
FAST Advanced Package	The FAST Advanced Package consists the following features: FAST Planning: assists the scan and reconstruction planning, based on a topogram, to provide an easier, faster and standardized workflow in CT scanning. FAST Planning features the selection of the anatomical region of interest from a list prospectively defined scan and reconstruction ranges, automatic detection of the scan region(s) of interest and proposal of corresponding scan range(s) in the topogram (in a narrow or wide lateral FOV), optimized FOV and automatic iso-center adaptation for Head scans. FAST Spine: provides various modes that automatically create anatomically orientated spine reconstructions based on a 3D volume. It provides an easier, faster and standardized workflow in CT scanning. FAST Spine features automatic segmentation of the spinal canal, automatic labeling of the vertebrae, anatomically oriented slices – (orthogonal to the spinal canal), coronal and sagittal reconstructions which refer to the curvature of the spinal column and more. All modes offer the possibility to adapt the results manually. FAST Adjust: assists the user to handle system settings in a fast and easy way by automatically solving of conflicts within user defined limits by one single click on the FAST Adjust button. The limits for scan time and tube current per scan are defined via the Scan Protocol Assistant. FAST Adjust offers an undo functionality to return to previously set values. FAST Cardio Wizard: Intuitive guidance software, fully integrated in the cardiac workflow. It allows training the cardiac workflow and provides guidance and support during the examination. It is based on the latest cardiac application training material and provides helpful tips to avoid common problems and pit-falls. It features step-by-step on-screen instructions for various cardiac examinations. Text and images are delivered in a default setting based on Siemens’ latest application training, but are fully customizable by the user. The FAST Advance Package requires the FAST CARE Platform. FAST Spine requires Workstream 4D. FAST Cardio Wizard requires HeartView CT.
FAST Planning #AWP	FAST Planning assists the scan and reconstruction planning, based on a topogram, to provide an easier, faster and standardized workflow in CT scanning. FAST Planning features the selection of the anatomical region of interest from a list prospectively defined scan and reconstruction ranges, automatic detection of the scan region(s) of interest and proposal of corresponding scan range(s) in the topogram (in a narrow or wide lateral FOV), optimized FOV and automatic iso-center adaptation for Head scans.
FAST Spine #AWP	FAST Spine provides various modes that automatically create anatomically orientated spine reconstructions based on a 3D volume. It provides an easier, faster and standardized workflow in CT scanning. FAST Spine features automatic segmentation of the spinal canal, automatic labeling of the vertebrae, anatomically oriented slices –

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(Continued) **FAST Spine #AWP**	(orthogonal to the spinal canal), coronal and sagittal reconstructions which refer to the curvature of the spinal column and more. All modes offer the possibility to adapt the results manually. FAST Spine requires Workstream 4D.
FAST Cardio Wizard	FAST Wizard Cardio is intuitive guidance software, fully integrated in the cardiac workflow. It allows training the cardiac workflow and provides guidance and support during the examination. It is based on the latest cardiac application training material and provides helpful tips to avoid common problems and pit-falls. It features step-by-step on-screen instructions for various cardiac examinations. Text and images are delivered in a default setting based on Siemens' latest application training, but are fully customizable by the user. The FAST Cardio Wizard requires HeartView CT.
syngo Dual Energy Scan with SPS	The X-ray tube's kilo voltage (kV) determines the average energy level of the X-ray beam. Changing the kV setting results in an alteration of photon energy and a corresponding attenuation modification of the materials scanned. In other words, X-ray absorption is energy dependent, e.g. scanning an object with 80 kV results in a different attenuation than with 140 kV. In addition, this attenuation depends also on the type of tissue scanned. Iodine, for instance, has its maximum attenuation at low energy, while its CT-value is only about half in high-energy scans. The attenuation of bones, on the other hand, changes much less when exposed to low-energy scans compared to high-energy examinations. *syngo* Dual Energy Scan exploits this effect: Two X-ray sources running simultaneously at different energies (80/140 kV or 100/140 kV) acquire two spiral data sets showing different attenuation levels.
FAST DE (DE WorkStream 4D)	The Asynchronous Recon in FAST DE allows for multiple image reconstructions and reformats, parallel to Dual Energy scanning. With this feature reconstruction job requests can be directly loaded into a scan protocol. Immediately upon completion of the scan acquisition, these reconstruction jobs are automatically executed in the background without delaying the start of next patient examination.

CT Acute Care Engine @via#1	The **CT Acute Care Engine** permits access for one user for the following scan modes and software modules:
	
	Scanner Modes:
	
	- z-Sharp Technology ensures you the high spatial resolution required for exceptional visualization of the complex coronary and vascular anatomy.
	
	- Fastest rotation speed of 0.28 sec per rotation delivers the highest temporal resolution and fastest volume coverage.
	
	- Constant high temporal resolution of 75 ms to freeze any motion, which could lead to motion artifacts (e.g. cardiac motion).
	
	- **HeartView Flash** provides Siemens' proprietary FlashSpiral Cardio ECG-gated high pitch acquisition and reconstruction techniques for optimal image quality e.g. of patients with chest pain and high, irregular heart rates.
	
	- Fully integrated ECG device facilitates ECG gating and Adaptive ECG pulsing for maximum dose reduction.
	
	- ECG prospectively triggered **high-pitch FlashSpiral** scanning at highest volume coverage:
	  - for high speed whole body examinations up to 430 mm/s table feed
	  - for fast thorax scans visualizing the aorta and the coronaries in one scan at very low contrast dose (e.g. TAVI Planning)
	  - fast whole body scanning of patients who can not lie calm for longer time e.g. geriatric and pediatric patients (latter even w/o the need of sedation)
	  - for coronary CTA scanning of the heart in a quarter beat (250 ms) with a Dual Source acquisition mode at a temporal resolution of 75ms, acquired within a single diastolic phase (monophasic) allowing for lowest possible dose down to <1 mSv

/ Product	Description
(Continued) **CT Acute Care Engine @via#1**	- with split-second thorax imaging of heart, chest, or both, for ultra low-dose triple-rule-out examinations with temporal resolution of 75 ms - The Flash Cardio Sequence is an intelligently triggered sequence, fast enough (75 ms) to freeze the heart and robustly visualize the coronary arteries even at high and arrhythmic heart rates (Arrhythmia Compensation). It also introduces the Siemens-only, dual-step pulsing, with a low dose level during the systolic phase to calculate ejection fraction and a short peak for acquiring the data for coronary imaging. - Adaptive Dose Shield for spiral acquisition to eliminate pre- and post-spiral over-radiation. - Intuitive ECG editing tool allows adapting for extra beats in arrhythmic situations ensuring optimal retrospective image reconstruction. - *syngo* BestPhase, a software dedicated to automatically detect the optimal phase for motionless coronary visualization. The phase is defined in either end-systole, end-diastole or both time points and automatically reconstructed - The 4% **MinDose** algorithm lets the user save even more dose for coronary CT angiography. A special algorithm decreases tube current during ECG-Pulsing down to 4% of the tube output, thus decreasing dose about 30 - 50%, compared to conventional ECG scanning. Only in combination with ***syngo*.CT Cardiac Function** (part of CT Acute Care & Cardio-Vascular Engine) this data can be additionally used for full functional assessment over all cardiac phases. - DirectViewing is a tool for real time navigation through full volumes of up to 24 heart phases by using an integrated, fast 3D volume viewer. DirectViewing completes the workflow of Cardio BestPhase by giving you the flexibility to individually visualize phases for all coronary arteries. - CARE Dose4D delivers the highest possible image quality at the lowest possible dose for patients - maximum detail, minimum dose. - Extended FOV of 78 cm allows you to capture more information in just one exam, saving valuable time with emergency patients. - 200 cm scan range for full-body trauma imaging without compromise. - Fast and accurate visualization of complex neurological disorders of head, neck, and spine using dedicated X-ray filters, e.g. Posterior Fossa Optimization (PFO), image reconstruction, and beam hardening correction algorithms for artifact elimination. **Software Modules** - ***syngo*.CT CaScoring** is a workflow step that quantifies coronary calcifications (mass, volume, Agatston equivalent) and calculates the patients coronary age. During the evaluation, the patient's score is compared to the scores of a healthy reference group. Implemented large reference databases are: - MESA, McClelland, Circulation, 2006 (USA, 6,110 patients) Data support for different ethnic groups: Caucasian, Asian, Hispanic, etc. - Hoff, Am J Cardiol, 2001 (USA, 35,246 patients) - Rumberger, Mayo Clinic, Proc, 1999 (USA, 1,898 patients) - HNR, Schmermund, Atheroscl., 2006 (Germany, 4,275 patients) - Raggi, Circulation, 2000 (USA, 9,730 patients) - ***syngo*.CT Coronary Analysis** provides a cardiac-specific set of automatic pre-processing steps and display functions for quick and reliable evaluation and quantification of angiography images of the coronary arteries. With these features, the case is ready for review when first opened, thus saving many

. / Product	Description
(Continued) **CT Acute Care Engine @via#1**	manual workflow steps and bringing more efficiency into daily practice. The rule-out of coronary artery disease is possible in less than a minute. - Automatic segmentation and labeling of the main coronary arteries (RCA, LM, CX), major coronary branches and **saphenous vein grafts** (SVG). - The **Single Click Stenosis** function provides all relevant information for stenosis quantification and coronary stent planning: Stenosis diameter and area, curved length, minimum lumen identification, effective diameter etc. - The robust and intuitive **VesselSURF** guarantees ultra fast, 3D vessel assessment in axial slices even without the existence of centerlines or in occluded vessels. As the vessel is being surfed the cross section and best longitudinal view are displayed in real time. - **The Image Sharpening** tool allows for a more thorough evaluation of calcified lesions or stents without the need for an additional reconstruction at the scanner thus saving up to 3 minutes. - ***syngo.*CT Cardiac Function** is a workflow step that allows reading and diagnosing CT angiography images of the heart for the evaluation of left ventricular function. Automatic pre-processing of the data includes left ventricular volumetry and myocardial wall segmentation of the left ventricle in all cardiac phases without any interaction. Full Cardiac assessment is now possible in less than four minutes. - The local cardiac function is automatically displayed in AHA-conform 17 segment **2D polar plots** - The display of the **aortic valve plane** with a single click facilitates the quantitative assessment of the aortic annulus for pre-procedural TAVI planning. Automatic calculation of the C-arm angulation (LAO/RAO, CRAN/CAUD) helps to save contrast agent in the interventional procedure. - The workflow **CT TAVI Planning** allows to combine the assessment of the aortic annulus with the evaluation of the peripheral vessels (CT Vascular) providing streamlined TAVI planning. - ***syngo.*CT Vascular Analysis** workflow step allows automatically evaluating and quantifying angiography images of the general vessels. It provides a vascular-specific set of auto-preprocessing steps and display functions. These functions make it possible that the case is immediately ready for review when opened, thus saving many manual workflow steps to bring more efficiency into daily practice. - The robust and intuitive *VesselSURF* technology guarantees ultra fast 3D vessel assessment in axial slices even without centerlines or in totally occluded vessels, while displaying longitudinal/perpendicular cross sections of the vessel in addition to the 2D images in real time. - Auto Pre-processing steps, like auto bone removal and auto table removal, provide an immediate vascular-only view. - Vessel analysis tools provide all relevant information e.g. diameter stenosis, area stenosis, curved length, profile curve, minimum lumen identification, etc. - All these functions allow fast and efficient rule-out of atherosclerosis or severe stenosis while, on the other hand, making possible a full vascular assessment at any time during the reading. - Work may be prepared and handed-over to another person using the Suspend/ Resume functionality, e.g. in order to share work between technologists and radiologists/cardiologists. - Measurement and reporting tools for therapy support, such as stent planning in case of AAA. - ***syngo.*CT Neuro DSA** and its guided workflow support the evaluation of complex intracranial vascular structures and delineation of aneurysms and other vascular diseases. CT DSA data are immediately pre-processed and ready for evaluation whenever and wherever needed. It automatically removes bones of the head and neck, subtracting low-dose non-contrast native head-CT scan and a contrast-enhanced CTA. - ***syngo* Volume Perfusion CT Neuro** facilitates quantitative volume evaluation for differential diagnosis of ischemic stroke and, in emergency situations, supports simultaneous multi-slice processing over the width of the detector. It includes Brain Tumor Evaluation for quantitative 3D evaluation of brain tumors. - ***syngo* Volume Perfusion CT Neuro** - Stroke Evaluation - Reliable assessment of the type and extent of cerebral perfusion disturbances. Simple

/ Product	Description
(Continued) **2** **CT Acute Care Engine @via#1**	and easy workflow with automatic reference vessel and automatic midline identification. - Auto-Stroke functionality for automated display of all perfusion parameters. - 3D analysis of all perfusion data. - Automated guided workflow with automatic quantification of Cerebral Blood Flow (CBF), Cerebral Blood Volume (CBV), Time To Peak (TTP), Mean Transit Time (MTT) and Permeability maps. - Integrated automated 3 dimensional assessments of infarcted tissue and tissue at risk. - Integrated automated motion correction enhances data evaluation with uncooperative patients. - 4D Noise Reduction significantly improves image quality with no increase in dose or, alternately, reduces dose without compromising image quality. - ***syngo*** **Volume Perfusion CT Neuro** - Brain Tumor Evaluation - 3D Visualization and evaluation of vascular leakage - Dedicated 3D blood-brain-barrier imaging - Enhances the ability to grade tumors - Allows biopsy and therapy monitoring - ***syngo*** **Neuro Perfusion Weighted Map (PWM)** provides color-coded CTA source images for 3-dimensional, non-dynamic display of acute ischemic stroke of the whole brain. It can assist in the treatment decision by providing additional 3D information of the infracted areas. **Additional integrated Dual Energy (DE) functionality:** (To enable the DE functionality at least 1 user license of the respective DE application has to be purchased, i.e. *syngo*.CT DE Direct Angio and/or *syngo*.CT DE Heart PBV) - ***syngo*****.CT Vascular Analysis - DE Direct Angio** allows for easy and precise bone-free, whole-body visualization while preserving critically small vessels such as an accessory right upper-pole renal artery. It also removes hard plaque from major vessels (e.g. for aorta, iliac, and femoral arteries) for true lumen assessment. - The automated pre-processing allows for a fast and efficient use of Dual Energy data. - Seamless integration of Dual Energy processing into *syngo*.CT Vascular Analysis - The result (bone mask) can be switched on or off at any time. - Furthermore, the data can also be viewed over the “Series Navigator” that allows a floating window mode for better comparison. - **DE integration of *syngo*.CT DE Heart Perfused Blood Volume (PBV)** automatically visualizes the contrast agent concentration or perfused blood volume of Dual Energy CT data of the myocardium for the assessment of myocardial viability or the visualization of infarct location and size within your *syngo*.via reading workflow.
CT Acute Care Engine Pro @via#1	The **CT Acute Care Engine Pro** permits access for one user for the following additional scan modes and software modules: **Additional Scanner Options:** - **Adaptive 4D Spiral Plus** for whole organ perfusion, e.g. liver or brain perfusion With its unique Adaptive 4D Spiral Plus, the SOMATOM Definition Flash moves beyond fixed detector limitations to provide full coverage of any organ in 4D. It introduces up to 48 cm range for dynamic CTA imaging and 4D Noise Reduction to significantly improve image quality with no increase in dose or, alternately, reduce dose up to 50 % without compromising image quality (4D Noise Reduction requires Volume Perfusion CT Neuro or Body). - **z-UHR** delivers the exceptional spatial resolution for detailed imaging of complex musculoskeletal structures down to 0.24 mm detail

/ Product	Description

(Continued)
 	
CT Acute Care Engine Pro @via#1
	- **Tiltable (adjustable) head holder** for optimal positioning of stroke patients or to protect the patient's eyes.
	
	Additional Software Modules
	
	- ***syngo.*CT Cardiac Function - Enhancement** is an extension of the CT Cardiac Function workflow step that allows visualizing hypodense and/or hyperdense myocardial areas within CT datasets acquired with Single Energy CT.
	  - Color code overlay of hypodense and/ or hyperdense areas within the myocardium.
	  - Identify hypodense or hyperdense areas quickly with one mouse click.
	  - Color overlay can be turned on/off at any time.
	  - Dedicated button for First Pass Enhancement (hypodense areas) or Late Enhancement (hyperdense areas) visualization.
	
	- ***syngo.*CT Cardiac Function - Right Ventricle** is an option for the CT Cardiac Function workflow step that allows reading and diagnosing CT angiography images of the heart for the evaluation of right ventricular function, allowing full cardiac assessment in less than one minute.
	
	- **CT Vascular Analysis - Autotracer** is an option for the CT Vascular Analysis workflow step that allows automatic vessel centerline extraction and anatomical labeling of the main vessels, even before the case is opened for review. When the case is opened, all major vessels are already segmented and anatomically labeled. The first vessel is prepared in CPR view and the cross-sectional cuts are displayed for immediate evaluation.
	It is prerequisite for fast and efficient rule-out of atherosclerosis or severe stenosis in less than a minute while making possible a full vascular assessment in less than four minutes.
	
	- ***syngo*.CT Dynamic Angio** helps to evaluate time-resolved CT images reconstructed from dynamic CT data. It facilitates the visualization of the vessel enhancement over time and allows to create CT volumes of, e.g. arterial or venous phase.
	  - Automatic calculation of **Temporal Maximum Intensity Projection** (tMIP) and **Temporal Average volume** (tAVG) for enhanced vessel and soft tissue visualization
	  - **4D noise reduction** and a body region dependent **motion correction** for robust image evaluation
	  - For a phase specific evaluation, e.g. of the arterial phase, the **Twin Slider** allows to restrict the calculation of new CT volumes to any user-defined time range within the dynamic scan. The tMIP or tAVG phase volume is automatically refreshed if the position of the Twin Slider is changed.
	  - For an evaluation of local vessel or tissue enhancement, *syngo*.CT Dynamic Angio displays ROI-specific time attenuation curves, as well as curve and statistical parameters, e.g. **time to peak and peak enhancement**.
	
	- ***syngo* Volume Perfusion CT Neuro** facilitates quantitative volume evaluation for differential diagnosis of ischemic stroke and, in emergency situations, supports simultaneous multi-slice processing over the width of the detector. It includes Brain Tumor Evaluation for quantitative 3D evaluation of brain tumors.
	
	- ***syngo* Volume Perfusion CT Neuro** - Stroke Evaluation
	  - Reliable assessment of the type and extent of cerebral perfusion disturbances. Simple and easy workflow with automatic reference vessel and automatic midline identification.
	  - Auto-Stroke functionality for automated display of all perfusion parameters.
	  - 3D analysis of all perfusion data.
	  - Automated guided workflow with automatic quantification of Cerebral Blood Flow (CBF), Cerebral Blood Volume (CBV), Time To Peak (TTP), Mean Transit Time (MTT) and Permeability maps.
	  - Integrated automated 3 dimensional assessments of infarcted tissue and tissue at risk.
	  - Integrated automated motion correction enhances data evaluation with uncooperative patients.
	  - 4D Noise Reduction significantly improves image quality with no increase in dose or, alternately, reduces dose without compromising image quality.
	
	- ***syngo* Volume Perfusion CT Neuro** - Brain Tumor Evaluation
	  - 3D Visualization and evaluation of vascular leakage

/ Product	Description
(Continued) **CT Acute Care Engine Pro @via#1**	- Dedicated 3D blood-brain-barrier imaging - Enhances the ability to grade tumors - Allows biopsy and therapy monitoring
syngo.CT DE Advanced Package #1	Based on two spiral data sets acquired in a single scan utilizing the *syngo*.CT Dual Energy Advanced Package offers the following Dual Energy applications: - *syngo* DE Direct Angio accurately highlights bone structures on CT angiography (CTA) datasets. The highlighted pixels can be removed by a single click, e.g. subtract bone in CTA's. Overcoming limitations of conventional bone removal software, the Dual Energy approach reliably isolates even complex vasculature, for example, at the base of the skull where CTA's are difficult to interpret. - *syngo* DE Virtual Unenhanced generates a unenhanced liver or kidney image, from an enhanced Dual Energy image without additional scans by subtracting the contrast medium out of enhanced CT dataset. The resulting image helps, to characterize liver and kidney lesions. - *syngo* DE Calculi Characterization characterizes kidney stones. - *syngo* DE Heart PBV offers the visualization of contrast agent concentration in the myocard. An optional heart isolation is provided. - *syngo* DE Brain Hemorrhage allows to differentiate older bleedings which are visible in the virtual non-contrast image from new bleedings, which are the only ones that remain visible in the iodine image. - *syngo.CT* DE Lung Analysis is the combination of the Dual Energy applications Lung Vessels and Lung Perfused Blood Volume (PBV). *syngo* DE Lung PBV uses Siemens`unique Dual Source Dual Energy information to display potential lung perfusion defects. It directly visualizes the local iodine concentration in the lung parenchyma, which is a measure of the local blood volume, thus enabling a display of the area of possibly affected tissue. *syngo* DE Lung Vessels uses Dual Energy information to colour-code vessels that are affected e.g. by pulmonary emboli and therefore show a significantely lower iodine concentration than non-affected vessels. Due to the colour-coding the affected vessels are easier to identify.
Cooling System Water/Air #split	System operating temperature (outside the building): -30°C to 50 degree C, 0-100% rel. humidity (not condensing), Ideal for high distance installation (scan room). Cooling system contains two units (indoor + outdoor unit): 1. water/water exchanger close to the scan room and 2. an additional remote water/air exchanger The indoor unit of the cooling system may be up to 30m away from the gantry with a height difference of not more than +10m. Additional hoses for 10m and 20m distance are available to extend the distance between the CT gantry and the indoor unit to 50m. If the distance between the cooling-system and the gantry is longer than 50m an optional additional pump unit is needed. Standard distance between water/water unit and remote water/air exchanger is 40m with a height difference of not more than +20m. For longer distance between water/water unit and remote water/air exchanger the tube diameter must expand or an optional additional pump is needed.
syngo.via Advanced User #1	**Brief description** *syngo*.via provides one graphical user interface to prepare and read images from various modalities. Supported images types are: - Computed Tomography Images - Magnetic Resonance Images - PET Images - Computed Radiography Images - Digital X-Ray Images - X-Ray Angiographic Images - X-Ray Radio-Fluoroscopic Images - Ultrasound 2D Images - Secondary Capture Images

/ Product	Description
(Continued)	- Encapsulated PDFs
syngo.via Advanced User #1	**Standard reading functions, such as:** - Browser functionality for fast patient and data access - Case navigator for easy and fast case navigation - Automatic image Processing, - Automatic Loading and displaying of images in user-specific layouts, Multiple layouts for 2D, 3D diagnosis - Ad Hoc workflow change for flexible Application handling - Scrolling through images (e.g. movie mode, fast mouse scrolling, synchronized scrolling) - Mirror, rotate, invert, windowing, pan/zoom, annotations, distance and angle measurement, pixel lens, ROI / VOI evaluation - Findings navigator - create, collect ,navigate and present findings quickly - Correlated cursor - Series synchronization for pan/zoom, windowing, LUT, scrolling - Locked navigation of different modality types (e.g. MR / CT) - User-defined context menu - Snapshot images as secondary capture **Integrated 3D tools, such as:** - All reformats immediately available: VRT, MIP, MIP thin, MinIP, MPR thin / thick, interactive slice thickness change - VRT Punch, VRT Gallery - Clip plane and clip box - Bone and Table removal for fast segmentation - MPR/MPR Fusion and registration - Parallel and radial range - 2D & 3D reference lines, 3D Reference Point - Movie export **Applications for dedicated clinical areas** Beside standard 2D/3D capabilities, the following advanced functionalities for dedicated clinical areas are part of *syngo.*via. These applications are medical products in their own rights and necessary country-specific approvals might not yet be available (e.g. 510k, CE Mark). syngo CT Coronary Review Marker, Heart Isolation, Movie (Beating Heart), • Plaque Visualization, Manual Coronary Tracking (> 2 click centerline), Cardiac Planes, Curved & Cross-Section MPR, Context-specific Reporting CT Vascular Review Marker, Manual Vessel Tracking (> 2 click centerline), Curved & Cross Sectional MPR, Integrated Reporting Plaque Visualization, - Context-specific Reporting PET&CT Oncology - Navigation between segments, Timepoint comparison (two timepoints), - Image fusion and Registration, RECIST/WHO measurement, • PET and MR visualization, Basic PET evaluation, Image fusion, Registration, 3D overview image, - Context-specific reporting *syngo.CT* Dual Energy The *syngo.CT* Dual Energy offers a viewer that displays a fused image for initial diagnosis. It includes Optimum Contrast to calculate automatically contrast-optimized images as well as the possibility to calculate monoenergetic images for a range of 40 - 190 keV. The additional, optional Dual Energy applications utilize *syngo* Dual Energy's two data sets even further: the material-specific difference in attenuation enables an easy classification of the

/ Product	Description
(Continued) **syngo.via Advanced User #1**	elementary chemical composition of the scanned tissue. Works only with Dual Energy images from SOMATOM Definition and Definition Flash. MR Reading - MR Reading workflow - Follow-up support: Follow-up layout for easy comparison between two timepoints. - Rescan handling: Repeated scans are collected in one stack that provides an overview layout to select the best rescan for reading. - Workflow customization and creation: MR Reading allows the user to generate new, customized workflows. - Context-specific Reporting **Workflow Automation** - Triggered by PACS or modality: Disease-specific workflow mapping can also be done based on image information (modality and/or study description) - Triggered by RIS: *syngo*.via requests the DICOM Modality Worklist (DMWL) from the connected RIS to enable automatic disease-specific workflow mapping and prefetching of examinations from PACS for follow-up reading. **Context-specific reporting:** - Context-specific reports can be derived from different clinical applications (structured reporting). - Findings collected in the Findings Navigator can be transferred to context-specific reporting application and can then be stored as DICOM Structured Reports. - The reports created with *syngo.*via are stored as encapsulated PDF DICOM objects. Additionally the report can be saved in the file system as a PDF file. The stored PDF report can be viewed and printed by the clinical user. - With RIS integration package and an additional license, the report content can be transferred to the RIS via HL7. **Further functionality, such as:** - "Direct Image Transfer" for Siemens modality integration - *syngo* Expert-i support for *syngo* MMWP integration - *syngo*.plaza Integration - Query/retrieve from DICOM nodes - Export images and Movie and creating patient media - Filming (DICOM print) or postscript printing functionality **Integrated elearning:** - *syngo*.e-Learn – integrated electronic learning for *syngo*.via workflows and clinical applications. - Available languages: English **Prerequisites for all service related issues:** - Availability of a customer administrator that performs dedicated administration and support tasks (e.g. 1st line support, data security, backup,...). - Minimum broadband internet connection bandwidth for uncompromised service support are 2000 kBit/s downstream and 512 kBit/s upstream. Otherwise, certain support services may not be provided and the agreed remote response time cannot be guaranteed. Specification of minimum broadband internet connection in detail: - Downstream: 2000 kBit/s for Software update, IT- and Application support - Upstream: 512 kBit/s for Application support - Upstream: 256 kBit/s for Software update and IT support

/ Product	Description
(Continued) **syngo.via Advanced User #1**	**Scope of delivery:** - DVDs with *syngo*.via software (software license for one *syngo*.via client user)
syngo.via Advanced User #1+	**Brief description** In addition to the standard 2D/3D/4D reading capabilities, the following advanced functionalities for dedicated clinical areas are part of *syngo.*via Advanced User. These applications are medical products in their own rights and necessary country-specific approvals might not yet be available (e.g. 510k, CE Mark). syngo CT Coronary Review Marker, Heart Isolation, Movie (Beating Heart), • Plaque Visualization, Manual Coronary Tracking (> 2 click centerline), Cardiac Planes, Curved & Cross-Section MPR, Context-specific Reporting CT Vascular Review Marker, Manual Vessel Tracking (> 2 click centerline), Curved & Cross Sectional MPR, Integrated Reporting Plaque Visualization, - Context-specific Reporting PET&CT Oncology - Navigation between segments, Timepoint comparison (two timepoints), - Image fusion and Registration, RECIST/WHO measurement, • PET and MR visualization, Basic PET evaluation, Image fusion, Registration, 3D overview image, - Context-specific reporting *syngo.CT* Dual Energy The *syngo.CT* Dual Energy offers a viewer that displays a fused image for initial diagnosis. It includes Optimum Contrast to calculate automatically contrast-optimized images as well as the possibility to calculate monoenergetic images for a range of 40 - 190 keV. The additional, optional Dual Energy applications utilize *syngo* Dual Energy's two data sets even further: the material-specific difference in attenuation enables an easy classification of the elementary chemical composition of the scanned tissue. Works only with Dual Energy images from SOMATOM Definition and Definition Flash. MR Reading - MR Reading workflow, Follow-up support: Follow-up layout for easy comparison between two timepoints. - Rescan handling: Repeated scans are collected in one stack that provides an overview layout to select the best rescan for reading. - Workflow customization and creation: MR Reading allows the user to generate new, customized workflows. - Context-specific Reporting **Scope of delivery:** - software license for *syngo.*via Advanced User
al Energy #MM	The *syngo* Dual Energy option offers a viewer that displays a fused image for initial diagnosis. It includes Optimum Contrast to calculate automatically contrast-optimized images as well as the possibility to calculate monoenergetic images for a range of 40 – 190 kV. The additional, optional Dual Energy applications utilize *syngo* Dual Energy's two data sets even further: the material-specific difference in attenuation enables an easy classification of the elementary chemical composition of the scanned tissue.
syngo Dual Energy Advanced #MM	**-text:** Based on two spiral data sets acquired in a single scan utilizing the *syngo* Dual Energy Advanced offers the following Dual Energy applications: - *syngo* DE Musculoskeletal offers the enhanced visualization of tendons and ligaments in a CT image. - *syngo* DE Hardplaque Display enables the identification and automatic removal of calcifications from a CTA image. By therefore differentiating between hard plaques and contrast agent this Dual Energy application helps to display of true vessel lumen without interfering hard plaques. - *syngo* DE Gout can visualize depositions of uric acid crystals (tophi) in peripheral extremities by automatically

/ Product	Description
(Continued) **3** **syngo Dual Energy Advanced #MM**	colour-coding these uric acid crystals. - *syngo* DE Xenon allows to visualize Xenon concentration in lung without use of an additional non contrast scan. The results are shown as color overlay to anatomical, grayscale information. The *syngo* Dual Energy Xenon algorithms are derived from the *syngo* Dual Energy Virtual Unenhanced algorithms. - *syngo* DE Lung Nodules allows to visualize the contrast agent concentration in lung nodules without use of an additional non contrast scan. Contrast agent concentration is shown as color overlay to anatomical, grayscale information. A semi-automatic segmentation and evaluation of the lung nodule size and enhancement is possible. Nodule segmentation is equivalent to *syngo* CT Oncology.
Server HW Config XL	**Brief description** Type: Hewlett Packard rack mount server. Processor: 2 CPU RAM: 72GB System Disk: RAID Level 1 DB Data Disk: RAID Level 1 Data Disk: RAID Level 5, 1x Hot Spare for RAID 5 Image Storage: approximately 4.900 GB Optical drive: CD/ DVD-RW Graphical Processing Unit: 2x NVIDIA GPUs Mouse: USB Optical Scroll Mouse Keyboard: USB standard international Rack mount kit for 19" HP rack included Operating System: Windows Server 2008 R2, 64 Bit - Enterprise Edition This server is configured with a redundant fan and a redundant power supply. **Recommended Environment Requirements** Server for operation only in server rooms A 100 Mbit/s (minimum) / 1 Gbit/s (recommended) network environment is needed for optimal performance. For remote access a 10 Mbit/s (minimum) / 16 Mbit/s (recommended) broad-band connection is required. **Service Package** Basic care pack for this server configuration is not included and has to be ordered separately! Technical details are subject to change without notice!
HP Care Pack. 5y 24x7 HW Support	**Brief description** The HP Care Pack Option “24 x 7 x 4 hours on-site” consists of the following deliverables: - **Remote problem diagnosis and support** – Siemens Remote Services uses HP remote support tools to isolate your problem and facilitate resolution in close cooperation with the next HP service hub in your area. - **24 hours x 7 days, 4h reaction time, break & fix service onsite** – For issues that cannot be resolved remotely, an authorized HP Services representative arrives at your site within 4 hours after a defect has been confirmed. HP Services returns your system to operational condition, repairing or replacing components or entire units. If required, HP services restore at the same time system and network functionality to allow Siemens Remote Services to seamlessly continue with any further required service activity. - **Defective Media Retention Service** – This option lets you protect sensitive data by keeping your defective disk, without having to return a defective media to the manufacturer. - **Integrated service management** – Siemens and HP has bundled a set of proactive and reactive service elements with Siemens and HP Mission Critical Engineers working together from joint service centers in your region. This optimizes the coordination and execution of all required service activities without unnecessary delays.

/ Product	Description

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(Continued) **HP Care Pack. 5y 24x7 HW Support**	- **Proactive monitoring** – Proactive monitoring of HW status and events to be able to correct HW problems before they affect system stability. - **Enhanced HW support** – Provision of necessary Bios- and Firmware update packages to keep the HW system up to date. Required patches and updates are provided remotely to be installed conveniently during the next application maintenance or service window by the responsible IT system administrator. - **Enhanced OS support** – Provision of necessary hotfixes or service packs to keep the server system working reliably. Required updates are provided to be installed conveniently during an application maintenance or service window by the responsible IT system administrator.
UPS 100/110/120/127 V	Uninterruptible Power Supply for HP server supporting only 100/110/120/127 voltage. UPS Management Module is included. 2 units high in a 19" rack.
syngo MMWP Client #1	**Brief description** The *syngo* Multi Modality Workplace client is configured as a DICOM-connected standalone system. The workstation is ideal for providing additional or specialist clinical workplaces, and is particularly suited to multi-modality installations. The base viewing system can be extended by adding a wide range of cross-modality and modality-specific application options. **Scope of delivery** - PC - Enhanced Graphics Card - 12 GB RAM - Base User software - *syngo* 3D - *syngo* Expert-i - *syngo* CT Basic Evaluation - *syngo* CT Dual Monitor - User documentation in selected language - 19" Monitor **PC** High Performance Windows XP based Workstation with a Quad-Core processor and a RAM capacity of 12 GB and a minimum disk capacity of 147 GB for patient data. The workstation is equipped with an Enhanced Graphics Card to support 3D applications. To exchange medical images on DICOM-compatible DVD-R, CD-Rs the system is equipped with a DVD-Recording unit. PC can be connected to an existing network via 10/100 Mbit Ethernet and 1 Gbit Ethernet. **Base User Software:** Software features an intuitive and thus easy to learn user interface developed from prototypes tested in close cooperation with users. Standard functions such as filming or image review, and optional clinical application software, are performed in individual processes on dedicated task cards. A number of functions and input parameters, as well as the language used, can be selected according to individual requirements. **Package comprising the following software licenses:** Base software with CD and dongle for the functions patient browser, filming, image review and system services. *syngo* Patient Browser Patient management

/ Product	Description
(Continued) **syngo MMWP Client #1**	- DICOM 3 communication with Send, Receive, Query&Retrieve - DICOM Print - Reading of DVDs, CDs - DVD-R module for writing DICOM-DVDs for data exchange. Writing is in background mode. *syngo* Filming A virtual film sheet shows a 1:1 display of the film sheets to be printed, thus permitting an effective preview of the filming job and re-windowing the images, as well as providing a large number of evaluation functions. *syngo* SR Viewer Reading and creation of DICOM structured reports. *syngo* Viewing Image Review supports interactive 2D review, evaluation and documentation functions. Multiple studies from the same patient can be displayed side-by-side for comparison. **Image display** 1024 x 1024 screen matrix, configurable as up to 64 image segments. **CINE Display** Automatic or interactive dynamic presentation technique for the visualization of time and volume series. Synchronized viewing of multiple series. **Measurement and annotation:** Text annotation; Distance, angle, circle, ROI and pixel lens, depending on information available from the acquisition system. **Video sequences stored on offline media:** Any user-selectable file, such as cardiac, DSA or InSpace AVI video sequences, can be burned to DVD, CD to prepare quality presentations and demos of pathologies. **System services:** Microsoft Office 2000 (except FrontPage) is supported (not provided). Software for burning user-selectable files to DVD-R, CD ROM. **Network module:** For connection to a local Ethernet (10 or 100 baseT) for communication with networked printers, diagnostic and therapy workstations, HIS/ RIS systems and teleradiology routers. Scope of functions: Network stations can be configured. Unlimited selection of stations. DICOM: industrial standard for the transmission of information between DICOM-compatible units from different manufacturers. The scope of functions is described in detail in the DICOM Conformance Statement and in its standard version includes the Transmission/ Reception, Query/ Retrieve and Basic Print functions. ***syngo* 3D** 3D Basic Basic 3D Viewer platform for display of 3D series with multi-planar reconstruction (MPR), shaded surface display (SSD), and maximum intensity projection (MIP). 3D VRT Advanced 3D functionality as containing volume rendering technique (VRT) and advanced editing functions. Fly Through High quality SSD/VRT virtual endoscopic viewing using high performance rendering modes. Image Fusion and FusedVision3D Spatial alignment and visualization of image data of one patient where image data has been generated at different points in time or by different modalities. Visualization of fused anatomical and functional volumes via projection of the volumes onto an arbitrary oriented plane in full screen mode or together with the 3-orthogonal fused datasets. Allows precise localization of lesions while using either the Clip plane view or the Slab Plane view displays. Displays correlated rotating Maximum Intensity Projection (MIP), and special 3 x 3 layout to display correlated CT,

/ Product	Description
(Continued) **3** **syngo MMWP Client #1**	PET and fused images. 3D Dual Monitor Viewing and manipulation of two different datasets on two monitors. ***syngo*** **Expert-i** Enables the interaction with the *syngo* MMWP Client from virtually anywhere in your hospital. ***syngo*** **CT Basic Evaluation** Supports the evaluation of CT images through volume calculation and dynamic evaluation. ***syngo*** **CT Dual Monitor** Enables dual monitor operation for capable CT applications. **19" Monitor** 19 in high-resolution LCD flat panel color monitor (1280 x 1024 pixels) in landscape format for images and text.
syngo Keyboard USA English	*syngo* keyboard for the selected language. For easy operation of *syngo* browser, viewer and filming tasks. Special keys for windows, sheets, printing, marking and network communication.
Basic Implementation Package	The Basic Implementation Package includes the following tasks: - Activation of Siemens Remote Services connections - Import of all *syngo*.via server license files. - Basic clinical configuration and integration of up to 5 DICOM nodes in *syngo*.via (e.g. one modality, one PACS, one *syngo* MultiModality Workplace, one printer). All nodes need to be validated for connection with *syngo*.via. - Configuration of the DICOM access to *syngo*.via in one formerly install*d syngo* MMWP 2009B or higher; Integration *of th*e basic *syngo* MMWP access into one *syngo*.via client workplace by installation and configuration *of th*e software Expert-i on the *syngo*.via client - *syngo* MMWP versions 2009B (VE36A) onwards with service pack VX29A support *syngo*.via cli*ent* integration and remote d*eskto*p access using *syngo* Expert-i. *syngo* MMWP version 2009B (VE36A) when used in dual monitor configuration needs to be upgraded to *syngo* MMWP versions 2012A (VE50A) or higher. - Configuration of basic workflow rules: autodelete, archiving, autorouting in *syngo*.via. - Acceptance Test in cooperation with the customer. Context of the implementation tasks: - The DICOM conformance of the DICOM nodes is a prerequisite for connection to *syngo*.via. - The DICOM nodes to be connected to *syngo*.via must be configured and tested by the customer, for e.g. configuration of the remote DICOM node *syngo*.via, routing rules, procedures. If necessary, the customer orders these services from the DICOM node's vendor. - The configuration of the customer's Local Area Network is performed by the customer. - Provision of a minimum broadband Internet connection bandwidth with 2000 kBit/s downstream and 256 kBit/s upstream for Siemens Remote Services (SRS) by the customer. If the customer does not provide SRS connectivity, then additional professional services for implementation without SRS support are offered. For service support after implementation the following minimum specification has to be provided: Downstream 2000 kBit/s (for Software update, IT- and Application support); Upstream 512 kBit/s (for Application support); Upstream 256 kBit/s (for Software update and IT support). - The customer provides information, such as: IP addresses of the server for its network integration and the DICOM nodes identifiers. - The customer provides the required power supply and the installation location for the server hardware, as well as the required LAN capacity. For the LAN capacity between *syngo*.via and the PACS/ modality systems a min. of 1 Gbit/sec is required. Between *syngo*.via workstations and server a min of 100 Mbit/ sec is required. - Presence and support of the customer's administrators (clinical and IT administrator) is required during implementation. In preparation for implementation support the customer's administrators have completed the *syngo*.via web-based trainings, which are part of the scope of delivery. - A list of applications and systems with validated connectivity to *syngo.*via can be requested from your Siemens Sales Representative.

/ Product	Description
(Continued) **Basic Implementation Package**	- If a DICOM node or another system has not been validated yet for connection to *syngo*.via by Siemens, then the customer will give his acceptance though there could be a narrowed functionality of the connection. - Installation of *syngo*.via client software on additional workplaces or configuration of additional DICOM nodes are performed by the customer's administrator or can be ordered from Siemens separately as an option. - Project coordination is performed by Siemens. Please see the *syngo*.via Data Sheet for system requirements and detailed description of implementation tasks.
Implementation without SRS	The tasks to substitute a functional SRS connection are: - Select all hotfixes and documentation required for the implementation in the Siemens Intranet and store them ready for use on a mobile data storage. - Connect this data storage at the customer's site to the server to apply the stored files. - Set up alternative support availability, i.e. using the telephone, for the hotline specialists and Knowledge Base in the Siemens headquarters for support during implementation - Key in the documentation later according to manual documents (e.g. configuration data of the system for customer service data base, incident tickets to the ticketing tool, knowledge assets to the knowledge sharing tool) where and when the online tools are available - Additional time on-site due to the lack of online support from Siemens headquarters Context of the implementation tasks: The Siemens Customer Service organization will provide the Service Agreement in accordance to the missing SRS connectivity.
Server HW Installation Service	This hardware installation service includes the following tasks: - Unwrapping. Consolidation of all packaging material and notification to the customer that the materials are ready for removal. - Mechanical and electrical connections at site of operation - Mechanical installation in a common rack (e.g. HP, Fujitsu, IBM, Rittal) not older than three years and connection to a console. - Connection to the power supply, to Uninterruptable Power Supply (if applicable) - Startup of operating system; check status of patches, drivers, service packs and hot fixes, etc. - Connection and network configuration of the server and the remote service board to the LAN - Configuration of remote service board (network settings, users configuration) - Handover of the readily installed system to the customer. Context of the implementation tasks: The customer provides, as described in the *syngo*.via Data Sheet: - Access to the location and space for server operation - Electrical power - LAN access and LAN configuration - Configuration of the broadband internet access for Siemens Remote Services - IT Administrator's coordination and support for the mechanical and IT installation. - Server and monitor(s) are on-site of operation. The customer's monitors are accompanied by appropriate cables.
MMWP Client HW Implemention Service	The *syngo* MMWP implementation includes the following tasks: - Unwrapping of server and monitors (if applicable). Consolidation of all packaging material and notification to the Customer that the materials are ready for removal - Mechanical and electrical connections at site of operation, connection to the power supply - Startup of operating system, check status of patches, drivers, service packs and hot fixes etc., import of all license files for the *syngo* MMWP 2010A - Connection to LAN; network configuration - Activation of an additional Siemens Remote Services connection for *syngo* MMWP (if applicable) - Basic clinical configuration, autodelete, archiving, autorouting on *syngo* MMWP - Configuration on *syngo* MMWP for connection to one new modality (if sold in a bundle)

/ Product	Description
(Continued) **MMWP Client HW Implemention Service**	- Integration with *syngo*.via and one validated PACS, i.e. installation of *syngo*.via client on the *syngo* MMWP - Basic integration of this *syngo* MMWP in one *syngo*.via client using Expert-i - Enhancement of the *syngo*.via workflow rules configuration on the *syngo*.via server: autorouting referring to *syngo* MMWP - Backup of the *syngo* MMWP configuration on DVD/ CD or on customer file server - Acceptance test of the installed *syngo* MMWP in cooperation with the customer, handover of the readily installed system to the customer. Context of the implementation tasks: - The connection of one or two monitors to a *syngo* MMWP client does not include monitor calibration. Depending on local legal regulations, this monitor installation may allow viewing only. The customer provides, as described in the *syngo*.via Data Sheet: - Access to the location and space for *syngo* MMWP client operation as well as for the monitors (if applicable) - *syngo* MMWP client hardware and monitor(s) are on site of operation. The customer's monitors are accompanied by appropriate cables. - Electrical power - LAN access and LAN configuration - Configuration of the broadband internet access for Siemens Remote Services - The customer provides the information for the *syngo* MMWP network integration, such as: IP addresses. - Integration of the *syngo* MMWP on additional *syngo*.via clients (Expert-i) is performed by the customer's administrator - Configuration of additional DICOM nodes in the *syngo* MMWP is performed by the customer's administrator. Optionally, configuration of additional DICOM nodes can be ordered from Siemens. - Please see the *syngo*.via Data Sheet for the overall system configuration of *syngo*.via with *syngo* MMWP and detailed description of implementation tasks.
syngo.via for Clinical Administrators	The objective of this course is to give the participants the necessary theoretical knowledge and practical skills to routinely work with syngo.via and to become acquainted with the settings and configuration options of the system. Target Group This course is designed for clinical administrators, technologists and physicians who act as departmental key user for the syngo.via system. Learning Target syngo.via is a software solution intended to be used for viewing, manipulating, communicating and storing medical images. It supports interpretation and evaluation of examinations within healthcare institutions for example in Radiology, Nuclear Medicine and Cardiology environments. Having attended this course the participants will be able to comprehensively utilize the syngo.via basic operation and universal functionality. In addition the participants will get familiarized with the syngo.via configurations and setting options for applications, workflow and reporting issues. Prerequisite Basic application knowledge on imaging systems like CT, MI and MR Understanding of clinical workflow Basic understanding of IT and DICOM Contents syngo.via system overview, basic principles and user interface Demonstration and exercises on Patient Browser Worklist management Workflow management 2D/3D/4D image processing and evidence document generation Transfer of data Clinical configuration and setting options User management

/ Product	Description
(Continued) **syngo.via for Clinical Administrators**	Duration 5.00 days
Virtual syngo.via IT Admin Training	syngo.via is the latest product from Siemens Healthcare for Advanced visualization of 2D/3D/4D data sets. This server client system is fully embedded in the customers IT infrastructure and allows access to information from anywhere to any modality and supports the user with appropriate, time saving reading workflow according to modality and disease. Having attended this course, the participant will understand the workflow and implementation concept of syngo.via. In practical exercises he learns to use the Service UI and is prepared to perform the administrative tasks. In addition basic first level support questions are covered. Target Group IT Administrators syngo.via responsible for local user management, regular maintenance tasks and first level service support Learning Target syngo.via is the latest product from Siemens Healthcare for Advanced visualization of 2D/3D/4D data sets. This server client system is fully embedded in the customers IT infrastructure and allows access to information from anywhere to any modality and supports the user with appropriate, time saving reading workflow according to modality and disease. Having attended this course, the participant will understand the workflow and implementation concept of syngo.via. In practical exercises he learns to use the Service UI and is prepared to perform the administrative tasks. In addition basic first level support questions are covered. Prerequisite Basic understanding of clinical workflow Basic IT know how Basic DICOM knowledge Contents Overview of the Enterprise Platform and syngo.via IHE, Infrastructure and Function View Client install Workflow configuration Service UI Trouble shooting Tools Notice Virtual training course for USA- No travel required Duration 2.00 days
Stellant Dual Flow CT Inj.(Ceiling-long)	Stellant D Dual Head / Dual Flow injector – ceiling/long mounted. The Stellant D CT injector is a dual syringe injection system that enables clinicians to perform the most critical CT contrast exams, including cardiac CT and coronary CTA. Medrad's DualFlow technology gives the user the ability to inject both contrast and saline at the same time. - Real-time display of injection pressure in graph form. - Snap-on / twist-off syringe design. - Automatic plunger advance and retract when attaching and detaching syringes. - Automatic filling and priming with the touch of a button. - Stores and recalls up to 32 protocols. - Multi-phase programming (and patented Hold/Pause feature) - Programmable pressure limit - Ceiling Mount length (28'-46' / 75 cm-117cm) Installation, applications and one year warranty provided by Medrad. This product has been tested and verified for compatibility with the following Siemens' products: SOMATOM Definition, Sensation, Emotion and Spirit. Compatibility with other products cannot be guaranteed and used w/any other products may void service contracts and/or system warranties.

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(Continued) **Stellant Dual Flow CT Inj.(Ceiling-long)**	Additional Options Available: M2SCTXDS700C - MEDRAD XDS™ extravasation detector – Ceiling M2SCTUFKP3TC - MEDRAD P3T Cardiac
Surge Protective Device (SPD)	Eaton Surge Protective Device (SPD) Panel, 250kA per phase rating, 277/480VAC Wye, Three Phase (4W+G), Surge Counter, Dimensions 12.05"H x 7.47"W x 6.69" D, Weight: 13.5 lbs, 10 Year Limited Warranty