

VAMC CAST PT PRM VN B30004  
V.A. Medical Center  
ROUTE 9D  
BLDG 44  
CASTLE POINT, NY 12511

PO# 620-B30004

## Symbia T6

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

Qty	Item Description
1	<b>Elevate ecamDBuyBack ship.bef.Jan03</b> ELEVATE is the Siemens unique customer care solution that helps you get the most from your investment. Whether you're at the end of a product's lifecycle, the end of a lease, or the beginning of a new platform, the Elevate program rewards you as loyal customer with an attractive Bonus that makes it easy to transition from your current Siemens system to the new system.
1	<b>SPECT ELEVATE BONUS PROMO Elev e.cam Dual to Symbia T6 (\$44,000)</b>
1	<b>Symbia T6</b> The Symbia T6 is built on TruePoint SPECT•CT technology, providing seamless integration of two equal modalities. The true integration of state-of-the-art SPECT and high quality six slice CT gives this system full functionality for all SPECT-only, SPECT•CT, or stand-alone CT diagnostic applications in Oncology, Neurology, General Nuclear Medicine, and Cardiology.
2	<b>3/8" Hi-Resolution Detector</b> The high resolution, digital detector assembly includes a .95 cm (3/8 in.) thick NaI (TI) crystal.
1	<b>Detector Support with Caudal Tilt</b> Caudal tilt on Detector 2 allows for precise positioning of static and dynamic acquisitions.
2	<b>Low_Energy_Hi_Res Collimator Symbia</b> Low energy (140 keV), high resolution, parallel hole collimator
2	<b>Medium Energy Collimator Symbia</b> Medium energy (300 keV), parallel hole collimator
1	<b>Productivity Package</b> B-Text The productivity package automates collimator exchange and quality control to improve the productivity of the Symbia S and Symbia T camera systems.
1	<b>AQC Web Based Training</b> AutoQC web based training is available on the Siemens training website.
1	<b>AutoQC Source Registration Kit</b> Source registration kit for Symbia Automatic Quality Control option. This kit contains information on updating site radioactive materials license, contact information for source vendor, and user instructions.

1	<p><b>AutoQC source kit</b></p> <p>This source kit contains includes 1 - Gd-153 line and 1 - Co-57 point source required for the automatic quality control option.</p>
1	<p><b>Internal ECG for Symbia</b></p> <p>The internal ECG gating system provides ECG triggering for the nuclear subsystem for nuclear cardiology examinations. In addition, for Symbia T2, T6, and T16 cameras, the internal ECG gate provides ECG triggering to the CT subsystem for CT applications that require ECG gating. The ECG gate is built into the Symbia patient bed and is controlled by the Symbia acquisition workplace. The leads connect near the head of the patient bed and travel with patient, thus never interfering with scanning. The ECG waveform is displayed on the touch-screen Patient Positioning Monitor.</p>
1	<p><b>PHS Extended Pivot</b></p> <p>The PHS extended pivot option extends the range of pivot for the patient bed in gurney mode.</p>
1	<p><b>Extra Hand Controller</b></p> <p>This option provides an extra hand controller for the Symbia T Series scanners.</p>
1	<p><b>Remote Diagnostic Services</b></p> <p>Remote Diagnostic Services. A broadband connection is required for full remote diagnostic functionality and optimal system uptime.</p>
1	<p><b>MI University</b></p> <p>Molecular Imaging University (MI-U) is a comprehensive resource for clinical educational materials in PET/CT and SPECT/CT (<a href="http://www.mi-university.com">www.mi-university.com</a>). MI University demonstrates the benefit of hybrid imaging and where it influences patient management. The license is valid for 1 year and includes the rights to set up accounts for other users that are related to the customer facility.</p>
1	<p><b>English Symbia T Lang Kit</b></p> <p><b>GOV'T - ONLY - MI SPECT Manual Offset English Symbia T Lang Kit (\$708.00)</b></p>
1	<p><b>Symbia T Series US Installation</b></p> <p>This option includes the mechanical installation of the Symbia T Series camera system.</p>
1	<p><b>Symbia.net</b></p> <p>Symbia.net is an economical solution for reading of SPECT and SPECT•CT studies. The system can be optionally configured with full MI processing capabilities. The Symbia.net can be configured as a client-server system by adding the Server Management option. PET functionality is available on multi-seat systems.</p>
1	<p><b>First User</b></p> <p>The first user provides a singler user license to operate Symbia.net as a workplace solution.</p>
1	<p><b>Monitor, 19" LCD DICOM</b></p> <p>The 19" DICOM Calibrated LCD monitor is designed to meet the demanding requirements of medical imaging. The display features high contrast even under high ambient light conditions that can be encountered in nuclear medicine viewing environments. The gamma curve is exactly matched to CIE/DICOM recommendation, enhancing the ability to display both color and gray scale images. Light output stability is ensured by continuous backlight control throughout the display's lifetime.</p>
1	<p><b>SPECT/CT Processing</b></p> <p>This processing software package provides advanced SPECT/CT Reconstruction, image fusion capabilities, volumetric analysis for tumor imaging, image manipulation tools, as well as cardiac and other organ-based SPECT processing.</p>

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### **Cardiology Engine SPECT.CT Cedars**

The Cardiology Engine SPECT.CT Cedars assists in the diagnosis and quantitative assessment of coronary artery disease by enabling the visualization of SPECT studies as well as quantified perfusion assessment.

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### **SPECT/CT 1/2 Time Planar Imaging**

SPECT•CT Planar 1/2 Time Imaging provides shortened Planar acquisition times.

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### **English Cedars Lang Kit**

#### **GOV'T - ONLY - MI SPECT Manual Offset English Cedars Lang Kit (\$236.00)**

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### **English MI WP Lang Kit**

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The language kit includes: e.soft Getting Started Manual, e.soft User Notes and customer letter.

#### **GOV'T - ONLY - MI SPECT Manual Offset English MI WP Lang Kit (\$767.00)**

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### **4 Quadrant Phantom for Symbia S / T**

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A 4 quadrant 2.0-2.5.30.3.5 mm standard pattern slightly modified for use with the e.cam and Symbia Imaging Systems

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### **UPS for SPECT Camera Systems**

Uninterruptible power supply option that provides 10 minutes of back up power to the SPECT gantry enabling the proper shut down in the event of a power loss. Also provides noise filtering and transient suppression. Specifications:5.0 KVA Input configuration: 200-240 VAC, 50/60 Hz, L6-30P Output configuration: 208 VAC, L6-30R

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### **UPS for e.soft/c.cam (60 Hz)**

Uninterruptible power supply option that provides 10 minutes of back up power enabling the proper shut down of the system in the event of a power loss.

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### **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.

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### **MI\_SYMB\_FOLLOWUP**

Up to (32) hours of follow-up on-site clinical education training, scheduled consecutively (Monday - Friday) during standard business hours for a maximum of (4) imaging professionals. 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.

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### **CT Cross Trainer (Printed Self Study)**

CT Cross Trainer printed self study materials for (1) imaging professional. These materials will provide the user with basic CT knowledge by testing the participant periodically. Successful completion of the self study program will provide the participant with CE credits. CT Cross Trainer printed self study materials for (1) imaging professional. These materials will provide the user with basic CT knowledge by testing the participant periodically. Successful completion of the self study program will provide the participant with CE credits. 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	<b>MI SPECT Project Management</b> A Siemens Project Manager (PM) will be the single point of contact for the implementation of your Siemens 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	<b>GOV'T ONLY - MI SPECT Training Class</b> 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.
1	<b>Initial onsite training 32 hrs Gov Offse</b> <b>One complimentary biomedical tuition is included with the purchase of this system. This training must be completed before the end of the warranty period.</b>
1	<b>TWO SETS OF SERVICE AND OPERATORS MANUALS</b>
1	<b>MI SPECT Deinstallation Equipment_\$2,100</b>
1	<b>Low Contrast CT Phantom &amp; Holder</b>

#### ALTERNATE PRODUCTS:

Qty	Item Description
1	<b>Cardiology EngineAdvSPECT.CT Cedars</b> The Cardiology Engine Advanced SPECT•CT Cedars assists in the diagnosis and quantification of coronary artery disease as well as in risk stratification for acute cardiac events. The Cardiology Engine Advanced SPECT•CT enables visualization of SPECT studies, quantified perfusion assessment, and quantification of coronary calcium.

#### OPTIONS:

Qty	Item Description
1	<b>Oncology Engine Advanced SPECT.CT</b> The Oncology Engine Advanced SPECT.CT facilitates lesion detection by enabling the visualization, volumetric analysis, and fusion of single SPECT.CT studies as well as the automated or manual registration of images from other, independently acquired modalities (e.g., CT, MR).
2	<b>High Energy Collimator Symbia.</b> High energy (364 keV) parallel hole collimator
1	<b>Pinhole Collimator Symbia</b> Pinhole collimator with a 4mm aperture

**Symbia Collimator Cart**

The collimator cart is designed to hold extra collimators and allows collimator exchange without removing the bed.

# SIEMENS

Siemens Medical Solutions USA, Inc.

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Fax: (610) 219-3124

**SIEMENS REPRESENTATIVE**  
Mathew Anthony - (610) 448-1719

## MI Warranty Information

<u>Product</u>	<u>Period of Warranty<sup>1</sup></u>	<u>Coverage</u>
(New Systems and "Proven Excellence" Refurbished Systems Only)		
MI-SPECT System or MI-PET System (not including radioactive sources and consumables)	12 month	Full Warranty (parts & labor including ALL CT tubes)

### Post-Warranty (after expiration of system warranty) – Replacement parts only:

Straton CT tubes	Prorated to a maximum of 160,000 scan-seconds or 12 months whichever occurs first	Prorated credit given to customer against replacement cost	credit percentage = $(160,000 - \text{scan-seconds used}) / 160,000 * 100$
Dura Akron Q CT tubes	Prorated to a maximum of 120,000 scan-seconds or 12 months whichever occurs first	Prorated credit given to customer against replacement cost	credit percentage = $(120,000 - \text{scan-seconds used}) / 120,000 * 100$
All other Dura CT tubes	Prorated to a maximum of 130,000 scan-seconds or 12 months whichever occurs first	Prorated credit given to customer against replacement cost	credit percentage = $(130,000 - \text{scan-seconds used}) / 130,000 * 100$
Spare Parts	6 month	Parts only	
Radioactive Sources	Not covered		
Consumables	Not covered		

Note: Optional extended warranty coverage can be obtained by purchase of a service agreement.

<sup>1</sup> Period of warranty commences from the date of first use or completion of installation, whichever occurs first. In the event the completion of installation is delayed for reasons beyond Siemens' control, the stated Warranty period shall commence 60 days after delivery of equipment.

# Detailed Technical Specifications

## Symbia T6

Part No. / Product	Description
14415087 Symbia T6	<p>The Symbia T6 system consist of the following integrated TruePoint SPECT•CT features.</p> <ul style="list-style-type: none"><li>- Gantry</li><li>- Patient Bed</li><li>- Acquisition Workplace</li><li>- SPECT Acquisition Features</li><li>- CT Acquisition Features</li></ul> <p><b><u>Gantry</u></b></p> <p>Variable Angle, open design with 70 cm (27.6 in.) patient opening. The two High Definition Digital SPECT detectors can be configured at 76° or 90° for cardiac applications and at 180° for all other whole body and general protocols. Optional caudal tilt of one detector allows for optimum detector positioning of static and dynamic acquisitions. The Ultra Fast Ceramic multislice spiral CT detector rotates at 100 RPM (0.6 sec per revolution). The contemporary design of the gantry incorporates Siemens-typical design elements like translucent cover materials and a fresh stripe décor. The unobstructed gantry base permits planar imaging of seated and standing patients and patients on wheelchairs, or on standard imaging tables, gurneys and hospital beds.</p> <p>The gantry supports circular and non-circular orbits. Autocontour, with infrared real-time body contouring, is a standard component which minimizes patient to collimator distance to 1.2 cm (0.45 in.) in Whole Body and SPECT non-circular orbit acquisition modes.</p> <p>All motorized motions of the system are controlled from the hand controller which can be plugged into either side of the gantry.</p> <p>The Patient Positioning Monitor is a touch screen flat panel which can be rotated for a wide range of user access and visibility. It is used for the following functions:</p> <ul style="list-style-type: none"><li>- Patient positioning with window and persistence adjustment</li><li>- Acquisition parameter display (elapsed time, time remaining, view number, count rate, etc.)</li><li>- Camera information (detector and bed positions)</li><li>- Gantry control (reconfiguration, collimator change, offset zoom, and adjusting the CT acquisition limits.)</li></ul> <p>A fully integrated source holder is provided for quick and convenient quality control.</p> <p><b><u>Patient Bed</u></b></p> <p>The patient-oriented design of the imaging bed consists of 35.6 cm (14 in.) wide and 15 mm (0.6 in.) thin, carbon fiber pallet, supporting patient weights up to 227 kg (500 lbs). Minimum bed height is 53 cm (21 in.) for easy patient access. Programmable table positions for wheelchairs and gurneys minimize the transport efforts of patients and staff. Integrated rulers on each side of the patient bed, allow for quick whole body set up. The bed also provides automatic, uninterrupted table feed CT scanning The patient bed can be easily pivoted to the side for rail-free access of sitting/standing patients, wheelchairs, imaging tables, gurneys and hospital beds.</p> <p><b><u>Acquisition Workplace</u></b></p> <p>The syngo-based high performance workstation provides a multi-modality graphical user interface, keyboard and mouse. SPECT and CT acquisition, quality control and display are integrated in a single workplace. Workflows for a wide variety of clinical protocols are included. The workplace offers customizable displays and full DICOM archiving and printing functionality.</p>

Part No. / Product	Description
<p>(Continued) 14415087 Symbia T6</p>	<p><b>Hardware:</b></p> <ul style="list-style-type: none"> <li>- Single Quad-Core 2.54 GHz Xeon CPU</li> <li>- 4 GB RAM</li> <li>- 4 X 300 GB SAS Hard Drives</li> <li>- Integrated DVD-R RW</li> <li>- Workflow-based Architecture</li> </ul> <p><b><u>SPECT Acquisition Features</u></b></p> <p><b>SPECT Acquisition Modes</b></p> <ul style="list-style-type: none"> <li>- Planar static and dynamic</li> <li>- Whole Body</li> <li>- SPECT</li> <li>- Gated SPECT</li> <li>- Dynamic SPECT</li> <li>- Whole Body SPECT</li> </ul> <p><b>SPECT Features</b></p> <p><b>Workflow Features:</b> The system combines acquisition, post-processing (optional), and display into user customizable workflows that automate many of your clinical routines. Besides remembering and storing your parameters for each clinical protocol, the workflow will automatically print, archive, and distribute your results to other devices on your network.</p> <p><b>Quality Control:</b> Use the automatic and manual motion correction features of the system to aid you in the quality of your acquired images. Besides correcting for motion, you can beat normalize your gated studies and create quality control images such as sinograms and linograms to document your results.</p> <p><b>3D Orientation:</b> Reorient your acquired SPECT volumes interactively to achieve the desired patient position. Cardiac and general orientations are supported. If desired, the orientation applied to one volume can be automatically applied to up to 3 additional volumes.</p> <p><b>Image Registration:</b> Multiple techniques are available for accurate registration of your acquired images. Translations and rotations in all 3 planes provide a foundation for accurate registration. The optional automatic registration technique can often assist you in those hard-to-register cases. A landmark registration feature rounds out the available techniques. Triple registration and the choice of output matrix size are also standard features.</p> <p><b>Reconstruction:</b> The reconstruction engine supports up to 5 multi-isotope studies concurrently. Standard SPECT as well as wholebody, dynamic and gated cardiac volumes can be created. Advanced techniques that provide high image quality comes standard with our system:</p> <ul style="list-style-type: none"> <li>- <u>Flash Iterative Technologies</u> OSEM reconstruction algorithm using 3D collimator modeling to increase resolution and decrease noise, while maintaining the exact shape of organs and lesions, when compared to filtered back projection reconstruction.</li> <li>- <u>CT Attenuation Correction</u> Creates very precise attenuation maps from the high quality CT data to correct for attenuation and increase reading accuracy.</li> <li>- <u>Scatter Correction</u> Uses patient specific scatter projection estimates form a generalized dual-or triple energy window method to compensate for scatter during the iterative reconstruction process.</li> </ul>



Part No. / Product	Description
<p>(Continued) 14415087 Symbia T6</p>	<p><b><u>CT Acquisition Features</u></b></p> <p><b>CT Acquisition Modes</b></p> <ul style="list-style-type: none"> <li>- Topogram, scanning perspectives: anterior-posterior (ap), posterior-anterior (pa), lateral (lat)</li> <li>- Spiral CT, continuous volume scanning technique with uninterrupted table feed in the multi-rotation mode</li> <li>- Sequential CT, incremental, slice-by-slice imaging mode with no table movement during data acquisition</li> </ul> <p><b>CT Features</b></p> <p><b>CARE Dose 4D:</b> This software feature provides automatic, real-time x-ray dose management for all scan modes. The minimal x-ray dose level needed to obtain optimal image quality is determined from extensive computer analysis of the topogram image and also from the data collected during every slice scanned, on a real time basis. This dual stage automatic approach ensures optimal image quality at the lowest possible x-ray dose.</p> <p>With this method of dose control, the initial or starting tube current for every axial slice position is determined from the topogram image. Then, during the data acquisition for each axial slice, the x-ray attenuation values are closely monitored and the tube current is adjusted, on a real time basis, to optimize the x-ray dose level for the specific organs and anatomy in the x-ray path.</p> <p>Several clinical benefits are achieved with CARE Dose 4D:</p> <ul style="list-style-type: none"> <li>- Significant x-ray dose reduction (up to 66 %) possible for all body regions scanned compared with standard sequence or spiral scanning;</li> <li>- Consistent, optimal image quality with the x-ray dose level unique for every patient and for every anatomical region;</li> <li>- Thinner axial slices and/or longer scan ranges possible because of reduced tube loading;</li> <li>- Ultra-low dose examinations for pediatric patients.</li> </ul> <p><b>SureView™ – Multislice Image Reconstruction System</b></p> <ul style="list-style-type: none"> <li>- Excellent Image Quality and no slice broadening at any pitch – IQ is kept constant for all scan speeds, independent of the selected range and scan time.</li> <li>- Up to 20% dose savings in spiral mode.</li> </ul> <p><b>Asynchronous Recon:</b> 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.</p> <p><b>Image reconstruction:</b> Reconstruction using raw data zoom with the possibility of freely selecting the image center either before scanning (prospectively) or retrospectively.</p> <p><b>Image display:</b> CT value scale for window setting -1024 to +3071 HU. For very dense objects the CT value scale can be extended from -10240 to +30710 HU.</p> <p><b>Multiplanar Reconstruction (MPR)</b> Real-time MPR for real-time reconstruction of secondary slices. Slice orientation: coronal, sagittal, irregular as well as multi-planar with SIR and Oblique. Cutlines can be determined using the reference tomogram or in sagittal reformatted images (SRI). 512 x 512 reconstruction matrix.</p> <p><b>Syngo 3D SSD</b> Used to display and analyze complex anatomies – e.g. skull, pelvis, and hips – for the purpose of planning surgical interventions.</p>

Part No. / Product	Description
<b>07833283</b> <b>3/8" Hi-Resolution Detector</b>	<p>The Symbia utilizes energy independent high definition digital detectors.</p> <p>Detector assembly technical specifications:</p> <ul style="list-style-type: none"> <li>- True rectangular FOV of 38.7 x 53.3 cm (15.25 x 21 in.)</li> <li>- 59 photomultiplier tubes – 53, 7.6 cm (3 in.) and 6, 5.1 cm (2 in.) diameter tubes</li> <li>- .95 x 59.1 x 44.5 cm (3/8 x 23 x 17.4 in.) NaI (TI) crystal material</li> </ul> <p>The HD Detector features include:</p> <ul style="list-style-type: none"> <li>- Balanced performance between energy resolution and spatial resolution</li> <li>- One, 10-bit high-speed flash ADC per PMT</li> <li>- Variable PMT selection ensures high resolution for all multi-energy and multi-peak applications</li> <li>- Optimized dynamic digital integration time to improve high count rate capability</li> <li>- Individual PMT pile-up correction for improved performance at high count rates</li> <li>- Energy independence maintains clinical performance at all energies including multi-peak and dual isotope studies</li> <li>- Location independence maintains consistent spatial resolution across the field of view</li> <li>- Crystal variation correction for optimal uniformity and linearity across all energies</li> <li>- Single source (Co-57 or Tc-99m) tunes the detector for all energies</li> </ul>
<b>07835494</b> <b>Low_Energy_Hi_Res Collimator Symbia</b>	<p>The low energy high resolution collimator has the following technical specifications:</p> <ul style="list-style-type: none"> <li>- 148,000 hexagonal holes</li> <li>- Sensitivity: 202 cpm/microCurie</li> <li>- Resolution: 7.5mm at 10 cm</li> <li>- Weight: 22 kg (49 lbs)</li> </ul>
<b>07835452</b> <b>Medium Energy Collimator Symbia</b>	<p>The medium energy collimator has the following technical specifications:</p> <ul style="list-style-type: none"> <li>- 14,000 hexagonal holes</li> <li>- Sensitivity: 275 cpm/microCurie</li> <li>- Resolution: 12.5 mm at 10 cm</li> <li>- Weight: 64 kg (140 lbs)</li> </ul>
<b>10273911</b> <b>Productivity Package</b>	<p>The productivity package includes the following features:</p> <ul style="list-style-type: none"> <li>- Integrated Collimator Changer</li> <li>- Automatic Collimator Exchange</li> <li>- Automatic Quality Control</li> </ul> <p><b>Integrated Collimator Changer</b></p> <p>Innovative collimator exchange system that is mounted beneath the patient bed. Saves time and effort when changing the most frequently used collimators. Holds two sets of low or medium energy collimators.</p> <p><b>Automatic Collimator Changer</b></p> <p>Fully automated changing of collimators within the integrated collimator changer. Collimator removal or exchange is initiated from the patient positioning monitor.</p> <p><b>Automatic Quality Control</b></p> <p>Automatic quality control is performed via self-shielding Gd-153 line and Co-57 point sources. The sources are housed in the patient bed and are extended automatically as part of the camera's quality control procedures. The daily, weekly, and monthly procedures are customer scheduled and performed automatically without manual intervention.</p>

<b>Part No. / Product</b>	<b>Description</b>
<b>10273914 AutoQC source kit</b>	<p>The useful life of the 370 MBq (10 mCi) Gd-153 line, used for daily extrinsic floods and monthly multi-head registration procedures, is 2 years. The useful life of the 1.85 MBq (50 µCi) Co-57 point, used for intrinsic floods, is 1 year.</p> <p>Sources that have been replaced are returned to the source vendor for disposal. Return shipment costs are not included in the purchase price.</p>
<b>10413526 PHS Extended Pivot</b>	The extended pivot opens the range from 40 degrees to 45 degrees to allow better handling of wide hospital beds.
<b>08418407 Extra Hand Controller</b>	The Symbia T series scanner comes standard with a single hand controller that can be plugged into either side of the gantry. This option adds an additional hand controller for added efficiency in accessing the motorized motions for the patient bed, gantry, and detectors.
<b>07830909 Remote Diagnostic Services</b>	<p>A broadband connection is required for full remote diagnostic functionality and optimal system uptime. The Remote Diagnostic Services option allows for remote access to your networked workstations. This service includes all the necessary hardware, software and configuration required to access your equipment remotely for the purposes of remote diagnostics. Features include:</p> <ul style="list-style-type: none"> <li>- Image Transfer</li> <li>- Access to automatic Virus Protection updates</li> <li>- Error log retrieval</li> <li>- Remote Workflow revisions</li> <li>- Remote configuration</li> <li>- License management</li> <li>- Remote workstation control via netmeeting</li> </ul>
<b>10097270 MI University</b>	Molecular Imaging University (MI-U) is the ultimate training resource for the interpreting physician, the referring physician and the technologist working with Siemens PET/CT and SPECT/CT systems. MI University is exclusively offered to customers of Siemens Molecular Imaging.
<b>10412858 Symbia T Series US Installation</b>	<p>Installation includes:</p> <ul style="list-style-type: none"> <li>- Complete system assembly</li> <li>- Alignment</li> <li>- System startup</li> <li>- Calibrations</li> <li>- Performance verification to factory specifications</li> </ul> <p>This option is required for all US Installations</p>
<b>14414937 Symbia.net</b>	<p>Symbia.net is a clinical workplace that offers:</p> <p>System Features:</p> <ul style="list-style-type: none"> <li>- Workflow based architecture</li> <li>- DICOM networking, printing</li> <li>- User configurable displays</li> <li>- 3D Orientation</li> <li>- Image Fusion</li> </ul> <p>Server Hardware</p> <ul style="list-style-type: none"> <li>- Microsoft Windows XP SP3</li> <li>- Dual Xeon multi-core CPUs</li> <li>- 12 GB Memory</li> <li>- Dual Monitor option</li> </ul> <p>Access to reading capabilities from anywhere (requires Server Management option)</p>

Part No. / Product	Description
<p><b>(Continued)</b>  <b>14414937</b>  <b>Symbia.net</b></p>	<ul style="list-style-type: none"> <li>- Any standard PC, Mac, or iPad with a network connection can be set up as a client</li> <li>- Up to five concurrent users can access the clinical network simultaneously</li> </ul> <p>Easy installation and operation</p> <ul style="list-style-type: none"> <li>- Symbia.net easily integrates with existing cameras, RIS and PACS</li> <li>- A virtually unlimited number of client computers can be installed remotely (requires Server Management option)</li> <li>- Designed for the needs of nuclear medicine with a user friendly interface and advanced automation features</li> </ul> <p>Optional Extensions</p> <ul style="list-style-type: none"> <li>- Server Management option <ul style="list-style-type: none"> <li>- Supports up to 5 concurrent users</li> <li>- 1 seat at the workplace</li> <li>- Up to 4 floating client licenses</li> </ul> </li> <li>- Cardiology Engines</li> <li>- Oncology Engines</li> <li>- Neurology Engines</li> <li>- MI Processing Engine</li> <li>- Advanced SPECT/CT Reconstruction</li> <li>- MI Cardiac Process Engine</li> </ul>
<p><b>14415058</b>  <b>Monitor, 19" LCD</b>  <b>DICOM</b></p>	<p>Additional features include:</p> <ul style="list-style-type: none"> <li>- 19" TFT panel</li> <li>- minimum of 170 degree horizontal and vertical viewing angle</li> <li>- Optimal picture resolution of 1280 x 1024</li> <li>- Contrast ratio 450:1</li> <li>- Maximum luminance 280 cd/m2</li> <li>- Anti-glare panel surface</li> </ul>
<p><b>14415036</b>  <b>SPECT/CT</b>  <b>Processing</b></p>	<p>The SPECT/CT Processing features include:</p> <ul style="list-style-type: none"> <li>- Advanced SPECT/CT Reconstruction</li> <li>- Advanced Image Fusion</li> <li>- Volumetric Analysis</li> <li>- Organ Processing</li> </ul> <p><b><u>Advanced SPECT/CT Reconstruction</u></b></p> <p>The Advanced SPECT/CT Reconstruction package utilizes the most advanced reconstruction algorithms available. These include:</p> <ul style="list-style-type: none"> <li>- <b>Flash Iterative Technologies</b> – increases image quality and decreases noise while maintaining organ shape</li> <li>- <b>Scatter Correction</b> – patient specific scatter estimates improve image quality</li> <li>- <b>CT Attenuation Correction</b> – precise attenuation maps from high quality CT are used to correct for body attenuation and to increase reading accuracy</li> </ul> <p><b><u>Advanced Image Fusion</u></b></p> <p>Advanced Image Fusion includes:</p> <ul style="list-style-type: none"> <li>- syngo 3D Package</li> <li>- syngo Image Fusion</li> </ul>

Part No. / Product	Description
<p><b>(Continued)</b>  <b>14415036</b>  <b>SPECT/CT</b>  <b>Processing</b></p>	<ul style="list-style-type: none"> <li>- Automatic Image Fusion</li> </ul> <p>Images from NM, PET, CT, MR, and AX are supported.</p> <p><b>syngo 3D Package:</b>  Navigate through volume data to create surface shaded and maximum intensity projection images. Volume data can be interactively rotated and a new range of images created from the reoriented data.</p> <p><b>Image Fusion Package:</b>  Functionality for spatial alignment, superimposition, and visualization of image data from one patient where image data has been generated by different modalities. Adds additional diagnostic information by fusing the morphological with the functional information. A transformation matrix is stored with the data to bring them back into alignment at a later time.</p> <p><b>Automatic Image Fusion:</b>  Automatic image registration enhancements to the Image Fusion Package. Surface Matching and Mutual Information algorithms allow for mix of image registration between anatomic modalities and functional modalities.</p> <p><b><u>Volumetric Analysis</u></b></p> <p>Volumetric analysis provides tools for the display and analysis of SPECT/CT tumor imaging. 2D and 3D regions of interest provide area and volume information from single or multi-bed SPECT and SPECT/CT wholebody images. Multiple study support allows you to compare pre and post therapy exams to assess changes to tumor size and shape. Dynamic SPECT data is also supported for the creation of time activity curves. Common tools for masking, cursor correlation, alpha blending, and unit selection are included.</p> <p><b><u>Organ Processing</u></b></p> <p>Organ processing provide generic tools for the manipulation of NM images. In addition, it provides dedicated processing protocols for the many different types of exams performed in nuclear medicine departments. Features provided are:</p> <ul style="list-style-type: none"> <li>- Cardiac: Planar Gated Blood Pool, First Pass, Shunt</li> <li>- Lung: Perfusion, Ventilation, V/Q</li> <li>- Thyroid</li> <li>- Renal: GFR, ERPF, MAG3, Transplant, TER, Ace Inhibitor</li> <li>- Gastric</li> <li>- Hepatobiliary</li> <li>- Brain: Patlok, Lassen, IMP, IMP-ARG, NIMS</li> <li>- GSA Liver</li> <li>- Parathyroid: Scaled subtraction</li> <li>- Image manipulation tools: Series Filter, Series Arithmetic, Series Reformat, and Series ROI and Curve</li> </ul>
<p><b>14415185</b>  <b>Cardiology Engine</b>  <b>SPECT.CT Cedars</b></p>	<p>The Cardiology Engine SPECT.CT provides the Cedars Cardiac SPECT Suite, a comprehensive set of quantitation program for the evaluation of SPECT Myocardial Perfusion Imaging</p> <p>The engine calculates a comprehensive set of cardiac parameters including ejection fractions, volumes, wall motion including right ventricular free wall motion in QBS, wall thickening, perfusion (%). QPS allows for the quantitation of prone SPECT data and of serial perfusion changes. Both 20 and AHA-17 segment scoring models are available. In addition to calculating an Eccentricity Index, QGS also calculates a more regional measure of LV shape known as the Shape Index. Displays include gated slices with contours, a motion frozen display which results in better resolution and contrast by eliminating motion of the cardiac cycle, interactive 3D images, and polar maps. Manual over-ride of contours and DICOM compatible output are additional features. Outputs include DICOM secondary capture files, result files as well as the ability to generate an AVI file format. The Cedars application is an OEM product developed and supported by Cedars Sinai.</p> <p><i>Applications include: Cedars Cardiac SPECT Suite</i></p>

Part No. / Product	Description
<b>14415033</b> <b>SPECT/CT 1/2 Time</b> <b>Planar Imaging</b>	<p>The SPECT•CT Planar ½ Time Imaging package is based upon a statistical, adaptive de-noising and de-blurring process for planar imaging. It can be used to:</p> <ul style="list-style-type: none"> <li>– Shorten the acquisition time of planar imaging, and/or</li> <li>– Reduce the dose administered to the patient, and/or</li> <li>– Enhance the image quality of statistically poor imaging results</li> </ul>
<b>05245316</b> <b>UPS for e.soft/c.cam</b> <b>(60 Hz)</b>	<p>Specifications:</p> <p>1.4 KVA</p> <p>Input configuration: 120 VAC, 5-15P Output configuration: 120 VAC, (6) 5-15R</p>
<b>14415184</b> <b>Cardiology</b> <b>EngineAdvSPECT.CT</b> <b>Cedars</b> <b>(Alternate)</b>	<p>The Cardiology Advanced SPECT•CT engine provides the Cedars Cardiac SPECT Suite, a comprehensive program for the evaluation of SPECT Myocardial Perfusion Imaging</p> <p>The engine calculates a comprehensive set of cardiac parameters including ejection fractions, volumes, wall motion including right ventricular free wall motion in QBS, wall thickening, perfusion (%). QPS allows for the quantitation of prone SPECT data and of serial perfusion changes. Both 20 and AHA-17 segment scoring models are available. In addition to calculating an Eccentricity Index, QGS also calculates a more regional measure of LV shape known as the Shape Index. Displays include gated slices with contours, a motion frozen display which results in better resolution and contrast by eliminating motion of the cardiac cycle, interactive 3D images, and polar maps. Manual over-ride of contours and DICOM compatible output are additional features. Outputs include DICOM secondary capture files, result files as well as the ability to generate an AVI file format. The Cedars application is an OEM product developed and supported by Cedars Sinai.</p> <p>The engine calculates various Calcium Scores (Agatston, volume and calcium mass) to assess the risk of a cardiac infarct within user-defined regions for up to four coronary arteries. Visualization and localization consists of a functional VRT (Volume Rendering Technique) fused with an anatomical VRT, with a unique, real-time reorientation based on 3D volumetric images. The resulting areas of calcification or coronary arteries are overlaid on the VRT. One-Click Heart Isolation allows the user to isolate the heart from the surrounding tissue, while correlation of Calcium Scoring results with MPI slices and Fused VRT allows for easy navigation through areas of calcification.</p> <p><i>Applications include: Cedars Cardiac SPECT Suite and CardioScore</i></p>
<b>14415256</b> <b>Oncology Engine</b> <b>Advanced SPECT.CT</b> <b>(Optional)</b>	<p>Oncologic diagnosis demands a volumetric visualization technique that provides fused anatomical and functional volumes into orthogonal planes using multiple layout views or full screen mode. This engine provides tools to evaluate and display SPECT.CT images and results, enabling customized user defined formats, image reorientation in any axis, an array of color look-up tables, and filming options. Standard features include: viewing of SPECT and CT DICOM images including image fusion display for registered series; common display tools such as correlated cursors, quantitative color bar and interactive pixel value; default CT image windows; display of CT Maximum Intensity Projections (MIP); 3D Reorientation of volume data; region of interest (ROI) and volume of interest analysis and visualization.</p> <p>Additionally, this engine includes advanced 3D image display capabilities and automated or manual coregistration/fusion of images from independently acquired modalities (e.g., CT, MR). These features include interactive 3D volume rotation, MPR user defined slice thickness, and an array of coregistration techniques, such as visual, landmark, and automated registration.</p> <p><i>Applications include: Volumetric Analysis, Advanced Image Fusion.</i></p> <p>Most features of Advanced Image Fusion are provided via the syngo 3D Taskcard. This taskcard is only available from the server seat and is therefore not accessible via a client connection. However, the automatic image fusion option is also provided via the Image Registration activity which is available to all seats.</p>

Part No. / Product	Description
<b>07835445</b> <b>High Energy</b> <b>Collimator Symbia.</b> <b>(Optional)</b>	<p>The high energy collimator has the following technical specifications:</p> <ul style="list-style-type: none"> <li>- 8,000 hexagonal holes</li> <li>- Sensitivity: 135 cpm/microCurie</li> <li>- Resolution: 13.4 mm at 10 cm</li> <li>- Weight: 125 kg (275 lbs)</li> </ul> <p>Due to the weight of these collimators, it is recommended that an individual collimator cart containing only the 2 high energy collimators be utilized.</p>
<b>07835510</b> <b>Pinhole Collimator</b> <b>Symbia</b> <b>(Optional)</b>	<p>The pinhole collimator with 4 mm aperture has the following technical specifications:</p> <ul style="list-style-type: none"> <li>- 1 round hole</li> <li>- Sensitivity: 123 cpm/microCurie for 99m Tc</li> <li>- Resolution: 6.6 mm at 10 cm</li> <li>- Weight: 80 kg (177 lbs)</li> </ul> <p>SPECT imaging with a pinhole collimator is not allowed.</p> <p>The pinhole collimator occupies the upper 2 locations on a collimator cart; Therefore, only an additional 2 collimators (1 pair) can be stored on the same cart.</p>
<b>08717873</b> <b>Symbia Collimator</b> <b>Cart</b> <b>(Optional)</b>	<p>The collimator cart is automatically clamped to the patient bed once positioned by the user. The clamping mechanism allows precise collimator exchange to occur.</p> <p>The collimator cart is designed to hold 2 sets of collimators, or 1 set in combination with a pinhole collimator.</p> <p>Due to the weight of the high energy collimators, it is recommended that an individual collimator cart containing only the 2 high energy collimators be utilized.</p>

# SIEMENS

## SYMBIA T6

### TYPICAL ROOM PLAN

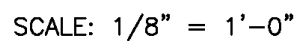
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The intended use for this Cut Sheet is to communicate the spatial requirements as well as the basic architectural, electrical, structural, and mechanical requirements for this piece of imaging equipment. The information provided in this document is for reference only, during the pre-planning stage, and therefore does not contain any site specific detailed requirements. This information is subject to change without notice. Federal, state and/or local requirements may impact the final placement of the components. It is the customer's responsibility to ensure that the final layout and placement of the equipment complies with all applicable requirements.



## TYPICAL ROOM PLAN



# SIEMENS

## SYMBIA T6 SPECIFICATIONS

EQUIPMENT LEGEND								
NO	DESCRIPTION	SMS SYM	WEIGHT (LBS)	BTU/HR TO AIR	DIMENSIONS (INCHES)			REMARKS
					W	D	H	
①	SYMBIA T6 GANTRY W/COLLIMATORS		7,413	24,574	93	84 1/2	90 1/2	6,826 BTU ON STANDBY. WORST CASE WEIGHT 7,963 LBS. WITH (2) HIGH ENERGY COLLIMATORS AT 275 LBS. EACH
②	FRONT PHS		2,512	----	31 1/8	97 1/2	23 3/16	MAX. HEIGHT 41"
③	AUTOMATIC COLLIMATOR CHANGER-ACC WITH AQC - PRODUCTIVITY PACKAGE (OPTION)		684	----	31 1/8	97 1/2	23 3/16	WEIGHT CALCULATED WITH 1 SET LOW AND MEDIUM ENERGY COLLIMATORS.
④	PHS CABLE ON THE FLOOR STANDARD		----	----	----	----	----	41' CABLE EXPOSED ON THE FLOOR
⑤	PHS STANDARD PIVOT		----	----	----	----	----	STANDARD 33 DEG PIVOT
⑥	REAR PHS WITH SNAC		505	----	----	----	----	ON FLOOR
⑦	PATIENT BOOM SWING ARM		----	----	----	----	----	
⑧	LINE CONNECTION BOX		227	1,365	29 1/2	11 3/4	32	ON FLOOR
⑨	UPS FOR SPECT GANTRY (OPTION)		120	1,024	10	28 3/8	17 7/8	ON FLOOR
⑩	TRANSFORMER REQUIRED WITH UPS FOR SPECT (SPS) (OPTION)		----	----	----	----	----	CUSTOMER SUPPLIED PRIOR TO INSTALLATION SEE POWER DIAGRAM
⑪	RTP PALLET (OPTION)		23.5	----	21	10	80 1/2	WALL MOUNTED. SIEMENS/CUSTOMER SUPPLIED
⑫	COLLIMATOR CART (EMPTY) (OPTION)		400	----	47 3/8	32 5/8	47 1/2	WORST CASE 1330 LBS. WITH 1 SET HE AND 1 SET ME
⑬	IMAGE CONSTRUCTION SYSTEM FOR SYNGO MI (ACQUISITION) WORKPLACE		66	2,398	8 1/2	21	18	ON FLOOR UNDER COUNTER - TOTAL COMPUTER EQUIPMENT
⑭	IMAGE RECONSTRUCTION SYSTEM FOR SYNGO MI (ACQUISITION) WORKPLACE		66		8 1/2	21	18	ON FLOOR UNDER COUNTER
⑮	CONTROL AND KEYBOARD		----	----	----	----	----	ON CUSTOMER'S COUNTER
⑯	18" MONITOR		31	----	18 3/8	2 5/8	14 13/16	ON CUSTOMER'S COUNTER
⑰	SYNGO MI (ACQUISITION) WORKPLACE UPS FOR IMS (VERTICAL) STANDARD COMPONENT		67	----	17	19 1/2	4	ON FLOOR UNDER COUNTER
⑱	DVD (OPTION)		----	----	----	----	----	ON CUSTOMER'S COUNTER
⑲	LASER CAMERA (OPTION)		----	----	----	----	----	SEE MANUFACTURER'S SPECS
⑳	SYMBIA.NET WORKPLACE CPU (OPTION)		12.8	956	16 5/8	8 5/16	16 1/8	ON FLOOR UNDER COUNTER
㉑	SYMBIA.NET WORKPLACE KEYBOARD AND MONITOR (OPTION)		39.7	307	17 5/8	18 5/16	16 11/16	ON CUSTOMER'S COUNTER

### FINISHED ROOM HEIGHT

SYMBIA T, T2, T6 OR T16	MINIMUM 8'-0"
SYMBIA T, T2, T6 OR T16 WITH CEILING MOUNTED COMPONENT OTHER THAN RADIATION ON LAMP	MINIMUM 8'-0" MAXIMUM 12'-0"
CONSIDER THE WARNING LIGHT WILL BE BE PLACED ON TOP OF THE PATIENT BOOM. ANY OTHER CEILING MOUNTED COMPONENT MUST BE PLACED AS TO NOT COLLIDE WITH WARNING LIGHT.	

### REMOTE SYSTEM DIAGNOSTICS

SIEMENS REMOTE SERVICES (SRS) REQUIRES A CONNECTION BETWEEN THE SRS REMOTE SERVER AND SIEMENS SYSTEMS VIA REMOTE LOCAL AREA NETWORK ACCESS, TO ENSURE THE UPTIME OF YOUR SYSTEM.

THIS SERVICE REQUIRES ONE OF THE FOLLOWING CONNECTION METHODS:

1. (PREFERRED) VPN - WHERE THE CUSTOMER HAS AVAILABLE A VPN CAPABLE FIREWALL OR OTHER VPN APPLIANCE.
2. (OPTIONAL) \*SRS ROUTER\* - CONNECTED TO ANALOG PHONE LINE VIA \*ANALOG MODEM\*, ETHERNET CONNECTION TO CUSTOMER'S LAN, AND A POWER OUTLET.

NOTE: = \*SUPPLIED BY SIEMENS\*

### FOR MORE INFORMATION

FOR MORE DETAILED PLANNING REQUIREMENTS FOR THIS SYSTEM, SEE THE TYPICAL FINAL DRAWING SET NUMBER: TYPICAL #07135

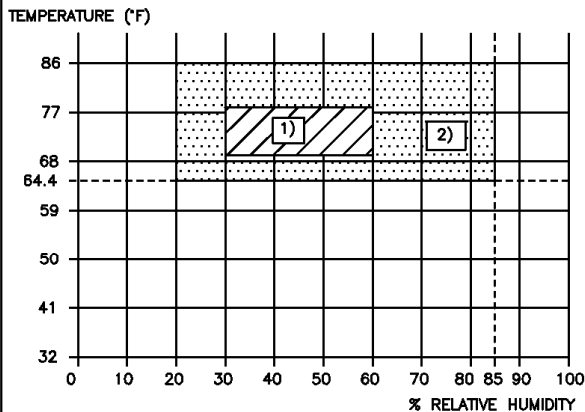
# SIEMENS

## SYMBIA T6 SPECIFICATIONS

### CASEWORK & ACCESSORY NOTES

- 1) ALL CASEWORK IS EITHER EXISTING OR IS TO BE DESIGNED, DETAILED, FURNISHED AND INSTALLED BY THE CUSTOMER AND/OR CONTRACTOR. FOLLOW DESIGN RECOMMENDATIONS INCLUDED HEREWITH, AS THEY ARE ESSENTIAL FOR THE SUCCESSFUL INSTALLATION & OPERATION OF THE SIEMENS EQUIPMENT.
- 2) ALL FURNITURE (CHAIRS, ETC.) FOR THE CONTROL ROOM ARE TO BE PROVIDED BY THE CUSTOMER.

### ENVIRONMENTAL REQUIREMENTS



- 1) RECOMMENDED OPERATING CONDITIONS
- 2) REQUIRED OPERATING CONDITIONS

TEMPERATURE, HUMIDITY, DUST, AIR CONTAMINATION:  
REFER TO THE CLIMATOGRAM ABOVE FOR THE PERMITTED CLIMATE RANGE.

THE MAXIMUM TEMPERATURE GRADIENT IS 8°F PER HOUR.

THE OPTIMAL ENVIRONMENT FOR THE SCANNER ROOM AND THE SYSTEM IS 65°F-86°F WITH A RELATIVE HUMIDITY OF 20-80% NON-CONDENSING. THE OPTIMAL ENVIRONMENT FOR THE CONTROL ROOM 75°F (± 8°F/HR.) WITH A RELATIVE HUMIDITY OF 20-80%, NON-CONDENSING.

FOR EXTERNAL AIR SUPPLY (FRESH AIR) IT IS RECOMMEND THAT COARSE FILTERS OF THE CLASS EU3 TO EU4 BE USED ON-SITE TO FILTER OUT DUST PARTICLES > 10µm.

THE VENTILATION SHOULD ENSURE THAT AGGRESSIVE POLLUTANTS ARE PREVENTED FROM ENTERING THE ROOM. THE ROOM AIR SHOULD BE PROTECTED AGAINST CONTAMINATION BY HYDROGEN SULFIDE, EVEN IN SMALL AMOUNTS. THE MOST WELL KNOWN SOURCES OF HYDROGEN SULFIDE INCLUDE: EXHAUST FUMES AND WASTE WATER FROM DEVELOPERS, EXPOSED SEWER DRAINS, EXHAUST FUMES FROM DIESEL POWER UNITS. IF A DANGER OF SUCH CONTAMINATION EXISTS, CORRECTIVE ACTIONS HAVE TO BE TAKEN E.G.: EXTRACTOR FANS, SIPHON, AND MODIFICATION OF VENTILATION INTAKE.

### POWER REQUIREMENTS

SYSTEM	LINE VOLTAGE (VOLTS)	POWER CONSUMPTION (KVA) SEE NOTE BELOW	AUTOMATIC CIRCUIT BREAKER (AMPS)	INCOMING LINE IMPEDANCE (mΩ)	HZ
SYMBIA T6/T16	3Ø 480±10%	74.8 kVA SCAN	100	320	60

#### POWER CONSUMPTION

SYMBIA T6/T16 - LESS THAN OR EQUAL TO 70 KVA MAXIMUM POWER CONSUMPTION, LESS THAN OR EQUAL TO 3 KVA STANDBY

SPECT GANTRY, PHS, UPS, & SNAC - 4.8 KVA MAXIMUM POWER CONSUMPTION, LESS THAN OR EQUAL TO 1.5 STANDBY

TOTAL CONSUMPTION = 74.8 TOTAL STANDBY = 4.5 KVA

NOTE: THE SPECT UNITS NEED TO BE WIRED SINGLE PHASE TO NEUTRAL WITH APPROPRIATE BREAKER AND WIRE SIZE.

DO NOT CONNECT ANY EXTERNAL USERS TO THE SPECT\CT POWER LINE. FOR SYMBIA T6/T16, THE IMAGING SYSTEM IMS (ICS, IRS, AND MONITOR) MUST BE CONNECTED VIA THE UPS TO THE LCB. THE FUSE IS ALREADY INTEGRATED IN THE LCB.

AN ON/OFF SWITCH IN ACCORDANCE WITH UL 2601/CSA114 INCLUDING A SWITCH POSITION INDICATOR IS INTEGRATED IN THE LCB, A SEPARATE ON/OFF SWITCH MAY BE REQUIRED PER LOCAL CODE.

THE SCANNER AND CONTROL ROOM SHOULD BE EQUIPPED WITH AT LEAST ONE EACH EMERGENCY POWER OFF BUTTON.

### NOISE LEVEL

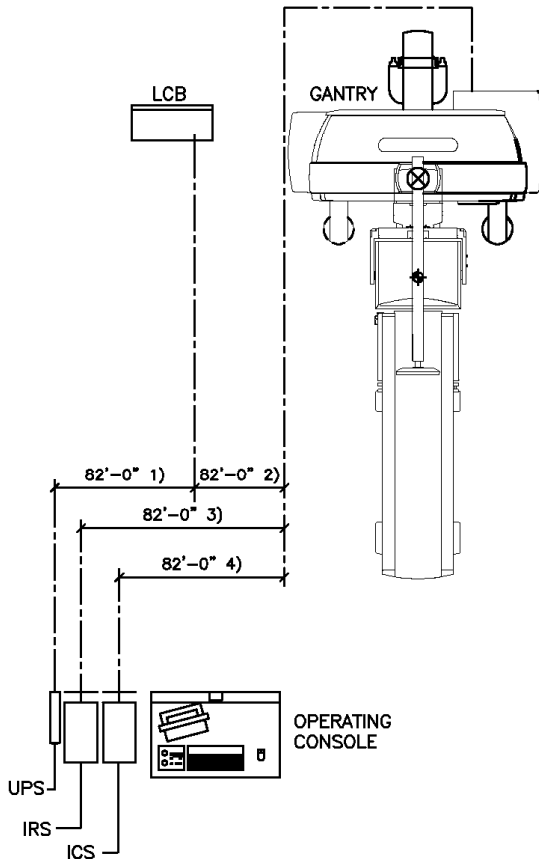
SYSTEM COMPONENT	DECIBEL LEVEL (AT 3'-3" DISTANCE)
SYMBIA T, T2, T6 AND T16 GANTRY	68
FRONT PHS (PATIENT TABLE)	60
UPS FOR IMS	<45
1) NOISE DEPENDS ON THE ROOM TEMPERATURE AND THE PROCESSOR LOAD.	

# SIEMENS

## SYMBIA T6 SPECIFICATIONS

### MAXIMUM DISTANCES

THE MAXIMUM DISTANCE BETWEEN COMPONENTS IS CALCULATED AS THE DISTANCE FROM CABLE OUTLET TO CABLE OUTLET. VARIOUS ARRANGEMENTS OF COMPONENTS ARE POSSIBLE AS LONG AS THE DISTANCES SHOWN BELOW ARE NOT EXCEEDED.



- 1) LCB TO UPS THE OVERALL LENGTH OF CABLE IS 82'-0".
- 2) LCB TO THE SYMBIA T GANTRY THE OVERALL LENGTH OF CABLE IS 82'-0".
- 3) IRS TO THE SYMBIA T GANTRY THE OVERALL LENGTH OF CABLES IS 82'-0".
- 4) ICS TO THE SYMBIA T GANTRY THE OVERALL LENGTH OF CABLE IS 82'-0".

### FLOOR REQUIREMENTS

1) THE MINIMUM ALLOWABLE CONCRETE THICKNESS FOR NONSEISMIC REGIONS OF THE SCANNER ROOM FLOOR IS 4".

2) CONDITIONS OF FLOORING:

VIBRATION FREE LOCATION AS FOUND IN A TYPICAL CLINICAL ENVIRONMENT.

INSTALLATION OF THE GANTRY AND PATIENT TABLE ON:

CONCRETE FLOORING CLASS C20/25 TO C50/60.  
COMPOSITE FLOORING OR ACCESS FLOOR WITH SUITABLE ON SITE MOUNTING FRAME, SUB CONSTRUCTION.  
OR EQUIVALENT STRUCTURE.

3) WEIGHT CAPACITY OF FLOORING SHOULD BE TESTED BY A STRUCTURAL ENGINEER.

4) ANY FLOORING OTHER THAN LISTED ABOVE REQUIRES AN ON SITE FRICTION FREE SUB CONSTRUCTION MADE FROM STEEL IN THE AREAS OF SUPPORT. PLEASE CONSULT STRUCTURAL ENGINEER.

5) THE MINIMUM EXTRACTION FORCE FOR THE POINTS WHERE THE PATIENT TABLE IS ATTACHED IS 610 LBF. PER ANCHOR.

INSTALLATION ON A FLOATING FLOOR WITHOUT SUB-CONSTRUCTION IS PROHIBITED.

6) THE BASE FRAME FOOT PADS ARE MOUNTED TO THE FLOOR USING (4) 5/8" x 3 1/2" ANCHORS.

7) FLOOR LEVELNESS REFER TO FLOOR LEVELING AND FLATTENING DETAIL LOCATED ON THIS SHEET.

8) THE MINIMUM REQUIREMENTS FOR COMPRESSIVE STRENGTH FOR THE FLOOR COVERING BASED ON SYMBIA COLLIMATOR CART SHALL BE 375 PSI. THIS IS BASE ON WORSE CASE LOADING WITH 2-HIGH ENERGY AND 2-MEDIUM ENERGY COLLIMATORS PLACED ON THE COLLIMATOR CART.

# SIEMENS

## SYMBIA T6 SPECIFICATIONS

### RAM LICENSE

RAM LICENSE NEEDS TO BE APPLIED FOR THROUGH GOVERNMENT AGENCY AS EARLY AS POSSIBLE. PLEASE ADDRESS WITH YOUR RSO (RADIATION SAFETY OFFICER).

RAM LICENSE MUST BE OBTAINED NO LATER THAN 4 WEEKS AHEAD OF SCHEDULED DELIVERY. DELAY OF INSTALLATION MAY OCCUR IF SITE HAS NOT OBTAINED RAM LICENSE AT THIS TIME. RADIOACTIVE SOURCES NEEDED TO COMPLETE CALIBRATION OF EQUIPMENT WILL NOT BE SHIPPED TO SITE WITHOUT VALID RAM LICENSE.

### RADIATION SAFETY

LEAD OR EQUIVALENT SHIELDING MAY BE REQUIRED IN THE WALLS OF THE SCANNER ROOM, HOTLAB AND/OR PATIENT PREPARATION AREAS. IT IS THE RESPONSIBILITY OF THE CUSTOMER TO VERIFY WITH THE SITE'S RADIATION SAFETY OFFICER THAT RADIATION DOSE RATES FROM THE SPECT PATIENT AND/OR ISOTOPE WILL NOT EXCEED LOCAL RADIATION SAFETY GUIDELINES IN THE ROOM ADJACENT TO SCANNER, HOTLAB, AND/OR PATIENT PREPARATION AREAS.

IMPROPER SHIELDING MAY AFFECT CAMERA'S PERFORMANCE.

### RADIOACTIVE SOURCES

THE FOLLOWING RADIOACTIVE SOURCES ARE REQUIRED FOR THE SYMBIA T AT THE TIME OF INSTALLATION FOR CALIBRATION:

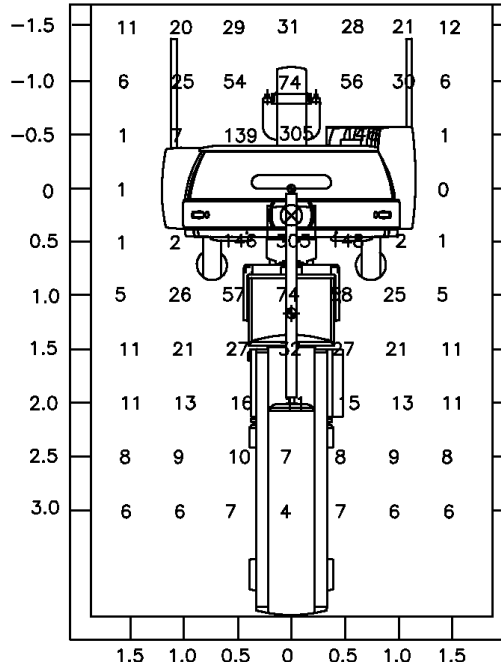
- 1) 10–20 mCi Co57 (COBAL 57) OR LIQUID FILLED Tc99 (TECHNETIUM 99) SHEET SOURCE (FOR EXTRINSIC FLOOD).
- 2) POINT SOURCE 30–35  $\mu$ Ci Tc99 (FOR INTRINSIC FLOODS, TUNING AND PEAKING).
- 3) QUANTITY OF 5 – 1 mCi Tc99 POINT SOURCES (FOR MHR CALIBRATION).
- 4) QUANTITY OF 10 Tc99 POINT SOURCES WITH COMBINED ACTIVITY OF ALL SOURCES 5 mCi TO 20 mCi (FOR NM/CT FOV).

IT IS CUSTOMER'S RESPONSIBILITY TO OBTAIN THESE SOURCES PRIOR TO INSTALLATION. CO-57 RECTANGULAR FLOOD SHEET SOURCE MAY BE ORDERED FROM SIEMENS (ASK SIEMENS SALES ASSOCIATE). Tc99 MUST OBTAINED THROUGH CUSTOMER'S LOCAL RADIOACTIVE SOURCE PROVIDER.

THESE RADIOACTIVE SOURCES AREA NEEDED TO COMPLETE CALIBRATION OF EQUIPMENT. PLEASE NOTE SOURCE PROVIDERS WILL NOT SHIP SOURCES TO SITE WITHOUT A VALID RAM LICENSE.

### RADIATION SCATTER

METERS



SYMBIA T6

MEASUREMENT IN  $\mu$ G/1 As SCAN

SCALE: 1/4"=1'-0"

THE MEASUREMENT WAS TAKEN AT THE MAXIMUM SLICE THICKNESS OF 6 x 3 mm AT 130 kV AND 300 mAs/scan IN THE HORIZONTAL PLANE THROUGH THE SYSTEM AXIS. THE PHANTOM USED WAS A CYLINDRICAL PMMA PHANTOM WITH A DIAMETER OF 32 CM AND 16 CM. THE PHANTOM WAS CENTERED IN THE TOMOGRAPHIC PLANE.

◆ INDICATES CT ORIENTATION POINT

● INDICATES SPECT ORIENTATION POINT

# SIEMENS

## SYMBIA T6

### SPECIFICATIONS

#### TRANSPORT AND DELIVERY NOTES

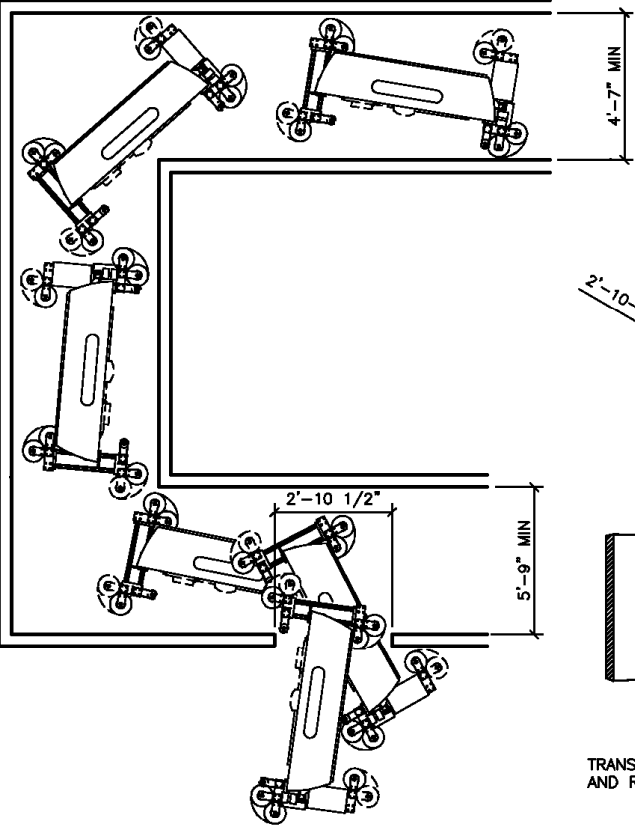
NM SUB-SYSTEM ON SKID	4,118 LBS.
CT SUB-SYSTEM	2,480 LBS.
FRONT PHS	2,745 LBS.
REAR PHS	505 LBS.

NORMAL TRANSPORT REQUIREMENTS:  
DURING THE MOVEMENT OF THE GANTRY THROUGH CORRIDORS THE TRANSPORT CASTERS ARE SWIVELED OUT FOR STABILITY.

FRONT PHS REQUIRES THE SAME HALLWAY TRANSPORT ROUTE AS THE GANTRY AS SHOWN BELOW.

PLEASE CONSULT PLANNING GUIDE FOR ELEVATOR CLEARANCES FOR GANTRY AND FRONT PHS.

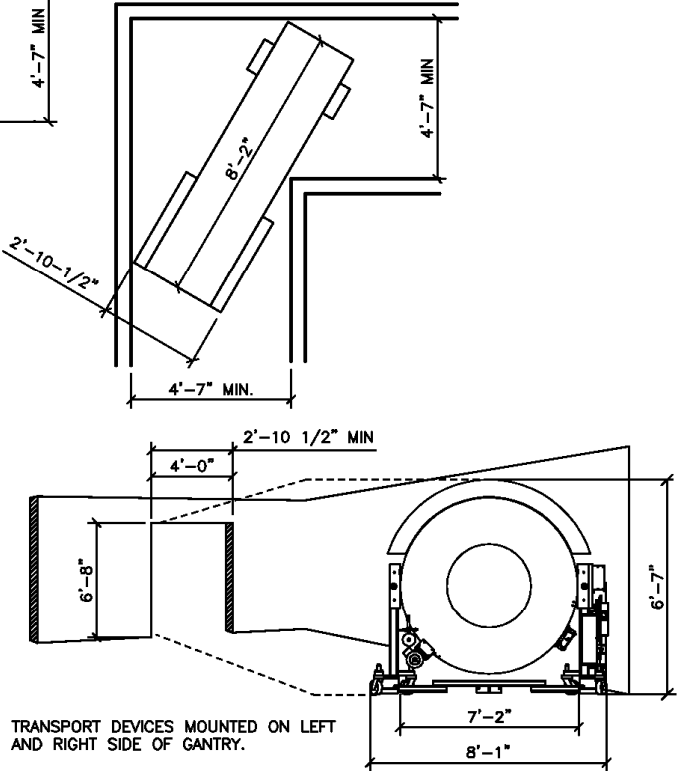
#### HALLWAY TRANSPORT FOR GANTRY



HALLWAY TO DOOR TRANSPORT:  
TRANSPORTS MAY HAVE TO BE SWIVELED IN NARROW AREAS. ONCE SYSTEM HAS PASSED THROUGH NARROW AREA, THE TRANSPORT ROLLERS MUST BE SWIVELED OUT AGAIN FOR STABILITY.

TRANSPORTING GANTRY FLOOR LOAD:  
ACCESS FLOORS MUST BE LAID OUT TO SUPPORT A LOAD MINIMUM 1296 LBS. DURING TRANSPORT OF THE GANTRY, HIGHER LOADS CAN OCCUR AT INDIVIDUALS POINTS IF THE FLOOR IS NOT LEVEL. COVER THE TRANSPORT PATH WITH SHEET METAL TO DISTRIBUTE THE FLOOR LOAD.

#### HALLWAY TRANSPORT FOR FRONT PHS



TRANSPORT DEVICES MOUNTED ON LEFT AND RIGHT SIDE OF GANTRY.