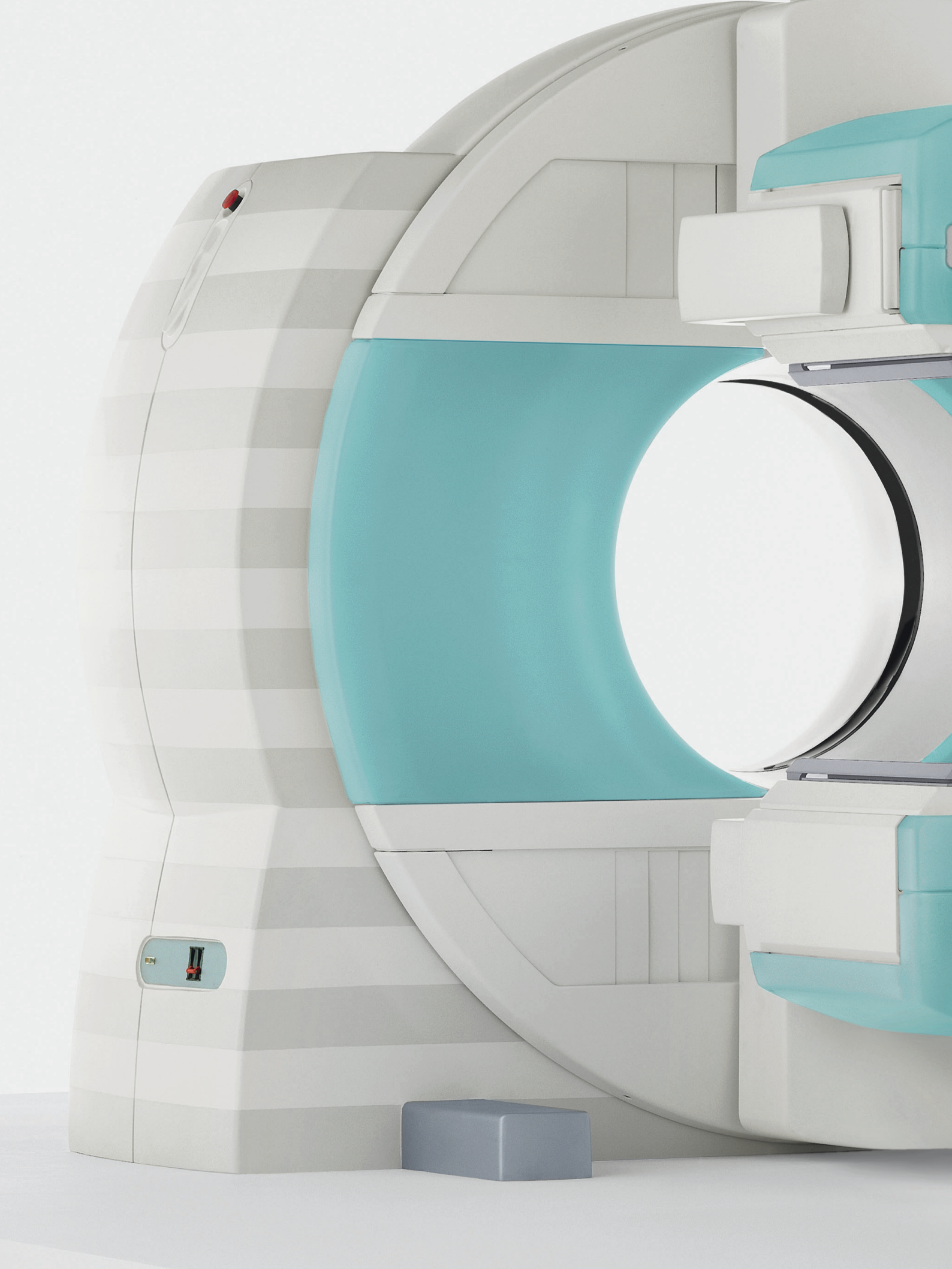
SIEMENS

www.siemens.com/mi

Symbia T Series

System Specifications

Answers for life.



Symbia T Series Diagnostic Excellence

Today's healthcare institutions have increasingly diverse patient needs, greater budget limitations and the need for higher system utilization. As a result, greater efficiency and more accurate diagnostic solutions are becoming increasingly important in molecular imaging, where the dual mandate to reduce patient radiation exposure and increase throughput has a direct effect on patient well-being, clinical workflow and the bottom-line. This is especially true for cardiac studies—the number one nuclear medicine procedure performed worldwide. Unclear images, insufficient lesion localization and low specificity are issues common to SPECT systems that require confirmation from other imaging modalities. In addition, remote access to patient data has become a key requirement in physician mobility. These challenges require a multi-purpose system that provides solutions on several levels.

Symbia™ T Series is the first SPECT system with a diagnostic CT for precise anatomical localization and accurate attenuation correction, giving physicians the image quality and specificity they need for diagnostic excellence. The system delivers a combination of applications that reduce radiation exposure and increase throughput. For example, Siemens offers the world's only ultra-fast cardiac imaging solution on a general purpose system: IQ•SPECT. The introduction of automated processes, such as Automated Quality Control and Automated Collimator Changer, saves time, reduces potential equipment damage and streamlines workflow. To accommodate diverse patient needs, the fully-integrated Symbia T Series enables SPECT, SPECT/CT and CT-only procedures. On-demand access to patient data with Symbia.net offers physicians image viewing and processing wherever they are. Symbia T Series provides high-quality imaging for excellent patient care, and is a solution to the pressing clinical and business needs for healthcare institutions worldwide.

Features

	Key Highlight Features	Symbia T Series
High-Definition SPECT•CT	Reconstruction Frame-of-Reference	SPECT frame-of-reference
	Spect Reconstruction Matrix Size	128x128, 64x64
	Advanced Reconstruction	Flash3D iterative
	Detectors Rotational Uniformity	Yes
	Detectors Rotational Accuracy	0.1°
	Detector Caudal Tilt	+16°/-16°
	CT Focal Spot Size	Symbia T2: 0.8x0.7 mm/8°, T6: 0.8x0.5 mm/7° and 0.8x0.7 mm/7°, T16: 0.8x0.5 mm/7° and 0.8x0.7 mm/7°
	Table Flex	Rear bed support prevents flex
	Reconstruction Workstation	32-bit architecture
	CT Continuous Scan Length	Symbia T2: 166 cm, T6: 168 cm, T16: 186 cm
Minimum Dose, Maximum Speed	CT Dose Modulation	Yes, 4D and fully automatic
	Flexible CT Voltage Settings	Yes, 80 kV, 110 kV, 130 kV
	CTDI Dose Values - Abdomen AC	1.20 mGy @130 kV
	CTDI Dose Values - Cardiac AC	1.56 mGy @130 kV or 1.00 mGy @110 kV or 0.4 @80 kV
	CTDI Dose Values - Parathyroid AC	1.80 mGy @130 kV
	LEHR Collimator Sensitivity @10 cm	202 cpm/µCi*
	SMARTZOOM Collimator Sensitivity @28 cm (Recommended)	810 cpm/µCi at 28 cm** (unique to Siemens)
Full Automation	Patient Detector Contouring	Automated body contour
	Average Autocontour Distance	1.1 cm (0.45 in)
	Quality Control	Yes, fully automated with 2 shielded sources embedded in the patient bed
	Collimator Exchange	Fully automatic with integrated set of collimators
Seamless Integration	Electrocardiogram Support	Fully integrated ECG
	Gantry Tunnel Length	89 cm
	System Footprint	373x630 cm (12 ft 3 inx20 ft 7 in)
	Entertainment System	Yes, e.media
	Upgradability	Yes, Symbia T2 to T6, or T16 and elevate option to Symbia Intevo™ xSPECT systems

* Values measured in accordance with NEMA Standards Publication NU-1 2007 using 3/8" crystal.
** Values measured in accordance with NEMA Standards Publication NU-1 2007 using 3/8" crystal and a 5 cm diameter phantom.

SPECT Specifications

Gantry Dimensions	Symbia T Series
Height	225 cm (7 ft 4.7 in)
Width	231 cm (7 ft 7 in)
Depth	203 cm (6 ft 8 in)
Axis of Rotation (from Floor)	104 cm (3 ft 5 in)
Weight*	3,506 kg (7,714 lbs)
Min./Max. Patient Opening (HE Coll)	12 cm (4.7 in)/65.4 cm (25.7 in)
Min./Max. Patient Opening (LEHR Coll)	19.2 cm (7.6 in)/72.6 cm (28.6 in)
Patient Positioning Monitor	15" flat panel color LCD display
Tunnel Opening	70 cm aperture (27.6 in)
Tunnel Length	89 cm (35 in)
Distance between SPECT and CT Field-of-View (FOV)	136 cm (53.3 in)
SPECT Motions	**Symbia T Series**
Average Autocontour Distance	1.1 cm (0.45 in)
Max. Radial and Lateral	72 cm/min (28.3 in/min)
Max. Lateral Position Left/Right	37.5 cm (14.7 in)/10 cm (4 in)
Max. Clockwise (CW)/Counter-Clockwise (CCW) Rotation Detector 1	405°/-135°
Ring Rotation Range	540°
Rotational Uniformity	Yes
Rotational Accuracy	0.1°
Rotational Speed	0.03-3.0 RPM
Center of Rotation	≤0.25 pixel (64x64 matrix)
Max. Caudal Tilt	+16°/-16°

* Gantry weight: NM gantry 2,374 kg (5,224 lbs) + CT gantry 1,132 kg (2,490 lbs).

SPECT Specifications

Patient Bed	Symbia T Series
Width	81.9 cm (32.2 in)
Length	248.0 cm (8 ft 1.6 in)
Weight without Integrated Collimator Changer (ICC)/ Automated Collimator Changer (ACC)	950 kg (2,096 lbs)
Height	112.0 cm (3 ft 8 in)
Vertical Motion Range	48.0-112.0 cm (19-44 in)
Vertical Speed	72 cm/min (28 in/min), maximum
Pallet Material	Carbon fiber
Pallet Thickness	15 mm (.6 in)
Pallet Width	40.0 cm (15.8 in)
Attenuation at 140 keV	<10%
Max. Patient Weight	227 kg (500 lbs)
Max. Deflection of Patient Pallet	<2.0 mm (<0.08 in) for 92 kg (200 lbs) patient
Max. Scan Length in Whole-Body Mode	200 cm (6 ft 6.7 in)
Horizontal Motion Accuracy	0.7 mm (0.03 in)
Min./Max. Horizontal Speed	3-600 cm/min (1.2-236 in/min)
Optional Pallets	**Symbia T Series**
Pediatric	
Material	Carbon fiber composite
Thickness	0.6 cm (0.25 in)
Width	25.4 cm (10 in)
Length	145 cm (57 in)
Weight	7.3 kg (16 lbs)
Attenuation at 140 keV	<10%
Max. Patient Weight	27 kg (60 lbs)
Scintimammography	
Material	Carbon fiber composite
Thickness	1.6 cm (0.63 in)
Width	35.6 cm (14 in)
Length	190.5 cm (75 in)
Weight	7.7 kg (17 lbs)
Attenuation at 140 keV	<10%
Max. Patient Weight	135 kg (300 lbs)

SPECT Specifications

Optional Pallets	Symbia T Series
Radiotherapy Planning	
Material	Carbon fiber composite
Thickness	1.5 cm (0.6 in)
Width	53 cm (20.9 in)
Length	203.5 cm (80.1 in)
Weight	9 kg (20 lbs)
Attenuation at 140 keV	<10%
Max. Patient Weight	227 kg (500 lbs)*
Rear Pallet Support	**Symbia T Series**
Width	26.3 cm (10.3 in)
Length	104.3 cm (3 ft 5.1 in)
Weight	188.3 kg (415.2 lbs)
ECG Trigger	**Symbia T Series**
Integration	Internal (inside patient bed) or external
Framing Modes	Forward or forward/backward by thirds
Buffered Beat Window	Yes
Bad Beat Rejection	Yes
Criteria for Framing Images	Frames/R-R interval
Beat Acceptance Window	Automatic or manual selection
Collimator Exchanger Cart	**Symbia T Series**
Height	101.4 cm (3 ft 3.9 in)
Width	82.8 cm (2 ft 8.6 in)
Depth	120.4 cm (3 ft 11.4 in)
Weight*	181.4 kg (400 lbs)
Detector Dimensions	**Symbia T Series**
FOV	53.3x38.7 cm (21x15.25 in)
Diagonal FOV	65.9 cm (25.9 in)
Crystal	**Symbia T Series**
Size	59.1x44.5 cm (23.25x17.5 in)
Diagonal	73.9 cm (29.1 in)
Thickness	9.5 mm (3/8 in) or 15.9 mm (5/8 in)

* Without collimators.

SPECT Specifications

Photomultiplier Tubes	Symbia T Series	
Total Number	59	
Diameter	53-7.6 cm (3 in) and 6-5.1 cm (2.4-2 in)	
Type	Bialkali high-efficiency box-type dynodes	
Array	Hexagonal	
Detector Shielding	**Symbia T Series**	
Back	9.5 mm (0.375 in)	
Sides	12.7 mm (0.5 in)	
Min./Max. in Patient Direction*	27.9/36.4 mm (1.1/1.435 in)	
Brain Reach**	7.6 cm (3 in)	
Detector* **	**3/8″**	**5/8″**
Intrinsic Spatial Resolution		
FWHM in CFOV	≤3.8 mm	≤4.5 mm
FWHM in UFOV	≤3.9 mm	≤4.6 mm
FWTM in CFOV	≤7.5 mm	≤8.7 mm
FWTM in UFOV	≤7.7 mm	≤8.9 mm
Intrinsic Spatial Linearity		
Differential in CFOV	≤0.2 mm	≤0.2 mm
Differential in UFOV	≤0.2 mm	≤0.2 mm
Absolute in CFOV	≤0.4 mm	≤0.5 mm
Absolute in UFOV	≤0.7 mm	≤1.0 mm
Intrinsic Energy Resolution		
FWHM in CFOV	≤9.9%	≤9.9%
Intrinsic Flood Field Uniformity (Uncorrected)		
Differential in CFOV	≤2.5%	≤2.5%
Differential in UFOV	≤2.7%	≤2.7%
Integral in CFOV	≤2.9%	≤2.9%
Integral in UFOV	≤3.7%	≤3.7%
Multiple Window Spatial Registration	≤0.6 mm	≤1.0 mm
Intrinsic Count Rate Performance in Air		
Maximum Count Rate	310 kcps	310 kcps
Intrinsic Spatial Resolution at 75 kcps		
FWHM in UFOV	≤4.1 mm	≤4.6 mm
FWTM in UFOV	≤7.8 mm	≤8.9 mm

* For any point on the pallet at maximum 183 cm (6 ft) from the detector while the detector is at 25.4 cm (10 in) radial position.

** Distance from the edge of the detector housing to the edge of the FOV.

*** Values are determined at the manufacturer's facility using methods described in NEMA Standards Publications NU 1-2007 "Performance measurements of Scintillation Cameras." The specialized phantoms and software required to reproduce these measurements are available from Siemens.

SPECT Specifications

Detector*	3/8″	5/8″
Intrinsic Flood Field Uniformity at 75 kcps (Uncorrected)		
Differential in CFOV	≤2.5%	≤2.5%
Differential in UFOV	≤2.7%	≤2.7%
Integral in CFOV	≤2.9%	≤2.9%
Integral in UFOV	≤3.7%	≤3.7%
Detector with Collimator*	**3/8″**	**5/8″**
System Spatial Resolution without Scatter (LEHR at 10 cm)		
FWHM in CFOV	≤7.5 mm	≤7.8 mm
FWTM in CFOV	≤13.6 mm	≤14.9 mm
System Spatial Resolution with Scatter (LEHR at 10 cm)		
FWHM in CFOV	≤8.3 mm	≤8.9 mm
FWTM in CFOV	≤18.6 mm	≤19.5 mm
System Planar Sensitivity (LEHR at 10 cm)		
Absolute	202 cpm/µCi	225 cpm/µCi
System Planar Sensitivity (ME at 10 cm)		
Absolute ^{111}In	430 cpm/µCi	565 cpm/µCi
Detector with Collimator Tomographic Specifications*	**3/8″**	**5/8″**
Reconstructed Spatial Resolution without Scatter at 15 cm Radius (LEHR)	Filtered Back Projection	
Central Transaxial	≤10.2 mm	–
Central Axial	≤10.8 mm	–
Peripheral Radial	≤9.8 mm	–
Peripheral Tangential	≤8.4 mm	–
Peripheral Axial	≤9.0 mm	–
Reconstructed Spatial Resolution without Scatter at 15 cm Radius (LEHR)	Flash 3D Iterative Reconstruction	
Central Transaxial	≤4.4 mm	–
Central Axial	≤4.4 mm	–
Peripheral Radial	≤4.0 mm	–
Peripheral Tangential	≤3.9 mm	–
Peripheral Axial	≤4.2 mm	–
Reconstructed Spatial Resolution with Scatter (LEHR)	Filtered Back Projection	
Center	≤10.7 mm	≤11.5 mm
Radial	≤10.9 mm	≤12.0 mm
Tangential	≤7.9 mm	≤8.8 mm

* Values are determined at the manufacturer's facility using methods described in NEMA Standards Publications NU 1-2007 "Performance measurements of Scintillation Cameras."

SPECT Specifications

Detector with Collimator Tomographic Specifications*	3/8"	5/8"
Reconstructed Spatial Resolution with Scatter (LEHR)	Flash 3D Iterative Reconstruction	
Center	≤5.8 mm	–
Radial	≤5.0 mm	–
Tangential	≤4.1 mm	–
System Volume Sensitivity (LEHR)		
UFOV ±7%	12,000 (cts/sec)/(MBq/cm^2)	–
Detector-Detector Sensitivity Variation (LEHR, ^{99m}Tc)	≤5.0%	–
Detector with Collimator Whole-Body Scanning Specifications	**3/8"**	**5/8"**
Whole-Body System Spatial Resolution without Scatter at 10 cm/min Scan Speed (LEHR at 10 cm)		
FWHM Perpendicular	≤7.5 mm	–
FWHM Parallel	≤7.9 mm	–
FWTM Perpendicular	≤14.0 mm	–
FWTM Parallel	≤14.2 mm	–

SPECT Specifications

Collimators	LEHR	LEAP	LEUHR	LEFB	ME	HE	SMART-ZOOM
	Low Energy High Resolution	Low Energy All Purpose	Low Energy Ultra High Resolution	Low Energy Fan Beam	Medium Energy	High Energy	IQ•SPECT
Isotope	^{99m}Tc	^{99m}Tc	^{99m}Tc	^{99m}Tc	^{67}Ga	^{131}I	^{99m}Tc
Hole Shape	Hex	Hex	Hex	Hex	Hex	Hex	Hex
Number of Holes (x1000)	148	90	146	64	14	8	48
Hole Length	24.05 mm	24.05 mm	35.8 mm	35 mm	40.64 mm	59.7 mm	40.25 mm
Septal Thickness	0.16 mm	0.2 mm	0.13 mm	0.16 mm	1.14 mm	2 mm	0.2-0.4
Hole Diameter Across the Flats	1.11 mm	1.45 mm	1.16 mm	1.53 mm	2.94 mm	4 mm	1.9 mm
Sensitivity at 10 cm*	202 cpm/µCi	330 cpm/µCi	100 cpm/µCi	280 cpm/µCi	275 cpm/µCi	135 cpm/µCi	285 cpm/µCi**
							810 cpm/µCi at 28 cm**
Geometric Resolution at 10 cm	6.4 mm	8.3 mm	4.6 mm	6.3 mm	10.8 mm	13.2 mm	6.95 mm
System Resolution at 10 cm*	7.5 mm	9.4 mm	6.0 mm	7.3 mm	12.5 mm	13.4 mm	7.4 mm***
Septal Penetration	1.5%	1.9%	0.8%	1.0%	1.2%	3.5%	N/A
Exit Surface	N/A	N/A	N/A	44.5 cm	N/A	N/A	52x60 cm
Weight	22.1 kg (48.7 lbs)	22.6 kg (49.8 lbs)	28 kg (61.8 lbs)	28.4 kg (62.5 lbs)	63.5 kg (140.1 lbs)	124.7 kg (275 lbs)	47.2 kg (104 lbs)

* Values measured in accordance with NEMA Standards Publication NU-1 2007 using 3/8" crystal.

** Values measured using a 5 cm diameter phantom.

*** Values measured with lines spaced 2 cm apart at the center of the collimator.

SPECT Specifications

Pinhole Collimator*	Isotope		
	^{99m}Tc	^{123}I	^{131}I
Hole Shape	Round	Round	Round
Number of Holes	1	1	1
Cone Aperture	4 mm 6 mm 8 mm	4 mm 6 mm 8 mm	4 mm 6 mm 8 mm
Cone Length	219.3 mm	219.3 mm	219.3 mm
Diameter at Base of Cone (approximate)	220 mm	220 mm	220 mm
Sensitivity at 10 cm with 4 mm	123 cpm/µCi	111 cpm/µCi	67 cpm/µCi
Sensitivity at 10 cm with 6 mm	271 cpm/µCi	243 cpm/µCi	133 cpm/µCi
Sensitivity at 10 cm with 8 mm	478 cpm/µCi	426 cpm/µCi	221 cpm/µCi
Geometric Resolution at 10 cm with 4 mm	6.2 mm	6.3 mm	7.5 mm
Geometric Resolution at 10 cm with 6 mm	9.3 mm	9.3 mm	10.6 mm
Geometric Resolution at 10 cm with 8 mm	12.3 mm	12.4 mm	13.6 mm
System Resolution at 10 cm with 4 mm	6.6 mm	6.6 mm	7.6 mm
System Resolution at 10 cm with 6 mm	9.5 mm	9.5 mm	10.7 mm
System Resolution at 10 cm with 8 mm	12.5 mm	12.5 mm	13.7 mm
Weight	80.3 kg (177 lbs)	80.3 kg (177 lbs)	80.3 kg (177 lbs)

* Sensitivity and System Resolution values measured in accordance with NEMA Standards Publication NU-1 2007 using 3/8" crystal.

CT System Hardware

Gantry Dimensions	Symbia T16	Symbia T6	Symbia T2, T*
Aperture	70 cm	70 cm	70 cm
Scan Field	50 cm	50 cm	50 cm
Rotation Time	0.5 s 0.6 s 1.0 s 1.5 s	0.6 s 0.8 s 1.0 s 1.5 s	0.8 s 1.0 s 1.5 s
Temporal Resolution (Min.)**	125 ms	150 ms	–
Data Acquisition System	**Symbia T16**	**Symbia T6**	**Symbia T2, T***
Max. Number of Slices/Rotation	16	6	2
Number of Physical Detector Rows	24	16	2
Number of Physical Detector Channels/Slice	736	736	672
Number of Detector Elements	17,664	11,776	1,344
Total Channels Per Slice	1,472	1,472	1,344
Number of Projections	Up to 1,250 (1 s/360°)	Up to 1,875 (1 s/360°)	Up to 1,500 (1.5 s/360°)
Sequence Acquisition Modes	4x0.6 mm 12x0.6 mm 16x0.6 mm 2x5 mm 12x1.2 mm 2x8 mm 16x1.2 mm	6x1 mm 6x2 mm 6x3 mm 2x5 mm	2x1 mm 2x1.5 mm 2x4 mm 2x5 mm 1x2 mm 1x3 mm 1x5 mm 1x8 mm 1x10 mm
Spiral Acquisition Modes	4x0.6 mm 16x0.6 mm 16x1.2 mm	6x0.5 mm 1x1 mm 6x1 mm 6x2 mm 6x3 mm 2x5 mm	2x1 mm 2x1.5 mm 2x2.5 mm 2x4 mm 2x5 mm
Tube Assembly	**Symbia T16**	**Symbia T6**	**Symbia T2, T***
Tube	DURA 422 MVHigh performance CT X-ray tube	DURA 422 MVHigh performance CT X-ray tube	DURA 352 MVHigh performance CT X-ray tube
Tube Current	20-345 mAs	20-345 mAs	30-240 mAs
Tube Voltage	80, 110, 130 kV	80, 110, 130 kV	80, 110, 130 kV
Tube Anode Heat Storage Capacity	5.0 MHU	5.0 MHU	3.5 MHU
Focal Spot Size According to IEC 60336	0.8x0.5 mm/7° 0.8x0.7 mm/7°	0.8x0.5 mm/7° 0.8x0.7 mm/7°	0.8x0.7 mm/8°

* Symbia T is does not have a fully functional, stand-alone diagnostic CT and is only commercially available in countries where the Symbia Intevo Excel license is pending.

** Requires *syngo*® Heartview CT option.

CT System Hardware

CARE Filter	Symbia T16	Symbia T6	Symbia T2, T*
CARE Filter Tube	Equivalent to 5.5 mm Al at 140 kV	Equivalent to 5.5 mm Al at 140 kV	Equivalent to 5.5 mm Al at 140 kV
CARE Filter Beam Limiting Device	0.5 mm Al	0.5 mm Al	Equivalent to 0.25 mm Al (75 kV/HVL 1.8 mm Al)
Generator	**Symbia T16**	**Symbia T6**	**Symbia T2, T***
Max. Power	50 kW	50 kW	40 kW

* Symbia T is does not have a fully functional, stand-alone diagnostic CT and is only commercially available in countries where the Symbia Intevo Excel license is pending.

CT System Software

Topogram	Symbia T16	Symbia T6	Symbia T2, T*
Length (Max.)	184 cm (6 ft)	184 cm (6 ft)	184 cm (6 ft)
Scan Times	2.1-19.3 s	2.1-19.3 s	2.1-19.3 s
Views	a.p., p.a., lateral	a.p., p.a., lateral	a.p., p.a., lateral
Sequence Acquisition	**Symbia T16**	**Symbia T6**	**Symbia T2, T***
Reconstructed Slice Widths	0.6, 1.2, 2.4, 3.6, 4.8, 5.0, 8.0, 9.6, 10.0, 16.0***, 19.2 mm	1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 9.0, 10.0, 12.0, 18.0 mm	1.0, 1.5, 2.0, 2.5, 3.0, 4.0, 5.0, 8.0, 10.0 mm
Scan Times Full Scan (360°)	0.5***, 0.6, 1.0, 1.5 s (±5%)	0.6, 0.8,1.0, 1.5 s (±5%)	0.8, 1.0, 1.5 s (±5%)
Partial Scan Times (240°)	0.35*, 0.42 s (±5%)	0.4, 0.53 s (±5%)	0.53, 0.67 s (±5%)
Number of Uninterrupted Scans Per Range	99	99	99
Number of Ranges in Autorange	8	8	8
Standard Scan Cycle Time (±10%)	1.8 s at 0.6 s scan time, 1.75 s at 0.5 s scan time**	2.1 s at 0.6 s scan time, 2.4 s at 0.8 s scan time**	2.5 s at 1.0 s scan time
Multislice Spiral Acquisition	**Symbia T16**	**Symbia T6**	**Symbia T2, T***
Reconstructed Slice Widths	0.6, 0.75, 1.0, 1.5, 2.0, 3.0, 4.0, 5.0, 6.0, 8.0, 10.0 mm	0.63***,0.75***, 1.0, 1.25, 2.0, 2.5, 3.0, 4.0, 5.0, 6.0, 8.0, 10.0 mm	1.0, 1.25, 2.0, 3.0, 5.0, 6.0, 8.0, 10.0 mm
Scan Times Full Scan (360°)	0.5, 0.6, 1.0, 1.5 s	0.6, 0.8, 1.0, 1.5 s	0.8, 1.0, 1.5 s
Reconstruction Increment	0.1-10 mm	0.1-10 mm	0.1-10 mm
Pitch Factor	0.4-1.5 (with cone beam correction), 0.4-2.0 (without cone beam correction), 0.33 (ECG - gated studies)	0.4-1.8	0.5-2.0
Volume Pitch	6.4-32.0	3.0-10.8	1.0-4.0
Spiral Scan Time Max.	100 s	100 s	100 s
CT Scan Range	0-200 cm	0-200 cm	0-200 cm
Continuous Scan Length	186 cm (6 ft 1 in)	168 cm (5 ft 6 in)	166 cm (5 ft 4 in)
Dynamic Multiscan	**Symbia T16**	**Symbia T6**	**Symbia T2, T***
Dynamic Scan Cycle Time (±10%)	0.9 s at 0.6 s scan time, 0.75 s at 0.5 s scan time**	0.9 s at 0.6 s scan time, 1.2 s at 0.8 s scan time	1.2 s at 0.8 s scan time, 1.5 s at 1.0 s scan time

* Symbia T is does not have a fully functional stand-alone diagnostic CT and is only commercially available in countries where the Symbia Intevo Excel license is pending.

** Requires high resolution option.

*** Requires *syngo*® Heartview CT option.

CT System Software

Image Reconstruction	Symbia T16	Symbia T6	Symbia T2, T*
Real-Time Display**	512x512	512x512	512x512
Slice Thickness	0.6-19.2 mm	1.0-18.0 mm	1.0-10.0 mm
Scan Field	50 cm	50 cm	50 cm
Recon Field	5-50 cm, 5-70 cm***	5-50 cm, 5-70 cm***	5-50 cm, 5-70 cm***
Recon Time	up to 16 images/s	up to 8 images/s	up to 5 images/s
Recon Matrix	512x512	512x512	512x512
HU Scale	-1,024 to +3.071	-1,024 to +3.071	-1,024 to +3.071
Extended HU Scale	-10,240 to +30,710	-10,240 to +30,710	-10,240 to
Phantom CATPHAN (16 cm)	**Symbia T16**	**Symbia T6**	**Symbia T2, T***
Object Size	3 mm	3 mm	3 mm
Contrast Difference	3 HU	3 HU	3 HU
Dose at Surface	21.5 mGy**** at 102 mAs	19.7 mGy**** at 100 mAs	19.7 mGy**** at 100 mAs
Technique	0.6 s,10 mm, 130 kV	0.6 s, 10 mm, 130 kV	0.8 s, 10 mm, 130 kV
Phantom CATPHAN (20 cm)	**Symbia T16**	**Symbia T6**	**Symbia T2, T***
Object Size	5 mm	5 mm	5 mm
Contrast Difference	3 HU	3 HU	3 HU
Dose at Surface	16.6 mGy**** at 100 mAs	15.8 mGy**** at 90 mAs	15.8 mGy**** at 90 mAs
Technique	0.6 s, 10 mm, 130 kV	0.6 s, 10 mm, 130 kV	0.8 s, 10 mm, 130 kV
High Contrast Resolution	**Symbia T16**	**Symbia T6**	**Symbia T2, T***
0% MTF (±10%)	17.5 lp/cm, 0.29 mm	17.5 lp/cm, 0.29 mm	15.5 lp/cm, 0.32 mm
2% MTF (±10%)	15.6 lp/cm, 0.32 mm	15.1 lp/cm, 0.32 mm	14 lp/cm, 0.36 mm
Technique: Tungsten Wire in Air	160 mAs, 130 kV, 1 s, 2.4 mm	160 mAs, 130 kV, 0.8 s, 1.0 mm	60 mAs, 130 kV, 1.5 s, 1.0 mm
Homogeneity	**Symbia T16**	**Symbia T6**	**Symbia T2, T***
Cross Field Uniformity in a 20 cm Water Phantom Positioned Near the Center of Rotation	Typical ±2 HU (Max. ±4 HU)	Typical ±2 HU (Max. ±4 HU)	Typical ±2 HU (Max. ±4 HU)

* Symbia T is does not have a fully functional stand-alone diagnostic CT and is only commercially available in countries where the Symbia Intevo Excel license is pending.

** Requires *syngo*® Heartview CT option.

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

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

CT System Software

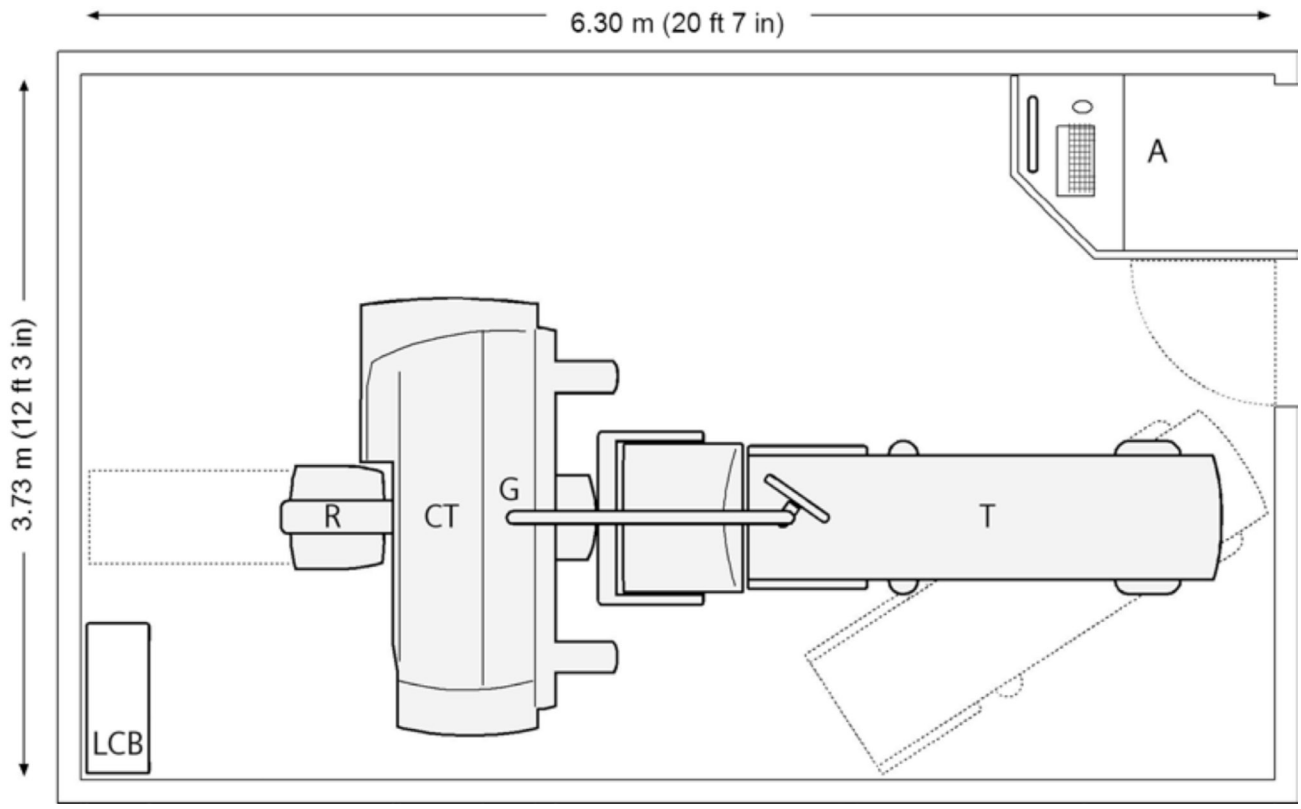
Dose, CTD_{100} Values*	Symbia T16		Symbia T6		Symbia T2, T**	
Phantom Ø						
	110 kV	**130 kV**	**110 kV**	**130 kV**	**110 kV**	**130 kV**
16 cm A	14.1	21.3	13.3	20.1	14.4	21.7
B	15.2	22.3	13.6	20.3	15.7	23.3
32 cm A	4.1	6.6	3.9	6.2	4.2	6.7
B	8.2	13.5	7.6	11.6	8.4	12.8

A is at the center and B is 1 cm below the surface. All values are in mGy/100 mAs.

* PMMA Phantom. Absorbed dose for reference material air. Max. deviation ±30%. Expected deviation ±15%. Slice >1mm. Please note that these specifications are CTDI100 values.

** Symbia T is does not have a fully functional stand-alone diagnostic CT and is only commercially available in countries where the Symbia Intevo Excel license is pending.

Symbia T Series Minimum Room Size



Room Size	3.73 m (12 ft 3 in)x6.30 m (20 ft 7 in)
Ceiling Height	2.44 m (8 ft 0 in)
Hung Ceiling Height	2.29 m (7 ft 5 in)

Example layout. Please request site-specific plans for your project.

Installation Specifications

Label	Item Name	Weight	Heat Output
G	Symbia T Series Gantry	2,369 kg (5,224 lbs)	3,413 BTU/h, 1.0 kW
CT	CT Components	1,129 kg (2,490 lbs)	<3,413 BTU/h, <1.0 kW
T	Symbia T Series Imaging Table	950 kg (2,096 lbs)	–
R	Symbia T Series Rear PHS	188.3 kg (415.2 lbs)	–
A	Acquisition Computers	–	2,389 BTU/h, 0.7 kW*
LCB	Line Connection Box	–	1,365 BTU/h, 0.4 kW
Power Requirements			
SPECT Input Voltage	Single-Phase 200/208/220/230/240 VAC ~ 50/60 Hz		
CT Input Voltage	Three-Phase 380/400/420/440/460/480 VAC ~ 50/60 Hz		
Electrical Supply	For Symbia T2: 46.2 kVA**		
	For Symbia T6, T16: 72.2 kVA**		
Environment			
Floor Loading	5.1 kg/sq cm (72 lbs/sq in) maximum under the gantry		
Ambient Operating Temperature	18-30° C (64-86° F)		
Allowable Temperature Change	4.4° C (8° F) per hour		
Humidity	20-80% non-condensing		
Allowable Humidity Change	5%/hour		
Heat Dissipation	10,580 BTU/h, 3.1 kW***		
Maximum Altitude	2,438 m (8,000 ft)		

* Symbia T and T2 have has a lower heat dissipation value of 1,365 BTU/h, 0.4 kW.

** Maximum power consumption during CT operation.

*** In idle mode, values higher during CT operation mode.

Global Siemens Headquarters
Siemens AG
Wittelsbacherplatz 2
80333 Muenchen
Germany

Global Siemens Healthcare Headquarters
Siemens AG
Healthcare Sector
Henkestrasse 127
91052 Erlangen
Germany
Telephone: +49 9131 84-0
www.siemens.com/healthcare

Global Business Unit Address
Siemens Medical Solutions USA, Inc.
Molecular Imaging
2501 N. Barrington Road
Hoffman Estates, IL 60192
USA
Telephone: +1 847 304 7700
www.siemens.com/mi

Legal Manufacturer
Siemens Medical Solutions USA, Inc.
Molecular Imaging
2501 N. Barrington Road
Hoffman Estates, IL 60192
USA
Telephone: +1 847 304 7700
www.siemens.com/mi

MI-1262.KF.JV PDF ONLY | © 12.2013, Siemens AG

www.siemens.com/mi