

Siemens Biograph 16 PET/CT Tech Specs (Technical Specifications)

Patient Handling System

- Width: 42 cm (16 in)
- Length: 379 cm (149 in)
- Weight: 693 kg (1528 lb)
- Maximum Patient Weight: 204 kg (449 lb)
- Horizontal Scan Range (Head First): 156 cm (61.4 in)
- Horizontal Scan Range (Feet First): 182 cm (71.1 in)
- Horizontal Bed Travel: 269.5 cm (106 in)
- Vertical Bed Travel: 53 - 107 cm (20-42 in)
- ACPlus: Standard

Detector Assembly

- Detector Material Lutetium: Oxyorthosilicate (LSO)
- Crystal Dimensions: 4.0 x 4.0 x 20 mm
- Crystal's Per Detector Block: 169
- Number of Detector Blocks: 144
- Photomultiplier Tubes (PMTs): 4 per block
- Detector Ring Diameter: 830 mm
- Detectors Per Ring: 624
- Number of Detector Rings: 24
- Total Number of Detectors: 24336
- Transaxial Field of View: 585 mm
- Axial Field of View: 162 mm
- Number of Image Planes: 81
- Plane Spacing: 2 mm

Performance - Transaxial resolution (NEMA 2001)

- FWHM @ 1 cm 6.5 mm (4.6 mm)
- FWHM @ 10 cm 7.5 mm (5.8 mm)

Performance - Axial resolution (NEMA 2001)

- FWHM @ 1 cm 6.5 mm (4.6 mm)
- FWHM @ 10 cm 7.5 mm (5.8 mm)
- Sensitivity @ 425keV 4.9 cps/kBq
- Uniformity 5% variatin
- Count rate peak NECR 85 kcps @ 33kBq/c

CT Volume Acquisition

- Max. No. of CT slices 16
- Number of detector rows 24
- Elements 16128
- Channels per slice 1344
- Number of projections up to 2320 (1/360)
- CT Transverse Scan Field 50 cm
- CT Rotation times 0.42, 0.5, 0.75, 1.0, 1.5s
- CT Temporal resolution down to 105 ms

Tube Assembly

- Maximum generator power 60kW
- Tube DURA Akron Q
- Tube current 28 - 500 mA
- Tube voltages 80, 120, 140 kV
- Tube anode heat storage capacity: 5.3 MHU
- Focal spot size according to IEC 60 336: 0.5 x 0.7 mm^{l7} and 0.8 x 1.2 mm^{l7}

Image Quality

- Low-Contrast Detectability: Technique: 20 cm Ø Catphan 120 kV, 0.75 s, 10 mm)
Spiral 5 mm / 3 HU / 19 mGy+ at 180 mAs
Sequence 5 mm / 3 HU / 20 mGy+ at 190 mAs
High-Contrast Resolution (Technique: 150 mA/ 120 kV, 0.75 s, 1mm) 0% MTF ± 10% 30 lp/cm 0.17 mm, 2% MTF ± 10% 24 lp/cm 0.21 mm