

Technical Specification of whole body Multi Slice CT Scanner

(64 Row Multi detector CT)

The Model Offered should be High end model under current production **Upgradable to 128 Slice at Site with Minimum Down Time**, should be Slip Ring Technology, Refurbished – Gold Seal Units will not be accepted. The Offer should meet the Specifications as follows:

Gantry:

- 1.The CT Scanner should have low Voltage Slip Rings incorporated in the Gantry
- 2.The Minimum scan time for a 360 Degree rotation should **be 0.35 seconds or less**
- 3.The gantry should have a minimum tilt of 30 degrees on either side and remote tilt should be available as standard.
- 4.The gantry should be provided with User control panels on either side for easy positioning.
- 5.The sub millimeter Slice @ 0.63 mm or less in 64 Row acquisition should be available. The system should be in position to perform 64 Slice / Rotation for Cardiac applications and 32/16 Slice / Rotation for normal applications. The Systems should have Independent 64 Row Detectors.
- 6.The Gantry should have 3 D Positioning Laser lights.
- 7.The Scan field of view (FOV) in acquisition mode should be at least from 200 mm to 500mm with intermediate Steps for scanning different anatomies.
- 8.Aperture should be at least 70 cm diameter.

X ray Section:

1. The X-ray Generator should be compact and inbuilt in the Gantry.
2. The System X ray power should be 70 kw and above. **The Systems offered should Adaptive Iterative Dose Reduction or I Dose 4 equivalent attachments as standard to reduce the MA Required for the Scans.**
- 3.The MA range available should be between 10 to 600 MA or more with increments in steps of not more than 10 ma.
- 4.The X-ray Tube should be essentially Dual Focus with capacity of at least 7 MHU. Liquid bearing X-ray Tube is desirable. Any special feature of the X ray tube to be highlighted with literature.
- 5.Specify the focal Spots of the X ray tube.
- 6.The X ray tube should have a cooling rate of not less than 1000 KHU per MIN
- 7.The X ray tube Cooler Unit should be in built in the Gantry

Detectors:

- 1.The Detector offered should be Solid State. Specify the Material
- 2.The Effective Elements/Channels should be at least 650 per row. The 64 Slice per Rotation should be possible with the detectors in 0.63 mm or less Mode.
- 3.Specify the Fan Angle of the X rays and the geometry. The detectors should not require frequent calibration.

Patient Couch:

- 1.The Patient table offered should have a minimum load bearing capacity of at least 200 KG
- 2.The Minimum table top height should not be more than 45 cms from the floor level for easy transport of trauma patients.
- 3.The Floating table top width should be at least 40 cms for better comfort
- 4.The range of metal free scan should be at least 165 cms.
5. The vertical range should be at least 55 cms (max height – min height)
6. Specify the reproducing accuracy of the table.

7. Remote UP/DOWN, FWD/BWD of the Patient Couch should be standard

Spiral / Helical Section:

- 1. The system offered should have Spiral Capability of at least 100 seconds & above. Real Time Spiral @ 10 f/s should be standard.**
2. The range of Spiral facility in Axial Direction should be more than 100 cms.
3. The Reconstruction Time in Spiral scan should not be less than 20 Images / Sec
4. The system should have the Smart Prep or equivalent facility & ability to track Contrast medium to trigger scan with Multiple ROI should be included in the scope of Supply
- 5. System should perform Tilt Spiral scan as standard at any of the chosen angles in Multi Slice Mode.**
- 6. Hi Res Scan package of 0.63 mm or less should be offered as standard.**

Computer Section:

1. The Computer offered should be the Latest Multi tasking Processors and a menu driven platform with a RAM size **of at least 5 GB**
2. The Monitor should be the latest Color of at least 18 inches and flat screen with medical grade monitor. Two Monitor Independent Console preferred. The Twin Monitor system should work on either shared or common data base.
3. The display matrix should be at least 1024 / 1024.
4. The reconstruction time for an axial scan should not be more than 50 mili seconds.
5. The Hard disk Capacity for both Image and Raw data should be more than 1000 GB
6. It should have facility to store at least 500,000 Images
7. The system should be supported with archiving facility of DVD & CD Main Console
8. DICOM facility to send, store, print, receive, Query / Retrieve, MWM, MPPS etc should be standard.
9. PC Based connectivity should be standard for easy transfer of Images & Report.

Image Processing section:

- 1.The System should have standard software like 3D Volume rendering, MIP, CT Anglo, Color Anglo Display, Virtual Endoscopy, Colonoscopy, CT Perfusion, Dental scan, Prospective ECG Gated CARDIAC scan, EG Gated Dose Modulation Colon View, CT Based DSA should be available as standard on the System & Work Station. The Software should function independently.
2. The following soft ware should be offered as standard (MPR, ROI, VOLUME CALCULATION, and CT NUMBER Measurement of 10,000 to +25,000 Units WINDOW WIDTH, WINDOW LEVEL, TOPOGRAM DISPLAY, CINE DISPLAY, HRCT LUNG, and DYNAMIC SCAN)
- 3.Cardiac Scan Attachment with ECG Gated Segmented Recon, Calcium score, Plaque Analysis, Cardiac Function Analysis, Vessel Flythrough of the Coronaries should be included in the Scope of Supply on the Work Station
- 4.Automatic display of MPR Images after scan will be preferred.
- 5.There should be State of the Art Independent Work Station with at least 6 GB RAM, CD / DVD Archival / DICOM Viewer Two work stations included in the Scope of Supply and it should support all the software as listed on the Main Console

Resolution:

1. The System Spatial Resolution should be mentioned with parameters.
2. The low contrast resolution should not be more than 3 mm at 0.5%. Shoulder, Pelvis Streak Artifact suppression Software should be standard. **If better Resolution is available the same will be preferred by the Hospital**
3. Noise Suppression protocols to maintain LCR at low dose should be standard.
4. Special Software (MA ECG Modulation in Routine, 3D Noise Suppression & Prospective Cardiac Mode) to ensure Dose efficiency should be standard.
5. Specify the CT Dose index

Accessories:

1. Multi size Dry Laser Imager of any reputed make.
2. Color Laser Printer of any reputed make.
3. Lead Glass of at least 2 ft by 4 ft
4. Stabilizer for the Entire System of suitable capacity
5. UPS with one hour back up of suitable capacity of handle complete CT scanner, Laser Imager, Work Stations, and Color Printer.
6. Dual Head Pressure Injector of reputed make with 100 No: Syringes & Tubings.

Warranty:

1. Five years for CT Scanner System including X ray tube and all accessories.
2. The offer should be accompanied by Original data sheet/brochure of the product.
3. The Cost of the CMC (Comprehensive Maintenance Contract) inclusive of the X ray tube should be quoted from Sixth year inclusive of labour, spares and X Ray tube. The CMC should cover all vendor items and local accessories. This will be added to the cost for evaluation of the Tender and to arrive at the Lowest Bid.
4. All compliance to the Tender should be in the form of Original Data sheet or Original Certificate from the manufacturer. Items under Work in Progress will not be considered.
5. On Site Training for the CT Technicians for a period of Two Weeks, Training for Two Doctors (Radiologists) for a period of Two Weeks on applications of the System
6. Specify if Upgrade to 128 Slice CT Scanner is available & it's Cost separately.
- 7. All the Software should be offered on Direct Sale to the Hospital and NOT by way of Internet Rental basis.**
8. System must be US FDA approved and certificate should be enclosed in the Tender. AERB Approval should also be enclosed for the offered Model.
9. It shall be the responsibility of the Bidder to survey the site, prepare a Site plan, alter the site and install the System on Turn Key basis.
10. Country of Origin should be USA / Europe / Japan / Germany; the Third Party Pre shipment verification certificate should be enclosed to certify the date of manufacture of the System.
11. System should have Integrated software for radiation dose contrast dose management.