

## SPECIFICATIONS OF 500 MA DUAL DETECTOR DIGITAL RADIOGRAPHY

### X-RAY GENERATOR:

- High-Frequency X-Ray Generator for Radiography.
- Power output of the generator should be 40KW or more.
- mA Range (Rad.): 500mA or more.
- KV RANGE (Rad.): 40 to 125KVP.
- EXPOSURE TIME (Rad.): 1ms to 3 Sec.
- mAs RANGE (Rad.): 200mAs or more

### X-RAY TUBE:

- One No. Rotating Anode, Dual focus Thermally protected having focal spot 0.6- & 1.2-mm. The Anode heat storage capacity of the Tube should be 300KHU
- One Pair of 8-meter H.V. Cable compatible with the X-Ray Tube.
- One No. collimator.

### FULLY INTEGRATED X-RAY GENERATOR CONSOLE CONTROL:

- System should be fully integrated. All the exposure factors should be controlled from the image acquisition computer and exposure parameters information should be attached to the acquired image in DICOM format.
- System should have Anatomical Programs (APR).

### TUBE STAND:

- Floor mounted with Counter Balanced Tube Head (Rotatable  $\pm 180$  Degree), 360 Degree Rotatable; mounted on Floor Ceiling Rails for convenient movements is provided.

### TABLE:

A horizontal 4-way table with floating carbon fibre tabletop and adjustable height should be provided. The tabletop should have three-dimensional movement, which is ease of patients as it lowers down to a comfortable position.



- Table should be provided with Inbuilt FPD (FLAT PANEL DETECTOR) beneath the tabletop having manual movement, which is electromagnetically locked and needs to be unlocked by the foot switch for its movement.
- Transverse and longitudinal movements of the tabletop should be locked by electromagnetic locks.
- Table should have up/ down motorized movement and it should be controlled by two up & down foot switches.
- Maximum weight carrying capacity for the table during up/down movement should be more than 200Kg.

#### **VERTICAL BUCKY (VB) STAND:**

Floor-mounted Motorized Vertical bucky stand should have inbuilt FPD (FLAT PANEL DETECTOR) for lung and skeleton x-ray examinations. It should have a user-friendly design and handling.

- VB stand should have provision to do chest radiography with and without a grid.
- Motorized Tilting should be -30 degrees to + 90 degrees.

#### **FLAT PANEL DETECTOR (EACH FOR TABLE BUCKY AND VERTICAL BUCKY):**

- The detector should be flat panel type with A-Si (amorphous silicon) and CSi as a scintillator.
- Size of the detector must be 43cm x 43cm or better.
- Active Image matrix 3K x 3K or better.
- Image depth should be 14bit or better.
- Pixel size should be 140 um or less.
- DQE (Detector Quantum Efficiency) should be more than 65%.

#### **OPERATING (ACQUISITION) STATION**

- Should have a high-resolution TFT / LCD Monitor, medical grade of minimum 19-inch size or more (Minimum 02).

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- Operating console should have a facility for patient identity entry, viewing and processing
- Images, documentation etc.
- Preview image should be ready in minimum time.
- System should have auto protocol select
- Image processing functions like rotate, mirroring, zoom, move, windowing, filter and printing etc. should be available.

**POWER SUPPLY REQUIREMENT:**

- 3 Phase, 440Volts AC 50Hz with line resist less than 0.4 Ohms. Line Regulation  $\pm 10\%$ .

**ACCESSORIES:**

- Three-panel Lead protection screen – 01No
- Suitable UPS with 30 Minutes of backup to be provided for the workstation of the machine.
- 4Nos. Lead aprons and gonad shields 0.5mm.

**PRODUCT DATASHEET :**

- All specifications to be provided with the original product data-sheet. All technical specifications should be supported with the original data sheet highlighting the page number in the compliance sheet.

**ACCESSORIES TO BE INCLUDED FOR 500 MA DUAL DETECTOR DIGITAL RADIOGRAPHY**

- i. One no. Laser camera of at least 500dpi with two films size tray.
- ii. Lead Apron Hanger -2 nos.
- iii. Zero lead Apron -6 nos.
- iv. Gonadal shields for boys and girls of all age groups — Two set each
- v. Online UPS from a reputed manufacturer having at least 30 minutes back up with

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appropriate KVA of the entire system. The backup should be such that the scan can be done uninterrupted.

- vi. All patient positioning accessories including the headrest.
- vii. Contrast injector (300 psi) Syringe- 100 nos.
- viii. Trolley cart for consumables injection & syringes.
- ix. Cabinet for storage.
- x. Changing room & accessories for changing room.
- xi. Suitable ACs & lightning.
- xii. Required AC & Ventilation in UPS room.
- xiii. Air curtains as needed.
- xiv. Console privacy curtain.
- xv. Site to be developed as per AERB Guidelines including room layout, lead glass & lead-lined door.
- xvi. Reception counter table, Counter Glass, chairs, and storage cabinet.
- xvii. Furniture for Doctors, Technologists, Receptionist & patients as per site requirement.
- xviii. One patient trolley.

**Conditions for tenderer:**

1. All accessories should be from the same Original Equipment Manufacturer for the main unit.
2. Instruments must be ISO certified and a copy should be enclosed. (The ISO Certificate must be issued by any organization accredited by the Bureau of Indian Standard or accredited by the international accrediting forum "IAF" (Certificate to be attached).
3. Should USA FDA and/ or European CE be approved by 4 digits notified body.
4. Should have other necessary certifications like AERB etc. required for installation of machine.
5. Electrical safety conforms to standards for electrical safety IEC-60601-1 General Requirements and IEC-60601-2-25 Safety of Electrocardiograms. (Or equivalent BIS Standard).

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6. Other necessary certifications if any required will be provided by the bidder for the smooth functioning of the machine.
7. Installation process should be performed by O.E.M trained service engineers/ service representatives on OEM letterhead or Service Report within 15 days of supply, with the mandatory provision of providing preventive services visit of OEM trained Service Engineer/ Service Representative quarterly per year till the completion of warranty period (i.e., 20 visits for the first 05 years) & further quarterly visits (04 visits/year) year till the completion of CMC period.
8. The equipment should have a Brand name/ Model Number embossed/etched on the equipment.
9. All the technical specifications in the compliance statement must be supported by Original Literature from the firm/ O.E.M with highlighting Numbering & flagging of all technical certificates.
10. Offered Equipment should have a strong Government Installation base.
11. Offered Equipment should have a Regional Sales Service Centre of the Original Equipment Manufacturer in the region for a 95 % uptime guarantee.
12. For the offered main unit, the essential, optional required consumables'/accessories' shelf life should be declared on the Original Equipment Manufacturer's letterhead.
13. In case of technical snag/failure/breakdown the response time for the inspection should be within 24 hours and repair within 05 days otherwise provide a service machine/ alternate arrangement to be made till the period of recovery of the breakdown of the unit, failing which attracts penal action as per the decision of institute/ hospital.
14. For offered equipment the Training of technical staff and users should be performed by Original Equipment Manufacturer trained Service Engineers at the proper designated place- at bidders' cost.
15. Company should quote their latest model and need to provide an affidavit for the same.
16. As a tendering process the Demonstration of the offered Equipment is Mandatory at hospital/institute premises or other designated places at the bidder's cost.
17. The bidder must comply with the General Financial Rules and their modifications if any issued by the Government of India- 2017.

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18. Any bidder from a country that shares a land border with India will be eligible to bid in the tender only if the bidder is registered with the Competent Authority (i.e., Registration certificate issued by the Ministry of Commerce and Industry (Department for Promotion of Industry and Internal Trade- DPIIT after October 2020). If any such bidder is not registered with DPIIT they will be liable for technical disqualification.
19. Principal (OEM) must authorize only one agent to be quoted in the bid otherwise multiple quotes through different agents in the same bid will be canceled.
20. The Bidder and its OEM both have to submit a notarized affidavit on the Indian Non-Judicial Stamp Paper of Rs.100/- that the bidder has not quoted the price higher than the current financial year and last financial year supplied to any government Institute/ Organization/ reputed Private Organization. OEM also has to submit that the price quoted by the bidder in the bid is on its behalf and the lowest in the current and last financial year in the country. Therefore, if at any stage it has been found that the supplier and its OEM have quoted lower rates than those quoted in this bid; the Institute (the purchaser) would be given the benefit of lower rates by the Supplier and any excess payment if any, will become immediately payable to the Institute (the purchaser). The bid will be outright rejected if such an affidavit is not submitted. (Part of technical bid).
21. Guarantee / Warranty Period: Separate offers of Comprehensive Maintenance Contract (CMC on main equipment) and Annual Maintenance Contract (AMC on main equipment) for further 5 years after expiry of 5 years of warranty (i.e., 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup> years) in rupees only (and on basis of percentage of price) should be included in a financial bid in the absence of which the offer is liable to be rejected. Payment for CMC/AMC shall be made only after the warranty expiry of 5 years, in case the Institute (the purchaser) decides to avail of CMC/AMC services. Contract for CMC/AMC shall be decided on expiry of warranty but rates (not more than 5% inclusive of all taxes for 6<sup>th</sup> to 10<sup>th</sup> year) will be frozen at the price of an issued purchase order before the release of payment by the Institute (the purchaser). However, the Institute (the purchaser) may decide not to enter into any CMC/AMC contract without assigning any reason for the same, which shall be binding upon the bid.
22. Should provide 5-year CMC. CMC cannot be more than 5% of the contract value.

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23. System configured application-specific educational video tutorials shall be provided as standard with the system.
24. Details of service outlet in India to render services during 5 years warranty period.
25. The principals must give a certificate if the supplier/vendor is changed during the course of the guarantee/warranty period, the principals would be responsible for the upkeep/maintenance of the quote/supplied equipment, besides honouring all the terms and conditions of CMC/AMC in letter and spirit.



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