



E-TENDER ENQUIRY DOCUMENT

**FOR PURCHASE OF
Medical Equipments for the Department of Radiodiagnostics**



EMPLOYEES' STATE INSURANCE CORPORATION
 MEDICAL COLLEGE & HOSPITAL
 SANATH NAGAR, HYDERABAD-38.
E-mail-ms-nacharam.ap@esic.in
 Phone no.- 040-23701096, 23814852

Tender Enquiry No; 799-D/28/2017-18/ETE-16

Date: 13/03/2018

E-TENDER NOTICE No.16/2017-18

E-Tenders in Double bid system are invited from manufacturers / authorized dealers / distributors for the supply of medical Equipments / Instruments for the departments of Radiology for ESIC Medical College & Hospital, Sanathnagar, Hyderabad – 38.

Detailed information regarding the items, application / tender forms, EMD details, specifications, terms and conditions can be downloaded from the following websites: www.esic.nic.in

The interested bidders shall submit their tender(s) through online mode at the e-procurement portal <https://esictenders.eproc.in>

In addition to e-tender which has to be filed online, the bidders are also required to submit hard copies of Tender documents duly completed along with Earnest Money Deposit (EMD), supported by requisite documents and forms, as mentioned in the tender.

For all practical purposes, the e-tender shall be considered for evaluation and the hard copy of tender documents would also be scrutinized for confirmation.

Any corrigendum to this tender will be notified through the aforesaid websites only.
 The undersigned reserves the right to accept or reject any or all the bids without Assigning any reason at any stage.

The equipments list as follows

S.No	Item	Qty
01	Mobile 60ma X-Ray machine	01
02	Mobile 100ma X-Ray machine	01
03	300ma X-Ray machine	01
04	500ma X-Ray machine	01
05	CR system	01
06	Mammography X-Ray machine	01

The schedule for different activities are as below:

S.No.	Description /Name of the Dept.	Schedule
I	E-Tender document available at ESIC website / e-procurement portal https://esictenders.eproc.in	10:30 AM ,13.03.18 onwards
II	Last date and time for submission of completed Tender forms of all departments of A to F for both on-line and off-line mode	Up to 04:00PM on 03.04.18
III	Date of pre bid conference(Offline)	02:30PM on 20.03.18
IV	Date and Time for Opening of Technical Bids	10:30AM on 04.04.18
V	EMD	2% of quoted value
VI	Performance Security	10% of contract value

If the date of opening of tender happens to be a holiday, the tender will be opened on the next working day. Tender documents duly completed should be dropped on or before the date and time mentioned above, in the tender box kept at the **MS Office**, ESIC Medical College & Hospital, Sanathnagar, Hyderabad.

For Dean



EMPLOYEES' STATE INSURANCE CORPORATION
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SANATH NAGAR, HYDERABAD-38.
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Date: 13/03/2018

E-TENDER NOTICE No.16/2017-18

Sub: Invitation of Tender for procurement of Radio diagnostics equipments – Reg.

The Dean, ESIC Medical College & Hospital, Sanathnagar, Hyderabad-38, invites e- tender in Double Bid system for procurement of medical equipments as per the specifications enclosed.

Bidders are requested to submit the requisite information / documents as per the following annexure :-

- Annexure – I (Compulsory documents or check list)
- Annexure – II (Forwarding of tender documents)
- Annexure – III (Instructions for E-tendering)
- Annexure – IV (Instructions for offline submission of tender)
- Annexure – V (Tender Terms and Conditions)
- Annexure – VI (Company Profile)
- Annexure – VII (Declaration Form)
- Annexure – VIII (Request for refund of EMD)
- Annexure – IX (Price Bid)
- Annexure – X (Price Schedule)
- Annexure – XI (Quotation for CAMC)
- Annexure – XII (Warranty certificate)_
- Annexure – XIII(Price list for spares/consumables/reagents)
- Annexure -XIV (Specifications)

For DEAN.

TENDER DOCUMENT

The Dean, ESIC Medical College, Hospital, Sanathnagar, Hyderabad, invites e- tenders from eligible and qualified Bidders for the supply of Radiology equipments proposed to use for ESIC Medical College & Hospital, Sanathnagar, Hyderabad.

EMD

Bidder has to submit the Earnest Money Deposit (EMD) along with Technical bid in the form of demand draft drawn in favor of **"ESI Fund Account No. 1" payable at Hyderabad.**

All Tenders must be accompanied by EMD as 2% of quoted value. Bids without EMD shall be rejected.

A complete set of hard copy of tender documents along with EMD must be submitted up to the stipulated date and time in the tender box kept for this purpose in the **M.S Office** at ESIC Medical College & Hospital, Sanathnagar, Hyderabad. Non –submission of hard copy will lead to rejection of the tender application.

All pages of hard copy should be numbered in the sequence mentioned as per document list. All pages must be tied/done with spiral binding. Only required copies as per document checklist should be enclosed.

For DEAN.

COMPULSORY DOCUMENTS (OR) CHECK LIST**1. Compulsory documents for Technical Bid :**

S.No.	Title	Status (Fill Yes or No)	Page No.(all documents to be serially numbered by the bidder)
1	Have you enclosed EMD with Technical bid? Please mention value of EMD & Date of issue from Bank.		
2	Have you Submitted tender document downloaded from ESIC website and signed in all pages?		
3	Have you submitted Equipment Specific manufacturer's authorization?&Authorization of the name of the person(Firm)on which the the tender is participated in E-Procurement portal.		
4	Have you submitted certificate of incorporation/Firm Registration/Valid trade license .		
5	PAN Card of the Company/firm/Proprietor		
6	GST Registration certificate.		
7	Have you furnished IT Return, Balance Sheet and Profit & Loss Account for last three years prior to the date of Tender opening i.e. Financial Years 2016-17, 2015-16,2014-15		
8	Have you accepted all terms and conditions of TE document?		
9	Purchase Order copies in the bidder's name for having supplied the quoted equipment to Government Hospitals/reputed institutions		
10	Satisfactory Performance Certificate from the users for the quoted equipment.		
11	Certificate that the quoted items have not been supplied to any other organization/institution at a rate, lower than quoted here in last 3 months		
12	Certificate for at least 2 years warranty		
13	Certificate for at least 5 years CMC after warranty		
14	Address of the authorized service centre in Hyderabad		

2. Compulsory documents for Price Bid : (Fill Yes or No)

1	Price Bid for the quoting equipment	
2	Quotation for CAMC	
3	Price Catalogue for all spares/consumables/reagents of the equipment (if any) for five years after warranty period	

ANNEXURE - II

TENDER FOR THE SUPPLY OF MEDICAL EQUIPMENTS REQUIRED FOR USE IN ESIC MEDICAL COLLEGE & HOSPITAL, SANATHNAGAR, HYDERABAD

To
The Dean,
ESIC Medical College & Hospital,
Sanathnagar,
Hyderabad-38.

Sir,

Sub: Forwarding of Tender documents for Medical Equipments - Reg.

* * *

We have pleasure in submitting our tender for _____ (Name of the equipment)

We enclose herewith a Demand Draft No. _____ Dt. _____ for Rs. _____ drawn in favour of the "ESI Fund Account No.1" payable at Hyderabad towards Earnest Money Deposit.

We bind ourselves to the conditions prescribed in the Tender Notification.

We agree to have the Earnest Money forfeited in case of failure in full or part to undertake the contract upon the acceptance of this tender.

OFFICE SEAL:

SIGNATURE:

DESIGNATION:

NAME & ADDRESS:

ANNEXURE - III**Important Instructions for Bidders regarding Online Payment****All bidders/contractors are required to procure Class-IIIB****Digital Signature Certificate****(DSC) with Both DSC Components i.e. Signing & Encryption****to participate in the ETenders.****Bidders should get Registered at <https://esictenders.eproc.in>.****Bidders should add the below mentioned sites under Internet Explorer****Tools****Internet Options Security Trusted Sites Sites of Internet Explorer :****<https://esictenders.eproc.in>****<https://www.tpsl-india.in>****<https://www4.ipg-online.com>****Also, Bidders need to select “Use TLS 1.1 and Use TLS 1.2” under****Internet Explorer****Tools Internet Options Advanced Tab Security.****Bidder needs to submit Bid Processing Fee charges of Rs. 2495/- (nonrefundable)****in****favour of M/s. C1 India Pvt. Ltd., payable at New Delhi via****Online Payment Modes such as****Debit Card, Credit Card or NetBanking for participating in the****Tender. Bidders can contact our Helpdesk at****<https://esictenders.eproc.in/html/Support.asp>**

ANNEXURE – IV**INSTRUCTIONS FOR OFFLINE SUBMISSION OF TENDER**

1. The sealed envelope containing the completed tender super scribed as “TENDER FOR THE SUPPLY OF (name of the equipment)” addressed to The Dean, ESIC Medical College, Hospital, Sanath nagar, Hyderabad, will be received up to the date and time stipulated.

2. FOR DOUBLE BID SYSTEM

The sealed envelope containing the completed tender superscribed as "TECHNICAL BID FOR THE SUPPLY OF EQUIPMENTS/INSTRUMENTS _____ (Name of the Equipment) for the Department of _____ (Name of the department) Due on _____ (Last date of submission) on the first envelope and "PRICE BID FOR THE SUPPLY OF EQUIPMENTS/INSTRUMENTS _____ (Name of the Equipment) for the Department of _____ (Name of the department) Due on _____ (Last date of submission)" on the second envelope. Both the envelopes are again to be sealed and put in a single envelope superscribing "TENDER FOR _____ (Name of the Equipment) Due on _____ (Last date of submission) should be addressed to The **M.S Office**, ESIC Medical College, Hospital, Sanath nagar, Hyderabad,

3. The EMD amount should be enclosed along with the tender documents.

4. Postal delays if any will not be condoned.

5. The documents which are submitted by the bidder are to be **serially numbered**.

6. Each and every page of the tender document should be and signed by the authorized signatory of participating bidder with seal which indicates acceptance of all the terms and conditions of the tender document.

7. The bidder shall also enclose the copies of documents in support of details about the firm besides latest income Tax returns, GST Registration Certificate, PAN, Purchase Orders, Satisfactory Performance certificates etc. All these documents shall be kept along with the **Technical Bid**.

8. For **Price Bid** it is mandatory to submit the rates for each and every item shall be quoted in figures and words in the relevant columns provided in the Annexure-X of e-tender document

9. The quotation should be type / written and every correction in the tender should invariably be attested by full signature by the bidder with date before submission of the tenders to the authorities concerned, failing which, the tender is liable for rejection.

10. Declaration form and Company profile formats enclosed must be filled in and signed by the Bidders and enclosed along with the tender. Tenders received without the Declaration form shall not be considered.

11. All Duly signed copies of tender document, other documents along with original EMD shall be dropped in the Tender Box kept for this purpose in the **MS. Office at ESIC Medical College & Hospital, Sanathnagar, Hyderabad**.

TENDER TERMS AND CONDITIONS

1. Tenders will be opened in the **M.S Office** at ESIC Medical College & Hospital, Sanathnagar, Hyderabad-38, on the stipulated date and time in the presence of the Bidders / representatives who choose to be present.
2. The two parts of the bids i.e. Techno - commercial (Unpriced Bid) and Price bid prepared by the Bidder shall comprise of the following:

(A) Technical Bid

- a). Bid Security (EMD) should be furnished in accordance with instructions.
- b). Detailed technical specification of items quoted along with catalogue / literature, make and model of the equipments offered without indicating price.
- c). Statements of Deviations from tendered commercial conditions, if any.
- d). Statement of deviations parameter wise from tendered specifications, if any.
- e). Bidders have to indicate the name and address of the bankers.
- f). Equipment Specific manufacturer's authorization certificate.
- g). The certificate of incorporation/Firm Registration, if a firm / Valid trade license if a trader.
- h). PAN Number of the Company/firm/Partner, as the case may be.
- i). GST Registration Certificate
- j). IT Return, Balance Sheet and Profit & Loss Account for last three years prior to the date of Tender opening
- k). Purchase Order copies in the name of bidder for having supplied the quoted equipment to Government Hospitals/reputed institutions (P.O date should be in 2014-15/2015-16/2016-17) Purchase Orders of old periods will not be considered.
- l). Satisfactory Performance Certificate from the users for the quoted equipment in the name of manufacturer/bidder for Financial Year 2014-15/2015-16/2016-17.
- m). Certificate that the quoted items have not been supplied to any other organization/institution at a rate, lower than quoted here in last 3 months.
- n) Warranty certificate for atleast 2 years
- o) CMC certificate for at least 5 years after warranty period

(B) Price Bid

- a). The information given at Techno - commercial bid should be reproduced in price bid with prices indicated. Any deviation in this regard will render the bid liable for rejection.
- b). Rates should be typed in words as well as in figures, free from erasing, cutting and Overwriting.
- c). Price quoted should match with the items quoted in techno - commercial bid.
- d). Each and every page of the quotation should be serially numbered and duly signed.
- e). In case the price quoted cannot be matched with the items/quoted in technical bid, the bid shall be liable to be rejected.
- f). The quoted price should be all inclusive lump sum price offered for each item including cost of the equipment, freight, Insurance, transit insurance, packing forwarding etc., and including charges for installation and commissioning with all men and material required for the same and including charges for the quoted warranty period. Rates and GST must be quoted separately.
- g). The rates quoted should be F.O.R ESIC Medical college Hospital, Sanathnagar, Hyderabad. No other charges in addition will be payable on any account over and above the lump sum price quoted in the price bid. The rates quoted in ambiguous terms such as "Freight on actual basis" or " Taxes as applicable extra" or "Packing forwarding extra" will render the bid liable for rejection.
- h). Only Techno - commercial bid (un-priced bid) will be opened first on the date mentioned in the presence of bidders who chose to be present. The price bid of the firm whose equipment is technically viable fulfilling the specifications and all other conditions alone, will be considered for evaluation.
- i). A certificate that the quoted items have not been supplied to any other organization / Institution at a rate, lower than quoted here, should be enclosed.
- j). For imported goods, the price quoted shall not be higher than the lowest price charges by the Bidder for the goods of the same nature, class or description to a purchaser, domestic or foreign or to any organization or department of Govt. of India.
- k). If it is found at any stage that the goods as stated have been supplied at a lower price, then that price, with due allowance for elapsed time will be applicable to the present case and the difference in cost would be refunded by the supplier to the purchaser, if the contract has already been concluded.

3. Tender currencies:

The Bidder supplying indigenous goods shall quote only in Indian Rupees.

4. **Bid Security (EMD)** : Each tender must be accompanied by a EMD as mentioned against the equipment in the **form of Demand Draft only drawn in favor of ESI Fund Account No.1" payable at Hyderabad.** The tenders not accompanied by EMD are liable for rejection. For EMD exemption, if any necessary documents for exemption should be submitted, otherwise tender will be liable for rejection. Advance Stamped Receipt for the refund of EMD should be enclosed with the tender document. The EMD of unsuccessful Bidders shall be refunded after the award of tender to the successful tenderer.

The EMD draft should be enclosed with Technical bid only, not with Price bid.

5. Only the manufacturers or their authorized distributor/stockist would be considered for the tender.
6. The contract should not be sublet without the prior written permission of the **Dean.**
7. Either the authorized Indian agent on behalf of the principal/OEM or principal/OEM himself can bid but both cannot bid simultaneously for the same item/product in the same tender.

8. If an agent submits bid on behalf of the principal/OEM, the same agent shall not submit a bid on behalf of another principal/OEM in the same tender for same item/product.

9. Successful bidder shall not be entitled to any rate revision of price for any reason except that allowed by Government of India.

10. The rates quoted should be valid for one year from the date of approval of the Tender and the quantity mentioned is on the basis of present requirement which are to be supplied within the period mentioned in the tender. During the currency of Tender, orders are to be executed by the successful Bidder at the tender rate as per future requirements, therefore the quantity in the tender is indicative only and likely to increase.

11. Copies of Purchase Order in the bidder's name for having supplied the quoted equipment to Government Hospitals/reputed institutions should be enclosed. The rates quoted in the purchase order should not be deleted or made illegible. A satisfactory performance certificate from users of the equipment should also be enclosed.

12. For the equipment where reagents, cartridge, other consumables, etc. are required the price bid must include: A) The rate list indicating the prices of the consumables prevalent on the date of tendering B) List should indicate the cost and life of consumables C) The rate for reagents, consumables etc. should remain constant for five years.

13. Firms should also give a certificate that spares/ consumables/ reagents of the equipment quoted will be freely available at least for five years after warranty period.

14. The equipments should be Guaranteed/ Warranted (Comprehensive) for a minimum period of two years from the date of satisfactory installation and inspection.

15. Firm should undertake to enter into Annual Maintenance Contract (CAMC) for equipment (mandatory for all equipments in double bid system) as well as for accessories attached for a minimum period of five years after completion of warranty period and accordingly quote the rates of CAMC for five years. The rates for CAMC (Comprehensive) should not exceed 10% per annum, of the unit cost of the equipment on the date of purchase. Firm should undertake to keep the equipment in running order throughout the year and in case of equipment going out of order during warranty CAMC the fault should be attended within 24 hours and rectified within 7 days of lodging the complaint.

The firm should have the authorized service centre in Hyderabad

16. If the equipment needs calibration, the firm shall be responsible for calibration as part of CAMC.

17. Bidder should be able to demonstrate (dry Demo and wet Demo) the product quoted by them, to the Technical evaluation Committee in **Hyderabad** within the due date after the check list evaluation of the Bidder.

18. The company will get only one chance for demonstration. In case, the company fails to arrange the demonstration; the tender shall be liable for cancellation.

19. The date for demonstration shall be fixed with mutual consent on telephone/e-mail and the same shall be confirmed in writing or by fax. In any case, not more than two weeks time shall be given to arrange for demonstration.

20. The successful bidder should furnish Performance Security Deposit @ 10% of the value of the contract.

21. The **Dean** ESIC Medical College & Hospital, Sanathnagar, Hyderabad will be at liberty to terminate the tender proceedings without assigning any reasons thereof. The bidder will not be entitled for any compensation whatsoever in respect of such termination.

22. No articles shall be supplied to the hospital except on requisition in writing signed by the **Dean** or by an officer authorized by him/her in writing to do so.

23. Bidders in their own interest shall ascertain the eligibility of whatsoever concessions and exemptions are eligible and applicable to the ESIC Medical College & Hospital, Sanathnagar, Hyderabad and shall advise the purchaser and quote accordingly.

24. **Delivery Schedule** : Within 45 days after placement of supply order. The delivery should be at the place shown by the receiving officer within the premises of the ESIC Medical College & Hospital, Sanathnagar , Hyderabad at the cost of the supplier. For imported items, an enhanced delivery period, if required can be agreed and the same should be indicated clearly. If the successful Bidder fails to execute the supply within the stipulated period, **penalty of 2% of the value of order calculated at the contracted rate per week or a part of week will be recovered subject to maximum of 10 percent.**

25. **Tender selection will be made on the basis of total cost mentioned in the price bid column M of the Annexure X**

COMPANY PROFILE

- 1 Name of the firm
2. Full Address:
3. Telegraphic Address/E-mail Id:
4. address of the authorized service centre in Hyderabad
5. Telephone No.
6. Telex/Fax No.
7. Date of Establishment of firm:
8. Is Your Firm registered under
 - a. The Factories Act
 - b. Companies Act
 - c. Any other Act
9. Name & address of your Bankers.
Stating the name in which the
Account stands
(Please give Account details)
10. Are you on the list of approved?
Contractors of any other authority
(if so please give details)
11. Give details of any Govt. contract
Executed during the last 12 months
12. Are you a Manufacturer? If so
Please furnish the items you
Manufacture
13. Are you a small scale industry?
Registered with the appropriate
Authority. If so furnish details
14. Are your products certified by ISI?
If so furnish details
15. Any other information which you
Consider necessary to furnish

DATE

SIGNATURE:

NAME & ADDRESS:

DECLARATION FORM

Wehaving our office at.....do declare that we have carefully read all the conditions of Tender for the supply of and abide by all the conditions set forth therein by the **Dean**, ESIC Medical College & Hospital, Sanathnagar , Hyderabad-38 .

We further declare that we possess valid license bearing No.....valid upto.....

DATE:

SIGNATURE:

SEAL:

NAME & ADDRESS:

ANNEXURE – VIII

From

To

The Dean, M.S Office,
ESIC Medical College & Hospital
Sanathnagar,
Hyderabad-38.

Sub: Request for refund of EMD Amount – reg.

* * *

With reference to your advertisement dated _____, we have submitted tender for _____ (name of equipment). In case we are not the successful bidder, we request you to kindly refund the EMD amount of Rs._____. The Cheque may be kindly be drawn in favour of

Beneficiary's Name :

Account No. :

A/C Savings Current :

IFSC Code No. :

Bank Name :

Branch Name & Address :

Yours faithfully,
(SIGNATURE & SEAL)

PRE-RECEIPT

Received an amount of Rs..... vide cheque No.....
dated..... from ESI Corporation towards refund of EMD amount.

Revenue Stamp
(SIGNATURE & SEAL)

ANNEXURE – IX

PRICE BID FOR THE SUPPLY OF MEDICAL EQUIPMENTS

I/We _____ hereby offer to supply medical equipments at Medical College & Hospital, Sanathnagar , Hyderabad-38 as per the specifications in the Tender, at the rate given below and agree to hold this offer for one year from the date of approval of tender and for further period if extended.

Signature of Bidder with date and seal

Annexure-X

PRICE BID SCHEDULE

S.No	Description of the item (Make & Model)	Quantity A	Unit Cost(Rupees) B	GST(%) on the Value of Item C	GST(Rs) D	Unit Cost Including GST E=B+D	Total Cost(Rupees) F= AxE	1 st yearCMC charges(Rs)(Incl.Tax) G	2 nd yearCMC charges(Rs)(Inclu.tax) H	3 rd yearCMC charges(Rs)(Inclu.Tax) I	4 th year CMC Charges(Rs)(Incl.Tax) J	5 th Year CMC charges(Rs)(inclu.Tax) K	Total CMC Charges L=G+H+I+J+K	Total Cost of the Equipment including CMC M=F+L
		01												

Name _____

Business Address _____

Place: _____

Date: _____

Signature of Bidder _____

Seal of the Bidder _____

Annexure-XI

WARRANTY CERTIFICATE FOR THE SUPPLY OF MEDICAL EQUIPMENT

I / we _____ do hereby undertake to provide warranty for the equipment_____ for a period of two years from the date of satisfactory installation of the said equipment in your Hospital premises.

Signature of Bidder with date and seal

PRICE LIST FOR SPARES / CONSUMABLES / REAGENTS

The following is the list of spares / consumables / reagents and their rates for use of the equipment _____

S.No	Name of the Spare/Consumable/Reagent.	Unit	Rate per unit (in Rs.)	Tax (if Any)	Total (in Rs.)

Signature of Bidder with date and seal

***The bidder need to upload the scanned copy of above particulars at the time of submission of tender along with the price bid proforma.**

SPECIFICATIONS FOR MOBILE 60Ma HIGH FREQUENCY**X-RAY MACHINE WITH BATTERY BACK UP****Qty-01**

- X-Ray Generator:
 - Power: 2.5 KW or more
 - Max KV : 100
 - Max mA: 60
 - Max Range: upto 200 mAS
 - Exposure time: 20 msec to 5 sec or less
- X-Ray Tube: Stationary or Rotating Anode with focus spot 1.2 - 1.6
- Tube Stand: The tube stand should be fully spring/counter balanced with rotation
- Light beam diaphragm collimator
- Integrated Cassette box
- AERB approved

SPECIFICATIONS FOR MOBILE 100 mA HIGH FREQUENCY**X-RAY MACHINE Qty-01**

- High frequency X-Ray Generator:
 - Power: 4 KW or more
 - KVrange: 40 kv to 100kv or more
 - mArange:10 mA to 100mA or more
 - mAS selection: upto 250 mAS or more
 - Exposure time: 20 msec to 5 sec or less
- Control Panel: Digital Display of kV and mA parameter, system ON-OFF, X-ray ON-OFF
- X-Ray Tube: Stationary or Rotating Anode with focus spot less than 2 mm
- Tube Stand: The tube stand should be fully spring/counter balanced with rotation in all directions
- Collimator rotation should be +/- 90°
- Integrated Cassette box
- Effective braking system for parking and transport
- The unit should operate on single phase power supply and should have plugin facility to any standard wall outlet with automatic adaptation
- AERB approved

TECHNICAL SPECIFICATIONS FOR 300 mA X-RAY MACHINE: Qty-01

High-Frequency (40 KHz or more) 300mA X-Ray Machine for various radiographic examinations.

1. **X-Ray Generator:** high frequency X-Ray generator for general radiography.

Frequency of Generator: 40 KHz or more

Power Output: 30 KW or more

KV Range: 40 to 110 KVP or more

mA: 300 mA or more

MAs Range: upto 200 mAs or more

2. **Control:**

Attractive and ergonomically designed control panel with total soft feather touch switches for various operation having following functions & indications.

Machine ON/OFF switch, LCD display of parameters like KV, mAs, APR value etc.

KV, mA & mAs increase and decrease switches.

Tube focal spot selection switch

Ready and Exposure switch with indicators.

Bucky selection switch, Line voltage indicator.

Error display for Voltage, Earth fault, KVp, filament, Thermal overload, Rotor.

Anatomical programming with pre-programmed functions in which automatic selection of factors is done according to the body part selection.

Dual action hand switch with retractable cord for operator

3. **X-Ray Tube:** A rotating anode X-Ray tube with dual focal spot

(small: 1.0mm² or better, large 2.0mm² or better)

Good anode Heat Storage Capacity of 100 KHU or better

4. **H.V. Tank:** A very compact H.V. tank filled with high dielectric transformer oil. The H.V. tank contains H.V. transformer, filament transformer, H.V. rectifiers and H.V. cable receptacles.

5. **H.V. Cable:** One pair of H.V. cable compatible with the X-Ray tube.

6. **Collimator:** Double slot collimator for full field illumination and adjustment of exposure area.

7. **Tube Stand:** Floor to ceiling stand and with counter balanced tube head (rotatable=180⁰) 360⁰ rotatable: mounted on floor ceiling rails for convenient movements. It should have all necessary locks. The column should be light in weight.

8. **Table:** Multiposition (5 Position), Hand Operated including Trendelenberg position. Sectional rail to accept accessories, accepts cones. Motorized reciprocating bucky with grid ratio of 8:1, ~100 lines/inch

9. **Voltage Stabilizer:** Suitable servo stabilizer is provided with the system to compensate the voltage fluctuations on line.

10. **Power Supply:** 3 phase 440 volts AC 50 Hz with line resistance <0.4 ohm line regulation ±10% with independent earthing.

11. **Approvals and Certifications:** The system must have valid AERB Type approval, AERB certificate must enclosed with Bid.

12. Lead lining of doors and walls should be provided

500 mA RADIOGRAPHIC X-RAY MACHINE: Qty-01

Technical Specifications

The X-ray Generator and tube must be from the principal supplier and of same supplier.

1. X-ray Generator

Type- High frequency inverter system

Rating -50kW or more

Radiography Tube voltage: 40-125 kV or better

Tube current: 500mA

Exposure time- 1ms to 5 secs.

Power Source 3 Phase 440V 50Hz AC power supply

Tube overload protection present

High Tension cables 1 pair OF ATLEAST 8m in length

2. Control: Attractive and ergonomically designed control panel with total soft feather touch switches for various operation having following functions & indications:

Machine ON/OFF switch, LCD display of parameters like KV, mAs, APR value etc.

KV, mA & mAs increase and decrease switches.

Ready and Exposure switch with indicators.

Bucky selection switch, Line voltage indicator.

Error display for Voltage, Earth fault, KVp, filament, Thermal overload, Rotor.

Anatomical programming up to 100 or more pre-programmed functions in which automatic selection of factors is done according to the body part selection.

A two-step hand switch with dual action for exposure release with retractable cord should be provided for taking images from a safer distance.

3. X-ray Tube Assembly

Anode- Rapid anode type

Heat storage capacity: 200,000 HU or higher

Dual focus for radiography 0.6 / 1.5 mm or better
 Total filtration Minimum of 2.5 mm Al equivalent
 Inherent of permanent Filtration 1.5mm Al equivalent
 Collimation system- Double slot collimator for full field illumination and adjustment of exposure area.

4. H.V. Tank: A very compact H.V. tank filled with high dielectric transformer oil. The H.V. tank contains H.V. transformer, filament transformer, H.V. rectifiers and H.V. cable receptacles.

5. X-ray Tube Support Assembly

Mounting -Floor to ceiling / ceiling free type
 Locking device -Electromagnetic
 Movements - Lateral, horizontal and vertical; Lateral movements should be sufficient to radiograph patient on adjacent patient trolley
 Swiveling out of tube assembly- 180°

6. X-ray Table

Sliding / Floating tabletop 4 way sliding table top longitudinal and transverse movement
 Tredlenberg position compliant
 Max weight of patient hold 150-200kg.
 Locking system - Electromagnetic
 Cassette tray- Should accommodate cassettes of all standard sizes.
 Grid- Stationary/Reciprocating
 Ratio: 10:1
 Lines/in - at least 100
 Tube protection- Automatic mechanism for X-ray Tube protection during horizontal to vertical and vertical to horizontal table positioning
 Accessories- Foot steps to climb on table. Immobilizing Device – pediatric and adult Hand Grip

7. Vertical Cassette Stand

Grid- Stationary / Reciprocating
 Ratio: 10:1
 Lines / in: at least 100
 Travel : Manual with locking in all positions
 Should accommodate all standard cassette sizes

8. Approvals and Certifications:

The system must have valid AERB Type approval, AERB certificate must enclosed with Bid.

9. Accessories

Three pc lead apron with minimum lead equivalence of 0.25 mm lead
 1pc lead glass, 80 cm x 60 cm, with lead equivalence of at least 1.5 mm lead, to be installed into concrete barrier.

10. Should provide the Lead lining for the doors and walls

SPECIFICATIONS FOR A HIGH END COMPUTED

RADIOGRAPHY UNIT. Qty-01

Computed Radiology must be a state of the art system manufactured by a reputed brand or manufacturer adhering to following specifications.

CR system should broadly comprise of following modules/ components:

- a) Image recording system (cassettes & reading plates)
- b) Image reading system (reader/ digitizer)
- c) Identification & CR processing workstation.
- d) Dry imager.

1. Image recording system (cassettes & imaging plates):

The following sizes of radiography cassettes along with image plates should be supported by the unit.

- a. 14" X 17" : 2 nos.
- b. 10" X 12": 2 nos.
- c. 8" X 10": 2 nos.

2. Image reader (CR reader/ digitizer)

- a) The CR reader / digitizer should be able to process 65 image plates/hr or more of the largest size cassette
- b) CR reader / digitizer must be able to handle phosphor image plates.
- c) It should have a resolution of 6 pixels/mm (minimum) for standard resolution cassettes & 10 pixel / mm (minimum) for high resolution cassette reading.

- d) Digitiser must have a resolution of 20 pixel / mm (minimum) for screening mammography.
- e) Gray scale resolution: CR reader / digitizer should have a minimum resolution of 12bits/ pixel for images sent to CR processing station.

3. Identification Station & processing server:

- a) The processing station must have 4GB RAM, at least 1 TB HDD and at least 17 inch clinical grade monitor. The PC hardware and monitors must be from reputed brands. The monitor should have a wide viewing angle and it should be clinical grade monitor with at least 1.3 MP resolution.
- b) Processing server capable of identification of patient demographics to the acquired images will be preferred, else a separate identification station must be provided.
- c) The server and /or ID station must be DMWL (DICOM modality worklist) compliant to access patient and study data from HIS or RIS. d) It should provide display of acquired images with greater details of demographics viz. patient/ study listing for easy access
- e) The server must provide full amount of post processing features viz. geometric corrections, window level algorithms, annotation like markers, predefined text, drawing lines and geometrical shapes, multi-scale image processing, measuring distance and angles, shuttering, histograms, zoom, grey scale reversal, edge enhancement, noise reduction, indication of gray scale saturation level, latitude reduction etc.
- f) It should facilitate full fledged DICOM printing and should be able to print multiple formats of patient study.
- g) Should be able to send DICOM images to DICOM workstation or PACS without loss of information
- h) Should be equipped with DICOM DVD writer for transferring image
- i) Should be able to store image on external device viz. CD/DVD or pen drive etc.
- j) The system should have a facility to indicate over /under exposure in the preview screen. Kindly specify the image preview time.
- k) The software must have dedicated paediatric and mammography

4. Dry imager

- a) The system must have a dry imager without need of any wet chemistry
- b) It must be DICOM 3.0 compatible allowing multiple modalities to be connected at a time
- c) The system must be able to print at least 60 films/ hr of the largest size
- d) The system must deliver its first film within 80 seconds from the request sent
- e) The imager must have spatial resolution of 500 ppi minimum
- f) The system must have contrast resolution of 14 bits/ pixel or more. The system must have at least three online film sizes and should be capable of printing any of the 8" X 10", 10" X 12" or 14" X 17" films.
- g) The imager should support daylight loading of films.

5. **Suitable UPS back up** must be provided for 15 minutes backup for the whole system

MAMMOGRAPHY X-RAY MACHINE (RA) Qty-01

○ X-RAY GENERATOR

Generator Type	:	High Frequency 40 KHz.
KV. Scope	:	20 KV - 39 KV
MAS Scope	:	400 MAS

○ X-RAY TUBE

Tube Type	:	Rotating Anode (9700 rpm)
Focal Spot	:	0.1 - 0.3 mm
Filtration	:	Inherent - 1 mm Be 0.03 mm MO

○ U - ARM MODULE

Rotation	:	+/- 90 degree
Up / Down Movement	:	600 mm - 1050 mm
Oppress Pressure	:	Up to 300 N
Casettee compatibility	:	180 x 240mm (choose optional sizes)

○ CONTROL

Digital LCD Display	:	Tube Voltage (KV), Tube Current (MA), MAS, Focal Spot Pressure numeral.
KV Selection	:	20 KV - 39 KV
MAS Selection	:	Up to 400 MAS
Exposure process	:	Operator controlled KV & MAS.
Power Requirement	:	5 KVA , 220 VAC, 50 Hz.

- Unit should be approved by AERB
- LEAD lining of doors and walls should be provided