

SPECIFICATION TECHNICAL
100MA HIGH FREQUENCY X-RAY MACHINE

100mA High Frequency X-Ray Machine

High frequency X-Ray machine suitable for general radiography.

X-RAY GENERATOR:

- High Frequency generator of 20 KHz or more.
- Radiographic KV: 40 to 120KV.
- Output power: 6.0 KW
- mAs range: 100 mA or more.

CONTROL:

- KV Increase & Decrease Switches.
- mAs Increase & Decrease Switches
- Machine ON/OFF Switch.
- Collimator Lamp 'ON' Switch.
- Standby & Exposure Switch.
- Self diagnostic Programme with indicators for:-
 - Earth fault Error
 - ICV Error
 - Filament Error
 - Tube head Thermal Error
- Stand by (Ready) & X-Ray On Indicator.
- Incoming Voltage Indicator. There should be provision for the machine to work from 195Volts Input supply to 265V input supply.
- Anatomical Programming Radiography (i.e. APR) should be provided in which KV and mAs are automatically selected depending upon the physique of the patient and part of the body to be X- Rayed.
- Anatomical Programming of minimum 200 programmes should be provided.
- There should be a provision that the control should get off, if no key is pressed for 10 Min.
- There should be inbuilt delay between the exposures to protect x-ray tube from over loading.
- A Hand Switch with Dual action for exposure Release with Retractable Cord is provided for Radiation Protection to the Operator.

X-RAY TUBE:

- One no. Dual focus Rotating Anode X-Ray tube thermally protected.
- Anode heat storage capacity of tube should be more than 100 KHU.
- One Pair of 8 meter H.V. Cable.
- One No. Collimator with auto shut off facility should be provided.

HV TANK:

- A very compact H.V. Tank filled with high dielectric transformer oil or Monoblock HT tank should be provided. The H.V. Tank should contain H.V. transformer, Filament Transformers, H.V. Rectifiers & H.V. Cable receptacles.

STAND:

- Stand should be Floor to ceiling stand with counter balanced tube head (rotatable ± 180 degree) 360 degree rotatable; mounted on floor ceiling rails for convenient movements.
- Company should provide chest stand with machine.

TABLE:

- The Table should consist of motorized reciprocating bucky with Imported Grid of size $17\frac{1}{4}$ " x $18\frac{3}{4}$ " & of Ratio 8:1 - 85 lines/inch.
- The Bucky should cover the entire length of the table and should be locked at any desired position by an Electromagnetic lock.
- The tabletop should be made of low radiation absorption, waterproof material.

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- Table Accessories like stainless steel cassette tray, Compression band should be provided.
- Bucky should accept cassette upto 14" X 17"

POWER SUPPLY:

- 230V, AC, 50Hz. 15 Amps with line regulation of $\pm 15\%$. Line resistance < 0.4 ohms

ACCESSORIES:

Following accessories should be supplied with the machine at the time of installation

- | | | |
|---|-------------------|--------------------|
| a) Lead Apron 0.5mm Pb equivalent | 1No. | |
| b) Lead Barrier 1.5mm Pb equivalent with lead viewing window | | 1 No. |
| c) Cassettes with Image Intensifying screens of various Sizes
(inch) :- 8" X 10", 10" X 12", 12" X 15", 14" X 17". | | 2 Nos. each |
| d) One Packet of films of each size | | |
| e) Film hangers for manual Processing for film sizes (inch): 8" X 10", 10" X 12", 12" X 15", 14" X 17". | 3Nos. each | |
| f) Chemical Tank 9 liters with lid | 1 No. | |
| g) Fixer & developer | 1 No. Each | |
| h) Dark Room Light | 1 No. | |
| i) Lead divider 14" X 17" (inch) | 2 No. | |

OTHER REQUIREMENTS:

1. The manufacturer should be ISO-9001: 2008 & ISO-13485: 2003 certified. (valid documentation should be submitted in technical bid)
2. The unit should be approved by AERB. (valid documentation should be submitted in technical bid).
3. The company should submit technical compliance sheet as per technical specifications mentioning the make & model of quoted item in the Technical bid .
4. The company should have a local Service center.
5. The company should have proven track record in Govt. sector.
6. The Company should provided **QA & QC test report** at the time of Installation & in every two years during guarantee period.
7. **Guarantee:** Three years on complete unit from the date of the installation.
8. **CMC:** CMC may be given for seven year (on yearly basis) after guarantee period of three years.
9. Installation will be done by supplier free of cost.
10. The Company should submit original catalogue and data sheet (signed & stamped) of quoted item at the time of bid submission. Any declaration/ undertaking in this regard shall not be considered

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**Executive Director (EPM)
Rajasthan Medical Services Corporation Ltd,
Jaipur**