



## **Notice Inviting e-Tender**

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Supply and Commissioning of C Arm Fluoroscope X-Ray Machine for Department of Orthopaedics, Calcutta National Medical College & Hospital, Kolkata  
(Submission of Bid through *online*)

Bid Reference No.: WBMSCL/NIT-274/2023

Dated-29.05.2023

### **Amendment-I**

**The system should have the below mentioned specification:**

**1. I.I.T.V SYSTEM**

- a) The image intensifier should be of latest series.
- b) It should be of 9 inches filed i.e. 9 inches / 6 inches / 4.5 inches.
- c) The centre resolution should be minimum 48 lp/cm.
- d) The circular grid should be fixed on the Image Intensifier (I.I) to improve image quality

**Or, Flat panel detector**

- a) Receptor type should be of Amorphous Silicon technology
- b) Conversation screen should be of CsI
- c) FPD with 21 X 21 cm size or more should be provided
- d) Image matrix should be 1K X 1K or more
- e) Pixel pitch should be 205 µm or less
- f) ADC conversation should be 16 bit or more

## 2. C-ARM STAND:

- a) It should be ruggedly built and should be of good design
- b) It should have 1 or 2 separate steering for controlling back and front wheel movements
- c) It should also have the below mentioned movements.
  - Horizontal travel should be minimum 200 mm
  - Orbital movement should be 125° or more
  - Panning movement should be  $\pm 12.5^\circ$
  - Vertical movement should motorized of 400 mm
  - Focus to I.I distance should be 900 mm
  - C-Arm rotation should be  $\pm 180^\circ$  (Preferably  $\pm 360^\circ$ )

## 3. CCD CAMERA:

- The CCD camera should be ½ inch
- It should have resolution of 1k x 1k minimum

## 4. MONITORS:

- a) Medical grade monitor minimum 19 inches more on trolley – 2 Nos.
- b) The monitor trolley should be provided for mounting 2 monitors and should have 2 shelf for keeping memory and stabilizer.

## 5. GENERATOR:

- a) It should be microprocessor controlled digital system with display.
- b) It should be of high frequency with output of minimum 3.5 KW and frequency of 50 KHz. or more
- c) The KV should be from 40 to 110 KV.
- d) The fluoroscopic mA should be from 0.3 to 3.0 mA or wider.
- e) The system should have fluoroscopy mode like
  - Manual Flouro mode and Continuous Flouro mode.
  - Pulsed fluoro mode with facility to select time interval between the pulses from 1 pps to 10 pps or more
  - Auto Dose Rate Control in fluoroscopy mode by which mA & KV should be set automatically as per the thickness of the organ.
  - Manual KV selection during fluoroscopy also should be available.
  - Boost fluoroscopy mode (optional) / High Definition Fluoroscopy
- f) The digital fluoroscopic timer should be incorporated with arrangement of auto cut off of exposure after 300 secs.
- g) The radiographic mAs range should be from 20 to 30 mAs or more
- h) The X-ray tube should be dual focus stationary anode. The focal spot of

the tube should be

- 1) Small: 0.6mm x 0.6mm
- 2) Large: 1.8 mm x 1.8 mm or less

It should have mono block / tube housing heat storage capacity of 700 KHU or more. It should also have inherent filtration of 0.5mm or more Al eq.

- i) The system should have backlit LCD display of fluoro mA, KV, timer & radiography mAs should be provided
- j) The reversal, image rotation, functions should be operatable either from control panel or with a remote control.
- k) Memory functions like store recall/image transfer should be operatable from control panel as well as from memory unit.
- l) There should be independent selection of mA and KV & mAs.
- m) The control should have indicator for power, Overload, X-Ray & Tube heating
- n) The system should be upgradable to latest functions

#### **6. IMAGE MEMORY:**

- a) Digital Image Processing & Memory system with PC or a USB Drive.
- b) The System should have DVD recording facility as externally or internally.
- c) It should have 100000 images or more
- d) It should have at least 100000 images or more permanent images storage capacity
- e) It should have image integration function to reduce the image noise
- f) Should be capable of copying images to Pen Drive.

#### **ESSENTIAL ACCESSORIES:**

- a) Lead aprons (thickness 0.35 mm), Thyroid Shield, Lead Goggles (8 nos each)
  - b) Lead apron stand – 03 Nos. & for each stand 4 nos. Hanger should be supplied
  - c) Servo stabilizer -1
7. Should be AERB approved
8. The system should be DICOM compatible.

The product should have US FDA / European CE (4 digit notified body) / BIS

For the buyback of existing 1 (One) C-Arm Machine, vendors should quote the separate price for same. The prospective bidders can check the present condition of the equipment. The selected bidder is to take back the existing C-Arm Machine and the aforementioned items on “**as is where is**” basis.

**Buy back value will be deducted from the L1 bidder against the Payment of base price.**