



## **Notice Inviting e-Tender**

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**Supply and Commissioning of different types of Medical Equipment for Belda SSH**

(Submission of Bid through *online*)

**Bid Reference No.: WBMSCL/NIT-578/2025**

**Dated-03.07.2025**

**AMENDMENT-I**

**Schedule-I**

**REVISED Technical Specification of Technical Specification**

**Digital Radiography (DR) Machine**

A Digital Radiography System with 30KW or more High Frequency X-Ray Generator for General Radiography with single flat panel detectors of size 14"x 17".

One Table Bucky and one vertical Bucky capable of taking the complete range of radiographic examinations with the following Specifications & Configuration must be available.

**HIGH FREQUENCY GENERATOR:-**

Generator should be of latest technology with high frequency offering 40 kHz or more X-Ray generator.

Power output of the generator should be 30 KW or more providing 350 mA or more.

- Generator should offer 2/3 Point technique & user should have following parameters selection range.
  - KV range should be 40 to 125 KV.
  - mAs range should be 5 to 400mAs or more.
  - Exposure time should be 1 ms to 5 secs or better.

- Generator offered should have auto/manual calibration function as a standard feature.

#### **CONTROL PANEL: -**

Soft Touch Control Panel having following functions & indications should be provided. The panel can be supplied in Floor or Wall mount with Spill Proof design.

Following features should be available on the control panel.

- Machine ON/OFF Switch.
- Digital Display for display of X-ray parameters of KV & mAs. There should be option of selecting mA station.
- mA, KV & mAs increase and decrease switches.
- Tube focal spot selection Switch / automated.
- Ready and X-Ray on switch with Indicators
- Bucky Selection Switch.
- Self-diagnostic Program with Indicators for Earth fault error, KV error, filament error & Tube's Thermal Overload.
- Anatomical Programming radiography (i.e. APR) should be provided in which KV & MAS are automatically selected depending upon the physique of the patient and part of the body to be X-rayed.
- Anatomical Programming 200 programs or more.
- A dual action hand switch with retractable cord should be provided.

#### **TUBE: -**

- One No. Dual focus Rotating anode X-ray tube with Small Focus 1 mm or less & Large focus 2 mm or less
- Anode Heat storage capacity of the tube should be 140 KHU or more.
- One Pair of 6 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 / solid state oil free type should be provided. The H.V. Tank should contain H.V. transformer, Filament Transformers, H.V. Rectifiers & H.V. Cable receptacles.

#### **Tube Stand: -**

Ceiling free stand with counter balanced tube head,  $\pm 180$  degree Rotatable mounted on floor rails for convenient movement should be provided.

#### **Table:-**

- Horizontal motorized table with 4 way movement should be provided.
- Transverse and longitudinal movements of the tabletop should be locked by electromagnetic locks.

- Table should consist of Motorized reciprocating Bucky with grid of Ratio 8:1, 85 lines/inches.
- The Bucky should cover the entire length of the table & should be locked at any desired position by an electromagnetic Lock.
- The table top should be made of low radiation absorption, water proof material.
- Table accessories like stainless steel cassette tray, compression band should be provided.
- Bucky tray should have facility to accommodate cassette type wired cum wireless Flat panel detector.
- Offered table should have load bearing capacity of 150 kgs or more.

**Vertical Bucky Stand: -**

- Vertical Bucky stand with oscillating grid ratio of 8:1, 85 lines/inches to be provided.
- The Bucky should move up & down and should have arrangements to be equipped with wired cum wireless Flat panel detector.
- The stand should be floor mounted type.

**Flat Panel Detector (FPD with TFT technology): -**

- Wire/Wireless Flat Panel Detector system (FPD) of Size 14"x17" or more should be offered. If detector is offered is wireless type, the bidder must supply 2 (two) sets of batteries along with detector.
- The Scintillator material of the detector should be made up of Cesium Iodide and sensor with Thin Film Transistor (TFT) and Amorphous Silicon technology.
- The detector should be capable of doing out of Bucky radiography and also Lateral supine Radiography must be possible.
- The detector offered should have on board memory capable of storing up to 100 images.
- The detector should have a minimum spatial resolution of 3 lp /mm or more.
- Detector array Size: Should be a minimum of 2.3K x 2.8K pixels or higher.
- Pixel Pitch: 150 microns or less.
- A to D conversion: 16 bits.
- The detector offered should be light in weight with less than 4 kgs, enabling ease of use for operations and easy positioning at the time of out of Bucky exposures.
- Images pre-viewing should be available within 5 secs after exposure and the cycle time should be less than 12 seconds.
- Detector offered should be capable of handling 150 or more exposures or 5 hours of operation in single full charge.
- The detectors should have Automatic Exposure Detection as standard feature.
- The detectors should be able to work at normal room temperature and humidity. The detector system should not require frequent calibrations on daily start-up.

**Image Processing Console cum workstation:**

- The DR Console should be offered with Medical Grade monitor 19" or more.
- Windows and Level Adjustments
- Annotations must be possible
- Previews of images should be available in about 5 Sec or less
- Zooming, ROI, Image Cropping and grid removal function should be available.
- Soft tissue processing must be possible
- System should be offered with dedicated orthopedics measurement tools
- Should offer capability of local image storage
- Should be capable of connecting minimum of 2 Flat panels simultaneously
- Should be capable of connecting directly to the Dry Laser printer
- Should have capability to push images to location(s) of choice such as:
  - Workstations
  - PACS
  - External Storage Devices
  - DICOM Printer(s)

**Accessories – To be offered as standard:-**

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

- Light weight Lead Apron 0.5mm Pb equivalent– 2 No. each to be provided.
- 3 fold Lead Barrier 2.0 mm thickness along with lead viewing window (minimum 1ft x 1 ft.) – 1 No.
- Compatible Dry Laser/Dry imager (300 DPI) (double tray) capable of accommodating all available film sizes for printing.
- 3 kVA or more online UPS for providing minimum 30 Mins power backup for Console & printer.
- Compatible voltage stabilizer to be supplied with the machine to run the entire machine.

**POWER REQUIREMENT:**

The unit should be operable on 3 Phase, 440Volts AC 50Hz with line resist less than 0.4 Ohms. Line Regulation  $\pm 10\%$ .

**OTHER REQUIREMENTS:**

- The bidder/ OEM should have valid CDSCO Certificate/Registration/License for both the manufacturer(s) and importer(s) as applicable. The X-Ray unit must have AERB type approval.
- Easy availability of spares in India.
- Trained engineers to maintain and support the system.
- All specifications to be provided with original product data sheet.
- The selected supplier should consider cost of 3000 pcs of films (10x12 inches) in the quoted rate.

- 50% of the required quantity of films (10x12 inches) should be supplied during handover/installation and remaining 50% to be supplied within 3 months.
- The selected supplier should supply readymade lead shielded door with frame in advance to the consignee location. The door should be of single leaf (4 ft clearance/ opening)- lined with 2.0 mm lead. The frame also should be lined with 2.0 mm lead. The agency constructing the X-Ray room will install the door.
- The selected supplier should supply one console table (4 ft. x 2 ft.) and one chair
- Application for all types of license / certificate required for procurement as well as installation of the said equipment to be done by the selected vendor.
- Site layout for the each site of the DR machine to be prepared and uploaded in the eLORA site by selected bidder with the help of end user.
- License for operation of the said equipment must be applied with the help of end user.
- Additional documents required, if any, for uploading/getting approval procurement license or license for operation of the said equipment to be provided by the selected bidder.
- During warranty period necessary QA certificate/ calibration certificate to be provided by the selected bidder and to be uploaded in eLORA site.
- During supply of the entire machine factory report along with QA report to be done by selected bidder.
- Prospective bidders are requested to visit the individual site accordingly.
- If any minor modification/ requirement needed at the site bidder should borne the responsibility and cost for necessary modification. No other extra cost will be paid.