Notice Inviting e-Tender

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Procurement of Digital Mammography Machines in the Medical Colleges of the Government of West Bengal

(Submission of Bid through *online*)

Bid Reference No.: WBMSCL/NIT-1017/2025	**Dated-11.12.2025**

The following amendment has been made in the tender document,

Amendment – 1

REVISED TECHNICAL SPECIFICATION

Digital Mammography Machine

Sl. No.	Technical Specification
1	Full field digital mammography system with state of the art facility for detection of breast cancer with lowest possible radiation dose. It should be an advanced high-end full field digital mammography machine with 3D tomosynthesis, Stereotactic Biopsy and Contrast Enhanced Mammography. The machine should have digital stereotactic biopsy system and should be able to deliver high resolution image quality.
2	The equipment should be of latest technology. In this connection, the bidder should submit a declaration from OEM that the quoted model is based on latest technology/ latest version as per the specification. The future software updation should be provided in the offered machine by the company without any additional cost during warranty and CMC period after handing over the machine.
3	All technical specifications must be supported with printed technical literature and product data sheet. If the required information is not available in the Product Data Sheet and printed technical literature, the same has to be authenticated by the competent authority of the principal

Sl. No.	Technical Specification
	manufacturer. In case of discrepancy, the decision of the technical committee shall be final and binding on the supplier.
4	The detailed specifications that follow shall be understood to be the minimum requirement and any additional feature of the equipment offered should be specified separately which has to be offered as a standard without any extra cost. Such additional features if beneficial to the department and patients for better clinical application will be given due consideration.
5	The comprehensive offer should comprise delivery, installation and satisfactory performance of the fully functional equipment including accessories for at least one month prior to handing over the complete equipment. The warrantee period shall start on the day of the handing over of the fully functional machine to the institution.
I	**X-RAY GENERATOR:**
•	High frequency generator.
•	Power output should be 7 KW or more.
•	mA range 180 or more (large) and 30 or more (small).
•	mAs range 3 – 500 mAs,
•	kV range, 22 kV to 45 kV or more. It should be in 1kV steps or less.
•	Exposure time range to be mentioned.
•	Displayed parameters kV, mAs, target filter, density selection. Auto record of the exposure parameters for each mammogram.
II	**X-RAY TUBE UNIT:**
•	Single/Dual track with Dual or quad focus X-Ray tube with additional beam filters and automatic collimator.
•	Minimum of two focal spots of size 0.1mm and 0.3mm on the anode are required. Anode should be rotating.
•	Target filter combination Mo / Mo and W / Rh or W / Rh and W / Al
•	Anode heat storage capacity should be at least 150 KHU.
•	Specify the Inherent filtration of the tube.
•	Mention the tube heat monitoring system/ device or program
III	**GANTRY ASSEMBLY:**
•	The system should be fully motorized rotation and up / down movement.
•	The angle of C-arm movement should be at least +180° to -155°.
•	The patient compression device should be motorized, automatic, controlled by foot paddles as well as from gantry and should have multispeed variable system. There should be provision for motorized and manual compression with digital display of compression force and compression thickness. Mention the compression modes available along with force range. The compression should be extremely smooth and there should be automatic decompression at the end of each exposure with facility of release of compression force in case of power failure or emergency stop.
•	Control buttons for adjustment of height and angles should be operable from gantry/ foot paddles.
•	SID 650mm or more
•	Programmable auto positioning from acquisition work station or exposure stand should be available.
•	Should have facility of collision protection.
•	Magnification factor should be minimum 1.5 or more
•	Grid ratio should be 5:1 with at least 30 lines per cm.
•	Motorized installation and removal/ auto retract of grid/ breast support assembly system should be available for geometric magnification.
•	The following paddles one each should be supplied as standard.
a.	Small paddle for 18x24 cms +/-1cm
b.	Large paddle 24x30 cms +/-1cm
c.	1.5X or 1.8X Magnification attachment with spot and field magnification paddles.

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	Square spot compression Round spot compression
d.	Axillary compression paddle.
e.	Appropriate paddle for Breast implant patients
	COLLIMATOR: • Molybdenum or Rhodium or Tungsten or beam filters should be available. Please specify the Anode and Beam Filter combination. • FOV can be modified manually and can also be selected automatically based on the paddle or magnification platform.
IV	**EXPOSURE CONTROL**
•	Should have manual, semi-automatic and automatic mode (AEC) techniques with flexibility to select parameters manually, automatically or in combination. Parameters controlled(Kv, mAs, filter)
•	The anode track or focal spot and filters shall be selected automatically and manually.
•	Should have the display facility of all parameters after exposure. Display modes should be available for selection.
•	Should display the dose delivered after exposure.
V.	**FLAT PANEL DETECTOR**
•	Should have a large flat panel detector of size at least 24x30 +/-1cm The pixel size should be 100 micrometer or less. The make and country of origin of detector should be mentioned. The vendor should maintain the detector during warranty period.
•	DQE more than equals to 50% at 1 LP / mm.
•	**Image bit depth should be at least 16 bits.**
•	Direct/ Indirect conversion type solid state flat panel detector. Type: Amorphous selenium or silicon. The detector material to be mentioned.
•	Image matrix in pixel and image size in MB should be specified.
•	Please mention the expected life time of the detector.
•	No Ghosting or lag effect should be present;
VI	**DIGITAL ACQUISITION WORKSTATION WITH DUAL MONITORS:**
•	Storage capacity should be 50,000 images or more.
•	The following imaging processing should be possible on the work station:
a.	Measurements
b.	Zoom, roam, magnification
c.	Brightness and contrast
d.	Image inversion
e.	Flip rotate inward
f.	Annotations, measurements
g.	Image evaluation like contrast enhancement histogram display, length measurements before and after comparison etc.
h.	Filming from acquisition work-station should be possible. Print layout for multi format printing
•	Time to display image and time between two exposures to be mentioned.
•	Should provide large, at least 19 inches medical grade LCD/LED/TFT image monitor with high luminance.
•	State of art associated software technology should be available with the data acquisition system.
•	It should be possible to receive the demographic patient data directly from Hospital Information System. The demographic patient data should also be able to be entered manually. Retrieval of images from CD, DVD or PACS should be possible.
•	It should be DICOM ready and mention the facilities related to connectivity. DICOM SEND (storage), DICOM storage commitment (storage commitment user) and DICOM print.

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•	Tele radiology should be possible.
•	Film prints and CD, DVD copying should be possible.
VII	**Reporting Work Station And Archiving**
	The following monitors required are in addition to the acquisition workstation including monitor / monitors:
•	Two high contrast more than equals to 5 megapixel medical grade 21 inches dual monitors to meet the standard of 50µ / pixel (should be available in product data sheet)
•	Another multimodality viewer for display of ultrasound, MRI /DX /MG PET/CT images
•	Kindly mention whether work station can do an immediate image display. Please mention the time to display image after acquisition
•	**The following imaging processing should be possible on the work station also:**
a.	Measurements
b.	Zoom, roam, magnification. Quadrant zooming or selected zooming function should be available
c.	Brightness and contrast
d.	Image inversion
e.	Flip rotate inward
f.	Annotations, measurements
g.	Image evaluation like contrast enhancement histogram display, length measurements before and after comparison etc.
h.	Filming and CD, DVD copying should be possible
i)	Dedicated mammography keypad
•	There should be a DVD ROM drive; The RAM should be minimum 16GB. The storage capacity should be more than more than 200,000 images. Hard disk capacity should be expandable (1TB or more).
VIII	**FFD BASED STEREOTACTIC BIOPSY SYSTEM**
•	The system should be patient comfortable, efficient and accurate with good image quality. It should be fully compatible with Full field digital detector
•	Should be possible in upright position.
•	Should have facility for needle core biopsy, fine needle aspiration and wire localization.
•	Should be based on the main imaging detector.
•	Motorized/battery powered mobile / hydraulic biopsy chair cum couch of reputed brand suitable for Stereotactic biopsy in sitting and lateral decubitus position.
•	Should have facility to do stereotactic biopsy automated on all the three axis.
•	The needle guides for fine needles and needles for core biopsy of 14G OR 16G OR 18 G should be supplied.
•	Biopsy compression plate with window for vertical needle guidance to be provided.
•	Tube swivel range minimum of +15 to -15 degree.
IX	**3D TOMOSYNTHESIS**
•	Inclusive of any specific tomosynthesis compression paddles if required
•	**Please specify the scan angle**
•	Time for tomosynthesis acquisition (Sec) should be < 25 sec
	Tomosynthesis Angle : ± 15 degree or more
	Tomo guided biopsy facility should be available.
•	Number of projections - Please specify
•	Distance between reconstructed slices-1mm or less
•	Display on the Workstation monitor-projections, reconstructed slices, cine mode, dose per projection, dose per scan
X	**CONTRAST ENHANCED MAMMOGRAPHY to be provided.**
XI	**should be available :**
	Price of compatible VAB (Vacuum assisted biopsy) system should be separately quoted for future procurement, if required.

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	Standard Accessories :
	The Vendor Neutral Compatible CAD to be provided (Optional). The price of CAD to be quoted separately in Form-8 and this price would be fixed for warranty period.
	Compatible Breast Density Assessment software to be provided
XII	**MISCELLANEOUS:**
•	Should be supplied with transparent lead radiation shield, face shield, remote service modem, quality control tool kit, user manual, technical documentation etc.
•	Dedicated online UPS for the entire machine and accessories supplied including the work station shall be provided for a minimum backup of 30 minutes.
•	Should be supplied with ACR phantom, phantom for calibration of AEC, phantom for calibration of image detector.
•	The digital mammography unit with all features as per specification as well as the stereotactic system and 3D Tomosynthesis should be AERB approved.
•	One dedicated mammography view box with shuttering along four corners, luminous intensity 4000cd/m3, and minimum of 4 films display.
•	The offered unit and its installation must conform to AERB guidelines and site approval plan from AERB has to be done by the company at no extra cost.
•	Onsite Application Training at the time of installation to train all faculty members and technicians in machine operations and other procedures.
•	Following Essential books of latest edition with hardcover on BREAST IMAGING to be supplied: 1) Breast imaging by Drs. Debra M. lkeda and Kanae K. Miyake. 2) Teaching Atlas of Mammography by Laszlo Tabar, Peter B. Dean. 3) Breast Ultrasound by A. Thomas Stavros. 4) Atlas of Mammography by Ellen Shaw De Paredes.
•	Mammography compatible printer should be supplied with the machine of atleast 500 DPI
XIII	**WARRANTY:**
*	Quality assurance (QA) testing of the equipment has to be done as per AERB guideline within warranty & CMC period.
*	The L1 bidder is requested to take necessary approval for the third party items before supply.
*	The hospital authority will provide required power at the designated site
The bidder/ OEM should have valid CDSCO Certificate/Registration/License for both the manufacturer(s) and importer(s) as applicable.	