



Notice Inviting e-Tender
West Bengal Medical Services Corporation Limited
Swasthya Bhaban-II
GN-29, Salt Lake, Sector-V
Kolkata-700091

Phone No (033) 40340307/320

E mail: procurement@wbmsc.gov.in

Procurement of advanced medical equipment for strengthening of diagnostic services at
IPGME&R - SSKM Hospital

(Submission of Bid through *online*)

Bid Reference No.: WBMSCL/NIT-766/2026	Dated-10.09.2026
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The following amendment have been made in the tender document,

Amendment –I (Revision of Technical Specification)

The revised technical specifications for the item is given below,

Portable USG Machine - for nerve USG - 2 - for Neuro Medicine and
TCU

- 14 inches or above Monitor
- Touch screen/manual
- Manual switching on off button
- At least 3 Ports with trolley
- More than 256GB storage
- DICOM and USB transfer
- 3 Transducer:
- Broadband Button (preferably) Linear probe (3 - 12 Mhz) (± 2 Mhz)
- Linear hockey stick probe - 6-20 MHz (± 2 Mhz) Broad band Small parts, Vascular, Pediatrics, Neonatal, Musculoskeletal
- High Density Convex (at least 1-6Mhz (± 2 Mhz) or above)
- Angular M-Mode, Colour M-Mode
- Auto Measurement for 2D and Doppler
- Digital /manual TGC

- Virtual Convex in linear probe
- At least 50 min Scanning time on Battery percentage indicators
- All software for vascular and cardiac imaging
- The bidder should submit valid CDSCO Certificate / Registration / License for both the manufacturer(s) and importer(s) for machine and probes as applicable.



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Amendment –I (Revision of Technical Specification)

The revised technical specifications for the item is given below,

Portable USG Machine - for nerve USG - 1 - for Orthopedics SNPH
(Hockey stick probe)

- 14 inches or above Monitor
- Touch screen/manual
- Manual switching on off button
- At least 3 Ports with trolley
- More than 256GB storage
- DICOM and USB transfer
- 3 Transducer:
- Broadband Button (preferably) Linear probe (3 - 12 Mhz) (± 2 Mhz)
- Linear hockey stick probe - 6-20 MHz (± 2 Mhz) Broad band Small parts, Vascular, Pediatrics, Neonatal, Musculoskeletal
- High Density Convex (at least 1-6Mhz (± 2 Mhz) or above)
- Angular M-Mode, Colour M-Mode
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- Digital /manual TGC
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USG Machine - 1 (portable) - B Scan with ophthalmic Probe

1. **Ophthalmic** Probe frequency between **10 to 20 MHz (±2)**
2. Resolution - 0.015mm to 0.3 mm
3. Axial < 0.2 and Lateral < 0.4
4. Scan angle 53 degree to 60 degree
5. Gain - (-)128 to (+)128
6. TGC - near mid far (user adjustable slider)
7. Vector density and sampling 256 vector X 2048 points/ per vector
8. The bidder should submit valid CDSCO Certificate / Registration / License for both the manufacturer(s) and importer(s) for **machine and probes** as applicable.



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Neonatal Ultrasound and Echocardiography System with Probes

1. System Architecture and Beamforming

- **Platform Design:** The system- shall utilize advanced, software-driven or programmable pixel-level digital beamforming technology. Traditional fixed hardware-based analog delay line architectures are not acceptable. The architecture must utilize pixel-level analysis to optimize focus across the entire field of view, eliminating manual focal zone dependencies
- **Processing Power & Frame Rate:** The system shall feature an ultra-high channel processing capacity, capable of handling a minimum of **45lakh or more** digitally processed channels for simultaneous formation and acquisition of multiple ultrasound co-lateral beams. It must achieve a minimum acoustic frame rate of 1500 frames per second to accurately track neonatal cardiac motions without spatial degradation
- **Image Processing:** The system must incorporate a broadband multi frequency spectrum spatial and frequency compounding technique to reduce speckle noise, sharpen margins, and optimize low-contrast tissue interfaces
- **Dynamic Range & Depth:** The system shall support a full-time input dynamic range of at least 250 dB and provide a minimum scanning depth capability of 20cm.

2. Console Ergonomics, Mobility, and Display

- **Weight & Footprint:** To ensure safe and rapid mobility within high-density NICU bed spaces, the total weight of the main system console (excluding external standalone peripherals/UPS) must not exceed 85kg and must be fitted in stable cart.
- **Battery & Power Management:** The system console must incorporate an integrated battery power module providing an immediate "Standby" or "Instant-awake" function, allowing the system to be disconnected from mains power, transported between intensive care incubators, and resume full scanning operations within seconds without undergoing a complete operating system reboot.
- **Display System:** Main display must feature a minimum 21inch high-resolution medical grade LCD/LED monitor mounted on a fully articulating, height adjustable arm capable of tilt and 108 degree swivel operation. The system console must include an integrated secondary interactive touch screen interface (minimum 10 to 12 inches) to manage workflow parameters.
- **Console Ergonomics:** The main physical control panel and keyboard platform must feature a rotatable mechanism and variable vertical height adjustment (up/down) to ensure operational comfort
- **Transducer Interfacing:** The console must provide a minimum of 3 (preferably 4) active, fully electronic transducer port selectable via the user interface.

3. Imaging Modes and AI Automation

- **Standard Operating Modes:** The platform must support 2D (B-Mode), Conventional M-Mode, 360degree Anatomical M-Mode, color Flow Mapping (CFM), Pulsed Wave (PW) Doppler, Continuous Wave (CW) Doppler, Steerable CW Doppler, and Directional Color Power Angio / Doppler Imaging.
- **Simultaneous Display:** The system must support true Triplex imaging functionality and real-time, side-by-side simultaneous display of Color/Power Doppler alongside high- resolution grayscale Images.
- **Tissue Harmonic Imaging:** Broad-spectrum Tissue Harmonic Imaging (THI) must be natively supported across all compatible phased array, convex array, and linear array transducers.
- **Advanced Quantification & Research Software:** The platform must include integrated Spectral and Color Tissue Doppler Imaging (TOI) along with a dedicated Neonatal Speckle Tracking Echocardiography (STE) software package.
- **Automated Computation Architecture:** The system must feature automated, algorithm-driven (single-click or zero-click) quantification software for left Ventricular Ejection Fraction (LVEF by biplane Simpson's method) and 2D Myocardial Strain. The software must automatically calculate Left Ventricular and Right Ventricular Global Longitudinal Strain (GLS), regional segment strain measures, and Strain Rate (1/s).
- **High Heart Rate Validation:** The integrated speckle tracking and strain software must be clinically and technically validated to maintain full tracking fidelity at neonatal heart rates exceeding 150 bpm, ensuring precise tracking of rapid diastolic phase changes without relying on manual frame interpolation.
- **Workflow Optimization:** The console must provide a single-button automated optimization path for 2D and Doppler modes, alongside an automated Doppler spectral trace calculation tool that analyzes the entire velocity sample window.

4. Transducer (Probe) Specifications

(All cardiac transducers must utilize high-density Single Crystal or premium multi-layer piezoelectric crystal technology to ensure maximum sensitivity and acoustic penetration at high frequencies)

- **Neonatal Phased Array Transducer:** Broad bandwidth phased array probe featuring a micro-footprint configuration (12mm or less acoustic aperture) with an operating frequency spectrum

spanning from at least 4 MHz to 12MHz (± 2). Optimized for neonatal structural echocardiography, functional hemodynamics, and transfontanellar imaging.

- **Ultra-High Frequency Broadband Linear Transducer:** Broad Bandwidth linear array probe with an operational frequency range reaching at least 4MHz to 20MHz (± 2), natively supporting trapezoidal/extended field-of-view modes. To maintain uniform acoustic coupling on low-birth-weight neonates during lung and gut POCUS protocols, the physical footprint aperture length must not exceed 35mm (a 25mm 'hockey stick' ergonomics design is highly preferred).
- **Neonatal Micro-Convex Transducer:** Dedicated neonatal micro-convex probe with an operating frequency range of approximately 4 MHz to 10 MHz, featuring a tight radius of curvature and a micro-footprint (15 mm or less) optimized for Infant abdominal, retroperitoneal, and transfontanellar cranial screening.

5. Data Management, Software, and Connectivity

- **Storage Systems:** Main Internal storage must utilize a medical-grade Solid State Drive (SSD) featuring a minimum capacity of 1 TB. The cine loop architecture must support retrospective review of up to 1000 frames per acquisition clip.
- **Raw Data Post-Processing:** The software architecture must natively support raw data acquisition, allowing retrospective adjustments of gains, baseline shifts, border tracing, and full strain analysis directly on the console using stored clips without requiring re-scanning of the patient.
- **Network & DICOM Integration:** The unit must be fully DICOM3.0 compliant, supporting DICOM Store, Print, Modality Worklist and Structured Reporting (SR) workflows.
- **Institutional Connectivity:** Must feature Integrated high-speed dual-band Wi-Fi (802.11 ac/ax) alongside a physical Gigabit Ethernet RJ-45 port for direct connectivity to hospital PACS and institutional research servers.
- **Data Export:** Features one-touch native export functionality transferring anonymous or encrypted static images and cine loops (formats: AVI, MP4, JPEG, DICOM) via high-speed USB 3.0 interfaces.
- **Application Presets & Measurement Packages:** The system must feature factory-calibrated, dedicated neonatal presets, compliant With ALARA safety limits. Fully functional measurement facilities and calculations must be present, explicitly including specialized PRESET NEONAL TALENT PACKAGES for Neonatal functional echocardiography and neonatal hemodynamic, Neonatal Cranial hemodynamic and Cranial Ultrasound (Ventricular and vascular parameters), and Neonatal lung Ultrasound integrated With Quantification and lung artifact preservation presets, Neonatal gut POCUS integrated with high resolution tools to measure bowel wall thickness and calculation for SMA hemodynamic and Neonatal Vascular Ultrasound for line placement tracking.

6. Peripherals, Protections, and Certification

- **Regulatory Compliance:** The bidder should submit valid CDSCO Certificate / Registration / License for both the manufacturer(s) and importer(s) for machine and probes as applicable.
- **Integrated Printing:** System must include an on-cart medical-grade digital thermal graphic printer supplied with a minimum of 5 rolls of matching thermal paper.
- **Power Protection:** The system package must be supplied with a dedicated external online uninterruptible Power Supply (UPS) capable of supporting the entire system's electrical load and providing a minimum of 30 minutes of continuous scanning/imaging runtime.
- **Physical Protections:** The system chassis must integrated dedicated transducer cable management hooks/holders to completely prevent active probe cables from trailing on the floor during movement.
- **Power Cord:** The main system console must be equipped with a heavy-duty, medical-grade (Hospital grade) insulated power cord with a minimum length of 5 meters (approximately 16.5 feet). The cord must feature a durable, molded plug fully compliant with standard institutional

power outlets (6A/16A Indian Standard IS 1293/ international equivalent). The console chassis must also included an integrated mechanical cord-warp bracket or cable reel to completely secure the power cord during bedside transit.

7. Warranty, Maintenance and Training Support

- **Warranty Terms:** The Vendor shall provide a minimum 2 years comprehensive warranty encompassing the main console mainframe, operating software, internal peripherals, and all supplied transducer probe against physical element dropout or normal operational wear and tear.
- **Comprehensive Maintenance Contract (CMC):** During Comprehensive Maintenance Contract (CMC) covering all mechanical, electronic, console components and explicitly covering all supplied transducer probes against physical element dropout or normal operational wear and tear.
- **Educational Support:** The vendor must provide on-site clinical application training by a factory-certified neonatal ultrasound application specialist for the institution's designated doctors.
- **Lifecycle Software Management:** The vendor shall provide all software patches, security updates, firmware optimizations and minor software updates within the scope of the purchases functional modules free of charge throughout both the warranty and CMC periods.



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500 mA X-Ray Machine (Digital)

A fully Integrated single console controlled Digital Radiography System with 40KW High Frequency X-Ray Generator for General Radiography with a Dual flat panel detector along with table bucky and vertical bucky capable of taking the complete range of radiographic examinations with the following Specifications & Configuration.

The system must have multi-shot Auto/Semi-Auto Stitching (Single detector + Moving Tube) or single-shot Multi-Detector with Automatic Stitching facility with facility for measurement for Q-angle, Cobb's angle and limb length discrepancy for performance of standing X-Ray/orthoscanogram of whole of the inferior extremity.

HIGH FREQUENCY X Ray GENERATOR:

40KW or more Generator should be of latest technology with high frequency offering 30 kHz or more. Generator should offer 3 Point technique & user should have following parameters selection range.

- KV range should be 40 to 125KV insteps of 1KV.
- mA output: 500 mA or more.
- mAs range should be 1 to 500mAs or more.
- Exposure time should be 1ms to 5 secs or better.

Fully Integrated CONSOLE System:

Single integrated console system shall have following functions & indications should be provided. Following features should be available on the console.

- 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.
- Ready and X-Ray on switch with Indicators
- Bucky Selection Switch
- Self-diagnostic Programme 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.
- All anatomical Programming should be available.
- A dual action hand switch with retractable cord should be provided.
- The DR Console should be offered with latest high end image processing capability console software and high speed processor with 1 mega pixel 19" Medical Grade Monitor. The DR work station should be based on latest high speed processor of at least 32bit also have image storage disc 500GB or more.
- Selection of Patient demography.
- Selection of the Anatomical parts to be X-rayed.
- Windows and Level Adjustments
- Annotations must be possible
- Previews of images should be available in about 3 Sec or less
- Zooming, ROI, Image Cropping and Masking, automatic grid removal function / through software.
- Soft tissue processing must be possible
- 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.
- The dry laser printer should be two tray with 500 Dpi or more and should accommodate all available film size
- Should be capable of connecting directly to the dry laser printer.
- Full range of basic Image Processing tools such as Zoom, Pan, Window, Annotation.
- Should have high resolution medical graded monitor with minimum size of 19 inches or more.
- The workstation should be capable of configuring Multi Format images for DICOM Printers.
- The console should have provision for remote diagnostic capability.
- Manual Stitching should be possible and be provided with suitable hardware and software.
- It should have the possibility of acquiring the image directly from the detector system.
- Dicom 3.0compliant system .all features mentioned below should be quoted as standard
- Dicom work list management
- Dicom print
- Dicom query/retrieve
- Dicom export.
- Dicom CD creation /DVD creation with embedded viewer.

- Dicom MPPS
- Easy integration & network capability with the existing /future networking including other modalities RIS/HIS/PACS.
- Post processing facility must be possible like addition of anatomical marker, image annotation, magnification etc. please specify all the functions.

TUBE:

Dual focus Rotating anode X-ray tube with Small Focus 1.00 mm or less & Large focus 2.0 mm or less

Anode Heat storage capacity of the tube should be 200 KHU or more.

Collimator with auto shut off facility should be provided.

HV TANK:

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

Tube Stand:

- Floor to ceiling or ceiling free tube stand with counter balanced tube head
- It should have movements to make all radiographic positions (erect & supine studies) possible
- The horizontal movement for the tube stand should be minimum 200 cm
- Tube should have minimum vertical Travel of 120cm or more with minimum floor to focus distance of 35cm or more.
- Tube should have angulations of minimum $\pm 135^\circ$ with detents at 0° , $\pm 90^\circ$
- Tube Head should have SID measuring tape and should have collimation light source.

Table:

- Horizontal table with 6 way movement and elevating of the table top should be provided. Radiographic table with 3 chambers AEC.
- Transverse and longitudinal movements of the tabletop should be locked by electromagnetic locks.
- The bucky should cover the 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 should be wide with minimum 200cm x 70 cm (LXW).
- Table accessories like stainless steel detector tray, compression band should be provided.
- Bucky tray should be equipped with cassette type wireless Flat panel detector of minimum 35cm x 43cm size or more.

Vertical Bucky Stand:

- The bucky should move up & down and should be equipped with up to 43cm x 43cm (17"x17") size cassette type wireless Flat panel detector.
- Wall stand should have minimum of 3 Chamber AEC.
- Vertical bucky stand should removable grid of ratio of 8:1 to be provided.
- The stand should be floor mounted type.

Flat Panel Detector (FPD with TFT technology):

- The Digital Detector should be latest wireless Flat Panel Detector (FPD)

- One 17"x17" size detector for table and one 17"x17" size detector for table bucky should be provided.
- The detector Scintillator material should be made up of Cesium Iodide (CSi) and sensor with Thin Film Transistor (TFT) and Amorphous Silicon technology.
- The detector should be water resistance. The detector should have sensor protection and should have ingress protection rating minimum IP X3 or more.
- Wireless detector provided should be free from any integration with x ray machine. The same should be able to use with any mobile x ray machine with dedicated mobile console.
- The detector should be capable of doing out of bucky radiography in wireless mode and also Lateral supine Radiography must be possible.
- The detectors should have high DQE. Provide technical data from manufacturer.
- The detectors should have a minimum spatial resolution of 3 lp /mm.
- Detector array Size: Should be a minimum of 2.0K x 2.0K pixels (optional) or higher.
- Pixel Pitch: 150 microns or less.
- A to D conversion: 14 bits or more.
- 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 in about less than 4secs after exposure and the cycle time should be less than **15 seconds**.
- The battery must be of latest Lithium Ion type. 2 Nos Batteries along with battery charger should be provided. Company should replace batteries free of cost for warranty period. The battery offered should be replaced irrespective of charge cycle limitations. In case of inbuilt Battery, detector manufacturer should either replace battery or detector in case of any breakdown of battery. Kindly specify the battery type and life of offered model.
- Detector offered should be capable of handling 150 or more exposures or 8 hours of operation in single full charge.
- Detector offered should be capable of integrating with any x-ray system or mobile x-ray and should be readily switchable within multiple x-ray machine in case there is breakdown in the x-ray system.
- The detector should be able to work at normal room temperature and humidity. The detector system should not require frequent calibrations on daily start-up.
- Offered detector should have load bearing capacity of 150 kgs or more.
- Bidder must offer warranty certificate in original issued by original manufacturers for FPD`s. the original manufacturer must also give an undertaking the guarantee to support during the entire life of the detector.

Additional Work Station:

- The digital work station should be based on the latest high speed processor of at least 32bit and screen size of minimum 19inch (Medical grade).
- It should have image storage disc of 1 TB or more and 4 GB RAM or more
- It should have the ability of multi format printing
- It should have the ability to adjust the contrast ratio and add annotations
- It should have the ability to print hospital name with patient details.

Power Requirement:

- The unit should be operable on 3 Phase, 380/400/480Volts AC 50Hz with line resist less than 0.4 Ohms. Line Regulation +10%.
- The power requirement should be furnished by the vendor during bid submission.

Mandatory Requirements:

- The company should be ISO certified company.
- These three major components i.e flat panel detector, X-ray generator and X ray tube must be from the same manufacturer (OEM) / 3rd party solution. The above three parameter must be certified by the OEM and must be submitted with the tender document.
- Bidder should have proven track record in government sector and should have installed similar DR system during last one year. Please provide customer satisfaction report.
- The bidder and the principal company should have a good reputation and never been black-listed or debarred in any state and central government organization.
- If the bidder is not the manufacturer of detectors warranty support documents should be made available in the form of undertaking from detector manufacturer.
- Easy availability of spares in India
- Trained engineers to maintain and support the system
- All specifications to be provided with original product data sheet.

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

- Suitable stabilizer for DR system should be provided.
- Lead glass window of 2x4 ft. -1No should be provided.
- Lead Apron 0.5mm Pb equivalent – 2 No.
- Dry laser technology imager with 500dpi or more with minimum 2online universal tray to be provided. Each tray should print minimum 4sizes.
- One Packet of films of each size should be provided
- Suitable online UPS for providing minimum 30 Mins power backup for Console, workstation PC & printer.
- Suitable electrical work to be done by vendor at terminated raw power inside the room. Also need to provide required electrical wiring for lights and air conditioners.
- Earthing for DR should be provided by vendor.
- 2sets of computer table and chairs (reputed make) to be provided. The inner wires & cables everything by the vendor
- LEAD door with 2mm lead equivalence should be provided based on requirement.
- Two film LED view box – 1 no.

Certification: The bidder/OEM should submit valid CDSCO Certificate/Registration/License for both the manufacturer(s) and importer(s) as applicable.



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Portable USG Machine for SDLD DSA Unit

- 15 inches or above Monitor
- Touch screen/manual
- Manual switching on off button
- At least 3 Ports with trolley
- More than 256GB storage
- Frame rate: 1500 and above
- DICOM and USB transfer
- 3 Transducer:
- Broadband Button (preferably) Linear probe (4 - 12 Mhz) (± 2 Mhz)
- One Cardiac probe for Echocardiography (Adult and child) (2 - 6 Mhz) (± 2 Mhz)
- High Density Convex (at least 2-6Mhz (± 2 Mhz))
- HDMI Connector for connecting with the multi-window screen connected to DSA Unit
- Angular M-Mode, Colour M-Mode
- Auto Measurement for 2D and Doppler

- Digital /manual TGC
- Virtual Convex in linear probe
- At least 50 min Scanning time on Battery percentage indicators
- All software for vascular and cardiac imaging
- The bidder should submit valid CDSCO Certificate / Registration / License for both the manufacturer(s) and importer(s) for machine and probes as applicable.



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Mobile Digital Radiography System

The Unit should be a high frequency Mobile Digital Radiography machine with a touch screen tablet / laptop & a portable WI-FI flat panel detector of size 35 cm X 43 cm (14" X 17").

- It should be light weight machine which allows the user easy maneuverability in congested areas of wards, ICU's or hospital/clinic. Its ergonomic articulated spring balanced tube - stand allows the operator to position the tube for acquiring the images of desired views.
- Touch screen tablet / laptop for instant review of image.
- Compact and light weight.
- Mobile Digital X-ray machine should be AERB approved.

X-RAY GENERATOR:

- High Frequency microprocessor controlled X-Ray Generator having frequency of **100KHz or more** should be provided.
- Oil cooled based generator for high dielectric strength, Better heat dissipation, and Easy service stability
- Power output of generator should be **4 KW or more**.

- Radiographic KV Range should be 40 to 100KV or more.
- mA Range (Rad.): 100mA or more.
- mAs Range (Rad.): 1 to 200mAs or more.

CONTROL:

Microprocessor controlled soft touch panel with 9" or more LCD display (inbuilt console with touch screen control) for various operations.

Following features are available:

- Machine ON/OFF switch
- Digital display of KV and mAs.
- KV and mAs increase and decrease switches.
- Anatomical programming with pre-programmed functions in which automatic selection of technical factors is done according to the body part selection.
- Control console/console should enable to view the image, and provide post processing features, using touch screen

X-RAY TUBE:

Mono-block version x-ray tube head should be provided. The mono-block consists of X-Ray tube, H.V. transformer, filament transformer, H.V. rectifiers and capacitors, all immersed in high grade oil with high dielectric strength. Mono-block Tube Head is protected for thermal overload.

- Anode type: Stationary Anode
- Focal Spot: 1.8mm
- Heat Storage Capacity: 42 KHU

Flat Panel Detector (Wi fi):

- Conversion screen/ Scintillator : Cesium Iodide (CsI)
- Photodiode: amorphous silicon (a-si)
- Size: 43cm x 35cm
- Active Image Matrix: 2.8K x 2.3K
- Limiting resolution: 3.33 lp/ mm
- Pixel pitch: 150 μ m or less
- Weight of the detector: Less than 4kgs

STAND:

Spring balanced stand (SBM) with 4 wheels is a mobile stand designed keeping in view the stringent requirements of mobility, light in weight & easy maneuverability and ease of operation. This mobile stand is made to withstand all jerks while in use offering unparalleled reliability. SBM stand can be easily moved on floor and lock is provided to lock the movement on floor with following details

- Tube Head rotation of $\pm 90^\circ$ along horizontal axis & $+90^\circ$ to -30° along tube axis

Imaging Software:

Image Acquisition Software:

Tablet with Integrated Image Software provides complete control of all image capture functions & Exposure parameters control within the examination room. It enhances the entire workflow by delivering diagnostic images instantly. It also allows user to transfer X-Ray images electronically to remote workstations, image archives, and printers, also has an excellent performance on image quality control such as:-

Software Features:

1. Main features

- Patient Entry (Manual Emergency and MWL)
- Patient Search Based On PID, NAME, DAYS
- Exam window
- Process window
- View Window
- Print Window

2. Post processing features:-

- WW/WL
- Rotate
- Zoom
- Flip
- Invert
- Annotations
- Measurements

3. DICOM Compatible features:-

- DICOM MWL
- DICOM print

Certificate: The bidder/OEM should submit valid CDSCO Certificate/Registration/License for both the manufacturer(s) and importer(s) as applicable.



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IPGME&R - SSKM Hospital

(Submission of Bid through *online*)

Bid Reference No.: WBMSCL/NIT-766/2026	Dated-10.09.2026
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The following amendment have been made in the tender document,

Amendment –I (Revision of Technical Specification)

The revised technical specifications for the item is given below,

ECHO Machine

Specification	Specification Name	Bid Requirement (Allowed Values)
Standards	The bidder should submit valid CDSCO Certificate / Registration / License for both the manufacturer(s) and importer(s) for machine and probes as applicable.	Mandatory
Types of Probes & Features	Cardiac and Vascular Probes Configuration	ALL
	TTE Probe Type	Adult Vascular and Pediatric
	4D Adult Cardiac probe frequency in MHz	2-5 MHz (± 1)
	2D Paediatric Cardiac Probe frequency in MHz	2-8 MHz (± 1)
	Vascular Probe	4-12 MHz
	Hockey stick shaped vascular probe	5-18MHz (± 3)

Specification	Specification Name	Bid Requirement (Allowed Values)
	Curvilinear probe for abdominal ultrasound	2-5MHz
	Live imaging in color doppler system	Yes
	Colour Doppler system with all application Packages, Quad loop for serial studies with high frame rate reviews, harmonic imaging capability in all modes and integrated stress echo package digital storage and retrieval	Yes
	Provision of Tissue Colorization (B-Colour) for improved contrast resolution	Yes
	Application software	Adult, Pediatric, Vascular and abdominal applications
	Cine Loop Features	Yes
	Frame grabber facility for post analysis	Yes
	Facility of Various maps for pre and post processing	Yes
	ECG trigger facility	Yes
	"Dedicated integrated dynamic stress echo package for flexible user defined protocols with stacked sub loops facility and contrast stress protocol usable for stress echocardiography"	Yes
	Number of transducer/probe ports	4
	Contrast Harmonic/Agent Imaging with angio mode	Yes
	Provision of Harmonic imaging in TTE, TEE and Linear Probes	Yes
	Contrast-enhanced ultrasound (CEUS) option	Yes
	Tissue synchronization, tissue velocity	Yes
	Provision for higher sensitivity for low frequency doppler in all probes	Yes
	Latest generation Electronic Phased/sector array Colour Doppler system	Yes
	Number of Channels in color Doppler system	1cr or more (If channels are being designated as digital channels)
Image display and processing	DICOM THREE POINT ZERO COMPLIANT	Yes
	Automated B-mode (2-D) image	Yes
	Automated CDI image optimization	Yes
	Automated PW Doppler image optimization	Yes
	TOUCH SCREEN	Yes

Specification	Specification Name	Bid Requirement (Allowed Values)
	Monitor display size, cm (in)	21 Inch (± 1)
	Monitor Display Type	OLED/HDU/LED
	Split screen	Twin View and Live Quad Screen
	Single/dual monitors	Single with optional second console
	Speckle-tracking strain and strain rate	Yes
	Stress echo	Yes
	Analysis and calculation packages	2-D wall motion tracking, 3-D wall motion tracking, cardiac, mitral valve analysis, user programmable calculations
	DVD/CD Writer	Yes
	Type of printer provided with the echo cardio machine	THERMAL PRINTER
	ECG Cable	2
	Echo cardiography system to be DICOM Ready	Yes
	Dicom Interfacability to HIS	Yes
	Dicom Interfacability Dicom to PACS	Yes
	Interfacability Dicom to RIS	Yes
Power Requirements	Resettable over current breaker shall be fitted for protection	Yes
	Power backup	UPS
	Back up time in minutes	60
Miscellaneous Parameters	Warranty	2 Years
	Number of installations of the echo cardiogram machines in Central/State/PSU Govt Hospitals(Note: Seller should supply a performance certificate of the device to the buyer if demanded after placement of order)	At least 3 numbers of the same quoted model



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The following amendment have been made in the tender document,

Amendment –I (Revision of Technical Specification)

The revised technical specifications for the item is given below,

C-ARM Machine

The system should have the below mentioned specification:

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 **1.5K X 1.5K** or more
- e) Pixel pitch should be **160 μ m or less**
- f) ADC conversation should be 16 bit or more

1. 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 above 140° or more
 - Panning movement should be $\pm 12.5^\circ$
 - Vertical movement should be motorized of 400 mm
 - Focus to I.I distance should be 900 mm
 - C-Arm rotation should be $\pm 180^\circ$ (Preferably $\pm 360^\circ$)

2. MONITORS:

- a) Medical grade monitor/ high resolution minimum 32 inches or more on trolley – 1 No.
- b) The monitor trolley should be provided for mounting 1 monitor and stabilizer .

3. GENERATOR:

- a) It should be microprocessor controlled digital system with display.
- b) It should be of high frequency with output of minimum 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 8 mA or wider.
- e) The system should have fluoroscopy mode like
 - Manual Fluoro mode and Continuous Fluoro mode.
 - Pulsed fluoro mode with facility to select time interval between the pulses 25 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 mA range should be from 20 to 30 mA or more
- h) The X-ray tube should be dual focus rotating anode. The focal spot of the tube should be
 - 1) Small: 0.3 mm x 0.3mm
 - 2) Large: 0.6 mm x 0.6 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 0.5 mm or more Al eq.

- i) The system should have touch screen display (13 inch or more) 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

4. 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 100 images
- d) It should have at least 100 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

5. Should be AERB approved

6. The system should be DICOM compatible.

7. The bidder should submit valid CDSCO Certificate/Registration/License for both the manufacturer(s) and importer(s) as applicable.



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The following amendment have been made in the tender document,

Amendment –I (Revision of Technical Specification)

The revised technical specifications for the item is given below,

Ultrasound Machine - (Convex, linear, Hockey)

The equipment must be capable of operating in B, M Doppler, Color flow and Power Doppler modes, Contrast micro bubble ultrasound, 3D / 4D Volume Imaging, Shear Wave elastography. It should support transducers with Linear, Matrix sector, Convex formats & 4D Convex & TV probes. Further, it must include a full array of measurement and calculation packages. The specific minimum requirements for this equipment are as follow, Single Crystal convex and Matrix technology linear probes should be available.

1. User Interface & Ergonomics

- a) The keyboard should have, Height adjustment The adjustment should also include Keyboard Rotation Side to Side
- b) The system shall include at least a 23" (**±2**) LCD/LED/OLED monitor.
- c) The monitor shall be mounted on an articulating arm that moves side-to-side, forward and backward.
- d) The system should have touch panel of 10" or more
- e) The system shall have minimum four active probe Ports.

2. Productivity

- a) The system shall offer an extended field-of-view imaging that operates by sweeping a transducer over the anatomy of interest. This mode shall build the extended field-of-view in a real-time manner, showing the image as it builds.
- b) System shall have image management features that store images by patient and include the ability to review images from different exam dates.
- c) System shall support the ability to store digital data in, that allows to optimize imaging parameters such as B Gain, TGC. Color Gain. Dynamic Range. Speckle Reduction levels, Doppler Gain. Doppler Base line on old images & old loops recalled from the image archive
- d) System shall allow for live image and archive images side-by-side or quad display on a single monitor. This display shall allow any type of image - B-Mode, Color, or power Doppler on either side.

3. Workflow

- a) Real-Time 2D Shear Wave Elastography with adjustable box with color fill should be available in convex and Linear also measurement should be available in KPa and m/sec simultaneously.
- b) Contrast Ultrasound Capability (CEUS) with Times Intensity Curve Graphs
- c) System should have the capability to compare previous patient images during live scan
- d) System should have the capability to pick micro vessel flow using a non doppler technology

4. Data Processing

- a) The system shall allow for Post-Storage image manipulation to provide maximum image flexibility, review and productivity. It shall include the ability to change an following on recalled old Stored Images/Loops:
- b) Overall B-Mode gain, dynamic range and gray scale maps.
- c) Overall Doppler gain, base line shift, sweep speed and inverted spectral waveform.
- d) Anatomical M-Mode.
- e) The System shall provide a display zoom function on frozen images.

5. Scanning Parameters

- a) The system should have minimum 1.2 Cr digital system processing channels
- b) The system shall possess the ability to control speckle through the use of a speckle reduction algorithm that enhances borders, reduces speckle artifact and improves detail and contract resolution in gray scale With compatibility in Color mode, 3D and side-by-side display. This feature shall have operator selectable settings and be capable of displaying in side-by-side mode with non-speckle reduced image.
- c) The system shall provide the ability to scan in the compound imaging mode with multiple lines on all linear and convex probes.
- d) The system shall provide scan depths from a minimum of 2 cm to a maximum of at least 40cm
- e) System should have frame rate 5000 or more
- f) System should have 256 gray shades
- g) B-Mode/M/Mode Imaging
- h) The system shall provide the capability for coded tissue harmonic imaging on all offered transducers.
- i) Color flow/Bi-Directional Power Doppler/Pulse Wave Doppler

6. Measurements and Calculations

- a) Measurements should be possible on frozen Images as well as on images recalled from the image archive.
- b) The System shall provide a comprehensive set of obstetrical and gynecologic calculations and vascular calculations with summary reports

7. Image Archive and Networking

- a) The device should store image onto an integrated / external DVD-R Multi drive / USB port storage device
- b) The system shall include at least 512GB hard drive for large local storage capacity.
- c) The device should store Images in DICOM, JPG, WMV and AVI formats for maximum flexibility.
- d) DICOM Connectivity.

8. System should be able to handle frequencies from 1-20MHz (± 2). Bidder should be supplied following probe with basic equipment (Ultrasound Scanning Machine):

- a) Convex Probe: 1-6MHz (± 2) Single crystal/XD clear/Pure wave Convex Probe for Abdomen imaging with Shearwave elastography.
- b) Linear probe: 3-14MHz (± 2) Single crystal/Matrix/Pure wave for Small parts, Vascular, Pediatrics, Neonatal, Musculoskeletal with Shearwave elastography.
- c) Hockey stick probe: 5-20 MHz (± 2) Broadband.

9. Following local supplies with basic equipment (Ultrasound Scanning Machine):

- a) Should be supplied with suitable UPS Back up

The bidder should submit valid CDSCO Certificate / Registration / License for both the manufacturer(s) and importer(s) for machine and probes as applicable.



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The following amendment have been made in the tender document,

Amendment –I (Revision of Technical Specification)

The revised technical specifications for the item is given below,

Portable USG Machine - for Neurosurgery (BIN OT)

- 14 inches or above Monitor
- Touch screen/manual
- Manual switching on off button
- At least 3 Ports with trolley
- More than 100 GB storage
- DICOM and USB transfer
- Specifications for Intra-operative ultrasound:
- Micro convex transducer array 4 to 10 MHz (± 2) probe for tumour surgery
- 5 to 18 MHz (± 3) linear array L or Hockey stick probe for spine and ventricular procedures
- 2-5 MHz phased array probe for TCD
- Microdoppler 16 to 20 MHz probe– sound signal only usually, no imaging, comes with own machine - Kody or Mizuho type
- Angular M-Mode, Colour M-Mode
- Auto Measurement for 2D and Doppler

- Digital /manual TGC
- At least 50min Scanning time on Battery percentage indicators
- All software for vascular and cardiac imaging
- The bidder should submit valid CDSCO Certificate / Registration / License for both the manufacturer(s) and importer(s) for machine and probes as applicable.



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Amendment –I (Revision of Technical Specification)

The revised technical specifications for the item is given below,

Ultrasound Machine - Robotic OT - 1

The equipment must be capable of operating in B, M Doppler, Color flow and Power Doppler modes, Contrast micro bubble ultrasound, 3D / 4D Volume Imaging, Shear Wave elastography.

It should support transducers with Linear, Matrix sector, Convex formats & 4D Convex & TV probes. Further, it must include a full array of measurement and calculation packages. The specific minimum requirements for this equipment are as follow, Single Crystal convex and Matrix technology linear probes should be available.

1. User Interface & Ergonomics

- a) The keyboard should have, Height adjustment The adjustment should also include Keyboard Rotation Side to Side
- b) The system shall include at least a 23" (**±2**) LCD/LED/OLED monitor.
- c) The monitor shall be mounted on an articulating arm that moves side-to-side, forward and backward.
- d) The system should have touch panel of 10" or more
- e) The system shall have minimum four active probe Ports.

2. Productivity

- a) The system shall offer an extended field-of-view imaging that operates by sweeping a transducer over the anatomy of interest. This mode shall build the extended field-of-view in a real-time manner, showing the image as it builds.
- b) System shall have image management features that store images by patient and include the ability to review images from different exam dates.
- c) System shall support the ability to store digital data in, that allows to optimize imaging parameters such as B Gain, TGC. Color Gain. Dynamic Range. Speckle Reduction levels, Doppler Gain. Doppler Base line on old images & old loops recalled from the image archive
- d) System shall allow for live image and archive images side-by-side or quad display on a single monitor. This display shall allow any type of image - B-Mode, Color, or power Doppler on either side.

3. Workflow

- a) Real-Time 2D Shear Wave Elastography with adjustable box with color fill should be available in convex, Linear, also measurement should be available in KPa and m/sec simultaneously.
- b) Contrast Ultrasound Capability (CEUS) with Times Intensity Curve Graphs
- c) System should have the capability to compare previous patient images during live scan
- d) System should have the capability to pick micro vessel flow using a non doppler technology

4. Data Processing

- a) The system shall allow for Post-Storage image manipulation to provide maximum image flexibility, review and productivity. It shall include the ability to change an following on recalled old Stored Images/Loops:
- b) Overall B-Mode gain, dynamic range and gray scale maps.
- c) Overall Doppler gain, base line shift, sweep speed and inverted spectral waveform.
- d) Anatomical M-Mode.
- e) The System shall provide a display zoom function on frozen images.

5. Scanning Parameters

- a) The system should have minimum 1.2 Cr digital system processing channels
- b) The system shall possess the ability to control speckle through the use of a speckle reduction algorithm that enhances borders, reduces speckle artifact and improves detail and contract resolution in gray scale With compatibility in Color mode, 3D and side-by-side display. This feature shall have operator selectable settings and be capable of displaying in side-by-side mode with non-speckle reduced image.
- c) The system shall provide the ability to scan in the compound imaging mode with multiple lines on all linear and convex probes.
- d) The system shall provide scan depths from a minimum of 2 cm to a maximum of at least 40cm
- e) System should have frame rate 5000 or more
- f) System should have 256 gray shades
- g) B-Mode/M/Mode Imaging
- h) The system shall provide the capability for coded tissue harmonic imaging on all offered transducers.
- i) Color flow/Bi-Directional Power Doppler/Pulse Wave Doppler

6. Measurements and Calculations

- a) Measurements should be possible on frozen Images as well as on images recalled from the image archive.
 - b) The System shall provide a comprehensive set of obstetrical and gynecologic calculations and vascular calculations with summary reports
- 7. Image Archive and Networking**
- a) The device should store image onto an integrated / external DVD-R Multi drive / USB port storage device
 - b) The system shall include at least 512GB hard drive for large local storage capacity.
 - c) The device should store Images in DICOM, JPG, WMV and AVI formats for maximum flexibility.
 - d) DICOM Connectivity.
- 8. System should be able to handle frequencies from 1-24MHz. Bidder should be supplied following probe with basic equipment (Ultrasound Scanning Machine):**
- a) Linear probe: 3-14MHz (± 2) Single crystal/Matrix/Pure wave for Small parts, Vascular Pediatrics, Neonatal, Musculoskeletal with Shearwave elastography.
 - a) Convex Abdominal probe with biopsy guide: 1-6MHz (± 2) Single crystal/XD clear/Pure wave Convex Probe for Abdomen imaging with Shearwave elastography.
 - b) TRUS probe with biplanar biopsy guide
 - c) Laparoscopic probe (10mm)
 - d) Echo Probe: 1-5MHz (± 2) Single crystal/ XD clear/Pure wave Echo Probe
- 9. Following local supplies with basic equipment (Ultrasound Scanning Machine):**
- a) Should be supplied with suitable UPS Back up

The bidder should submit valid CDSCO Certificate / Registration / License for both the manufacturer(s) and importer(s) for machine and probes as applicable.



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The revised technical specifications for the item is given below,

Ultrasound Machine - (Convex, linear, Echo)

The equipment must be capable of operating in B, M Doppler, Color flow and Power Doppler modes, Contrast micro bubble ultrasound, 3D / 4D Volume Imaging, Shear Wave elastography. It should support transducers with Linear, Matrix sector, Convex formats & 4D Convex & TV probes. Further, it must include a full array of measurement and calculation packages. The specific minimum requirements for this equipment are as follow, Single Crystal convex and Matrix technology linear probes should be available.

1. User Interface & Ergonomics

- a) The keyboard should have, Height adjustment The adjustment should also include Keyboard Rotation Side to Side
- b) The system shall include at least a 23" (**±2**) LCD/LED/OLED monitor.
- c) The monitor shall be mounted on an articulating arm that moves side-to-side, forward and backward.
- d) The system should have touch panel of 10" or more
- e) The system shall have minimum four active probe Ports.

2. Productivity

- a) The system shall offer an extended field-of-view imaging that operates by sweeping a transducer over the anatomy of interest. This mode shall build the extended field-of-view in a real-time manner, showing the image as it builds.
- b) System shall have image management features that store images by patient and include the ability to review images from different exam dates.
- c) System shall support the ability to store digital data in, that allows to optimize imaging parameters such as B Gain, TGC. Color Gain. Dynamic Range. Speckle Reduction levels, Doppler Gain. Doppler Base line on old images & old loops recalled from the image archive
- d) System shall allow for live image and archive images side-by-side or quad display on a single monitor. This display shall allow any type of image - B-Mode, Color, or power Doppler on either side.

3. Workflow

- a) Real-Time 2D Shear Wave Elastography with adjustable box with color fill should be available in convex and Linear also measurement should be available in KPa and m/sec simultaneously.
- b) Contrast Ultrasound Capability (CEUS) with Times Intensity Curve Graphs
- c) System should have the capability to compare previous patient images during live scan
- d) System should have the capability to pick micro vessel flow using a non doppler technology

4. Data Processing

- a) The system shall allow for Post-Storage image manipulation to provide maximum image flexibility, review and productivity. It shall include the ability to change an following on recalled old Stored Images/Loops:
- b) Overall B-Mode gain, dynamic range and gray scale maps.
- c) Overall Doppler gain, base line shift, sweep speed and inverted spectral waveform.
- d) Anatomical M-Mode.
- e) The System shall provide a display zoom function on frozen images.

5. Scanning Parameters

- a) The system should have minimum 1.2 Cr digital system processing channels
- b) The system shall possess the ability to control speckle through the use of a speckle reduction algorithm that enhances borders, reduces speckle artifact and improves detail and contract resolution in gray scale With compatibility in Color mode, 3D and side-by-side display. This feature shall have operator selectable settings and be capable of displaying in side-by-side mode with non-speckle reduced image.
- c) The system shall provide the ability to scan in the compound imaging mode with multiple lines on all linear and convex probes.
- d) The system shall provide scan depths from a minimum of 2 cm to a maximum of at least 40cm
- e) System should have frame rate 5000 or more
- f) System should have 256 gray shades
- g) B-Mode/M/Mode Imaging
- h) The system shall provide the capability for coded tissue harmonic imaging on all offered transducers.
- i) Color flow/Bi-Directional Power Doppler/Pulse Wave Doppler

6. Measurements and Calculations

- a) Measurements should be possible on frozen Images as well as on images recalled from the image archive.
- b) The System shall provide a comprehensive set of obstetrical and gynecologic calculations and vascular calculations with summary reports

7. Image Archive and Networking

- a) The device should store image onto an integrated / external DVD-R Multi drive / USB port storage device
- b) The system shall include at least 512GB hard drive for large local storage capacity.
- c) The device should store Images in DICOM, JPG, WMV and AVI formats for maximum flexibility.
- d) DICOM Connectivity.

8. System should be able to handle frequencies from 1-14MHz (± 2). Bidder should be supplied following probe with basic equipment (Ultrasound Scanning Machine):

- a) Convex Probe: 1-6MHz (± 2) Single crystal/XD clear/Pure wave Convex Probe for Abdomen imaging with Shearwave elastography.
- b) Linear probe: 3-14MHz (± 2) Single crystal/Matrix/Pure wave for Small parts, Vascular, Pediatrics, Neonatal, Musculoskeletal with Shearwave elastography.
- c) ECHO probe: 1-5MHz (± 2) Single crystal/ XD clear/Pure wave Echo Probe

9. Following local supplies with basic equipment (Ultrasound Scanning Machine):

- a) Should be supplied with suitable UPS Back up

The bidder should submit valid CDSCO Certificate / Registration / License for both the manufacturer(s) and importer(s) for machine and probes as applicable.



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The revised technical specifications for the item is given below,

Ultrasound Machine - (Convex, linear, Echo, Hockey)

The equipment must be capable of operating in B, M Doppler, Color flow and Power Doppler modes, Contrast micro bubble ultrasound, 3D / 4D Volume Imaging, Shear Wave elastography. It should support transducers with Linear, Matrix sector, Convex formats & 4D Convex & TV probes. Further, it must include a full array of measurement and calculation packages. The specific minimum requirements for this equipment are as follow, Single Crystal convex and Matrix technology linear probes should be available.

1. User Interface & Ergonomics

- a) The keyboard should have, Height adjustment The adjustment should also include Keyboard Rotation Side to Side
- b) The system shall include at least a 23" (**±2**) LCD/LED/OLED monitor.
- c) The monitor shall be mounted on an articulating arm that moves side-to-side, forward and backward.
- d) The system should have touch panel of 10" or more
- e) The system shall have minimum four active probe Ports.

2. Productivity

- a) The system shall offer an extended field-of-view imaging that operates by sweeping a transducer over the anatomy of interest. This mode shall build the extended field-of-view in a real-time manner, showing the image as it builds.
- b) System shall have image management features that store images by patient and include the ability to review images from different exam dates.
- c) System shall support the ability to store digital data in, that allows to optimize imaging parameters such as B Gain, TGC. Color Gain. Dynamic Range. Speckle Reduction levels, Doppler Gain. Doppler Base line on old images & old loops recalled from the image archive
- d) System shall allow for live image and archive images side-by-side or quad display on a single monitor. This display shall allow any type of image - B-Mode, Color, or power Doppler on either side.

3. Workflow

- a) Real-Time 2D Shear Wave Elastography with adjustable box with color fill should be available in convex and Linear also measurement should be available in KPa and m/sec simultaneously.
- b) Contrast Ultrasound Capability (CEUS) with Times Intensity Curve Graphs
- c) System should have the capability to compare previous patient images during live scan
- d) System should have the capability to pick micro vessel flow using a non doppler technology

4. Data Processing

- a) The system shall allow for Post-Storage image manipulation to provide maximum image flexibility, review and productivity. It shall include the ability to change an following on recalled old Stored Images/Loops:
- b) Overall B-Mode gain, dynamic range and gray scale maps.
- c) Overall Doppler gain, base line shift, sweep speed and inverted spectral waveform.
- d) Anatomical M-Mode.
- e) The System shall provide a display zoom function on frozen images.

5. Scanning Parameters

- a) The system should have minimum 1.2 Cr digital system processing channels
- b) The system shall possess the ability to control speckle through the use of a speckle reduction algorithm that enhances borders, reduces speckle artifact and improves detail and contract resolution in gray scale With compatibility in Color mode, 3D and side-by-side display. This feature shall have operator selectable settings and be capable of displaying in side-by-side mode with non-speckle reduced image.
- c) The system shall provide the ability to scan in the compound imaging mode with multiple lines on all linear and convex probes.
- d) The system shall provide scan depths from a minimum of 2 cm to a maximum of at least 40cm
- e) System should have frame rate 5000 or more
- f) System should have 256 gray shades
- g) B-Mode/M/Mode Imaging
- h) The system shall provide the capability for coded tissue harmonic imaging on all offered transducers.
- i) Color flow/Bi-Directional Power Doppler/Pulse Wave Doppler

6. Measurements and Calculations

- a) Measurements should be possible on frozen Images as well as on images recalled from the image archive.
- b) The System shall provide a comprehensive set of obstetrical and gynecologic calculations and vascular calculations with summary reports

7. Image Archive and Networking

- a) The device should store image onto an integrated / external DVD-R Multi drive / USB port storage device
- b) The system shall include at least 512GB hard drive for large local storage capacity.
- c) The device should store Images in DICOM, JPG, WMV and AVI formats for maximum flexibility.
- d) DICOM Connectivity.

8. System should be able to handle frequencies from 1-20MHz (± 2). Bidder should be supplied following probe with basic equipment (Ultrasound Scanning Machine):

- a) Convex Probe: 1-6MHz (± 2) Single crystal/XD clear/Pure wave Convex Probe for Abdomen imaging with Shearwave elastography.
- b) Linear probe: 3-14MHz (± 2) Single crystal/Matrix/Pure wave for Small parts, Vascular, Pediatrics, Neonatal, Musculoskeletal with Shearwave elastography.
- c) ECHO probe: 1-5MHz (± 2) Single crystal/ XD clear/Pure wave Echo Probe
- d) Hockey stick probe: 5-20 MHz (± 2) Broadband.

9. Following local supplies with basic equipment (Ultrasound Scanning Machine):

- a) Should be supplied with suitable UPS Back up

The bidder should submit valid CDSCO Certificate / Registration / License for both the manufacturer(s) and importer(s) for machine and probes as applicable.



Notice Inviting e-Tender
West Bengal Medical Services Corporation Limited
Swasthya Bhaban-II
GN-29, Salt Lake, Sector-V
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Phone No (033) 40340307/320

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Procurement of advanced medical equipment for strengthening of diagnostic services at
IPGME&R - SSKM Hospital

(Submission of Bid through *online*)

Bid Reference No.: WBMSCL/NIT-766/2026	Dated-10.09.2026
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The following amendment have been made in the tender document,

Amendment –I (Revision of Technical Specification)

The revised technical specifications for the item is given below,

Ultrasound Machine - (Convex, linear, TVS)

The equipment must be capable of operating in B, M Doppler, Color flow and Power Doppler modes, Contrast micro bubble ultrasound, 3D / 4D Volume Imaging, Shear Wave elastography. It should support transducers with Linear, Matrix sector, Convex formats & 4D Convex & TV probes. Further, it must include a full array of measurement and calculation packages. The specific minimum requirements for this equipment are as follow, Single Crystal convex and Matrix technology linear probes should be available.

1. User Interface & Ergonomics

- a) The keyboard should have, Height adjustment The adjustment should also include Keyboard Rotation Side to Side
- b) The system shall include at least a 23" (**±2**) LCD/LED/OLED monitor.
- c) The monitor shall be mounted on an articulating arm that moves side-to-side, forward and backward.
- d) The system should have touch panel of 10" or more
- e) The system shall have minimum four active probe Ports.

2. Productivity

- a) The system shall offer an extended field-of-view imaging that operates by sweeping a transducer over the anatomy of interest. This mode shall build the extended field-of-view in a real-time manner, showing the image as it builds.
- b) System shall have image management features that store images by patient and include the ability to review images from different exam dates.
- c) System shall support the ability to store digital data in, that allows to optimize imaging parameters such as B Gain, TGC. Color Gain. Dynamic Range. Speckle Reduction levels, Doppler Gain. Doppler Base line on old images & old loops recalled from the image archive
- d) System shall allow for live image and archive images side-by-side or quad display on a single monitor. This display shall allow any type of image - B-Mode, Color, or power Doppler on either side.

3. Workflow

- a) Real-Time 2D Shear Wave Elastography with adjustable box with color fill should be available in convex, Linear, also measurement should be available in KPa and m/sec simultaneously.
- b) Contrast Ultrasound Capability (CEUS) with Times Intensity Curve Graphs
- c) System should have the capability to compare previous patient images during live scan
- d) System should have the capability to pick micro vessel flow using a non doppler technology

4. Data Processing

- a) The system shall allow for Post-Storage image manipulation to provide maximum image flexibility, review and productivity. It shall include the ability to change an following on recalled old Stored Images/Loops:
- b) Overall B-Mode gain, dynamic range and gray scale maps.
- c) Overall Doppler gain, base line shift, sweep speed and inverted spectral waveform.
- d) Anatomical M-Mode.
- e) The System shall provide a display zoom function on frozen images.

5. Scanning Parameters

- a) The system should have minimum 1.2 Cr digital system processing channels
- b) The system shall possess the ability to control speckle through the use of a speckle reduction algorithm that enhances borders, reduces speckle artifact and improves detail and contract resolution in gray scale With compatibility in Color mode, 3D and side-by-side display. This feature shall have operator selectable settings and be capable of displaying in side-by-side mode with non-speckle reduced image.
- c) The system shall provide the ability to scan in the compound imaging mode with multiple lines on all linear and convex probes.
- d) The system shall provide scan depths from a minimum of 2 cm to a maximum of at least 40cm
- e) System should have frame rate 5000 or more
- f) System should have 256 gray shades
- g) B-Mode/M/Mode Imaging
- h) The system shall provide the capability for coded tissue harmonic imaging on all offered transducers.
- i) Color flow/Bi-Directional Power Doppler/Pulse Wave Doppler

6. Measurements and Calculations

- a) Measurements should be possible on frozen Images as well as on images recalled from the image archive.
- b) The System shall provide a comprehensive set of obstetrical and gynecologic calculations and vascular calculations with summary reports

7. Image Archive and Networking

- a) The device should store image onto an integrated / external DVD-R Multi drive / USB port storage device
- b) The system shall include at least 512GB hard drive for large local storage capacity.
- c) The device should store Images in DICOM, JPG, WMV and AVI formats for maximum flexibility.
- d) DICOM Connectivity.

8. System should be able to handle frequencies from 1-14MHz(±2). Bidder should be supplied following probe with basic equipment (Ultrasound Scanning Machine):

- a) Convex Probe: 1-6MHz (±2) Single crystal/XD clear/Pure wave Convex Probe for Abdomen imaging with Shearwave elastography.
- b) Linear probe: 3-14MHz (±2) Single crystal/Matrix/Pure wave for Small parts, Vascular, Pediatrics, Neonatal, Musculoskeletal with Shearwave elastography.
- c) TVS probe: 3-9 MHz (±2) Broadband.

9. Following local supplies with basic equipment (Ultrasound Scanning Machine):

- a) Should be supplied with suitable UPS Back up

The bidder should submit valid CDSCO Certificate / Registration / License for both the manufacturer(s) and importer(s) for machine and probes as applicable.



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Procurement of advanced medical equipment for strengthening of diagnostic services at
IPGME&R - SSKM Hospital

(Submission of Bid through *online*)

Bid Reference No.: WBMSCL/NIT-766/2026	Dated-10.09.2026
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The following amendment have been made in the tender document,

Amendment –I (Revision of Technical Specification)

The revised technical specifications for the item is given below,

Portable USG Machine

- 15 inches or above Monitor
- Touch screen/manual
- Manual switching on off button
- At least 3 Ports with trolley
- More than 256GB storage
- Frame rate: 1500 and above
- DICOM and USB transfer
- 3 Transducer:
- Broadband Button (preferably) Linear probe (4 - 12 Mhz) (± 2 Mhz)
- One Cardiac probe for Echocardiography (Adult and child) (2 - 6 Mhz) (± 2 Mhz)
- High Density Convex (at least 2-6Mhz (± 2 Mhz))
- HDMI Connector for connecting with the multi-window screen connected to DSA Unit
- Angular M-Mode, Colour M-Mode
- Auto Measurement for 2D and Doppler
- Digital /manual TGC

- Virtual Convex in linear probe
- At least 50 min Scanning time on Battery percentage indicators
- All software for vascular and cardiac imaging
- The bidder should submit valid CDSCO Certificate / Registration / License for both the manufacturer(s) and importer(s) for machine and probes as applicable.



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The following amendment have been made in the tender document,

Amendment –I (Revision of Technical Specification)

The revised technical specifications for the item is given below,

Ultrasound Machine - (Convex, linear, Echo, TVS)

The equipment must be capable of operating in B, M Doppler, Color flow and Power Doppler modes, Contrast micro bubble ultrasound, 3D / 4D Volume Imaging, Shear Wave elastography. It should support transducers with Linear, Matrix sector, Convex formats & 4D Convex & TV probes. Further, it must include a full array of measurement and calculation packages. The specific minimum requirements for this equipment are as follow, Single Crystal convex and Matrix technology linear probes should be available.

1. User Interface & Ergonomics

- a) The keyboard should have, Height adjustment The adjustment should also include Keyboard Rotation Side to Side
- b) The system shall include at least a 23" (**±2**) LCD/LED/OLED monitor.
- c) The monitor shall be mounted on an articulating arm that moves side-to-side, forward and backward.
- d) The system should have touch panel of 10" or more
- e) The system shall have minimum four active probe Ports.

2. Productivity

- a) The system shall offer an extended field-of-view imaging that operates by sweeping a transducer over the anatomy of interest. This mode shall build the extended field-of-view in a real-time manner, showing the image as it builds.
- b) System shall have image management features that store images by patient and include the ability to review images from different exam dates.
- c) System shall support the ability to store digital data in, that allows to optimize imaging parameters such as B Gain, TGC. Color Gain. Dynamic Range. Speckle Reduction levels, Doppler Gain. Doppler Base line on old images & old loops recalled from the image archive
- d) System shall allow for live image and archive images side-by-side or quad display on a single monitor. This display shall allow any type of image - B-Mode, Color, or power Doppler on either side.

3. Workflow

- a) Real-Time 2D Shear Wave Elastography with adjustable box with color fill should be available in convex, Linear, also measurement should be available in KPa and m/sec simultaneously.
- b) Contrast Ultrasound Capability (CEUS) with Times Intensity Curve Graphs
- c) System should have the capability to compare previous patient images during live scan
- d) System should have the capability to pick micro vessel flow using a non doppler technology

4. Data Processing

- a) The system shall allow for Post-Storage image manipulation to provide maximum image flexibility, review and productivity. It shall include the ability to change an following on recalled old Stored Images/Loops:
- b) Overall B-Mode gain, dynamic range and gray scale maps.
- c) Overall Doppler gain, base line shift, sweep speed and inverted spectral waveform.
- d) Anatomical M-Mode.
- e) The System shall provide a display zoom function on frozen images.

5. Scanning Parameters

- a) The system should have minimum 1.2 Cr digital system processing channels
- b) The system shall possess the ability to control speckle through the use of a speckle reduction algorithm that enhances borders, reduces speckle artifact and improves detail and contract resolution in gray scale With compatibility in Color mode, 3D and side-by-side display. This feature shall have operator selectable settings and be capable of displaying in side-by-side mode with non-speckle reduced image.
- c) The system shall provide the ability to scan in the compound imaging mode with multiple lines on all linear and convex probes.
- d) The system shall provide scan depths from a minimum of 2 cm to a maximum of at least 40cm
- e) System should have frame rate 5000 or more
- f) System should have 256 gray shades
- g) B-Mode/M/Mode Imaging
- h) The system shall provide the capability for coded tissue harmonic imaging on all offered transducers.
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- c) ECHO probe: 1-5MHz (± 2) Single crystal/ XD clear/Pure wave Echo Probe
- d) TVS probe: 3-9 MHz (± 2) Broadband.

9. Following local supplies with basic equipment (Ultrasound Scanning Machine):

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