Notice Inviting e-Tender

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Supply and Commissioning of 01 (one) unit of Echo Machine for the Department of CTVS, MCH, Kolkata

(Submission of Bid through *online*)

Bid Reference No.: WBMSCL/NIT-606/2025	**Dated-15.07.2025**

AMENDMENT-I

REVISED TECHNICAL SPECIFICATION Echocardiography Machine

Specification	Specification Name	Bid Requirement (Allowed Values)
Standards	The System must be latest generation, technologically advanced, digital, Color Doppler,3D/4D Echo Cardiography system for adult and Paediatric and fetal Echo application	Mandatory
	The bidder/ OEM should have valid CDSCO Certificate/Registration/License for both the manufacturer(s) and importer(s) as applicable	Mandatory
	The system must be latest version or model till the date of application for technical bidding.	Mandatory
Type of Probes and Features	Cardiac and Vascular Probes Configuration	ALL
	3D TEE Probe Type	Adult and Paediatric

Specification	Specification Name	Bid Requirement (Allowed Values)
	System should be supplied with 3D/4D TEE probe	Adult and Paediatric
	3D TEE Adult Probe frequency, in MHz	3-7 MHz(±1)
	3D TTE Paediatric Probe frequency, in MHz	3-8 MHz(±1)
	3D Adult Single Crystal Cardiac (TTE) probe frequency in MHz	2-5 MHz(±1)
	Vascular probe	5-12 MHz(±1)
	System should have at least 90 degree field of view in cardiac probes.	Yes
	System should have Single crystal Matrix probe technology for Adult cardiac transducer, linear phased array and curved phased array transducers	Yes
	Tissue harmonic imaging in fetal echo probe for excellent image quality on difficult to image patients.	Yes
	System should have frame rates in excess of 2800 fps and minimum Dynamic range of 250 DB	Yes
	Should have at least Five frequencies in Tissue harmonic imaging in all imaging modes like B, M, PW, CW and CFM.	Yes
	Should be capable of doing M Mode in real time / stored images and also should have a post processing M mode.	Yes
	Systems should have B Flow and compound Imaging for better resolution.	Yes
	System should support Speckle reduction imaging for the uniform image quality across all the probes.	Yes
	Should have an advanced Stress Echo package capable of acquiring and display of images at true scanner frame rates.	Yes
	Should have a Digital Stress Echo package capable of acquiring and display of images at true scanner frame rates with: • Both Pharmacological and Exercise stress exam capabilities • Possibility to modify and create protocol templates • Image acquisition, review, wall segment scoring and reporting • Possibility of extensive post- processing of images under review • Zoom capability in Stress Echo Review • Should able to use the TVI and Quantification while	Yes

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	during the stress.	
	Number of transducer / probe ports	4
	System should have pre-assessment packages Z- score's in pediatrics	Yes
	Digital Cine Replay, allowing to store and replay ultrasound images including 3D Color Doppler, and The Cine Replay should allow the user to change gain, contrast, sweep speed, base line etc Image parameters.	
	An offline workstation with similar capabilities as in- on-board, analysts and quantification data sets should be available for later use on PC.	Yes
	Offline workstation must have Automated Function Imaging (RV, LV, LA), Cardiac Auto Doppler, bull's eye report, LVO Contrast, Tissue Synchronization Imaging Mode, Wall Motion Scoring	Yes
	Should be capable of calculating Ejection fraction in automatic mode.	Yes
	System must have more than 70,00,000 digital processing channels.	Yes
	Diacom three point zero compliant	Yes
	Should Have high end touch panel of at least 12 inches for easy user interface.	Yes
	Monitor display size, cm(in)	21 Inch(±1), High resolution, Flat panel
	Should have a display of single, dual or quad images side by side.	Yes
	Speckle -tracking strain and strain rate	Yes
	Analysis and calculation package.	3-D wall motion tracking, Cardiac, mitral valve analysis, user programmable calculations
	Should have built-in CD/DVD Writer for directly writing images on CD/DVD	Yes
	Type of printer provided with the echo cardiac machine	Thermal Printer

Specification	Specification Name	Bid Requirement (Allowed Values)
	ECG Cable	1
	Should have an integrated hard drive of at least 500GB	Yes
	System should support USB port for storing the images on Pen Drive.	Yes
	Software-driven system with raw data storage and advanced post-processing capabilities.	Yes
	System should have digital Image Storage and Patient Archive with true scanner frame rates. When recall the images should able to reanalyze the Images with Full Measurement and Analysis capabilities.	Yes
Power Requirement	There should be a System integrated keyboard for easy patient data, annotation and report entries.	Yes
	Resettable over current breaker shall be fitted for protection	Preferable
	Suitable KVA of UPS to be supplied	Mandatory
Additional Parameters	Cardiac calculation packages (offline workstation and / or on the system): • Strain and Strain rate imaging • 3D speckle tracking • Semi-Automated Border Detection. **Cardiac analysis:** Left atrium, Right atrium, Right ventricle, Left ventricle, TAVI (transcatheter aortic valve implantation), Valve stenosis Prosthetic aortic valve, mitral valve TAPSE (tricuspid annular plane systolic excursion), MAPSE (mitral annular plane systolic excursion), PCWP (pulmonary capillary wedge pressure or pulmonary artery occlusion pressure), Volume by area/length method, M-mode ejection fraction Simpson's biplane and single plane volume and ejection fraction. Cardiac Quantification Tool: • Left ventricle and left atria global volume analysis from 3D and biplane images • 3D auto EF, LA & LV at the same time • Automated border detection for cardiac chambers and vessel cavities • Computation of area, LV volumes and advanced parameters for LV systolic and diastolic function including fractional area change (FAC), ejection fraction (EF), peak ejection rate (PER), peak rapid filling rate (PRFR) and atrial filling fraction (AFF) • Computation of LA area, volumes and advanced parameters including fractional area change (FAC) and ejection fraction (EF) • Automated 3D longitudinal strain quantification	Mandatory

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	Objective assessment of left ventricle global function and regional wall motion deformation and timing using 3D speckle tracking technology • One-button-push global longitudinal strain • Automated view recognition and labeling with manual correction • Peak longitudinal strain for each apical view and global average 18 segments peak-systolic longitudinal strain bull's-eye display 18 segments end-systolic longitudinal strain bull's- eye display 18 segments time-to-peak longitudinal strain bull's- eye display 18 segments waveform display for three apical view.	
	System should have option for Adult and Pediatric 3D TEE application separately.	Mandatory
	Systems should be upgradable to AI enabled features in single click 3D Strain, single click Auto EF, 3D & Doppler Tracing & Measurements	Mandatory
	During warranty and CMC period free software update if available.	Mandatory
	AI based 3D quantification of LA and LV volume system should show borders comparable to MRI. Single beat full volume in 3 steps. LA – Auto volume 3D/LV auto EF (3D) & RV EF.	Mandatory
	Automated 17 segment left ventricular wall motion scoring to show normal, hypokinetic or akinitic regions with Ejection fraction	Mandatory
	Auto aquire LAA ostium size quickly in 3D to reduce inter observer variability to increase visual resolution and simulate true texture of cardiac tissue improved display of abnormal anatomical structures.	Mandatory