KERALA MEDICAL SERVICES CORPORATION LTD
(A Government of Kerala Undertaking)
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CIN: U24233KL200TSGC021616, PAN : AADCK4029M, GSTIN : 32AADCK4029M1ZK

Running Contract Details	
Equipment Name	Cardiac Cathlab with EP Facility Model A
Running Contract Valid Till	26-09-2025
Tender Ref No	KMSCL/EP/T501(R)/634C/2023
Tendered Quantity	10
Supplier Name	M/s Siemens Healthcare Private Limited
GST No	33AAVCS8021P1ZM
Installation & Delivery Period	24 Week(s)
Up-time / PM vist	95% & 4 Visits per year
Warranty period	3 Years

Supplier`s Details		
Address	**Contact Details**	
Seethakathi Business Centre No.272/688 5th Floor Anna Salai Chennai - 600 006	Contact Person	B V Rahul, K Unnikrishnan
	Phone	0484 4028622/04466784169
	Mobile No	+91 98406 22623, +91 85899 99606
	Email	rahul.b_v@siemens-healthineers.com, unnikrishnan.k@siemens-healthineers.com

Item-wise Price Details

#	Item Details	Unit Rate (Incl.all taxes & charges)	Service Charges (Through KMSCL)	Grand Total
1	**Cardiac Cathlab with EP Facility Model A** *Model & Make : Artis Zee Floor/Siemens Healthcare GmbH*	55759999.68 Incl.GST :12%	4112299.98	59872299.66
2	**Medical Grade large high definition FHD display 55"**	6600000 Incl.GST :12%	486750	7086750
3	**Electrophysiology Application**	560000 Incl.GST :12%	41300	601300
4	**Workstation as per spec**	3350000 Incl.GST :12%	247062.5	3597062.5
5	**High Pressure Injector with 200 Syringes** *Model & Make : MARK 7 ARTERION OCS/Bayer*	2365294.13 Incl.GST :12%	174440.44	2539734.57
6	**Online UPS for Cathlab & accessories , Console, Workstation, lights and computer** *Model & Make : Reillo Power/ Reillo*	2687092.46 Incl.GST :18%	188096.47	2875188.93

Item-wise Price Details				
7	**All in one Computer with Laser Printer** *Model & Make : HP/Dell male, Xerox Make/HP/Dell, Xerox*	332645.45 Incl.GST :18%	23285.18	355930.63
8	**12 channel ECG with PC Connectivity** *Model & Make : Cardiart/BPL*	247186.51 Incl.GST :12%	18230.01	265416.52
9	**Full Wrap Around Lead Aprons** *Model & Make : Kiran Make/ Kiran*	29558.76 Incl.GST :12%	2179.96	31738.72
10	**Skirt (with fastening belt)-Vest type Lead Aprons** *Model & Make : Kiran Make/ Kiran*	39300.97 Incl.GST :12%	2898.45	42199.42
11	**Front full type Lead Apron** *Model & Make : Kiran Make/Kiran*	24054.93 Incl.GST :12%	1774.05	25828.98
12	**Light weight leadless single piece aprons with front and back coverage** *Model & Make : Kiran Make/ Kiran*	29558.76 Incl.GST :12%	2179.96	31738.72
13	**Light weight leadless skirt and vest with fastening belt** *Model & Make : Kiran Make/ Kiran*	39300.97 Incl.GST :12%	2898.45	42199.42
14	**Thyroid Guard lead less** *Model & Make : Kiran Make/ Kiran*	4994.86 Incl.GST :12%	368.37	5363.23
15	**Leadless Head Gear radiation protection and light weight Lead Goggles** *Model & Make : Kiran Make/Kiran*	9255.08 Incl.GST :12%	682.56	9937.64
16	**Lead Stockings** *Model & Make : Kiran Make/ Kiran*	31986.1 Incl.GST :12%	2358.98	34345.08
17	**lead Spectacles** *Model & Make : Kiran Make/ Kiran*	4577.2 Incl.GST :18%	320.4	4897.6
18	**Lead Gloves** *Model & Make : Kiran Make/ Kiran*	6714.97 Incl.GST :12%	495.23	7210.2
19	**Heavy Duty Stand with Hangers to hold atleast 5 Lead Aprons (Stainless steel 304 construction)**	18308.63 Incl.GST :12%	1350.26	19658.89
20	**Wall mounted hangers to hold atleast 5Lead Aprons**	7667.22 Incl.GST :12%	565.46	8232.68
21	**Instrument table** *Model & Make : Local Make/ Local*	66529.08 Incl.GST :18%	4657.04	71186.12
22	**Accessory table** *Model & Make : Local Make/ Local*	93140.73 Incl.GST :18%	6519.85	99660.58
23	**Buy back offer of existing cathlab Model Philips Allua FD10 installed at MCH Kottayam**	199999.52 Incl.GST :12%	14749.96	214749.48
24	**Cathlab machine as per specifications with 18 inches or 46cms diagnol detector except monitors (all configuration as per sr no 13 except detector) (Not taken for evaluation)**	74460000.16 Incl.GST :12%	5491425.01	79951425.17

Item-wise Price Details				
25	**IABP as per the specification (Not taken for evaluation)**	8200000 Incl.GST :12%	604750	8804750
		155167166.17	**11431638.56**	**166598804.73**

Annual / Comprehensive Maintenance Charges (Exl.Tax)							
Rate	**4th Year**	**5th Year**	**6th Year**	**7th Year**	**8th Year**	**9th Year**	**10th Year**
Cardiac Cathlab with EP Facility Model A							
Labour	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Comprehensive	24,28,670.00	25,50,103.50	26,77,608.68	28,11,489.11	29,52,063.56	30,99,666.74	32,54,650.08
Medical Grade large high definition FHD display 55"							
AMC	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CAMC	2,96,875.00	3,11,718.75	3,27,304.69	3,43,669.92	3,60,853.42	3,78,896.09	3,97,840.89

Other terms & conditions

1. The supplier shall execute an agreement with the purchaser as per tender conditions (agreement format is given in the tender document).

2. The supplier shall submit performance security amounting to 5.00% of the value of the supply order.

3. The labour & comprehensive charges of equipment after the completion of warranty period is finalized by KMSCL as mentioned above.

4. Since discount rate is not applicable for equipment under Running Contract of KMSCL, purchase/supply order can be issued directly to supplier at the given rate with tax & other charges (exclusive of KMSCL service charges).

5. If purchase/supply order is issued directly to the supplier, KMSCL service charge need not be paid. But the copy of the said order may be forwarded to KMSCL for information.

Technical Specification

Equipment :Cardiac Cathlab with EP Facility Model A

A. General

System should be state of the art, fully digital single plane system for diagnostic angiograms, cardiac interventions, other interventions like peripheral, carotid, including Electrophysiology procedures.

1. On line digital subtraction angiography (DSA) should be available.
2. The specification should be part of Tender.
3. Any advanced application or technique, should be quoted separately
4. System must be DIC0M 3 standard compatible.
5. All standard software and tools needed must be part of the system
6. Should be US FDA & European CE Approved
7. Should meet all national and international safety standard and comply with BARC and AERB guidelines.

B. Gantry

1. Type - Ceiling Mounted/ Floor Mounted.
2. All movements of the gantry including collimator should be motorized and controlled from the table side.
3. The system should have adequate collision protection for the safety of the patient
4. Gantry should have fast speed for angulations and positioning; have a speed of at least 18 degrees/second or higher.
5. Gantry should have automatic positioning capability dependent on the reference imaging being selected
6. User defined programmed position of the C arm should be available, minimum 50
7. Gantry angulations should be freely user-selectable
8. Joystick for patient angle oriented C-arm and detector movements should be available
9. Manual/motorized parking of C-Arm should be available
10. Motorized peripheral position for peripheral and vascular intervention should be available
11. Patient access should be possible from either left or right side at the head end and groin.
12. The C arm/G arm should travel both side (right and left 90 degrees) of the patient and it should be possible to have head to toe imaging without repositioning of the Patient. Maximum patient coverage should be available (180 cm or more)
13. The C or G arm movement control should be possible from any side of the Table
14. The C or G arm rotation up to 15 degrees/second
15. Angulations LAO/RAO- at least 100/100 degrees Cranio/caudal 45 degrees or more
16. Arm design should allow sufficient space around the table during resuscitation and defibrillation
17. Detector size (higher detector size is preferred)

C. Table

1. Patient table should be a dedicated interventional X-ray table that supports a full range of applications.
2. Should be a feather-light free floating tabletop should help to maintain the region of interest with negligible effort.
3. Should be radiolucent carbon fiber table-top or equivalent
4. It should have high patient load-ability and CPR can be performed on the table. Maximum table load 300 kg or more (200kg patient weight).
5. The table should have longitudinal, horizontal and vertical travel
6. It should be possible to swivel the table in case of emergencies
7. Table should allow head to toe coverage of adult patients without repositioning
8. Should have access to patient from all sides and easy transfer and positioning
9. Should have Table control module for operation of all table functions
10. Extendable arm rest both sides (4 nos), and elbow guard, head fixing aids(4), mattress(6), drip stand, Accessory clamps, Catheterization arm support, Foot support, Handles with support, Articulating arm support, IV set holder, should be available
11. Table height movement should be minimum between 80 to 100 cm

D. X Ray Generator

1. Generator should be latest technology with high frequency type with at least 100 KW output at maximum factor
2. Should be optimized for the latest cardiac application for electrophysiological /interventional procedures
3. High frequency power unit that provides pulsed fluoroscopy capability should have automatic exposure control device for radiographic fluoroscopy and Angio mode
4. Should have an over loading protection
5. Output should be 100KW or more
6. SID (Source to image distance) tracking should be available
7. KVP range selectability should be 50-125KV or more
8. Output at 100 KV should be 1000MA or more and should be able to deliver up to 1000MA
9. It should have digital display of KV & MA
10. It should have the facility for pulsed fluoroscopy at variable rates for reducing the x-ray dose to the patient during intervention procedure.

E. X Ray Tube

1. Should be with a minimum of two focal spots small and large. The small focal spot should not be more then 0.6mm. The large focal spot should not be more than 1 mm
2. The X-Ray tube should have Anode heat storage capacity of at least 3.3 MHU or more to run continuously for 6-8 hours without shutting off with appropriate anode heat dissipation rate. Higher MHU will be preferred
3. Cooling system high oil/water cooling to ensure continuous operation. Anode dissipation rate should be mentioned. Highest heat dissipation rate will be preferred
4. Automatic/programmable spectral filtration mechanism for eliminating soft radiation without any need for manual filter insertion in both fluro and cine mode

5. X ray tube with noise less operation with high anode heat storage capacity to support long interventional procedures without interruption
6. X ray tube must have Generator/ Secondary grid switching / Equivalent technology

F. Collimator

1. Collimator should have facility for pre filtration of 0.2 to 0.9 mm Copper equivalent for reducing the X-ray dose
2. The collimator leads should have iris type or rectangular type arrangement
3. The collimator should have the facility for dose measurement chamber in order to display the skin dose on the monitor in the lab.
4. All cine settings should use 0.5 cu eq filter as default

G. Detector System

1. Should be Dynamic flat detector system of current generation for cardiovascular application with excellent spatial and contrast resolution
2. Resolution - minimum 25 cm diagonally, with pixel size smaller than 200um
3. Should have acquisition and display in at least 1024 x 1024 Pixels
4. Should possess the latest image processing software algorithm to reduce quantum noise in image to have excellent image quality
5. A minimum of 14 bit acquisition or better with at least 3 level acquisition with at least 3 level of zoom should be present
6. The DQE of detector should be >75%. Higher will be preferred
7. Should have capability to acquire the images© minimum 30 fps (pediatric application 30fps: adult cardiology 12.5 - 25: peripheral angio range (1- 15fps)

H. Digital Image System

1. Digital cardiac imaging for acquisition storage and retrieval in high matrix of 1024 x 1024 or more acquisition/ display and storage of image application to give excellent resolution with latest image processing software/algorithm should be available
2. Gray scale depth should be of at least 8 bit pixel should be possible at all frame rate
3. Image storage capacity should be of 1,00,000 image at 1024 x 1024 matrix at a minimum of 8 bits/pixel on main system hard disk
4. Medical grade large high definition display FHD monitor [55" or more) to display live, reference,3D,CT like image, Hemodynamic and EP waveforms with layout selection from table side control or separate touch screen module in exam Room should be present.
5. Monitor should have high refresh rate/ flicker free viewing of images
6. In control room, there should be data entry monitor, live monitor, hemodynamic monitor available
7. DICOM based or equivalent suitable work station capable of all review including reconstruction , post processing and quantification of coronarv and ventricular function in the control room
8. Post processing should be possible to perform simultaneous off line as well as at the same time of doing procedure inside the lab.
9. State of art complete coronary ventricular and vascular on line & off line both quantifications software programs which are clinically validated should be available
10. Operation from exam room and control room should be available
11. All recall of stored images in fast slow still modes to select images at table side itself should be possible
12. Auto calibration should be possible
13. Cine loop replay facility & last image hold facility during fluoroscope should be present
14. Machine should have facility for 3D rotational angiography. Rotational Speed 30 Degree/Sec or more and frame rate in the range of 10 to 50 fps.
15. Should have more than 7 physical and simultaneously usable inputs including digital, Analog and High speed Analog
16. For live and reference back up two 19 inch or higher medical grade monitor should also be provided along with the single monitor
17. Background transfer of images from Cathlab to digital storage/CD/DVD archiving without interruption of cathlab procedure, (preferably automatic) should be possible
18. There should be parallel view of archived examinations, permit concurrent measurements of both archived studies and any images of the current study while fluoroscopy or cineradiography (acquisition) is going on.
19. Ability to display images back to cathlab should be present
20. Image processing features like zoom, post processing should be present
21. True on line digital subtraction facility at selectable frame speeds should be present
22. Facility to measure & display x-ray dose delivery during procedure should be available

23. Should have ability to run DSA run on CD.
24. Latest stent enhancement features should be present
25. Image inversion facility for live procedures should be present
26. 2D and 3D road mapping/ remodelling features should be offered
27. Should be capable of integration with other imaging modalities like OCT (ACR), Fusion imaging etc

I. Archival System

1. Direct digital archival on compact disk (CD /DVD-recordable) in latest D1COM format preferably in loss less compression should be available
2. Ability to view CD and post process with clinically validated quantification software in DICOM
3. Ability to export DICOM vascular images on to CD/other image recording medium
4. DICOM viewing software should be available
5. The system should be fully DICOM ready and fully compliant for connection to PACS system of any make including currently available PACS system for the Cath Lab
6. Ability to convert the DICOM locos to BMP/JPEG and AVI format should be present
7. The system should be supplied with DICOM CD recorder for storing DSA runs photo images and it should be possible to review in any other PC

J. Cross Sectional Imaging

1. The system should have ECG/angle triggered and non triggered 3D acquisition and processing capability
2. Dedicated 3D workstation to be provided for 3D image processing for efficient workflow with display in control room and exam room
3. 3D road-mapping should be available. It should be possible to have TAVI guidance for TAVI procedures with landmark marking and overlay, TAVI guidance packages should be included
4. Image planning and guidance tool for EVAR procedures to be offered.

K. Hemodynamic Monitoring

1. 12 Lead ECG Amplifier with floating input
2. Al least 4 pressures with floating inputs
3. Time and amplitude measurement
4. Laser Printer with minimum 16 MB memory with minimum 1200 dpi
5. Storing of patient hemo data on hard disk and retrieval as and when required
6. 18" color wave form monitor with programmable layout and digital monitoring readout – Two
7. SPO2, cardiac output, pressure gradient facility, NIBP should be available
8. ECG cable and pressure transducers with facility for superimposition of pressure tracings with printing supports inside the operating room should be available
9. Live Hemodynamic monitors should be available in operating room as well as console room
10. Storage of ECG/pressure recording on CD should be available
11. Storage on hard disk of at least l TB should be available
12. Should have all calculation packages for pressure wave form analysis, valve area; gradient off- line and on-line.
13. Respiration display should be available
14. Extra cables - All cables (4 set each) should provided

L. Essential Accessories

1. Foot switch for fluoroscopy and acquisition
2. Ceiling suspended operation lamp
3. Lead glass (120 x 100cm) (as per international radiation protection standard)
4. Radiation shield ceiling and table mounted/suspended, (as per international radiation protection standard)
5. Radiation protective apron - Front type -15, Wrap around -10
6. Two hanger stands to hold 5 apron each and two wall mounted hangers to hold 5 aprons each
7. Thyroid guards 10 in number
8. Lead spectacles 5 in numbers
9. Lead lined gloves: 5 pairs
10. High power contrast injector (floor/ceiling mounted) with 200 syringes
11. Intercom between exam room and control room.
12. On line UPS for completed cath lab with back up of at least 30 minutes. Emergency lighting should also be on UPS.

13. **Top end state of the art desktop computers** (all in one with blue tooth mouse and key board) with multi function laser printers, 1 TB HDD, 8GB RAM, at least 19" monitor, OS and application software (licensed version) with each machine.
14. **12 channel ECG with PC connectivity**
    i. Should have auto and rhythm modes
    ii. Should have at least one minute disclosure for a selected lead
    iii. Should have full ECG display with print preview on a monitor with good resolution of at least 640 x 480
    iv. ECG acquisition should be digital
    v. Should have at least 50 ECG memory
    vi. Should have rechargeable battery
    vii. Print resolution should be at least 200 x 500 dpi
    viii. Should have Automatic lead reversal detection
    ix. ECG trolley should be provided as standard accessory
15. **Instrument Table** completely made of SS 304 – (Length: 130cm, width-45cm, Height-80cm(top span from floor), with 2 span(rack) with side rail on three sides, wheel size- diameter not less than 10cm).
16. **Accessory Table** completely made of SS 304 – (Length:80cm, width 45cm, Height 120cm(top span from floor), width5 span(rack) with side rail on three sides, wheel size-diameter not less than 10cm.

M. <u>Electrophysiology Application</u>

1. Navigation and ablation facility using precisely registered 3D and 2D live fluoroscopy images
2. Segment images automatically
3. Import pre-procedural CT or MRI data, or an intra procedural 3D rotational scan to create the 3D model
4. Live fluoroscopy or a compatible electro anatomical mapping system can be used for catheter image guidance. System should be compatible with electro anatomic mapping systems
5. The endocardial surface should be visualized
6. Point Tagging function should be available
7. A screen image of the live screen should be possible

N. ETO Sterlizer (Not taken for evaluation)

i. The ETO gas sterilizer should be fully automatic type for sterilization of heat sensitive goods such as anesthetic tubing and endoscopes etc.

ii. The sterilization chamber should be double walled, corrosion and gas resistant of suitable alloy. The inner surface should be smoothly finished to minimize gas deposits. The chamber shall be insulated against heat emission and the jacket shall be connected to the warm water circulation arrangement.

iii. The sterilizer door shall have a quick release locking arrangement with door opening.

iv. Suitable safety interlocking arrangement shall be provided for the door so that the sterilization process does not start unless the door is properly locked in position and during the program run it should not open.

v. The sterilizer shall be provided with a suitable vacuum pump and gas trap to separate and evacuate the gas.

vi. The sterilizer shall be provided with an automatic programmable panel with memory for preset operating sequence of all programs of operation. Monitoring instruments should be provided with the ETO for proper operation and monitoring of sterilizing process such as pressure manometer, thermometer, limit selector for temperature and pressure etc.

vii. The ETO sterilizer should be able to operate for the minimum essential following cycles programmes:

a. Sterilization cycle for heat sensitive objects that ensure temperature from 40-55^{o} with subsequent aeration for protection of the operating personnel.
b. Aeration cycle/program to extract residual gas out of the sterilized objects after each sterilization cycle.
c. Automatic chamber evacuation cycle with subsequent venting before releasing the door lock for opening, thereby prohibiting exposure of the operating personnel by gas dissolving from the chamber walls during shutdown period.
d. Gas disposal arrangement / catalytic converter.
e. Capacity: 250 to 300 litre

viii. Sterilization gas: 100% Ethylene oxide.

ix. Sterilization method: Cold sterilization of heat sensitive materials.

x. Temperature: Cold and Warm Temperature cycle.

xi. No. of doors: One.

xii. The Machine should have micro controller for process sequence control like program, preparation, humidification, sterilization, aeration, completion, remaining time & operation record etc.

xiii. System Configuration Accessories, spares and consumables

a. Sterilization basket of suitable size 1 No.
b. ETO gas cartridges 50 Nos.
c. Compressor for degassing
d. Packing Material with Chemical Indicator and dispensor of four different sizes two rolls each
e. Sealing machine (1#) as per specification given below
f. Biological indicator 5 sheets.

xiv. The entire unit & Gas cartridges should be EPA (Environmental Protection Agency or certified for Government authority in India. Statutory concerned with Environment protection & occupational safety regulations applicable).

xv. Shall meet IEC-60601-1-2:2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility. Or should comply with 89/366/EEC; EMC directive.

xvi. The unit shall be capable of being stored continuously in ambient temperature of 0 - 50 deg C and relative humidity of 15-90%.

xvii. The unit shall be capable of operating continuously in ambient temperature of 10 - 40deg C and relative humidity of 15-90%.

xviii. Should have built in alpha numeric printer to be available to monitor continuously all the vital sterilization parameter like temperature, vacuum , time etc. Printing paper 10 Roll.

xix. Power input to be 220-240VAC, 50Hz

xx. On line UPS of suitable rating with voltage regulation and spike protection for 60 minutes back up.

xxi. Shall meet International Organization for Standardization. Biological evaluation of medical devices. Part 7: ethylene oxide sterilization residuals [standard]. 1st ed. ISO 10993-7. 1995 (reaffirmed 2001). OR Any international/ National standard for ETO Safety.

xxii. Local Pollution Control Board clearance is mandatory.

xxiii. The price quoted should be inclusive of installation charges and the complete installation should be done/ arranged by the supplier including exhaust above the building level.

xxiv. Should have safety certificate from a competent authority CE issued by a notified body registered in the European commission / FDA (US)/ STQC CB Certificate/ STQC S Certificate or valid detailed electrical and functional safety test report from ERTL. Copy of the certificate/ test report shall be produced along with the technical bid

Sealing machine

i. The unit should have manual heat adjustments.
ii. System should be suitable for the sealing of surgical instruments in paper envelopes.
iii. Should be microprocessor controlled.
iv. Smooth easy cleaning surfaces.
v. Quick sealing time with sealing width of 12mm.
vi. It should be a compact table top system.

vii. Ergonomic handling with anti fatigue movement.

viii. Should have automatic sealing indicator.

O. Buy Back

1. The existing cathlab machine must be subject to BUY BACK by bidder. The cost for buyback of old working Cathlab (Make: Philips) shall be offered. The rate offered for buy back will be reduced from the cost offered for the new machine including all accessories and turnkey works. The lowest offer by reducing the buyback rate will be selected as the successful bidder for the purchase of equipment in GMC Kottayam. For the running contract the successful bidder will be declared on the basis of lowest rate offered for the new equipment including all accessories and turnkey works.
2. L1 for GMC Kottayam : Cost offered for Cathlab with all accessories as per BOQ + cost of turnkey works for the quantity mentioned in BOQ + Applicable CAMC rates – buyback cost offered for old Cathlab available in GMC Kottayam. If the buyback rate offered by the L1 bidder is less than the upset value fixed by the condemnation committee for the old Cathlab, the L1 bidder will be given the opportunity to offer rate more than the upset value. If the upset value could not be matched then the old machine will not be given in buyback.
3. L1 for Running Contract: Cost offered for Cathlab with all accessories as per BOQ + cost of turnkey works for the quantity mentioned in BOQ + Applicable CAMC rate. This will be calculated manually and published in the price bid opening summary notice.

P. DETAILED SPECIFICATION OF IABP

1. Transportable, Compact IABP system with minimum 2 1/2 Hours of Battery Backup.
2. Fast Pneumatics to provide accurate & reliable ventricular support enhancing augmentation & improved after-load reduction. Preferably a compressor based system for better drive-gas shuttle speed.
3. Should have 3 modes of Operation, 1) Automatic 2) Semi Automatic 3) Manual.
4. System should be capable of automatically selecting appropriate Trigger i.e. ECG or Pressure and also accurately select the inflation and Deflation points, in Automatic mode.
5. System should have Automatic Fiber Optic Pressure Signal Capability and should be capable of working with 7Fr. and smaller Fiber Optic Balloons.
6. The zeroing / Calibration of the pressure wave form should be automatically done once the Catheter is inserted into the patient (in vivo Calibration). The system should have the capability to recalibrate the pressure wave form every 2 hours or sooner if the patient or environmental condition changes (again in vivo Calibration).
7. The system should have capability of sending an electrically isolated low level pressure output signal which enables the user to send the Fiber Optic Pressure wave form to a patient monitor by simply attaching a cable.
8. In the automatic mode of operation user should be in control of the deflation point.
9. In Automatic and Semiautomatic Mode, Single ECG Trigger should be able to track various Ventricular and Atrial Arrhythmia including VE's, Bigeminy, Trigeminy, Couplets and Atrial Fibrillation etc without any user intervention, and still give optimal performance.
10. In Automatic and Semiautomatic Mode, Advance Software should automatically adapt the timings for various rhythms and rate variations, without any user intervention.
11. In Automatic and Semiautomatic Mode, it should automatically identify Atrial Fibrillation and adopt R-Wave deflation mode for better patient support, without any user intervention.
12. Should be able to trigger on 7mmhg of Pulse Pressure when used in Pressure Trigger mode.
13. Single Key Start-up to make it fast, user friendly and easy to use.
14. Should be able to display at least 3 waveform as ECG. Invasive Pressure and Balloon Pressure waveform.
15. Large Detachable Display for brighter and very good visibility from a distance in any lighting conditions.
16. On screen indication for Helium level in the cylinder and Battery level for timely intervention and correction.
17. ECG Inflation marker to indicate inflation period on ECG which can be useful when arterial pressure waveform is not available.
18. On screen indication of standby time and should give alarm after 20 mins, to draw user's attention on the system being on standby.
19. Optical Blood back detect for early indication of blood coming into the balloon lumen due to IABC leak
20. Should have extensive Help Text available during startup to make the system easy to use even for new users
21. Should give extensive help messages to correct the alarm conditions that are specific to the alarm condition. This should help the user to overcome the alarm problems immediately and with ease.
22. Should be capable of removing Condensation automatically without user intervention and should be maintenance free
23. Should have automatic Altitude correction to make it safer for use during Air Transport
24. PCIABP Software which allows the user to monitor the IABP from any remote location via a modem.
25. In-built Comprehensive Service Diagnostics to help the technician to locate the fault immediately.
26. Should have capability to connect on the hospital network.
27. System should be supplied with the following.

i. ECG Cable with Lead wires1 Set
ii. Reusable Invasive Blood Pressure Transducer 1 no.
iii. Refillable Helium Cylinder compatible with the IABP system Qty. 3nos
iv. Catheter with Ballon – 2 Nos

Q. The CAMC rate of main equipment should not include the CAMC of 55” and four nos of 19” monitors. The CAMC of all other items taken for evaluation should be included along with the CAMC of main equipment. The CAMC of monitors shall be offered separately.

Note:

1. If CDSCO (Central Drugs Standard Control Organization) certification is required for the import and marketing of the equipment, then the same shall be submitted along with the technical bid
2. Warranty exclusions if any shall be discussed at the time of prebid meeting else the tender condition as per clause 6.31.20 shall prevail