EMS CO-OPERATIVE HOSPITAL
PATHANAPURAM P. O. KOLLAM-95. PH:0475-2354455
email:emshospitalptpm@gmail.com web: emshospital.org

QUOTATION NOTICE

Quotations are invited for the following listed items from eligible, competent, and experienced firms who are capable of executing the following item/work meeting the requirements as per our tender from EMS Co-Operative Hospital, Pathanapuram, as per the given Terms and conditions and detailed Technical Specifications.
Date of release of quotation : 10/07/2024
Last date for submission of quotation : 22/07/2024

DETAILS OF ITEMS

SL NO	ITEM	
1	WHEEL CHAIR	Terms & Conditions, Technical Specifications visit www.emshospital.org
2	DRESSING TROLLEY	
3	PATIENT TROLLEY	
4	LINEN TROLLEY	
5	DIRTY LINEN TROLLEY	
6	SYRINGE PUMP	
7	INFUSION PUMP	
8	DEFIBRILLATOR	
9	12 CHANNEL ECG MACHINE	
10	ABG MACHINE	
11	DRESSING TABLE	
12	EXAMINATION TABLE	
13	MONITOR (ETCo2)	
14	MULTIPARA MONITOR	
15	PHOTO THERAPY UNIT – SINGLE SURFACE	
16	RADIANT HEAT WARMER	
17	BUBBLE CPAP	
18	32 CHANNEL VIDEO EEG WITH VIDEO RECORDING AS OPTION	
19	ENG/NCV SYSTEM WITH EP AS OPTION	
20	ANESTHAESIA WORKSTATION	
21	OT TABLE	
22	ELECTRO SURGICAL UNIT / DIATHERMY	
23	OT LIGHT - LED	

You may submit quotation as per the terms and conditions with necessary documents as asked so as to reach us before the cutoff date. Quotations not meeting the Terms & Conditions/Technical Specification/without necessary documents are liable to be rejected. Please note that Management has the right to cancel/ postpone the quotation proceedings without prior notice.

Pathanapuram
10.07.2024

sd/-
Secretary

TERMS AND CONDITIONS

1. The Model quoted must be latest & most advanced and spares & service support must be available for at least 10 years after installation.
2. All Equipment must have at least US- FDA/ European CE/ EN (IND) ISO 9001 & ISO 13485 unless otherwise specially mentioned in Technical specifications sheet.
3. Demonstration of equipment to be arranged at site for 1 week at least for evaluation of performance and cross checking of Technical specifications. Application specialist & Service Engineer should be present
4. There will be 98% uptime warranty during any contract on 24 (hrs) X 7 (days) X 365 (days) basis. In case of more failure days, will invite a penalty of 2000/-day.
5. All complaints during any contract period should be attended within 24 hours and should be rectified within 48 hours from the time of reporting. In case of failure of Equipment/Accessories/ Instruments standby arrangements must be provided within 48 Hours. Any spares parts during AMC period should be quoted and approval should be acquired from Hospital Management within this 48 hours. Any failure to this will invite a penalty of 2000/-day.
6. Warranty: 3 years from mutually agreed Installation date. Warranty covers entire system in the P.O which includes all kinds of machine parts, accessories, software, services like maintenance, calibration and all software updates etc.
7. AMC & CMC Rate in percentage (of Total purchase value without Tax) should be quoted. Annual escalation if applicable should be mentioned. AMC & CMC rates should be quoted for remaining 7 years after expiry of 3 year warranty.
8. Delivery Time should not be exceeded than agreed time in P.O. Any failure to this will invite a penalty of 1000/-day.
9. Payment as per Hospital policy (70% on delivery, 30% after installation completion & successful 1 month usage)
10. Training: On Site training to Doctors/ Technicians/ staff is to be provided by Principal/ Indian Agents (if they have the requisite know-how) for operation and maintenance of the equipment to the satisfaction of the Institution. Individual training certificates should be provided as hardcopy & softcopy.
11. Comprehensive Maintenance Contract (CMC) includes unlimited breakdown maintenance preventive maintenance including testing & calibration as per technical/ service /operational manual of the manufacturer, labour, spares, all software updates etc. The supplier shall visit each consignee site as recommended in the manufacturer‘s technical/ service /operational manual, but at least once in six months during the CMC period
12. Annual Maintenance Contract (AMC) includes unlimited breakdown maintenance, preventive maintenance including testing & calibration as per technical/ service /operational manual of the manufacturer, labor, and all software updates etc. The supplier shall visit each consignee site as recommended in the manufacturer‘s technical/ service /operational manual, but at least once in six months during the AMC period
13. Cost of Warranty/CMC/AMC will be added while Ranking/Evaluation.
14. Care & Maintenance Plan with Instructions for daily, weekly, monthly and quarterly maintenance checklist should be given at the time of installation.
15. In Technical specification sheet, all Technical specifications are mandatory to comply with. However some specifications marked as “Optional” while others are mentioned as “Desirable”. Companies are

recommended to comply with both cases if available, otherwise will be considered as non compliance. Non compliance to optional and desirable items not necessarily subject to disqualification. But if Optional and desirable items might get included in the final package, preference will be higher for those who comply with

MANDATORY ATTACHMENTS WITH THE BID (TO BE SUBMITTED WITH SIGN & SEAL)

1. Terms & Conditions Page (Page No 1)
2. Mandatory attachments Page (Page No 2)
3. All European CE,US- FDA ,STQC CB certificate/ STQC S certificates.
4. Compliance statement with technical specification – Document to state the compliance to Published Technical specifications. Each spec to be addressed and 'Yes' or 'No' to be marked. If any deviations are there, may be stated on the right side.
5. Original Product Technical datasheet – All technical details of the machine (Not sales brochure)
6. Details of service division in Kerala – This should contain addresses of Service centers in Kerala, Total number of service engineers etc. Please also do mention whether the service engineers are of Manufacturer or Dealer.
7. Sales authorization letter from Manufacturer – If the bidder is a Dealer and not Manufacturer then they must submit letter from Manufacturer to prove they are authorized to sell the equipment in our Area.(Manufacturing Company representative should attend negotiation meetings and to acknowledge purchase order later)
8. Details of installations in Kerala with Reference number- Please note that only installation list of same model quoted at NS Hospital (Not total installations of all models of company) is in need.

TECHNICAL SPECIFICATIONS

PHOTOTHERAPY UNIT - SINGLE SURFACE

1. Single surface-over surface source box type.
2. Should have latest LED Light sources
3. Over surface source box consist of high intensity blue LED's 16 nos. used for therapeutic dose having a wavelength ranging between 455 nm to 465 nm.
4. Over surface source box also consists of high intensity white LED's 4 nos. used for observation purpose
5. Over surface light source box has height adjustment facility approx. 0.95 m to 1.5 m from the floor.
6. Light dimming facility for blue LED's Low power consumption
7. Over surface light source box swiveling facility continuous up to 90˚ on both sides
8. Over surface phototherapy have an effective surface area 40 cm x 30 cm at a distance of 35 to 45 cm from light source with uniformity ratio >0.40.
9. Its irradiance at skin level measures up to 67.5 µW/cm2/nm. In warranty period if irradiance become less than this, LEDs should be replaced Free of cost.
10. Dual digital cumulative hour timer for total LED usage and patient exposure.
11. LED lamps rated to last up to 50,000 hrs. Free replacement will be given if any LEDs fail to cross 50,000 Hours.

RADIANT HEAT WARMER

1. Advance, Precise, Reliable & High-speed microcontroller helps to preserve a stable temperature environment for a newborn infant.
2. Temperature is set at the desired level and the system efficiently delivers a constant heat output
3. Complete structure is enclosed with epoxy coated MS Grade material
4. Should have at least 3 controlled modes such as Skin Servo Mode, Manual Mode & Pre-Warm Mode.
5. Ergonomic & Intuitive User Interface with Audio and Visual Alarm along with message on LCD/LED Screen.
6. Thermistor based temperature probes with an accuracy of ±0.2°C from 0°C to 50°C
7. Pre-loaded software on the device eliminates the process re-calibration of the temperature controller.
8. Heater source placed in stainless steel reflector ensures even heat distribution on baby bed
9. Patient Safety Alarms at least includes Skin high temperature, Skin low temperature, Overheating, sensor failure, heater failure, power failure and check sensor position
10. Baby bassinet have trendelenburg and reverse trendelenburg facility of at least 10˚ on both sides.
11. The facility of off positioning heater source box of ± 90°, allows X- Ray procedures while the baby is placed on the cradle.
12. Adjustable observation light for doing procedures.

BUBBLE CPAP

1. Bubble CPAP System includes circuits, a pressure-relief manifold and bubble CPAP generator.
2. Humidifier with touchscreen display with full monitoring,
3. Air Oxygen blender with dual flow meter (low flow and high flow)
4. Should supply with Quality Pole Stand
5. CPAP circuits including pressure manifold and CPAP generator

6. Auto level mechanism provides consistent and accurate delivery of CPAP
7. Pressure manifold with pressure relief valve promotes infant safety
8. Can easily auto -level by simply adding water into the fill funnel on the Bubble CPAP generator
9. Excess condensate automatically drains in to the detachable over flow container
10. Detachable overflow container can be emptied without interrupting CPAP
11. Bubble CPAP System provides respiratory support with body-temperature pressure-saturated gases to the infant
12. Optimal humidity promotes mucociliary clearance and reduces the work of breathing
13. Adjustable CPAP from 3 to 10 cm H2O
14. Can connect to various Interfaces

SYRINGE PUMP

1. Should have modes at least Rate mode, Time mode, weight mode, intermittent mode, drug library mode and Total intravenous anesthesia (TIVA) mode
2. Applicable Syringe Size 5 ml, 10 ml, 20 ml, 30 ml, 50/60 ml
3. Accuracy 2%
4. Infusion Rate 0.1 To 1500 ml/h
5. KVO Rate 0.1- 2 ml/h adjustable
6. History Record 1600 records
7. Computer Interface Rs232 Interface
8. Should have alarms such as Syringe disengaged, almost done, infusion completion, empty, occlusion, low battery, ac fail, etc
9. Occlusion Pressure 3 Adjustable Occlusion Pressure- Low Medium, High
10. Waterproof Level IPX3
11. Classification Class 1, Type CF
12. Battery backup of at least 2 hours at 25 ml/h

INFUSION PUMP

1. MODES Rate mode, Time mode, weight mode, intermittent mode, drug library mode, drip mode, dose mode, micro mode, sequencial mode, programmable mode and Total parenteral nutrition (TPN)
2. Air Bubble Detection Ultra Sound Sensor Detection With 6 Levels Of Air In Line
3. Accuracy 5%
4. Infusion Rate 0.10 To 1200 ml/h
5. KVO Rate 0-10 ml/h
6. History Record 2000 Records
7. Anitbolus Function
8. Can change Flow Rate And VTBi Without Stopping The Infusion
9. Adjustable Buzzer Volume
10. ALARM Use Battery, Door Open, Occlusion, Almost Done, No operation, infusion completion etc
11. Occlusion Pressure 13 Adjustable Occlusion Pressure
12. Waterproof Level IPX3
13. Classification Class 1, Type CF, Defibrillation Proof
14. Battery backup of at least 2 hours at 25 ml/h

MULTIPARA MONITOR

1. Basic 5 para monitor with ECG from 3 lead ECG, SPO2, NIBP, Respiration Rate and temperature, suitable to use in an ICU.
2. Should be portable with carrying handle.
3. Should have TFT display with at least 10 inches or higher with at least 10 waveforms and numeric display simultaneously.
4. Should have battery backup of minimum 2 hours
5. Should have knobs and keys for quick access to main functions.
6. Should have adult, pediatric and neonatal modes.
7. Should provide prominent prioritized audio, visual alarms for high, low heart rate, SpO2, RR, low battery and lethal arrhythmia
8. NIBP can be taken on manual/auto/stat modes.
9. Should work on 200-240V AC/50Hz with inbuilt rechargeable battery.
10. Should have safety certificate from a competent authority European CE/FDA/CDSCO
11. Should have display perfusion index
12. Monitor should have networking facility with bidirectional & bed to bed communication.
13. Monitor stand should be supplied along with the machine as per the following specification
    i. Monitor stand -extruded Aluminum, powder coated with rail for height adjustment.
    ii. Monitor should be able to be fixed/removed easily by lacth/pressing/rotating a knob (Not using screws)
    iii. Load bearing capacity 20 kgs approximately.
    iv. Should supply, install with necessary anchor fasteners at the site.
14. Equipment performance should not be affected by electromagnetic interferences radiated or conducted through power lines from another device
15. Should be supplied with standard accessories.

ECG MACHINE

1. Simultaneous 12 Channel ECG recording with 12 lead simultaneous acquisition
2. Should have visual alarm for open lead
3. Should have digital display of 7 inches or more for 12 channel ECG
4. QWERTY Alphanumeric keyboard
5. Built-in ECG Parameters measurements and Interpretation
6. Minimum 100 ECG Storage inbuilt memory
7. 3 Operating modes: Automatic, Manual and Rhythm
8. Should have a maintenance free digital thermal array printer
9. Printer should work with standard thermal paper (should be available in Local Market)
10. Should have 12 lead ECG preview display before taking printouts and should have printer on/off selection.
11. Should have ECG lead annotation facility
12. Machine should have sufficient battery backup for taking at least 25 nos ECG on a fully charged battery
13. Should supplied with 2 patient cable sets, 8 clip on electrodes, 12 chest electrode with silicon rubber bulb, 12 packets of recording paper,1 bottle of jelly and 12 nos. reusable button type electrode
14. Should operate on mains(220v-50Hz) and rechargeable battery
15. Recording speed should be 25 mm/ sec and 50 mm/ sec.
16. Should have defibrillation protection.

17. CMRR should be>90dB or ECG machine should have digital processing with at least 7000 samples per second from each lead wire.
18. Frequency response 0.05 Hz to 150 Hz.
19. Should have a digital filter for AC and EMG.
20. Should have safety certificate from a competent authority European CE/FDA/CDSCO.
21. Should supplied with a suitable Trolley with following specifications

    a) Trolley should made of Stainless Steel / Powder coated frame with SS 304 grade Top

    b) Should be a 3-shelf (including the top) cart, one with a drawer for storing the accessories and consumables.

    c) Should have four superior castors (two with brakes)

    d) Trolley should have at least 30" height and the shelves should have sufficient space for storing the accessories

    e) Top shelves shall be surrounded by railing.

    f) Trolley should have a suitable cable arm firmly affixed having holder for ECG cables while not in use

DEFIBRILLATOR

1. Should be a low energy biphasic defibrillator monitor with recorder, having capability to arrest all arrhythmia.
2. Should be portable and the latest available model and not weigh more than 6 Kg. (+/- 10 %)
3. Should be upgradable for vital parameters like ECG
4. Should work on Manual and Automated external defibrillation (AED) in Bi-phasic mode. The maximum energy delivered by the device should be 2 J to 200J or more in manual mode and 150 J or more in AED mode
5. Should be capable of doing synchronized & asynchronized cardioversion
6. Should monitor ECG through external paddles and monitoring electrodes and defibrillate through external paddles. Should have automatic/manual switching to see patient ECG through paddles or leads.
7. Should have factory integrated compensation for chest impedance for a range of 25 to 150 ohms 8. Should have a built in printer/thermal recorder
8. Should have charging time of less than 6 seconds for 200J energy.
9. Should have charging indicator
10. Should have bright TFT color display 6” or more for viewing messages and ECG waveform.
11. Should be able to display 2 waveform channels simultaneously.
12. Should have external paddles: with paddle contact indicators should be available. Single adult and paediatric paddles should be available
13. Should have event summary facility for recording and printing at least 50 events and 50 waveforms
14. Should have a battery capable of 100 shocks delivery.
15. Should be capable of printing reports on event summary, configuration, self test, battery capacity etc.
16. Should have facility for self test/check before usage and set up function
17. Should be capable of delivering energy in increments of 1-2 joules up to 10J and increments of 5-20 joules upto 50J.
18. Should have user friendly 1,2,3 colour-coded operations
19. Should be capable to connect internal paddles of same make (price for neonatal, paediatric and adult internal paddle should be quoted separately)
20. Should conduct automated self-test when switched on and should have a ‘ready to use indicator.

21. Should have patient contact indicators on paddles for immediate feedback on patient-paddle contact for ensuring maximum shock efficacy
22. Should have continuous 8 hours waveforms storage facility. It should have capacity to store at least 50 events
23. Should be operated from mains as well as battery
24. Should have safety certificate from a competent authority European CE/FDA/CDSCO.
25. Equipment should be supplied with following accessories
    - 25.1. Paddles Adult/Paediatric (pair) – 01
    - 25.2. Complete set of ECG Leads along with mother cable-01
    - 25.3. ECG Rolls- 01
    - 25.4. AED pads 01 no.

32 CHANNEL VIDEO EEG WITH VIDEO RECORDING AS OPTION

1. 32 channel digital video EEG system that works under Windows 10 platform
2. Must have 32 EEG channels and at least 4 should be configurable as bipolar
3. Must be supplied with photic stimulator
4. Must have sampling rate up to 1 to 2 Khz
5. High frequency filter up to 500 hz
6. Must have 16 bit Analog to digital convertor
7. CMRR should be greater than 100 dB
8. Amplifier must have inbuilt electrode connections
9. Each amplifier must be supplied with standard Ten-20 electrode junction box
10. Digital video EEG hardware with High quality video camera & PTZ controls with remote.
11. High Definition video with software controlled Pan, Tilt & zoom
12. Must be supplied with acquisition PC with i5/i7 Intel CPU, 4GB RAM , 1TB HDD & 19" Sqre or 24" wide Monitor
13. Must be supplied with uni-body high quality cart for portable & ICU recording
14. Should be supplied with High quality audio device
15. Should have Video EEG acquisition and review software
16. Synchronized EEG & video with software controlled Camera
17. SQL based patient database software PREFERABLY
18. Pruning facility for EEG & Video segments with one button archiving
19. Should have safety certificate from a competent authority European CE/FDA/CDSCO.
20. Quotation should be submitted as a split up of
    - 20.1. 32 CHANNEL VIDEO EEG SYSTEM
    - 20.2. VIDEO RECORDING AS OPTION

EMG/NCV SYSTEM WITH EP AS OPTION

1. Fully computerized system that works under Windows 10 platform
2. Minimum 3 channel high quality amplifier
3. All the channels must have active shielding
4. All the channels must have options for 2 pin touch proof connection and 5 pin DIN connection
5. CMRR must be greater than 110 dB
6. EMG software for insertional, spontaneous, MUP analysis and interference pattern

7. Motor Nerve Conduction including Motor NC, Silent period, reflex studies.
8. Sensory Nerve Conduction including Sensory NC, Mixed NC
9. F-wave, H-reflex & Repetitive Nerve Stimulation
10. Sympathetic skin response
11. Somato sensory Evoked potential including Upper, Lower and dermatome SEP
12. Auditory Evoked Potentials with auditory head phone
13. CNV & P300 with patient reaction switch
14. Visual Evoked potential with LED goggles & pattern monitor
15. Shoul be supplied with handheld stimulator.
16. Latest specification desktop / laptop computer that works under Windows 10 platform must be supplied with minimum 500GB hard disk, 2GB RAM, 19" TFT monitor, UPS, Printer
17. Must be supplied with uni-body high quality cart for portable & ICU recording
18. Must be supplied with EMG/NCV/EP accessories kit including ring electrodes, EMG needles & holder, bipolar stimulator, Reusable gold cup electrodes (10pcs), crocodile clip & pre-gelled disposable electrodes
19. Should have safety certificate from a competent authority European CE/FDA/CDSCO.
20. Quotation should be submitted as a split up of
    20.1. EMG/NCV SYSTEM
    20.2. EVOKED POTENTIAL AS OPTION

ANESTHESIA WORKSTATION

1. The workstation should have a built-in anesthesia ventilator with pressure, volume-controlled, SIMV, Pressure support with Apnoea backup and spirometry.
2. It should be electronically controlled, pneumatically operated.
3. Should provide adult and pediatric reusable and autoclavable lightweight tubing breathing circuits.
4. Should be able to deliver a tidal volume from 20ml to 1500ml. Peak flow without fresh gas flow should be a minimum of 120L/min
5. Should have a battery backup for at least 1 hr with low battery alarm and overcharge protection.
6. Should have monitoring facility of airway pressure, tidal volume, frequency, oxygen concentration
7. Should have guided self test with facility to do full test as well as individual test for Ventilator leak, gas controls, circuit leak & individual vaporizer leak test with leak rate & indication whether within range (pass) or above usable range (fail).
8. Should have display of at least 7 inches for set parameters and graphical display for measured parameters
9. Anesthesia machine should be with 3 gas supply systems (O2, N2O, Air) with pipeline connections and reserve cylinder yokes.
10. Gas cylinder (pin indexed) yokes with sturdy clamping bars for easy handling.
11. Should supply pin index yokes for connecting cylinders for O2-1No, N2O – 1No, and Air, O2, N2O through the pipeline.
12. Should have pressure measurements for all gas inlets including central lines mounted on the front panel for easy visibility.
13. Should have an audible and visual alarm for major events
14. Oxygen and Nitrous oxide should be linked either mechanically or pneumatically to ensure a minimum of 25% oxygen delivery at all times to avoid delivery of hypoxic mixture.
15. Should have dual cascade/ virtual type flow meter for O2 and N2O and air calibrated in multiple scales.

16. The anesthesia machine should have a master control ON/OFF switch.
17. Provision to mount any two selected vaporizers of the same manufacturer with the interlocking facility to allow the use of only one vaporizer at a time.
18. Provision to mount 2 vaporizers (Isoflurane and sevo flurane vaporizer of newer generation having specifications equivalent to tech 8.
19. Non-return cum pressure relief valve when pressure exceeds 120 cmof H2O.
20. Should have only one common gas outlet (ACGO)
21. Should provide with oxygen flush switch.
22. Circle absorber with heated manifold / some inbuilt mechanism to remove water condensation. It should be autoclavable by dismantling without the help of any tools. It should be with ventilator selector switch and circle on/off switch. Should have an automatic Co2 bypass.
23. Should have low flow anaesthesia technique with tidal volume and fresh gas flow compensation capability to adjust for losses due to compression, compliance and leaks and compensation for fresh gas flow.
24. Should have a facility to connect the passive scavenging system
25. Should have a provision for mounting monitor with arm and minimum 3 drawers
26. Should have antistatic wheels and Foot brakes.
27. Reservoir bags 500ml, 1 liter, 1.5 liter, and 2liters along with the machine.
28. A pressure regulated valve with a 5-meter hose and connector (conversion kit) for oxygen and N2O should be provided with each machine – 1 each.
29. Should be supplied with driver gas hoses with necessary attachments (color-coded).
30. Should work in 220-240Vac 50 Hz input supply.
31. The Anesthesia machine, ventilator, and vaporizer should be from the same manufacturer
32. Should have safety certificate from a competent authority European CE/FDA/CDSCO.
33. Cost of vaporizers to be quoted Separately (Tech 8 for isoflurane & Sevoflurane and Tec-6 or above for Desflurane)

OT TABLE

1. The table should have minimum of 4 sections ie. head section, leg section, seat section and back plate section.
2. The table should be electrically operated having the following hand switch operated functions (all the dimensions will have a permitted deviation of +/- 10 %)

No	Description	Range
1	Up	1000mm Maximum
2	Down	680mm Minimum
3	Trendelenburg	25 Degree
4	Reverse Trendelenburg	25 Degree
5	Right Lateral Tilt	20 Degree
6	Left Lateral Tilt	20 Degree
7	Back up	80 Degree
8	Back Down	40 Degree
9	Zeroing	(Desirable)

3. In addition to the above motorized operated functions, the table must have the following manual functions.

i. Head section tilting
ii. The leg section should have 90° down movement and should move side wards to a minimum of 90 degree.

4. Table has Top Sliding facility (Optional)
5. The table must have an over ride panel switch by which it can be operated if the hand switch is not working.
6. The side rails must be equipped (at its tips) with a safety Lock System, which works by gravity itself, and prevents fixing clamps from falling down inadvertently.
7. The table must offer molded Polyurethene upholstery which has no joints and no stitching and water proof.
8. The table should have in-built kidney bridge
9. Should have enhanced weight bearing casters fitted with ball bearing.
10. Table should have a stable braking position with single lever foot operated brake pedal.
11. The table should be supplied with the following accessories.
    i. Mattress for the complete table top in sections - 1 set
    ii. A pair of arm boards with pad and fixing clamp – 1
    iii. A pair of padded shoulder support with clamps (SS grade 304) – 1
    iv. A pair of padded lateral support with clamps (SS grade 304) – 1
    v. A pair of padded leg crutches with clamps (SS grade 304) – 1
    vi. Anesthetic screen frame with clamp (SS grade 304) – 1
    vii. Should supply Patient restraint strap – 1No, A pair of padded leg support to use in trendelenburg position.
12. The table should have a heavy and sturdy base and compact to provide adequate foot room for the operating team.
13. Accessories, base cover, lifting column cover and side rails should be made of stainless steel.
14. The table shall have a radiolucent tabletop
15. Battery backup shall be available for minimum 50 functions.
16. Should have a minimum weight bearing capacity of 200Kg.

ELECTRO SURGICAL UNIT /DIATHERMY /CAUTERY

1. Micro controller based isolated output Electro Surgical Generator with high PER and high crest factor for coagulation.
2. Should be compatible for Open/Laparoscopic and Liver Resection/Transplant surgeries and supports under water procedures.
3. Should have a provision to interface with ultrasonic and argon gas option in future.
4. Ergonomic and integrated drip proof design with multiple modalities such as monopolar cut, coagulation and bipolar cut/coag.
5. Class I or II and Type CF , defibrillation proof equipment.
6. Universal AC input supply (230 V ± 10 %, 50/60 Hz).
7. Should have Touch screen display for ease of use and should display error alerts also.
8. Recall of most recently used mode and power settings.
9. Provision to store programs
10. Feedback microcontroller mechanism to ensure patient safety which has automatic and continuous impedance measurement system during procedure to produce consistent clinical tissue effects and adjust the energy output accordingly
11. Alarms : Activation tones and alarm tones , activation tone volume can be adjusted.

12. Modes
    a) Cutting : Low, Pure, Blend
    b) Coagulation : Fulgurate, Dessicate, Spray, Soft
    c) Bipolar modes : Precise, Standard, Macro
    In case of any other modes/equivalent modes please specify.
13. Should have power settings as Monopolar cut ≥ 300W, coag ≥ 100W and Bipolar ≥70W and have seperate foot switches for monopolar and bipolar modes.
14. The unit should be provided with suitable power cords and should be compatible with Indian standard wall socket.
15. The perfomance of the unit should not be affected by electro-magnetic interference radiated or conducted through power lines from another device.
16. The working of the equipment should not interfere with the functions of other devices especially Multipara Monitors.
17. Should have safety certificate from a competent authority European CE/FDA/CDSCO.
18. Standard accessories should be supplied ad follows
    a. Color coded pedal water proof foot switch for monopolar-1
    b. Bipolar Footswitch-1
    c. Suitable trolley should be supplied along with the unit
19. Should be compactable with three button monopolar pencil which can be used to adjust the power output of the machine from the sterile field itself.
20. Should have Split Type Patient Plate contact quality monitoring System for Maximum Patient Safety (Unit should not be delivering power until and unless maximum area of the patient plate is attached to patient body to minimize the risk of post-operative cautery burns)
21. Quoted Rate in Quotation should be a split-up as
    a. Basic ESU unit with vessel sealing
    b. Bipolar Footwitch
    c. Monoolar Foot switch
    d. Universal adaptor for single lead monopolar electrode
    e. 3pin Monopolar lead (Pencil) with handswitch
    f. Patient pads with return electrode monitoring

Equipment : OT Light – LED

1. Should be a Surgical Light unit incorporating the latest LED technology shadow-less operating light field with the following specifications.
2. Should have high performance LEDs with life time more than 40,000 hours. Highest will be preferred.
3. Should be a dual dome and the main light and satellite should have the following specifications
    a. LUX intensity 1,60,000 Lux & Satellite 1,40,000 Lux or above, uniformly throughout the surgery.
    b. Light Field diameter shall be adjustable and from 20-30 or bette
    c. Colour temperature should be between 3600 to 5000 degree K
    d. Colour rendering index should not be less than 95
    e. Depth of illumination should not be less than 100 cm.
    f. Illumination adjustment 30% to 100%
4. The light dome shall be compatible for laminar air flow. Certifications shall be attached with the technical bid.
5. Should have stable illumination throughout the life period of the light. If the intensity reduces during the warranty or CMC period the LEDs has to be replaced at free of cost.

6. The LED's must be suitable for long term maintenance and ease of replacement.
7. Temperature rise at the surgeon head level should be less than 2 degree C.
8. Should have control panel for light focusing adjustment fixed on the dome or arms.
9. Should have control panel for other controls on dome and Surgeon Control Panel and a hand remote shall be available
10. Should supply autoclavable handles 3 Nos for each dome.
11. The intensity of light should be uniform during the surgery.
12. Minimum spring arm stroke of 500mm and minimum action radius of the complete arm shall be 1500mm or more.
13. Unit should function with 200-240Vac, 50/60 Hz input power supply.
14. All arms and light head should have 360 degree movement. The dome shall be mounted on cardanic arms.
15. Should have safety certificate from a competent authority European CE/FDA/CDSCO.
16. Optional Items (Each should be quoted separately)
    a. Detachable camera with the following specification

    High definition 1080 lines resolution camera with optical zoom and focus adjustment. The camera control functions shall be either with remote control / wall control panel / dome / arm. The output of the camera shall be taken out and connected to the monitor / TV provided by the user institution (Maximum distance: 100meters).

    b. Recording system

A third arm with 32 inch HD LED Monitor for camera output