AMENDMENT NO.3 Dated 30.07.2018

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Tender Title: E-TENDER FOR THE SUPPLY, INSTALLATION, TESTING & COMMISSIONING AND ONSITE SUPPORT FOR MEDICAL EQUIPMENTS TO UGANDA

1. The Section V- Technical Specification (page number 22-77) of the initial tender document is amended and shall be read as given below. The Section V- Technical Specification (page number 22-77) in the initial tender document stands deleted.

1. THEATRE BEDS

Operation table with accessories
Multipurpose powered, mobile Table with divided leg section suitable for all major surgical procedures, complete with 5cm mattress and corded handset. The table should be completely oil-free for better and clean operation & maintenance.
General operating table features:
Full-length radio-translucent top with integral X-ray cassette tunnel, accessible from either end
1. Tabletop should be made of a special scratch resistant, hardwearing and easy to clean material.
2. Removable & interchangeable head and leg sections with an auto-locking mechanism to suit different applications.
3. 100% Kidney Bridge position should be obtained without moving the patient, through remote Control by using extension/break function.
4. Battery powered, with facility for connection to mains electricity for immediate use. Battery Exhaustion protection and low battery warning via an audible beep should be available.
5. Table should not have a thread/sharp edge for ensuring proper cleaning and user safety. Table Top / Base should not have welding and should be joints free.
6. Mattress should be of high quality that spans tabletop break for improved patient support. Its depth should be 50mm. Mattress must be Latex free.
7. The robust handset should offer 8 controls namely Trend. /Reverse Trend, Lateral Tilt, Flexion/ Extension and Height functions.
8. Brakes, 5nos Wheels for 360º rotation & Castors should be controlled by 2 foot-pedals, located at both ends of Table base.
9. Table should have a narrow T-shaped base allowing optimum access and greater stability.
10. Table should have offset slim-line column, with S.S. Inverted telescopic covers, for superior imaging and access.

11. It should have a stable construction of the base with large twin-disk castors for easy motion and manoeuvring (base braking by locking the twin-disk castors at the head end via a central foot pedal).
12. The table top should not be fitted with transverse members casting shadows on the X-ray images except for the release brackets for adjustment on either side.
13. The Table should be operated by the following operating elements: corded hand control, override panel, footswitch, IR remote control (optional).
Electrical specification:
Special-design, maintenance-free rechargeable batteries with capacity for about a week‘s use in the operating room.
Recharging of the batteries and supply of the operating table by means of a mains cord

Nominal mains voltage (selectable) 100/110-115/127/200/220/230-240V AC via mains cord. Length	2000-2100 mm
Width	580-600 mm
Minimum height (without mattress)	600-650 mm
Maximum height (without mattress)	1100-1200 mm
Maximum lateral tilt	25-30 deg. (either side)
Maximum trendelenburg	40 - 45deg.

Maximum reverse trendelenburg	40 - 45 deg.
Head section adjustment	±40-45 deg.
Leg section adjustment	+50 deg; to -110 deg
Break (extension) position	210 deg
Break (flexion) position	130 deg
Maximum patient weight	250 kg
Maximum weight of accessories	20 kg

Specification-

Accessories Operating table top for Babies and Infants to be fixed on the main Table	1
Arm board	2
Lithotomy leg holders —Geopel typell (adult and paediatric)	1 set each
Body strap	3
Anaesthesia screen	2
Clamp, rotary	4 pc
Clamp, circular	4pc
Accessories stand, mobile on castors	1pc
Arm support, perplex	2pc

X-Ray cassette tray	1pc

2. ANESTHETIC MACHINE

1. The Machine should have centralized display integration and functional integration.
2. The Machine should have a built-in anesthesia ventilator with Pressure, volume controlled modes with PEEP. The machine and ventilator should be from the same manufacturer
3. Should be compact, ergonomic & easy to use with automatic pre-use check for electronic parts.
4. Should have complete integrated anesthesia gas delivery system.
5. It should be electronically controlled with a master switch, pneumatically operated with prioritized alarm system.
6. Should provide with adult and pediatric reusable and autoclavable light weight tubing breathing circuit.
7. Should be able to deliver a tidal volume from 50ml to 1500ml.
8. Should have a battery backup for 120 minutes with low battery alarm and over charge protection.
9. Should have monitoring facility of continuous airway pressure, tidal volume, frequency, oxygen concentration and oxygen supply pressure
10. Should have display of at least 6 inches for set parameters.
11. Should have automatic self test for the entire system.
12. Anaesthesia machine should be with 3 gas supply system (O2, N2O and Air) with pipeline connections and reserve cylinder yokes.
13. Gas cylinder (pin indexed) yokes with sturdy clamping bars for easy handling.
14. One Pin index yoke for connecting cylinder each for O2, N2O through pipeline.
15. Regulator one each for O2 and N2O.. N2O should be activated only with oxygen on flow.
16. Should have pressure gauge for all gas inlets including central lines mounted on the front panel for easy visibility
17. Should have audible alarm for O2 failure
18. N2O supply should cut off if O2 supply fails. (hypoxic guard).
19. 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
20. Should have dual cascade type flow meter for at least O2 and N2O calibrated in multiple scale.
21. The anesthesia machine should have a master control ON/OFF switch.
22. Provision to mount any two vaporizers with interlocking facility to allow use of only one vaporizer at a time.

23. Iso-flurane vaporizer of newer generation having specifications equivalent to tech 7 type to be provided.
24. Non-return cum pressure relief valve when pressure exceeds 120cmof H2O.
25. Should have auxiliary common gas outlet for open circuit.
26. Should provide with oxygen flush switch
27. Circle absorber with corrugated reusable breathing circuit for closed circuit system with
each unit. It should be autoclavable. It should be with ventilator selector switch and circle
on/off switch.
28. Should have low flow anaesthesia technique.
29. Should have a facility to connect to the passive scavenging system and the required tubings to be provided.
30. Should have atleast two universal electrical outlets.
31. Should have a provision for mounting monitors on top of the machine and with drawers.
32. Should have fiber wheels and Foot brakes.
33. Standard bains circuit : 5no. with each unit & Magills Circuit: 5 No with each unit.
34. Reservoir bag (2liters): 2 nos. with each machine
35. Connectors for bains circuit: 10 nos with each machine.
36. AMBU bag: 5 no. with each machine.
37. Pressure regulated valve with 5 meter hose and connector (conversion kit) for oxygen should be provided with each machine
38. Should be supplied with driver gas hoses with necessary attachments (colour coded)
39. Should be supplied with necessary attachments to use the breathing circuits viz namely Bains, Magills, Jackson-Rees and closed circuit (Single limb circuit)
40. Should work in 220-240Vac 50 Hz input supply.
41. Should be supplied with two Vaporizer.
42. Should supply with 10 kg Soda Lime along with machine.
43. Should have safety certificate from a competent authority CE issued by a notified body registered in European Commission / FDA (US) / STQC CB certificate /STQC S certificate or valid detailed electrical and functional safety test report from ERTL/ ISI

3. DEFIBRILLATORS

1. Description of Function
1.1 Defibrillator is required for reviving the heart functions by providing selected quantum of electrical shocks with facility for monitoring vital parameters.
2. Operational Requirements

2.1 Defibrillator should be Bi- Phasic, light weight and latest model
2.2 Should monitor vital parameters and display them
2.3 Should print the ECG on thermal recorders.
2.4 Should work on Manual and Automated external defibrillation (AED) mode Manual selection up to360 J.
2.5 Should be capable of doing synchronized & asynchronized cardioversion
2.6 Can be operated from mains as well as battery
2.7 Should have defibrillator testing facility
2.8 Demonstration of the equipment is a must.
3. Technical Specifications
3.1 Should be a Low Energy Biphasic defibrillator monitor with Recorder, having capability to arrest all arrhythmia within a maximum energy of 360 Joules
3.2 Should monitor ECG through paddles, pads and monitoring electrodes and Defibrillate through pads and paddles. Should have Automatic Lead switching to see patient ECG through paddles or leads
3.3 Should measure and compensate for chest impedance for a range of 25 to 125 ohms
3.4 Should have a built in 50mm strip printer/ thermal recorder
3.5 Should have charging time of less than 3 seconds for maximum energy. Charging indicator should be there.
3.6 Should have bright electroluminescent display for viewing messages and ECG waveform of 4 seconds
3.7 Should have external & internal paddles with paddles contact indicator – for good paddle contact.
3.8 Single Adult and pediatric paddles should be available.
3.9 Should have event summary facility for recording and printing at least 250 events and 50 waveforms. Patient data storage 90 mins of ECG and events.
3.10 Should have a battery capable of usage for at least 90minutes or 30 discharges.
3.11 Should be capable of printing Reports on Event summary, configuration, self-test, battery capacity etc
3.12 Should have facility for self-test/check before usage and set up function
3.13 Should have SP02 and NIBP integrated facility
3.14 Should be capable of delivering energy in increments of 1-2 joules up to 30J and increments of maximum 50J thereafter.
3.15 Should have user friendly 1,2,3 color coded operation.
3.16 Voice prompts on AED mode
3.17 Printing reports of events summary configuration/set test/ battery capacity
3.18 Optional noninvasive pacing/ transcutaneous pacing
4. System Configuration Accessories, spares and consumables

1.1 Defibrillator -01
1.2 Paddles Adult cum Paediatric (pair) -02 nos
1.3 Paddles – Internal (pair) -02 nos
1.4 Patient cable -02nos
1.5 ECG Rolls -50 nos
1.6 Disposable pads-10 nos.
1.7 NIBP Cuff Adult – 04 nos
1.8 NIBP Cuff Paediatrics- 04 nos
1.9 NIBP Cuff Infants- 04 nos
1.10 Reusable SPO2 Finger Probe-Adult -05 nos
1.11 Reusable SPO2 Paediatric Finger Probe - 05 nos
1.12 Complete set of ECG Leads- 05 nos
5. Environmental factors
5.1 The unit shall be capable of operating continuously in ambient temperature of 10 -40C and relative humidity of 15-90%
5.2 The unit shall be capable of being stored continuously in ambient temperature of 0 -50C and relative humidity of 15-90%
5.3 Shall meet IEC-60601-1-2: 2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility.
6. Power Supply
6.1 Power input to be 220-240VAC, 50Hz
6.2 Resettable overcurrent breaker shall be fitted for Protection
7. Standards, Safety and Training
7.1 Should be FDA or CE approved product
7.2 Electrical safety conforms to standards for electrical safety IEC-60601-1 General Requirements and IEC-60601-2-25 Safety of Electrocardiograms. (OR EQUIVALENT BIS Standard)
7.3 Drop Test-Withstands 1 meter drop to any edge, corner or surface.
7.4 Should conform to international test protocols on exposure to shock forces and to vibration forces. The standard should be documented.
7.5 Should meet IEC 529 Level-2 (IP2X) for enclosure protection solid foreign object ingress.
7.6 Should meet IEC 529 Level 3 (IP3X)(spraying water) for enclosure protection, water ingress.
7.7 Should have local service facility. The service provider should have the necessary equipment recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual.
8. Documentation

8.1 User Manual in English
8.2 Service manual in English
8.3 List of important spare parts and accessories with their part number and costing
8.4 Certificate of calibration and inspection from factory.
8.5 Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.
8.6 List of Equipment available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.
8.7 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/Para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered.
8.8 Must submit user list and performance report within last 5 years from major hospitals

4. NEBULIZERS

1 Technical Specification
1.1 Should be light weight, portable, Compact and easy to use.
1.2 Frequency of ultrasonic generator should be greater than 2.5 MHz
1.3 Should have 3 speed nebulization rate control (minimum, medium, maximum)
1.4 Should have a nebulization capacity of 0 to 3 ml/min.
1.5 Should produce Mist particle size :Approx 1-5 microns
1.6 Transducer element should have life of at least 5000 hours
1.7 Medication cup should have capacity of 5-50 ml
1.8 Should uses water as ultrasonic conduction medium, no gel is required.
1.9 Should provide silent operation.
1.10 Should have a built in timer and timer may be set for any desired point between zero and 30 minutes
1.11 Power supply input should be 230V 50Hz
2 Accessories,Spares and Consumables
2.1 Should be provided with a complete nebulisation kit-20nos including adult and child mask and medication cup with each nebulizer.
2.2 Should be supplied with 5 transducer elements as spare
3 Standards, Safety and Training
3.1 Should have the ISO certification and the copy of the same should be enclosed along with the technical bid.
3.2 The quoted model should have FDA/CE/BIS certificate and copy of the same should be enclosed along with the technical bid.

4 Documentation
4.1 Two numbers of Complete User/Technical/Maintenance manuals to be supplied in English
4.2 Certificate of calibration and inspection from factory.
4.3 Warranty one year.

5. SUCTION MACHINE

DESCRIPTION:
- The suction machine should be of 0.25 H.P Machine.
- It should be ideal for medical and Surgical Procedures.
- It should be Ward Care Suction Unit with Non collapsible PVC tubing
FEATURES:
- It should have Maximum vacuum of 700 mm Hg
- Pump Type should be Rotary Vane
- Jars should be 02 Polycarbonate Jars with overflow safety and of 1500 ml
- Jar capacity should be 1.5Lts each
- Noise Level 50dB +/- 3 dB
- Overflow Safety should be provided
Power Supply Requirement: 220V + 10% AC, 50-60Hz

6. ULTRA SOUND MACHINES WITH DOPPLER AND 3D PROBE

1. Description of function
1.1 Color Doppler Echocardiography System is required to study the anatomical abnormalities and blood flow in the heart and associated vessels.
2. Operational requirements
2.1 Latest generation Electronic Phased array Color Doppler system with Minimum 512 Electronic independent channels. System should be DICOM ready and capable of being interfaced with PACS.
2.2 Should be field up gradable to next generation system on site.
2.3 Frequency compounding or better technology for better resolution and penetration.
3. Technical Specifications
3.1 High Definition 20''(Minimum) LCD screen, high resolution Tilt and Swivel monitor should be able to view in all angles and all light conditions. with arm to rotate left to right and up down
3.2 4 probe Connectors with dynamic inter probe switching without rebooting the machine.
3.3 5 probes - Linear Probe, Convex Probe, Micro-Convex probe, Phase array probe with cardiac CW package and 4D volume probe with necessary software packages need to be provided as standard configuration.

3.4 Latest generation Electronic Phased array Color Doppler system with Minimum 512 Electronic independent channels.
3.5 256 gray shades for sharp contrast resolutions
3.6 Multi-dimensional Beam former for generating two images simultaneously one at low end of bandwidth and one at high end then selectively retrieves and mixes the components together for finely textured 2-D or B mode image with superior contrast resolution.
3.7 Adult Cardiac and Vascular Probes supplied should be latest generation wide band transducers with frequency selection for higher sensitivity of response over a broader frequency range of operation. All probes to be phased array. OPTIONAL Probes must be available for pediatric application and Trans esophageal Echo for future requirement.
3.8 Harmonic Imaging- System should have following modes in harmonic with separate setting for:
i. Tissue Harmonic.
ii. Contrast Harmonic - both triggered and real time
iii. Harmonic Angio
iv. Quantification of harmonics imaging
v. Harmonic imaging capability in Adult Cardiac, Pediatric Cardiac and linear probe
3.9 Gain control in two dimensions for additional level of flexibility to image quality control.
4. Real time high frequency 2D for higher resolution and low frequency Doppler for higher sensitivity in all probes
4.1 Frame rate should be 300 FPS or more
4.2 Steerable PW/CW in all Phased Array probes.
4.3 High definition acoustic zoom for enlarging sections of 2D and Colour flow images with more acoustic information for greater clarity and detail while maintaining an optimal frame rate.
4.4 Modes - 2D, M-Mode, Steerable PW/CW Doppler, Colour Doppler, and High Definition Colour flow with capability of automatically picking up colour flow as a function of focal depth
4.5 Colour Flow Imaging for
a) Increased lateral & spatial resolution.
b) Detection of even subtle areas of turbulence, displaying a more physiological blood flow appearance without loss of frame rate.
c) Colour flow with capability of automatically picking up colour flow as a function of focal depth
4.6 Tissue Colorization (B-Colour) for improved contrast resolution
4.7 Application software for Adult, Pediatric, Fetal and Peripheral Vascular and Trans esophageal applications. (All application package should be built into the system)
4.8 Cine loop memory- more than 120MB of memory. High Frame rate review for better clarity of playback images study in slow motion. Quad loop with memory for pre and post image comparison of any procedure. Memory- 256 frames or more in quad loop. M Mode & Doppler Scroll Memory-40seconds or more. Frame grabber facility for post analysis.

4.9 Various maps for pre and post processing.
5. ECG trigger facility.
5.1 User defined system and application presets for multi-user department.
5.2 Minimum 4.8 GB optical disc drive for image storage and retrieval. (standard with system)
5.3 Dedicated integrated dynamic stress echo package for flexible user defined protocols with stacked sub loops facility and contrast stress protocol.
5.4 Tissue movement colorization with quantification possibility for IHD/CAD patients.
5.5 Three transducer ports will be preferred.
5.6 Color Map resolution up to 128 levels.
5.7 Study Manager (> 1.5 GB) for on-cart digital acquisition, review and editing of complete patient studies.
5.8 Should have a minimum hard disk storage capacity 500GB or more exclusively for images.
5.9 Facility of Real time perfusion studies
6. SYSTEM PERIPHERALS should include
a) CD Writer with calculation facility on playback.
b) Color printer.
c) B/W Thermal Printer.
6.1 Color M-Mode
7. System Configuration Accessories, spares and consumables
1. Color Doppler System with all application packages Quad loop for serial studies with High frame rate review. Harmonic imaging capability in all modes. (Tissue, Contrast, Anglo)
2. 1.0-3.0 MHz Adult Cardiac probe Electronics Phased Array probe.-01 each
3. 3.0-11.0 MHz Electronics Phased Array Probe for Vascular applications- 01each
4. Multi-plane TEE Probe- (Optional) 4-8 MHz for Adult as well as Pediatric echocardiography.
5. 5.0-10 MHz Electronic phased array probe for Pediatric cardiology.(OPTIONAL)
6. DVD/CD Recorder with 100 DVDs
7. Color Printer. -01
8. B/W Video Thermal Printers -01
9. Colour Print Paper- 1000 sheets
10. B/W Thermal Paper - 50 rolls
11. ECG Cable - 02
12. External Hard disk of 2TB or more storage capacity for data archiving

13. 5 USB ports (1 at the control panel, 4 at the rear panel) , Ethernet port, S-video out port, VGA port, ECG Port, Printer socket(Hold small printers), should be available.
8. Environmental factors
8.1 The unit shall be capable of operating continuously in ambient temperature of 30C and relative humidity of 90%
8.2 The machine must be suitable for African climate.
9. Power supply
9.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug
9.2 Resettable overcurrent breaker shall be fitted for protection
9.3 Suitable Servo controlled Stabilizer/CVT
9.4 UPS of suitable rating conforming to IS-302 shall be supplied. Servo stabilizer is not required if the UPS has voltage correction facility.
10. Standards and safety
10.1 Should be CE approved product
10.2 Electrical safety conforms to standards for electrical safety IEC-60601 /IS-13450
10.3 The product shall comply to IEC 60601-2-37 ed1: Medical Electrical Equipment – Part 2-37: Particular Requirements for the Safety of Ultrasonic Medical Diagnostic and Monitoring Equipment
10.4 Type of protection against electric shocks -- Class I Degree of protection against electric shocks for ultrasound probes Type "BF" For ECG electrodes Type 'CF"
10.5 The manufacturer should have ISO certification for quality standards.
11. Documentation
11.1 User manual in English
11.2 Service manual in English
11.3 List of important spare parts and accessories with their part number and costing.
11.4 Certificate of calibration and inspection from factory.
11.5 Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out
11.6 List of equipments available for calibration and preventive maintenance as laid down in the Technical/Service Manual.

7. DIGITAL PROCESSING UNIT

8. CT- RADIOGRAPHY

1	**Scanner:**
	Whole body spiral CT scanner (16 slices) of latest technology
2	**X-Ray Generator.**

a)	It should be high frequency generator with output of 24 KW.
b)	KV range should be 90 to 130 KVP.
c)	mA should be 180 mA or more
3	**X-Ray tube:**
a)	X-Ray tube anode heat storage capacity of at least 2 MHU.
b)	Peak anode heat dissipation rate of at least 300KHU/minute.
4	**Gantry and scanning table:**
a)	Gantry aperture of at least 65 cm.
b)	Gantry tilt of +/- 30 deg or equivalent digital tilt is available with the system.
c)	Scan field of view 40 cm or more.
d)	Scanning table load of at least 150 kg
e)	Metal free scan able range of scan gram/topogram at least 120 cm.
f)	Facility of emergency manual traction.
g)	Table should have carbon fibre table top or equivalent.
h)	3D laser lights for positioning.
5	**Detector System:**
	Solid state detectors to acquire min. 16 slice at a time, free from frequent calibration.
6	High Contrast Resolution of at least 13 Lp/cm or more for axial and helical scanning.
7	Scan time: Minimum scan time for 360 degree rotation should be equal to or less than 1 sec
8	Slice thickness should be sub mm to 5 mm or more.
9	**Spiral mode Specifications:**
	Continuous data acquisition with over-lapping slices.
	b) Gapless spiral of at least 90 cm or more.
	c) Max. Helical for single cont. spiral of at least 90 sec.
	d) Bolus triggered and bolus chase spiral acquisition should be available.
10	**Image Processing System:**
	a) Main CPU should be at least 32 x 2 bit or more with RAM of at least 4 GB.
	b) Image reconstruction matrix of at least 512x512.
	c) Display matrix of at least 1024x1024.
	d) High resolution Medical grade LCD monitor of 19” or more.
11	Image Storage and raw data storage of at least 500 GB.
12	Image Archiving on CD R/W/DVD. Supply 100 CD R/W or 50 DVD. In addition CD/DVD archival with inbuilt DICOM format is required.
13	Image transferring/Networking: Should have DICOM interface for transferring images/information in DICOM standard and should permit communication between devices of various manufacturers
14	Standard Software: Routine software for image evolution and display. Should have minimum 3 ROI, angle, distance measurements, histogram, profile, symmetry and comparison, variable multiple image display with independent window setting, image annotation and labeling etc. should be provided.

15	SOFTWARE: All the software is to be available with the system main console.
a)	3D display programmed for the three dimensional display of surfaces, real time 3D VRT, MPR, MIP 3D SSD/MPVR should be provided.
b)	CT based DSA is required for neuro scans.
c)	Real time reforming of secondary views. Real time reconstruction should be possible in different planes, cine display, zooming etc.
d)	CT angiography with 3D capability and volume rendering capability.
e)	Virtual endoscopies with vol rendering tech.
f)	Contrast monitoring software for maching of scan timing to peak bolus phase chase.
16	The unit should have AERB type approval
17	The vendor should provide all technical support for connecting the system to tele-radiology reporting system.All hardwares and softwares required for tele-radiology reporting should be provided by the vendor.
18	**ESSENTIAL ITEMS TO BE INCLUDED WITH THE UNIT**
1	PRESSURE INJECTOR latest model single head with remote control, standard make with 50 compatible disposable syringes.
2	Lead glass 100 x 150 cm or more with lead component as per AERB requirement.
3	Online UPS system of good brand like Tata Liebert/APC/Emerson, others for full system with SMF batteries for the complete system and provision of light in console and gantry room with backup of 15 min or similar rating DG set.
4	Integrated intercom and automatic patient instruction system should be provided
5	2 LED view box of two films and three films size (1 each)
6	**DRY CHEMISTRY FILM PRINTER**
	Resolution: 16 bits/ 600 dpi or more
	With minimum three ports.
	Standard film size - 14”x17” ; Support other Film Sizes like 8" x 10" , 10" x 12" etc also.
	DICOM Compatible (Attach conformance statement).
	Must be supplied with 1000 films of 14’ x 17’ size
7	Changing rooms should have change lockers and dressing table.

9. OXYGEN CONCENTATOR

Oxygen Concentrator (10 LPM) with standard accessories (Mask, Tubing, Power
Cord, Humidifying Bottle, Operational Manual).
Specifications:-
1. *Oxygen Concentration at 6 LPM = 93 % (± 3%) and at 10 LPM=90% (± 3%)*
2. *Litre Flow = 0.5 to 10 Litres per Minute(with setting in 0.5 Litres increment)*

3. ***Outlet Pressure >10psi(More Than 10psi)***
4. ***Sound Level= Less than 60 dB***
5. ***Operating Humidity upto 95% relative Humidity***
6. ***Warranty with parts= 1 Year.***
7. ***Startup Time not more than 15 Minutes***
8. ***Alarm for Power Failure and low oxygen concentration***
9. ***Power consumption < 350 Watts***
10. Alarm – Audible and visual high/low pressure, low flow, low oxygen, power fail, Oxygen sensing device
11. The equipment should supply with lockable flow meter and humidifier
12. Should provide with top and side handle for easy transportation
13. Weight less than 20kg
14. ***Item should be BIS/CE/FDA Approved***

10. <u>PATIENT MONITORS</u>

For adult, pediatric and infant use
· 8.4 inch to 12.5 inch size, LED display with minimum 5 and up to 8 waveforms
· User configurable touch screen
· Quick keys to rapidly access frequently used functions such as trend review, alarm setting and useful display modes including large fonts and mini trends
· No-fan design for a quiet care environment
· Parameters including ECG, RESP, SpO2, NIBP, PR, TEMP
· Upgradable to IBP and EtCo2
· ECG:
o 3 lead and 5 lead ECG
o ST analysis
o Arrhythmia detection
o Defibrillator protection: withstand 360 J of defibrillation
o Pacemaker detection
· Heart rate:
o 15-300 bpm
o Accuracy ±1 bpm
· Respiration
o 0-120 rpm
o Accuracy 7-120 rpm ± 2 rpm
o Lead I or II
· SpO2 (technology: Nelcore or Massimo)
o 0-100%
o Accuracy ± 2% (70-100%, Non motion)
o Accuracy ± 3% (70-100%, motion)

· Pulse rate
o 20-250 bpm
· NIBP
o Method - Automatic oscillometric
o Manual, Auto and stat operation modes
o Accuracy: maximum mean error ±5 mm Hg
· Temperature
o Range: 0-50 degree C
o Accuracy: ± 0.1 degree C
· Side stream CO2
o Range: 0-99 mm Hg
o Accuracy 0-40 mm Hg ± 2 mm Hg, 41- 76 mm Hg ± 5% of reading, 77- 99 mm Hg ± 10% of reading
o Sample flowrate: 70, 100 ml/min
· Required software for integration with central monitoring system
· Portable, weight less than 4 kgs
· Up to 7 hours battery backup for continuous monitoring with large capacity Li-ion battery
· 360-degree visible alarm indicator
· 120 hours trend and 48 hours waveforms reviewing
· Standard and optional parameter configuration
· With LAN and WiFi capability: Integration with central monitoring system
· Quick access ergonomic buttons
· provision for IBP dual channel
Must be supplied with the following accessories for each monitor a. Reusable NIBP Cuff Adult: 5nos b. Reusable NIBP Cuff Pediatric: 5nos c. Reusable NIBP Cuff Neonatal: 5nos d. Reusable SpO2 Probe Adult: 5nos e. Reusable SpO2 Probe Pediatric: 5nos f. Reusable 5 Lead ECG cable set: 5nos g. Reusable Temperature probe: 5nos

11. PULSE OXYMETERS

a. Compact portable bedside pulse oxymeter with LCD display.
b. Continuous monitoring of SpO2 (arterial blood oxygen saturation), pulse rate and signal strength
c. Measuring range:
i. SpO2: 30 to 100 %, minimal graduation 1%.
ii. Pulse rate: 20 to 250 bpm, minimal graduation 1 bpm.
iii. Accuracy SpO2: 50 to 69% (± 3%), 70 to 100% (± 2%).
d. Display hows SpO2(%), HR(bpm) and signal strenght bar
e. Large display readable from distance, display cover durable plastic

f. User preset of high/low alarms on SpO2 and pulse rate monitoring
g. Audio visual alarm for SpO2 and pulse rate in case measurements are outside preset range
h. Silencing feature for audio alarm
i. Display reports system errors, probe failure and built-in battery status
1. Automatic switch from mains to batteries in case of power failure
2. Power requirements: 220 V/50 Hz and internal re-chargeable battery (autonomy approx 6 hrs,automatic recharge).
3. Power consumption: 50 W.
4. Device is produced by ISO 9001 certified manufacturer.
5. Supplied with:
a. 5 x reusable SpO2 sensors pediatric, clip-on type (including connection cable).
b. 5 x reusable SpO2 sensors adult, clip-on type (including connection cable)
b. 5 x reusable SpO2 sensors neonate, wrap around type (including connection cable).
c. 2 x spare set of fuses.
d. 5 extension cables
6. User manual with trouble shooting guidance, in English.
7. Technical manual with maintenance and first line technical intervention instructions, in English
Training and installation at end-user site

12. <u>ECG MACHINE AND PAPER</u>

3.1 Should acquire simultaneous 12 lead ECG for both adult and paediatric patients.
3.2 Should have Real time Colour display of ECG waveforms with signal quality indication for each lead.
3.3 Should have Artefact, AC, and low and high pass frequency filters.
3.4 Should have a storage memory of at least 100 ECGs with easy transfer by modem and data card.
3.5 Should have full screen preview of ECG report for quality assessment checks prior to print.
3.6 Should have interpretation facility of the amplitudes, durations and morphologies of ECG waveforms and associated rhythm for adult and paediatric patients.
3.7 Should have alphanumeric Keyboard for patient data Entry.(virtual or hard keys).
3.8 Should have High resolution (200 dpix500dpi on 25 mm/sec speed) digital array A4 size printer.
3.9 Should have report formats of 3 x4; 6 x2, Rhythm for up to 12 selected leads; 12 Lead Extended measurements, 1 minute of continuous waveform data for 1 selected lead.
3.10 Should have battery capacity of at least 30 ECGs or 30minutes of continuous rhythm recording on single charge.
3.12 Should display ECG on LCD/TFT Display of 640x480 pixel resolution.
3.13 USB Support for Storage on external portable memories.
3.14 Multimode of ECG Storage capability, 150 ECG on Internal Flash Memory.
4 System Configuration Accessories, spares and consumables

4.1 ECG Machine 12 Leads with Interpretation - 01
4.2 Patient Cable -05 sets
4.3 Chest Suction Electrodes Adult-(set of six) -05 sets.
4.4 Chest Suction Electrodes Paediatric -(set of six) -02 sets
4.5 Limb Electrodes(set of 4)- 05 sets of Adult and 05 sets of Paediatrics
4.6 Thermal Paper A4 Size for 2000 sheets
5 Environmental factors
5.1 The unit shall be capable of being stored continuously in ambient temperature of 0 - 50deg C and relative humidity of 15-90%
5.2 The unit shall be capable of operating continuously in ambient temperature of 10 - 50deg C and relative
humidity of 15-90%
5.3 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.
6 Power Supply
6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug
7 Standards, Safety and Training
7.1 Should be US FDA and European CE, approved product.
7.2 Electrical safety conforms to standards for electrical safety IEC-60601-1 General Requirements and IEC-60601-2-25 Safety of Electrocardiograms.(OR EQUIVALENT BIS Standard)
8 Documentation
8.1 User Manual in English
8.2 Service manual in English
8.3 List of important spare parts and accessories with their part number and costing
8.4 Certificate of calibration and inspection.
8.5 Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out
8.6 List of Equipment available for providing calibration and routine Preventive Maintenance Support. As per manufacturer documentation in service/technical manual.

13. BLOOD GAS ANALYZER

1. Should be able to measure directly PH, PCO2, PO2, Sodium, Potassium, Chloride, and Calcium and lactate in a single run.
2. Should have minimum 15 calculated parameters including SaO2,Bi-carbonate (HCO3), Standard HCO3, Base Excess of Blood (BE), Base Excess of extra cellular fluid
3. Should have a sample through put of minimum 30 samples per hour
4. Should have an automatic calibration for all the measured parameters without the use of gas cylinder
5. Equipment shall be Electrode / Sensors / Cartridge based technology.
6. Should have an inbuilt printer and minimum inbuilt memory of 100 samples
7. Warm up time should be less than 30 minutes

8. Cartridges supplied should have minimum 4 month on board stability and 1year shelf life.
9. Should have FDA / IVD certificate for In vitro diagnosis application.
10. Should work on 200-240Vac 50Hz power supply.
11. Should be supplied with on line pure sine wave UPS of sufficient capacity for a minimum back up of 1 hour.
12. Should supply reagents / solutions / cartridges required for doing 5000 tests including accessory reagents & quality control in 3 lots as per requirement.
13. Replacement of electrodes / sensors, tubing sets or any other spares whenever required shall be done free of cost during comprehensive warranty period.
14. Proper calibration & validation certificates shall be provided after installation, preventive maintenance & major repairs during Comprehensive warranty period.
14. Validation shall be performed with inter and intra assays
15. Should supply 3 level QC along with the machine with a shelf life of minimum 6 months.
16. The rate for reagent pack / cartridge has to be offered and the number of test that can be performed with the reagent pack / cartridge shall be mentioned. The number of test that can be done with the offered reagent pack / cartridge should not exceed 100. Increase in number of test of the offered reagent pack / cartridge will be accepted if the period of on board stability increases proportionally.
17. The rates of the regular spares such as electrodes an tubings need to be quoted

14. MERCURY BP MACHINE

· Should be Portable mercurial type.
· Should have ISI mark.
· Should have ON and OFF provision for mercury reservoir.
· Should have a measuring range from 0 to 300 mmHg.
· Should be provided with adult arm cuffs of size medium & large and paediatric cuff.
· The control valve should have a knurled thumb control device. The leak rate
· should not exceed 10 mm of mercury per minute.
· The manometer scale markings and graduations should be permanent and clearly visible and filled with pigments.
· The internal diameter of the manometer glass tube should be 4.1 ± 0.1 mm and the thickness not less than 2 mm.
· All plastic parts, if any used should not crack, flake, peel or disintegrate in normal use.
· The inflating rubber bag should be capable of withstanding an internal pressure of 450 mmHg without leaking.
· The inflating bulb should be soft and should not have any joints or ridges.
· The mercury used should be clean, double distilled and of 99.9% purity.
· The fastening arrangements of the cuff should be of hook and loop type (Velcro).
· The threading and fastening arrangement of the cuff should show no sign of slip or failure when subjected to the maximum test conditions.

· The rubber tubes used should have an internal diameter of 3 ± 0.5 mm and the external diameter should not be less than 8mm.
· The tubes should be fitted with male and female leur connectors.
· The housing case should be of robust design. It should have press to release lock. It should have metal hinges. The tube should be secured with metal screws and clamps. It should have mechanism to hold the lid in right angles and should prevent accidental dropping. All parts should be replaceable in case of breakage.
A cleaning brush to clean the manometer tube and a set of spare washers may be provided with each unit.

15. DIAGNOSTIC SET

16. STETHOSCOPES

- Stainless steel chest piece.
- Non chill diaphragm and retaining ring.
- Non chill lining for the bell.
- Soft sealing ear tips
- Head set anodized aluminum or stainless steel.
- Tube length 20 to 30 inches
- Epoxy fiber glass diaphragm is desirable.
- Diaphragm diameter is an inch to 1.5 Inch High quality buffed stainless steel snap tight
- ear tubes
- Poly vinyl chloride double lumen tubing around 76 cms in length.
- Soft sealing ear tips.
- Should bear ISI mark/ CE compliant/ FDA approved

17. RESUSCITATION EQUIPMENT

S. No	Description
A	**Self inflating Bags 250 ml**
	Technical Specifications
1	Self inflating bag
2	Silicone made
3	Provided with open ended reservoir
4	Patient valves pliable, well sealed, have minimum dead space and no forward or backward leaks
5	The bag should have an oxygen inlet which fits into the standard oxygen tubing both from a cylinder and central supply
6	Round shaped, cushioned face masks should be transparent, fit the patient outlet easily and have minimum dead space.

7	The system should withstand washing, scrubbing and autoclaving procedures
8	Face masks : sizes i.e. 00,0: 3 set with each bag.
9	European CE/ US FDA Certification should be provided
B	**Self inflating Bags 500 ml**
	Technical Specifications
1	Self inflating bag
2	Silicone made
3	Provided with open ended reservoir
4	Patient valves pliable, well sealed, have minimum dead space and no forward or backward leaks
5	The bag should have an oxygen inlet which fits into the standard oxygen tubing both from a cylinder and central supply
6	Round shaped, cushioned face masks should be transparent, fit the patient outlet easily and have minimum dead space.
7	The system should withstand washing, scrubbing and autoclaving procedures
8	Face masks : sizes i.e 0, 1: 3 set with each bag.
9	European CE/ US FDA Certification should be provided
C	**Self inflating Bag 750ml**
	Technical Specifications
1	Self inflating bag
2	Silicone made
3	Provided with open ended reservoir
4	Patient valves pliable, well sealed, have minimum dead space and no forward or backward leaks
5	The bag should have an oxygen inlet which fits into the standard oxygen tubing both from a cylinder and central supply
6	Round shaped, cushioned face masks should be transparent, fit the patient outlet easily and have minimum dead space.
7	The system should withstand washing, scrubbing and autoclaving procedures
8	Face masks : sizes i.e 1,2: 3 set with each bag.
9	European CE/ US FDA Certification should be provided
D	**Laryngoscope with different size blades**
	Technical Specifications
1	High quality corrosion resistant stainless steel blades(straight-miller) and body
2	LED Light source firmly fixed with blade
3	Blades size 00,0 and 1,2 (3 sets with each)
5	Should withstand chemical sterilization and autoclaving
8	Battery should hold charge for more than 2 Hr.
9	Should be CE/FDA/BIS approve product
SN	**BOQ**
1	Self inflating Bags 250 ml - 1 Set
2	Self inflating Bags 500 ml - 1 Set
3	Self inflating Bag 750ml - 1 Set
4	Laryngoscope with different size blades - 1 Set

18. AUROSCOPES

· Battery (3.5v) operated high efficiency Fiber optic LED otoscope with detachable head
· and handle with high quality optics.
· The viewing window with 3x magnification.
· Should have on/off button on the handle for illumination, the handle should be made
· of Solid metal- chrome slip type shock proof.
· The light should have minimum colour temperature of 4000k with CRI >90 for Bright
· and homogeneous illumination with excellent colour rendering.
· Should have rotating knob to control the intensity of the otoscope.
· The LED lamp life should be more than 10000 hrs.
2. PHYSICAL CHARACTERISTICS
Hand Held Portable
3. ENERGY SOURCE (electricity)
Battery operated : Rechargeable battery
4. ACCESSORIES, SPARE PARTS, CONSUMABLES
Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)
1) Battery -2nos
2) Reusable EAR specula of 2mm, 3mm, and 4mm three from each. The specula should be autoclavable.
3) Storage case (rigid and steady)
5. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATIONS:
Atmosphere / Ambiance (air conditioning, humidity, dust ...)
1) Operating condition: Capable of operating continuously in ambient temperature of 10
to 40 deg C and relative humidity of 15 to 90% in ideal circumstances.
2) Storage condition: Capable of being stored continuously in ambient temperature of 0
to 50 deg C and relative humidity of 15 to 90%.
User's care, Cleaning, Disinfection & Sterility issues Disinfection:
Parts of the Device that are designed to come into contact with the patient or the operator should either be capable of easy disinfection or be protected by a single use/disposable cover.
6. STANDARDS AND SAFETY
Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the
device type);Local and/or international
1) Product should be USFDA/CE approved
2) Should have IEC 60601-1/IEC 60601-1-2/CE (EU) certificate;
3) Manufacturer / supplier should have ISO 13485 certificate for quality standard;
7. TRAINING AND INSTALLATION
1) Pre-installation requirements: nature, values, quality
2) Requirements for sign-off Certificate of calibration and inspection from the manufacturer
Training of staff (medical, paramedical, technicians)

1) Training of users on operation and basic maintenance;
2) Advanced maintenance tasks required shall be documented
8. WARRANTY AND MAINTENANCE
1) Warranty: 1 year including bulb
2)Maintenance tasks
3) Maintenance manual detailing;
4) Complete maintenance schedule;
Service contract clauses, including prices:
1) The spare price list of all spares and accessories required for maintenance and repairs
in future after guarantee / warranty period should be attached.
2) Free servicing (min. 1/year) during warranty period
9. DOCUMENTATION
Operating manuals, service manuals, other manuals Should provide 2 sets(hardcopy) of:-
1) User, technical, maintenance and service manuals to be supplied along with machine diagrams;
2) List of equipment and procedures required for local calibration and routine maintenance;
3) Certificate of calibration and inspection;
Other accompanying documents List of important spares and accessories, with their
part numbers and cost
Service Support Contact details (Hierarchy Wise; including a toll free/landline number):
Contact details of manufacturer, supplier and local service agent to be provided;
Any Contract (AMC/CMC/add -hoc) to be declared by the manufacturer;
Recommendations or warnings: Any warning signs would be adequately displayed

19. <u>ELECTRIC BP MACHINE</u>

- Display : LCD Digital Display
- Measurement Method : Oscillometric
- Measurement Range : Pressure: 0 to 299 mmHg
- Pulse: 40 to 180 beats/ min.
- Accuracy : Pressure: ±3 mmHg
- Pulse: ±5% of display reading
- Inflation : Fuzzy-logic controlled by electric pump
- Deflation : Automatic pressure release valve
- Memory : At least Last Measurement
- Power Source: 4 “AA” batteries 1.5V or AC adapter (optional, INPUT AC100-240V50/60Hz 0.12A) Cuff/ Tube Material: Nylon, polyester, polyvinyl chloride
- Different Cuff size: Pediatric, Adult, Obese

20. AUDIOMETER + TYMPANOMETER

Technical Specification: Portable Diagnostic Audiometer and immitance Meter (Combined)
Audiometer:
1. Pure tone frequency (Octave & Mid octaves):
a. AC: 125 Hz to 8000 Hz with noise occluding headsets.
b. High frequency: 10 KHz to 20 KHz with HAD 200 headphones desirable
c. BC: 250 Hz to 4000 Hz (B71)
d. Insert masking
2. Intensity: Range – AC: -10 to 120 dB HL & BC: -10 to 80 dB HL with Intensity steps of 5 dB & 10 dB
3. Speech audiometry: Both live voice & recorded voice with storage of minimum 10 test materials
4. Test signals:
a. Pure tone - Continuous, Warble & Pulse
b. Noise - Narrow band, Wide band/White noise and Speech noise
c. Speech (External signals) – CD/tape of any format files; inbuilt & external Mic.
5. Noise occluding head set with light weight used for any age individuals (children to geriatrics) and has the frequency characteristics up to 20,000Hz
6. Talk Over and talk back – Inbuilt & External
Tympanometry & Reflexometry:
1. Tympanometry- 220/226 Hz and 1000 Hz probe tone frequency (85 dBSPL) and broad band noise
2. Reflexometry – Ipsi and contra reflex threshold at 500, 1000, 2000, & 4000 Hz with contra of insert receiver type
3. Reflex dB range: 85 to 100 dBHL (Intensity steps: 5 or 10 dB steps)
4. Pressure range: + 400daPa to - 600daPa +/-10daPa
5. Volumetric range: 0.2 to 8 ml +/- 0.01ml or 10% over range
6. Reflex measurement range: 0.01ml to 0.5ml +/- 0.01ml
7. Reflex decay test – Both Ipsi & Contra at 500 Hz & 1000 Hz.
8. Manual & Automatic; Screening and Diagnostic mode
9. Ear tips for infants, children and adults (04 boxes of various sizes) & Calibration cavity
10. Multi-component and multi-frequency Tympanometry - Desirable
Other specifications:
1. Output Power supply: (plug-in type and or USB Type) 220 – 240 v, 50 Hz AC
2. Built-in chargeable battery operated and or an external rechargeable portable battery with charger (Minimum 04 hours power back up)
3. Inbuilt storage memory: Demographic, Audiometry and tympanometry details (Minimum of 500) and storage of Speech test materials (Minimum of 10 test materials)
4. PC interface - USB cable / wireless for transferring the stored data
5. Any Additional options test: Required (Quick SIN & SISI)
6. Inbuilt printer
7. User's and service manual with software CDs.
Portable light weighted with carrying case

21. EAR MOLD LAB

a. Hydraulic Press
· For 3 flask
· Working pressure 200Bar
· Max pressure 40 Bar
· Working force 15.000kg
· Weight 20kgs \
· Reference Model/Brand : Sirio P400
b. Thermal / Hot Oven
· Supply of Oven 600W
· Weighing 20Kg (appox)
· For curing, tempering and varnishing ear molds,
· Digital timer and double heating protection.
· Temperature adjustable scale from 30'C to 220'C
· Dimension H/W/D - 6520/470/325mm
· Inner Dimension H/W/D - 240/320/175mm
· Structural stainless steel casing,
· Temperature detection device.
· Reference Model/Brand : Memmert
c. Micro Motor
· Mech. Output power 9.5W
· Torque 5.5Ncm
· Speed 1000 – 40000 rpm
· Power Input 160W
· Supply Voltage 220 – 240 vac
· Rated Current 0.2 to 1.6A, 0.1 to 0.8 A
· Operating Mode S6(4/10min)
· Noise <55DBA,
· Vibration (2.5 m/s²)
· Dimension H/W/D
· Foot control Without lever 97/253/202mm
· Foot control With lever 97/253/275mm
· Weight approx 2.5kgs
· Chuck diameter 2.35mm
· Control element should be separate unit

· Reverseable right left rotation
d. Ear light
· With two acrylic tip (Straight and Bent tip)
· For placing Impression pad in ear canal
· Cell type- AAA/AA
e. Dental Lathe
· 0.75 HP
· Displacment 85LPM
· Working pr 7kg/cm²
· Tank Capacity 35Lt
· One side Spindle
· One side Spindle For Bur placement
f. Light cure unit
· Output Approx 30w
· Dimensions: W 100x H 240x D 100mm
· Weight: 1.5kg
· For polishing of hard ear mould using UV lacquer.
· Turning motor 1nos
· Reference Model: EL3 egger
g. Polishing unit
· Dimension H/W/D - 430/640/540mm
· Approx 50kgs
· Voltage 230V/50Hz
· Output 250/500W
· Suction Capacity 760m2/H
· Noise Emission 70db Approx
· Switch for 2 speed Adjustment
· 1500rpm & 3000rpm
· Switch For Suction on & off
h. Plaster Dispenser
· Dimension H/W/D - 690/300/290mm
· Electrical - Operation
· Dosage by use of Push Button
· Weight: 25Kg

MATERIALS FOR HARD MOULD & HARD SHELL MAKING

SL.No	PRODUCT	QUANTITY
1	Rubber Bowl	1
2	Plaster Spatula	1
3	Flask & Clamp	1
4	Scooping Instrument (Probe)	1
5	Plugger	1
6	Wax Knife	1
7	Wax Carver	1
8	Glass Bowl	1
9	Hammer	1
10	Brush Size 10	1
11	Cotton Buff	1
12	Soldring Gun	1
13	Scissors	1
14	Cutter Knife	1
15	Cotton Roll	1
16	Cotton Thread	1
17	Detax Eco Silicon Impression Material (800gms x 2)	1 box
18	Plaster of Paris 25kgs	25kgs
19	Stone Plaster 1 kg	1kgs
20	Could Mould Seal 3.5 lt	3.5lt
21	Heat Cure Polymer 3kgs	3kgs
22	Heat Cure Monomer 4lt	4lt
23	Self Cure Monomer & Polymer	1box
24	Pumice 1kg	1kgs
25	Snap rings	1
26	L- Connector	1
27	Petroleum Jelly 500gms	500gms
28	Cutter Cylindrical 5mm	1
29	Cutter Cylindrical 3 mm	1
30	Plain Round bur 1 mm	1
31	Plain Round bur 2 mm	1
32	Plain Round bur 3.1mm	1
33	Plain Round bur 3.5mm	1
34	Smooth stone trimmer	1
35	Gring sleve with holder	1
36	impression syringe	1
37	Silicon Prebent tube 2x3mm	1
38	Hard mould Air dry lacquer	1

22. <u>ENT OPERATION MICROSCOPE</u>

a. FLOOR STAND

· Rollable floor stand on base with lockable castors, carrier and swivel arms with large reach of 1.30 m or higher,Weight caring capacity at least 18 Kg. Should have free float magnetic system with Six magnetic brakes Three brakes for Microscope body & three for Microscope Stand with, release of magnetic brakes by handgrips.
· Manipulation to any position with locking for trouble free operation
· Suitably Placed LCD display of function and parameters, individual programming for different Surgeons
b. **MICROSCOPE BODY**
· Motorized Zoom Magnification system with advanced apochromatic optics. Zoom magnification factors 0.4x to 2.4x activation by handgrip and foot control panel.
· Total Magnification range 2 X to 18 X or better activated by hand grip and foot control without exchange of
· objective lens. Integrated continuously variable illumination field from 60mm-15mm or less.
· Internal Motorized fine focusing system activated by hand grip and foot control continuously.
· Adjustable working distance from 200-225 mm to 500-525 mm or more without exchange of objective lens,
· integrated continuously variable illumination field spot size
· Integrated 50:50 beam splitter with two additional output inbuilt for connection of co-observation device and video.
· Binocular Stereo co observation system movable in all axis for assistant surgeon/ teaching purpose
o Future up gradation to XY module
o Frequency range between 50-60 Hz.
o Automatic Circuit Breaker
o Adjustable friction of all joints
o Microscope should be movable on an inclined coupling for positioning in lateral direction.
o The maximum stretching length of the horizontal arm to be not less than 1000mm.
o The swivel angles of the carrier arm not less than 300 degree.
o Balanced microscope with integrated technology to manoeuvre the microscope in all directions with minimal force.
C. BINOCULAR TUBE
· 180 Degree or more tilt able binocular tube with focal length f= 200 mm or more
· Graduated knob for continuous adjustment of inter pupillary distance from 55 mm to 75 m
D. EYE PIECE
· Pair of wide field push in eye piece 10X with magnetic locks

· Diopter setting from -8 D to +5 D, also suitable for spectacles wearers
E. ILLUMINATION SYSTEM
· Coaxial xenon illumination minimum 300 Watt with a back up quick easy lamp changer Xenon bulb
F. HANDGRIPS
· Easily adjustable handgrips with keys for zoom and focus, illumination and magnetic brakes
· Programming for magnetic brake for control of stand and microscope body brakes
Fine Easy auto-balance function with touch of a button/touch screen panel.
G. FOOT CONTROL PANEL
· Full function foot control panel with Control keys for zoom, focus, movements and light intensity
H. INTEGRATED DIGITAL VIDEO CAMERA SYSTEM:
· Advanced digital 3CCD full HD Video camera should be Integrated in the microscope body, suitable for connection to PC, colour monitor.
I. USER PROGRAMMING:
· Programming for starting illumination, Magnification, working distance, Zoom speed & Focus speed for at least 8 - 9 different users.
J. VIDEO/ IMAGE DATA MANAGEMENT SYSTEM:
· should have fully integrated digital video recording system & still photo with direct recording on USB hard drive & Pen Drive & optional networking facility.
K. VIDEO MONITOR:
· Medical grade Full HD 17” or more display should be mounted on Microscope stand.
L. UPS & CVT:
Suitable UPS with One hour backup time with SMF Batteries & Stand. Should be able to work on wide input range between 160-270 VAC at 9fequency between 50Hz ± 2Hz, Should use PWM technology with power conversion with single transformer arrangements with an output of 220VAC ± 5%, protection of overload, short circuit and low battery. Should have indication on front panel for mains load/battery load/ battery overload-low and MCB protection in case of short circuit. ISI/CE approved good quality Indian make. Compatible CVT should be supplied for protection from voltage fluctuation.
M. Above microscope should be compatible for attachment of LASER.
· Power requirement 220-240 volts50Hz
· US FDA& European CE approval.
· Any Other accessory must for smooth functioning/maintenance of the equipment
· Sterile drapes -- 20 numbers
· Physical Demonstration if needed.

23. ENDOSCOPE SYSTEM

S.No	Item	Specifications	Qty.
2.	**Endoscopes & Instruments for FESS, Endoscopic Anterior Skull Base Surgery and MLS**	**FESS & MLS Endoscopes & Instruments:** **Telescope 0° 4.0 mm & 2.7 mm:** Straight forward telescope,0 degree enlarged view, size: 4 & 2.7 mm rod lenses system, Length:18-19 cms, Autoclavable, Fiber optic light transmission incorporated.	1 Each
		Telescope 30° 4.0 mm & 2.7 mm Forward oblique 30 degree enlarged view, size: 4 & 2.7 mm rod lenses system, Length:18- 19 cms, Autoclavable, Fiber optic light transmission incorporated.	**01 each**
		Telescope 45° 4.0 mm: Straight Forward Telescope 45 degree enlarged view, size: 4 mm rod lenses system, Length:18-19 cms, Autoclavable, Fiber Optic Light Transmission Incorporated	**01**
		Telescope 70º 4.0 mm: Straight Forward Telescope 70 degree enlarged view, size: 4 mm rod lenses system, Length:18-19 cms, Autoclavable, Fiber Optic Light Transmission Incorporated	**01**
		Telescope 15º 4.0 mm Straight Forward telescope 15 degree diameter 4mm and length 17 cms, should be autoclavable and should have 45 degree angled eyepiece. Fiber optic light transmission incorporated.	**01**
		Telescope handle for 4 mm telescope round as well as flat	**01 Each**
		Hartmann Nasal speculum	**01**

		Septum needle angular LUER – lock	**02**
		Freer elevator double – ended	**01**
		Sickle Knife pointed -19cm	**02**
		Antrum curette	**01**
		Frontal sinus curette	**01**
		Suction tube with mandrel and cut-off hole	**02**
		Antrum cannula LUER-lock-4nos	**02**
		Blakesley nasal forceps: straight	**02**
		Blakesley nasal forceps: 45 DEGREE UPTURN & DOWNTURN	**01 Each**
		Blakesley nasal forceps: 90 DEGREE UPTURN & DOWNTURN	**01 Each**
		Suction punch	**02**
		Nasal cutting forceps	**02**
		Nasal scissors straight-working length 13cm	**01**
		Stammberger Antrum punch, -- left and right side backward cutting	**01 each**
		Biopsy and grasping forceps-vertical opening, malleable sheath and cupped jars	**01**
		STAMMBERGER Punch, circular cutting diameter 3.5 mm working length 18cm Straight & curved	**01 Each**
		Stammberger Antrum punch, downwards & forwards cutting – left & right	**01 Each**
		Stammberger Bipolar suction forceps, 15deg, 45 deg upturned 11-13cm	**01 Each**
		Bipolar universal high frequency cord	**01**
		Bipolar coagulation forceps, insulated angular, blunt with integrated suction channel, cut off hole length 19 cm	**01**
		Suction and Irrigation Sheath 0°, for endoscopic diagnosis and surgery of the paranasal sinuses and anterior scull	**01**

		base, oval, O.D. 4.8 mm x 6 mm, with separate channel for suction and irrigation, for use with handle.	
		Suction and Irrigation Sheath 30°, for endoscopic diagnosis and surgery of the paranasal sinuses and skull base, oval, O.D. 4.8 mm x 6 mm, with separate channel for suction and irrigation, for use with handle.	**01**
		Suction and Irrigation Handle, with Push-Button Pressure Valve, for use with suction and irrigation sheath.	**01**
		Adaptor, autoclavable, facilitates changing of telescopes in sterile conditions	**01**
		Elevator, double-ended semi-sharp and blunt, length 26 cm	**01**
		Take-apart Bipolar Forceps, width 1 mm delicate jaws, distally angled 45°, horizontal closing, outer diameter 3,4 mm, working length 20 cm, consisting of: Handle ,Outer Tube, Inner Tube & Bipolar Insert.	**01**
		Bipolar High Frequency Cord with 2 x 4 mm banana-plug length 300 cm.	**01**
		Coagulation Ball Electrode, diameter 2 mm, laterally curved, working length 13 cm	**01**
		Unipolar High Frequency Cord, with 4 mm plug, length 300 cm.	**01**
		Insulated Cannula for suction and coagulation, O.D.: 3 mm, 90° curved, working length 16cm	**01**
		Suction Tube, malleable, with conical tip, with elongated cut- off hole and stylet, LUER,working length 18 cm, 10 Fr.	**01**
		Suction Tube, malleable, with conical tip, with elongated cut- off hole and stylet, LUER,working length 18 cm, 6 Fr.	**01**
		Suction Tube, malleable, with elongated cut-off hole and stylet, LUER,working length 15 cm,4 Fr.	**01**
		Suction Tube, with cut-off hole, drop-shaped, with	**01**

		distance markings, LUER, conical distal end, tip curved upwards, ball end, 2.4 mm, working length 15 cm	
		Punch, upbiting 60° forward, size 1 mm, working length 17 cm	**01**
		Punch, upbiting 60° forward, size 2 mm, working length 17 cm	**01**
		Punch, downbiting 60° forward, size 1 mm, working length 17 cm	**01**
		Punch, downbiting 60° forward, size 2 mm, working length 17 cm	**01**
		Hook, 90°, blunt, length 25 cm, with round handle	**01**
		Mintz Micro Raspatory, 2 mm wide, curved, left, length 27 cm	**01**
		Scissors, 45°, delicate, Sheath 360° rotatable, working length 18 cm	**01**
		Round Knife 5°, width 2 mm, working length 10 cm, total length 20 cm	**01**
		Dissector, sharp, round spatula, tip angled 45°, size 3 mm, with round handle, length 25 cm	**01**
		Elevator, sharp, slightly curved spatula, straight, size 3 mm, with round handle, length 25 cm	**01**

Curette, round spoon, tip angled, size 3 mm, with round handle, length 25 cm	**01**
Curette, round wire, Id 5 mm, tip angled 90°, with round handle, length 25 cm	**01**
Curette, round wire, ID 3 mm, distally curved shaft, with round handle, length 25 cm	**01**
Curette, round wire, ID 5 mm, tip laterally angled 90°, with round handle, length 25 cm	**01**
Ring- Curette, round wire, ID 5 mm,vertical long curved, with round handle, length 25 cm	**01**
Curette, stirrup-shape, blunt, with round handle, length 25 cm	**01**
Ring curette, distal end curved, vertical, OD 2.6 mm, working length 15 cm	**01**
Curette, round wire, ID 3 mm, tip angled 90°, with round handle, length 25 cm	**01**
Minature Forceps, through- cutting, with fine flat jaws, bite 1 mm, straight, working length 18 cm	**01**
Nasal Forceps, with extra fine flat jaws, through-cutting, tissue sparing, width of cut 1.5 mm, straight sheath, straight jaws, with cleaning connector, working length 18 cm	**01**

		Nasal Forceps, with extra fine flat jaws, through-cutting, tissue sparing, width of cut 1.5 mm, straight sheath, jaws angled upwards 45°, with cleaning connector, working length 18 cm	**01**
		Nasal Forceps, with extra fine flat jaws, through-cutting, tissue sparing, width of cut 1.5 mm, straight sheath, jaws angled downwards 45°, with cleaning connector, working length 18 cm	
		Forceps, very delicate, oval cupped jaws 0.9 mm, curved upwards, working length 18 cm	**01**
		Spoon Forceps, spoon size 3 x 10 mm, single action jaws, working length 17 cm	**01**
		Scalpel, with telescopic blade, consisting of: Handle,outer tube 7 Micro-knife, pointed	**02**
		Nasal Forceps, end of sheath 25° upturned, with straight jaws, width 3 mm, with cleaning connector, working length 13 cm	**01**
		Nasal Forceps, straight, size 1, working length 11 cm	**01**
		Punch, circular cutting, for sphenoid, ethmoid and choanal atresia, diameter 3.5 mm, with cleaning connector, working length 18 cm	**01**
		Antrum Punch, backward cutting, sheath 360° rotatable, with fixing screw, working length 10 cm, take apart sheath.	**01**
		Joseph scissors-sharp 14cm	**01**
		Walter scissors 10cm-angled	**01**
		Cottle chisel-18.5cm 4mm straight	**01**
		Cottle crossbar osteotome-18.5cm 6mm-straight	**01**
		Cottle crossbar osteotome-18.5cm 6mm-curved	**01**
		Cottle double retractor-15cm Left sharp/Right blunt - 10mm wide	**01**

		Cottle double retractor-15cm Right sharp/Left blunt - 10mm wide	**01**
		Aufricht nasal retractor-17cm 45mm blade	**01**
		Adson tissue forceps-12 cm Delicate, side grasping teeth	**01**
		Nasal rasp-21.5cm Double ended- Fine teeth	**01**
		Nasal rasp-21.5cm Double ended-coarse teeth	**01**
		Walscham septum straightening forceps-23cm Straight for both sides	**01 Each**
		Killian strycken nasal speculum-13.5cm 75mm blade	**01**
		Neivert-Masing needle holder, thumb ring turned up, one jaw with groove, length 13cm	**01**
		Ballenger swivel knife-19.5cm Bayonet shaped-4mm wide	**01**
		Ash forceps Septum straightening -22cm	**01**
		Video-laryngoscope sheath laryngoscope	**01**
		Operating laryngoscope Adult size-18cm- ***Large***	**01**
		Operating laryngoscope Adult size-18cm-**Medium**	**01**
		Anterior commissure scope **Adult size**-*22cm*	**01**
		Laryngoscope holder and chest support for use with above laryngoscopes ***Adult size*** (ring 9.5 cm, rod 34 cm)	**01**
		Laryngoscope holder and chest support **Child size** (ring 9.5 cm. Rod 24 cm)	**01**
		Fiber optic light carrier to fit in operating laryngoscopes *Adult size*	**01**
		Fiber optic light carrier to fit in operating laryngoscopes *Child size*	**01**
		Laryngeal cutting forceps-23 cm 2mm round cupped jaws, ***straight***	**01**
		Laryngeal cutting forceps-23 cm 2mm round cupped jaws, ***angular upwards***	**01**
		Laryngeal cutting forceps-23 cm 2mm round cupped jaws***,*** ***bent to right***	**01**
		Laryngeal cutting forceps-23 cm 2mm round cupped jaws, ***bent to left***	**01**
		Laryngeal artery forceps with rachet-23 cm Serrated, straight	**01**
		Laryngeal alligator forceps-23 cm Serrated -***straight***	**01**

		Laryngeal alligator forceps-23 cm Serrated -***bent to right***	**01**
		Laryngeal alligator forceps-23 cm Serrated -***bent to left***	**01**
		Laryngeal scissors-23 cm Straight	**01**
		Laryngeal scissors-23 cm Angular 45º up	**01**
		Laryngeal scissors-23 cm Bent to right	**01**
		Laryngeal scissors-23 cm Bent to left	**01**
		laryngeal scissors-23 cm Straight, horizontal cutting	**01**
		Laryngeal cutting forceps-23 cm Round cupped jaws 5 mm, straight, double action	**01**
		Laryngeal grasping forceps for arytenoids-23 cm	**02**
		Laryngeal biopsy forceps-23 cm Oval cup shaped jaws	**01**
		Laryngeal needle holder with ratchet	**01**
		Atraumatic vocal cord retractor-23 cm Self retaining with rachet	**01**
		Arnold vocal cord holding forceps-23 cm Triangular jaws, for right side	**01**
		Arnold vocal cord holding forceps-23 cm Triangular jaws, for left side	**01**
		Laryngeal knife-23cm Straight cutting	**02**
		Laryngeal knife-23cm Sickle shaped, curved	**02**
		Laryngeal knife-23cm Round vertical cutting	**02**
		Laryngeal hook-23 cm Blunt	**01**
		Laryngeal hook-23 cm Sharp	**01**
		Laryngeal needle-23 cm Curved to right	**01**
		Laryngeal needle-23 cm Curved to left	**01**
		Laryngeal elevator with suction channel-23 cm	**02**
		Laryngeal knot tier-23 cm	**01**
		Laryngeal hook, blunt with probe end	**01**
		Instrument handle For use with item No 30to 38 mentioned above	**03**
		Laryngeal suction tube (micro laryngeal) –25 cm Diameter 2	**02**

		mm	
		Laryngeal suction tube (micro Laryngeal) –25 cm Diameter 3mm	**02**
		Laryngeal insulated canula-25 cm 3 mm O.D. for suction and coagulation	**01**
		Suitable Autoclavable plastic tray double tray for sterilization and storage for hand instruments of minimum 20 hand instruments preferably from OEM.	**02**
		Standards, Safety and Training Should be European CE & US FDA approved product Comprehensive training for lab staff and support services till familiarity with the system.	
		Documentation 1. User/Technical/Maintenance manuals to be supplied in English. 2. Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered. 3. Certificate of calibration and inspection. 4. List of Equipments available for providing routine Preventive Maintenance Support as per manufacturer documentation in service/technical manual. Price of individual instruments and full set should be quoted. **Prior Demo if needed.** Instruments should be made from High Quality Surgical Grade Steel. Instruments should have Laser surface or ebonized or equivalent finish to provide appropriate reflection	

		lowering finish. CO=/Catalogue number & article number should be mentioned on each and every instrument. There should be country of origin/Manufacturing engraved on each and every instrument. Company should have relevant experience in successful execution of similar work at least in five Institutes of national importance and central government Institutes. Company should be at least in its 5 years of operations at the date of Submission of E-Tender.	
2	**Microdebrider accessories for Drill Console**	Should be compatible with the existing 1. Integrated Power Console (IPC) system of the hospital from Xomed Medtronics. Should be ergonomically designed electrical 2. Drill System with high Torque up to 38 mN-m and Power up to 120W. Speed should be variable from 10,000 to 3. 75,000rpm. Weight of the drill should not be more than 4. 90gms and length should be less than 8.0 Cm with a diameter not exceeding 1.70cm. Should have integrated cable to connect to 5. console. No Lubrication or seal should be required to 6. run the motor. Should have quick release and lock system 7. for tools and attachments. Should be suitable for Cranial, Skull base & 8. Otology applications. **Attachment:** Angled Attachment- 7.5cm – 1 No. Straight Attachment- 9cm -1 No. Tools for 7.5cm, 9cm, length for Cutting: 4 Nos. (Each). Tools for tools of 7.5cm, 9cm, length for Diamond:	**1**

		4Nos.(Each) Telescopic base & Tube with outer diameter less than 5mm and inner diameter 1.2mm or 1.5mm 12cm length curved: 1No. Tools for 12 cm telescopic tube cutting & Diamond: 4 Nos (Total)	
3	**Microdrill** **accessories for Microdebrider Console**	**Should be compatible for use with Core Console System of the hospital from Stryker.** **1. Debrider Hand Piece (Quantity One)** It should have – a. Rotational speed ranging from 5000 rpm with Variable, b. Non-variable and 1 Touch run mode, 12000 rpm in drill mode c. Straight Suction Channel Control on the hand piece d. Selection of rotation (Clock wise, Anti-clock wise and oscillation) e. Adjustable Oscillating rate up to levels f. Automatic scope cleaning feature g. Flush feature to clean clogged cutter h. Sterilizable through Steam, ETO and Flash Autoclave US FDA Approved **Specifications for Blades (Quantity Five each)** a. 4.0 mm Aggressive Serrated for Ethmoidectomy, Maxillary Sinusotomy and Polypectomy b. 4.0 mm 40/60 Angled Aggressive for Frontal Sinusotomy c. 4.0 mm 40 Angled Convex for Adenoidectomy and Tonsillectomy	**1**

24. <u>ENT EXAMINATION INSTRUMENTS</u>

<u>OPD INSTRUMENTS:</u>

- Two sets of Black ear speculum (all sizes)
- Three Jobson Horne probe with smooth ring end and serrated, cotton

- carrier end, length 18cm
- Two Wax curette
- Three Crocodile aural forceps with working length 8 cm
- Two Hartman's ear dressing forceps, slender with working length 6 cm
- One Foreign body hook
- Suction tube, angular, malleable, LUER-LOCK, outer diameter 0.7 mm, 1 mm, 1.3 mm, 1.5 mm, 2 mm, 2.5 mm, 3 mm, working length 7 cm
- Two Adaptor- Suction handle, with cut-off hole, LUER cone, length 5.5 cm
- Two sets of TUNING FORKS 256, 512, 1024
- Two sets of Thudicum's nasal Speculums (all sizes)
- Three Tilley's nasal dressing forceps
- Three sets of Suction tube- angular, conical, LUER, with grip plate, outer diameter 3 mm and 3.5 mm, working length 11 cm
- Three sets of Tongue depressors – Set of Five
- One set of IDL mirrors (all sizes) with handle
- Two sets of Thumb forceps (tooth and non-tooth)
- Two Tissue forceps, 1x2 teeth, length 11.5 cm
- Two Forceps, serrated, length 15 cm
- Three sets of Mosquito artery forceps – (straight and curved)
- Three Needle holder- small
- Two sets of Fine scissors: curved, sharp/blunt, length 12 cm/ 14 cm curved, sharp/sharp, length 14 cm
- One Tonsillar retractor
- Two BP handles
- Three Kidney trays (Small, Medium and large – One each)
- One Metallic syringe for syringing
- One Gel foam press, length 18 cm
- Two Punch Biopsy Forceps
- One Nasopharyngeal Biopsy Forceps

- One Small Luc's Forceps Oval Head
- SS Drum for autoclaving (two pieces 12"x12")
- Price of individual instruments and full set should be quoted.
- Instruments should be made from High Quality Surgical Grade Steel, preferably Grade 410 & 420 or equivalent.
- Instruments should have Laser surface or ebonized or equivalent finish to provide appropriate reflection lowering finish.
- CO=/Catalogue number & article number should be mentioned on each and every instrument.
- There should be country of origin/Manufacturing engraved on each and every instrument.

Company should be at least in its 5 years of operations at the date of Submission of E-Tender.

OTOLOGY INSTRUMENTS:

Otology Instruments	1. Tumarkin Meatal Speculum- tapered slot black finish (laser safe) 11mm distal tip diameter, distal slot width 6mm	1
	2. Tumarkin Meatal Speculum- tapered slot black finish (laser safe) 8.5mm distal tip diameter, distal slot width 4.5mm	1
	3. Tumarkin Meatal Speculum- tapered slot black finish (laser safe) 7.5mm distal tip diameter, distal slot width 3.5mm	1
	4. Tumarkin Meatal Speculum- tapered slot black finish (laser safe) 6.5mm distal tip diameter, distal slot width 3mm	1
	5. Tumarkin Meatal Speculum- tapered slot black finish (laser safe) 7mm distal tip diameter, distal slot width 3mm	1
	6. Tumarkin Meatal Speculum- tapered slot black finish (laser safe) 4.5mm distal tip diameter, distal slot width 3mm	1
	7. Holmrgen Ear Speculum 5 mm Outer diameter	1
	8. Holmrgen Ear Speculum 6 mm Outer diameter	1
	9. Holmrgen Ear Speculum 7 mm Outer diameter	1
	10. Hartmann Aural forcep (Crocodile type)- 75mm to	2

		shoulder serrated Jaw	
	11.	Hartmann Aural forcep (Crocodile type)- 75mm to shoulder, round cutting Jaw	2
	12.	Hartmann Aural forcep (Crocodile type)- 80 mm to shoulder, serrated Jaw	2
	13.	Faraboeuf Periosteum elevator- 150mm length, 13 mm wide, curved	1
	14.	Faraboeuf Periosteum elevator- 1175mm length, 11 mm wide, curved	1
	15.	Freer elevator, double ended- 200mm	2
	16.	Wullstein Post Aural Retractor- 3X3 sharp Prongs 110 mm length	2
	17.	Schuhknecht Post aural retractor-3 X 3 sharp prongs curved 130mm length	2
	18.	Plester Retractor-2X2 prongs 130mm in length	2
	19.	Williger Retractor- Sharp prongs 130mm in length	1
	20.	Schwaber adjustable self retaining Surgical Ear Speculum- 30mm blade length, 165mm	1
	21.	Schwaber adjustable self retaining Surgical Ear Speculum- 50mm blade length, 165mm	1
	22.	Rosen round knife- 45 degree Angle 2.5mm tip, Shaft 160mm	2
	23.	Rosen round knife- 45 degree Angle 2.0mm tip, Shaft 160mm	2
	24.	Rosen round knife- 45 degree Angle 1.5 mm tip, Shaft 160mm	2
	25.	Micro Raspatory- 160mm length	2
	26.	Plester flag knife- 165mm length	2
	27.	Plester Sickle knife- 165 mm length	2
	28.	Wullstein Needle- straight, sharp, 165 mm length	2
	29.	Wullstein Needle- Gentle curve, sharp 165mm length	2

30.	Wullstein Needle- Strong curve, Sharp, 165mm length	2
31.	Wullstein Needle- Strong curve, blunt, 165mm length	2
32.	Belluci Micro ear scissors- straight, **right & left** curved 4mm blade, 80 mm length	2 each
33.	Shea- Belluci micro ear scissors- straight, **right & left** curved 8mm blade, 80 mm length	2 each
34.	Dieter Malleus Nipper- 80 mm, up biting	2
35.	Micro ear forcep oval cupped jaw straight 80mm,shaft 1.5mm thick	2
36.	Fisch Micro Ear forcep – serrated 0.6X 4mm 80 mm length, shaft 1.5mm	2
37.	Fisch perforator 160 mm length, diameter 0.3mm	2
38.	Fisch perforator 160 mm length, diameter 0.5mm	2
39.	House curette double ended, sharp, **curved (double angled)**, round cup 1.2mm, 170mm	1
	House curette double ended, sharp, **curved (double angled)**, oval cup 1.8mm, 170mm	1
	House curette double ended, sharp, **curved (double angled)**, oval cup 2.2mm, 170mm	1
	Micro pick 90 degree angled 165mm length 0.2mm	1
43.	Micro pick 90 degree angled 165mm length 0.4mm	1
44.	Micro pick 90 degree angled 165mm length 0.8mm	1

45.	Micro pick 90 degree angled 165mm length 1.5mm	1
46.	House Gel foam pressure forcep large platform 30mmX30mm	1
	Fisch Crurotomy Scissor 80mm, Curved to Right-2	
	Fisch Crurotomy Scissor 80mm, Curved to left-2	
	SS Instrument case with silicon racks for storage and sterilization of delicate instruments, 200x 140 mm or to hold 10 micro instruments---------- 2	
	McGee wire closing forcep - 70mm from shoulder, vertical, jaw length 4mm, jaw width 0.8mm ---2	
	Titanium Piston cutter----------1	
	Lempert's Endaural Speculum – **Right & Left- 1 each**	
	Lempert's Endaural Retracter – **Right & Left- 1 each**	
	Other terms & conditions	
	European CE & US FDA Approved	
	Price of individual instruments and full set should be quoted.	
	Instruments should be made from High Quality Surgical Grade Steel i.e. Grade 410 & 420 or equivalent	
	Instruments should have Laser surface or ebonized or equivalent finish to provide appropriate reflection lowering finish	
	CO=/Catalogue number & article number should be mentioned on each and every instrument.	
	There should be country of origin/Manufacturing engraved on each and every instrument	
	Company should have relevant experience in successful execution of similar work at least in five Institutes of national importance and central government Institutes	
.	Company should be at least in its 5 years of operations at the date of Submission of E-Tender.	

25. EXAMINATION LIGHT STANDS

Should be movable on wheel 5 wheels
Should be able to adjust position.
Should use a LED light source.
It should have minimum light intensity of 39,000 lux
It should have 4300 chromaticity
CRI should be minimum 90
It should have minimum 6 LED
It should have on/OFF switch on light head handle
Color temperature should be 4000K
Stand height should be minimum 38” from the floor and arm length 36”
Arm should can adjust Horizontally and vertically
It should can fit provision for either ICU cot / labor cot / table
Powers supply should be SMPS
It should be CE/FDA certified

26. ESOPHAGUSCOPY SET WITH FORCEPS

Rigid esophaguscope
Rigid optical telescopes for examining the inside of the esophagus during oesophagoscopy procedures.
Specifications:
Made of high-grade surgical steel; these endoscopes provide crystal clear optics for everything from examinations to surgical procedures.
For biopsy and foreign body removal
Adult and paediatric sizes
Straight Forward Telescope 0 degree,. 2.9 mm diameter, length 36 cm, autoclavable, fibre optic light transmission incorporated
Esophagoscope Tube size - 6, outer diameter 8.2 mm, inner diameter 7.5 mm length 30 cm - 1No
Esophagoscope Tube size- 5 outer diameter 7.7 mm inner diameter - 1No
Esophagoscope Tube size 3.5 Outer diameter 4.8 mm inner diameter 5.1 mm length 18.5 cm - 1No
Esaphagoscope Tube size 3.5 outer diameter 4.8 mm inner diameter 4.3 mm length 30 cm - 1No
Esaphagoscope Tube size outer, diameter 4.8 mm inner diameter 4.3 length 30 cm - 1No
Rubber Telescope Guide for use with telescope and optical forceps. - 1No
Adjustable Magnifier autoclavable, swing away type - 1No
Forces alligator for hard foreign bodies, double action jaws, sheath diameter 1.5 mm working length 35 cm - 2No
Forceps peanuts and soft foreign bodies, double action jaws, sheath diameter 1.5 mm working length 35 cm - 1No

Forceps with round cupped jaws, for biopsy, double action jaws, diameter 3 mm sheath diameter 1.5 mm working length 35 cm - 1No
Forceps for biopsy and foreign bodies removal, double action jaws, sheath diameter 1.5 mm working length 35 cm - 1No
Guide piece for suction catheter short bronchoscope for children and infants - 1No
Fulvog adaptor with sliding glass window plug, sealing cap, notched lens and keyhole opening, movable - 1 No
Injection cannula for positive pressure assisted ventilation, Luer lock, outer diameter 3.5 mm for use with bronchoscope – 1 No
The equipment should be USFDA or international CE approved and should be manufactured by single parent company.

27. BRONCHOSCOPY SET WITH FORCEPS

Optical system Field of view at least 1200
Depth of field 3~100 mm
Insertion Tube Insertion tube outer diameter: less than 6.30 mm
Working length up to 600 mm
Instrument Cannel Working channel inner diameter 2.8 mm or wider
Minimum visible distance 3 mm from distal end
Bending Section Angulation range UP 1800, DOWN 1300
Compatible with diagnostic and therapeutic high frequency treatment devices like electro
Surgical procedures
Enhance mucosal imaging either by digital filter based contrast enhancement or narrow band imaging.
Light Source Xenon light with scope compatibility with lamp life of at least 500 hours
Video processor with scope compatibility (01 No). Video processor should have HDTV signal output, Narrow band imaging
Medical grade monitor-at least 21 inches (01 No)
Bronchoscopy video recording & reporting system, compatible software for still and live recording and report generation
Power Capable of operating on 220V 50Hz AC
Integrated with the entire system on a single trolley

28. OTOSCOPES + EAR SPECULUMS (METALIC)

TECHNICAL CHARACTERISTICS (specific to this type of device):
Battery (3.5v) operated high efficiency Fiber optic LED otoscope with detachable head
and handle with high quality optics.
The viewing window with 3x magnification.
Should have on/off button on the handle for illumination, the handle should be made of Solid metal- chrome slip type shock proof.
The light should have minimum colour temperature of 4000k with CRI >90 for Bright

and homogeneous illumination with excellent colour rendering.
Should have rotating knob to control the intensity of the otoscope.
The LED lamp life should be more than 10000 hrs.
PHYSICAL CHARACTERISTICS
Hand Held Portable
ENERGY SOURCE (electricity)
Battery Operated: Rechargeable battery
ACCESSORIES, SPARE PARTS, CONSUMABLES
Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)
Battery -2nos
Reusable EAR specula of 2mm, 3mm, and 4mm three from each. The specula should be autoclavable.
Storage case (rigid and steady)
ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATIONS:
Atmosphere / Ambiance (air conditioning, humidity, dust ...)
Operating condition: Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90% in ideal circumstances.
Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
User's care, Cleaning, Disinfection & Sterility issues Disinfection:
Parts of the Device that are designed to come into contact with the patient or the operator should either be capable of easy disinfection or be protected by a single use/disposable cover.
STANDARDS AND SAFETY
Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international
Product should be USFDA/CE approved
Should have IEC 60601-1/IEC 60601-1-2/CE (EU) certificate;
Manufacturer / supplier should have ISO 13485 certificate for quality standard;
TRAINING AND INSTALLATION
Pre-installation requirements: nature, values, quality
Requirements for sign-off Certificate of calibration and inspection from the manufacturer
Training of staff (medical, paramedical, technicians)
Training of users on operation and basic maintenance;
Advanced maintenance tasks required shall be documented
WARRANTY AND MAINTENANCE
Warranty: 1 years including bulb
Maintenance tasks
Maintenance manual detailing;
Complete maintenance schedule;
Service contract clauses, including prices:
The spare price list of all spares and accessories required for maintenance and repairs

in future after guarantee / warranty period should be attached.
Free servicing during warranty period
DOCUMENTATION
Operating manuals, service manuals, other manuals Should provide 2 sets (hardcopy)of:-
User, technical, maintenance and service manuals to be supplied along with machine diagrams;
List of equipment and procedures required for local calibration and routine maintenance;
Certificate of calibration and inspection;
Other accompanying documents List of important spares and accessories, with their part numbers and cost
Service Support Contact details (Hierarchy Wise; including a toll free/landline number):
Contact details of manufacturer, supplier and local service agent to be provided;
Any Contract (AMC/CMC/add -hoc) to be declared by the manufacturer;
RECOMMENDATIONS OR WARNINGS:
Any warning signs would be adequately displayed

29. ENT EXAMINATION HEADLIGHT

Should be a head light source suitable for ENT OP.
The reflector should be a multiple coated.
Should have an adjustable and light weight head band.
Should have a low voltage source with intensity control.
Should work with input 200 to 240Vac 50 Hz supply

30. ENT EXAMINATION CHAIR

Should be motorized and ergonomically designed examination and treatment chair facilitating the posture of both doctor and patient
Heavy base casing
All elements of chair should be anatomically shaped
Seat should have motorized lifting device
Seat should have height adjustment for children
Integrated foot switch for easy adjustment of height
Should have complete rotation 360 degree with locking device
Should be comfortably padded and folded back for enabling easy sitting of overweight and handicapped patient
Head rest-15cm with adjustable height.
Backrest adjustable and can be made to incline 10 degree forward to vertical position and backward completely to a horizontal position and can be rolled back
Movement of armrest and footrest should be synchronized with backrest movement

Chair should confirm to CE mark
Power supply:220-240Volts/ 50Hz

31. <u>ENT EXAMINATION STOOL FOR DOCTORS</u>

Wide base, should have rolling casters for easy movement
Should have back rest
Easy height adjustment of hydraulic nature
Comfortably cushioned seat

2. Section III - Instructions to Bidders (ITB) - Clause no. 17 (page no.16-17) may be read as follows;

17. AWARD OF CONTRACT

Evaluation of Proposals & Award Criteria

The bidder can go ahead with any one or more equipements listed in Schedule A. The lowest price criteria shall be applied equipment wise on the total composite amount (inclusive of all charges except customs duty at destination country) for the equipment quoted [Annexure IX(a)]. The price quoted for CMC [Annexure IX(b)], Consumables and spares [Annexure IX(c)] (if any) will not be taken for arriving the L1 price. However these rates will be finalized for future requirements of supplies and the requirement will be intimated to the party either by HLL or MEA or by the host in the destination country and this price will be valid for period of four years after the warranty period.

Preliminary scrutiny of the proposal will be made to determine whether they are complete, required bid security (EMD) have been furnished, whether the uploaded documents have been properly signed and whether the bids are generally in order. Proposals not conforming to such preliminary requirements will be prima facie rejected.

Bids complying with all the eligibility requirements mentioned under Section III Clause 4 of this E-Tender document and fulfilling the specifications and schedule of requirements mentioned in (please refer annexure VIII for sheet) Section V shall be treated as substantially responsive bids. Responsiveness of the bids shall be determined on the basis of the contents of the bid itself and shall not be determined by extrinsic evidences.

HLL Lifecare Ltd, if required, may ask bidders for presentation on the solution offered. Failure on part of bidder to arrange the presentation on the date & place fixed by HLL shall result in the rejection of technical bids and financial bids of these bidders shall not be opened. Also, if it is found after presentation that the solution offered is not meeting the specifications prescribed by, such bidders shall be treated as substantially non- responsive. HLL Lifecare Ltd decision shall be final in this regard. The place for presentation shall be conveyed to the bidders at an appropriate date.

Commercial bids of only those bidders will be opened who are found to be substantially responsive and the work shall be awarded to the commercially lowest bidder.

The price bid format for the equipments is common for all the equipments listed in schedule A. If the bidder is quoted for more than one equipments in a single bid, there is a possibility that the price quoted for technically disqualified equipment, if any, may also get revealed at the time of price bid opening. Hence it is recommended to apply sufficient caution by the bidders, that **price bid need to be submitted only for technically qualified equipments as per the technical specification of the equipment and minimum eligibility criteria.**

The bidder should carefully cross check the prices entered in figures with corresponding figures converted in words. In case of discrepancy between words and figures, the rates quoted in words shall be treated as final. The correct amount will be calculated by multiplying unit price with quantity and in case of any discrepancy, the corrected amount shall be considered and total of all corrected amount shall be bidder's total quoted amount.

In the copies of supply order/ contract/ agreement/ experience certificate submitted by the bidder, if the currency is other than Indian Rupees, the value of work in Indian Rupees shall be determined by using the exchange rate declared by Reserve Bank of India as on the last date of submission of technical/ commercial bids and the eligibility of the bidder shall be determined accordingly.

If more than one bidder happens to quote the same lowest price, HLL Lifecare Ltd reserves the right to split the order and award the contract to more than one bidder.

3. Section IV - Special Conditions of Contract (SCC) (Page no.19) may be read as follows;

Prices:

The price quoted shall be considered firm and no price escalation will be permitted.

The prices quoted should be inclusive of all applicable costs like equipment cost, profit margin, freight, insurance, packing, port charges, documentation charges, demurrage charges, training cost, installation, testing & commissioning charges including manpower charges, warranty charges, loading & unloading charges, applicable statutory charges (if any) at the destination country etc till final destination as per the supply order. Applicable statuary government taxes in India(if any) like GST and Custom Duty at Uganda need to be indicated seperately in the prescribed price bid format. However MEA would reimburse taxes as per the applicable rates as on the date of invoice. The packing shall be transport worthy so as to prevent their damage or deterioration to goods during transit to their final destination as indicated in this document. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage. Packing case size and weights shall take into consideration, where appropriate, and the remoteness of the Goods final destination and the absence of heavy handling facilities at all point in transit. However risk in good shall continue with supplier till goods are delivered in good condition and installed at end user's site duly certified by HLL Lifecare Ltd, end- user & Indian Mission in Uganda.

Taxes and Duties:

Applicable statuary government taxes in India (if any) like GST etc would be reimbursed by MEA as per the applicable rates as on the date of invoice. However bidder should indicate the necesary details in the prescribed price format. The items being imported in Uganda as per schedule A from India/ third country will be exempted from payment of Custom Duty at Uganda. The Government of Uganda end user on the request of supplier shall provide necessary Custom Duty Exemption Certificate but the custom clearance will be the responsibility of the successful bidder. No Concession Tax Form (C/D) will be given by HLL Lifecare Ltd.

Bidder shall arrange to clear the consignment after following customs formalities at Uganda and shall arrange to deliver the consignment to the end user individual site(s). The cost and risk of the consignment rests with the bidder till it is delivered to the end user individual site(s) and till the completion of Installation, testing, Commissioning and acceptance as per the relevant claused mentioned in the e-tender.

4. Annexure IX - Pricing Sheet has been amended as follows;

Annexure IX (a)

Name of the bidder:

Ref: RFx No.

Price Format (offered in INR)											
1	2	3	4	5	6	7	8	9	10	11	12
Sl. No.	**Description of goods as per specification**	**Make/ Model**	**Country of Origin**	**HS/ HSN Code**	**Unit of measurement**	**Quantity per set of equipment**	**Unit Price at Consignee Site (excluding GST)**	**Applicable GST (%)**	**Applicable GST value/ unit (8 x 9)**	**Unit Price at Consignee Site (8+10)**	**Total Price at Consignee Site (7 x 11)**

Note: 1. All the information must be entered in the relevant columns of the price format excel attached.

2. Any Incidental Services (including Installation, Testing & Commissioning, Supervision, Demonstration and Training) at the Consignee site has to be mentioned as a sperate line item with HSN Code and applicable GST based on nature of the work

4.It is core responsibility of bidder to understand the site before bidding and make sure arrangement being provided by Government of Uganda as per schedule A.

5. Any, remaining parts such as: Base for Machines, Sheds, Electrical Wire, Water Pipeline or any kind of additions / changes / modifications required would be responsibility of bidder only

6. It is the responsibility of bidder to arrange all parts for installation which is not covered by local government to be locally done within given timeline.

7. Bidder has to make arrangement to provide services / spare parts for all quoted machines in short time. It can be done by visit of engineer or setting up a local officer or by availing spare parts in advance.

Annexure IX (b)

Comprehensive Maintenance Contract Quotes after Warranty							
S.No.	**Description of goods as per specification**	**Make/ Model**	**Country of Origin**	**2nd Year of operation**	**3rd Year of operation**	**4th Year of operation**	**5th Year of Operation**
				(in Rs. incl. of all applicable duties/taxes)			

Annexure IX (c)

Consumables and Spares Quotation							
S.No	**Description of goods as per specification**	**Category Spare/ Consumable**	**Spare or Consumable Description**	**Ordering Code**	**Unit of Measurement**	**Packing Size**	**Unit Price Incl. of all taxes**
1							
2							
3							
4							

All relevant clauses of the tender document are to be read in accordance with the above change and documents to be submitted are to be in compliance of the above. All other specifications, terms and conditions of the original tender document shall remain unchanged.

Senior Manager
Sourcing Division - RBD
HLL Lifecare Ltd.
HLL Bhavan, Poojappura,
Thiruvananthapuram.
Ph.no: 0471 2353932.