ANNEX II + III: TECHNICAL SPECIFICATIONS + TECHNICAL OFFER

Contract title: Supply, Delivery, Installation, Commissioning, Testing and Training of Medical Equipment for 6 University hospitals in Ethiopia in the framework of the Initiative "*NDICI AFRICA/2022/438-582 – Joint European Initiative to Strengthen the Medical specialization in Ethiopia*" AID 012763/01/0

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Contents

INTRODUCTION

In the realm of modern healthcare, health technology serves as the foundation for delivering effective medical care, with medical equipment standing out as a critical component. This equipment are vital resources within the healthcare system, playing a key role in preventing, diagnosing, treating, monitoring, and rehabilitating patients with illnesses and diseases. To acknowledge these the medical equipment specifications outlined in this document serve as a comprehensive guide for the bid evaluation of medical equipment. By adhering to these specifications, company can ensure that their products meet the stringent requirements necessary for use in the hospital.

These specifications have been meticulously crafted using WHO template, Europe Medical Device Nomenclature (EMDN) and technical specification for selected capital medical device by Ethiopian Pharmaceuticals Supply Agency and other relevant documents. It is important to note that these specifications are intended to complement existing regulatory standards and guidelines, such as those set forth by the FDA (Food and Drug Administration) in the United States and the EU MDR (Medical Device Regulation) in the European Union.

The following list of medical equipment specification for hospitals have to be meet the following criteria.

- Bidders must provide a guarantee for continuous supply of consumables, accessories and spare parts.
- After sales technical support is mandatory.
- Operated on elevation of above sea level between1000m to 4500m.
- The registered product by the Ethiopian Food and Drug Authority (EFDA) preferable for the access of spare parts and accessories for post warranty period, customs and logistics.
- Cost of maintenance and spare parts must be covered by supplier/agent during warranty period.
- Technical and operational training are mandatory for biomedical professionals and end users respectively.
- The Bidders have provided the spare part list with number and production number.

Each equipment listed below should have safety and registration certificate from the following international standards.

- ISO 13485:2003 Medical devices Quality management systems.
- IEC 60601-1:2012 Medical electrical equipment - Part 1: General requirements for basic safety and essential performance.
- IEC 60601-1-1:2000 Medical electrical equipment - Part 1-1: General requirements for safety - Collateral standard: Safety requirements for medical electrical systems.
- IEC 60601-1-2:2007 Medical electrical equipment - Part 1-2: General requirements for basic safety and essential performance - Collateral standard: Electromagnetic compatibility - Requirements and tests.
- IEC 60601-2-21:2009 (Part 2-21: Requirements for the basic safety and essential performance of infant radiant warmers).
- Finally, before the delivery of the goods, the bidders will obtain the Product Certificate issued by Stringent Regulatory Authority, SRA Region.

DISTRIBUTION PLAN

ITEM CODE AND DESCRIPTION	Adama Hospital Medical College, Adama, Ethiopia	Hiwot Fana Specialized University Hospital, Haramaya, Ethiopia	Jimma University Specialized Hospital, Jimma, Ethiopia	Ayder Comprehensive Specialized Hospital, Mekelle, Ethiopia	Tibebe Ghion Specialized Hospital, Bahirdar, Ethiopia	Gondar Specialized Hospital, Gondar, Ethiopia	TOTAL
1 Radiant Warmer.	2			2		2	6
2 Phototherapy.	4			4		2	10
3 Ultrasound Machine.	1	1	0	1		1	4
4 Patient Monitors.	2	4	4	4	2	5	21
5 Infusion Pump.	3	6	6	4		3	22
6 Mechanical Ventilators.	1	1	1	0		1	4
7 Suction Machine.	2	1	3	5	2	2	15
8 Continuous Positive Pressure Airways (CPAP).	1			2		2	5
9 Nebuliser.	2			3		0	5
10 Operating Room Table.		1	1		1		3
11 Operating Room Light.		1					1
12 Cardiotocography (CTG).			3				3
13 Defibrillators.	0	2	1	1		1	5
14 Oxygen Concentrator.	2	0	4	4		2	12

ITEM CODE AND DESCRIPTION	Adama Hospital Medical College, Adama, Ethiopia	Hiwot Fana Specialized University Hospital, Haramaya, Ethiopia	Jimma University Specialized Hospital, Jimma, Ethiopia	Ayder Comprehensive Specialized Hospital, Mekelle, Ethiopia	Tibebe Ghion Specialized Hospital, Bahirdar, Ethiopia	Gondar Specialized Hospital, Gondar, Ethiopia	TOTAL
15 Fluoroscopy.		1					1
16 Autoclave.		1	1		1	1	4
17 Laryngoscope.				3			3
18 Ambu Bag.	4			4		2	10
19 Pulse Oximetry.	6	10	8	10		3	37
20 Glidescope.				1			1
21 Mini Fragment.		1			1	1	3
22 Locking Plate.		1			0		1
23 Pelvic Plate.		1			0		1
24 Hemiarthroplasty.		1			1	1	3
25 Orthopaedic Surgical Drill.		2			2	2	6
26 Fetal Doppler.			4				4
27 Fiberscopes.				1			1
28 Infant Incubator.						2	2
29 Electro Surgical Unit.					2	1	3

ITEM CODE AND DESCRIPTION	Adama Hospital Medical College, Adama, Ethiopia	Hiwot Fana Specialized University Hospital, Haramaya, Ethiopia	Jimma University Specialized Hospital, Jimma, Ethiopia	Ayder Comprehensive Specialized Hospital, Mekelle, Ethiopia	Tibebe Ghion Specialized Hospital, Bahirdar, Ethiopia	Gondar Specialized Hospital, Gondar, Ethiopia	TOTAL
34 Electrocardiography (ECG).	1	1	1	1		1	5
35 External Fixators Set.		0			2	0	2
36 Orthopaedics Instruments Set.		0			2		2
37 Dermatome Skin Grafting.					5		5
39 Proximal Femoral Nail Set.					1		1
40 Laminectomy Set.					1		1
41 Thoracolumbar Pedicle Instrument.					1		1
42 Arthroscope Instrument Set.					2	1	3

TECHNICAL SPECIFICATIONS

Columns 1-2 should be completed by the contracting authority
Columns 3-4 should be completed by the tenderer
Column 5 is reserved for the evaluation committee

Annex III - the contractor's technical offer

The tenderers are requested to complete the template on the next pages:

- Column 2 is completed by the contracting authority shows the required specifications (not to be modified by the tenderer),
- Column 3 is to be filled in by the tenderer and must detail what is offered (for example the words ‘compliant’ or ‘yes’ are not sufficient)
- Column 4 allows the tenderer to make comments on its proposed supply and to make eventual references to the documentation

The eventual documentation supplied should clearly indicate (highlight, mark) the models offered and the options included, if any, so that the evaluators can see the exact configuration. Offers that do not permit to identify precisely the models and the specifications may be rejected by the evaluation committee.

The offer must be clear enough to allow the evaluators to make an easy comparison between the requested specifications and the offered specifications.

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
1.	**Radiant Warmer**					
	NAME, CODE, CATEGORIES					
	1	Generic Name	Radiant Warmer.			
	2	Ethiopian MDN	Neonatal Radiant Warmer.			
	3	European MDN	Neonatal Radiant Warmer.			
	4	Code #	Z12080407.			
	5	Alternative Name (If there is)	Infant Radiant Warmer.			
	5	Categories	Medical Equipment and Related Accessories, Software and Consumables.			
	6	Keywords (optional)	Temperature, Overhead Heater, Skin, Temperature Sensor.			
	PURPOSE OF USE					
	1	Clinical Purpose	Infant radiant warmer used for the treatment of hypothermia on infants by providing a controlled environment with radiation heat in an open space and it consists of a biocompatible bed, overhead heater.			
	2	Patient Type	Neonates.			
	3	Specialty Department	Paediatrics and Child Health.			
	4	Overview of Functional Requirement	All items mounted on mobile trolley, on wheels fitted with brakes.			
			The physicians can easily access the infant or neonates from three different direction.			
			Infant bassinette to be stable, secure and easy to disinfect.			
	TECHNICAL CHARACTERISTICS					

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	1	Detailed Requirement	It shall be microprocessor controlled radiant warmer.			
			Radiation type heater operated by both timer and skin temperature regulation, selectable between the two (Manual and Servo controlled).			
			Heating element: emitter with parabolic reflector and protected by metal grid.			
			Maximum heater power output not less than 200 W.			
			Self-test facility on power required.			
			Heater output: 0 to 100% in increments of 5%.			
			It must have inbuilt rechargeable battery (12 or 24v).			
			The desired patient skin temperature range is from 34°C/95°F to 38°C/100.4°F.			
			Temperature resolution at least ±0.5 °C.			
			Monitoring of skin temperature by means of sensor, range: 30°C/86°F to 42°C/107.6°F.			
			Control unit allows air and skin temperature preset (LED indicator) and drives radiant heater output (servo and manual).			
			Integrated timer: 1 to 59 min, with count-up and count-down feature.			
			Overhead light must be provided for observing the baby.			
			Should have large colour display shows operational status, with set and measured values.			
			Control panel should be liquid proof and allow easy and hygienic disinfection.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	2	Display Parameters	Visual and audible alarms for patient high/low temperature and probe failure or disconnected, system failure, heater failure, and power failure.			
			Heater power indicator to be clearly visible.			
			Skin temperature display to be clearly visible.			
			Visual/audible alarm for patient check reminder.			
	3	User Adjustable Setting	Patient temperature range control from 34°C/95°F to 38°C/100.4°F and set.			
			Temporal alarm silencer.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Components	Bassinette to allow tilting of infant bed, clear view of infant and provide easy access to the infant from at least three sides.			
			Swing side panels to access infant table.			
			Height adjustable infant table, minimum height of which to be at least 80 cm.			
			Tilting table mechanism > 12°.			
			Mattress made by a material flame retardant, washable, antibacterial and resistant to corrosion, water, detergent soap, 70% ethylic alcohol solution with or without nitrite and to the hypochlorite of sodium.			
			Equipment compatibility with heated mattresses.			
			Bassinet size not less than 65 x 40 cm.			
			Drawer or shelf to be included for storage.			
			Mounting fittings for separate suction pump and bottled oxygen supply.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Overhead examination light with dedicated power switch to be included.			
			X-Ray cassette holder chassis tray underneath bassinette to enable proper positioning of the baby while doing the X-Ray.			
			At least one-unit integrated monitor shelf which could support up to at least 20 Kg.			
			Equipment composed by at least: an open-bassinet, heater unit and control unit.			
			Under table at least 1 storage drawers.			
	2	Mobility (if relevant)	Mounted on mobile, wheeled base, with breaks at least in two wheels.			
	3	Raw materials (if relevant)	Optional.			
	UTILITY REQUIREMENTS					
	1	Electrical, Water and (Gas supply if relevant)	Electric power supply: 220V AC, 50 Hz, ±10%.			
			Power cord length shouldn't be less than 3 meters.			
			Plug should be schuko type.			
			Battery powered alarm in the event of power failure, with temporary silence feature.			
			Voltage corrector / stabilizer to allow operation at ± 30% of local rated voltage.			
			Electrical protection by resettable overcurrent breakers or replaceable fuses, fitted in both live and neutral lines.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	Memory Foam Mattress.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			skin temperature probe (including connection cable).			
			spare skin temperature probe (including connection cable).			
			Base for external oxygen cylinder.			
			Neonatal manual resuscitator.			
			Intravenous (IV) pole.			
	2	Sterilization Processes for Accessories (if relevant)	N/A.			
	3	Consumables and Reagents (if relevant)	Oxygen bottle of approximately 10 litters, 225 bars, portable and provided with at least the following accessories: flux meter, humidifier and oxygen tubes.			
	4	Spare Parts	One sets of spare fuses (if replaceable fuses used).			
			1 x spare heating element.			
			2 x replacement examination light bulb.			
	5	Other Components (if relevant)	Reusable Resuscitator wit following accessories:			
			Integrated handle resuscitator with self-inflating bag, used in pulmonary resuscitation of infants.			
			Maximum volume delivered not less than 300 ml.			
			Oxygen reservoir bag capacity not less than 1500 ml. 100% latex-free.			
			Transparent valve, transparent face mask.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	N/A.			
	2	Shelf Life (if relevant)	N/A.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	3	Transportation and Storage (if relevant)	Packing of all the goods clearly marked and securely packed.			
			Each good will be further packed in separate package with all its standard accessories of distinct identification and numbers consecutively.			
	4	Labelling (if relevant)	Additional packing and labelling requirements should bear in each package.			
			Each item with all accessories /spare part shall be configured and packed in one unit.			
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	N/A.			
	2	Requirement for Commissioning	Supplier to perform installation, safety and operation checks before handover.			
			Local clinical staff to affirm completion of installation.			
	3	Training for End Users and Technical Personal	The supplier has to provide end users training in operation and basic maintenance shall be provided.			
	4	User Care (if relevant)	Equipment layout to enable easy daily cleaning by end user and disinfectant of all surfaces.			
	WARRANTY AND MAINTENANCE					

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	1	Warranty	The supplier must provide minimum of 24 months warranty including labour and spare part from the date of commissioning.			
	2	Maintenance Task	Advanced maintenance tasks required shall be documented.			
	3	Type of service contract	N/A.			
	4	Spare Parts Available Post Warranty	Optional.			
	5	Software and Hardware Upgrade Availability	N/A.			
	DOCUMENTATION					
	1	Documentation Requirements	Operational, technical and maintenance manuals to be supplied in English language.			
			List to be provided of important spares and accessories, with their part numbers.			
			Contact details of manufacturer, supplier and local service agent to be provided.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
2.	**Phototherapy**					
	NAME, CODE, CATEGORIES					
	1	Generic Name	Phototherapy.			
	2	Ethiopian MDN	Phototherapy Equipment.			
	3	European MDN	Phototherapy Equipment.			
	4	Code #	Z12080401.			
	5	Alternative Name (If there is)	Phototherapy Unit, Jaundice phototherapy equipment.			
	5	Categories	Medical Equipment and Related Accessories, Software and Consumables.			
	6	Keywords (optional)	Blue Light, Jaundice, Light Filter.			
	PURPOSE OF USE					
	1	Clinical Purpose	Phototherapy machines is designed to emit a blue light in the visible wavelength of around 425-475 nm to treat neonatal jaundice (or hyperbilirubinemia).			
	2	Patient Type	Neonates.			
	3	Specialty Department	Paediatrics and Child Health.			
	4	Overview of Functional Requirement	Provides filtered light using radiant electric lights, not Fibreoptics.			
			Infant supported securely in bassinette below bulbs.			
			Monitors hours of radiant light exposure.			
	TECHNICAL CHARACTERISTICS					

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	1	Detailed Requirement	Bulbs (halogen or LED) to provide, after filtering, light of wavelength approximately 425 to 475 nm.			
			Irradiance to be user variable in the range at least of 22 to 45 µW/cm2/nm.			
			Hour meter showing total exposure time for current patient to be clearly visible by operator.			
			Ultraviolet levels shall not exceed a maximum irradiance of 1,000 µW/cm2 for ultraviolet A radiation (315 to 400 nm) or a maximum effective radiance of 0.1 µW/cm2 for ultraviolet B radiation (280 to 315 nm).			
			Incandescent, tungsten or fluorescent bulbs acceptable.			
			Near-infrared (780 to 1,400 nm) radiation shall be filtered.			
			Over temperature safety cut out to be included.			
			Counter for lamp working hours and built-in timer for dose monitoring.			
			Lamp replacement interval not less than 2000 hours.			
			Light emission peak spectrum inside the range 400 - 500 nm.			
			The unit has an adjustable height with a minimum range: 1.20 – 1.60 m.			
	2	Display Parameters	Hour meter showing total exposure time.			
	3	User Adjustable Setting	Height Up and Down.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Components	Clear cabinet for observation of infant.			
			Infant bassinette to be integral to unit.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Unit to provide shielding of infant in the event of bulb breakage.			
			Bulb mount to have angle adjustment of at least 30 degrees.			
			All surfaces to be made of corrosion resistant materials.			
			Lamp arm adjustable height.			
			Stainless steel stand and lamp arm.			
	2	Mobility (if relevant)	Mobile unit with at least 4 castor anti-static wheels and at least two brakes.			
	3	Raw materials (if relevant)	Optional.			
	UTILITY REQUIREMENTS					
	1	Electrical, Water and (Gas supply if relevant)	Electric power supply: 220V AC, 50 Hz, ±10%.			
			Power cord length shouldn't be less than 3 meters.			
			Plug should be schuko type.			
			Battery powered alarm in the event of power failure, with temporary silence feature.			
			Voltage corrector/stabilizer to allow operation at ± 30% of local rated voltage.			
			Electrical protection by resettable overcurrent breakers or replaceable fuses, fitted in both live and neutral lines.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	At least 4 eyes protections masks of at least two different sizes.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	2	Sterilization Processes for Accessories (if relevant)	N/A.			
	3	Consumables and Reagents (if relevant)	N/A.			
	4	Spare Parts	Complete set of replacement bulbs to allow 3 months' continuous operation			
			Two replacement sets of fuses, if replaceable type used.			
	5	Other Components (if relevant)	Optional.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	N/A.			
	2	Shelf Life (if relevant)	N/A.			
	3	Transportation and Storage (if relevant)	Packing of all the goods clearly marked and securely packed.			
			Each good will be further packed in separate package with all its standard accessories of distinct identification and numbers consecutively.			
	4	Labelling (if relevant)	Additional packing and labelling requirements should bear in each package.			
			Each item with all accessories /spare part shall be configured and packed in one unit.			
	ENVIRONMENTAL REQUIREMENTS					

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	N/A.			
	2	Requirement for Commissioning	Supplier to perform installation, safety and operation checks before handover.			
			Local clinical staff to affirm completion of installation.			
	3	Training for End Users and Technical Personal	The supplier has to provide end users training in operation and basic maintenance shall be provided.			
	4	User Care (if relevant)	Equipment layout to enable easy daily cleaning by end user and disinfectant of all surfaces.			
	WARRANTY AND MAINTENANCE					
	1	Warranty	The supplier must provide minimum of 24 months warranty including labour and spare part from the date of commissioning.			
	2	Maintenance Task	Advanced maintenance tasks required shall be documented.			
	3	Type of service contract	N/A.			
	4	Spare Parts Available Post Warranty	Optional.			
	5	Software and Hardware Upgrade Availability	N/A.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	DOCUMENTATION					
	1	Documentation Requirements	Operational, technical and maintenance manuals to be supplied in English language.			
			List to be provided of important spares and accessories, with their part numbers.			
			Contact details of manufacturer, supplier and local service agent to be provided.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	Ultrasound Machine					
	NAME, CODE, CATEGORIES					
	1	Generic Name	Ultrasound Machine.			
	2	Ethiopian MDN	Multidisciplinary Ultrasound Scanners.			
	3	European MDN	Multidisciplinary Ultrasound Scanners.			
	4	Code #	Z11040104.			
	5	Alternative Name (If there is)	Colour Doppler Ultrasound Machine.			
	5	Categories	Medical Equipment and Related Accessories, Software and Consumable.			
	6	Keywords (optional)	Diagnostic Imaging Equipment, Probe, Scanner, Printer, Colour, Doppler.			
	PURPOSE OF USE					
	1	Clinical Purpose	Ultrasound machine is non-invasive diagnostic technique capable of performing imaging application in abdominal Ob/Gyn, musculoskeletal, cardiovascular, small parts, urology, cardiology, real time 4D, tissue electrography contrast and rectum.			
	2	Patient Type	Neonates, paediatrics and Adult.			
	3	Specialty Department	Paediatrics and Child Health, OBY/GYN, Anesthesiology, Critical Care, and Pain Medicine			
	4	Overview of Functional Requirement	Delivers real-time, non-invasive imaging of internal organ structures and functionality Displays images on integral screen and also enables DICOM compliant image transfer supplied with all necessary probes for cardiac, vascular, Ob/Gyn, prostate and breast imaging, with colour Doppler imaging, for patients of all ages.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	TECHNICAL CHARACTERISTICS					
	1	Detailed Requirements	Colour monitor, minimum 15" with high resolution medical grade TFT/LCD screen monitor display.			
			System broad band beam former capable of processing signals from 2 -15 MHZ.			
			Dynamic range at least 220 DB.			
			Modes: High resolution 2D, M (Bi dimensional, simultaneous) mode; colour Doppler; pulsed Doppler; colour perfusion; tissue harmonic imaging (THI), CW mode, colour flow imaging, colour power angiography imaging, directional colour power angiography imaging modes, live real time 3D/4D.			
			Full spectrum imaging, speckle reduction filter, spatial compound imaging, pulse inversion harmonic imaging, trapezoidal imaging and contrast enhanced imaging.			
			Digital and calliper measurement functions required for both distance, area and volume.			
			Trackball and/or touchpad in user panel.			
			Frame by frame image memory or cine-loop with a minimum of 400 frames per second or more.			
			Doppler display to indicate blood flow both numerically and in colour.			
			Post processing technology.			
			The capability of analysing 3D data set.			
			Real time triplex mode facility in 2D, colour and Doppler modes.			
			High pulse repetition frequency (PRF).			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Connection port for image printing to be included (printer specified separately).			
			Panoramic extended field of view.			
			Independent steering of B mode and colour on linear probe.			
			Advanced real time 4D capabilities.			
			Extensive software and automatic and user programmable calculation package for gray scale, colour Doppler, 3D and 4D applications.			
			HD/CD/USB storage unit.			
			Hard disk of at least 500GB.			
	2	Display Parameters	Unit display to be at least 512 by 512 pixels, with at least 256 gray scale levels and 256 colour scale levels.			
			Area, distance, volume, angles, speed and acceleration.			
			Frozen images zoom of at least 10X.			
			Dynamic real time zoom of at least 4X.			
	3	User Adjustable Setting	Adjustable depth gain, pulse repetition frequency (PRF), freeze frame and image zoom facilities required.			
			Colour Priority, focus and filters.			
			Protocols.			
			Cine record and playback feature required, with frame rate at least 400 fps.			
			Measurement accuracy to be better than 2% over 10cm distance.			
			Alphanumeric annotation to be possible.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	1	Components	Unit to be supplied on stable, mobile trolley fitted with 4 wheels that can be braked.			
			Display to have tilt/swivel facility for easy viewing.			
			Configurable footswitch control with at least 2m lead required.			
			Probe leads to be at least 2m in length.			
			The following transducer probes type and specification should be included:			
			a. **Curved (Convex) probe** with at least triple frequency, bandwidth of at least 2-4MHz, for abdomen and Ob/Gyn, etc. With following minimum specification: • Number of elements: 192. • FOV: 65 degrees. • Physical footprint: 30 x 17. • Convex diameter: 55 mm.			
			b. **Linear probe** with at least triple frequency, bandwidth of at least 2-11MHz, frequency with 4D capability for small parts, vascular, musculoskeletal. With following minimum specification: • Number of elements: 192. • FOV: 40 deg. • Physical footprint: 42 x 6 mm.			
			c. **Phased array probe** with at least triple frequency, bandwidth of at least 2-6 MHz frequency with 4D capability for Cardiology and etc. • Number of elements: 64. • FOV: 128 degrees.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			d. **Endo cavity** probe (Trans-vaginal and Trans rectal) (4-9MHz) applicable for examining internal organs such as vagina, cervix, uterus, fallopian, ovaries, rectum, etc. • Number of elements: 128. • FOV: 150 degrees. • Physical footprint:25 x 5 mm.			
			Built in image Management software, for offline application when patient has gone after examination, such as image manipulation, multi planner reformatting, surface and volume rendering.			
			Finally, the ultrasound machine has a capable of supporting at least four transducers' ports with switching form console.			
			Trolley to include shelf space for image printer and documentation.			
	2	Mobility (if relevant)	Unit to be supplied on stable, mobile trolley fitted with wheels that can be braked.			
	3	Raw Materials (if relevant)	N/A.			
	UTILITY REQUIREMENTS					
	1	Electrical, Water and (Gas supply if relevant)	Electric power supply: 220V AC, 50 Hz, ±10%.			
			Power cord length shouldn't be less than 3 meters.			
			Plug should be schuko type.			
			Battery powered alarm in the event of power failure, with temporary silence feature.			
			Voltage corrector / stabilizer to allow operation at ± 30% of local rated voltage.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Electrical protection by resettable overcurrent breakers or replaceable fuses, fitted in both live and neutral lines.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	Colour or B/W printer with paper.			
			Licenses DICOM send to print, DICOM storage and DICOM worklist.			
	2	Sterilization Processes for Accessories (if relevant)	Disinfectant for probes (if required).			
	3	Consumables and Reagents (if relevant)	Printer paper.			
			Gel.			
			Disposable covers for end cavity probe.			
			CD/USB discs for storage.			
	4	Spare Parts	USP at least for 60 minutes.			
	5	Other Components (if relevant)	All standard accessories and parts required to operate the equipment, cleaning and lubrication materials with their quantity to be included in the offer.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	N/A.			
	2	Shelf Life (if relevant)	N/A.			
	3		Packing of all the goods clearly marked and securely packed.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		Transportation and Storage (if relevant)	Each good will be further packed in separate package with all its standard accessories of distinct identification and numbers consecutively.			
	4	Labelling (if relevant)	Additional packing and labelling requirements should bear in each package.			
			Each item with all accessories /spare part shall be configured and packed in one unit.			
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	N/A.			
	2	Requirement for Commissioning	Supplier to perform installation, safety and operation checks before handover.			
			Local clinical staff to affirm completion of installation.			
	3	Training of End Users and Technical Personal	The supplier has to provide end users training in operation and basic maintenance shall be provided.			
	4	User Care (if relevant)	Equipment layout to enable easy daily cleaning by end user and disinfectant of all surfaces.			
	WARRANTY AND MAINTENANCE					
	1	Warranty	The supplier must provide minimum of 24 months warranty including labor and spare part from the date of commissioning.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	2	Maintenance Task	Advanced maintenance tasks required shall be documented.			
	3	Type of service contract	N/A.			
	4	Spare Parts Available Post Warranty	For more than five years.			
	5	Software and Hardware Upgrade Availability	Software and Hardware upgrade available during useful lifespan if applicable.			
	DOCUMENTATION					
	1	Documentation Requirements	Operational, technical and maintenance manuals to be supplied in English language.			
			List to be provided of important spares and accessories, with their part numbers.			
			Contact details of manufacturer, supplier and local service agent to be provided.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	Patient Monitors					
	NAME, CODE, CATEGORIES					
	1	Generic Name	Patient Monitors.			
	2	Ethiopian MDN	Multi–Parameter Patient Monitors.			
	3	European MDN	Multi–Parameter Patient Monitors.			
	4	Code #	Z12030202.			
	5	Alternative Name (If there is)	Vital Sign Monitors.			
	5	Categories	Medical Equipment and Related Accessories, Software and Consumables.			
	6	Keywords (optional)	Physiological Monitors, ECG, Blood Pressure, Temperature, SPO2.			
	PURPOSE OF USE					
	1	Clinical Purpose	Patient monitors record and display the vital sign Spo2, Temp. ECG, NIPB and Respiration.			
	2	Patient Type	Intensive care unit, Inpatient ward.			
	3	Specialty Department	ALL Specialty			
	4	Overview of Functional requirement	Continuous display on screen of patient ECG, respiration and heart rates, invasive / non-invasive blood pressure, body temperature and SpO2.			
			Display to be digital of all active parameters and trace display of at least three selectable parameters.			
			Allows display of single, 3 lead ECG or simultaneous display of at least 3 waves selected from up to 12 points.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Operator can set audiovisual alarm levels for low or high levels of each parameter independently.			
			Operates from mains voltage or from internal rechargeable battery.			
			ECG patient connectors that are sterilisable and reusable are preferred, though reusable cables that attach to disposable connection patches are also acceptable.			
	TECHNICAL CHARACTERISTICS					
	1	Detailed Requirement	Multichannel (up to 12 leads) ECG measurement and selectable display.			
			12-lead: I; II; III; avR; avL; avF; V1-V6			
			Heart rate measurement range to be at least 30 to 250 bpm, with accuracy better than ± 5 bpm and minimum gradation 1 bpm.			
			Heart Rate Range Adult: 15 – 300 bpm and Neonate/Paediatric: 15 – 350 bpm.			
			SpO2 measurement range at least 21 to 99 %, with accuracy better than ± 3%.			
			Blood pressure monitoring range at least 30 to 300 mmHg, minimum gradation 1 mmHg.			
			Internal pump for cuff inflation for non-invasive blood pressure measurement, with over pressure protection.			
			Range of Systolic Pressure: • Adult Mode: 40 – 270 mmHg. • Paediatric Mode: 40 – 200 mmHg. • Neonate Mode: 40 – 135 mmHg.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Range of Diastolic Pressure: • Adult Mode: 10 – 210 mmHg. • Paediatric Mode: 10 – 150 mmHg. • Neonate Mode: 10 – 95 mmHg.			
			Range of Mean Pressure: • Adult Mode: 20 – 230 mmHg. • Paediatric Mode: 20 – 165 mmHg. • Neonate Mode: 20 – 110 mmHg.			
			Accuracy of Blood Pressure Measurement.			
			The Mean error less than ±3 mmHg.			
			The Standard deviation less than 5 mmHg.			
			Over-Pressure Protection: Double safety protection.			
			Temperature probe to be reusable, external skin contact type.			
			Temperature range at least 30 to 40 °C, minimum gradation 0.1 °C.			
			Respiration rate measurement range at least 0 to 100 bpm, minimum gradation 1 bpm.			
			Range: Adult: 0 – 120 BPM Neonate/Paediatric: 0 – 150 BPM.			
			Alarm override and temporary silence facility to be included.			
			Automatic and programmable memory.			
			Storage of at least 24 hours of continuous monitoring data.			
			Trace signal velocity of at least 12 to 50 mm/s.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			LCD or TFT screen with analogue shape signals and numerical values visualization; settable limits for the measured variables; not less than 14" wide.			
			At least 5 simultaneous curves visualization.			
			Protections of all the functions against defibrillator discharges and electrosurgical units.			
			Pace-maker detection.			
			Trend display of 24hours.			
			Display reports system errors, leads and sensors failure and built-in battery status.			
			All the cables, sensors and connectors needed for full monitor functionality are to be included in the bid.			
	2	Display Parameters	Trend display of each parameter over at least previous 24 hours to be selectable.			
	3	User Adjustable Setting	User operated 1mV ECG test marker function required.			
			Alarm override and temporary silence facility to be included.			
			Audiovisual alarms required: high and low levels for each parameter (operator variable settings), sensor / wire / probe disconnected, low battery.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Components	Case is to be hard and splash proof.			
			Display must allow easy viewing in all ambient light levels.			
			Supplied in protective case for clean storage and safe transport with handle.			
			Wired patient cable connections will be preferred above wireless connection.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Cable connectors to be designed so as fit correct socket only.			
	2	Mobility (if relevant)	Easy and portable.			
	3	Raw Materials (if relevant)	N/A.			
	UTILITY REQUIREMENTS					
	1	Electrical, Water and (Gas supply if relevant)	Electric power supply: 220V AC, 50 Hz, ±10%.			
			Power cord length shouldn't be less than 3 meters.			
			Plug should be schuko type.			
			Battery powered alarm in the event of power failure, with temporary silence feature.			
			Voltage corrector / stabilizer to allow operation at ± 30% of local rated voltage.			
			Electrical protection by resettable overcurrent breakers or replaceable fuses, fitted in both live and neutral lines.			
			Automatic switch to batteries in case of power failure.			
			UPS of appropriate power			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories				
			Thermal recorder and printer (4Roll).			
			NIBP and IBP accessories			
			1 x Blood pressure cuff (1 x neonate, 1 x paediatric, 1 x adult, 1 obese adult).			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			10 Number of sensors for disposable IBP transducers with all standard accessories and 6 number of sensors for reusable adapter cable.			
			ECG accessories			
			1 x Patient cable extremities (1x neonate/paediatric, 1 x adult).			
			2 x Set of electrodes (1x neonate/paediatric, 1 x adult).			
			100 sets of ECG connection electrodes (if disposable type).			
			1 x Electrode gel, 350 ml.			
			Temperature accessories			
			2 x Skin temperature probes and rectal probes (including connection cable).			
			Pulse Oximetry (SpO2) sensors with cable and plug			
			1 x adult size, reusable clip-on type.			
			1 x Infant size, reusable clip-on type.			
			1 x Newborn size, reusable clip-on type.			
			10 x Newborn size, single use wrap-around type.			
			1 x CO2 sensor.			
	2	Sterilization Processes for Accessories (if relevant)	N/A.			
	3	Consumables and Reagents (if relevant)				
	4	Spare Parts				

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			2 x Set of spare fuses.			
	5	Other Components (if relevant)	Optional.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	N/A.			
	2	Shelf Life (if relevant)	N/A.			
	3	Transportation and Storage (if relevant)	Packing of all the goods clearly marked and securely packed.			
			Each good will be further packed in separate package with all its standard accessories of distinct identification and numbers consecutively.			
	4	Labelling (if relevant)	Additional packing and labelling requirements should bear in each package.			
			Each item with all accessories /spare part shall be configured and packed in one unit.			
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	N/A.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	2	Requirement for Commissioning	Supplier to perform installation, safety and operation checks before handover.			
			Local clinical staff to affirm completion of installation.			
	3	Training for End Users and Technical Personal	The supplier has to provide end users training in operation and basic maintenance shall be provided.			
	4	User Care (if relevant)	Equipment layout to enable easy daily cleaning by end user and disinfectant of all surfaces and probe.			
	WARRANTY AND MAINTENANCE					
	1	Warranty	The supplier must provide minimum of 12 months warranty including labour and spare part from the date of commissioning.			
	2	Maintenance Task	Advanced maintenance tasks required shall be documented.			
	3	Type of service contract	N/A.			
	4	Spare Parts Available Post Warranty	Optional.			
	5	Software and Hardware Upgrade Availability	Software and hardware upgrade available during useful lifespan if applicable.			
	DOCUMENTATION					
	1	Documentation Requirements	Operational, technical and maintenance manuals to be supplied in English language.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			List to be provided of important spares and accessories, with their part numbers.			
			Contact details of manufacturer, supplier and local service agent to be provided.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
5.	**Infusion Pump**					
	NAME, CODE, CATEGORIES					
	1	Generic Name	Infusion Pump.			
	2	Ethiopian MDN	Infusion Pump.			
	3	European MDN	Infusion Pump.			
	4	Code #	Z12030301.			
	5	Alternative Name (If there is)	Perfusor, Infusion multi-therapy pumps, Injection pumps.			
	5	Categories	Medical Equipment and Related Accessories, Software and Consumables.			
	6	Keywords (optional)	Flowrate, Medication, IV.			
	PURPOSE OF USE					
	1	Clinical Purpose	An infusion pump is a medical device that delivers fluids, such as medications and nutrients into a patient's body in controlled amounts.			
	2	Patient Type	All.			
	3	Specialty Department	Paediatrics and Child Health.			
	4	Overview of Functional requirement	Alarms indicate if any error situations occur.			
			The drive arm infuses the medication at a steady, programmed rate.			
	TECHNICAL CHARACTERISTICS					

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	1	Detailed Requirement	Flow rate programmable range at least from 0.1 to 200 ml/hr. increment of 0.1 ml/hr. and at least from 100 to 1200 ml/hr. in steps of 1 ml/hr.			
			Keep vein open (KVO) rate 1–5 ml/hr.			
			Volume to be infused selector (VTBI) 1–9999 ml.			
			Flow rate accuracy of ± 5% or better.			
			Saves last infusion rate even when the AC power is switched off.			
			Bolus rate should be programmable to approx. 500 ml, with infused volume display.			
			Selectable occlusion pressure trigger levels selectable from 300, 500 and 900 mmHg.			
			Accuracy of ±2% or better for set parameters.			
			Maximum pressure generated 20 psi.			
			Pause infusion facility required.			
			Self-check carried out on powering on.			
			Comprehensive alarm package required including occlusion alarm, near end of infusion pre-alarm and alarm, volume limit pre-alarm and alarm, low battery pre-alarm and alarm, AC power failure, drive disengaged.			
			Real time display			
			Compatibility with standard infusion sets commonly distributed in the market (desirable at least by the leading brands).			
	2	Display Parameters	Flow.			
			Pressure.			
			Dose.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Availability of software to monitor the delivery of drugs (preferable).			
	3	User Adjustable Setting	User operated 1mV ECG test marker function required.			
			Alarm override and temporary silence facility to be included.			
			Audiovisual alarms required: high and low levels for each parameter (operator variable settings), sensor / wire / probe disconnected, low battery.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Components	Unit surface is to be hard and corrosion resistant.			
			Supplied mounted on robust board with carrying handle.			
	2	Mobility (if relevant)	Portable.			
	3	Raw Materials (if relevant)	N/A.			
	UTILITY REQUIREMENTS					
	1	Electrical, Water and (Gas supply if relevant)	Electric power supply: 220V AC, 50 Hz, ±10%.			
			Power cord length shouldn't be less than 3 meters.			
			Plug should be schuko type.			
			Battery powered alarm in the event of power failure, with temporary silence feature.			
			Voltage corrector / stabilizer to allow operation at ± 30% of local rated voltage.			
			Electrical protection by resettable overcurrent breakers or replaceable fuses, fitted in both live and neutral lines.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	1	Accessories	Clamp for mounting pump on IV stand.			
			Clamp for external transportation (preferable) (if applicable).			
	2	Sterilization Processes for Accessories (if relevant)	N/A.			
	3	Consumables and Reagents (if relevant)	N/A.			
	4	Spare Parts	Data port required, at least RS232 and/or USB interface.			
			Wireless connectivity (preferable).			
	5	Other Components (if relevant)	Optional.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	N/A.			
	2	Shelf Life (if relevant)	N/A.			
	3	Transportation and Storage (if relevant)	Packing of all the goods clearly marked and securely packed.			
			Each good will be further packed in separate package with all its standard accessories of distinct identification and numbers consecutively.			
	4	Labelling (if relevant)	Additional packing and labelling requirements should bear in each package.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Each item with all accessories /spare part shall be configured and packed in one unit.			
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	N/A.			
	2	Requirement for Commissioning	Supplier to perform installation, safety and operation checks before handover.			
			Local clinical staff to affirm completion of installation.			
	3	Training for End Users and Technical Personal	The supplier has to provide end users training in operation and basic maintenance shall be provided.			
	4	User Care (if relevant)	Equipment layout to enable easy daily cleaning by end user and disinfectant of all surfaces.			
	WARRANTY AND MAINTENANCE					
	1	Warranty	The supplier must provide minimum of 12 months warranty including labour and spare part from the date of commissioning.			
	2	Maintenance Task	Advanced maintenance tasks required shall be documented.			
	3	Type of service contract	N/A.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	4	Spare Parts Available Post Warranty	Optional.			
	5	Software and Hardware Upgrade Availability	Software and hardware upgrade available during useful lifespan if applicable.			
	DOCUMENTATION					
	1	Documentation Requirements	Operational, technical and maintenance manuals to be supplied in English language.			
			List to be provided of important spares and accessories, with their part numbers.			
			Contact details of manufacturer, supplier and local service agent to be provided.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
6.	**Mechanical Ventilator**					
	NAME, CODE, CATEGORIES					
	1	Generic Name	Mechanical Ventilator.			
	2	Ethiopian MDN	Pulmonary Ventilator.			
	3	European MDN	Pulmonary Ventilators.			
	4	Code #	Z1203010504.			
	5	Alternative Name (If there is)	Ventilator.			
	5	Categories	Medical Equipment and Related Accessories, Software and Consumables.			
	6	Keywords (optional)	Respiration, Oxygen.			
	PURPOSE OF USE					
	1	Clinical Purpose	Mechanical ventilators are life support devices that move gas (e.g. air and/or oxygen) to and from a patient's lungs.			
			These devices may provide temporary or permanent respiration for patients who cannot breathe on their own, or who require assistance maintaining adequate ventilation.			
			It can be used in two modes Invasive (Tube Inside trachea) and non-invasive (through face mask/nasal tube) ventilation.			
	2	Patient Type	All.			
	3	Specialty Department	Emergency and Critical Care, Anesthesiology, Critical Care and Pain Medicine.			
	4		Dispenses a controlled mixture of oxygen and air to the patient.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		Overview of Functional requirement	Gives artificial respiratory support as necessary.			
			Fully alarmed with all necessary monitors for continuous operation in ICU environment includes compressor and humidifier.			
			Reusable, sterilisable patient masks and / or connectors.			
			Suitable for all ages and body weights of patient.			
	TECHNICAL CHARACTERISTICS					
	1	Detailed Requirement	Display more than 10" LED/TFT touch screen resolution of 1280 X 1024.			
			Menu of functions appear on the screen.			
			User interface with controls and display.			
			Pneumatic with electronic control and alarm.			
			Ventilation parameters:			
			Tidal volume: 10 - 2000 ml.			
			Respiratory rate: 5 - 80 BPM.			
			Pressure: 1 - 100 cm H2O.			
			Inspiratory Peak Flow: 4 - 100 1/min.			
			Minute volume: 1 - 30 1/min.			
			Oxygen Concentration: 21 -100 %.			
			Inspiratory pause: 0.1 - 5.5 sec.			
			I:E ratio: 1:2 – 1:6 / 2:1.			
			PEEP/CPAP: 0-30 cm H2O.			
			Graphical Display of flow (t), TV(t).			
			Pneumatic Gas Sources:			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Gas delivery system by sound less in-built compressor / external integrated compressor with the unit.			
			In case of compressor failure also be operable with compressed air.			
			Oxygen supply of 45 to 116 psi.			
			Automatic gas switch over if O2 supply fails.			
			Enables spontaneous breathing with filtered ambient air if air and O2 supply failed.			
			Digital output and input via interface.			
			Internal battery (maintenance free) with 4-hour minimum operating time for the ventilator.			
			Direct access to vital settings.			
			Transducer sterilisable and reusable.			
			PEEP valve-built in.			
			Patient circuit separate inspiratory and expiratory limb.			
			Back up mode for apnea.			
			Full alarm system for all ventilator settings and monitored values.			
			Time simultaneous display of two waveforms.			
			Display minimum 3 graphs and 2 loops.			
			Automatic leakage compensation.			
			Adjustable resistance compensation for endotracheal tubes.			
			Tran's pulmonary pressure monitoring via oesophageal catheter.			
			Automatic maneuver for static compliance assessment and lung recruitment including trans pulmonary pressure.			
			Mainstream (volumetric) or side stream Co2 sensor.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Integrated continuous cuff pressure controller.			
			With independent oxygen supply.			
			Inspiration time 0.1 to 10sec.			
			Nebulizer: Integrated pneumatic nebulizer.			
			Humidifier control.			
			Fully closed loop ventilation and oxygenation.			
			Ventilation Mode:			
			A/C VC.			
			A/C PC.			
			A/C PR VC			
			SIMV VC.			
			SIMV PC.			
			CPAP.			
			NIV.			
			PSV.			
			SIMV/PSV.			
			Pressure support ventilation with bidirectional backup			
			Dual positive airway pressure (biphasic positive airway pressure)			
			Airway pressure release ventilation			
			Synchronized controlled mandatory ventilation			
			Synchronized intermittent mandatory ventilation			
			Volume support, tidal volume guaranteed with bidirectional backup			
			Non-invasive ventilation with bidirectional backup			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Non-invasive ventilation with mandatory rate.			
	2	Display Parameters	Synchronized nasal CPAP.			
			High flow oxygen therapy.			
			Real-time airway pressure.			
			Real-time auxiliary pressure.			
			Peak airway pressure.			
			Mean airway pressure			
			Minimum airway pressure.			
			Plateau airway pressure.			
			Positive-end expiratory pressure / cont. positive.			
			Airway pressure.			
			Inspiratory pressure.			
			Cuff pressure.			
			Trans pulmonary pressure at the end of inspiration.			
			Trans pulmonary pressure at the end of expiration.			
			Real time trans pulmonary pressure.			
			Real-time inspiratory / expiratory flow.			
			Peak inspiratory flow.			
			Peak expiratory flow.			
			Real-time tidal volume.			
			Expiratory tidal volume / Inspiratory.			
			Tidal volume.			
			Expiratory minute volume / spontaneous minute volume.			
			Leakage volume at the airway.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Avoid excessive VT.			
			Temperature Y-piece.			
			Chamber outlet temperature.			
			Temperature difference between humidifier chamber and Y-piece.			
			Inspiratory / expiratory ratio.			
			Total breathing frequency.			
			Spontaneous breathing frequency.			
			Inspiratory time.			
			Expiratory time.			
			Index of spontaneous respiratory rate variability.			
			Percentage of spontaneous breathing rate.			
			Static compliance.			
			Airway occlusion pressure.			
			Auto PEEP.			
			Pressure-time product.			
			Expiratory time constant.			
			Inspiratory time constant.			
			Expiratory flow resistance.			
			Inspiratory flow resistance			
			Rapid shallow breathing index.			
			Imposed work of breathing.			
			Airway oxygen concentration (FiO2).			
			Fractional end tidal Co2 concentration.			
			End-tidal Co2 partial pressure.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			V/Q status of the lung.			
			Alveolar tidal ventilation.			
			Alveolar minute ventilation.			
			Elimination of Co2.			
			Airway dead space.			
			Dead space fraction measured at the airway opening.			
			Exhaled volume of Co2.			
			Inspired volume of Co2.			
			Real-time plethysmogram.			
			Saturation (pulse oximetry).			
			Heart Lung Interaction Index.			
			Pulse rate.			
			Carbon monoxide concentration.			
			Methaemoglobin concentration.			
			Total oxygen content.			
			Alarm Audio Visual with Silent Feature.			
	3	User Adjustable Setting	The following variables should be controllable by the operator:			
			Tidal volume up to 2,000 ml.			
			Pressure (inspiratory) up to 80 cm H20			
			Volume (inspiratory) up to 120 L/min			
			Respiratory rate: up to 60 breaths per minute.			
			SIMV Respiratory Rate: up to 40 breaths per minute.			
			CPAP/PEEP up to 30 cm H2O.			
			Pressure supports up to 45 cm H2O.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			FiO2 between 21 to 100 %			
			Inspiratory and expiratory times up to at least 2 sec and 8 sec respectively			
			I: E Ratio at least from 1:2 – 1:6 / 2:1.			
			Modes of ventilation:			
			Volume controlled.			
			Pressure controlled.			
			Pressure support.			
			Synchronized intermittent mandatory ventilation (SIMV) with pressure support.			
			Assist / control mode.			
			CPAP/PEEP.			
			Alarms required: FiO2, minute volume, pressure, PEEP, apnea, occlusion, high respiration rate, disconnection.			
			System alarms required: power failure, gas disconnection, low battery, vent inoperative, self-diagnostics.			
			If alarm silencing feature is incorporated, it must be temporary and clearly displayed when activated.			
			Air and externally supplied oxygen mixture ratios fully controllable.			
			Inlet gas supply (O2) pressure range at least 45 to 116 psi.			
			Medical air compressor integral to unit, with inlet filter.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Components	Mounting Trolley/Cast mounting for easy transportation: 4 Castor Dia.			
			10cm with brakes.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Integrated printer.			
	2	Mobility (if relevant)	Easily Movable.			
	3	Raw Materials (if relevant)	Optional.			
	UTILITY REQUIREMENTS					
	1	Electrical, Water and (Gas supply if relevant)	Electric power supply: 220V AC, 50 Hz, ±10%.			
			Power cord length shouldn't be less than 3 meters.			
			Battery powered alarm in the event of power failure, with temporary silence feature.			
			Voltage corrector / stabilizer to allow operation at ± 30% of local rated voltage.			
			Electrical protection by resettable overcurrent breakers or replaceable fuses, fitted in both live and neutral lines.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	1x AC power cord.			
			1x Humidifier bracket kit.			
			1x Humidifier mounting adapter.			
			1x O2 Cylinder holder kit.			
			1x O2 High pressure hose.			
			1x O2 Manifold.			
			1x O2 Sensor Kit.			
			1 x RS-232 serial communications cable			
			10 x roll of paper.			
			Adult, paediatrics and neonatal test lung.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			3x Adult, paediatrics and neonatal reusable patient circuit.			
			5x Reusable inspiratory bacteria filter.			
			3x Reusable exhalation bacteria filter.			
			2x Water traps.			
			2x Coupling, straight silicone.			
			1x Water collection.			
			2x humidifier bottle.			
			All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials including items not specified above.			
	2	Sterilization Processes for Accessories (if relevant)	Optional.			
	3	Consumables and Reagents (if relevant)	Optional.			
	4	Spare Parts	Rechargeable batteries with at least the following characteristics:			
			Automatic switch from AC power electric-line mode to battery operating mode and vice-versa.			
			Equipment able to operate from AC power source and external battery (12V or 24V).			
			Continuous monitoring working time in battery operating mode with standard ventilation not less than 5 hours.			
			Integrated batteries charger.			
			Low battery visual alarm.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			100% high-capacity batteries with re-charging time not greater than 6 hours.			
	5	Other Components (if relevant)	Optional.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	N/A.			
	2	Shelf Life (if relevant)	N/A.			
	3	Transportation and Storage (if relevant)	Packing of all the goods clearly marked and securely packed.			
			Each good will be further packed in separate package with all its standard accessories of distinct identification and numbers consecutively.			
	4	Labelling (if relevant)	Additional packing and labelling requirements should bear in each package.			
			Each item with all accessories /spare part shall be configured and packed in one unit.			
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	Optional.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	2	Requirement for Commissioning	Supplier to perform installation, safety and operation checks before handover.			
			Local clinical staff to affirm completion of installation.			
	3	Training for End Users and Technical Personal	The supplier has to provide end users training in operation and basic maintenance shall be provided.			
	4	User Care (if relevant)	Equipment layout to enable easy daily cleaning by end user and disinfectant of all surfaces and general safety precautions.			
	WARRANTY AND MAINTENANCE					
	1	Warranty	The supplier must provide minimum of 24 months warranty including labour and spare part from the date of commissioning.			
	2	Maintenance Task	Advanced maintenance tasks required shall be documented.			
	3	Type of service contract	N/A.			
	4	Spare Parts Available Post Warranty	Optional.			
	5	Software and Hardware Upgrade Availability	Hardware and software upgrade available during useful lifespan if applicable			
	DOCUMENTATION					
	1	Documentation Requirements	Operational, technical and maintenance manuals to be supplied in English language.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			List to be provided of important spares and accessories, with their part numbers.			
			Contact details of manufacturer, supplier and local service agent to be provided.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
7.	**Suction Machine**					
	NAME, CODE, CATEGORIES					
	1	Generic Name	Suction Machine.			
	2	Ethiopian MDN	Drainage Systems with Adjustable Suction.			
	3	European MDN	Drainage Systems with Adjustable Suction.			
	4	Code #	A06010102.			
	5	Alternative Name (If there is)	Aspirators, Suction Pump, Vacuum Pump.			
	5	Categories	Devices for Administration, Withdrawal and Collection.			
	6	Keywords (optional)	Negative Pressure, Fluid, Compressor.			
	PURPOSE OF USE					
	1	Clinical Purpose	An assembly of devices designed to evacuate fluid, tissue, gas or other foreign materials from a body cavity or lumen by means of suction.			
	2	Patient Type	All.			
	3	Specialty Department	Paediatric and Child Health, OB/GYN and Anesthesiology, Critical Care and Pain Medicine.			
	4	Overview of Functional requirement	Working using negative pressure to sack biohazard disposal deposited in the jar bottle.			
	TECHNICAL CHARACTERISTICS					
	1	Detailed Requirement	Low vacuum, low flow, oil free vacuum pump.			
			Vacuum Adjustment: Continuous.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Max. Vacuum: Minimum 500 mmHg.			
			2 Collection bottle: 1L (disposable bag or collection jar).			
			Bottle(s) to have an automatic cut off when full to prevent ingress of fluid to pump.			
			Filter and overflow valve incorporated to prevent cross-contamination (e.g. shatterproof material, overflow protection system). It should be disposable or autoclavable.			
			Airline to pump to incorporate bacterial filter.			
			Tubing to patient to be minimum 3m long, non-collapsible type			
			All parts are manufactured from high-strength, durable material, that does not require specific maintenance or storage conditions.			
			Pump can be disassembled entirely, is easy to clean, disinfect and sterilize.			
			Any necessary greasing / oiling to be simple, accessible and possible by normal clinical operator.			
			Flow: minimum 20L/minutes.			
	2	Display Parameters	Pressure gauge shall display suction generated.			
	3	User Adjustable Setting	User settable valve shall allow adjustment of suction pressure delivered to patient.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
			Unit surface is to be hard and corrosion resistant.			
	1	Components	Pump handle / pedal to be spring loaded to return to 'up' position after each stroke.			
			Supplied mounted on robust board with carrying handle.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	2	Mobility (if relevant)	Portable.			
	3	Raw Materials (if relevant)	N/A			
	UTILITY REQUIREMENTS					
	1	Electrical, Water and (Gas supply if relevant)	Electric power supply: 220V AC, 50 Hz, ±10%.			
			Power cord length shouldn't be less than 3 meters.			
			Plug should be schuko type.			
			Battery powered alarm in the event of power failure, with temporary silence feature.			
			Voltage corrector / stabilizer to allow operation at ± 30% of local rated voltage.			
			Electrical protection by resettable overcurrent breakers or replaceable fuses, fitted in both live and neutral lines.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	Suction tubes and suction tips.			
	2	Sterilization Processes for Accessories (if relevant)	The suction pump and the aspirating tube must be Cleaned and disinfected after each use.			
	3	Consumables and Reagents (if relevant)	Tubing, bacteria filters and collection jar.			
			Supplier to describe detailing shelf life and number of uses.			
	4	Spare Parts	2x sets of spare filters.			
			2x spare suction bottle or jar.			
			2x pare sets of fuses.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			3x Suction tubes.			
	5	Other Components (if relevant)	N/A.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	N/A.			
	2	Shelf Life (if relevant)	N/A.			
	3	Transportation and Storage (if relevant)	Packing of all the goods clearly marked and securely packed.			
			Each good will be further packed in separate package with all its standard accessories of distinct identification and numbers consecutively.			
	4	Labelling (if relevant)	Additional packing and labelling requirements should bear in each package.			
			Each item with all accessories /spare part shall be configured and packed in one unit.			
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	N/A.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	2	Requirement for Commissioning	Supplier to perform installation, safety and operation checks before handover.			
			Local clinical staff to affirm completion of installation.			
	3	Training for End Users and Technical Personal	The supplier has to provide end users training in operation and basic maintenance shall be provided.			
	4	User Care (if relevant)	Equipment layout to enable easy daily cleaning by end user and disinfectant of all surfaces, jar and tube and safety precautions.			
	WARRANTY AND MAINTENANCE					
	1	Warranty	12 Months			
	2	Maintenance Task	List shall be provided of equipment and procedures required for local routine maintenance.			
			Advanced maintenance tasks required shall be documented.			
	3	Type of service contract	N/A.			
	4	Spare Parts Available Post Warranty	N/A.			
	5	Software and Hardware Upgrade Availability	N/A.			
	DOCUMENTATION					
	1	Documentation Requirements	Operational, technical and maintenance manuals to be supplied in English language.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			List to be provided of important spares and accessories, with their part numbers.			
			Contact details of manufacturer, supplier and local service agent to be provided.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
8.	**Continuous Positive Pressure Airways (CPAP)**					
	NAME, CODE, CATEGORIES					
	1	Generic Name	Continuous Positive Air Pressure (CPAP).			
	2	Ethiopian MDN	CPAP and NIV Breathing Circuits.			
	3	European MDN	CPAP and NIV Breathing Circuits.			
	4	Code #	R020104.			
	5	Alternative Name (If there is)	CPAP.			
	5	Categories	Respiratory and Anaesthesia Devices.			
	6	Keywords (optional)	Auto CPAP, BiPAP, CPPB, breathing.			
	PURPOSE OF USE					
	1	Clinical Purpose	The Device is used for Delivery of a continuous positive airway pressure (CPAP) that gives a constant flow of oxygen/air to the patient at a preselected pressure, thereby imposing a small overpressure within the lungs that assists the gas exchange. Suitable for paediatric and newborn patients.			
	2	Patient Type	Paediatrics and Neonates.			
	3	Specialty Department	Paediatrics and Child Health.			
	4		Maintains small, continuous positive pressure in airway.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		Overview of Functional requirement	Delivered through light, comfortable face mask.			
			Suitable for adult, paediatric and newborn patients.			
			Operates from mains electricity with battery backup facility.			
	TECHNICAL CHARACTERISTICS					
	1	Detailed Requirement	Pressure range to be user settable and to include the range 4 to 20 mbar.			
			Controls to be easy to operate, numbers and displays to be clearly visible.			
			Pressure support: 0 - 10 cm H2O.			
			Pressure ramp function required to assist falling asleep.			
			Manual breath button.			
			Feedback control of the warming.			
			Digital display of temperature.			
			Humidity compensation system.			
			Working flow range between 4 and 9 l/m.			
			Alarms at least for: lack of water; sensor failure; high, low temperature.			
			Monitoring of the air temperature: precision ± 1º C.			
			Compressor incorporated and inbuilt for paediatric and neonates.			
			Noise level to be less than 50 db at mid pressure range.			
	2	Display Parameters	Tidal volume, Inspiratory pressure, Inspiratory time, expiratory time, I: E ratio, FiO2.			
	3		Patient alarms			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		User Adjustable Setting	Equipment alarms to alert user to power failure, low battery, overheating, mask / tube fault Inlet air filter to be fitted.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Components	Case is to be hard and splash proof, also for clean storage and safe transport.			
			Front panel allows easy viewing in all ambient light levels.			
			Panel settings protected from accidental operation.			
			Unit to be stable when table-top mounted.			
			Noise level to be less than 35 db at mid pressure range.			
	2	Mobility (if relevant)	Whole unit to be easily portable by hand.			
	3	Raw Materials (if relevant)	Optional.			
	UTILITY REQUIREMENTS					
	1	Electrical, Water and (Gas supply if relevant)	Electric power supply: 220V AC, 50 Hz, ±10%.			
			Power cord length shouldn't be less than 3 meters.			
			Plug should be schuko type.			
			Battery powered alarm in the event of power failure, with temporary silence feature.			
			Voltage corrector / stabilizer to allow operation at ± 30% of local rated voltage.			
			Electrical protection by resettable overcurrent breakers or replaceable fuses, fitted in both live and neutral lines.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	1	Accessories	Five of each size of reusable, sterilisable masks and tubes (adult, paediatric, neonatal).			
			Two sets of fuses, if replaceable type used.			
			Five replacement inlet air filters.			
			Supplier to specify if the following are available as options: computer link, flowmeter, humidifier, oxygen analyse.			
			Bubble CPAP ventilator:			
			400 to 700 ml container.			
			Mean positive pressure provided between 2 and 12 cm of H2O.			
			Single use entry and exit connectors.			
			Patient circuits for adult, paediatric or neonatal patients.			
			AirO2 mixer.			
			Oxygen regulation scale between 21% and 100%.			
			Stainless steel or metallic antioxidant material.			
			Different connectors for Air and O2.			
			Flowmeter for low flow values from 0 to 1 lt/min.			
	2	Sterilization Processes for Accessories (if relevant)	N/A.			
	3	Consumables and Reagents (if relevant)	Optional.			
	4	Spare Parts	Medical units select them according to their needs, ensuring compatibility with the brand and model of the equipment including compressor.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	5	Other Components (if relevant)	N/A.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	N/A.			
	2	Shelf Life (if relevant)	N/A.			
	3	Transportation and Storage (if relevant)	Packing of all the goods clearly marked and securely packed.			
			Each good will be further packed in separate package with all its standard accessories of distinct identification and numbers consecutively.			
	4	Labelling (if relevant)	Additional packing and labelling requirements should bear in each package.			
			Each item with all accessories /spare part shall be configured and packed in one unit.			
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	N/A.			
	2	Requirement for	Supplier to perform installation, safety and operation checks before handover.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		Commissioning	Local clinical staff to affirm completion of installation.			
	3	Training for End Users and Technical Personal	The supplier has to provide end users training in operation and basic maintenance shall be provided.			
	4	User Care (if relevant)	Equipment layout to enable easy daily cleaning by end user and disinfectant of all surfaces and probe.			
	WARRANTY AND MAINTENANCE					
	1	Warranty	The supplier must provide minimum of 12 months warranty including labour and spare part from the date of commissioning.			
	2	Maintenance Task	Advanced maintenance tasks required shall be documented.			
	3	Type of service contract	N/A.			
	4	Spare Parts Available Post Warranty	For more than five years.			
	5	Software and Hardware Upgrade Availability	Software and hardware upgrade available during useful lifespan if applicable			
	DOCUMENTATION					
	1	Documentation Requirements	Operational, technical and maintenance manuals to be supplied in English language.			
			List to be provided of important spares and accessories, with their part numbers.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Contact details of manufacturer, supplier and local service agent to be provided.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
9.	**Nebuliser**					
	NAME, CODE, CATEGORIES AND DEFINITION					
	1	Generic Name	Nebuliser.			
	2	Ethiopian MDN	Nebulisation and Humidification Systems.			
	3	European MDN	Nebulisation and Humidification Systems.			
	4	Code #	R06.			
	5	Alternative Name (If there is)	Nebulizer.			
	5	Categories	Respiratory and Anaesthesia Devices.			
	6	Keywords (optional)				
	PURPOSE OF USE					
	1	Clinical Purpose	Designed to generate warmed aerosolized medications/fluids intended to inhale by the patient with a respiratory disorder.			
	2	Patient Type	All.			
	3	Speciality Department	Paediatrics and Child Health.			
	4	Overview of Functional requirement	Devices designed to produce (i.e. generate) gaseous suspensions of extremely small particles of a liquid or solid.			
			These generators typically include a micro-ultrasonic or pneumatic pumping mechanism capable of creating a fine-particle liquid mist appropriate for delivery to the patient's airways and/or lung disposition.			
	TECHNICAL CHARACTERISTICS					

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	1	Detailed Requirement	Maximum pressure should be: 2.0 to 2.5bars.			
			Must produce particle of size 1-5µm.			
			Air delivery rate should be greater than 10 l/min.			
			It should be able to work continuously for 24 hr. when needed.			
			Speed nebulization rate control (minimum, medium, maximum).			
			Should provide silent operation.			
			Should have a built-in timer and shuts off after 10 minutes use.			
			Should have a nebulisation capacity of 0.3 ml/min.			
	2	Display Parameters	Oxygen Fraction, Flowrate.			
	3	User Adjustable Setting	Oxygen Fraction, Flowrate.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Components	Should be compact, lightweight, and less noisy.			
			Should have durable compressor suitable for heavy duty.			
	2	Mobility (if relevant)	Portable.			
	3	Raw Materials (if relevant)	Optional.			
	UTILITY REQUIREMENTS					
	1	Electrical, Water and	Electric power supply: 220V AC, 50 Hz, ±10%.			
			Power cord length shouldn't be less than 3 meters.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		(Gas supply if relevant)	Plug should be schuko type.			
			Battery powered alarm in the event of power failure, with temporary silence feature.			
			Voltage corrector / stabilizer to allow operation at ± 30% of local rated voltage.			
			Electrical protection by resettable overcurrent breakers or replaceable fuses, fitted in both live and neutral lines.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	With necessarily nebulisation mask.			
			Tubing for nebulisation.			
			Cable cord.			
	2	Sterilization Processes for Accessories (if relevant)	N/A.			
	3	Consumables and Reagents (if relevant)	Optional.			
	4	Spare Parts	Should be provided with a complete nebulization kit of 10 numbers			
	5	Other Components (if relevant)	Optional.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	N/A.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	2	Shelf Life (if relevant)	N/A.			
	3	Transportation and Storage (if relevant)	Packing of all the goods clearly marked and securely packed.			
			Each good will be further packed in separate package with all its standard accessories of distinct identification and numbers consecutively.			
	4	Labelling (if relevant)	Additional packing and labelling requirements should bear in each package.			
			Each item with all accessories /spare part shall be configured and packed in one unit.			
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	N/A.			
	2	Requirement for Commissioning	Supplier to perform installation, safety and operation checks before handover.			
			Local clinical staff to affirm completion of installation			
	3	Training for End Users and Technical Personal	The supplier has to provide end users training in operation and basic maintenance shall be provided.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	4	User Care (if relevant)	Equipment layout to enable easy daily cleaning by end user and disinfectant of all surfaces and general safety precautions.			
	WARRANTY AND MAINTENANCE					
	1	Warranty	The supplier must provide minimum of 12 months warranty. Including labour and spare part from the date of commissioning.			
	2	Maintenance Task	Advanced maintenance tasks required shall be documented.			
	3	Type of service contract	N/A.			
	4	Spare Parts Available Post Warranty	N/A.			
	5	Software and Hardware Upgrade Availability	Software and hardware upgrade available during useful lifespan if applicable.			
	DOCUMENTATION					
	1	Documentation Requirements	Operational, technical and maintenance manuals to be supplied in English language.			
			List to be provided of important spares and accessories, with their part numbers.			
			Contact details of manufacturer, supplier and local service agent to be provided.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
10.	**Operating Room Table**					
	NAME, CODE, CATEGORIES					
	1	Generic Name	Operating Room Table.			
	2	Ethiopian MDN	Operating Table.			
	3	European MDN	Operating Table.			
	4	Code #	Z12011202.			
	5	Alternative Name (If there is)	OR Table, OT Table.			
	5	Categories	Medical Equipment and Related Accessories, Software and Consumables.			
	6	Keywords (optional)	OR Table, Lie, Electro, Pneumatic.			
	PURPOSE OF USE					
	1	Clinical Purpose	An Operating table is a table which a patient lies during surgical procedure and easily adjustable.			
	2	Patient Type	All			
	3	Specialty Department	Orthopaedics and Traumatology and OB/GYN.			
	4	Overview of Functional requirement	A mains electricity (AC-powered) and pneumatically operated, adjustable table designed to support patient while the surgical procedure is conducted.			
			It has adjustable height, multi positioning capabilities and improving patient comfort.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	TECHNICAL CHARACTERISTICS					
	1	Detailed Requirement	Four section table, electro-pneumatic table.			
			Should be adjustable to all essential positions.			
			Should have frame and bottom made of 304 grade Stainless Steel material.			
			Height should be adjustable by electro-pneumatic pump, footstep control.			
			Should have detachable head rest which can be easily adjustable to any desired position, above or below the tabletop.			
			Tabletop should be radio translucent.			
			Table made of corrosion resistant and disinfectant- proof stainless steel.			
			Traction facility.			
			Tabletop can be rotated 360° through base.			
			Durable and leak-proof electro-pneumatic pump.			
			Kidney-position should be achievable by breaking the table.			
			Should have handset for position selection by in-built stand-by control			
			Should have a Rotary brake device which is easy for moving operating table.			
			Inclining forward ≥30°.			
			Inclining backward ≥30°.			
			Inclining leftward≥30°.			
			Inclining rightward≥30°.			
			Back board folding upward ≥45˚ folding downward ≥90°.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Headboard folding upward ≥80°folding downward ≥10°.			
			Leg board folding downward ≥90°.			
			Fold outward ≥90°.			
			Waist board elevation ≥120°.			
			Bakelite material capable of withstanding exposure to frequent C-Arm imaging, without diminishing the image clarity.			
	2	Display Parameters	N/A.			
	3	User Adjustable Setting	**Orthopaedic Surgery's accessories:**			
			Orthopaedic extension, raised arm tabled and adjustable arm support			
			ENT accessories: Head rest			
			Gynaecology Surgery's accessories: Knee crunches (pair) rotary clamps (2 pcs)			
			Neuro Surgery's accessories: Mayfield and head rest.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Components	Can be controlled with and without remote controlled with battery and battery indicator, electro-pneumatic operated.			
			Facility to remove or interchange head and leg sections.			
			Antistatic and liquid-tight mattresses with shock absorbing foam			
			High density memory foam, 1-piece mattress, with cut- outs to fit the mattress frame at all positions with mattress size of 60mm.			
			Powered height adjustment from 0.6m to 1.2m.			
			Powered Trendelenburg adjustment -30 degree up to +45°.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Lower Back: +100°/-30°.			
			Upper Back: +80°/-30.			
			Lateral tilt (left/right) up to ±30°.			
			Adjustment of backrest -25 to +70.			
			Adjustment to flex/reflex position.			
			Adjustment leg section +70° / -90°.			
			Table dimension (lx w x h) 970mm x 500mm x 2000mm.			
			Support at least 250 Kg.			
			Leg Sections (UP/Down): +25°/-90°.			
			Head Sections (Up/Down): ±40°.			
	2	Mobility (if relevant)	Mounted on four castor wheels, two with brake.			
			Easily movable over traction facility.			
	3	Raw Materials (if relevant)	Optional.			
	UTILITY REQUIREMENTS					
	1	Electrical, Water and (Gas supply if relevant)	Electric power supply: 220V AC, 50 Hz, ±10%.			
			Power cord length shouldn't be less than 3 meters.			
			Plug should be schuko type.			
			Voltage corrector / stabilizer to allow operation at ± 30% of local rated voltage.			
			Electrical protection by resettable overcurrent breakers or replaceable fuses, fitted in both live and neutral lines.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	Padded arm rest with straps: pair with damps.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Aesthesia screen with clamps.			
			Side supports pair with clamps.			
			Knee crutches: pair with damps.			
			X-ray cassette tray.			
	2	Sterilization Processes for Accessories (if relevant)	N/A.			
	3	Consumables and Reagents (if relevant)	N/A.			
	4	Spare Parts	Kidney Bridge			
			Infusion rod with clamp			
	5	Other Components (if relevant)	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials including items not specified above.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	N/A.			
	2	Shelf Life (if relevant)	N/A.			
	3	Transportation and Storage (if relevant)	Packing of all the goods clearly marked and securely packed.			
			Each good will be further packed in separate package with all its standard accessories of distinct identification and numbers consecutively.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	4	Labelling (if relevant)	Additional packing and labelling requirements should bear in each package.			
			Each item with all accessories /spare part shall be configured and packed in one unit.			
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	N/A.			
	2	Requirement for Commissioning	Supplier to perform installation, safety and operation checks before handover.			
			Local clinical staff to affirm completion of installation.			
	3	Training for End Users and Technical Personal	The supplier has to provide end users training in operation and basic maintenance shall be provided.			
	4	User Care (if relevant)	Equipment layout to enable easy daily cleaning by end user and disinfectant of all surfaces and general safety precautions.			
	WARRANTY AND MAINTENANCE					
	1	Warranty	12 Months.			
	2	Maintenance Task	List shall be provided of equipment and procedures required for local routine maintenance.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Advanced maintenance tasks required shall be documented.			
	3	Type of service contract	N/A.			
	4	Spare Parts Available Post Warranty	N/A.			
	5	Software and Hardware Upgrade Availability	N/A.			
	DOCUMENTATION					
	1	Documentation Requirements	Operational, technical and maintenance manuals to be supplied in			
			English language.			
			List to be provided of important spares and accessories, with their part numbers.			
			Contact details of manufacturer, supplier and local service agent to be provided.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
11.	**Operating Room Light**					
	NAME, CODE, CATEGORIES AND DEFINITION					
	1	Generic Name	Operating Room Light.			
	2	Ethiopian MDN	Scialytic Lamp Lighting Systems.			
	3	European MDN	Scialytic Lamp Lighting Systems.			
	4	Code #	Z120107.			
	5	Alternative Name (If there is)	OR Light, Surgical Lamp.			
	5	Categories	Medical Equipment and Related Accessories, Software and Consumables.			
	6	Keywords (optional)	operating theatre, operating room, overhead, theatre, theatre, lamp.			
	PURPOSE OF USE					
	1	Clinical Purpose	A mobile type provides an optimal shadow free lighting for carrying out surgical procedures in operation room.			
	2	Patient Type	All.			
	3	Speciality Department	Orthopaedics and Traumatology			
	4	Overview of Functional requirement	Provides clear and cool light to operating area.			
			Minimizes shadows and distortion of colour.			
			Single head must be easily moved by operator to direct light to required area.			
	TECHNICAL CHARACTERISTICS					
	1		Colour temperature to be between 3,000 and 5,000 K.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		Detailed Requirement	Maximum illumination level at 1m distance to be at least 150,000 lux.			
			Minimum bulb life required 1,000 hours (incandescent type) or 20,000 hrs (LED type).			
			Field diameter required >=20cm (at 1 meter distance from the light source), field depth required>= 50cm.			
			Focal length required>= 65 cm.			
			Heat to light ratio to be ≤ 6 mW/m2.			
			Vertical height adjustment greater than 0.8 m range and rotational radius greater than 1.5 m.			
			Brightness control to allow full adjustment from zero to maximum illumination.			
			Illumination backup to be provided through, e.g. multiple bulbs use or spare bulb auto-activation, if a bulb fails (safety system of an additional bulb in each head with automatic switch in case of first bulb failure).			
			Bulb lamp tension no greater than 24V.			
			Adjustable light and colour temperature Indicator.			
			Rechargeable battery must be included.			
			Portable and move from place to place within OR and not ceiling type.			
	2	Display Parameters	N/A.			
	3	User Adjustable Setting	Control the brightness and direction of light.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Components	Case is to be hard and splash proof.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Exposed surface characteristics: free of sharp edges and washable and resistant to corrosion, water, detergent soap, 70% ethylic alcohol solution with or without nitrite and to the hypochlorite of sodium.			
			Handle for movement must be easy to grasp and clean.			
			Light must remain steady on position once moved.			
			Layout and heat production must not interfere with laminar air flow system.			
	2	Mobility (if relevant)	Allowed the movements by the operator easily in different direction.			
	3	Raw Materials (if relevant)	N/A.			
	UTILITY REQUIREMENTS					
	1	Electrical, Water and (Gas supply if relevant)	Electric power supply: 220V AC, 50 Hz, ±10%.			
			Power cord length shouldn't be less than 3 meters.			
			Plug should be schuko type.			
			Voltage corrector / stabilizer to allow operation at ± 30% of local rated voltage.			
			Electrical protection by resettable overcurrent breakers or replaceable fuses, fitted in both live and neutral lines.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials			
	2	Sterilization Processes for	N/A.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		Accessories (if relevant)				
	3	Consumables and Reagents (if relevant)	N/A.			
	4	Spare Parts	Back up bulb.			
	5	Other Components (if relevant)	Optional			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	N/A			
	2	Shelf Life (if relevant)	N/A			
	3	Transportation and Storage (if relevant)	Packing of all the goods clearly marked and securely packed.			
			Each good will be further packed in separate package with all its standard accessories of distinct identification and numbers consecutively.			
	4	Labelling (if relevant)	Additional packing and labelling requirements should bear in each package.			
			Each item with all accessories /spare part shall be configured and packed in one unit.			
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	N/A.			
	2	Requirement for Commissioning	Supplier to perform installation, safety and operation checks before handover.			
			Local clinical staff to affirm completion of installation			
	3	Training for End Users and Technical Personal	The supplier has to provide end users training in operation and basic maintenance shall be provided.			
	4	User Care (if relevant)	Equipment layout to enable easy daily cleaning by end user and disinfectant of all surfaces and general safety precautions.			
	WARRANTY AND MAINTENANCE					
	1	Warranty	12 Months			
	2	Maintenance Task	List shall be provided of equipment and procedures required for local routine maintenance.			
			Advanced maintenance tasks required shall be documented.			
	3	Type of service contract	N/A.			
	4	Spare Parts Available Post Warranty	N/A.			
	5	Software and Hardware Upgrade Availability	N/A.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	DOCUMENTATION					
	1	Documentation Requirements	Operational, technical and maintenance manuals to be supplied in English language.			
			List to be provided of important spares and accessories, with their part numbers.			
			Contact details of manufacturer, supplier and local service agent to be provided.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
12.	**Cardiotocography (CTG)**					
	NAME, CODE, CATEGORIES					
	1	Generic Name	Cardiotocography (CTG).			
	2	Ethiopian MDN	Complete Cardiotocographic Telemetry Systems.			
	3	European MDN	Complete Cardiotocographic Telemetry Systems.			
	4	Code #	Z1208010401.			
	5	Alternative Name (If there is)	Fetal Monitor, Electronic fetal monitoring.			
	5	Categories	Medical Equipment and Related Accessories, Software and Consumables.			
	6	Keywords (optional)	Fetal heart, Electronic fetal monitoring.			
	PURPOSE OF USE					
	1	Clinical Purpose	Electrochronographic (CTG) machine provides graphic and numeric information on fetal heart rate (FHR) and maternal uterine activity (UA) to assess fetal well-being before and during labour.			
	2	Patient Type	Women.			
	3	Specialty Department	Obstetrics and Gynaecology.			
	4	Overview of Functional requirement	CTGs are routinely used by physicians, obstetric nurses, and community midwives to record FHR values. Abnormal readings can quickly alert the healthcare worker to possible complications.			
	TECHNICAL CHARACTERISTICS					

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	1	Detailed Requirement	Microprocessor controlled equipment.			
			Measure, record, and display FHR, uterine contractions, and maternal blood pressure, heart rate before and during childbirth.			
			Sense FHR and uterine contraction indirectly through the mother's abdomen and/or directly by placing an electrode on the fetal scalp (or exposed skin surface) and by measuring the change in pressure within the uterus.			
			Ultrasound working frequency in the range 1MHz -10% to 3MHz +10%.			
			Sensitivity to detect fetal heart beats of at least a 10–12-week foetus.			
			Heart rate measurement range not smaller than 50-210 bpm with resolution not higher than 2 bpm.			
			At least two high sensitivity equipment compatible probes provided: 2 and 3 MHz			
			Record fetal and maternal ECG recording.			
			Integrated monitoring of foetus and mother.			
			Twins monitoring capability.			
			Visual and audio alarm, comply with international standard			
			2 MHz pulse wave.			
			Precision: ±1-2 bpm.			
			Record differentiated: 30bpm/cm.			
			Audible and visual alarm.			
			Alarm: upper and lower limit alarm.			
			Thermal printer or inkjet printer.			
			Built-in rechargeable battery, DC/AC power supply and network capability.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			15"Color TFT screen display waveforms and digitals.			
			Maternal Parameters: ECG, SPO2, NIBP, RESP, TEMP.			
			Automatic Fetal Movement Detection, AFM waveform display.			
			24 hours monitoring data storage and reload.			
			Acceleration and Deceleration measurement ability.			
			Baseline, acceleration and deceleration analysis capability.			
			Easy operation by with shortcut key and rotary knob.			
			Automatic monitoring mode, parameters configurable.			
			Clinical data management, can be reload, reanalysis, reprint.			
	2	Display Parameters	Display FHR.			
			Alarm: upper and lower limit alarm.			
			Maternal Parameters: ECG, SPO2, NIBP, RESP, TEMP.			
	3	User Adjustable Setting	Controls: volume, power on/off.			
			Alarm override and temporary silence facility to be included.			
			Audiovisual alarms required: high and low levels for each parameter (operator variable settings), sensor / wire / probe disconnected.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Components	Built-in rechargeable battery, DC/AC power supply and network capability.			
			15"Color TFT screen display waveforms and digitals.			
			Maternal Parameters: ECG, SPO2, NIBP, RESP, TEMP.			
			Automatic Fetal Movement Detection, AFM waveform display			
			24 hours monitoring data storage and reload.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Acceleration and Deceleration measurement ability.			
			Baseline, acceleration and deceleration analysis capability.			
			Easy operation by with shortcut key and rotary knob.			
			Automatic monitoring mode, parameters configurable.			
			Clinical data management, can be reload, reanalysis, reprint.			
	2	Mobility (if relevant)	Portable.			
	3	Raw Materials (if relevant)	N/A			
	UTILITY REQUIREMENTS					
	1	Electrical, Water and (Gas supply if relevant)	Electric power supply: 220V AC, 50 Hz, ±10%.			
			Power cord length shouldn't be less than 3 meters.			
			Plug should be schuko type.			
			Battery powered alarm in the event of power failure, with temporary silence feature.			
			Voltage corrector / stabilizer to allow operation at ± 30% of local rated voltage.			
			Electrical protection by resettable overcurrent breakers or replaceable fuses, fitted in both live and neutral lines.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	1 x transducer.			
			2 x FHR ultrasound transducers.			
			3 x Adjustable transducer belts for ultrasound (2 FHRs) and UC toco.			
			3x Box of thermal recording paper.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			2 x Bottle of ultrasound gel, approximately 250ml.			
			1x Battery backup			
			All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning materials.			
	2	Sterilization Processes for Accessories (if relevant)	N/A.			
	3	Consumables and Reagents (if relevant)	N/A.			
	4	Spare Parts	Optional.			
	5	Other Components (if relevant)	Optional.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	Optional.			
	2	Shelf Life (if relevant)	Optional.			
	3	Transportation and Storage (if relevant)	Packing of all the goods clearly marked and securely packed.			
			Each good will be further packed in separate package with all its standard accessories of distinct identification and numbers consecutively.			
	4	Labelling (if relevant)	Additional packing and labelling requirements should bear in each package.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Each item with all accessories /spare part shall be configured and packed in one unit.			
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	N/A.			
	2	Requirement for Commissioning	Supplier to perform installation, safety and operation checks before handover.			
			Local clinical staff to affirm completion of installation			
	3	Training for End Users and Technical Personal	The supplier has to provide end users training in operation and basic maintenance shall be provided.			
	4	User Care (if relevant)	Equipment layout to enable easy daily cleaning by end user and disinfectant of all surfaces and general safety precautions.			
	WARRANTY AND MAINTENANCE					
	1	Warranty	The supplier must provide minimum of 12 months warranty including labour and spare part from the date of commissioning.			
	2	Maintenance Task	Advanced maintenance tasks required shall be documented.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	3	Type of service contract	N/A.			
	4	Spare Parts Available Post Warranty	Optional.			
	5	Software and Hardware Upgrade Availability	Software and hardware upgrade available during useful lifespan if applicable			
	DOCUMENTATION					
	1	Documentation Requirements	Operational, technical and maintenance manuals to be supplied in English language.			
			List to be provided of important spares and accessories, with their part numbers.			
			Contact details of manufacturer, supplier and local service agent to be provided.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
13.	**Defibrillator**					
	NAME, CODE, CATEGORIES AND DEFINITION					
	1	Generic Name	Defibrillator.			
	2	Ethiopian MDN	Semi-Automatic Defibrillators.			
	3	European MDN	Semi-Automatic Defibrillators.			
	4	Code #	Z12030501.			
	5	Alternative Name (If there is)	Defibrillator.			
	5	Categories	Medical Equipment and Related Accessories, Software and Consumables.			
	6	Keywords (optional)	Joules, Current, Ventricular Fibrillations.			
	PURPOSE OF USE					
	1	Clinical Purpose	Fully automated external defibrillators (AEDs) deliver a high amplitude current impulse to the heart in order to restore normal rhythm and contractile function in patients who are experiencing ventricular fibrillation (VF) or ventricular tachycardia (VT) that is not accompanied by a palpable pulse.			
	2	Patient Type	All.			
	3	Specialty Department	Orthopaedics and Traumatology, Emergency and Critical and Anesthesiology, Critical Care and Pain Medicine.			
	4	Overview of Functional requirement	Automated External Defibrillator (AED) for adult and paediatric patients, bi-phasic, compact and portable, battery powered, with accessories for reviving the heart functions by			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			providing selected high voltage of electrical shocks with facility for monitoring vital parameters.			
	TECHNICAL CHARACTERISTICS					
	1	Detailed Requirement	Should be compact.			
			Lightweight and Easy to use.			
			Bi-Phasic Defibrillator with Manual (with easy 1-2-3 operation).			
			Should monitor ECG and display them.			
			Should be able to print the ECG on thermal papers.			
			Should be capable of doing synchronized cardioversion.			
			Can be operated from mains as well as battery.			
	2	Display Parameters	Electric energy in Joules, Charging and Discharging.			
	3	User Adjustable Setting	Charging and Discharging.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Components	Should be a low energy Biphasic defibrillator monitor with recorder, having capability to deliver shocks from 2 Joules to 360 Joules.			
			Should monitor ECG through paddles, pads and monitoring electrodes and defibrillate through pads and paddles.			
			Should compensate for body impedance for a range of 25 to 150 ohms should have a built in 50 mm strip printer should have charging time of less than 5 seconds for maximum energy.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Should have High resolution more than 8-inch colour display for viewing monitoring parameters like ECG, SpO2, NIBP with 4 waveform capability of 4 seconds.			
			Both Adult and paediatric paddles should be available.			
			Should have event summary facility for recording and printing at least 55 events.			
			Should have a battery capable of usage for at least 5 hours of monitoring.			
			Should be capable of printing reports on event summary, configuration, self-test, battery capacity etc.			
			Should have facility for self-test/check before usage and set up function.			
			Should have facility to monitor parameters like SpO2, and NIBP along with non-invasive facility.			
			Should be able to upgrade the defibrillator for 12 lead ECG monitoring and ECG transmission.			
			Defibrillator with paediatrics and adult paddles minimum of 4.5cm and 8cm respectively			
			Heart frequency monitoring with alarms for exceeding or falling below set limits.			
	2	Mobility (if relevant)	Portable.			
	3	Raw Materials (if relevant)	Optional.			
	UTILITY REQUIREMENTS					
	1	Electrical, Water and (Gas	Electric power supply: 220V AC, 50 Hz, ±10%.			
			Power cord length shouldn't be less than 3 meters.			
			Plug should be schuko type.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		supply if relevant)	Battery powered alarm in the event of power failure, with temporary silence feature.			
			Voltage corrector / stabilizer to allow operation at ± 30% of local rated voltage.			
			Electrical protection by resettable overcurrent breakers or replaceable fuses, fitted in both live and neutral lines.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	Paddles Adult (pair)-01.			
			Paddles paediatrics (pair)-01.			
			Patient cable-02.			
			Compatible thermal paper for printer - 10 roll.			
			Compatible Gel; 300mL.			
			Disposable pads – 20.			
			NIBP Cuff Adult – 02.			
			NIBP Cuff Paediatrics- 02.			
			NIBP Cuff Infants- 02.			
			SPO2 Finger Probe - paediatrics 01.			
			SPO2 probe Adult -01.			
			Ear Probe – 02.			
			Complete set of ECG Leads – 02.			
			Carrying case-01.			
			All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials including items not specified above.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	2	Sterilization Processes for Accessories (if relevant)	N/A.			
	3	Consumables and Reagents (if relevant)	Optional.			
	4	Spare Parts	Optional.			
	5	Other Components (if relevant)	Optional.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	N/A.			
	2	Shelf Life (if relevant)	N/A.			
	3	Transportation and Storage (if relevant)	Packing of all the goods clearly marked and securely packed.			
			Each good will be further packed in separate package with all its standard accessories of distinct identification and numbers consecutively.			
	4	Labelling (if relevant)	Additional packing and labelling requirements should bear in each package.			
			Each item with all accessories /spare part shall be configured and packed in one unit.			
	ENVIRONMENTAL REQUIREMENTS					

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	N/A.			
	2	Requirement for Commissioning	Supplier to perform installation, safety and operation checks before handover.			
			Local clinical staff to affirm completion of installation.			
	3	Training for End Users and Technical Personal	The supplier has to provide end users training in operation and basic maintenance shall be provided.			
	4	User Care (if relevant)	Equipment layout to enable easy daily cleaning by end user and disinfectant of all surfaces and general safety precautions.			
	WARRANTY AND MAINTENANCE					
	1	Warranty	The supplier must provide minimum of 12 months warranty including labour and spare part from the date of commissioning.			
	2	Maintenance Task	Advanced maintenance tasks required shall be documented.			
	3	Type of service contract	N/A.			
	4	Spare Parts Available Post Warranty	Optional.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	5	Software and Hardware Upgrade Availability	Software and hardware upgrade available during useful lifespan if applicable			
	DOCUMENTATION					
	1	Documentation Requirements	Operational, technical and maintenance manuals to be supplied in English language.			
			List to be provided of important spares and accessories, with their part numbers.			
			Contact details of manufacturer, supplier and local service agent to be provided.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
14.	**Oxygen Concentrator**					
	NAME, CODE, CATEGORIES					
	1	Generic Name	Oxygen Concentrator.			
	2	Ethiopian MDN	Oxygen Concentrator.			
	3	European MDN	Oxygen Concentrator.			
	4	Code #	Z12159004.			
	5	Alternative Name (If there is)	Oxygen Concentrator.			
	5	Categories	Medical Equipment and Related Accessories, Software and Consumables.			
	6	Keywords (optional)	Oxygen, Zeolite, Pressure, Compressor.			
	PURPOSE OF USE					
	1	Clinical Purpose	Oxygen concentrator is a device which concentrates oxygen from the atmosphere (typically ambient air) to supply medical grade oxygen to patients.			
	2	Patient Type	All.			
	3	Speciality Department	Emergency and Critical Care.			
	4	Overview of Functional requirement	Provides a continuous flow of concentrated oxygen (>80%) from room air through one or two.			
			Oxygen outlets.			
			Splitter of oxygen flow provided by an oxygen concentrator.			
			Each flow can be adjusted individually via its flow meter, range: 0.125 to 2LPM (Liter per Minute).			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			The output nozzle can either be fit with tubing or left blank.			
			Input pressure: 50 to 350kpa.			
	TECHNICAL CHARACTERISTICS					
	1	Detailed Requirement	Compact and easy to transport (Mobile on Castors).			
			Dual-head Compressor.			
			Capacity: 1 to 10 l/Min of oxygen at minimum of 90%. concentration at maximum flow.			
			Pressure-compensated flow meter shall permit use of long cannula.			
			Audible and visual safety alarms: Power failure, high/low pressure, no/restricted flow, high temperature, low oxygen (<80%).			
			Equipped with pressure-relief valve and thermal protection of the compressor.			
			Double-insulated Unit, two-prong plug.			
			Flame-retardant Cabinet.			
			Compact and easy to transport (Mobile on Castors).			
			Fixed humidifier port and recess shall prevent bottle and connector breakage.			
	2	Display Parameters	Oxygen flow rate (on flowmeter).			
			Cumulative hours of operation.			
	3	User Adjustable Setting	Oxygen flow rate.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Components	Case to be hard, easy to wipe clean and safe to transport.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Oxygen outlet to be not easily broken or bent.			
			Contains flow limiter to prevent overdrawing oxygen flow beyond rated maximum flow rate.			
	2	Mobility (if relevant)	Whole unit to be easily movable by a single person (<30 kg).			
			Castor wheels.			
	3	Raw Materials (if relevant)	Water, detergent and/or mild cleaning solution to clean device exterior and gross particle filter (if applicable).			
	UTILITY REQUIREMENTS					
	1	Electrical, Water and (Gas supply if relevant)	Electric power supply: 220V AC, 50 Hz, ±10%.			
			Power cord length shouldn't be less than 3 meters.			
			Plug should be schuko type.			
			Battery powered alarm in the event of power failure, with temporary silence feature.			
			Voltage corrector / stabilizer to allow operation at ± 30% of local rated voltage.			
			Electrical protection by resettable overcurrent breakers or replaceable fuses, fitted in both live and neutral lines.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	For two or more simultaneous paediatric patients: • 1 x flowmeter stands with minimum range from 0 to 2 LPM. • 1 x four-way flow splitter with 0.5, 1, 2 LPM nozzles and blanking plugs.			
			Kink-resistant oxygen tubing with standard connectors (15 m each).			
	2	Sterilization Processes for	Disinfection for nasal prongs.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		Accessories (if relevant)				
	3	Consumables and Reagents (if relevant)	Optional.			
	4	Spare Parts	3 x gross particle filters.			
			1 x intake filters.			
			1 x product filters.			
			3 x oxygen outlet connectors.			
	5	Other Components (if relevant)	Optional.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	N/A.			
	2	Shelf Life (if relevant)	N/A.			
	3	Transportation and Storage (if relevant)	Keep away from oil, grease and petroleum-based or flammable products as well as smoking or open flames.			
	4	Labelling (if relevant)	Electrical power input requirements (voltage, frequency and socket type).			
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 50 °C and relative humidity of 15 to 90%.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	N/A.			
	2	Requirement for Commissioning	Supplier to perform installation, safety and operation checks before handover.			
			Local clinical staff to affirm completion of installation.			
	3	Training for End Users and Technical Personal	The supplier has to provide end users training in operation and basic maintenance shall be provided.			
	4	User Care (if relevant)	Equipment layout to enable easy daily cleaning by end user and disinfectant of all surfaces and general safety precautions.			
	WARRANTY AND MAINTENANCE					
	1	Warranty	The supplier must provide minimum of 12 months warranty including labour and spare part from the date of commissioning.			
	2	Maintenance Task	Advanced maintenance tasks required shall be documented.			
	3	Type of service contract	N/A.			
	4	Spare Parts Available Post Warranty	Optional.			
	5	Software and Hardware	N/A.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		Upgrade Availability				
	DOCUMENTATION					
	1	Documentation Requirements	Operational, technical and maintenance manuals to be supplied in English language.			
			List to be provided of important spares and accessories, with their part numbers.			
			Contact details of manufacturer, supplier and local service agent to be provided.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
15.	**Fluoroscopy**					
	NAME, CODE, CATEGORIES AND DEFINITION					
	1	Generic Name	Fluoroscopy.			
	2	Ethiopian MDN	Fluoroscopy Devices.			
	3	European MDN	Fluoroscopy Devices.			
	4	Code #	Z11039009.			
	5	Alternative Name (If there is)	C-Arm, X-ray Camera.			
	5	Categories	Medical Equipment and Related Accessories, Software and Consumable.			
	6	Keywords (optional)	X ray, Orthopaedics, KV, mA.			
	PURPOSE OF USE					
	1	Clinical Purpose	To enable users to visually and quantitatively evaluate the anatomy and physiological function of various targeted body areas in real-time used for cardiac, orthopaedics, vascular, trauma, spine and general surgery. procedures.			
	2	Patient Type	All.			
	3	Speciality Department	Orthopaedics and Traumatology.			
	4	Overview of Functional requirement	Provides fluoroscopic images of all parts of the body.			
			X ray generator and image intensifier can be moved to image required body part.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	TECHNICAL CHARACTERISTICS					
	1	Detailed Requirement	Fully counterbalanced C-arm with compact flat detector.			
			Hand switch and/or foot switch control.			
			Radiation indicator.			
			System lock for x-ray control.			
			Orbital movement: 125° (-35° to +90°).			
			Angulations: ±190°.			
			Horizontal movement: 20 cm (7.9") or more.			
			Swivel range: ±12°.			
			Vertical Travel: 40 cm (15.7") or more.			
			Source to Image Distance (SID): 86 cm (33.8").			
			Immersion depth: 63.5 cm (25").			
			Lateral movement: steering wheel.			
			Integrated laser for radiation free positioning of C-arm.			
			Automatic Exposure Control (AEC).			
			X-ray generator.			
			High-frequency generator with power output 15kW or more.			
			KV range: 40 kV to 120 KVp, with KVp accuracy of ±10%.			
			mA range: 5mA to 100mA.			
			Radiography parameters.			
			KV range: 40 kV to 120 KVp.			
			mA: 5 mA to 100 mA.			
			mAs: max. 300 per exposure.			
			Exposure Time: For patient exposure ≤1s and for tube capacity up to 5 s.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Fluoroscopy Parameters.			
			Continues fluoroscopy mode.			
			KV range: 40 kV to 120 kVp.			
			mA range: up to 12mA.			
			Pulsed fluoroscopy mode.			
			KV range: 40 kV to 120 kVp.			
			mA range: up to 30mA.			
			Continues with road map and pulsed with real time subtraction facility for Digital Subtraction Angiography (DSA) should be provided as standard.			
			X-ray tube.			
			Dual focus rotating anode.			
			Small focus: 0.3mm.			
			Large focus: 0.6mm.			
			Tube voltage: 40-120Kvp.			
			Anode heat capacity: 300KHU.			
			Anode cooling rate: 60KHU/min.			
			Flat Detector System:			
			The detector should be solid state flat detector or latest technology with caesium iodide scintillator.			
			Detector size: 26 cm x 26 cm or more.			
			Pixel size: 155 um or less.			
			Detector Quantum Efficiency (D.Q.E): 65% at zero Line pairs or more.			
			Active-matrix size: 1.5k x 1.5k or more.			
			Connectivity:			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Digital video output: 2 DVI connectors enables image display on external monitors.			
			Integrated facility documentation with DVD/CD, USB and DVD recording DICOM.			
			Two 19" high brightness LCD/TFT with resolution of 1280 x 1024 pixels colour monitors for live image display.			
			Last Image Hold and stored memory display.			
			Image acquisition and image processing.			
			The digital workstation should be based on the latest high-speed processors of at least 64 bits.			
			Patient data management; Electronic record with name, date, anatomy, etc.			
			Automatic digital brightness and contrast control for optimal image quality.			
			Image rotation, reversal (left/right), and up/down on last image hold.			
	2	Display Parameters	Image to be displayed immediately after exposure.			
			Must have display of dose, mA and kV.			
	3	User Adjustable Setting	The exposure release switch should be detachable, with a cord of at least 5 meters long.			
			Last image hold facility required, displayed on clear, movable screen.			
			Display screen should be on a separate, mobile unit.			
			Display screen to be movable and have adjustable brightness to allow easy viewing in all ambient light levels.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Components	The tube stand must be fully counterbalanced for rotation in all directions.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			It must have an articulated arm for imaging with any patient position.			
			All cables shall be concealed in the arm system.			
			Arm space to allow at least 70 cm width and 70 cm depth of target			
			Display screen should be on a separate, mobile unit			
			Cable connection between units to be removable, but locked when connected.			
	2	Mobility (if relevant)	The unit must have an effective system for parking, transport and emergency braking.			
			Unit base wheels must be easily accessible for cleaning.			
	3	Raw Materials (if relevant)	Optional.			
	UTILITY REQUIREMENTS					
	1	Electrical, Water and (Gas supply if relevant)	Electric power supply: 220V AC, 50 Hz, ±10%. Operated in single phase.			
			Power cord length shouldn't be less than 3 meters.			
			Battery powered alarm in the event of power failure, with temporary silence feature.			
			Voltage corrector / stabilizer to allow operation at ± 30% of local rated voltage.			
			Electrical protection by resettable overcurrent breakers or replaceable fuses, fitted in both live and neutral lines.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	Must be supplied with protective dust cover at least for control panel.			
			To be supplied with adult size protective lead apron.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Whole body lead aprons with 0.5mm, 0.35mm, 0.25mm lead thickness.			
			Thyroid guard ---3.			
			Eye Goggle---3.			
			Lead Glove—3 pair.			
			Phantoms and meters for the quality control and calibration of the various.			
			All standard accessories and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials, to be included in the offer.			
	2	Sterilization Processes for Accessories (if relevant)	N/A.			
	3	Consumables and Reagents (if relevant)	Optional.			
	4	Spare Parts	List to be provided of important spares and accessories, with their part numbers and cost.			
	5	Other Components (if relevant)	Portable radiation hazard warning signs to be supplied with unit.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	N/A.			
	2	Shelf Life (if relevant)	N/A.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	3	Transportation and Storage (if relevant)	Packing of all the goods clearly marked and securely packed.			
			Each good will be further packed in separate package with all its standard accessories of distinct identification and numbers consecutively.			
	4	Labelling (if relevant)	Additional packing and labelling requirements should bear in each package.			
			Each item with all accessories /spare part shall be configured and packed in one unit.			
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	Optional.			
	2	Requirement for Commissioning	Supplier to perform installation, safety and operation checks before handover.			
			Local clinical staff to affirm completion of installation			
	3	Training for End Users and Technical Personal	The supplier has to provide end users training in operation and basic maintenance shall be provided.			
	4	User Care (if relevant)	Equipment layout to enable easy daily cleaning by end user and disinfectant of all surfaces and general safety precautions.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	WARRANTY AND MAINTENANCE					
	1	Warranty	The supplier must provide minimum of 24 months warranty including labour and spare part from the date of commissioning.			
	2	Maintenance Task	Advanced maintenance tasks required shall be documented.			
	3	Type of service contract	N/A.			
	4	Spare Parts Available Post Warranty	For more than five years.			
	5	Software and Hardware Upgrade Availability	Software and hardware upgrade available during useful lifespan if applicable.			
	DOCUMENTATION					
	1	Documentation Requirements	Operational, technical and maintenance manuals to be supplied in English language.			
			List to be provided of important spares and accessories, with their part numbers.			
			Contact details of manufacturer, supplier and local service agent to be provided.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
16.	**Autoclave**					
	NAME, CODE, CATEGORIES					
	1	Generic Name	Autoclave.			
	2	Ethiopian MDN	Devices for Sterilisation and Packaging.			
	3	European MDN	Devices for Sterilisation and Packaging.			
	4	Code #	S01.			
	5	Alternative Name (If there is)	Steam sterilizer.			
	5	Categories	Sterilisation Devices.			
	6	Keywords (optional)	Steam, Heater, Pressure, Temperature.			
	PURPOSE OF USE					
	1	Clinical Purpose	Total elimination and/or inactivation of microorganisms from medical devices and related products, not placed in sterilization wraps/packaging.			
	2	Patient Type	N/A.			
	3	Speciality Department	Orthopaedics and Traumatology.			
	4	Overview of Functional requirement	Uses pressurized steam to kill microorganisms on medical devices and products.			
			Allows the user to control time and temperature of procedure.			
			Generates heat using integral electric heater.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	TECHNICAL CHARACTERISTICS					
	1	Detailed Requirement	Microprocessor control.			
			Overheat shutoff and overpressure safety valve to be incorporated.			
			Vacuum air removal facility is not required, gravity removal valve is sufficient.			
			Pressure lock to be incorporated to prevent door opening at pressure.			
			Temperature range to include at least 100 to 132 degrees Celsius.			
			Chamber capacity to be at least 80-100 litters.			
			Required water level to be clearly indicated.			
			External surfaces to remain at safe temperatures even when in use.			
			Internal steam electrical generator.			
			At least the following cycles available: • Solids. • Glassware materials. • Liquids. • Vacuum test. • Bovie-Dick test.			
			Adjustable temperature working range not smaller than from 115 °C up to at least 121 °C.			
			Temperature measure precision not greater than +/- 3%.			
			Vacuum pump and vacuum sustainability diagnostic system.			
			Safety systems, at least: Thermostat, Pressure switch, Valves.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Protection system for high pressure risks.			
			Filters for air intake system.			
			Automatic block in high- and low-pressure conditions.			
			Temperature.			
			Pressure.			
			Working Time.			
			Equipment status and alarms.			
	2	Display Parameters	Alarms for at least: • Power failure. • Low water. • Door not closed. • Pressure and/or Temperature out-limits. • Sterilization cycle failure. • End of sterilization cycle.			
	3	User Adjustable Setting	User-resettable time elapsed indicator to be incorporated.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
			Compact and easy to transport (Mobile on Castors) if necessarily.			
			Supplied with internal trays that are removed and replaced easily, of perforated or meshed construction.			
	1	Components	Chamber drain to be secure in operation at pressure but easy to open after use.			
			Chamber door to include gasket and closure handles that are easy to operate.			
			Supplied with cover for protection from spray and dust.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	2	Mobility (if relevant)	Movable if necessarily.			
	3	Raw Materials (if relevant)	All metal parts to be constructed of stainless steel.			
	UTILITY REQUIREMENTS					
	1	Electrical, Water and (Gas supply if relevant)	Electric power supply: 220V AC, 50 Hz, ±10%.			
			Power cord length shouldn't be less than 3 meters.			
			Battery powered alarm in the event of power failure, with temporary silence feature.			
			Voltage corrector / stabilizer to allow operation at ± 30% of local rated voltage.			
			Electrical protection by resettable overcurrent breakers or replaceable fuses, fitted in both live and neutral lines.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	Mains cable to be at least 3m in length			
			Stainless steel stand designed to support the autoclave.			
			At least 2 system compatible baskets for different sterilization applications.			
	2	Sterilization Processes for Accessories (if relevant)	N/A.			
	3	Consumables and Reagents (if relevant)	Optional.			
	4	Spare Parts	Two sets of spare fuses (if non-resettable fuses used).			
			Replacement door gasket to be supplied.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Replacement heating element to be supplied.			
	5	Other Components (if relevant)	Optional.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	N/A.			
	2	Shelf Life (if relevant)	N/A.			
	3	Transportation and Storage (if relevant)	Packing of all the goods clearly marked and securely packed.			
			Each good will be further packed in separate package with all its standard accessories of distinct identification and numbers consecutively.			
	4	Labelling (if relevant)	Additional packing and labelling requirements should bear in each package.			
			Each item with all accessories /spare part shall be configured and packed in one unit.			
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	N/A.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	2	Requirement for Commissioning	Supplier to perform installation, safety and operation checks before handover.			
			Local clinical staff to affirm completion of installation			
	3	Training for End Users and Technical Personal	The supplier has to provide end users training in operation and basic maintenance shall be provided.			
	4	User Care (if relevant)	Equipment layout to enable easy daily cleaning by end user and disinfectant of all surfaces and general safety precautions.			
	WARRANTY AND MAINTENANCE					
	1	Warranty	The supplier must provide minimum of 12 months warranty including labour and spare part from the date of commissioning.			
	2	Maintenance Task	Advanced maintenance tasks required shall be documented.			
	3	Type of service contract	N/A			
	4	Spare Parts Available Post Warranty	For more than five years			
	5	Software and Hardware Upgrade Availability	Hardware upgrade available during useful lifespan if applicable			
	DOCUMENTATION					
	1	Documentation Requirements	Operational, technical and maintenance manuals to be supplied in English language.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			List to be provided of important spares and accessories, with their part numbers.			
			Contact details of manufacturer, supplier and local service agent to be provided.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
17.	**Laryngoscope**					
	NAME, CODE, CATEGORIES					
	1	Generic Name	Laryngoscope.			
	2	Ethiopian MDN	Laryngoscope Blades, Single-Use.			
	3	European MDN	Laryngoscope Blades, Single-Use.			
	4	Code #	R9002.			
	5	Alternative Name (If there is)	Laryngoscope.			
	5	Categories	Respiratory and Anaesthesia Devices.			
	6	Keywords (optional)	Trachea, Intubation.			
	PURPOSE OF USE					
	1	Clinical Purpose	Laryngoscope set for adults and children. To manipulate the tongue and enable a clear view of the trachea for surgical/mechanical ventilation/intubation procedures.			
	2	Patient Type	All.			
	3	Speciality Department	Anesthesiology, Critical Care and Pain Medicine.			
	4	Overview of Functional requirement	For viewing vocal folds and glottis.			
			Resuscitations, surgical and mechanical ventilation/ intubation.			
	TECHNICAL CHARACTERISTICS					

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	1	Detailed Requirement	Includes a cylindrical handle, slightly ribbed, single piece, diameter greater than 25 mm.			
			The handle allows fitting of interchangeable blades of different sizes.			
			The handle contains a robust on/off switch.			
			Handle is made from non-ferrous material and sealed against ingress of liquids.			
			Equipped with LED technology light source.			
			Uses fiber optic for transmission of the light to the tip of the blade.			
			Blades are able to withstand autoclaving.			
			Blade Curvature: Paediatrics blade size 0 to 3. Adult blade size 3 to 5.			
			With a set of four blades made from stainless steel:			
			MacIntosh type: Curved number 2, length 110mm ± 5 mm.			
			MacIntosh type: Curved number 3, length 135mm ± 5 mm.			
			MacIntosh type: Curved number 4, length 155mm ± 5 mm.			
			Miller type: Straight number 1, length 100mm ± 5 mm.			
			Designed for frequent and easy disassembly and disinfection with hospital-grade products.			
	2	Display Parameters	Visualize clearly the internal part during intubation.			
	3	User Adjustable Setting	N/A.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Components	Should have handle with universal adapter for interchangeable blades.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			The laryngoscope should be supplied in leather/hard case preferably high impact plastic with internal soft cushion material for easy portability and protection.			
			The blades should be re-usable and autoclavable preferably made of S/Steel (MS-304) of high quality.			
	2	Mobility (if relevant)	Handheld portable.			
	3	Raw Materials (if relevant)	Optional.			
	UTILITY REQUIREMENTS					
	1	Electrical, Water and (Gas supply if relevant)	Battery operated and the adapter is operated by 220V AC, 50HZ.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	Batteries, blades of various neonatal sizes.			
			Handheld.			
			5 LED should be given as spare.			
	2	Sterilization Processes for Accessories (if relevant)	Re-usable and autoclavable blades.			
	3	Consumables and Reagents (if relevant)	N/A.			
	4	Spare Parts	Optional.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	5	Other Components (if relevant)	Optional.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	N/A.			
	2	Shelf Life (if relevant)	N/A.			
	3	Transportation and Storage (if relevant)	Optional.			
	4	Labelling (if relevant)	Optional.			
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32°C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	N/A.			
	2	Requirement for Commissioning	Local clinical staff to affirm completion of installation.			
	3	Training for End Users and	Training of users in operation and basic maintenance shall be provided.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		Technical Personal				
	4	User Care (if relevant)	As per the manufacturing.			
	WARRANTY AND MAINTENANCE					
	1	Warranty	N/A.			
	2	Maintenance Task	N/A			
	3	Type of service contract	N/A			
	4	Spare Parts Available Post Warranty	Optional.			
	5	Software and Hardware Upgrade Availability	N/A.			
	DOCUMENTATION					
	1	Documentation Requirements	User, technical and maintenance manuals should be supplied in English.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
18.	**Ambu Bag**					
	NAME, CODE, CATEGORIES AND DEFINITION					
	1	Generic Name	Ambu Bag.			
	2	Ethiopian MDN	Masks and Balloons, Single-Use and Reusable.			
	3	European MDN	Masks and Balloons, Single-Use and Reusable.			
	4	Code #	R03.			
	5	Alternative Name (If there is)	Ambu bag.			
	5	Categories	Respiratory and Anaesthesia Devices.			
	6	Keywords (optional)	Mask, Reusable.			
	PURPOSE OF USE					
	1	Clinical Purpose	An Ambu bag, is a handheld tool used to provide ventilation (positive pressure) who is not breathing or who is breathing inadequately. It consists of a self-inflating bag, one-way valve, mask, and an oxygen reservoir.			
	2	Patient Type	Neonates and Paediatrics.			
	3	Speciality Department	Paediatrics and Child Health.			
	4	Overview of Functional requirement	Manual resuscitators cause the gas inside the inflatable bag portion to be force-fed to the patient via a one-way valve when compressed by the rescuer; the gas is then ideally delivered through a mask and into the patient's trachea, bronchus and into the lungs.			
	TECHNICAL CHARACTERISTICS					

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	1	Detailed Requirement	Bag should be made up of silicone, latex free, double layered. rubber and should retain sensitivity, resistant to rough use.			
			Inlet end of the bag should have separate port for oxygen supplement.			
			Outer port should be such that re-breathing valve or nonreturnable valve can be attached.			
			Should be supplied with oxygen reservoir bag and should deliver tidal volume of 250/500/750 and 1000 ml.			
			Should be Autoclavable.			
			Should be provided with a carry case.			
	2	Display Parameters	N/A.			
	3	User Adjustable Setting	N/A.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Components	N/A.			
	2	Mobility (if relevant)	Handheld portable.			
	3	Raw Materials (if relevant)	N/A.			
	UTILITY REQUIREMENTS					
	1	Electrical, Water and (Gas supply if relevant)	N/A.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	Mask.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	2	Sterilization Processes for Accessories (if relevant)	Autoclavable face mask.			
	3	Consumables and Reagents (if relevant)	N/A.			
	4	Spare Parts	N/A.			
	5	Other Components (if relevant)	N/A.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	N/A			
	2	Shelf Life (if relevant)	N/A			
	3	Transportation and Storage (if relevant)	Optional.			
	4	Labelling (if relevant)	Optional.			
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	N/A.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	2	Requirement for Commissioning	Local clinical staff to affirm completion of installation			
	3	Training for End Users and Technical Personal	Training of users in operation and basic maintenance shall be provided.			
	4	User Care (if relevant)	Optional.			
	WARRANTY AND MAINTENANCE					
	1	Warranty				
	2	Maintenance Task	N/A.			
	3	Type of service contract	N/A.			
	4	Spare Parts Available Post Warranty	N/A.			
	5	Software and Hardware Upgrade Availability	N/A.			
	DOCUMENTATION					
	1	Documentation Requirements	User, technical and maintenance manuals should be supplied in English			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
19.	**Pulse Oximetry**					
	NAME, CODE, CATEGORIES AND DEFINITION					
	1	Generic Name	Pulse Oximeter.			
	2	Ethiopian MDN	Pulse Oximeter.			
	3	European MDN	Pulse Oximeter.			
	4	Code #	Z1203020408.			
	5	Alternative Name (If there is)	Pulse Oximeter Battery Powered.			
	5	Categories	Medical Equipment and Related Accessories, Software and Consumables.			
	6	Keywords (optional)	SpO2, Oxygen, Monitor, Portable.			
	PURPOSE OF USE					
	1	Clinical Purpose	To monitor the haemoglobin oxygen saturation of patient, diagnosis for respiratory disorder.			
	2	Patient Type	All			
	3	Speciality Department	For All selected Specialty.			
	4	Overview of Functional requirement	Displays patient oxygen saturation and pulse rate in real time using an external probe on the skin.			
			Display and probe built into one case.			
			Intended for time-limited spot checks, so alarm features not required.			
			Operates from internal battery (locally available type, rechargeable or non-rechargeable.)			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	TECHNICAL CHARACTERISTICS					
	1	Detailed Requirement	SpO2 measurement range at least 70 to 99 %, minimum resolution 1%.			
			Accuracy of SpO2 better than ± 2%.			
			Pulse rate range at least 30 to 240 bpm, minimum gradation 1 bpm.			
			Accuracy of pulse rate better than ± 4 bpm.			
			Signal strength or quality to be visually displayed.			
			Automatic power-off facility required after minimum of 1 minute			
			Low battery display required.			
			Facility for data download preferred.			
			Digital equipment with autocorrelation algorithm.			
			Internal memory continuous data storage time not less than 12 hours.			
	2	Display Parameters	Integrated display for data visualization with size not less than 5 inches.			
			Video display of at least the following parameters: • SpO2 sensor connected. • Alarms disabled. • Low battery. • Battery in charge.			
			Plethysmography curves and tendency lines visualization capabilities for monitored parameters.			
			At least the following audio alarms: • High frequency. • Low frequency. • Low saturation.			
	3	User Adjustable Setting	Optional.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Components	Case is to be hard and splashproof.			
			Display must allow easy viewing in all ambient light levels.			
			Supplied in protective case for clean storage and safe transport.			
			Handlebar or facilities for easy transportation.			
	2	Mobility (if relevant)	N/A.			
	3	Raw Materials (if relevant)	N/A.			
	UTILITY REQUIREMENTS					
	1	Electrical, Water and (Gas supply if relevant)	Electric power supply for adapter: 220V AC, 50 Hz, ±10%.			
			Plug should be schuko type.			
			Battery powered alarm in the event of power failure, with temporary silence feature.			
			Voltage corrector / stabilizer to allow operation at ± 30% of local rated voltage.			
			Electrical protection by resettable overcurrent breakers or replaceable fuses, fitted in both live and neutral lines.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	Battery charger, Batteries.			
			Oximeter cable with a length of at least 1 m.			
			1 adult patient reusable oximeter sensor.			
			1 paediatric patient reusable oximeter sensor.			
			1 neonatal patient reusable oximeter sensor.			
	2	Sterilization Processes for	N/A.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		Accessories (if relevant)				
	3	Consumables and Reagents (if relevant)	N/A.			
	4	Spare Parts	Optional.			
	5	Other Components (if relevant)	Optional.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	N/A.			
	2	Shelf Life (if relevant)	N/A.			
	3	Transportation and Storage (if relevant)	N/A.			
	4	Labelling (if relevant)	N/A.			
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	N/A.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	2	Requirement for Commissioning	Local clinical staff to affirm completion of installation.			
	3	Training for End Users and Technical Personal	Training of users in operation and basic maintenance shall be provided.			
			Advanced maintenance tasks required shall be documented.			
	4	User Care (if relevant)	The case is to be cleanable with alcohol or chlorine wipes.			
	WARRANTY AND MAINTENANCE					
	1	Warranty	N/A.			
	2	Maintenance Task	N/A.			
	3	Type of service contract	N/A.			
	4	Spare Parts Available Post Warranty	N/A.			
	5	Software and Hardware Upgrade Availability	N/A.			
	DOCUMENTATION					
	1	Documentation Requirements	Operational, technical and maintenance manuals to be supplied in English language.			
			List to be provided of important spares and accessories, with their part numbers.			
			Contact details of manufacturer, supplier and local service agent to be provided.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
20.	**Glidescope**					
	NAME, CODE, CATEGORIES					
	1	Generic Name	Glideslope.			
	2	Ethiopian MDN	Video Laryngoscopes.			
	3	European MDN	Video Laryngoscopes.			
	4	Code #	Z12021004.			
	5	Alternative Name (If there is)	Video Laryngoscopes.			
	5	Categories	Medical Equipment and Related Accessories, Software and Consumables.			
	6	Keywords (optional)	Videa, Intubation.			
	PURPOSE OF USE					
	1	Clinical Purpose	Video Laryngoscopes used to perform medical procedures in the larynx for removing foreign objects in the throat, collecting tissue samples, removing polyps from vocal cords, and performing laser treatments.			
	2	Patient Type	All.			
	3	Speciality Department	Anesthesiology, Critical Care and Pain Medicine.			
	4	Overview of Functional requirement	Video laryngoscope with blades and with integrated video monitor and it is portable battery-operated.			
	TECHNICAL CHARACTERISTICS					

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	1	Detailed Requirement	Video laryngoscope with blades and with integrated video monitor and it is portable battery-operated airway visualization system.			
			Video laryngoscope convenient for tracheal intubation.			
			Camera for live Image capturing.			
			LED light illumination.			
			Colour Image display facility.			
			LCD/TFT display.			
			Provision to insert all sizes of endotracheal tube.			
			Provision to introduce all sizes of suction catheters.			
			Waterproof protection.			
			Battery backup facility > 1 hr.			
			All blade sizes/adjustable for adult and paediatric laryngoscope.			
			Batteries: DC 3 AAA batteries.			
			Battery Life: > 90 minute.			
			Video adapter.			
			Adapter with camera and white Led Light.			
			Blades: Disposable channelled and not channelled blades.			
	2	Display Parameters	Internal View of trachea while intubation.			
	3	User Adjustable Setting	Mouth opening, thyromental distance; stern omental distance; shape angle of the tracheal catheter.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Components	LCD/TFT, Battery, catheter, Endotracheal tube.			
	2	Mobility (if relevant)	Portable.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	3	Raw Materials (if relevant)	Optional.			
	UTILITY REQUIREMENTS					
	1	Electrical, Water and (Gas supply if relevant)	Battery operated and the adapter is operated by 220V AC, 50HZ.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	Rechargeable battery and provision for re-charge.			
			Blade 2c: 4.5-5.5 mm.			
			Blade 3c: 6.0-8.0 mm.			
			All standard accessories, consumables and parts required to operate the equipment, including all standard tools, cleaning and lubrication materials, with items not specified above.			
	2	Sterilization Processes for Accessories (if relevant)	N/A.			
	3	Consumables and Reagents (if relevant)	Optional.			
	4	Spare Parts	Optional.			
	5	Other Components (if relevant)	Optional.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	N/A.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	2	Shelf Life (if relevant)	N/A.			
	3	Transportation and Storage (if relevant)	Packing of all the goods clearly marked and securely packed.			
			Each good will be further packed in separate package with all its standard accessories of distinct identification and numbers consecutively.			
	4	Labelling (if relevant)	Additional packing and labelling requirements should bear in each package.			
			Each item with all accessories /spare part shall be configured and packed in one unit.			
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	N/A.			
	2	Requirement for Commissioning	Supplier to perform installation, safety and operation checks before handover.			
			Local clinical staff to affirm completion of installation.			
	3	Training for End Users and Technical Personal	The supplier has to provide end users training in operation and basic maintenance shall be provided.			
	4	User Care (if relevant)	Equipment layout to enable easy daily cleaning by end user and disinfectant of all surfaces and general safety precautions.			
	WARRANTY AND MAINTENANCE					

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	1	Warranty	The supplier must provide minimum of 12 months warranty including labour and spare part from the date of commissioning.			
	2	Maintenance Task	Advanced maintenance tasks required shall be documented.			
	3	Type of service contract	N/A			
	4	Spare Parts Available Post Warranty	Optional.			
	5	Software and Hardware Upgrade Availability	Hardware upgrade available during useful lifespan if applicable			
	DOCUMENTATION					
	1	Documentation Requirements	User, technical and maintenance manuals should be supplied in English.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
21.	**Mini Fragment**					
	NAME, CODE, CATEGORIES					
	1	Generic Name	Mini fragment.			
	2	Ethiopian MDN	Orthopaedic and Traumatological Surgery Instruments, Reusable.			
	3	European MDN	Orthopaedic and Traumatological Surgery Instruments, Reusable.			
	4	Code #	L09.			
	5	Alternative Name (If there is)	Mini fragment.			
	5	Categories	Reusable Surgical Instruments.			
	6	Keywords (optional)				
	PURPOSE OF USE					
	1	Clinical Purpose	Mini-fragment plates (MFPs) are increasingly used in fracture surgery to provide provisional fixation.			
	2	Patient Type	All.			
	3	Speciality Department	Orthopaedics and Traumatology.			
	4	Overview of Functional requirement	Mini Fragment plating orthopaedics equipment is a complete range of low-profile plate and screw options in 2.0mm,2.4mm and 2.7.mm modules. Plates utilize Smart Lock variable angle locking technology which permits polyaxially screw placement. T8 locking screws may be angled +/- 15º in any direction for up to a 30º cone.			
	TECHNICAL CHARACTERISTICS					
	1	Detailed Requirement	All implants should be made of 316 LVM stainless steel (SS). All instrument sets shall be supplied with a proper size sterilizable box.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			The Mini fragment plate set shall supply with the following instruments Mini Hexagonal Screws Driver with Sleeve (1.5mm), SS. Mini Drill Sleeve, SS. Mini Tap Sleeve, SS. Mini Depth Gouge, SS. Mini Self Retaining Retractor for Fingers, SS. Mini Self Retaining Retractor for Metacarpals. Mini Self Retaining Retractor for Metacarpals (with Hinge). Mini Neutral & Loaded Drill Guide, SS. Mini Plate Bender (Pair). Mini Screws holding Forceps (for 1.5 & 2.0mm Screws), SS. Hollow Mill for 1.5mm & 2.0mm Screws, SS. Mini Plate Holding Forceps, SS. Mini Plate & Bone Holding Forceps, SS. Mini Reduction Forceps, SS. Mini Reduction Forceps (Pointed), SS. Mini Periosteal Elevator, SS. Mini Chisels, Sizes: 4, 6, 8, 10 & 12mm SS (1 each). Mini Osteotomes, Sizes: 4, 6, 8, 10 & 12mm SS (1 each). Mini Gouge, Sizes: 4, 6, 8, 10 & 12mm SS (1 each). Mini Hohmann Retractors, Sizes: 6, 8, 10mm SS (1 each). Hexagonal Screwdriver with Sleeve, 2.5mm SS. The Mini fragment plate shall supply with the following consumables. Cortex Screws, Ø 1.5mm, SS, Length 6mm. Cortex Screws, Ø 1.5mm, SS, Length 7mm. Cortex Screws, Ø 1.5mm, SS, Length 8mm. Cortex Screws, Ø 1.5mm, SS, Length 9mm. Cortex Screws, Ø 1.5mm, SS, Length 10mm. Cortex Screws, Ø 1.5mm, SS, Length 11mm. Cortex Screws, Ø 1.5mm, SS, Length 12mm. Cortex Screws, Ø 1.5mm, SS, Length 14mm. Cortex Screws, Ø 1.5mm, SS, Length 16mm. Cortex Screws, Ø 2.0mm, SS, Length 6mm. Cortex Screws, Ø 2.0mm, SS, Length 8mm.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Cortex Screws, Ø 2.0mm, SS, Length 10mm. Cortex Screws, Ø 2.0mm, SS, Length 12mm. Cortex Screws, Ø 2.0mm, SS, Length 14mm. Cortex Screws, Ø 2.0mm, SS, Length 16mm. Cortex Screws, Ø 2.0mm, SS, Length 18mm. Cortex Screws, Ø 2.0mm, SS, Length 20mm. Cortex Screws, Ø 2.7mm, SS, Length 6mm. Cortex Screws, Ø 2.7mm, SS, Length 8mm. Cortex Screws, Ø 2.7mm, SS, Length 10mm. Cortex Screws, Ø 2.7mm, SS, Length 12mm. Cortex Screws, Ø 2.7mm, SS, Length 14mm. Cortex Screws, Ø 2.7mm, SS, Length 16mm. Cortex Screws, Ø 2.7mm, SS, Length 18mm. Cortex Screws, Ø 2.7mm, SS, Length 20mm. Cortex Screws, Ø 2.7mm, SS, Length 24mm. Quarter Tubular Plate 2.7, SS, 3 Holes. Quarter Tubular Plate 2.7, SS, 4 Holes. Quarter Tubular Plate 2.7, SS, 5 Holes. Quarter Tubular Plate 2.7, SS, 6 Holes. Quarter Tubular Plate 2.7, SS, 7 Holes. Quarter Tubular Plate 2.7, SS, 8 Holes. L-Plate 2.7, SS, Left. L-Plate 2.7, SS, Right. T-Plate 2.7, SS Straight Plate 2.0, SS, 3 Holes. Straight Plate 2.0, SS, 4 Holes Straight Plate 2.0, SS, 5 Holes. Straight Plate 2.0, SS, 6 Holes. L-Plate 2.0, SS, Left. L-Plate 2.0, SS, Right. T-Plate 2.0, SS. Condylar Plate 2.0, SS with Left Pin. Condylar Plate 2.0, SS with Right Pin. Condylar Plate 1.5, SS with Left Pin. Kirschner Wire with Trocar Tip, 0.8mm Dia, Length 70mm, SS. Kirschner Wire with Trocar Tip, 1.0mm Dia, Length 150mm, SS.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Kirschner Wire with Trocar Tip, 1.2mm Dia, Length 150mm, SS. Kirschner Wire with Trocar Tip, 1.6mm Dia, Length 150mm, SS.			
			Screw diameter options: 2,0 mm | 2,4 mm | 2,7 mm			
	2	Display Parameters	N/A.			
	3	User Adjustable Setting	N/A.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Components	Type			
			Size: Standard.			
			Materials: Steel.			
			Feature: Reusable.			
			Packaging: Box.			
	2	Mobility (if relevant)	Handheld.			
	3	Raw Materials (if relevant)	N/A.			
	UTILITY REQUIREMENTS					
	1	Electrical, Water and (Gas supply if relevant)	N/A.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	Optional.			
	2	Sterilization Processes for Accessories (if relevant)	Autoclavable.			
	3	Consumables and Reagents (if relevant)	N/A.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	4	Spare Parts	N/A.			
	5	Other Components (if relevant)	Optional.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	Autoclavable.			
	2	Shelf Life (if relevant)	N/A.			
	3	Transportation and Storage (if relevant)	Optional.			
	4	Labelling (if relevant)	Properly labelled.			
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	N/A.			
	2	Requirement for Commissioning	Local clinical staff to affirm completion of installation			
	3	Training for End Users and Technical Personal	Training of users in operation and basic maintenance shall be provided.			
	4	User Care (if relevant)	N/A			
	WARRANTY AND MAINTENANCE					

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	1	Warranty	Optional.			
	2	Maintenance Task	N/A.			
	3	Type of service contract	N/A.			
	4	Spare Parts Available Post Warranty	N/A.			
	5	Software and Hardware Upgrade Availability	Optional.			
	DOCUMENTATION					
	1	Documentation Requirements	User, technical and maintenance manuals should be supplied in English.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
22.	**Locking Plate**					
	NAME, CODE, CATEGORIES AND DEFINITION					
	1	Generic Name	Locking Plate.			
	2	Ethiopian MDN	Orthopaedic and Traumatological Surgery Instruments, Reusable.			
	3	European MDN	Orthopaedic and Traumatological Surgery Instruments, Reusable.			
	4	Code #	L09.			
	5	Alternative Name (If there is)	Locking.			
	5	Categories	Reusable Surgical Instruments.			
	6	Keywords (optional)				
	PURPOSE OF USE					
	1	Clinical Purpose	Locking plates are surgical tools used to stabilize fracture. They differ from standard plates in that the screw heads lock into the plate, providing a composite unit, or 'fixed-angle device'.			
	2	Patient Type	All.			
	3	Speciality Department	Orthopaedics and Traumatology.			
	4	Overview of Functional requirement	Optional.			
	TECHNICAL CHARACTERISTICS					
	1		Properties			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		Detailed Requirement	Variable angled locking screws located in the distal part allow up to 15° off-axis angle in each direction.			
			Anatomical for right and left application.			
			Offers 2 different size options for the distal part.			
			Offers 3 different length measurement options.			
			It is used in the surgical treatment of multi-fragmented intra- and extra-articular fractures of the proximal radius and radius neck.			
			Sizes.			
			Plate thickness: 2,5 mm.			
			Proximal part width: 9 mm.			
			Distal part width: 25 mm | 28 mm.			
			Length options: 50 mm | 61 mm | 81 mm.			
			Type			
			Size: Standard.			
			Materials: Steel.			
			Feature: Reusable.			
			Packaging: Box.			
	2	Display Parameters	N/A.			
	3	User Adjustable Setting	N/A.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Components	N/A.			
	2	Mobility (if relevant)	Handheld.			
	3	Raw Materials (if relevant)	Optional.			
	UTILITY REQUIREMENTS					

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	1	Electrical, Water and (Gas supply if relevant)	N/A.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	Optional.			
	2	Sterilization Processes for Accessories (if relevant)	Autoclavable.			
	3	Consumables and Reagents (if relevant)	N/A.			
	4	Spare Parts	N/A.			
	5	Other Components (if relevant)	Optional.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	Autoclavable.			
	2	Shelf Life (if relevant)	N/A.			
	3	Transportation and Storage (if relevant)	Optional.			
	4	Labelling (if relevant)	Properly labelled.			
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	N/A.			
	2	Requirement for Commissioning	Local clinical staff to affirm completion of installation			
	3	Training for End Users and Technical Personal	Training of users in operation and basic maintenance shall be provided.			
	4	User Care (if relevant)	N/A			
	WARRANTY AND MAINTENANCE					
	1	Warranty	Optional.			
	2	Maintenance Task	N/A.			
	3	Type of service contract	N/A.			
	4	Spare Parts Available Post Warranty	N/A.			
	5	Software and Hardware Upgrade Availability	Optional.			
	DOCUMENTATION					
	1	Documentation Requirements	User, technical and maintenance manuals should be supplied in English.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
23.	**Pelvic Plate**					
	NAME, CODE, CATEGORIES					
	1	Generic Name	Pelvic Plate.			
	2	Ethiopian MDN	Orthopaedic and Traumatological Surgery Instruments, Reusable.			
	3	European MDN	Orthopaedic and Traumatological Surgery Instruments, Reusable.			
	4	Code #	L09.			
	5	Alternative Name (If there is)	Pelvic.			
	5	Categories	Reusable Surgical Instruments.			
	6	Keywords (optional)				
	PURPOSE OF USE					
	1	Clinical Purpose	Pelvic reconstruction plate instrument set is designed for implantation & extraction of locking/ non-locking pelvic plates and screws used for pelvic and acetabular reconstructive surgery.			
	2	Patient Type	All			
	3	Speciality Department	Orthopaedics and Traumatology.			
	4	Overview of Functional requirement	Optional.			
	TECHNICAL CHARACTERISTICS					
	1		3.5mm Reconstruction Plate, Curved			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		Detailed Requirement	• These plates are used with 3.5mm cortical & 4.0mm cancellous screws. • Plates bear side cuts which make them more flexible. • These plates are contoured to fit perfectly with the anatomy of the Pelvis & Acetabulum. • Available in both Titanium & Stainless Steel.			
			3.5mm Wise-Lock "J" Reconstruction Plate with Coaxial Combi-Holes			
			• Categories: 3.5mm Wise-Lock Small Fragment System, Pelvic, Plates • Plate features locking compression holes and round locking holes that accepts 3.5mm cortical and Wise-lock screws. • Plate bears coaxial combi holes. • Plate available with 10,12,14 & 16 holes.			
			3.5mm Wise-Lock Low Profile Reconstruction Plate with Coaxial Combi-Holes, Curved			
			• Available in both Titanium & Stainless steel. • Plate features locking compression holes and round locking holes that accepts 3.5mm cortical and Wise-lock screws. • Plate bears coaxial combi holes. • Plate available with 6,8,10,12,14, & 16 holes.			
			Type			
			Size: Standard.			
			Materials: Stainless Steel.			
			Feature: Reusable.			
			Packaging: Box.			
	2	Display Parameters	N/A.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	3	User Adjustable Setting	N/A.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Components	Optional.			
	2	Mobility (if relevant)	Portable and handheld.			
	3	Raw Materials (if relevant)	Optional.			
	UTILITY REQUIREMENTS					
	1	Electrical, Water and (Gas supply if relevant)	N/A.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	Optional.			
	2	Sterilization Processes for Accessories (if relevant)	Autoclavable.			
	3	Consumables and Reagents (if relevant)	N/A.			
	4	Spare Parts	N/A.			
	5	Other Components (if relevant)	Optional.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	Autoclavable.			
	2	Shelf Life (if relevant)	N/A.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	3	Transportation and Storage (if relevant)	Optional.			
	4	Labelling (if relevant)	Properly labelled.			
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	N/A.			
	2	Requirement for Commissioning	Local clinical staff to affirm completion of installation			
	3	Training for End Users and Technical Personal	Training of users in operation and basic maintenance shall be provided.			
	4	User Care (if relevant)	N/A			
	WARRANTY AND MAINTENANCE					
	1	Warranty	Optional.			
	2	Maintenance Task	N/A.			
	3	Type of service contract	N/A.			
	4	Spare Parts Available Post Warranty	N/A.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	5	Software and Hardware Upgrade Availability	Optional.			
	DOCUMENTATION					
	1	Documentation Requirements	User, technical and maintenance manuals should be supplied in English.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
24.	**Hemiarthroplasty**					
	NAME, CODE, CATEGORIES					
	1	Generic Name	Hemiarthroplasty.			
	2	Ethiopian MDN	Orthopaedic and Traumatological Surgery Instruments, Reusable.			
	3	European MDN	Orthopaedic and Traumatological Surgery Instruments, Reusable.			
	4	Code #	L09.			
	5	Alternative Name (If there is)	Optional.			
	5	Categories	Reusable Surgical Instruments.			
	6	Keywords (optional)				
	PURPOSE OF USE					
	1	Clinical Purpose	Used for the patient with limited femoral neck above the lesser trochanter, femoral neck fractures, non-union, in femoral neck fractures with a shortened femoral neck (due to bony resorption).			
			More vertical angle of the collar on the Thompson prosthesis tends to allow sinking of the prosthesis into the medullary cavity.			
	2	Patient Type	All.			
	3	Speciality Department	Orthopaedics and Traumatology.			
	4	Overview of Functional requirement	Optional.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	TECHNICAL CHARACTERISTICS					
	1	Detailed Requirement	Used for the patient with limited femoral neck above the lesser trochanter, femoral neck fractures, non-union, in femoral neck fractures with a shortened femoral neck (due to bony resorption).			
			More vertical angle of the collar on the Thompson prosthesis tends to allow sinking of the prosthesis into the medullary cavity.			
			Available Head Dia sizes are 37mm, 38mm, 39mm, 40mm, 41mm, 42mm, 43mm, 44mm, 45mm, 46mm, 47mm, 48mm, 49mm, 50mm, 51mm, 52mm, 53mm, 54mm and 55mm.			
			Available in both Sterile and Non-Sterile packing.			
			Type			
			Size: Standard.			
			Materials: Stainless Steel			
			Feature: Reusable			
			Packaging: Box			
	2	Display Parameters	N/A.			
	3	User Adjustable Setting	N/A.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Components	Optional.			
	2	Mobility (if relevant)	Portable and Handheld.			
	3	Raw Materials (if relevant)	Optional.			
	UTILITY REQUIREMENTS					

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	1	Electrical, Water and (Gas supply if relevant)	N/A.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	Optional.			
	2	Sterilization Processes for Accessories (if relevant)	Autoclavable.			
	3	Consumables and Reagents (if relevant)	N/A.			
	4	Spare Parts	N/A.			
	5	Other Components (if relevant)	Optional.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	Autoclavable.			
	2	Shelf Life (if relevant)	N/A.			
	3	Transportation and Storage (if relevant)	Optional.			
	4	Labelling (if relevant)	Properly labelled.			
	ENVIRONMENTAL REQUIREMENTS					

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	N/A.			
	2	Requirement for Commissioning	Local clinical staff to affirm completion of installation			
	3	Training for End Users and Technical Personal	Training of users in operation and basic maintenance shall be provided.			
	4	User Care (if relevant)	N/A.			
	WARRANTY AND MAINTENANCE					
	1	Warranty	Optional.			
	2	Maintenance Task	N/A.			
	3	Type of service contract	N/A.			
	4	Spare Parts Available Post Warranty	N/A.			
	5	Software and Hardware Upgrade Availability	Optional.			
	DOCUMENTATION					
	1	Documentation Requirements	User, technical and maintenance manuals should be supplied in English.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
25.	**Orthopaedic Surgical Drill**					
	NAME, CODE, CATEGORIES					
	1	Generic Name	Drill for Surgery.			
	2	Ethiopian MDN	Orthopaedic Surgical Drills.			
	3	European MDN	Orthopaedic Surgical Drills.			
	4	Code #	Z12130503.			
	5	Alternative Name (If there is)	Drill.			
	5	Categories	Medical Equipment and Related Accessories, Software and Consumables.			
	6	Keywords (optional)				
	PURPOSE OF USE					
	1	Clinical Purpose	To drill a bone for fixation of fracture.			
	2	Patient Type	All.			
	3	Speciality Department	Orthopaedics and Traumatology.			
	4	Overview of Functional requirement	Surgical drills operated by electric, and battery used to cut holes in bone for the insertion of various implants.			
	TECHNICAL CHARACTERISTICS					
	1	Detailed Requirement	Accuracy and Reliability – Depth measurement resolution must be 2 mm's or less. The mechanism must reduce plunging into the soft tissue on the backside of the bone to less than 5 mm.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Life in service – The soft tissue protector must be reusable.			
			The drill bit must be reusable. Until the cutting portion becomes dull.			
			Shelf Life – Indefinite			
			Operating Environment – The device will be used in a sterile operating environment.			
			All implants should be made of 316 LVM stainless steel (SS).			
			will meet human blood, bone and soft tissue.			
			Ergonomics - Must be able to be used comfortably in conjunction with the drill and must.			
			not block vision of the operator more than the current system.			
			Power Output: ≥ 110W.			
			Speed: 0-1100(p.m.).			
			Torque: 3.2Nm.			
			Noise: ≤ 40 (db).			
			Battery: 14.4 (V), 1800 mA/h.			
			Sterilization: Autoclavable above 130 degrees Celsius.			
			Usage: Trauma Operation. Powerful, stepless variable speed control.			
	2	Display Parameters	Power Output: ≥ 110W.			
			Speed: 0-1100(p.m.).			
			Torque: 3.2Nm.			
			Noise: ≤ 40 (db).			
			Battery: 14.4 (V), 1800 mA/h.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Sterilization: Autoclavable above 130 degrees Celsius.			
			Usage: Trauma Operation. Powerful, stepless variable speed control.			
	3	User Adjustable Setting	N/A.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Components	With different drill guidance.			
	2	Mobility (if relevant)	Portable and Handheld.			
	3	Raw Materials (if relevant)	Optional.			
	UTILITY REQUIREMENTS					
	1	Electrical, Water and (Gas supply if relevant)	Battery operated and the adapter is operated by 220V AC, 50HZ.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials including items not specified above.			
	2	Sterilization Processes for Accessories (if relevant)	N/A.			
	3	Consumables and Reagents (if relevant)	N/A.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	4	Spare Parts	Optional.			
	5	Other Components (if relevant)	Optional.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	N/A			
	2	Shelf Life (if relevant)	N/A			
	3	Transportation and Storage (if relevant)	Keep away from oil, grease and petroleum-based or flammable products as well as smoking or			
			open flames			
	4	Labelling (if relevant)	Electrical power input requirements (voltage, frequency and socket type).			
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	N/A.			
	2	Requirement for Commissioning	Local clinical staff to affirm completion of installation			
	3	Training for End Users and Technical Personal	Training of users in operation and basic maintenance shall be provided.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	4	User Care (if relevant)	N/A.			
	WARRANTY AND MAINTENANCE					
	1	Warranty	Optional.			
	2	Maintenance Task	N/A.			
	3	Type of service contract	N/A.			
	4	Spare Parts Available Post Warranty	N/A.			
	5	Software and Hardware Upgrade Availability	Optional.			
	DOCUMENTATION					
	1	Documentation Requirements	User, technical and maintenance manuals should be supplied in English.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
26.	**Fetal Doppler**					
	NAME, CODE, CATEGORIES					
	1	Generic Name	Fetal Doppler.			
	2	Ethiopian MDN	Fetal Study Devices.			
	3	European MDN	Fetal Study Devices.			
	4	Code #	U1002.			
	5	Alternative Name (If there is)	Fetoscope.			
	5	Categories	Fetal Study Devices.			
	6	Keywords (optional)	Fetal, Frequency.			
	PURPOSE OF USE					
	1	Clinical Purpose	Handheld doppler based foetal heart rate detector with amplifier loudspeaker.			
	2	Patient Type	Women.			
	3	Speciality Department	Obstetrics and Gynaecology.			
	4	Overview of Functional requirement	The primary purpose of the fetal heart detector is to provide quick reassurance of fetal well-being to both the mother and the healthcare worker using ultrasound frequency.			
	TECHNICAL CHARACTERISTICS					
	1	Detailed Requirement	Capable of detecting foetal heart rates (FHRs) in the range of 50 - 210 bpm, with 1bpm resolution and 2 bpm accuracy.			
			Probe with 2 MHz frequency with a probe attached via a cable.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			The cable can be extended to a 20 cm length when stretched.			
			Probe detector head diameter at least 39 mm and waterproof.			
			Handheld, weighs less than 0.5 kg with probe and batteries.			
			Built-in speaker with volume adjustment.			
			LCD screen displays FHR, pulse indicator and battery status.			
			Visual alerts for status, system error and low battery.			
			Operates on 3 x AA batteries.			
			Battery life is sufficient for 10 hours continuous use.			
			It should have a back light display.			
			It should have built-in-speaker with volume adjustment.			
	2	Display Parameters	Fetal Hear rate.			
	3	User Adjustable Setting	Sound and Display.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Components	Optional.			
	2	Mobility (if relevant)	Handheld and Portable.			
	3	Raw Materials (if relevant)	Optional.			
	UTILITY REQUIREMENTS					
	1	Electrical, Water and (Gas supply if relevant)	Battery operated and the adapter is operated by 220V AC, 50HZ.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	2 x Tubes of ultrasound gel, approximately 350ml each.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			2 x Set of Alkaline batteries (separately packed).			
			1 x Soft, easy to clean carrying bag.			
	2	Sterilization Processes for Accessories (if relevant)	N/A.			
	3	Consumables and Reagents (if relevant)	N/A.			
	4	Spare Parts	Optional.			
	5	Other Components (if relevant)	Optional.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	N/A.			
	2	Shelf Life (if relevant)	Optional.			
	3	Transportation and Storage (if relevant)	Optional.			
	4	Labelling (if relevant)	Optional.			
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	N/A			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	2	Requirement for Commissioning	Local clinical staff to affirm completion of installation			
	3	Training for End Users and Technical Personal	Training of users in operation and basic maintenance shall be provided.			
	4	User Care (if relevant)	N/A			
	WARRANTY AND MAINTENANCE					
	1	Warranty	Optional.			
	2	Maintenance Task	Optional.			
	3	Type of service contract	N/A.			
	4	Spare Parts Available Post Warranty	N/A.			
	5	Software and Hardware Upgrade Availability	Optional.			
	DOCUMENTATION					
	1	Documentation Requirements	User, technical and maintenance manuals should be supplied in English			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
27.	**Fiberscopes**					
	NAME, CODE, CATEGORIES AND DEFINITION					
	1	Generic Name	Fibreoptics			
	2	Ethiopian MDN	Fiberscopes for Intubation.			
	3	European MDN	fibro scopes for Intubation.			
	4	Code #	Z12029006.			
	5	Alternative Name (If there is)				
	5	Categories	Medical Equipment and Related Accessories, Software and Consumables.			
	6	Keywords (optional)	Trachea, Fibreoptics, Intubation.			
	PURPOSE OF USE					
	1	Clinical Purpose	fiberscopes provide a wide-angle, high-resolution image of the airway, and they are invaluable for the tracheal intubation of patients with pharyngeal or laryngeal cancer and patients who have sustained upper airway trauma.			
	2	Patient Type	All.			
	3	Speciality Department	Anesthesiology, Critical Care and Pain Medicine			
	4	Overview of Functional requirement	Optional.			
	TECHNICAL CHARACTERISTICS					
	1	Detailed Requirement	Optical System:			
			Field of view at least 110-120°.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Depth of Field 2-50 mm.			
			Insertion tube outer diameter: less than 3.5 mm.			
			The fiberscopes should go easily through an endotracheal tube of 3.5mm size.			
			Working length up to 600 mm.			
			Instrument Channel inner diameter 1.2 mm or more.			
			Bending section angulation range at least up to -180 degrees up, 130 degrees down.			
			Insertion tube should have a rotation function to left and right.			
			It should have real time chromo endoscopy for better diagnosis.			
			Compact, lightweight (not more than 10-12 kg) and ergonomically designed.			
			Should have Brightness control: Automatic / manual.			
			Should have facility for color correction.			
			Should have facility for image enhancement.			
			Outputs: 1 x RGB, 2x Y/C (S-VHS), 1 x Composite (FBAS).			
			Should be fully digital system: combination of Digital Signal Processing, high-definition CCD Chips and the latest digital video processors.			
			Video processor should have HDTV signal output.			
			Electronic Magnification should be available on scope switch/keyboard button.			
	2	Display Parameters	Clear interior parts of trachea while intubation			
	3	User Adjustable Setting	Brightness, direction and angulation.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	1	Components	Depth of field 2-50 mm.			
			Insertion tube outer diameter: less than 3.5 mm.			
			The fiberscopes should go easily through an endotracheal tube of 3.5mm size.			
			Working length up to 600 mm.			
			Instrument Channel inner diameter 1.2 mm or more.			
	2	Mobility (if relevant)	Portable.			
	3	Raw Materials (if relevant)	Optional			
	UTILITY REQUIREMENTS					
	1	Electrical, Water and (Gas supply if relaxants)	Electric power supply: 220V AC, 50 Hz, ±10%.			
			Power cord length shouldn't be less than 3 meters.			
			Plug should be Schuko type.			
			Battery powered alarm in the event of power failure, with temporary silence feature.			
			Voltage corrector / stabilizer to allow operation at ± 30% of local rated voltage.			
			Electrical protection by resettable overcurrent breakers or replaceable fuses, fitted in both live and neutral lines.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	Fiberscope brush - 3 numbers.			
			Fiberscopes Dormia basket – 2 numbers.			
			Fiberscope forceps- 2 numbers.			
	2	Sterilization Processes for Accessories (if relevant)	Optional.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	3	Consumables and Reagents (if relevant)	Optional.			
	4	Spare Parts	Optional.			
	5	Other Components (if relevant)	Optional.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	N/A.			
	2	Shelf Life (if relevant)	N/A.			
	3	Transportation and Storage (if relevant)	Keep away from oil, grease and petroleum-based or flammable products as well as smoking or open flames.			
	4	Labelling (if relevant)	Electrical power input requirements (voltage, frequency and socket type).			
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	N/A.			
	2	Requirement for Commissioning	Supplier to perform installation, safety and operation checks before handover.			
			Local clinical staff to affirm completion of installation			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	3	Training for End Users and Technical Personal	The supplier has to provide end users training in operation and basic maintenance shall be provided.			
	4	User Care (if relevant)	Equipment layout to enable easy daily cleaning by end user and disinfectant of all surfaces and general safety precautions.			
	WARRANTY AND MAINTENANCE					
	1	Warranty	The supplier must be provide minimum of 12 months warranty including labour and spare part from the date of commissioning.			
	2	Maintenance Task	Advanced maintenance tasks required shall be documented.			
	3	Type of service contract	N/A.			
	4	Spare Parts Available Post Warranty	Optional.			
	5	Software and Hardware Upgrade Availability	Software (Latest version) to transfer data from video processor to other computers.			
	DOCUMENTATION					
	1	Documentation Requirements	Operational, technical and maintenance manuals to be supplied in English language.			
			List to be provided of important spares and accessories, with their part numbers.			
			Contact details of manufacturer, supplier and local service agent to be provided.			

1. number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
28.	**Infant Incubator**					
	NAME, CODE, CATEGORIES AND DEFINITION					
	1	Generic Name	Infant Incubator.			
	2	Ethiopian MDN	Neonatal Incubators.			
	3	European MDN	Neonatal Incubators.			
	4	Code #	Z12080403.			
	5	Alternative Name (If there is)	Infant Incubator.			
	5	Categories	Medical Equipment and Related Accessories, Software and Consumables.			
	6	Keywords (optional)	neonatal, warming, NICU, thermoregulation, thermal care.			
	PURPOSE OF USE					
	1	Clinical Purpose	Used to maintain appropriate temperature and humidity levels mainly for premature infants and other newborns that cannot effectively regulate their body temperature.			
	2	Patient Type	Infant Incubator			
	3	Specialty Department	Pediatrics and Child Health			
	4	Overview of Functional Requirement	Electronic control of humidity, air temperature and infant skin temperature.			
			Clear, hard cabinet for infant viewing.			
			Double wall with air circulation.			
			Easy access control panel, with light touch operation switches.			

			Facility to elevate base, adjustable range.			
			Self-test functions are performed.			
			Built for stable, stationary operation in ward environment.			
	TECHNICAL CHARACTERISTICS					
	1	Detailed Requirement	Controlled by a microprocessor or microcontroller. Servo controlled mode to adjust patient's skin temperature not lower than 34ºC up to 37ºC. With an amplied range from 37ºC to 38ºC.			
			Servo controlled mode to adjust air temperature from 23ºC or less to 37ºC or more. With an amplied range from 37ºC to 39ºC.			
			Air filter.			
			Minimal resolution of 0.1 ºC.			
			Monitored parameters: air temperature, patient's skin temperature, oxygen concentration.			
			Microcontroller humidifier with a range 40 to 80%			
			Oxygen input flow rate 5 to15 liters/min or oxygen concentration range 25 to 70%.			
			Maximum CO2 concentration inside incubator 0.2%.			
			Noise level in the interior of the hood less to 60 dBA.			
			Head ends raise facility with auto lock.			
			Auto-calibration of measurement circuits.			
	2	Display Parameters	Patient temperature.			
			Air Temperature.			
			Visual and audible alarms for: • Patient and air high/low temperature alarm. • Air circulation / probe / system / power failure alarm. • Humidity alarm. • Power failure. • Temporal alarm silencer. • Heater power indicator.			
	3	User Adjustable Setting	Air temperature control from 23°C/73.4°F to 37°C/98.6°F.			
			Patient temperature control from 34°C/93.2°F to 37°C/98.6°F.			
			Humidity control from 40 to 80%.			

			Oxygen input flow rate from 5 to 15 lpm.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Components	Transparent cabinet.			
			Double wall with air circulation between the hood and the double wall.			
			One door with air curtain.			
			Mattress with washable and waterproof cover; removable and not smaller than 55 cm (length) x 34 cm (wide).			
			Accommodates shelves and I/V poles.			
			Mounted on stationary table, base of which is at least 80 cm high			
			At least four ports for tubes access to the interior of the hood.			
			At least four ports to access the patient.			
			At least one door or drawer or accessories base.			
			Mobile equipment with at least 4 castor anti-static and rust-free wheels and two brakes. Mattress made by a material flame retardant, washable, antibacterial and resistant to corrosion, water, detergent soap, 70% ethylic alcohol solution with or without nitrite and to the hypochlorite of sodium.			
			Water tank capacity not less than 1 liter.			
			Oxygen bottle of approximately 10 liters, 200 bars, portable and provided with at least the following accessories: flux meter, humidifier and oxygen tubes.			
			One high-pressure regulator with flow control valves used to maintain a pressure of 50 psi and provide a variable oxygen flow rate:			
			a) Bull nose type;			
			b) Compact size, lightweight and durable metal body;			
			c) Impervious to chemical solutions normally used in a clinical setting;			
			d) Dial type, without flow tube;			
			e) Easy to read, with large numbers for easy flow adjustments;			
			f) Capacity of at least 0-25 l/min with at least the following increments: 0.5, 1, 2, 3, 4, 5, 6, 8, 10, 15, 25 l/min.			
	2	Mobility (if relevant)	Mounted on mobile, wheeled base, with breaks at least in two wheels.			

	3	Raw Materials (if relevant)	N/A.			
	UTILITY REQUIREMENTS					
	1	Electrical, Water and (Gas supply if relevant)	Electric power supply: 220V AC, 50 Hz, ±10%.			
			Power cord length shouldn't be less than 3 meters.			
			Plug should be schuko type.			
			Battery powered alarm in the event of power failure, with temporary silence feature.			
			Voltage corrector / stabilizer to allow operation at ± 30% of local rated voltage.			
			Electrical protection by resettable overcurrent breakers or replaceable fuses, fitted in both live and neutral lines.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	Two extra mattresses.			
			Two extra sets of sensors.			
			Two extra sets of filters.			
			Two reusable temperature sensor probes.			
	2	Sterilization Processes for Accessories (if relevant)	Optional.			
	3	Consumables and Reagents (if relevant)	A reusable or disposable skin temperature sensor probe.			
			Sticky reflective patches.			
			Sleeves.			
			Air filter.			
			Oxygen filter.			
	4	Spare Parts	Two extra sets of fuses			
			Mattress with washable and waterproof cover.			
	5	Other Components (if relevant)	Optional.			
	PACKAGING					

	1	Sterility Status on Delivery (if relevant)	Optional.			
	2	Shelf Life (if relevant)	N/A.			
	3	Transportation and Storage (if relevant)	Packing of all the goods clearly marked and securely packed.			
			Each good will be further packed in a separate package with all its standard accessories of distinct identification and numbers consecutively.			
	4	Labelling (if relevant)	Additional packing and labelling requirements should bear in each package.			
			Each item with all accessories /spare part shall be configured and packed in one unit.			
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	N/A.			
	2	Requirement for Commissioning	Supplier to perform installation, safety and operation checks before handover.			
	3	Training of End Users and Technical Personal	Local clinical staff to affirm completion of installation.			
	4	User Care (if relevant)	The supplier has to provide end users training in operation and basic maintenance should be provided.			
	WARRANTY AND MAINTENANCE					
	1	Warranty	The supplier must provide minimum of 24 months warranty including labour and spare part from the date of commissioning.			
	2	Maintenance Task	Advanced maintenance tasks required shall be documented.			

	3	Type of service contract	N/A.			
	4	Spare Parts Available Post Warranty	Optional.			
	5	Software and Hardware Upgrade Availability	N/A.			
	DOCUMENTATION					
	1	Documentation Requirements	Operational, technical and maintenance manuals to be supplied in English language.			
			List to be provided of important spares and accessories, with their part numbers.			
			Contact details of manufacturer, supplier and local service agent to be provided.			

1. em number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
29.	**Electro Surgical Unit**					
	NAME, CODE, CATEGORIES AND DEFINITION					
	1	Generic Name	Electro Surgical Unit.			
	2	Ethiopian MDN	Electro Surgical Unit for General Use.			
	3	European MDN	Electro Surgical Unit for General Use.			
	4	Code #	Z12010902.			
	5	Alternative Name (If there is)				
	5	Categories	Medical Equipment and Related Accessories, Software and Consumables.			
	6	Keywords (optional)	Current, frequency, Cut, Coagulate, Blend.			
	PURPOSE OF USE					
	1	Clinical Purpose	Diathermy uses an electric current to produce heat deep inside a targeted tissue. It can reach areas as deep as two inches from the skin's surface.			
			The diathermy machine does not apply heat directly to the body. Instead, the current from the machine allows the body to generate heat from within the targeted tissue.			
	2	Patient Type	All.			
	3	Specialty Department	Orthopedic and Traumatology.			
	4	Overview of Functional requirement	Use high-frequency electrical energy in a radiofrequency (RF) band to develop heat directly within targeted soft-tissue cells (thermodynamic) for cutting and coagulating tissue typically during general surgical procedures.			
	TECHNICAL CHARACTERISTICS					

1. em number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	1	Detailed Requirement	Solid-state/microprocessor-controlled frequency generator.			
			Modes of operation to include pure cut, pure coagulation and blended (combined)Operation to be controlled by foot pedal, with minimum 2m connection cable, and also by hand switch on probe RF generator to be within the range 0.5 to 3.5MHz, output to be electrically isolated from ground.			
			Monopolar and bipolar outputs, electrically isolated from ground.			
			Minimum output frequency is higher than 400kHz.			
			Monopolar modes include pure cut, blend, and coagulate (soft, contact and spray).			
			Bipolar mode includes coagulate and cut mode.			
			Maximum monopolar cut power output maximum 300 W.			
			Maximum monopolar coagulation power output maximum 100 W.			
			Maximum bipolar power output maximum 100 W.			
			Hand switch mode when button-activated probes are connected.			
			Foot switch that can operate in monopolar and bipolar modes.			
			Yellow buttons/pedals for cut and blue buttons/pedals for coagulate.			
			Grounding pad/return electrode monitored for patient connection.			
			Front panel allows mode selection, power settings and on/off.			
			Display shows output power, system errors and electrode failure.			
			Automatic shut off/generator deactivation on grounding pad/return electrode connection failure.			
			Audible and visual indicators of activation and alarms.			
			Self-test mode.			
			Protection against defibrillator discharges.			
	2	Display Parameters	The display shows output power, system errors and electrode failure.			
	3	User Adjustable Setting	Switch selection, Power output, Mode.			

1. em number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Components	Trolley; Foot switch			
	2	Mobility (if relevant)	Portable and weight light.			
	3	Raw Materials (if relevant)	Optional.			
	UTILITY REQUIREMENTS					
	1	Electrical, Water and (Gas supply if relevant)	Electric power supply: 220V AC, 50 Hz, ±10%.			
			The power cord length shouldn't be less than 3 meters.			
			Plug should be schuko type.			
			Battery powered alarm in the event of power failure, with temporary silence feature.			
			Voltage corrector / stabilizer to allow operation at ± 30% of local rated voltage.			
			Electrical protection by resettable overcurrent breakers or replaceable fuses, fitted in both live and neutral lines.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	Power cord:1pc			
			Electrode lever:1pc			
			Electrode:2sets			
			Collective electric bulb: 2pcs switch			
			Trolley; Footswitch			
			Reusable electrode handle with cutting/coagulation switch			
			Disposable REM plate.C21.			
			Cable for electrode handle.			
			Neutral plate for adults and pediatric.			
	2	Sterilization Processes for	Optional.			

1. em number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		Accessories (if relevant)				
	3	Consumables and Reagents (if relevant)	Optional.			
	4	Spare Parts	Optional.			
	5	Other Components (if relevant)	Optional.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	Optional.			
	2	Shelf Life (if relevant)	N/A.			
	3	Transportation and Storage (if relevant)	Packing of all the goods clearly marked and securely packed.			
			Each good will be further packed in a separate package with all its standard accessories of distinct identification and numbers consecutively.			
	4	Labelling (if relevant)	Additional packing and labelling requirements should bear in each package.			
			Each item with all accessories /spare part shall be configured and packed in one unit.			
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	N/A.			

1. em number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	2	Requirement for Commissioning	Supplier to perform installation, safety and operation checks before handover.			
	3	Training for End Users and Technical Personal	Local clinical staff to affirm completion of installation.			
	4	User Care (if relevant)	The supplier has to provide end users training in operation and basic maintenance should be provided.			
	WARRANTY AND MAINTENANCE					
	1	Warranty	The supplier must provide minimum of 24 months warranty including labour and spare part from the date of commissioning.			
	2	Maintenance Task	Advanced maintenance tasks required shall be documented.			
	3	Type of service contract	N/A.			
	4	Spare Parts Available Post Warranty	Optional.			
	5	Software and Hardware Upgrade Availability	N/A.			
	DOCUMENTATION					
	1	Documentation Requirements	Operational, technical and maintenance manuals to be supplied in English language.			
			List to be provided of important spares and accessories, with their part numbers.			
			Contact details of manufacturer, supplier and local service agent to be provided.			

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
34	**Electrocardiography (ECG)**					
	NAME, CODE, CATEGORIES					
	1	Generic Name	Electrocardiography.			
	2	Ethiopian MDN	Cardiocirculatory System Devices.			
	3	European MDN	Cardiocirculatory System Devices.			
	4	Code #	C020501.			
	5	Alternative Name (If there is)	ECG.			
	5	Categories	Cardiocirculatory System Devices.			
	6	Keywords (optional)	cardiac, Electrode, Printer, Gel.			
	PURPOSE OF USE					
	1	Clinical Purpose	Continuously detect, measure and display a patient's echocardiogram (ECG) through leads and sensors attached to the patient.			
	2	Patient Type	All.			
	3	Speciality Department	Emergency and Critical, Anesthesiology, Critical Care and Pain Medicine.			
	4	Overview of Functional requirement	Electrodes (small, plastic patches that stick to the skin) are placed at certain spots on the chest, arms, and legs. The electrodes are connected to an ECG machine by lead wires. The electrical activity of the heart is then measured, interpreted, and printed out. No electricity is sent into the body.			

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	TECHNICAL CHARACTERISTICS					
	1	Detailed Requirement	Display should include ,12 lead ECG waveform, patient information, recording settings, operation mode, heart rate, QRS sync mark, error message, electrode detachment, noise.			
			Real time display of ECG waveforms with signal quality indication for each lead.			
			Artifact, AC, low and high pass frequency filters.			
			Acquisition mode: simultaneous 12-lead acquisition (10-24s adjustable).			
			Sampling rate:1KHZ for pacemaker detection			
			CMRR: >105dB.			
			Sensitivity:5, 10, 20mm/mV.			
			Noise Level:<15uVp-p.			
			The machine should have the following filters:			
			EMG interference filter.			
			Anti-baseline drift,			
			High and Low-pass Filter:			
			AC Filter: 50Hz.			
			Input Impedance: ≥ 50MΩ.			
			Patient leak current: <10µA.			
			Input Voltage Range: ± 5mVpp.			
			Input Circuit Current:<10nA.			
			Visual alarm for open lead.			
			Modes of operation – Automatic.			
			Manual & Rhythm (Not Arrhythmia).			

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Alphanumeric keyboard for patient data Entry. (virtual or hard keys) and one touch operation.			
			Integrated thermal Printer: High resolution (200 dpix500dpi on 25 mm/sec speed) digital array A4 size.			
			It should have features with the capability to transfer the ECG data to a PC using USB/ HIS /LAN/Wireless LAN system.			
			USB Support for Storage on external portable memories.			
			At least 4GB internal memory for ECG data storage.			
	2	Display Parameters	Recording speed should be 5, 10, 12.5, 25, 50 mm/s.			
			Recording paper should be 110 mm width, 30 m long Z fold.			
			It should show the following recording data, ECG waveform, heartrate, lead name, version, date and time, paper speed, sensitivity, filter setting, patient information, measured information, marks.			
			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.			
			Should be supplied with built in rechargeable battery with capability of minimum of one hour power backup.			
	3	User Adjustable Setting	As per the standard.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Components	The trolley should be made of Stainless Steel.			
			Shelf with a drawer for storing the accessories and consumables.			
			Four superior castors (two with brakes).			

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			The trolley should have a suitable cable arm firmly affixed to a holder for ECG cables while not in use.			
	2	Mobility (if relevant)	Portable.			
	3	Raw Materials (if relevant)	Optional.			
	UTILITY REQUIREMENTS					
	1	Electrical, Water and (Gas supply if relevant)	Electric power supply: 220V AC, 50 Hz, ±10%.			
			Power cord length shouldn't be less than 3 meters.			
			Plug should be schuko type.			
			Battery powered alarm in the event of power failure, with temporary silence feature.			
			Voltage corrector / stabilizer to allow operation at ± 30% of local rated voltage.			
			Electrical protection by resettable overcurrent breakers or replaceable fuses, fitted in both live and neutral lines.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	1x ECG Machine 12 Leads with Interpretation – 01.			
			2x Lead ECG Patient Cable -02.			
			4 set of chest electrodes adult size- (each set of six electrodes), reusable.			
			4 set of chest electrodes paediatric size- (each set of six electrodes), reusable.			
			4 set of color-coded clip clamp limb electrodes adult size (each set of four electrodes), reusable 4 set of color-coded clip clamp limb electrodes paediatric size (each set of four electrodes), reusable.			
			5x Standard thermal paper (Roll).			

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			5x Gel of 300mL.			
			All standard accessories, consumables and spare parts required to operate the equipment, including all standard tools and cleaning and lubrication materials including items not specified above			
	2	Sterilization Processes for Accessories (if relevant)	N/A.			
	3	Consumables and Reagents (if relevant)	Optional.			
	4	Spare Parts	Optional.			
	5	Other Components (if relevant)	Optional.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	N/A.			
	2	Shelf Life (if relevant)	N/A.			
	3	Transportation and Storage (if relevant)	Packing of all the goods clearly marked and securely packed.			
			Each good will be further packed in separate package with all its standard accessories of distinct identification and numbers consecutively.			
	4	Labelling (if relevant)	Additional packing and labelling requirements should bear in each package.			

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Each item with all accessories /spare part shall be configured and packed in one unit.			
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	Optional.			
	2	Requirement for Commissioning	Supplier to perform installation, safety and operation checks before handover.			
	3	Training for End Users and Technical Personal	Local clinical staff to affirm completion of installation			
	4	User Care (if relevant)	The supplier has to provide end users training in operation and basic maintenance shall be provided.			
	WARRANTY AND MAINTENANCE					
	1	Warranty	The supplier must provide minimum of 12 months warranty including labour and spare part from the date of commissioning.			
	2	Maintenance Task	N/A.			
	3	Type of service contract	N/A			
	4	Spare Parts Available Post Warranty	Optional.			

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	5	Software and Hardware Upgrade Availability	N/A.			
	DOCUMENTATION					
	1	Documentation Requirements	Operational, technical and maintenance manuals to be supplied in English language.			
			List to be provided of important spares and accessories, with their part numbers.			
			Contact details of manufacturer, supplier and local service agent to be provided.			

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
35	**External Fixators Set**					
	NAME, CODE, CATEGORIES					
	1	Generic Name	External fixators.			
	2	Ethiopian MDN	Orthopaedics Instrument Set.			
	3	European MDN	Orthopaedics Instrument Set.			
	4	Code #	L09.			
	5	Alternative Name (If there is)				
	5	Categories	Orthopaedic and Traumatological Surgery Instruments, Reusable.			
	6	Keywords (optional)				
	PURPOSE OF USE					
	1	Clinical Purpose	External fixators used for the treatment of choice for a comminuted fracture or for an injury in which significant soft tissue has been lost.			
	2	Patient Type	All.			
	3	Speciality Department	Orthopaedics and Traumatology.			
	4	Overview of Functional requirement	Optional.			
	TECHNICAL CHARACTERISTICS					
	1	List of Sets	Pin to Rod Coupling for Ø5mm Rods & Ø3-4mm Pins-12.			
			Rod to Rod Coupling forØ5mm Rods-12.			
			Hole Coupling for 3-4mm Pins-3.			

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Peri-articular Pin Clamp for 3-4mm Pins-1.			
			Straight Post Ø5-2.			
			30° Post Ø5-4.			
			Apex Type Pin, Self-Drilling/Self Tapping, Ø3x80mm-4.			
			Apex Type Pin, Self-Drilling/Self Tapping, Ø4x80mm-4.			
			Apex Type Pin, Self-Drilling/Self Tapping, Ø4x100mm-4.			
			Apex Type Pin, Self-Drilling/Self Tapping, Ø4x120mm-4.			
			Apex Type Pin, Self-Drilling/Self Tapping, Ø4x130mm-4.			
			Drill Sleeve Ø3-4-1.			
			Carbon Connecting Rod Ø5x120mm-2.			
			Carbon Connecting Rod Ø5x180mm-2.			
			Carbon Connecting Rod Ø5x250mm-2.			
			Carbon Connecting Rod Ø5x150mm-4.			
			Carbon Connecting Rod Ø5x200mm-4.			
			Elbow Joint Mobilizer Ø5-1.			
			T-shaped Clamp Wrench #5-1.			
			Stabilization/Reduction Wrench #15-1.			
			Manual Drill Ø4-1.			
			T-shaped Pin Wrench Ø3-4-1.			
			Thumbwheel #5-7-1.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Mobility (if relevant)	Portable.			
	2	Raw Materials (if relevant)	Optional.			

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	DOCUMENTATION					
	1	Documentation Requirements	Operational, technical and maintenance manuals to be supplied in English language.			
			List to be provided of important spares and accessories, with their part numbers.			
			Contact details of manufacturer, supplier and local service agent to be provided.			

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
36	**Orthopaedics Instruments Set**					
	NAME, CODE, CATEGORIES					
	1	Generic Name	Orthopaedics Instruments.			
	2	Ethiopian MDN	Orthopaedics Instrument Set.			
	3	European MDN	Orthopaedics Instrument Set.			
	4	Code #	L09.			
	5	Alternative Name (If there is)				
	5	Categories	Orthopaedic and Traumatological Surgery Instruments, Reusable.			
	6	Keywords (optional)				
	PURPOSE OF USE					
	1	Clinical Purpose	Orthopaedics surgical instrument sets are collections of specialized instruments used by orthopaedic surgeons during various orthopaedic surgical procedures.			
			Orthopaedics surgery focuses on the treatment of musculoskeletal conditions, which involve the bones, joints, muscles, ligaments, tendons, and other related structures.			
	2	Patient Type	All.			
	3	Speciality Department	Orthopaedics and Traumatology.			
	4	Overview of Functional requirement	Basic major orthopaedics instruments are designed to treat joint abnormalities and manipulation of bones, ligaments, tissues, and tendons.			

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			The set includes retractors, forceps, needle holders, osteotomes, suction tubes, towel clamps, and other essential instruments.			
	TECHNICAL CHARACTERISTICS					
	5		Hibbs Osteotome 9" Straight different size			
		List of sets	Hibbs Osteotomes 9" Curved different size.			
			Hibbs Gouge 9 1/2" Straight different size.			
			Hibbs Gouge 9 1/2" Curved different size.			
			Knife Handle No 3.			
			Knife Handle No 4.			
			Mayo Hegar Needle Holder Serrated 8" Tungsten Carbide.			
			Mayo Scissors Tungsten Carbide Curved different size.			
			Mayo Scissors Tungsten Carbide Straight different size.			
			Metzenbaum Scissors Straight 7" Tungsten Carbide.			
			Esmarch Plaster Shears 8".			
			Thumb Tissue Forceps 1x2 Teeth 6".			
			Tissue Forceps 4x5 Teeth 6".			
			Adson Forceps 1x2 Teeth 4 3/4" Delicate.			
			Crile Haemostatic Forceps Curved 5 1/2".			
			Rochester Ochsner Forceps Straight 8".			
			Backhaus Towel Clamp 5 1/4".			
			Mayo Scissors Tungsten Carbide Straight 5 1/2".			
			Crile Wood Needle Holder Tungsten Carbide Jaws Serrated 8".			
			Meyerding Retractor 9 1/2" 3 1/2" X 2" Large.			
			Orthopaedics Ruler.			
			Diathermy Dissecting Forceps.			

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Mobility (if relevant)	Portable.			
	2	Raw Materials (if relevant)	Optional.			
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	DOCUMENTATION					
	1	Documentation Requirements	Operational, technical and maintenance manuals to be supplied in English language.			
			List to be provided of important spares and accessories, with their part numbers.			
			Contact details of manufacturer, supplier and local service agent to be provided.			

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
37	**Dermatome Skin Grafting**					
	NAME, CODE, CATEGORIES AND DEFINITION					
	1	Generic Name	Dermatome Skin Grafting.			
	2	Ethiopian MDN	Orthopaedics Instrument Set.			
	3	European MDN	Orthopaedics Instrument Set.			
	4	Code #	L09.			
	5	Alternative Name (If there is)				
	5	Categories	Orthopaedic and Traumatological Surgery Instruments, Reusable.			
	6	Keywords (optional)				
	PURPOSE OF USE					
	1	Clinical Purpose	A dermatome is a surgical instrument for producing thin slices of skin from a donor area, for use in skin grafts.			
	2	Patient Type	All.			
	3	Specialty Department	Orthopaedics and Traumatology			
	4	Overview of Functional requirement	Uniform graft widths are maintained with width plates that assemble quick and easy.			
			Width plates range from one to four inches (2.5 to 10.2 cm) in one inch (2.5 cm) increments.			
	TECHNICAL CHARACTERISTICS					

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	1	Detailed Requirement	Skin Graft Thickness: 0-0.75 mm in 0.05 mm increment, the skin thickness adjusting button is a unilateral adjustment, with high stability and no need to calibrate to zero.			
			Skin Graft Width: 2.5~10.2cm,4 size width plates:2.5cm,5.1cm,7.6cm,10.2cm.			
			Note: Special size width plate can be customized according to requirements.			
			The blade has self-lubricating function and is easy to load and unload.			
			It should be move back and forth smoothly to prevent metal-to-metal collision.			
	2	Display Parameters	Optional.			
	3	User Adjustable Setting	Select thick thickness.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Components	Smaller diameters handle Light weight for easier manoeuvrability.			
	2	Mobility (if relevant)	Portable.			
	3	Raw Materials (if relevant)	Optional.			
	UTILITY REQUIREMENTS					
	1	Electrical, Water and (Gas supply if relevant)	Electric power supply: 220V AC, 50 Hz, ±10%.			
			The power cord length shouldn't be less than 3 meters.			
			Plug should be schuko type.			
			Battery powered alarm in the event of power failure, with temporary silence feature.			

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Voltage corrector / stabilizer to allow operation at ± 30% of local rated voltage.			
			Electrical protection by resettable overcurrent breakers or replaceable fuses, fitted in both live and neutral lines.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	All standard accessories, consumables and parts required to operate the equipment.			
	2	Sterilization Processes for Accessories (if relevant)	Optional.			
	3	Consumables and Reagents (if relevant)	Optional			
	4	Spare Parts	Optional.			
	5	Other Components (if relevant)	Optional.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	Optional.			
	2	Shelf Life (if relevant)	N/A.			
	3	Transportation and Storage (if relevant)	Packing of all the goods clearly marked and securely packed.			

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	4	Labelling (if relevant)	Each good will be further packed in a separate package with all its standard accessories of distinct identification and numbers consecutively.			
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	N/A.			
	2	Requirement for Commissioning	Supplier to perform installation, safety and operation checks before handover.			
	3	Training for End Users and Technical Personal	Local clinical staff to affirm completion of installation.			
	4	User Care (if relevant)	The supplier has to provide end users training in operation and basic maintenance shall be provided.			
	WARRANTY AND MAINTENANCE					
	1	Warranty	The supplier must provide minimum of 24 months warranty including labor and spare part from the date of commissioning.			
	2	Maintenance Task	Advanced maintenance tasks required shall be documented.			
	3	Type of service contract	N/A.			

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	4	Spare Parts Available Post Warranty	Optional.			
	5	Software and Hardware Upgrade Availability	N/A.			
	DOCUMENTATION					
	1	Documentation Requirements	Operational, technical and maintenance manuals to be supplied in English language.			
			List to be provided of important spares and accessories, with their part numbers.			
			Contact details of manufacturer, supplier and local service agent to be provided			

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
39	**Proximal Femoral Nail Set**					
	NAME, CODE, CATEGORIES AND DEFINITION					
	1	Generic Name	Proximal Femoral Nail Set.			
	2	Ethiopian MDN	Orthopaedics Instrument Set.			
	3	European MDN	Orthopaedics Instrument Set.			
	4	Code #	L09.			
	5	Alternative Name (If there is)				
	5	Categories	Orthopaedic and Traumatological Surgery Instruments, Reusable.			
	6	Keywords (optional)				
	PURPOSE OF USE					
	1	Clinical Purpose	The main purpose of the proximal femoral nail is the treatment of peri trochanteric, intertrochanteric and subtrochanteric fractures			
	2	Patient Type	All.			
	3	Speciality Department	Orthopaedics and Traumatology.			
	4	Overview of Functional requirement	PFN Nail (Proximal Femoral Nail) Short sizes: Distal diameter 9-13 mm, Angle 130° or 135°, Length from 180 to 240 mm.			
	TECHNICAL CHARACTERISTICS					
	1		PFN Nail (Proximal Femoral Nail) Short sizes: Distal diameter 9-13 mm, Angle 130° or 135°, Length from 180 to 240 mm. Available in both stainless Steel and Titanium.			

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		Detailed Requirement and List of sets	All implants should be made of 316 LVM stainless steel (SS) All instrument sets shall be supplied with a proper size sterilizeable box The nailing system shall be supplied with the following instruments: Screwdriver (hexagonal) ø 4.5mm for i.l Depth Guage for interlocking- ø 4.9mm Wrench with the size of 10 and 11 Drill bit ø 4.0mm x 225 mm- non coupling Kuntscher's diamond pointed awl- curved Guide wire holder Insertion driving head Tissue protector Trocar ø 8.0mm Wire sleeve ø 8.0 x 1.8mm Drill sleeve ø 8.0 x 4.0 mm Protection sleeve ø 10.0 x 8.0mm Nail connecting bolt			
			Screwdriver (hexagonal) extra-long, 3.5mm Aluminium with Tray Shall be Supplied with the following Reamer Set Solid Reamer: 7-13 Diameter Shall be made of stralizable material			
			Shall be supplied with the following consumebeles Nail Femur: Dia. 8mm, Length 32-42. Nail Femur- Dia. 9mm, Length 32-42. Nail Femure- Dia. 10mm, Length 32-42. Nail Femur - Dia. 11mm, Length 34-42. Nail Tibia - Dia. 8mm, Length 28-38. Nail Tibia - Dia. 9mm, Length 28-38. Nail Tibia - Dia. 10mm, Length 28-38. Screw - 4.9mm - Interlocking, Length 32-66. Box - For nail.			

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Screw - 3.9mm - Interlocking, Length 32-50.			
			PFN Nail (Proximal Femoral Nail) Long sizes: Distal diameter 9-13 mm, Angle 130° or 135°, Length from 300 to 420 mm.			
			4.9 mm Locking Bolt Sizes: Length from 22 to 100 mm in stainless Steel or Titanium.			
			6.4 mm Bolt Sizes: Length from 55 to 130 mm in stainless Steel or Titanium.			
			8 mm Bolt Sizes: Length from 70 to 120 mm in stainless Steel or Titanium.			
	2	Display Parameters	N/A.			
	3	User Adjustable Setting	N/A.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Components	Portable.			
	2	Mobility (if relevant)	Flexible.			
	3	Raw Materials (if relevant)	Optional.			
	UTILITY REQUIREMENTS					
	1	Electrical, Water and (Gas supply if relevant)	N/A.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	Optional.			
	2	Sterilization Processes for	Optional			

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
		Accessories (if relevant)				
	3	Consumables and Reagents (if relevant	Optional.			
	4	Spare Parts	Optional.			
	5	Other Components (if relevant)	Optional.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	Optional.			
	2	Shelf Life (if relevant)	N/A.			
	3	Transportation and Storage (if relevant)	Packing of all the goods clearly marked and securely packed.			
	4	Labelling (if relevant)	Each good will be further packed in a separate package with all its standard accessories of distinct identification and numbers consecutively.			
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	N/A.			

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	2	Requirement for Commissioning	Supplier to perform installation, safety and operation checks before handover.			
	3	Training for End Users and Technical Personal	Local clinical staff to affirm completion of installation.			
	4	User Care (if relevant)	The supplier has to provide end users training in operation and basic maintenance shall be provided.			
	WARRANTY AND MAINTENANCE					
	1	Warranty	Optional.			
	2	Maintenance Task	N/A.			
	3	Type of service contract	Optional.			
	4	Spare Parts Available Post Warranty	N/A.			
	5	Software and Hardware Upgrade Availability	N/A.			
	DOCUMENTATION					
	1	Documentation Requirements	Operational, technical and maintenance manuals to be supplied in English language.			
			List to be provided of important spares and accessories, with their part numbers.			
			Contact details of manufacturer, supplier and local service agent to be provided			

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
40	**Laminectomy Set**					
	NAME, CODE, CATEGORIES AND DEFINITION					
	1	Generic Name	Laminectomy set.			
	2	Ethiopian MDN	Orthopaedics Instrument Set.			
	3	European MDN	Orthopaedics Instrument Set.			
	4	Code #	L09.			
	5	Alternative Name (If there is)				
	5	Categories	Orthopaedic and Traumatological Surgery Instruments, Reusable.			
	6	Keywords (optional)				
	PURPOSE OF USE					
	1	Clinical Purpose	Laminectomy is surgery that creates space by removing bone spurs and tissues associated with arthritis of the spine.			
	2	Patient Type	All.			
	3	Speciality Department	Orthopaedics and Traumatology.			
	4	Overview of Functional requirement				
	TECHNICAL CHARACTERISTICS					
	1	Detailed Requirement and List of Sets	Material: Stainless steel.			
			Rusting Prevention Procedure: Passivated.			
			Has to be cleaned by Ultrasonic and Dull Polished.			
			Tests Performed: Boil Test, Performance Test, Shape Test.			
			Grade: High.			
			Sterility: Non-Sterile.			

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Rusting Prevention Procedure: Passivated.			
			Has to be cleaned by Ultrasonic and Dull Polished.			
			Tests Performed: Boil Test, Performance Test, Shape Test.			
			Has to be contain the following set: Scalpel Handle.			
			Mayo Diss Scissors Straight 6 ¾. Mayo Diss Scissors Curved 6 3/4". Metzenbaum Scissors Straight 7". Op Scissors 5 1/2" Straight Sh/bl. Op Scissors 5 1/2" Curved Sh/bl Serrated Dressing Forceps 5 1/2". Serrated Dressing Forceps 8". Tissue Forceps 1x2 5 1/2". Tissue Forceps 1x2 8". Cushing Brain Delicate Forceps Serrated 7". Cushing Brain Delicate Forceps 1x2 7". Adson Forceps Delicate Bayonet 7 1/2". Halsted Mosquito Forceps Straight 5". Halsted Mosquito Forceps Curved 5". Crile Forceps Straight 6 1/4". Crile Forceps Curved 6 1/4". Allis Tiss Forceps 5x6 6". Beckman-adson Retractor Shrp 12.5". Weitlaner Retractor Shrp 3x4 8". Backhaus Towel Clamp 5 1/4". Foerster Sponge Serrated Straight 91/2". Love-kerri Ronguer 6" Up Bite 5mm. Love Kerr Schl Rongeur 6" 5mm. Love-gruenwald Ronguer B 3x10mm5". Love-gruen Ronguer Straight 7" 3x10. Love-gruen Ronguer Up Ang 7" 3x10. Love-gruen Ronguer Dwn Ang 7"3x10. Bruns Bone Curette Oval.			

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Luer Bone Ronguer 7"cvd 8x10mm. Leksell Rongeur Curved 9" 8x16mm. Stille-hors Bone Forceps 10 1/2" Stille-luer Bone Ronguer Straight 81/2. Stille-luer Rongeur Ang 8 1/2". Stille-list Bone Forceps Straight 101/2.			
	2	Display Parameters	N/A.			
	3	User Adjustable Setting	N/A.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Components	Portable.			
	2	Mobility (if relevant)	Flexible.			
	3	Raw Materials (if relevant)	Optional.			
	UTILITY REQUIREMENTS					

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	1	Electrical, Water and (Gas supply if relevant)	N/A.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	Optional.			
	2	Sterilization Processes for Accessories (if relevant)	Optional			
	3	Consumables and Reagents (if relevant	Optional.			
	4	Spare Parts	Optional.			
	5	Other Components (if relevant)	Optional.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	Optional.			
	2	Shelf Life (if relevant)	N/A.			
	3	Transportation and Storage (if relevant)	Packing of all the goods clearly marked and securely packed.			
	4	Labelling (if relevant)	Each good will be further packed in a separate package with all its standard accessories of distinct identification and numbers consecutively.			
	ENVIRONMENTAL REQUIREMENTS					

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevants)	N/A.			
	2	Requirement for Commissioning	Supplier to perform installation, safety and operation checks before handover.			
	3	Training for End Users and Technical Personal	Local clinical staff to affirm completion of installation.			
	4	User Care (if relevants)	The supplier has to provide end users training in operation and basic maintenance shall be provided.			
	WARRANTY AND MAINTENANCE					
	1	Warranty	Optional.			
	2	Maintenance Task	N/A.			
	3	Type of service contract	Optional.			
	4	Spare Parts Available Post Warranty	N/A.			
	5	Software and Hardware Upgrade Availability	N/A.			
	DOCUMENTATION					
	1	Documentation Requirements	Operational, technical and maintenance manuals to be supplied in English language.			
			List to be provided of important spares and accessories, with their part numbers.			

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Contact details of manufacturer, supplier and local service agent to be provided			

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
41	**Thoracolumbar Pedicle Instrument**					
	NAME, CODE, CATEGORIES AND DEFINITION					
	1	Generic Name	Thoracolumbar pedicle instrument.			
	2	Ethiopian MDN	Orthopaedics Instrument Set.			
	3	European MDN	Orthopaedics Instrument Set.			
	4	Code #	L09.			
	5	Alternative Name (If there is)				
	5	Categories	Orthopaedic and Traumatological Surgery Instruments, Reusable.			
	6	Keywords (optional)				
	PURPOSE OF USE					
	1	Clinical Purpose	Pedicle screw instrumentation has been used to stabilize the thoracolumbar spine.			
	2	Patient Type	All.			
	3	Speciality Department	Orthopaedics and Traumatology.			
	4	Overview of Functional requirement				
	TECHNICAL CHARACTERISTICS					
	1	Detailed Requirement and List of Sets	Material: Stainless steel.			
			Rusting Prevention Procedure: Passivated.			
			Has to be cleaned by Ultrasonic and Dull Polished.			
			Tests Performed: Boil Test, Performance Test, Shape Test.			
			Grade: High.			

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			Sterility: Non-Sterile. Material: Stainless steel.			
			Rusting Prevention Procedure: Passivated.			
			Has to be cleaned by Ultrasonic and Dull Polished.			
			Tests Performed: Boil Test, Performance Test, Shape Test.			
			Screws. Diameters 4.5 mm to 8.5 mm. Solid or cannulated. Self-tapping, double lead thread to speed insertion.			
			Polyaxially, uniplanar, and reduction options. 60 degrees of screw angulation Rods.			
			Length a minimum of 25, 30, 35, 40, 45 and 55 mm.			
			Polyaxially, uniplanar, and reduction options. 60 degrees of screw angulation Rods. 5.5mm and 6.0mm diameters.			
			Types of pedicle screw are: Cylindrical, Conical, Cannulated with radial hole and expandable.			
	2	Display Parameters	N/A.			
	3	User Adjustable Setting	N/A.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Components	Portable.			
	2	Mobility (if relevant)	Flexible.			
	3	Raw Materials (if relevant)	Optional.			
	UTILITY REQUIREMENTS					
	1	Electrical, Water and (Gas supply if relevant)	N/A.			

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	Optional.			
	2	Sterilization Processes for Accessories (if relevant)	Optional			
	3	Consumables and Reagents (if relevant	Optional.			
	4	Spare Parts	Optional.			
	5	Other Components (if relevant)	Optional.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	Optional.			
	2	Shelf Life (if relevant)	N/A.			
	3	Transportation and Storage (if relevant)	Packing of all the goods clearly marked and securely packed.			
	4	Labelling (if relevant)	Each good will be further packed in a separate package with all its standard accessories of distinct identification and numbers consecutively.			
	ENVIRONMENTAL REQUIREMENTS					
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	1	Pre-Installation Requirement (if relevant)	N/A.			
	2	Requirement for Commissioning	Supplier to perform installation, safety and operation checks before handover.			
	3	Training for End Users and Technical Personal	Local clinical staff to affirm completion of installation.			
	4	User Care (if relevant)	The supplier has to provide end users training in operation and basic maintenance shall be provided.			
	WARRANTY AND MAINTENANCE					
	1	Warranty	Optional.			
	2	Maintenance Task	N/A.			
	3	Type of service contract	Optional.			
	4	Spare Parts Available Post Warranty	N/A.			
	5	Software and Hardware Upgrade Availability	N/A.			
	DOCUMENTATION					
	1	Documentation Requirements	Operational, technical and maintenance manuals to be supplied in English language.			
			List to be provided of important spares and accessories, with their part numbers.			
			Contact details of manufacturer, supplier and local service agent to be provided			

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
42	**Arthroscope Instrument Set**					
	NAME, CODE, CATEGORIES AND DEFINITION					
	1	Generic Name	Arthroscope Instrument Set.			
	2	Ethiopian MDN	Orthopaedics Instrument Set.			
	3	European MDN	Orthopaedics Instrument Set.			
	4	Code #	L09.			
	5	Alternative Name (If there is)				
	5	Categories	Orthopaedic and Traumatological Surgery Instruments, Reusable.			
	6	Keywords (optional)				
	PURPOSE OF USE					
	1	Clinical Purpose	The main purpose of Arthroscope instrument set is in a surgical procedure that orthopaedic surgeons use to visualize and treat problems inside a joint			
	2	Patient Type	All.			
	3	Speciality Department	Orthopaedics and Traumatology.			
	4	Overview of Functional requirement				
	TECHNICAL CHARACTERISTICS					

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	1	Detailed Requirement and List of Sets	Material: Stainless steel.			
			Rusting Prevention Procedure: Passivated.			
			Has to be cleaned by Ultrasonic and Dull Polished.			
			Tests Performed: Boil Test, Performance Test, Shape Test.			
			Grade: High.			
			Sterility: Non-Sterile. Material: Stainless steel.			
			Rusting Prevention Procedure: Passivated.			
			Has to be cleaned by Ultrasonic and Dull Polished.			
			Length: Minimum 130mm			
			Diameter: 5mm			
			Has the following set: • Sheath with Two Stopcocks. • Prism Puncture Needle. • Blunt Obturator. • Trocar & Cannula. • Forceps. • Scissors. • Right Angle Probe. • Knife.			
	2	Display Parameters	N/A.			
	3	User Adjustable Setting	N/A.			
	PHYSICAL/CHEMICAL CHARACTERISTICS					
	1	Components	Portable.			
	2	Mobility (if relevant)	Flexible.			
	3	Raw Materials (if relevant)	Optional.			
	UTILITY REQUIREMENTS					

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	1	Electrical, Water and (Gas supply if relevant)	N/A.			
	ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS					
	1	Accessories	Optional.			
	2	Sterilization Processes for Accessories (if relevant)	Optional			
	3	Consumables and Reagents (if relevant	Optional.			
	4	Spare Parts	Optional.			
	5	Other Components (if relevant)	Optional.			
	PACKAGING					
	1	Sterility Status on Delivery (if relevant)	Optional.			
	2	Shelf Life (if relevant)	N/A.			
	3	Transportation and Storage (if relevant)	Packing of all the goods clearly marked and securely packed.			
	4	Labelling (if relevant)	Each good will be further packed in a separate package with all its standard accessories of distinct identification and numbers consecutively.			
	ENVIRONMENTAL REQUIREMENTS					

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	1	Context Dependent Requirements	Capable of being stored continuously in ambient temperature of 10 to 32 °C and relative humidity of 15 to 90%.			
	TRAINING, INSTALLATION AND UTILISATION					
	1	Pre-Installation Requirement (if relevant)	N/A.			
	2	Requirement for Commissioning	Supplier to perform installation, safety and operation checks before handover.			
	3	Training for End Users and Technical Personal	Local clinical staff to affirm completion of installation.			
	4	User Care (if relevant)	The supplier has to provide end users training in operation and basic maintenance shall be provided.			
	WARRANTY AND MAINTENANCE					
	1	Warranty	Optional.			
	2	Maintenance Task	N/A.			
	3	Type of service contract	Optional.			
	4	Spare Parts Available Post Warranty	N/A.			
	5	Software and Hardware Upgrade Availability	N/A.			
	DOCUMENTATION					
	1	Documentation Requirements	Operational, technical and maintenance manuals to be supplied in English language.			

1.Item number	2. Specifications required			3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
			List to be provided of important spares and accessories, with their part numbers.			
			Contact details of manufacturer, supplier and local service agent to be provided			