Technical Datasheet - RFQ - 02-2026

No	Technical Specification	Supplier offered specification	Compliant (yes/No)	Remarks / Deviation Details	Supporting Document
1	**Infant Incubator – Technical Specification**				
	1. Functional Description				
	The infant incubator shall provide a closed, controlled environment for neonatal care by maintaining stable body temperature. Heat is delivered through circulating warm air, ensuring safe and consistent thermal support for the infant.				
	2. Operational Requirements				
	Basic infant incubator suitable for general neonatal care				
	Temperature control in:				
	Servo (patient) mode				
	Manual (air) mode				
	Constructed from transparent, medical-grade materials for visibility and hygiene				
	Design optimized for ease of use and maintenance				
	3. System Configuration				
	Complete incubator unit supplied with essential accessories required for operation				
	4. Technical Specifications				
	4.1 Control System				
	Electronic control system (microprocessor preferred)				
	Simple digital display for temperature monitoring				
	Basic alarm functions for safety (high/low temperature)				
	4.2 Bed and Base				
	Fixed height or manually adjustable base				
	Manual bed tilt up to ±8° (head-up and head-down)				
	Simple locking mechanism				
	4.3 Temperature Control				
	Servo (patient) mode: 35°C – 37°C				
	Air (manual) mode: 20°C – 37°C				
	Accuracy: ±0.3°C to ±0.5°C				
	Uniform air circulation within the chamber				
	Air velocity within safe limits				
	4.4 Humidity Control				
	Basic or optional humidity provision (non-servo controlled)				
	Approximate humidity range: 30% – 70%				
	Manual adjustment acceptable				
	4.5 Oxygen Control				
	No integrated oxygen control system required				
	Provision for connection to an external oxygen source				
	4.6 Design and Materials				
	Single-wall or basic double-wall canopy				
	Minimum four (4) access hand ports				
	Additional ports for tubing and monitoring leads				
	Medical-grade foam mattress (washable and waterproof)				
	Provision for IV pole				
	4.7 Mobility				
	Four swivel castors				
	At least two wheels with locking mechanism				
	4.8 Physical Characteristics				
	Noise level: ≤ 55 dB				
	Robust construction suitable for continuous use				
	4.9 Monitoring Features				
	Basic temperature display				
	No requirement for:				
	Integrated weighing scale				
	X-ray cassette tray				
	Advanced data trending or monitoring systems				
	5. Accessories, Spares, and Consumables				
	One (1) additional mattress				
	One (1) additional temperature sensor				
	Essential accessories required for operation				
	6. Operating Environment				
	Designed to operate under local environmental conditions, including:				
	High ambient temperatures				

	Humidity variations				
	Dust exposure				
	Power supply:				
	220–240 VAC, 50 Hz				
	Suitable UPS with maintenance free batteries, voltage regulation and spike protection for minimum 30 min. back-up shall be supplied with the system.				
	Standard power cable and plug				
	7. Standards and Safety Requirements				
	Compliance with at least one of the following:				
	ISO 13485				
	CE certification				
	Compliance with:				
	IEC 60601-2-19 (Particular requirements for infant incubators)				
	8. User Training				
	Supplier shall provide basic training covering:				
	Operation of the device				
	Routine care and cleaning				
	Basic safety procedures				
	9. Warranty				
	Minimum one (2) years warranty covering manufacturing defects and functionality				
	10. Maintenance During Warranty				
	Maintenance provided upon request during the warranty period				
	Includes corrective (breakdown) maintenance				
	11. Documentation				
	User (operating) manual in English (Arabic optional)				
	Basic service or maintenance instructions				
	List of essential spare parts (optional)				
2	**Phototherapy Machine – Technical Specification**				
	1. Functional Description				
	The phototherapy unit shall provide effective light therapy for the treatment of neonatal jaundice by delivering light in the appropriate wavelength range to reduce serum bilirubin levels safely.				
	2. Operational Requirements				
	Suitable for use in neonatal units and general wards				
	Easy to operate and maintain				
	Compatible with infant incubators and open care systems				
	Designed for continuous operation				
	3. System Configuration				
	Complete phototherapy unit with light source, stand, and essential accessories				
	4. Technical Specifications				
	4.1 Light Source				
	LED-based phototherapy unit (preferred for low power consumption and long life)				
	Wavelength range: **430 – 490 nm** (effective blue light spectrum)				
	Irradiance level:				
	≥ 20 µW/cm²/nm at mattress level *(minimum acceptable)*				
	Uniform light distribution over treatment area				
	4.2 Control System				
	Simple control panel with ON/OFF switch				
	Basic timer function (optional)				
	Indicator for power status				
	4.3 Height Adjustment				
	Manually adjustable height				
	Adjustable angle for optimal positioning over infant				
	4.4 Design and Structure				
	Lightweight and compact design				
	Mounted on mobile stand or trolley				
	Durable and easy-to-clean surface				
	Overhead type (recommended for cost efficiency)				
	4.5 Mobility				
	Four castors for easy movement				
	At least two lockable wheels				

	4.6 Safety Features				
	Low heat emission (LED technology)				
	Overheating protection (basic)				
	Eye protection for infant (eye shields included)				
	Electrical safety compliant design				
	4.7 Noise Level				
	Silent operation (no fan or minimal noise)				
	5. Accessories				
	Eye protectors (reusable or disposable)				
	One spare set of LED module				
	Basic user accessories				
	6. Operating Environment				
	Suitable for use in:				
	High ambient temperatures				
	Humid and dusty environments				
	Power supply:				
	220–240 VAC, 50 Hz				
	7. Standards and Safety Requirements				
	Compliance with at least one:				
	CE certification				
	ISO 13485				
	Compliance with:				
	IEC 60601-1 (general medical electrical safety)				
	IEC 60601-2-50 or relevant phototherapy standards				
	8. User Training				
	Basic training on:				
	Operation				
	Positioning				
	Safety precautions				
	9. Warranty				
	Minimum 2-years warranty				
	10. Maintenance During Warranty				
	On-demand maintenance during warranty period				
	11. Documentation				
	User manual (English, Arabic)				
	Basic maintenance instructions				
3	**Fluorescence Immunoassay Analyzer – Technical Specification**				
	1. Functional Description				
	The Fluorescence Immunoassay Analyzer shall be a compact, bench-top device used for the quantitative or qualitative detection of analytes in human samples (e.g., blood, serum, plasma, or urine) using fluorescence-based immunoassay technology.				
	2. Operational Requirements				
	Suitable for small laboratories, clinics, and point-of-care settings				
	Easy to operate with minimal training				
	Fast turnaround time for test results				
	Capable of continuous or batch sample testing				
	3. System Configuration				
	Complete analyzer unit				
	Compatible test kits (assay-specific)				
	Basic accessories required for operation				
	4. Technical Specifications				
	4.1 Measurement Principle				
	Fluorescence immunoassay (FIA) technology				
	Capable of detecting fluorescence intensity and converting it into analyte concentration				
	4.2 Test Capability				
	Supports common tests such as:				
	Infectious diseases (e.g., malaria, dengue)				
	Cardiac markers (e.g., Troponin, CK-MB)				
	Hormones (e.g., TSH, HCG)				
	Open or semi-closed system preferred (compatible with multiple kits if possible)				
	4.3 Throughput				
	Single test or small batch processing				

	Test time: approximately 5–15 minutes per sample				
	4.4 Sample Types				
	Whole blood, serum, plasma, or urine				
	4.5 Detection System				
	Built-in fluorescence detection module				
	Automatic calibration (or calibration via test kit)				
	4.6 Control System				
	Microprocessor-controlled				
	Simple user interface with keypad or touchscreen				
	Basic display for results				
	4.7 Data Management				
	Internal memory for storing results				
	Basic result review and recall				
	USB port or similar for data export (optional)				
	4.8 Calibration and Quality Control				
	Calibration via test kit or internal standard				
	Basic quality control functionality				
	4.9 Design and Construction				
	Compact, lightweight bench-top design				
	Durable outer casing				
	Easy to clean and maintain				
	4.10 Power Requirements				
	220–240 VAC, 50 Hz				
	Low power consumption				
	5. Accessories, Spares, and Consumables				
	Starter kit of test cartridges/reagents				
	Calibration materials (if required)				
	Basic consumables (pipette tips, sample holders if applicable)				
	Attach the cost per test in details (Euro) **Mandatory**				
	Attach the cost of each kits and reagent and consumbles (Euro) **Mandatory**				
	Attach the cost of all spare parts (Euro) **Mandatory**				
	6. Operating Environment				
	Suitable for:				
	High temperature environments				
	Humidity variations				
	Dust exposure				
	7. Standards and Safety Requirements				
	Compliance with at least one:				
	CE certification				
	ISO 13485				
	Electrical safety compliance:				
	IEC 61010-1 (laboratory equipment safety)				
	8. User Training				
	Basic training covering:				
	Operation				
	Test procedures				
	Basic troubleshooting				
	9. Warranty				
	Minimum 2-years warranty				
	10. Maintenance During Warranty				
	On-demand maintenance during warranty period				
	11. Documentation				
	User manual (English, Arabic optional)				
	Basic service/maintenance instructions				
4	**Oxygen Concentrator (5 LPM) – Technical Specification**				
	1. Functional Description				
	The oxygen concentrator shall provide a continuous supply of medical-grade oxygen by extracting oxygen from ambient air using pressure swing adsorption (PSA) technology. The unit shall be suitable for use in hospitals, clinics, and home care settings.				
	2. Operational Requirements				
	Continuous oxygen supply up to 5 liters per minute (LPM)				
	Simple operation with minimal user training				
	Reliable performance under varying environmental conditions				
	Low maintenance requirements				

	3. System Configuration				
	Complete oxygen concentrator unit				
	Integrated compressor, sieve beds, and control system				
	Supplied with essential accessories				
	4. Technical Specifications				
	4.1 Oxygen Output				
	Flow rate: **0.5 – 5 LPM adjustable**				
	Oxygen concentration:				
	93% at 2–5 LPM ±3%				
	Continuous operation for 10-12 hours .				
	4.2 Technology				
	Pressure Swing Adsorption (PSA) technology				
	Oil-free compressor				
	4.3 Control System				
	Simple control panel with:				
	Flow control knob				
	Power ON/OFF switch				
	Basic indicators:				
	Power status				
	Oxygen purity (basic indicator preferred)				
	4.4 Safety Features				
	High/low pressure alarm				
	Low oxygen concentration alarm (recommended but optional in economic version)				
	Power failure alarm				
	Overheating protection				
	4.5 Noise Level				
	≤ 55 dB				
	4.6 Design and Construction				
	Compact and portable design				
	Durable casing suitable for continuous use				
	Integrated handle for movement				
	4.7 Mobility				
	Two or four castor wheels for easy movement				
	4.8 Filters				
	Dust air filter (washable and reusable)				
	4.9 Power Requirements				
	220–240 VAC, 50 Hz				
	Low power consumption				
	Power cable with standard plug				
	5. Accessories, Spares, and Consumables				
	Nasal cannula (adult/pediatric)				
	Humidifier bottle				
	Intake air filter for compressor qty 12pcs.				
	Spare air filter (at least one)				
	User accessories for basic operation				
	6. Operating Environment				
	Designed for use in:				
	High ambient temperatures (up to ~40°C recommended)				
	Humidity variations				
	Dusty environments				
	7. Standards and Safety Requirements				
	Compliance with at least one:				
	CE certification				
	ISO 13485				
	Electrical safety:				
	IEC 60601-1				
	8. User Training				
	Basic training covering:				
	Operation				
	Cleaning of filters				
	Basic troubleshooting				
	9. Warranty				
	Minimum 2-years warranty covering defects and function				
	Preventive and corrective maintenance on request				
	Basic troubleshooting guide provided				
	11. Documentation				
	User manual (English, Arabic optional)				

	Maintenance manual				
	List of spare parts and accessories				
5	**Oxygen Concentrator (10 LPM) – Technical Specification**				
	1. Functional Description				
	The oxygen concentrator shall provide a continuous supply of medical-grade oxygen by filtering and concentrating oxygen from ambient air using Pressure Swing Adsorption (PSA) technology. It shall be suitable for clinical and home use.				
	2. Operational Requirements				
	Continuous oxygen delivery up to **10 liters per minute (LPM)**				
	Designed for reliable operation in low-resource settings				
	Easy to operate and maintain				
	Suitable for continuous (16/7) use				
	3. System Configuration				
	Complete oxygen concentrator unit				
	Built-in compressor, filters, and sieve beds				
	Standard accessories for operation				
	4. Technical Specifications				
	4.1 Oxygen Output				
	Flow rate: **1 – 10 LPM (adjustable)**				
	Oxygen concentration:				
	93% at 2–5 LPM ±3%				
	4.2 Technology				
	Pressure Swing Adsorption (PSA) technology				
	Dual sieve bed system				
	4.3 Control System				
	Simple control panel				
	Flow meter with manual adjustment knob				
	Power ON/OFF switch				
	Basic indicator lights				
	4.4 Alarms and Safety Features				
	Power failure alarm				
	Pressure fault alarm				
	4.5 Filtration System				
	Dust filter (washable/reusable)				
	Intake air filter suitable for dusty environments qty:12pcs.				
	4.6 Design and Construction				
	Compact and robust cabinet				
	Durable outer casing				
	Designed for easy maintenance				
	Integrated humidifier bottle holder				
	4.7 Mobility				
	Four wheels for easy movement				
	Lightweight design with handle				
	4.8 Noise Level				
	≤ 60 dB				
	4.9 Operating Conditions				
	Ambient temperature: up to 40°C or higher				
	Humidity: suitable for tropical environments				
	Designed for dusty conditions				
	4.10 Power Requirements				
	220–240 VAC, 50 Hz				
	Power consumption: ≤ 600–800 W				
	5. Accessories, Spares, and Consumables				
	Humidifier bottle				
	Nasal cannula and oxygen tubing				
	Spare air filters				
	User-replaceable components where possible				
	6. Operating Environment				
	Suitable for use in:				
	High temperature areas				
	High humidity				
	Dusty conditions (e.g., Sudan and similar environments)				
	7. Standards and Safety Requirements				
	Compliance with at least one:				
	CE certification				
	ISO 13485				

	Compliance with:				
	IEC 60601-1 (medical electrical safety)				
	8. User Training				
	Basic training covering:				
	Cleaning of filters				
	Operation				
	Flow adjustment				
	Maintenance and troubleshooting				
	9. Warranty				
	Minimum 2-years warranty covering defects and function				
	Preventive and corrective maintenance on request				
	Basic troubleshooting guide provided				
	11. Documentation				
	User manual (English, Arabic optional)				
	Maintenance manual				
	List of spare parts and accessories				
6	**Hemoglobin Meter – Technical Specification**				
	1. Functional Description				
	The hemoglobin meter shall be a portable device used for the quantitative measurement of hemoglobin (Hb) concentration in human blood, supporting rapid screening and diagnosis of anemia.				
	2. Operational Requirements				
	Suitable for point-of-care use (clinics, wards, outreach settings)				
	Easy to operate with minimal training				
	Rapid test results				
	Battery-operated for use in low-resource settings				
	3. System Configuration				
	Portable hemoglobin meter				
	Compatible test strips or microcuvettes				
	Basic accessories required for operation				
	4. Technical Specifications				
	4.1 Measurement Principle				
	Photometric or reflectance method for hemoglobin determination				
	4.2 Measurement Range				
	Approximate range: **0 – 25 g/dL**				
	4.3 Accuracy				
	±1.0 g/dL or better				
	4.4 Sample Type and Volume				
	Capillary or venous whole blood				
	Sample volume: ≤ 20 µL				
	4.5 Test Time				
	Results available within **10–60 seconds**				
	4.6 Display and Control				
	Digital display (LCD or similar)				
	Simple operation with minimal buttons				
	4.7 Data Management				
	Internal memory for storing results (basic capacity)				
	USB or data transfer capability				
	4.8 Power Supply				
	Rechargeable battery or replaceable batteries				
	Optional AC adapter (220–240 VAC, 50 Hz)				
	4.9 Design and Construction				
	Lightweight and portable				
	Durable casing suitable for field use				
	Easy to clean				
	5. Accessories, Spares, and Consumables				
	Starter supply of test strips or microcuvettes				
	Lancets and capillary collection accessories (if applicable)				
	Carrying case				
	6. Operating Environment				
	Suitable for:				
	High ambient temperatures				
	Humidity variations				
	Dust exposure				

	7. Standards and Safety Requirements				
	Compliance with at least one:				
	CE certification				
	ISO 13485				
	Electrical safety compliance:				
	IEC 61010-1				
	8. User Training				
	Basic training on				
	8. User Training				
	Basic training covering:				
	Sample collection				
	Operation and result interpretation				
	Cleaning and maintenance				
	9. Warranty				
	Minimum 2-years warranty covering device function and defects				
	10. Maintenance During Warranty				
	On-demand maintenance service				
	Basic troubleshooting guide provided				
	11. Documentation				
	User manual (English, Arabic optional)				
	Basic maintenance and troubleshooting instructions				
	List of consumables and accessories				
7	**Infant Warmer (Radiant Warmer) – Technical Specification**				
	1. Functional Description				
	The infant warmer shall provide open, radiant heat to maintain a stable body temperature for neonates during resuscitation, postnatal care, and neonatal procedures.				
	2. Operational Requirements				
	Open care system radiant warmer				
	Suitable for delivery rooms, neonatal units, and emergency care				
	Rapid heat-up capability				
	Simple and reliable operation with minimal training				
	3. System Configuration				
	Complete radiant infant warmer unit				
	Mounted on mobile stand with mattress platform				
	Supplied with essential accessories				
	4. Technical Specifications				
	4.1 Heating System				
	Infrared radiant heating system				
	Quartz or ceramic heating element (cost-effective option)				
	Manual or basic servo temperature control				
	Warm-up time: fast stabilization (≤ 5 minutes recommended)				
	4.2 Temperature Control				
	Skin (servo) mode: 34°C – 37°C				
	Manual mode available				
	Accuracy: ±0.5°C				
	Over-temperature protection included				
	4.3 Control System				
	Microprocessor-based or basic electronic control				
	Digital display for temperature				
	Simple control panel with key functions only				
	Basic alarm system (high temperature alarm mandatory)				
	4.4 Mattress and Bed				
	Flat or slightly contoured infant mattress				
	Removable and washable cover				
	Optional tilting bed (manual adjustment preferred)				
	4.5 Structure and Design				
	Open-access design for easy clinical procedures				
	Mounted on sturdy mobile stand				
	Durable metal frame with anti-rust coating				
	4.6 Safety Features				
	Overheat protection system				
	Heater failure alarm				
	Skin probe failure alarm (if servo mode included)				
	Electrical safety protection				

	4.7 Mobility				
	Four castors for easy movement				
	At least two lockable wheels				
	4.8 Power Requirements				
	220–240 VAC, 50 Hz				
	Low power consumption				
	5. Accessories				
	Skin temperature probe (if servo mode included)				
	One spare heater element (recommended)				
	Basic infant mattress				
	Power cable and standard accessories				
	6. Operating Environment				
	Suitable for tropical and subtropical conditions:				
	High ambient temperature				
	High humidity				
	Dusty environments				
	7. Standards and Safety Requirements				
	Compliance with at least one:				
	CE certification				
	ISO 13485				
	Electrical safety compliance:				
	IEC 60601-1				
	IEC 60601-2-21 (Infant radiant warmers)				
	8. User Training				
	Basic training covering:				
	Operation				
	Temperature control				
	Safety procedures				
	9. Warranty				
	Minimum 2-years warranty				
	10. Maintenance During Warranty				
	On-demand maintenance service				
	Basic preventive maintenance support				
	11. Documentation				
	User manual (English, Arabic optional)				
	Basic service and maintenance instructions				
8	**1.Mobile X-Ray Machine-Technical Specifications**				
	A microprocessor controlled mobile x-ray imaging unit is to include but not limited to the following:		Dental Chair Unit		
	Microprocessor controlled x-ray generator, > 7.5 KW				
	It should have a digital display of mAs and kV and an electronic timer.				
	KV range:40kV to 110 kV				
	mA range: 300 mA or more. Please specify mA and seconds separately and not mAs alone.				
	Shortest exposure time: I ms.				
	X-Ray Tube: .				
	Output should match the output of the generator,				
	Must have a rotating anode with at least: 2500 rpm and focal spot size should be less than Imm.				
	Rotating anode tube system, with focal spots , 0.6/1.2 mm of large heat storage capacity, > 90,000 HU				
	Collimator- Manually adjustable multileaf collimator, rotatable ±90°				
	The exposure release switch should be detachable with a cord of at least 5 meters				
	Remote control operating distance > 10 metres				
	Remote control operating radius- 180 deg				
	Lightweight manual driven unit, with braking system.				
	Small source image distance, please specify.				
	Direct 220-240v/50Hz single phase power line connection with built in line voltage compensation.				
	Grid(Ratio 6:1) of following sizes should be provided (1) each 12"x15" & 10"x12"				
	2.User Training:				

	2.1The Supplier shall conduct user training for this equipment to enable operators to use the equipment properly. The training shall include the use of all operational functions of the equipment, as well as routine checks and maintenance expected by users.				
	3.Warranty				
	3.1Comprehensive warranty for 2 years from acceptance.				
	4.Maintenance Service During Warranty Period				
	4.1During warranty period supplier must ensure preventive maintenance & corrective/breakdown maintenance whenever required.				
	5.Installation and Commissioning				
	5.1The equipment to be installed by certified or qualified personnel; any prerequisites for installation to be communicated to the purchaser in advance, in detail.				
	6.Documentation				
	6.1User (Operating) manual in English.				
	6.2Service (Technical / Maintenance) manual in English.				
	6.3List of important spare parts and accessories with their part numbers and costing.				
9	**C-Arm -Technical Specifications**				
	1.Description of Function				
	1.1This equipment is used in orthopedic fractures for imaging of bone pathology or fractures on display monitor during operation/ reduction of fractures.				
	2.Operational Requirements For continuous fluoroscopy, image storage and retrieval the system offered shall be a general fluoroscopy/radiology system				
	3.System Configuration				
	3.1X-ray C-Arm Mobile with complete accessories				
	4.Technical Specifications				
	4.1X-Ray Generator				
	X-Ray Generator Microprocessor based, high frequency inverter generator				
	Generator Output: 3.5kW or more				
	Fluoroscopic/ Radiographic KV range Lower limit shall not exceed 40 KV Higher limit shall not be less than 110 KV				
	Fluoroscopic mA range Lower limit shall be ~0.1 mA Upper limit shall be ~9 mA				
	4.2X-Ray Tube				
	Rotating anode type				
	Small focal spot, shall not be more than 0.3 mm				
	Large focal spot, shall not be more than 0.6 mm				
	Nominal voltage: 110 KV				
	Anode heat storage capacity not less than 70 KHU				
	Inherent filtration should be at least 0.5 mm Al eq				
	4.3Collimator				
	Operator controlled automatic collimation				
	4.4 C-Arm · Focus - I.I. Distance shall be at least 100 cm				
	· Depth shall be ~ 60cm				
	· Horizontal travel at least 200mm				
	· Vertical travel at least 430 mm				
	· Orbital movement shall be ~120°				
	· Swivel range shall be ~12°				
	· Rotation about horizontal axis shall be more than +/-180°				
	4.5Image Intensifier:				
	· Triple Mode 9" with direct coupling with camera				
	· Shall be at least 52 lp/ cm				
	· Noise reduction, scattered light trap for high contrast dynamics				
	· CCD camera technology with ABC and AGC control				
	4.6TV Monitor				
	· One unit LCD monitor side by side for live and reference image				
	· Shall be at least 32" with automatic brightness control				
	4.7Image rotation				
	· Shall be at least 625 scanning lines at 50 Hz				

	· Trolley for one display screens and with the alphanumeric keyboard included				
	· High resolution				
	4.8 Imaging Modes				
	· Fluoroscopy mode shall have the following facilities:				
	· Continuous fluoroscopy with last image hold				
	· Last image holds with at least two frames image memory				
	· Continuous fluoroscopy with image acquisition rate: about 20 frame/second.				
	· Hard disk with image storage capacity of at least 30000 images				
	· RAM Memory of 256 images				
	· Mosaic display of 16 images · Zoom (x 2)				
	· Come with CD/DVD/RW drive				
	5.System Configuration Accessories, spares and consumables				
	5.1 Sterilizable textile cover and clips, for the X-ray tube and the Cassette holder for 24 x 30 cm				
	5.2 All standard accessories/consumables/parts required for the proper operation of the above item shall be included in the offer.				
	6. Operating Environment				
	6.1The product offered shall be designed to be stored and to operate normally under Power Supply, Climate, Temperature, Humidity, etc. for Sudan.				
	6.2 Should work on 220-240V/ 50 Hz AC Single phase fitted with appropriate plugs and sockets.				
	Standards and Safety Requirements				
	The unit offered shall be certified to meeting the relevant requirements of TUV, CE mark (MDD), FDA and/ or any equivalent quality and safety standards.				
	8. User Training				
	8.1On site operational training till the familiarity of the system and satisfaction of end user shall be provided.				
	9.Warranty		Infant Incubator		
	9.1 Comprehensive warranty for 2 years.				
	10 Maintenance Service During Warranty Period				
	10.1Preventive & Corrective Maintenance				
	11. Installation, Inspections and Commissioning				
	11.1Supplier must accomplish proper installation and commissioning of the equipment on site				
	12.Documentation				
	12.1 User (Operating) manual in English				
	12.2Service (Technical / Maintenance) manual in English				
10	**ANESTHESIA MACHINE – TECHNICAL SPECIFICATION (ECONOMIC VERSION)**				
	1. General Requirements				
	1. Anesthesia machine suitable for safe delivery of medical gases and volatile anesthetic agents.				
	2. Suitable for adult and pediatric patients; neonatal use preferred.				
	3. Basic electronic control system with digital display.				
	4. Mounted on trolley with four swivel castors (minimum two lockable).				
	5. Compact, durable, and easy-to-clean design suitable for operating room use.				
	6. Integrated breathing system and ventilator.				
	7. Compatible with standard patient monitoring systems.				
	2. Gas Supply & Flow Control				
	Gas inputs: O_2, N_2O				
	Cylinder yokes for O_2 and N_2O with PIN-index safety system				
	Mechanical or electronic flowmeters				
	Oxygen flow range: 0–10 L/min				
	N_2O flow range: 0–10 L/min				
	Oxygen flush valve included				
	Hypoxic guard system to prevent delivery of low oxygen mixtures				
	Backup battery support: minimum 30 minutes				
	3. Breathing Circuit & CO_2 Absorption				

	Reusable breathing circuits for adult and pediatric patients			
	Pediatric circuit included			
	CO_2 absorber canister with soda lime capacity ≥1.5 kg			
	Adjustable Pressure Limiting (APL) valve			
	Manual and automatic ventilation switching			
	Components detachable for cleaning and sterilization			
	4. Vaporizers			
	Minimum two (2) agent-specific vaporizers included:			
	Isoflurane			
	Sevoflurane			
	Temperature and flow compensated			
	Interlock safety system to prevent simultaneous			
	Easy and secure filling system with leak prevention			
	Maintenance-free or low-maintenance design preferred			
	Mounted securely on the anesthesia machine with locking mechanism			
	5. Ventilator			
	Electrically powered ventilator with battery backup			
	Ventilation modes:			
	Manual			
	Volume Control Ventilation (VCV)			
	Pressure Control Ventilation (PCV)			
	Spontaneous mode			
	Tidal volume range:			
	20–1500 mL			
	Respiratory rate:			
	4–60 bpm			
	PEEP:			
	0–20 cmH_2O			
	Pressure monitoring included			
	6. Monitoring Parameters			
	Display of:			
	Airway pressure			
	Tidal volume			
	Respiratory rate			
	Minute ventilation			
	FiO_2			
	Optional:			
	$EtCO_2$ monitoring			
	Agent monitoring			
	7. Alarm & Safety System			
	Audio-visual alarms for:			
	Low oxygen pressure			
	Power failure			
	High airway pressure			
	Disconnection alarm			
	Oxygen failure protection device			
	Emergency oxygen bypass			
	8. Display & User Interface			
	Basic color display or LCD screen			
	Display of ventilation parameters and alarms			
	Simple keypad or control knobs for adjustment			
	9. Accessories & Consumables			
	Adult breathing circuit			
	Pediatric breathing circuit			
	Breathing bag			
	Gas hoses			
	Oxygen sensor			
	One spare set of filters and seals			
	CO_2 absorbent starter pack			
	10. Operating & Storage Conditions			
	Suitable for Sudan climate conditions:			
	Operating temperature:			
	20°C – 40°C			
	Relative humidity:			
	20% – 80%			
	Storage temperature:			
	5°C – 45°C			

	Power supply:			
	220–240 VAC, 50 Hz			
	11. Standards & Safety Compliance			
	The system shall comply with:			
	ISO 13485 or CE certification or FDA Or equivelent			
	IEC 60601-1			
	IEC 60601-2-13			
	12. Training			
	Supplier shall provide basic training covering:			
	System operation			
	Safety procedures			
	Maintenance and Troublshooting .			
	Cleaning and routine maintenance			
	13. Warranty & Maintenance			
	Minimum 2-years warranty			
	Preventive and corrective maintenance during warranty period			
	Availability of spare parts for minimum 10 years .			
	14. Documentation			
	Supplier shall provide:			
	Service manual (English and Arabic)+A759:D761			
	Service manual (English)			
	Spare parts list (Euro)			
	Calibration and inspection certificates			
11	**ICU VENTILATOR – TECHNICAL SPECIFICATION**			
	(Adult and Pediatric Use)			
	1. General Requirements			
	1. ICU ventilator suitable for invasive and non-invasive ventilation in intensive care units.			
	2. Suitable for adult and pediatric patients.			
	3. Compact, microprocessor-controlled ventilator with user-friendly operation.			
	4. Designed for continuous operation in hospital environments.			
	5. Mounted on trolley with swivel castors (minimum two lockable).			
	6. Integrated turbine and central gas supply compatible.			
	2. Ventilation Modes			
	The ventilator shall provide at minimum the following modes:			
	Volume Control Ventilation (VCV)			
	Pressure Control Ventilation (PCV)			
	SIMV (Volume and/or Pressure)			
	CPAP			
	Pressure Support Ventilation (PSV)			
	Spontaneous Breathing Mode			
	Non-Invasive Ventilation (NIV)			
	3. Ventilation Parameters			
	Tidal volume range:			
	50–2000 mL			
	Respiratory rate:			
	1–80 breaths/min			
	PEEP:			
	0–30 cmH_2O			
	Inspiratory pressure:			
	5–80 cmH_2O			
	FiO_2 range:			
	21%–100%			
	I:E ratio adjustable			
	Trigger sensitivity adjustable			
	4. Monitoring Parameters			
	Real-time display of:			
	Tidal volume			
	Respiratory rate			
	Minute ventilation			
	Peak airway pressure			
	Mean airway pressure			
	PEEP			
	FiO_2			

	Flow and pressure waveforms			
	Optional:			
	$EtCO_2$ monitoring			
	Lung compliance and resistance			
	5. Alarm & Safety System			
	Audio-visual alarms for:			
	High/low airway pressure			
	Apnea			
	Power failure			
	Gas supply failure			
	Low tidal volume			
	High respiratory rate			
	Disconnection alarm			
	Additional safety features:			
	Oxygen failure protection			
	Internal self-test function			
	Emergency ventilation mode			
	6. Display & User Interface			
	Color LCD or TFT display			
	Minimum screen size: 8 inches			
	Real-time waveform display			
	Simple menu navigation and parameter adjustment			
	Display of alarm messages and system status			
	7. Gas Supply			
	Compatible with:			
	Central oxygen and Air supply			
	Built-in turbine system for operation without compressed air source			
	8. Power Supply & Battery			
	Power supply:			
	220–240 VAC, 50 Hz			
	Internal rechargeable battery backup:			
	Minimum 60 minutes operation			
	Battery charging indicator included			
	9. Accessories & Consumables			
	The ventilator shall be supplied with:			
	Adult breathing circuit			
	Pediatric breathing circuit			
	Humidifier chamber (basic)			
	Reusable flow sensor			
	Test lung			
	Oxygen hose and air hose			
	Power cable			
	Basic filters and consumables			
	10. Operating & Storage Conditions			
	Suitable for Sudan climate conditions:			
	Operating temperature:			
	10°C – 40°C			
	Relative humidity:			
	20% – 85%			
	Storage temperature:			
	5°C – 45°C			
	11. Standards & Safety Compliance			
	The ventilator shall comply with:			
	ISO 13485 or CE certification			
	IEC 60601-1			
	IEC 60601-1-2			
	ISO 80601-2-12 (Critical care ventilators)			
	12. Training			
	Supplier shall provide user training covering:			
	Device operation			
	Ventilation modes			
	Alarm management			
	Maintenance and Troublshooting			
	Cleaning and basic maintenance			
	13. Warranty & Maintenance			
	Minimum 2-years warranty			
	Preventive and corrective maintenance during warranty period			

	Spare parts availability for minimum 10 years			
	14. Documentation			
	Supplier shall provide:			
	User manual (English)			
	Service manual (English)			
	Spare parts list			
	Calibration and inspection certificates			
12	**WHEELCHAIR – TECHNICAL SPECIFICATION**			
	1. General Requirements			
	1. Manual wheelchair suitable for indoor and outdoor patient transportation.			
	2. Designed for adult patient use in hospitals, clinics, and healthcare facilities.			
	3. Lightweight, durable, and easy-to-clean construction.			
	4. Foldable design for easy storage and transport.			
	5. Comfortable seating with safe and stable operation.			
	2. Frame & Structure			
	Strong steel or aluminum frame			
	Foldable frame design			
	Anti-rust coated finish			
	Reinforced cross-brace structure for stability			
	Maximum patient weight capacity:			
	Minimum 120 kg			
	3. Seat & Backrest			
	Seat width:			
	Approximately 45–50 cm			
	Padded seat and backrest			
	Waterproof and washable upholstery material			
	Comfortable armrests fixed or detachable			
	4. Wheels & Mobility			
	Rear wheels:			
	Large solid or pneumatic tires			
	Approximately 24-inch diameter			
	Front caster wheels:			
	Approximately 6–8 inches			
	Smooth rolling performance			
	Hand rims for self-propulsion			
	5. Footrests & Armrests			
	Swing-away or detachable footrests			
	Non-slip footplates			
	Fixed or detachable armrests			
	Comfortable support for patient transfer			
	6. Braking System			
	Manual parking brakes on rear wheels			
	Easy-to-operate locking mechanism			
	Stable braking during patient transfer			
	7. Safety Features			
	Anti-tip stability design preferred			
	Rounded edges for patient safety			
	Stable frame construction			
	Non-slip hand grips			
	8. Physical Characteristics			
	Lightweight and easy to maneuver			
	Foldable for transportation and storage			
	Easy cleaning and maintenance			
	9. Accessories			
	The wheelchair shall include:			
	Footrests			
	Armrests			
	Seat cushion (basic)			
	User manual			
	Optional:			
	IV pole holder			
	Safety belt			
	Anti-tip wheels			
	10. Operating Conditions			

	Suitable for hospital and general healthcare environments, including:			
	High temperature conditions			
	Humid environments			
	Frequent daily use			
	11. Standards & Safety Compliance			
	The wheelchair shall comply with:			
	ISO 13485 or CE certification preferred			
	ISO 7176 (Wheelchair standards) preferred			
	12. Warranty			
	Minimum 2-years warranty against manufacturing defects			
	13. Documentation			
	Supplier shall provide:			
	User manual (English)			
	Basic maintenance instructions			
	Spare parts list (optional)			
13	**Dental Extracting Set – Adult- TECHNICAL SPECIFICATION**			
	1. General Description			
	Supply of an Adult Dental Extracting Set suitable for use in dental clinics, hospitals, and oral surgery departments. The set shall be manufactured from high-quality medical-grade stainless steel, reusable, autoclavable, corrosion-resistant, and supplied with a comprehensive warranty of not less than two (2) years against manufacturing defects and rust.			
	2. Technical Specifications			
	Product Name Dental Extracting Set – Adult			
	Intended Use Adult tooth extraction procedures			
	Number of Pieces Minimum 10–12 pieces			
	Material High-quality medical-grade stainless steel			
	Stainless Steel Grade AISI 420 or equivalent			
	Corrosion Resistance Rust-resistant and corrosion-resistant			
	Sterilization Fully autoclavable up to 134–135°C			
	Surface Finish Highly polished satin or mirror finish			
	Handle Design Ergonomic, non-slip handle			
	Beak Design Anatomically contoured and serrated beaks			
	Reusability Fully reusable			
	Storage Case Stainless steel or aluminum sterilization case included			
	Quality Standards CE Marked and/or ISO 13485 and/or FDA compliant			
	3. Minimum Set Contents			
	The set shall include, at minimum, the following extraction forceps or equivalent:			
	1. Upper Anterior Forceps No.1			
	2. Upper Premolar Forceps No.7			
	3. Lower Premolar Forceps No.13			
	4. Upper Molar Right Forceps No.17			
	5. Upper Molar Left Forceps No.18			
	6. Upper Root Forceps No.51			
	7. Upper Third Molar Forceps No.67			
	8. Lower Molar Forceps No.73			
	9. Lower Root Forceps No.74			
	10. Lower Molar Cowhorn Forceps No.86			
	Equivalent international numbering systems may be accepted.			
	4. Quality and Compliance Requirements			
	The offered product shall comply with the following requirements:			
	Manufactured in accordance with ISO 13485 and/or ISO 9001 standards.			
	CE certified and/or FDA compliant.			
	Resistant to corrosion, staining, and repeated sterilization cycles.			
	Smooth joint movement without excessive looseness.			
	Easy to clean and disinfect.			
	Suitable for repeated clinical use.			
	Laser marking of instrument identification is preferred.			
	Ultrasonic cleaned and passivated instruments are preferred.			
	5. Warranty and After-Sales Service			

	The supplier shall provide:			
	Minimum two (2) years warranty against:			
	Manufacturing defects			
	Joint failure			
	Corrosion and rust under normal use			
	Replacement of defective instruments during the warranty period.			
	Availability of spare or replacement instruments when required.			
	6. Delivery Requirements			
	Delivery period shall not exceed 30–45 days from the date of purchase order.			
	All items must be supplied in original manufacturer packaging.			
	The purchaser reserves the right to reject any item not complying with the required specifications.			
	7. Commercial and Competitive Requirements			
	To ensure competitive pricing in public tendering:			
	Bidders shall submit the following documents with their offers:			
	Product catalog and technical datasheet			
	Certificate of origin			
	CE certificate and/or ISO certification			
	Warranty statement			
	Manufacturer or authorized distributor authorization			
14	**Dental Extracting Set – Pediatric-TECHNICAL SPECIFICATIONS**			
	1. General Description			
	Supply of a Pediatric Dental Extracting Set suitable for use in dental clinics, hospitals, and oral surgery departments for children. The set shall be manufactured from high-quality medical-grade stainless steel, reusable, autoclavable, corrosion-resistant, and supplied with a comprehensive warranty of not less than two (2) years against manufacturing defects and rust.			
	2. Technical Specifications			
	Product Name :Dental Extracting Set – Pediatric			
	Intended Use :Pediatric tooth extraction procedures			
	Number of Pieces: Minimum 6–10 pieces			
	Material: High-quality medical-grade stainless steel			
	Stainless Steel Grade: AISI 420 or equivalent			
	Corrosion Resistance : Rust-resistant and corrosion-resistant			
	Sterilization: Fully autoclavable up to 134–135°C			
	Surface Finish :Highly polished satin or mirror finish			
	Handle Design: Ergonomic, lightweight, non-slip handle			
	Beak Design Pediatric anatomical design with fine serrated beaks			
	Reusability: Fully reusable			
	Storage Case :Stainless steel or aluminum sterilization case included			
	Quality Standards:CE Marked and/or ISO 13485 and/or FDA compliant			
	Product Condition:Brand new, unused, non-refurbished			
	3. Minimum Set Contents			
	The set shall include, at minimum, the following pediatric extraction forceps or equivalent:			
	1. Pediatric Upper Anterior Forceps			
	2. Pediatric Upper Molar Forceps			
	3. Pediatric Upper Root Forceps			
	4. Pediatric Lower Anterior Forceps			
	5. Pediatric Lower Molar Forceps			
	6. Pediatric Lower Root Forceps			
	Additional pediatric extraction forceps may be included depending on manufacturer configuration.			
	Equivalent international numbering systems may be accepted.			
	4. Quality and Compliance Requirements			
	The offered product shall comply with the following requirements:			
	Manufactured in accordance with ISO 13485 and/or ISO 9001 standards.			
	CE certified and/or FDA compliant.			

	Resistant to corrosion, staining, and repeated sterilization cycles.			
	Smooth joint movement without excessive looseness.			
	Fine pediatric design suitable for primary teeth extraction.			
	Easy to clean and disinfect.			
	Suitable for repeated clinical use.			
	Laser marking of instrument identification is preferred.			
	Ultrasonic cleaned and passivated instruments are preferred.			
	5. Warranty and After-Sales Service			
	The supplier shall provide:			
	Minimum two (2) years warranty against:			
	Manufacturing defects			
	Joint failure			
	Corrosion and rust under normal use			
	Replacement of defective instruments during the warranty period.			
	Availability of spare or replacement instruments when required.			
	6. Delivery Requirements			
	6.1. Required Submission Documents			
	Bidders shall submit the following documents with their offers:			
	Product catalog and technical datasheet			
	Certificate of origin			
	CE certificate and/or ISO certification			
	Warranty statement			
	Manufacturer or authorized distributor authorization (if applicable			