

Lot 1
Medical Devices
Technical Specifications and BoQ

Ord	Item Name	Quantity (Malatya)	Quantity (Adıyaman)	Total Quantity	Unit Cost (EURO)	Total Cost (EURO)
1	Defibrillator	2	4	6		
2	Dental chair unit-complete system	1	0	1		
3	Examination lamp	15	13	28		
4	Fetal Doppler	2	1	3		
5	Infant scale	10	8	18		
6	Suction-Aspirator unit	2	4	6		
7	Vaccine refrigerator	2	1	3		
8	Vital signs monitor	17	16	33		
9	Tourniquet Set	3	3	6		
10	Hemoglobin Meter	3	4	7		
11	Urine Analyzer	4	4	8		
12	Glucometer	4	4	8		
13	Sample storage refrigerator	1	1	2		
14	Digital Thermometer-Non Contact	17	17	34		
15	Digital Sphygmomanometer	15	16	31		
16	Stethoscope	18	19	37		
17	Pulse Oximeter	15	14	29		
18	Adult Scale with Height Rod	15	12	27		
19	Diagnostic Set	15	13	28		
20	Measuring Tape	12	9	21		
21	X-ray Protective Apron	2	0	2		
22	Scaler (Ultrasonic)	1	0	1		
23	Curing Light (LED)	1	0	1		
24	Autoclave (Class B)	1	0	1		

25	Infantometer or Baby Measuring Board	8	6	14		
26	Nebulizer with humidifier	2	2	4		
27	Electrocardiograph (ECG)	3	4	7		
28	Emergency Kit/Resuscitation	4	5	9		
29	MUAC Tape	10	8	18		
30	Instalation & Trainning	1	1	2		
31	Transport	1	1	2		
Total						

Lot1- Remarks on Training

How many training days (excl. Travel days)	See each item specification. Maximum overall training period is two days.
Number of participants	2 to 3 per item
What is the qualification level of participants	Doctors, nurses and technicians
Should it take place digitally or on site?	On site
Language of the training	Turkish Where translation or interpretation is required during training, it will be provided by GIZ.
Goal of the training	The Supplier shall provide training to designated users on equipment operation and basic maintenance. Any additional training requirements specified in the individual item technical specifications shall also apply and shall be fully complied with.

MEDICAL DEVICE SPECIFICATION		
ITEM No.	1	
NAME	Defibrillator	
TECHNICAL CHARACTERISTICS		
1	Detailed requirements	A manual, external, biphasic defibrillator with integrated monitor, suitable for use in ICU, Emergency, and Operating Theaters for both adult and pediatric patients. The system shall: - Operate on mains power as well as an internal rechargeable battery. - Support adult and pediatric paddles. - Be capable of monitoring ECG and delivering shocks even if the battery is fully depleted or disconnected when connected to mains. - Include both manual defibrillation mode and AED mode, allowing use by trained and semitrained personnel. - Must be equipped with automatic patient impedance measurement prior to and/or during shock delivery. The system shall adjust energy delivery or waveform characteristics based on measured impedance to ensure effective and safe defibrillation. 2. Technical Specifications 2.1 Defibrillation - Technology: Biphasic waveform. - Energy range: from ≤ 2 J to ≥ 300 JJ, with fine low-energy steps 2 J for pediatric use. - Energy selection: Adjustable in 1–2 J increments. - The device shall ensure accurate energy delivery within $\pm 15\%$ or ± 1 J (whichever is greater) at low energy levels. - Energy display: Selected and delivered energy must be displayed. - Charge time: ≤ 8 seconds to maximum energy / to 200 J: ≤ 5 seconds. - Shock delivery: Via adult and pediatric paddles, both external. - AED mode: Automated rhythm analysis with clear voice and/or visual prompts, including automatic charging and shock advisory. - Safety features: Patient impedance measurement and protection against inappropriate shock delivery. 2.2 Monitoring - Integrated ECG monitoring. - Display: ≥ 7 inches, color. - Parameters displayed: ECG waveform, heart rate, selected energy, battery status, event messages. 2.3 Recorder / Printer - Integrated thermal recorder (built-in). - Printout of ECG, selected energy, delivered shocks, and event markers.
2	Displayed parameters	Operate on mains power as well as an internal rechargeable battery. - ECG waveform. - Heart rate. - Selected energy (J). - Delivered shock confirmation. - Battery status / mains connection. - System alarms and error messages.
3	User adjustable settings	Energy level. - Selection of adult or pediatric mode. - Alarm volume (where supported). - Paper feed / printer activation.
UTILITY REQUIREMENTS		
4	Electrical, water and/or gas supply	Mains 220–240 V, 50 Hz. - Rechargeable internal battery: • Operating time: ≥ 2 hours (or ≥ 80 shocks at maximum energy). • Recharge time: ≤ 4 hours to full charge. - Defibrillator must still deliver full shock energy when battery is depleted if connected to mains.
ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS		
5	Accessories	- 1 × Set of adult paddles. - 1 × Set of pediatric paddles. - 1 × Internal rechargeable battery (spare battery recommended). - 1 × Mains power cord (hospital grade). - 1 × Integrated thermal printer with starter roll. - 1 x Set of cables for each measurable parameter.

6	Consumables / reagents	N.A.
7	Spare parts	N.A.
ENVIRONMENTAL REQUIREMENTS		
8	Context-dependent requirements	The Unit shall be capable of being stored continuously in ambient temperature of (-5 to 70) deg C and relative humidity of 10 - 95%
TRAINING, INSTALLATION AND UTILISATION		
9	Pre-installation requirements(if relevant)	N.A.
10	Requirements for commissioning	Local clinical staff to affirm completion of installation
11	Training of user/s	Training of users in operation and basic maintenance shall be provided
12	User care	The case is to be cleanable with alcohol or chlorine wipes.
WARRANTY AND MAINTENANCE		
13	Warranty	Minimum two (2) years full warranty from commissioning date according to GIZ General Purchase Conditions
14	Software / Hardware upgrade availability	As per manufacturer standard
DOCUMENTATION		
15	Documentation requirements	User and service manuals in Turkish is mandatory, and English is optional. Spare parts list with catalog numbers
SAFETY AND STANDARDS		
16	Risk Classification	Class IIb
17	Regulatory Approval / Certification	CE Mark
18	International standards	Manufactures ISO 13485:2003 Medical devices -- Quality management systems. ISO 14971:2007 Medical devices -- Application of risk management to medical devices. Device. IEC 60601-1: Medical electrical equipment – General requirements for safety IEC 60601-2-4: Particular requirements for defibrillators IEC 60601-1-2: Electromagnetic compatibility

MEDICAL DEVICE SPECIFICATION		
ITEM No.	2	
NAME	Dental chair unit-complete system	
TECHNICAL CHARACTERISTICS		
1	Detailed requirements	See Annex 1 - Dental Chair
2	Displayed parameters	
3	User adjustable settings	
UTILITY REQUIREMENTS		
4	Electrical, water and/or gas supply	
ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS		
5	Accessories	
6	Consumables / reagents	
7	Spare parts	
ENVIRONMENTAL REQUIREMENTS		
8	Context-dependent requirements	
TRAINING, INSTALLATION AND UTILISATION		
9	Pre-installation requirements	

10	Requirements for commissioning (if relevant)	
11	Training of user/s (if relevant)	
12	User care	
WARRANTY AND MAINTENANCE		
13	Warranty	Minimum two (2) years full warranty from commissioning date according to GIZ General Purchase Conditions
14	Software / Hardware upgrade availability	
DOCUMENTATION		
15	Documentation requirements	
SAFETY AND STANDARDS		
16	Risk Classification	
17	Regulatory Approval / Certification	
18	International standards	

MEDICAL DEVICE SPECIFICATION		
ITEM No.	3	
NAME	Examination lamp	
TECHNICAL CHARACTERISTICS		
1	Detailed requirements	Light source: LED. Clear and cool light to operating area, with minimal shadows and distortion of colour. Colour Temperature from 3200 °K to 5000 °K. Mounted on mobile base. Single head must be easily moved by operator to direct light the required area. Integral rechargeable battery for operation without mains electricity. A star base with at least four anti-static castors wheels. Height adjustable stand with articulated arm with step-less vertical displacement. Movements: Up / down, radial and angular. Intensity not less than 20 000 lux / 1 m (+/-10%). Illumination control. Expected LED life: More than 30,000 hours .
2	Displayed parameters	N.A.
3	User adjustable settings	Position, light intensity.
UTILITY REQUIREMENTS		
4	Electrical, water and/or gas supply	Should work on 220-240 VAC , 50 Hz . Built in battery back up unit.
ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS		
5	Accessories	N.A.
6	Consumables / reagents	N.A.
7	Spare parts (if relevant)	N.A.
ENVIRONMENTAL REQUIREMENTS		
8	Context-dependent requirements	The Unit shall be capable of being stored continuously in ambient tempreature of (-5 to 70) deg C nd relative humidity of 10 - 95%
TRAINING, INSTALLATION AND UTILISATION		
9	Pre-installation requirements	N.A.
10	Requirements for commissioning (if relevant)	Local clinical staff to affirm completion of installation
11	Training of user/s	N.A.
12	User care(	The case is to be cleanable with alcohol or chlorine wipes.
WARRANTY AND MAINTENANCE		

13	Warranty	Minimum two (2) years full warranty from commissioning date according to GIZ General Purchase Conditions
14	Software / Hardware upgrade availability	N.A.
DOCUMENTATION		
15	Documentation requirements	User, technical and maintenance manuals to be supplied in English and Turkish language. Procedures required for local calibration and routine maintenance. Contact details of manufacturer, supplier and local service agent to be provided.

SAFETY AND STANDARDS		
16	Risk Classification	Class I
17	Regulatory Approval / Certification	CE Mark
18	International standards	ISO 13485:2003 Medical devices -- Quality management systems. ISO 14971:2007 Medical devices -- Application of risk management to medical devices 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.

MEDICAL DEVICE SPECIFICATION		
ITEM No.	4	
NAME	Fetal Doppler	
TECHNICAL CHARACTERISTICS		
1	Detailed requirements	Portable handheld fetal Doppler device intended for detection and monitoring of fetal heart rate (FHR) during antenatal examinations in gynecology and obstetrics services. Minimum technical requirements: Ultrasound operating frequency: 2–3 MHz probe suitable for obstetric fetal heart detection Detection method: Continuous wave Doppler ultrasound FHR measurement range: 50 – 210 bpm Accuracy: ±2 bpm or better Audio output: Integrated loudspeaker and headphone output Display: Digital display showing fetal heart rate Probe type: Integrated or interchangeable waterproof probe Auto signal processing: Noise reduction and fetal heart sound amplification Probe sensitivity: Capable of detecting fetal heart signals from 10–12 weeks gestation Volume control: Adjustable Power supply: Rechargeable battery and/or replaceable battery Battery autonomy: 4–6 hours continuous operation Battery indicator: Visual low-battery indicator Housing: Impact-resistant medical grade plastic Weight: ≤ 500 g Protection class: At least IPX2 or higher Device shall be suitable for use in primary healthcare centers, maternity wards, and gynecology clinics.
2	Displayed parameters	The device shall display at minimum: Fetal Heart Rate (FHR) in beats per minute (bpm) Battery status indicator Signal quality indicator
3	User adjustable settings	Audio volume level Power ON/OFF Probe sensitivity or signal filtering (if available)
UTILITY REQUIREMENTS		
4	Electrical, water and/or gas supply .	Internal rechargeable battery or standard batteries (AA or equivalent) External charger or USB charging adapter Input power supply: 100–240 V / 50–60 Hz
ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS		
5	Accessories .	The supply shall include at minimum: Doppler probe (2–3 MHz) Ultrasound transmission gel (starter bottle) Headphones or earphone Charging adapter / battery charger Carrying case or protective pouch User manual
6	Consumables / reagents .	N.A.
7	Spare parts	N.A.
ENVIRONMENTAL REQUIREMENTS		
8	Context-dependent requirements	Operating temperature: 10 – 40 °C Relative humidity: up to 85% non-condensing
TRAINING, INSTALLATION AND UTILISATION		
9	Pre-installation requirements.	Supplier to perform installation, safety and operation checks before handover
10	Requirements for commissioning .	Device functional verification Battery charging verification Acoustic signal verification
11	Training of user/s .	Supplier shall provide basic user training

12	User care.	Device shall be cleanable using standard hospital disinfectants, including: Alcohol wipes Chlorine-based disinfectants Probe shall be water-resistant and suitable for routine clinical cleaning.
WARRANTY AND MAINTENANCE		
13	Warranty	Minimum two (2) years full warranty from commissioning date according to GIZ General Purchase Conditions
14	Software / Hardware upgrade availability	Yes, if applicable
DOCUMENTATION		
15	Documentation requirements	User, technical and maintenance manuals to be supplied in English and Turkish language.
SAFETY AND STANDARDS		
16	Risk Classification	Iia
17	Regulatory Approval / Certification	CE Mark
18	International standards	UNI EN ISO 13485:2016 Medical devices -- Quality management systems -- Requirements for regulatory purposes ISO 14971:2007 Medical devices -- Application of risk management to medical devices UNI EN ISO 9001:2015. Device: IEC 60601-1 – Medical electrical equipment safety IEC 60601-1-2 – Electromagnetic compatibility IEC 60601-2-37 – Ultrasound diagnostic equipment safety

MEDICAL DEVICE SPECIFICATION		
ITEM No.		5
NAME		Infant scale
TECHNICAL CHARACTERISTICS		
1	Detailed requirements	Table top Digital baby scale with high precision and reliability suitable for hospital use Digital. Weighing range: ≤ 20kg. Minimum graduation/reading: - Approx. 5g. if Weigh ≤ 10 kg - Approx 10 g if Weigh ≥ 10 kg Display units: kg. Pre set Functions: As minimum Tare, BMIF (Breast-Milk-Intake-Function). Adjustment for zero setting. Tray surface of at least 1.200 cm2. Large LED display and friendly interface. Splash proof and shock resistant light-weight body Smooth surface/finishing for easy cleaning/disinfection. All vital parts made of rust proof, child-friendly materials; display cover made of durable, transparent plastic. Colour: white or similar: off-white, cream, light grey etc. Horizontal leveling. Platform Dimensions, approx: 600 x 130 x 280 mm Weight: ≤ 7 kg
2	Displayed parameters	Weight measurement (primary parameter) BMIF Tare indication. Visual indication when tare function is active Zero indication Confirmation of zero setting / reset Unit indication
3	User adjustable settings	perform zero/reset; activate tare function; use hold function (retain stable reading); operate basic power functions (on/off, auto-off if available).
UTILITY REQUIREMENTS		
4	Electrical, water and/or gas supply	Battery-operated and mains powered; Battery type: rechargeable or replaceable; Battery life to allow at least 1,000 weighings
ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS		
5	Accessories .	Integrated baby tray; Batteries and power adapter.
6	Consumables / reagents .	N.A
7	Spare parts .	N.A
ENVIRONMENTAL REQUIREMENTS		
8	Context-dependent requirements	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
TRAINING, INSTALLATION AND UTILISATION		
9	Pre-installation requirements.	Supplier to perform installation, safety and operation checks before handover
10	Requirements for commissioning .	Local clinical staff to affirm completion of installation. Functional check upon delivery; Verification of basic accuracy; Confirmation of display and controls.
11	Training of user/s .	N.A
12	User care.	The case is to be cleanable with alcohol or chlorine wipes.
WARRANTY AND MAINTENANCE		
13	Warranty	Minimum two (2) years full warranty from commissioning date according to GIZ General Purchase Conditions
14	Software / Hardware upgrade availability	N.A

DOCUMENTATION

15	Documentation requirements	User, technical and maintenance manuals to be supplied in English and English language. Certificate of inspection to be provided. List to be provided of equipment and procedures required for local calibration and routine maintenance List to be provided of important spares and accessories, with their part numbers and cost
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SAFETY AND STANDARDS

16	Risk Classification	Class III
17	Regulatory Approval / Certification	EC Mark
18	International standards	ISO 13485:2003 Medical devices -- Quality management systems -- ISO 14971:2007 Medical devices -- Application of risk management to medical devices. IEC 60601-1:2007 Medical electrical equipment - Part 1: IEC 60601-1-1:2000 Medical electrical equipment - Part 1-1: IEC 60601-1-2:2007 Medical electrical equipment - Part 1-2: General requirements for basic safety and essential performance

MEDICAL DEVICE SPECIFICATION		
ITEM No.	6	
NAME	Suction-Aspirator unit	
TECHNICAL CHARACTERISTICS		
1	Detailed requirements	The device shall be a portable suction pump intended for removal of mucus, fluids, and secretions during emergency care and routine procedures in Primary Health Centers (PHC) and similar settings. Power source: Shall work on main power and built in rechargeable batteries as well. Operation time on batteries ≥ 30 minutes Vacuum generator: Oil-free with a high-flow pump type. ABS plastic case Maintenance: A low maintenance design is requested. Regulation: A precise vacuum regulator to controls the level of vacuum is requested. Overflow protection: Shall prevent the liquid or solid particles from entering the intermediate tubing. Air filter: This feature is requested Overflow protection system Storage bottles: Made of high-quality plastic. Hoses: made of non-toxic glass or polymer they shall be easy to use and clean. Adjustable vacuum range, approx.: 0.02 - 0.08 MPa (150 - 600 mmHg) Efficiency, approx.: $\geq 20 \pm 2$ l/min Noise : ≤ 60 dB Bottle systems: Double (two bottles) Storage bottle capacity, approx.: 1000 ml each
2	Displayed parameters	vacuum level (mmHg and/or kPa); power status (mains / battery); battery status (charge level or indicator); alarm indication (if applicable)
3	User adjustable settings	adjust vacuum level continuously within the specified range; start/stop suction; operate basic power controls (on/off).
UTILITY REQUIREMENTS		
4	Electrical, water and/or gas supply .	Power supply: 220–240 V / 50 Hz; Built-in rechargeable battery; Battery autonomy: ≥ 30 minutes continuous operation; Automatic switch to battery during power failure; Charger integrated or supplied.
ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS		
5	Accessories .	2 $\times$ Reusable collection jar with lid. 1 $\times$ Medical-grade suction tube (≥ 1.5 m, silicone, autoclavable at 121 $^{\circ}$C). 1 $\times$ Spare bacterial hydrophobic filter.
6	Consumables / reagents .	N.A.
7	Spare parts .	N.A.
ENVIRONMENTAL REQUIREMENTS		
8	Context-dependent requirements	The Unit shall be capable of being stored continuously in ambient tempreature of (-5 to 70) deg C nd relative humidity of 10 - 95%
TRAINING, INSTALLATION AND UTILISATION		
9	Pre-installation requirements.	N.A.
10	Requirements for commissioning .	Local clinical staff to affirm completion of installation. Functional verification upon delivery; Check of suction performance and vacuum range; Verification of battery operation; Confirmation of alarm/indicator functions.
11	Training of user/s .	Training of users in operation and basic maintenance shall be provided
12	User care.	The case is to be cleanable with alcohol or chlorine wipes Unit layout to enable easy cleaning and disinfection of all surfaces.
WARRANTY AND MAINTENANCE		

13	Warranty	Minimum two (2) years full warranty from commissioning date according to GIZ General Purchase Conditions
14	Software / Hardware upgrade availability	N.A.
DOCUMENTATION		
15	Documentation requirements	User, technical and maintenance manuals to be supplied in Turkish language. Spare parts list with catalog numbers.
SAFETY AND STANDARDS		
16	Risk Classification	Ila
17	Regulatory Approval / Certification	CE Mark
18	International standards	ISO 13485:2003 Medical devices -- Quality management systems. ISO 14971:2007 Medical devices -- Application of risk management to medical devices. Device: IEC 60601-1 – General electrical safety IEC 60601-1-2 – Electromagnetic compatibility IEC 60601-2-12 or relevant standard for suction equipment

MEDICAL DEVICE SPECIFICATION		
ITEM No.	7	
NAME	Vaccine refrigerator	
TECHNICAL CHARACTERISTICS		
1	Detailed requirements	A professional pharmacy/laboratory refrigerator (ventilated type), not ice-lined, designed for continuous operation under stable electrical supply conditions, for safe storage of vaccines and other temperature-sensitive medical products at +2°C to +8°C. The system shall: Provide precise temperature control and uniform distribution Ensure rapid temperature recovery after door opening Be suitable for Primary Health Care (PHC) environments Include integrated temperature monitoring, alarms, and data logging. Net storage capacity, approx: 150–200 L Temperature range: +2°C to +8°C Temperature uniformity: ±1°C or better Cooling system: Forced-air (ventilated) Recovery time: Rapid (manufacturer standard, suitable for clinical use) Data logger: ≥30 days, downloadable Alarms: High/low temperature, power failure, door open Noise level: ≤50 dB CONSTRUCTION & DESIGN REQUIREMENTS Interior: corrosion-resistant coated steel or equivalent Exterior: powder-coated steel or equivalent Shelves: adjustable, airflow-permitting Door: Lockable Solid insulated or glass (anti-condensation, UV protection) Interior lighting: LED.
		Other features. Minimum hold-over time: ≥2 hours at ambient temperature up to +32°C, without door opening. Integrated temperature monitoring system with battery backup ≥24 hours, ensuring continuous data logging and alarm operation Refrigerant: CFC-free, HCFC-free, low-GWP (e.g., R600a, R290 or equivalent) The refrigerator shall be specifically designed for medical or laboratory use; domestic or household refrigerators are not acceptable
2	Displayed parameters	The refrigerator shall display at minimum: Internal temperature (°C) Alarm status Power status Data logger status
3	User adjustable settings	The user shall be able to adjust: Temperature set point within +2 °C to +8 °C Alarm thresholds (if configurable) Data logger settings.
UTILITY REQUIREMENTS		
4	Electrical, water and/or gas supply	Should work on 220-240 VAC , 50 Hz. Voltage tolerance: ±15% or widerTolerance ±15% or wider Integrated battery backup for temperature monitoring system
ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS		
5	Accessories	The device shall be supplied with: Minimum 3 adjustable shelves or baskets (perforated for airflow) Lock and keys (minimum 2) Temperature probe(s) Power cable
6	Consumables / reagents	N.A.
7	Spare parts	N.A.
ENVIRONMENTAL REQUIREMENTS		

8	Context-dependent requirements	The Unit shall be capable of being stored continuously in ambient temperature of (-5 to 50) deg C and relative humidity of 10 - 95%
TRAINING, INSTALLATION AND UTILISATION		
9	Pre-installation requirements	Supplier to perform installation, safety and operation checks before handover
10	Requirements for commissioning	Supplier shall ensure: Verification of internal temperature stability Calibration of temperature monitoring system Alarm function testing
11	Training of user/s	Supplier shall provide basic operational training including: Correct vaccine storage practices Temperature monitoring and alarm management Data logger operation and record keeping Cleaning and preventive maintenance
12	User care	The case is to be cleanable with alcohol or chlorine wipes. Interior chamber to be accessible for easy cleaning
WARRANTY AND MAINTENANCE		
13	Warranty	Minimum two (2) years full warranty from commissioning date according to GIZ General Purchase Conditions
14	Software / Hardware upgrade availability	Yes, If applicable.
DOCUMENTATION		
15	Documentation requirements	User, technical and maintenance manuals to be supplied in English and Turkish language. List to be provided of important spares and accessories, with their part numbers and cost
SAFETY AND STANDARDS		
16	Risk Classification	Not classified as an active therapeutic device
17	Regulatory Approval / Certification	CE Mark
18	International standards	ISO 13485:2003 Medical Devices-Quality Management Systems ISO 14971:2007 Medical Devices--Application of Risk Management to Medical Devices. IEC 60335-2-24 – Safety of refrigerating appliances IEC 61010 – Safety requirements for electrical equipment (where applicable)

MEDICAL DEVICE SPECIFICATION	
ITEM No.	8
NAME	Vital Sign Monitor
TECHNICAL CHARACTERISTICS	

1	Detailed requirements	1. General Requirement A heavy-duty vital signs monitor designed for high-load hospital applications, suitable for adult, pediatric, and neonatal patients. The device shall: Incorporate state-of-the-art noninvasive measurement technologies for vital parameters. Be suitable for continuous or spot-check use in wards, NICU, ER, and outpatient clinics. Be mounted on a trolley with basket for mobility. 2. Core Parameters Pulse Oximetry (SpO₂): Measurement range: 70% – 100% Pulse rate range: 25 – 240 bpm Accuracy: ±2 digits or better. Neonatal, pediatric, and adult compatible probes Alarms: audiovisual for high/low SpO₂, high/low pulse rate, sensor off, sensor failure, low battery Noninvasive Blood Pressure (NIBP): Pressure range: 0 – 300 mmHg Systolic range: 60 – 250 mmHg Diastolic range: 30 – 160 mmHg Mean arterial pressure (MAP): 40 – 190 mmHg Determination time: approx. 20 – 45 seconds Overpressure cutoff: approx. 315 mmHg ± 15 mmHg Neonatal, pediatric, and adult cuffs supported Temperature: Measurement range: 30 – 43 °C Accuracy: ±0.1 °C Determination time: Oral ~4 s, Axillary ~10 s, Rectal ~15 s Digital multifunction display Weight: 2 – 2.5 kg
2	Displayed parameters	Adjustable alarm limits suitable for adult, pediatric, and neonatal ranges. Audiovisual alarms: SpO₂, pulse rate, NIBP errors, low battery, sensor failure.
3	User adjustable settings	The user shall be able to adjust: Temperature set point within +2 °C to +8 °C Alarm thresholds (if configurable) Data logger settings.
UTILITY REQUIREMENTS		
4	Electrical, water and/or gas supply .	Should work on 220-240 VAC , 50 Hz . Capable to work grid connected and on battery. Operating Time : From 1 to 2 hs (full charged battery)
ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS		
5	Accessories .	SpO₂ sensors: Adult clip, pediatric, and adult wrap-type probe. NIBP cuffs: Adult, pediatric sizes. Temperature probes: Oral/Axillary probe, Rectal probe Trolley with basket. Back up battery
6	Consumables / reagents .	N.A.
7	Spare parts .	N.A.
ENVIRONMENTAL REQUIREMENTS		
8	Context-dependent requirements	The Unit shall be capable of being stored continuously in ambient temperature of (-5 to 50) deg C and relative humidity of 10 - 95%
TRAINING, INSTALLATION AND UTILISATION		
9	Pre-installation requirements.	Supplier to perform installation, safety and operation checks before handover
10	Requirements for commissioning .	N.A.

11	Training of user/s .	Supplier shall provide basic operational training.
12	User care.	The case is to be cleanable with alcohol or chlorine wipes.
WARRANTY AND MAINTENANCE		
13	Warranty	Minimum two (2) years full warranty from commissioning date according to GIZ General Purchase Conditions
14	Software / Hardware upgrade availability	Yes, If applicable.
DOCUMENTATION		
15	Documentation requirements	User, technical and maintenance manuals to be supplied in English and Turkish language. List to be provided of important spares and accessories, with their part numbers and cost
SAFETY AND STANDARDS		
16	Risk Classification	I Ib
17	Regulatory Approval / Certification	CE Mark
18	International standards	Manufacturer ISO 13485:2016 – Medical devices QMS Device IEC 60601-1 – General electrical safety IEC 60601-1-2 – Electromagnetic compatibility IEC 60601-2-49 – Particular requirements for multiparameter patient monitors

MEDICAL DEVICE SPECIFICATION		
ITEM No.	9	
NAME	Tourniquete, set	
TECHNICAL CHARACTERISTICS		
1	Detailed requirements	Manual hemostatic tourniquet for arm compression to blood draw, catheter placement and similar procedures. Suitable for adults and child. Flexible, latex free ribbon. The device shall be suitable for repeated cleaning and disinfection. Patient friendly: No pain when tightening Simple tension and release clip Autoclavable and resistant to standard hospital disinfection chemicals. Dimensions: Band Length(mm): ~ 400 to 550 Band Width(mm): ~ 20 to 25 Loop diameter max. ~ 155 to 160 mm
2	Displayed parameters	N.A.
3	User adjustable settings	N.A.
UTILITY REQUIREMENTS		
4	Electrical, water and/or gas supply .	N.A.
ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS		
5	Accessories .	N.A.
6	Consumables / reagents .	N.A.
7	Spare parts .	N.A.
ENVIRONMENTAL REQUIREMENTS		
8	Context-dependent requirements	The Unit shall be capable of being stored continuously in ambient temperture of (-5 to 70) deg C nd relative humidity of 10 - 95%
TRAINING, INSTALLATION AND UTILISATION		
9	Pre-installation requirements.	Supplier to perform installation, safety and operation checks before handover
10	Requirements for commissioning .	Local clinical staff to affirm completion of installation
11	Training of user/s .	Training of users in operation and basic maintenance shall be provided
12	User care.	The case is to be cleanable with alcohol or chlorine wipes
WARRANTY AND MAINTENANCE		
13	Warranty	Minimum two (2) years full warranty from commissioning date according to GIZ General Purchase Conditions

14	Software / Hardware upgrade availability	N.A.
DOCUMENTATION		
15	Documentation requirements	User, technical and maintenance manuals to be supplied in English and Turkish language. Certificate of inspection to be provided. List to be provided of equipment and procedures required for local calibration and routine maintenance List to be provided of important spares and accessories, with their part numbers and cost
SAFETY AND STANDARDS		
16	Risk Classification	N.A.
17	Regulatory Approval / Certification	EC Mark
18	International standards	ISO 13485:2003 Medical devices -- Quality management systems -- Requirements for regulatory purposes (Australia, Canada and EU). ISO 14971:2007 Medical devices -- Application of risk management to medical devices. ISO 10993 for biocompatibility.

MEDICAL DEVICE SPECIFICATION		
ITEM No.	10	
NAME	Hemoglobino meter	
TECHNICAL CHARACTERISTICS		
1	Detailed requirements	The unit shall be a portable, point-of-care hemoglobinometer for quantitative measurement of hemoglobin (Hb) concentration in capillary and/or venous whole blood samples, suitable for use in primary health care and emergency settings. • Measurement principle: Photometric or equivalent validated method. • Measurement range: • Measurement range: Minimum 0–25 g/dL. The device shall maintain a measurement accuracy of ±1.0 g/dL or better within the clinically relevant range of 5–20 g/dL. • Accuracy: ±1.0 g/dL or better within clinical range. • Sample type: Capillary and/or venous whole blood. • Sample volume: ≤20 µL. • Time to result: ≤60 seconds. • Calibration: Factory-calibrated; no frequent manual calibration required. • Operation: Portable, battery-operated, suitable for bedside use. • Display: Integrated digital display with clear numeric readout. • Data storage: Internal memory for minimum 100 results preferred. • Quality control: Built-in self-check and capability for external QC verification. • The device shall provide reliable results under field conditions typical of PHC facilities. • The device shall maintain consistent measurement performance within manufacturer-specified tolerances under normal operating conditions. • The device shall exhibit a bias not exceeding ±0.5 g/dL when compared to a reference laboratory hematology analyzer under standard conditions. • Compliance shall be demonstrated through manufacturer's technical documentation
2	Displayed parameters	• Hemoglobin value (g/dL or g/L) • Battery status indicator • Error messages / alerts
3	User adjustable settings	Unit selection (g/dL or g/L)
UTILITY REQUIREMENTS		
4	Electrical, water and/or gas supply	Internal rechargeable battery or replaceable batteries (AA/AAA or equivalent) External power supply/charger: 100–240 V AC, 50/60 Hz
ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS		
5	Accessories	Carrying case • Charging unit or power adapter • Minimum one set of control cuvettes or verification tools (if applicable)
6	Consumables / reagents	• Disposable microcuvettes or test strips compatible with the device • Capillary sampling devices (lancets, capillary tubes if required)
7	Spare parts	N.A.
ENVIRONMENTAL REQUIREMENTS		
8	Context-dependent requirements	The unit shall be capable of being stored continuously in ambient temperature of (-5 to 70) °C and relative humidity of 10–95%. Operating conditions: 10–40 °C, relative humidity up to 85% non-condensing
TRAINING, INSTALLATION AND UTILISATION		
9	Pre-installation requirements	Supplier to perform installation, safety and operation checks before handover
10	Requirements for commissioning	• Functional verification using control material • Verification of measurement accuracy as per manufacturer instructions
11	Training of user/s	Basic user training (measurement procedure, infection control)
12	User care	Routine cleaning and disinfection • Proper handling of cuvettes and samples • Periodic verification using control materials

WARRANTY AND MAINTENANCE		
13	Warranty	Minimum two (2) years full warranty from commissioning date according to GIZ General Purchase Conditions
14	Software / Hardware upgrade availability	As per manufacturer standard
DOCUMENTATION		
15	Documentation requirements	User, technical and maintenance manuals to be supplied in English and Turkish language.
SAFETY AND STANDARDS		
16	Risk Classification	Class IIa
17	Regulatory Approval / Certification	CE Mark
18	International standards	Manufacturer ISO 13485 – Medical devices quality management systems ISO 14971 – Risk management for medical devices Device IEC 61010-1: Safety requirements for electrical equipment for measurement, control, and laboratory use IEC 61326-1: EMC requirements for laboratory equipment

MEDICAL DEVICE SPECIFICATION		
ITEM No.	11	
NAME	Urine Analyser (Semi-Automatic)	
TECHNICAL CHARACTERISTICS		
1	Detailed requirements	The urine analyzer must be a bench-top in-vitro diagnostic device designed for the semiquantitative analysis of urine reagent test strips. The urine analyzer is suitable for PHC-level point-of-care use, providing rapid semi-quantitative screening results to support clinical decision-making and referral. It does not replace laboratory diagnostics and shall be used within a defined screening and referral framework. Measurement Method. Reflectance photometry Wavelength ~ 440-660nm Throughput ~ 120 test/hr Performed test: 1- PH, Nitrite, Protein 2- Glucose, occult blood, bilirubin 3- Urobilinogen, ketone 4- Specific gravity, Leukocytes 5- Ascorbic Acid Display ≥ 240×65 LCD monitor, or better Print: Built-in thermal printer Storage ≥ 1000 patient data Calibration: Automatic calibration Interface: Standard RS232 serial interface or equivalent for connection to external systems such as laboratory information systems. The analyzer must provide automatic calibration and internal quality control functions to ensure measurement accuracy.
2	Displayed parameters	test results per parameter (semi-quantitative values); sample identification (if applicable); test status and progress; error messages and alerts; date and time.
3	User adjustable settings	select test mode (single / continuous); initiate and stop testing; enter or select patient/sample ID (manual or automatic); adjust basic system settings (date/time, language); configure print and data output settings.
UTILITY REQUIREMENTS		
4	Electrical, water and/or gas supply .	Should work on 220VAC±10% 50–60Hz 30W
ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS		
5	Accessories .	N.A.
6	Consumables / reagents .	Strips, Qty: 200 Printer Labels, Package: 5 Liquied Controls, 5 X 5ml
7	Spare parts .	N.A.
ENVIRONMENTAL REQUIREMENTS		
8	Context-dependent requirements	The Unit shall be capable of being stored continuously in ambient temprature of (-5 to 50) deg C and relative humidity of 10 - 95%
TRAINING, INSTALLATION AND UTILISATION		
9	Pre-installation requirements.	Supplier to perform installation, safety and operation checks before handover
10	Requirements for commissioning .	install and configure the device; verify correct operation; perform initial calibration and test runs; provide commissioning report.

11	Training of user/s .	operation of analyzer; sample handling and strip use; interpretation of results; cleaning and maintenance; basic troubleshooting.
12	User care.	The case is to be cleanable with alcohol or chlorine wipes.
WARRANTY AND MAINTENANCE		
13	Warranty	Minimum two (2) years full warranty from commissioning date according to GIZ General Purchase Conditions
14	Software / Hardware upgrade availability	N.A.
DOCUMENTATION		
15	Documentation requirements	User, technical and maintenance manuals to be supplied in English and English language. Certificate of inspection to be provided. List to be provided of equipment and procedures required for local calibration and routine maintenance List to be provided of important spares and accessories, with their part numbers and cost
SAFETY AND STANDARDS		
16	Risk Classification	Class B IVD
17	Regulatory Approval / Certification	CE Mark
18	International standards	Manufacturer ISO 13485 – Medical devices quality management systems ISO 14971 – Risk management for medical devices Device IEC 61010-1 – Safety requirements for laboratory equipment IEC 61010-2-101 – Particular requirements for IVD equipment IEC 61326-2-6 – Electromagnetic compatibility for IVD equipment applicable in-vitro diagnostic regulations (e.g., EU IVDR 2017/746) or equivalent.

MEDICAL DEVICE SPECIFICATION		
ITEM No.	12	
NAME	Glucometer, with strips	
TECHNICAL CHARACTERISTICS		
1	Detailed requirements	Detailed requirements A portable Hand/Desktop digital glucometer intended for rapid measurement of blood glucose levels using disposable reagent test strips. The device shall be suitable for use in primary health care facilities, outpatient clinics, and bedside monitoring. The system shall: Measure blood glucose from capillary whole blood samples. Provide fast analysis and display of results. Operate with disposable reagent strips. Include internal memory for storing patient test results. Be powered by a rechargeable or replaceable battery. Sample type: Capillary whole blood. Sample volume: 0.5–2 µL. Measurement range: 20–600 mg/dL (or equivalent mmol/L). Measurement time: ≤ 5 seconds, maximum ≤ 10 seconds. Test strip: Disposable reagent strip specific to the device. Integrated LCD display. Display shall show test result clearly and legibly. Pre-meal & post-meal marking function: This feature is requested Memory: Approx. 450 readings Alarm required: yes Battery: Rechargeable Battery Life: ≥ 1,000 tests
2	Displayed parameters	Blood glucose value. Date and time of test. Pre-meal / post-meal indicator. Battery status indicator. System error or alert messages.

3	User adjustable settings	Date and time settings. Pre-meal / post-meal marking. Alarm reminder settings (if supported).
UTILITY REQUIREMENTS		
4	Electrical, water and/or gas supply .	Battery powered operation. Battery type: Rechargeable battery or replaceable batteries. Battery life: $\geq 1,000$ tests per charge or battery set.
ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS		
5	Accessories .	N.A.
6	Consumables / reagents .	250 strips per Unit 1 $\times$ Control solution 1 $\times$ Starter pack of lancets.
7	Spare parts .	N.A.
ENVIRONMENTAL REQUIREMENTS		
8	Context-dependent requirements	The Unit shall be capable of being stored continuously in ambient temperature of (-5 to 70) deg C and relative humidity of 10 - 95%
TRAINING, INSTALLATION AND UTILISATION		
9	Pre-installation requirements.	Supplier to perform installation, safety and operation checks before handover
10	Requirements for commissioning .	Local clinical staff to affirm completion of installation
11	Training of user/s .	Training of users in operation and basic maintenance shall be provided
12	User care.	The case is to be cleanable with alcohol or chlorine wipes Unit layout to enable easy cleaning and sterilization of all surfaces.
WARRANTY AND MAINTENANCE		
13	Warranty	Minimum two (2) years full warranty from commissioning date according to GLZ General Purchase Conditions
14	Software / Hardware upgrade availability	Yes, if applicable
DOCUMENTATION		
15	Documentation requirements	User, technical and maintenance manuals to be supplied in English and Turkish language.
#REF!		
16	Risk Classification	Ila
17	Regulatory Approval / Certification	EC Mark
18	Regulatory Approval / Certification	Manufactures ISO 13485:2003 Medical devices — Quality management systems ISO 14971:2007 Medical devices — Application of risk management to medical devices. Devices ISO 15197 – In vitro diagnostic test systems — Requirements for blood-glucose monitoring systems. IEC 61010-1 – Safety requirements for electrical equipment for measurement and laboratory use. IEC 61326-2-6 – EMC requirements for in vitro diagnostic equipment.

MEDICAL DEVICE SPECIFICATION		
ITEM No.	13	
NAME	Sample storage refrigerator	
TECHNICAL CHARACTERISTICS		
1	Detailed requirements	The device shall be a medical-grade refrigerator designed for the short-term storage of biological samples (e.g., blood, urine, stool, swabs) in a Primary Health Care (PHC) setting. The unit shall: Maintain a stable internal temperature range of +2°C to +8°C Ensure uniform temperature distribution Prevent freezing of stored samples. Capacity: Net volume, approx: 120–200 liters The refrigerator shall be specifically designed or configured to allow segregated storage of different biological sample types, including: - Blood samples (e.g., vacutainers, serum tubes) - Urine samples - Fecal/stool samples - Other biological materials The unit shall support: Minimization of cross-contamination risks Noise level, approx: ≤50 dB The unit shall be equipped with a single front-opening door. Construction Materials - Exterior of coated steel or equivalent corrosion-resistant material. - Interior of medical-grade, smooth, non-porous material (e.g., stainless steel or highquality antibacterial polymer). Internal surfaces shall be: - Easy to clean and disinfect - Resistant to common hospital disinfectants Shelves and internal fittings shall be robust, removable, and corrosion-resistant. The device is intended exclusively for sample storage, and shall not be used for vaccines or pharmaceutical cold chain applications.
		Leveling / Castors Adjustable leveling feet (mandatory), and Lockable castors Compact footprint suitable for PHC use, with approximate dimensions, approx: Height: 800 – 1,200 mm Width: 500 – 700 mm Depth: 500 – 700 mm Dimensions shall allow installation in standard clinical rooms without special structural requirements. Color Exterior color shall be neutral (e.g., white or light grey) suitable for healthcare environments. Interior color shall be light-colored to enhance visibility and hygiene control.
2	Displayed parameters	Internal temperature display: Clearly visible without opening the door Alarm status indicators (visual and/or audible) Power status
3	User adjustable settings	Set temperature within the +2°C to +8°C range Adjust high/low temperature alarm thresholds (if applicable) Activate/deactivate audible alarms Settings access shall be: Controlled (e.g., password or protected interface) to prevent unintended changes
UTILITY REQUIREMENTS		
4	Electrical, water and/or gas supply (if relevant)	Should work on 220-240 VAC , 50 Hz .
ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS		

5	Accessories (if relevant)	The device shall be supplied with internal organization accessories enabling segregation of sample types, including: Adjustable and removable shelves (minimum 3 levels) Removable trays or bins (minimum 3) suitable for: - Blood samples - Urine samples - Other biological materials Transparent or semi-transparent containers. Label holders or labeling surfaces for each compartment Spill-resistant shelf design (e.g., raised edges or trays) Internal LED lighting Lockable door with key
6	Consumables / reagents (if relevant)	N.A.

7	Spare parts (if relevant)	N.A.
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ENVIRONMENTAL REQUIREMENTS

8	Context-dependent requirements	The Unit shall be capable of being stored continuously in ambient temperature of (-5 to 45) deg C and relative humidity of 10 - 80%
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TRAINING, INSTALLATION AND UTILISATION

9	Pre-installation requirements(if relevant)	Supplier to perform installation, safety and operation checks before handover
10	Requirements for commissioning (if relevant)	Local clinical staff to affirm completion of installation. - Install and level the unit - Verify temperature stability - Perform functional testing - Commissioning tests shall include: - Temperature verification within +2°C to +8°C - Alarm functionality testing
11	Training of user/s (if relevant)	Training of users in operation and basic maintenance.
12	User care(if relevant)	The case is to be cleanable with alcohol or chlorine wipes. Interior chamber to be accessible for easy cleaning

WARRANTY AND MAINTENANCE

13	Warranty	Minimum two (2) years full warranty from commissioning date according to GIZ General Purchase Conditions
14	Software / Hardware upgrade availability	N.A.

DOCUMENTATION

15	Documentation requirements	User, technical and maintenance manuals to be supplied in English and Turkish language.
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SAFETY AND STANDARDS

16	Risk Classification	Class I
17	Regulatory Approval / Certification	CE Mark Registration with relevant national authority (e.g., TİTCK in Türkiye)
18	International standards	Manufactures ISO 13485 (quality management system) Device IEC 61010-1 (electrical safety) IEC 61326-1 (EMC)

MEDICAL DEVICE SPECIFICATION	
ITEM No.	14
NAME	Digital Thermometer-Non Contact
TECHNICAL CHARACTERISTICS	

1	Detailed requirements	Hand held battery powered thermometer to displays patient temperature by measurement of infrared radiation from the skin. The device must be reusable, with sterilizable surface. Temperature displayed should be easily readable in all levels of ambient light. - Specified accuracy to be better than 0.3 deg °C. - Measurement range at least: at least, 25 to 42 deg °C. - High / low patient temperature display feature preferred- Auto power off: After ~ 1 minute - Out of range indication. - Response time to steady reading: < 5 seconds
2	Displayed parameters	Display graded in maximum 0.1 deg C steps. High/low patient temperature, low battery, malfunction, °F or °C.
3	User adjustable settings	None
UTILITY REQUIREMENTS		
4	Electrical, water and/or gas supply .	Powered by internal, rechargeable, replaceable battery Battery cover to be secure but simple to open Battery to allow at least 5,000 measurements between charges Battery charger to operate from input supply 110-220 V, 60-50 Hz, ±10%
ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS		
5	Accessories .	N.A
6	Consumables / reagents .	N.A
7	Spare parts .	Replacement battery pack, supplied empty of charge
ENVIRONMENTAL REQUIREMENTS		
8	Context-dependent requirements	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
TRAINING, INSTALLATION AND UTILISATION		
9	Pre-installation requirements.	Supplier to perform installation, safety and operation checks before handover
10	Requirements for commissioning .	Local clinical staff to affirm completion of installation
11	Training of user/s .	Training of users in operation and basic maintenance shall be provided
12	User care.	The case is to be cleanable with alcohol or chlorine wipes
WARRANTY AND MAINTENANCE		
13	Warranty	Minimum two (2) years full warranty from commissioning date according to GIZ General Purchase Conditions
14	Software / Hardware upgrade availability	N.A.
DOCUMENTATION		
15	Documentation requirements	User, technical and maintenance manuals to be supplied in Turkish and/or English language. Certificate of inspection to be provided. List to be provided of equipment and procedures required for local calibration and routine maintenance. List to be provided of important spares and accessories, with their part numbers and cost.
SAFETY AND STANDARDS		
16	Risk Classification	Class Iia
17	Regulatory Approval / Certification	CE Mark

18	International Standards	ISO 13485:2003 Medical devices -- Quality management systems -- Requirements for regulatory purposes ISO 14971:2007 Medical devices -- Application of risk management to medical devices IEC 60601-1 (electrical safety); IEC 60601-1-2 (EMC); ISO 80601-2-56 (clinical thermometers for body temperature measurement).
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MEDICAL DEVICE SPECIFICATION		
ITEM No.	15	
NAME	Digital Sphygmomanometer	
TECHNICAL CHARACTERISTICS		
1	Detailed requirements	Heavy Duty Digital automatic sphygmomanometer intended for non-invasive measurement of arterial blood pressure (systolic and diastolic) and pulse rate in adult patients in clinical environments such as outpatient clinics, wards, and primary healthcare facilities. Measurement parameters: Systolic blood pressure Diastolic blood pressure Pulse rate Measurement range: Blood pressure: 0 – 300 mmHg Pulse rate: 40 – 200 bpm Accuracy: Blood pressure: ±3 mmHg or better Pulse rate: ±5% or better Display: Large digital LCD or LED display Measurement mode: Fully automatic inflation and deflation Measurement time: ≤ 60 seconds typical Irregular heartbeat detection: Yes Memory function: storage of minimum 50 measurement records. User interface: simple push-button operation Housing: durable medical-grade plastic Protection against over-pressure: automatic pressure release Device weight: ≤ 1 kg Configuration: Portable unit, table top, clinical grade, suitable for frequent clinical use
2	Displayed parameters	systolic blood pressure (SYS) in mmHg; diastolic blood pressure (DIA) in mmHg; pulse rate (bpm); measurement status (in progress / completed); error and warning indicators; battery/power status.
3	User adjustable settings	Start/stop measurement, basic mode selection, and operational settings.
UTILITY REQUIREMENTS		
4	Electrical, water and/or gas supply .	Power supply: 220–240 V / 50 Hz and battery operation; Rechargeable or replaceable battery; Automatic shut-off function to conserve power.
ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS		
5	Accessories .	adult arm cuff (S, M, L size); air tubing and connectors; power adapter carrying case.
6	Consumables / reagents .	N.A.
7	Spare parts .	N.A.
ENVIRONMENTAL REQUIREMENTS		
8	Context-dependent requirements	The Unit shall be capable of being stored continuously in ambient temperature of (-5 to 70) deg C and relative humidity of 10 - 95%
TRAINING, INSTALLATION AND UTILISATION		
9	Pre-installation requirements.	Supplier to perform installation, safety and operation checks before handover
10	Requirements for commissioning .	Local clinical staff to affirm completion of installation
11	Training of user/s .	Training of users in operation and basic maintenance shall be provided
12	User care.	The device housing and cuff shall be cleanable with alcohol wipes or standard hospital disinfectants.
WARRANTY AND MAINTENANCE		
13	Warranty	Minimum two (2) years full warranty from commissioning date according to GIZ General Purchase Conditions

14	Software / Hardware upgrade availability	N.A.
DOCUMENTATION		
15	Documentation requirements	User, technical and maintenance manuals to be supplied in Turkish language.

SAFETY AND STANDARDS		
16	Risk Classification	Ila
17	Regulatory Approval / Certification	CE Mark
18	International standards	Manufacturer. ISO 13485:2003 Medical devices -- Quality management systems Device. IEC 60601-1 – Medical electrical equipment safety IEC 60601-1-2 – Electromagnetic compatibility ISO 81060-2 – Non-invasive sphygmomanometers clinical validation

MEDICAL DEVICE SPECIFICATION		
ITEM No.	16	
NAME	Sthetoscope, classic	
TECHNICAL CHARACTERISTICS		
1	Detailed requirements	Acoustic dual-head stethoscope intended for routine clinical auscultation of heart, lung, and body sounds in adult patients in healthcare facilities such as primary health centers, outpatient clinics, and hospital wards. Minimum technical requirements: Type: Acoustic stethoscope Configuration: Dual-head chest piece (diaphragm and bell) Chest piece material: Stainless steel or anodized aluminum alloy Diaphragm: Tunable or high-sensitivity diaphragm suitable for adult auscultation Bell diameter: 25–35 mm Diaphragm diameter: 40–45 mm Acoustic performance: clear transmission of low and high frequency body sounds Tubing: single or double lumen medical-grade PVC or latex-free tubing Tubing length: 70–80 cm Ear tubes: angled metal binaural headset with adjustable tension Ear tips: soft, replaceable, comfortable ear tips Weight: 120–200 g Construction: durable design suitable for frequent clinical use Latex content: latex-free The device shall be suitable for general medical examination and patient monitoring in routine clinical settings.
2	Displayed parameters	
3	User adjustable settings	Ear tube tension for comfort Selection between diaphragm and bell for auscultation
UTILITY REQUIREMENTS		
4	Electrical, water and/or gas supply .	N.A.
ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS		
5	Accessories .	Supply shall include at minimum: Complete stethoscope assembly Spare ear tips Qty: 1 additional pair Spare diaphragm Qty:1
6	Consumables / reagents .	N.A.
7	Spare parts .	N.A.
ENVIRONMENTAL REQUIREMENTS		
8	Context-dependent requirements	The Unit shall be capable of being stored continuously in ambient tempreature of (-5 to 70) deg C nd relative humidity of 10 - 95%
TRAINING, INSTALLATION AND UTILISATION		
9	Pre-installation requirements.	The device shall be supplied ready for immediate clinical use.
10	Requirements for commissioning .	N.A.
11	Training of user/s .	N.A.
12	User care.	The case is to be cleanable with alcohol or chlorine wipes
WARRANTY AND MAINTENANCE		
13	Warranty	Minimum two (2) years full warranty from commissioning date according to GIZ General Purchase Conditions
14	Software / Hardware upgrade availability	N.A.
DOCUMENTATION		
15	Documentation requirements	User, technical and maintenance manuals to be supplied in Turkish and English language.
SAFETY AND STANDARDS		
16	Risk Classification	Class I
17	Regulatory Approval / Certification	CE Mark

18	International Standards	Manufactures ISO 13485:2003 Medical devices -- Quality management systems ISO 14971:2007 Medical devices -- Application of risk management to medical devices Device. ISO 81060-1 ISO 10993 (Biocompatibility of materials in contact with skin).
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MEDICAL DEVICE SPECIFICATION		
ITEM No.		17
NAME		Pulse Oximeter
TECHNICAL CHARACTERISTICS		
1	Detailed requirements	Clinical grade portable pulse oximeter intended for non-invasive monitoring of arterial oxygen saturation (SpO₂) and pulse rate in adult and pediatric patients in primary healthcare facilities, outpatient clinics, and hospital wards. Minimum technical requirements: Measurement parameters: Arterial oxygen saturation (SpO₂) Pulse rate (PR) Measurement method: Dual wavelength photoplethysmography (red and infrared light) SpO₂ measurement range: 70% – 100% SpO₂ accuracy: ±2% within range 70–100% Pulse rate range: 30 – 250 bpm Pulse rate accuracy: ±2 bpm or ±2% Display type: High-contrast LCD or LED display Display parameters: SpO₂ value Pulse rate Measurement response time: ≤ 10 seconds Sensor type: Reusable finger clip sensor Suitable patient groups: Adult and pediatric patients Alarm system: Audible and visual alarms for: low oxygen saturation high/low pulse rate sensor disconnection Device configuration: Portable handheld or fingertip device suitable for routine clinical screening. external reusable sensor cable-connected probe to the monitoring unit alarm capability SpO waveform display Weight: ≤ 300 g (handheld configuration) Housing: Durable medical-grade plastic suitable for frequent clinical use Latex content: Latex-free patient contact materials. Fingertip-type consumer pulse oximeters shall not be accepted.
2	Displayed parameters	SpO₂ (%); pulse rate (bpm); pulse strength or plethysmographic waveform; battery status; alarm indicators.
3	User adjustable settings	start/stop measurement; adjust alarm limits (SpO₂ and pulse rate); enable/disable audible alarms; select patient mode (adult/pediatric).
UTILITY REQUIREMENTS		
4	Electrical, water and/or gas supply .	Battery powered (rechargeable or replaceable; Battery autonomy suitable for clinical use: ≥ 8 hours Low battery indication required; Charging via standard mains adapter (if rechargeable).
ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS		
5	Accessories .	reusable finger clip sensor connection cable battery
6	Consumables / reagents .	N.A.
7	Spare parts .	One additional adult and pediatric probes for each unit.
ENVIRONMENTAL REQUIREMENTS		
8	Consumables / reagents .	The Unit shall be capable of being stored continuously in ambient temperture of (-5 to 70) deg C and relative humidity of 10 - 95%
TRAINING, INSTALLATION AND UTILISATION		
9	Pre-installation requirements.	Supplier to perform installation, safety and operation checks before handover
10	Requirements for commissioning .	Local clinical staff to affirm completion of installation
11	Training of user/s .	Training of users in operation and basic maintenance shall be provided
12	User care.	The case is to be cleanable with alcohol or chlorine wipes.
WARRANTY AND MAINTENANCE		

13	Warranty	Minimum two (2) years full warranty from commissioning date according to GIZ General Purchase Conditions
14	Software / Hardware upgrade availability	N.A.
DOCUMENTATION		
15	Documentation requirements	User, technical and maintenance manuals to be supplied in English and Turkish language.
SAFETY AND STANDARDS		
17	Risk Classification	Class IIa
18	Regulatory Approval / Certification	CE Mark
19	International standards	Manufacturer. ISO 13485:2003 Medical devices -- Quality management systems. ISO 14971:2007 Medical devices -- Application of risk management to medical devices. Device IEC 60601 ISO 80601-2-61:2011 Medical electrical equipment -- Part 2-61: Particular requirements for basic safety and essential performance of pulse oximeter equipment

MEDICAL DEVICE SPECIFICATION		
ITEM No.	18	
NAME	Adult Scale with Height Rod	
TECHNICAL CHARACTERISTICS		
1	Detailed requirements	Electronic adult weighing scale with integrated height measuring rod (stadiometer) intended for measurement of body weight and height in adult patients in healthcare facilities such as primary health centers, outpatient clinics, and hospital wards. Weight Measurement Maximum capacity: minimum 200 kg Weight measurement range: 0 – 200 kg (or higher) Measurement accuracy: ±100 g or better Graduation / resolution: 100 g Measurement method: electronic load cell technology Display: digital LCD or LED display Platform size: approx. 300 × 300 mm Platform material: durable metal or reinforced plastic with non-slip surface Height Measurement Integrated height rod (stadiometer) with measuring range: 60 – 210 cm minimum Height graduation: mm and cm Height measuring headpiece: sliding headpiece with stable positioning Rod type: telescopic measuring rod General features Automatic zero setting Automatic power off function (preferred) Overload protection Stable base with non-slip feet Low battery indicator The device shall be a medical-grade electronic weighing scale for routine anthropometric measurements in adult patients.
2	Displayed parameters	Display marked to resolution of or better than 0.1 kg
3	User adjustable settings	N.A.
UTILITY REQUIREMENTS		
4	Electrical, water and/or gas supply .	The device shall operate using: Replaceable batteries (AA or equivalent) or Rechargeable battery AC power adapter Power supply adapter input: 100–240 V / 50–60 Hz
ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS		
5	Accessories .	Sliding head measuring piece Transport wheels
6	Consumables / reagents .	N.A.
7	Spare parts .	N.A.
ENVIRONMENTAL REQUIREMENTS		
8	Context-dependent requirements	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
TRAINING, INSTALLATION AND UTILISATION		
9	Pre-installation requirements.	Supplier to perform installation, safety and operation checks before handover
10	Requirements for commissioning .	Local clinical staff to affirm completion of installation
11	Training of user/s .	
12	User care.	The case is to be cleanable with alcohol or chlorine wipes.
WARRANTY AND MAINTENANCE		
13	Warranty	Minimum two (2) years full warranty from commissioning date according to GIZ General Purchase Conditions
14	Software / Hardware upgrade availability	

DOCUMENTATION		
15	Documentation requirements	User, technical and maintenance manuals to be supplied in English and Turkish language. Certificate of inspection to be provided. List to be provided of equipment and procedures required for local calibration and routine maintenance List to be provided of important spares and accessories, with their part numbers and cost
SAFETY AND STANDARDS		
16	Risk Classification	Class I
17	Regulatory Approval / Certification	CE Mark
18	International standards	ISO 13485:2003 Medical devices -- Quality management systems -- Requirements for regulatory purposes (Australia, Canada and EU) ISO 14971:2007 Medical devices -- Application of risk management to medical devices. IEC 60601-1 (electrically powered medical scale) OIML R76 – Non-automatic weighing instruments

MEDICAL DEVICE SPECIFICATION		
ITEM No.	19	
NAME	Diagnostic set	
TECHNICAL CHARACTERISTICS		
1	Detailed requirements	The device shall be a state-of-the-art, heavy-duty diagnostic set intended for routine examination in Primary Health Centers (PHC), outpatient clinics, and hospital wards. The system shall be available in wall-mounted or desktop configuration, comprising a complete set of instruments for ear, eye, nose, and throat (ENT) examination. The set shall include, at minimum: 1.Handle(s) / power supply unit 2.Otoscope head 3.Ophthalmoscope head 4.Nasal speculum (~9 mm or equivalent) 5.Bent arm illuminator 6.Two (2) laryngeal mirrors 7.Tongue blade holder 8.Lamp / illumination system 9.Ear specula dispenser 10.Storage case (for desktop configuration) Otoscope: Removable magnifying lens with 4-fold magnification that can be swivelled to both sides Removable cover glass for insertion of external instruments Suitable for nasal examinations when using the suitable specula, ~ 9 mm Sealed system for performing pneumatic otoscopy Including ear specula with stainless steel fitting, 2, 3, and 4 mm Ophthalmoscope: Durable and sturdy ABS plastic head for long service life Plug-in connector for fast and secure attachment to handle Focusing wheel with corrective lenses from 0 to +20 or 0 to -20 dioptres with steps not greater than 1D. Aperture with large circle for examination for the fundus of the eye Magnification up to x15, in several selectable stages from direct vision to maximum magnification. Anti-reflection lens. At least 3 apertures and fixation star. Red-free, blue and polarization filters.
2	Displayed parameters	N.A
3	User adjustable settings	switch illumination on/off; adjust light intensity; select apertures and filters on ophthalmoscope; adjust focusing wheel (diopter correction); attach/detach instrument heads securely.
UTILITY REQUIREMENTS		
4	Electrical, water and/or gas supply .	220–240 V / 50 Hz; mains and rechargeable handle; Low-voltage operation at instrument level;
ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS		
5	Accessories .	With all standard accessories
6	Consumables / reagents .	N.A
7	Spare parts .	N.A
ENVIRONMENTAL REQUIREMENTS		
8	Context-dependent requirements	The Unit shall be capable of being stored continuously in ambient temperature of -5 to 70 oC and a relative humidity of 10 to 95%
TRAINING, INSTALLATION AND UTILISATION		
9	Pre-installation requirements.	Supplier to perform installation, safety and operation checks before handover
10	Requirements for commissioning .	Local clinical staff to affirm completion of installation
11	Training of user/s .	Training of users in operation and basic maintenance shall be provided
12	User care.	The case is to be cleanable with alcohol or chlorine wipes.
WARRANTY AND MAINTENANCE		
13	Warranty	Minimum two (2) years full warranty from commissioning date according to GIZ General Purchase Conditions
14	Software / Hardware upgrade availability	N.A
DOCUMENTATION		
15	Documentation requirements	User, technical and maintenance manuals to be supplied in English and Turkish language.
SAFETY AND STANDARDS		
16	Risk Classification	Class I

17	Regulatory Approval / Certification	CE Mark
18	International standards	Manufacturer ISO 13485:2003 Medical devices -- Quality management systems ISO 14971:2007 Medical devices -- Application of risk management to medical devices. Device IEC 60601-1 – General requirements for basic safety and essential performance IEC 60601-1-2 – Electromagnetic compatibility (EMC) ISO 10942 – Direct ophthalmoscopes ISO 15004-1 – General requirements for ophthalmic instruments ISO 15004-2 – Light hazard protection

MEDICAL DEVICE SPECIFICATION		
ITEM No.	20	
NAME	Measuring Tape	
TECHNICAL CHARACTERISTICS		
1	Detailed requirements	Intended to measure patients' waist, hips, neck, chest, thigh circumference and a range of other measurements required for diagnosis. Retractable Length: ~ 200 cm With: ~ 13 mm Precision: ~ 1 mm
2	Displayed parameters	N.A
3	User adjustable settings	N.A
UTILITY REQUIREMENTS		
4	Electrical, water and/or gas supply (if relevant)	N.A
ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS		
5	Accessories (if relevant)	N.A
6	Consumables / reagents (if relevant)	N.A
7	Spare parts (if relevant)	N.A
ENVIRONMENTAL REQUIREMENTS		
8	Context-dependent requirements	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
TRAINING, INSTALLATION AND UTILISATION		
9	Pre-installation requirements(if relevant)	N.A
10	Requirements for commissioning (if relevant)	N.A
11	Training of user/s (if relevant)	N.A
12	User care(if relevant)	The case is to be cleanable with alcohol or chlorine wipes.
WARRANTY AND MAINTENANCE		
13	Warranty	Minimum two (2) years full warranty from commissioning date according to GIZ General Purchase Conditions
14	Software / Hardware upgrade availability	N.A
DOCUMENTATION		
15	Documentation requirements	User, technical and maintenance manuals to be supplied in English and Turkish language.
SAFETY AND STANDARDS		
16	Risk Classification	
17	Regulatory Approval / Certification	EC Mark
18	International standards	ISO 13485:2003 Medical devices -- Quality management systems -- Requirements for regulatory purposes (Australia, Canada and EU) ISO 14971:2007 Medical devices -- Application of risk management to medical devices. ISO 10993 Medical device contacting skin

MEDICAL DEVICE SPECIFICATION		
ITEM No.	21	
NAME	Protective Apron	
TECHNICAL CHARACTERISTICS		
1	Detailed requirements	The device shall be a protective apron for medical staff working in mammography services, providing effective attenuation of low-energy X-ray radiation typically used in mammography. The apron shall: be optimized for scatter radiation in mammography energy range; provide adequate protection with reduced weight; allow high mobility and comfort during repetitive patient positioning; be suitable for frequent daily use. Design & Configuration Type: Two-piece vest and skirt Closure system: adjustable (Velcro/buckle) Easy on/off operation Radiation Protection Performance (Mammography-Specific) Lead Equivalence Front protection: 0.25 mm Pb equivalent (minimum) Back protection: 0.25 mm Pb equivalent (or lower if justified) Materials. Outer covering: medical-grade, fluid-resistant fabric easy to clean and disinfect Materials shall be: non-toxic latex-free Ergonomics & Comfort Lightweight design Even weight distribution (vest/skirt) Flexible structure for frequent bending and positioning Minimal shoulder strain
		Other features. Certified attenuation at mammography energy range Uniform shielding (no weak zones) Resistance to cracking/delamination Label indicating: lead equivalence
2	Displayed parameters	N.A.
3	User adjustable settings	N.A.
UTILITY REQUIREMENTS		
4	Electrical, water and/or gas supply .	N.A.
ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS		
5	Accessories .	N.A.
6	Consumables / reagents .	N.A.
7	Spare parts .	N.A.
ENVIRONMENTAL REQUIREMENTS		
7	Context-dependent requirements	N.A.
TRAINING, INSTALLATION AND UTILISATION		
8	Pre-installation requirements.	N.A.
9	Requirements for commissioning .	N.A.
10	Training of user/s .	N.A.
11	User care.	Compatible with hospital disinfectants
WARRANTY AND MAINTENANCE		
12	Warranty	Minimum two (2) years full warranty from commissioning date according to GIZ General Purchase Conditions

13	Software / Hardware upgrade availability	N.A.
DOCUMENTATION		
14	Documentation requirements	User, technical and maintenance manuals to be supplied in English and Turkish language.
SAFETY AND STANDARDS		
16	Risk Classification	Class I
17	Regulatory Approval / Certification	CE Mark
18	International standards	ISO 13485 – Quality management ISO 14971 – Risk management IEC 61331-1 – Protective devices against diagnostic X-radiation IEC 61331-3 – Protective clothing

MEDICAL DEVICE SPECIFICATION		
ITEM No.	22	
NAME	Scaler Ultrasound, dentist	
TECHNICAL CHARACTERISTICS		
1	Detailed requirements	Ultrasonic dental scaler designed for removal of dental calculus, plaque, and stains during routine dental prophylaxis and periodontal treatment in dental clinics. Minimum technical requirements: Operating principle: Ultrasonic vibration technology for scaling and cleaning of teeth Compatible with standard dental scaler tips Operating frequency: Ultrasonic frequency range approximately 25–40 kHz Power output: Adjustable output power suitable for various scaling procedures Control system: Variable power control for scaling intensity Water flow adjustment control Handpiece Detachable or autoclavable handpiece Lightweight ergonomic design Vibration transmission optimized for efficient scaling Scaler tips Compatible with multiple tip types for scaling and periodontal treatment Cooling system Integrated water irrigation system to cool the tip and flush debris during operation Water supply Connection to dental unit water supply or integrated water bottle system User interface Power adjustment control Water flow adjustment control Device configuration Table-top unit or integrated dental unit module suitable for clinical use Construction Durable housing suitable for daily dental clinic use Compact design allowing installation on dental workstation
2	Displayed parameters	Power output level Operational status indicator
3	User adjustable settings	Ultrasonic power level Water flow rate Operational mode (if available)
UTILITY REQUIREMENTS		
4	Electrical, water and/or gas supply .	Electrical supply: 100–240 V / 50–60 Hz Water supply: Integrated water bottle system or external water line connection
ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS		
5	Accessories .	Detachable handpiece Foot control pedal (preferred) Set of scaling tips (minimum 3 tips) Tip tightening wrench Water supply tubing or water bottle
6	Consumables / reagents .	N.A.
7	Spare parts .	N.A.
ENVIRONMENTAL REQUIREMENTS		
7	Context-dependent requirements	Operating temperature: 10 – 40 °C Relative humidity: up to 85% non-condensing Device shall be suitable for routine use in dental clinics.
TRAINING, INSTALLATION AND UTILISATION		
8	Pre-installation requirements.	Supplier to perform installation, safety and operation checks before handover
9	Requirements for commissioning .	correct ultrasonic operation water flow functionality tip attachment system
10	Training of user/s .	proper use of scaler tips adjustment of power settings maintenance and cleaning procedures

11	User care.	Handpiece and scaler tips shall be autoclavable or sterilizable according to manufacturer instructions.
WARRANTY AND MAINTENANCE		
12	Warranty	Minimum two (2) years full warranty from commissioning date according to GIZ General Purchase Conditions
13	Software / Hardware upgrade availability	N.A.
DOCUMENTATION		
14	Documentation requirements	User, technical and maintenance manuals to be supplied in English and Turkish language.
SAFETY AND STANDARDS		
16	Risk Classification	Class IIa
17	Regulatory Approval / Certification	CE Mark
18	International standards	ISO 13485:2003 Medical devices -- Quality management systems -- Requirements for regulatory purposes (Australia, Canada and EU). IEC 60601-1 – Medical electrical equipment safety IEC 60601-1-2 – Electromagnetic compatibility

MEDICAL DEVICE SPECIFICATION		
ITEM No.	23	
NAME	Curing Light (LED)	
TECHNICAL CHARACTERISTICS		
1	Detailed requirements	The unit shall be a standalone, independent dental LED curing light for polymerization of light-cured dental materials (composites, adhesives, sealants). Integration into a dental chair is not acceptable. • Light source: High-intensity LED, wavelength range 430–490 nm (blue light spectrum suitable for camphorquinone photoinitiators). • Light intensity: Adjustable, minimum 800 mW/cm², with high mode ≥1,200 mW/cm². • The device shall deliver a minimum light intensity of ≥1,000 mW/cm² at the tip of the light guide within the specified wavelength range. • The device shall maintain consistent output intensity within ±10% throughout the curing cycle, without significant degradation due to battery discharge or thermal effects. • Exposure modes: At least constant mode; additional modes (ramp/pulse) optional. • Timer settings: Multiple selectable curing times (e.g., 5, 10, 20, 40 seconds). • Tip: Removable, autoclavable light guide (diameter approx. 7–10 mm). • Operation: Cordless, battery-operated. • Ergonomic design: Lightweight, handheld, suitable for prolonged clinical use and easy disinfection. • Overheat protection and automatic shut-off. • Integrated radiometer or intensity indicator preferred. • The device shall be fully functional independently of any dental chair system
2	Displayed parameters	• Selected curing time • Operating mode • Battery status indicator • Light intensity level (if available)
3	User adjustable settings	Curing time selection • Light intensity (if adjustable) • Mode selection (continuous, ramp, pulse)
UTILITY REQUIREMENTS		
4	Electrical, water and/or gas supply	Input: 100–240 V AC, 50/60 Hz (via charger) • Internal rechargeable battery (Li-ion or equivalent)
ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS		
5	Accessories	Charging base and/or power adapter • Minimum 2 autoclavable light guides • Protective eye shields (operator and patient) • Light probe protective sleeves (if applicable)
6	Consumables / reagents	N.A.
7	Spare parts	N.A.
ENVIRONMENTAL REQUIREMENTS		
8	Context-dependent requirements	Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 85%.
TRAINING, INSTALLATION AND UTILISATION		
9	Pre-installation requirements.	Supplier to perform installation, safety and operation checks before handover
10	Requirements for commissioning	Local clinical staff to affirm completion of installation
11	Training of user/s .	Basic user training (operation, infection control, maintenance)
12	User care.	Routine cleaning and disinfection procedures.The case is to be cleanable with alcohol or chlorine wipes.
WARRANTY AND MAINTENANCE		
13	Warranty	Minimum two (2) years full warranty from commissioning date according to GIZ General Purchase Conditions
14	Software / Hardware upgrade availability	N.A.
DOCUMENTATION		

15	Documentation requirements	User, technical and maintenance manuals to be supplied in English and Turkish language.
SAFETY AND STANDARDS		
16	Risk Classification	Class IIa
17	Regulatory Approval / Certification	CE Mark
18	International standards	ISO 13485:2003 Medical devices -- Quality management systems -- Requirements for regulatory purposes (Australia, Canada and EU) ISO 14971:2007 Medical devices -- Application of risk management to medical devices. IEC 60601-1 Medical electrical equipment – General requirements for safety EC 60601-1-2: Electromagnetic compatibility ISO 10650: Powered polymerization activators (dental curing lights)

MEDICAL DEVICE SPECIFICATION		
ITEM No.	24	
NAME	Autoclave, Class B	
TECHNICAL CHARACTERISTICS		
1	Detailed requirements	A bench-top steam sterilizer (autoclave Class B) intended for use in a dental service for sterilization of dental instruments and small loads. The system shall: Use saturated steam under pressure for sterilization. Be suitable for sterilization of wrapped and unwrapped dental instruments. Be designed for routine daily use in small dental settings. Provide safe, reliable, and repeatable sterilization cycles. Include automatic control of sterilization parameters. 1.1 Sterilization Performance Sterilization method: Steam sterilization (moist heat) Class: Class B autoclave (according to EN 13060) Chamber volume: approx. 20 –25 liters Sterilization temperature: 121°C and 134°C cycles Pressure: automatic control according to cycle Cycle types: Wrapped instruments Unwrapped instruments Hollow instruments (e.g., dental handpieces) Drying: Integrated vacuum drying system Cycle time: approx. 20–80 minutes depending on load, load type and program 1.2 Chamber and Construction Chamber material: Stainless steel (316 medical grade or better) Door type: Front-loading with safety locking mechanism Water system: Internal clean water tank Waste water tank Tray capacity: Minimum 3 trays for instrument loading. Dimensions: approx. 500 × 500 × 650 mm Weight (empty): approx. 45 to 50 kg Water tank capacity: approx. 5 litres
		Load capacity: Maximum: 4–6 kg Typical load: approximately 2 kg Porous load: minimum 0.5 kg up to 2 kg (or higher) Operating range: 5 to 8 cycles or better Usable chamber space: approx. 200 × 200 × 400 mm 1.3 Control System Microprocessor-controlled operation Automatic cycle selection and control Integrated safety systems for pressure and temperature 1.4 Display and Interface Digital display (LCD or equivalent). 1.5 Other features. The system shall include a vacuum pump (oil-free) capable of achieving deep vacuum required for Class B sterilization. Drying performance shall ensure complete drying of wrapped loads at the end of the cycle. The device shall interrupt the cycle and alarm in case of deviation from sterilization parameters. Traceability: Ability to link cycle, load, and user; integrated printer or equivalent for cycle documentation Data management: USB or equivalent interface for digital cycle recording Test: Must include test programs for Bowie–Dick, Helix, and vacuum leak testing, and shall support the use of chemical indicators. Periodic performance testing shall be conducted in accordance with ISO 17665-1.
2	Displayed parameters	Sterilization temperature Pressure Cycle time remaining Cycle status Error and alarm messages

3	User adjustable settings	Intuitive navigation for sterilization program selection Selection of sterilization cycle Start/stop of cycle Drying time (if adjustable)
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UTILITY REQUIREMENTS

4	Electrical, water and/or gas supply .	Electrical supply: 220–240 V, 50 Hz Power consumption: suitable for bench-top operation Water: distilled or demineralized water required Internal water tanks (clean and waste)
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ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS

5	Accessories .	1 × Set of instrument trays (minimum 3) 1 × Tray holder / rack 1 × Water filling container 1 × Drain hose (if applicable) 1 × Power cord
6	Consumables / reagents .	Start up sterilization indicator strips or equivalent
7	Spare parts .	N.A.

ENVIRONMENTAL REQUIREMENTS

8	Context-dependent requirements	The unit shall be capable of being stored continuously in ambient temperature of (-5 to 70) °C and relative humidity of 10–95%.
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TRAINING, INSTALLATION AND UTILISATION

9	Pre-installation requirements	Supplier to perform installation, safety and operation checks before handover.
10	Requirements for commissioning .	Local clinical staff to affirm completion of installation
11	Training of user/s .	Training of users in operation and basic maintenance shall be provided
12	User care.	The case is to be cleanable with alcohol or chlorine wipes. Unit layout to enable easy cleaning of all surfaces.

WARRANTY AND MAINTENANCE

13	Warranty	Minimum two (2) years full warranty from commissioning date according to GIZ General Purchase Conditions
14	Software / Hardware upgrade availability	N.A.

DOCUMENTATION

15	Documentation requirements	User, technical and maintenance manuals to be supplied in English and Turkish language.
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SAFETY AND STANDARDS

16	Risk Classification	Ila
17	Regulatory Approval / Certification	CE Mark
18	Regulatory Approval / Certification	Manufactures ISO 13485:2003 Medical devices — Quality management systems ISO 14971:2007 Medical devices — Application of risk management to medical devices. Device EN 13060 – Small steam sterilizers (Class B) IEC 60601-1 – General electrical safety IEC 61010-1 – Safety requirements for laboratory equipment IEC 61326-1 – Electromagnetic compatibility

MEDICAL DEVICE SPECIFICATION

ITEM No.	25
NAME	Infantometer or Baby Measuring Board
TECHNICAL CHARACTERISTICS	

1	Detailed requirements	Infantometer designed for measurement of recumbent length of infants and young children during routine health assessments, growth monitoring, and nutrition screening in healthcare facilities. The device shall be suitable for frequent clinical use and ensure reliable, reproducible measurements. Minimum technical requirements: Complete infantometer measuring board with Sliding footboard Measurement performance Measurement range: approximately 30 cm to 110 cm Measurement resolution: 1 mm graduation Measurement accuracy: ± 2 mm or better Construction Structure: rigid measuring board with fixed headboard and movable footboard Headboard: fixed vertical headpiece to ensure correct positioning of the infant's head Footboard: sliding perpendicular footboard to align with the infant's feet Measuring scale: clearly printed or engraved measurement scale along the board Board length: minimum 110 cm Material: durable plastic, aluminum, or laminated wood resistant to deformation Surface finish: smooth and easy to clean Edges: rounded to avoid injury General features Stable design allowing accurate measurement Lightweight construction for easy handling Durable for frequent clinical use The device shall be suitable for growth monitoring of infants and children under two years of age.
2	Displayed parameters	Infant length in centimeters or millimeters. Graduations shall be clearly visible and easy to read.
3	User adjustable settings	N.A.
UTILITY REQUIREMENTS		
4	Electrical, water and/or gas supply .	N.A.
ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS		
5	Accessories .	N.A.
6	Consumables / reagents .	N.A.
7	Spare parts .	N.A.
ENVIRONMENTAL REQUIREMENTS		
7	Context-dependent requirements	The device shall: withstand routine use in healthcare facilities allow cleaning using standard disinfectant wipes resist moisture and routine cleaning procedures
TRAINING, INSTALLATION AND UTILISATION		
8	Pre-installation requirements.	Supplier to perform installation, safety and operation checks before handover
9	Requirements for commissioning .	Visual and functional verification upon delivery Verification of scale readability and footboard movement
10	Training of user/s .	correct positioning of the infant proper use of the headboard and footboard accurate reading of the measurement scale
11	User care.	Cleanable with standards disinfectants used in hospitals.
WARRANTY AND MAINTENANCE		
12	Warranty	Minimum two (2) years full warranty from commissioning date according to GIZ General Purchase Conditions
13	Software / Hardware upgrade availability	N.A.
DOCUMENTATION		
14	Documentation requirements	User, technical and maintenance manuals to be supplied in English and Turkish language.
SAFETY AND STANDARDS		
16	Risk Classification	Class I
17	Regulatory Approval / Certification	CE Mark

18	International standards	ISO 13485 – Quality management systems ISO 14971 – Risk management OIML R 16-1 – Measuring instruments for human body length ISO 10993-1 – Biocompatibility of patient-contact materials
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MEDICAL DEVICE SPECIFICATION		
ITEM No.	26	
NAME	Nebulizer with humidifier, ultrasonic	
TECHNICAL CHARACTERISTICS		
1	Detailed requirements	The device must be a medical nebulizer system with integrated humidification capability intended for the administration of aerosolized medication and humidified air to patients requiring respiratory therapy. The system shall be suitable for use in primary health care facilities, emergency care, and outpatient treatment for respiratory conditions such as asthma, COPD, and bronchial infections. The nebulizer must operate using ultrasonic vibration technology to generate an aerosol from liquid medication, produce fine aerosol particles suitable for deep respiratory inhalation therapy. The system shall include a humidification chamber to provide humidified airflow during therapy. Nebulization technology: Ultrasonic Ultrasonic frequency, approx. 1–3 MHz Nebulization rate: ≥ 0.2 ml/min Particle size (MMAD)approx. 1–5 μm Medication cup capacity: ≥ 6 ml Residual medication volume: ≤ 1 ml Operation modes: Continuous and intermittent Noise level: ≤ 60 dB Maximum continuous operating time, approx. 60 minutes Humidification System. The system shall include a humidifier chamber compatible with the nebulizer. Minimum requirements: Water reservoir capacity: ≥ 300 ml. Transparent humidifier chamber Protection against overfilling Easy removal for cleaning and refilling.
2	Displayed parameters	Device operating status. Power on / off indication. System alarms or error messages where applicable.
3	User adjustable settings	Nebulization operation mode (continuous / intermittent). Humidification level
UTILITY REQUIREMENTS		
4	Electrical, water and/or gas supply .	Mains power supply: 220–240 V, 50 Hz.
ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS		
5	Accessories .	Medication nebulizer cup:1 Adult mask:1 Pediatric mask:1 Mouthpiece:1 Air tubing:1 Humidifier: chamber1
6	Consumables / reagents .	N.A.
7	Spare parts .	N.A.
ENVIRONMENTAL REQUIREMENTS		
8	Context-dependent requirements	Operating conditions: Temperature: 10–40 °C Relative humidity: up to 85% non-condensing
TRAINING, INSTALLATION AND UTILISATION		
9	Pre-installation requirements.	Supplier to perform installation, safety and operation checks before handover
10	Requirements for commissioning .	Local clinical staff to affirm completion of installation
11	Training of user/s .	Training of users in operation and basic maintenance shall be provided
12	User care.	The case is to be cleanable with alcohol or chlorine wipes Unit layout to enable easy cleaning and sterilization.
WARRANTY AND MAINTENANCE		

13	Warranty	Minimum two (2) years full warranty from commissioning date according to GIZ General Purchase Conditions
14	Software / Hardware upgrade availability	N.A.
DOCUMENTATION		
15	Documentation requirements	User, technical and maintenance manuals to be supplied in English and Turkish language.
SAFETY AND STANDARDS		
16	Risk Classification	Ila
17	Regulatory Approval / Certification	CE Mark
18	Regulatory Approval / Certification	ISO 13485 – Medical device quality management systems IEC 60601-1 – Medical electrical equipment safety IEC 60601-1-2 – Electromagnetic compatibility

MEDICAL DEVICE SPECIFICATION		
ITEM No.	27	
NAME	Electrocardiograph (ECG)	
TECHNICAL CHARACTERISTICS		
1	Detailed requirements	Portable, clinical-grade 12-lead electrocardiograph (ECG) intended for simultaneous acquisition, display, recording, and storage of cardiac electrical activity in primary healthcare facilities, outpatient clinics, and hospital wards. The system shall provide accurate ECG acquisition, real-time visualization, automated analysis, and reporting. 12 electrographic standards lead measuring with simultaneous acquisition. Visualization of at least one group of 3 leads simultaneously. TFT color monitor display of at least 7 inches with visualization of analogical curves, alphanumeric values measured and the related physiological limits. Equipment compatible with patients with pacemakers. Protection against defibrillation. Automatic internal data storing of minimum 40 ECG records. Input impedance not less than 5MΩ. Patient leakage current no higher than 10uA. Common Mode Rejection (CMR) not less than +100dB. ECG signal measurement range not smaller than -2 mV to +2 mV. At least the following adjustable alarms: - heart failure; - ventricular fibrillation; - tachycardia; - bradycardia; - electrode disconnection. Equipment provided with filters for baseline instability, AC 50/60Hz interference, rumors, etc. Equipment provided with at least the following software applications: - arrhythmias detection and analysis; - ventricular fibrillation detection and analysis;- ventricular tachycardia detection and analysis; - ST segment analysis. Integrated thermal printer. Battery type: Lithium Ion (Replaceable and rechargeable) Built in battery charger.
		Other features. Baseline wander Muscle noise (EMG interference) AC interference (50/60 Hz)
2	Displayed parameters	ECG waveforms (multi-lead) Arrhythmia detection basic, Numeric display, Graphical and numerical trends. Physiological curves display
3	User adjustable settings	Lead selection and display format ECG gain (e.g., 2.5 / 5 / 10 / 20 mm/mV) Sweep speed (e.g., 12.5 / 25 / 50 mm/s) Alarm limits (high/low HR) Filter settings (baseline, muscle noise, AC interference) Patient data entry/editing
UTILITY REQUIREMENTS		
4	Electrical, water and/or gas supply .	Power supply: AC mains/110 V- 220 V 50- 60 Hz Battery: Rechargeable Lithium-ion Battery operation time: $\geq$ 2 hours Built-in battery charger
ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS		
5	Accessories .	12 lead ECG cable 20 sets of ECG disposable type connection electrodes 2 sets of ECG reusable type connection electrodes N°6 suction ball-type reusable chest electrodes; N. 6 extremity clamp reusable electrodes; 10 roll of paper Carrying case

6	Consumables / reagents .	ECG Paper, thermal: 5 Box for each
7	Spare parts .	Patient Cable. One Set of spare Rechargeable Batteries.

ENVIRONMENTAL REQUIREMENTS		
8	Context-dependent requirements	Environment: Operating Temperature: 15-30C. Storage: -20 -35 C. Operating Humidity: 10-80% R.H
TRAINING, INSTALLATION AND UTILISATION		
9	Pre-installation requirements.	N.A.
10	Requirements for commissioning	Functional verification ECG signal quality check Printer operation verification
11	Training of user/s .	On-site basic user training
12	User care.	The case is to be cleanable with alcohol or chlorine wipes
WARRANTY AND MAINTENANCE		
13	Warranty	Minimum two (2) years full warranty from commissioning date according to GIZ General Purchase Conditions
14	Software / Hardware upgrade availability	N.A.
DOCUMENTATION		
15	Documentation requirements	User, technical and maintenance manuals to be supplied in English and Turkish language.
SAFETY AND STANDARDS		
16	Risk Classification	Ila
17	Regulatory Approval / Certification	CE Mark
18	Regulatory Approval / Certification	ISO 13485 – Quality management ISO 14971 – Risk management IEC 60601-1 – Basic safety and essential performance IEC 60601-1-2 – EMC IEC 60601-2-25 – ECG devices (diagnostic)

MEDICAL DEVICE SPECIFICATION		
ITEM No.	28	
NAME	Resusitator	
TECHNICAL CHARACTERISTICS		
1	Detailed requirements	Supply of two separate reusable manual resuscitators (Bag-Valve-Mask, BVM): a-One unit for Adult/Pediatric use b-One unit for Neonatal use The devices shall be intended for manual ventilation in emergency and resuscitation situations in PHC, delivery rooms, and hospital settings, ensuring safe and appropriate ventilation across patient groups. Oxygen flow rate (via external oxygen source) PEEP valve setting adjustable: Adult/Pediatric: 0–20 cmH₂O Neonatal: 0–10 cmH₂O Performance Requirements I. Adult / Pediatric ResuscitatorStroke volume: ~500–700 ml Bag volume: ~1,200–1,600 ml Oxygen reservoir: ≥ 2,000 ml II. Neonatal Resuscitator Stroke volume: ~100–150 ml Bag volume: ~200–300 ml Oxygen reservoir: ~100–200 ml Design & Construction Bag material: Medical-grade silicone (reusable, autoclavable) Ergonomic design with hand strap for secure grip Unidirectional valve system Swivel patient connector for flexible positioning Transparent valve housing. Patient Interface & Connections Patient connector: 22 mm external / 15 mm internal (ISO standard) Expiratory connector: 30 mm male (ISO) for PEEP valve Compatible with: face masks (adult, pediatric, neonatal sizes) endotracheal tubes
		Safety Features Adult / Pediatric: Pressure relief valve: ≤ 45 cmH₂O Neonatal: Pressure relief valve: ≤ 40 cmH₂O Protection against over-inflation Latex-free patient-contact materials Materials Silicone resuscitation bag (preferred) Durable, medical-grade components Biocompatible and latex-free materials
2	Displayed parameters	N.A
3	User adjustable settings	Oxygen flow rate (via external oxygen source) PEEP valve setting adjustable, approx: Adult: 5–10 cmH₂O Pediatric:3–8 cmH₂O Neonatal: 3–6 cmH₂O
UTILITY REQUIREMENTS		
4	Electrical, water and/or gas supply .	N.A
ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS		

5	Accessories .	Minimum: Adult / Pediatric resuscitator set Neonatal resuscitator set Oxygen reservoirs (both sizes) Oxygen tubing Face masks: Adult Pediatric Neonatal (sizes 0–1) PEEP valves, 2 for each size Carrying case
6	Consumables / reagents .	N.A
7	Spare parts .	N.A

ENVIRONMENTAL REQUIREMENTS		
8	Context-dependent requirements	The Unit shall be capable of being stored continuously in ambient temperature of -5 to 45 oC and a relative humidity of 10 to 95%
TRAINING, INSTALLATION AND UTILISATION		
9	Pre-installation requirements.	Supplier to perform installation, safety and operation checks before handover
10	Requirements for commissioning .	Local clinical staff to affirm completion of installation. Visual inspection Functional verification of: - valve operation - bag elasticity - leak tightness
11	Training of user/s .	N.A.
12	User care.	Autoclavable
WARRANTY AND MAINTENANCE		
13	Warranty	Minimum two (2) years full warranty from commissioning date according to GIZ General Purchase Conditions
14	Software / Hardware upgrade availability	N.A
DOCUMENTATION		
15	Documentation requirements	User, technical and maintenance manuals to be supplied in English and Turkish language.
SAFETY AND STANDARDS		
16	Risk classification	Class IIa
17	Regulatory Approval / Certification	CE Mark
18	International standards	ISO 13485 – Quality management systems ISO 14971 – Risk management ISO 10651-4 – Lung ventilators – Particular requirements for operator-powered resuscitators ISO 5356-1 – Conical connectors (15 mm / 22 mm)

MEDICAL DEVICE SPECIFICATION		
ITEM No.		29
NAME		MUAC Tape
TECHNICAL CHARACTERISTICS		
1	Detailed requirements	Flexible MUAC measuring tape intended for the measurement of mid-upper arm circumference for rapid assessment of nutritional status in children and adults in healthcare facilities and community health programs. Measurement range: minimum 10 cm to 30 cm Measurement resolution: 1 mm or 0.1 cm graduations Material: durable, flexible non-stretch plastic or synthetic fiber Tape width: 10–20 mm Tape length: minimum 30 cm Water resistance: waterproof or water-resistant material suitable for routine cleaning Graduations: clearly printed, high-contrast markings for easy reading Color coding: preferred for rapid nutritional assessment (e.g., green / yellow / red zones) Design: loop or insertion slot allowing single-handed measurement Surface finish: smooth edges to avoid skin irritation The device shall be suitable for nutrition screening of children aged 6–59 months and adults. The MUAC tape shall be manufactured from non-stretch, durable synthetic material suitable for repeated anthropometric measurements. The material shall maintain dimensional stability under normal field use, including repeated bending, cleaning, and exposure to humidity. Stretchable plastic tapes or materials that may deform during use shall not be accepted.
2	Displayed parameters	The device shall allow measurement of: Mid-Upper Arm Circumference (MUAC) in millimeters / centimeters Color-coded zones (preferred): Green: normal nutritional status Yellow: moderate acute malnutrition Red: severe acute malnutrition
3	User adjustable settings	N.A.
UTILITY REQUIREMENTS		
4	Electrical, water and/or gas supply .	N.A.
ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS		
5	Accessories .	Instruction card for proper measurement technique.
6	Consumables / reagents .	N.A.
7	Spare parts .	N.A.
ENVIRONMENTAL REQUIREMENTS		
8	Context-dependent requirements	Withstand routine use in clinical and community health environments Washable or cleanable with disinfectant wipes Resist tearing, stretching, and fading of measurement markings
TRAINING, INSTALLATION AND UTILISATION		
9	Pre-installation requirements.	N.A.
10	Requirements for commissioning .	N.A.
11	Training of user/s .	N.A.
12	User care.	The case is to be cleanable with alcohol or chlorine wipes.
WARRANTY AND MAINTENANCE		
13	Warranty	Minimum two (2) years full warranty from commissioning date according to GIZ General Purchase Conditions
14	Software / Hardware upgrade availability	N
DOCUMENTATION		

15	Documentation requirements	Instruction leaflet for proper MUAC measurement technique in Turkish language
SAFETY AND STANDARDS		
16	Risk Classification	
17	Regulatory Approval / Certification	CE Mark
18	International standards	ISO 13485:2003 Medical devices -- Quality management systems -- ISO 10993 compliant as applicable

Lot-1 Annex 1		
		MEDICAL DEVICE SPECIFICATION
	Name	Complete Dental Chair System
	ITEM NO	2
	Quantity	1
		TECHNICAL CHARACTERISTICS

1	Detailed requirements	Dental treatment unit, consisting of an electrically operated dental patient chair with dentist delivery system, assistant module, dental operating light, dry suction system with vacuum pump and amalgam separator, and compatible intraoral dental X-ray system, designed for dental examination, preventive care, restorative procedures, and minor oral surgery. The system must be suitable for primary dental care services in outpatient clinics and primary health centers. The dental treatment system shall include at minimum the following components: A) Dental patient chair, electrically operated, with programmable positioning controls, adjustable backrest, and multi-axis headrest suitable for adult and pediatric patients. B) Dentist delivery unit, including instrument holder positions and connections for high-speed turbine handpiece, low-speed micromotor, air-water syringe, and compatibility with ultrasonic scaler. C) Assistant unit, including high-volume suction (HVE), saliva ejector, assistant instrument holder, and chair control functions. D) LED dental operating light, shadowless design with adjustable illumination intensity and multi-axis positioning. E) Intraoral dental X-ray system, wall-mounted, chair-mounted, or articulated arm configuration, compatible with digital sensors, phosphor plates, and dental radiographic film. F) Central control system, including control panel(s) for chair positioning, instrument activation, and unit functions. G) Spittoon / cuspidor assembly, rotatable type with removable bowl, automatic rinsing function, and cup-filling water outlet. H) Dental water system, including water supply unit or bottle system with filtration and distribution to handpieces and instruments. I) Dry dental suction system, including high-volume evacuation capability and suction lines for dental procedures. J) Air-liquid separator, integrated in the suction system to separate fluids and debris before the vacuum pump. K) Amalgam separator, integrated in the suction system for removal of amalgam particles from dental wastewater, compliant with ISO 11143. L) Vacuum pump (dental suction unit), oil-free and dental grade, sized to provide sufficient suction capacity for high-volume suction and saliva ejector.
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	M) Oil-free dental air compressor, medical/dental grade, providing compressed air for all connected instruments and systems. N) Instrument tray or working table, adjustable and suitable for placement of dental instruments and materials. O) Foot control unit, enabling operation of chair movement and activation of dental instruments. P) Operator stool, ergonomic design with height adjustment and stable rolling base. Q) Assistant stool, ergonomic design with height adjustment and stable rolling base. R) Integrated patient safety features, including emergency stop function, overload protection, and obstruction protection. S) Installation and connection components, including tubing, filters, fittings, and accessories required for proper installation and operation. The dental unit shall include connections for pneumatic (air-driven) micromotor and high-speed turbine handpieces, supplied through the integrated compressed air system 3. Technical Specifications 3.1 Dental Chair • Be electrically operated • Support ≥180 kg safe working load • Allow vertical movement and reclining positions • Provide programmable chair positions • Include adjustable multi-axis headrest • Allow easy patient access Dimensions, approx. • Chair length (fully reclined): approx. 1800–2000 mm • Chair width: approx. 550–650 mm 3.2 Dentist Delivery Unit • Pneumatic or electronic control. • Minimum 4–5 instrument holder positions • Air-water syringe • Connections for turbine and micromotor • Adjustable air pressure and water spray • Anti-retraction valves. 3.3 Assistant Unit • Minimum equipment: Saliva ejector, high-volume suction (HVE) • , 3-way syringe. • Easily accessible from chair side. • Assistant instrument support • Chair control interface • Integrated vacuum filter system (reusable or disposable). 3.4 Operating Light • LED, shadowless, intensity adjustable (at least 8,000–30,000 lux). • Color temperature approx. 4,000–5,000 K. • Mounted on balanced arm, freely movable, with autoclavable handles. 3.5 Cupidor / Spittoon • Rotatable, ceramic or high-grade polymer. • Automatic water supply and cup filler. • Self-draining system.
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3.6 Dry Suction System

The dental unit shall include a dry suction system designed to remove fluids, debris, and aerosols during dental procedures.

The system shall include:

- Vacuum pump
- Air-liquid separator
- Amalgam separator

3.7 Air-Liquid Separator

The suction system shall include an air-liquid separator to remove liquids and debris before the vacuum pump.

3.8 Amalgam Separator

The suction system shall include an amalgam separator compliant with:

ISO 11143 – Dental amalgam separators

The separator shall allow safe collection and disposal of amalgam waste.

3.9 Intraoral X-ray Unit

The X-ray generator shall be fully integrated in the tube head assembly, compact and suitable for wall-mounted or chair-mounted installation. The X-ray system shall include.

- High-frequency generator
- Adjustable exposure time
- Articulated positioning arm • Compatibility with digital sensors
- Focal spot: ≤ 0.8 mm.
- Beam limitation: rectangular or circular collimation. • Arm reach: approx. 1.5 – 1.8 m, stable positioning.
- Control: digital timer with remote or wall switch.
- Compliance: IEC 60601-2-65, radiation safety per IEC 60601-1-3.
- Must be compatible with digital image receptors (sensor or PSP).

4. Minimum Performance Parameters

PARAMETER	MINIMUM REQUIREMENT
Patient chair load capacity	≥ 180 kg
Chair height adjustment	Approx. 420–750 mm
Chair programmable positions	≥ 2
Operating light illumination	8,000–30,000 lux
Dentist delivery system	≥ 4 instrument positions
Air supply pressure	5–8 bar
Compressor type	Oil-free dental compressor
Compressor tank capacity	≥ 20 –50 L or the recommended by the supplier
Vacuum pump airflow	≥ 300 –500 L/min
Vacuum pressure	Approx. 150–250 mbar
Airflow at suction cannula	≥ 250 L/min
Suction technology	Dry suction system
Amalgam separator efficiency	$\geq 95\%$
Amalgam separator standard	ISO 11143
X-ray generator type	High frequency

		X-ray tube voltage	60–70 kv
		X-ray tube current	2–7 ma
		Exposure time range	Approx. 0.02–2 s
		Focus-to-skin distance	≥200 mm

2	Displayed parameters	• Chair positioning • Instrument air pressure • Water flow • Light intensity • X-ray exposure parameters.
3	User adjustable settings	• Chair height, backrest, and headrest position. • Handpiece speed and water/air spray. • Operating light intensity. • X-ray exposure time.
		UTILITY REQUIREMENTS
4	Electrical, water and/or gas supply	Electrical supply: 100–240 V, 50–60 Hz Compressed air supply: Provided by an oil-free dental compressor Water supply: External water connection or integrated bottle system
		ACCESSORIES, CONSUMABLES, SPARE PARTS, OTHER COMPONENTS
5	Accessories	See Annex B: Accessories
6	Consumables/reagents	N.A.
7	Spare parts	N.A.
		TRAINING, INSTALLATION AND UTILISATION

8	Pre-installation requirements.	The awarded supplier within ten days after awarding must provide to GIZ detailed room preparation requirements, including: - Room layout and clearances for chair, unit, and X-ray. - Electrical requirements: - Power load details for chair, suction, light, and X-ray - Exact location of connection point to the Main Distribution Board (MDB) - Environmental conditions: operating temperature and relative humidity requirements. - Ventilation - Final room layout drawings in PDF and editable CAD format. - See Figure 1 – allocated room (current layout as reference) Responsibilities: - All room preparation (civil works, electrical up to MDB, HVAC) by GIZ contracted construction company. - From the MDB connection point onward, all installation, cabling, and integration works are the responsibility of the awarded bidder.
9	Requirements for commissioning	Installation and commissioning by manufacturer-authorized personnel. Supplier provides all required tools and materials. Functional testing: - Chair movements and safety stops - Handpiece pressure and suction levels - Operating light illumination - X-ray calibration and radiation safety test
		Documentation: Commissioning results shall be formally documented, signed by supplier and end-user representatives, and provided as part of the handover package.
10	Training of user/s	The supplier shall provide a structured training program for all relevant personnel. Training must be conducted by manufacturer/supplier authorized trainers and completed prior to final acceptance of the system. Training for dentists, assistants, and biomedical staff. Minimum content: - Chair operation and positioning - Handpiece and suction system use - Operating light adjustment - X-ray safe operation, radiation protection, image acquisition - Basic cleaning and preventive maintenance - Infection control practices Duration: 4 hours. Training records and manuals provided in Turkish (and English).
11	User care	All surfaces shall allow routine cleaning and disinfection using standard dental disinfectants.
		WARRANTY AND MAINTENANCE

12	Warranty	Minimum two (2) years full warranty from commissioning date according to GIZ General Purchase Conditions
13	Software / Hardware upgrade availability	Yes
		DOCUMENTATION
14	Documentation requirements	User, Service, and Installation Manuals in Turkish (plus English versions). Radiation safety documents. Maintenance instructions Spare parts and accessories list with part numbers. After-sales service contact details in Turkey responsible for Malataya city.
		SAFETY AND STANDARDS
15	Risk Classification	Class IIa
16	Regulatory Approval	CE-Mark Registration with TMMDA (Turkish Medicines and Medical Devices Authority)
17	Certification International standards	Manufacturer ISO 13485:2016 – Medical devices QMS Device IEC 60601-1 (latest edition) – General safety IEC 60601-1-2 (latest edition) – EMC IEC 60601-1-3 (latest edition) – Radiation protection
		IEC 60601-2-65 – Dental intraoral X-ray equipment. ISO 7494-1 Dentistry – Dental Units – Part 1: General Requirements and Test Methods ISO 7494-2 Dentistry – Dental Units – Part 2: Water and Air Supply ISO 14457 Dentistry – Handpieces and Motors ISO 11143 Dentistry – Amalgam Separators

I. Annex Dental Handpieces

High-Speed Turbine Handpiece. Minimum requirements:

- Type: air-driven turbine handpiece
- Rotational speed: $\geq 300,000$ rpm under load
- Bearing type: ceramic ball bearings
- Cooling: integrated air-water spray system (minimum triple spray)
- Head type: standard or mini head suitable for general dentistry
- Bur type: compatible with FG burs (1.6 mm diameter)
- Chuck type: push-button or equivalent quick-release mechanism
- Noise level: ≤ 65 dB
- Sterilization: autoclavable at 134 °C
- Connector: compatible with ISO 9168 / Midwest 4-hole connection

The turbine shall provide smooth vibration-free operation and high durability under continuous clinical use.

Minimum quantity: 1 unit

Pneumatic Micromotor. Minimum requirements:

- Type: air-driven micromotor
- Speed range: approx. 5,000 – 20,000 rpm
- Direction: forward and reverse rotation
- Speed control: adjustable via air pressure or control system
- Connection: compatible with standard dental unit hose connectors (ISO 9168)
- Sterilization: autoclavable components where applicable

Minimum quantity: 1 unit

Contra-Angle Handpiece. Minimum requirements:

- Type: contra-angle handpiece for micromotor use
- Speed ratio: 1:1 direct drive
- Bur type: compatible with RA burs (2.35 mm)
- Chuck system: push-button or latch type
- Sterilization: autoclavable at 134 °C

Minimum quantity: 1 unit

Straight Handpiece. Minimum requirements:

- Type: straight handpiece for micromotor use
- Bur type: compatible with HP burs (2.35 mm)
- Speed range: compatible with micromotor operating speed
- Sterilization: autoclavable at 134 °C

Minimum quantity: 1 unit

Handpiece Compatibility. All supplied handpieces shall:

- be compatible with the dental unit delivery system
- connect through standard ISO handpiece connectors
- operate with the supplied compressor and pneumatic system
- be manufactured from corrosion-resistant materials suitable for repeated sterilization.

Accessories for Handpieces. The supplier shall provide:

ITEM	QUANTITY
Handpiece lubrication oil	1
Handpiece maintenance tool	1
Bur starter set	1 set
Spare o-rings / seals	1 set

II. Annex: Accessories

The system shall be supplied with the following accessories:

ITEM	MINIMUM QUANTITY
High-speed dental turbine handpiece	1

Low-speed micromotor	1
Contra-angle handpiece	1
Straight handpiece	1
Ultrasonic scaler handpiece with scaling tips	1 set
Air-water syringe tips	5
Foot control pedal	1
Instrument tray	1
Saliva ejector holders	2
High-volume suction cannula holders	1
X-ray positioning cone	1
Digital sensor holder	1 set
Dentist stool ergonomic, height adjustable.	1
Assistant stool ergonomic, height adjustable	1
Set of handpiece connectors/adaptors (iso standard)	1 set. The supplier shall ensure that the connectors provided allow operation of high-speed turbine handpieces, pneumatic micromotors, and associated attachments without additional adapters.
Set of autoclavable suction tips	3 tips. Manufactured from stainless steel or equivalent material, compatible with the dental highvolume suction system, suitable for sterilization in an autoclave at 134 °C.
Suitable radiation protection for operators (e.g., lead apron or BARRIER).	1

Figure 1



