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LOT 1:

Item No	Description of Goods [Attach detailed specification if necessary]	Unit of Measure	Quantity	Delivered Unit Price Kwacha	Delivered Total Price Kwacha
1	Electric Cast Cutter	Each	3		
2	Drip Stand	Each	30		
3	Infusion Pumps	Each	10		
4	Emergency/drug Trolly	Each	4		
			Sub-Total		
			VAT 16.5%		
			PPDA Levy (1%)		
			Total Bid Price		

LOT 2

Item No	Description of Goods [Attach detailed specification if necessary]	Unit of Measure	Quantity	Delivered Unit Price Kwacha	Delivered Total Price Kwacha
1	IV Fluid Warmer	Each	2		
2	Vein Finder	Each	6		
3	Spirometer	Each	1		
4	Virtual Sign Monitor	Each	4		
			Sub-Total		
			VAT 16.5%		
			PPDA Levy (1%)		
			Total Bid Price		

LOT 3

Item No	Description of Goods [Attach detailed specification if necessary]	Unit of Measure	Quantity	Delivered Unit Price Kwacha	Delivered Total Price Kwacha

•

1	Anaesthesia Machine	Each	2		
			Sub-Total		
			VAT 16.5%		
			PPDA Levy (1%)		
			Total Bid Price		

LOT 4

Item No	Description of Goods [Attach detailed specification if necessary]	Unit of Measure	Quantity	Delivered Unit Price Kwacha	Delivered Total Price Kwacha
1	Ultrasound Machine	Each	1		
			Sub-Total		
			VAT 16.5%		
			PPDA Levy (1%)		
			Total Bid Price		

LOT 5

Item No	Description of Goods [Attach detailed specification if necessary]	Unit of Measure	Quantity	Delivered Unit Price Kwacha	Delivered Total Price Kwacha
1	Adult Parallel Bar with Hoist and Study Top	Each	1		
2	CTG Machine	Each	1		
3	Liquid Nitrogen Cylinder with Accessories	Each	1		
4	Automatic External Defibrillator	Each	1		
5	Body Composition Analyser	Each	1		
			Sub-Total		
			VAT 16.5%		
			PPDA Levy (1%)		

•

Total Bid Price	

LOT 6

Item No	Description of Goods [Attach detailed specification if necessary]	Unit of Measure	Quantity	Delivered Unit Price Kwacha	Delivered Total Price Kwacha
1	Diathermey	Each	8		
2	Weighing scale with stadiometer	Each	3		
3	Electronic Weighing Scale	Each	4		
4	Jack Palate	Each	2		
5	Skinfold Calipers	Each	6		
6	Diagnostic Set Wall Mount	Each	1		
7	Automatic Pill Count Machine	Each	2		
			Sub-Total		
			VAT 16.5%		
			PPDA Levy (1%)		
			Total Bid Price		

LOT 7:

Item No	Description of Goods [Attach detailed specification if necessary]	Unit of Measure	Quantity	Delivered Unit Price Kwacha	Delivered Total Price Kwacha
1	LED Theatre Lights	Each	4		
			Sub-Total		
			VAT 16.5%		
			PPDA Levy (1%)		
			Total Bid Price		

Notes: The Procurement Levy is calculated based on Sub-total before taxes.

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The following attachments are appended to clarify the Description of Goods:
[List any attachments providing additional specification of the goods required]
……
……
……
…… ……

Technical Compliance Sheet: List any attachments providing additional specification of the goods required]

No	DESCRIPTION OF GOODS	TECHNICAL SPECIFICATIONS	BIDDER'S SPECIFICATIONS	COMPLIANCE YES/ NO
1				
2				
3				

LOT 1

EQUIPMENT SPECIFICATIONS

1. ELECTRIC CAST CUTTER

General Description

The electric cast cutter is medical device designed for safe and efficient cutting and removal of Plaster of Paris (POP), fiberglass, and synthetic orthopedic casts.

Technical Specifications

An electric cast cutter should have the following technical specifications

PARAMETER	MINIMUM REQUIREMENT
Equipment type	Electric oscillating cast cutter
Application	Cutting and removal of orthopedic casts
Power supply	220–240 V AC, 50 Hz
Motor	High-performance medical-grade electric motor
Cutting action	Oscillating blade

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Speed	Adjustable or optimized for safe cast cutting
Blade material	High-quality stainless steel or equivalent
Blade guard	Safety blade guard/protective mechanism
Cast materials	POP, fiberglass and synthetic casts
Handle	Ergonomic, non-slip handle
Vibration	Low-vibration operation
Noise	Low-noise operation suitable for clinical use
Cooling	Motor protection against excessive overheating

Electrical protection Appropriate electrical safety protection

Cable	Durable medical-grade power cable
Cleaning	Easy-to-clean and disinfect surfaces
Weight	Lightweight and ergonomically balanced
Operation	Hand-operated
Accessories	Cutting blades and standard accessories
Warranty	Minimum 12 months

2. DRIP STAND
    - Should have 5 swivel wheel castors
    - Material: Stainless 304 tube, basemild steel with chrome plating
    - Height: Adjustable 1200mm to 2100mm
    - Adjustment: Screw lock with plastic knob

3. INFUNSION PUMPS

Volumetric infusion pump with the following characteristics

- Flow range: 1- 2000ml/hr with an incremental of 1ml

-Bolus rate:1-1500ml/hr

-Display: A large colored LED display for easy monitoring

-power input:220-240VAC

Operating modes

1. Flow rate mode

2. Time mode

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3. does mode/weight mode

4. Sequential mode

5. Bolus function

Alarms

-Should have

1. occlusion alarm

2.end of infusion alarm

Safety features

1. Occlusion detection: The machine should have three levels of occlusion pressure alarms and anti-bolus function to reduce pressure surges and occlusion release
2. Alarms: Visual and audible alarms for issues like loose, error, near empty, battery empty and infusion complete
3. Anti-free flow: The machine should have built in features to reduce the risk of accidental free flow
4. other alarms: Door open, air inline

4. EMERGENCY/DRUG TROLLY

An emergency/drug trolly should have the following parameters

- Antibacterial ABS top,
- Thickness of ABS top: 2mm, drawers with telescopic rails,
- Ergonomic design with aluminium frame, 5 drawers with HPL material,
- Drawers with central lockable system,
- Frame is epoxy powder coated,
- HPL defibrillator table,
- Resuscitation table and IV stand,
- Gas bottle holder (Ø15x40Hcm – max 35 kgs),
- Four castors with two brakes, Ø125mm, S.S. handles and shelf for gloves,

- Aluminum push handle, dustbin

LOT 2

1. VEIN FINDER / VEIN VISUALIZATION DEVICE

General Description

The vein finder shall be a non-invasive medical device designed to assist healthcare professionals in locating and visualizing superficial veins for procedures such as intravenous cannulation, blood sampling, venipuncture, and other vascular access procedures.

Technical Specifications

PARAMETER	MINIMUM REQUIREMENT
Equipment type	Non-invasive vein visualization device
Visualization method	Machine should use Near-infrared (NIR) or equivalent vein visualization technology
Application	Visualization of superficial veins
Display	Should have an Integrated display and/or projection system
Visualization	Machine should provide real-time vein imaging
Imaging modes	Normal vein visualization and selectable image modes where applicable
Imaging depth	Suitable for visualization of superficial veins; manufacturer to state maximum depth
Detection area	Should be Suitable for adult and pediatric patients
Display/projection	Clear visualization of veins against surrounding tissue
Focus	Automatic and/or adjustable focus
Brightness	Adjustable where applicable
Image adjustment	Adjustable contrast/brightness or equivalent
Power	Rechargeable battery and/or AC power
Battery	Rechargeable lithium-ion or equivalent battery
Battery operation	Machine should be charged and be able to operate on battery
Charging	AC charger/docking station or equivalent
Portability	Should be Lightweight and portable
Handle	Ergonomic and easy to hold
Housing	Durable medical-grade construction
Cleaning	Easy to clean and disinfect
User interface	Simple, intuitive controls

Accessories

The equipment shall be supplied complete with:

- Vein finder unit.
- Rechargeable battery.
- Battery charger/AC adapter.
- Charging dock, where applicable.
- Protective cover/case where applicable.
- User manual.
- Technical manual

2. IV FLUID WARMER SPECIFICATIONS

FEATURES

1. Technology control
    - Microprocessor integrated with temperature sensor
2. Safety system
    - Permanent running self-test, 24hours continuous operating
    - Double independent overheating protections and automatic cut off
    - The machine should have visual and acoustic alarm for low temperature, high temperature or sensor fault
3. Heating up to patient
    - IV tube should be completely wrapped in to prevent heat loss
4. Dual channel IV heating
    - Each channel should work independently
    - These two heating channels should have the provision to combined them to enlarge warming capacity

Other technical specifications

Temperature : 33-41 ^{0}C

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Overheat protection :42/43 ^{0}C

Operation mode : continuous

Power supply :220-2240VAC



3.SPIROLAB III DIAGNOSTIC COLOUR SPIROMETER with printer and software

A complete spirometry system with high resolution colour display with built-in printer:

– FVC, VC with breathing pattern plus MVV tests with real time curves
– Over 30 parameters with automatic interpretation and test quality control
– PRE/POST bronchial response protocol with F/V loop comparison – Up to 8 blows curve on one screen

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– Internal database for about 6000 complete tests
– Predicted values with various authors
– Rechargeable battery plus mains power 220V, 50-60 Hz (110 V on request)
– User-friendly keyboard with dedicated function keys plus alphanumeric data entry
– Internal temperature sensor for automatic BTPS conversion
– Free upgradable internal software from web, maintaining previously stored data
– Selectable multilanguage internal software (GB, FR, IT)

Possibility to order also with following internal languages: DE, ES, PL, PT, RU, CN, TR.

Quality spirometry, precise measurement. The proven MIR digital turbine flow sensor requires no calibration and complies with ATS 24/26 waveforms.

Technical Specifications
• Flow/volume range: ± 16 l/s • Volume accuracy: ±3% or 50 ml • Flow accuracy: ±5% or 200 ml/s • Dynamic resistance: <0.8 cm H2O/L/sec • Size 310 x 205 x 65 mm • LCD Colour display 240 x 320 pixel, (size 90 x 120 mm) • Printer • Mini flowmeter • Weight: At least 1.9 kg. • Parameters: FVC, FEV1, FEV1/FVC%, FEV3, FEV3/FVC%, FEV6, FEV1/FEV6%, PEF, FEF25-75%, FEF25%, FEF50%, FEF75%, FET, Vext, *FVC, *FEV1, *PEF, PIF, FIVC, FIV1, FIV1/FIVC%, VC, IVC, ERV, IC, FEV/VC%, VT, VE, Rf, Ti, Te, Ti/T-tot, VT/Ti, MVV

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4. VIRTUTAL SIGN MONITOR

Multipara-meter Virtual Sign Monitor with

1. SpO_2 •

Range: 0–

100%

- Accuracy:
  - ±2% (70–

    100%) ○ ±3%

    below 70%
- Pulse rate range: 20–300 bpm

2. NIBP

- Measurement method: Oscillometric
- Modes: ○ Manual ○ Auto
- Pressure ranges:
  - ○ Adult: 40–260 mmHg ○ Pediatric: 40–160 mmHg ○ Neonatal: 40–130 mmHg
- Accuracy: ±3 mmHg

3. Temperature

- Channels: Dual channel preferred(T1 AND T2)
- Range: 25–45°C
- Accuracy: ±0.1°C

IMPORTANT NOTICE: The machine should come with stand

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VIRTUAL SIGN PATIENT MONITOR	Multipara-meter Patient Monitor with 4. SpO_2 • Range: 0–100% • Accuracy: ○ ±2% (70–100%) ○ ±3% below 70% • Pulse rate range: 20–300 bpm 5. NIBP • Measurement method: Oscillometric • Modes: ○ Manual ○ Auto • Pressure ranges: ○ Adult: 40–260 mmHg ○ Pediatric: 40–160 mmHg ○ Neonatal: 40–130 mmHg • Accuracy: ±3 mmHg 6. Temperature
	• Channels: Dual channel preferred(T1 AND T2) • Range: 25–45°C • Accuracy: ±0.1°C The machine should come with stand

LOT 3: ANAESTHSIA MACHINE

TECHNICAL SPECIFICATION OF ANETHESIA MACHINE

1. Physical Specifications

Dimensions and Weight

Height	1370 mm
Width	780 mm (not including breathing system)
	945 mm (including breathing system)
Depth	690 mm
Weight Top Shelf	<145 kg (without vaporizers and cylinders)
Weight limit	30 kg
Width	305 mm
Length	545 mm

Work Surface

Height	850 mm
Area	1635 cm^2

2. Ventilator Specifications

Modes of Ventilation

- Manual/Spontaneous Ventilation/Bypass
- Volume Control Ventilation (VCV) with PLV function
- Pressure Control Ventilation (PCV) with/without volume guarantee (VG)
- Synchronized Intermittent Mandatory Ventilation (SIMV-Volume Controlled and SIMV-Pressure Controlled)
- Pressure Support Ventilation (PS) with apnea backup
- Synchronized Intermittent Mandatory Ventilation Volume Guarantee (SIMV-VG)
- Continuous Positive Airway Pressure/Pressure Support Ventilation (CPAP/PS)

3. Compensation

Circuit gas leakage compensation and automatic compliance compensation

4. Ventilation Parameters Range

Patient Size	Adult, Pediatric, Infant
Tidal volume	20~1500 mL ((Volume Mode)
	(increments of 1 mL)
	5~1500 mL (Pressure Mode)
Pinsp	5~70 cmH_2O (increments of 1 cmH_2O)
Plimit	10~100 cmH_2O (increments of 1 cmH_2O)

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ΔPsupp		3～60 cmH_2O (increments of 1 cmH_2O)
		0, 3～60 cmH_2O (CPAP/PS)
Rate		4～100 bpm (increments of 1 bpm)
I:E		4:1 - 1:8 (increments of 0.5)

•

Inspiratory pause (Tip:Ti) OFF, 5% - 60% (increments of 1%) Inspiratory time (Tinsp)
0.2 - 5.0 s (increments of 0.1 s)

Trigger window 5% - 90% (increments of 5%)

Flow trigger 0.5 ~ 15 L/min (increments of 0.5L/min)

Pressure trigger -20~ -1 cmH_2O (increments of 1 cmH_2O)
Expiration termination level 5% - 60% (increments of 5%)

Min Rate		2 - 60 bpm (increments of 1 bpm)
Tslope		0.0 - 2.0 s (increments of 0.1 s)
Apnea I: E		4:1~1:8 (increments of 0.5)
ΔPapnea		3 - 60 cmH_2O (increments of 1 cmH_2O)

5. Positive End Expiratory Pressure (PEEP)

Type Integrated, electronic controlled

Range OFF, 3~30 cmH_2O (increments of 1 cm H_2O)

6. Ventilator Performance

Driving pressure 280 kPa to 600 kPa

Peak gas flow 120 L/min + Fresh Gas Flow

7. Monitoring Parameters

Minute volume	0 ~ 100 L/min
Tidal volume	0~2500 ml

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Inspired oxygen (FiO_2)	18% ~ 100%
Peak airway pressure	-20 ~ 120 cmH_2O
Mean pressure	-20 ~ 120 cmH_2O
Plateau pressure	-20 ~ 120 cmH_2O
I:E	4:1 ~ 1:10
Rate	0 ~120 bpm
PEEP	0 ~ 70 cmH_2O
Resistance (R)	0 ~ 600 $cmH_2O/(L/s)$
Compliance (C)	0 ~ 300 ml/cmH_2O

8. ControlAccurac y

Volume delivery	< 75 ml: ± 15 ml ≥75 ml: ± 15 ml or ± 10% of the set value, whichever is greater

Pinsp		± 3.0 cmH_2O or ± 8% of the set value, whichever is greater
Plimit		± 3.0 cmH_2O or ± 8% of the set value, whichever is greater

•

ΔPsupp		± 3.0 cmH_2O or ± 8% of the set value, whichever is greater	
ΔPapnea		± 3.0 cmH_2O or ± 8% of the set value, whichever is greater	
PEEP		OFF: ≤ 4.0 cmH_2O 3 to 30 cmH_2O: ± 2.0 cmH_2O, or ± 8% of the set value, whichever is	
		greater	
Rate			± 1bpm or ± 5% of the set value, whichever
			is greater
I:E			2:1 to 1:4: ± 10% of the set value Other range: ± 25% of the set value
Tip:Ti			± 8%
Tinsp			± 0.2s
9. MonitoringAccuracy			
Volume monitoring			< 75 ml: ± 15 ml ≥75 ml: ± 15 ml or ±

	10% of the reading, whichever is greater
Pressure monitoring	± 2.0 cmH_2O
PEEP	± 2.0 cmH_2O or or ± 10% of the reading, whichever is greater
Rate	± 1bpm or ± 5% of the reading, whichever is greater
I:E	2:1 to 1:4: ± 10% of the reading
	Other range: ± 25% of the reading
MV	± 15% of the reading

10. Trend Graph

Continuous trend information with time discrete events for the latest

48 hours

11. Trend Table

Continuous trend information together with time discrete events for the latest 48 hours

12. Alarm Log Book

500 events storage, first in first out

13. Alarm setting

Tidal volume	Low: 0 ~ 1595 ml
	High: 5 ~ 1600 ml
Minute volume	Low: 0 ~ 99 L/min
	High: 0.2 ~ 100 L/min
Inspired oxygen	Low: 18% ~ 98%
	High: OFF, 20% ~ 100%
Apnea alarm	VTe < 10ml measured in 20s
	Paw < (PEEP + 3) cmH_2O in 20s
Airway pressure low	0 ~98 cmH_2O
Airway pressure high	2 ~100 cmH_2O

Sustained airway pressure alarm: 15s

Subatmospheric pressure alarm: Paw < -10 cmH_2O

- Alarm silence countdown timer: 120 to 0 seconds

14. Ventilator Components Flow Sensor

Type Variable orifice flow sensor

Location	Inspiratory and expiratory port
Oxygen Sensor	
Type	Galvanic fuel cell
FiO_2 displayed	18% to 100%
Accuracy	± (volume fraction of 2.5 % +2.5 % gas level)
Response Time	≤20 seconds

15.Ventilator Screen	
Display type	Color active matrix TFT touch screen
Display size	12.1 in diagonal
Pixel format	1024 x 768
Brightness	Adjustable
Screen display configurable	
Display parameters	All setting and alarm parameters (including Breath rate, I/E ratio, Tidal volume, Minute volume, PEEP, MEAN, PEAK, PLAT, and O_2 concentration, $EtCO_2$, N_2O, Aesthesia gas concentration, BIS)

Display waveforms P-T, F-T, V-T, CO_2 , BIS, O_2, Anesthetic gas, N_2O

Spirometry loops P-V, F-V and F-P

Timer On screen timer

16.Communication Ports

One RS-232C connector and one DB9 connector

Ethernet (RJ-45)

USB

VGA

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Vaporizers

Vaporizer	V60 Anesthetic Vaporizer Sigma Delta Anesthetic Vaporizer
Support agents	Isoflurane, Sevoflurane
Position	MAX.2
Mounting mode	Selectatec®, with interlocking function Plug-in®, with interlocking function

17. Modules

Anesthesia Gas (AG) Module

Measurement mode	Infrared absorption
Monitor gases	CO_2, N_2O, Halothane, Enflurane, Isoflurane, Sevoflurane, Desflurane, MAC, Paramagnetic O_2 (optional)
Warm-up time	45 s (ISO accuracy mode) 10min (full accuracy mode)
Sample rate	Adu/Ped: 150, 180, 200 ml/min Neo: 100, 110, 120 ml/min

Accuracy	± 10 mL/min or ± 10% of the set value, whichever is greater
Range	CO_2: 0% ~ 10%
	Des: 0% ~ 18 %
	Sev: 0% ~ 8%
	Enf, Iso, Hal: 0% ~ 5%
	O_2/N_2O: 0% ~ 100%

Carbon Dioxide (CO_2) Modules

Method	Infrared absorption
Module type	Mindray sidestream
	Capnostat mainstream
	Oridion micro-stream
	(optional)
Work mode	Standby or measurement
Displayed numerics	$EtCO_2$, $FiCO_2$
Waveform	Capnography

Side-Stream Carbon Dioxide (CO_2) Module

Measurement range	0 ~ 99 mmHg
Accuracy	± 2 mmHg (0 ~ 40 mmHg)

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	± 5% of the reading (41 ~ 76 mmHg)
	± 10% of the reading (77 ~ 99 mmHg)
Resolution	1 mmHg
Sampling rate	Neonatal: 100 mL/min and 120 mL/min

optional

Adult/children: 120 mL/min and 150 mL/min optional

Sampling rate accuracy: ± 15% of the set value or ± 15 mL/min, whichever is greater

Warming-up time	< 1 min, enter the ISO accuracy mode
	After 1 min, enters the full accuracy mode
Response time	<4.5 s@100 mL/min
	<4.5 s@120 mL/min
	Measured by using neonatal watertrap and
	2.5 m neonatal sampling line

<5.5 s@120 mL/min

<5 s@150 mL/min

Measured by using adult watertrap and 2.5 m adult sampling line

Capnostat Mainstream CO_2 Module

Measurement range	0 ~ 150 mmHg

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Accuracy	± 2 mmHg (0 ~ 40 mmHg) ± 5% of the reading (41 ~ 70 mmHg) ± 8% of the reading (71 ~ 100 mmHg) ± 10% of the reading (101 ~ 150 mmHg)
Resolution	1 mmHg
Rise time	<60 ms
Response time	<2 s
Alarm limit	$EtCO_2$ High: OFF, 2 ~ 150 mmHg $EtCO_2$ Low: OFF, 0 ~ 148 mmHg $FiCO_2$ High: OFF, 1 ~ 150 mmHg

Micro-stream CO_2 Module

Measurement range	0 ~ 99 mmHg
Accuracy	0 ~ 38 mmHg: ± 2 mmHg 39 ~ 99 mmHg

•	g: ± (5 % of the reading + 0.08 % of (the reading minus 38 mmHg))
Sampling rate	50 ml/min
Sampling accuracy	-7.5 ml/

•

	m in ~ + 1 5 m l/ m in
Initialization time	30s
Response time	2.9s
Rising time	< 190 ms
Delay time	2.7s
Alarm range	$EtCO_2$ High: OFF, 2 ~ 99 mmHg $EtCO_2$ Low: OFF, 0 ~ 97 mmHg

18. Pneumatic Specifications

$FiCO_2$ ACGO (Auxiliary Common Gas Outlet, Integrated)	High: OFF, 1 ~
99 Connector ISO 22 mm OD mmHg and 15 mm ID	

19. Pipeline

Supply

Gas type	O_2, N_2O and Air
Pipeline input range	280 to 600 kPa
Pipeline connections	DISS or NIST

Pipeline Supply Pressure Gauges

Display type	Mechanical
Ranges	0 to 1000kPa
Accuracy	± (4% of the full scale reading + 8% of the actual reading)
Cylinder Supply	
Cylinder Supply	E Cylinder (American style or UK style)
O_2 Input Range	6.9 to 20 MPa
N_2O Input Range	4.2 to 6 MPa
Air Input Range	6.9 to 20 MPa
Cylinder Connections	Pin-Index Safety System (PISS)
Yoke Configuration	O_2, N_2O, Air

Cylinder Supply Pressure Gauges

•

Display type	Mechanical
Air Range	0 to 25 MPa
O_2 Range	0 to 25 MPa
N_2O Range	0 to 10 MPa
Accuracy	± (4% of the full scale reading+8% of the actual reading)
O_2 Controls	
Method	N_2O shut off with loss of O_2 pressure
Supply failure alarm	≤ 220.6 kPa
O_2 Flush	25 ~ 75 L/min

O_2-N_2O Link system

Type	Mechanical
Range	O_2 concentration not lower than 25%

Electronic Flow Meters

O_2 flow range 0 to 15 L/min

Air flow range		0 to 15 L/min
N_2O flow range		0 to 10 L/min

Accuracy		between -10% and +10% of the indicated value (under 20°C and 101.3 kPa, for flow between 10% and 100% of full scale)

21. Breathing System Specification

Breathing system volume (Pre-pak)

Automatic ventilation 2850 ml

Manual ventilation 1800 ml

Breathing system volume (Non Pre-pak) Automatic ventilation 2600 ml

Manual ventilation 1800 ml

System Components

Carbon dioxide absorbent canister

Absorbent capacity: 1500 mL

Integrated expiratory limb water trap

Capacity: 6 mL

Breathing Circuit Parameters

Compliance ≤4 mL/100Pa (bag mode) Automatically compensates for compression

losses within the breathing circuit in mechanical mode

Expiration resistance	< 6.0 cm H_2O @60 L/min
Inspiration resistance	< 6.0 cm H_2O @60 L/min

System Pressure Gauge

Range -20 ~ 100 cmH_2O

Accuracy ± (2% of the full scale reading + 4% of the actual reading)

21. Bag-to-Ventilator Switch

Type Bi-stable

Control Switch between manual and mechanical ventilation

22. Integrated Adjustable Pressure Limiting (APL) Valve

Range SP, 5 ~ 75 cmH_2O

Tactile knob indication at above 30 cmH_2O

Accuracy ± 10 cmH_2O or ± 15% of the setting value, which is greater

23. Anesthetic Gas Scavenging System (AGSS)

Size (H x W x D) 430 x 132 x 114 mm

Type of disposal system

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Active: High-flow or Low-flow

Passive

Applicable standard ISO 80601-2-13

Pump rate 75 ~ 105 L/min (High-flow)

25 ~ 50 L/min (Low-flow)

Pressure relief device: Pressure compensation opening to the air State indication of the disposal system: The float falls below the "MIN" mark on the sight glass when the disposal system does not work or the pump rate is lower than 25 L/min (Low-flow) or 75 L/min (high-flow).

Connector of the disposal system: ISO 9170-2

24. Materials

All materials in contact with exhaled patient gases are autoclavable, except flow sensors (being not capable of being autoclaved), O_2 sensor, and mechanical pressure gauge.

All materials in contact with patient gas are latex free

LOT 4: ULTRASOUND MACHINE

1. Imaging Modes

Machine should support the following imaging modes:

- B-Mode, M-Mode, Color M-Mode
- Color Doppler, Power Doppler, Directional PDI
- Pulsed Wave Doppler, Continuous Wave Doppler
- Free Xros MT/CMT (anatomical M-mode)
- TDI (TVI, TVD, TVM, TEI)
- Contrast Imaging (UWN+)
- Elastography: STE, STQ, Natural Touch

- Real-time 4D, iPage+, SCV+, Color 3D, iLive
- High-resolution flow (HR Flow), Glazing Flow

2. Transducer Compatibility

The machine should support the following transducer:

Linear

- L9-3s: 2.5–9 MHz
- L14-3Ws: 3–14 MHz
- L20-5s: 6–23 MHz
- L16-4Hs: 3.5–16 MHz

Convex

- SC6-1s, SC8-2s, C6-2Gs, C11-3s

Phased

- SP5-1s, CW2s, CW5s

Volume / Endocavity

- SD8-1s, DE11-3Ws, V11-3Hs

TEE

- P7-3Ts

3. Physical Specifications (Resona I10) • Dimensions:

- Depth: 1020 ± 20 mm
- Width: 550 ± 10 mm
- Height: 1000 ± 20 mm
- Weight: 105 ± 4 kg (without probes)
- Monitor: 23.8-inch display
- Dual-Wing Floating Support Arm:
- Rotation: 90° left / 150° right
- Tilt: 20° backward / 85° forward

- Travel: 300 ± 20 mm

- Touch screen
- 15.6-inch high sensitivity anti-glare color touch screen
- Resolution: 1920*1080

Other requirements

Machine should come with printer

LOT 5

MEDICAL EQUIPMENT SPECIFICATIONS

1. ADULT PARALLEL BAR

General Description

The Adult Parallel Bar with Hoist and Sturdy Top should be heavy-duty rehabilitation and physiotherapy equipment designed to provide safe and stable support for adults during gait training, standing exercises, balance training, and assisted mobility rehabilitation.

The unit should incorporate adjustable parallel handrails, a robust supporting frame, an integrated hoist/lifting arrangement, and a strong top/support structure suitable for clinical and rehabilitation environments.

Construction and Materials

- Frame should be manufactured from heavy-duty, high-strength steel tubing.
- Steel components should be corrosion-resistant and finished with a durable powder-coated or equivalent protective coating.
- The base should be rigid, stable, and designed to minimize movement or tipping during use.

- Handrails should be smooth, comfortable to grip, and free from sharp edges.
- The top/support structure should be sturdy and capable of supporting the intended adult user safely.

Parallel Bar Specifications

- Should be designed specifically for adult users.
- It should have two parallel handrails.
- Handrail height should be adjustable to accommodate different adult users and rehabilitation requirements.
- Width between the parallel bars should be adjustable or suitably dimensioned for adult gait training.
- Adjustment mechanisms should be easy to operate and should incorporate positive locking devices to prevent accidental movement.
- The walking surface/base area should provide adequate clearance for safe movement.

Hoist/Lifting System

- The equipment shall include an integrated adult patient hoist/lifting system.
- The hoist shall be suitable for assisted transfer, standing, or gait-training.
- The hoist shall incorporate a secure locking/braking mechanism
- Lifting components, hooks, straps, or attachment points shall be designed for safe adult patient handling.
- The hoist system shall have a clearly stated safe working load.
- All load-bearing components shall be appropriately rated and securely attached to the main frame.
- Where applicable, the system shall include an emergency lowering mechanism.

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Sturdy Top/Support Structure

- The top structure shall be fabricated from heavy-duty steel or an equivalent high-strength material.
- It shall provide a stable mounting/support point for the hoist system.
- The top shall be securely connected to the main frame.
- The structure shall withstand repeated clinical use without excessive flexing, deformation, or instability.
- The maximum permissible load shall be clearly indicated by the manufacturer.

Load Capacity

- Minimum safe working load for the parallel bar system: at least 150 kg, unless a higher capacity is specified by the manufacturer.

Accessories

- Patient lifting sling(s)
- Hoist attachment hardware
- Safety straps/restraints
- Adjustment and locking components

2. CARDIOTOCOGRAPHY (CTG) MACHINE / FETAL MONITOR

General Description

The Cardiotocography (CTG) machine is an electronic fetal monitoring system designed for antepartum and intrapartum monitoring of fetal heart rate, uterine contractions, and fetal movements.

Parameters to be Monitored

The CTG machine shall monitor and display:

- Fetal Heart Rate (FHR) using an external ultrasound Doppler transducer.

- Uterine contractions/activity using an external TOCO transducer.
- Fetal movements, automatically and/or manually detected.
- Two fetal heart rates simultaneously for twin pregnancy monitoring.
- Maternal heart rate monitoring is preferred where available.

Technical Specifications

Parameter	Minimum Requirement
Equipment type	Electronic cardiotocograph/fetal monitor
FHR monitoring	External ultrasound Doppler
FHR range	Approximately 50–210 bpm or wider
FHR resolution	1 bpm
FHR accuracy	Approximately ±2 bpm or equivalent
Uterine activity	External TOCO transducer
TOCO range	0–100 units or wider
Fetal movement	Automatic and manual detection
Twin monitoring	Dual-channel FHR monitoring
Display	Colour TFT/LCD display
Display size	Minimum 7 inches preferred
Display information	FHR1, FHR2, TOCO, fetal movement, alarms, patient information and system status
Printer	Built-in thermal printer
Paper	Z-fold thermal recording paper
Recording speeds	1, 2 and 3 cm/min
Data storage	Internal memory for patient traces
Alarm system	Audible and visual alarms
Power supply	220–240 V AC, 50 Hz or universal 100–240 V AC
Battery	Built-in rechargeable battery
Battery backup	Minimum 2 hours preferred
Mounting	Tabletop and/or mobile trolley
Connectivity	USB and/or equivalent data interface
Warranty	Minimum 12 months

Fetal Heart Rate Monitoring

The CTG shall:

- Measure fetal heart rate using a high-sensitivity ultrasound Doppler probe.

- Have an FHR measurement range of at least 50–210 bpm.
- Display FHR with a resolution of 1 bpm.
- Provide accurate and stable FHR measurement.
- Provide signal-quality indication where available.
- Provide audible fetal heart-rate feedback where applicable.
- Include probe-off/poor-signal indication.
- Provide separate identification of FHR1 and FHR2 during twin monitoring.

Twin Fetal Monitoring

The machine should provide:

- Two independent ultrasound Doppler channels.
- Simultaneous monitoring of two fetuses.
- Separate display of FHR1 and FHR2.
- Separate recording traces for each fetus.
- Clear identification of the two fetal heart rates.
- Colour-coded probes or equivalent identification. Signal-quality indication for each channel.

Uterine Contraction Monitoring

The CTG shall include an external TOCO transducer for monitoring uterine activity.

Requirements:

- Measurement range: approximately 0–100 units or wider.
- Resolution: 1 unit or better.
- Automatic zeroing where applicable.
- Waterproof/sealed transducer preferred.
- Continuous recording of uterine activity.

- Secure abdominal fixation using adjustable probe belts. Fetal Movement Detection

The machine should provide:

- Automatic fetal movement detection where available.
- Manual fetal movement/event marking.
- Recording of fetal movement on the CTG trace.
- Event marker button for manual marking of events.

Display

The CTG shall have a clear colour TFT/LCD display showing, as applicable:

- FHR1.
- FHR2 for twin monitoring.
- Uterine contractions/TOCO.
- Fetal movement.
- Patient identification.
- Date and time.
- Alarm status.
- Probe/signal status.

Recording status.

- Battery/power status.
- System error messages.

Numeric parameters shall be displayed in large, easily readable characters.

Alarm System

The equipment shall have audible and visual alarms for:

- High fetal heart rate.
- Low fetal heart rate.

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    - Loss of fetal signal.
    - Poor signal quality.
    - Probe disconnection.
    - Paper-out condition.
    - Low battery.
    - System malfunction.

Alarm limits shall preferably be adjustable by the authorized operator.

Data Storage and Connectivity

The CTG should provide:

- Internal storage of patient monitoring data.
- Storage and retrieval of previous traces.
- Patient ID/name entry.
- Date and time stamping.

Power Supply and Battery

- Power supply: 220–240 V AC, 50 Hz, or universal 100–240 V AC, 50/60 Hz.
- Built-in rechargeable battery.
- Minimum preferred battery backup: 2 hours of continuous monitoring.
- Battery status indicator.

  Automatic changeover from AC to battery power.
- Supplied with appropriate power cable and charger/adapter.

Accessories

The CTG machine shall be supplied complete with:

1. FHR ultrasound Doppler probe – 2 units for twin monitoring.

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2. TOCO transducer – 1 unit.
3. Event marker – 1 unit.
4. Probe belts – minimum 3 units.
5. Ultrasound/CTG gel.
6. Rechargeable battery.
7. Power cable/adapter.
8. Thermal recording paper – initial supply.
9. User/operation manual.
10. Maintenance/service manual or instructions.
11. Mobile trolley/stand where specified.
12. Protective cover where applicable.

Documentation

The machine should come with the following items

- User/operation manual.
- Service/maintenance manual or instructions.

3. BODY COMPOSITION ANALYZER

General Description

The Body Composition Analyzer is a non-invasive body composition assessment system intended for use by nutritionists, dietitians, clinicians, and other authorized healthcare professionals.

Measurement Technology

Multi-frequency Bioelectrical Impedance Analysis (BIA) or equivalent validated technology.

- Non-invasive measurement.

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- Suitable for routine clinical nutritional assessment.
- Measurement should be rapid and reproducible.
- Supplier shall state the frequencies used and measurement method.
- Supplier shall state the manufacturer's reference population and equations used to calculate body composition.

The system should allow entry and storage of:

- Patient name.
- Patient identification number.
- Age.
- Sex.
- Height.
- Weight.
- Date and time of assessment.
- Relevant demographic information.
- Previous measurement results.

Segmental Analysis

The system should provide segmental analysis of:

- Right arm.
- Left arm.
- Trunk.
- Right leg.
- Left leg.

Display and User Interface

The analyzer shall have:

- Digital colour display or touchscreen. • Clear display of measurement results.
- Simple user interface.
- Graphical presentation of body composition results.
- Reference ranges where applicable.
- Indication of abnormal/high/low results where supported.
- Patient result summary.
- Trend comparison of previous measurements.

Weighing Platform

- Robust and stable platform.
- Non-slip surface.
- Minimum weight capacity: 150 kg; 200 kg or higher preferred.
- Weight accuracy preferably 100 g or better.
- Automatic zeroing.
- Easy-to-clean and disinfect surface.
- Suitable for repeated clinical use.

Power Supply

- 220–240 V AC, 50 Hz, or universal 100–240 V AC, 50/60 Hz.
- Power cable/AC adapter shall be supplied.

Accessories

The equipment shall be supplied complete with:

1. Body composition analyzer.
2. Weighing platform.
3. Integrated stadiometer or height measurement facility.

4. Power cable/AC adapter. Documentation and Certification

The supplier shall provide:

- User/operation manual.
- Maintenance instructions.

4.LIQUID NITROGEN CYLINDER AND ACCESSORIES

General Description

The liquid nitrogen system shall be suitable for the safe storage, handling, transport, and dispensing of liquid nitrogen (LN_2) for dermatological cryotherapy procedures

Liquid Nitrogen Cylinder/Dewar Specifications

Parameter	Minimum Requirement
Equipment type	Vacuum-insulated liquid nitrogen storage/dispensing dewar
Capacity	Approximately 50-60 litres,
Construction	High-quality stainless steel or equivalent suitable cryogenic material
Insulation	High-vacuum insulation
Operating temperature	Suitable for liquid nitrogen at approximately -196°C
Neck opening	Suitable for filling and dispensing accessories
Pressure	Suitable for atmospheric/low-pressure liquid nitrogen storage and dispensing
Evaporation rate	Low static evaporation rate
Base	Stable, robust base to prevent tipping
Lid	Insulated, secure but vented lid suitable for cryogenic storage
Corrosion resistance	High corrosion resistance
Mobility	Suitable for safe movement within the department
Safety	Designed specifically for liquid nitrogen storage and dispensing

Cryotherapy Accessories

The system shall be supplied with accessories suitable for dermatological cryotherapy, including:

- Cryotherapy spray gun/applicator.
- Appropriate cryotherapy nozzles/tips of different sizes.
- Flexible cryogenic transfer hose where applicable.
- Insulated dispensing/transfer assembly.

- Appropriate storage/working container for liquid nitrogen.
- Cryogenic-resistant gloves.
- Safety goggles or full-face protection.
- Appropriate cryogenic handling tools.
- Funnel or filling accessory designed specifically for liquid nitrogen, where required.
- Protective carrying/storage case for small accessories where applicable.

Cryotherapy Applicator/Spray Gun

The cryotherapy applicator shall:

- Be specifically designed for liquid nitrogen.
- Provide controlled application of liquid nitrogen.
- Permit accurate treatment of dermatological lesions.
- Have an ergonomic handle.
- Be manufactured from materials suitable for temperatures of approximately 196°C.
- Be easy to clean and maintain.
- Allow interchangeable nozzles/tips where applicable.
- Provide controlled spray/application suitable for dermatological procedures.

Nozzles/Tips

The equipment shall include a selection of interchangeable cryotherapy tips/nozzles suitable for:

- Small lesions.
- Medium-sized lesions.
- Larger lesions.
- Precise/localized treatment.

The supplier shall specify the size and type of each nozzle supplied.

Safety Requirements

The complete system shall incorporate or be supplied with appropriate safety measures for liquid nitrogen handling.

The supplier shall provide:

- Cryogenic protective gloves.
- Safety goggles and/or face shield.
- Appropriate insulated handling accessories.
- Safety instructions and warning labels.
- Instructions for safe filling, dispensing, storage and transport.
- Appropriate ventilation requirements.
- Emergency procedures for accidental exposure or spillage.

Material and Construction

- All components in contact with liquid nitrogen shall be suitable for cryogenic temperatures.
- Materials shall remain structurally sound at approximately -196°C.
- The dewar shall have high-quality vacuum insulation.
- External surfaces shall be durable and corrosion-resistant.
- The unit shall have a stable base and secure handling points.

5.AUTOMATIC EXTERNAL DEFIBRILLATOR (AED)

Key features

Weight: light weight

Technology: Biphasic

Max Energy:300J

Energy sequency

Adult mode: 150J,150J, 200J,120J

Pedtriatic mode: 50J, 50J, 75J, 50J,30J

Visual prompts:LED indicators and LCD screen

Patient Impendance scope: 20 to 200ohms

Aed pads: Adult and peadriatic

Output energy accuracy:+-15% or 3J

Important note: The machine should have rechargeable Battery and a charger

LOT 6

	Item	Specs	Sample image
1	DIATHERMY	Functional description: A diathermy machine (Electrosurgical Unit – ESU) is a high-frequency surgical generator used for cutting, coagulation, desiccation, and fulguration of biological tissue during surgical procedures. The equipment converts electrical energy into highfrequency current to minimize bleeding and improve surgical precision	
		Technical Specifications Functional Capabilities • Monopolar cutting and coagulation • Bipolar coagulation • Blend mode (simultaneous cut and coagulation) • Spray coagulation and soft coagulation • Adjustable power output • Microprocessor-controlled operation • Return electrode monitoring (REM) • Audio and visual alarms • Footswitch and hand-switch activation • Programmable memory presets	

		• Self-test diagnostics during startup • Simultaneous monopolar and bipolar operation The machine should have the following power setting modes Monopolar modes • Cut: 1-300 w, • blend: 1 200 w • coag: soft: 1-120 w, • fulgurate: 1-120 w, • spray: 1-120 w peak voltage: • cut: 1287 v, • blend: 2178 v, • coag: soft: 264 v, • fulgurate: 3449 v, • spray: 3933 v Bipolar modes power setting low: 1-15 w, medium: 16-40 w, high: 45-95 w peak voltage: cut: 742 v coag: 318 v – ligasure technology: - vessel sealing: up to 7 mm in diameter – sealing time: up to 50% faster - jaw temperature: lower by 2 degrees The machine should support tissues sensing technology for automatic adjustment of energy output based on tissue composition	
		Electrical Requirement s Parameter Specification Input Voltage 220–240 VAC ±10% Frequency 50/60 Hz Power Consumption ≤ 800 VA Output Frequency 300 kHz – 1 MHz	

		Maximum Output Power	Minimum 300 W	

		Patient Safety Classification	Class I, Type CF	
		Leakage Current	According to IEC 60601-1	
		Protection	Overload and shortcircuit protection	
		Fuse Protection	Internal replaceable fuse	
		Grounding	Protective earth grounding required	
		Isolation	HF isolated patient circuit	
		Environmental		
		Parameter	Requirement	
		Operating Temperature	10°C – 40°C	
		Storage Temperature	-10°C – 55°C	
		Relative Humidity •	30% – 80% noncondensing	
		Measurements an d Dimensions:		
		Parameter	Specification	
		Width	250–400 mm	
		Height	100–180 mm	
		Depth	280–450 mm	
		Weight	5–12 kg	
		Display	Digital LED/LCD	
		Control Interface•	Touch panel or membrane keypad	

		Spare parts and accessories The machine should come with the following standard accessories • Monopolar handpiece • Bipolar forceps • Footswitch pedal • Patient return cable • Reusable electrodes set Other Spare Parts	
		• Fuses • Footswitch assembly • Power cable • Neutral plate cable • Handpiece pencils • Electrodes	
		Documentation: The supplier shall provide: • User manual • Service manual	

	Item	Specs	Sample image

2	Weighing scale with stadiometer	Technical Specifications • Weight Capacity: 200 kg to 300 kg (440 lbs to 660 lbs) to accommodate a wide variety of patients, including bariatric needs. • Readability/Precision: Increments of 0.05 kg to 0.1 kg (0.1lbs to 0.2 lbs) to allow for highly precise medication dosing and health tracking. • Platform Design: Low-profile (making it easy to step onto), anti-slip surface, and a wide, stable base to prevent tipping. • Display: Large, clear, easy to read, digital LCD display mounted on the column • Display resolution: Display weight in 0.1 kg • Units: Kilograms (Kg) • Zero function: Automatic zero settings • Low -battery indication • Auto-power-off when not in use • Power supply: Rechargeable battery operated, with batteries supplied with	
		the equipment and can operate with AC power from 220-240 V, 50 Hz using a suitable manufacture supplied charger • Portability: Fitted with wheels for easy movement • Stadiometer: Integrated vertical height rod with adjustable headpiece, height adjustable up to 2.2m	

	Item	Specs	Sample image

3	SKINFOLD CALIPERS	• Type: Manual skinfold for clinical and nutritional assessment • Measurement Range: 0-80mm • Resolution: 1mm • Measurement Unit: Millimetres (mm) • Jaws: Smooth and rounded measuring jaws • Pressure: Approximately 10g/mm² of contact pressure • Scale/Display: Clear, easy to read graduated scale •	

	Item	Specs	Sample image
4	PILL COUNT MACHINE	• Type: Automatic electronic tablet, capsule and pill counting machine • Counting range: 1-5000 tablets/capsule per batch • Counting speed: 300-500 tablets per minute • Display: LCD display with adjustable counting quantity and speed • Power supply: 220-240 V AC, 50 Hz • Accessories: it should come with	
		collecting bottles •	

	Item	Specs	Sample image

6	JACK PALATE Electronic Scale	★ Type: Heavy duty manual hydraulic Jack pallet ★ Load capacity: 3,000 kgs (3 tonnes) ★ Fork length: 1,150 mm ★ Overall fork Width: approximately 685 mm ★ Lowered fork height: 75 -85 mm ★ Raised fork height: 190-200 mm ★ Fork width: Approximately 160 mm per fork ★ Lifting mechanism: Hydraulic hand pump ★ Steering angle: 180^0-210^0 ★ Steering wheels: Heavy duty polyurethane ★ Frame: Heavy duty steel construction with corrosion resistant powder coated finish	
		Specifications • Capacity: Maximum Weight Capacity 300kg • Readability: Minimum Increment of 0.01 kg, • Units of Measurement: kg Dimensions • Platform Size: [Length x Width] (30 cm x 30 cm) Display • Type: LCD or LED] • Backlight: Yes Power Supply • Power Source: [Battery, AC Adapter, Rechargeable] • Battery Life: Duration approx 200 hours after charge) Features • Tare Function: Yes/ • Hold Function: Yes/ • Auto-off Feature: Yes	

6. WALL-MOUNTED DIAGNOSTIC SET



Specification:

- Display Screen: ≥8-inch true-color LCD screen;
- Overall Structure: Integrated design with optimized power supply, control, and display.
- Blood Pressure Measurement: Diastolic blood pressure, systolic blood pressure, and mean blood pressure in a single measurement; automatic inflation/deflation control; automatically store ≥800 measurement results; resolution: ≤1 mmHg.
- Blood Oxygen Saturation Measurement: Measurement range: 50%–100%; automatically store ≥800 measurement results;
- Pulse Measurement: Two result parameters: numerical value and waveform; automatically store ≥800 measurement results; measurement range: 25 bpm–250 bpm; resolution: 1 bpm.
- Infrared ear temperature measurement; Measurement range: 35℃—42℃; Error ±0.2℃;

- Ophthalmoscope (Fundus examination), ≥19 refractive divisions; Ophthalmoscope illumination should be uniform, with clear edges and no obvious shadows;
- Otoscope (Eardrum and ear canal examination), 3.5V fiber otoscope, ≥2.5X magnification; Illumination should be uniform, with clear edges and no obvious shadows;
- Extended functions: Data exchange via USB, SD, and Ethernet interfaces.
- Power cable with plug Configuration:

Otoscope
Ophthalmoscope
BP Module
Thermometer
Pulse Oximeter SpO_2
Stethoscope

LOT 7: LED THEATRE LIGHTS

Item	Specs	Sample image
CEILING SUSPENDED LED THEATER LIGHT	Functional description: A dual dome ceiling suspended LED surgical/theater light with integrated HD camera is designed to provide shadow-free illumination for major surgical procedures while enabling live video recording,	
	teaching, telemedicine, and procedure documentation. The system typically consists of two LED light domes mounted on articulated ceiling suspension arms with an integrated HD camera and monitor	

	Technical Specifications • Dual dome LED theater light system • Dual dome should provide shadow-free, high-intensity illumination with adjustable brightness and focus. • Dual dome LED should support laminar airflow systems and minimizes heat generation. • Should have Flexible articulated suspension arms for precise positioning • It should have integrated Full HD surgical camera and 2 monitors one on wall and one mounted on arm of an LED light • Sterilizable removable handles • Laminar airflow compatible aerodynamic dome design • It should have Video recording and live streaming capability Dome Measurements and Dimensions The LED theater light should have the following dome sizes • Main dome diameter: 700 mm • Satellite dome diameter: 500 – 700 mm • Installation height: 2.8 – 3.2 meters ceiling	

	height • Adjustable arm reach for flexible positioning • Independent dome positioning with 360° rotation Illumination features • Illumination intensity: 120,000 – 180,000 Lux per dome • Color temperature: Adjustable 3,500K – 5,000K • Color rendering index (CRI): ≥ 95 • LED lifespan: ≥ 50,000 hours • Light field diameter: 120 – 350 mm adjustable • Depth of illumination: ≥ 700 mm • Brightness adjustment: 10% – 100% • LED quantity: 48 – 90 LEDs per dome • Lamp head diameter: 500 – 700 mm • Rotation: 360° articulated movement • Heat radiation: Minimal infrared and UV emission DOME brightness control LED brightness control should be done in two folds 1. Wall mount control panel(can be touch screen or rotary switch or membrane control panel 2. On arms of domes (membrane control panel)	

	Electrical Requirements • Input voltage: 220–240V AC, 50/60Hz • Power consumption: ≤ 120W • Integrated backup battery that can last for about 1 hour • Protection class: Class I	
	Spare parts and accessories • Sterilizable removable handles • Control panel and wall control unit • Spare LED modules • Ceiling mounting kit • Power supply unit	
	Documentation: LED should come with the following documents in English • User manual • Service manual • Warranty certificate • Installation guide • Certificate of conformity	
	Compliance: LED theater light should comply with the following regulations • IEC 60601-1 Medical Electrical Equipment • IEC 60601-2-41 Surgical luminaires • CE and/or FDA certification • ISO 13485 manufacturer certification	
	Warranty	

	• Up to 12 months	