

ANNEX A_2

ITB/2020/019 Medical Equipment/ Supplies

TECHNICAL REQUIREMENTS/ SPECIFICATIONS

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1.1 Ventilator, Intensive Care, for adult and paediatric patients, AC and battery powered, with accessories

Stationary Model

TECHNICAL SPECIFICATION FOR CRITICAL CARE ICU VENTILATOR

It should be advanced technology ventilator for use in ICU, dedicated for ventilating neonate, pediatric & adult patients.

It should be employing multi-microprocessor-controlled system with individual selection of various ventilation parameters & PEEP. Rapid trigger response time in all modes for minimum work of breathing the ventilator should be modular in design. It should be open end system for future upgradation.

Medical grade Compressor with facility to connect to external compressed air pipeline.
Automatic

changeover between compressor and central compressed air line.

The machine should have a Bias flow of not more than 2.0 l/min. The machine should have non consumable type O2 sensor. It should not be required to change over period of time.

It should be possible to upgrade for followings in future.

- a) For use in magnetic resonance imaging suites.
- b) Neurally Adjusted Ventilatory Assist application.

Should be also suitable for use during transportation within the hospital. The system should have the

facility for both Pressure triggering & Flow triggering should have the following modes of ventilation:

- A. Volume control
- B. Pressure control
- C. Pressure Regulated Volume Control (PRVC)
- D. Pressure support with back-up ventilation
- E. CPAP
- F. Volume support
- G. SIMV (Volume Control) + Pressure support
- H. SIMV (Pressure Control) + Pressure support
- I. SIMV (PRVC) + Pressure Support
- J. Open Lung Tool

K. Automode

Future upgradation to:

A. Bi-Vent

B. NIV

C. Nasal CP AP

D. ETCO₂

The system should have the following parameters:

A. Tidal Volume:

B. CMV Frequency:

C. SIMV frequency:

D. Inspiratory time:

E. Pause time: 2 ml – 4000 ml 4 – 150 breaths / min 1 – 60 breaths / min 0.1 – 5 sec 0 – 30% of breath cycle time

F. Pressure level

G. PEEP:

H. Trigger flow:

I. Trigger Pressure

J. Inspiratory rise time

K. I : E ratio 0 – (120–PEEP) 0 –50 cmH₂O 0–100% -20 to 0 cmH₂O below PEEP 0 - 20% of breath cycle time 1:10–4:1

Should have monitoring of following parameters:

A. Airway pressure: Peak, Mean, Plateau, PEEP .

B. Total breath rate.

C. O₂ concentration.

D. I:E ratio.

E. Tidal volume: Inspired, Expired.

F. Minute volume: Inspired, Expired.

G. End expiratory flow.

H. Inspiratory time.

I. Total PEEP.

J. Compliance: Static, Dynamic.

K. Resistance: Inspiratory, Expiratory.

L. Work of breathing: Patient, Ventilator

M. Time constant

N. Elastance of lung.

Should have following audio – visual alarms:

- A. Airway pressure
- B. High continuous pressure
- C. FiO₂
- D. Expired minute volume
- E. Apnea
- F. End expiratory pressure
- G. Respiratory rate
- H. Gas failure
- I. Battery

Should have separate user interface & ventilation unit for flexible positioning around the patient Should have built-in battery back-up for 60 min and upgradable in future.

Unit should be supplied with suitable heated humidifier & Nebulizer for effective uninterrupted nebulisation during mechanical ventilation without needing to compensate for additional flow.

It should have minimum 12" size TFT active matrix color screen with single device user interface. It should be possible to simultaneously display at least four waveforms (with CO₂ option) & loops for each breath.

The screen should be able to swivel for better viewing from any direction and it should be removable for flexibility in mounting e.g. bed, wall mount, and IV pole.

Access through touch screen & main rotary dial direct access to vital settings: PEEP, O₂ concentration, respiratory rate & Volume (or Pressure) can be rotated & tilted for maximum flexibility.

24 hour trend display of up to 24 parameters Scroll / Zoom functions

Screen should display following waveforms:

Flow Pressure Volume CO₂ conc.

Pressure – volume loop

Flow – volume loop

Should have the gas flow from 0 – 3.3 l / s

Should have one-piece autoclavable interchangeable expiratory cassette for complete disinfection capability.

Should have facility for ventilation parameter data transfer & network connection.

Should be user-friendly & have sturdy design.

Portable Model

- a) Tidal volume up to 1,000 mL.
- b) Pressure (inspiratory) up to 80 cm H₂O
- c) Volume (inspiratory) up to 120 L/min
- d) Respiratory rate: up to 60 breaths per minute.
- e) SIMV Respiratory Rate: up to 40 breaths per minute.
- f) CPAP/PEEP up to 20 cm H₂O.
- g) Pressure support up to 45 cm H₂O.
- h) FiO₂ between 21 to 100 %
- i) Inspiratory and expiratory times up to at least 2 sec and 8 sec respectively
- j) I:E Ratio at least from 1:1 to 1:3. 2 Modes of ventilation:
 - a) Volume controlled.
 - b) Pressure controlled.
 - c) Pressure support.
 - d) Synchronized intermittent mandatory ventilation (SIMV) with pressure support.
 - e) Assist / control mode
 - f) CPAP/PEEP

Alarms required: FiO₂, minute volume, pressure, PEEP, apnoea, occlusion, high respiration rate, disconnection

System alarms required: power failure, gas disconnection, low battery, vent inoperative, self-diagnostics

If alarm silencing feature is incorporated, it must be temporary and clearly displayed when activated

Air and externally supplied oxygen mixture ratios fully controllable Inlet gas supply (O₂) pressure range at least 35 to 65 psi

Medical air compressor integral to unit, with inlet filter

- 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 60601-1:2012 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
- ISO 80601-2-12:2011 Medical electrical equipment -- Part 2-12: Particular requirements for basic safety and essential performance of critical care ventilators

1.2 Mobile negative pressure machine

portable, self-contained high efficiency particulate air filtration system designed to easily and economically create a negative pressure isolation room that will meet CDC TB guidelines.

It aims to create a negative pressure isolation room for possible use with patients known or suspected of having COVID-19, SARS or other infectious diseases.

1.3 SMART critical care monitor

General Description:

Patient vital signs monitor, 5 physiological parameters, for adult, paediatric/infant and neonatal patients, AC and battery powered, with accessories

Technical specifications:

- Portable vital signs monitor, suitable for adult, paediatric and neonatal patients
- 5-parameters monitoring: ECG and Heart Rate (HR), Respiratory Rate (RR), SpO₂, NIBP and Temperature
- ECG and HR:
 - 3-leads ECG, I-II-III selection (optional 5-leads I, II, III, aVR, aVL, aVF, V)
 - waveform visualisation
 - gain 1.25, 2.5, 5, 10, 20, 40 mm/mV and Auto
 - sweep speed 6.25, 12.5, 25 and 50 mm/s
 - accuracy ± 1 bpm or $\pm 1\%$, whichever is greater
 - S-T detection, arrhythmia analysis
 - standardising marker -1 to 1 mV or -2 to 2 mV (depending on the available model)
 - HR 15 – 300 bpm for adult and 15 – 350 bpm for paediatric/neonatal
 - Respiratory rate (RR)

- RR range 0 – 120 adult, 0 – 150 paediatric/neonatal
- resolution 1 rpm
- accuracy ± 2 rpm or $\pm 2\%$ in the range 7 – 150 rpm, whichever is greater
- NIBP
- oscillometric step deflation
- adjustable inflating pressure
- systolic, diastolic and mean pressure measurement
- measurement overall ranges (min. value diastolic, max. value systolic) 10 – 270 adult, 10 – 200 paediatric, 10 – 135 neonatal
- resolution 1 mmHg
- SpO₂
- range 0 – 100%
- resolution 1%, accuracy $\pm 2\%$ in the range 70 – 100 %
- heart rate detection 25 – 250 bpm, accuracy ± 3 bpm or $\pm 2\%$, whichever is greater
- Temperature
- range 0 – 50 °C
- resolution ± 0.1 °C
- accuracy ± 0.1 °C
- Adjustable signal amplitude and sensitivity
- TFT colour display > 10.4 inches
- Multi-waveform and parameters visualisation, at least 4 channels
- Defibrillator sync and protection
- Pacemaker detection/rejection
- Patient information and trend internal database
- Trend display > 720 hours
- Audio-visual alarms and silencing feature for all monitored parameters
- Display reports alarms, system errors, leads and sensors failure and AC/battery status
- Data and network interface
- Suitable for standard bed/wall rail and pole stand mount
- Robust design for use in demanding environment
- Soft touch keys, durable and easy to clean surface, resistant to hospital-grade cleaning products
- Automatic self-test and continuous system monitoring
- Built-in rechargeable battery, autonomy > 2 hours
- Automatic switch to battery in case of power failure, automatic recharge on connection to mains
- Power requirements: 220 V / 50 Hz
- Power consumption 80 W

Item supplied with:

- 1 x wall mount bracket
- 1 x spare rechargeable battery pack
- 1 x set of spare fuses
- NIBP accessories:

- 3 x NIBP hoses (1 x neonatal, 1 x paediatric, 1 x adult)
- 3 x blood pressure cuffs (1 x neonatal, 1 x paediatric, 1 x adult)

ECG accessories:

- 2 x sets of patient cable terminals (1 x neonatal/paediatric, 1 x adult)
- 2 x sets of electrodes (1 x neonatal/paediatric, 1 x adult)
- 1 x conductive gel, bottle 250 ml

Temperature accessories:

- 2 x skin temperature probes (including connection cable)
- SpO2 transducers, with cable and plug:
 - 2 x adult size, reusable clip-on type
 - 2 x paediatric size, reusable clip-on type
 - 3 x neonatal size, reusable clip-on type
 - 10 x neonatal size, single-use wrap-around type
- Instructions for assembly, use and maintenance in English

Able to add or remove necessary monitoring modules, exp: PICCO system, central line, arterial line, ICP: Intracranial Pressure monitoring module.

1.4 Syringe smart pumps

TECHNICAL SPECIFICATIONS:

- Syringe pump, portable, for IV fluids infusion, single syringe
- Continuous delivery, piston driven
- Suitable for rail and IV pole mount
- Compatible syringes 10, 20, 30, 50 and 60 ml
- Automatic syringe capacity detection
- Open system, compatible with commercial syringe sets
- Programmable infusion by rate, time, flow and dose (patient body weight and drug concentration with automatic calculation) and with syringe capacity selection
- Flow-rate range, programmable:
 - – 400 ml/h for 10 ml syringe, 0.1 ml/h step
 - – 800 ml/h for 20 – 30 ml syringe 0.1 ml/h step
 - – 1,800 ml/h for 50 – 60 ml syringe 0.1 ml/h step
- Accuracy $\pm 2\%$
- Volume limit range 0.1 – 999.9 ml, programmable, with 0.1 ml step

- Time limit range 1 – 1,999 min of operation
- Bolus program, maximum volume 25 ml or syringe capacity whichever higher
- Bolus range:
 - 10 – 300 ml/h for 10 ml syringe
 - 10 – 600 ml/h for 20 – 30 ml syringe
 - 10 – 1,200 ml/h for 50 – 60 ml syringe
- KVO program, 1 ml/h
- Programmable infusion by patient body weight, drug concentration, with automatic calculations
- Occlusion detection, 3 selectable levels
- Display and control panel with visualisation of all working parameters (program, volume, flow, time, dose, patient data) and system messages
- Audio/visual alarms, with silencing feature, for: occlusion, plunger and syringe error, status and end of infusion/program (near empty, empty syringe), battery/power supply status and failure, system errors
- Automatic self-test function
- Battery and AC powered, with automatic switch between modes and automatic recharge when connected to mains
- Battery autonomy > 8 h (at 5 ml/h)
- Integrated battery charger
- Sturdy construction, splash- and shock-proof, plastic enclosure
- Power requirements 110 – 220 V / 50 – 60 Hz
- Power consumption 25 W

ACCESORIES:

- 1 x set of 10 syringe sets
- 1 x rail and IV pole mounting clamp
- 1 x spare battery pack
- Instructions for assembly, use and maintenance in English

1.5 Central stations, for 10 beds ICU

Central monitoring system in the ICU, with software to display 10 monitoring record of 10 different ICU Beds.

1.6 Portable Digital X-ray system

X-ray tube support system with telescopic arm;
X-ray tube wide rotation function;
High quality imaging and variable frequency range for generator;
Long arm and wide stroke allow flexible positioning and wide coverage;
Compact and good visibility design for moving safely;
Lightweight design to achieve easy manoeuvrability in hospital;
Preset programs to configure needed radiography conditions.

1.7 Defibrillator, with monitor and accessories

GENERAL DESCRIPTION:

External defibrillator for adult and paediatric patients, with ECG monitor and printer, synchronised and bi-phasic, portable, AC and battery powered, with accessories

TECHNICAL SPECIFICATIONS:

- External defibrillator with ECG monitor (with ECG screen)
- Suitable for adult and paediatric patients
- Supplied with adult and paediatric pads/adapters
- Non-directional pads, suitable for bi-phasic impulse waveform
- Defibrillator features:
 - manual and synchronised defibrillation
 - bi-phasic energy waveform
 - energy output range 2 – 200 J or 2 – 360 J, depending on the available model
 - adjustable energy output, by steps
 - minimum guaranteed energy levels (including lowest, middle and highest values): 11 levels in the range 2 – 200 J, additional 270 J and 360 J levels depending on the available model
 - energy output accuracy $\pm 15\%$
 - patient resistance 30 – 175 Ohm (minimum guaranteed range)
 - load compensation, energy level automatic adjustment to the patient impedance
 - adult and paediatric energy settings
 - charge time to maximum energy < 10 s (mains power supply and battery charged)
- ECG monitor:
 - detection through pads or dedicated ECG cable

- ECG waveform and analysis, selectable visualisation modes
- 3-leads ECG cable
- ECG gain 2.5, 5, 10 and 20 mm/mV (minimum guaranteed)
- protection against defibrillation discharges
- adjustable ECG print modes and settings (real-time, manual)
- Printer:
 - built-in single (or more) -channel thermal printer
 - print of ECG curves and analysis, events, settings and alarms
 - paper speed 25 mm/s (additional 50 mm/s depending on the available model)
 - paper width 58 or 72 mm, depending on the available model
 - Internal safety discharge feature (if shock is not delivered)
 - Compatibility with additional modes and monitoring features, not included (SAED, AED and pace modes, SpO2)
- Internal storage for ECG, events (at least 500 or 60 min monitoring) and parameters
- Data/USB communication interface
- Integrated control panel with all parameters and controls
- Visualisation of defibrillation mode, energy, ready/charging state, ECG curves and heart rate, date/time, settings, mains and battery status, system messages and alarms
- Audio/visual alarms for pads connection, mains/battery power supply status, paper and printer status, system errors
- Automatic and manual self-test, continuous check of pads and electrodes connection
- Automatic switch to battery in case of power failure, automatic recharge on connection to mains
- Integrated battery charger and transformer
- Removable rechargeable battery
- Battery autonomy > 100 shocks at 200 J or 3.5 h monitoring
- Integrated carry handle
- Splash and shock resistant
- Power requirements 110 – 220 V / 50 – 60 Hz
- Power consumption 200 W

ACCESSORIES:

- 1 x ECG patient cable
- 1 x pair of adult pads
- 1 x pair of paediatric pads/adapters
- 1 x pack of 100 single-use ECG electrodes
- 1 x spare rechargeable battery
- Instructions for assembly, use and maintenance
- Disposable adult and paediatric pads 10 of each

1.8 Fibro bronchoscope

High-Resolution Fiber Bronchoscopy

180° tip deflection, a tight bending radius, and wide angle of view for easy manoeuvrability

Optimum size working channels to accommodate a wide range of instruments and high suction capacity

Delivers bright, clear, high-resolution images for superior observation

Closed Suction Valve.

1.9 ECG recorder, portable, w/access

One-time record: 3/6/12 channels

Simultaneous recording of 12 leads

Signal analysis compliant with the EN 60601-2-25:2015

Test interpretation that depends on patient's age given in days, months and years

Detection of pacemaker impulses

Built-in, graphic and colour 5,7" or 7" screen that allows simultaneous, readable preview of 12 ECG leads (resolution: 320x240 or 800x480)

Internal memory >500 tests

Width of record: 112 mm

Recording in manual mode

Recording in automatic mode (one-time record)

Backward record of ECG test (up to 10 seconds)

Long (up to 10 minutes in the internal memory) record for arrhythmia evaluation

Mains power, maintenance-free power supply with the in-built charger

Test preview from the ECG machine's memory without a need of a printout

With each unit:

ECG papers and ECG disposable adhesive electrodes enough for 500 patients.

Optional: Suitable cart to mount machine

1.10 Oxygen bottle with regulator and humidifier

Specifications to be provided by Bidder

1.11 Oxygen regulator with barbotor

Specifications to be provided by Bidder

1.12 Patient light source on wheels

Stainless steel base

Led technology

Adjustable height

Flexible upper part

On/Off power switch

1.13 Scale, infant, clinic, beam type

Beam type mechanical scale for infants

Measuring range: 0-16kg

Minimum graduation: 5g

Reading time in seconds: about 30 seconds

Readout in metric (kg)

Display: easily readable in low light working situations, signal white coloured numbers on black surface.

With easy zero adjustment possibility.

With stabilizing mechanism for faster reading of results.

Removable curved tray.

Adjustable feet allow for horizontal levelling.

Built in round level bubble with indication of centre.

Materials

Mechanics and other vital parts are made of rust proof materials

Tray: powder-coated, light grey colour

Ferrous parts shall be treated with a rust inhibitor against corrosion ,

Plastic parts shall be UV resistant, preferably acrylonitrile butadiene styrene (ABS) or similar.

Body: metal only (stainless steel or epoxy coated steel).

Calibration screw: stainless steel

Body and mechanics must be splash proof, shock resistant and light-weight.

Design must allow rough handling.

Smooth surface/finishing must allow easy cleaning/disinfection.

Easy maintenance and repair in low tech settings must be possible.

1.14 Adult scale I

Mechanical adult scale, beam type, for use up to 180kg with 100g precision, with hand pole.

Beam type mechanical scale for adults

Measuring range: from 5 up to a minimum of 180kg.

Minimum graduation: 100g

Reading time in seconds: < 15 seconds

Readout in metric (kg)

Display: easily readable in low light working situations, black coloured numbers on silver surface. Can be read from both sides.

With easy zero adjustment possibility.

With stabilizing mechanism for faster reading of results

Adjustable feet allow for horizontal levelling

Hand pole attached.

No height measuring rod included.

1.15 Bed, hospital, ICU, w/mattress

ICU Beds are required in the Intensive Care for comfort of the patient and to facilitate comfortable transfer to and from emergency/OT/Wards etc. It is also required to carry out

point of care procedures including radiological procedures at the bedside.

The system should be electrically operatable and adjustable for heights, trendelenburg etc. It should also be having radio translucent top for carrying out X-Ray at the bedside.

Should have stepless electrical adjustment for the following:

- Back-rest adjustment 0-70 degrees
- Thigh rest adjustment: 0-40 degrees
- Foot-rest mechanical adjustment: 0-25 degrees
- Vascular position
- Fowler position
- Cardiac position
- Trendelenburg and anti-Trendelenburg positions
- Change height from minimum 50 cm to maximum 80 cm (without castor)

Dimensions:

External dimension: around 100 x 220 cm

Mattres platform: around 90 x 200 cm

Bed extension: +20 cm

1.16 Normal patient bed 3 functions

Operational characteristics:

- Strong and sturdy structure
- Frame made of epoxy-coated steel
- Legs on wheels with locking brakes
- Frame equipped with plastic bumpers and receptacles for patient-lifting and/or IV poles
- Galvanized grid or perforated steel plate platform with mattress retainers
- Easily removable head and foot ends made of stainless steel with plastic-covered bends and grips
- Collapsible protection sides □ Workload not less than 190Kg.
- Approximate Dimensions: 2100 x 950 mm.
- Movements/controls of back-rest controlled/adjusted by a gas spring piston of at least +60°.

Expected configuration:

- Mattress of at least 150mm thickness, with a sleeping surface of approximately 900 x 2000 mm, enclosed by a detachable impermeable cover
- Pillow made of Anti-bacterial, anti-static, toxic-free, high density foam core, provided with removable impermeable cover
- Chart holder for patient data sheet A4
- Complete set of thick cotton sheets for bed and pillow (mattress cover, bed sheet, pillow cover)
- Patient lifting pole (monkey bar) for 10 bed

1.17 Over bed table

- Strong, sturdy stable structure
- Manufactured from chrome plated or stainless tubular steel which shall be epoxy powder coated
- Mounted on 4 x 50mm swivel castors
- Adjustable height
- Flat top finished with a high-quality wood-grained laminate or equivalent material
- Cantilever adjustable height to fit the hospital beds with fixed height (see Bed Specifications Item B-2.6)
- Weight Capacity: of at least 20 kg

1.18 Bedside patient cabinet

- ☐ Strong sturdy steel structure
- ☐ Manufactured from epoxy-coated steel or other heavy-duty material
- ☐ Resistant to corrosion and disinfection products
- ☐ Easily cleanable
- ☐ Comprises of cupboard section, a pull-out drawer and open volume section
- ☐ Mounted on four legs with nonconductive rubber stops.
- ☐ Both the swing door and drawer shall have suitable handles
- ☐ Approximate indicative dimensions (WxDxH): 45x50x 90 cm

1.19 Mobile curtain frame or folding screens

- Strong and stable structure
- Epoxy coated stainless steel frame
- Designed using durable and easy to clean panel systems for maximum hygienic situation
- Fold Flat for Storage
- Flame Retardant panels.
- 3-Sections mounted on preferably 8 caster wheels.
- Removable and washable panels.
- Panels' material: flame retardant washing material, antibacterial, resistant to corrosion, water, detergent soap, ethylic alcohol solution and to the hypochlorite of sodium.
- Approximate dimensions 190 x 50 x 180 (h) cm

1.20 Stainless steel Dressing trolley with one drawer

Specifications to be provided by bidder

1.21 Medication trolley

Specifications to be provided by bidder

1.22 Emergency trolley

Specifications to be provided by bidder

1.23 ER stretcher

General Description:

Stretcher, patient, with side rails

Technical specifications:

- Stretcher designed specifically for patient transport, 2 sections
- Heavy duty carriage mounted on 4 swivel castors, two with brake and four with anti-static wheel.
- Both sections fitted with non-removable padded upholstery
- Backrest angle adjustable via secured pawl and gear ratchet, safe for patient and operator
- When fully extended, both sections align to perfectly flat surface
- Transfer bars connect all lower distal portions of the 4 castors, providing maximal structural strength
- Base of stretcher fit with large meshed utility shelf
- Shelf is securely fixed, free from shaking and vibrations during transport
- With fold-away side rails
- Protective bumpers at all four corners
- Head-end side has removable height adjustable IV-pole, height is set with robust clamp with heavy knob
- Fixings of the fold-away side rails and IV-pole is solid steel and welded to the frame of the stretcher

Material:

- High resistance to corrosion (tropical environment)
- Frame: epoxy coated tubular steel
- Padded upholstery: high-density polyurethane foam, density 2.7-3.3 kg/m³
- Cover: plastic, flexible highly tear resistant, anti-static, flame retardant, disinfectant- and liquid proof, washable
- Caster frame/bracket: steel or nylon
- Caster brake: total-lock type (wheel and rotational lock)
- Caster wheel: single wheel, mold-on type, non-hooded (for easy maintenance), anti-static (for 4).
- Wheel bearing: sealed bearing in the swivel and the wheel
- Swivel is ball-bearing

Dimensions:

- Stretcher, two sections extended, including upholstery: 160-200x50-60x72-88cm (l x w x h)
- Fold away side rails: 50-100 x 30-45cm (l x h)
- Frame: 2.7-3.3cm (outside, across), 1.8-2.2mm (thickness)
- Swivel castor wheel: 2.3-3 x 11-15cm (w x diameter)
- Upholstery: 4.5-55cm (h)
- Carrying capacity: minimum 160 kg

Supplied with:

- 1 x complete set of tools required for assembly

- 1 x meshed utility shelf
- 2 x fold-away side rails
- 1 x IV pole
- List of accessories and parts
- Detailed step-by-step instructions for assembly and safe use

1.24 Dressing drum stainless steel

Various diameters, Specifications to be provided by bidder

1.25 Stainless steel kidney base with try

Specifications to be provided by bidder

1.26 Standard Surgical set 6 pieces

Kit contents:

- 1 x S0773550 - Scissors,Deaver,140mm,cvd,s/b
- 1 x S0743600 - Needle holder,Mayo-Hegar,180mm,str
- 1 x S0726000 - Forceps,artery,Kocher,140mm,str
- 1 x S0745500 - Scalpel handle,no.4
- 1 x S0737000 - Forceps,tissue,standard,145mm,str
- 1 x S0759820 - Probe,double-ended,145mm

1.27 Ophthalmoscope, set

Product Description:

Ophthalmoscope set to visualize the interior of the eye, with the instrument relatively close to the subject's eye and the observer viewing an upright magnified image. Ophthalmoscope set composed of diagnostic head threaded on a handle.

Specifications

- Range of lenses not smaller than -20D to +20D with steps not greater than 1D.
- Anti-reflection lens.
- Magnification 12-16x
- Apertures: small, large and semi circle, fixation star.
- Color temperature: Cool white in the range 3100-5500K
- Light intensity: 8,000-12,000 lux
- Dust free sealed optics and aspherical optical system
- Red-free, blue, green, and polarization filters.
- Handle with on/off switch.
- Scratchproof lens; glass (preferred) or plastic
- Batteries: AA or rechargeable
- Battery life: at least 5 hours of use on full charge or fresh batteries
- Set contained in a hard storage case.
- 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%.
- Liquid splash resistant

Accessories/Spare parts/Consumables:

- Battery charger (as applicable to rechargeable type only)
- Sufficient light bulbs for 3 years use

1.28 Otoscope set

Product Description:

Otoscope set for visual examination of the eardrum and the outer ear, Otoscope set composed of diagnostic head on a handle.

Specifications:

- Viewing lens magnification 2.5-3x
- Color temperature: Cool white in the range 3100-5500K
- Light intensity: 8,000-12,000 lux
- Specula specifications
- Reusable
- Autoclavable
- Cleanable with alcohol wipes

- Handle with on/off switch.
- Scratch-resistant lens; glass (preferred) or plastic
- Port for an insufflation bulb
- Set contained in a hard storage case.
- Liquid splash resistant
- Weight: < 0.170kg without batteries

Batteries:

- Standard AA or AAA or rechargeable
- Battery life: at least 3 hours of use on full charge or fresh batteries
- Low battery or charge status indicator (as applicable to rechargeable type only)
- Supplied without batteries (as applicable to AA/AAA type only)

Storage:

- 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%.

Accessories/Spare parts/Consumables:

- 1 X set of at least 8 reusable plastic specula of 4 (min) diameters ranging from 2-5mm.
- Battery charger (as applicable to rechargeable type only)
- Soft ball and tube for pneumatic tests
- Sufficient light bulbs for 3 years use

1.29 Stethoscope

Product Description:

A mechanical listening device designed for listening to sounds from the heart and lungs. Comprises a membrane at the listening head connected by a split "Y" tube to the headgear with ear pieces that are placed into the users ears.

Specifications:

- Double cup, dual-use (adult and pediatric auscultation) chest piece in stainless steel or chrome plated brass.
- Adult diaphragm 43-47mm; pediatric diaphragm 28-36mm.
- Y tube treated rubber or PVC with 8-11mm diameter.
- Sensitivity from 3.2dB to 26dB in a range from 50 to 1000Hz for cardiology.
- Sensitivity 8.1dB in a range from 600 Hz to 1,500Hz for pneumology.
- Arms: stainless steel, or chrome brass

- Removable plastic ear-pieces.
- Latex-free

1.30 Video Laryngoscope

- Video laryngoscope convenient for tracheal intubation.
- With camera for live image capturing
- LED light illumination
- Colour image display facility LCD/TFT display
- Provision to insert all sizes of endotracheal tube
- Provision to introduce all sizes of suction catheters
- Water proof protection
- Supplied with rechargeable battery and provision for re-charge
- Battery backup facility of minimum 1 hr
- With blade sizes/adjustable for adult and paediatric laryngoscopy. (If the blades are disposable, should supply an amount of 50 blades compatible for both adult and paediatric along with each unit.
- Should have safety certificate from a competent authority CE / FDA (US) / STQC CB certificate / STQC S certificate or valid detailed electrical and functional safety test report