

TECHNICAL SPECIFICATIONS

Important Instructions for Technical Specifications

1. The bidders shall NOT write the word “As per specifications”, “specifications compliance” or any other related terms.
2. The bidder shall prepare the bid specifications in an **annotated for ease of comparison & evaluation**. The specifications will also be supported with **brochures of quoted equipment**, reference **picture/design / website link of the product**. The relevant brochures having complete specification must be attached with the technical bid otherwise bids shall be declared as non-responsive

4	Medical Pediatrics		
J	INCUBATORS (NEONATOLOGY DEPARTMENT)		
1	Baby incubator intensive care with complete accessories.	10	<p>Baby Incubator Two way incubator temperature monitoring Mandatory Humidity Control, Temp (skin temperature& incubator air temperature), Height adjustment, damping doors Mattress size: (396*6228*20)or better Side panel: 761mm*325mm or better Water Tank Capacity: ≥1L or better , X-ray tray, Humidifier, Drawer Optional: Tray and bracket Caster wheel four brakes Power Supply 100-240V~, 50/60Hz±1Hz Battery Type Rechargeable Lithium-ion battery, Battery backup 2 hours One alarm indicator, Power indicator, Battery indicator QRS beep and alarm sound , Operating key sound Parameter cable interface USB port, RJ45 port Date storage: Alarm Review: 200 groups, Wave Review: ≥24 min Temperature Control Setting range: 35.0~37.5°C (Infant mode), 25.0~39.0°C (Air Mode) or better Set temperature exceeds 37°C, should press the display the "> 37°C" key, and then confirmed by the interface pop-up window to enter or better Measurement range: 25.0~45.0°C or better Resolution: 0.1°C or better Accuracy: Air temp sensor: ±0.3°C or better Skin temp sensor: ±0.1°C(37~39°C) Alarm range: 34~38.5°C (Infant mode) 23~41°C (Air Mode) or better Heating time: ≤35mins (Temperature inside the thermostat cover rises from 25°C to 36°C) or better Humidification time: <20mins (In indoor environment conditions of 25°C, 50% relative humidity, reach to 33°C, 85% relative humidity) or better Operation without adding water time: ≥12 hours (full water tank, environment: 25°C indoor temp, 50% relative humidity, humidity is set to 65%) or better</p>
2	Transport incubators complete with ventilator and Monitor	1	<p>Baby Incubator with backup of 3 hours (Mandatory) Humidity Control, Temp (skin temperature& incubator air temperature), Height adjustment, damping doors, 3-lead ECG, RESP, NIBP, HR, Weight scale, EtCO2, SpO2, O2 concentration monitoring, Apnea monitoring, Apnea awaking, Servo oxygen supply, Recorder Screen Size: 12.1" TFT touch screen or better. Mattress size: 408mm*635mm*20mm or better. Side panel: 761mm*325mm or better Water Tank Capacity: ≥1L or better Lifting system Tray and bracket, X-ray tray, Humidifier, Drawer Caster wheel four brakes Power Supply 100-240V~, 50/60Hz±1Hz</p>

		<p>Battery Type Rechargeable Lithium-ion battery, Battery backup 2 hours One alarm indicator, Power indicator, Battery indicator QRS beep and alarm sound , Operating key sound Parameter cable interface USB port, RJ45 port Date storage: Alarm Review: 200 groups, Wave Review: ≥24 min Recorder: Type: Built-in; thermal array Channel: 3 channel waveforms or better Speed: 25mm/s, 50mm/s or better Record width 50mm Temperature Control Setting range: 35.0~37.5°C (Infant mode), 25.0~39.0°C (Air Mode) or better Set temperature exceeds 37°C, should press the display the "> 37°C" key, and then confirmed by the interface pop-up window to enter or better Measurement range: 25.0~45.0°C or better Resolution: 0.1°C or better Accuracy: Air temp sensor: ±0.3°C or better Skin temp sensor: ±0.1°C(37~39°C) Alarm range: 34~38.5°C (Infant mode) 23~41°C (Air Mode) or better Heating time: ≤35mins (Temperature inside the thermostat cover rises from 25°C to 36°C) or better Humidification time: <20mins (In indoor environment conditions of 25°C, 50% relative humidity, reach to 33°C, 85% relative humidity) or better Operation without adding water time: ≥12 hours (full water tank, environment: 25°C indoor temp, 50% relative humidity, humidity is set to 65%) or better</p> <p>Portable Vent Ventilator with built-in Turbine, electrically operated microprocessor controlled, suitable for adult / Paeds / Neonate use.</p> <ul style="list-style-type: none"> • Tidal Volume: 5 ~ 2000 ml or better on either side. Mandatory • Frequency: 1 ~ 120b/min or better on either side. • I:E ratio: 1:7- 4:1 or better • Inspiratory Time: 0.2-8s or better • Inspiratory Pressure: 3-60 cmH2O or better • Support Pressure: 0-60 cmH2O or better • Pressure Trigger: -20- -0.5cmH2O, OFF • Flow Trigger: 0.5-20 L/min (neonatal 0.1-5.0L/min), OFF • PEEP: 0-30 cmH2O • FiO2: 21-100% • Patient Circuit: Autoclavable / disinfectible (adult, Paeds & Neonate) • Supplied with pole clamp. • O2 and Air input hoses • With compatible Humidifier. <p>Modes: Mandatory Invasive and non-invasive ventilation which could be used inside ICU or outside ICU.</p> <ul style="list-style-type: none"> • Volume control: CMV/AC , SIMV, PRVC • Pressure Control: CMV/AC, SIMV, CPAP, PS • Adaptive ventilation mode, APRV, Duo level (Bilevel) <p>Monitoring:</p> <ul style="list-style-type: none"> • Standard 7 parameters TFT / LCD Monitor Size: 12" or more Mandatory • One Hour or more Built-in Battery Backup • Display Loops including Pressure-Volume, Flow-Volume, Flow Pressure, show up to 2 loops simultaneously. • Should operate on O2,Air/ or both • Alarms for Gas failure, RR, Pressure, Apnea, Volume, Low Battery • With built-in Turbine (03 Hrs or more backup UPS)
3	Standard Transport incubator with accessories	<p>Baby Incubator Humidity Control, Temp (skin temperature& incubator air temperature), Height adjustment, damping doors, 3/5-lead ECG, RESP, NIBP, HR, Weight scale, EtCO2, SpO2, O2 concentration monitoring, Apnea monitoring, Apnea awaking, Servo oxygen supply, Recorder Screen Size: 15" TFT touch screen or better Mandatory Mattress size: 408mm*635mm*20mm or better Side panel: 761mm*325mm or better</p>

		<p>Water Tank Capacity: $\geq 1L$ or better</p> <p>Lifting system</p> <p>Tray and bracket, X-ray tray, Humidifier, Drawer</p> <p>Caster wheel four brakes</p> <p>Power Supply 100-240V~, 50/60Hz± 1Hz</p> <p>Battery Type Rechargeable Lithium-ion battery, Battery backup 2 hours</p> <p>One alarm indicator, Power indicator, Battery indicator</p> <p>QRS beep and alarm sound , Operating key sound</p> <p>Parameter cable interface USB port, RJ45 port</p> <p>Date storage:</p> <p>Alarm Review: 200 groups, Wave Review: ≥ 24 min</p> <p>Recorder:</p> <p>Type: Built-in; thermal array</p> <p>Channel: 3 channel waveforms or better</p> <p>Speed: 25mm/s, 50mm/s or better</p> <p>Record width 50mm</p> <p>Temperature Control</p> <p>Setting range: 35.0~37.5°C (Infant mode), 25.0~39.0°C (Air Mode) or better</p> <p>Set temperature exceeds 37°C, should press the display the "> 37°C" key, and then confirmed by the interface pop-up window to enter or better</p> <p>Measurement range: 25.0~45.0°C or better</p> <p>Resolution: 0.1°C or better</p> <p>Accuracy: Air temp sensor: $\pm 0.3^\circ C$ or better</p> <p>Skin temp sensor: $\pm 0.1^\circ C$(37~39°C) Alarm range: 34~38.5°C (Infant mode) 23~41°C (Air Mode) or better</p> <p>Heating time: ≤ 35mins (Temperature inside the thermostat cover rises from 25°C to 36°C) or better</p> <p>Humidification time: < 20mins (In indoor environment conditions of 25°C, 50% relative humidity, reach to 33°C, 85% relative humidity) or better</p> <p>Operation without adding water time: ≥ 12 hours (full water tank, environment: 25°C indoor temp, 50% relative humidity, humidity is set to 65%) or better</p>
4	Resuscitation unit Monitor Ventilator and accessories.	2 <p>Radiant warming (far-infrared radiation heating), Bassinet tilt, X-ray film cassette, $\pm 45^\circ$ rotation of the canopy, two directions pull-out drawer, Three-layer overheating protection, APGAR timer, Examination lamp, Damping door, Electronic Lifting, Hand-free silence, Temp monitor, Data logger</p> <p>Phototherapy, ECG, RESP, SPO2, NIBP, EtCO2, Weighing scale, Apnea wake-up, Tray, Bracket, Resuscitation (Air-oxygen mixing, Negative-pressure sputum suction, PEEP, Airway pressure monitoring, Peak inspiratory pressure control, Negative pressure monitoring, Mechanical alarm)</p> <p>Screen Size: 10.4" LCD touch screen or better</p> <p>Height: Floor to mattress (bed lowered): 850mm or better</p> <p>Floor to mattress (bed raised): 1050mm or better</p> <p>Floor to canopy: 1700mm or better</p> <p>Caster size 5 inches (125mm)</p> <p>Load bearing of platform:≤ 150kg</p> <p>Load bearing of tray and bracket:≤ 6Kg</p> <p>Working Temp: 18~30°C</p> <p>Humidity: 15~80%</p> <p>Air flow: ≤ 0.3m/s</p> <p>Power Supply: 100-240V~, 50/60Hz± 1Hz</p> <p>Battery Type: Rechargeable Lithium-ion battery</p> <p>Battery backup: 1 hours for continuous working</p> <p>Pressure range at inlet: 280~600 kPa or better</p> <p>Indicator: Alarm indicator 360 ° visible alarm indication Horizontal removal alert of the lamp holder</p> <p>Alarm display angle 360°</p> <p>Alarm of lamp: horizontal shift alarm</p> <p>Three auxiliary power output</p> <p>Plug-in slot, USB port</p> <p>Data storage: Wave Review: ≥ 24 min, Trend Graph: 120 hours, Trend Chart: 120 hours or better</p> <p>Alarm: User-adjustable High, Medium and Low</p> <p>Recorder: Type: Built-in; thermal array</p> <p>Channel: 2 channel waveforms, Speed: 25mm/s,50mm/s, Record width: 50mm</p> <p>Weight Scale Measurement Range: 300g~8000g or better</p>

			<p>Load bearing of bassinet: $\leq 10\text{kg}$ or better Lifting range of platform: $0\sim 200\text{mm}$ or better Bassinet tilt angle: $\pm 12^\circ$ or better Far-infrared radiation Maximum irradiance (at any point on the mattress) 60 mW/cm^2 or better Maximum irradiance (near infrared spectrum) 10 mW/cm^2, (760 nm to 1400 nm) or better Puncture lamp High: $4500\text{ Lux}\pm 500\text{Lux}$, Medium: $2500\text{ Lux}\pm 500\text{Lux}$, Low: $1500\text{ Lux}\pm 500\text{Lux}$ or better Spot size: $250\text{mm}\pm 10\%$ or better Temperature Setting range: $32.0\sim 38.0^\circ\text{C}$, Accuracy: $\leq \pm 0.5^\circ\text{C}$ or better Measurement range: $25.0\sim 45.0^\circ\text{C}$ or better Work mode: Manual/ Infant Pre-heating time $< 35\text{min}$ (From 25°C (indoor "temperature") at 50% relative humidity to 36°C) Irradiance uniformity of total bilirubin: > 0.4 or better Exposure time: Display total duration: 10000 hours or better Display single duration: 100 hours or better Rotation angle of lamp: Vertical shift: $\pm 45^\circ$ or better, Horizontal rotation: $\pm 90^\circ$ or better T-piece Resuscitation, Oxygen and air supply pressure: $280\text{ kPa}\sim 600\text{kPa}$ or better Rang of cylinder pressure gauge: $0\text{ Pa}\sim 250\times 100\text{ Pa}$; or better Sputum suction pressure: $-150\text{mmHg}\sim 0\text{mmHg}$; Accuracy: $\pm 5\%$ Sputum suction flow: (At maximum suction pressure) $< 20\text{ L/min}$ Rang of negative pressure gauge $-180\text{mmHg}\sim 0\text{ mmHg}$; Accuracy: $\pm 5\%$ Oxygen concentration range: $21\%\sim 100\%$; Accuracy: $\pm 3\%$ Oxygen therapy range: $0\text{ L/min}\sim 15\text{ L/min}$ Continuous positive pressure flow range: $0\text{ L/min}\sim 15\text{ L/min}$ Rang of Airway pressure gauge $-20\text{ cmH}_2\text{O}\sim 100\text{cmH}_2\text{O}$ Maximum PIP: $45\text{ cmH}_2\text{O}\pm 5\text{cmH}_2\text{O}$ PIP values against mis operation: $> 30\pm 4\text{ cmH}_2\text{O}$ Mechanical alarm: When the pressure difference between oxygen and air is above $140\text{kPa} \pm 20\text{kPa}$ or if one of the two gases breaks down, it will alarm. PEEP Apgar Timer range: $00:00\sim 59:59$ Mode: Counting and countdown (10 alarm time nodes can be set)</p>
5	Infant Resuscitator	2	<p>Radiant warming (far-infrared radiation heating), Bassinet tilt, X-ray film cassette, $\pm 45^\circ$ rotation of the canopy, two directions pull-out drawer, Three-layer overheating protection, APGAR timer, Examination lamp, Damping door, Electronic Lifting, Hand-free silence, Temp monitor, Data logger Phototherapy, ECG, RESP, SPO2, NIBP, EtCO2, Weighing scale, Apnea wake-up, Tray, Bracket, Resuscitation (Air-oxygen mixing, Negative-pressure sputum suction, PEEP, Airway pressure monitoring, Peak inspiratory pressure control, Negative pressure monitoring, Mechanical alarm) Screen Size: $10.4''$ LCD touch screen or better Height: Floor to mattress (bed lowered): 850mm or better Floor to mattress (bed raised): 1050mm or better Floor to canopy: 1700mm or better Caster size 5 inches (125mm) Load bearing of platform: $\leq 150\text{kg}$ Load bearing of tray and bracket: $\leq 6\text{Kg}$ Working Temp: $18\sim 30^\circ\text{C}$ Humidity: $15\sim 80\%$ Air flow: $\leq 0.3\text{m/s}$ Power Supply: $100\sim 240\text{V}\sim, 50/60\text{Hz}\pm 1\text{Hz}$ Battery Type: Rechargeable Lithium-ion battery Battery backup: 1 hours for continuous working Pressure range at inlet: $280\sim 600\text{ kPa}$ or better Indicator: Alarm indicator 360° visible alarm indication Horizontal removal alert of the lamp holder Alarm display angle 360° Alarm of lamp: horizontal shift alarm Three auxiliary power output Plug-in slot, USB port Data storage: Wave Review: $\geq 24\text{ min}$, Trend Graph: 120 hours, Trend Chart: 120 hours or</p>

		<p>better</p> <p>Alarm: User-adjustable High, Medium and Low</p> <p>Recorder: Type: Built-in; thermal array</p> <p>Channel: 2 channel waveforms, Speed: 25mm/s,50mm/s, Record width: 50mm</p> <p>Weight Scale Measurement Range: 300g~8000g or better</p> <p>Load bearing of bassinet: ≤10kg or better</p> <p>Lifting range of platform: 0~200mm or better</p> <p>Bassinet tilt angle: ±12° or better</p> <p>Far-infrared radiation Maximum irradiance (at any point on the mattress) 60 mW/cm2 or better</p> <p>Maximum irradiance (near infrared spectrum) 10 mW/cm2, (760 nm to 1 400 nm) or better</p> <p>Puncture lamp High: 4500 Lux±500Lux, Medium: 2500 Lux±500Lux, Low: 1500 Lux±500Lux or better</p> <p>Spot size: 250mm±10% or better</p> <p>Temperature Setting range: 32.0~38.0°C, Accuracy: ≤±0.5°C or better</p> <p>Measurement range: 25.0~45.0°C or better</p> <p>Work mode: Manual/ Infant</p> <p>Pre-heating time < 35min (From 25°C (indoor "temperature") at 50% relative humidity to 36°C)</p> <p>Irradiance uniformity of total bilirubin: >0.4 or better</p> <p>Exposure time: Display total duration: 10000 hours or better</p> <p>Display single duration: 100 hours or better</p> <p>Rotation angle of lamp: Vertical shift: ±45° or better, Horizontal rotation: ±90° or better</p> <p>T-piece Resuscitation,</p> <p>Oxygen and air supply pressure: 280 kPa~600kPa or better</p> <p>Rang of cylinder pressure gauge: 0 Pa~250x100 Pa; or better</p> <p>Sputum suction pressure: -150mmHg~0mmHg; Accuracy: ±5%</p> <p>Sputum suction flow: (At maximum suction pressure) <20 L/ min</p> <p>Rang of negative pressure gauge -180mmHg~0 mmHg; Accuracy: ±5%</p> <p>Oxygen concentration range: 21%~100%; Accuracy: ± 3%</p> <p>Oxygen therapy range: 0 L/min~15 L/min</p> <p>Continuous positive pressure flow range: 0 L/ min~15 L/min</p> <p>Rang of Airway pressure gauge -20 cmH20~100cmH20</p> <p>Maximum PIP: 45 cmH2O±5cmH2O</p> <p>PIP values against mis operation: >30±4 cmH2O</p> <p>Mechanical alarm: When the pressure difference between oxygen and air is above 140kPa ± 20kPa or if one of the two gases breaks down, it will alarm.</p> <p>PEEP</p> <p>Apgar Timer range: 00: 00~59: 59</p> <p>Mode: Counting and countdown (10 alarm time nodes can be set)</p>
6	Neonatal Monitor with stand	<p>10</p> <p>(5ch ECG, SpO2, NIBP Apnea wake up function</p> <p>Display for easy Viewing 8.4" or better color TFT/LCD/ LED for easy set-up User selective 10 or better traces/ waveform display.</p> <p>ECG, SpO2, NIBP, Optional: IBP, 2-TEMP, and Respiration EtCO2 (Side stream type with basic accessories)</p> <p>23 or more Arrhythmias analysis should be detected and alarmed</p> <p>Multi-lead ECG algorithm</p> <p>Pacemaker detection.</p> <p>Support heart rate analysis and dynamic NIBP analysis</p> <p>Save up to (200) or more Event management and 48 hours or more waveforms Optional: IBP cable and sensor kit</p> <p>Up to 72 hours of graphic and tabular trend of all parameters,</p> <p>PERFORMANCE:</p> <p>Heart rate: (15-350) bpm or better on either sides And Ped/Neo:15-350bpm or better</p> <p>Respiration</p> <p>Respiration rate: 0~150bpm or better on either side.</p> <p>SPO2:</p> <p>Range: 0 ~ 100% or better on either side</p> <p>Temperature:</p> <p>Range; 0 -50C° (32 - 122F°)</p> <p>NIBP:</p> <p>Range: Adult: SYS 25-290mmHg DIA 10-250mmHg Average: 15- 260mmHg</p> <p>Pediatric: SYS:25-240mmHg DIA:10-200mmHg Average:15- 215mmHg</p> <p>Neonatal: SYS:25-140mmHg DIA:10-115mmHg Average :15- 125mmHg</p>

		<p>Alarm Alarm: All parameters on/off selective independently Power input 220Vac,50Hz With Battery Backup time: Minimum 05 hours or better</p> <p>ACCESSORIES:</p> <ul style="list-style-type: none"> • ECG 5 Lead cable. 1 • Disposable Electrodes Adult, Neonate & Paeds. 20 each • SPO2 Finger sensor with fixed or detachable extension (each for adult, Paeds and neonate) 1 • NIBP Reusable Neonate, Paeds & Adult Cuff 1 • NIBP Hose 1 • AC power code 1 • Operation Manual 1 • optional:ETCO2 (Side stream) with basic acc. 1 • optional: IBP Cable 1 • Temperature sensor & cable 1 <p>Monitor stand should be provided</p>
7	Ventilator with HFO	<p>Ventilator with compressor electrically operated microprocessor controlled, suitable for Paeds / Neonate use. (all value according to HFO)</p> <ul style="list-style-type: none"> • Tidal Volume: 2 ~ 2000 ml or better on either side. • Frequency: 1 ~ 120b/min or better on either side. • I:E ratio: 1:7- 4:1 or better • Inspiratory Time: 0.2-8s or better • Inspiratory Pressure: 3-60 cmH2O or better • Support Pressure: 0-60 cmH2O or better • Pressure Trigger: -20- -0.5cmH2O, OFF • Flow Trigger: 0.5-20 L/min (neonatal 0.1-5.0L/min), OFF • PEEP: 0-30 cmH2O • FiO2: 21-100% • Patient Circuit: Autoclavable / disinfectible (Paeds & Neonate) • Supplied with pole clamp. • O2 and Air input hoses • With compatible Humidifier. <p>Modes: Invasive and non-invasive ventilation which could be used inside ICU or outside ICU.</p> <ul style="list-style-type: none"> • : CMV/AC , SIMV, PRVC • Pressure Control: CMV/AC, SIMV, CPAP, PS • Adaptive ventilation mode, APRV, Duo level (Bilevel) • HFO (High Frequency oscillation) <p>Monitoring:</p> <ul style="list-style-type: none"> • Standard parameters • One Hour or more Built-in Battery Backup • TFT / LCD Monitor Size: 12" or more • Display Loops including Pressure-Volume, Flow-Volume, Flow Pressure, show up to 2 loops simultaneously. • Should operate on O2,Air/ or both • Alarms for Gas failure, RR, Pressure, Apnea, Volume, Low Battery • With built-in Turbine (03 Hrs or more backup UPS)
7	Ventilator	<p>Ventilator with Turbine electrically operated microprocessor controlled, suitable for Paeds / Neonate use.</p> <p>Tidal Volume: 20 ~ 2000 ml or better on either side.</p> <ul style="list-style-type: none"> • Frequency: 1 ~ 120b/min or better on either side. • I:E ratio: 1:7- 4:1 or better • Inspiratory Time: 0.2-8s or better • Inspiratory Pressure: 3-60 cmH2O or better • Support Pressure: 0-60 cmH2O or better • Pressure Trigger: -20- -0.5cmH2O, OFF • Flow Trigger: 0.5-20 L/min (neonatal 0.1-5.0L/min), OFF • PEEP: 0-30 cmH2O • FiO2: 21-100% • Patient Circuit: Autoclavable / disinfectible (Paeds & Neonate) • Supplied with pole clamp.

		<ul style="list-style-type: none"> • O2 and Air input hoses • With compatible Humidifier. <p>Modes: Invasive and non-invasive ventilation which could be used inside ICU or outside ICU.</p> <ul style="list-style-type: none"> • : CMV/AC , SIMV, PRVC • Pressure Control: CMV/AC, SIMV, CPAP, PS • Adaptive ventilation mode, APRV, Duo level (Bilevel) • HFO (High Frequency oscillation) <p>Monitoring:</p> <ul style="list-style-type: none"> • Standard parameters • One Hour or more Built-in Battery Backup • TFT / LCD Monitor Size: 12” or more • Display Loops including Pressure-Volume, Flow-Volume, Flow Pressure, show up to 2 loops simultaneously. • Should operate on O2,Air/ or both • Alarms for Gas failure, RR, Pressure, Apnea, Volume, Low Battery • With built-in Turbine (03 Hrs or more backup UPS)
8	Anesthesia work station	<p>Anesthesia Machine Electronic mixing with Ventilator and Patient Monitor Mandatory Anesthesia gas mixing should be done electronically O2 sensing should be paramagnetic cell</p> <ul style="list-style-type: none"> •3 Gas System having O2,N2O and air •Machine having three two or more drawers •Pin index Cylinder yokes for O2 and N2O •Pipeline and Cylinder Gauges for O2 ,N2O and Air •Central gas driven Unit, fresh gas outlet and O2 flush control (35-50L/min or better) •4 Antistatic castors, with brake system •Monitor Shelf •Electronic Display and Controlled Flow Meter with hypoxic guard with no less than 25% O2 concentration <ul style="list-style-type: none"> • Paramagnetic cell •O2: 0 to 15 Liters/Minute or better •N2O: 0 to 10 Liters/Minute or better •Air: 0 to 15 Liters/Minute or better •Auxiliary O2 and Air outlet •850ml or better Absorber capacity, fully Autoclavable, including Bag/Vent Switch, CO2 bypass and Manometer Gauge. Complete with mounting Bracket. Absorber detachable (reusable) including Fresh Gas Hose. •Vacuum suction along with jar on machine •Heated Breathing System •Electronic Fresh gas Display • LED Light •Slectatec backbar with interlocking function for minimum two vaporizers or more •O2 Vaporizer: Isoflurane & Sevoflurane (Manufactured by same Manufacturer) •Three Electrical outlet sockets or more •The unit should include Active / Passive anesthesia Gas Scavenging system •Independent ACGO Function •Emergency Oxygen cylinder for backup on machine <p>Built-in Anesthesia Ventilator:</p> <ul style="list-style-type: none"> •Advanced Anesthesia Ventilator with Adult, Child and Neonatal capability •Electronic / Microprocessor Controlled and Pneumatically driven •Display: Large 15” or better full color TFT/LCD Display, Touch –Screen display parameters, all settings and Alarm Parameters with Back-up touch pad. <p>Ventilation Modes:</p> <ul style="list-style-type: none"> •Manual/ Spontaneous Ventilation •Volume Control VCV (IPPV/mode) •Pressure Control PCV with volume guarantee optional •SIMV Volume Control + SIMV Pressure Control •Pressure Support with Apnea •Cardiac Bypass Mode

		<p>Ventilation Monitoring:</p> <ul style="list-style-type: none"> •Fio2 •Inspired and Expired Volume •Monitor Interface Capability •Spirometer Loops •PAW, Pressure Waveform, Flow Waveform •Inverse I:E 2:1 - 1:4 or better •Gas Specific input connector (Oxygen) ISO standard •Tidal Volume: 10 to 1500ml or better with Volume Control •BPM Rate: 4 to 100 bpm or better •PEEP: off, 4 to 30mH2O or better •Pressure Inspired: 05 to 70cmH2O or better •Pressure Limit: 10 to 100cmH2O or better •Pressure Support Range: 05 to 40 cmH2O or better <p>Power Supply: 220V/50HZ AC Battery Backup: Minimum 2 Hours or better</p> <p>User Set Alarm:</p> <ul style="list-style-type: none"> •Air Pressure High •Air Pressure Low •MV High •MV Low •High Oxygen •Low Oxygen <p>Static Alarms</p> <ul style="list-style-type: none"> •Apnea •Power Fail •Battery Low <p>Supplied Complete with Hose and Power Cable</p> <p>Multi Gas Monitoring Module for Anesthesia Workstation</p> <ul style="list-style-type: none"> •Side-stream measurements with accessories such as sampling line and water trap. •Method: Infrared / Absorption Gases: Agent Halothane, Isoflurane, Enflurane, Sevoflurane and Desflurane CO2, N2O and O2 •Automatic Anesthesia Agent Identification display •User selectable Alarm limits <p>Modular Vital Sign Monitor Attached with Anesthesia Machine</p> <ul style="list-style-type: none"> •Monitor should be Modular support with ETCO2, IBP and Basic function support ECG, NIBP, TEMP, RESP, HR, SPO2, ST Analysis built in. •At least 7 parameter Anesthesia Patient monitor •It should have 15" or more TFT LCD touch display with 12 waveforms or better. Mandatory •It should have following as standard configuration: ECG, HR, RESP, NIBP, SPO2 and TEMP, ST analysis, ETCO2, 2xIBP Diathermy/electro surgical protection. •Should have alarms for warnings •Trend: Store and review 48 hours or more <p>Standard Accessories Adult & Paeds:</p> <ul style="list-style-type: none"> •5 Lead patient cable ECG, Software for both 3 & 5 lead monitoring •SPO2 connecting cable •SPO2 Reusable finger sensor for adult, pediatric and neonate each •NIBP connecting Hose with cuff for adult, pediatric and neonate each •Temperature probe peripheral •Main cable •ETCO2 Accessory •Instruction manual •2 IBP cable for IBP monitoring with 5 disposable domes <p>Battery:</p> <ul style="list-style-type: none"> •Operating time under the normal use and full change: 04 hours or more <p>Power supply:</p> <ul style="list-style-type: none"> •Power Voltage: 220V-240V 50/60 Hz •Battery backup 02 hour or more •Monitor, Vaporizer must be from same manufacture as of Anesthesia Main Unit
9	Defibrillator	<ul style="list-style-type: none"> • Semi-automatic maximum 270 joules biphasic defibrillator with monitor and AED mode. <p>Mandatory</p>

			<ul style="list-style-type: none"> • Synchronized output with ECG. • Control of energy charging/ delivering on main panel and paddle. • The energy range should be adjustable for Paeds and adults up to 360Joules. • Charging Time for full energy will be less than 08 sec. • Screen Size of approx. 7 inch or better colored. • Display of HR Adult: 15 to 300 bpm ,Pediatric, Neonate: 15 to 350 bpm • ECG through Pads / paddles and 3 (3/5) Lead ECG patient cable with arrhythmia detection • Built in recorder for printing of full summery on standard paper including waveforms, Frozen Waveforms, Event Summary, Tabular Trends, User test, and Configuration. • Alarms for High and low Heart rate, low battery warning. • AC 220V / 50 Hz operated. • Built-in Rechargeable battery with charger for at least 80 shocks at max. Energy and 2.5 hours or better, Monitoring Mandatory • Auto tester/self-check. • External pediatric and adults Paddles, ECG cable with reusable electrodes for adult & Paeds. • AED facility. • Pacing rate: (15-250bpm)
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Note: Dual Certificate is mandatory from the following and it shall be online verifiable

1. CE/EC (European)
2. US-FDA (US-Food and Drugs Authority)
3. MHLW (Ministry of Health Labor and Welfare)