

## 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

S.No	Item Name	Qty.	Specification
A	<b>OPERATION THEATERS</b>		
1	OT Table		<p>Electro Mechanical table with radiolucent top and 5 section table plates with load capacity of 135 kg or Better. <b>Mandatory</b> The table should be water-proof and anti-static material and can be washed by water directly. <b>Mandatory</b></p> <ol style="list-style-type: none"> <li>1. The table top is made up of a head section, back section, seat section, leg section, and kidney bridge. The head section can be disassembled. The head section can be raised or lowered from the horizontal. The leg section can be lowered from the horizontal and opened. The back section can be raised or lowered from the horizontal.</li> <li>2. Table top is made of engineering plastics, thus an X-ray examination of can be carried out on it.</li> <li>3. The electric controlling part is made up of a steady power supply, and a controlling push-button container/Remote Handheld.</li> <li>4. Electric operating table mattresses are produced by the high-density sponge-covered leatherette materials or overall bubble forming.</li> </ol> <p>All Dimension Must be as per or OEM</p> <p>Kidney Bridge:75x500mm Seat Section :450x500mm Leg Section :600x240mm Foot Rest :273x180mm Table Top from Floor Min. height:750mm Adjust:200mm Range of Movements Max. Reversed Trendelenburg:15 Max. Trendelenburg:20 Max. Lateral Tilt:15 deg Adjustments of Sections: Head Rest-raised from the horizontal:45 deg Head Rest-lowered from the horizontal:90 deg Back Section-raised from the horizontal:45 deg Leg Section-lowered from the horizontal: 90 deg Leg Section-opened: 90 deg Backward and Forward movements: 400mm Kidney Bridge Elevation: 100mm Safe working load: 135kg with Mattress &amp; Accessories</p>

		<p>Surgical Table accessories</p> <p>Shoulder holder 1 piece  Pillow 1 piece  Armrest 1 piece  Handle 1 piece  Anaesthesia screen frame 1 pair  Filtch basin 1 pair  Leg holder 1 pair  Assist platform 1 pair</p> <p>Optional but quoted Mandatory as per OEM</p> <ol style="list-style-type: none"> <li>1. ENT Attachment</li> <li>2. Neuro and spine Attachment</li> <li>3. Urology Attachment</li> <li>4. Ortho Attachment</li> </ol>
2	Double dome OT Light	<p>Double Dome LED type Ceiling OT light  The LED technology with 3 lighting mode movement of 360 degree to create a homogenous light patch 160,000 lux or better. With minimum battery backup of 5 hours <b>mandatory</b>  Light intensity shall be adjustable at least between 5%-100% at different levels.  The light shall be with 3 lighting modes for different surgery requirements, including general lighting mode, full lighting mode and ambient lighting mode for minimally invasive surgery.  Control panel should be equipped beside the light-head as standard configuration for ergonomic user experience.  The light shall be mountable to ceiling from a single center. Light head bearing the arms shall be rotatable 360 degrees around its own axis and mounting point. Each Light head shall be rotatable at least 300 degrees around its own axis or better  The maximum movement angle of the spring arm shall be at least up 45° and down 50° or better  The maximum movement range of the horizontal arm &amp; spring arm should be at least 1,600 mm. Or better  The thickness of the light head shall be no more than 50mm or better  Each LED / engine shall be replaceable individually with the new one to save cost in case of failure, instead of replacing the module with several LEDs.</p> <p>TECHNICAL REQUIREMENTS  Color Temperature (K) 4,350K or better  Color Rendering Index Ra ≥ 95 or better  Color Rendering Index R9 ≥ 95 or better  Specifications Requirements for the Main and Satellite Light  Central illuminance at 1m distance ≥ 160,000 lx or better  Light Field Diameter at 1m distance adjustable from 180~300mm or per OEM  Color Temperature (K) 4,350K or better  Depth of Illumination ≥ 1,200mm or better  Dimming Range: 5~100% or better  Radiant energy(Ee/Ec (average)) ≤ 3.6mW/(m2*lx) or better  Number of LED Bulbs on the Light Head: 30 more  LED Service Life: ≥ 60,000hrs or more  Light Head Dimension: 600mm or better  Power Supply: 100~240VAC, 50~60Hz  Compatible Backup power system, with backup time of 6 hours</p>
3	Single dome OT Light	<p>LED type Ceiling OT light  The LED technology with 3 lighting mode movement of 360 degree to create a homogenous light patch 160,000 lux or better. With minimum battery backup of 5 hours <b>mandatory</b>  Light intensity shall be adjustable at least between 5%-100% at different levels.  The light shall be with 3 lighting modes for different surgery requirements, including general lighting mode, full lighting mode and ambient lighting mode for minimally invasive surgery.  Control pannel should be equipped beside the lighthhead as standard configuration for ergonomic user experience.  The light shall be mountable to ceiling from a single center. Light head bearing the arms shall be rotateable 360 degrees around its own axis and mounting point. Each Light head shall be rotateable at least 300 degrees around its own axis or better</p>

		<p>The maximum movement angle of the spring arm shall be at least up 45° and down 50° or better</p> <p>The maximum movement range of the horizontal arm &amp; spring arm should be at least 1,600 mm. Or better</p> <p>The thickness of the light head shall be no more than 50mm or better</p> <p>Each LED/ Engine shall be replaceable individually with the new one to save cost in case of failure, instead of replacing the module with several LEDs.</p> <p>TECHNICAL REQUIREMENTS</p> <p>Specifications Requirements for the Main and Satellite Light</p> <p>Central illuminance at 1m distance <math>\geq 100,000</math> lux or better</p> <p>Light Field Diameter at 1m distance adjustable from 180~300mm or better</p> <p>Color Temperature (K) 4,350K or better</p> <p>Color Rendering Index Ra <math>\geq 95</math> or better</p> <p>Color Rendering Index R9 <math>\geq 95</math> or better</p> <p>Depth of Illumination <math>\geq 1,200</math>mm or better</p> <p>Dimming Range: 5~100% or better</p> <p>Radiant energy(<math>E_e/E_c</math> (average)) <math>\leq 3.6</math>W/(m<sup>2</sup>*lx) or better</p> <p>Number of LED Bulbs on the Light Head: 30 more</p> <p>LED Service Life: <math>\geq 60,000</math>hrs or more</p> <p>Light Head Dimension: 600mm or better</p> <p>Power Supply: 100~240VAC, 50~60Hz</p> <p>Compatible Backup power system with backup time of 6 hours</p>
4	Mobile OT Light	<p>The LED technology with 3 lighting mode movement of 330 degree or locking system to create a homogenous light patch 160,000 lux or better. With minimum battery backup of 3 hours <b>mandatory</b></p> <p>A) Light intensity shall be adjustable at least between 5%-100% and at least 10 different levels.</p> <p>c) Control panel should be equipped in the lighthouse as standard configuration with Ambient mode through separate control key</p> <p>d) The maximum movement angle of the spring arm shall be at least up 45° and down 45°.</p> <p>e) The thickness of the light head shall be no more than 50mm.</p> <p>f) Each LED shall be replaceable individually with the new one to save cost in case of failure, instead of replacing the module with several LEDs.</p> <p>TECHNICAL REQUIREMENTS</p> <p>Central illuminance (lx) <math>\geq 160,000</math> lux or better</p> <p>Light Field Diameter (D10)(mm) <math>\geq 22</math>cm or better</p> <p>Color Temperature (K) 4,350K or better</p> <p>Depth of Illumination(L1+L2) (mm) <math>\geq 1,200</math>mm or better</p> <p>Dimming Range: 5~100% or better</p> <p>Radiant energy(average) <math>\leq 3.6</math>W/(m<sup>2</sup>*lx) or better</p> <p>Number of LED Bulbs on the Light Head: 18 or better</p> <p>LED Service Life: <math>\geq 60,000</math>hrs or better</p> <p>Max. power consumption of all light sources <math>\leq 65</math>W or better</p> <p>Power Supply: 100~240VAC, 50~60Hz or better</p> <p>Battery Backup Min 3 Hours</p>
5	Solid state electric Surgical Units	<ul style="list-style-type: none"> <li>• Specifications</li> <li>• Microprocessor based high frequency electrosurgical unit for all monopolar and bipolar applications.</li> <li>• Automatic self-test function.</li> <li>• Operation in radio frequency range of 360-490KHz</li> <li>• Controls for cutting, coagulation, spray and blends.</li> <li>• Monopolar cutting power 400 watts.</li> <li>• Bipolar cutting power 120 watts.</li> <li>• Bipolar coagulation power 120 Watts.</li> <li>• Monopolar Contact coagulation power 200Watts.</li> <li>• Spray coagulation mode.</li> <li>• Different gradations of blending of cutting and coagulation power.</li> <li>• Direct access to all parameters through touch screen.</li> <li>• Two monopolar &amp; one Bipolar outputs.</li> <li>• Audio and visual alarms.</li> <li>• Operating Power: 220V, 50 Hz.</li> </ul> <ul style="list-style-type: none"> <li>• Accessories:</li> <li>• Monopolar handle with cord.</li> <li>• Bipolar forceps with cord.</li> </ul>

			<ul style="list-style-type: none"> <li>• Attachment for monopolar coagulation.</li> <li>• Knife electrode.</li> <li>• Needle electrode.</li> <li>• Ball electrode.</li> <li>• Bipolar coagulation forceps.</li> <li>• Reusable Rubber patient plate.</li> <li>• Double Paddle foot switch, explosion proof.</li> </ul>
6	Suction machine		<ul style="list-style-type: none"> <li>• Oil less pump with autoclavable suction jars <b>Mandatory</b></li> <li>• Mobile suction pump Oil-Less along with 4 anti- static wheels with lock.</li> <li>• Convenient for operation, with following performance features:</li> <li>• Built-in Vacuum gauge with a range from: 0-750 mm Hg or better adjustable.</li> <li>• Flow capacity: Not less than 40 l/min or better</li> <li>• Explosion proof footswitch.</li> <li>• Capacity of two graduated suction bottle: 4000cc each or more (Autoclavable)</li> <li>• Heat resistant and disinfect able rubber tube for suction.</li> <li>• Over flow safety suction filter/device.</li> <li>• Power requirement: 220V, 50Hz.</li> <li>• Complete with suction nozzle and other standard accessories</li> </ul>
7	Stretcher Trolleys with patients transfer system for 7 OT		<ul style="list-style-type: none"> <li>• Single crank,</li> <li>• Rubber bumper guards on all sides,</li> <li>• Mobile on 15 cm dia rubber castors,</li> <li>• Removable tarpaulin / Rexene stretched detachable stretcher/ mattress removable.</li> <li>• Provided with oxygen cylinder holder,</li> <li>• Utility tray</li> <li>• I.V pole.</li> <li>• Safety side guards with revolving latch for up &amp; down adjustment.</li> <li>• Overall Size: length 5 ft. 4", width: 2 ft., adjustable height: maximum 2 ft. 6".</li> </ul>
8	Steam sterilizers		<p>Steam Sterilizer / Autoclave (4 STU) single door <b>Mandatory</b></p> <p>1. The system should have 15 or more built-in preset programs, more than 5 kinds of program stage can be flexibly configured according to the needs to meet the requirements of different sterilization process including</p> <ul style="list-style-type: none"> <li>• Warm up 134°C Empty loading, for preheat the device</li> <li>• B&amp;D test 134°C B&amp;d test package or a device</li> <li>• Fabric 134°C Fabric package</li> <li>• Instrument 134°C Conventional instrument box or basket loading</li> <li>• Thermo labile 121°C Items can't bear 134°C,</li> </ul>

			<ul style="list-style-type: none"> <li>•Flash 134°C Unwrapped instruments</li> <li>•Orthopedics 134°C Orthopedics instruments</li> <li>•Leak test</li> <li>•Prion 134°C Special items such as prions</li> <li>•Heavy load 134°C Heavy loading items</li> <li>•Small load 134°C loading capacity less than one standard sterilization unit</li> <li>• 121°C Gravity steam discharge, non-vacuum</li> <li>•Positive 134°C Items needs positive pressure replacement and vacuum drying</li> </ul> <ol style="list-style-type: none"> <li>2.Steam sterilizer should be PLC controlled to ensure Strong function, advanced performance, high reliability, Multi communication mode.</li> <li>3.Acid-proof stainless steel SUS 316L chamber and jacket with automatically robot-welded to guarantee long time and trouble-free operation.</li> <li>4.Vertical sliding door with door up and down vertical sliding by air cylinder while offering proven, handles-free convenience.</li> <li>5.Precise pressure detecting and control with Intelligent pressure transmitters to ensure steam pressure detecting and control both in Chamber and jacket</li> <li>6.Low noise and water-saving vacuum system to ensure effective reduced noise during running</li> <li>7.All the pipes, valves and component should be designed and installed in single side to make more convenient for repair and maintenance.</li> <li>8.Controller and screen Front side 8'' inch color touch screen or better with authorization levels</li> <li>9.Chamber Volume 4 STU or better</li> <li>10.Digital Temperature Display on the front panel (touch screen)</li> <li>11.Built-in steam generator 20 kW or better</li> <li>12.Maximum working temperature 139°C or better with Rated working temperature 134°C or better</li> <li>13.Door opening method: Automatic vertical sliding door, cylinder drive (Single Door)</li> <li>14.Pressure display with Analogue pressure gauge for chamber and jacket on the front panel</li> <li>15.Fittings on built-in steam generator should consist of Safety valve, Analogue pressure gauge, Water level gauge, water level electric cut out, Automatic air ventilate, Control Switch</li> <li>16.Built-in micro printer</li> <li>17.Safety system: Over pressure protect, water level protect, door cannot open in case of pressure, door obstacle system, overload protect, and alarming system</li> <li>18.Compatible RO plant as per system required should be provided</li> </ol>
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**Note: Single 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)