REQUEST FOR BUDGETARY ESTIMATE

Ref.: HSCC/SES/CSSD /New Delhi/2024 dated: 14.05.2024

HSCC (India) Ltd. intends to invite budgetary quotation from eligible bidders for Execution including Supply, Installation, Testing and Commissioning of CSSD works including 1 Year of Defect Liability Period for a reputed Hospital in New Delhi;

1. CSSD

BOQs and Technical Specifications of proposed works are Annexed at Annexure-I

It is requested to submit the Budgetary Quotation of Execution including Supply, Installation, Testing and Commissioning of CSSD works including 1 Year of Defect Liability Period as per the BOQ and Technical Specifications in both Hard & Soft Copy within 04 days of issue of this Notice at following address:

General Manager (Procurement)
Special Engineering Services Department
HSCC (India) Ltd.,
E-6(A), Sector-1,
Noida (U.P.) - 201301.

Soft copy may please be sent to: ses@hsccltd.co.in

General Manager (Proc)
HSCC (India) Ltd.

1.Horizontal Sterilizer 750-800 Ltr. With Accessories Qty: 04 Nos.

Processing capacity per cycle should be 10 STU of 600x300x300mm

It should be fully automatically controlled double door Steam Sterilizer and should be horizontal in size with pre and post-vacuum treatment having chamber capacity of approx. 750 - 800 liters carrying 10 STU's per cycle. The sterilizer should have inbuilt electric Steam Generator and vacuum pump.

It should be ergonomic and user-friendly design and loading height should not be more than 800 mm, in-built to use touchscreen at ergonomic height for user.

The sterilizer should have double door pneumatically operated vertical sliding doors. Pneumatic door cylinder should in stainless steel for eliminating the risk for particles which can be a problem when the door is operated via chains that has been lubricated.

Door Safety Systems:

1. Pressure monitoring system should be available in the chamber to monitor the chamber pressure before opening of the door. Chamber should be completely depressurized before the door seal is retracted by vacuum. Should have an essential safety feature that when the door seal is retracted the chamber is completely vented to atmosphere while the door is still retained in the fully closed and mechanically locked position.
2. Door chamber cannot be opened when chamber is pressurized.
3. A cycle should not start if the door is open or not properly locked.
4. Emergency stop should be there for extra door safety mechanism to protect staff from force of the door
5. The door seal should be made of silicon rubber gasket & on commencement of the process the door gasket is pressed against the rear face of the door by Air to ensure the door remains closed during the process.

Construction:

The chamber, doors and steam generator should be made of solid, high quality 316L Stainless steel. Water level indicator should be made of Stainless Steel and jacket should be made of hi graded SS .

The chamber should be jacketed to ensure the temperature uniformity in chamber. The chamber floor should be slightly sloped towards an internal drain to facilitate drainage. A stainless steel mesh strainer protects the drain port from blockage by debris. The chamber should be mounted on a stainless steel framework with height adjustable feet.

The sterilizer jacket and doors should be completely insulated with 50 to 80 mm chloride free mineral wool thereby keeping the autoclave cool on the outside. The insulation should be completely encased in removable rigid aluminium sheet housing.

Steam Generator: The sterilizer should have an inbuilt steam generator of adequate capacity. It should be mounted under the sterilizer chamber & should be made of SS316L. The steam generator pressure vessel should be made of stainless steel. The sterilizer should be equipped with dual water connections for different water quality for cooling water and steam generator. All connecting pipes and valves shall be made of good quality stainless steel. Process valves are should be pneumatic. Chamber should be mounted on a framework which should have adjustable feet.

Vacuum Pump:

The Sterilizers should have a high capacity efficient liquid ring vacuum pump. It should be mounted on vibration isolator for quiet operation. It should be connected to condensers to assist air removal. It should also have low water level alarm to protect it from dry run. Disposable air filter (HEPA) should be provided for filtering the atmospheric air before entering in the chamber. The filter separation efficiency should be higher than 99.99% H14 for particle size less than 0.3µm

(e) CONTROL SYSTEM & OPERATING PANEL:

1. The Sterilizer should be equipped with Microprocessor PLC control system which is dedicated to control the sterilizer including Digital Input Output for Sterilizer control Analog measuring Inputs COM ports for printer & PC communications. The Control System is operated via approx.

1a. 8 to 10" Color touch screen, as a default the operator should have access to select cycle, start cycle & to close door. Digital display of Chamber Pressure, temperature, cycle no., Batch no., Time & date, alarm indicator, Low water indicator. Remaining cycle time also should be visible.

3. The operator should be able to run only type tested cycles. It should have visual and audible alerts for the operator of program malfunctions and provides visual indication of process status.

4. Access to other functions such as setting parameters, calibration servicing and maintenance is controlled using pre-defined access level which prevents unauthorized access.

5. The Control system should have built in Linearization to correct the individual characteristics of each type of sensors.

6. Control system should have built in battery backup so that it can support the controller and operator panel for up in case of power loss.

AUTOMATIC OPERATION WITH PRINTER: (A) The sterilizer shall be fitted with suitable PLC (Microprocessor) for fully automatic cycle operation instead of manual operation with 2''Fascia panel printer (mounted on control side)

AFTER SALES SERVICE: After-sales-service/maintenance shall be provided by the manufacturer from factory trained engineer.

ALARMS:

1. The Control System should have comprehensive alarm/alert systems which automatically trigger pre-programmed information alerts (preventive maintenance schedule etc.)

2. In the event of any deviation in the type tested cycle, the control system should register an alarm

3. The range of alarms should include

- ❖ Temperature & pressure sensor failure
- ❖ Phase time-outs
- ❖ Door(s) not properly closed
- ❖ Power failure (less than 10 seconds will be ignored)
- ❖ Continuous self-checking of all safety devices
- ❖ Low water level (seal water to vacuum pump)

The Sterilizer should be equipped with following Pre-programmed cycles Programs should include:

1. Wrapped solid and hollow instruments, textiles, porous load (134°C). Type tested program for sterilization of medical devices, e.g. textiles, utensils.
2. Wrapped, heat sensitive solid and hollow goods, rubber, plastic, porous load (121°C).
3. Bowie & Dick test,
4. Automatic Leak rate test,
5. Heavy load (134°C),
6. Specific goods (134°C)

The Sterilizer should meet following Directive and standards

MDR, EN 285: 2015 for large sterilizers / EN ISO 13485/ EN ISO 17665-1 / EN ISO 14001:2015

/ EN 61326-1/ IEC 61326-1 / EN/IEC 61010-2 – 040 & Part 2-040 / 93/42/EEC Medical Device Directive as amended by Directive 2007/47/EC / Machinery Directive2014/35/EC Low Voltage Directive2014/30/EC EMC Directive2014/68/EU Pressure Equipment

Directive2011/65/EU RoHS2 Restriction of Hazardous Substances Directive2012/19/EU WEEE2 Waste Electrical and Electronic Equipment Directive

2.Washer Disinfector with Accessories Qty 04 Nos.

Chamber Capacity: Operational Volume should be minimum 250 to 300 Lts. Washer Disinfector should be able to accommodate 6 level or more cart to process 12 DIN trays per cycle . The chamber should be made of **S.S. 316L quality** with electro polished washed surfaces. The chamber edges should not have the pockets & folds so as to avoid bacterial growth. The wash chamber should also be fitted with **bright light for clear visibility of the washing process.**

Chamber construction: Chamber should be made of **S.S.316L** quality.

Standards & codes;

- MDR 2017/745/EU Medical Device Regulation
- MD 2006/42/EC Machinery Directive (Safety)
- EMC 2014/30/EU Electromagnetic Compatibility Directive
- IEC/UL/CSA 61010-1 Safety requirements for electric equipment
- IEC/UL/CSA 61010-2-040 Safety requirements for Washer Disinfector and Sterilizers
- ETL Certified: tested by an OSHA accredited test lab for safe use
- EN/ISO 15883 Parts 1,2,5,6 & 7 Machine and Process design
- ANSI/AAMI ST15883 Part 1 & 2 Machine and Process design
- WEEE 2012/19/EU Waste Electrical and Electronic Equipment Directive
- REACH 1907/2006/EU Registration, Evaluation, Authorization and Restriction of Chemical substances.
- RoHS 2011/65/EU+ 2015/863/EU - Restrictions of Hazardous Substances (Electrical products)

Washer should have following features:

• Should be equipped with process tank & drain tank.
• For shortest possible filling and draining phases, higher capacity quick opening valves should be used so that short total process time is achieved. The design should focused on saving the environment through reduced consumptions of all utilities.
• Cleansable spray arms should be located at the top and bottom of the chamber.
• Wash carts should be equipped with cleansable spray arms between each shelf so as to facilitate water to reach all the surfaces which needs to be cleaned.
• Injection wash carts should be automatically connect to water and drying air in order to clean and dry the inside of the tubular instrument.
The washer should be equipped with dual circulation pump operating intermittently for utility saving and better cleaning efficiency.
• The drying air should be **pre-heated** in a h**eat exchanger**, which also should have a **condenser** for the outgoing air. This energy-saving process is necessary for shorter drying time and to reduce the energy consumption.
• The washer should be equipped with **independent temperature monitoring** and **validation test port** according to the latest EN ISO 15883.
• Circulating water pressure monitoring system should be available with the unit.
• Data interface RS232 + RS485 should be available. Also the **differential pressure monitoring of H14 HEPA filter** for drying should be available.

- Washer should be operated by a 7" colour touch screen on both soiled & clean sides
  • All electrical components should be easily accessible preferably via a sliding cabinet for easy service - ergonomic design.
  • Washer should have a built in self-cleaning debris filter. Upon completion of the wash phase, the flow through the filter should be reversed and debris should be back-flushed into the effluent drain.
  • Washer should be equipped with audible alarm that alerts if error code occurs.
  • The wash chamber sump should preferably have a conical shape design to avoid water turbulence.

Doors : Double door with vertical sliding or flap type **.** The doors should be made of toughened glass for see through.
Dosing Pumps: The washer should have 3 dosing pump for process chemicals, instrument lubricants & enzymatic cleaners.
Process Phase: The washer should perform pre-rinsing, cleaning, post-rinsing, thermal disinfection, final rinsing and drying phases. Validated programs are secured by access code. Detergents and rinse agents should be automatically dispensed during the cycle.
Accessories: The washer should be supplied with six level general instrument wash cart to process 12 DIN trays per cycle & **loading/unloading trolleys if needed**..
Drying: The washer should have fast and efficient energy saving "Dual drying mechanism" with heat exchanger, fan, condenser and HEPA-filter.

3. Low Temperature VH2O2 Sterilizer Qty: 01

Operational volume 150 - 175 Liters

1. Should provide simple and fast sterilization of surgical instruments at low temperature using vaporised Hydrogen Peroxide Gas sterilization technology.
2. Should be suitable for sterilization of medical items like rigid endoscopes, lumen and non-lumen, metal, non-metal, heat & moisture sensitive instruments etc.
3. The chamber should have usable volume of 150 to 175 litres . The chamber should be made of 316L grade stainless steel.
4. The sterilizer should be equipped with automatic vertical sliding door technology.
5. The chamber should be rectangular enabling maximum usage of chamber volume.
6. Should have total sterilization cycle time of 30-60 min.
7. The system should have three different pre -programs for fast sterilization cycle for non-lumen devices, flexible scopes and general surgical instruments.
8. The sterilization temperature inside the chamber should be less than 60 degree centigrade.
9. The unit should have facility to increase H2O2 contraction from 59 % to up to 90 % or above to increase the speed and efficacy of the sterilization process.
10. Should sterilize open ended 1.2M x 2 mm lumen catheter and validation from third party should be submitted.
11. Should sterilize steel lumen open ended 1mm Diameter and 500 mm length. Validation from third party should be submitted.
12. Lumen claims should be demonstrated without using any booster as per the decision of the authorities.
13. The unit should have various alarm facility like excess humidity alarm, low pressure etc.
14. The unit should have facility to store more than 10000 sterilization cycles parameters.
15. Should be environment friendly and have no toxic products or harmful residues in the sterilized items and in chamber.
16. Should have touch screen display for controlling & monitoring the sterilization process.
17. The unit should be supplied with inbuilt printer.

18. The unit should be mobile, easy to install without any civil / plumbing work & operate in 230V / 430 V (Single phase / Three phase)

Sterilizer should conform to safety & quality standards with proper certifications as per US FDA/ European CE. Standards EN ISO 13485, EN ISO 9001, ISO 14937 validated sterilization cycles and full CE (EMC EN 60601-1-2, LVD IEC 61010-2-040, and LVD IEC 61010-1) certification

19. Should be supplied with PCD Test Kit – 1 each of chemical and biological for validation.
20. H2O2 for 100 sterilization cycles should be supplied along with the sterilizer.

21. The rate of H2O2 per cartridge / bottle should be mentioned separately. The number of cycle that can be performed each bottle / cartridge should be specified to calculate running cost.

4. LOW TEMPERATURE STEAM FORMALDEHYDE Qty : 01unit

HORIZONTAL DOUBLE DOOR LTSF Sterilizer Capacity 550 to 600 Litres

Fully automatic Microprocessor controlled Horizontal LTSF Sterilizer, with pre and post Vacuum treatment and with Loading Equipment having chamber capacity of **550 to 600 litres**. The sterilizer should have inbuilt electric Steam Generator.

The sterilizer should be combination unit which can run both Steam and LTSF process.

DOOR:

The sterilizer should have double doors with fully automatic vertical sliding movement with each door actuated by pneumatically operated dual cylinders along with door safety features.

Door Safety Systems:

1. Pressure monitoring system should be available in the chamber to monitor the chamber pressure before opening of the door. Chamber should be completely depressurized before the door seal is retracted by vacuum.
2. Door chamber cannot be opened when chamber is pressurized.
3. A cycle should not start if the door is open or not properly locked.
4. The door seal should be made of silicon rubber gasket & on commencement of the process the door gasket is pressed against the rear face of the door by Air, for longer life, to ensure the door remains closed during the process.

(b) CONSTRUCTION:

1. Chamber & Doors: The chamber, doors and jacket should be made of solid, high quality 316L Stainless steel. The chamber should be jacketed to ensure the temperature uniformity in chamber. The chamber floor should be slightly sloped towards an internal drain to facilitate drainage. A stainless steel mesh strainer protects the drain port from blockage by debris. The chamber should be mounted on a stainless steel framework with height adjustable feet.

2. Insulation: The sterilizer jacket and doors should be completely insulated with 50 to 80 mm chloride free mineral wool thereby keeping the autoclave cool on the outside. The insulation should be completely encased in removable rigid aluminium sheet housing.

3. Steam Generator: The sterilizer should have an inbuilt steam generator of adequate capacity. It should be mounted under the sterilizer chamber & should be made of SS316L.

4. Automatic blow down & degassing of the steam generator should be available as standard.
5. The steam generator should have insulation of up to 50 mm thick chloride free mineral wool with rigid aluminium sheet housing.

LOADING/UNLOADING System: Sterilizer should be supplied with one shelf rack with shelfs (carriage) and two fixed height loading/unloading trolleys.

(c) PIPES VALVES & COMPONENTS:

- The piping system should be made of S.S. quality. All the process valves should be stainless steel & should be pneumatically operated piston valves for longer trouble free operations. All the non-standard components should be non-proprietary & should be easily sourced. All the hot pipes should be properly insulated. Only the safety valves should be made of brass.
- Electrical Components: the terminals & contractors should be housed in a tight cabinet while the other electrical component should be directly mounted on sterilizer.

(d) VACUUM PUMP:

The Sterilizers should have a High capacity efficient liquid ring type vacuum pump. It should be mounted on vibration isolator for quiet operation. It should be connected to condensers to assist air removal. It should also have low water level alarm to protect it from dry run.

(d) **AIR FILTER:** A disposable air filter (HEPA) should be provided for filtering the atmospheric air before entering in the chamber. The filter separation efficiency should be higher than 99.99% H14 for particle size less than 0.3µm

(e) CONTROL SYSTEM & OPERATING PANEL:

1. The Sterilizer should be equipped with Microprocessor PLC control system which is dedicated to control the sterilizer including Digital Input Output for Sterilizer control Analog measuring Inputs COM ports for printer & PC communications

2. The Control System is operated via 10” or bigger Colour touch screen on both loading and unloading side, as a default the operator should have access to select cycle, start cycle & to close door. The unloading side should be equipped with control for opening and closing the door.

3. The operator should be able to run only type tested cycles

4. Access to other functions such as setting parameters, calibration servicing and maintenance is controlled using pre-defined access level which prevents unauthorized access.

5. The Control system should have built in Linearization to correct the individual characteristics of each type of sensors.

(f) TEMPERATURE AND PRESSURE SENSORS:

- The sterilizer should have at least 2 temperature sensors and it should also have 2 pressure sensors.

- The sensors should be PT100 type sensors which conform to Class A of the IEC571 standard with accuracy of ± 0.1^{o}C

- The pressure sensor should have the accuracy 1% over the range of 0-6 bar.

(g) ALARMS:

1. The Control System should have comprehensive alarm/alert systems which automatically trigger pre-programmed information alerts (preventive maintenance schedule etc.)

2. In the event of any deviation in the type tested cycle, the control system should register an alarm

3. The range of alarms should include
   a. Chamber High Pressure
   b. Low Water level in generator
   c. Generator high pressure
   d. Chamber PT 100 Temperature sensor error
   e. Generator high temperature
   f. Water Pump operation time out.

(h) CYCLE DOCUMENTATION AND NETWORK COMMUNICATION:

The Control system should have independent PLC to monitor, compare all Critical parameters.

The Control system should continuously cross check the sterilizer safety system and the limits set as per EN 285 Standards.

The Sterilizer should be equipped with Alpha numeric printer which prints cycle performance data. The cycle information should include transition point, pressure and temperature, cycle start time; date both sterilizer and cycle number and any alarm that occurred during the cycle.

In case the printer runs out of paper in the middle of the cycle it should be possible to print the last cycle date after the cycle has been completed.

The sterilizer should have either RS232 or Ethernet port to facilitate connectivity for network applications and/or remote access applications.

(i) WATER SAVING SYSTEM:

Sterilizer should have system for water saving to limit the water usage to save up to 45% compare to the normal cycle.

(J) Formalin Injection: The sterilizing agent for low temperature cycles should be stored in liquid state in a single dose bottle. The concentration of formalin solution should be approximately 34 to 38%. The formalin consumption per cycle should be approximately 300 ml solution per cycle. A needle in the bottle holder should puncture the sealed bottle. If the sterilent is not fully used, the bottle should be completely and safely emptied at the end of the process and should be ready for recycling.

AVAILABLE CYCLES:

The Sterilizer should be equipped with following Pre-programmed cycles

Programs include:

55° C Formalin Process

65°C Formalin Process

80°C Formalin Process

134°C Steam Sterilization Process

121°C Steam Sterilization Process

Bowie and Dick test

Leak rate test

Jacket cooling. Cooling process for forced adaption to low temperature preconditions the average cycle time for Low Temperature mode should be close to 5 hours.

- **DIRECTIVES & STANDARDS**: The Sterilizer should meet following Directive and standards

Sterilization: Steam Sterilizer–Large Sterilizer-EN 285 for Large
Autoclaves EN 14180 + A2 Sterilizers for medical purposes -LTSF
Sterilizers

ISO 25424:2009 Sterilization - Development, validation and routine control LTSF sterilization

CE - Medical Device Directive – MDD 93/42 EEC as amended by Directive 2007/47/EC or USFDA

Pressure Equipment Directives: PED97/23 EC

Low Voltage Directive – 2006/95/EC

EMC Directive2004/108/EC

ISO 9001:2000 Quality Management Systems-Requirements EN ISO 9001:2008 ISO 13485:2003 (Quality Systems for Medical Devices)

5. Ultrasonic Cleaner 40 to 50 Litres Qty. : 02 Nos

- The units should be a compact free-standing bench model, with a built-in tank manufactured from high-quality (316) stainless steel and a solid-state generator that sends ultrasonic (approx 37 to 42 KHz) impulses through wash water containing detergent and electrical heating; microprocessor controlled display with memory time and temperature functions.
- The electrical energy should be transformed into sound waves by transducers, fixed to the bottom of the tank.
- The tank should be made of solid stainless steel (316).
- The ultrasonic cleaner should have a digital display and control which could be easily seen and placed above any liquid for safety and reliability.
- It should have digital read out timer and temperature setting (temperature adjustable from 20 to 69 °C) monitoring.
- Capacity should be approximately 40 to 50 L (±5L)
- Should work on 230V, 50 Hz AC Supply.
- Ultrasonic cleaner should be European CE /US FDA certified.
- Ultrasonic cleaner should supplied with Wire mesh basket of suitable size & Stainless steel lid.

6. DRYING CABINET Qty : 01 Nos.

The capacity of the Drying Cabinet should be approximately 250 to 300L.

The unit should have capacity to process 36 hoses in the same drying cycle.

The body of the unit should be made up of Stainless Steel 304.

The drying temperature inside the cabinet should be selectable to:

70°C – for tubing and sensitive plastic material

90°C – for instruments & other medical devices.

The drying time for the load should be selectable in intervals of 5 minutes. The temperature and remaining time should be displayed on the display panel.

The air should be heated by an electric heating element controlled and regulated by a precision thermostat. The cabinet should be provided with a built-in electric precipitator for cleaning of incoming air. Separation efficiency should be 94 – 100% for particle size 0.01 – 5 µm.

7. Spray Gun Rinser <u>Qty. : 6 Nos.</u>

- Spray gun rinse unit should be designed for connection to water or compressed air, to use for assisted cleaning of pipettes, catheters, cannulas, syringes etc.
- The spray-gun should include tubing and different tips and nozzles for the various cleaning purposes, e.g.:
  - syringes and cannulas with Record cone
  - measuring and blood pipettes
  - catheters and small pipes
  - drainage tubing
  - syringes and cannulas with Lure cone
  - spray jet for rapid instrument cleaning
  - bottles and Erlenmeyer flasks
  - water jet pumps for suction cleaning
  - All appliances are stored within easy reach on a special wall-mounted rack (included).
- A special wall-mounted rack should be a part of standard supply to store all appliances within easy reach.
- All tips should be able to get easily locked to the spray gun by a safety cone.
- The gun grip is heat-insulated. The water/air pressure is released, regulated and fully controlled by the spray-gun trigger (adapted to a 1/2" connection).
- Please send quotations with complete details of sets of standard and optional adapters, nozzles and accessories.

8. Manual Trolley Wash Unit Qty. : 1Nos.

- Stationary cleaning unit for manual wash of trolleys or other moveable equipment. The unit should include a transparent container for chemical disinfectant to be injected into the water and which functions with normal water pressure.
- The operator should conveniently able to wash the equipment with a mix of disinfectant and water.
- Regardless of the water pressure right amount of disinfectant is automatically injected into the water. The spray should have adjustable nozzle tip from full flow, to micro-spray and a shut-off position. Whenever preferred, the operator should easily switch to rinse with pure water.
- The 15-meter long hose pipe should be the part of the supply unit for effortless operation.
- STANDARDS & CODES: Each wash unit is built in accordance with the following EU safety norms like DIN EN 292-1 and DIN EN 292-2 (safety of machinery)
- The unit should be CE-marked

9. Magnifying Lamp Qty. : 8 Nos.

6. The magnifying lamp should be suitable for the professional use, highly suitable for demanding work in CSSD for inspection of delicate instruments used in hospitals (surgical and medical).
7. The lamp should have standard +3-diopter circular glass lens which can provide a viewing field of 127 mm diameter and magnifies 1.75 times.
8. The circular 22W energy-saving fluorescent lamp surrounds the magnifying lens and provides effective lighting without annoying heat.
9. The lamp should be easily available for replacement.
10. Lamp should be provided with a dust cover to be mounted on the magnifying lens to protect it from dust and dirt and to prevent it from inadvertently acting as a burning-glass.
11. The magnifying head should be made of ABS polymer, combining light weight with high impact strength.
12. The lamp should be provided with two optional diopter sets: +4 (magnifies 2.75 times) and +8 (magnifies 3.75 times) extra magnification.
13. The lamp could be operable with an electrical connection of 220/240 V.

10. Rotary heat Sealer Qty : 02 Nos

It should provide validated sealing (as per DIN 58953T7 with manufacturing certificate) of sterilization bags and clear-view pouches (paper/plastic laminate). These through feed-type sealers should be microprocessor-controlled for highest capacity and ease of operation. The ergonomically design should be tilted forward for increased user convenience and space-saving installation. The sealers should be built and tested in accordance with EU safety norms. The sealer housing should be powder-coated and the control panel is of the flat-membrane type, for easy cleaning.

It should be operationally simple. When a bag is fed into one side of the machine, the machine should start automatically or by pushing a button, moving the bag through the machine, and applying pressure and heat to form a perfect seal. The warm-up time should not exceed 30 seconds, and the feed speed should be approx. 10 m/min. The temperature should be adjustable from 50–200°C with a tolerance of 1% of the set value. It should be regulated by a heating element that is highly sensitive to temperature fluctuations, assuring even temperature and perfect seals. It should offer a number of additional features, including:

- automatic start-up
- reverse feed function in case an instrument accidentally enters the sealing area
- energy-saving stand-by mode
- pre-set temperatures
- re-settable counter function

Should have a protection mechanism against overheating and start prevention at temperature deviations outside +/- 5° C tolerance. Rotary heat sealer should be CE-marked. Please provide specifications, features and details of parameters like heating time (sec), Width of seal (mm), speed (m/min), Temperature settings (°C), seal-edge (mm), automatic start of drive-belt, accessories like external label printer with connection cable and paper guide, choice of English language and pressure control, automatic temperature reduction function

and re-settable counter etc. of the model offered in the quotation. The unit should be supplied with support made of S.S. during through-feed in the sealer.

11. Cutting Device Qty : 01 Nos.

- The unit should be made of high quality S.S. 304 material with superior finish.
- These roll dispensers should be able to use for both storage and cutting of clear-view packaging
  Materials on rolls with a maximum diameter of approx. 220 mm.
- The unit should be for table top use.
- The sliding-action knife is completely built into the housing to prevent injury. Extra cutting knives should be supplied when needed as spare parts.

CSSD Furniture Items :

1. Wash Stations with 2 sinks : **Qty.: 03 Nos.**

Area : Dirty

Size (LxWxH) : 2000x750x850 mm

- The worktop should be made of solid, bright-polished minimum sheet thickness of 1.5 mm stainless steel (304) to withstand heavy-duty work with wet instrument.
- Designed with an integrated 10 mm high edge at the front and sides, and a 60 mm high edge (splash back) at the rear.
- The front and side edges are reinforced and widened to 49 mm. Edges are welded together and polished at the corners.
- The worktop should slope to the sink, and reinforced by a full-length support frame.
- The support frame should be a complete assembly with the front, back and ends welded together at the corners.
- The worktop and support frame should be bonded together with double-adhesive tape of a special, age-resistant quality to give rigidity and noise abatement.
- The floor stand should be made of polished stainless steel.
- The table should be available with double sink units preferably at one side or at both ends of the table, all with a smooth, polished inside finish made of stainless steel (304) top & should have dimensions (size) of (L x W x H), 2400 x 750 x 850 mm.
- Corners should be curved to a 65 mm radius for easy cleaning.
- The bottom should slope to the drain.
- All standard sink units are of sizes that also allow processing of the large modular instrument trays (L450 x W340 x H70 mm).
- Sink units are 650 mm wide and 900 mm high (adjustable ± 25 mm).
- The legs should be able to provide strong support and hold to the entire unit securely.
- The sink should include a drain valve, removable strainer, manually operated drain-valve, overflow drainpipe and water trap. The table also includes a mixing faucet with swivel spout, for cold and hot water connection.
- Delivered ready for assembly.

2. Work Table for Wet Goods **Qty. : 1 Nos.**

Area : Dirty

Size (LxWxH) : 1600x750x900 mm

- Stainless steel tables specially designed for work with dry and wet goods (heavy-duty sorting of wire baskets and containers and work with dry/wet goods, inspection, and packing various sets of surgical instruments in trays) and for general purpose pre-storage.
- The work tables should have a rigid stainless steel construction which is easy to clean and without sharp edges or corners.
- The table should be ergonomically worked up, should have easy to clean robust matt-finished (to reduce reflection of light from the surface) with minimum sheet thickness of 1.5 mm stainless steel (304) worktop/surface to withstand and carry out heavy work comfortably, either sitting or standing.
- The edges along the front, back and sides should be reinforced and widened to 37 mm, giving a rigid construction.
- They are welded together and polished at all corners for good hygiene, as well as for the comfort and safety of the staff.
- The worktop should be supported by a complete assembly with full-length reinforcements along the front, back and ends, welded together at the corners.
- The worktop and support frame are bonded together for age-resistant quality to give rigidity and noise abatement.
- The support frame has to be mounted on a solid, stable floor stand, made of polished stainless steel square tubing, with horizontal braces 300 mm above floor level. An adjustable (± 25 mm) plastic foot, easy to clean, is mounted on each leg.

- The provision is to be made for a sturdy 445 mm-wide stainless steel shelf (optional) can be mounted on the horizontal braces.
- Delivered ready for assembly.
- All edges should be smooth and the rigid frame should be made up of minimum 1.5 mm sheet thickness stainless steel (304).
- There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

3. Work Table for dry Goods **Qty. : 2 Nos.**

Area : Clean Area/Linen

Size (LxWxH) : 1800x750x900 mm

- Stainless steel tables specially designed for work with dry and wet goods (heavy-duty sorting of wire baskets and containers and work with dry/wet goods, inspection, and packing various sets of surgical instruments in trays) and for general purpose pre-storage.
- The work tables should have a rigid stainless steel construction which is easy to clean and without sharp edges or corners.
- The table should be ergonomically worked up, should have easy to clean robust matt-finished (to reduce reflection of light from the surface) with minimum sheet thickness of 1.5 mm stainless steel (304) worktop/surface to withstand and carry out heavy work comfortably, either sitting or standing.
- The edges along the front, back and sides should be reinforced and widened to 37 mm, giving a rigid construction.
- They are welded together and polished at all corners for good hygiene, as well as for the comfort and safety of the staff.
- The worktop should be supported by a complete assembly with full-length reinforcements along the front, back and ends, welded together at the corners.
- The worktop and support frame are bonded together for, age-resistant quality to give rigidity and noise abatement.
- The support frame has to be mounted on a solid, stable floor stand, made of polished stainless steel square tubing, with horizontal braces 300 mm above floor level. An adjustable (± 25 mm) plastic foot, easy to clean, is mounted on each leg.
- The provision is to be made for a sturdy 445 mm-wide stainless steel shelf (optional) can be mounted on the horizontal braces.
- Delivered ready for assembly.
- All edges should be smooth and the rigid frame should be made up of minimum 1.5 mm sheet thickness stainless steel (304).
- There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

4. Work Table for dry Goods **Qty. :2 Nos.**

Area : Sterile Area

Size (LxWxH) : 1800x750x900 mm

- Stainless steel tables specially designed for work with dry and wet goods (heavy-duty sorting of wire baskets and containers and work with dry/wet goods, inspection, and packing various sets of surgical instruments in trays) and for general purpose pre-storage.
- The work tables should have a rigid stainless steel construction which is easy to clean and without sharp edges or corners.
- The table should be ergonomically worked up, should have easy to clean robust matt-finished (to reduce reflection of light from the surface) with minimum sheet thickness of 1.5 mm stainless steel (304) worktop/surface to withstand and carry out heavy work comfortably, either sitting or standing.
- The edges along the front, back and sides should be reinforced and widened to 37 mm, giving a rigid construction.
- They are welded together and polished at all corners for good hygiene, as well as for the comfort and safety of the staff.

- The worktop should be supported by a complete assembly with full-length reinforcements along the front, back and ends, welded together at the corners.
- The worktop and support frame are bonded together for, age-resistant quality to give rigidity and noise abatement.
- The support frame has to be mounted on a solid, stable floor stand, made of polished stainless steel square tubing, with horizontal braces 300 mm above floor level. An adjustable (± 25 mm) plastic foot, easy to clean, is mounted on each leg.
- The provision is to be made for a sturdy 445 mm-wide stainless steel shelf (optional) can be mounted on the horizontal braces.
- Delivered ready for assembly.
- All edges should be smooth and the rigid frame should be made up of minimum 1.5 mm sheet thickness stainless steel (304).
- There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

5. Control & Packing Table with two Shelves **Qty. : 2 Nos.**

Area : Clean

Size (LxWxH) : 2000x1400x900 mm

- This table should be specially designed for sorting, inspection, functional control and packing of various sets for wards, clinics etc. and for surgical instrument sets in trays. The work could be done comfortably, either sitting or standing.
- The worktop should be made of Stainless steel material, in matt finish that reduces reflection of light from the surface. All edges should be smooth. The extended width of the worktop should be designed to facilitate thorough inspection of instrument trays and allow the use of large wrapping material.
- The rigid frame is made of stainless steel (304).
- There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.
- The single workplace table should have 700 mm wide worktop and a double workplace should have1400 mm worktop.
- The table should include a two-shelf console, mounted on the worktop, for storage of packaging materials. The rigid supporting columns of the console include 3 electrical outlets.
- There should be a free space of 450 mm between the lower shelf and the worktop, and 150 mm between the two shelves.
- The table should have a drawer unit (both sides as double model) mounted under the worktop.
- Each drawer unit should be 400 mm wide and includes a drawer and a sliding plate.
- Optional fluorescent tube fittings (Inspection lamp) are also available.

6. Control & Packing Table with two Shelves **Qty. : 2 Nos.**

Area : Clean

Size (LxWxH) : 2000x750x900 mm

- This table should be specially designed for sorting, inspection, functional control and packing of various sets for wards, clinics etc. and for surgical instrument sets in trays. The work could be done comfortably, either sitting or standing.
- The worktop should be made of Stainless steel material, in matt finish that reduces reflection of light from the surface. All edges should be smooth. The extended width of the worktop should be designed to facilitate thorough inspection of instrument trays and allow the use of large wrapping material.
- The rigid frame is made of stainless steel (304).
- There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.
- The single workplace table should have 700 mm wide worktop and a single workplace should have 750 mm worktop.
- The table should include a two-shelf console, mounted on the worktop, for storage of packaging materials. The rigid supporting columns of the console include 3 electrical outlets.

- There should be a free space of 450 mm between the lower shelf and the worktop, and 150 mm between the two shelves.
- The table should have a drawer unit on the working side mounted under the worktop.
- Each drawer unit should be 400 mm wide and includes a drawer and a sliding plate.
- Optional fluorescent tube fittings (Inspection lamp) are also available.

7. Linen Fold Table **Qty. : 2 Nos.**

Area : Clean
Size (LxWxH) : 2000x1400x900 mm

- The table should be specially designed for sorting, inspection (each piece of linen can be moved over an illuminated inspection panel) and folding of surgical dressing sets and individually packaged towels/gowns. The extended width also facilitates work with large dressing sheets. Work can be carried out comfortably, either sitting or standing.
- The worktop should be made of stainless steel, in matt finish that enhances the lighting for inspection of linen.
- All edges of the worktop are smooth.
- The top has a built-in opalescent (milky) plastic surface plate, 1000 x 600 mm, illuminated from underneath by two 25 W fluorescent tubes located beneath the top in a laminated recess.
- The table has two electrical outlets (one on each side).
- The rigid frame should be made of stainless steel (304).

- There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

8. Wire Storage shelf module Qty. : 06 Nos.

Area : clean Area
Size (LxWxH) : 1525x455x1895 mm

- Construction should be based on single free-standing shelf modules for storage of clean linen, instruments, and packing material or sterilized goods, including disposables.
- The compact modules should have shelf lengths of 610, 910, 1220, 1525 or 1830 mm. and the modules should be extremely space-efficient. Moreover, two single modules can be placed back to back and combined as a double module unit.
- If two sets of shelves are to be connected, 10 S-hooks should be supplied.
- The wire construction should allow good air circulation while permitting easy inspection of the goods.
- The wire shelves should be made of special heavy-duty steel (304), chromium-plated and surface treated with clear epoxy varnish to facilitate cleaning.
- The modules should be easy to assemble on site and all parts fit precisely.
- Shelves should be mounted by means of plastic clamps onto circular rigid posts, with the adjustable height within a range of about 50 mm. Each post should include a height adjustable foot.
- Each module should include 5 shelves, mounted at heights of about 450, 800, 1150, 1500 and 1850 mm above floor level.
- The shelf unit could also be used as a mobile storage unit by replacing the foot with optional Ø 125 mm castors.

9. Wire Storage shelf module Qty. : 04 Nos.

Area : Linen Area
Size (LxWxH) : 1525x455x1895 mm

- Construction should be based on single free-standing shelf modules for storage of clean

linen, instruments, and packing material or sterilized goods, including disposables.

- The compact modules should have shelf lengths of 610, 910, 1220, 1525mm. and the modules should be extremely space-efficient. Moreover, two single modules can be placed back to back and combined as a double module unit.
- The wire construction should allow good air circulation while permitting easy inspection of the goods.
- The wire shelves should be made of special heavy-duty steel (304), chromium-plated and surface treated with clear epoxy varnish to facilitate cleaning.
- The modules should be easy to assemble on site and all parts fit precisely.
- Shelves should be mounted by means of plastic clamps onto circular rigid posts, with the adjustable height within a range of about 50 mm. Each post should include a height adjustable foot.
- Each module should include 5 shelves, mounted at heights of about 450, 800, 1150 & 1500 mm above floor level.
- The shelf unit could also be used as a mobile storage unit by replacing the foot with optional Ø 125 mm castors.

10. Wire Storage shelf module Qty. : 18 Nos.

Area : Sterile Store
Size (LxWxH) : 1525x455x1895 mm

- Construction should be based on single free-standing shelf modules for storage of clean linen, instruments, and packing material or sterilized goods, including disposables.
- The compact modules should have shelf lengths of 1220 mm. and the modules should be extremely space-efficient. Moreover, two single modules can be placed back to back and combined as a double module unit.
- The wire construction should allow good air circulation while permitting easy inspection of the goods.
- The wire shelves should be made of special heavy-duty steel (304), chromium-plated and surface treated with clear epoxy varnish to facilitate cleaning.
- The modules should be easy to assemble on site and all parts fit precisely.
- Shelves should be mounted by means of plastic clamps onto circular rigid posts, with the adjustable height within a range of about 50 mm. Each post should include a height adjustable foot.
- Each module should include 5 shelves, mounted at heights of about 450, 800, 1150mm above floor level.
- The shelf unit could also be used as a mobile storage unit by replacing the foot with optional Ø 125 mm castors.

11. Wire Storage shelf module Qty. : 2 Nos.

Area : Dirty Area
Size (LxWxH) : 1525x455x1895 mm

- Construction should be based on single free-standing shelf modules for storage of clean linen, instruments, and packing material or sterilized goods, including disposables.
- The compact modules should have shelf lengths of 1525mm. and the modules should be extremely space-efficient. Moreover, two single modules can be placed back to back and combined as a double module unit.
- The wire construction should allow good air circulation while permitting easy inspection of the goods.
- The wire shelves should be made of special heavy-duty steel (304), chromium-plated and surface treated with clear epoxy varnish to facilitate cleaning.
- The modules should be easy to assemble on site and all parts fit precisely.
- Shelves should be mounted by means of plastic clamps onto circular rigid posts, with the adjustable height within a range of about 50 mm. Each post should include a height

adjustable foot.

- Each module should include 5 shelves, mounted at heights of about 450, 800, 1150 & 1500 mm above floor level.
- The shelf unit could also be used as a mobile storage unit by replacing the foot with optional Ø 125 mm castors.

12. Free Standing basket rack (15 Baskets) Qty. : 12 Nos.

Area : Sterile Store & clean Area
Size (LxWxH) : 1850x480x2150 mm

- Quotations should be offered for both single and double basket storage racks to store wire baskets in sterile storage and/or as pre-storage of clean packed goods.
- The rack should be designed as an open unit to promote aeration of sterilized goods and to make inspection of stored goods as easy as possible.
- Baskets should be loaded and unloaded by conveniently sliding them on rigid, horizontal guide-rails, consisting of 50 x 20 mm steel profiles.
- The guide-rails are welded to a robust support column mounted on a rigid floor stand.
- The columns should be joined by support frames on top and below the base of the rack.

- To facilitate cleaning of the floor, the base should have a rigid construction that minimizes the number of legs needed for support.
- Each leg should have an adjustable foot (± 25 mm).
- The rack is fully with Rilsan®- or similar material-coated for easier handing and cleaning. Under normal storage conditions, this coating will last for many years without showing any signs of wear.
- The single rack should have a free-standing section that holds 5 baskets in each vertical.

13. Pass Box Qty. : 3 Nos.

Area : Dirty to Clean supply & Sterile Issue
Size : 600x600x600mm, internal

- Pass-through chamber should be based on manual opening doors and should fit all types of standard packs.
- The chamber should consist of two manually openable doors, and a Plexiglas-and-aluminium construction on a stainless steel bottom plate, which is equipped with four adjustable legs for easy assembly and adjustment.
- Each door should be manually openable, & both doors cannot be opened at the same time.
- The two modes of operation to open or close the door with a press button or handle movement mechanism.
- The hatch should also have a built-in safety feature that prevents items from getting caught during operation.
- Please quote for various sizes available for comfortable use with standard sizes instrument box and wire baskets.

14. Paper Dispensing Trolley Qty. ; 4 Nos

Area : clean Area
Size : 1350 x 600 x 845 mm

Should be movable trolley for storing four different sizes of sterilizing wrapping paper sheets. should be made of stainless steel tube. Should have four ball bearing rubber wheels, of which two wheels should be equipped with brakes.

15. Closed Transport Trolley Qty. : 4 Nos.

Area : Sterile Store to OT
Size : 1400x750x1260 mm

- A trolley for sterile goods handling where higher than normal dust protection is required, e.g. short transports between hospital buildings. Suitable for handling baskets or containers with a total capacity of 9 STU (1 STU = 600 x 300 x 300 mm) on three solid, removable shelves (3 x 3 STU).
- Trolley should be fitted with large stainless steel wheels (Ø 160 mm) for easier maneuverability.
- Two fixed wheels and two swivel wheels with brakes.
- The fully welded stainless steel construction (minimum 18 gauges, 304) makes it suitable for cabinet washers. The doors open 270° for easy access and cleaning.
- Trolley should have lockable doors and should include handlebars.

16. Linen Distribution & Storage Trolley Qty. : 2 Nos.

Area : CSSD to ICU's & OT 102
Size : 1020x740x1750 mm

- Distribution trolleys should be ergonomically designed for convenient manual distribution of sterilized goods to the users or for returning used goods to the central processing area.
- The trolley should be flexible and easy to handle and transport modular wire baskets and/or closed tote boxes, to increase handling efficiency and improve safety for the end-user, transport staff and the surroundings.
- These trolleys should have horizontally mounted slide bars that act as supports for the baskets and/or tote boxes.
- A heavy-duty stainless steel (304) bottom plate should protect the goods during transport.
- A sturdy handle should be mounted on the bottom frame for convenient handling, even in narrow corridors.
- The handle is so designed to permit the use of disposable plastic or reusable cloth covers for further protection during distribution.
- The trolley should be made of heavy-duty polished stainless steel (304) and every detail is designed for easy cleaning and disinfection.
- The wheels (2 fixed, 2 swivel) have a diameter of 125 mm and are made of rubber with ball bearings.

17. Table Trolley Qty. : 3 Nos.

Area : Dirty/Clean/Sterile Area
Size : 1080x550x800 mm

- The table trolley is made of all-welded medical grade stainless steel tubing.
- The trolley should have handlebars.
- The solid top and bottom shelves are made of heavy gauge stainless steel (304) with a ground and polished finish, and with a 12 mm raised edge all around.
- The lower shelf is 300 mm above floor level. There are protective buffer rollers on all four corners.
- The table trolley has 4 swivel wheels, mounted in ball bearings, for easy handling even in narrow passages.

18. Basket Trolley Qty. : 2 Nos.

Area : Sterile store/ Linen area
Size : 715x505x155 mm

Should be suitable for transport of empty, stacked /nested ,modular wire sterilization basket. Should be mounted on a 4 swivel castors of 75mm dia. Should

be made up of stainless steel. Should be provided with handle for easy transport. Load capacity approx. 150 Kg. Dimension should be (approx.): 715mm(L)X505 mm(W)x155 mm(H)

19. Instrument Tray Qty. : 100 Nos.

Area : Various movement
Size : 480x250x70 mm

- It should be modular design with standard sizes and high precision and should be designed for use with modular wire baskets through all phases of instrument processing: washing and disinfection (both manual and in an automatic washer-disinfector), ultrasonic cleaning, inspection and packing, sterilization, storage, distribution and usage.
- It should be self-drying after disinfection in hot water (min.+85°C)
- Instrument trays should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
- It should be stackable.
- The tray is made of stainless steel (304) wire net, with a maximum mesh size of 6.5 mm and a wire diameter of 1.5 mm. This design gives optimal cleaning results and at the same time prevents instruments from penetrating the sides of the tray.
- All cross-points in the network and vertical wires to top and bottom frames should be point-welded. All free wire ends should be soft-polished to prevent injury when handled.

- The bottom wire construction should include a rigid, 3 mm diameter, stainless steel (304) wire frame to provide space for airing between goods and work surface and to allow use on roller, belt and chain conveyors.
- It should be electro-polished for smooth, clean surfaces and also suitable for ISO modular wire baskets.

20. Instrument Tray Qty. : 75 Nos.

Area : Various movement
Size : 340x250x70 mm

- It should be modular design with standard sizes and high precision and should be designed for use with modular wire baskets through all phases of instrument processing: washing and disinfection (both manual and in an automatic washer-disinfector), ultrasonic cleaning, inspection and packing, sterilization, storage, distribution and usage.
- It should be self-drying after disinfection in hot water (min.+85°C)
- Instrument trays should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
- It should be stackable.
- The tray is made of stainless steel (304) wire net, with a maximum mesh size of 6.5 mm and a wire diameter of 1.5 mm. This design gives optimal cleaning results and at the same time prevents instruments from penetrating the sides of the tray.
- All cross-points in the network and vertical wires to top and bottom frames should be point-welded. All free wire ends should be soft-polished to prevent injury when handled.
- The bottom wire construction should include a rigid, 3 mm diameter, stainless steel (304) wire frame to provide space for airing between goods and work surface and to allow use on roller, belt and chain conveyors.
- It should be electro-polished for smooth, clean surfaces and also suitable for ISO modular wire baskets.

21. Instrument Tray Qty. : 50 Nos.

Area : Various movement
Size : 250x170x70 mm

- It should be modular design with standard sizes and high precision and should be designed for use with modular wire baskets through all phases of instrument processing: washing and disinfection (both manual and in an automatic washer-disinfector), ultrasonic cleaning, inspection and packing, sterilization, storage, distribution and usage.
- It should be self-drying after disinfection in hot water (min.+85°C)
- Instrument trays should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
- It should be stackable.
- The tray is made of stainless steel (304) wire net, with a maximum mesh size of 6.5 mm and a wire diameter of 1.5 mm. This design gives optimal cleaning results and at the same time prevents instruments from penetrating the sides of the tray.
- All cross-points in the network and vertical wires to top and bottom frames should be point-welded. All free wire ends should be soft-polished to prevent injury when handled.

- The bottom wire construction should include a rigid, 3 mm diameter, stainless steel (304) wire frame to provide space for airing between goods and work surface and to allow use on roller, belt and chain conveyors.
- It should be electro-polished for smooth, clean surfaces and also suitable for ISO modular wire baskets.

22. Modular Sterilizing baskets SPRI Qty. : 120 Nos.

Size : 585x395x195 mm
Area : Various movement

- It should be modular design with standard SPRI sizes and high precision and should be designed for sterilizing / processing as well as easy handling and management of the supply, storage and distribution of re-circulated sterilized goods..
- It should be self-drying after disinfection in hot water (min.+85°C)
- Instrument trays should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
- It should be both nestable and stackable There should be special wire support to help making baskets both stackable (when the supports are folded into the basket) and nestable (when the supports are folded out)
- The top frame should be designed such that it should serve as a handle grip for easy carrying even when heavily loaded.
- There should be no sharp edges or wires.
- The surfaces should be smooth to assure easy cleaning in a washer-disinfector.
- The baskets should be made of electro-polishes heavy-duty stainless steel (304) and should have a rigid bottom frame that gives space for airing between goods and work surfaces and allow use on roller belt and chain conveyors.
- It should be designed and manufactured in accordance with high quality specifications to assure long lifetime.

23. Modular Sterilizing baskets SPRI Qty. : 60 Nos.

Size : 585x395x100 mm

Area : Various movement

- It should be modular design with standard SPRI sizes and high precision and should be designed for sterilizing / processing as well as easy handling and management of the supply, storage and distribution of re-circulated sterilized goods..
- It should be self-drying after disinfection in hot water (min.+85°C)
- Instrument trays should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.
- It should be both nestable and stackable There should be special wire support to help making baskets both stackable (when the supports are folded into the basket) and nestable (when the supports are folded out)
- The top frame should be designed such that it should serve as a handle grip for easy carrying even when heavily loaded.
- There should be no sharp edges or wires.
- The surfaces should be smooth to assure easy cleaning in a washer-disinfector.
- The baskets should be made of electro-polishes heavy-duty stainless steel (304) and should have a rigid bottom frame that gives space for airing between goods and work surfaces and allow use on roller belt and chain conveyors.
- It should be designed and manufactured in accordance with high quality specifications to assure long lifetime.

TURNKEY WORKS

a) CIVIL WORKS (INCLUDING STAINLESS STEEL PANELING FOR STERILIZER & WASHER DISINFECTER)

b) AIR- CONDITIONING

c) ELECTRICAL WORKS

d) FIRE FIGHTING

e) PLUMBING WORK & DRAINING SYSTEM

f) VENTILATION AND LIGHTING

Stainless Steel Panelling for Sterilizer & Washer Disinfector

Size: As per actual conditions at site.

- All the sterilizers should be recessed between the S.S. 304 quality panels.
- The S.S. sheets should have 18-gauge thicknesses with superior finish to match it with equipment finish.
- These Sheets should be mounted on painted M.S. frame structure with adequate supports.
- The panels should have the doors for service access from loading side
- There should not be any gaps between panel & the equipment. Any small gaps should be sealed to ensure that it restricts the air movement.
- The same should be followed for washer disinfector panelling

The turnkey works should include all works required in the CSSD & TSSU area including SS panelling for sterilizer and washer disinfector, civil, electrical, mechanical, plumbing, firefighting, sanitary, drainage, furnishing, dismantling works etc. Bidders are required to visit the site for self-assessment of the extent of work

Construction / re-construction, commissioning and installation to be strictly carried as per international standards.

The works includes all modifications/Patch work to the built up space provided at the hospital site including Installation of Equipment, civil works, electrical works, plumbing works, furniture and other related works of the CSSD and TSSUs required for the smooth and efficient functioning of the centre. These works shall comply with all relevant safety and standards guidelines. The vendor is fully responsible for installation and commissioning of all equipment. Construction of Partition wall for installation of Double door Autoclaves in CSSD.

Vendor will be responsible for doing SS 304 with 0.8 mm or more thickness panelling for sterilizer and washer disinfector. False ceiling modification in air-conditioned area and sterile area. All cable trenches and railings wherever required. Installation and Commissioning of RO water plant, exhaust for sterilizer has to be carried out by the Vendor. One Point Water supply & Electricity shall be provided by respective Institute. Rest of the works to be executed by the bidder. All accessories required to install and complete functioning of equipment should be included in the equipment and supplied as standard. Any other necessary work not mentioned in BOQ/technical specifications/turnkey but required for successful completion of Installation & Commissioning of CSSD & TSSU should be carried out by the vendor

CIVIL WORKS (INCLUDING STAINLESS STEEL PANELING FOR STERILIZER & WASHER DISINFECTOR)

1. Civil works includes construction of brick wall required as per the approved lay out plan, laying of tiles on walls & floors, provision of doors & windows as per approved lay out plan False ceiling of reputed make as per clean room standard of CSSD Levelling of floor if any required before laying of floor tiles
2. AIR-CONDITIONING Air conditioning should be provided as per the chart given with the technical specifications Annexure-I. Air conditioning should be ductable type with 25 Ton capacity. The same will be considered for price evaluation purpose.
3. ELECTRICAL WORKS Supply & Installation of Electrical Control panel with required bus bars, switch gears, MCBs etc. complete in all respect Provision of suitable no. of electrical sockets 6/16A with switches to be provided by the bidder

in all the rooms/areas covered under turnkey is the responsibility of the bidder Electrical cabling from the electrical control panel to all associated equipment, air conditioning system, light fixtures, electrical fittings etc. to be carried out by the bidders.

4. FIRE-FIGHTING As per firefighting standards required no. of fire extinguishers to be provided in all areas
5. PLUMBING WORK & DRAINING SYSTEM Stainless piping to drain the hot water from autoclaves to nearest drains All necessary pluming works required in the CSSD area including laying of plumbing pipeline with all required fittings. All necessary drainage works required in the CSSD area including laying of drain pipeline with all required fittings. Provision of sanitation fittings in the toiles and any other associated areas
6. VENTILATION AND LIGHTING Provision of 2ftx2ft LED lights to provide illumination of 500 lux in all areas. LED lights to be flush mounted to the false ceiling Toughened glass sealed windows with curtains to be provided to allow natural sun light wherever possible. Exhaust air fans to be provided wherever required.

In addition to the above-mentioned equipment/appliances, if the contractor thinks it necessary to include any other equipment/appliances, accessories etc. for the CSSD & TSSU then that may be provided after approval from Engineer in-charge.
The sizes are approximate. Minor variations in sizes shall be acceptable subject to prior approval of the Engineer.

Note :

- **The contractor shall be responsible for the complete works including submission of working drawing and walk-through view.**
- **The contractor should provide complete Operation manual, Equipment manual, Service manual and manuals for all systems and subsystems.**
- **The contractor should provide Final electrical safety test, system test and calibration to be done by authorized person with test instruments.**
- **Engineer may instruct for any test this has to be got done by contractor at their own cost.**
- **All electrical accessories like cable wire, electrical outlets, switches etc supplied by the contractor should be fire proof of reputed make, certified for electrical safety.**
- **Wherever makes have not been specified for certain items, the same shall be as per BIS and as per approval of HSCC.**
- **The contractor should provide test certificate for all materials and equipment used for CSSD**
- **Training of personnel of the Institute should be 30 days by the contractor.**

- **The contractor should prepare and submit layout plan as well as As-Built drawing for Steam Pipeline, Electrical Wiring, Electrical Distributional Panel, Plumbing, Fire Fighting System, Air Washing and Ventilation and Drain line to HSCC for approval before beginning of supply and installation and As-Built drawing after installation.**
- **The contractor should provide test certificate for all materials along with manufacturer's test certificate and equipment used for CSSD.**
- **Essential consumables for operation of CSSD shall be provided by the hospital. Non-Essential consumables viz packing materials, extra containers/trays for operation of CSSD shall be provided by the Hospital. Hospital will provide consumables Like Biological Indicator and Chemical Indicator, Detergent, Neutralizer, Disinfectant, H_2O_2 Sterilant Cassette and Tyvek Reels.**

- **Contractor should provide consumables Like Air Filter, Paper Roll , Lubricant Oil and Door Gas Kit.**

- **Third party quality certification of the CSSD equipment & furniture from SGS/TUV/Lloyds should be submitted by the contractor as "Certifies that the CSSD equipment / furniture to be supplied/supplied for installation meet the technical specification and BOQ of the tender document vide contract No (Mention Contract No.)."**

BOQ - CSSD						
Package - Execution including Supply, Installation, Testing and Commissioning of CSSD works including 1 Year of Defect Liability Period						
Item No.	**Description**	**Unit**	**Qty**	**Unit Rate in Rs.**	**Unit Rate in Worlds in Rs.**	**Amount in Rs.**
	CSSD Equipment					
1	Horizontal Sterilizer 750-800 Ltr. With Accessories. Complete as per technical specifications.	No	4			-
2	Washer Disinfector with Accessories. Complete as per technical specifications.	No	4			-
3	Low Temperature Plasma Sterilizer. Complete as per technical specifications.	No	1			-
4	LOW TEMPERATURE STEAM FORMALDEHYDE: HORIZONTAL DOUBLE DOOR LTSF Sterilizer Capacity 550 to 600 Litres. Complete as per technical specifications.	No	1			-
5	Ultrasonic Cleaner 40 to 50 Litres. Complete as per technical specifications.	No	2			-
6	DRYING CABINET. Complete as per technical specifications.	No	1			-
7	Spray Gun Rinser. Complete as per technical specifications.	No	6			-
8	Manual Trolley Wash Unit. Complete as per technical specifications.	No	1			-
9	Magnifying Lamp. Complete as per technical specifications.	No	8			-
10	Rotary heat Sealer. Complete as per technical specifications.	No	2			-
11	Cutting Device. Complete as per technical specifications.	No	1			-
	CSSD FURNITURE ITEMS:	No				-
1	Wash Stations with 2 sinks. Size (LxWxH) : 2000x750x850 mm. Complete as per technical specifications.	No	3			-
2	Work Table for Wet Goods. Size (LxWxH) : 1600x750x900 mm. Complete as per technical specifications.	No	1			-
3	Work Table for Dry Goods. Size (LxWxH) : 1800x750x900 mm. Complete as per technical specifications.	No	2			-
4	Work Table for Dry Goods. Size (LxWxH) : 1800x750x900 mm. Complete as per technical specifications.	No	2			-

Item No.	Description	Unit	Qty	Unit Rate in Rs.	Unit Rate in Worlds in Rs.	Amount in Rs.
5	Control & Packing Table with two Shelves. Size (LxWxH) : 2000x1400x900 mm. Complete as per technical specifications.	No	2			-
6	Control & Packing Table with two Shelves. Size (LxWxH) : 2000x750x900 mm. Complete as per technical specifications.	No	2			-
7	Linen Fold Table: Size (LxWxH) : 2000x1400x900 mm, Complete as per technical specifications.	No	2			-
8	Wire Storage shelf module. Size (LxWxH) : 1525x455x1895 mm. Complete as per technical specifications.	No	6			-
9	Wire Storage shelf module. Size (LxWxH) : 1525x455x1895 mm. Complete as per technical specifications.	No	4			-
10	Wire Storage shelf module. Size (LxWxH) : 1525x455x1895 mm. Complete as per technical specifications.	No	18			-
11	Wire Storage shelf module. Size (LxWxH) : 1525x455x1895 mm. Complete as per technical specifications.	No	2			-
12	Free Standing basket rack (15 Baskets). Size (LxWxH) : 1850x480x2150 mm. Complete as per technical specifications.	No	12			-
13	Pass Box. Size : 600x600x600mm, internal. Complete as per technical specifications.	No	3			-
14	Paper Dispensing Trolley. Size : 1350 x 600 x 845 mm. Complete as per technical specifications.	No	4			-
15	Closed Transport Trolley. Size : 1400x750x1260 mm. Complete as per technical specifications.	No	4			-
16	Linen Distribution & Storage Trolley. Size : 1020x740x1750 mm. Complete as per technical specifications.	No	2			-
17	Table Trolley. Size : 1080x550x800 mm. Complete as per technical specifications.	No	3			-
18	Basket Trolley. Size : 715x505x155 mm. Complete as per technical specifications.	No	2			-
19	Instrument Tray. Size : 480x250x70 mm. Complete as per technical specifications.	No	100			-
20	Instrument Tray. Size : 340x250x70 mm. Complete as per technical specifications.	No	75			-

Item No.	Description	Unit	Qty	Unit Rate in Rs.	Unit Rate in Worlds in Rs.	Amount in Rs.
21	Instrument Tray. Size : 250x170x70 mm. Complete as per technical specifications.	No	50			-
22	Modular Sterilizing baskets SPRI. Area : Various movement. Complete as per technical specifications.	No	120			-
23	Modular Sterilizing baskets SPRI. Area : Various movement. Complete as per technical specifications.	No	60			-
24	TURNKEY WORKS Complete with all accessories as per technical specifications.	Lot	1			-
	Total					-