

## TECHNICAL SPECIFICATION – CSSD EQUIPMENT

### HORIZONTAL RECTANGULAR HIGH PRESSURE HIGH VACUUM RADIAL DOUBLE DOOR STEAM STERILIZER, FULLY AUTOMATIC CYCLE OPERATION WITH ACCESSORIES SS Carriage and SS Trolley

- Steam sterilizer, horizontal shape, with hinge type radial double doors, inner chamber volume of around 400 to 450 liters; Minimum Inner chamber dimensions-600mm width x 600mm height x 1200mm depth
- Vacuum pump - Should have inbuilt water-ring type vacuum pump of 3HP/5HP to provide pre-vacuum and post-vacuum pulses, to withstand negative pressure and create high vacuum of 26"hg; The sound level of vacuum pump shall be <80DP and no vibration. Vacuum pump brand shall be New Genre OR Vindi vak. This should also be fitted with suitable stainless steel condenser and pipings.
- Material : Inner chamber - Stainless steel SS 316 quality with a minimum thickness of 6mm; Both the doors – Stainless steel SS 316 quality with a minimum thickness of 12 mm; Radial locking arm for door – Stainless steel SS 304 quality, Inbuilt steam generator – made of stainless steel SS 304 quality; All connecting pipes shall be made of good quality stainless steel; Jacket-boiler quality steel; stand-mild steel with anticorrosion paint.
- Electrical immersion type heaters of 18KW, equipment should be operated on 400-440 V, 3 phase with neutral, AC supply.
- Should provide heat resistant SILICON door gasket withstand upto 140°C.
- The sterilizer shall have to draw the water, automatically through a feed water pump, when needed in the inbuilt boiler.; preferably Crompton make water pump
- Insulation of Glass wool thickness shall be 75-100mm. Insulation cover shall be made of good quality stainless steel 304 quality
- Should provide analog gauges for chamber pressure and Jacket pressure; Necessary calibration certificates to be submitted during supply
- The sterilizer shall be fitted with Pressure switch, Contactor, solenoid valves, pressure transmitter, steam trap, water reading glass, safety valve, plug screen, vacuum drier etc..as needed
- Working temperature of sterilizer is 121°C to 134°C and the corresponding pressure is 1.2 to 2.1 kg/cm<sup>2</sup>
- Validation Port shall be provided
- Should have microprocessor based controls, with touch screen display; Minimum of six programmable cycles, Bowie Dick test cycle, Leak test cycle should be provided; Preferred make of HMI and PLC: Siemens / Allen Bradley / Mitsubishi
- Shall have digital displays of Chamber Pressure, Chamber temperature, Cycle no., Batch no., Time & Date, Alarm indicator, Error code, Low water indicator etc.,
- Shall have provision for RS 232 port for data communication, In-built Real Time Clock with date and time function and F<sub>0</sub> value
- **Should be supplied with a suitable printer** that will automatically and continuously monitor and record dates, time of day, load, identification no. and operating parameters i.e. temperature, pressure and residence time, throughout the length of the autoclave cycles.
- Shall have necessary safety features that both doors should not open at time; Door should not open when the process is ON; Process should not start either in auto or manual if either side is open; Sterile door will open finally after completion of cycle and non sterile door will not open unless sterile door is opened etc.,
- Should have suitable alarm / indications
- The machine shall be IS: 3829 part 1 certification and ISO 9001:2008 company
- **Accessories**
  - a) Qty – 1 No Stainless Steel loading / unloading carriage made of SS 316
  - b) Qty - 2 Nos. Stainless steel transfer trolley made of SS 304
- **Documents**

User manual in English, Hydraulic test certificate, Material test certificate, IQ, OQ, DQ & PQ documents, Leak Test certificate, Gauge calibration certificate, Master Gauge calibration certificate and Warranty certificate

**TECHNICAL SPECIFICATION: CONTROL & PACKING TABLE**

- Shall be made of good quality Stainless Steel SS 304, thickness of 16 SWG
- Shall have minimum two shelves for separation, control and packing of various sets of sterilized goods forwards, clinics, operation theatre etc.,
- Shall have Stainless steel 304 quality drawers, 18SWG thickness, underneath the table and also with nylon adjustable leveling bullets for legs
- Shall have provision for electrical connections for sockets of 5 Amps & 15 Amps
- All the joints shall be welded and fine finished.
- Table overall size – 2000mm length x 1400mm Width x 1400mm H

**TECHNICAL SPECIFICATION: STAINLESS STEEL WORK TABLE WITH UNDERSHELF**

- Stainless Steel work table for packing of instruments, all smooth ground corners.
- Will have an under shelf made of Stainless steel SS304, thickness: 16 SWG and fixed on the frame.
- Table top made of Stainless steel SS 304 quality, thickness: 16SWG
- Frame made of Stainless steel SS 304 quality, thickness: 40 x 40 x 14 SWG
- Overall dimensions: 1200mm x 600mm x 900mm H

**TECHNICAL SPECIFICATION: STAINLESS STEEL PASS BOX**

- The Pass Box shall be fabricated from S.S. 304 stainless steel sheets with double wall construction.
- Should have full argon welding for superior hygiene
- Shall have UV lights for safe storage of components.
- As an additional safety to the operator the UV light will be automatically switched off when any one door is opened.
- Magnetic locks for both doors must be there.
- Door interlocking to prevent simultaneous opening of both doors.
- Toughened glass paneling for easy visibility.
- Inside size: 600mm x 600 mm x 600 mm

**TECHNICAL SPECIFICATION: STAINLESS STEEL WORK TABLE WITH TWO SINKS**

- Stainless Steel Work table with double sink unit with hot water, cold water and air spray connections – for washing of instruments:
- Complete stainless steel 304 body construction.
- Will have a drain outlet connection
- Sinks are designed in a way to minimize splash
- Shall have an undershelf made of stainless steel SS304, , 16SWG thickness., shelf size: 2355mm Length x 400mm width, fitted at 300mm above floor level
- Separate hot and cold water faucet above each sink
- Shall have Two Sinks made of stainless steel SS 304 quality, 16SWG thickness, are designed in a way to minimize splash, Minimum size of each sink shall be 700mm Length x 440mm Width x 240mm Depth
- Frame (square) shall be made of stainless steel SS 304 quality, 14SWG thickness.
- All the joints shall be welded and fine finished.

#### **TECHNICAL SPECIFICATION: WASHER DISINFECTOR WITH INBUILT DRYER, DOUBLE DOOR**

- Should be made of good quality Stainless Steel and the unit shall have double door stainless steel SS 304 quality, 16SWG thickness. ; All connecting pipes shall be made of good quality stainless steel
- Body and Frame shall be made of Stainless steel 304 quality, 14SWG thickness.
- The external panel shall be made of stainless steel 304 quality, , 18SWG thickness.
- Inner chamber volume shall be 250 to 275 Litres approx. and can handle up to 1200 instruments per hour;
- Shall be designed to wash, rinse and drying all kinds of surgical instruments, anesthetic and respiratory tubing, suction devices, bottles and other glassware.
- Microprocessor control for all services, programming and statistic functions – three preset programs and process shall be automatically controlled in a time regulated sequence.
- Double wall with insulation to run with minimum sound and heat emission; Shall be provided with Silicon type gasket for door
- Temperature: Washing at 50 to 65 deg.C; Thermo disinfection at 80-90deg.C
- Hot or cold water Spray through rotating arms, Automatic Disinfectant loading through dosing pump
- **Effective Drying:** The instruments and hoses are dried very thoroughly, inside out. An air particle filter ensures that the drying air is free from particles.
- Shall be fitted with Sensor to detect level in soap tank and easy refilling system, Sensor for water in chamber to avoid dry run, have powerful water circulation pump, four spray arms, dual dosing pump etc.
- Electrical load – 20KW, 415 V, AC, three phase & N, 50Hz

#### **TECHNICAL SPECIFICATION: ULTRASONIC CLEANER**

- Shall be made of Stainless Steel SS 304 quality, 18SWG thickness of body and door
- The Ultrasonic generator and the ultrasonic cleaning bath are built in one integral cabinet with castor wheels
- Shall be designed for ultrasonic generation with PZT transducers for mechanical vibration in the cleaning liquid
- Shall have a minimum volume of 30 liters, with ultrasonic frequency of 30 KHz (+/- 3 KHz), ultrasonic power of 500 Watts
- Transducers: PZT – elements in sandwich form.
- Should be supplied with suitable SS Lid and baskets

#### **TECHNICAL SPECIFICATION: DRYING CABINET – single door**

- Drying cabinet casing, doors and shelves are made of stainless steel AISI 304 quality.
- Double wall construction with insulation between panels. This construction reduces heat losses and noise into the working area.
- Drying Cabinet is designed to dry surgical instruments, utensils, glassware and anaesthetic therapy equipment.
- The unit has an adjustable temperature range of 70 – 90 deg C
- Size: 550mm x 425mm x 1300mm height. ; Electrical Heater: 3.6 KW; Volume – 275 litres appx.
- It can be operated on an electrical connection 230 V AC single phase 50 Hz. Supply from a standard 15 Amps 3 pin plug point.

**TECHNICAL SPECIFICATION: STAINLESS STEEL STORAGE RACK WITH FIVE SHELVES**

- Shall be made of good quality Stainless Steel SS 304; Size: 1830mm L x 535mm W x 1830mm H
- Floor mounted type, storage rack with five shelves to store the medical instruments / linen
- Frame shall be fabricated of 40mm square Stainless steel pipes, legs shall be provided with adjustable nylon Bullet feet; Frame thickness , 14SWG.
- The shelves are fabricated of 16 SWG Stainless Steel sheets ground polished to smooth surface
- Edges are welded together & polished at corners

**TECHNICAL SPECIFICATION: TABLE TROLLEY WITH TWO SHELVES**

- The trolley is for use in the sterile goods store when batching sterile goods for delivery and also for short internal transport.
- Frame and body made of stainless steel 304 quality, 14SWG thickness and under shelf made of stainless steel SS 304 quality, 16SWG thickness.
- The trolley frame is provided with handle bars for easy movement
- The shelf is fitted with buffer wheels
- The frame is fixed on 4 Nos. heavy duty castors swiveling castors for easy movement in narrow passage
- Size: 1080mm length x 550mm width x 800mm height

**TECHNICAL SPECIFICATION: GAUZE CUTTING MACHINE WITH SS TABLE**

- The unit should be fitted on the table formed out of SS304 quality material
- The low profile base plate drastically reduces the fabric distortion & drag.
- The close fitting of the wing of the base plate easily slips under the bottom ply without catching or snagging the cloth.
- The motor cooling fan dissipates heat build-up & directs the hot air-flow away from the operator.
- Operating handle and lever are positioned for maximum convenience.
- Blade can be sharpened by the automatic sharpening unit only when lever is pressed down, ensuring safety.
- Blade size – 200mm.
- Cutting capacity – 165mm
- Power – 230V Ac 50Hz, 0.75HP
- Table top made of stainless steel SS 304 quality, 16SWG thickness and frame made of stainless steel SS 304 quality, 14 swg
- Table Size:900mm Length x 600mm width x 900mm Height

**TECHNICAL SPECIFICATION: WATER DISTILLATION UNIT, single distilled, 20 Litres/Hour**

- Stainless Steel Water Still; Distillation Output will be 20 Litres/hour;
- Single distilled tank to producing pyrogen free distilled water
- Evaporator tank will be made of good quality stainless steel
- Shall be fitted with Bleeder Device to retard scale formation, this valve constantly bleeds the boiling surface.
- As steam passes through the water still's maze of baffles, it is stripped free of pyrogens.
- The high disengaging space eliminates most minerals, allowing only the pure, dry steam to reach the condenser.
- Condenser will be numerous steam tubes,
- Complete heat exchange between condensate and cooling water.
- The distillate cools to about 60°C and the feed water temperature goes up to 80°C.
- The unit will be fitted with electrical immersion heaters.
- Electrical Load: 15 KW, 3 phase 4-wires, 400-440Volts 50Hz A.C. supply
- The unit will be mounted on tubular stand of stainless steel in a ready to use condition.

**TECHNICAL SPECIFICATION: STAINLESS STEEL STORAGE TANK, 120 litres**

- Stainless Steel storage tank capacity of 120 Litres.
- A suitable immersion heater will be fitted.
- Power Supply: 3 phase, 4 wires, 400-440V AC Supply
- Overall Size: 900mm L x 600mm W x 1600mm H
- The unit will be mounted on tubular stand of mild steel in a ready to use condition.
- The unit will be fitted with all necessary safety features.

**TECHNICAL SPECIFICATION: SPRAY GUN RINSER WITH EIGHT ATTACHMENTS-QTY-1NO**

- Various sizes and shapes of minimum eight attachments made of good quality Stainless Steel to be used for cleaning syringes, catheters, endoscopes, cyst scopes, other instruments and articles used in sterile services.
- Shall be capable for minute jet of spray of water / compressed air
- 1/4" BSP connection with SS braided Hose for water & air
- The water and air pressure should be released, regulated and fully controlled by the spray gun trigger.
- Should be suitable to be connected with the wash station with double tank.