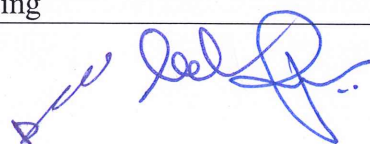


## SPECIFICATIONS FOR AUTOCLAVE

Sl. No.	Equipment Specification
<b>1.</b>	<b>Double Door Horizontal Rectangular Steam Sterilizer (432 Litres.)</b>
<b>A.</b>	<b>Operating parameter</b>
•	Operating Pressure 34 PSI
•	Operating Temperature 134°C
•	Vacuum 20-24" Hg
<b>B.</b>	<b>Quality compliance</b>
•	NABH Norms Compliance
•	BIS 3829 Part 1
•	Indian BD Test: Air Removal & Steam Penetration Test Compliance
•	European BD Test: EN-285 (EN ISO 11140-1+4 7 KG Test) Compliance
•	American BD Test: AAMI/ANSIST79 (ISO 11140-1+5 4 KG Test) Compliance
•	Biological Testing
•	Test Strip all Classes
<b>C.</b>	<b>Features required</b>
•	Single Sheet Chamber Fabrication
•	Gasket Groove for Silicon Gasket long life
•	Maximize Loading Capacity design
•	Minimize Electric, Water and maintenance cost
•	Completely Pneumatic Valve Control System
•	Sterilizer Sealing with Teflon / Silicon or better material for long service life
<b>D.</b>	<b>Chamber:</b>
•	Triple Walled Rectangular design
•	SS 316 quality heavy duty chamber design
•	Single Sheet Chamber Design for long working life
•	Maximum Chamber utilization by minimum curb design.
•	Mirror Polish surface for preventing water deposit
•	Chamber design with a 2 % Slope for full draining of the condensate
•	Baffle For effective distribution of steam throughout the chamber & to avoid the entering steam from directly hitting the load.
•	Front Panel S.S. 304 for Controlling and Operational Parameter Display by HMI and Gauges.
<b>E.</b>	<b>Jacket:</b>
•	SS 304 quality heavy duty Jacket design
•	40-50 mm jacket for maximum storage of steam
•	Resin Bonded High-Density insulation to minimize thermal loss.
•	Heavy gauge S.S. 304 insulation covering
<b>F.</b>	<b>Boiler:</b>
•	High-Pressure Boiler with thermal insulation for heat loss recovery.
•	Dual site heating element one for working and other for emergency planning (Single Side Heating Element)
•	Dual sensor low water cut off device for heaters extra precautions.
•	St. Steel Water Level Indicator with graduation marking

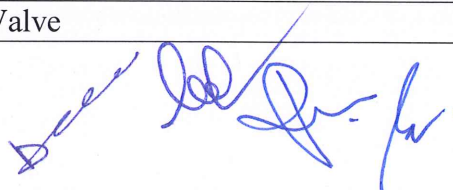
•	Stainless Steel Heating Element
<b>G.</b>	<b>Door:</b>
•	Hinge Type Door.
•	Door made of SS 316
•	Flat Door Design inside for maximum space utilization.
•	Heavy Duty Door Design
•	Door with Gasket Slot for long service life
•	High Accuracy Mechanical Door Safety inside door Plate
•	Silicon & Teflon Sealing Door Plate
•	Joint less Silicon Door Gasket
•	Heat Loss Insulation Door
•	Special Covering for preventing burning issue
•	S.S. 304 radial arms duly polished
•	Smooth operating door
<b>H.</b>	<b>Stand:</b>
•	Square / Round Heavy-Duty Stand
•	Powder Coated
•	Height adjuster shoe for Label setting.
<b>I.</b>	<b>Control panel:</b>
•	Programmable Logic Controller
•	Touch Screen Panel (HMI)
•	Fully Auto & Manual Control System for Emergency use.
•	Emergency Stop Button
•	Panel with Siemens/Schneider/L&T product design.
•	Dual Pressure Control System
<b>J.</b>	<b>Vacuuming system:</b>
•	Water Ring Type Vacuum Pump with 20"-24" Hg vacuum capacity
•	Stainless Steel 304 Condenser for steam condensate
•	S.S. 304 Vacuum Pipeline
<b>K.</b>	<b>Online feeding system:</b>
•	High-Pressure online water feeding pump
•	Water Feeding without distribution of Pressure & Temperature.
•	Back-to-Back Continuously Sterilizer operation
•	Heating Element Safety Device
<b>L.</b>	<b>Fresh air supply:</b>
•	HEPA Filtered air supply accuracy .3 Microns.
•	Hot Air supply by Jacketed forced convection System
•	Pneumatic Control Air Supply.
•	S.S. 304 Pipeline
<b>M.</b>	<b>Pneumatic control system:</b>
•	Pneumatically actuated angle valves with threaded connections.
•	Jacket to Chamber steam controlling
•	Vacuum Line Control
•	Exhaust Line Controlling
•	Fresh Air Injecting to Chamber
•	Online Water Feeding



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•	Auto water Line Control
<b>N.</b>	<b>Sterilizer sealing</b>
•	Door Sealing with joint-less Silicon rubber gasket
•	Boiler Plate sealing with Teflon Gasket
•	All Pipeline connector seal with Teflon or "O"ring
•	Low Water cut-off device sealing with Teflon Gasket
•	Water Level Glass Gauge sealing with dye mold silicon rubber
<b>O.</b>	<b>Automation software features:</b>
•	7 Standard program and unlimited recipe designable
•	3 label passwords protected the controlling system
•	Online Trends of operational parameter display in the screen panel
•	Bowie Dick Test, Vacuum Leak Testing, and all parameter manual testing facility
•	Process control valve operation display
•	User ID and Institutional detail display and printing facility
•	Fault Diagnostic system available in TFT Display.
•	Operation Data recording facility.
•	Inbuilt Real Time Clock with Date & Time Function.
•	Batch Printing Facility. With facility to save the last cycle data.
•	Cloud monitoring System
<b>P.</b>	<b>Inbuilt Accessories:</b>
•	S.S. 316 Pressure Gauge range 0 to 60 psi with accuracy $\pm 0.5\%$
•	S.S. 316 Compound Gauge range -30 to 60 psi with accuracy $\pm 0.5\%$
•	S.S. 316 Temperature Gauge range 0 to 300°C with accuracy $\pm 0.5\%$
•	High Accuracy Safety Valve with accuracy $\pm 3$ PSI in entire range
•	Door Locking Plate Accuracy $\pm 1$ PSI on set point of 5 PSI
•	Thermostatic Control Steam Trap
•	Bucket Type Float Valve for minimum steam loss and better temperature.
•	Thermostatic Steam Trap for jacket air removal
•	Low Water Pressure Control System
•	Low Air Pressure Control System
•	Single Phase Preventer
•	High Accuracy Control Pressure Switch for accurate pressure control
•	Door interlock to prevent the simultaneous opening of both doors.
<b>Q.</b>	<b>Mounting &amp; control panel:</b>
•	M.S. Powder Coated Control Panel
•	The sterilizer should be mounted on a Tubular M.S. Powder Coated Stand
<b>R.</b>	<b>Manual Control:</b>
•	The control system should provide Manual Control in case of PLC failure. Here all process should be operated with the help of Manual Control Switches.
<b>S.</b>	<b>Quality Control:</b>
•	Calibration Certificate of pressure, Temperature and Compound Gauge
•	Hydraulic Testing Report
<b>T.</b>	<b>Test Report along with Sterilizer</b>
•	Chamber Hydraulic Test Certificate
•	Jacket Hydraulic Test Certificate
•	Pressure Safety Valve


  
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•	Vacuum Safety Valve
•	Door Plate Operating Accuracy
•	Pressure Gauge Accuracy Test Certificate
•	Compound Gauge Accuracy Test Certificate
•	Temperature Gauge Accuracy Test Certificate
<b>U.</b>	<b>Quality Control Certificates:</b>
•	US FDA/European CE certified with four digit notified body number / BIS 3829 Parts -1
•	ISO Certificate
•	ISO 13485:2016 Certificate
•	CE Certificate
•	IEC 61010-1:2010 Certificate
•	ISO 14001:2015 Certificate
•	ISO 45001:2018 Certificate
•	BS EN ISO 17665-1:2006 Certificate
•	BS EN 285:2015 Certificate
<b>V.</b>	<b>Spare Parts with each Sterilizer:</b>
•	3 Heating Element
•	2 Nos. Seamless Silicone Gasket
•	2 No. Pneumatic Control Valve
•	2 Nos. Pneumatic Control Valve
<b>W.</b>	<b>Accessories (Optional)</b>
•	S.S. Material Un-loading Trolley 2 Nos. Each Sterilizer
•	SS 304 Material Loading Carriage 1 No. Each Sterilizer
•	Panel Mounted Printer

**Conditions for tender:**

1. All accessories should be from the same Original Equipment Manufacturer for the main unit.
2. Instruments must be ISO certified and a copy should be enclosed. (The ISO Certificate must be issued by any organization accredited by the Bureau of Indian Standard or accredited by the international accrediting forum "IAF" (Certificate to be attached).
3. Other necessary certifications if any required will be provided by the bidder for the smooth functioning of the machine.
4. Installation process should be performed by O.E.M trained service engineers/ service representatives on OEM letterhead or Service Report within 15 days of supply, with the mandatory provision of providing preventive services visit of OEM trained Service Engineer/ Service Representative quarterly per year till the completion of warranty period (i.e., 20 visits for the first 05 years) & further quarterly visits (04 visits/year) year till the completion of CMC period.

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5. The supplied equipment to be covered under a 5years comprehensive warranty and post-completion 5 years paid CAMC, in which all accidental damages/ breakage, leakage/ punctures, manufacturing defects and wear and tear of all sorts will be covered.
6. The equipment should have a Brand name/ Model Number embossed/etched on the equipment.
7. All the technical specifications in the compliance statement must be supported by Original Literature from the firm/ O.E.M with highlighting Numbering & flagging of all technical certificates.
8. Offered Equipment should have a strong Government Installation base.
9. Offered Equipment should have a Regional Sales Service Centre of the Original Equipment Manufacturer in the region for a 95 % uptime guarantee.
10. For the offered main unit, the essential, optional required consumables'/accessories' shelf life should be declared on the Original Equipment Manufacturer's letterhead.
11. In case of technical snag/failure/breakdown the response time for the inspection should be within 24 hours and repair within 05 days otherwise provide a service machine/ alternate arrangement to be made till the period of recovery of the breakdown of the unit, failing which attracts penal action as per the decision of institute/ hospital.
12. For offered equipment the Training of technical staff and users should be performed by Original Equipment Manufacturer trained Service Engineers at the proper designated place- at bidders' cost.
13. Company should quote their latest model and need to provide an affidavit for the same.
14. As a tendering process the Demonstration of the offered Equipment is Mandatory at hospital/institute premises or other designated places at the bidder's cost.
15. The bidder must comply with the General Financial Rules and their modifications if any issued by the Government of India- 2017.
16. Any bidder from a country that shares a land border with India will be eligible to bid in the tender only if the bidder is registered with the Competent Authority (i.e., Registration certificate issued by the Ministry of Commerce and Industry (Department for Promotion of Industry and Internal Trade- DPIIT after October 2020). If any such bidder is not registered with DPIIT they will be liable for technical disqualification.
17. Principal (OEM) must authorize only one agent to be quoted in the bid otherwise multiple quotes through different agents in the same bid will be canceled.

18. The Bidder and its OEM both have to submit a notarized affidavit on the Indian Non-Judicial Stamp Paper of Rs.100/- that the bidder has not quoted the price higher than the current financial year and last financial year supplied to any government Institute/ Organization/ reputed Private Organization. OEM also has to submit that the price quoted by the bidder in the bid is on its behalf and the lowest in the current and last financial year in the country. Therefore, if at any stage it has been found that the supplier and its OEM have quoted lower rates than those quoted in this bid; the Institute (the purchaser) would be given the benefit of lower rates by the Supplier and any excess payment if any, will become immediately payable to the Institute (the purchaser). If such an affidavit is not submitted, the bid will be outrightly rejected. (Part of technical bid).

19. Guarantee / Warranty Period: Separate offers of Comprehensive Maintenance Contract (CMC on main equipment) and Annual Maintenance Contract (AMC on main equipment) for further 5 years after expiry of 5 years of warranty (i.e., 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup> years) in rupees only (and on basis of percentage of price) should be included in a financial bid in the absence of which the offer is liable to be rejected. Payment for CMC/AMC shall be made only after the expiry of the warranty of 5 years, in case the Institute (the purchaser) decides for availing of CMC/AMC services. Contract for CMC/AMC shall be decided on expiry of warranty but rates (not more than 5% inclusive of all taxes for 6<sup>th</sup> to 10<sup>th</sup> year) will be frozen at the price of an issued purchase order before the release of payment by the Institute (the purchaser). However, the Institute (the purchaser) may decide not to enter into any CMC/AMC contract without assigning any reason for the same, which shall be binding upon the bid.

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