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GOVERNMENT OF INDIA  
NATIONAL TUBERCULOSIS INSTITUTE  
(DIRECTORATE GENERAL OF HEALTH SERVICES)  
No.8, BELLARY ROAD, BANGALORE - 560 003

F.No.13-40/2021-22/ Stores Part I

7<sup>th</sup> October 2021

**SUB: QUOTATION ENQUIRY**

1. Sealed quotations are invited for the for the instrument/Equipment listed in Para 3. The quotations should be addressed to the Stores Officer, National Tuberculosis Institute, No.8, Bellary Road, Bangalore-560 003. The sealed envelope containing quotation should be superscribed "**Quotation for Supply & Installation of Horizontal Rectangular Autoclave**"

Quotations should be valid for a period of 45 days.

2. The last date / time for submission of quotation is on **29-10-2021 13.00 Hrs.** Quotations may be dropped in the Tender box kept in our Stores Unit or send by Regd. Post well in advance so as to reach before the due date / time. Quotations received after due date / time will be rejected.

3. **Description of work**

Sl. No.	Item description	Qty
1	Horizontal Rectangular Autoclave ISI/ISO certified. Please refer the encloser for detailed product technical specifications	01

4. Quotations received will be opened at **15.30 Hrs** on **29-10-2021** in the presence of those Tenders present.

5. Clarifications if any regarding specifications of the instruments, you may please contact Dr. Sarika Jain Agrawal, Microbiologist (Tel: 23441192 & 93 Extn: 148) during working hours.

6 The Director, National Tuberculosis Institute, reserves the right to reject any/all quotations without assigning any reason. Your rate should be inclusive of GST, Installation and other charges.

Thanking you,

Yours faithfully,

  
(Sri. Rony Jose Kokkad)  
Stores Officer  
For Director.

## Autoclave Technical Specifications

### Main specifications

1. Horizontal and rectangular steam sterilizer
2. Inner dimensions of chamber: 420-500 L
3. Dimensions: 600-650mm width x 600-650mm height x 1200-1300mm length
4. Triple walled with a calibrated steel jacket.
5. Chamber Insulated by mineral/Glass Wool to minimise the heat losses and is covered by polished stainless steel sheet.
6. Sterilization chamber, doors, jacket should be made of high quality Corrosion Resistant Stainless Steel of 316 grade.
7. In built boiler / Steam Generator of 304 quality stainless steel with manual water feed control (valve) with water level indicator and pressure gauge, separate compound gauge for working chamber, separate manual valve for drainage of water.
8. Manual double door (hinge type)
9. Two perforated & adjustable shelves should be provided
10. Sterilizing Temperature: 0 to 135°C.
11. Sterilizing pressure: 1.2 to 1.5 kg/cm<sup>2</sup> (15 psi to 22psi)
12. Fitted with pressure, temperature & vacuum gauges, safety valve and steam release valve.
13. Mounted on rigid tubular steel stand
14. Electrically heated. Power input to be 440 Volts AC, 3-phase, 4 wires, 50Hz with suitable voltage regulator of appropriate rating. The line cord / Power cord supplied with the equipment shall be of acceptable durability, length, and current carrying capacity complying with Indian Standards.
15. Hydraulically Tested up to 40 psi.

### Features to include:

The sterilizer would be incorporated with the following mountings and fittings:

1. **Multiport operating valve consisting of 5 positions** – off/slow, exhaust, vacuum dry, sterilization and fast exhaust also fitted with one pressure gauge and one compound gauge
2. **One Spring loaded safety valve** of stainless steel for both boiler and working chamber
3. **Self-sterilizing vacuum drier** (load after sterilization should be moisture free with post sterilization vacuum drying to ensure load and racks are dry on unloading)
4. **Automatic Low Water Cut-off Device:** To protect the heaters from running dry and to ensure that the machine is automatically switched off in case the desired water level falls below the prescribed level
5. **Automatic Pressure Control Switch:** To cut-off the current from the heating elements, when the desired/ set pressure value level is attained inside the chamber and restarts the mechanism once the pressure inside the chamber falls from the desired level. The pressure is adjustable from 5 psi to 20 psi with automatic pressure control switch, which controls the pressure with an accuracy of +/- 1 PSI. This economizes power consumption by reducing frequent opening of the steam release valve. It cuts off the power supply to heaters when the set pressure is achieved and re-energizes the heating elements when pressure falls below the set point.
6. **Automatic self-locking device** – The door would have automatic locking device when chamber is under pressure to prevent opening of door
7. Fitted with separate valves for injecting the steam into the main chamber.
8. **Heat resistant silicone door gasket** (withstanding temp up to 140°C)

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9. **One Automatic vacuum breaker-** Prevents formation of accidental vacuum in jacket due to steam condensation.
10. Chamber discharge line would consist of **one plug screen** (prevents Chamber from clogging with lint and sediment), **one dial thermometer** (Indicates the working temperature in the inner chamber accurately), **one swing check valve**, **one steam trap** (for automatic removal of residual air and condensate to give optimum sterilization temperature)
11. Corrosion Resistant Stainless steel at least 304 quality **electric steam generator** fitted with 6nos. 3 KW immersion **heaters** each, one low water level protection and one automatic pressure controller, one air break contactor, 2nos. automatic shut off valves, automatic water feeding system. The heaters would be mounted on a thick stainless steel plate
12. **External Validation port** for measuring temperature of the working chamber
13. Piping & Connections: Made of Stainless Steel having mirror finish.
14. **Relevant copies of original catalogue/operating manual/manufacture website in support of the mentioned specifications should be provided with technical bid & highlight the above features.**
15. Installation and commissioning to be completed free of cost up to the satisfaction level of the purchase committee followed by Comprehensive onsite training of staff till familiarity with the system.
16. Installation with satisfactory biological indicator report and Bowie Dick test packs that should be provided for standardization for 50 cycles.
17. All infrastructural work including plumbing and electrical work will have to be done by the supplier.
18. Minimum 12 months warranty for machine from date of installation.
19. **OPTIONAL FEATURES:**
  - a. **Dial Type / Digital Temperature Indicator with Alarm System** - with display to indicate the temperature inside the chamber.
  - b. **Mechanical / Digital Timer with Alarm System** - To regulate the sterilization time of the media to be sterilized and when the desired time is passed, with a buzzer, to that the completion of sterilization cycle, Sterilization timer: 1-99 minutes.
  - c. Carriages, Trolleys, Trays & Baskets
20. AMC up to 5 years on the machine from date of installation should be quoted, year wise under optional features in the price bid.

#### Accessories –

- To be supplied include stainless steel drums (where 2 fit in autoclave directly plus two spare total 4), stainless steel wire basket (where 2 fit in autoclave directly plus two spare total 4), spare heating elements (two), fuses (10), Silicone door gasket (2).
- Certificate of the 316/304 grade steel quality must be provided by the manufacturer.
- Must be manufactured as per ISI specifications. Must submit ISO certificate for medical devices. The apparatus should conform to national or international standards with latest amendments covering Markings, Safety requirements with recommendations of safe operations from any reputed firm with IS:3829 certification.
- User manual in English should be provided with machine in both printed and soft copy.

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