



**NOTICE INVITING TENDER (E-Procurement mode)**

**भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान पुणे**

**INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH**

An Autonomous Institution, Ministry of Human Resource Development, Govt. of India

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Limited Tender No: IISER/PUR/0851/18

Date: 14/11/2018

Indian Institute of Science Education and Research, Pune invites online bid (e-tender) in single bid system for the following.

Item Description: Autoclave- 1 No.

The Tender Document can be downloaded from Central Public Procurement (CPP) Portal <https://eprocure.gov.in/eprocure/app> and bid is to be submitted **online only** through the E-procurement portal up to the last date and time of submission of tender.

**Critical Dates of Tender**

| Sr.No | Particulars                                   | Date       | Time       |
|-------|-----------------------------------------------|------------|------------|
| 1     | Date of Online Publication/Download of Tender | 14/11/2018 | 18:00 Hrs. |
| 2     | Bid Submission Start Date                     | 14/11/2018 | 18:30 Hrs. |
| 4     | Bid Submission Close Date                     | 28/11/2018 | 15:00 Hrs. |
| 6     | Opening of Bids                               | 30/11/2018 | 15:00 Hrs. |

No manual bids will be accepted. All quotation should be submitted in the E-procurement portal only

Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk. The contact number for the helpdesk is 0120-4200462, 0120-4001002, 91-8826246593.

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## CHAPTER-1. INVITATION FOR BIDS

1. Indian Institute of Science Education and Research, Pune invites online bids (e-tender) in single bid system for **Design, Supply , Installation Commissioning and Maintenance of Autoclave**. The Technical specifications are given in **Chapter 4: Schedule of Requirements, Specifications And Allied Technical Details**.

2. **Contact for information:**

Technical & Commercial contact:  
Assistant Registrar (Stores & Purchase)  
Indian Institute of Science Education and Research (IISER), Pune  
Dr. Homi Bhabha Road, Pashan  
Pune - 411 008, India  
Tel : +91-020-2590 8246  
Email: [purchase@iiserpune.ac.in](mailto:purchase@iiserpune.ac.in)  
Website : [www.iiserpune.ac.in](http://www.iiserpune.ac.in)

3. Supply means: “Supply, Installation & Commissioning”.

4. **Submission of Bid:**

Bid Submission Start Date: 14/11/2018 from 18:30 Hrs  
Bid Submission Close Date: 28/11/2018 up to 15:00 Hrs.  
Opening of Bids: 30/11/2018 at 15:00 Hrs.

5. No manual bids will be accepted. All quotation should be submitted in the E-procurement portal only

6. The Offer should comprise of the following:

- (i) The offer should be complete to indicate that all products and services asked for are quoted.
- (ii) The purpose of certain specific conditions is to get or procure best Equipment/service etc. for IISER, Pune. The decision of Purchase Committee shall be the guiding factor for selection of the responsive firms.
- (iii) Duly filled in Bid with proper seal and signature on each page of the bid should be submitted online and the same should accompany with complete specifications, Manufacturer’s name, address and relevant Technical Literature / Brochures with warranty Terms.
- (iv) Agreements / Purchase Orders / Completion certificates if any, for similar works in other Institutes, the details of such supplies for the preceding

three years should be given together with the prices eventually or finally paid.

- (v) Copy of GST No. and PAN Number allotted by the concerned authorities. If registered with the National Small Industries Corporation, the registration number, purpose of registration and the validity period of registration and a copy of NSIC registration wherever it is applicable should also be provided in bid.
- (vi) The prices should be shown against each item for the purpose of Insurance claims / replacements if any.
- (vii) Compliance sheet with any deviation with reference to the terms and specifications.
- (viii) The item should be supplied with manuals and the manuals including technical drawings should be complete in all respects to operate without any problem.
- (ix) Duly filled in checklist as per Chapter 6 should be submitted along with tender.
- (x) The Bidders are requested to quote for Educational Institutional Price for Equipments, since we are eligible for the same

**Note : IISER , Pune is requesting only Single Bid (Technical Specification and Price together) the Bidders must be extremely careful about the requirement mentioned in the tender and submit their quotes accordingly. Any shortfalls found during the tender evaluation such bids will be rejected without seeking any further clarifications from the bidders. Since it is a single bid any further clarification will cause/draw objections from other bidders.**

**All the bidders should quote their offer as per “Chapter - 5 Price Schedule” for uniformity.**

## **7. Purchase Committee**

The Purchase Committee will evaluate the tenders and may also nominate some external/expert members, in the interest of IISER, Pune.

## **8. Terms of the Purchase Committee**

- (i) A committee duly constituted by the Director, IISER, Pune will go through the bids and recommend firms that are meeting all the specifications of

the Tender. The recommendation/decision of the purchase committee is the final and binding on all the parties.

- (ii) Purchase Committee will proceed through Bids as defined in **Chapter 4 (Schedule of requirements, specifications and allied technical details)**, in order to determine whether they are substantially responsive to the requirements set forth in the tender. In order to reach such a determination, IISER, Pune will examine the information supplied by the Bidders, and shall evaluate the same as per the specifications mentioned in this tender.
- (ii) The purchase committee may formulate evaluation criteria in addition to the specifications and requirements indicated in the tender, in the interest of IISER, Pune.

9. **Comparison of Responsive bids:**

- (i) After opening the bids, the responsive offers will be tabulated with reference to the specification.
  - (ii) After arriving at final pricing of individual offers of all the short listed firms, the lowest firm will be awarded with Contract/Purchase Order subject to availability of funds.
10. No request for extension of due date will be considered under any circumstances.
11. No sub-contracting is allowed with regard to installation, warranty maintenance and after sales service.
12. The Director, IISER, PUNE reserves the right to accept the offer in full or in parts or reject summarily or partly.

## **CHAPTER-2 : INSTRUCTIONS TO BIDDERS**

### **Delivery Period / Timeliness**

The deliveries & installation must be completed **within 90 days**, after placement of purchase order. The time is the essence of the contract. It is mandatory for the bidders who respond to this bid to meet these expectations, as are tightly linked to IISER, PUNE's plans of completing the project within the time frame.

### **Locations for the Supply / Services:**

The **Design, Supply, Installation Commissioning and Maintenance of Autoclave**, covered by this document is required to be done at IISER, Pune.

#### **1. Eligible Bidders:**

- 1.1 IISER, PUNE reserves the right to award / reject the order to any particular bidder without assigning any reason thereof.
- 1.2 Bidders should not be under a declaration of ineligibility for corrupt and fraudulent practices.
- 1.3 Bidders should QUOTE strictly in accordance with the requirements.
- 1.4 Bidders shall adhere to the procedure and processes laid down in this document and shall follow fair and ethical practices of trade.
- 1.5 Based on the list of installations provided by the bidder, IISER, PUNE will have its option to obtain details of the installations, their performance, after sales services etc. for evaluation of the tender, directly from the concerned organizations
- 1.6 Firms which have already supplied to IISER, PUNE and have not completed required installation/after sales service/warranty replacements etc. such firms offers will not be considered for further evaluation and no enquiries thereafter will be entertained.
- 1.7 Conditional Offers will not be considered.
- 1.8 IISER, PUNE will not provide any accommodation/transportation for the engineers/ representatives for attending installation. It is the absolute responsibility of the supplier to make their own arrangements.
- 1.9 The authorized person who signs the tender is required to indicate his e-mail ID, mobile No. and also general e-mail ID for easy and faster communication.

## 2. **Amendment of Bidding Documents**

At any time prior to the deadline for submission of bids, IISER, PUNE may, for any reason, whether on its own initiative or in response to the clarification request by a prospective bidder may modify the bid document.

## PREPARATION OF BIDS

### 3. **Period of validity of bids**

- 3.1. Bids shall be valid for a period of **90 days** from the date of opening the bid.
- 3.2. IISER, PUNE may ask for the bidder's consent to extend the period of validity. Such request and the response shall be made in writing only. A bidder agreeing to the request for extension will not be permitted to modify his bid.

## AWARD OF CONTRACT

### 4. **Award Criteria**

- 4.1 IISER, PUNE shall award the contract to the technically eligible lowest bidder.
- 4.2 If more than one bidder happens to quote the same lowest price, IISER, PUNE reserves the right to award the contract to more than one bidder or any bidder.

### 5. **Purchaser's Right to vary Quantities at the time of Award**

IISER, PUNE reserves the right at the time of award of Contract to increase or decrease the quantity of items specified in the Schedule of Requirements without any change in price or other terms and conditions.

### 6. **Corrupt or Fraudulent Practices**

IISER, PUNE requires that the bidders who wish to bid for this project have highest standards of ethics.

- 6.1. IISER, PUNE will reject a bid if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices while competing for this contract.
  - 6.2. IISER, PUNE may declare a vendor ineligible, either indefinitely or for a stated duration, to be awarded a contract if it at any time determines that the vendor has engaged in corrupt and fraudulent practices during the execution of contract
7. **Interpretation of the clauses in the Tender Document / Contract Document**

In case of any ambiguity / dispute in the interpretation of any of the clauses in this Tender Document, **Director, IISER, PUNE's interpretation of the clauses shall be final and binding on all parties**



### CHAPTER - 3 : CONDITIONS OF CONTRACT

#### 1. Price

- 1.1. The price quoted shall be considered firm and no price escalation will be permitted.
- 1.2. The price criteria should be on F.O.R., IISER PUNE. Govt. Levies like GST, if any, shall be paid at actual rates applicable on the date of delivery. Rates should be quoted accordingly giving the basic price, GST, if any.
- 1.3 The rate of GST applicable to IISER Pune is 5% for the items procured for Research purpose as per Notification No. 45/2017-Central Tax (Rate) New Delhi, 14th November, 2017 and Notification No. 47/2017-Integrated Tax (Rate) New Delhi, 14th November, 2017
- 1.4 Please provide GST of the firm allotted by the concerned authorities in your quotation.

#### 2. Services

- 2.1. Details of services rendered as well as after-sales services offered by you are to be made clear in the tender.

#### 3. Delivery Schedule

- 3.1. The bidders may please note that the delivery of the system should be strictly **within 90 days from the date of placement of firm order.**
- 3.2. Goods should not be dispatched until the Vendor receives a firm order.

#### 4. Warranty / Support

- 4.1. The items covered by the schedule of requirement shall carry minimum **Five years of comprehensive warranty** from the date of acceptance of the equipment by IISER, PUNE. Warranty shall include free maintenance of the whole equipment supplied including free replacement of parts. The defects, if any, shall be attended to on immediate basis but in no case any defect should prolong for more than 7 working days. The comprehensive warranty includes onsite warranty with parts.
- 4.2. The defects, if any, during the guarantee/warranty period are to be rectified free of charge by arranging free replacement wherever necessary. This includes cost, insurance, freight, GST duties if any should be borne by the beneficiary . A clear confirmation should be given for this item.

- 4.3. The warranty on the associated software should cover providing of upgraded version/s, if any, released during the warranty period free of cost.
- 4.4. The vendor will have to arrange for all the testing equipment & tools required for installation, testing & maintenance etc.

5. **Indemnity**

The vendor shall indemnify, protect and save IISER, PUNE against all claims, losses, costs, damages, expenses, action suits and other proceeding, resulting from infringement of any law pertaining to patent, trademarks, copyrights etc. or such other statutory infringements in respect of all the equipment's supplied by him.

6. **Freight & Insurance**

The equipment's to be supplied will be insured by the vendor against all risks of loss or damage from the date of shipment till such time it is delivered at IISER, PUNE site.

7. **Payment**

PAYMENT TERMS-No advance payments are allowed under any circumstances.

A) **INDIGENIOUS**

Payment will be made directly to the suppliers by RTGS/NEFT after receipt of the goods, tested /inspected and found satisfactory with regard to quality, quantity, and specifications ordered for and after satisfying that the terms and conditions of supply have been fulfilled.

B) **IMPORT**

- i) Payment will be made directly to the suppliers by wire transfer for 100% of the Invoice value after receipt of the goods in our Stores, tested /inspected and found satisfactory with regard to quality, quantity, and specifications ordered for and after satisfying that the terms and conditions of supply have been fulfilled.

**Payment for high-value equipment/consumables**

- ii) By Irrevocable Letter of Credit for 100% of the Invoice value. However, 90% of the Invoice value will be paid on presentation of original shipping documents to our bankers and balance 10% will be paid after receipt of material and acceptance of the goods at IISER Pune.

8. **Penalty for delayed Services / LD**

- 8.1. As time is the essence of the contract, Delivery period mentioned in the Purchase Order should be strictly adhered to. Otherwise the IISER will forfeit EMD/SD and also LD clause will be applicable /enforced.
- 8.2. If the supplier fails to Supply, Install as per specifications mentioned in the order within the due date, the Supplier is liable to pay liquidated damages of 1% of order value per every week of delay subject to a maximum of 10% beyond the due date. Such money will be deducted from any amount due or which may become due to the supplier.
- 8.3. IISER, PUNE reserves the right to cancel the order in case the delay is more than 10 weeks. Penalties, if any, will be deducted from the Security Deposit.

9. **Jurisdiction**

The disputes, legal matters, court matters, if any, shall be subject to Pune Jurisdiction only.

10. **Force Majeure**

IISER, PUNE may consider relaxing the penalty and delivery requirements, as specified in this document, if and to the extent that the delay, in performance or other failure to perform its obligations under the Contract, is the result of a Force Majeure.

Force Majeure is defined as an event of effect that cannot reasonably be anticipated such as acts of God (like earthquakes, floods, storms etc.) acts of states, the direct and indirect consequences of wars (declared or undeclared) hostilities, national emergencies, civil commotion and strikes at successful Bidder's premises.

11. **Arbitration**

All disputes of any kind arising out of supply, commissioning, acceptance, warranty maintenance etc. shall be referred by either party (IISER, PUNE or the bidder) after issuance of 30 days notice in writing to the other party clearly mentioning the nature of dispute to a single arbitrator acceptable to both the parties. The venue for arbitration shall be IISER, PUNE India. The jurisdiction of the courts shall be Pune, Maharashtra, India.

**Assistant Registrar (Stores & Purchase)**

## CHAPTER 4

### SCHEDULE OF REQUIREMENTS, SPECIFICATIONS & ALLIED TECHNICAL DETAILS

#### **Autoclave-01 No**

#### **TECHNICAL SPECIFICATION**

- **GENERAL**

Horizontal high-pressure, high-vacuum type, heavy duty rectangular steam sterilizer designed for sterilization of solid or porous products by a fractionated pre-vacuum process with vacuum drying and relevant additional equipments and accessories.

The sterilizer should be a single double door model with heating by inbuilt electrical steam generator fitted on high quality SS stand made & vacuum pump fitted separately near the M/c.

The unit should be controlled by a Programmable Logic Controller (PLC) of the Siemens SIMATIC series.

The unit will have following operating details

Chamber Size:

610 W x 610 H x 1220 L mm (2'x2'x4')

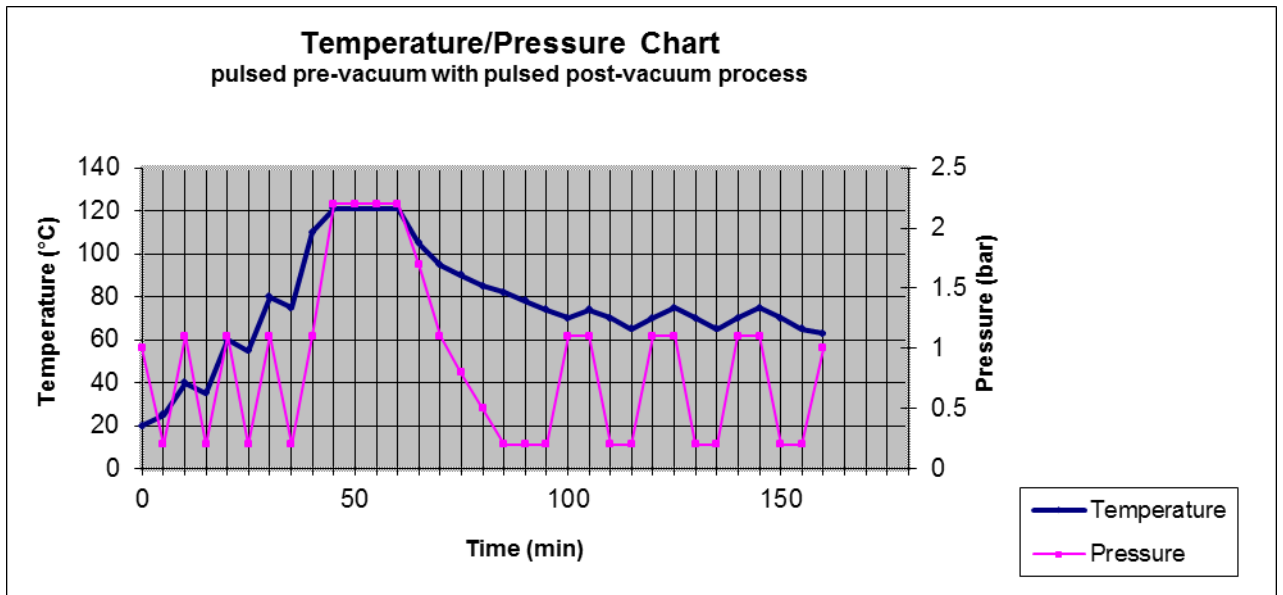
#### **PROCESS DESCRIPTION**

The system should be capable of:

1. Fractionated Pre-Vacuum Process for sterilizing solid and porous goods (e.g. empty bins, cages, bottles and syringes; filters; textiles; rubber stoppers, media, clean room essentials)
2. Fractionated evacuation to a preset vacuum with steam pulses between each vacuum step to eliminate air inside the product to ensure proper heating and sterilization. The chamber jacket should be heated by steam.
3. Heating up with steam direct into the chamber to ensure rapid and uniform temperature increase. During the heating up process the jacket should be heated by steam.
4. Sterilization for a preset time at a preset temperature.
5. Exhausting the chamber to atmospheric pressure.
6. Drying by means of evacuating the chamber to a preset vacuum and further evacuating for a preset time (once or several times).

7. Venting the chamber to atmospheric pressure to allow doors to be opened.

Figure below represents a typical process with pulsed pre- and post-vacuum cycles and should be achievable by the system.



## PROGRAM DESCRIPTION

The following description shows the basic cycle configuration. The control system should allow the changes for more specific necessities.

- Program no. I : UTENSILS AND POROUS PRODUCTS
  1. Fractionated pre-vacuum - 4 times to a preset vacuum with 3 steam pulses in between to a preset pressure. Chamber jacket is heated by steam.
  2. Heating up by steam to a preset temperature. Jacket is heated.
  3. Sterilizing for a preset time with a guaranteed temperature distribution of +2,0 / -0 °C. Jacket is heated.
  4. Flow off to atmospheric pressure.
  5. Evacuation to a preset vacuum and further evacuating for a preset time or evacuation for several times.
  6. Venting to atmospheric pressure

Adjustable parameters:

Number of pre-vacuum steps

Heat up and sterilization temp. (105-134 °C)

Sterilization and drying time (1-999 min)  
 Number of drying steps  
 Ramps for heating, vacuum, exhaust

- Program no. II :VACUUM-LEAK-TEST
  1. Evacuation down to 133 mbar abs (Max)
  2. Balancing the vacuum for 3 min
  3. Holding the vacuum for 10 min, while pressure must not increase for more than 15 mbar.
  - Venting to atmospheric pressure

Design Details

- **MECHANICAL EQUIPMENT**

- CHAMBER & JACKET
- The chamber should have a horizontal cubical design with two rectangular door openings. The chamber is equipped with a heating jacket. The system offered should match or be better than the following parameters
 

|                     |                   |
|---------------------|-------------------|
| – Chamber, grinded: | $R_a$ 0,8 $\mu$ m |
| – Material:         | AISI 316L, 8mm    |
| – Jacket Material:  | AISI 304, 6mm     |

  - Design pressure and temperature (according to AD – guidelines):
 

|                                     |                |
|-------------------------------------|----------------|
| – Maximum working pressure chamber: | -1/2,5 bar (g) |
| – Maximum working pressure jacket:  | 0/2,5 bar (g)  |
| – Design pressure chamber:          | -1/3,1 bar (g) |
| – Design pressure jacket:           | 0/3,1 bar (g)  |
| – Design temperature                | 140°C          |
- For qualification and validation purposes two blind TC end connection is provided to lead at least 12 RTD's into the chamber.
- The chamber is protected against overpressure by one safety valve SS 316L with the set point at 3,0 bar (g).
- The jacket is protected against overpressure by one safety valve CI with the set point at 3,0 bar (g).
- All media lines to and from the chamber are connected with Sanitary TC ends

- DOORS
  - Inner surface, grinded:  $R_a$  0,8  $\mu\text{m}$
  - Material: AISI -316L
- Pneumatically/Air operated sliding type doors. The doors are sealed by a HOLLOW silicon seal, which is Installed on door?.
- A door interlock prevents the door from opening whenever the chamber is pressurized.
- The two-door model is designed to permit only one door to open at the same time while the door seals are not active (no gastight design).
- CHAMBER INSTALLATIONS
- Baffles
 

The chamber is equipped with baffles on the ceiling to protect product from condensate

  - Surface:  $R_a - 0,8 \mu\text{m}$
  - Material: AISI 316L
- Rails:
 

Special constructed to guide, respectively to support the loading carriage Removable for cleaning purposes. .(Should be solid and smooth without gaps)

Material: AISI 316L
- STAND
  - The unit is mounted into a frame made of Pipes & Plates.
  - This frame supports the chamber and other components, forms the complete maintenance area and is placed on a 100 mm concrete base supplied by customer.
    - Material: AISI 304
    -
- **BIOSEAL:**
  - Gastight partition wall to separate sterile and non sterile side.
    - Material: AISI 304, gaps filled with Silicon
- INSULATION
  - The sterilizing chamber is insulated with 50 mm thick resin bonded glass mineral wool clad with Stainless Steel sheet to reduce heat dissipation.
  - The doors are insulated with resin bonded mineral wool and covered with a sheet of AISI 304.

- PROCESS EQUIPMENT

- Sterile filter with In-line sterilization provision:  
One piece of filter for the compressed air with an absolute hold-back-rate of 0,2 µm
  - Material of cartridge: PTFE
  - Make: Pall/Domnik Hunter

- Vacuum pump:  
Water Ring type pump with the shell and tube/Plate type SS condenser
  - Make: Vindi/Newgenre

Drain:

The drain line from the sterilizer ends 60 mm above the building drain to allow the mandatory air gap (Material type?). Line is complete with Thermodynamic/Float type steam trap with special air vent arrangement for condensate removal.

PIPING AND VALVES

- The steam sterilizer should be provided with a pipe work system in accordance with the regulations for pressure vessel equipment. This includes all required process equipment, fittings, and monitoring and control instruments to ensure proper sterilizer operation.
- All controlled process valves up to 2” are pneumatically actuated Angle Body/ Diaphragm type valves and above 2” are pneumatically actuated ball valves.
  - Material:
 

|                                                                                        |                       |
|----------------------------------------------------------------------------------------|-----------------------|
| – all parts in contact with media to the chamber                                       | AISI 316L             |
| – all parts in draining or venting lines off the chamber up to the first shut of valve | AISI 316L             |
| – safety valve blow off line                                                           | AISI 316L             |
| – remaining pipe work up to DN 50                                                      | AISI 304              |
| – Air control lines                                                                    | Nylon                 |
| – Sealing:                                                                             | EPDM, Silicon, Teflon |

**ELECTRICAL EQUIPMENT**

- SWITCH CABINET
  - The lockable cabinet should be situated in the service room and contains all control equipment. This cabinet should also provide the sterilizer with 230 VAC, 50 Hz where 440 supply will be given separately



- The control system should be housed in a control panel fabricated from SS 304 Stainless Steel.
- LOADING SIDE INSTRUMENTATION
  - Operator panel TP170B with a monochrome display for indication of program status, parameter editing and alarm messages.
  - “Emergency-Stop” - switch that can be locked off
  - Control System will have a printer port and will be provided with Epson LX-300+ 80 Column Printer. It will have on line printing facility for various process parameters which prints temperature and pressure in chamber, throughout the process and the set parameters like temp., time, vacuum – pulses, etc. It also prints other data like Batch No., product – name, code no., operators name, etc.
  - Optional: the collection of data through USB port
- ELECTRICAL COMPONENTS
  - Motors:
    - Door motors nom. voltage 3/PE 400 V, 50 Hz
    - Vacuum pump motor nom. voltage 3/PE 400 V, 50 Hz

#### MEASUREMENT AND CONTROL EQUIPMENT

- All analogue equipment is operated with 4 - 20 mA signals to/from the control system.
- All analogue data (temperature, pressure, level etc.) measured on the unit are handled via transmitters.
  - Temperature sensors /transmitter (Radix)  
Measurement is via Double RTD - sensors and transmitter for easy and exact calibration in case of control system relevant temperatures.
    - 1 fix in the chamber drain
    - 1 fix in the Jacket drain
  - Pressure sensors (WIKA/BAUMER)  
Measurement is via pressure sensor transmitters
    - 1 connected to chamber
  - Pressure switch
    - 1 unit with set-point at 0,15 bar(g) for chamber pressure (door release) on the chamber

- **CONTROL SYSTEM**

- **HARDWARE CONFIGURATION**

Programmable Logic Controller (PLC) make Siemens SIMATIC S7-200 with CPU 224XP or Mitsubishi 3G with digital and analogue in/output cards

The integrated Ports for communication with the operator interfaces (Touch Panel).

- **SOFTWARE CONFIGURATION**

Program written in step 7 with Siemens tools in system software package S7 from Siemens.

OP interface program is written and performed with the Siemens PROTOOL package.

Software design by FABWELL based on software tools from Siemens.

## **FEATURES**

- Full automatic control of following pre-programmed sterilization cycles with possibilities of saving multiple recipes:
  - PROG 1: STD. Cycle
  - PROG 2: HPHV cycle
  - PROG 3: Vacuum Leak Test
  - PROG 4: Bowie Dick Process
- The operator interface structure is menu driven which gives easy access to the individual possibilities.
- Editor: Easy, menu operated changing of all parameters and cycle steps resp. generation of complete new recipes via recipe editor. Therefore highest flexibility is provided to accommodate changes in the product range.
- Systems with different process possibilities are basically different in the editor menu in accordance to the process, which is to be set in the Process Mode Setting display.
- Preset maximum and minimum values prevent incorrect programming of User defined parameters.
- Possibility of manual sequence advance of cycle steps in case of failures, except during cooling and flow off reasonableness check and separation of the value in case of damage during a cycle of the load sensors.
- After power failure the control system should restart exactly at the step where the program was interrupted. After return of the supply, the process of documentation should resume.

- Password protection of all individual possibilities.
- Faults and alarms are indicated by an audible and visible alarm.

Recorder with 6 channels, type EUROTHERM/YOKOGAWA Paper recorder.

|                 |                                 |
|-----------------|---------------------------------|
| - recording of: | 1 x permanent drain temperature |
|                 | 4 x load temperature            |
|                 | 1 x chamber pressure            |
|                 | 0 x channels free               |

- **NAMEPLATES, SIGNS AND LABELS**

- In accordance to FABWELL standard. All descriptions in English.
- Instrument and equipment labels stacked to the instruments.
- **SAFETY**
- In case of power failure the sterilizer is put into a fail safe position, by means of locking all utilities to avoid any damage to the equipment and product.
- One safety valve for chamber (set point 3,0 bar (g))
- One safety valve for the chamber (set point 3,0 bar (g)).
- The two-door model is designed to permit only one door to open at the same time while the door-sealings are not active.
- One safety bar on each chamber door for changing closing movement to opening movement in case of obstacles are detected. (Only for Sliding door Version)
- Password protection for modification of the software and editing of the sterilization program parameters.
- Audio/Visual alarm for High & Low Pressure & Temperature.

- **DOCUMENTATION**

- **STANDARD DOCUMENTATION PACKAGE**

- The standard documentation package will be delivered in English language, 2 copies each except see below
  - General Design Specification (GDS)
  - General Arrangement Drawing (Installation Drawing)
  - User Manual
  - I/O Listing
  - P & I Diagram with Parts List
  - Electrical Wiring Diagram with Parts List

- Pre-calibration Certificates (1 copy only)
  - Maintenance Manual (including spare parts list)
  - Safety Equipment Certificates (1 copy only)
  - Pressure Test Certification
  - Equipment Details of adjustable or programmable (Mechanical and Electrical Instruments) (1 copy only)
- **QUALIFICATION DOCUMENTATION PACKAGE**
    - The qualification documentation package will be delivered in English language, 1 copy each.
      - Functional-Design-Specification (FDS):
        - Hardware configuration
        - Software recovery procedures
      - Pre-qualification Protocols
      - Installation Qualification (IQ) Protocols (mechanical and control system) consisting of:
        - Documentation inventory
        - Equipment inventory
          - Major and safety component data
          - Software inventory
          - Instrument calibration
      - Operational Qualification (OQ) Protocols (mechanical and control system) consisting of
        - I/O verification (analogue and digital)
        - Temperature distribution verification
        - Door function verification
        - Transmitter verification (temperature and pressure transmitter)
        - Step over verification
        - Sterilization program verification
  - **SCOPE OF SERVICES**
    - **QUALITY CONTROL**
    - **QUALITY MANAGEMENT SYSTEM**
      - The quality management system should be in accordance with ISO 9001 and documented in the quality assurance manual, which gives the basic information about the FABWELL quality philosophy
      - Detailed descriptions of the quality assurance system should be given within the Quality Assurance Specifications, which are specifying the relevant working procedures.

- **INSPECTIONS AND REVIEWS**

- Reviews of technical specifications and documents should be done by a design specification qualification (DSQ) report, which are a comparison of relevant standards and the client's requirements with the planned equipment and the documentation of eventual deviations.

- **TESTING AND PRE-QUALIFICATION**

- Testing of the pressure vessel (chamber) should be carried out in the production shop by QA team.
- Internal testing / Pre-qualification should be in accordance to the FABWELL Standard and consist of:
  - check on completeness and safety regulations
  - pre-calibration of all critical instruments
  - check on function and performance as far as practicable in the workshop
- Factory Acceptance Test (FAT) with the client at the workshop in accordance to the FABWELL Standard consisting of:
  - completeness check
  - Final Sterilization Cycle Verification as far as practicable in the workshop

- **STANDARDS**

- Equipment should be designed and manufactured according to EN-285
- Pressure Vessel on basis of ASME Section VIII Division I

- **INSTALLATION SERVICES**

- **GENERAL**

- Installation services as stated below should be planned to be done within 2 weeks.
  - Following services have to be supplied from the client:
    - base preparation according to installation drawings
    - connections from sterilizer to media supply
    - provision of utilities according to installation drawings
    - provision of qualified personnel for the works as listed below

## **START UP**

- The sterilizer is to be started up immediately after being installed; therefore the utilities required for the sterilizer must be available.

- The start up works mainly consists of system setup/configuration and Input / Output tests and will lead to qualification of the Sterilizer.

### **TRAINING**

- Training of operation personnel should be done by the FABWELL start up engineer during start up and commissioning of the sterilizer.

### **ACCESSORIES for above unit**

#### **I) LOADING CARRIAGE**

- The unit is built to carry the product as specified into the sterilizer chamber. It is basically a frame of section tubes with rollers and one base tray made of perforated plates.
- 1 loading carts are required to complete one batch.
- Material: AISI 316
- Total numbers required - 4

#### **II) TRANSFER TROLLEY**

- The transporting trolley consists of a tubular frame with 2 fixed and 2 guide wheels. It is adjustable in height and provided with a locking system with sterilizer as well for safe transport of the loading carriage.
- Material:
  - Trolley: AISI 304
  - Wheel Brackets: AISI 304
  - Wheels: PU coated
  - Total numbers required - 4

#### **III) PRV for Plant Steam CI (Make: Spirax)**

IV) Steam Filter 20micron SS 304 with housing in case plant steam supplied to chamber

V) Utility Monitoring pressure switch for Air, Water & plant Steam

#### **VI) Steam Generator (Electric) for 335 Unit**

The unit should be supplied with suitable 304 stainless steel steam generator mounted below the making Sterilizer suitable for electric operation. Steam Generator will be complete with:

- Water Level Indicator (Gauge Glass) with gauge glass valve
- Water inlet and outlet valves

- Industrial use immersion heaters,
  - electric control box with pressure switch,
  - Float Switch low water protection arrangement etc..
- It will be operable on 400/440 V, 3 ph. 50 cycles A.C. supply with neutral.  
Please ensure that it is supplied with Soft water with '0' Hardness

**VII) Compress Air System with SS304 Piping : (Quoted rate shall be including supply and installation of compress air system with compressor.**

|                |                                                                                                                                                                                                                          |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Compressed Air | Oil Free, Moisture Free, Lubricated Compressed Air @ 5 to 6 Kg/Cm <sup>2</sup> for SLV's & Pneumatic Valve Operation<br>Consumption - 5 cfm.<br>Line Size: 12.2 to 25mm" NB Approved Make :<br>Ingersoll/Compton/Thermax |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| UTILITIES REQUIRED (TO BE PROVIDED BY CUSTOMER) |                                                                                                                                                        |
|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Purified water                                  | Water with inlet pressure up to 3 - 4 Kg/Cm <sup>2</sup> with Conductivity < 2  aS Line Size: /" NB<br>Consumption: 75 Ltrs / fill for Steam Generator |
| Cooling Water (For HPHV Cycle Only)             | Soft Water with Zero Hardness with inlet pressure upto 0.5 - 0.6 Kg/Cm <sup>2</sup> for Vacuum Pump.<br>Consumption - 10 Ltr/Min                       |
| Electric Supply                                 | 3 Ph / 440 V AC/ 50 Hz, 2.25 kW for Vacuum Pump & 18 kW for Steam Generator                                                                            |
|                                                 | 1 Ph / 230 V AC/ 50 Hz - 1 kW for Control Panel                                                                                                        |

Note:

**Wherever Cat NO of any products are mentioned in technical specifications, product of other approved makes shall also be acceptable with matching specifications. Bidder should submit technical details for approval before taking up alternate make.**

**CHAPTER-5 PRICE SCHEDULE**

**ALL THE BIDDERS SHOULD QUOTE THEIR OFFER IN FOLLOWING FORMAT FOR UNIFORMITY**

**PRICE SCHEDULE FOR GOODS – FOREIGN CURRENCY**

Name of the Bidder \_\_\_\_\_

Tender No. \_\_\_\_\_

| 1     | 2                | 3        | 4   | 5     | 6                                    |                                      | 7                                    |                                      | 8                                                                    |     | 9                 |
|-------|------------------|----------|-----|-------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|----------------------------------------------------------------------|-----|-------------------|
| SI No | Item Description | HSN Code | Qty | Units | Unit Price                           |                                      | Total price<br>(4x6)                 |                                      | Charges for Insurance & transportation to port/ place of destination |     | Total Price (7+8) |
|       |                  |          |     |       | Ex-Works<br>(named port of shipment) | FCA/FOB<br>(named place of delivery) | Ex-Works<br>(named port of shipment) | FCA/FOB<br>(named place of delivery) | Ocean                                                                | Air | CIF/<br>CIP       |
| 1     |                  |          |     |       |                                      |                                      |                                      |                                      |                                                                      |     |                   |
| 2     |                  |          |     |       |                                      |                                      |                                      |                                      |                                                                      |     |                   |
| 3     |                  |          |     |       |                                      |                                      |                                      |                                      |                                                                      |     |                   |

Total Bid price in \_\_\_\_\_ in words.

**Signature of Bidder** :

**Name** :

**Business Address** :





**Note:**

The Bidder may add rows as per requirement to include the prices of all Components/Parts, Warranties, Installation etc. whichever applicable.

- (a) Indian agents name & address \_\_\_\_\_
- (b) Installation, commissioning & training charges, if any\_\_\_\_\_
- (c) Cost of Spares \_\_\_\_\_
- (d) The Indian agent's commission shall paid in Indian Rupees only based on the Exchange Rate prevailing on the date of negotiation of documents.
- (e) The cost of optional items shall be indicated separately.



**PRICE SCHEDULE FOR GOODS – INR**

Name of the Bidder \_\_\_\_\_

Tender No. \_\_\_\_\_

| 1      | 2                | 3                 | 4   | 5    | 6                                                                                        | 7                                                                                            | 8                                   | 9                                                      | 10                                                          | 11                                                      | 12               |
|--------|------------------|-------------------|-----|------|------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-------------------------------------|--------------------------------------------------------|-------------------------------------------------------------|---------------------------------------------------------|------------------|
| Sl. No | Item Description | Country of Origin | Qty | Unit | Ex-Works. Ex-Warehouse, Ex-show room off the shelf price (inclusive of tax already paid) | Total price                                                                                  | GST payable, if contract is awarded | Packing & forwarding up to station of dispatch, if any | Charges of inland transportation, insurance up to Institute | Installation, Commissioning & training charges, If any. | Gross Total(FOR) |
|        |                  |                   |     |      |                                                                                          | Ex-Works. Ex-Warehouse, Ex-show room off the shelf price (inclusive of tax already paid) 4x6 |                                     |                                                        |                                                             |                                                         |                  |
| 1      |                  |                   |     |      |                                                                                          |                                                                                              |                                     |                                                        |                                                             |                                                         |                  |
| 2      |                  |                   |     |      |                                                                                          |                                                                                              |                                     |                                                        |                                                             |                                                         |                  |
| 3      |                  |                   |     |      |                                                                                          |                                                                                              |                                     |                                                        |                                                             |                                                         |                  |

Total Bid price in \_\_\_\_\_ in words.

**Signature of Bidder :**

**Name :**

**Note:**

The cost of optional items shall be indicated separately.

The bidder may add rows to include the prices of all components & warranties, installation etc. whichever applicable.

(a)Cost of spares \_\_\_\_\_

(b)Warranty if being charged include in BoQ

**CHAPTER – 6 : Checklist: Eligibility Criteria for Bidders**

Bidders to indicate whether the following are enclosed by striking out the non-relevant option.

|     |                                                                                                                                                          |              |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| (a) | Self Attested copy of GST number as applicable                                                                                                           | ( Yes / No ) |
| (b) | Agreements / Purchase orders / Completion certificates, if any, from the clients for whom similar supply has been made by the bidder in last three years | ( Yes / No ) |
| (c) | Compliance sheet with any deviation w.r.t. the terms                                                                                                     | ( Yes / No ) |
| (d) | LD clause agreeable.                                                                                                                                     | ( Yes / No ) |
| (e) | Acceptance of warranty period and Free replacements during warranty period                                                                               | ( Yes / No ) |
| (f) | Deviation Sheet to be Attached                                                                                                                           | ( Yes / No ) |

**IMPORTANT NOTICE**

TENDERERS RESPONDING TO THIS ENQUIRY SHALL BE DEEMED TO BE AGREEABLE TO THE TERMS AND CONDITIONS HEREIN CONTAINED. THESE TERMS AND CONDITIONS SHALL BE BINDING ON THE SUCCESSFUL TENDERER. CONDITIONAL TENDERS ARE LIABLE TO BE REJECTED. IISER PUNE WILL PROCESS THE TENDER AS PER IISER PUNE STANDARD PROCEDURES. THE DIRECTOR OF THE INSTITUTE RESERVES THE RIGHT TO REJECT ANY OR ALL OR PART OF TENDER WITHOUT ASSIGNING ANY REASON AND SHALL ALSO NOT BE BOUND TO ACCEPT THE LOWEST TENDER. IISER PUNE WOULD NOT BE UNDER ANY OBLIGATION TO GIVE ANY CLARIFICATIONS TO THE AGENCIES WHOSE BIDS ARE REJECTED.

**I agree to all terms and conditions mentioned in the tender document of the Institute**

**Signature of the Tenderer**