



INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH

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

Dr. Homi Bhabha Road,

Pashan Pune – 411008.

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Website : www.iiserpune.ac.in

IISER/S&P/6/2016

10th September 2016

CORRIGENDUM / EXTENSION OF LAST DATE FOR SUBMISSION OF TENDER

In reference to IISER Pune , NOTICE INVITING TENDER IISER/S&P/05/16 dated 05th August 2016, it is notified that the last date for submission of tender for “ Supply, Installation & Commissioning of Autoclave/sterilizer system” at IISER Pune ” is extended up to 28/9/2016 , 3.00 P.M. Tender opening is on 28 /09/2016, 3.30 P.M.

For detailed information please visit IISER Pune website www.iiserpune.ac.in/ links/ tender-notices-and-eoi.

Director

Note - The original tender document is appended below

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OPEN TENDER NOTICE NO: 05/2016

Indian Institute of Science Education and Research (IISER), Pune, an autonomous Institute established under Ministry of HRD, Government of India. IISER is devoted to both teaching and research of the highest caliber in a totally integrated way. IISER, Pune would like to procure the following equipment for its day to day research. The Technical Specifications are given in **Chapter 4: Schedule of Requirements/Specifications and Allied Technical details** are appended herewith.

- **Items** : **Steam Sterlizer System for Animal House Facility**
- **Tender Enquiry No** : **IISER-PUR- 0266-16**
- **Pre-bid Conference Time & Date** : **11.00 AM to 12.00 PM on 12.8.2016**
- **Time and Date of Submission** : **Before 3.00 PM on 31.8.2016**
- **Time and Date of opening Technical Bid** : **At 03.30 PM on 31.8.2016**

Prospective BIDDERS may submit their offers to The Director, Indian Institute of Science Education and Research, Dr. Homi Bhabha Road, Pashan, Pune – 411 008, India

INDEX

SI No	Heading	Page No
1	Invitation for bids	3
2	Instructions to BIDDERS	11
3	Conditions of contract	17
4	Schedule of requirements, specifications and allied technical details	24
5	Price Schedule – (commercial bid)	56
6	Annexure – A - Format/Questionnaire For Compliance Of Terms And Conditions	60
7	Annexure – B - format of compliance statement of specifications	64
8	Annexure – C - BID SECURITY FORM	65
9	Annexure – D - MANUFACTURER'S AUTHORIZATION FORM	66
10	Annexure – E - PREVIOUS SUPPLY ORDERS FORMAT	67
11	Annexure – F - BIDDER INFORMATION FORM	68

CHAPTER-1. INVITATION FOR BIDS

1. Indian Institute of Science Education and Research (IISER), Pune invites sealed tenders for **Steam Sterilizer System for Animal House Facility Autoclave**. The Technical Specifications are given in Chapter 4: Schedule of requirements/Specifications and allied Technical details.
2. The BIDDERS are requested to give detailed tender in their in two Bids i.e.
Part - I: Technical Bid.
Part - II: Commercial Bid.
3. **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: +91-020-25908017
Website: www.iiserpune.ac.in
4. **A Pre-bid conference will be held at IISER Pune, Purchase Section, Dr. Homi Bhabha Road, Pashan, Pune – 411008 on 12.8.2016 from 11.00 AM to 12.00 Noon (IST). All prospective bidders are requested to kindly submit their queries to the address indicated above or email at purchase@iiserpune.ac.in so as to reach latest by 11.8.2016. During Pre-bid meeting the answers / clarifications to the queries will be made available and also uploaded on our website. No queries will be entertained after the Pre-bid meeting.**
5. Supply means: **“Design, Supply, Installation, Commissioning, Maintenance and satisfactory demonstration of the whole system and training of Steam Sterilizer System for Animal House Facility Autoclave”**. If any charges extra are payable for Installation, Commissioning and training, the same should be specified in the commercial offer.
6. **Submission of Bids:**
 - (i) **Place** : Purchase Section of IISER, Pune - 411 008, India.
 - (ii) **Pre-bid Conference: 11.00AM to 12.00 PM on 12.08.2016**
 - (iii) **Time and Date of Submission: Before 3.00 PM on 31.8.2016**
 - (iv) **Time and Date of opening Technical Bid: At 3.30 PM on 31.8.2016**

IISER, Pune will not be responsible, for submission / delivery of quotation at wrong places other than the Purchase Section of IISER, Pune - 411 008, India

8. **Two Bid System:**

The two bid system should be followed for this tender. In this system the BIDDER must submit his offer in **two separate sealed envelopes**. Both the technical bid and commercial bid envelopes should be securely sealed and stamped separately and clearly marked as **“Envelope No.1 – Technical Bid”** and **“Envelope No.2 – Commercial Bid”** respectively. Both the sealed envelopes should be placed in a third larger envelope. The main envelope which will contain both the bids should be super scribed with our **tender enquiry IISER-PUR-0266-16 due on 31.8.2016** and to be submitted to the address given below so as to reach on or before **3.30 PM on 31.8.2016**

**The Director,
Indian Institute of Science Education and Research (IISER)
Dr. Homi Bhabha Road,
Pashan,
Pune – 411 008, India**

The envelopes must be super-scribed with the following information:

- Tender Reference Number
- Due Date
- Name of the Vendor

- **Envelope No. 1 : Shall contain “Technical Bid” and Earnest Money Deposit (EMD)**

The technical offer **should not contain any price information.**

The Technical Bid must be submitted in an organized and structured manner. No brochures/leaflets etc. should be submitted in loose form. Please indicate page nos. on your quotation eg. If the quotation is containing 25 Pages, please indicate as 1/25, 2/25, 3/25 -----25/25.

The Technical Offer should comprise of the following:

- (i) The technical bid should contain commercial terms with reference to the tender.
- (iii) The technical offer should be complete to indicate that all products and services asked for are quoted. Each page of the bid and cutting/corrections shall be duly signed and stamped by the BIDDER. **Unsigned Tenders will also be rejected.** Failure to comply with this requirement may result in the bid being rejected.

- (iv) The purpose of certain specific conditions is to get or procure best Equipment/service etc. for IISER, Pune. The opinion of Technical Committee shall be the guiding factor for technical short listing.
- (vii) Undertaking that the successful BIDDER agrees to give a security deposit amounting to 10% of the purchase order value by way of Demand Draft in favor of The Director, IISER Pune.
- (viii) Duly filled in technical bid with proper seal and signature of authorized person on each page of the bid should be submitted and the same should accompany with complete specifications, Manufacturer's name, address and relevant Technical Literature/Brochures with warranty Terms and EMD.
- (ix) If the bid is for branded makes, authorization letter from principals clearly indicating that the vendor is the competent authority to sell and provide services towards the items mentioned in the scope of supply given in this tender document.
- (x) **User List :**
 - a) The list of users specifically for the same model/make of the quoted item (not the list of general users) along with the complete name, address & contact numbers of the user organizations/persons may be submitted with the quotation along with the performance certificates from all/some of them.
 - b) If you have supplied identical or similar equipment to other IISERs/IITs /CSIR Labs/Institutes., the details of such supplies for the preceding three years shall be given together with the prices finally paid. Indicate the names of the Indian reputed Organizations where you have supplied similar equipment and may attach the satisfactory performance report of the equipment from user Organization.
- (xi) Solvency certificates (not older than twelve months) issued by Scheduled/ Nationalized bank with which BIDDER holds the current account.
- (xii) Copy of LST/CST/WCT No. PAN No. and TIN No. 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 DGS&D registration wherever it is applicable should also be provided in Technical Bid.
- (xiii) The prices should be shown against each item for the purpose of Insurance claims / replacements if any.
- (xiv) List of deliverables / Bill of materials and services.
- (xv) In case of Foreign quote, the address of Principal's / Manufacturer's and their Banker's details should be furnished.

- (xvii) The item should be supplied with manuals and the manuals including technical drawings should be complete in all respects to operate the system without any problem.

9. Specifications

Specifications are basic essence of the product. It must be ensured that the offers must be strictly as per our specifications. At the same time it must be kept in mind that merely copying our specifications in the quotation shall not make the parties eligible for consideration of the quotation. A quotation has to be supported with the printed technical leaflet/literature of the quoted model of the item by the quoting party/manufacturer and the specifications mentioned in the quotation must be reflected/supported by the printed technical leaflet/literature. Therefore the model quoted invariably be highlighted in the leaflet/literature enclosed with the quotation. Non-compliance of the above shall be treated as incomplete/ambiguous and the offer can be ignored without giving an opportunity for clarification/negotiation etc. to the quoting party

10. Compliance Statements:

- a) Bidders must furnish a Compliance Statement of each and every required Specification of our tender in the format at ANNEXURE–‘B’. The deviations, if any, from the tendered specifications should be clearly brought out in the statement. Technical literature/leaflet showing the compliance of the specification may also be attached with the quotation.
- b) Similarly, the Compliance Statement/questionnaire for Terms & Conditions of the tender may be furnished, as per the enclosed format at Annexure –‘A’, along with quotation (with techno- commercial bid in case of two bid tender system).
- c) The firms are advised to submit both the compliance statements essentially along with their quotation failing which their offer may not be considered.

Bid documents should be submitted as per the above sequence with Index page and page numbers (including technical literature). Each page of the bid should be signed & stamped in original. Unsigned bids will not be considered for evaluation.

➤ Envelope 2 : “Commercial Bid” shall contain:

- (i) Price schedule complete in all respects with proper seal and signature of authorized person. It should also contain the Comprehensive AMC charges for post warranty period as per the

terms of the tender. **The optional and any other essential items / accessories required for the installation and commissioning of the equipment and for the maintenance for the next seven years should also be specified in the offer separately.** Discount offered should be mentioned clearly in the commercial bid only.

- (ii) Cost of all the items should be mentioned clearly and individually in the Commercial Offer (Part-II) only.
- (iii) The BIDDERS are requested to quote for Educational Institutional Price for Equipment and software, since we are eligible for the same.

11. Date of opening the Technical Bids.

Technical Bids will be opened on – 31.8.2016 at 3.30 PM at:

**Indian Institute of Science Education and Research (IISER)
Dr. Homi Bhabha Road, Pashan
Pune – 411 008, India**

The Technical bids will be opened in the presence of the BIDDERS on the specified time and date. BIDDERS/Agents who have responded to the tender only will be allowed to be present.

The technical bids will be evaluated to shortlist the eligible BIDDERS. The commercial bids of only the short listed BIDDERS shall be considered for further processing.

BIDDERS whose technical offer is found acceptable and meeting the eligibility requirements as specified in this tender will be informed about the date and time of the opening of the commercial bid.

Note: (i) Please do not insert ‘Commercial Bid’ (prices quoted) in the technical bid envelope. If the price quoted is submitted with technical bid the tender will be rejected.

(ii) No camera mobiles / mobiles are allowed during tender opening.

(iii) The bid can be submitted in person or through post/courier (IISER will not be responsible for delayed / late quotations submitted / sent by Post / Courier etc. resulting in disqualification/ rejection of any bid) so as to reach IISER on or before the due date and time. Fax / E-mail tenders will not be considered unless it is asked for. The BIDDERS' authorized representative can attend the bid opening.

- (iv) No request for extension of due date will be considered under any circumstances.
- (v) No sub-contracting is allowed with regard to installation, commissioning, training, warranty maintenance and after sales service. This is the sole responsibility of the Principals'/their authorized agents

12. **Formation of Technical Evaluation Committee**

The Technical Evaluation Committee(s) will be constituted by Director, IISER, Pune. He may nominate some external expert members, in the interest of IISER, Pune.

13. **Terms of the Technical Committee**

- (i) On the due date the Technical bids will be opened and referred to the Technical Committee which is duly constituted by the Director, IISER, Pune. The committee will go through the technical aspects of the tender and recommend short listed firms. The recommendation of the technical committee is the final and binding on all the parties.
- (ii) The technical evaluation will be an assessment of the Technical Bid. IISER, Pune representatives will proceed through a detailed evaluation of the Technical Bids as defined in **Chapter IV (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.
- (iii) The technical committee may formulate evaluation criteria in addition to the specifications and requirements indicated in the tender, in the interest of IISER, Pune and this criteria/recommendation will also form as a part of short-listing of the firms.
- (iv) The Technical Committee will examine all the Technical aspects of the bids received. Further, the Technical Committee may seek additional information from the existing users at IISER, Pune or from other Institutes and also call for Technical presentations from the BIDDERS if it is required so.
- (vi) The information received and the bids already submitted together will be examined with reference to the tendered specifications and evaluation is made by the Technical Committee.

- (vii) After the technical evaluation is completed and approved, IISER, Pune shall inform to the BIDDERS whose bids have been rejected technically with the reasons for rejection.

The commercial offers of the vendors whose technical offers are found to be technically deficient or do not meet the qualification criteria as specified in this tender will be returned to them without opening along with their EMD.

- (viii) The successful BIDDERS will be informed regarding the date and time of Commercial bid opening
- (ix) The purpose of obtaining two bids (technical and commercial) is to evaluate all the firms on technical basis with reference to the tendered specifications, performance of similar Solutions/Applications elsewhere, obtaining users views with reference to the earlier supplies. This will enable the technical committee to arrive at a fair recommendation in the interest of the organization.
- (x) In the event of seeking any clarification from various BIDDERS by IISER, Pune, the BIDDERS are required to furnish only technical clarifications that are asked for. No amendment to commercial bid will be entertained at that stage. In case if a BIDDER fails to quote for a particular item it amounts to non-compliance and hence such bid will not be considered for further evaluation. Further during this process if any BIDDER indicates the price during the clarification such bids also will not be considered for further evaluation.

14. **Opening of Commercial Bids**

- (i) IISER will open commercial bids of only the short listed BIDDERS, in the presence of the BIDDERS or their authorized representatives who choose to attend the commercial bid opening. The Date and Time of opening the Commercial Bid will be intimated only to pre-qualified and technically acceptable BIDDERS for the item at a later date. The representatives of short listed firms only will be allowed for commercial bid opening.
- (ii) The BIDDER's representative who is present shall sign an attendance register as a proof of having attended commercial bid opening.
- (iii) The BIDDER's name, bid prices, discounts, EMD and such other details considered as appropriate by IISER, will be announced at the time of opening.

14. EVALUATION OF BIDS:

- a) IISER Pune shall correct arithmetical errors on the following basis:
 - (i) If there is a discrepancy between the unit price and the line item total that is obtained by multiplying the unit price by the quantity, the unit price shall prevail and the line item total shall be corrected, unless in the opinion of the Purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the line item total as quoted shall govern and the unit price shall be corrected.
 - (ii) If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
 - (iii) If there is a discrepancy between words & figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (i) and (ii) above.
 - b) Selling exchange rate/equivalent to Indian currency will be as on the date of bid opening in the case of single bidding and the rate on the date of opening of the priced bids in the case of two-part bidding.
 - c) **The bids shall be evaluated on the basis of final landing cost as per format given in Price Schedule in case of import / indigenous items.**
 - d) The comparison between the indigenous and the foreign offers shall be made on FOR destination basis and CIF/CIP basis respectively. However the CIF/CIP prices quoted by any foreign bidders shall be loaded further as under :
 - Towards customs duty and other statutory levies-as per applicable rates.
 - Towards custom clearance, inland transportation etc. – 2% of the CIF/CIP value.
 - e) Where the price quoted on FOB/FCA and CIF/CIP basis are the same, the Contract would be made on CIF/CIP basis only.
 - f) The Vague terms like “packing, forwarding, transportation..... etc. extra” without mentioning the specific amount/percentage of these charges will not be accepted. **Such offers shall be treated as incomplete and rejected.**
 - g) After arriving at final pricing of individual offers of all the short listed firms, the lowest firm will be awarded with Contract/Purchase Order.
16. 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

1. PREPARATION AND SUBMISSION OF OFFERS:

a) Quotation should be submitted directly by the original manufacturer/supplier or its sole authorized distributor/dealer/Indian Agent. In case of bid by authorized dealer/distributor/Indian Agent, the manufacturer authorization should be attached with the technical bid as per **Annexure-‘D’**.

One Indian Agent can participate in a tender on behalf of one manufacturer only. No offer will be entertained if the same Indian Agent is representing another manufacturer for the same item.

b) In case a bidder is not doing business within India, it shall furnish the certificate to the effect that the bidder is or will be represented by an agent in India equipped and able to carry out the **supply, maintenance, installation, commissioning and also the repair obligations etc. during the warranty and post-warranty period or ensure a mechanism at place for carrying out the supply, maintenance, installation, commissioning and repair obligations etc. during the warranty and post-warranty period.**

c) The bidder shall bear all costs associated with the preparation and submission of its bid irrespective of the conduct or outcome of the bidding process.

d) The bidder should not indulge in any corrupt, fraudulent, collusive, coercive practices during the entire process of procurement and execution of contract/order.

e) Before the deadline for submission of the bid, IISER PUNE reserves the right to modify the bidding document and to extend or not to extend the date of submission. Such amendment/modification will be hosted on IISER PUNE website.

d) Conditional tenders will be summarily rejected.

e) A bidder may withdraw, substitute, or modify its bid after it has been submitted by sending a written notice signed by the authorized signatory before the date of submission of the bid. Any re-submission or modification in the bid should be submitted before the date & time of submission of bid as originally conveyed in the invitation of bid.

f) No bid may be withdrawn, substituted or modified in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Bid Form or any extension thereof.

In case of above, first envelope marked “WITHDRAWAL” shall not be opened, but returned to the Bidder subject to submission of valid authorization to request the withdrawal. In case of substituted and modified bid, only the substituted bids and modified bids will be opened subject to production of authorization from the bidders.

The offers must contain the following documents :-

(A) Techno-commercial offers must contain:

- (i) Manufacturer authorization as per **Annexure –‘D’**.
- (ii) Certificate by bidder not doing business in India.
- (iii) Technical literature/ leaflets and complete specifications of quoted model(s) along with commercial terms and conditions.
- (iv) Compliance statement/questionnaire of tender terms and conditions as per **Annexure-‘A’**
- (v) Compliance statement of specifications as per **Annexure- ‘B’**
- (vi) Bid Security/EMD as per **Annexure- ‘C’**
- (vii) In case of exemption from submission of Bid security, proof of registration with DGS&D/NSIC .
- (viii) Copies of previous supply orders as per **Annexure –‘E’**.
- (ix) Details of supplies of similar equipments.

2. Delivery Period / Timeliness

- 2.1 The deliveries & installation must be completed **within 02 months** after placement of 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.

3. Earnest Money Deposit (EMD)

- 3.1 The tender documents must be accompanied by Earnest Money Deposit **(EMD) of Rs 1,45,000/- (Rs One Lakh and Forty Five Thousand only)** EMD in the form of Bank guarantee (As per format enclosed as ANNEXURE- ‘C’) or Demand Draft of a scheduled bank in the name of Director, IISER, Pune valid for 180 days from the date of opening of the tender. The firm registered with DGS&D/NSIC as manufacturer for the supply of the same category of item for which the party is submitting quotation will be exempted from submission of EMD. Intended parties will have to give proof of registration along with their quotation. EMD of the unsuccessful bidders shall be refunded without any interest at the earliest after finalization of the purchase of concerned item. The party must therefore, submit a pre-receipted Bill in triplicate along with the quotation (in case of EMD sent in form of Bank Draft) to enable us to refund their EMD.
- 3.2 The BIDDER who submits the tender on behalf of their principals should produce documentary evidence in support of their authority to quote or submit proforma invoice of their principals. In case the BIDDER is not represented by any Indian Agent the Bank Guarantee valuing **US \$ 2170.00 (US Dollars Two Thousand One Hundred and seventy only)** should accompany the Technical Bid towards EMD.

- 3.3 In case of bids in Foreign Currency, the Indian Representative / dealers can submit the EMD in INR to IISER, Pune without any relaxation.
- 3.4 The Bank Guarantee is insisted due to steep fluctuations in foreign exchange hence the foreign DD's are not accepted towards EMD.
- 3.5 Bids submitted without EMD will stand rejected. EMD will not be accepted in the form of cash / cheque. No interest is payable on EMD.
- 3.6 The EMD will be returned to the BIDDERS(s)/Agents whose offer is not accepted by IISER, PUNE within one month from the date of the placing of the final order(s) on the selected BIDDER(s). In case of the BIDDER(s) whose offer is accepted the EMD will be returned on submission of Bank Guarantee as Security Deposit (SD). However, if the return of EMD is delayed for any reason, no interest / penalty shall be payable to the BIDDERS.
- 3.7 **The successful BIDDER, on award of contract / order, must send the contract / order acceptance in writing, within 15 days of award of contract / order failing which the EMD will be forfeited.**
- 3.8 The EMD shall be forfeited:
- 3.8.1 If the BIDDER withdraws the bid during the period of bid validity specified in the tender.
- 3.8.2 In case a successful BIDDER fails to furnish the Security Deposit.

4. **Security Deposit**

- 4.1 Within ten (10) days of the award of contract, the vendor shall furnish a Security Deposit amounting to 10% of the purchase order value in the form of Demand Draft/Bank Guarantee **(from scheduled Bank only)** favoring the Director, Indian Institute of Science Education and Research, Pune.
- 4.2 IISER will forfeit the 10% security deposit if vendor fails to execute the order as per the Purchase Order. This Security Deposit will be refunded to the vendor only on successful installation of the EQUIPMENT / SYSTEM.
- 4.3 The Security Deposit should be valid for a period of warranty period as we plan to extend the same as Performance Bank Guarantee.
- 4.4 **Bank Guarantee wherever mentioned in this document may be read as "Bank Guarantee from any Scheduled Bank" only.**

5. **Amalgamation/Acquisition etc.:**

In the event the Manufacturer/Supplier proposes for amalgamation, acquisition or sale of its business to any firm during the contract period, the BUYER/Successor of the Principal Company are liable for execution of the contract and also fulfillment of contractual obligations i.e. **supply, installation, commissioning, warranty, maintenance/replacement of spares accessories etc.** while submitting your bid, you may confirm this condition.

6. **Period of validity of bids**

- 6.1. The prices must be valid at least for a period of **90 days for indigenous supplies & 180 days for imports** from the date of opening of the Tender. No changes in prices will be acceptable in any condition after opening of tender till the validity of the offer or execution of the order whichever is later.
- 6.2. 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. The BIDDER is free not to accept such request without forfeiting the EMD. A BIDDER agreeing to the request for extension will not be permitted to modify his bid.
- 6.3 Bid evaluation will be based on the bid prices without taking into consideration the above corrections.

SUBMISSION OF BIDS

7. **Deadline for submission of Bids**

- 7.1 Bids must be received by IISER, PUNE **before the time & date at address specified in the tender.** In the event of specified date for the submission of bids being declared as a holiday for IISER, PUNE, the bid-closing deadline will stand extended to the next working day. No communication is required in such cases, In the event of holiday on due date
- 7.2 IISER, PUNE may, extend this deadline for submission of bids, this will suitably be notified on the IISER, PUNE website.

8. **Late Bids**

IISER, PUNE will not be responsible:

- 8.1 For delayed / late quotations submitted / sent by post / courier etc.

- 8.2 For submission / delivery of quotations at wrong places other than the Purchase section of IISER, Pune.
- 8.3 Fax / E-mail / Telegraphic / Telex tenders will not be considered.
- 8.4 Any bid inadvertently received by IISER, PUNE after the deadline i.e. due date & time for submission of bids, will not be accepted and returned unopened to the BIDDER.

AWARD OF CONTRACT

9. Award Criteria

- 9.1 IISER, PUNE shall award the contract to the technically qualified eligible BIDDER whose bid has been determined as the lowest evaluated commercial bid.
- 9.2 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.

10. IISER Pune Right to vary Quantities at the time of Award

- 10.1. The IISER Pune reserves the right at the time of Contract award to increase or decrease the quantity of goods and services originally specified in the tender document without any change in unit price or other terms and conditions. Further, at the discretion of the IISER Pune, the quantities in the contract may be enhanced by 30% within the delivery period.
- 10.2. Firms which have already supplied similar equipment to IISER, PUNE and have not completed required installation/commissioning/after sales service/warranty replacements etc. such firms offers will not be considered for further evaluation and no enquiries thereafter will be entertained.

11. Cargo Consolidation and Customs Clearance:

IISER, PUNE has appointed its own Freight Forwarder and Custom House Agent for all IISER, imports. Please note that all the consignments have to be routed through their associates only. The address and contact details will be provided at the time of placing the Purchase Order. While submitting your bid, you may confirm this condition.

12. **Fraud and Corruption**

The IISER Pune requires that bidders, suppliers, contractors and consultants, if any, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuit of this policy,

- (a) The terms set forth below are defined as follows:
 - (i) “**Corrupt practice**” means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the procurement process or in contract execution;
 - (ii) “**Fraudulent practice**” means a misrepresentation or omission of facts in order to influence a procurement process or the execution of a contract;
 - (iii) “**Collusive practice**” means a scheme or arrangement between two or more bidders, designed to establish bid prices at artificial, noncompetitive levels; and
 - (iv) “**Coercive practice**” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the procurement process or affect the execution of a contract;
- (b) The IISER Pune will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for the Contract in question;

13. **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. Prices

Bid prices should be filled in the appropriate format as mentioned in Price Schedule. ***ALL THE BIDDERS SHOULD QUOTE PRICES FOR EACH AND EVERY ITEM SEPERATELY ALONG WITH THE CONSOLIDATED PRICES APPLICABLE FOR BOTH INDIGENOUS AND IMPORTED ITEMS.***

A. For Goods manufactured in India:

- (i) The price of goods quoted Ex-Works including taxes already paid.
- (ii) VAT and other taxes like excise duty etc. which will be payable on the goods if the contract is awarded.
 - (a) The charges for inland transportation, insurance and other local service required for delivering the goods at the desired destination as specified in the price schedule form.
 - (b) The installation, commissioning and training charges including any incidental services, if any.

B. For Goods manufactured abroad:

- (i) The price of the goods, quoted on FCA (Named place of delivery abroad) or FOB (Named port of shipment), as specified in the schedule form.
- (ii) The charges for insurance and transportation of the goods to the port/place of destination.
- (iii) The agency commission charges, if any.
- (iv) The installation, commissioning and training charges including any incidental services, if any.

C. We are exempted from payment of Excise Duty under notification number 10/97 dated 01.03.1997 and Customs Duty under notification No.51/96 dated 23.07.1996. **Hence Excise Duty and Customs Duty, if any, should be shown separately. No other charges than those mentioned clearly in the quotation will be paid.**

D. Sales Tax: We are not authorized to issue any Sales Tax Form 'C' & 'D'.

E. BIDDERS may also bid for High Sea sales.

2. Bank Charges

All Bank charges inside India, including opening of LC, to IISER, PUNE Account and outside India to Beneficiary's Account only. In case the BIDDER seeks confirmation of LC such confirmation charges are to the Beneficiary's account. This may please be noted and confirmed.

3. Agency Commission & Services

- 3.1. The Indian Agency commission payable in Indian currency only after the receipt of consignment in good condition at our Stores and satisfactory installation and commissioning of the ordered equipment.
- 3.2. In case of foreign quote, the Principal supplier should clearly indicate the address of the Indian Agent and percentage (%) of Agency Commission and taxes if any payable to him. Such amounts will be paid in Indian Currency to the Indian Agent.
- 3.3. Details of services rendered by you as well as after-sales services offered by you are to be made clear in the tender.

7. Performance Bank Guarantee

The 10% Security Deposit which is mentioned above may be extended as Performance Bank Guarantee for a period of warranty period.

8. Performance Benchmarks

The technical evaluation committee needs to be provided with an evaluation system to carry out performance benchmarks.

9. Pre-installation:

The BIDDER has to state in detail the Electrical Power/UPS requirements, floor Space, head room, foundation needed and also to state whether Air-conditioned environment is needed to house the system and to run the tests. i.e. pre-installation facilities required for installation may please be intimated in the technical bid. Subsequently, before the consignment lands in IISER, Pune the BIDDER shall confirm that the pre-installation requirements are sufficient for installation of the equipment. In other words the BIDDER should continuously monitor the pre-installation requirements and see that everything is ready before the consignment is taken to the site for installation.

10. INSTALLATION

- 10.1 BIDDER shall be responsible for installation / demonstration wherever applicable and for after sales service during the warranty and thereafter.
- 10.2. Installation demonstration to be arranged by the supplier free of cost and the same is to be done within 15 days of the arrival of the equipment at site.

10.3. After successful installation what will be the minimum down time of equipment/instrument in case of breakdown. If the identified firm or person fails to put the system into working condition what is the further alternative course of action suggested by you to adhere to minimum down time.

11. **INSPECTION** :

11.1 The inspection of the system will be done by our technical expert /Scientist in the presence of firm's representative.

11.2 In case of receipt of the material in short supply or damaged condition the supplier will have to arrange the supplies/ replacement of goods free of cost pending the settlement of the insurance case wherever applicable on FOR at the IISER. Or CIF basis till satisfactory installation of the system.

11.3 The supplier **should arrange for physical inspection of the items directly or through their authorized representative within seven days of arrival of the consignment failing which they will be responsible for the losses.** After the shipment is effected, the supplier/its representative/Indian agents must remain in touch with the lab/instt. to ascertain the date of arrival of consignment.

12. **Training**

12.1 Wherever needed, Our Scientist/Technical persons should be trained by the supplier at the project site free of cost. In case the person is to be trained at supplier's site abroad or in India it should be mentioned in the quotation clearly. The supplier should bear all the expenses for such training including 'to & fro' fares and lodging & boarding charges.

13. **Warranty / Support**

13.1. The items covered by the schedule of requirement shall carry minimum **three 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 24 hours. The comprehensive warranty includes onsite warranty with parts.

13.2. 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, custom duty, octroi, local taxes if any should be borne by the beneficiary or his agent. A clear confirmation should be given for this item.

- 13.3. The warranty on the associated software should cover providing of upgraded version/s, if any, released during the warranty period free of cost.
- 13.4. The BIDDER shall assure the supply of spare parts after warranty is over for maintenance of the equipment supplied if and when required for a period of 10 years from the date of supply of equipment on payment on approved price list basis.
- 13.5. The equipment must be supported by a Service Centre in India manned by the principal vendor's technical support engineers. The support through this Centre must be available 24 hours in a day, seven days a week and 365 days a year. Also it should be possible to contract the Principal's vendor support Centre on a toll free number/web/mail.
- 13.6. An undertaking from the manufacturer is required in this regard stating that they would facilitate the BIDDER on regular basis with technology / product updates & extend support for the warranty as well.
- 13.7. The vendor will have to arrange for all the testing equipment & tools required for installation, testing & maintenance etc.
- 13.8. The principal vendor must have a local logistics support by maintaining a local spares depot in the country of deployment of the equipment. This is to ensure immediate delivery of spares parts from Principal Vendor of equipment to its channel partner/system integrator.
- 13.9. Details of onsite warranty, agency who shall maintain during warranty and undertake Annual Maintenance Contract/Comprehensive Service Maintenance Contract beyond warranty shall be given in the offer. In case of foreign quote, the Indian Agent who shall maintain during warranty and AMC beyond warranty shall be given in the Technical Offer.
- 13.10 **COMMENCEMENT OF WARRANTY PERIOD:** The warranty period of an item shall commence after receipt of the items in good working condition and from the date of its satisfactory installation/commissioning/demonstration at the project site in IISER,, Pune. The warranty period and validity of Performance Guarantee shall be extended for the period of delay in satisfactory installation and delay in warranty service.

14. **Reasonability of Prices:**

- 14.1. Please quote best minimum prices applicable for a premiere Educational and Research Institution,
- 14.2. The party must give details of identical or similar equipment, if any, supplied to any IITS/IISERS/CSIR lab during last three years along with the final price paid and Performance certificate from them.

15. Annual Maintenance Contract

- 15.1. The party must mention in the quotation, the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention, wherever applicable.
- 15.2. No sub-contracting will be allowed for installation or maintaining system/equipment / instrument during or after warranty period.

16. 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 equipments supplied by him.

17. Freight & Insurance

- 17.1. Imports: In case of imports the freight & insurance will be paid by IISER, PUNE, as the consignments are shipped through the IISER, PUNE nominated freight forwarder (applicable only cases of FCA/FOB shipments).
- 17.2. Indigenous : The equipments 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 in case of Rupee transaction.

18. Payment

- 18.1. For Indigenous items, 90% payment shall be made against delivery, installation, commissioning and on acceptance as per Purchase Order at site and balance 10% shall be made after receipt of performance Bank Guarantee for 10% of the total order value, to be valid for till warranty period from date of installation and acceptance. If no Bank Guarantee is given, the balance 10% will be paid after assessing, after sales service during warranty period i.e. payment after warranty period.
- 18.2. For imported items, 90% payment shall be made by a Irrevocable Letter of Credit established in favor of the supplier through the State Bank of India, Deccan Gymkhana Branch, Pune 411 004 (India) for the order value, excluding the Agency Commission due to the Indian Agents, against the presentation of original Shipping documents. Balance 10% will be released after completion of satisfactory installation, commissioning, demonstration of the whole system, after imparting training and upon receipt of Bank Guarantee for 10% of total Order value

towards performance security to be valid for till warranty period from the date of installation. However Letter of Credit arrangement will be made for 100% order value.

The payment of local currency portion shall be payable in equivalent Indian Rupees, within 30 days after the receipt of the equipment in good condition and after satisfactory installation and commissioning and demonstration.

The Agency Commission to the Indian Agent will be paid in INR only after successful installation, commissioning and satisfactory demonstration and acceptance of the items ordered for by the end user.

19. Penalty for delayed Services / LD

19.1. 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.

19.2. If the supplier fails to Supply, Install and Commission the system 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.

19.3. 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.

20. Jurisdiction

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

21. Force Majeure

The Supplier shall not be liable for forfeiture of its performance bank guarantee, liquidated damages or termination for default, if and to the extent that, it's delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure. For purposes of this Clause, "Force Majeure" means an event beyond the control of the Supplier and not involving the Supplier's fault or negligence and not foreseeable. Such events may include, but are not limited to, acts of the IISER Pune either in its sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.

If a Force Majeure situation arises, the Supplier shall promptly notify the IISER Pune in writing of such conditions and the cause thereof. Unless otherwise directed by the IISER Pune in writing, the Supplier shall continue to perform its obligations under the contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

22. **Dispute Settlement**

IISER Pune and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.

If, after twenty-one (21) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the IISER Pune or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given. Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Goods under the Contract.

The dispute settlement mechanism/arbitration proceedings shall be concluded as under:

- (a) In case of Dispute or difference arising between the IISER Pune and a domestic supplier relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Indian Arbitration & Conciliation Act, 1996, the rules there under and any statutory modifications or re-enactments thereof shall apply to the arbitration proceedings. The dispute shall be referred to the Director IISER Pune, if he is unable/unwilling to act, to the sole arbitration of some other person appointed by his willing to act as such Arbitrator. The award of the arbitrator so appointed shall be final, conclusive and binding on all parties to this order.
- (b) In the case of a dispute between the Purchase and a Foreign supplier, the dispute shall be settled by arbitration in accordance with provision of sub-clause (a) above. But if this is not acceptable to the supplier then the dispute shall be settled in accordance with provisions of UNCITRAL (United Nations Commission on International Trade Law) Arbitration Rules.

The venue of the arbitration shall be the place from where the purchase order or contract is issued.

Assistant Registrar (S&P)
04 August 2016

CHAPTER 4
SCHEDULE OF REQUIREMENTS, SPECIFICATIONS & ALLIED TECHNICAL
DETAILS

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 external steam, 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:
- a) 1200 W x 1200 H x 1800 L mm (4'x4'x6')
 - b) 610 W x 610 H x 1220 L mm (2'x2'x4')

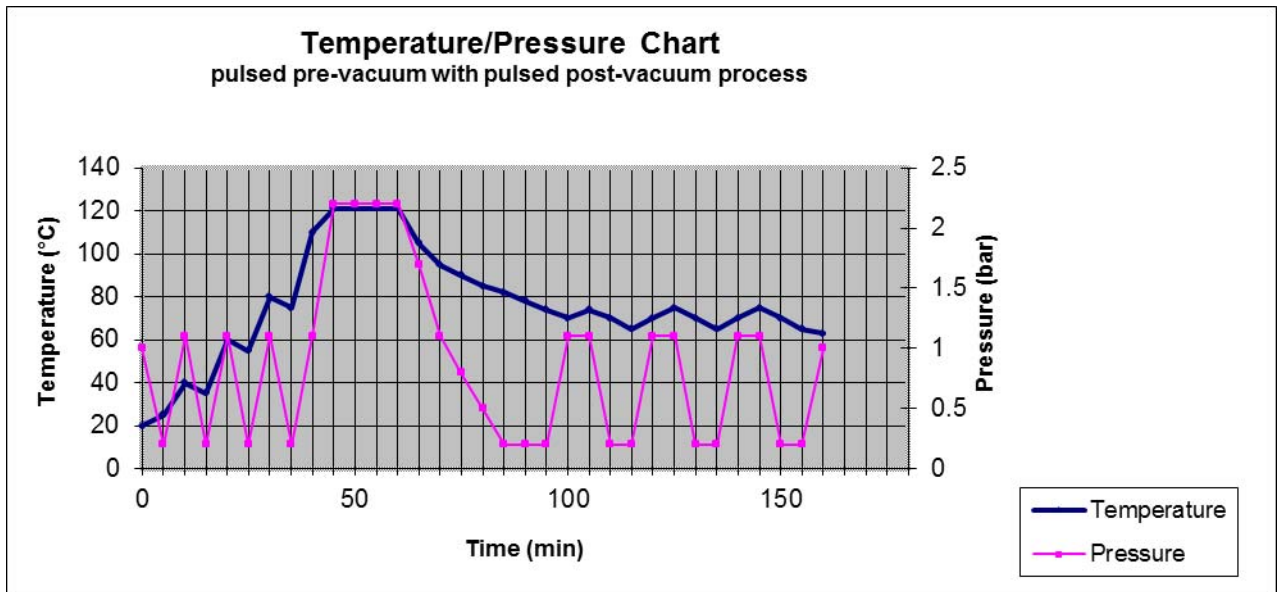
Process description

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)
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

7. 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 μ 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: Ra 0,8 µm
- Material: AISI 304
- Manually Operated Hinge type doors
- The doors are sealed by a 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: Ra – 0,8 µm
 - Material: AISI 316L

RAILS

Special constructed to guide, respectively to support the loading carriage Removable for cleaning purposes.

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.

- 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 1

- **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 **engineer** during start up and commissioning of the sterilizer.
-

2) UNIT same as above but with Double Door

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.
- 2 loading carts are required to complete one batch.
- Material: AISI 316

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

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

Dimensions & Utilities

DIMENSIONS,

Exterior measurements in mm : **for 557** W x H x D = 2700 x 2500 x 2700

Loading capacity: Carriage finished with 2 loading levels for receipt of the product

Loading height in mm: 600

Net Weight of Sterilizer: Approx. 6000 Ks

Minimum opening for transportation in mm : H x W = 2500 x 2100

UTILITIES

Consumption figures are approximate values and are based on a load of as specified above

Pure Steam (for chamber heating)	Connection	360	335	Kg/h
	Consumption	165	96	Kg/Cycle
	Min. Pressure	2,0	2,0	bar (g)
	Max. Pressure	2,5	2,5	bar (g)
Industrial steam (for jacket heating)	Connection	150	50	Kg/h
	Consumption	70	28	Kg/Cycle
	Min. Pressure	2,5	2,5	bar (g)
	Max. Pressure	4,0	4,0	bar (g)
Cold water	For Vacuum Pump	21	14	Lpm
	Min. Pressure	1,0	1,0	bar (g)
	Max. Pressure	1,2	1,2	bar (g)
	Max. Temperature	15	15	°C
Compressed air	Connection	10	10	Nm ³ /h
	For Instrument	4,0	4,0	Nm ³ /Cycle
	Min. Pressure	5,0	5,0	bar (g)
	Max. Pressure	7,0	7,0	bar (g)
Electric power	3/PE 440 V, 50 Hz With Neutral			
	For Vac Pump & Panel	7.5	5	kW
For Electric Boiler			36	kW

STANDARD PART CONFIRMATION LIST

PART NAME	SPECIFICATION	MAKE
PLC/controller	MODEL: S7200/FX-3G With A/D IO Modules	SIEMENS/Mitsubishi
HMI	MODEL: TP-177B/GOT Touch screen 5.7"	SIEMENS/Mitsubishi
TEMPERATURE SENSOR	PT-100 3 WIRE RANGE: 0 –200 ⁰ C ACCURACY- 0.5%	MICROCON/MICRON
PRESSURE TRANSMITTER	RANGE: -1 TO +5 TYPE OF INPUT – PRESSURE	WIKA/Baumer
PRESSURE SWITCH	RT-110 PB, RANGE: 0.2 TO 5 KG/CM ² .	INDFOSS
INDICATOR LAMP	TYPE: 2 LHB 230 2.6W 110 VAC	TEKNIC
WIRE CONNECTOR	TYPE VDE 6MM ² (TS 61) TYPE KUT 2.5 MM ²	CONNECTWELL
AIR SOLENOIED VALVE	2 WAY 4 WAY 5 PORT	JANATICS/ADVANCE.
PNEUMATIC CONTROL VALVE	MOC: 304/316 SS WITH TEFLON SEAL SIZE: ½" 1" & 1½"	SPIRAX/AVCON Diphragm-Saunders/Crane
ON – OFF SWITCH	TYPE 3-0-4 (NO) 10 (10) A 110 VAC	TEKNIC
4 POLE CONTACTOR	TYPE-LCI-D173 A-60 16A 230 VAC COIL	TELEMECANIK & CONTROLS /SIEMENS
PRINTER	MODEL: LX-300+ TYPE: DOT MATRIX PRINTER	EPSON
CHART RECORDER	Circular/Strip chart No. of Point-1 or 2 Strip chart No. of Point-6	Eurotherm /Yokogawa
FUSE	TYPE – CSFL – 4U 500V 6.3 A 4 MM ²	CONNECTWELL
SAFETY VALVE	POP TYPE 20 NB RANGE: 1 TO 2.5 KG/CM ²	SPIRAX/FABWELL
COMPOUND GAUGE	RANGE: -1 to 5 Kg./cm ²	WIKA/ WAREE
PRESSURE GAUGE	RANGE: 0 to 6 Kg./cm ²	WIKA/ WAREE
STEAM TRAP	THERMOSTATIC STEAM TRAPT FLOAT TYPE	SPIRAX MARSHAL
STERILE AIR VENT FILTER	MOC-PTFE 0.02M (ABS)	DOMNIC HUNTER/PALL
PRESSURE REDUCING VALVE (PRV)	MOC – CAST IORN IS 210 FG 220 TEMP. 220 DE MEDIA – STEAM	SPIRAX MARSHAL
DOOR GASKET	MOC: SILICON RUBBER SQUARE CROSS-SECTION	GAURAV RUBBER
BALL VALVE	SIZE:1" BSP MOC: 304 SS	HVI/GG

- SCOPE OF SERVICES
 - **QUALITY CONTROL**
 - **QUALITY MANAGEMENT SYSTEM**
- The quality management system should be in accordance with ISO and documented in the quality assurance manual
- 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 are 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) is carried out in the production shop by our own QA people.
- Internal testing / Pre-qualification in accordance to the FABWELL Standard at the workshop consisting 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 is designed and manufactured according to EN-285
- Pressure Vessel on basis of ASME Section VIII Division 1:

Specification for Steam Sterilizer (Auto Clave)

Inner Chamber Size	:	1200 mm W x 1200 mm H x 1800 mm D
Chamber Volume	:	2.592 M ³ / 96 Ft ³

Type	:	Standard / HPHV Steam Sterilizer
Type Of Door	:	Horizontal Sliding, Double Door
Mounting	:	Floor Mounting
Operation	:	Automatic through PLC With Manual Mode Operation in case of PLC failure

Working Parameters			
	Chamber Working Pressure	:	2.2 Kgs/Cm ²
	Jacket Working Pressure	:	2.3 Kgs/Cm ²
	Chamber Working Temperature	:	121 ⁰ C OR 134 ⁰ C
	Chamber Vacuum	:	Full

Design Parameters

	Chamber Hydro test Pressure	:	3.3 Kgs/Cm ²
	Jacket Hydro test Pressure	:	4.5 Kgs/Cm ²

Finish			
	Inside	:	MIRROR Finish, 0.5 Ra - 220 GRIT
	Outside	:	MATT Finish, 0.8 Ra - 180 GRIT

Steam Supply			
	For Chamber	:	Steam from Jacket OR Pure Steam
	For Jacket	:	Black Steam From Boiler

Doors

The sterilizer will be provided with 2 Nos. Of doors in SS 316 quality.
The doors are sealed by a hollow silicon-gasket.

Door Safety Features			
			<ol style="list-style-type: none"> 1. Door interlock to prevent simultaneous opening of both doors. 2. Process lock to prevent opening of the door during process.
	Door Gasket	:	Hollow "Silicon" Gasket.

Doors (Sliding Doors)

The sterilizer will be provided with 2 Nos. sliding doors, sliding Horizontally by Pneumatically operated cylinders. Door sliding member will be in SS 304 Quality. The SS 316 L door plate will be reinforced with MS plate from outside. The doors are sealed by a silicon-gasket O-ring, which is pressed against the door plate tightly by the compressed air. Reopening of the door will be done by creating the Negative pressure in the air pocket through the Ejector.

Insulation

- Resin Bonded glass wool insulation of 50 mm thickness will be provided with SS 304 Welded Cladding
- Validation Port
- Validation port will be provided (1 No.) on the side of the sterilizer.

Piping

- The piping for the Chamber contact lines will be provided in SS 316 L quality and considering the full draining with out any dead legs.
- Piping provided will be T.C. ended sanitary type with Argon welding.
- Non contact pipe lines will be SS 304 quality.

Common Header

- This will be provided to carry all the drains and exhaust lines to main drainage to avoid any spillage of the water inside the room.

Flush Mounting

- SS 304 Flush mounting between sterile and non-sterile side.

Material of Construction

Chamber	:	SS 316 L, 6 mm Thick
Jacket	:	SS 304, 5 mm Thick
Door	:	SS 316 L, 6 mm + 18 mm MS for Sliding Doors
Stand	:	SS 304, Tubular
Cladding	:	SS 304, Welded type.
Control Panel	:	SS 304
Carriage / Qty	:	SS 316 L / 2 Nos.
Trolley / Qty	:	SS 304 / 4 Nos.
Flush Mounting	:	SS 304
Pipe Lines (Contact Parts)	:	SS 316 L
Condenser	:	SS 304
Paneling, Sliding Extensions & Skid (OPTIONAL)	:	SS 304

Pressure Monitoring

Compound Gauges	NST Chamber Pressure NST	1 No. 2 Nos.
	Side ST Chamber Pressure NST Side & ST Side	1 No. 1 No.
Pressure Gauges	NST Gasket Pressure NST Side	
	ST Gasket Pressure NST Side	
	For Jacket Pressure NST Side	1 No.
Temperature Monitoring		
Strip Chart Recorder (OPTIONAL)	"YOKOGAWA" Make, Range: 0 - 200 ⁰ C, 5 Temperature + 1 Pressure	
Process Recording		
Printer	"EPSON" LX 300+ (80 Column Dot Matrix) Records Date, Time, Parameters, Status, Alarms, etc.	

Accessories

Door Locking Cylinders	:	"JANATICS" Make Pneumatically Operated, Double Acting (2 Nos.)
Electro Pneumatic Valves	:	"SPIRAX" Make
Spring Loaded Safety Valves	:	"SPIRAX" Make 2 Nos. (1 for Jacket & 1 For Chamber)
Steam Trap	:	"SPIRAX" Make 2 Nos. (1 for Jacket & 1 For Chamber)
PT 100 Sensor	:	"RADIX" Make
Pressure Gauges	:	"RADIX" Make

Compound Gauges	:	"RADIX" Make
Air Vent Filter	:	"SARTORIUS" Make 1 No. Capsule Type, 1" Tc
Pressure Transmitter	:	"SIEMENS" Make
Water Ring Vacuum Pump	:	"VIJAY ENGINEERING" Make
Motor	:	7.5 HP, 2800 RPM, "HINDUSTAN" Make

Automation

The system will be provided with Two Mode of Operations i.e. Automatic and Manual Operation. Manual Operations (Hardwired) is independent of PLC.

PLC Features

- "ALLEN BRADLEY" Make, Model No: Micrologix 1400
- Power Supply 24 V DC
- Onboard 14 Inputs and 10 Outputs
- RS 485 Communication Port
- Relay Protection for Outputs

MMI Features

- User friendly MMI "SCHNEIDER" Make, Model No: GXO 3502
- Size: 5.7" Coloured Touch Panel
- RS 232 Port for serial interface (like Printer)
- 3 Level Password protections for unauthorized access.

Process Cycle

- Pressure Leak Test as per HTM 2010 (1 Cycle)
To check the leak rate of 1 mbar for pre-determined set time.
- Vacuum Leak Test as per HTM 2010 (1 Cycle)
To check the leak rate of 1.3 mbar/min for pre-determined set time.
- Bowie & Dick Cycle as per 17 min @ 121⁰ C & 3.5 Min. @ 135⁰ C (1 Cycle)
To check the air removal from the chamber for better steam penetration.
- Standard Sterilization Cycle (Loading ^ Heat Up ^ Hold Period ^ Slow / Fast Exhaust (Slow Exhaust In Case Of Fluid Cycle) (2 Cycles)

For glass filled containers & where Vacuum application is not needed.

- HPHV Cycle (Loading ^ Steam / Vacuum Pulsing ^ Heat Up ^ Hold Period ^ Exhaust

^ Vacuum Drying ^ Vacuum Bleeding By Sterile Air (2 Cycles - One @ 121⁰ C & Other @ 134⁰ C)

- For effective air removal & drying in case of Garments, Silicon tubes, etc.

Control Panel

- SS 304 Control Panel will be provided with necessary Switchgears like Relays, Contactors, MCB'S, Rotary Switches, LED Indications, Lamps, etc.

Safety Features

- Both Doors will not open simultaneously
- Both doors will not get opened during the process when it is operated in Auto Mode
- The process will not start if any of the doors is opened or door indication lamp willnot "ON" either in Auto or Manual Mode
- During the sterilization period, If the chamber temperature falls below set temperature, the sterile hold period counting will stop and will start counting further if it reaches to sterile hold temperature.
- During the sterilization period, If the chamber temperature overshoots the set temperature, the jacket to chamber steam ON / OFF valve will close till the temperature falls below the set high temperature value.
 - Sterilization cycle remains hold incase of power failure

Power Failure & Recovery

- Automatic restart will not be possible after regain of the Power.
- After regain of the power, Process will be carried forward from the step it stopped for washing.
- After regain of the power, Process will be carried forward from the step it stopped in case of sterilization, if the controlling probe temp is within limit.

INTERLOCKS

- Both doors cannot be opened simultaneously.
- Process does not start if any one door is opened, either in Auto or Manual mode.
- Both doors cannot open when the process is on.
- After Sterilization the Loading Side Door shall not be opened. (This can be provided while we have facility of any side opening)

- After the command for unloading completion by the operator from the sterile side, the door from loading side shall be opened
- The door shall not open with a high pressure inside the chamber. (More than 100 mbar approx)
- The door shall not open with a chamber temperature inside. (More than 80 degree centigrade approx)
- Any intervention in the chamber from the outside during door closing (Sliding Door) the door closing shall be stopped
- Safety valves are provided on the jacket, chamber to blow off in case of Excessive pressure.

FAULT & ALARMS

- Emergency OFF Activated
- Steam Temperature Higher than set limit.
- Door open
- Leak Test Fail
- Steam Temperature Low than set point for long time
- Vacuum low than set point for long time
- Utility air pressure low
- Temperature overshoot & lower than set during sterilizing hold
- Vacuum Pump Trip Due to Overload
- Cycle end
- Steam Temperature Low than set point for long time

BATCH RECORDING & PRINTING

Event log Process value display

F₀ value of lower temperature probe in Chamber condensate Line will be recorded

UTILITIES REQUIRED (TO BE PROVIDED BY CUSTOMER)	
Industrial Steam for Jacket (Dry Saturated) (Complying to EN285 Standard)	@ 2 to 3 Kg/Cm ² at PRV Inlet Consumption - 110 Kg/Hr Line Size: 1" NB
Pure Steam for chamber (Complying to EN285 Standard)	@ 2 to 3 Kg/Cm ² at PRV Inlet Consumption - 210 Kg/Hr Line Size: 1" NB
Compressed Air	Oil Free, Moisture Free, Lubricated Compressed Air @ 5 to 6 Kg/Cm ² for SLV's & Pneumatic Valve Operation Consumption - 7 - 8 cfm Line Size: ¾" NB
Cooling Water (For HPHV Cycle Only)	Soft Water with Zero Hardness with inlet pressure upto 0.5 - 0.6 Kg/Cm ² for Vacuum Pump Consumption - 45 Ltr/Min
Electric Supply	3 Ph / 440 V AC/ 50 Hz, 5.5 kW 1 Ph / 230 V AC/ 50 Hz - 1.5 kW for Control Panel

Inner Chamber Size	:	600 mm W x 600 mm H x 1200 mm D
Chamber Volume	:	0.432 M ³ / 16 Ft ³
Type	:	HPHV Steam Sterilizer
Type Of Door	:	Vertical Sliding Door

Mounting	:	Floor Mounting
Operation	:	Automatic through PLC With Manual Mode Operation in case of PLC failure

Working Parameters		
Chamber Working Pressure	:	2.2 Kgs/Cm ²
Jacket Working Pressure	:	2.3 Kgs/Cm ²
Chamber Working Temperature	:	121 ^o C OR 134 ^o C
Chamber Vacuum	:	Full

Design Parameters		
Chamber Hydro test Pressure	:	3.3 Kgs/Cm ²
Jacket Hydro test Pressure	:	4.5 Kgs/Cm ²

Finish		
Inside	:	MATT Finish, 300 GRIT
Outside	:	MIRROR Finish

Steam Supply		
For Chamber	:	Through Jacket
For Jacket	:	Through In-built Steam Generator

Doors

OThe sterilizer will be provided with 2 Nos. Of doors in SS 316 quality.

O The doors are sealed by a hollow silicon-gasket.

Door Safety Features		
O	Door interlock to prevent simultaneous opening of both doors.	

○ Process lock to prevent opening of the door during process.	
Door Gasket	: Hollow "Silicon" Gasket.

The sterilizer will be provided with 2 Nos. sliding doors, sliding Vertically by Pneumatically operated cylinders. Door sliding member will be in SS 304 Quality.

The SS 316 L door plate will be reinforced with MS plate from outside. The doors are sealed by a silicon gasket O-ring, which is pressed against the door plate tightly by the compressed air.

Reopening of the

door will be done by creating the Negative pressure in the air pocket through the Ejector.

Insulation

Resin Bonded glass wool insulation of 50 mm thickness will be provided with SS 304 Welded

Cladding.

Validation Port

○ Validation port will be provided (1 No.) on the side of the sterilizer.

Piping

○ The piping for the Chamber contact lines will be provided in SS 316 L quality and considering the full draining with out any dead legs.

○ Piping provided will be T.C. ended sanitary type with Argon welding.

○ Non contact pipe lines will be SS 304 quality.

Common Header

○ This will be provided to carry all the drains and exhaust lines to main drainage to avoid any spillage of the water inside the room.

Flush Mounting

○ SS 304 Flush mounting between sterile and non-sterile side

In-Built Steam Generator	
18 kW In-built Steam Generator will be provided in SS 316 Quality.	
Accessories	
Electric Heaters	: "ESCORTS" Make SS 304 sheated, 6 kW x 3 Nos., 2" BSP Threading
Pressure Switch	: "ORION / INDFOS / DANFOSS" Make RT 110, 1 No.

Safety Valve	:	"SPIRAX" Make 1 No.
Pressure Gauges	:	"RADIX" Make 1 No. for Jacket
Vacuum Breaker	:	/" BSP, 1 No.
Sight Glass	:	Flange 100 mm 0
Manual Ball Vale	:	/" BSP, 2 Nos. (Water In & Out)
Contactora	:	1 No. for Heaters
Level Sensor	:	1 No. for Boiler Level

Material of Construction

Chamber	:	SS 316 L, 6 mm Thick
Jacket	:	SS 304, 5 mm Thick With 10 mm Ext.
Door	:	SS 316, 10 mm Thick
Stand	:	SS 304, Tubular
Cladding	:	SS 304, Welded type.
Control Panel	:	SS 304
Carriage	:	SS 316 L / 1 No.
Trolley / Qty	:	SS 304 / 2 Nos.
Flush Mounting	:	SS 304
Pipe Lines (Contact Parts)	:	SS 316 L
Condenser	:	SS 304
Paneling, Sliding Extensions & Skid	:	SS 304

Pressure Monitoring			
Compound Gauges		NST Chamber Pressure NST Side ST Chamber Pressure NST Side & ST Side NST Gasket Pressure NST Side ST Gasket Pressure NST Side	1 No. 2 Nos. 1 No. 1 No.
Pressure Gauges		For Jacket Pressure NST Side	1 No.
Temperature Monitoring			
Strip Chart Recorder		"YOKOGAWA" Make, Range: 0 - 200 ⁰ C, 5 Temperature + 1 Pressure	

Accessories

Door Locking Cylinders	:	"JANATICS" Make Pneumatically Operated, Double Acting (2 Nos.)
Electro Pneumatic Valves	:	"SPIRAX" Make
Spring Loaded Safety Valves	:	"SPIRAX" Make 2 Nos. (1 for Jacket & 1 For Chamber)
Steam Trap	:	"SPIRAX" Make 1 No. For Chamber
PT 100 Sensor	:	"RADIX" Make
Pressure Gauges	:	"RADIX" Make
Compound Gauges	:	"RADIX" Make
Air Vent Filter	:	"SARTORIUS" Make 1 No. Capsule Type, 1" TC

Pressure Transmitter	:	"SIEMENS" Make
Water Ring Vacuum Pump	:	"VIJAY ENGINEERING" Make
Motor	:	3 HP, 2800 RPM, "HINDUSTAN" Make

Automation

The system will be provided with Two Mode of Operations i.e. Automatic and Manual Operation. Manual Operations (Hardwired) is independent of PLC.

PLC Features

- "ALLEN BRADLEY" Make
- Power Supply 24 V DC
- Onboard 14 Inputs and 10 Outputs
- RS 485 Communication Port
- Relay Protection for Outputs

MMI Features

- User friendly MMI "SCHNEIDER" Make
- 5.7" Coloured Touch Panel
- RS 232 Port for serial interface (like Printer)
- 3 Level Password protections for unauthorized access.

Process Cycle

- Pressure Leak Test as per HTM 2010 (1 Cycle)

To check the leak rate of 1 mbar per 60 min.

- Vacuum Leak Test as per HTM 2010 (1 Cycle)

To check the leak rate of 1.3 mbar/min. for pre-determined set time.

- Bowie & Dick Cycle as per 17 min @ 121⁰ C & 3.5 Min. @ 135⁰ C (1 Cycle)

To check the air removal from the chamber for better steam penetration.

- Standard Sterilization Cycle (Loading ^ Heat Up ^ Hold Period ^ Slow / Fast Exhaust (Slow Exhaust In Case Of Fluid Cycle) (2 Cycles)

For glass filled containers & where Vacuum application is not needed.

- HPHV Cycle (Loading ^ Steam / Vacuum Pulsing ^ Heat Up ^ Hold Period ^ Exhaust ^ Vacuum Drying ^ Vacuum Bleeding By Sterile Air (2 Cycles - One @ 121⁰ C & Other @ 134⁰ C)

For effective air removal & drying in case of Garments, Silicon tubes, etc.

Control Panel

SS 304 Control Panel will be provided with necessary Switchgears like Relays, Contactors, MCB'S, Rotary Switches, LED Indications, Lamps, etc.

Safety Features

- Both Doors will not open simultaneously
 - Both doors will not get opened during the process when it is operated in Auto Mode
 - The process will not start if any of the doors is opened or door indication lamp will not "ON" either in Auto or Manual Mode
 - During the sterilization period, If the chamber temperature falls below set temperature, the sterile hold period counting will stop and will start counting further if it reaches to sterile hold temperature.
 - During the sterilization period, If the chamber temperature overshoots the set temperature, the jacket to chamber steam ON / OFF valve will close till the temperature falls below the set high temperature value.
 - Sterilization cycle remains hold in case of power failure
- #### Power Failure & Recovery
- Automatic restart will not be possible after regain of the Power.
 - After regain of the power, Process will be carried forward from the step it stopped for washing.
 - After regain of the power, Process will be carried forward from the step it stopped in case of sterilization, if the controlling probe temp is within limit.
 - Both doors cannot be opened simultaneously.
 - Process does not start if any one door is opened, either in Auto or Manual mode.
 - Both doors cannot open when the process is on.

- After Sterilization the Loading Side Door shall not be opened. (This can be provided while we have facility of any side opening)
- After the command for unloading completion by the operator from the sterile side, the door from loading side shall be opened
- The door shall not open with a high pressure in side the chamber. (More than 100 mbar approx)
- The door shall not open with a chamber temperature inside. (More than 80 degree centigrade approx)
- Any intervention in the chamber from the outside during door closing (Sliding Door) the door closing shall be stopped
- Safety valves are provided on the jacket, chamber to blow off in case of Excessive pressure.

FAULT & ALARMS
<ol style="list-style-type: none"> 1. Emergency OFF Activated 2. Steam Temperature Higher than set limit. 3. Door open 4. Leak Test Fail 5. Steam Temperature Low than set point for long time 6. Vacuum low than set point for long time 7. Utility air pressure low 8. Temperature overshoot & lower than set during sterilizing hold 9. Vacuum Pump Trip Due to Overload 10. Cycle end

11. Steam Temperature Low than set point for long time

BATCH RECORDING & PRINTING

- Event log
- Process value display
- F₀ value of lower temperature probe in Chamber condensate Line will be recorded

UTILITIES REQUIRED (TO BE PROVIDED BY CUSTOMER)

Purified water	Water with inlet pressure up to 3 - 4 Kg/Cm ² with Conductivity < 2 aS Line Size: /" NB Consumption: 75 Ltrs / fill for Steam Generator
Compressed Air	Oil Free, Moisture Free, Lubricated Compressed Air @ 5 to 6 Kg/Cm ² for SLV's & Pneumatic Valve Operation Consumption - 5 cfm. Line Size: /" NB
Cooling Water (For HPHV Cycle Only)	Soft Water with Zero Hardness with inlet pressure upto 0.5 - 0.6 Kg/Cm ² for Vacuum Pump. 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. and name of any products are mentioned in technical specifications, product of other approved makes of similar quality shall also be acceptable with matching specifications.

The Indian Institute of Science Education and Research (IISER-Pune)

BILL OF QUANTITY

Sr.No.	Item Description	Quantity	Unit	Rate in figure and words	Amount
1	Design,Supply,Installation commissioning and maintenance of Animal house facility autoclave sterilizer system of inner chamber size 1200X1200X1800 mm Approved makes cage washer: Sterdil//Techniplast/Indogerman	01 Each			
2	Supply,Installation commission of suitable capacity steam generator LPG based fuel system including IBR certification if Approved makes Steam Generator :Thermax /Forbs marshall /Crompton Greaves	01 Each			
3	Design,Supply,Installation commissioning and maintenance of Animal house facility autoclave sterilizer system of inner chamber size 600X600X1800 mm Supply,Installation commission of suitable capacity steam generator including IBR certification if required Approved makes cage washer: Sterdil//Techniplast/Indogerman Approved makes Steam Generator :Thermax /Forbs marshall /Crompton Greaves	01 Each			

CHAPTER-5 PRICE SCHEDULE

The Bill of materials must be included in the technical offer as well as commercial offer. However the Technical offer should not contain any price information.

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

PRICE SCHEDULE FOR GOODS BEING OFFERED FROM ABROAD

Name of the Bidder _____
No. _____

Tender

1 SI No	2 Item Description	3 Country of origin	4 Unit	5 Qty	6 Unit Price		7 Total price (5x6)		8 Charges for Insurance & transportation to port/ place of destination		9 Total Price (7+8)
					FOB (named port of shipment)	FCA (named place of delivery)	FOB (named port of shipment)	FCA (named place of delivery)	Ocea n	Air	

Total Bid price in foreign Currency _____
_____ in words.

Signature of Bidder :

Name :

Business Address :

Note:

- (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 BEING OFFERED FROM INDIA

Name of the Bidder _____

Tender No. _____

1	2	3	4	5	6	7	8	9	10	11
Sl. No.	Item Description	Country of Origin	Unit	Qty	Ex-Works. Ex-Warehouse, Ex-show room off the shelf price (inclusive of all taxes already paid)	Total price Ex-Works. Ex-Warehouse, Ex-show room off the shelf price (inclusive of all taxes already paid) 5x6	VAT & other taxes like excise duty payable, if contract is awarded	Packing & forwarding up to station of dispatch, if any	Charges of inland transportation, insurance up to Lab./Instt.	Installation, Commissioning & training charges, If any.

1	2	3	4	5	6	7	8	9	10	11

Total Bid price in foreign Currency _____ in words.

Signature of Bidder :

Name :

Note:

The cost of optional items shall be indicated separately.

(a) Cost of spares _____

FORMAT/QUESTIONNAIR FOR COMPLIANCE OF TERMS AND CONDITIONS

Tender No.: _____

Due

Date _____

NOTE:

1. **Quotation will not be considered without submission of this format.**
2. **If a particular question is not at all applicable please write NA in compliance part in Col. No. 4 below.**
3. **Kindly see the relevant terms & conditions of the tender document in each question before replying to the questions mentioned in Col. 2 below).**

SNo	Terms & condition of Tender document	Whether acceptable (say 'Yes' or 'No' (preferably use different colour ink for 'No')	Deviation from tender terms, if any, with reasons for noncompliance or alternative condition quoted for
1	2	3	4
1	a.) Whether quotation is direct from Principal supplier/manufacturer or their own office in India (Please specify)		
	b) Whether quotation is being submitted by Indian Agent/authorized distributor/ dealer		
	c) Whether the agent is registered with DGS&D/NSIC		
2	a) Whether the Techno-commercial and price bids (for two bid tender system only) have been kept in separate envelopes duly marked with "Techno-commercial Bid" and "Price Bids" respectively.		
	b) Whether the tender No., Due date & Opening dates have been written outside all the envelopes.		
3	Whether techno-commercial Bid contains EMD, technical literature/leaflets, detailed specifications & commercial terms & conditions etc. as applicable.		

SNo	Terms & condition of Tender document	Whether acceptable (say 'Yes' or 'No' (preferably use different colour ink for 'No'))	Deviation from tender terms, if any, with reasons for noncompliance or alternative condition quoted for
4	a) Whether the required EMD is being submitted with the quotation		
	b) Please specify the form of EMD whether in the form of DD/bank guarantee or TDR/FDR (Please mention No., date & amount of EMD documents.) or Bid Security		
	c) Pre-receipted bill for refund of EMD is enclosed (for bank drafts only)		
5	a. If the prices are on Ex-Works basis or FOB (names port of shipment) or FCA (named place of delivery abroad)		
	b. Whether specific amounts or percentage of expenses like packing, forwarding, handling, freight, insurance, documentation etc. have been mentioned in quotation separately in clear terms.		
6	a) Whether prevailing rates of sales tax, excise duty & other govt. levies (for indigenous supplies) have been given in quotation		
7	Have you mentioned the validity period of the quotation as per our requirements		
8	a) Whether the Price reasonability Certificate is submitted with quotation		
	b) Whether copies of last two supply orders of the same item from other customers have been attached with the quotation		
9	Whether rates/amount of AMC after the warranty period is over has been mentioned		

SNo	Terms & condition of Tender document	Whether acceptable (say 'Yes' or 'No' (preferably use different colour ink for 'No'))	Deviation from tender terms, if any, with reasons for noncompliance or alternative condition quoted for
10	Have you gone through the specification Clause & complied with the same		
11	Whether the Make/Brand, Model number and name of manufacturer has been mentioned in the quotation and Printed technical literature/ leaflets of quoted items have been submitted		
12	Whether compliance statement of specifications has been attached with the quotation.		
13	a) Whether the delivery period for supply of the items has been mentioned		
	b) Whether mode of delivery & tentative size & weight of the consignment has also been indicated		
14	Do you agree to the submission of Performance Bank Guarantee and have you mentioned in your quotation about this.		
15	a) Do you agree with the payment terms for indigenous supplies?		No deviation permitted
	b) Do you agree with the payment terms for imports supplies?		
16	Do you agree about the date of commencement of warranty period & its extension is necessary.		
17	a) Who will install/commission and demonstrate the equipment at IISER Pune, FREE OF COST.		
	b) Will you be able to do it within a month		
18	Have you mentioned the guarantee/warranty period in your quotation and do you agree with guarantee clause?		

SNo	Terms & condition of Tender document	Whether acceptable (say 'Yes' or 'No' (preferably use different colour ink for 'No'))	Deviation from tender terms, if any, with reasons for noncompliance or alternative condition quoted for
19	Spare parts		
20	After Sales service		
21	a) Do you agree that on receipt of material in damaged condition or short supply you will replace the same on CIF basis, free of cost pending the settlement of the insurance claim?		
	b) Do you agree with the clause of physical inspection?		
22	Whether list of specific user's for the same item & model as quoted along-with performance certificates from the users is submitted with offer		
23	Whether you agree to the penalty clause for late delivery & installation?		
24	Whether training to our scientist/technical person will be given free of cost . If yes, have you specified in quotation whether it will be in our lab? Or at supplier's site in India or abroad.		
25	a) Whether all the pages have been page numbered?		
	b) Whether quotation has been signed and designation & name of signatory mentioned.		

FORMAT OF COMPLIANCE STATEMENT OF SPECIFICATIONS

S. N.	Name of specifications/ part / Accessories of tender enquiry	Specifications of quoted Model/ Item	Compliance Whether “YES” Or “NO”	Deviation, if any, to be indicated in unambiguous terms	Whether the compliance / deviation is clearly mentioned in technical leaflet/ literature
1	2	3	4	5	6

BID SECURITY FORM

Whereas (Hereinafter called “the tenderer”) has submitted their offer dated for the supply of (Hereinafter called “the tender”) against the purchaser’s tender enquiry No. _____

KNOW ALL MEN by these presents that WE (Name of bank) of (Name of country), having our registered office at (Address of bank) (Hereinafter called the “Bank”), are bound unto ... (Name of purchaser) (Hereinafter called “the purchaser”) in the sum of for which payment will and truly to be made to the said Purchaser, the Bank binds itself, its successors, and assigns by these presents. Sealed with the Common Seal of the said Bank this day of..... 20.....

THE CONDITIONS OF THESE OBLIGATIONS ARE:

- 1.** If the tenderer withdraws or amends, impairs or derogates from the tender in any respect within the period of validity of this tender.
- 2.** If the tenderer having been notified of the acceptance of his tender by the Purchaser during the period of its validity.
- 3.** If the tenderer fails to furnish the Performance Security for the due Performance of the contract.
- 4.** Fails or refuses to accept/execute the contract.

WE undertake to pay the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchase will note that the amount claimed by it is due to it, owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

The guarantee shall remain in force up to and including forty five (45) days after the period of the bid validity, and any demand in respect thereof should reach the Bank not later than the above date.

.....
(Signature of the authorized officer of the Bank)

Name and Designation of the Officer
Seal, Name & Address of the Bank and address
of the branch

MANUFACTURER’S AUTHORIZATION FORM

[The Bidder shall require the Manufacturer to fill in this Form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that re binding on the Manufacturer]

Date: *[Insert date (as Day, month and year) of Bid submission]*

Tender No.: *[Insert number from Invitation for Bids]*

To: *[Insert complete name and address of Purchaser]*

WHEREAS

We *[insert completer name of Manufacturer]*, who are official manufacturers of *[Insert type of goods manufactured]* having factories at *[insert full address of Manufacturer’s factories]*, do hereby authorize *[insert complete name of Bidder]* to submit a bid the purpose of which is to provide the following goods, manufactured by us *[insert name and or brief description of the goods]*, and to subsequently negotiate and sign the contract.

We hereby extend our full guarantee and warranty in accordance with the Terms and Conditions of Contract with respect to the Goods offered by the above firm.

Signed: *[insert signature(s) of authorized representative(s) of the Manufacturer]*

Name: *[insert complete name(s) of authorized representative(s) of the Manufacturer]*

Title: *[insert title]*

Duly authorized to sign this Authorization on behalf of: *[insert complete name of Bidder]*

Dated on _____ day of _____ *[insert date of signing]*

PREVIOUS SUPPLY ORDERS FORMAT

Name of the Firm _____

Order placed by <i>{Full address of Purchaser}</i>	Order No. and Date	Description and quantity of ordered equipment	Value of order	Date of completion of delivery as per contract	Date of actual completion of delivery	Remarks indicating reasons for late delivery, if any and justification for price difference of their supply order & those quoted to us.	Has the equipment been installed satisfactorily? <i>(Attach a certificate from the Purchaser/ Consigner)</i>	Contact Person along with Telephone no., Fax no. and e-mail address.

Signature and Seal of the Manufacturer/ bidder

Place:

Date:

BIDDER INFORMATION FORM

Company Name : _____
Registration Number : _____
Registered Address : _____

Name of Partners /Director : _____

City : _____
Postal Code : _____

Company's Establishment Year : _____

Company's Nature of Business : _____

Company's Legal Status (tick on appropriate option)

- 1) Limited Company
- 2) Undertaking
- 3) Joint Venture
- 4) Partnership
- 5) Others

Company Category

- 1) Micro Unit as per MSME
- 2) Small Unit as per MSME
- 3) Medium Unit as per MSME
- 4) Ancillary Unit
- 5) SSI
- 6) Others

CONTACT DETAILS

Contact Name : _____

Date of Birth : _____

Email Id : _____

Designation : _____

Phone No : (_____) _____

Mobile No : _____

BANK DETAILS

Name of Beneficiary : _____

A/c. No. CC/CD/SB/OD: _____

Name of Bank : _____

IFSC NO. (Bank) : _____

Branch Address and Branch Code: _____

Other Details

Vendor's PAN No. _____

Vendor's CST No/LST No/WCT No/TIN No: _____

Checklist for BIDDERS

BIDDERS to indicate whether the following are enclosed / mentioned by striking out the non-relevant option and write concern page no.

S. No	Particulars	Documents Attached	Page No
1	Two separate bids duly filled in and signed in sealed envelopes (i) Technical (ii) Commercial	(Yes / No)	
2	The Demand Draft/BG for Rs 1,45,000/- towards Earnest Money Deposit	(Yes / No)	
3	Format/Questionnaire For Compliance Of Terms And Conditions Annexure – A	(Yes / No)	
4	Format of compliance statement of specifications - Annexure – B	(Yes / No)	
5	Bid Security Form - Annexure – C (as applicable)	(Yes / No)	
6	Manufacturer's Authorization Form - Annexure – D	(Yes / No)	
7	Previous Supply Orders - Annexure – E	(Yes / No)	
8	Bidder Information form - Annexure – F	(Yes / No)	
9	A copy of the Un-priced Commercial bid	(Yes / No)	
10	List of deliverables as per Chapter- 4	(Yes / No)	
11	Solvency certificate for Rs 30.00 lakhs (not older than twelve months) issued by scheduled/nationalized bank with which BIDDER holds the current account	(Yes / No)	
12	Undertaking that the successful BIDDER agrees to give a 10 % security deposit and Performance Bank Guarantee	(Yes / No)	
13	Self Attested copy of Sales Tax Registration certificate (CST/VAT etc) (as applicable)	(Yes / No)	
14	Delivery Period, Warranty and Payment terms are clearly mentioned	(Yes / No)	
15	Acceptance of IISER, PUNE Cargo Agent	(Yes / No)	
16	Bank charges agreed for outside India	(Yes / No)	
17	LD clause agreeable.	(Yes / No)	
18	Supply of spares for 7 years	(Yes / No)	
19	Acceptance of warranty period and Free replacements during warranty period	(Yes / No)	
20	Amalgamation/Acquisition: Successor agreeable to fulfill the contractual obligations	(Yes / No)	
21	Tender Terms & Conditions Acceptance (last page) signed with official seal is 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