

TAMIL NADU CO-OPERATIVE MILK PRODUCERS' FEDERATION LTD.,



E-Tender Document for

**"DESIGN, SUPPLY, ERECTION, INSTALLATION & COMMISSIONING
OF PILOT SCALE MILK & MILK PRODUCT EQUIPMENTS ON TURN
KEY BASIS FOR RESEARCH & DEVELOPMENT LABORATORY,
PRODUCTS DAIRY, AMBATTUR, CHENNAI"**

Tender Reference No: 2441/DGM (QA)/HO/2024

THE DEPUTY GENERAL MANAGER (QA),

Tamil Nadu Co-operative Milk Producers' Federation Ltd.,

Head Office, Aavin Illam,

3-A, PasumponMuthuramalinganar Salai, Nandanam, Chennai – 600 035.

Phone:044-23464500/01/02/03/04/05/13

E-Mail: purchaseqcho@aavin.tn.gov.in, aavindgmqcho@gmail.com

Website for online bid submission
<https://tntenders.gov.in>

TENDER INFORMATION

1. Name and address of the Purchaser	THE MANAGING DIRECTOR, TAMILNADU COOPERATIVE MILK PRODUCERS' FEDERATION LIMITED No.3A, Aavin Illam, Pasumpon Muthuramalingam Salai, Nandanam, Chennai – 600 035. Phone : 044-23464500/01/02/03/04/05 E-Mail: aavindgmgqcho@gmail.com
2. Name and address of the User	The Deputy General Manager (QA), Head Office No.3A, Aavin Illam, 4th Floor, Pasumpon Muthuramalingam Salai, Nandanam, Chennai – 600 035.
3. Name of the Item / Work	Design, Supply, Erection, Installation and Commissioning of Pilot Scale Milk & Milk Product Equipments On Turn Key Basis at Research & Development Laboratory, Products Dairy, Ambattur
4. Method of Tender	e-Tender System (Online Technical Bid and Financial Bid) through e-Procurement Portal https://tntenders.gov.in
5. Tender Reference Number	2441/DGM (QA)/HO/2024
6. Tender Estimated Value	Rs. 106.10 Lakhs
7. Earnest Money Deposit (EMD)	Rs. 1,06,100/-
8. URL for online bid submission for e-tender	https://tntenders.gov.in
9. Cost of Tender Document	Tender documents can be downloaded at free of cost from the website https://tntenders.gov.in
10. Tender Document Availability on the Portal	From: 31.01.2025 to 24.02.2025 upto 3 PM
11. Date & Venue of Pre-Bid meeting	Date: 10.01.2025 at 11 a.m. Venue: Quality Assurance Wing, No.3A, Aavin Illam, Pasumpon Muthuramalinganar Salai, Nandanam, Chennai-600 035
12. Date of Closing of e-Submission of Technical Bid and Financial Bid.	Date: 24.02.2025 Time: 3 PM
13. Date and time of opening of Part I Technical Bid of e-Tender	Date: 25.02.2025 Time: 3 PM

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ACRONYMS USED IN THE TENDER DOCUMENT

TCMPF LTD.	TAMILNADU COOPERATIVE MILK PRODUCERS' FEDERATION LIMITED
MSME	MICRO, SMALL, MEDIUM & ENTERPRISES
SSI	SMALL SCALE INDUSTRIES
BIS	BUREAU OF INDIAN STANDARDS
DD	DEMAND DRAFT
EMD	EARNEST MONEY DEPOSIT
SD	SECURITY DEPOSIT
LD	LIQUIDATED DAMAGES
BG	BANK GUARANTEE
LOA	LETTER OF ACCEPTANCE
GST	GOODS AND SERVICE TAX
F.O.R.	FREIGHT ON ROAD

1.0).PREAMBLE OF E-TENDER:-

1.1). The Dy. General Manager (QA), Head Office, TCMPF LTD. Ltd. invites Bids by way of E-Submission only from reputed manufacturers / supplier to submit e-Tender for **Design, Supply, Erection, Installation and Commissioning of Pilot Scale Milk & Milk Product Equipments On Turn Key Basis for Research and Development Laboratory, Products Dairy, Ambattur, Chennai- 600 098.**

1.2). Applicability of Tamil Nadu Transparency in Tenders Act, 1998: -

This Tender will be governed by the Tamil Nadu Transparency in Tenders Act, 1998 and The Tamil Nadu Transparency in Tenders Rules, 2000 and subsequent amendments thereof are applicable to this Tender.

2.0).INSTRUCTION TO BIDDERS: -

2.1). The tenders are in **Two Part System** (a) Technical Bid without Financial Bid and (b) Financial Bid. All the Bidders are requested to examine the instructions, terms & conditions and specifications laid down in the Tender. Failure to furnish all required information in every aspect will be at their risk and may result in the rejection of their bid.

2.2). THE BIDDERS WHO DO NOT FULFIL THE "PRE-QUALIFICATION CRITERIA" AS PER CLAUSE 5.0 NEED NOT TO PARTICIPATE IN THE TENDER. OFFERS NOT SATISFYING THIS "PRE-QUALIFICATION CRITERIA" WILL NOT BE CONSIDERED AND WILL BE SUMMARILY REJECTED.

2.3 THE BIDDER SHALL ALSO MEET OUT THE OTHER TENDER REQUIREMENTS TO QUALITY IN THE TECHNICAL BIDS IN ADDITION TO THE "PRE-QUALIFICATION CRITERIA"

3.0). MODE OF SUBMISSION:

3.1). All the documents are to be uploaded in the Online Portal only.

Website <https://tntenders.gov.in>.

3.1.1). **Part A – Technical Bid**

3.1.2). **Part B – Financial Bid**

4.0). LANGUAGE OF THE E-TENDER: -

All information in the tender offer shall be in **ENGLISH** only. It shall not contain interlineations, erasures or over writings except as necessary to correct errors made by the bidder.

5.0). PRE-QUALIFICATION CRITERIA – TECHNICAL BID (PART-I): -

The Bidders should meet the following Pre-Qualification Criteria for bidding this tender and the proof for the Eligibility should be provided in the Technical Bid.

Pre-Qualification Criteria	Proof to be submitted for fulfilling the Pre-Qualification Criteria
5.1). E-Remittance towards EMD Amount	<ul style="list-style-type: none">• Bidder shall upload the details of E-Remittance towards EMD Amount.
5.1).The bidder should be a manufacturer or an authorized dealer of a manufacturer of the Dairy Processing Plant	1).The bidder, being a manufacturer of the Milk or any milkProduct Plant , should furnish necessary documents evidence namely NSIC Certificate / ISO certificate/ License / Certificate as proof of manufacture shall be uploaded. 2).If the bidder is an authorized dealer of an original manufacturer of Milk or any milk Product Plant the valid dealership certificate issued by the manufacturer (as per authorization form in Annexure VII) AND their manufacturer’s NSIC Certificate / ISO Certificate / License/ Certificate, shall be enclosed. 3).If the bidder is an authorized dealer for the Milk or any milk Product Plant , the previous experience and performance as per tender clause 5.2 & 5.3 of the original manufacturer in supplying these items/works will be considered for evaluating technical bids, even if the supply was made directly by the manufacturer or through other agencies. Note: The manufacturer should authorize only one service dealer to participate in this tender, as per the authorization form in Annexure VII. If multiple authorizations are found in this tender, the concerned manufacturer's authorizations will be treated as null and void, and their concerned dealers will be rejected from this tender
5.2). The bidder should have previous experience having supplied and commissioned minimum one pilot scale dairy or food products R&D or	Copy of purchase orders / supply orders for mentioned quantity should be furnished. In case of the projects executed at foreign countries, the PO copies shall be submitted

<p>Large-Scale Dairy, to any Govt. / Quasi Govt. / Private organizations in India or abroad (or) any dairy plants with product manufacturing of commercial facilities in India (or) If the bidder is an authorized dealer of the OEM, the OEM should have previous experience having supplied and commissioned minimum of one number pilot plant or R&D or Large-scale Dairy equipment for dairy products manufacturing and established in any educational institutions, firms or any organisation in India or abroad And should have manufacturing / Assembling units functioning for last five years for dairy equipments.</p>	<p>along with the manufacturing / assembling unit details such as factory license and certificate of registration to prove their experience in India. The registration certificate must be obtained</p> <p>The submitted foreign PO should be in English language for the Jobs executed in countries other than India.</p>
<p>5.3). The satisfactory performance certificate for above such supply for which purchase orders / supply orders furnished as per 5.2 from the purchaser / end user shall be furnished.</p>	<p>Copy of satisfactory performance certificate should be furnished. This performance certificate should have been issued by the purchaser /end-user organization and should contain the P.O. details, and date of issue of certificate, in order to ascertain period of satisfactory performance.</p>
<p>5.4). The bidder should have a minimum of 3 years of experience in regularly manufacturing / supplying, erection and commissioning of the Milk and milk products manufacturing machineries before the bid opening date</p>	<p>Copies of relevant contracts / orders to be submitted along with bid in support of having supplied some quantity in the last 3 years from the date of tender opening. The purchase orders / supply orders should be in the name of bidder.</p>
<p>5.5).FINANCIAL TURNOVER: 5.5.1).The bidder shall have average annual sales turn-over for the last three financial years (2021-22, 2022-23 & 2023-24) equal to the tender estimated value 5.5.2).The bidder shall have minimum annual sales turn-over in each of the last three financial years (2021-22, 2022-23 & 2023-24) shall not be less</p>	<p>The bidder shall furnish either the Annual Sales Turn Over Certificate for mentioned 3 years certified by Chartered Accountant or Annual statement of Accounts (i.e.) Profit & Loss Accounts and Balance Sheet for the above 3 years certified by Chartered Accountant in support of Annual Sales Turn Over</p>

than 50% of the tender estimated value	
5.6). Committee Inspection of the works carried out by the bidder.	The executed projects which are given in the purchase order copies shall be inspected by a committee. At least one site will be verified. Based on the satisfactory report, bidder will be made eligible.

Note:

For evaluation and comparison of bids, the purchaser may, at its discretion, ask the bidder for clarification on the bid. The shortfall information/documents shall be sought only in case of historical documents which pre-existed at the time of tender opening and which have not under gone change since then.

So far as the submission of the documents is concerned with regard to qualification criteria, after submission of the tender, only related shortfall documents shall be asked for and considered. For example, if the bidder has submitted a supply order without its completion/performance certificate, the certificate can be asked for and considered. However, no new supply order shall be asked for and considered so as to qualify the bidder.

6.0) SCOPE OF WORK

Design, Supply, Erection, Commissioning, Installation and Testing of dairy products manufacturing pilot plant for Research and Development purpose at Ambattur Aavin dairy premises on F.O.R. destination basis conforming to the technical specifications mentioned in the tender document.

7.0). DELIVERY SCHEDULE: -

7.1). Design &Supply : 3 month from the date of receipt of purchase order (or) 1 month from the readiness of site whichever is later

7.2). Erection, Installation, and Commissioning : 4 weeks from the readiness of site (or) receipt of Material at site whichever is later

8.0). TOTAL QUANTITY TO BE SUPPLIED

8.1). Details of quantity of following equipment to be supplied is as Follows.

Sl. No.	Name of equipment	Qty.	Approx. value Rs. in lakhs
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1	Pilot Scale Flavoured milk Unit	1	5.00
2	Retard sterilizer	1	2.00
3	Bottle sealing machine	1	0.30
4	Cup Sealing machine	1	0.30
5	SS Khoa making machine (100 LTR capacity)	1	2.00
6	Paneer making machine (50 Kg/Hour)	1	5.00
7	Fermented Milk pilot plant	1	10.00
8	Pilot scale Butter churner	1	4.00
9	Pilot scale Ghee plant	1	5.00
10	Bottle Filling machine	1	3.00
11	Walk-In-Cold Room	1	3.50
12	Walk-In- Freezer Room	1	5.00
13	Ice cream Pilot plant	1	8.00
14	Pilot scale pasteuriser	1	40.00
15	Mini steam boiler	1	10.00
16	Weighing scale with different ranges	4	3.00
Note: Including Supply, Erection & Commissioning of all required Electrical panels, Pipelines, fitting, etc.			

9.0). EARNEST MONEY DEPOSIT

9.1). Bidder should pay the specified amount towards Earnest Money Deposit as follows:

Sl. No.	Name of equipment	Qty.	EMD amount
1	Design, Supply, Erection, Installation and Commissioning of Pilot Scale Milk & Milk Product Equipment On Turn Key Basis - 1 No. Research and Development Laboratory, Products Dairy in Ambattur	1No.	Rs.1,06,100.00

9.2). Online payment gateway has been enabled for Tamil Nadu Cooperative Milk Producers' Federation Limited, Chennai in eProcurement Portal <https://tntenders.gov.in>. The EMD amount should be paid only through online payment mode in e-tender portal of <https://tntenders.gov.in>.

9.3). The EMD will not carry any interest.

9.4). Bidder has to select the payment option as "pay online" to pay the EMD amount. Only after payment of EMD, bidder will be able to encrypt/upload their bids. In order to avoid any issues and last-minute

delay in processing of payment online, it is recommended to make payment and submit the bid as early as possible. TCMPF LTD. will not be responsible for any sort of difficulty faced/failure in submission of bids online by the bidder

9.5). Any other mode of payment of EMD shall not be accepted

9.6). Online payment mode (EMD):

9.6.1). During online bid submission process, bidder shall select SBI MOPS option and submit the page, to view the terms and conditions page. On further submission, bidder will be re-directed to MOPS gateway, where two options namely SBI and Other Banks will be shown; here the bidder may proceed as follows:

9.6.1.1). SBI Account Holder: Shall click 'SBI' option to view the Net Banking Facility, where they can enter their internet banking credentials and transfer the EMD amount.

9.6.1.2). Other Bank Account Holders: Shall click 'Other Bank' option to view the bank selection page and select their respective bank to proceed with Net banking Facility for payment of EMD.

Note - Bidders using "Other Bank" option under SBI MOPS payment Gateway are advised by SBI to make online payment 72 hours in advance before tender submission closing time.

9.6.2). Any transaction charges levied while using any of the above modes of online payment has to be borne by the bidder.

9.6.3). The bidders will be evaluated only if payment status shows "Success" during bid opening. It is necessary to click on "Freeze bid" link/icon to complete the process of bid submission, otherwise the bid will not get submitted online and same shall not be available for viewing/opening during technical bid opening.

9.7). Refund of EMD of unsuccessful bidders:

The EMD paid by the bidder will automatically be deposited in the "Pooling Account" of the State Govt. only and not in TCMPF Ltd.'s account. Hence refund process will be initiated automatically, once the bid is rejected by TCMPF Ltd. during technical / financial evaluation and TCMPF Ltd. is no way responsible for refund of EMD of the unsuccessful bidders.

9.8). EMD EXEMPTION

9.8.1). The SSI Units claiming exemption from the payment of EMD subject to ensuring that the tendered items should be covered in their Registration Certificate showing the materials permitted to manufacture.

9.8.1.1). The firms located within the State of Tamil Nadu having Udyam Registration Certificate / NSIC, in respect of items manufactured by them for which tenders have been called for alone will be granted exemption from payment of EMD. **(Major activity should be Manufacturing)**

9.8.1.2). The firms located outside the State of Tamil Nadu having Udyam Registration Certificate /NSIC are not eligible for exemption from payment of EMD.

9.8.1.3). EMD Exemption is not applicable for the Imported items

Note: a).The offers will be rejected, if the firms located outside the State of Tamil Nadu has uploaded Udyam Registration certificate/NSIC towards Exemption from payment of EMD.

b).If the bidder has participated as a supplier, they should pay the EMD amount as per the prescribed mode of payment. The exemption from EMD payment is only available for manufacturers. There is no exemption for suppliers from paying the EMD.

9.9).Tenders not accompanied with Online Payment towards the prescribed EMD or the relevant documentary proof for the exemption thereon shall be summarily rejected.

10.0). COST OF BIDDING

The bidder shall bear all costs associated with the preparation and submission of its tender and TCMPPF Ltd. will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the tendering process.

11.0. SUBMISSION OF e-TENDER

Two-part (Technical and Financial Bid) online system should be uploaded in e-Procurement Portal (<https://tntenders.gov.in>):

11.1). General Instructions for Two Part E-Tender:

11.1.1). The tender invited under two stage tender system viz. (PART A) Technical Bid and (PART B) Financial Bid. The first stage enables TCMPF Ltd. to know whether the Bidder is technically competent and capable of executing the order. Only those who qualify in the first stage would be eligible to take part in the second stage viz. Financial Bid. The Financial Bid of Bidders who failed in the first stage will not be opened.

11.1.2). Both the Technical and Financial Bids should be submitted in TN e-Procurement Portal <https://tntenders.gov.in>.

11.1.3). Documents listed in the Tender Clause No.11.2 shall be uploaded.

11.1.4). In Financial Bid – The firm rates alone are to be quoted in the Financial Bid - BOQ (Excel Format) and to be uploaded online

11.2) Details to be Uploaded in the Technical Bid:

11.2.1). Details of E-Remittance towards EMD Amount as per **Tender Clause No.5.1.**

11.2.2). If the bidder is claiming EMD exemption, a copy of valid document proof of EMD exemption to be uploaded in accordance with **Tender Clause No.9.8.**

11.2.3). Documentary evidence for manufacturer / authorized dealer of tendered item as per **Tender Clause No.5.2.**

11.2.4). Documentary evidence for average annual sales turn-over for the last three financial years (, 2021-2022, 2022-2023, 2023-2024) as per **Tender Clause No.5.3.**

11.2.5).Documentary evidence for conforming to the tender specifications along with the catalogue of the quoted equipment mentioned with the Make/ Model No., as per **Tender Clause No. 5.4**

11.2.6).Copies of purchase orders / supply orders within a period of 3 years from the date of tender opening in respect of tendered items as per **Tender Clause No. 5.5.**

11.2.7).Copies of Satisfactory supply Completion Certificate / Performance Certificate (indicating the period of supply) for which Purchase Order / Supply order furnished as per 5.5 within a period of 3 years from the date of tender opening as per **Tender Clause No.5.6.**

11.2.8). The following Supporting Documents, including the Annexures / Amendments are to be uploaded duly signed and sealed in each and every page

- 11.2.8.1) : Profile of the Bidding Organisation as per Annexure-I
- 11.2.8.2) : Details of Abandonment of work Litigation / debarring done as per Annexure-II
- 11.2.8.3) : Declaration Form to accept the tender terms and conditions as per Annexure-III
- 11.2.8.4) : Financial Capability as per Annexure-IV
- 11.2.8.5) : Compliance of Technical Specification as per Annexure – V
- 11.2.8.6) : Bidder's Experience Details as per Annexure- VI
- 11.2.8.7) : Manufacture's Authorisation Certificate Annexure-VII
- 11.2.8.8) : Any other documents wherever insisted in the tender document.

11.3). Details to be Uploaded in Financial Bid:

11.3.1). All rates shall be quoted in the format provided and no other format is acceptable. If the Financial Bid has been given as a standard BOQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BOQ file, open it and complete the unprotected cells with their respective financial quotes (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BOQ file is found to be modified by the bidder, the bid will be rejected.

11.3.2). This financial bid will be opened only if the bidder is qualified to execute the tender as per technical bid.

11.3.3). Detailed Price Breakup for BOQ (PDF Format) is uploaded

12.0). SIGNING OF BIDS:

12.1). The signatory of the tender should indicate his/their designation in which he/they have signed and submit necessary documentary proof admissible in law in respect of such authority assigned to him/them by the firm.

12.2).If the Qualification application is made by a FIRM in partnership, it shall be signed by all the partners of the firm with their full names and current address or by a partner authorized by the firm (either as per Articles of the

Deed of Partnership / by power of attorney)- for signing in Tenders, Agreements etc. In which case, certified copy of the registered deed of Partnership along with the current address of all the partners and a certified photocopy of the Registered Power of Attorney issued in favour of the Signatory, should be produced.

12.3). If the Qualification Application is made by a Limited Company or a Limited Corporation, it shall be signed by a duly authorized person holding the Power of attorney for signing the application, in which case, the certified copy of the power of attorney shall accompany the qualification application. Such limited company or corporation shall also furnish satisfactory evidence of its' existence along with the Qualification schedule

13.0). MODIFICATIONS / CLARIFICATIONS TO TENDER DOCUMENTS:

13.1). At any time after the issue of the tender documents and before the opening of the tender, TCMPF Ltd. may make any changes, modifications or amendments to the tender documents and the same will be intimated to the concerned vendors through corrigendum which can be downloaded from the vendor login.

13.2). If any bidder requests clarification on the tender documents within 48 hours before the tender opening, the DGM (QA), Head Office, TCMPF Ltd., will provide the necessary clarification.

13.3). The responses to the clarification will also be notified on <https://tntenders.gov.in> without indicating the source of query

13.4). TCMPF Ltd. at its discretion may or may not extend the due date and time for the submission of bids on account of amendments.

13.5). All the Bidders must periodically browse website <https://tntenders.gov.in> till the closing date of this Tender for any amendments or corrigendum issued in connection with this Tender. TCMPF Ltd. will not be responsible for any misinterpretation of the provisions of this tender document on account of the Bidders failure to update the bid documents based on changes announced through the website.

14.0). WITHDRAWAL OF BIDS

14.1). No Bidder shall be allowed to withdraw the tenders after submitting the tender on the portal. If do so their EMD will be forfeited.

15.0). OPENING OF e-TENDER

15.1). Opening of Technical Bids without Price (Part-I):

15.1.1).The Tender offers except Financial Bid will be opened electronically on the date and time notified at the Office of the Deputy General Manager (QA), TCMPF Ltd., No.3A, Aavin Illam, 4thFloor, Pasumpon Muthuramalingam Salai, Nandanam, Chennai – 600 035, through e-Procurement Portal <https://tntenders.gov.in> in the presence of Committee members authorized by the Managing Director, TCMPF Ltd

15.1.2). Technical Bid would be opened first on the due date and time. Pre-Qualification Criteria such as payment of EMD and compliance with pre-qualification conditions will be checked. The supporting documents would be cross checked wherever required.

15.1.3). Only the Technical Bid will be opened on the due date.

15.1.4). In the event of the specified date for tender opening day is declared as a holiday, bids will be opened on the next working day at the same time and venue.

15.2) Opening of the Financial Bids: (Part - II)

The Financial Bid of the technically qualified bidders will be opened in the presence of committee members authorized by the Managing Director, TCMPF Ltd. through e-Procurement Portal <https://tntenders.gov.in>

16.0). e-TENDER EVALUATION CRITERIA

The tenders will be evaluated strictly as per the Tamil Nadu TendersTransparency Act 1998 and the Tamil Nadu Transparency in Tenders Rules 2000 and amendments made thereon in the Act & Rules by the Government

16.1).Technical Bid Evaluation:

Bidders will be eligible for further processing, only if they fulfil the following criteria:

16.1.1). Payment of EMD or submission of valid Exemption Certificate in accordance with Tender Clause No.9.0.

16.1.2). Furnishing the tender document, Annexures, Amendments if any and any other document wherever insisted in the tender document duly signed.

- 16.1.3). Compliance with the Pre-Qualification Criteria indicated in Tender Clause no 5.0
- 16.1.4). Compliance with Technical specifications of tendered items per tender Clause 28.0.
- 16.1.5). If any clarification is needed from the bidder about the deficiency in his uploaded documents in technical bid he will be asked to provide it through Tamil Nadu Tender portal. The bidder shall upload the requisite clarification/ documents within the time specified failing which tender will be liable for rejection.
- 16.1.6). TCMPT Ltd. will prepare a list of Bidders based on the compliance of detailed Technical Specifications for tendered item and company profile as given in Tender form. The Tenders, which do not conform to the Technical Specifications or Tender conditions or Tenders from Companies without adequate capabilities for supply shall be rejected. The eligible bidders alone will be considered for further evaluation.
- 16.1.7). The veracity of the bidder-uploaded documents will be verified wherever required.

16.2). Financial Bid Evaluation

- 16.2.1). For the purpose of evaluation of tender offers, the following factors will be taken into account for arriving the evaluation price.
- 16.2.2). The evaluation of offer will be computed by taking into account Supply and Installation put together.
- 16.2.3). The evaluation for L1 shall be on total end price of all items.

17.0). REJECTION OF TENDERS

17.1). Tender will be SUMMARILY rejected if

- 17.1.1). The EMD requirements are not complied with as specified in Tender Clause 9.0.
- 17.1.2). Bid Pre-Qualification Criteria as specified in Tender Clause 5.0 are not complied with.
- 17.1.3). If the documents furnished with the offer is found to be bogus or the documents contains any false particulars.
- 17.1.4). If the Financial Document mentioned with rate/value is enclosed with the Technical document.

17.2). Tender is LIABLE to be rejected, if it is:

- 17.2.1).Not covering the entire scope of supply, erection and commissioning of equipment/ materials with all accessories.
- 17.2.3).Not in conformity with TCMPF LTD.'s tender terms and Technical Specifications.
- 17.2.4). Not properly signed by the bidder.
- 17.2.6). From any black listed Firm or Contractor.
- 17.2.7). Received by Telex/Telegram / E-Mail /fax.
- 17.2.8). Not containing all required particulars as per Annexures I to VII.
- 17.2.9).**Offer submitted without GSTIN and PAN is liable for rejection.**

18.0). NEGOTIATION

TCMPF Ltd. reserves the right to negotiate with the Bidder whose offer is the lowest evaluated price for further reduction of price. TCMPF Ltd. Ltd also reserves the right to negotiate with other Bidders to match the negotiated L1 price, strictly according to the Tamil Nadu Transparency in Tenders Rules, 2000.

19.0). VALIDITY OF PRICE TENDER:

- 19.1).The rate quoted should be valid for a minimum period for 180 days for acceptance from the due date. The offers with lower validity period are liable for rejection. During the validity period, no bidder is permitted to make any upward revision in the rate. Further no bidder is permitted to withdraw their offer within the validity period of the tender or before finalisation of Tender.
- 19.2).In exceptional circumstances, TCMPF Ltd. Ltd may solicit the bidder's consent for an extension of the period of validity totally not exceeding 180 days. The request and the responses thereto shall be made in writing.

20.0) DEVIATIONS:

- 20.1).The offers of the Bidders with Deviations in Commercial terms and Technical Terms of the Tender Document are liable for rejection.
- 20.2).No alternate offer will be accepted.

20.3).No deviation will be allowed from the tender terms and conditions. Tenders with deviation will be summarily rejected. The Bidder has to submit a Certificate that the tender is in complete conformity with the tender terms and conditions as per format vide Annexure-IV

21.0). SECURITY DEPOSIT

21.1). The successful bidders would be required to sign an agreement and furnish a Security Deposit of 5% of the order value, drawn by means of Demand Draft or it shall be submitted by means of Bank Guarantee for the period of 18 months and extendable as and when required from any Indian Nationalised Bank or Scheduled Bank drawn in favour of "Managing Director, TCMPF Ltd" payable at Chennai within 15 days from the date of acceptance of the tender. The EMD already paid along with tender shall be adjusted against SD to be paid by the successful bidder.

21.2).No exemption will be given from payment of Security deposit under any circumstances as per TTTT Act and the same should be remitted by above means. Any other form of remittance will not be accepted.

21.3).The security deposit will be refunded only after the expiry of 6 months from the date of satisfactory completion of the contract satisfactorily complying to the specification of the equipment to take care of the workmanship of the agency.

21.4).If the purchaser incurs any loss or damages on account of breach of any of the clauses or any other amount arising out of the contract becomes payable by the supplier to the purchaser, then the purchaser will, in addition to such other dues that he shall have under the law, appropriate the whole or part of the security deposit and such amount that is appropriated will not be refunded to the supplier.

22.0). AGREEMENT:

22.1).The successful bidder has to execute an agreement on Rs.200/- non-judicial stamp paper incorporating the terms and conditions of the contract and the specification within 15 days from the date of acceptance of the tender. In case of default of either of the conditions

(i.e) remitting the security deposit or execution of the agreement within the time allowed, the EMD paid is likely to be forfeited by TCM PF.

22.2).If the contractor fails to execute the contract satisfactorily at the tendered rate, the security deposit will be forfeited by TCM PF.

22.3).If the TCM PF incurs any loss / additional expenditure due to the negligence of the contractor in connection with the work during the period of contract, the same shall be recovered together with all charges and expenses from the contractor.

22.4).In the event of breakages or damages, if any, caused by the contractor to the property of the TCM PF, the cost will be recovered from the contractor.

22.5).**RATES AND PRICE:** This is a fixed price contract. Price adjustment clause (to account for raise or fall in the money value / taxes during the contract period) is not operatable for this contract. However any variation in the statutory levies and Taxes by State Government / Central Government shall be effected on the end price to the benefit of either the contractor or TCM PF as the case may be.

22.6).The Agreement in Rs.200/- non-judicial stamp paper shall be signed and returned within 15 days of receipt of the Design, Supply, Erection, Installation, Testing and Commissioning order along with the D.D or BG for Security Deposit.

23.0). PAYMENT TERMS:

Payment will be made to the supplier by the TCM PF Limited as per the following terms.

23.1). Supply:

(a) 10% advance on supply value with interest @10.5% per annum shall be payable against bank guarantee of 110% of advance amount for one year from the date of availing of Advance.

(b) Payment for Supply: 80% of the contract price (80% on Basic + 100% Other Charges)of the goods (against detailed break up cost to be furnished by the Supplier in advance and accepted by the Purchaser) on safe receipt of goods at site and after inspection and approval of the Purchaser. The 80% payment consist of 70% release

of amount and 10% adjustment in the advance amount along with applicable interest

(c) On final acceptance: The balance 20% shall be paid on satisfactory running of the complete plant/equipment for one month, on completion of other contracted services and acceptance by the purchaser's representative, within the scope of this contract.

Note: If the bidder is a supplier and has availed 10% advance, they should pay advance to their OEM and furnish a payment acknowledgment letter from their OEM within 10 days from the receipt of the advance. If the payment acknowledgment letter is not furnished within the specified time frame, the interest amount will be 2% extra.

23.2).NO OTHER TERMS OF PAYMENT WILL BE ENTERTAINED.

24.0). TERMINATION OF CONTRACT

24.1). TCMPF may, without prejudice to any other remedy for breach of contract by the Contractor, terminate the contract in whole or part, by a 7 days written notice of breach of contract to the Contractor.

24.2).If the Supplier fails to deliver any or all of the goods within the time schedule specified in the Purchase Order / Delivery Schedule/e-Mail/Letter.

24.3).If the Supplier fails to perform any of the obligation(s) under the Contract;

24.4).If the Supplier is found to have involved in fraudulent, corrupt and unfair practices in competing for or in executing the Contract.

25.0).CANCELLATION:

In the event of unsatisfactory performance in executing the order as per the terms, the order is liable for cancellation. In the event of cancellation, the Security Deposit will be forfeited. Also, TCMPF reserves the right to cancel the order in full or part thereof without giving any reason by giving 15 days' notice if the tendered items / works is not required due to any reason. This cannot be a ground for the contractor to claim any compensation saying that the contractor has been put to loss because of this.

26.0).PENALTY:

26.1). FORFEITURE OF EMD/SD: If the successful bidder fails to act according to the Tender conditions their SD will be forfeited or withdraws the offer after their tender is accepted, their EMD will be forfeited.

26.2). If the selected Bidder(s) fails to remit the SD within 15 days from the date of LOA, the EMD remitted by him will be forfeited and their Tender will be held void. TCMF will have the right to divert the order to other bidders.

26.3). VIOLATION IN TERMS AND CONDITIONS: For any other violations in the terms and conditions, besides banning the business dealings with Government, recovery of additional cost plus 100% penalty and forfeiture of Security Deposit amount shall be imposed.

27.0). LIQUIDATED DAMAGES

27.1 The delivery as specified should be guaranteed by the supplier under the liquidated damages clause given below:

27.1.1. It is the responsibility of the supplier to arrange for inspection dispatch etc. in time to keep up the delivery schedule.

27.1.2. If the supplier fails to deliver the equipments/ materials within the time specified in the purchase order or any extension thereof, or if any defects or failure or inconformity with specified item are not attended as per clause 29, the purchaser shall recover from the supplier as liquidated damages, a sum of HALF PERCENT (0.5%) of the total all-inclusive price of the undelivered equipments / Materials for each completed week of delay. The total liquidated damages shall not exceed Ten percent (10%) of the All-inclusive price of the equipments / materials so delayed. Only the date of actual receipt of materials at stores will be reckoned as date of delivery for this purpose. Liquidated damages will also be recovered for the quantity not supplied as is done for the belated supply.

27.2. Equipment will be deemed to have been delivered only when all its component parts and its accessories are also delivered. If certain components and accessories are not delivered in time the whole equipment will be considered as delayed unless, the missing parts are delivered. The Liquidated damages will also be levied for the quantity not supplied as is done for the delayed supplies. If supplies effected in

part could not be beneficially used by the TCMPF/DCMPU (due to such incomplete supply), liquidated damage will be worked out on the basis of P.O price and not on the value of delayed portion only.

27.3. If supplies to be rendered against the P.O are made by the supplier beyond the period of delivery stipulated in the indent and if they are accepted by the TCMPF/DCMPU, such acceptance is without prejudice to the TCMPF/DCMPU rights to levy liquidated damages for the delay in supply.

27.4. The TCMPF/DCMPU will also be at liberty to cancel the order if the supply is not made as per the delivery schedule specified in the indent, notwithstanding its rights to claim Liquidated Damages for the belated supplies and quantity outstanding to be supplied as on the date of cancellation.

28.0).RIGHTS OF THE TCMPF:

28.1).Time being the essence of contract no variation shall be permitted in the delivery time as prescribed in the delivery schedule. If the bidder fails to supply and execute the work in full or part of the order as per the delivery schedule, the TCMPF shall reserve the right to cancel the order besides forfeiture of Security Deposit.

28.2).Notwithstanding anything contained in the tender schedule, no obligation rests on the TCMPF to accept the lowest tender and the TCMPF shall also have the right to accept or reject any or all the tenders fully or partly without assigning any reasons.

28.3).For violation of any of the terms and conditions of the contract, the TCMPF reserves the right to terminate the contract, with or without notice as applicable.

28.4). On termination of contract, the Security Deposit is liable to be forfeited and any of the resultant loss beyond Security Deposit will be recovered from the contractor by legal means apart from forfeiture of any amount due to the contractor.

28.5).If the bidder defaulted in any of the previous tenders to execute agreement or to pay Security Deposit or to supply ordered quantity either in part or full will not be eligible from participating in this tender.

28.5.1). If the successful bidder either in TCMPF or in the DCMPU defaulted to execute agreement or to pay Security Deposit or to supply ordered quantity either in part or full shall be debarred from participating in the subsequent tenders for a period of 3 years.

29.0. GUARANTEE:

29.1. The entire equipments/materials should be guaranteed for satisfactory operation & performance and good workmanship at least for a period of 18 months from the date of supply or 12 months from the date of satisfactory commissioning whichever is later. This guarantee shall include all spares & components (including those spares that can be deemed as consumable components).

29.2. Any defects noticed during this period shall be rectified free of cost to the TCMPF immediately on intimation of defect/ failure. The incidental expenses like Packing & Forwarding charges, Freight & Insurance charges etc. for replacement of defective equipments within the guarantee period shall also be borne by the supplier. Irrespective of number of failures and repairs, the suppliers are responsible for replacement of defective materials till the guarantee period.

29.3. A written guarantee guaranteeing the TCMPF against defects in the materials supplied, either in materials or workmanship should be furnished preferably along with the initial bill payment. The guarantee shall be operative for a period of 18 months from the date of supply or 12 months from the date of satisfactory commissioning whichever is later.

29.4. Any defects or failure occurring within the guarantee period shall be replaced free of cost within the maximum 15 Days (Fifteen Days) from the date of receipt of intimation from the purchaser on such defects or failures. If they are not replaced within this period the contractor shall pay the liquidated damages as per the liquidated damages clause in the contract for the delay from the date of receipt of intimation for the defects or failures. Any expenditure incurred in the transportation of material / equipment for rectification or replacement will be to the suppliers account.

30.0). FORCE MAJEURE:

30.1). Failure or delay in the part of bidder for supply due to force majeure causes enumerated here under shall be considered, provided the supplier produces documentary evidence.

- a. Any cause which is beyond the reasonable control of the bidder.
- b. Natural phenomena, such as floods, drought, earthquakes and epidemics.
- c. Act of any Govt. Authority, domestic or foreign, such as wars declared or undeclared quarantines, embargoes licensing control on production or distribution restrictions.
- d. Accident and disruptions such as fire, explosion, increase in power cut with respect to date of tender opening etc.,
- e. Strikes, slow down and lockouts.

30.2). The cause of force majeure condition will be taken into consideration only if the supplier notifies within 30 days from the occurrence of such eventualities. The purchaser shall verify the facts and grant such extension as the facts justify. For extension due to force majeure conditions, the supplier shall submit his representation with documentary evidence for scrutiny by the purchaser and decision of the purchaser shall be binding on the time.

31.0). DISPUTES AND ARBITRATION:

In case of disputes arising out of this tender, an arbitrator as mutually acceptable to the bidder and TCMPF will be appointed by the Managing Director, TCMPF Limited. The arbitrator's decision shall be final, conclusive and binding on both the parties.

32.0). LEGAL JURISDICTION

In case if either party to the tender is aggrieved by the award of the arbitrator so appointed as per clause 24.0 or otherwise, they can appeal to Court of Deputy Registrar (Dairying), Thiruvallur. The legal jurisdiction will be only Deputy Registrar (Dairying), Thiruvallur Court.

33.0). PERFORMANCE GUARANTEE:

33.1. If the value of supply order is Rs.50 lakhs or more, the contractor shall provide a performance guarantee at the time of getting 70% payment for the 10% of the supply order value of the tendered items / works ordered as Bank Guarantee from a Nationalized Bank /

Scheduled Banks for a period of one year and extendable to one more year if needed.

33.2. The Performance Bank Guarantee Shall be returned to the supplier after the expiry of guarantee period ensuring that defects/ damages during the guarantee period are rectified/ replaced.

34.0). INSPECTION:

34.1).After issue of purchase order to L1 Firm, the material inspection will be conducted at Supplier's site / User end by either TCMPF Ltd., / Third Party agency nominated by TCMPF Ltd as the case it may be.

34.2).The contractor shall provide Raw material test certificates, Manufacturer Test Certificates and also arrange to provide instrument for identification of material to conform as per technical specification during the inspection

34.3).The random checking of SS 304 and other materials shall be verified in the external accredited laboratory by the TCMPF / DCMPU

35.0). AMBIGUITIES IN CONDITIONS OF TENDERS:

In the case of ambiguous or contradictory terms / conditions mentioned in the bid, interpretation as may be advantageous to the purchaser will be taken without any reference to the Bidder.

36.0). TECHNICAL SPECIFICATION

The objective of the project is to establish a new Product Development Laboratory as part of the Research & Development Laboratory of TCMPF Ltd. at Products Dairy, Ambattur, Chennai-600 098. All the items mentioned equipments should be provided with required electrical panels, switch boards, pipelines as per the enclosed drawing. The Bidder should quote all the required items as per the design requirement and not limited with BOQ for the successful supply, erection and commissioning of Pilot Scale Plant at Research & Development Laboratory, Products Dairy, Ambattur, Chennai

The bidder is requested to visit the site and get well acquainted with available space, Electrical provision, etc. to quote the price with all the requirements. TCMPF is not responsible for any omission of

required items for the supply, erection and commissioning of the pilot scale plants at Research & Development Laboratory.

TECHNICAL SPECIFICATIONS OF PRODUCT DEVELOPMENT LABORATORY EQUIPMENTS- R & D LABORATORY, PRODUCTS DAIRY, AMBATTUR

2.0). DESIGN BASIS

2.1). INTRODUCTION

TCMPF Ltd is proposed to set up a Research and Development pilot scale milk and milk products manufacturing and packing plant at Ambattur, Chennai.

2.2). SCOPE

The Tender comprises of Design, Supply, Erection, Installation, Commissioning and Testing of Pilot scale R&D milk and milk products manufacturing plant.

The bidder has to design the pilot scale R&D milk products manufacturing and, packing, mechanical structures and utilities for the process. The available space should be effectively utilized with minimum ground works. The bidder should design the plant with latest processing technology, design for the milk process, milk products manufacturing, packing and storage activities. The design should be energy efficient with minimum handling losses.

The bidder has to prepare necessary drawings for obtaining Factory License, Consent to Establish/ Operate ETP from TNPCB, Explosive License, Electrical license, Pressure vessel, etc. as per state and central statutory requirements.

2.3). The scope of work includes:

The basis for the proposed R& D pilot scale plant has various sections shall be as given below.

The milk required for the manufacture of different products will be brought in cans and has to be stored in suitable insulated storage tanks of smaller suitable capacity. The milk receiving has to be weighed using suitable platform weighing scale in the R&D Plant.

A. Milk processing:

The raw chilled milk receiving in the R&D plant has to be stored in suitable insulated storage tank. The milk is then taken for pasteurisation using suitable batch type pasteuriser and after pasteurisation chilled to 4° C and stored in a suitable storage tank. Maximum milk handling capacity is 100 Lts.

B. Flavoured milk Production:

The sterilised flavoured milk production in Pet and Poly propylene bottles of 200 ml has to be provided. The processed milk has to be standardised to the required standards of 1.5% fat /9% SNF or 3% fat and 8.5% SNF using addition of skimmed milk and SMP. The skimmed milk required can be bring in cans and SMP has to be added using the dry blender. The milk has to be homogenised using the homogeniser provided for fermented milk products. The flavour and other additives like Chocolate syrup, sugar, coffee and other fruit pulp mixing provision has to be provided for making different types of flavoured milk. Separate small mixing vat to be provided with heating provision for dissolving sugar and coco mass and after the addition of the coco mass the milk is to be homogenised.

Necessary bottle filling and capping machine for 50-100 bottle per batch to be provided. Both PET and Polypropylene bottle of 100 ml-200 ml can be filled and packed. The Filled bottles has to be sterilised using Retort aqua steriliser suitable for both Pet and Poly propylene. The bottle capping and sealing using conduction technology may be provided to avoid any post sterilisation contamination.

C. Fermented Milk Products:

The fermented milk products like curd, yoghurt and Greek Yoghurt manufacturing and packing unit.

The milk used for cultured milk products has to be stored in a suitable storage tank and to be standardised using Skimmed milk and SMP. A minimum 50 Lt per batch is considered. The standardised milk has to be heated above 90° C and hold it for 20 minutes. Suitable PHE can be used for heating and the milk is then cooled to 40 0 C for inoculation of Lactic culture. Suitable inoculation tanks to be provided for addition of lactic culture. The fruit pulp, colour and sugar addition provision to be

provided for yoghurt production before pasteurisation and suitable nuts /cereal addition provision before filling in cups. Suitable pilot scale cup filling and sealing arrangements has to be provided. The cup diameter may be considered as 70 mm. The inoculation vessel to be placed elevated to facilitate filling by gravitational force.

For Greek yoghurt production suitable provision to drain excess whey to be provided.

After packing the cup has to be moved to the incubator of suitable capacity with controlled temperature adjustment 40-50 °C. Suitable blast cooling and cold storage facility to be provided. The incubator, blast and cold storages preferably of table top arrangements and suitable ss tables and stool for filling and capping to be provided. Suitable trolley arrangements for moving filled cups to incubator, blast and cold rooms to be provided.

D. Paneer Production unit-5 kg per batch:

The standardised milk with suitable fat protein ratio is directly heated up to 90 °C and hold it for 10 minutes using multipurpose PHE available for fermented milk products. The heated milk at 80 °C is then transferred to the paneer coagulation vat for coagulation with suitable coagulant. The coagulum then after complete coagulation to be transferred to the paneer hoops of suitable capacity and transferred to the pressing unit. The progressive pressing units may be used for pressing and after pressing the hoops to be moved to the chilled water dipping. The chilled water required has to be pasteurised using the multipurpose pasteuriser and suitable storage facility has to be provided. The moisture and protein content has to be analysed using Research and development and suitable provision for monitoring in heating, pressing and chilled water dipping parameters have to be provided in the system.

E. Ice cream Manufacturing:

The Pilot plant for Ice cream has to be designed for doing R&D for producing different variants of ice cream and developing different recipes to introduce in the market.

The Mix of minimum 25 Lts has to be produced. The mix can be processed using the batch pasteuriser. The SMP, SUGAR, stabiliser and emulsifier can be mixed using high shear mixer with suitable capacity provided. The Mix has to be aged using suitable ageing tank or vat. Flavour addition tank has to be provided. 2 to 3 flavour addition facilities to be provided. The aged mix is then passed through the continuous freezing machine and filled in cups. The filled cups are to be transferred to the hardening chamber preferably compact and then to the Ice cream storage chamber. The fruit and nuts addition provision to be provided.

F. Butter Production unit:

The Pasteurised cream of 20-40 Lts with 40-50% fat at 10 ° C receive in cans. A small triple jacketed cream ripening vessel of 50 Lts with provision of circulating hot water and chilled water to be provided. The Lactic culture addition at temperature 21 °C. After the required acidity reaches the temperature of the cream should be brought down to 10 ° C using chilled water circulation. The chilled cream has to be pumped to butter churner with suitable require capacity screw pump or lobe pump.

G. Butter churn:

Conical or cylindrical butter churn preferably table top is required for churning 40 kgs of cream per batch. The barrel capacity should be 120 kgs so as to feed 1/3rd capacity of the barrel. Suitable chilled water spraying to be provided for the churn.

VFD to be provided for controlling RPM for proper working. Suitable butter handling trolley to be provide for unloading the butter from butter churn and move to the ghee production area.

H. Ghee production:

The butter unloaded from the butter churn to be dumped in a butter pre melting vessel with hot water circulation at 80 ° C. The butter pre melting can hold 25 kg of butter in a batch. The pre melted butter then pumped to the ghee boiler of capacity 25 kg which can be operated with steam. The agitator should be operated with variable speed and

the temperature required for the product is 120 ° C. The ghee produced is allowed to settle for few hours and using a smaller capacity clarifier it is pumped to the ghee settling tank. Necessary seeding facilities to be provided for granulation with raw water-cooling facility in the settling tank.

TECHNICAL SPECIFICATION:

1.0) PILOT SCALE FLAVORED MILK UNIT	
1.1) SUGAR SYRUP TANK	QTY: 1 NO
Application	• Shall be used for preparation of sugar syrup
Construction	• Vertical Triple walled insulated intermediate steam jacket
Capacity	• 100 Liters
Metal Contact	• insulated padding fixed between inner shell and stiffeners
Slope	• 1:15 towards outlet for free & complete drainage
Joint Curvature	• Radius of welded & permanent attachment joints
Inner body	• Shell 2.5mm SS 304
Inner dish-end	• bottom dished-end 2.5mm SS 304
Intermediate body	• Shell 2.5mm SS 304
Intermediate dish-end	• Bottom dished-end 2.5mm SS 304
Outer body	• Shell 2mm SS 304
Outer dish-end	• Flat bottom dished-end 2mm SS 304
Top cover	• Splash proof two half cover with handle
Stiffeners	• Between inner and outer shells and supporting structure
Insulation	• Should be thermally insulated with 75mm puff insulation
Water Inlet	• bend with SMS Union SS 304
Syrup Outlet	• Bottom product outlet SS 304
Steam inlet	• Intermediate jacket bottom steam sparger
Condensate outlet	• Bottom condensate outlet
Air vent	• Intermediate jacket shell top side air vent inter
Agitator:	• Top gear box / motor for uniform agitation SS 304
Blasted Level Marks	• Standard intervals on the inner shell
Thermo well	• Inclined pocket for mounting temp. sensor/ Dial indicator
Drain Hole	• lowest point SS 304
Legs	• Leg 640 high with adjustable ball feet SS 304
Steam heating accessories	• steam injection heating device consisting of on/off steam valve and semi auto control panel system
1.2) BATCH PASTURIZER	QTY: 1 NO
Application	• Batch pasteurization vat milk pasteurization and chilling it and gravity filling of bottles
Construction	• Vertical Triple walled intermediate dimple jacket hot/cold water circulation insulated
Capacity	• 100 Liters
Metal Contact	• insulated padding fixed between inner shell and stiffeners
Slope	• 1:15 towards outlet for free & complete drainage
Joint Curvature	• Radius of welded & permanent attachment joints
Inner body	• Shell 2.5mm SS 304
Inner dish-end	• Bottom dished-end 2.5mm SS 304
Intermediate body	• Shell 2.5mm SS 304
Intermediatedish-end	• Bottom dished-end 2.5mm SS 304
Inner dish-end	• Dimple bottom dished-end 1.6mm/ SS 304
Outer body	• Shell 2mm SS 304

Outer dish-end	<ul style="list-style-type: none"> Flat bottom dished-end 2mm SS 304
Top cover	<ul style="list-style-type: none"> Splash proof two half cover with handle
Stiffeners	<ul style="list-style-type: none"> Between inner and outer shells and supporting structure
Insulation	<ul style="list-style-type: none"> Should be thermally insulated with 75mm puff insulation
Milk Inlet	<ul style="list-style-type: none"> No-foam bend with SMS Union SS 304
Milk Outlet	<ul style="list-style-type: none"> Bottom product outlet SS 304
Hot /cold water inlet	<ul style="list-style-type: none"> Bottom inlet flange connection
Hot /cold water outlet	<ul style="list-style-type: none"> Top outlet flange connection
Air vent	<ul style="list-style-type: none"> Intermediate jacket shell top side air vent inter
Agitator	<ul style="list-style-type: none"> Top gear box / motor for uniform agitation SS 304
Blasted Level Marks	<ul style="list-style-type: none"> Standard intervals on the inner shell
Thermo well	<ul style="list-style-type: none"> Inclined pocket for mounting temp. sensor/ Dial indicator
Drain Hole	<ul style="list-style-type: none"> lowest point SS 304
Legs	<ul style="list-style-type: none"> Leg 640 height with adjustable ball feet SS 304
Steam heating device	<ul style="list-style-type: none"> Hot water generation by mean of steam injection heating device consisting of PID base control panel system, steam control valve, tubular heat exchanger, hot water circulation pump, with interconnecting piping, manual by pass valve provision for chilled water manual valves
1.3) PRIMARY INLINE FILTER	
QTY: 1 NO	
Application	<ul style="list-style-type: none"> Continuous filtering the milk
Construction	<ul style="list-style-type: none"> Pipe in pipe with removable ss mesh
Shell thickness	<ul style="list-style-type: none"> 2 mm/ AISI-304
Milk inlet/ outlet	<ul style="list-style-type: none"> 25 mm
1.4) CENTRIFUGA FEED PUMP	
QTY: 1 NO	
Application	<ul style="list-style-type: none"> For feeding milk to homogenizer
Design	<ul style="list-style-type: none"> Centrifugal sanitary open impeller
Construction	<ul style="list-style-type: none"> Horizontal mono-block coupling Shaft base frame mounted
Capacity	<ul style="list-style-type: none"> 100 LPH
Material of construction	<ul style="list-style-type: none"> AISI-304
Secondary Parts	<ul style="list-style-type: none"> Nitrile food grade quality
Seal Type	<ul style="list-style-type: none"> Single seal Silicon carbide v/s silicon carbide
Motor Make	<ul style="list-style-type: none"> KEC/CROMPTION/ABB
Drive Details	<ul style="list-style-type: none"> 3000rpm/3 ph. 415 volts, 50 Hz, IP-55, "F"
1.5) HOMOGENIZER	
QTY: 1 NO	
Capacity	<ul style="list-style-type: none"> 100 LPH (210 Bar)
Max. Operating Temp.	<ul style="list-style-type: none"> 65 C
Motor rating	<ul style="list-style-type: none"> Volts : 415 /Ph:3 / Hz:50
Function	<ul style="list-style-type: none"> To breaking & dispersing fat globules in either skim milk/reconstituted milk. Ice cream mix.
Construction	<ul style="list-style-type: none"> Robust, sturdy and self-supported on SS ball feet. All milk contact surface Should be made from SS confirming AISI-316 including Nuts & Bolts.
Working pressure	<ul style="list-style-type: none"> two-stage high- peak pressure of 210 Bar
Suction & discharge valves	<ul style="list-style-type: none"> Puppet type. The plunger cooling Should be done by water.
Body	<ul style="list-style-type: none"> High-grade cast iron, which Should have SS shroud.
Homogenize Valve	<ul style="list-style-type: none"> Vale seat Should have flat mating surfacing and Should be made of special material suitable for the product.
Inlets/Outlets	<ul style="list-style-type: none"> Suitable size for product with 38mm SMS Union
1.6) REMOTE CONTROL PANEL	
QTY: 1 NO	
Design	<ul style="list-style-type: none"> Dust and vermin proof lockable
Mounting	<ul style="list-style-type: none"> Skid mounted
MOC	<ul style="list-style-type: none"> AISI-304

Sheet	<ul style="list-style-type: none"> • 2mm thick
Temperature indicator	<ul style="list-style-type: none"> • For all the critical temperature
Contactors & START/STOP button	<ul style="list-style-type: none"> • For all Centrifugal pumps, gear boxes

2.0) RETARD STERILIZER QTY: 1 LOT	
Capacity	<ul style="list-style-type: none"> • 8 bottles per batch- stationery type MOC - MS -Aqua Type
Retort Vessel	<ul style="list-style-type: none"> • Design temperature: 130 °C • Maximum* operating temperature: 122 °C • Maximum Allowable Working Pressure (ASME Design): 3 kg/cm² • Maximum* Operating Pressure: 3 bar • The complete vessel, is built in stainless steel ASME/ASTM Gr. 304L, except the analog valves, pumps and motors • Surface Finishing: mat finish • Thermal insulation with rock wool and polished stainless steel cladding over the shell, end and door. • Manually operated opening door • Water circulation pump with electric motor • Filter for water circulation circuit protection • Water distribution through spray nozzles placed in headers at the top and at the sides of the vessel. • Double steam header • Opening on the shell for heat distribution tests with multiple thermocouples • Trolley guide • Control Equipment • The retorts include all the necessary equipment for automatic control. Main control system features are: <ul style="list-style-type: none"> • Digital control of temperature and pressure • Different levels of password protection (recipes, manual time control, PID settings, calibration and maintenance) • Alarm management • Curves visualization
Main control items are	<ul style="list-style-type: none"> • Stainless steel electric cabinet assembled in the retort (extra charge for remote location) • ON/OFF controlled valves: <ul style="list-style-type: none"> • Water fill • Water level drain • Air Pressure (Digital Control) • Pressure relief (digital control) • Steam controlling (digital control) • Cooling water controlling (digital control) • Magnetic type water level control • Pt100 probe for temperature control • Electronic pressure transmitter • Light alarms • 0-6 bar pressure gauge • SCADA not Include In this Quotation
Approximate cycle time in minutes	<ul style="list-style-type: none"> • Heat UP- 30 to 121 Degree C – 17 Min • Hold Cycle – 121 Degree C – 20 Min • Cooling Cycle 121 to 35 degree C – 17 Min

	<ul style="list-style-type: none"> Total Cycle Time – 54 Min
Required Utility	<ul style="list-style-type: none"> Standard electrical specifications are 415 V 50 Hz 3ph AC Steam at 4 kg/cm² Cooling tower water – 5 M3/hr At 3 kg/cm², inlet Water Temp -28 Degree C Outlet Water Temp -90 Degree C Air At 6 kg/cm²
Approximate Utility Consumption /batch	<ul style="list-style-type: none"> Electrical Consumption – 2 KWH Steam Consumption at 4 kg/cm² – 25 Kg Air Consumption – 50 Cufic feet/batch

3.0) BOTTLE SEALING MACHINE	
3.1) SEMI AUTOMATIC BOTTLE FILLER	QTY:1 LOT
<ul style="list-style-type: none"> 1 nozzle 415 V AC. Three Phase This machine Should be consists of vacuum pump, inlet hose, dispense nozzles, the Liquid Should gets sucked by vacuum, up to pre-determined level. The operator Should hold the bottles below the dispense nozzles and Should remove, the bottles after filling & so on. 	
3.2.CONDUCTION SEALING MACHINE	
Application	Conduction sealing for PP and PET Bottles for Flavoured Milk
Filling Volume	200ml
Conduction Roll Details	Layer - 2 Layer (Allox & PP), Thickness - 80µ
MOC	SS 304 Conduction
Frame	SS 304
Heating Die	SS 304
Heating Cutter	SS 304
Roll Holding Jaw	Aluminum
Roll Holding Assembly	SS 304
Un-winder	MOC SS 304
Conduction Rod	SS 304

4.0)CUP SEALING MACHINE		QTY: 1 NO
MOC	<ul style="list-style-type: none"> SS 304 	
Capacity	<ul style="list-style-type: none"> 300 Cups/hour 	
Tank Capacity	<ul style="list-style-type: none"> 100 L 	
Range	<ul style="list-style-type: none"> All depending on Volume Product 	
Closing system	<ul style="list-style-type: none"> Heat sealed alu lids. 	
Container type	<ul style="list-style-type: none"> Easy stackable and de-stackable Cups 	
Electricity	<ul style="list-style-type: none"> 3ph x 400 Volts, 50Hz, 	
Cup dispenser	<ul style="list-style-type: none"> Person has to put cup manually on the turn table 	
Dosing	<ul style="list-style-type: none"> Product hopper of suitable capacity 	
Ejection	<ul style="list-style-type: none"> person has to take out the filled sealed cup manually 	

5.0) SS KHOA MAKING MACHINE (60 LTR capacity)QTY: 1 NO	
Function	<ul style="list-style-type: none"> The pan shall be used for preparation of khovaproducton and multipurpose
Construction	<ul style="list-style-type: none"> Vertical round pan top single bottom steam jacketed and insulated & welded construction of sanitary design. the vat shall be design with tilting arrangement (steam operated) .Tilting type with scrapper The scrapper design shall be perfectly made to avoid the sticking or burning of particles in the pan.
Electrical Power	<ul style="list-style-type: none"> supply at the terminal of control panel
Design	<ul style="list-style-type: none"> Sanitary
Finish	<ul style="list-style-type: none"> welding joints shall be ground smooth & polished
Pan Capacity	<ul style="list-style-type: none"> 60 liter
Metal Contact:	<ul style="list-style-type: none"> Insulated padding shall be fixed between the inner stainless-steel

	shell and stiffeners.
Inner Cylindrical	• Shell and bottom shall be fabricated from SS Plate
Outer	• bottom dished end shall be fabricated form SS 304 sheet
Insulation:	• The inner SS shell shall be thermally insulated with glass wool
Outlet Nozzle	• Cup type outlet with two-way plug type
Level Marks:	• Calibrated level marking at std. intervals
Agitator	• Vertical heavy duty anchore type blade SS construction complete with geared motor, for uniformly mix, Make: Reputed, RPM:30
Tilting	• Geared type motor shall be tilting mechanism with a round steering wheel, vat mounting on pedestal with tilting arrangement.
Legs	• 4 leg with grunting flange

6.0) PANEER MAKING MACHINE (50 Kg/Hour)	
6.1) PANEER MILK HEATING VAT QTY: 1 NO	
Function	• For heating the bath paneer milk at 90 Deg. C and cooling down at desired temperature.
Design	• Sanitary (Vertical) heating and cooling
Construction	• Vertical triple walled insulated hot/cold water dimple jacketed
Capacity	• 100 Liters
Metal Contact	• insulated padding fixed between inner shell and stiffeners
Slope	• 1:15 towards outlet for free & complete drainage
Joint Curvature	• Radius of welded & permanent attachment joints
Inner body	• Shell 2.5mm SS 304
Inner dish-end	• bottom dished-end 2.5mm SS 304
intermediate body	• Dimple Shell 1.6 mm SS 304
Inner dish-end	• Dimple flat bottom dished-end 1.6mm/ SS 304
Outer body	• Shell 2mm SS 304
Outer dish-end	• bottom dished-end 2.0mm SS 304
Stiffeners	• Between inner and outer shells and supporting structure
Insulation	• Should be thermally insulated with 75mm puff insulation
Milk Inlet	• No-foam bend with SMS Union SS 304
Milk Outlet	• 76mm Bottom product outlet SS 304
Utility Inlet	• Connection with fanged end
Utility Outlet	• Connection with fanged end
Agitator:	• Top gear box / motor with variable frequency drive
Blasted Level Marks	• Standard intervals on the inner shell
Thermo well	• Inclined pocket for mounting temp. sensor/ Dial indicator
Drain Hole	• lowest point SS 304
Legs	• Leg with adjustable ball feet SS 304
Steam heating device	• Hot water generation by mean of steam injection heating device consisting of PID base control panel system, steam control valve, tubular heat exchanger, hot water circulation pump, with interconnecting piping and by pass valve for cold water circulation
6.2) PANEER HOOPS 5 KG QTY:5 NO	
Function	• SS container in which Paneer Should be filled up and given a mechanical pressure by a Paneer press when stacked in service to attain a definite shape to the Paneer block
Design	• Hoops Should be in three pieces design all the three pieces of hoops Should have perforation of 4 mm dia at suitable pitch on all the sides for drainage of whey
6.3) HOOPS ACUMULATION TABLE QTY: 1NO	
Function	• Should be used for accumulation of hoops
Finish	• All welding joints are to be ground smooth SS surfaces Should
Construction	• Should be fabricated from SS 304 sheets
6.4) PENUMATIC PANEER PRESS- PROGRESSIVE TYPE QTY: 1 NO	

Function	<ul style="list-style-type: none"> Should be used to extract quality Paneer from
Finish	<ul style="list-style-type: none"> All welding joints are to be ground smooth SS surfaces Should
Design	<ul style="list-style-type: none"> 1 Station each station Should accommodate 5 Hooper per
Construction	<ul style="list-style-type: none"> The vertical Colum and other supporting structure SS 304 material. Four lags. Pneumatic cylinder, direction valves, FRL, pressure gauges, main air valve. whey tray
Control panel	<ul style="list-style-type: none"> Should consist of control panel with timer base for easy operation
6.5) PANNER BLOCK COOLING TANK	
QTY: 1 NO	
Application	<ul style="list-style-type: none"> Pressed paneer block with unloaded in the cooling tank
Construction	<ul style="list-style-type: none"> Rectangular tripled walled dimple chilled water jacketed insulated
Capacity	<ul style="list-style-type: none"> 250 Liters
Metal Contact	<ul style="list-style-type: none"> insulated padding fixed between inner shell and stiffeners
Slope	<ul style="list-style-type: none"> 1:15 towards outlet for free & complete drainage
Joint Curvature	<ul style="list-style-type: none"> Radius of welded & permanent attachment joints
Inner body	<ul style="list-style-type: none"> Shell 2.5mm SS 304
Inner dish-end	<ul style="list-style-type: none"> Flat bottom dished-end 2.5mm SS 304
intermediate body	<ul style="list-style-type: none"> Dimple Shell 1.6 mm SS 304
Inner dish-end	<ul style="list-style-type: none"> Dimple flat bottom dished-end 1.6mm/ SS 304
Outer body	<ul style="list-style-type: none"> Shell 2mm SS 304
Outer dish-end	<ul style="list-style-type: none"> Flat bottom dished-end 2 mm SS 304
Stiffeners	<ul style="list-style-type: none"> Between inner and outer shells and supporting structure
Insulation	<ul style="list-style-type: none"> Should be thermally insulated with 75mm puff insulation
Water Outlet	<ul style="list-style-type: none"> Poor water drain outlet SS 304
Chilled water Inlet	<ul style="list-style-type: none"> Connection with fanged end
Chilled water Outlet	<ul style="list-style-type: none"> Connection with fanged end
Blasted Level Marks	<ul style="list-style-type: none"> Standard intervals on the inner shell
Thermo well	<ul style="list-style-type: none"> Inclined pocket for mounting temp. sensor/ Dial indicator
Drain Hole	<ul style="list-style-type: none"> lowest point SS 304
Legs	<ul style="list-style-type: none"> Leg with adjustable ball feet SS 304

6.6) REMOTE CONTROL PANEL		QTY: 1 NO
Design	<ul style="list-style-type: none"> Dust and vermin proof lockable 	
Mounting	<ul style="list-style-type: none"> Skid mounted 	
MOC	<ul style="list-style-type: none"> AISI-304 	
Sheet	<ul style="list-style-type: none"> 2mm thick 	
Temperature indicator	<ul style="list-style-type: none"> For all the critical temperature 	
Contactors & START/STOP push button	<ul style="list-style-type: none"> For all Centrifugal pumps, gear boxes 	

7.0) FERMENTED MILK PILOT PLANT		QTY: 1 UNIT
7.1) BATCH PREPARATION TANK		QTY: 1 NO
Application	<ul style="list-style-type: none"> Batch preparation for fermented milk 	
Construction	<ul style="list-style-type: none"> Vertical double walled insulated 	
Capacity	<ul style="list-style-type: none"> 100Liters 	
Metal Contact	<ul style="list-style-type: none"> insulated padding fixed between inner shell and stiffeners 	
Slope	<ul style="list-style-type: none"> 1:15 towards outlet for free & complete drainage 	
Joint Curvature	<ul style="list-style-type: none"> Radius of welded & permanent attachment joints 	
Inner body	<ul style="list-style-type: none"> Shell 2.5mm SS 304 	
Inner dish-end	<ul style="list-style-type: none"> bottom dished-end 2.5mm SS 304 	
Outer body	<ul style="list-style-type: none"> Shell 2mm SS 304 	
Outer dish-end	<ul style="list-style-type: none"> bottom dished-end 2.5mm SS 304 	
Top cover	<ul style="list-style-type: none"> Splash proof two half cover with handle 	
Stiffeners	<ul style="list-style-type: none"> Between inner and outer shells and supporting structure 	
Insulation	<ul style="list-style-type: none"> Should be thermally insulated with 75mm puff insulation 	
Milk Inlet	<ul style="list-style-type: none"> No-foam bend with SMS Union SS 304 	
Milk Outlet	<ul style="list-style-type: none"> Bottom product outlet SS 304 	
Agitator:	<ul style="list-style-type: none"> Top gear box / motor for uniform agitation SS 304 	
Blasted Level Marks	<ul style="list-style-type: none"> Standard intervals on the inner shell 	
Thermo well	<ul style="list-style-type: none"> Inclined pocket for mounting temp. sensor/ Dial indicator 	
Drain Hole	<ul style="list-style-type: none"> lowest point SS 304 	
Legs	<ul style="list-style-type: none"> Leg 640 high with adjustable ball feet SS 304 	
7.2) PRIMARY INLINE FILTER		QTY: 1 NO
Application	<ul style="list-style-type: none"> continuous filtering the milk 	
Construction	<ul style="list-style-type: none"> Pipe in pipe with removable ss mesh 	
Shell thickness	<ul style="list-style-type: none"> 2 mm/ AISI-304 	
Milk inlet/ outlet	<ul style="list-style-type: none"> 25 mm 	
7.3) CENTRIFUGE FEED PUMP		QTY: 1 NO
Application	<ul style="list-style-type: none"> For transferring milk 	
Design	<ul style="list-style-type: none"> Centrifugal sanitary open impeller 	
Construction	<ul style="list-style-type: none"> Horizontal mono-block coupling Shaft base frame mounted 	
Capacity	<ul style="list-style-type: none"> 100 LPH 	
Material of construction	<ul style="list-style-type: none"> AISI-304 	
Secondary Parts	<ul style="list-style-type: none"> Nitrile food grade quality 	
Seal Type	<ul style="list-style-type: none"> Single seal Silicon carbide v/s silicon carbide 	
Motor Make	<ul style="list-style-type: none"> KEC/CROMPTION/ABB 	
Drive Details	<ul style="list-style-type: none"> 3000rpm/3 ph. 415 volts, 50 Hz, IP-55, "F" 	
7.4) CULTURE VAT		QTY: 2 NO
Application	<ul style="list-style-type: none"> Should be for culture addition and packing Should be used curd incubation 	
Construction	<ul style="list-style-type: none"> Vertical double walled insulated 	
Capacity	<ul style="list-style-type: none"> 50 Liters 	
Metal Contact	<ul style="list-style-type: none"> insulated padding fixed between inner shell and stiffeners 	
Slope	<ul style="list-style-type: none"> 1:15 towards outlet for free & complete drainage 	
Joint Curvature	<ul style="list-style-type: none"> Radius of welded & permanent attachment joints 	

Inner body	• Shell 2.0mm SS 304
Inner dish-end	• bottom dished-end 2.0mm SS 304
Outer body	• Shell 2mm SS 304
Outer dish-end	• bottom dished-end 2 mm SS 304
Top cover	• Splash proof two half cover with handle
Stiffeners	• Between inner and outer shells and supporting structure
Insulation	• Should be thermally insulated with 75mm puff insulation
Milk Inlet	• No-foam bend with SMS Union SS 304
Milk Outlet	• Bottom product outlet SS 304
Agitator:	• Top gear box / motor for uniform agitation SS 304
Blasted Level Marks	• Standard intervals on the inner shell
Thermo well	• Inclined pocket for mounting temp. sensor/ Dial indicator
Drain Hole	• lowest point SS 304
Legs	• Leg with adjustable ball feet SS 304
7.5) WALK IN INCUBATION /BLAST FREEZER BATCH TYPE QTY: 1 NO	
Function	shall be used to store curd milk to maintain @ 45 Deg C for 4-5 hrs and after that through blast make curd milk @ 10 Deg C

8.0) PILOT SCALE BUTTER CHURNER QTY: 1 NO	
Function	• Shall be used for making butter by agitating cream
Capacity	• 60 kg
Service	• Chilled water 1.5 deg. shall be circulated in the dimple jacket
Inner and bottom Shell	• SS 304, 3 mm thk
Top removable cover with lock	• SS 304, 2 mm thk
Outer and bottom Shell dimple	• SS 304, 1.6 mm thk
Air Relief Valve	• Valve with flange dia 200 mm
Churning barrel & beaters	• The churning barrel and beater shall be fabricated from SS conforming to AISI-316. The beater shall ensure uniform distribution of salt and moisture during the working phase.
Motor	• Gear motor /3ph / 400 rpm/ 415 volts
Drive	• The drive arrangement shall consist of an A.C. frequency drive for a speed ranging from 5 to 30 RPM. The drive arrangement shall be complete with electric motor, gear box, push button with indicator with provision to operate the churn in forward, reverse and off position, with different
8.1.CREAM RIPENING TANK	<ul style="list-style-type: none"> • Made up of SS 304 • Triple jacket to provide hot water and chilled water provision to heat and cool the product • Top mounted agitator • Capacity 100 Lts storage • CIP spray ball and line arrangements • Cream transfer pump suitable capacity to pump to butter churner • Chilled water re circulation to IBT provision to be made • Functional requirement Cream at 10 ° C to be raised to 25 °c for culture addition and to provide chilling facility to bring down the temperature to 12 ° c

9.0) PILOT SCALE GHEE PLANT		QTY: 1NO
9.1) GHEE BOILER (KETTLE)		QTY: 1NO
Function	<ul style="list-style-type: none"> Ghee boiler (Steam heated kettle) Should be used for the manufacturing of ghee from butter or cream. 	
Construction	<ul style="list-style-type: none"> hemispherical, Triples walled and insulated 	
Design	<ul style="list-style-type: none"> 100 kgs 	
Finish	<ul style="list-style-type: none"> SS surfaces polish by150 grit 	
Inner Shell Cylindrical body,	<ul style="list-style-type: none"> Conical bottom from plate of 6mm thick/ AISI 316 quality. 	
Intermediate Shell Cylindrical body,	<ul style="list-style-type: none"> Conical bottom 6mm thick/ MS quality. 	
Outer Shell	<ul style="list-style-type: none"> Body conical bottom sheet of 2mm thick/ AISI 304 quality. 	
Insulation	<ul style="list-style-type: none"> 75mm thk Crown 150 resin bonded fiber glass wool 	
Guarder	<ul style="list-style-type: none"> 3mm thk SS girder for mounting agitators and covers 	
Cover:	<ul style="list-style-type: none"> Semicircular removable cover 2mm/AISI-304 	
Agitator	<ul style="list-style-type: none"> Sweeping type SS AISI 304 agitator with vertical gearbox 	
Side Outlet:	<ul style="list-style-type: none"> Horizontal outlet with valve for taking out clear ghee. 	
Bottom Outlet	<ul style="list-style-type: none"> Vertical outlet with SS valve at a clear height of. 	
Steam Inlet	<ul style="list-style-type: none"> Steam inlet connections flange end 	
Air Vent	<ul style="list-style-type: none"> 19mm BSP air vent at the top most of the steam jackets 	
Stiffeners	<ul style="list-style-type: none"> Between inner and outer shells and supporting structure 	
Steam Valve controller	<ul style="list-style-type: none"> It shall be provided with steam valve controller 	
Thermo Well	<ul style="list-style-type: none"> Thermometer to measure the temperature of the product. 	
Bottom Outlet	<ul style="list-style-type: none"> Vertical outlet with SS valve at a clear height of. 	
Side Outlet:	<ul style="list-style-type: none"> Horizontal outlet with valve for taking out clear ghee. 	
Legs	<ul style="list-style-type: none"> ball feet Should for height adjustment of 50 mm. 	
9.2) GHEE TRANSFER PUMP		QTY: 1NO
Function	<ul style="list-style-type: none"> Transfer the ghee to settling tank 	
Capacity	<ul style="list-style-type: none"> 200 Liter per hour 	
Pump Construction	<ul style="list-style-type: none"> Horizontal mono-block & coupling Shaft 	
Connection	<ul style="list-style-type: none"> SMS STD AISI-304 	
Secondary Parts	<ul style="list-style-type: none"> Nitrile food grade quality 	
Seal Type	<ul style="list-style-type: none"> Single Mechanical shaft seal 	
Seal Face	<ul style="list-style-type: none"> Cr v/s SS (Carbon face v/s SS Face) 	
Motor Make	<ul style="list-style-type: none"> KEC/ CROMPTON /SIMENCE 	
Drive Details	<ul style="list-style-type: none"> 3 ph, 415 volts, 50 Hz, IP-55, "F" class insulation. 	
9.3) GHEE SETTLING TANK		QTY: 1 NO
Function	<ul style="list-style-type: none"> Ghee boiler Should be transferring settling the same. 	
Construction	<ul style="list-style-type: none"> Vertical single walled welded construction sanitary design 	
Finish	<ul style="list-style-type: none"> SS welding joints Should be ground smooth and polished 	
Capacity	<ul style="list-style-type: none"> 150 Kgs 	
Slope	<ul style="list-style-type: none"> The bottom Should have slope towards outlet 	
Inner Cylindrical Body	<ul style="list-style-type: none"> Shell, conical bottom dished be 2 mm thk SS AISI 304 sheet 	
Cover	<ul style="list-style-type: none"> removable cover with lifting handle 2mm/AISI-304 	
Thermo Well	<ul style="list-style-type: none"> Thermo well. 	
Side Outlet:	<ul style="list-style-type: none"> Horizontal outlet with valve for taking out clear ghee. 	
Bottom Outlet	<ul style="list-style-type: none"> Vertical outlet with SS valve at a clear height of. 	
Drain:	<ul style="list-style-type: none"> At The bottom of the jacket with SS 304 valve. 	
Sampling Cock:	<ul style="list-style-type: none"> Provided on the -outlet with sanitary design. 	
Thermo well Nozzle	<ul style="list-style-type: none"> ¾" BSP inclined pocket for mounting digital thermometer 	
Lifting Lug:	<ul style="list-style-type: none"> 2 Nos lifting lugs Should be provided at top. 	
Legs	<ul style="list-style-type: none"> 4 Nos ball feet Should have provision for height 	
9.4) GHEE BALANCE TANK STAINER		QTY: 1 NO.
Function	<ul style="list-style-type: none"> Should be used for ghee filtration 	
Capacity	<ul style="list-style-type: none"> 50 liters 	

Sheet material	<ul style="list-style-type: none"> • AISI-304 quality
Shell thickness	<ul style="list-style-type: none"> • 2mm
Ghee inlet/ outlet	<ul style="list-style-type: none"> • 38mm SMS std
9.5) GHEE TRANSFER PUMP	
QTY: 1 NO	
Function	<ul style="list-style-type: none"> • Transfer the ghee to settling tank
Capacity	<ul style="list-style-type: none"> • 200 Liter per hour
Pump Construction	<ul style="list-style-type: none"> • Horizontal mono-block & coupling Shaft
Connection	<ul style="list-style-type: none"> • SMS STD AISI-304
Secondary Parts	<ul style="list-style-type: none"> • Nitrile food grade quality
Seal Type	<ul style="list-style-type: none"> • Single Mechanical shaft seal
Seal Face	<ul style="list-style-type: none"> • Cr v/s SS (Carbon face v/s SS Face)
Motor Make	<ul style="list-style-type: none"> • KEC/ CROMPTON /SIMENCE
Drive Details	<ul style="list-style-type: none"> • 3 ph, 415 volts, 50 Hz, IP-55, "F" class insulation.
9.6) GHEE STORAGE TANK	
QTY: 1 NO	
Function	<ul style="list-style-type: none"> • Ghee boiler Should be transferring settling to ghee tank.
Construction	<ul style="list-style-type: none"> • Vertical single walled welded construction sanitary design
Design	<ul style="list-style-type: none"> • Sanitary (Vertical)
Finish	<ul style="list-style-type: none"> • SS welding joints Should be ground smooth and polished
Capacity	<ul style="list-style-type: none"> • 150 Kgs
Slope	<ul style="list-style-type: none"> • The bottom Should have slope towards outlet
Inner Cylindrical Body	<ul style="list-style-type: none"> • Shell, conical bottom dished be 2 mm thk SS AISI 304 sheet
Cover:	<ul style="list-style-type: none"> • removable cover with lifting handle 2mm/AISI-304
Thermo Well	<ul style="list-style-type: none"> • Thermo well.
Side Outlet:	<ul style="list-style-type: none"> • Horizontal outlet with valve for taking out clear ghee.
Bottom Outlet	<ul style="list-style-type: none"> • Vertical outlet with SS valve at a clear height of.
Drain	<ul style="list-style-type: none"> • At The bottom of the jacket with SS 304 valve.
Sampling Cock:	<ul style="list-style-type: none"> • Provided on the -outlet with sanitary design.
Thermo well Nozzle	<ul style="list-style-type: none"> • ¾" BSP inclined pocket for mounting digital thermometer
Lifting Lug:	<ul style="list-style-type: none"> • 2 Nos lifting lugs Should be provided at top.
Legs	<ul style="list-style-type: none"> • 4 Nos ball feet Should have provision for height adjustment
9.7) REMOTE CONTROL PANEL	
QTY: 1 NO	
Design	<ul style="list-style-type: none"> • Dust and vermin proof lockable
MOC	<ul style="list-style-type: none"> • AISI-304
Sheet	<ul style="list-style-type: none"> • 2mm thick
Temperature indicator	<ul style="list-style-type: none"> • For all the critical temperature
Contactora, start/stop button	<ul style="list-style-type: none"> • For all Centrifugal pumps, gear boxes
10) BOTTLE FILLING MACHINE	
QTY: 1 NO	
Application	<ul style="list-style-type: none"> • It is used to fill the Ghee in PET /Glass bottle
Capacity	<ul style="list-style-type: none"> • 10ml-1000ml
Driven Type	<ul style="list-style-type: none"> • Mechanical
Material	<ul style="list-style-type: none"> • Stainless Steel 304
Automation Grade	<ul style="list-style-type: none"> • Semi-Automatic
Production Capacity	<ul style="list-style-type: none"> • 40 BPM
Head	<ul style="list-style-type: none"> • 4
Other requirements	<ul style="list-style-type: none"> • Machine shall be made compact & versatile. • It shall be Elegantly Matt Finished S. S. 304 Bodies with slat Conveyors. • It shall be Reciprocating Filling Nozzle to avoid Foaming. • It shall have minimum Change over time. • It shall be rigid vibration free construction for trouble free performance. • It shall have provision to change the Flow of liquid. • All contact material shall be of Food Grade

	<ul style="list-style-type: none"> It shall also be provided with coding machine for batch coding purpose
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11.0) WALK IN COLD ROOM		QTY: 1 UNIT
Temperature range	<ul style="list-style-type: none"> -1°C or up to 4°C 	
Size	<ul style="list-style-type: none"> 2 Mtr x 2Mtr (H) main door & 0.6mx 0.6M Hatch door 	
Construction	<ul style="list-style-type: none"> PUF Insulated panels Pre-Coated 80 mm thickness. These panels can separate by rigid foam in place of Polyurethane Insulation. All panels Shall have tongue and groove construction of Cam-Lock fastening system consisting of hooked locking arms on one side and end of panels connected by plastic hook to match lock in pins on the other side of the panel. Panels can conveniently assembled at site and the joining and disassembling of the Panels Shall be done by using an Allen Key. 	
Door type	<ul style="list-style-type: none"> Insulated main door & hatch door with S. S. latches & heavy duty hinges. 	
Inner chamber	<ul style="list-style-type: none"> Stainless steel 304 	
External	<ul style="list-style-type: none"> Pre-painted GI sheet 	
Refrigeration	<ul style="list-style-type: none"> CFC free refrigeration system of reputed brand compressor (Make: Emerson/Danfoss), Consisting copper cooling coil with suitable fins per inch with two no fan with motors, Air-cooling shall be mounted on heavy duty M. S. structure & having defrosting system, waters drain arrangements. 	
Other Requirements	<ul style="list-style-type: none"> Temperature chart recorder, Data logger with USB port Caster wheels for mobility 	
Power supply	<ul style="list-style-type: none"> 220 Volts 50 Hz 	
Warranty	<ul style="list-style-type: none"> 1 Year 	

12.0) WALK-IN FREEZER ROOM		QTY: 1 UNIT
Temperature range	<ul style="list-style-type: none"> -20°C or up to -40°C 	
Size	<ul style="list-style-type: none"> 2 Mtr x 2Mtr (H) main door & 0.6mx 0.6M Hatch door 	
Construction	<ul style="list-style-type: none"> PUF Insulated panels Pre-Coated, 130 mm thickness. These panels can separate by rigid foam in place of Polyurethane Insulation. All panels Shall have tongue and groove construction of Cam-Lock fastening system consisting of hooked locking arms on one side and end of panels connected by plastic hook to match lock in pins on the other side of the panel. Panels can conveniently assembled at site and the joining and disassembling of the Panels Shall be done by using an Allen Key. 	
Door type	<ul style="list-style-type: none"> Insulated main door & hatch door with S. S. latches & heavy duty hinges. 	
Inner chamber	<ul style="list-style-type: none"> Stainless steel 304 	
External	<ul style="list-style-type: none"> Pre-painted GI sheet 	
Refrigeration	<ul style="list-style-type: none"> CFC free refrigeration system of reputed brand compressor (Make: Emerson/Danfoss), Consisting copper cooling coil with suitable fins per inch with two no fan with motors, Air-cooling shall be mounted on heavy duty M. S. structure & having defrosting system, waters drain arrangements. 	
Other Requirements	<ul style="list-style-type: none"> Temperature chart recorder, Data logger with USB port Caster wheels for mobility 	
Power supply	<ul style="list-style-type: none"> 220 Volts 50 Hz 	
Warranty	<ul style="list-style-type: none"> 1 Year 	

13.0) ICE CREAM PILOT PLANT	
13.1) ICE CREAM BATCH PASTURIER VAT QTY: 1 NO	
Function	<ul style="list-style-type: none"> • Shall be used for Preparation and heating of Ice cream mix/ milk for 4 to 80 Deg. C by recalculating mix Heating media hot water Should be circulated through the dimple jacket of tank and should return to hot water boiler
Capacity:	<ul style="list-style-type: none"> • 100 ltr
Design	<ul style="list-style-type: none"> • Vertical, cylindrical triple walled H.W jacketed insulated
Metal Contact	<ul style="list-style-type: none"> • Metal-to-metal contact between the inner and outer shells
Internal surface:	<ul style="list-style-type: none"> • Internal Surface finish 150 grit Finish.
External Surface:	<ul style="list-style-type: none"> • Burs free, Finish 150 grit finishes.
Weld-joint:	<ul style="list-style-type: none"> • Ground smooth & finished to 150 Grits.
Stiffener:	<ul style="list-style-type: none"> • SS stiffener ring
Inner shell	<ul style="list-style-type: none"> • Body SS 304 – 2.5 mm
Inner	<ul style="list-style-type: none"> • bottom dished SS 304 sheet of 2mm
Intermediate	<ul style="list-style-type: none"> • Shell & bottom dished SS 304 sheet of 1.6mm
Outer	<ul style="list-style-type: none"> • shell body SS 304 sheet of 2 mm
Outer	<ul style="list-style-type: none"> • bottom dished end SS 304 sheet of 2 mm
Cover	<ul style="list-style-type: none"> • Two half insulated removable cover with handle
Insulation	<ul style="list-style-type: none"> • Shell Should be thermally insulated 100mm puff
Agitator	<ul style="list-style-type: none"> • Gurder, Agitator assembly 0.5 Hp/30 rpm geared motor
Inlet	<ul style="list-style-type: none"> • No foam bend at the top side of dished end
Outlet	<ul style="list-style-type: none"> • Butterfly valve having
Spray Ball	<ul style="list-style-type: none"> • Removable rotary spray ball of
Sand blasted Level Marking	<ul style="list-style-type: none"> • on the Inner Should
Thermo well	<ul style="list-style-type: none"> • 304 inclined pockets for temperature sensor
Legs	<ul style="list-style-type: none"> • Legs with adjustable ball feet
Steam heating device	<ul style="list-style-type: none"> • Hot water generation by mean of steam injection heating device consisting of PID base control panel system, steam control valve, tubular heat exchanger, hot water circulation pump, with interconnecting piping, manual by pass valve provision for chilled water manual valves
13.2) ICE CREAM MIX TRNASFER PUMP HOMOGENIZER QTY: 1 NO	
Function	<ul style="list-style-type: none"> • Shall transfer ice cream mix to homogenizer
Capacity	<ul style="list-style-type: none"> • 100 Liter per hour
Pump	<ul style="list-style-type: none"> • Sanitary design
Pump Construction	<ul style="list-style-type: none"> • Horizontal mono-block & coupling Shaft
Pump Mounting	<ul style="list-style-type: none"> • Base mounted
Connection	<ul style="list-style-type: none"> • SMS STD
Material of construction	<ul style="list-style-type: none"> • AISI-304
Secondary Parts	<ul style="list-style-type: none"> • Nitrile food grade quality
Seal Type	<ul style="list-style-type: none"> • Single Mechanical shaft seal dia 22mm
Seal Face	<ul style="list-style-type: none"> • SIC v/s SIC
Drive Details	<ul style="list-style-type: none"> • Volts: 415 /Ph:3 / Hz:50 IP-55, "F" class insulation
Motor Make	<ul style="list-style-type: none"> • KEC/ABB/ CROMPTON
13.3) HOMOGENIZER QTY: 1 NO	
Capacity	<ul style="list-style-type: none"> • 100 LPH
Max. Operating Temp.	<ul style="list-style-type: none"> • 65 C
Motor rating	<ul style="list-style-type: none"> • Volts: 415 /Ph:3 / Hz:50
Function	<ul style="list-style-type: none"> • To breaking & dispersing fat globules in either skim milk/reconstituted milk. Ice cream mix.
Construction	<ul style="list-style-type: none"> • Robust, sturdy and self-supported on SS ball feet. All milk contact surface Should be made from SS confirming AISI-316,
Working pressure	<ul style="list-style-type: none"> • two-stage high- peak pressure of 210 Bar
Suction & discharge valves	<ul style="list-style-type: none"> • Puppet type. The plunger cooling Should be done by water.
Body	<ul style="list-style-type: none"> • High-grade cast iron, which Should have SS shroud.
Homogenize Valve	<ul style="list-style-type: none"> • Vale seat Should have flat mating surfacing and should be

	made of special material suitable for the product.	
Inlets/Outlets	<ul style="list-style-type: none"> Suitable size for product with 38mm SMS Union 	
13.4) DOUBLE STAGE ICE CREAM MIX CHILLER		QTY: 1 NO
The 1 st section Should be used for cool the Ice Cream mix from 80Deg. C to 38 Deg. C by mean of Cooling water		
2 nd section Should be used for chilled the Ice Cream mix from 38 Deg. C to 6 Deg. C by mean of chilled water		
Finish: All stainless-steel surfaces Should be polished to 150 grits.		
Particulars	Process side	Service side
STAGE 1ST COOLING SECTION		
Fluid	Ice cream mix	Cooling water
Flow	<ul style="list-style-type: none"> 100 LPH 	<ul style="list-style-type: none"> 500 LPH
Inlet temperature	<ul style="list-style-type: none"> 80 Deg. C 	<ul style="list-style-type: none"> 30 Deg. C
Out let temperature	<ul style="list-style-type: none"> 45 Deg. C 	<ul style="list-style-type: none"> 39 Deg. C
STAGE 2ND CHILLING SECTION		
Fluid	Cool ice cream mix	Chilled water
Flow	<ul style="list-style-type: none"> 100 LPH 	<ul style="list-style-type: none"> 300 LPH
Inlet temperature	<ul style="list-style-type: none"> 45 Deg. C 	<ul style="list-style-type: none"> -5 Deg. C
Out let temperature	<ul style="list-style-type: none"> 6 Deg. C 	<ul style="list-style-type: none"> 7 Deg. C
Process side Connection	<ul style="list-style-type: none"> 38 mm SMS 	<ul style="list-style-type: none"> 38mm SMS
Plate Thickness	<ul style="list-style-type: none"> 0.6mm 	
Operating pressure	<ul style="list-style-type: none"> 3.5 Kg/cm²(g) 	<ul style="list-style-type: none"> 3.5 Kg/cm²(g)
Design pressure	<ul style="list-style-type: none"> 5.0 Kg/cm²(g) 	<ul style="list-style-type: none"> 5.0 Kg/cm²(g)
Test pressure	<ul style="list-style-type: none"> 6.0 Kg/cm²(g) 	<ul style="list-style-type: none"> 6.0 Kg/cm²(g)
PHE plates thickness	<ul style="list-style-type: none"> 0.6mm Thk 	
PHE Plate material of construction	<ul style="list-style-type: none"> AISI-304 	
Frame & pressure plate	<ul style="list-style-type: none"> Mild steel clad with AISI-304 	
Interconnecting box	<ul style="list-style-type: none"> Mild steel clad with AISI-304 	
Tightening bolt	<ul style="list-style-type: none"> Manual tightening bolt AISI-304 	
Support stand	<ul style="list-style-type: none"> Self-supporting AISI-304 	
Type Of Test	<ul style="list-style-type: none"> Hydraulic test & Water circulation 	
Inlets/outlets	<ul style="list-style-type: none"> Product & Service side 	
Thermo well	<ul style="list-style-type: none"> Pockets for thermometer 	
Ball feet	<ul style="list-style-type: none"> Adjustable ball feet 	
13.5) ICE CREAM AGEING VAT		QTY: 1 NO
Function	<ul style="list-style-type: none"> Should be used for storing and ageing the chilled mix Store at 6 Deg. C and Should bring down temperate at 4 Deg. C. 	
Construction	<ul style="list-style-type: none"> Double wall copper coil and refrigeration condenser unit with control panel 	
Electrical Power	<ul style="list-style-type: none"> Volts :415/Ph:3 / Hz:50 	
Design	<ul style="list-style-type: none"> Vertical Sanitary 	
Finish	<ul style="list-style-type: none"> SS welding joints ground smooth and polished 	
Capacity	<ul style="list-style-type: none"> 100 Liters 	
Metal Contact	<ul style="list-style-type: none"> Metal-to-metal contact between the inner and outer 	
Internal surface:	<ul style="list-style-type: none"> Internal Surface finish 150 grit Finish. 	
External Surface:	<ul style="list-style-type: none"> Burs free, Finish 150 grit finishes. 	
Weld-joint:	<ul style="list-style-type: none"> Ground smooth & finished to 150 Grits. 	
Stiffener:	<ul style="list-style-type: none"> SS stiffener ring 	
Inner shell body:	<ul style="list-style-type: none"> SS 304 - 2 mm 	
Inner bottom dished	<ul style="list-style-type: none"> SS 304 sheet of 2mm 	
Outer shell body	<ul style="list-style-type: none"> SS 304 sheet of 2 mm 	
Outer bottom dished end	<ul style="list-style-type: none"> SS 304 sheet of 2 mm 	
Cover	<ul style="list-style-type: none"> Two half insulated removable cover with handle 	
Insulation	<ul style="list-style-type: none"> Shell Should be thermally insulated 100mm puff 	
Agitator	<ul style="list-style-type: none"> Gurder,Agitator assembly suitable rpm geared motor 	
Inlet	<ul style="list-style-type: none"> No foam bend at the top side of dished end 	
Outlet	<ul style="list-style-type: none"> diameter Butterfly valve having 	

Spray Ball	• SS 304 Removable rotary spray ball of
Sand blasted Level Marking	• on the Inner Should
Thermo well	• SS 304 inclined pocket for temperature sensor
Legs	• Legs with adjustable ball feet
13.6) MIX TRANSFER PUMP TO FLAVOUR TANK QTY: 1 NO	
Function	• Shall be used to feed the ice cream mix to flavor tank
Capacity	• 100 Liter per hour
Pump	• Sanitary design
Pump Construction	• Horizontal mono-block & coupling Shaft
Pump Mounting	• Base mounted
Connection	• SMS STD
Material of construction	• AISI-304
Secondary Parts	• Nitrile food grade quality
Seal Type	• Single Mechanical shaft seal
Drive Details	• Volts: 415 /Ph:3 / Hz:50 IP-55, "F" class insulation
Motor Make	• KEC/ABB/ SIEMENCE
13.7) FLAVOUR MIXING TANK QTY: 1 NO	
Function	• Should be used for flavor mixing
Construction	• Double wall Insulated tank
Electrical Power	• Volts- 415 Ph:3 , Hz:50
Design	• Vertical Sanitary
Finish	• SS welding joints ground smooth and polished
Capacity	• 50 Liters
Bottom Slope	• Towards outlet for complete drainage of liquid.
Metal Contact:	• Insulated padding inner SS shell and stiffeners.
Inner shell	• Shell, conical bottom 2mm thick AISI-304
Outer shell	• Shell, conical bottom 2mm thick AISI-304
Insulation	• Puff insulation
Stiffeners	• inner, outer shells & supporting structure
Product Inlet Nozzle	• 25mm No-am inlet at the top tank
Product Outlet Nozzle	• outlet with two-way plug type
Agitator	• Agitator complete with mountings, gear box & motor of suitable capacity
CIP Spray Ball:	• cleaning device
Thermo well Nozzle	• ¾" BSP inclined pocket for digital thermometer
Legs	• SS ball feet for height adjustment of 50mm.
13.8) CONTINUOUS FREEZER: QTY: 1 NO	
Function	• Ice cream mix containing solid 38-40%, overrun 100% ice cream mix inlet temperature + 5 deg. C, out let temperature -5 deg. C,
in put Capacity	• 50 Liter Mix per hour
Mix inlet temperature	• +5 Deg.C
Mix Outlet temperature	• -5 Deg.C
Output Capacity	• 100 Liter Mix per hour
Compressor	• Hermetically sealed (Danfross)
Mix tube inlet	• ¾ Inch
Ice cream outlet	• 1"
Water Inlet Nozzle	• 1 ½"
Mounting	• Leg mounted & adjustable ball feet
Connection	• SMS STD
Material of construction	• AISI-304 (Milk contact parts)
Drive Details	• Ph: 3 ph, Volts: 415, 50 Hz, IP-55, "F" class
13.9) ICE CREAM CUP FILLING MACHINE QTY: 1 NO	
Capacity	• 300 Cups/hour
Range	• All depending on Volume Product
Closing system	• Heat sealed alu lids.
Container type	• Easy stackable and de-stackable Cups

Electricity	<ul style="list-style-type: none"> • 3ph x 400 Volts, 50Hz,
Cup dispenser	<ul style="list-style-type: none"> • Person has to put cup manually on the turn table
Dosing	<ul style="list-style-type: none"> • Product hopper of suitable capacity
Ejection	<ul style="list-style-type: none"> • person has to take out the filled sealed cup manually

13.10) BATCH HARDENING QTY: 1 NO

The complete unit shall be consisting hardening cabinet where the products produced in an extrusion line or a stick shall be packed and hold in the cabinet under (-20 Deg.C) The hardening room for storing cups -20 Deg. C. PUF Insulated panels Pre-Coated. These panels can separate by rigid foam in place of Polyurethane Insulation. Panels can conveniently assemble at site and the joining and disassembling of the Panels shall be done by using an Allen Key.

- Insulated main door with S. S. latches & heavy duty hinges.
- Air-cooling unit suitable capacity to maintain the cold room temp. Consisting copper cooling coil with suitable fins per inch with fan with motors. Air-cooling unit
- Defrosting system, waters drain arrangements.
- One lot of copper Pipes and fittings for circulation of refrigerant with necessary valve based on compact layout with its insulation and aluminium cladding.
- Refrigeration control consisting of, Solenoid Valves with filters, Electric Level Controller with Float and Digital Temp. Gauge etc.

14.0) PILOT SCALE PASTEURISER QTY: 1 UNIT

Application	<ul style="list-style-type: none"> • Multipurpose Milk pasteurization & subsequently chilling
Construction	<ul style="list-style-type: none"> • Skid mounted
Design	<ul style="list-style-type: none"> • Semi automatic , auto flow diversion
Capacity	<ul style="list-style-type: none"> • 100 LPH
Milk inlet temperature Program	<ul style="list-style-type: none"> • 4 °C
Std Milk Program 80 °C	<ul style="list-style-type: none"> • 4-65-80-11/4 °C (20 sec. holding)
Curd Milk Program 90 °C	<ul style="list-style-type: none"> • 4-65-80-90-11/4°C (600 sec. holding)
Curd Milk Program 90 °C	<ul style="list-style-type: none"> • 4-40-65-80-90-45 °C (600 sec. holding)
Paneer Milk Program 90 °C	<ul style="list-style-type: none"> • 4-65-90°C (Holding by pass Provision)
Milk Homogenization temperature	<ul style="list-style-type: none"> • 65 °C
Milk Pasteurization temperature	<ul style="list-style-type: none"> • 90 °C
Milk Outlet temperature	<ul style="list-style-type: none"> • 4/45/90°C
Finish milk outlet temperature	<ul style="list-style-type: none"> • 4 °C
Milk temperature control	<ul style="list-style-type: none"> • PID controller
Mechanical Flow control	<ul style="list-style-type: none"> • Manual
Flow indicator	<ul style="list-style-type: none"> • Mechanical flow meter
Auto Flow diversion-	<ul style="list-style-type: none"> • Un pasteurized hot milk
Sanitation and CIP	<ul style="list-style-type: none"> • Auto /Manual
All connection	<ul style="list-style-type: none"> • SMS Standard

14.1) CONSTANT LEVEL TANK QTY:1 NO

Application	<ul style="list-style-type: none"> • Constant milk supply to htst pasteurization plant
Construction	<ul style="list-style-type: none"> • Single walled un insulated
Design	<ul style="list-style-type: none"> • Sanitary with flash type cover
Capacity	<ul style="list-style-type: none"> • 50 Ltr
Slope	<ul style="list-style-type: none"> • 1:15 towards outlet for free & complete drainage
Inner Body	<ul style="list-style-type: none"> • * Shell 2mm / SS 304 * Flat Bottom 2.mm/ SS 304
Milk Inlet	<ul style="list-style-type: none"> • 25mm with mechanical float assembly Union SS 304
Milk Re-circulation	<ul style="list-style-type: none"> • No-foam tangent bend with SMS Union SS 304
Milk Outlet	<ul style="list-style-type: none"> • Bottom product outlet SS 304
CIP inlet	<ul style="list-style-type: none"> • Top inlet with Spray ball for cleaning SS 304
Legs	<ul style="list-style-type: none"> • Leg with adjustable ball feet SS 304

14.2) PRIMARY INLINE FILTER QTY: 1 NO

Application	<ul style="list-style-type: none"> • continuous filtering the raw milk
Construction	<ul style="list-style-type: none"> • Pipe in pipe with removable ss mesh
Capacity	<ul style="list-style-type: none"> • 50 Ltr/hr
Size	<ul style="list-style-type: none"> • 38mm
Shell thickness	<ul style="list-style-type: none"> • 2 mm/ AISI-304

Milk inlet/ outlet	• 25 mm
14.3) FEED PUMP QTY: 1 NO	
Application	• For feeding milk to pasteurizer plant
Design	• Centrifugal sanitary open impeller
Construction	• Horizontal mono-block coupling Shaft base frame mounted
Capacity	• 100 LPH
Material of construction	• AISI-304
Secondary Parts	• Nitrile food grade quality
Seal Type	• Single seal Silicon carbide v/s silicon carbide
Motor Make	• KEC/CROMPTION/ABB
Drive Details	• 3000rpm/3 ph. 415 volts, 50 Hz, IP-55, "F"
14.4) MECHANICAL FLOW CONTROLLER QTY: 1 NO	
Application	• For maintaining the required flow
Design	• Manual sanitary
Construction	• Diaphragm with manual handle
Capacity	• Dia 25mm
Material of construction	• AISI-304
Secondary Parts	• Nitrile food grade quality
14.5) MECHANICAL FLOW METER QTY: 1 NO	
Application	• For measuring instant flow rate
Design	• Metal tube roto meter
Construction	• Manual handle
Capacity	• Range 5 to 200 Ltr/hr, Accuracy ±2% of FSD & ±1.5%
Material of construction	• AISI-304
14.6) HTST MILK PASTEURIZER PLATE PACK – WITH PLC QTY: 1 NO	
Application	• Milk pasteurization & subsequently chilling/cooling it
Design	• Reg. II, Heating II & II & Chilling
capacity	• 100 LPH
Std Milk Program 80 °C	• 4-65-80-11/4 °C (20 sec. holding)
Curd Milk Program 90 °C	• 4-65-80-90-11/4°C (600 sec. holding)
Curd Milk Program 90 °C	• 4-40-65-80-90-45 °C (600 sec. holding)
Paneer Milk Program 90 °C	• 4-65-90°C (Holding by pass Provision)
Milk Homogenization temperature	• 65 °C
Milk Pasteurization temperature	• 90 °C
Milk inlet temperature Program	• 4 °C
Milk Outlet temperature	• 4/45/90°C
Milk temperature Program	• 4/30°C
Plate Material	• AISI-316 L
Pressure Drop Chilled Water	• 1.0 Kg/cm ² /10 MWC
Pressure Drop Hot Water	• 1.0 Kg/cm ² /10 MWC
Gaskets material	• Nitrile food grade quality
Gaskets type	• Clip on
Frame & pressure plate	• Mild steel clad with AISI-304
Interconnecting box	• AISI-304
Tightening bolt	• Manual tightening bolt AISI-304
Support stand	• Self-supporting AISI-316
Type Of Test	• 6 kg/cm ² (g) Hydraulic test & Water circulation
Ball feet	• Adjustable ball feet
14.7) HOLDING TUBE QTY: 1 NO	
Application	• Holding milk at pasteurization temperature at 90°C
Design	• Over head
capacity	• 20 second holding time
14.8) HOLDING TUBE QTY: 1 NO	
Application	• Holding milk at pasteurization temperature. at 90°C
Design	• Side holding coil self-supported with protect cove
Capacity	• 600 second holding time
14.9) AUTO FLOW DIVERSION QTY: 1NO	

Application	<ul style="list-style-type: none"> Whenever hot milk temperature goes below present value a solenoid valve supplying air to FDV actuates and the flow of milk is diverted back in to the constant balance tank
Design	<ul style="list-style-type: none"> Hygienic pneumatic divert seat valve
Size	<ul style="list-style-type: none"> 25mm x 3 way
Material of construction	<ul style="list-style-type: none"> AISI-304
Compressed air	<ul style="list-style-type: none"> 6 - 8 bar
14.10) MAIN HEATING DEVICE QTY: 1NO	
Steam heating device pre heating	<ul style="list-style-type: none"> Hot water generation by mean of steam injection heating device consisting of PID base control panel system, steam control valve, tubular heat exchanger, hot water circulation pump , with interconnecting piping
Steam heating device Main heating	<ul style="list-style-type: none"> Hot water generation by mean of steam injection heating device consisting of PID base control panel system,steam control valve, tubular heat exchanger, hot water circulation pump , with interconnecting piping
14.11) INSTRUMENT AND SEMI AUTOMATICE CONTROL PANEL QTY: 1 NO	
Function	<ul style="list-style-type: none"> To control and monitoring of heating of milk
Finish	<ul style="list-style-type: none"> SS surfaces Should be polished to 150 grit
Design	<ul style="list-style-type: none"> Dust and vermin proof lockable (fully auto)
Mounting	<ul style="list-style-type: none"> Skid mounted
MOC	<ul style="list-style-type: none"> AISI-304
Sheet	<ul style="list-style-type: none"> 2mm thick
<ul style="list-style-type: none"> PID based Automatic controls Should be provided to ensure that the pasteurization temperature of milk is maintained and final out let temperature also. If the required temperature is not reached in both cases the flow of product should be automatically diverted to the constant balance tank with an audible electric horn .Eurotherm make 	
<ul style="list-style-type: none"> Intermediate hot milk temperature (PID Controler) Pasteurized hot milk temperature (PID-Controller) Pre heating hot water inlet temperature (Temperature indicator) Main heating hot water inlet temperature (Temperature indicator) Pasteurized outlet temperature(Temperature indicator) Chilled water inlet temperature (Temperature indicator) 	
<ul style="list-style-type: none"> Pasteurizer Milk feed pump (Starter) Hot Water circulation Pump(Starter) 	
<ul style="list-style-type: none"> Electro pneumatic converter: MTC/WATON SMITH 	
<ul style="list-style-type: none"> Air solenoid valve for steam fdv operation make: ROTEX 	
<ul style="list-style-type: none"> ON/OFF switch and indicator lamp for control supply MAKE: SIMENS 	
<ul style="list-style-type: none"> ON/OFF switch for incoming three phase supply 	
<ul style="list-style-type: none"> Audio and visual alarm 	
<ul style="list-style-type: none"> Auto manual switch for FDV Operations 	
<ul style="list-style-type: none"> Alarm acknowledge switch for hotter 	
<ul style="list-style-type: none"> Set of pneumatics fitting, air tubing, air filter regulator, pressure gauge, for flow diversion valve, steam control valves. 	
<ul style="list-style-type: none"> The panel Should completely wired & connection Should be out at bottom Inside 	
14.12) BULK MILK COOLER QTY: 1 NOS	
The Milk Tank	<ul style="list-style-type: none"> The Milk Tank shall be made of the SS 304 material Vertical, Cylindrical in shape. The rated capacity of the tank shall be of 200 Ltrs. And shall have 200 Ltrs. gross capacity 220. The Tank meets all the requirement of ISO 5708
The Dimension (in mm)	<ul style="list-style-type: none"> 800 x 950 x 1500 mm
The Agitator	<ul style="list-style-type: none"> One Number Agitator with 28 RPM speed. The Agitator is lubrication FREE
The Insulation	<ul style="list-style-type: none"> Injected CFC free PUF. The insulation meets the norms of ISO 5708.

Refrigeration System	
Direct Expansion Type	<ul style="list-style-type: none"> The refrigeration system shall meet all the norms of ISO 5708. The system is designed to cool 50% milk in the morning and 50% milk in the evening i.e TWO Milking
The Milk Cooling Time	<ul style="list-style-type: none"> The milk shall be cooled down from 35oC to 4oC within 3Hrs in morning & in another 3 hrs in evening.
The Compressor	<ul style="list-style-type: none"> Compressor of Emerson Climate Technologies / Equivalent make shall be supplied with KSBC Condensing unit. And shall run on SINGLE/THREE phase Power Supply - KCJ 511-0.75 ton / 1.78 kW
The Condenser	<ul style="list-style-type: none"> Air-cooled
The Refrigerant	<ul style="list-style-type: none"> The Refrigerant used shall be R-22
Cleaning	
CIP Cleaning	<ul style="list-style-type: none"> The Cleaning shall be manual with Brushes
Control Panel	<ul style="list-style-type: none"> The Control Panel shall be supplied made out of CRCA sheet and shall have ON/OFF switch, Single Phase Preventer, Contactors and Relays etc. The temperature indicator shall have to facility to show DOUBLE Digits.
14.13)MINI TRY POWDER MIXER QTY: 1 SET	
Application	<ul style="list-style-type: none"> Shall be used for mixing powders
Design	<ul style="list-style-type: none"> Powder dumping conical hopper table with structure and the entire system Should be interconnect with shear pump the entire unit Should be stands on casters or feet
Finish	<ul style="list-style-type: none"> All the SS Surfaces Should be polished to 150 grit
Capacity	<ul style="list-style-type: none"> 50 Kgs
14.13.1) HOPPER QTY: 1 SET	
Application	<ul style="list-style-type: none"> Milk Powder shall be poured into the hopper.
Design	<ul style="list-style-type: none"> Conical
Capacity	<ul style="list-style-type: none"> 50 Kgs
Sheet material	<ul style="list-style-type: none"> AISI-304 quality
Shell thickness	<ul style="list-style-type: none"> 2mm
14.13.2) POWDER MIXING SHEAR PUMP QTY: 1 NO	
Application	<ul style="list-style-type: none"> For effectively mixing powders , dissolve, emulsify
Design	<ul style="list-style-type: none"> Centrifugal sanitary close shear impeller
Construction	<ul style="list-style-type: none"> Horizontal mono-block coupling Shaft base frame mounted
Capacity	<ul style="list-style-type: none"> 50 kgs
Material of construction	<ul style="list-style-type: none"> AISI-304
Secondary Parts	<ul style="list-style-type: none"> Nitrile food grade quality
Seal Type	<ul style="list-style-type: none"> Single seal Silicon carbide v/s silicon carbide
Motor Make	<ul style="list-style-type: none"> KEC/CROMPTION/ABB
14.13.3) PRIMARY INLINE FILTER QTY: 1 NO	
Application	<ul style="list-style-type: none"> Shall be used for continuous filtering the milk
Construction	<ul style="list-style-type: none"> Pipe in pipe with removable ss mesh
Shell thickness	<ul style="list-style-type: none"> 2 mm/ AISI-304
Milk inlet/ outlet	<ul style="list-style-type: none"> 25 mm
14.13.4) BATCH PREPARATION TANK QTY: 1 NO	
Application	<ul style="list-style-type: none"> RCM Shall be used for preparation of milk batch
Construction	<ul style="list-style-type: none"> Vertical double walled insulated
Capacity	<ul style="list-style-type: none"> 100 Liters
Metal Contact	<ul style="list-style-type: none"> insulated padding fixed between inner shell and stiffeners
Slope	<ul style="list-style-type: none"> 1:15 towards outlet for free & complete drainage
Joint Curvature	<ul style="list-style-type: none"> Radius of welded & permanent attachment joints
Inner body	<ul style="list-style-type: none"> Shell 2.0mm SS 304
Inner dish-end	<ul style="list-style-type: none"> Bottom dished-end 2.0mm SS 304
Outer body	<ul style="list-style-type: none"> Shell 2mm SS 304
Outer dish-end	<ul style="list-style-type: none"> Bottom dished-end 2.0mm SS 304

Top cover	• Splash proof two half cover with handle
Stiffeners	• Between inner and outer shells and supporting structure
Insulation	• Should be thermally insulated with 75mm puff insulation
Milk Inlet	• No-foam bend with SMS Union SS 304
Milk Outlet	• Bottom product outlet SS 304
Agitator:	• Top gear box / motor for uniform agitation SS 304
Level Marks	• Standard intervals on the inner shell
Thermo well	• Inclined pocket for mounting temp. sensor/ Dial indicator
Drain Hole	• lowest point SS 304
Legs	• Leg 640 height with adjustable ball feet SS 304
14.13.5) REMOTE CONTROL PANEL QTY: 1 NO	
Function	• To control powder mixing unit
Finish	• SS surfaces Should be polished to 150 grit
Design	• Dust and vermin proof lockable
Mounting	• Skid mounted
MOC	• AISI-304
Sheet	• 2mm thick
Temperature indicator & controls	• All the critical temperature
Contactors&START/STOP push button	• All the starters
14.14.0) TROLLEY MOUNTED CIP UNIT QTY: 1 NO	
14.14.1) TROLLY MOUNTED CLEAN IN PLACE UNIT QTY: 1 NO	
<ul style="list-style-type: none"> • CIP unit shall be to clean milk handling equipment and interconnecting pipes and fittings timer-based cleaning sequence. • Electrical Heater shall be used for heating the cleaning liquids continuously while pumping to the equipment to be cleaned. • The control panel designed in such a way that / circuits can be accomplished with ease and with minimum down time. • Electrical Control Panel shall be executing the complete cleaning with sequence timer 	
DESIGN:	
<ul style="list-style-type: none"> ▪ CIP Unit Shall be manually operated by toggle switch or push button and timers. Comprise programmed cleaning cycle and controls for cleaning and flushing. 	
OPERATION:	
<ol style="list-style-type: none"> 1. Dosing of concentrated Lye / manually 2. Preparation of Hot water and heating the solution at set value by Electric Heater 3. Ready CIP Solution kept in tank Shall be circulated in cleaning Equipments as per the set timer. 4. Return CIP Solution from cleaning equipment Shall be transfer through return pump 5. And before collecting to the CIP tank the solution Shall be filter by using 6. On line CIP filter. 7. The reusable, poor Acid/Lyes solution and Hot water Shall have provision to drain Manually. 8. Mimic diagram Shall display operation of CIP system with help of LEDS. 	
14.14.2) CIP TANKS QTY:1NO	
Function	• For storing/recovery the hot water and Lye Solution
Design	• for Hot/Lye and acid & hot water generation tank of 300 liter
Finish	• Finished to 150 grits. All weld joints ground smooth
Construction	• Double walled, insulated, welded, sanitary design.
Capacity	• 300 Liters
Metal Contact	• insulated padding between the inner SS shell and stiffeners
Inner Body	• Shell 2.5mm /AISI 316L • Side /Bottom 2.5mm/AISI 316L
Outer Body	• Shell 2mm /AISI 316LL • Side /Bottom 2mm/AISI 316L
Insulation:	• Puff insulation
Water heater	• 2 Nos Immersion electric water heater 12 kw
CIP inlet	• 1 No. 38mm No-foam return inlets at the top of the tank

Water inlet	• 1 No. 38mm Process water inlets near top of the tank
CIP Outlet	• 1 No. 38mm CIP outlet at the bottom of the tank AISI-304
CIP overflow outlet	• 1 No. 25mm over flow pipe at bottom of the tank AISI-304
Drain Outlet	• 1 No. 38mm CIP drain at the bottom of the tank AISI-304
Legs	• 4 Nos. legs SS pipe & ball feet with vertical adjustments.
Thermo well	• 300 mm long SS inclined pocket for temperature indicator
Lifting Lugs	• Lifting lugs Shall be provided at top.
Thermo well	• 300 mm long SS inclined pocket for temperature indicator
Lifting Lugs	• Lifting lugs Shall be provided at top.
14.14.3) CIP SUPPLY & RETURN PUMP QTY:2 NOS	
Pump Design	• S.S. Sanitary
Flow	• 5000 LPH
Pump type	• "D"
Pump construction	• Horizontal monoblock and coupling Shaft
Pump mounting	• Leg mounted with adjustable ball feet and shroud.
Suction x Discharge	• 38 x 38mm
Connection	• SMS STD
MOC	• AISI-316
Secondary parts	• Viton food grade quality
Seal type	• Single Mechanical shaft seal dia 22mm
Seal face	• Tungsten carbide V/s Tungsten carbide
Motor make	• SIEMENS/ ABB/ANY REPUTED MAKE
Drive details	• 3 ph Std. TEFC, 380 volts, 50Hz, IP-55, "F" class
Motor kw/hp/rpm	• 1.5/2/3000
14.14.4) S.S. SIMPLEX STRAINER QTY:1NO	
Function	• Continuously filtering of CIP solution
Finish	• Surfaces Shall be polished to 150 grit
Capacity	• 5000 LPH
Filter type	• Tubular with bypass valves
Sheet material	• AISI-316
Shell thickness	• 1.6mm
Milk inlet/ Outlet	• 38 mm SMS std
Filter	• SS mesh with 50 micron
Test pressure	• 6 kg/cm ² (g) Hydraulic test
14.14.5) SS BUTTERFLY VALVES QTY: 1 UNIT	
Type	Pneumatic operate valve
Size	38 x 2 way mm SMS connection:1 Lot
Material of construction	AISI-304
Compressed air	2.5 Kg/cm ² . At the inlet of air pressure regulator.
14.14.6) CIP SS INTERCONNECTING PIPES & FITTINGS QTY:1NO	
Function: Interconnection Piping of tank.	
Finish	• SS surfaces Shall be polished to 150 grit
Design	• Sanitary
Size	• 38 mm /AISI-316L/ SMS Std.
14.14.7) CONTROL PANEL QTY:1NO	
Design	• Dust & vermin proof lockable
Mounting	• The panel housing Shall be floor mounting type
Finish	• SS surfaces Shall be polished to 150 grit
Material of construction	• AISI-316L
Sheet	• 2mm thick
Temperature indicator	• Digital temperature indicator for CIP Tank: ESD
ON/OFF switch indicator	• SIEMENS
Hotter Alarm acknowledge	• Switch for completion of cycle time and temperature
START/STOP push button	• Supply & Return pump
14.15.) LAB MODEL HOMOGENIZER QTY: 1NO	
Capacity	• 50 LPH /200 Bar
Motor rating	• Volts: 415 /Ph:3 / Hz:50
Function	• To breaking & dispersing fat globules in either skim

	milk/reconstituted milk. Ice cream mix.
Construction	<ul style="list-style-type: none"> Robust, sturdy and self-supported on SS ball feet. All milk contact surface Should be made from SS confirming AISI-316,
Suction & discharge valves	<ul style="list-style-type: none"> Puppet type. The plunger cooling Should be done by water.
Body	<ul style="list-style-type: none"> High-grade cast iron, which Should have SS shroud.
Homogenize Valve	<ul style="list-style-type: none"> Vale seat Should have flat mating surfacing and Should be made of special material suitable for the product.
Inlets/Outlets	<ul style="list-style-type: none"> Suitable size for product with 38mm SMS Union
14.16) INSTANT DX TYPE IBT -300 LPH QTY: 1 NO	
Function	<ul style="list-style-type: none"> To produce continuous glycol water having output temp 0 deg.c required to chilled the milk at 3-4 deg.c @300 LPH
Refrigeration Tonnage	<ul style="list-style-type: none"> 4.6TR at minus 5 evaporation & + 54 deg.c condensation.
Compressor & make	<ul style="list-style-type: none"> Scroll compressor Danfoss make (1 No)
Air Cooled Condenser	<ul style="list-style-type: none"> Oversize copper condenser with sufficient aluminum fins per inch with three nos fan having sufficient CFM (1 No)
Refrigeration Controls	<ul style="list-style-type: none"> Thermostatic expansion valve, HP & LP cutouts, HP & LP gauges, Solenoid valve, sight glass, driver/filter, charging valves & Isolation valves etc Danfoss make. (1 Lot)
Plate type Chiller	<ul style="list-style-type: none"> Alfa Laval make SS316 brazed type heat exchanger having capacity 5 (1No)
Copper Pipes & Fittings	<ul style="list-style-type: none"> Copper pipes, Elbows, reducer etc. to interconnecting all refrigeration equipment. (1 Lot)
Glycol Tank	<ul style="list-style-type: none"> Rectangular glycol tank having capacity 200 Ltr fabricated in SS304 sheet with PUF insulation covered by aluminum sheet. Glycol tank having top cover, drain & overflow connection. (1 No)
First Charge Glycol	<ul style="list-style-type: none"> @ 50 Ltr Propylene glycol (food quality) approx.25% of water (1 Lot)
First Charge Refrigerant	<ul style="list-style-type: none"> First charge R-407C for commissioning (1Lot)
Electrical Connected Load	<ul style="list-style-type: none"> 8 HP

Or

14.16) MINI CHILLER -500 LPH QTY: 1 NO
<ul style="list-style-type: none"> Flow Rate of 500 LPH at 1°C, TR Required: 5TR

15.0) MINI ELECTRICAL STEAM BOILER QTY: 1 NO	
15.1) ELECTRICAL BOILER QTY. 1 NO	
Description	<ul style="list-style-type: none"> The boiler set shall be capable of generating steam working on Electrical and shall consist of the Pressure parts fabricated out of High temperature resistant carbon steel tube (ERW).
Power Requirement	<ul style="list-style-type: none">
Steam output (f & a 100 Deg c)	<ul style="list-style-type: none"> 150kg's/hr
Pressure (safety valve set)	<ul style="list-style-type: none"> 10.54 kg
Fuel	<ul style="list-style-type: none"> Electrical
Thermal efficiency (on ncv basis)	<ul style="list-style-type: none"> 83 % + / -2%, 415 v +/- 6 %, 50 Hz +/- 3 %
15.2) CHIMNEY: QTY: 1 NO	
<ul style="list-style-type: none"> The chimney shall be fabricated from M.S sheets of and shall be of self-supported. One flange to be provided with dummy flange in case extension has to be done at site. 	

16.0) WEIGHING SCALE WITH DIFFERENT RANGES		QTY: 4 NO
Function	<ul style="list-style-type: none"> Should be used for weighing 	
Finish	<ul style="list-style-type: none"> SS surfaces Should be polished to 150 grit 	
Capacity	<ul style="list-style-type: none"> 0.5 KG/2Kgs/3KG/5KG 	
Electrical data	<ul style="list-style-type: none"> 230V (+15%, -10%)ac,50Hz 	
Discharge outlet	<ul style="list-style-type: none"> Discharge valve wth hygienic seating with handle 	
Operating temperature	<ul style="list-style-type: none"> 0 deg. C to 45 Deg. C 	
Stamping	<ul style="list-style-type: none"> It should be stamped as per Legal Metrology requirements 	

ELECTRICAL REQUIREMENTS

MAIN CUM SUB DISTRIBUTION BOARD PANNEL

QTY: 1 NO

- Complete electrical system with main cum sub distribution Board in coming/outgoing., Delta starter panel and electrical cable & earthling. Panel shall be fabricated in 14 SWG and 16 SWG CRCA sheet with 2 coats of enamel paints. The detail HP and current can be calculated as per the equipment and machineries mentioned.

POWER EARTHING & CONTROL CABLE

QTY:1 LOT

- One lot of power earthing & control cable to connect all electric motors to MCC control panel. Complete with cable tray, and supports

PRODUCT PIPE AND FITTING:

QTY: 1 LOT

- The required stainless steel pipes & fittings as per the compact layout standardized by us shall be supplied.SS pipes bends, SS 3 way valves, SS flow regulating valve, SS 2 way valve, nylon clamp's etc. These shall inter connect the various equipment's. The fittings shall conform to SMS standard and this shall strictly work out based on the compact layout of various equipment

LAB MODEL EQUIPMENT UTILITY PIPE AND FITTING:

QTY: 1 LOT

CHILLED WATER PIPE AND FITTINGS:

QTY: 1 LOT

- One lot of MS 'C' class pipes and fittings with necessary valve to circulate chilled water from ice bank tank to necessary require equipment's. Piping based on compact layout. Insulation of all the lines and cladding with Aluminium sheet.

STEAM PIPE AND FITTINGS:

QTY: 1 LOT

- One lot of MS pipes and fittings with necessary valve to interconnect to various equipment, necessary require equipment' from boiler station. Piping based on compact layout.
- All the steam lines shall be insulated and cladding with Aluminium sheet.

PROCESS WATER PIPE AND FITTINGS:

QTY: 1 LOT

- One lot of pipes and fittings with necessary valve to

PNUMATIC AIR PIPE AND FITTINGS:

QTY: 1 LOT

- One lot of GI pipes and fittings with necessary to interconnect to various equipment, necessary require equipment's. Piping based on compact layout

INSULATION AND CLADDING

QTY: 1 LOT

- Chilled water, hot water and steam pipe lines shall be insulated covered by 22 g Aluminium Cladding.

ERECTION AND COMMISSIONING

QTY: 1LOT

- The above equipment shall be mechanically / electrically installed and commissioned. All the above equipment i.e. shall get erected positioned at sit, put into operation both mechanically & electrically as per the diagram submitted and approved by TCMPF Ltd.The plant shall be tested and after trial the plant shall be handed over to TCMPF Ltd.

BATTERY POINTS

- The electrical power is available at one point in the building. The bidder scope starts from this point to MCC and further distribution to equipments.
- The required raw water shall be taken from the building. The bidder scope starts from this point to further distribution.

PREFERRED MAKE:

DESCRIPTION OF THE ITEM	PREFERRED MAKE
Homogenizer	Tetra Pak, Gea, Spx, Micron, Goma
Ice Cream Plant- Continuous Freezer	Synergy, Katta, Tetrapack
Shear Pump	IDMC, SPX, Tetra Pak, Zeuzer, Fristan
Centrifugal Pump	IDMC, Fristan, Zeuizer
Tanks and Vessels	IDMC, Zeuzer, Goma, Repute, Ashta Vinayaka
Retort Sterilizer	Machin Fabrik, DAPL, Elegant Engineering
Ice Cream Filling Machine	ISF, Panchal, Micron, Fill Pack
Pasteurizer	IDMC, Zeuzer, Tetrapak, GEA, Goma
Conduction Sealing machine	Elegant Engineering, Sigma, Fill Pack
Khoa Pan	RPM, Ashta Vinayaka, Zeuzer
Multi Purpose Pasteurizer with PLC	IDMS, GEA, Tetrapack, Zeuzer, Goma
Incubator	Ice Make, Climate Changers, Global Refrigeration
Cold room & Freezer	Ice Make, Climate Changers, Global Refrigeration, Rinac

ANNEXURE-I
(Details in Letter Head of the Bidder)

PROFILE OF THE BIDDING ORGANISATION

The Bidder shall furnish the following details without fail:

Manufacturer / Supplier	
Name of the Organization	
Nature of the Organization:	1. <input type="checkbox"/> Individual contractor 2. <input type="checkbox"/> Sole Proprietary Firm 3. <input type="checkbox"/> Firm in Partnership 4. <input type="checkbox"/> Private Limited Company 5. <input type="checkbox"/> Public Limited Company
Year of Incorporation (Furnish copy of Certificate of incorporation)	
Main line of Business	
Address of the Registered Office:	
Contact Person Name	
Contact Person Mobile	
E-Mail Address	
Name, position, status, capacity etc, of the Key personnel/ directors of the company (Attach organization chart showing the structure of the company / firm)	
Name, capacity and address of the signatory who has Signed the Qualification Application. Attested copy of authorization issued (either by power of attorney or as per articles of Partnership Deed / Memorandum of Association) in favour of the signatory to sign the qualification Application price Tender/ Agreement should be appended.	
GST Registration Number (Furnish copy of GST Certificate)	
PAN Number (Furnish copy of PAN Card)	
Copy of Income Tax Returns for last three previous financial years	

Note: The Bidder must upload documentary proof for the above details without fail.

I/we hereby declare that the details furnished above are true and correct to the best of my knowledge. In case any of the above information is found to be false or untrue or misleading or misrepresenting, I/we am/are aware that I/we may be held liable for it.

Signature of the Bidder with office seal

Place:

Date:

ANNEXURE-II

(Details in Letter Head of the Bidder)

**INFORMATION REGARDING CURRENT LITIGATION / DEBARRING /
EXPELLING OF APPLICANT OR ABANDONMENT OF WORK BY THE
APPLICANT**

1. (a) Is the Applicant currently involved in any Arbitration / litigation relating to any contract works	Yes/No
(b) If Yes, Details thereon	
2. (a) Has the Applicant or any of it's constituent partners been Debarred/Expelled by any agency during the last Three years	Yes/No
(b) If yes, Details thereon	
3. (a) Has the Applicant or any of it's constituent Partners failed to complete, any contract work during the past Three years	Yes/No
(b) If yes, give details thereon	

Signature of the Bidder with office seal

Note: If any information in this Annexure is found to be incorrect or concealed, the Qualification Application will be summarily rejected & price tender will not be opened.

ANNEXURE-III

(Details in Letter Head of the Bidder)

DECLARATION FORM

**(To be signed with company seal on letter head and uploaded in the
Technical Bid)**

To

The Dy. General Manager (QA),
TCMPF Ltd.,
Head Office, Aavin Illam, 3-A,
PasumponMuthuramalinganar Salai,
Nandanam, Chennai – 600 035.

Sir,

Sub: Acceptance of Terms & Conditions of Tender.

Tender Ref. No.: 2441/DGM(QA)/HO/2024

Name of Tender / Work / Item: Supply, Erection, Installation and
Commissioning of "PILOT SCALE MILK & MILK
PRODUCT EQUIPMENTS ON TURN KEY BASIS to
Research and Development Laboratory, Products
Dairy, Ambattur

We, the undersigned, declare that:

- 1) I / We hereby certify that I / we have read the entire terms and conditions of the tender documents including all documents like detailed technical specification, annexure(s), etc,
- 2) I/we agree to abide by all the detailed specifications, terms and conditions stipulated by the TCMPF LTD. which I/we have read and understood.
- 3) I/we certify that I/we have fully read and understood the instruction to bidders for online bid submission given by TCMPF LTD., and any lapse in improper submission of the bids result in rejection of the bid submitted.
- 4) I/we certify that the tender is offered without any alteration / addition / omission.

- 5) The corrigendum(s) issued from time to time by your department/ organisation too has also been taken into consideration, while submitting this declaration form
- 6) I/ we certify that all the conditions of the tender are accepted.
- 7) I/we agree that the TCMPF LTD., is not responsible for any data corruption that might arise during the transmission / uploading of data in the website or due to disruption in communication error in my / our tender.
- 8) I/we agree that the TCMPF LTD., has right to change schedule of opening or any technical corrective action to resolve any error that might arise during the opening of the e-tender by TCMPF LTD.
- 9) I/we certify that I/we are responsible for the uploading of correct copies of scanned documents as per the e-tender procedure of TCMPF LTD.
- 10) I /we understand that any error in doing so my /our tender may be summarily rejected by TCMPF LTD.
- 11) I/We hereby agree to hold the tender offer valid for acceptance for a period of 180 days from the date of opening of Part – I – Technical bid
- 12) In the event of failure on my / our part to comply with all the requirements mentioned in this tender document I / we unconditionally agree that the department is at its liberty to reject my/our tender including the forfeiture of the full said earnest money deposit absolutely.

Signature of the Bidder with office seal

Place:

Date:

ANNEXURE – IV

(Details in Letter Head of the Bidder)

FINANCIAL CAPABILITY

The Average Annual Sales / Revenue Turnover of M/s..... (Name of Firm) and address for the past three years are given below and certified that the statement is true and correct: -

S. No.	Financial Years	Sales / Revenue Turnover in Lakhs (Rs)
1.	2021-22	
2.	2022-23	
3.	2023-24	
	Total	

Average annual Sales / Revenue turnover - Rs. _____ Lakhs

Note: -The Bidder must upload either the Annual Turn Over Certificate for above 3 years certified by Chartered Accountant or Annual statement of Accounts (i.e.) Profit & Loss Accounts and Balance Sheet for the above 3 years certified by Chartered Accountant in support of Annual Turn Over without fail.

(CERTIFIED BY CHARTED ACCOUNTANT WITH STAMP & SEAL)

ANNEXURE – V

(Details in Letter Head of the Bidder)

COMPLIANCE OF TECHNICAL SPECIFICATION

S. No.	Name of the Items	TCMPF Ltd. Specification	Specification of the Quoted item	Please specify whether the quoted item meets the specification (Yes/No)

Signature of the Bidder with office seal

Place:

Date:

ANNEXURE – VI

(Details in Letter Head of the Bidder)

BIDDER'S EXPERIENCE DETAILS

Details of purchase orders successfully executed in last five years shall be summarized chronologically in the given format and copies of the same may be scanned and uploaded

S. No.	Name and address of the Purchaser	Name of the Items	Purchase Order No. & Date	Qty.	Value of order in Rs. Lakhs	Performance Certificate obtained on
1.						
2.						
3.						
4.						

Signature of the Bidder with office seal

Place:

Date:

ANNEXURE – VII
(Details in Letter Head of the OEM)

MANUFACTURERS' AUTHORISATION FORM

Reference No. _____,

Dated: _____

To

The Managing Director,
Tamil Nadu Co-operative Milk Producers' Federation Ltd,
3A, Aavin Illam, Chamiers Road,
Nandanam, Chennai-600 035

Dear Sir,

Subject: Tender Ref. No. 2441/DGM(QA)/HO/2024

We, (Name of the manufacturer), an established and reputable manufacturer of having factories at (Name place of Works) do hereby authorize (Name and address of Agents) to bid, negotiate and conclude the contract with you against Tender Ref. No for the above goods manufactured by us.

No company or firm or individual other than (Name of your sole agent/distributor) are authorized to bid, negotiate and conclude the contract in regard to this business against this specific Tender Ref. No.

We hereby extend our full guarantee for the goods and supply against Design, Supply, Erection, Installation and Commissioning of Pilot Scale Milk & Milk Product Equipments On Turn Key Basis for Research and Development Laboratory, Products Dairy, Ambattur, Chennai- 600 098by the above firm.

Yours faithfully,

(NAME)

For and on behalf of M/s. _____

(Name of Manufacturers)

Note: This letter of authority should be on the Letterhead of the manufacturing concern and should be signed by a person competent and having the power of attorney to bind the manufacturer

ANNEXURE-VIII

(Details in Letter Head of the Bidder) FINANCIAL BID

I/We have gone through and understood all the terms and conditions of the tender and will abide by all the condition laid down for the supply of tendered item as per the detailed scope of work, terms and conditions laid down in the tender document.

Tender Inviting Authority: Dy.General Manager (QA)							
Name of Work: Design, Supply, Erection and Commissioning of Pilot Scale Equipment for Research & Development Laboratory, Ambattur, Chennai							
Contract No: 2441(DGM(QA)HQ2025							
Name of the Bidder/ Bidding Firm / Company :							
PRICE SCHEDULE							
(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)							
NUMBER #	TEXT #	TEXT #	NUMBER #	TEXT #	NUMBER #	NUMBER #	TEXT #
Sl. No.	Item Description	Item Code / Make	Quantity	Units	BASIC RATE in Figures To be entered by the Bidder Rs. P	TOTAL AMOUNT Without Taxes	TOTAL AMOUNT in Words
1	1.0 PILOT SCALE FLAVORED MILK UNIT	Item 1					
1.01	SUGAR SYRUP TANK	Item2	1.000	Nos		0.00	Rs Zero Only
1.02	BATCH PASTURIZER	Item3	1.000	Nos		0.00	Rs Zero Only
1.03	PRIMARY RILHE FILTER	Item4	1.000	Nos		0.00	Rs Zero Only
1.04	CENTRIFUGA FEED PUMP	Item5	1.000	Nos		0.00	Rs Zero Only
1.05	HOMOGENIZER	Item6	1.000	Nos		0.00	Rs Zero Only
1.06	REMOTE CONTROL PANEL	Item7	1.000	Nos		0.00	Rs Zero Only
2	RETARD STERILIZER	Item9					
2.01	Retard Vessel	Item8	1.000	Nos		0.00	Rs Zero Only
2.02	Main Control Items	Item10	1.000	Nos		0.00	Rs Zero Only
3	BOTTLE SEALING MACHINE	Item 11					
3.01	DEH AUTOMATIC BOTTLE FILLER	Item12	1.000	Nos		0.00	Rs Zero Only
3.02	CONDUCTION SEALING MACHINE	Item13	1.000	Nos		0.00	Rs Zero Only
4	CUP SEALING MACHINE	Item14	1.000	Nos		0.00	Rs Zero Only
5	CR KHTA MARKING MACHINE	Item15	1.000	Nos		0.00	Rs Zero Only

1. The rate quoted in the Financial Bid (BOQ - Excel online) shall remain constant during the period of contract or till extended period if any and no other additional charges on any account will be claimed. The above rate is on F.O.R. which is inclusive of all viz. material cost, GST/IGST for supply and erection commissioning, transport charges, toll charges, transit insurance, loading and unloading charges, erection and commissioning charges, etc.,

2). The bidder should quote rates for Erection, Installation, and Commissioning that are not less than 20% of the total supply value quoted for this tender. If the bidder has quoted below 20% for Erection, Installation, Testing, and Commissioning, the total quoted value of Supply and Erection, Installation, Testing, and Commissioning will be split and calculated as 80% for Supply and 20% for Erection, Installation, Testing, and Commissioning.

For example, if the bidder has quoted Rs.100/- for Supply and Rs.10/- for Erection, Installation, and Commissioning, totalling Rs.110/-, the amount will be split as 80% for Supply and 20% for Erection, Installation, Testing, and Commissioning. This means the calculated amounts will be Rs.88/- for Supply and Rs.22/- for Erection, Installation, Testing, and Commissioning. The revised breakup details should be furnished after the financial bid opening, or otherwise, the revised value should be adjusted proportionately based on the above.

3). All the rates should be only in terms of Indian Rupees.

4). The L1 bidder shall furnish complete break up details for the as per bill of materials mentioned in the Technical Specification in a separate sheet for Price, GST/IGST, with the percentage.

5). The Bidder should quote all the required items as per the design requirement and not limited with BOQ for the successful supply, erection and commissioning of Pilot Scale Plant at Research & Development Laboratory, Products Dairy, Ambattur, Chennai

Signature of the Bidder with office seal

Place:

Date:

CHECK LIST

BIDDER TO FILL IN THE CHECK LIST AND UPLOAD IN THE ONLINE PORTAL WHILE SUBMITTING THE TENDER

(State YES / NO for each item)

Kindly ensure compliance of the under-mentioned requirements, as per Tender Terms and Conditions.

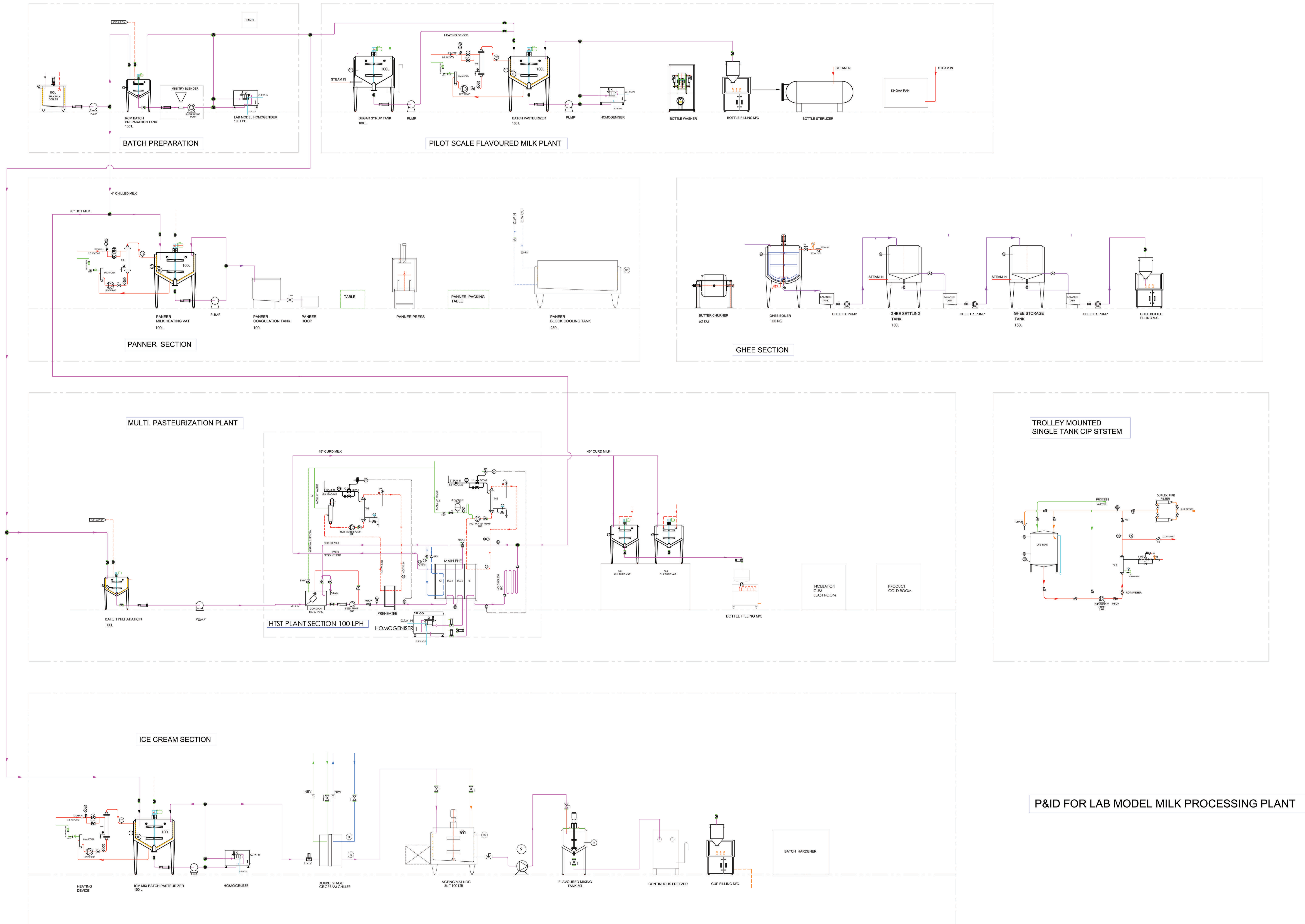
S. No.	Description	Bidders Response
I. TECHNICAL BID		
1.	Whether details of E-Remittance towards EMD Amount is uploaded.	Yes/No
	If the bidder is claiming EMD exemption, a copy of valid document proof of EMD exemption to be uploaded in accordance with Clause No.5.1	Yes/No
2.	Whether documentary evidence for manufacturer / supplier as per tender clause 5.2 are uploaded	Yes/No
4.	Whether documentary evidence for average annual sales turn-over as per tender clause 5.3 are uploaded	Yes/No
5.	Whether documentary evidence for catalogue of the tendered item conforming to the tender specifications as per tender clause 5.4 are uploaded	Yes/No
6.	Whether the copies of purchase orders / supply orders as per Tender Clause No. 5.5 are uploaded.	Yes/No
7.	Whether the copies of Satisfactory supply Completion Certificate / Performance Certificate as per Tender Clause No. 5.6 are uploaded.	Yes/No
8.	Whether the tender documents are signed & stamped with company seal and uploaded as per tender clause 5.7 are uploaded	Yes/No
9.	Whether the following Supporting Documents, including the Annexures / Amendments are uploaded duly signed and sealed in each and every page, failing which their offer will be rejected	Yes/No
	Profile of the Bidding Organisation as per Annexure-I.	Yes/No
	Details of Abandonment of work Litigation / debarring done as per Annexure -II	Yes/No
	Declaration Form as per Annexure-III	Yes/No
	Financial Capability Annexure-IV	Yes/No
	Bidder's Experience Details- Annexure - V	Yes/No
	Compliance of Technical Specification - Annexure- VI	Yes/No
II. FINANCIAL BID		
10.	Whether the Financial Bid – Annexure- VII BOQ (Excel Format) is filled and uploaded	Yes/No

Note: Please ensure that all the relevant boxes are marked YES / NO against each column

Important Note: Bidders must ensure to upload all the required documents indicated in the Tender document without fail in the Online Portal. Bids uploaded without supporting documents (See Clause No 5 Pre-Qualification Criteria) in respect of the various requirements mentioned in the tender document are liable to be rejected at the initial stage itself.

TAMILNADU CO-OPERATIVE MILK PRODUCERS' FEDERATION LIMITED

PROCESSING LINE DIAGRAM OF PILOT SCALE EQUIPMENT FOR RESEARCH & DEVELOPMENT LABORATORY



P&ID FOR LAB MODEL MILK PROCESSING PLANT