# TENDER NOTICE

Tender offers are invited for supply installation and commissioning of 30 KLPH Milk Chiller & 5 KLPH Cream Pasteurizer required at Gokul Dairy project, Gokul Shirgaon, Kolhapur. Tender details alongwith Scope of work, technical details & Terms conditions are available on web site www.gokulmilk.coop and ncdfiemarket.com. Tenders duly marked as 'TENDER FOR MILK CHILLER & CREAM PASTEURIZER ' along with EMD of Rs. 30,000/- on or before - 20.07.2026 Right to accept or reject any Tender without assigning any reason is reserved.

Managing Director President

Board of Authorised Officers

Kolhapur Zilla Sahakari Dudh Utpadak Sangh Ltd.,

B-1, M.I.D.C., Gokul Shirgaon, Kolhapur - 416 234

KOLHAPUR ZILLA SAHAKARI DUDH UTPADAK SANGH LTD., KOLHAPUR

General Terms & Conditions of Tender

1) Tenderer should submit online on NCDFI eMarket Portal.
2) Earnest Money Deposit of Rs. 30,000/- ( Rs. Thirty thousand only) must be submitted in NCDFI escrow account.Tender offer without EMD will not be consiered. RTGS details given below
3) Delivery of chiller is to be given at our Dairy plant at B-1, M.I.D.C., Gokul Shirgaon, Kolhapur.
4) Price offered by the Tenderer should be valid for a minimum period of 3 months from the date of submission of Tender.
5) Payment Terms
   a) 30% of total basic price will be given as an advance against Bank Guarantee ofequivalent amount.

   b) 50% payment alongwith 100% amount of GST will be released after delivery &inspection at our site.

   C) Remaining 20% payment will be released after satisfactory installation & commissioning of Chiller & on submission of performance B.G. for 10% amount of basic price valid for a period of one year.
6) Work Competion Period - 5 months
7) Right to accept or reject any or all Tenders without assigning any reason is reserved
8) Transaction Fees and TDS:

a) As the bidding is processed through the NCDFI Portal, the awardee vendor must pay:
Transaction Fee - 0.40% of the contract value (+ applicable GST).
TDS u/s 194/O - 0.10% of the contract value.
b) Payment must be made within two working days of contract award.
c) Any adjustments in transaction fees and TDS based on the final contract value must be paid promptly or will be adjusted against the EMD amount deposited

Managing Director

KOLHAPUR ZILLA SAHAKARI DUDH UTPADAK SANGH LTD., KOLHAPUR

Fresh cream pasteurization

## TECHNICAL SPECIFICATIONS & SCOPE OF SUPPLY

Skid Mounted Cream Pasteurization Module of Capacity 5 KLPH (PID Controller based Standard Module)

### Design Basis

| | | |
|---|---|---|
| Type | : | Plate Heat Exchanger |
| Product- | :- | Fresh Cream (40% Fat & 4 - 5% SNF) |
| Capacity | : | 5000 LPH |
| MOC of Plates | : | SS 316/L |
| Temperature Program | : | 45–92–8 deg C |
| Sections | : | PHE 1: Regeneration, Cooling & Chilling |
| | : | PHE 2: Heating |
| | : | PHE 3: HWG |
| Holding Time | : | 25 Sec |
| Regeneration Efficiency | : | 80% Approx on Fresh cream |
| Cream Inlet Temperature | : | 45 deg C |
| Pasteurization Temperature | : | 90 deg C |
| Pasteurized Cream Outlet Temp | : | 8 deg C |
| Space Requirements (l*w) | : | 3100*3100 in mm |

### Utilities

Chilled water at 2 deg C @ 7500 LPH

### Basis of operation

Fresh cream at 45 deg C shall be heated to the pasteurization temperature of 92 deg C regeneratively followed by heating using hot water at 93 deg C @ 10000 LPH generated using steam through separate PHE. After pasteurization cream shall be regeneratively cooled and finally chilled to 8 deg C and shall be forwarded for onwards transfer by **Gokul.**

**Utilities specification**: Following are the guidelines for utility specifications which are to be supplied and connected by **the Gokul**

**Instrument quality dry compressed air.**

**Dry saturated steam**

Process Quality Water

1. Fresh Product: Fresh Product at a temperature mentioned in the data sheet shall be connected by SUPPLIER at the inlet of Balance Tank of Cream pasteurizer.

2. Pasteurized/ Final Product: Pasteurized Product shall be made available by SUPPLIER at the outlet of milk pasteurizer for onwards transfer by GOKUL

. 3. Steam: Dry saturated steam (LP) at a pressure of 3.0 bar gauge shall be made available and connected by Client at the inlet of the steam regulating valves. Steam Pressure Reducing Valve (PRV) is e in from supplier scope of supply.

4. Electrical Power: Supplier shall connect the control panel (pneumatic tubing and connections) to the pasteurization plant. Control & power cables to be laid down using S.S. suitable cable tray. For any motor or drive/equipment/instrument if electrical power is required then bidder shall consider it in his scope.

5. Chilled Water: Chilled water supply and return in specified quantity, temperature and pressure shall be made available by Client at the inlet of the chilling section of the pasteurizer.

6. Compressed Air: Instrument quality compressed air at six bar gauge pressure shall be made available and connected by Client at the control panel.

7. Process quality water: Process quality water in sufficient quantity and pressure shall be made available and connected by suppler at the inlet of the expansion vessel and the Float Balance tank.

**Technical specifications and scope of supply**

1.0 Plate Heat Exchanger – Make: IDMC/ALFA LAVAL/TETRA PACK/KELVION/GEA

2.0 Plates: The plates shall be made from stainless steel (SS 316) in sanitary design. All the product contact and exterior surfaces shall be easily accessible or readily removable for cleaning and inspection.

3.0 Gaskets: The sealing gaskets must ensure complete sealing and prevent any cross - leakage between product and service liquids. Gaskets shall be of sanitary type and shall be continuously bonded to the heat transfer surface. The gasket material shall be of food grade, non-toxic, fat resistant, non-absorbent and shall have smooth surface. The material shall withstand a water sterilization temperature of 100 deg C and 1% hot acid at 70 deg C and 2% lye solution at 80 deg C. Gaskets shall be Snap in/Clip on type and MOC shall be NBR/EPDM.

4.0 Supporting Frame: The supporting frame for the plate pack shall be of a self-supporting design made of stainless steel (AISI 304) clad mild steel with a manually operated stainless steel (AISI 304) tightening device. The tightening device shall be able to exert uniform pressure on all the parts of heat transfer plates to prevent any leakages from pasteurizer. The frame and tightening device shall prevent the plates from deflecting under pressure differential of minimum 4 kg/sq.cm.

**Accessories**

**Inlets/Outlet:** The inlets and outlets in each section of the heat exchanger for products as well as services shall be provided with complete stainless steel (AISI 304) unions.

**Thermo-wells**: SS (AISI 304) pockets for thermometers on required ports for product and service inlet and outlet connections. Suitable nos. of pockets are included.

**Ball Feet**: The frame shall be provided with adjustable SS ball feet with provision for height adjustment of 50 mm.

**2.0 Holding**: It shall be designed for continuous holding of the product for at least the minimum specified holding time of 25 seconds in SS 304 tubes. An upward slope of 2.1 cm/m shall be maintained throughout the holding length including bends.

**3.0 Float Balance Tank**: The float balance tank of 250 litres capacity shall be fabricated from 2 mm thick SS sheet conforming to AISI 304. The tank shall be provided with cover, sanitary type SS (AISI 304) float valve with the product inlet, cup type outlet, no-foam return product inlet, inlet for water, overflow, and suitable support legs. The float valve shall be designed for the rated flow rate and shall withstand an inlet pressure of 3 kg/sq.cm. The Balance tank shall be half openable type and shall be provided with stationary spray ball.

**4.0 Feed Pump**: The SS 316 feed pump shall be standard and shall have sanitary SS shroud with louvers for air cooling. Its capacity shall be adequate to facilitate efficient CIP. The pump shall be provided with flanged motor with hygienic mechanical seal arrangement. The motor shall be 3 phase, 415 V (+/-10%), 50Hz (+/-5%), TEFC, squirrel cage with class "F" insulation with IP 55 protection. The pump and drive shall be integrated together. The drive motor shall be fitted with SS 304 arrangement for cable connection. **Make-GRUNDFOSS**

**5.0 Flow Controller (Mechanical Type)**: Flow Controller for Product: Stainless steel manual flow control device shall be supplied to maintain the required flow rate. The flow controller shall be of a sanitary design.

**6.0 Heating Device**: Final stage of heating shall be done with steam heated water. The hot water generation system shall be PHE based and shall have an expansion chamber and other safety devices to take care of the volume of expansion and increased pressure ensuring the complete operational safety. It will be designed as per duty parameters required for pasteurization. It shall consist of PHE plates (MOC SS316: 0.6 mm thick) and MS painted frame with SS 304 cladding. The system shall be supplied with steam control valve with bypass assembly, expansion chamber, safety valve, water make up valve and a suitable steam trap with bypass assembly.

**Safety Device**: A safety device shall be provided in the hot water side of the heating section to avoid damage to the heat exchanger caused by excessive pressure.

**Hot water Pump**: One number of Hot water pumps will be supplied which will be used for hot water circulation for heating of cream up to 90 deg C. It shall be vertical multistage type. Make: Grundfoss

**8:0Instrumentation and control panel:**

Automatic controls shall be provided to ensure pasteurization temperature of product. If the required temperature of product is not reached, the flow of product shall be automatically diverted to the float balance tank with an audible alarm.

The pneumatic FDV shall be with SS316 wetted parts and EPDM seat. Make: IDMC/Alfa Level/Tetra

The instrumentation and control panel shall be made in standard execution built to dust and vermin proof design. The control panel shall be leg supported and house the following components all pre-wired to terminal strip:

**One of PID Temperature control arrangement for control of pasteurization temperature together with Steam Regulating and control valve is included. Make – Yokogava/Siemens**

8.1 PID Controller for temperature of pasteurized product with display of set temperature and actual Product temperature: The controller has a facility to automatically tune to the requirement of set temperature

8.2 8 Channel Paperless/Chartless recorder (Data Logger) with digital display of temperatures of pasteurized product. It has microprocessor based with functional key facility for zero and span calibration. Cutout size – 186 x 92 ,Display size – ½ inch ,Make – Electronics system devices (ESD),Pune. Input RTD PF 100 Three wire with PC software for data access.

8.3 . Audio alarm with hooter and acknowledge and reset push button

8.4 . Auto manual selection switches and forced forward flow provision.

8.5 I/P Convertor for steam control valve operation and electrically operated solenoid valve for air supply to flow diversion valve.

8.6 Air pressure regulator cum moisture separator with isolating valve to ensure proper air supply to I/P Convertor and solenoid valves.

8.7 Incoming on/off switch for control supply.

One set of `ON' and `OFF' push buttons with indicating lamps and suitable inscriptions shall be provided for operation of motors of various models.

**9.0 SS 304 Pipes and Fittings (IDMC/ALFA LEVEL/TETRA PACK Make)**: All interconnecting pipes with necessary fittings for product as well as service shall be supplied within the specified battery limits and exclusions

**. 9.1** Product: The supply shall include all the necessary SS 304 pipes and fittings from the outlet of balance tank to the finished Pasteurized Product outlet as required interconnecting the above equipment.

**9.2** Hot Water: The supply shall also include necessary SS 304 pipes and fittings for pumping hot water to the heating section of the Pasteurizer and return to the hot water set.

**10.0** The module shall be mounted on SS 304 Skid. However, the pasteurizer plate pack shall be floor mounted with ball feet.

**11.0** Essential special tools shall be supplied with the plant.

**12.0 Supervision o**f pre-check ,Installation & Commissioning_ shall be in scope of SUPPLIER under following battery limits Unloading, shifting and erection of equipment at site shall be arranged by SUPPLIER

**13.0.All types of civil works** excluding of grouting of inserts, floor supports. Civil works:. Any alterations in the building/structures etc. to facilitate movement and placement of equipment if required to be carried out shall have to be carried out by Client. The civil works towards making openings, inserting sleeves across the walls, cut outs and finishing them while laying pipelines and cables shall be carried out by Client.

**14.0 Consumables & Raw Materials:** All raw materials like milk, skim milk powder, process quality water, and other ingredients shall be arranged by the Client both for trial runs, commissioning, and performance demonstrations as per the requirement.

**15.0 GUARANTEE**: The company guarantees that the goods manufactured by it and delivered hereunder will be free of defects in material and workmanship for a period of twelve (12) months from the date of Supply.

**16.0 If** anything is missed out to mention in this tender & it is requirement of process to smooth working of plant,then bidder should provide it without any extra cost.

**17.0** Three soft copies & three hard copies of spare part manuals & operation & maintenance manual should be supplied with platage diagram by the bidder.

**2. Milk Chiller PHE Plate pack of Capacity: 30 KLPH (Bare Plate pack only)**

Type : Plate Heat Exchanger

Capacity : 30 KLPH

Product : Milk (Fat 6.5% Max & SNF 9.5% Max)

Temp Prog : 8-2 deg C

MOC of Plates : SS 316/L (0.6 mm thick)

Sections : Single.

**Utilities**

Chilled water at 1.5 deg C @ 52500 LPH

Basis of operation Milk at 8 deg C shall be chilled to 2 deg C using Chilled water at 1.5 deg C @ 52500 LPH in which shall be forwarded for onwards transfer by client.

Technical Specifications and Scope of Supply

1.0 **Plate Heat Exchanger – IDMC/KELVION/TETRA PACK/ALFA LAVAL/GEA Make**

2.0 **Plates:** The plates shall be made from stainless steel (SS 316) in sanitary design. All the product contact and exterior surfaces shall be easily accessible or readily removable for cleaning and inspection.

3.0 **Gaskets:** The sealing gaskets must ensure complete sealing and prevent any cross-leakage between product and service liquids. Gaskets shall be of sanitary type and shall continuously bond to the heat transfer surface. The gasket material shall be of food grade, non-toxic, fat resistant, non-absorbent and shall have smooth surface. The material shall

withstand a water sterilization temperature of 100 deg C, 1% hot acid solution at 70 deg C and 2% lye solution at 85 deg C. Gaskets' MOC shall be NBR/EPDM.

4.0 **Supporting Frame**: The supporting frame for the plate pack shall be of a self-supporting design made of stainless steel (AISI 304) clad mild steel with a manually operated stainless steel (AISI 304) tightening device. The tightening device shall be able to exert uniform pressure on all the parts of heat transfer plates to prevent any leakages from pasteurizer. The frame and tightening device shall prevent the plates from deflecting under pressure differential of minimum 4 kg/sq.cm

**Accessories**

**Inlets/Outlet**: The inlets and outlets in each section of the heat exchanger for products as well as services shall be provided with complete stainless steel (AISI 304) unions.

**Thermo-wells**: SS (AISI 304) pockets for thermometer on required ports for Product and service inlet and outlet connections. Suitable no. of pockets is included.

**Milk Pump -** Suitable capacity Fristam make milk feed pump to be considered in bidder's scope.

**Ball Feet**: PHE plate pack shall be provided with SS304 ball feet for height adjustments upto 50 mm – 04 Nos.

**Tools:** Essential special tools shall be supplied with the PHE.

**Installation and Commissioning shall be in scope of SUPPLIER**

**GUARANTEE**: The company guarantees that the goods manufactured by it and delivered hereunder will be free of defects in material and workmanship for a period of twelve (12) months from the date of Supply.

**Eligibility Criteria –**

**Only original equipment manufacturer (OEM) or its authorized dealer/distributer can participate for the tender.**

Three soft copies & three hard copies of spare part manuals & operation & maintenance manual should be supplied with platage diagram by the bidder.

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