



The Bhagirathi Co-op. Milk Producers' Union Limited
(A Govt. of West Bengal Project)

BU/MDO/RIDFXXIX/2609

Dated: 20.02.2025

Request to Conduct Reverse Auction for Supply, installation and commissioning of Triple Head AFS Packaging Machine.

Scope of Work: Supply, installation and commissioning of High-Speed Triple Head AFS Packaging Machine.

Validity of Bid: 180 days

Technical Specification: As per **Annexure-I**

General Terms and Conditions:

1. Suppliers are requested to go through the Tender Documents to understand the requirement, location of the installation and commissioning and then quote their rate. Rate once quoted by the supplier shall be deemed to be quoted by the bidder after understanding the requirements of the Milk Union. Rates once quoted are final and no alteration in rate shall be allowed.
2. **Rate to be quoted by the Bidder:** The rate quoted by the bidder shall be inclusive of all taxes Excise Duty, GST and other charges/ taxes if any for the delivery of the goods in the office of The Bhagirathi Cooperative Milk Producers' Union Ltd.
3. **Price:** Price charged by the supplier for goods delivered under the contract shall not vary from the prices quoted by the supplier in its bid. Price consists of the cost of the equipment along with installation and commissioning of the unit along with trial run and satisfactory operational training of the entire unit. No escalation in price shall be applicable.
4. **Place of Delivery, Installation and Commissioning:** The office of The Bhagirathi Cooperative Milk Producers' Union Ltd. Feeder Dairy, Panchantala, Berhampore, Murshidabad, Pin-742101, West Bengal.
5. If the Supplier's operations are located outside West Bengal than the supplier should have local arrangement (within West Bengal) for 'prompt after sale service' of the installed unit as and when required within warranty period free of cost. The service must be completed within 48 hours of receipt of the information.
6. **Documents required to be furnished/uploaded:**
 - a. **Experience:** Minimum 5 years of experience in supply, installation and commissioning of at least 10 no(s) High-Speed AFS Packaging Machine. Completion certificate of the same must be uploaded.
 - b. PAN CARD and GSTIN (GST Registration Certificate).
 - c. Minimum Turnover of Rs 1 Crores in each Financial year 2021-2022, 2022-2023, 2023-2024. Audited Balance Sheet of previous three consecutive financial years



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(2021-2022, 2022-2023, 2023-2024) must be provided. The statement of annual turnover from Chartered Accountant with sign, seal and registration number.

- d. Make & Model of Machine along with diagram.
 - E. COPY OF AFFIDAVIT AS PER ANNEXURE-II DULY SIGNED & SEALED AND NOTARIZED BY THE BIDDER.
 - f. The Company which are blacklisted by our organization, any organization or by NDDDB are not eligible to bid otherwise, bid will not be accepted and EMD may be forfeited. Even an order issued to such a bidder may get cancelled.
 - g. The technical team of BCMPUL may inspect the required infrastructure available with the bidder before finalization of the tender.
7. **Warranty:** The warranty period shall be twelve months from the date of commissioning of the installed unit from the principal company. Requisite document / warranty papers should be furnished by the supplier after installation and commissioning of the machine. Machines not accompanied by warranty papers after commissioning will be rejected for release of payment.
8. **Performance guarantee:** Party must give performance guarantee for a period of 12 months after warranty period. Performance guarantee includes AFFS machine capacity, Filling (Volume) and Bag length Accuracy. The supplier shall be responsible and be liable to replace or repair in our opinion the equipment supplied that needs replacement or repair because of any defect in the material, workmanship or in the design free of cost brought to the notice of the supplier within 12 months from the date of warranty based on 24 hours continuous duty per day. The design parameters and capacity of new equipment as listed above have been finalized based on recommendations from the supplier. Therefore, the supplier shall be finally responsible for the most efficient performance of the entire machine and shall meet the final production requirement of Milk Union.
9. It is obligatory for the bidder to note that failure to maintain delivery installation and commissioning schedule of ordered item will hold the supplier responsible & action will be taken strictly as per tender rules laid down herein without any prejudice or any short of plea will not be considered except any incident occurred "by act of god" or non-readiness of site by any means may be considered only.
10. **Time Schedule:** Supply, installation & commissioning of the item ordered with all accessories must be completed within 30 (Thirty) days from the date of order. Trial – run of the whole unit will be done in presence of Milk Union's authorized personnel. The trial report shall be submitted duly signed by the authorized personnel. Training of Operation & Maintenance to the operator will have to be imparted free of cost at the time of Commissioning & Trial-run.



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11. **Penal Measure:** Time being the essence of the contract failure to supply the materials within due time or delay in installation and commissioning of the materials shall invite penalty.
 - I. **Liquidated damages** of 0.5% per week subject to a maximum of 10% of the total cost of materials shall be charged if goods are not delivered on time and the amount will be deducted from the EMD and bills submitted by the supplier.
 - II. For violation of any terms and conditions of the contract the Bhagirathi Milk Union reserves the right to cancel the contract without assigning any reason thereof. On termination of Contract the EMD will be forfeited and the resultant loss shall be recovered from the company. The subsequent company will be blacklisted for 3 years.
12. **Mode of Transportation:** The mode of transportation for the supply of the goods to our site will be arranged by the bidder.
13. Materials dispatched from the bidder until or unless they reach the Place of Delivery are the sole responsibility of the bidder. The Milk Union will not be responsible for any damage to transit, loading or unloading and no claim in this regard will be entertained.
14. **Loading and Unloading:** Loading and Unloading of the goods will be the responsibility of the supplier and no claim regarding this will be entertained.
15. Complete documentation like principal warranty papers, operation manuals, technical specifications and guarantee cards must be furnished by the supplier.
16. **Payments:** Tax Invoice against all supplies is/are to be sent in triplicate and should invariably be submitted along with supply documents (Challan, e-waybill etc.)
 - 70% will be released on receipt of acknowledged copy of challan/Invoice etc. of the whole unit in good condition at the specified site.
 - 20% payment will be released after successful Installation, Commissioning & Trial-run of the whole unit duly certified by the official of Union.
 - 10% payment shall be released after 1 month after of submission of equivalent bank guarantee valid for a period of 2 years. This shall serve as Performance Guarantee. In case the party fails to provide maintenance and support as per the requirement of the Milk Union or is found to act in a way which jeopardizes the operations of the Milk Union, the Performance Bank Guarantee shall be forfeited after giving a Notice to the supplier in writing and the supplier shall be debarred from participating in any tender in future.
17. Taxes will be deducted as per Govt. norms.

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18. If the machine is not operational as a result of a manufacturing defect or as a result of poor workmanship the machine has to be replaced by the supplier.
19. **Dispute Resolution:** Any dispute arising out of the Agreement, which cannot be amicably settled between the parties, shall be referred to adjudication/arbitration in accordance with the Arbitration and Conciliation Act of 1996 of India. The venue of adjudication/arbitration shall be Kolkata. The language of arbitration shall be English.
20. **Applicable Law:** The agreement shall be interpreted in accordance with the Law of Union India.
21. **Force Majeure:** If, at any time during the subsistence of this contract, the performance in whole or in part by either party of any obligation under this contract is prevented or delayed by reasons of any war or hostility, act of public enemy, civil commotion, sabotage, fire, floods, explosion, epidemics, quarantine restriction, strikers lockout or act of God (hereinafter referred to as events) neither party shall have any claim for damages against other in respect of such non-performance or delay in performance.
22. Other Terms and Condition are as per stranded Terms and condition of the NCDFI.

Sd/-
Managing Director
The Bhagirathi Cooperative Milk
Producers' Union Limited



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ANNEXURE-I

TECHNICAL SPECIFICATION

Mechanical Type-High Speed Automatic Form. Fill & Seal Triple Head Pouch Filling Machine for Milk Pouch Packing

Item: Mechanical Type-High speed automatic form fill and seal triple head pouch filling machine for Milk/Curd (Liquid).

Capacity: 15000 Pouches per machine of 500 ml Pouch per hour

Quantity: 01 no(s)

Scope of Supply: The scope includes Design, Supply, and Erection & Commissioning of Mechanical Type-High speed automatic form fill seal triple head pouch packing machine for milk pouch packaging at Bhagirathi Dairy.

Technical Detail:

Milk will be fed by gravity flow to the float operated balance tank of the pouch filling machine. The machine should form pouches of film. Fill it with product and then seal the same.

Design Requirements:

Product to pack	Milk/ Curd (Liquid)
Type of machine	Fully automatic high speed twin head mechanically operated and controls through PLC and Display Form –Fill-Seal Type.
Feeding System	Gravity flow
Milk packing range:	200,500,1000 ml
Accuracy in volume	0.3% of quantity packed
Accuracy in length	+/- 1 mm for all verity
Speed of the machine	Minimum 5000 pouches/hr./head
Packing material	LDPE/LLDPE
Thickness	40-55micron
Film width	324 mm +/- 1 mm
Film roll weight	20 kgs
Type of sealing	Impulse type
Injection system	Electromagnetic coil actuation type
Cooling water requirement	Vender shall specify

Machine:

The double head mechanical type-high speed pouch filling machine should automatically form, fill and seal milk in pouches from virgin polyethylene film, continuously supplied from roll. The design of the machine should be hygienic. Milk contact part of the machine should be

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made from stainless steel conforming to AISI 304. All the functions of the machines should be controlled by PLC & Display and the machine should be mechanically cam operated.

Float Balance Tank:

Two float type balance tank Should be made from 2mm thick Stainless Steel AISI 304 float balance tank of capacity at least 50liters, all the seals, gaskets used for the float arrangements shall be food grade. All the lid closing arrangements shall be of stainless steel. The float balance tank shall be as per the standard practice. Cladding should be of SS--304 and thickness 2 mm. The balance tank shall be provided with mechanical type float valve and 2" Dia overflow & 2" dia CIP connection.

Main Structure & Base Plate

The base of the machine is fabricated from MS sheet of thickness 12 mm duly coated with EPOXY paint. Aluminum casts main frame where front and back components are assembled. All the tapped holes on chassis shaft are helical steel inserts for longevity of chassis. The body shall be constructed using powder coated mild steel 50x50x5 mm thick angle. Same shall be clad with Stainless steel – 304 sheets of 1.6mm thick. Top cover shall be of SS 304 2.0 mm thick plate. The Machine legs shall be of SS 304 having length. of 300 mm & 38 mm Dia with provision of 50mm height adjustment the door glass should be toughened type.

Spool Barrier Assembly and Film Guide

The Heat sealable film roll up to 20 kg shall be mounted on spool bearer at the bottom of the machine. The spool bearer assembly shall be supported on the idler rollers within sliding drawer, the bottom opening machine cabinet doors, which enable to change the rolls quickly and with SS 304 supports to facilitate easy changeover of film roll. The spool roller bracket assembly shall be made of SS 304 nonmagnetic materials. The Film layers pass in each head via different rollers, film loosening takes place through positive film unwinding AC drive mechanism, its moves in front of the ultraviolet sterilization. The entire idler roller should be SS 304 nonmagnetic type with seal bearing type. The film shall pass through a set of Ultraviolet tubes for sterilization before forming a tube. The film layer shall form a tube at the confirmatory assembly. The film layer shall pass through various rollers and sub-assemblies such as End of film, Film loosening, Film brake etc. to guide the film path

Vertical & Horizontal Sealing

The Horizontal & Vertical sealing operation shall be servo drive with Suitable capacity servo motor & Gear box. The CAM operation shall be Eccentric type with seal bearing.

Or

An A/c geared motor of suitable size and capacity should be provided at the rear side of the machine to actuate the horizontal reciprocating jaws. The mechanism which converts the rotary motion of the gear box shaft to reciprocating motion of the horizontal jaws should ensure smooth and jerk/vibration free operation throughout the cycle. A proper lubricating system should also be provided. Horizontal drive assembly should be provided in an SS enclosure to avoid human error. The vertical and Horizontal sealing time and heat should be controlled by PLC through Display.

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A) Vertical Seal:

The film shall be overlapped and sealed into a tube by vertical electrode. The jaw should be mechanical cam operated and should be of water cooled. The formed film tube surrounds the injection or filling tube through which product to be filled flows in the film. The vertical jaw supports shall be of SS 304. The electrode winding rod support shall be of SS 304 and necessary slots shall be provided for easy cleaning.

The Vertical sealing JAW shall be moves along with horizontal jaw Reciprocating action & vertical jaw connected with CAM through bearing type connecting system operated by Gear/VFD system.

B) Horizontal Seal:

The Horizontal jaw action shall be reciprocating with force sealing type double jaw movement eccentric cam mechanism & with Bearing in place of Bushes for Guide bar & Central Press bar (Main bush).

The horizontal sealing and cutting take place at the same time by horizontal electrode mounted on the front horizontal jaw. Front jaw should be spring type & the jaw shall be water cooled, water flows through holes in the horizontal jaws which hold the electrode. The sealing temp (heat). & Seal time shall be controlled by PLC though Display. Horizontal jaw supports shall be SS 304 Grade. The Sealed tube arrives at the bag making point, here when the horizontal pressure closes the film tube, Horizontal assembly presses seal and cuts the horizontal portion of the film tube. The flow of the liquid in the film tube is continuous & adjustable.

Downward Feed or Pouch Puling:

Down wards movement of the film tubes should be controlled by a set of nip rollers. Vertically overlapped sealed film tube pulled down by nip rollers driven by the suitable size gear motor & reduction gear unit through servo drive controlled by a PLC based Photo sensor unit. The adjustable system for changing the length of the pouches as per requirement shall be provided & Length of pouches controlled by PLC through Display.

Photo Sensor System (Eye mark)

The machine shall be provided with a photocopy on each head with all mounting arrangements to control the length of the pouch. The Eye mark sensor shall be suitable to sense all types of color mark Such as Red, Green, Blue, Violet, Sky Blue, Purple and Black etc. Once it will be set. There is no requirement to change the setting when the eye mark color changes (If possible) and the eye mark sensor is suitable to move in both vertical & horizontal direction for Setting.

Injection System

The product from. The float balance tank is passed through injection tube into the film tube. The filled quantity of the product in each pouch is controlled by opening the valve at the lower end of the injection tube. The flow of the product through the injection tube in the pouches should be continuous and the sealing should be taking place through the product.

- A filling tube leading down from the tank and inside tube of the film is provided.

- A liquid injection cylinder- shall mount on the top of the injection tube and cylinder should be electromagnetic type with motorized movement mechanism to control the flow of milk & the flow of the liquid in the film tube is continuous & adjustable and volume control should be

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controlled by PLC through Display & encoder.

- A gate at the lower end of the injection tube opens when injection switch is turned ON. This shall allow the liquid to be packed in the surrounding formed film tube. The gate shall be open due to electromagnetic coil actuation. The injection system will be continuous type.

Electrical Control panel

The electrical control panel should be front mounted and easy to operate, waterproof and should be separate for each head of the machine. The panel includes all the machine tunings on the front end OR Side of the machine with easy operation. The indicating lamp, electrical switches, control relays, solid state relays/varies, digital pouch counter, hour meter etc should be mounted in this panel. Only MCBs are to be used instead of HRC fuses.

- Touch screen Display, PLC, SMPS, Servo mechanism. AC drive & motor etc. Shall be individual for each head.
- Individual head operation shall be possible.
- The whole operation of the machine shall be PLC base & operate through Display
- The Supplier shall be provided separate operating panel for each to operate the machine if Display fails
- A set of Ultraviolet lights shall be provided at each head of the machine with necessary wiring.
- 230 AC, 15 amp & 5 amp, 3 pin plug socket shall be provided for testing purposes
- The electrical circuit should be 24 V to ensure safety.
- Supplier shall be responsible for providing the arrangement of an alarm with particular head will stop and fault indication on PLC in case of breakage or short circuit of electrode.
- Power and control wiring shall be separate from each other.
- Separate MCB shall tie provided for Power. Control, UV & filling Circuit
- All plc input through fuse terminal only.

The machine shall have the following features

- Auto operation facility should stop the machine, and audiovisual alarm should be Provided if the roll is exhausted
- The Emergency stop button to stop the machine in case of any emergency shall be provided in front of the machine.
- The machine should stop automatically for milk ending.
- All movable parts & Shafts shall be EN.24 & hardened.
- The Supplier shall design bearings system in place of any type of bushes. The modified injection nozzle should be provided to avoid the film sticking problem and foam problem.
- The steel scraper with rubber shall be provided on the rear side of the machine on the film path. Machine roof shall be single point drain arrangement with proper level and drainpipe should be SS 304 extended up to bottom of the machine.
- The entire idler roller should be SS 304 nonmagnetic type with seal bearing type.

Separate control for bag length adjustment (Photo sensor setting), volume control, sealing voltage & timer etc. for handling different film should be provided and control by PLC & displayed on Display

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The construction of the material of the various components is as detailed below:

SUB ASSEMBLIES:

Forming Collar Assembly:

This shall be made from SS-304 sheet except specialized components.

Vertical Front Assembly:

This shall be made from SS-304 sheet except specialized components.

Nip roller Front Assembly:

This shall be made from SS-304 sheet except specialized components.

Horizontal Assembly:

This shall be made from SS-304 sheet except specialized components

Documentation

The machine shall be supplied with PLC, & drive program CD, Manual and Electrical as well as PLC I/O circuit diagram of the machine.

General Requirement.

- ❖ Training shall be given to our qualified operator, maintenance attendant & engineers for operation, periodic check & maintenance of the machine.
- ❖ Civil & structural work for installation will be in our scope. You should provide drawings for carrying out civil' Structural work.
- ❖ Erection & Commissioning shall be done under strict supervision of your Technical Expert only & necessary corrections' Modifications if required shall have to be carried out without any extra cost
- ❖ You should give a one-year Replacement Guarantee of all supplied equipment.
- ❖ The supplier shall responsible & consider that this job is a total turnkey job and hence all items including mechanical equipment's, electrical control equipment's, cables and instrumentation and automation required for the machine and the control panel as well as respective equipment motor' starter for safe operation of the machine is included in the scope of the work even though the same is not detailed in the description of the specification.
- ❖ Supply, installation testing and commissioning of all instruments and control systems required for the safe operation of the machine and connectivity with the equipment and instruments are included in the scope and responsibility of the supplier.
- ❖ This job includes design, supply, and erection & commissioning & demonstration of the performance of the AFFS Machine. It will be the responsibility of the supplier to design all motor ratings

- ❖ All stainless-steel inner surfaces are to be polished to 150 grits and other surface of the machine shall be polished to be 180 grits.

- ❖ The bought-out items should be indicated with make, model and type



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Make of packing machines: Reputed Brand

LIST OF APPROVED MAKES FOR MAJOR COMPONENT

Sl. No.	Description	To be considered by The Supplier
1	Main drive Servo Motors /AC Gear motor	Reputed
2	Main Servo drives / AC Gear motor	Reputed
3	Pulling Servo Motors / AC Gear motor	Reputed
4	Pulling Servo drives /AC gear motor	Reputed
5	AC Drives	Reputed
6	PLC	Reputed
7	SPMS (Power Supply Source)	Reputed
8	PLC Display	Reputed
9	Photo sensor	Panasonic
10	Power Cables	Finolex
11	Control Cables	Finolex
12	Mcbs	L & T
13	Pushbuttons	Siemens
14	Indicating lamps	Siemens
15	T terminal blocks (Screw less)	Connectwell
16	Fuses	Siemens
17	Gear Box	Transtech Gears
18	Bearing	SKF
19	Induction Motors	Siemens

Sd/-
Managing Director
The Bhagirathi Cooperative Milk
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ANNEXURE-II

AFFIDAVIT

(To be furnished in a Twenty Rupees Non-Judicial Stamp Paper duly certified by Notary Public)

1. I/We the undersigned solemnly declare that all the statements made in the documents, records etc., attached with this application are true and correct to the best of my/our knowledge.
2. I/We the undersigned do hereby certify that neither my/our firm/company nor any of its constituent partners have abandoned any work/works of similar nature and magnitude in India, in the past.
3. I/We the undersigned do hereby certify that any of the contracts awarded to me/us has been terminated rescinded due to breach of contract on my/our part in the past.
4. I/We the undersigned authorize (s) and request any bank / person / firm / corporation / Government Departments to furnish pertinent information deemed necessary and requested by The Bhagirathi Cooperative Milk Producers' Union Ltd. to verify the statement made by me/us or to assess my/our competence and general reputation.
5. I/We the undersigned, understand(s) that further qualifying information / clarifications on the statement made by me / us may be requested by The Bhagirathi Cooperative Milk Producers' Union Ltd and agree(s) to furnish such information/clarification within SEVEN Days from the date of receipt of such request from The Bhagirathi Cooperative Milk Producers' Union Ltd

Dated Signature of Applicant with Seal:

To be signed by the officer authorized by the Firm/
Company to sign on behalf, the Firm /
(Company with company's seal)

Note: In case of sole proprietary concern, affidavit should be signed only by the
Sole proprietor.

(Title of the Officer)

(Title of the firm/Company)

(Date)

The above-named deponent has understood the contents well and

Solemnly and sincerely declared and affirmed by the deponent in my presence at.....and signed
before me on this day of..... (Seal).

(Signature of the Notary Public)