



सीएसआईआर-केंद्रीय खाद्य प्रौद्योगिक अनुसंधान संस्थान  
CSIR- CENTRAL FOOD TECHNOLOGICAL RESEARCH INSTITUTE  
मैसूरु / MYSURU-570 020, भारत / INDIA

(Constituent Laboratory of CSIR, New Delhi (Ministry of Science & Technology)  
An ISO 9001:2008, ISO 14001:2004 & ISO 17025:2005, NABL Accredited Laboratory

सं. /No. CFTRI /74191/2020

दिनांक / Date: 29<sup>th</sup> May 2020

**NOTICE INVITING TENDER**

क्रम सं. Sl. No.	निविदा संदर्भ Tender Reference	विवरण / Description
1	CFTRI/74191/2020	Flaking Line – 1No.

1. Director, CSIR-CFTRI, Mysuru invites tenders for supply, installation & commissioning and satisfactory demonstration of Flaking Line – 1No.
2. **Pre Bid conference is scheduled on 09.06.2020 in Person/Video Conference at 10.00a.m at CSIR-CFTRI, Mysore (Refer Sl. No. 5 of instruction to bidders)**
3. Last date for submission of Tender is 2.00 P.M. (IST) on 18 /June/ 2020 on line in etenders.gov.in.
4. Bid Security(EMD) Rs. 50,000.00
5. Technical Bid Opening on line in etender portal at 2.30P.M(IST) on 19/June/2020

हस्ता./Sd/-

अनुभाग अधिकारी (भंडार एवं क्रय)

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**CRITICAL DATE SHEET**

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**Tender Ref/No. CFTRI/74191/2020**

Sl.No.	Stage	Date & Time
1	Publish Date & Time	29/05/2020 @ 5.00p.m.
2	Document Download Start Date & Time	29/05/2020 @ 5.30p.m.
3	<b>Pre Bid Conference</b>	<b>09/06/2020 @ 10.00a.m</b>
3	Bid submission Start Date & Time	11/06/2020 @ 10.00a.m.
4	Bid submission End Date & Time	18/06/2020 @ 2.00p.m.
5	Bid Opening Date & Time	19/06/2020 @ 2.30p.m.

**TENTATIVE TIME SCHEDULE OF PROCUREMENT PLANNING:**

Sl.No.	Stage Tentative Frame Time	Date & Time
1	Date of Bid opening	19/06/2020
2	Date of Completion of Techno-Commercial Bid evaluation	19/06/2020+ 15 Days
3	Date of Communication of Rejection of Bids	19/06/2020+ 25 Days
4	Date of Receipt of Contest, if any, from Bidders	19/06/2020+ 35 Days
5	Notification of Award	19/06/2020+ 50 Days

# TECHNICAL SPECIFICATION IN DETAIL

## EQUIPMENT LIST WITH SPECIFICATIONS

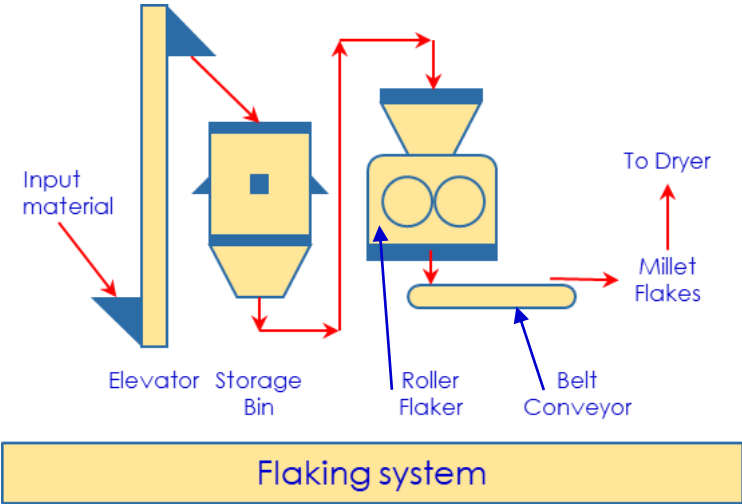
### 1. Millet flaking system & accessories:

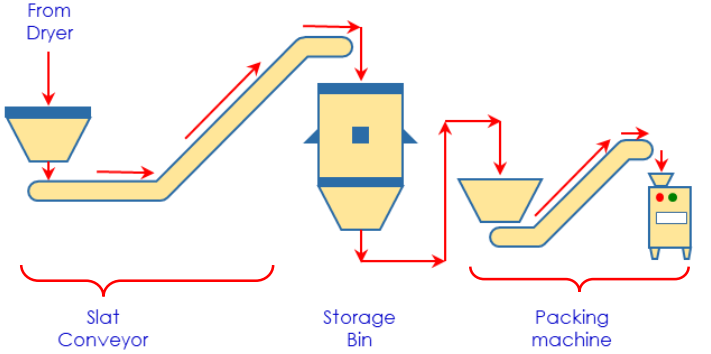
Complete plant for processing of millets, to produce polished millets, at a capacity of 1 Tonne per hour consisting of the following machinery and accessories as per tentative plant layout enclosed.

List of equipment include Input material for raw material, Storage bin, Continuous cereal roller flaker, Belt conveyor for flakes discharge, Slat conveyor with hopper, Storage bins for flakes, Flakes packing system with all accessories for continuous operation at 300 – 400 kg/h capacity.

The detailed specifications and essential features of each individual machine/ system is as indicated below:

Sl. No.	Specifications and essential features of individual machine/ system	Quantity
1	<p><b>Bucket elevator:</b></p> <p>Bucket elevators for vertical transport and discharge of grains from one machine's output to the inlet of the subsequent machine. The Head of the elevator should be made out of heavy – duty galvanized steel construction for clean discharge. Sectioned Head cover should be provided for easy service of internal components. The drive to the crowned pulley should be through a gear reducer with easily adjustable torque arm and should be noiseless in operation. The pulleys should be crowned and fitted with taper – lock bushings, non-slip rough top lagging for maximum traction. Sealed, high quality, high duty bearings having low maintenance and long life should be used. The belt should be made from high strength PVC belt for minimal stretch, impregnated solid carcass, and pre – punched for easy bucket mounting. Buckets should be made out of high quality Polyethylene CC material with deep terminal design. Trunking should be of twin box construction made out of heavy gauge ASTM A-526 G90 galvanized steel, double seam, track welded for perfect alignment. Trunking should be provided with inspection sections for easy access to belt and buckets. The boot should be made out of heavy gauge galvanized steel having easy to adjust take – ups for the boot pulley. Clean – out doors that easily slide open to access the elevator boot floor for cleaning should be provided. The output pipe from elevator to the subsequent machine should be made out of AISI304 SS material. The standalone elevator should be supplied in accordance with the requirements of the entire plant for continuous, trouble – free operation. In case of the elevator feeding material to multiple storage bins, a distributor with individual feed gates is to be provided to facilitate discharge of material to the required bin.</p> <p>The system should be fitted with all regulatory safety features. The electrical motors used in the system should have an efficiency of 80% and above. The system should be fitted with appropriate capacity motors of continuous rating and automatic starter, both of reputed make to run on 415V, 50Hz, 3 phase AC supply.</p> <p><b>Capacity: 1000 kg/h (1TPH)</b></p>	1
2	<p><b>Heavy Duty, Continuous Cereal Roller Flaker:</b></p> <p>Heavy duty, continuous cereal roller flaker to convert conditioned grains into flakes up to 0.4mm or less. The flaker should consist of 2 counter rotating, centrifugally cast (spun cast) chilled Cast Iron rollers with smooth finish, having a hardness of 550 – 560BHN. The chill depth should be for a minimum of 15mm or more.</p>	1

Sl. No.	Specifications and essential features of individual machine/ system	Quantity
	<p>Roll diameter: 460mm, Roll length: 610mm</p> <p>The roll pressure should be applied by substantial disc springs, which will compress in case of a hard material passes through the roll thus minimizing the damage to the roll surface or machine. The system should have a single manual with integral micrometer gauge to provide fine parallel roll gap adjustment and measurement. The roll drive should be through a single electric motor with heavy duty inter – roll belt with a choice of roll speeds and differentials. The differential roll speeds should be of the ratios 1:1, 1:1.06 and 1:1.12. The adjustable scraper blades with adjustable counterweights to regulate pressure should be provided to keep the rolls clean and remove any sticking material on the rolls. Quote separately for the model with water cooled rolls which should be supplied with water tank, water lines, trunnions and all necessary accessories. The discharge should be via integral hopper boards and the flaker should be fitted with stainless steel covers to enclose all moving parts. It should also be provided with Polypropylene cheek plates to prevent whole grains going past the end of the nip. It should be supplied with variable speed feed roll unit. The mill roll feeder should be fit directly over the flaking mill and should be made out of AISI304 stainless steel material. It should essentially provide a 'curtain' of grains fully across the width of the roll. The fluted roll should be regulated in speed and gap to adjust the throughput. The system should have viewing access to monitor flow of material. The system should be supplied along with a belt conveyor with belt made of food grade material to transport the flakes from below the flaker to be collected separately. The discharge height of this flakes conveyor should be at least 1 m (3 feet) from the ground level.</p> <p>The system should be fitted with all regulatory safety features. The electrical motors used in the system should have an efficiency of 80% and above. The system should be fitted with appropriate capacity motors of continuous rating and automatic starter, both of reputed make to run on 415V, 50Hz, 3 phase AC supply.</p> <p><b>Capacity: 300 - 400 kg/h</b></p> <p><i>Schematic diagram of flaking line:</i></p> 	
3	<p><b>Slat Belt Conveyor:</b></p> <p>The slat type (cleated) belt conveyor system or Z type elevator is required to transfer the flakes (after drying) through an inlet hopper on to the Storage bin. The belt material should be made out of food grade material with all other contact parts made out of AISI304 Stainless steel material. The design should ensure zero spillage of material. It should have a single point of drop with gentle handling of material, least maintenance and quiet in operation.</p> <p>The system should be fitted with all regulatory safety features. The electrical motors used in the system should have an efficiency of 80% and above. The system should be fitted with appropriate capacity motors of continuous rating and automatic starter, both of reputed make to run on 415V, 50Hz, 3 phase AC supply.</p>	As per layout

Sl. No.	Specifications and essential features of individual machine/ system	Quantity
	<p><b>Capacity: 300 - 400 kg/h</b></p>  <p>The diagram illustrates a 'Flakes packing system'. It starts with material coming 'From Dryer' into a hopper. A 'Slat Conveyor' carries the material up to a 'Storage Bin'. From the bottom of the storage bin, a conveyor carries the material to a 'Packing machine'. A yellow bar at the bottom of the diagram is labeled 'Flakes packing system'.</p>	
4	<p><b>Storage tanks with structure:</b>  Storage tank to store conditioned millets and flakes, separately. The tanks and systems in contact with grains should be made out of 3mm thick AISI304 SS material and the support structure should be made out of MS. The structure should be complete with stair case, walkways, railings and grating platform ensuring complete safety of personnel. The outlet of these tanks should be such that there is free flow of material to the next machine. Thus the angle of the pipe from the outlet of the tank to the inlet hopper of the elevator should be 70° from the horizontal or higher.  The following storage tanks are required:</p> <ol style="list-style-type: none"> <li>To store conditioned millet grains consisting of 2 tanks each tank having a holding capacity of 2000 kg (2T)</li> <li>To store dried millet flakes, consisting of 2 tanks, each tank having a holding capacity of 300 kg of flakes</li> </ol>	<p>As required</p> <p>1 set</p> <p>1 set</p>
5	<p><b>Continuous weighing and bag filling machine for flakes</b>  A semi – automatic, continuous Auger type packing machine for material like millet flakes with a maximum filling capacity of 20kg with provision to pack into unit packs of 5kg, 10kg and 15kg. The sealing type should be automatic (centre and side seal), with all contact parts made out of Stainless steel, with an accuracy of filling of 0.6% or better. System should run on 3 phase, 415V, and 50Hz supply. The standalone system should be supplied complete with all accessories like processor based electronic weighing system with load cells, pneumatically/ electrically operated functions and operator interface (HMI). The unit should also have an in – built pouch/ bag counter. It should be able to handle a range of packing material like plastic, cloth, plastic woven sacks depending on the unit size of packing. Air compressor required for the system with all accessories has to be included in the scope of supply.</p>	1

### General:

In addition to the detailed specifications of the machinery, the following points may also be added in the specifications of machinery

- The scope of supply shall include transportation of machinery to CFTRI, installation and commissioning charges at the site as indicated by CFTRI.
- Training on the operation and maintenance of the machinery should be provided by the supplier to the staff identified by the Institute.
- Essential spares of machinery for smooth functioning of the plant should be supplied.
- All tools required for maintenance of each individual machinery should be supplied.
- All open drives should be provided with safety guards and operator safety should be ensured.
- Pits made for installing the elevators should be covered with removable grating to ensure operator safety.
- All machinery should be supplied with electrical motor and matching starter.

8. The electrical motors supplied with the machinery should be from reputed manufacturers and each motor should have an efficiency of 80% and above.
9. Remote control buttons for starting/ stopping the individual machine should be provided.
10. All automatic systems should be provided with a provision to run them either on automatic or manual mode.
11. All hoppers should be fitted with individual feed gate to adjust the flow rate of material. Optional: Quote separately for pneumatically operated feed gates complete with all accessories including pipelines, air compressors and safety features. These pneumatic system should have a provision to operate the feed gate either automatically or manually.
12. Control panel for the entire plant should be provided along with all regulatory safety features, indicator lamps, voltage, current and power factor indicators should be provided.
13. The charges for wiring the individual machinery from the supplied control panel with all necessary and regulatory safety features should be included in the scope of supply.
14. The AMC for the entire plant beyond the warranty period should also be indicated.
15. The colour scheme of painting of all machines shall be uniform. Colour scheme, preferably Cream (CMYK: 0, 1, 18, 0, Hex triplet #FFFDD0 and Cerulean (CMYK: 100, 26, 0, 35, Hex triplet: #007BA7) or equivalent. Cerulean colour percentage should be about 20 - 25%.
16. Steam line: The supply should include installation of steam line (with glass wool cladding and covering) with necessary statutory steam and water traps and safety features applicable to a food processing industry. All steam lines should be mounted on the walls with suitable supports and connections to the individual machines/ system should have a minimum clear height of 3m (10 feet) from the ground level.
17. Unless mentioned otherwise, each machine should be provided with a surge hopper to hold material for 15 – 20 minutes of operation with an individual, adjustable feed gate.
18. In case of machinery with other options, the quotation should be submitted separately for such items indicating the changes/ deviations from the specifications.
19. All vibrating/ reciprocating/ gyratory machines should be supplied with individual anti – vibration mountings.
20. All civil construction requirements for erection and commissioning of the machines should be included in scope of supply.

## INSTRUCTIONS TO BIDDERS

1. The Instructions, Terms & Conditions, General Conditions of Contract (GCC), Special Conditions of Contract (SCC), Annexures and Formats hosted in our website [www.cftri.res.in](http://www.cftri.res.in) [Path: Home page → Tenders → Standard Tender Document (Scrolling Text)] constitute as an integral part of this tender.
2. Bidders should submit their Financial Bid in the format provided (Price Schedule Format/BOQ) and same has to be uploaded in the above [etender.gov.in](http://etender.gov.in). It is mandatory for all the bidders to upload duly filled Price Schedule Format/BOQ towards submission of their Financial Bid. No changes or modification to the given format is acceptable. Bidders are required to go through the instructions carefully before filling the Price Schedule Format/BOQ.
3. Please note that CSIR-CFTRI, Mysore is registered with the Department of Scientific and Industrial Research (DSIR) for purpose of availing GST @5% concessional rate as per Central Tax(Rate)/Integrated Tax(Rate) in terms of Notification No. 45/2017-Central Tax (Rate)/No. 47/2017- Integrated (Rate) Dt. 14-11-2017. You are advised to quote accordingly.
4. Bid Security (EMD) is **Rs. 50,000.00 (Rupees Fifty thousand only)** for this tender either by DD/BG from Scheduled Commercial Banks or **Bid Security Declaration(BSD)** Form (Annexure-4).
5. **Pre-Bid Conference (PBC):**  
Pre-Bid Conference is scheduled on **9<sup>th</sup> June 2020 at 10.00 a.m in the Office of the Stores & Purchase Department, CSIR-CFTRI, Mysore.** In the present prevailing condition of **COVID-19** Pandemic, PBC either will be held in **person or through Video Conference** (Link can be shared with bidders who wish to participate in PBC). Interested bidders must confirm participation in PBC by email in advance) or any other electronic communication mode.

It is preferably advised that all prospective bidders may submit their clarifications/questions/queries if any in writing by email to [sosp@cftri.res.in](mailto:sosp@cftri.res.in) & [cosp@cftri.res.in](mailto:cosp@cftri.res.in) by **5<sup>th</sup> June 2020** so that any issue can be addressed during PBC scheduled on 9<sup>th</sup> June 2020. The amendments/clarifications if any, to the Bidding Documents pursuant to the Pre-Bid Conference would be uploaded in [etenders.gov.in](http://etenders.gov.in) and same will also be hosted on the Website of CFTRI and all the Prospective Bidders are expected to take

cognizance of the Proceedings of the Pre-Bid Conference before formulating and submitting their Bids.

6. **Performance Security:** The supplier shall furnish Performance Security of **10% of the contract value** valid for warranty period of one year + additional 2 months after the warranty for this tender.
7. **Integrity Pact** is not applicable for this tender.
8. **Warranty:** One year from the date of supply, installation & Commissioning, demonstration and acceptance by the Purchaser.
9. **Delivery Period:** Delivery should be effected within 6-8 weeks from the date of issue of Purchase Order.
10. **Terms of Payment:** The method and conditions of payment to be made to the supplier under this Contract shall be as follows:

**Payment for Goods and Services supplied from India:**

Payment for Goods and Services supplied from within India shall be made in Indian Rupees [INR] only as follows:

**A. On Delivery, Installation & Commissioning, Demonstration and Acceptance:**

- a) 90 % (Ninety Percent) of the Contract Price shall be paid on Delivery of the Goods, Installation & Commissioning, Demonstration and Satisfactory Acceptance of Items & upon submission of the documents specified in GCC/SCC and the acceptance certificate issued by the Purchaser.
- b) Balance 10% payment will be made to the supplier against submission of Performance Security i.e 10% of Contract value valid for warranty period + additional 2 months issued by Scheduled Commercial Bank.

**or**

**B. Inland Letter of Credit:** The inland L/C will be confirmed at the suppliers cost, if requested specifically by the supplier. All bank charges shall be to the account of the beneficiary i.e. Supplier. If L/C is requested to be extended/ reinstated for reasons not attributable to the supplier, charges shall be to the account of the opener i.e. Purchaser. If L/C is requested to be extended/ reinstated for reasons not attributable to the Purchaser, the charges thereof would be to the Suppliers' account. The inland LC for 100% value of the contract shall be established. The payment shall be made in Indian



Rupees, as follows:

(a) 90 % (Ninety Percent) of the Contract Price shall be paid on Delivery of the Goods, Installation & Commissioning, Demonstration and Satisfactory Acceptance of Items & upon submission of the documents specified in GCC/SCC and the acceptance certificate issued by the Purchaser

(b) Balance 10% payment will be made to the supplier against submission of Performance Security i.e 10% of Contract value valid for warranty period + additional 2 months issued by Commercial Scheduled Bank.

#### **COVER DETAILS - DOCUMENTS TO BE UPLOADED:**

##### **Cover - 1: PreQual/Technical Bid (Techno-Commercial Details) for Procurement of Flaking Line (Document Type .pdf)**

- 1.(a) Catalogue / Brochure of the Model Quoted along with a detailed description of the essential technical and performance characteristics of the goods being offered, with an item by-item commentary on the indented technical specification and documentary evidence of conformity of the goods and services to the bidding documents demonstrating substantial responsiveness of the goods being offered.
- (b) Two (2) latest Purchase Order Copies with price of reputed Govt. Research Institutes/Organisation or any other institutions for the supply & installation and satisfactory functioning of the similar/equivalent equipment to comply with minimum eligibility criteria.
- (c) User list for the quoted model along with contact Numbers and email ID
- (d) Warranty offered and delivery schedule.
2. Bidder Information Form (Annexure - 1)
3. Manufacturer's Authorization Form (Annexure - 2)
4. Bid Security Form (Annexure-3) / Bid Security Declaration Form (Annexure-4)
5. Performance Statement Form (Annexure - 5)
6. Deviation Statement Form (Annexure - 6)
7. Bidders must furnish a Compliance Statement of each and every required specification of our tender (Annexure-8)
8. Documents establishing goods eligibility and conformity to bidding

- document; indicating the Indian Customs Tariff Number (ICT & HSN No.)
9. Schedule of Requirements - (Refer Chapter 5 for Format)
  10. Declaration abiding by the Code of Integrity and No Conflict of Interest for Public procurement (Annexure - 11)

**Cover - 2: Price Schedule Format/BOQ (Document Type. xl) BOQ uploaded in etenders.gov.in**

**Please refer to our Standard Tender's Terms & Conditions uploaded in [www.cftri.res.in](http://www.cftri.res.in) under tender (Chapter-7) for above Format of Annexures. Any other supporting documents to avail preference/benefits as per Standard Tender Document must be uploaded with the Technical bid for technical qualification.**