



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 /74193/2020

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

**NOTICE INVITING TENDER**

क्रम सं. Sl. No.	निविदा संदर्भ Tender Reference	विवरण / Description
1	CFTRI/74193/2020	Sorghum and Bajra Processing Line – 1No.

1. Director, CSIR-CFTRI, Mysuru invites tenders for supply, installation & commissioning and satisfactory demonstration of Sorghum and Bajra Processing Line – 1No.
2. **Pre Bid conference is scheduled on 09.06.2020 in Person/Video Conference at 12.00p.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. 140,000.00
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)

Section Officer ( Stores & Purchase)

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**CRITICAL DATE SHEET**

**CRITICAL DATE SHEET:**

**Tender Ref/No. CFTRI/74193/2020**

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 @ 12.00p.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. Sorghum/ Bajra processing line:

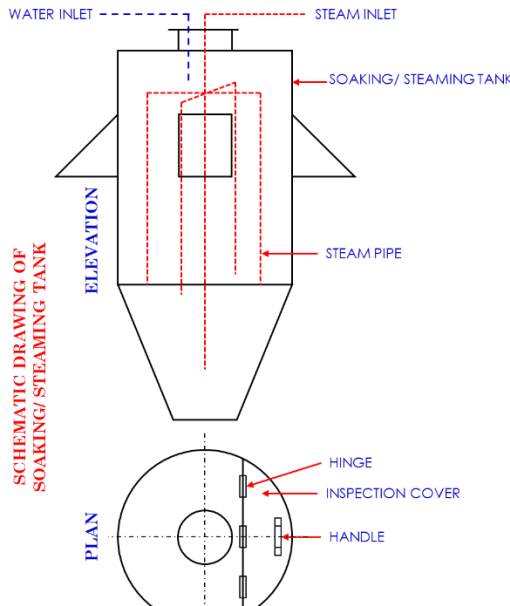
Complete plant for processing of Sorghum/ Bajra at a capacity of 1 Tonne per hour consisting of the following machinery and accessories as per tentative plant layout enclosed.

List of equipment include Cleaner, Destoner, Magnetic separator, Soaking/ Steaming tank, Continuous vibro fluidized bed dryer, Screw conveyor/ moisture conditioning unit, Horizontal abrasive polisher/ Whitener, Horizontal Emery stone grinder/ Abrasive disc grinder/ Planetary sifter, Pneumatic conveying system, Bucket elevators, Storing tanks with structures and staircase, Surge bin with structures and staircase, Central dust collection/ discharge system, Bag filling system.

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

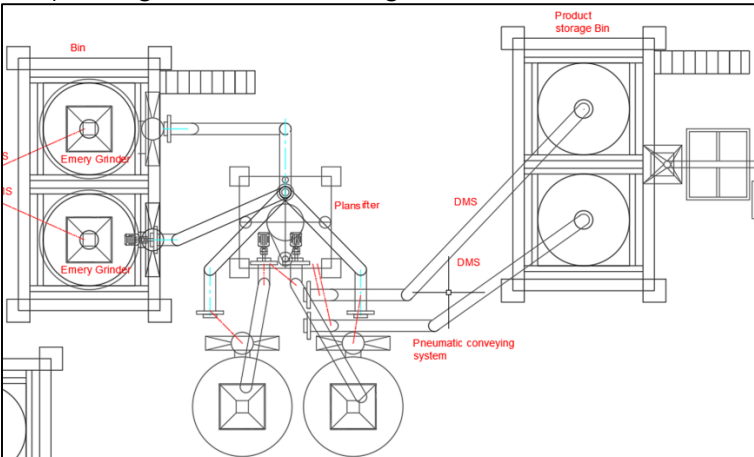
Sl. No.	Specifications and essential features of individual machine/ system	Quantity
1	<p><b>Cleaner:</b> Vibratory/ Reciprocating type cleaning system for cleaning Sorghum and Bajra (Pearl millet). The system should be designed for very thorough separation of impurities and material other than grain from the grain mass. Provision should be available for taking samples (when the machine is in operation) in the pipe to check the product quality. There should be two large expansion chambers (one at the inlet and the other at the outlet) to allow light particles to be discharged separately, preferably through a dust collection system/ control system with blower, motor, cyclone and gear driven rotary valve. All the sieves (minimum 4 sieves in the complete system) should be attached to sturdy metal frames and sieves should be kept clean by rubber balls which move around the sieves along with the motion of the machine or any other efficient declogging system to prevent choking of sieves. Provision to change the sieves easily and quickly through a front panel should be made. No screws have to be loosened during replacement of sieves. The system should be provided with an inlet regulator to automatically distribute the grain and product over the entire width of the machine along with a storage hopper and feed gate for 15 minutes of operation. The system should have provision to vary the deck vibration and speed. The vibrating/ reciprocating deck should be balanced dynamically. It should be possible to vary the operating parameters of the machine during operation.</p> <p>One set of additional sieves should be provided along with the machine of 0.8, 1.0, 2.0, 2.8, 3.0 and 3.8mm opening size.</p>	1

Sl. No.	Specifications and essential features of individual machine/ system	Quantity
	<p>The system should be fitted with appropriate capacity TEFC induction motor 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>	
2	<p><b>Destoner:</b> Vibratory type vacuum destoner for continuous destoning of grains for separation of heavy particles such as stones, magnetic and nonmagnetic metals, mud balls and other foreign particles by separating impurities based on density difference by adjusting the aspirating air. The system should be supplied with closed circuit aspiration system to ensure a dust – free operating environment. The system should also have lighting system to enable easy viewing of the components of the equipment. The system should use vibro motors for trouble free, have long life and low noise operation. The system should have a separate collection of stones and dust particles. System should be provided with an adjustable system to spread the grains evenly over the mesh screen to result in even stratification and separation along with a storage hopper and feed gate for 15 minutes of operation. The cleaned grains should be discharged separately to the subsequent machine. The system should have a quality sieve cleaning device. It should also have provision to adjust the vibration intensity for efficient separation.</p> <p>The system should be fitted with appropriate capacity TEFC induction motor 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>	
	<p>A common dust collection and discharge system for the Cleaner and Destoner could be provided to reduce the number of units and offer saving in power and space.</p>	
3	<p><b>In – hopper magnetic separator:</b> Magnetic grids/ grates – round (200mm <math>\Phi</math>) to catch Ferrous particle size of minimum of 30 <math>\mu</math>m and maximum of 10mm. The system should have 4 magnetic bar in extractor tube, with tube of <math>\Phi</math>25mm and bar <math>\Phi</math>23mm with 13,000 gauss (at 20°C) having a field strength (flux density) on magnetic bar (<math>\pm</math> 10%) translating to field strength of 10,000 gauss on extractor tube. The extractor tube should be made out of SS AISI304. The circular grid (with cover) should have a diameter of 200 mm and height of 50mm. This circular magnet should be placed in the plant at each unit operation of grain processing.</p>	12
4	<p><b>Soaking/ Steaming tanks with MS structure:</b> Cylindrical steaming tanks with conical bottom constructed out of AISI304 SS sheet of 3mm thickness. A discharge system should be provided at the bottom of the tank with a pneumatic feed gate. The supply should include air compressor, air tank and all accessories and safety devices, for operation of the pneumatic gate manually. It should be possible to control the output of grains from the tank to the desired quantity output per hour. The tank should be water</p>	1 Set

Sl. No.	Specifications and essential features of individual machine/ system	Quantity
	<p>tight and should have provision to drain out only water separately. All contact parts with the grains should be made out of AISI304 SS material. The quotation should include supply and installation of steam and water line from the nearest point in the building till the process tank and should be quoted per running meter. Steam line should be clad with fibre glass material as per standard specification. The steam line should be supplied complete with all safety features and accessories like steam trap, drain line, etc. Pressure gauges to indicate pressure in the steam line should be provided at a height for convenient reading. Water line should be painted SEA GREEN as per standard specification. Water line should be provided with ball valves for control of water flow.</p> <p>A set of soaking/ steaming tank consists of two tanks each of holding capacity of 2000kg (2 T) of Sorghum/ Bajra. The outlet of these tanks should be such that there is free flow of wet material to the next machine (Elevator). Thus the angle of the pipe from the outlet of the tank to the inlet hopper of the elevator should be 60° from the horizontal.</p> <p>The support structure for the soaking/steaming tank should be made out of MS material. It should be complete with staging, grating platform, ladders, and walkways with safety railings throughout. The MS structure should be coated with enamel paint matching the scheme of the plant.</p>	
4a	<p><i>Schematic drawing of soaking / steaming tank showing steam pipe configuration</i></p>  <p>The diagram consists of two parts: an elevation view and a plan view. The elevation view shows a rectangular tank with a conical bottom. A dashed blue line indicates the 'WATER INLET' at the top left. A dashed red line indicates the 'STEAM INLET' at the top right. A solid red line shows the 'STEAM PIPE' running vertically down the center of the tank. The tank is labeled 'SOAKING/ STEAMING TANK'. The plan view shows a circular tank with a 'HINGE', 'INSPECTION COVER', and 'HANDLE' on the right side. The text 'SCHEMATIC DRAWING OF SOAKING/ STEAMING TANK' is written vertically on the left side of the drawing.</p>	
5	<p><b>Continuous Vibro Fluidized Bed Dryer:</b>  Continuous vibratory fluidized bed dryer required for heat treatment/ steaming/ parboiling/ drying of Sorghum/ Bajra. The material of construction in touch with the material (grains) is to be made from AISI304 SS. The hot air blowing through the grains mass should be in the range of 40° to 80°C and it should be possible to maintain the set temperature through digital systems. The vibrating deck</p>	1

Sl. No.	Specifications and essential features of individual machine/ system	Quantity
	<p>should be mounted on springs and vibration should be delivered through vibratory motors having provision to control the degree of vibration to suit the process requirement. The following features should be in built into the system:</p> <ul style="list-style-type: none"> <li>● Control systems for adjusting vibration, fluidization (air flow) and residence time (thus product moisture)</li> <li>● System should ensure uniform product temperature across the depth and length of fluidization</li> <li>● Control system to ensure only cooling of grains (without heating)</li> <li>● Explosion proof design</li> <li>● CIP (Cleaning In Place) option for good sanitation</li> <li>● Source of heat for hot air could be electrical, diesel, thermic fluid, LPG)</li> <li>● Cyclone separators with bag filters and scrubbers to ensure zero pollution into the process area</li> </ul> <p>The system should have all necessary options to customize the thermal processing of grains with respect to temperature and air flow through grain mass with a view to maximize efficiency of heat and mass transfer, thus assuring processing of product within the best time and temperature range for high quality output.</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>	
6	<p><b>Mixing Screw Conveyor/ Moisture Conditioning/ Dozing System:</b></p> <p>A mixing type screw conveyor system with three nozzles to spray water in a fine mist on the grain mass. The system should ensure complete mixing of grains with sprayed water. The drive to the screw should be through a geared motor driven through a VFD system for precise control of screw speed as desired. Provision should be made to control the amount of water being sprayed and should be supplied along with a metering unit for the same. The U trough screw conveyor system should ensure a throughput of 1000kg/h (1TPH). Owing to the size of the grain, the gap between the bottom of the trough and screw should be less than 0.5mm. Suitable hanger bearings should be used throughout the length of the screw to ensure no sagging of the screw inside the trough. The supply should be complete with water tank (PE or PP) and water line for inlet and outlet should be provided. The storage capacity of the water tank should be 500 litres. The quotation should include supply and installation of structure for water tank.</p> <p>All contact parts with grains should be made from AISI304 SS material. Quotation should include supply and installation of water line from the nearest point in the building till the process tank and should be quoted per running meter.</p>	1

Sl. No.	Specifications and essential features of individual machine/ system	Quantity
	<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>	
7	<p><b>Horizontal Abrasive Polisher/ Whitener:</b>  Horizontal abrasive polisher for polishing of conditioned Sorghum/ Bajra grains. The system should have an inlet screw to push the feed material into the annular space between the rotating abrasive roll and stationary screen. The abrasive roll should have spiral grooves and air holes to cool the grain during polishing and also facilitate removal of bran from the milling chamber. A load system at the outlet should be provided with provision to move the loads across a lever fixed to the tail gate to adjust the milling pressure in the system. The abrasive discs should be mounted on a hollow shaft with provision to blow ambient air through the shaft and abrasive discs. The system should be supplied with the blower for air along with suitable drive arrangement. In addition, the system should be supplied with aspiration system consisting of blowers, cyclones and air locks for separation and collection of the bran removed during the process. Supply includes the drive system with motors and starters, gear drives, rotary valves and dust collection system to ensure optimum sanitation within the process area. The polisher screen should be made out of wear resistant, perforated sheet or woven wire mesh of spring steel. Three sets of screens (both perforated sheet – 1.2mm thick and wire mesh – 0.3, 0.5 &amp; 0.8mm wire dia) with openings of 0.8, 1.0, and 1.2mm should be provided. The polisher should be supplied with a surge hopper with adjustable feed gate to store 15 minutes of material. One set of weights extra should be included in the scope of supply.</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>	2
8	<p><b>Horizontal Emery Disc Grinder/ Abrasive Disc Grinder for grains:</b>  Emery disc grinder of horizontal configuration required for size reduction of Sorghum/ Bajra grains. The system should have the following features:</p> <ul style="list-style-type: none"> <li>● Emery stone size = <math>\Phi</math> 36"</li> <li>● Vibrating feeder with control system to adjust the feed rate of grains being ground</li> <li>● Aspiration channel and dust collection with blower, cyclone, rotary valve and bag filters complete with drive motors and starters and all regulatory safety features</li> </ul>	4

Sl. No.	Specifications and essential features of individual machine/ system	Quantity
	<ul style="list-style-type: none"> <li>All drive systems should be concealed or provided safety guards for operators' safety</li> <li>Unit should be equipped with automatically controlled gap adjustment system. Quote separately for system with this feature.</li> </ul> <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>	
9	<p><b>Plansifter:</b></p> <p>The planetary sifter should sift and grade Sorghum/ Bajra flour into flour and semolina. The sieve should be imparted gyratory motion through a suitable motor and drive. The screen deck should be suitably balanced by counterweight. The screen should be interchangeable. The inside of the sifter box should be made out of AISI304 SS material. Hopper Outlets for discharge of stock should be through plastic chutes within a gravity spouting scope. The material of the mesh should be Nylon or Polyamide grit gauze material with an opening size of 250µm (60 mesh BSS). An additional set of screens of the following sizes is also to be included in the scope of supply: 150 (100 mesh), 180 (85 mesh), 355 (44 mesh) &amp; 500µm (30 mesh).</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
10	<p><b>Pneumatic Conveying System:</b></p> <p>A pneumatic conveying system is required to transport flour from the Emery disc grinding output to the plansifter and the plus fraction of the sifter (coarse flour or semolina) to another set of grinders. The output of the second set of grinders is to be transported to the plansifter. The minus fraction (flour) from the plansifter is to be transported to the two product storage bins. The schematic drawing of the setup is as given in the drawing below.</p> 	As required



Sl. No.	Specifications and essential features of individual machine/ system	Quantity
	<p style="text-align: center;"><i>Schematic diagram of pneumatic system</i></p> <p>The pneumatic conveying system should consist of pipelines from the input machines to the output system consisting of pipelines, airlocks, and clamps, connecting joints, inspection and sample collection windows, dust collection system with cyclones and accessories, necessary blowers / fans. The system should discharge clean air via rotary valves and dust collection system to ensure optimum sanitation within the process area.</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>	
11	<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, 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.</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>	As required
13	<b>Centralised Dust Collection &amp; Discharge System:</b>	1

Sl. No.	Specifications and essential features of individual machine/ system	Quantity
	<p>A centralised dust collection and discharge system from each individual machinery across the mill and all bucket elevators to be provided. The pneumatic lines for dust collection from each of the machine is to be taken and the discharge system should be outside the building. At the exit of the pneumatic lines, the cyclone systems, air locks, blower and drive should be housed outside the building to ensure the entire building is dust free. All pneumatic lines from the individual machines should be installed at a height of 3m (10 feet) from the ground level to facilitate easy movement of staff in the plant area.</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: To suit the entire plant</b></p>	
14	<p><b>Storage tanks with structure:</b></p> <p>Storage tank to store cleaned Sorghum/ Bajra. 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 60° from the horizontal or higher.</p> <p>The following storage tanks are required:</p> <ol style="list-style-type: none"> <li>To temper moisture conditioned Sorghum/ Bajra after the mixing screw conveyor consisting of 2 tanks each tank having a holding capacity of 2000 kg (2T)</li> <li>To store polished Sorghum/ Bajra after the horizontal polishers (as a separate entity – to enable further processing of the grains in the flaking line – separate), consisting of 2 tanks each tank having a holding capacity of 2000 kg (2T)</li> <li>To store polished Sorghum/ Bajra after horizontal polishers above the emery disc grinders, consisting of 2 tanks each tank having a holding capacity of 2000 kg (2T)</li> <li>To store flour which has been sifted in the Plansifter prior to conveying to the packing machine consisting of 2 tanks each tank having a holding capacity of 2000 kg (2T). Since the discharge of flour is not as free flowing as grains, these storage bins should be fitted with vibro discharge hopper bottom (bin activators) along with a horizontal screw conveyor/feeder with VFD to ensure constant feed rate to the packing machine below.</li> </ol>	<p>1 set</p> <p>1 set</p> <p>1 set</p> <p>1 set</p>
15	<p><b>Continuous Weighing and Bag filling machine:</b></p> <p>A semi – automatic continuous Auger type powder packing machine with a maximum filling capacity of 50kg with provision to pack into unit packs of 5kg, 10kg and 25kg bags. The sealing type should be automatic (centre and side seal), with all contact parts made out of Stainless steel,</p>	1

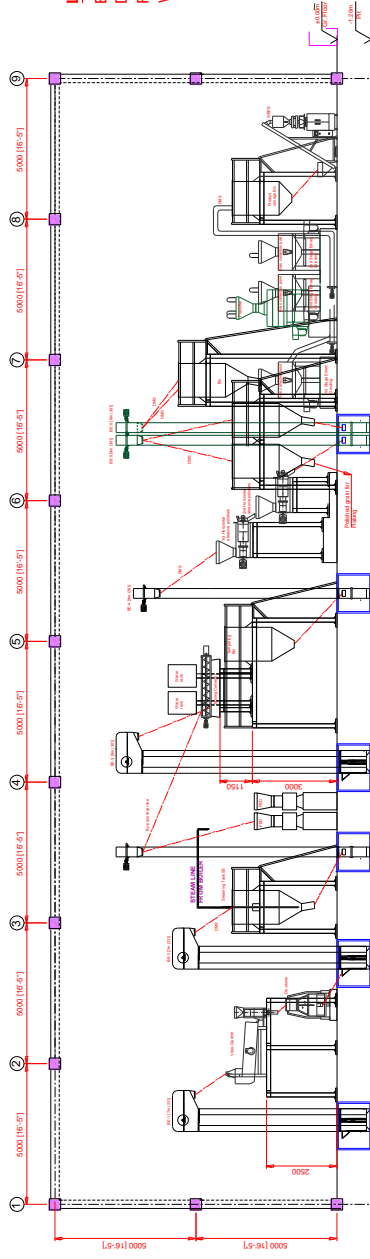
Sl. No.	Specifications and essential features of individual machine/ system	Quantity
	<p>with an accuracy of filling of 0.6% or better. System should run on 3 phase, 415V, and 50Hz supply. The system is intended to use for packing Sorghum/ Bajra flour. The standalone system should be supplied complete 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>	
		Total

## General:

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

1. The scope of supply shall include transportation of machinery to CFTRI, installation and commissioning charges at the site as indicated by CFTRI.
2. Training on the operation and maintenance of the machinery should be provided by the supplier to the staff identified by the Institute.
3. Essential spares of machinery for smooth functioning of the plant should be supplied.
4. All tools required for maintenance of each individual machinery should be supplied.
5. All open drives should be provided with safety guards and operator safety should be ensured.
6. Pits made for installing the elevators should be covered with removable grating to ensure operator safety.
7. 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.

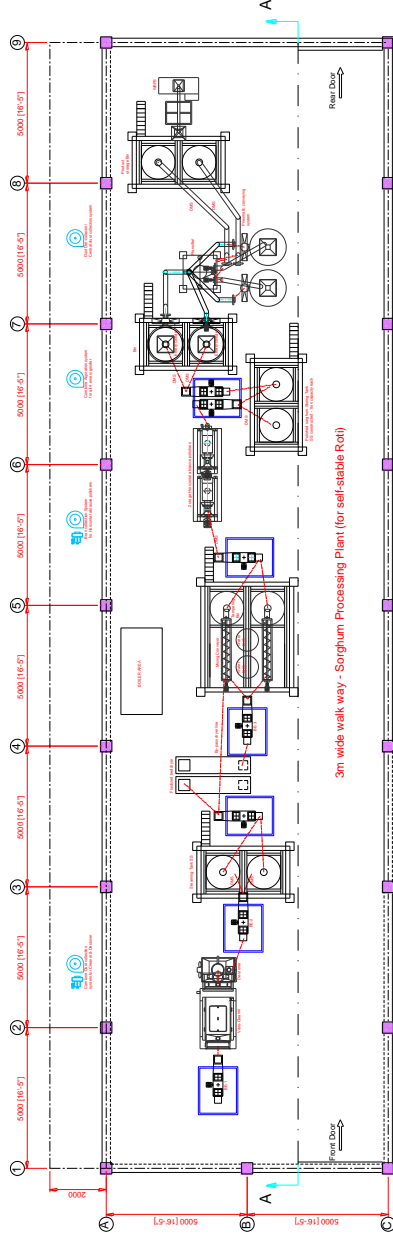
# SORGHUM PROCESSING PLANT



**LEGEND:**

- BE - Bucket elevator
- DMS - Magnet separator (In - hopper type)
- FBD - Fluidized bed dryer
- WBPM - Weighing & packing machine

## SECTION A-A



## PLAN

The drawing and all information on it is the property of CSIR - CFTRI. It is confidential and is given for limited purpose and must be returned on request. Neither this drawing nor any part of it may be copied or furnished to other nor may photographs be taken of any article, fabricated or assembled from this drawing without the consent of CSIR - CFTRI, Mysuru.

DATE: 15/05/2023	INVOICE NO: 15052023	TITLE: SORGHUM PROCESSING PLANT
DRAWN BY: M. S. S.	SCALE: N.T.S.	DRAWING NUMBER: [ ]
APPD: 15/05/2023	ALL Dimensions are in Millimetre	Sheet No. of [ ]
ORG: CSIR - CFTRI	RESEARCH INSTITUTE, MYSURU - 570 003	Rev. No. of [ ]

Break Sharp Edges

## 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. 140,000.00 (Rupees one lakh forty 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 12.00 p.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 Sorghum and Bajra Processing 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.**