



NUTRIHUB- (NIELAN) TECHNOLOGY BUSINESS INCUBATOR

(Sponsored by Department of Science and Technology, GoI)

ICAR-INDIAN INSTITUTE OF MILLETS RESEARCH (IIMR)

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Ref No : NIELAN-TBI/EOI/FAB/2019 Date: 23-02-2019

INVITATION FOR “EXPRESSION OF INTEREST”

“Expression of Interest for supply, installation and commissioning of Mechanical Fabrication of Flour and Semolina line Mill for processing of Millets”

Nutrihub-NIELAN, IIMR proposes to invite “Expression of Interest” for Mechanical Fabrication of Flour and Semolina Line Mill for processing of MILLETS.

Brief description and scope of work is available in EOI document. EOI Document can be download from our website www.millets.res.in and submit along with Document fee Rs.500- in the form of Demand Draft in favour of NIELAN TBI within the due date.

Industries having spare capacity are requested to respond with regards to Mechanical fabrication support and deliver mechanical hardware involving any of the following: Precision machining works, General Machining Works & Sheet metal works and Heavy duty Fabrication works.

“Expression of Interest” with all the necessary required information including Compliance Matrix shall reach the undersigned, Quoting ref No, NIELAN/TBI/2019 on or before 18.00 Hrs dated 04.03.2019. If needed a Pre-Bid Qualification meeting will be conducted. Inadequate/Incomplete information shall attract rejection. Nutrihub-NIELAN, IIMR reserves the right to accept or reject all or any such “Expression of Interest”, without assigning any reason whatsoever.

Addendum, if any, to this EOI, will be hosted at our website www.millets.res.in / <http://nutrihub-tbi-iimr.org>

CEO, Nutrihub

INVITATION FOR EXPRESSION OF INTEREST (EOI) FROM ELIGIBLE BIDDERS

SUPPLIERS OF PRIMARY PROCESSING AND MILLING OF MILLETS MANUFACTURING EQUIPMENT

1.0 Background

- 1.1. ICAR-Indian Institute of Millets Research (IIMR), the host institution, is the nodal agency to work on all aspects of millets research and development in the country under the auspices of Indian Council of Agricultural Research (ICAR).
- 1.2. NIELAN is The Technology Business Incubator “Nesting Incubation and Entrepreneurship for Leveraging Agri-innovations in Nutri-cereals – hosted by the ICAR – Indian Institute of Millets Research (IIMR), Hyderabad.
- 1.3. It offers technology consultancy, infrastructure facilities, feasibility studies, mentoring & nurturing innovation and provide right ambience to entrepreneurial talents of thousands millets stakeholders.
- 1.4. The NIELAN-IIMR invites an Expression of Interest (EOI) from suppliers of primary processing and milling manufacturing equipment.
- 1.5. Indian Institute of Science is a premier research institution of India. NIELAN-IIMR is establishing an advanced manufacturing center and the proposed metal additive manufacturing equipment will be part of this center.
- 1.6. NIELAN-IIMR wishes to establish the international supplier base for equipment with broad characteristics that are detailed below. A formal tender will be issued at a subsequent date, once NIELAN-IIMR completes preliminary interaction with all possible suppliers.

2.0 Eligibility to respond to this EOI

- 2.1 All Suppliers responding to this EOI should have demonstrated capability to supply equipment of the broad class indicated in section 3 inclusive of reputed academic institutions in India and other countries.

2.2 Item requires that suppliers responding to this EOI provide a list of equipment supplied by them that correspond to the requirements of section 3 and to whom these equipment were sold, with relevant contact information of buyers.

3.0 Description of equipment

- 3.1 NIELAN, IIMR seeks to acquire metal additive equipment based on a laser powder blown processor electron beam powder bed process. NIELAN, IIMR's decision will be based on the capability of each type of equipment, after interaction with potential suppliers.
- 3.2 The build volume that NIELAN, IIMR is interested in is expected to be in the range 100 mm³ to 300mm³. Suppliers may respond indicating exact maximum build volumes and budgetary costs as related to machines with these build volumes.
- 3.3 A 3/5 axis work station is expected.
- 3.4 A process environment of high vacuum/argon is expected.
- 3.5 Suppliers should indicate laser/electron beam gun power. Materials to be processed range from Aluminium alloys to Titanium alloys to refractory metals and may include conducting ceramics.
- 3.6 Suppliers should indicate flexibility available in the equipment control of process parameters such as power and beam size control, hatch configuration control, design file configuration (to be sent as an input file to the machine) and all other process control parameters including closed loop process control. The resolution in terms of the design feature of the smallest size to be printed must be mentioned. Also, any parameter to correlate the geometric tolerance, in terms of the design file feature to the identical feature printed should be mentioned.
- 3.7 Suppliers should explicitly state preheat capability of the equipment together with mode of preheat. High preheat temperature capability is preferred.
- 3.8 A multi-powder feeder system is required. Supplier should provide configuration details of such feeder systems in the equipment, as well as capacity and flow rates.
- 3.9 Suppliers should indicate all possible sensors including those that might be used in process control.

- 3.10 Suppliers should indicate the Industry 4.0 compatibility of their products, i.e. provisions (e.g. hardware, software, standards or protocols needed/provided) for connecting the machine into a standard, industrial Industry 4.0 platform.
- 3.11 Suppliers should indicate equipment data acquisition systems.
- 3.12 Suppliers should indicate post-process part handling features of the equipment.
- 3.13 NIELAN, IIMR may also consider the acquisition of refurbished equipment, should that prove to be cost-effective. Suppliers may indicate possibility of supplying refurbished equipment.
- 3.14 Suppliers should indicate mechanisms, procedures and arrangements for long term maintenance of the equipment.
- 3.15 Suppliers are expected to provide lead times for the supply of the equipment.
- 3.16 As a reputed research organization NIELAN, IIMR is also willing to consider collaboration with suppliers on innovative process development, as well as utilization of the equipment by suppliers for demonstration or use of the equipment to and for third parties.
- 3.17 Suppliers are expected to provide budgetary costs of various equipment options, an estimate of annual maintenance costs and expected terms of payment in their responses to this EOI.

4.0 Response to EOI

- 4.1 NIELAN, IIMR seeks a response to this EOI by March 04, 2018. Responses after this time and date will not be considered
- 4.2 Along with the response to the EOI, suppliers are requested to indicate suitable dates and times for interaction with the NIELAN, IIMR technical team in the week starting 1st week of March 2019 and extending. Suppliers that do not visit NIELAN, IIMR for interactions will not be considered further.
- 4.3 Suppliers should also indicate clearly the requirement for any export clearance processes for supplying such equipment and any end use declarations that may be sought for this purpose. Any ambiguity in export clearances may disqualify a supplier from future tendering action.
- 4.4 Suppliers are requested to email their response and quotations for the below mention machineries to Dr B Dayakar Rao, CEO, Nutrihub (NIELAN), IIMR, Hyderabad at dayakar@millets.res.in. on or before by 6.p.m, 04-03-2019.**

5.0 Tender Process

- 5.1 Based on this EOI, the responses and interaction, and supplier's interest and capability insupplying equipment of characteristics as indicted in sections 2 and 3, and NIELAN, IIMR will short lista set of potential suppliers by a technical team constituted by competent authority of NIELAN, IIMR.
- 5.2 A formal tender with detailed specifications will be issued to such short-listed firms.
- 5.3 The formal tender shall consist of a two-bid process. A technical bid and price bid shallbe supplied in separate covers. NIELAN, IIMR will first examine the technical bid and further short-listthose firms that meet all technical specifications. The price bid of only the final short-listedfirms will be opened, and only the firm with the lowest price bid and meeting all technicalspecifications shall be invited for contract finalization.
- 5.4 NIELAN, IIMR will endeavor to complete contract finalization by the last week of March.
- 5.5 NIELAN, IIMR reserves the right to reject any/or all the EOI's without assigning any reasonswhatsoever.

6.0 Flour & semolina line equipment details

“Milling/Grinding” is the application technology in the ***“Flour and semolina line”***.Milling is a process of separating the bran and germ from the starchy endosperm so that the endosperm can be ground into small size. This is generally done by the sequence of grinding, metal separation, dust removal and sieving processing's.This technology has possibility to produce commercial products out of millet grains with this line. The output of this line has multiple products like different size semolina's (Kichidi rawa, Idli rawa & Upma rawa) and flours (Atta). This line is feasible for any type of grains.The approximate cost of the equipment is 55, 00,000/- (Fifty five lakh rupees only). It designed with many co-equipment's and all are listed below with specifications.

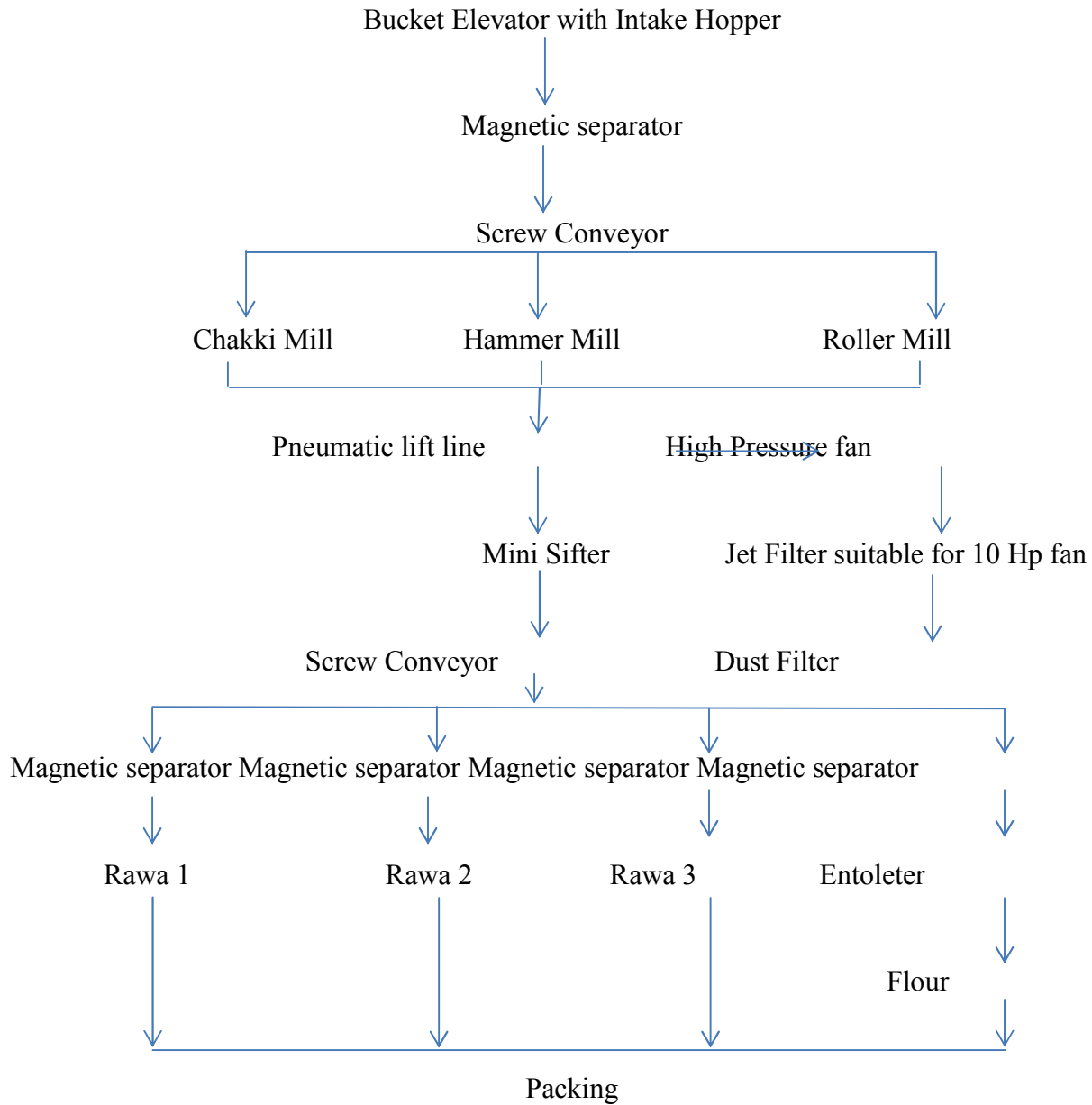
S. No	Equipment	Specifications	Qty
1	Roller Mill	Material of the machine is mild steel and its capacity is 500 kg/hr. There are feeder rolls with diameter 250 Dia x 500 Length for material feeding. This machine is used for the grinding. The capacity of motor is 7.5 HP 1000 RPM x 2 No.s	1 no
2	Hammer Mill	Material of machine is mild steel and its capacity is about 300 kg/hr. Machine works with shafts and blades. The thickness of beater is 10 mm. The capacity of motor is 15HP/3000 RPM.	1 no
3	Chakki Mill	The capacity of this machine is about 350 kg/hr and it is made up of stainless steel and mild steel. It is used for millet grinding. The type of grinding stone is emery stone. The capacity of motor is 25HP/1000 RPM.	1 no
4	Mini Sifter	Th machine is made up of mild steel & Rubber Wood with dimensions of 2 x 12. It is assembled with springs. It contains stainless steel sieves. It is used for the sieving the product. Capacity of motor is 2 HP/1500 RPM.	1 no
5	Bucket Elevator with Intake Hopper	This bucket is made up of mild steel. It has legs made up of mild steel with dimensions of 150 x 150. It is equipped with the plastic bucket (food grade), rubber belts (food grade) and bucket bolts in mild steel. Capacity of this elevator is 1 Hp 100 rpm with gear motor.	1 no
6	High Pressure fan	It is fabricated with 3 mm sheet and made up of mild steel. It is use for iron. It is assembled with the inside impeller. The capacity of motor is 10 HP/3000 RPM(foot)	1 no
7	Jet Filter suitable for 10 Hp fan	It is made up of mild steel. The capacity of motor is 1HP. It will absorb and collect dust. To reduce the dust environment in the production place.	1 no
8	Entoleter	It includes support from the frame, feeding hopper. This machine is made up of mild steel. It works with the inside shaft and impeller. The motor capacity is 5 HP/3000 RPM. It eliminates the insect problems in working area. It minimizes the infestation in the end product.	1 no
9	Pneumatic lift line	Pneumatic lift line is made up of mild steel. It has air rotary valve. This system is well-suited to move grains with a capacity of 1 Hp 100 rpm with gear motor.	3 Sets
10	Screw Conveyor	It is made up of mild steel and is fabricated with 3 mm sheet. It has impeller. It contains fan which will generate air for product movement. The capacity of the motor is 1 Hp 100 rpm with gear motor.	2 Sets
11	Magnetic separator	Magnetic separator is made up of mild steel & Stainless Steel. It will separate & catch iron particles from the raw material.	1 no

	(Raw Material)		
12	Magnetic separator (Product)	Magnetic separator is made up of Stainless Steel. It will separate & catch iron particles from the product	4 nos
13	Support stand for machines, Sifter and Filter	They are made up of mild steel and fabricated with channels and angle. Mainly they used to support the machinery.	1 Set
14	Down Grades system	Bolting cloth, vibromount, pipes, paking, drum, clipbends, couplings, rubercaps, feeding tank, air compressor, 1 set boxes 2 x2 with bolting cloth & 1 set frame with bolting cloth	1 Set
15	Electrical Panel Board & wiring	Should be provided reputed brand only	1 set

Note: Suppliers those are willing to fabricate and supply the above machinery **please mail us** (**dayakar@millets.res.in**) with quotations for the above mention machineries **on or before by** **6.p.m, 04-03-2019.**

Table.1 Specification of equipment's in Flour & Semolina line

7. Flow chart of Flour and semolina line



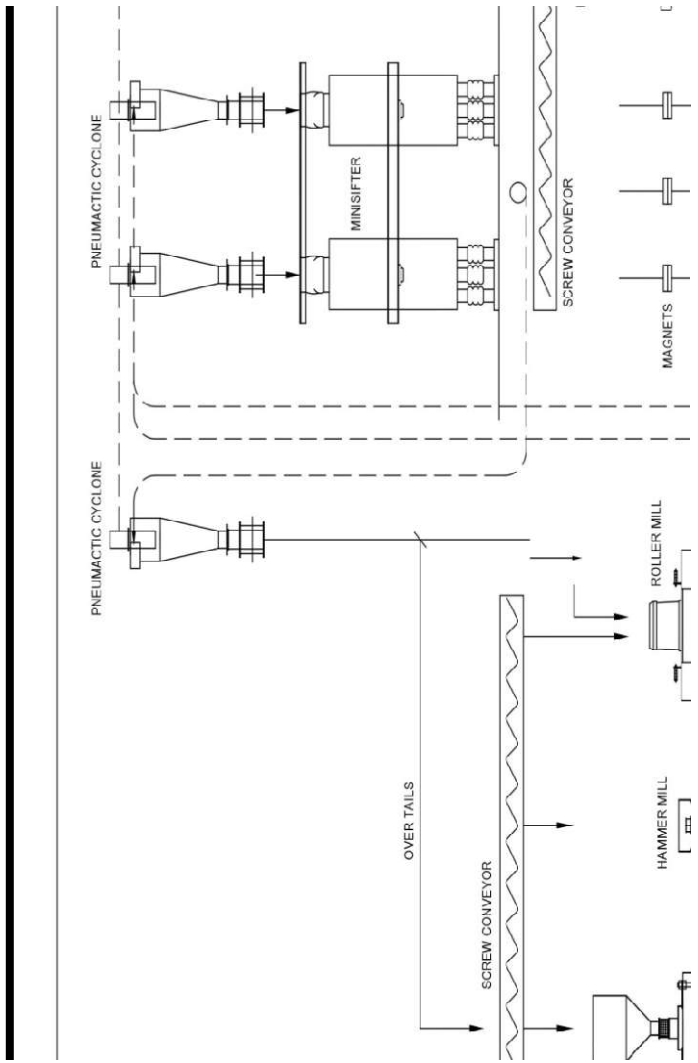


Fig. 1 Layout of Flour & Semolina Processing Line