

**Electro-Mechanically operated, Drum Type organic Waste Composter Machine
(350-400 Kg/Day-) In Vessel Composting System)**

Tender No. -TIFR/PD/CA18-8/180056

Date -25/07/2018



TATA INSTITUTE OF FUNDAMENTAL RESEARCH An Autonomous
Institution of the Department of Atomic Energy, Government of India (A
Deemed University) Homi Bhabha Road, Colaba, Mumbai – 400 005.

(Visit at <https://eprocure.gov.in/eprocure/app> or <http://www.tifr.res.in>)

**EMD/Bid Security Deposit – Rs. 28,000/- (Rupees Twenty Eight
Thousand Only)**

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Ref. : TIFR/PD/CA18-8/180056

July 25, 2018

Notice inviting tender (TWO PART LIMITED TENDER) for the following item:

Tender for Supply, Installation, Testing and Commissioning of Electro-Mechanically operated, horizontal cylinder(15 day retention) Type organic Waste Composter Machine (350-400 Kg/Day-) In Vessel Composting System) at the Tata Institute of Fundamental Research, Homi Bhabha Road, Colaba, Mumbai. 400005.

As per our technical specifications.

Qty. 1 No.

Tender No.	: TIFR/PD/CA18-8/180056
EMD	: Rs. 28,000/-
Estimate Cost	: Approx. Rs. 14 Lakh
Type of Tender	: Two Part Limited Tender
Pre Bid Meeting	: 13.08.2018 at 14.30 hours
For any technical query	: Contact Person : Shri Ramakant Patil TSR Section, Tel No. 22-22782694, Mobile 8454849183 email id: ramakant@tifr.res.in on prior appointment
Last Date for Submission of Tender	: 24.08.2018 on before 17.30 hours
Date of Opening Bids	: 27.08.2018 at 15.00 Hours (Only Technical Bid)

Both Technical Bid (Part I) and Financial Bid (Part II) to be submitted within the due date and time in separate envelopes and marked on top as Part I and Part II. These two sealed envelopes should be further put in one Master Envelope superscribed with the Tender No., Due Date in Bold Letters.

Note: The vendors who have submitted EMD in the first round of tender dt.20.04.2018 are exempted from submission of EMD against this tender. They are however requested to submit bids as per revised specification criteria.

Please see attached sheet for conditions of tender.

VOLUME 1

NOTICE INVITING TENDER

Ref. No. **TIFR/PD/CA18-8/180056**

Date: **July 25, 2018**

Dear Sirs,

Tender for Supply, Installation, Testing and Commissioning of Electro-Mechanically operated, horizontal cylinder(15 day retention) Type organic Waste Composter Machine (350-400 Kg/Day-) In Vessel Composting System) at the Tata Institute of Fundamental Research, Homi Bhabha Road, Colaba, Mumbai. 400005. (as per technical specifications mentioned)

- 1.
2. Tata Institute Of Fundamental Research invites you to tender for the work of **Supply, installation, testing and commissioning of electromechanically operated, horizontal drum type, organic waste composter machine (350-400 Kg/day - In vessel composting system, 15 day retention) at the Tata Institute of Fundamental Research, Homi Bhabha Road, Colaba, Mumbai-400005**. You are requested to submit your offer in sealed envelope for the aforesaid work as per detailed specifications and other requirements as mentioned more specifically elsewhere in this tender document. The tender document will be available to the contractors for download on www.tifr.res.in onwards on the following link: www.tifr.res.in/tenders.
3. The Pre-Bid meeting will be held on 13.08.2018 at 14.30 hours at TSR Conference Room, TIFR, Colaba, Mumbai-400005. To be eligible to participate in the pre-bid, the bidder should have already conducted a site survey and should have satisfied himself about the overall feasibility of the work. The clarifications given in the pre-bid meeting will also form part of the Tender and will be uploaded on the TIFR website. TIFR reserves the right to revise the Price Bid and also technical specifications, scope of work after pre-bid meeting, if required, and same will be uploaded on website.
4. Sealed offers should be submitted in two separate Envelopes indicating clearly '**Envelope No.I**' - **Technical Bid** and '**Envelope No.II**' - **Financial Bid**. The envelopes should be addressed to The Purchase Officer, Tata Institute of Fundamental Research, Homi Bhabha Road, Colaba, Mumbai-400005 and superscribed "Tender for **Supply, installation, testing and commissioning of electromechanically operated, horizontal Drum type(15 day retention), organic waste composter Machine (350-400 Kg/day-In vessel composting system)** at Tata Institute of Fundamental Research, Homi Bhabha Road, Colaba, Mumbai-400005".

The two sealed covers should be further put in a master cover super scribed with the Tender Enquiry No., Due Date in bold letters, addressed to the Admn. Officer (Purchase), Tata Institute of Fundamental Research, Homi Bhabha Road, Colaba, Mumbai – 400 005.

4. The tender should be submitted not later than 17.30 hrs on 24.08.2018 in Tata Institute of Fundamental Research, Homi Bhabha Road, Colaba, Mumbai-400005.
5. Envelope No.1 shall contain
 - i. Techno-commercial bid, form of tender, Articles of agreement, technical specifications, drawings, EMD
 - ii. Relevant documents supporting the Pre-Qualification Criteria.
6. Envelope No.2 shall contain:
 - i. Price/ Commercial Bid (Volume II) complete in all respects duly sealed and addressed by name to The Purchase Officer, Tata Institute of Fundamental Research, Homi Bhabha Road, Colaba, Mumbai-400005.
 - ii. Envelope No.2 should not contain any conditions whatsoever and any conditional bids shall be rejected.
 - iii. Envelope No.2 will be opened on some suitable date, which will be communicated later to the qualified bidders.
7. Before filling up the tenders, the bidders may note the following:
 - i. The bid shall remain valid and open for acceptance for 3 months from the date of opening of Envelope No.2
 - ii. Time of Completion: The work shall be completed within the time as specified in the Form of Tender.
 - iii. All documents that comprise the offer should be signed and sealed by the firm, as a token of acceptance to the terms and conditions specified in the tender.
 - iv. Liquidated damages for delay in completion of the works will be levied at 0.25% of the value of the accepted tender for every week of delay or part thereof, subject to maximum of 5% of the value of the accepted tender.
 - v. TIFR reserves the right to accept or reject any /all tender/s in part or whole of any firm / firms without assigning any reasons for doing so.

PRE QUALIFICATION CRITERIA

S No.	Criteria	Supporting documents to be submitted	Compliance (Yes/ No)	Reference page no.
1	Bidder should have office (of themselves or their reseller) in the limits of Greater Mumbai / Navi Mumbai / Thane/Pune.	Copy of Mumbai shops and establishments registration certificate OR Maharashtra VAT registration certificate OR Service Tax registration certificate OR GST registration Certificate.		
2	Bidder should have experience of atleast 3 similar* works during the last Three financial years ending 31 March 2018.	Copies of work orders/ completion certificates establishing experience from 01 April 2015 onwards to be submitted. Works completed / in hand / in progress after 31.03.2018 may also be submitted. But preference will be given to completed works.		
3	Bidder's annual turnover during each of the last 3 years ending 31 March 2018 should be atleast Rs.14 Lacs	Certificate issued by chartered accountant to be submitted.		
4	Bidder should have done at least; one similar* work of value not less than Rs. 12 lakh OR Two similar* works individually costing not less than Rs. 9 lakh OR Three similar* works individually costing not less than Rs. 8 lakh	Copies of work orders and completion certificates. Projects should be located in Mumbai / Navi Mumbai / Mumbai Suburban areas and Thane districts. Otherwise, the firms should have installed similar works in big cities. For the same, the firms have to submit documentary evidence for executing such works in other cities.		

Sno.	Criteria	Supporting documents to be submitted	Compliance (Yes/ No)	Reference page no.
5	Bidder has to submit the Make and model which will be offered.	Make and model which will be offered should be clearly typed and signed on letter head along with technical specifications. AND The technical brochure of equipment used with make and model offered is to be attached.		
6	Bidder has to submit the test certificates, if any	Test report to be submitted		
7	Optional buy back of compost	The contractor may arrange for buyback of excess compost generated from the system either directly or make arrangement for the same through other agencies.		
8	Bidder has to submit the OEM Authorization letter as per Annexure – 1.	The letter issued by the OEM as per annexure – 1 has to be submitted.		

*Similar work means works of supply and installation of Automatic Horizontal rotating type drum composters units (in vessel composting with 15 day retention type, in vessel composting) with all accessories like PLC based, Odour removal scrubber etc. and as mentioned in the tender.

INSTRUCTIONS TO BIDDERS AND GENERAL CONDITIONS OF CONTRACT

- 1) **The tenderer shall guarantee that the work shall be free from any defects whatsoever for a period of two (02) year Warranty Period from the date of commissioning of the work.**
- 2) Any defects or shortcomings found during execution of work and during the warranty period from the completion of the entire work shall be attended/rectified by the tenderer without any extra cost to the Employer. In case of failure to do so within 10 days from such notice from the Institute, the Employer may get such rectification works carried out through any other firm and expenditure incurred by the Institute shall be recovered from any money due to the Contractor at the cost and risk of the contractor.
- 3) The contractor has to make his own arrangement of stay for his employees.
- 4) **TERMS OF PAYMENT:** 100% after receipt, installation, commissioning and acceptance of the equipment.
- 5) Successful bidders will have to deposit **Performance Bank Guarantee @ ie.10 % of the Purchase Order value** in the form of Bank Guarantee valid for a period of 60 days beyond the date of contractual obligations. PBG amount will be forfeited if the Firm /Supplier fail to perform any of the terms & conditions of our Tender enquiry/ document.

DECLARATION BY THE BIDDER

I / We hereby declare that I/We have read and understood the above instructions to the bidders and that the same are binding on me /us.

Signature of Bidder

Seal

Date:

Place:

Technical Specifications

Scope of work:

1) The TIFR campus is located at 1, Homi Bhabha Road, Navy Nagar, Colaba, Mumbai 400005. The existing campus consists of two parts, viz., (i) Academic Complex and (ii) Residential Complex spread in 30 acres area. Both are located adjacent to Arabian Sea, at the southern tip of Colaba, Mumbai. It consists of approximately 300 residential flats, 200 hostel and guest house rooms, scientific laboratory, offices, other research infrastructure and three canteens spread over 9 buildings in the Residential Complex along with gardens and trees.

2) The tenderer is required to **Supply, installation, testing and commissioning of electromechanically operated, horizontal rotating Drum type with 15 day retention , organic waste composter machine (350-400Kg/day - In vessel composting system) at the Tata Institute of Fundamental Research, Homi Bhabha Road, Colaba, Mumbai-400005.** We have about 200 kg of wet garbage coming out of our colony buildings and Institute's Canteen every day and additional garden waste to the tune of around 100 Kg. The processing unit will process the entire wet garbage and convert the same into rich organic manure / compost. The waste will come from kitchen biodegradable waste materials consisting of vegetable peelings, fish wastes, rotten fruits, cooked food having rice, vegetables, chicken meat, sweets, biscuits, eggs, fruits, garden wastes, etc.

4) The firm will submit the make and Model of the system to be installed by them.

5) The system should be fully automatic and ensures hassle free operation in the longer run.

However, in the event of failure of motors, company repair person shld be made available with 48 hours.

- 6) The system should meet the following technical parameters-
- Dry technology base scrubber (for smell removal)
 - Pollution removal system (if required)
 - Air blower of required capacity
 - No artificial heating
 - Machine should not be consuming more than 8 kWh (Units) per day with connected load of 6 KW.
 - System should made up of MS with corrosion resistant paint and SS cladding on all parts coming in contact of waste.
 - Waste and compost collecting vessel.
 - PLC based automtatic /auto cut operation
 - Proper mechanical arrangement for compost mixing
 - Rotation cylinder must have retention time of at least 15 days to ensure natural quality compost.
 - Waste should be fed with sawdust and Bio-culture to ensure its good quality in terms of organic carbon and nitrogen content.
 - The system should be eco-friendly and harmless to humans and animals. The reduction in volume of waste should be more than 70% at the end of curing process.

- The system should be easy to operate and maintain. It should be clean and not lead to mosquito breeding. It should completely convert the bio degradable waste to manure ready for use without further processing.

The system aims at:

- Processing of biodegradable waste
 - Achieving zero garbage and zero effluent
 - Generation of manure/organic fertilizer
 - Reduction in dumping yard overflow menace
 - Quality improvement in dry waste as the wet and degradable portion is removed with consequent reduction in transportation costs
- 7) The system should have scope to accept a variety of raw materials.
 - 8) The manure generated in the process need to be weed-free and rich in organic carbon contents.
 - 9) Possibility of technology upgrade as per user requirement in future.
 - 10) The firm will obtain all approvals / sanctions/ clearance from local / state / central Govt. authorities, if any, required for execution of the system.
 - 11) All fabrication, erection works including electrical works (nearby power point and RCC platform for keeping the machine will be provided) shall be carried out by the contractor. The installation site can be seen during the pre-bid meeting. The works should be carried out safely so that the system remains in working condition throughout its life cycle.
 - 12) The contractor, after installation of the system, will test the system for its functioning and submit a certificate in this regard.
 - 13) The contractor will test the manure so generated from the plant in laboratory and submit the certificates.
 - 14) The contractor will submit the complete design, structural layouts, electrical drawings, etc. and get it approved before execution of the work.
 - 15) The contractor will carry out everything necessary for completion of the work in all respects.
 - 16) The system should be designed in such a way that it occupies less area. The area required for the system will be decided in consultation with the Institute.
 - 17) The system may consist of the following equipments:
 - a. **The outer material for the composter vessel should be made up of MS with corrosion resistant paint, well protected from near sea environment, rigid enough to sustain total weight of the compost in the vessel.**
 - b. **The drums should rotate at a specific speed with rotor motor without any wear and tear to the drums. There should be an arrangement so that in the event of failure of rotor motor, machine should be functional.**

- c. There should be a shredder integrated with the system (specified later). An alternate feeding pathway for putting in pre-shredded material may be provided.
- d. The drum and all other of the highest quality adhering to all quality the internals should be SS system. The documents for the quality of cladded.
- e. **The arrangements for aeration for scientific aerobic conditions and water drain arrangements should be made in the system. The arrangements should be explained by the tenderer.**
- f. The bearings used in rotors should be of SKF or highest quality.
- g. Control panel should have emergency start / stop button
- h. The protective cover should be provided for shredder and blade parts and other important part of the system.
- i. The opening / lifting of lids for loading/unloading should be easy.
- j. The system should turn even on full load easily.
- k. System should have sturdy/heavy duty construction to last for at least ten years
- l. 2 sets of Instruction manual should be submitted along with the system.

21. Biomass / waste shredder: SS-304 make contact surfaces with 3 HP motor, sink & segregation tray. It will be used to shred organic food waste and garden waste. The capacity should be 200 kg per hour. The other parts should be epoxy coated to provide better characteristics. (Make Crompton or equivalent).

The motor for vessel rotation: Should be a heavy duty geared motor (ISI) . IP 55 continuous duty, F class insulation (make Crompton or Siemens)for efficient designed capacity.

MCB should be Legrand make, Contactor, overload relay, timer should be Siemens make

Weighing scale: 1 to 50 kg capacity (ISI approved make)

Stand for operator: SS-304 stand may be provided for operator of suitable size.

Other electrical components: All Remaining electrical components should be ISI make suitable for outdoor condition conforming to the best standards.

22. Plant commissioning: Procurement of bacteria/culture, absorbent material like saw dust, cocopeat, etc. & commissioning at Tata Institute of Fundamental Research, Homi Bhabha Road, Colaba, Mumbai-400005 shall be in scope of Bidder. However after commissioning, the same would be procured by TIFR for further operations.

General operation of the system

The organically rich bio-degradable portion of solid waste is crushed and addition of compost culture and adsorbent material for faster degradation of the waste. This will then be processed using in-vessel composting system for further curing system.

23. Service Set Up: The firm should have full-fledged service setup / centre in Mumbai for the system. Tenderer may submit detailed information in this regard.

Scope of work for comprehensive AMC

The AMC will be comprehensive including repair, replacement and maintenance of all parts of the system.

Period of AMC: 3 years from the date of completion of the warranty period.

Terms and Conditions for Payments: The payment shall be released every six months on satisfactory performance and certification by TIFR's officials.

Scope of work involved (Paid as well as Free AMC period):

- a. Visit of service engineer 6 times in the year to check functioning of Composting machine, shredder & rotator machines.
- b. Visit of service engineer to attend the breakdown of any of the equipment on intimation from TIFR within 24 hrs.
- c. Preventive and breakdown maintenance of composting machine and shredder machine. The reports to be submitted to TIFR.
- d. The service engineer if needed will recommend/suggest for improvements on the operational and maintenance part of the equipment. He will carry out necessary repairs, adjustments of assemblies, sub-assemblies required for optimum performance of the machine.
- e. Replacement of faulty spares will be provided.

Special conditions of contract

1. The firm will submit their offer for taking up AMC of the system after expiry of warranty period for a period of 2 years. Further the rate as finalized for AMC shall remain fixed for the entire duration of the 3 years period.
2. The firm will indicate the IS codes against all items and submit the data sheets. The firm will submit 3 sets of "As built" drawings". The firm will provide training to our staff / officials about the operation of the system.

Annexure – 1
OEM AUTHORISATION LETTER

Original Equipment Manufacturer’s authorisation letter (in Original Letter Head of OEM)

The Purchase Officer,
Tata Institute of Fundamental Research,
Homi Bhabha Road, Colaba,
Mumbai-400005

Dear Sir,

Subject: **Direct Manufacturers Authorization**

Ref : Tender No: _____ **dated**-----

Name of Work: - Tender for ‘Supply, installation, testing, commissioning, operation and maintenance of Automatic Horizontal Tumbler Composter (350-400Kg/day-In vessel composting system) at Tata Institute of Fundamental Research, Homi Bhabha Road, Colaba, Mumbai-400005.

We, an established and reputable manufacturer of Automatic Horizontal Rotating Drum unit (in vessel composting) having Corporate / Registered office at(address of OEM) do hereby declare our reseller’s office at

We at (name of contractor) hereby declare that we shall signs the contract with you for the supply of goods manufactured by us and shall also do all installation, technical support and maintenance obligation as required by the contract

We hereby confirm and extend our full guarantee / warranty of two year for the products supplied by the above contractor for the said work.

Yours faithfully,

for

Signature of OEM.

VOLUME II**PRICE BID****SCHEDULE OF QUANTITIES**

Sl. No.	Description of item	Qty.	UOM	Amount	Total Amount (In figures and words)
1.	Supply, installation, testing and commissioning of Automatic Horizontal Rotating Drum Composter (350-400Kg/day – In-vessel composting system, 15 day retention) including all accessories, equipments as detailed in technical specifications, required at site, weighing scale, electrical accessories, etc. complete in all respects	01	No.		
	GST		%		
	Total				

AMC Charges

Sl. No.	Description of item	Qty.	UOM	Amount	Total Amount (In figures and words) +Tax
2.	Annual Maintenance Contract (including repairs) of the system after warranty period	03 (After Warranty of 02 years)	Year		

Optional item

Sl. No.	Description of item	Qty.	UOM	Amount	Total Amount (In figures and words)
3.	Buyback price of compost (Rate Only) Optional	Per Kg			

Note :

1. Grand total of item 1 & 2 in price bids will be considered for comparison of price bids.
2. The rates should be filled by considering all the prevailing taxes.
3. GST, etc. should be considered while quoting rates since the same needs to be shown separately in GSTN compliant bills. No further request shall be entertained by the employer in respect of revision of taxes.
4. The Warranty period will be for 02 years from date of completion / handing over and the relevant clauses of the technical bid will be treated accordingly.
5. It is mandatory to fill all fields in tender. Incomplete fields and blank will not be considered.
6. The contractors are advised to visit at site before quoting the rates and get all the clarifications from the Institute.
7. The bidder will clearly mention the model number and make of the quoted product in the technical bid.

Accepted all terms and conditions.

AUTHORIZED SIGNATORY

Date :

Place :

SEAL

TATA INSTITUTE OF FUNDAMENTAL RESEARCH

Autonomous Institution of the Department of Atomic Energy, Government of India (A Deemed University)

HOMI BHABHA ROAD, COLABA, MUMBAI – 400 005
(PURCHASE SECTION)

Other Terms and Conditions

1. After downloading the documents please inform your company details such as name, address, telephone nos., contact person and email address etc. by email to us. (deepak.baghele@tifr.res.in, madhuram@tifr.res.in, dalvidd@tifr.res.in) to enable us to inform prospective bidder for any corrigendum/changes if any; in the Tender document before due date.

2. **EMD:**

An earnest money for **Rs.28,000/-** (i.e.2% of the total estimated cost) has to be deposited in the form of Demand Draft, Fixed Deposit Receipt, Bankers cheque or Bank Guarantee from any commercial Banks or through online transfer through bank (Bank details to be provided on demand) in favour of **Registrar, Tata Institute of Fundamental Research, Mumbai** along with the quotation

Also, in lieu of above, the bidder can submit the EMD in the form of "Bid Securing Declaration" as per the attached format. The declaration also should be submitted on the company letter head duly signed by officer authorized to submit the bid.

TIFR reserve the right to cancel the tender even after the receipt of tender, and in such case the EMD would be refunded without any interest to the bidding parties.

Tenders which are not accompanied with Earnest Money Deposit are liable to be rejected. The earnest money will be refunded to the unsuccessful bidders on finalization of the contract. The EMD will not carry any interest and it will be interest free deposit to TIFR.

3. Bidder who have not accepted the order / job awarded to them or withdrawn from the tender process OR whose EMD / Security Deposite has been forfeited in the past, their bid will not be considered and treated as ineligible/disqualified.

Bid Securing Declaration

(to be submitted on company's letter head)

I/We the undersigned hereby declare that if we withdraw or modify the bids during the period of its validity, or if we are awarded the contract and fail to sign the contract, or to submit a performance security before the deadline defined in the request for bids document or fail to execute the contract, we will be suspended for the period of time specified in the request for bids document from being eligible to submit bids for contracts with the entity that invited the bids.

Name and Signature

of Authorized Signatory

and Company Seal