

Tender Notice

for

TWIN SCREW LAB EXTRUDER SUITABLE FOR 3D FILAMENT FROM HDPE WASTE

FOR

KASHTAKARI PANCHAYAT

INTRODUCTION

Kashtakari Panchayat was registered in 2010 primarily to support waste pickers and their families and their collectives. The support ranges from direct financial assistance to indirect support in the form of training, facilitation and research. KP would best be described as a bridge, connecting people to each other, connecting ideas to people and people to resources to implement those ideas. It facilitates and celebrates the interaction between one section of humanity and another, to create a better world for all.

PROJECT DESCRIPTION

The European Union, **SWITCH-Asia Project** is a multi-year program that aims to increase the incomes of waste pickers through vertical integration of the plastic recycling chain, specifically through the creation of value-added products such as 3D printing filament from HDPE and PP plastic waste. The project is based in **Pune, Maharashtra**.

Over the 4-year project duration, 4 decentralized plastic waste supply chains will be set up for creating value added products from HDPE and PP plastic waste. These supply chains will be owned and operated by waste pickers. This network is expected to incorporate over 1,000 informal waste pickers. The supply chains will consist of scrap shops which buy sorted recyclable waste from waste pickers, and processing units which will buy HDPE and PP plastic from the scrap shops for processing into intermediate products such as plastic flakes and high-value products such as 3D printing filament. Through this process, there will be value creation for HDPE and PP material, which will be passed on to the waste pickers through an increase in the purchase rate for this plastic as well as through distribution of the profits from the processing activity. High-value products such as 3D printing filament could increase the value of HDPE by more than ten-fold. The high-value products like 3D printing filament will be certified for quality and will be produced in line with fair-trade principles.

EQUIPMENT / SYSTEM TECHNICAL DESCRIPTION AND SCOPE

MAIN EXTRUDER:

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| Fabrication: Main frame of the machine shall be of a compact, robust construction. Material to be used of MS Material & plate |
| Material to be extruded: HDPE waste |
| Extruder: 30mm Twin Screw Extruder mounted on sturdy MS frame |
| Screw: 30mm dia., L/D 30:1, parallel, counter rotating with close intermesh for high performance. MoC: high tensile special nitro alloy steel, nitride hardened. |
| Barrel: Split type barrel suitable for above twin screws. The barrel opens like a compass box for cleaning screws and barrel from inside. MoC: same as above. For longer life. Water jacket provided for feed head cooling. Vent provided to the barrel to escape unwanted gases. |
| Heater: In SS covers. Heating load approx. 6 KW. |
| Hopper: In SS sheet Capacity 1 Kg. (5 Kg if not going for feeder) |
| Drive: 5 HP through Gear Boxes (Primary and Secondary). |
| Panel: 5 Zones PID Control Panel (Accuracy $\pm 1\%$), ammeters, indicating lamps, switches and other electrical outfits. 5 HP VFD fitted in the panel. |
| Pressure Transducer: Measurements for Melt temp., Melt pressure are provided. |
| Safety Measures: Electrical / electronic safety, mechanical safety & emergency stop button are provided to protect the machine from major damage / break down. |
| Screw rpm: 60 max. |
| 3-D filament attachment 3D filament Die Assembly: Complete with flange, adaptor, die and heaters. Die sizes: 1.75, 2.5 and 3 mm. Cooling Tank: Cooling tank in S.S. with water inlet and outlet. Tank size: 150mm width x 150mm deep x 1500mm long. Mounted on MS stand with height adjustments and castor wheels. Nip Rolls Assembly: Suitable dia nip rolls with guides. Drive: 0.5 Hp variable speed drive through gear box. Output: 2 to 10 kg /hr. depending upon material, density, die size , additives and other Operational parameters. The feed material preferred in the form of granules or ground (grinded) HDPE chips. |

VOLUMETRIC FEEDER

Twin Screw Volumetric feeder with VFD. Capacity 2 to 10 Kg / hr

Vendor to confirm HP rating

SPOOLING ARRANGEMENT FOR 3-D Filament:

Complete ACVF drive with spool mounting arrangement.

Travers to be managed manually.

Vendor to confirm HP rating.

PELLETIZER:

75 mm Pelletizer with cooling tank

Pelletizing assembly mounted on sturdy MS frame with caster wheels.

Cutter: Helical type, 100 mm dia. x 75mm L

Feed Roll: In SS

Guide Roll: Rubber Coated

Die: Suitable multi strand die with flange, adaptor and heater.

Drive: VFD. (Vendor to confirm HP rating.)

Cooling Tank: In SS fitted on castor wheels.

Tank size 150 mm width x 150 mm deep x 2000mm Long with idlers and water inlet, outlet and overflow provision.

Scope of supply includes Fabricated control panel with Controller, Ampere/Volt meter display, power load relay, thermocouple sensors and all wiring.

Scope:

1. Temperature Controllers
2. Power on / off indicators.
3. Switchgears
4. Emergency Stop Button
5. Contactors, etc.

TRAINING

- The Supplier shall provide technical training on Operation, maintenance and troubleshooting of the Equipment / System to the operators and the Supervisory staff

GURANTEE

- The unit shall be guaranteed for trouble free operation for a period of **12 months** from the date of commissioning

CLARIFICATION OF TENDER DOCUMENT

- A prospective bidder requiring any clarification of the Tender Document may communicate to the contact person given in this notice inviting tender. The contact person will respond to any request for clarification for the Tender Document received not later than 5 working days prior to the last date for the receipt of bids.
- Amendment of Tender document: At any time prior to the last date for receipt of bids, The Organisation may for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the Tender document by an amendment.
- The Organisation may at its own discretion extend the last date for the receipt of bids.
- The Organisation reserves the right of accepting any bid other than the lowest or even rejecting all the bids. The decision of the Organisation is final in all matters of tender and purchase.

SUBMISSION OF TENDER

1. Eligibility Criteria: Tenderer should have successfully supplied & installed the same instrument to Government or Private Firm / Department within the last 05 (Five) financial years. Purchase order copy of the same may be enclosed as proof.
2. The bidder should be a manufacturer / authorized representative of a manufacturer, who must have designed, manufactured, tested and supplied the goods of similar to the type specified in Technical Specifications which has been in successful operation for at least two years on the date of bid opening.
3. Payment terms: Upto 50% advance payment/part payment shall be made upon finalization of the bid. Balance payment shall be made after satisfactory receipt and successful installation.
4. The rates shall be inclusive of packing & forwarding charges, insurance, installation & commissioning, freight charges for delivery of materials at the address specified by Kashtakari Panchayat (within Pune city).
5. Delivery Period: Within 60 days from the date of receipt of order.
6. Applicable Taxes & duties shall be clearly mentioned against the item.
7. The tender shall be valid for minimum 30 days after the date of closing.
8. Warranty: The supplied Twin Screw Extruder shall have minimum 1 year warranty from the date of installation & commissioning on all components and parts
9. Warranty period, discount offered, and other terms, if any, shall be indicated in neat & clean manner in the Tender.
10. The bidder should mention the country of origin of the machine.
11. The Tenderer may use their own format for submission of tender and Detailed Quotation provided that all of the information requested within the Technical Bid and Price Schedules are mentioned clearly and in detail. The tender shall contain detailed cost in INR Rupee, with all applicable Tax/Charges.
12. The tender documents and/or quotations should be on the letterhead or the company, or have the stamp and signature of the authorized signatory of the company.
13. For soft copy submissions, only digital signature will be accepted.
14. Tenders may be submitted in one of two ways:
 - a. By Speed Post in a sealed envelope to the following address - Kashtakari Panchayat, 5, Pleasant Apartments, 80/2/2, Baner Residency, Baner Road, Pune, Maharashtra-411007, Contact No: 8329538283.
 - b. By email to admin@kashtakaripanchayat.org including all tender documents as soft copy.
15. The successful Tenderer has to deposit an amount equivalent to 3% of the contract value till the Warranty Period as Performance Security deposit in the form of Demand Draft / Banker's Cheque within 10 days after the acceptance of the tender. The DD/Banker's Cheque shall be drawn in favour of Kashtakari Panchayat, Pune payable at Pune.
16. Date of submission: The date of receipt of the hard copy or soft copy by Kashtakari Panchayat will be considered the date of submission of the tender.

Technical Bid

DESCRIPTION: Supply of Twin Screw Lab. Extruder at Kashtakari Panchayat, Pune

| Sl. No. | Particulars To Be filled up by the Tenderer / Bidder: | |
|----------------|---|--|
| 1 | Name of the Tenderer / Supplier | |
| 2 | Postal address | |
| 3 | Telephone No. with STD code | |
| 4 | Name of Contact person | |
| 5 | Mobile No. | |
| 6 | E-Mail ID | |
| 7 | The firm should have valid registration certificate in support of establishment of the firm (Registration No.) | |
| 8 | PAN (Permanent Account Number) | |
| 9 | Certificates of Registration for GST as applicable | |
| 10 | Experience of supplying & installation of same instrument to Government or Private Firm / Department within the last 05 (Five) financial years. Purchase order copy of the same may be attached as proof. | |
| 11 | Validity of Offer | |

Name:

Place:

Signature of Bidder / Tenderer with Seal:

PRICE SCHEDULES

[To be submitted along with the Financial Bid]

(Supply of Twin Screw Extruder at Kashtakari Panchayat, Pune)

To,

Kashtakari Panchayat,

5, Pleasant Apartments, 80/2/2, Baner Residency, Baner Road,

Pune, Maharashtra.

Dear Madam/Sir,

Subject: Financial Bid for Supply & Installation of Twin Screw Lab Extruder.

In response to tender enquiry cited above, we are pleased to enclose the following as our financial bid for your kind consideration.

| Sl. No. | Description of the Item | Unit | Quantity | Basic Price (Rs.) | Applicable Taxes (Rs.) | Total Amount (Rs.) |
|---------|--|-------|----------|-------------------|------------------------|--------------------|
| 1 | Supply & Installation of Twin-Screw Lab Extruder and other paraphernalia as mentioned in the Tender Notice | Nos. | 01 | | | |
| 2 | Installation Charges (If Applicable) | Total | 01 | | | |
| 3 | Delivery / Courier Charges (If Applicable) | Total | 01 | | | |
| | Total Amount (Rs.) | | | | | |
| | Total Amount (Words) | | | | | |

Name:

Place:

Signature of Bidder / Tenderer with Seal: