

TENDER DOCUMENT

Last Date for submission of the Bids : 25th September,2024 up to 12.00 pm

Sealed Bids are invited for 'Lab Scale Reactor

Chairman Purchase Committee - NITRA invites sealed bids for procurement of the above subjected Item under "NTTM sponsored project Nylon 6,6"

The specifications are as below:

Lab Scale Reactor Qty: 1 set

The reactor for the condensation polymerization reaction.

1. Material of construction (MOC) - SS 316.
2. Temperature range - 30 to 350 °C (heating rate: 6 to 10 °C / min).
3. Pressure rating maximum - 30 bar /3 MPa (ASME or equivalent certified).
4. Stirring mechanism - Mechanical 1 to 100 rpm (able to be working at viscosity of 300 poise at 280 °C) (Anchor stirrer).
5. Polymerization type - Bulk polymerization with condensate generation.
6. Reactor Geometry - Cylindrical with bottom outlet with valve and output as polymer strands – max. 6 holes of 2 mm diameter.
7. Ports - for Nitrogen blanket, pressure gauge, opening for additives feed, temperature probe, sampling, bottom discharge valve for polymer at 300 °C, safety valve for pressure, vacuum valve etc.
8. Fittings - Bottom flush valve (withstand upto 300 °C), Pressure gauge (Digital and analog), Temperature sensor – thermowell with RTD PT100 (Able to sense up to 400 °C) with digital display, additive feeder with funnel and ball valve, pressure safety valve (adjustable from 5 to 30 bar).
9. Extruder fitting at discharge – The fitting of the horizontal screw extruder with bottom flush valve to prepare 6 strand of each 2 mm (about 0.08 in) diameter and this set up is suitable for our existing water bath. The screw extruder is required for the continuous flow of the polymer strand into the water bath to prepare the pellets. The temperature range is up to 350 °C and adjustable flow rate.
10. Control and monitoring – digital PID controllers and visual digital display control panel
11. Dust proof control panel with overload protectors and
10. Jacketed and electrically heated vessel
11. Insulation with cladding to ensure minimum heat loss
12. Warning sound and light alarms in controllers
13. Timers in control panel to set reaction time, temperature, and alarms when set parameter is reached. Emergency stop. Provision to set heating rate and temperature range.
14. Working volume – 2 liters (Accordingly decide the total capacity of the reactor)
15. Condenser – Condenser for distillation / condensation (SS 304 shell side and SS 316 tube side heat exchanger) with hose pipe. (Design pressure: 10 bar).
16. Receiver pot – Receiver pot at the outlet of condenser to apply vacuum for distillation and collect the condensate with outlet & vacuum line valve. (Design pressure: 10 bar).
17. Water tank and pump – Water tank capacity of 20-25 liter with pumping capacity of 5 liter per minute to supply water to the condenser for cooling. MOC SS 316, temperature minus -10 °C to plus +200 °C.
18. Mounting – SS trolley
19. Power supply – Single phase 220 VAC, 50 Hz

Packing and Submission of the bid/bids

- A.** The tender shall be submitted on or before 25-09-2024 (up to 12.00 PM) and at the address given in appendix-TF. Any tender received after this date and time shall not be accepted. Tenders shall be packed, marked and sealed and submitted in original with documents listed below. **Tender shall be submitted in two separate sealed cover e.g. “Technical Bid” & “Financial Bid”.**
- B.** Sealed cover “**Financial Bid**” shall contain financial Specification
- i. Bill of Quantities duly completed with price.
 - ii. Covering letter in duplicate bringing out the tenderer’s reservations, if any, regarding compliance with the tender document and his own specific assumption, if any.
 - iii. Bills/Schedule of Quantities duly completed with price which will be inclusive of all taxes (GST, Excise Duty, Custom Duty etc.) any other Govt. levies & all other charges (packing, forwarding, loading-unloading, erection and commissioning, insurance and any other incidental charges by whatever name called). Break-up of the taxes/levies/all other charges will also be mentioned.
 - iv. It is necessary to fill the Tender Value precisely. In case, all individuals’ items are not quoted, it will be deemed that that Tender Value is inclusive of quotes of all the individual items as per the tender document.
- C.** Sealed cover “**Technical Bid**” shall contain
- i. SSI Certificate if the Manufacturer/supplier, are registered as small industries with the Government.
 - ii. Profile of the Bidder’s Organization.
 - iii. Copy of the PAN Card of the Organization.
 - iv. Copy of Registration Certificate of the organization.
 - v. If the bidder does not manufacture the equipment, authorization of the manufacturer to the bidder for marketing and servicing the equipments in India should be enclosed along with the tender. In the absence of such authorization, the tender will not be considered.
 - vi. Technical Specifications in details of item for which bid has been submitted.
 - vii. List of items with quantities for which the financial bid has been submitted.
 - viii. The item for which bid has been submitted should contain the list of clients to whom the respective equipment with same specifications has been supplied.
 - ix. Tender documents, which shall be signed by the authorized person(s) and seal affixed.
- D.** The sealed envelope containing covers ‘**Technical Bid**’ & ‘**Financial Bid**’ as above shall be marked in the name of the **Chairman Purchase Committee, NITRA, Ghaziabad clearly indicating the name of the item for which the bid is submitted.**

Terms & Conditions:

1. Modifications if any of the tender documents will be made by addenda / corrigenda. One copy shall be signed, sealed and submitted packed along with the tender documents.
2. No Bids/Quotations shall be entertained, if it is not sealed properly, sent through e-mail, fax, telex or telegraphic mode.
3. The quoted price should be written both in words and in figures. In case of conflict between the figures and words in the rates, the latter shall prevail.
4. The suppliers of the item should provide both theoretical and practical training after commissioning at an appropriate stage.

Terms of Payment:

1. 50% advance, 40% against delivery and 10% after installation.

TENDER OPENING DATE & TIME: 25-09-2024, 03.00 pm at NITRA Ghaziabad

Email: mail@nitratextile.org (for any query/clarification)

Phone Nos.: 0120-2807390/91/92/93/94/95

50% advance, 40% against delivery and 10% after installation.

TENDER FORM

To,
The Chairman
Purchase Committee
NITRA
Sector-23, Raj Nagar
Ghaziabad – 201 002 (U.P.).

Sub : Supply of ‘Lab Scale Reactor’ as per specifications and quantity mentioned in the tender

Dear Sir,

- a. Having examined the conditions of Tenders / Specifications of the equipment, we, the undersigned, offer to supply equipment as per specifications given in the tender.
- b. We agree to abide by this tender for the period given in Appendix TF from the opening date fixed for receiving the same and it shall remain binding upon us for a mutually extended period agreed in writing by us.
- c. If our tender is accepted, we undertake to supply the Equipment and install the same in Nitra, Ghaziabad mentioned in the tender within the specified periods in Appendix-TF on receipt of written order from the Purchase Committee, NITRA.
- d. If our tender is accepted we will, obtain and arrange:
 1. Transit insurances
 2. Any other statutory obligation, if any, prior of commencement of supply of equipment.
- e. We agree to your right to cancel the order or stop payment without prejudice to any other right or remedy for the following failures on our part.
 1. Changes to tender are made within Validity Period as specified in Appendix-TF.
 2. Supply and installation of equipment is not commenced within specified period as given in Appendix-TF.
 3. Obligations under (e) above are not fulfilled.
- f. Unless and until a formal agreement/purchase order is prepared and executed, this tender together with your written acceptance thereof, shall constitute a binding contract between us.
- g. We understand that you are not bound to accept the lowest or any tender you may receive.
- h. We agree to make a presentation of the products to be supplied by us, before the Purchase Sub-Committee on the date specified by it.
- i. Fluctuation in foreign exchange rates in respect of the imported equipment shall be borne by the equipment suppliers / authorized Agents.
- j. We hereby declare that the rates quoted by us are the lowest rates.

Authorized Signatory

to tenderer

Signature dated

Designation / Capacity

Name

Address

WITNESS 1

Signature

ADDRESS

Name

DATE

WITNESS 2

Signature

ADDRESS

Name

DATE

APPENDIX - TF

Sr. No.	Particulars	Remarks
1	Validity of Tender	180 days
2	Address, date and time of submission of the Tender Documents.	The Chairman, Purchase Committee, NITRA, Sector-23, Raj Nagar, Ghaziabad, U.P.- 201002, India. (25-09-2024 up to 12.00 PM)
3	Supply.	Preferably 4 to 10 weeks from the date of placement of order , failing which order may be cancelled.
5	Submission of the Programme for delivery.	Within 21 days from the date of the acceptance of the order placed.

SEAL AND SIGNATURE OF TENDERER

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