



INDIAN INSTITUTE OF TECHNOLOGY MADRAS
Chennai 600 036

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Dr. Amitava Ghosh
Project Coordinator

Ref: MEE/2020/AG-P/TEST RIG
Dated: 17.02.2020

Limited Tender No: MEE/2020/AG-P/TEST RIG

Due Date: 09.03.2020, 5:00pm

Pre-Bid meeting: - Not required.

Technical Bid opening meeting on Due Date: 10.03.2020, 4:00pm

Dear Sir/Madam,

On behalf of the Indian Institute of Technology Madras, offers are invited for the supply of “Test rig for high speed miniature grinding wheels” conforming to the specifications given in (Annexure-I).

Terms and Conditions of Limited Tender

- 1. Preparation of Bids:** - The Limited tenders should be submitted under **Two bid system** (i.e.) Technical- and -Financial bid.
- 2. Delivery of the tender:** - The tender shall be sent to the below-mentioned addresses either by post or by courier (duly sealed and super scribed on the envelope with the reference No and due date) so as to reach the following address before the due date and time specified in our Schedule:
Dr. Amitava Ghosh,
Manufacturing Engg Section
Department of Mechanical Engineering
IIT Madras
Chennai - 600 036.
- 3. Price:** - The price should be quoted in net per unit (after breakup) and must include all packing and delivery charges to **Department of Mechanical Engineering.**
 - a. The offer/bid should be exclusive of taxes and duties. The percentage of tax & duties should be clearly indicated separately. IIT Madras is eligible for concessional GST and relevant certificate will be issued.
 - b. In case of import supply, the price should be quoted without custom duty. IIT Madras is exempted from levy of IGST on Imports and eligible for concessional custom duty (not exceeding 5%) and the price should be quoted on EX-WORKS and CIP (stating the Cost, Insurance, Freight separately) and indicating the mode of shipment.
- 4. Terms of Delivery:** - The item should be supplied to our Departments as per Purchase Order. In case of import supply, the item should be delivered at the cost of the supplier to our Institution. The Installation/Commissioning should be completed as specified in our important conditions.
- 5. Catalogue:** Original catalogue (not any photocopy) of the quoted model duly signed must accompany the quotation in the Technical bid
- 6. Late offer:** - The offers received after the due date and time will not be considered

7. **Payment:** - No Advance payment will be made for Indigenous purchase. However, 90% Payment against Delivery and 10% after installation are agreed to wherever the installation is involved. In case of import supplies the payment will be made only through 100% Letter of Credit i.e. (90% payment will be released against shipping documents and 10% after successful installation wherever the installation is being done).
8. **Advance Payment:** - No advance payment is generally admissible. In case of specific percentage of advance payment is required, the Vendor has to submit a Bank Guarantee from a Nationalized Bank of India equal to the amount of advance payment.
9. **On-site Installation:** - The equipment or machinery has to be installed or commissioned by the successful bidder within number of days (as prescribed by PI's) from the date of receipt of the item at site of IIT Madras.
10. **Warranty/Guarantee:** - The offer should clearly specify the warranty or guarantee period for the machinery/equipment.
11. **Validity:** Validity of Quotation not less than 60 days from the due date of tender
12. **Technical Bid Opening:** The technical bid will be opened on **10.03.2020, 4:00pm** at the **Department of Mechanical Engineering, IIT Madras** and the **financial bids** of those tenders who are technically qualified will be opened at a **later date under intimation to them**.
13. **Accept /Reject:** IIT Madras reserves the full right to accept / reject any tender at stage without assigning any reason.
14. **Settlement of Disputes:** Any legal disputes arising out of any breach of contract pertaining to this tender shall be settled in the court of competent jurisdiction located within the city of Chennai in Tamil Nadu.
15. **Risk Purchase Clause:** - In the event of failure of supply of the item/equipment within the stipulated delivery schedule, the purchaser has all the right to purchase the item/equipment from other sources on the total risk of the supplier under risk purchase clause.
16. **Unsolicited offers:** "This notice is being published **for information only** and is not an open invitation to quote in this limited tender. Participation in this tender is by invitation only and is limited to the selected registered suppliers. Unsolicited offers are liable to be ignored. However, suppliers who desire to participate in such tenders in future may apply for registration as per procedure." The Website for Registration of vendors is <http://web.iitm.ac.in/supplier/> and the mail address for queries is "workflow@rt.iitm.ac.in".

Yours sincerely,

**Dr. Amitava Ghosh,
Manufacturing Engg Section
Department of Mechanical Engineering
IIT Madras
Chennai - 600 036.**

**Technical specification of customised grinding machine as required by the IIT
MADRAS for the purchase**

**Equipment Name: Test rig for high speed miniature grinding
wheels**

A brief note on equipment:

The test rig is a customized surface grinder retrofitted with a high speed precision spindle

S. NO	PARTICULARS	REQUIREMENT
1.	Spindle	
	A high-speed spindle (90000 RPM, 4.2 kW) along with its accessories and drives will be supplied by IIT MADRAS and this unit has to be retrofitted to a reciprocating surface grinder in place of its original conventional spindle. For Required specification of the surface grinder please refer to: S. No 2 to S. No 7	
	Spindle run out after integration with machine	0.002 mm or less
	Max load bearing capability of the retrofitted spindle unit	must be able to withstand a normal load of 250 N and a tangential load of 125 N
2.	Vertical Movement (Surface grinder)	
	Minimum down feed	0.001 mm
	Downfeed mode	Manual
	Vertical down feed with servo motor (Optional-add on)	Vendor is also requested to offer a separate price for a servo control drive with hand-wheel or PLC controlled device (with screen), which may be bought as an optional add-on module. The arrangement must have the provision for incremental down feed (one micrometre, ten micrometre) and rapid up/down motion of the wheel head.
	Down feed motion mechanism	A high precision ball-screw of a reputed brand has to be provided (Preferably from reputed companies make: SCHNEEBERGER/HIWIN/THK)
	Bearing for the z-direction movement	High quality ball bearings (preferably from reputed companies like NSK/SKF/Schaeffler etc)
	Vertical traverse length	375 – 400 mm

3.	Table Longitudinal movement (Surface grinder)	
	Table feed	Variable in the range of 1.5 – 18 m/min
	Table feed mechanism	Hydraulic
	Hydraulic pump motor	Suitable capacity to facilitate a smooth table movement even at lower speed i.e., 1.5 m/min
	Longitudinal traverse length	400 – 550 mm
	Work-table size	Preferably 400 x 150 mm ² (should not be not more than 500 x 250 mm ² in either dimension)
	Work holding device	Permanent/electromagnetic chuck of size equal to work-table
4.	Table cross feed movement (Surface grinder)	
	Cross traverse length	In accordance with the table size
	Traverse feed	Manual
	Least Input Increment	0.005 mm or less
5.	Dust Collector (Surface grinder)	Suitable dust collector must be provided
6.	Coolant system (Surface grinder)	NIL (Machining will be carried out in dry condition only)
7.	Lighting (Surface grinder)	A work lamp has to be provided
	Other conditions	<ul style="list-style-type: none"> • The supplier must be the manufacturer of the grinding machine in which the high speed spindle is retrofitted by them. The quoted price must be inclusive of retrofitting charges. • The vendor must have supplied machine tools to IIT/s in the past 6 years • The quoted price should be inclusive of transportation, commissioning, installation and training • The vendor has to give demonstration of the successful working of the item (grinding machine with retrofitted

		<p>spindle with their full scope of operation) being procured as per aforesaid specifications at customer's site.</p> <ul style="list-style-type: none">• Delivery time: preferably within 3 months from the issuance of the purchase order.• Warranty: 1 year from the date of installation
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