

**DEPARTMENT OF CIVIL ENGINEERING
NATIONAL INSTITUTE OF TECHNOLOGY (DU)
DURGAPUR – 713209**

BID REFERENCE: NITD/CE/RIG/RPN/2017/01

Dated: 12.10 .2017

To

Dear Sir,

**Subject: INVITATION OF QUOTATIONS FOR PROCUREMENT OF FABRICATED
HIGH PAYLOAD VIBRATION SHAKE TABLE**

Chapter-1: Instructions to Bidders

1. Sealed quotations are invited for the items listed separately in Annexure - I.
2. The quotations must be addressed to:

**The Head
Department of Civil Engineering
National Institute of Technology
Durgapur – 713209
West Bengal, India**

3. **The quotations must reach the above address latest by 14.30 hours on 30/10/2017.**
4. **The Tender will be opened at 15.00 hours on 30/10/2017 in the meeting room of Civil Engineering Department.**
5. The bidders or their representative should remain present during the opening of the tenders.
6. A bidder must submit quotation for complete item.

Chapter-2: Terms and Conditions of Contract

1. **General:-** The special terms and conditions specific to an item (if any) are stated appropriately. The General Financial Rules of Ministry of Finance, Government of India shall be applicable for any dispute if otherwise not mentioned.
2. **The bid submitted by the bidder must comprise the following:**
 - a) Earnest money as mentioned separately against each items under “SPECIAL TERMS AND CONDITIONS” is to be deposited in sealed envelop marked as “E.M.D.”, in the form of an A/c Payee Bank Draft in favor of “**National Institute of Technology, Durgapur -9**, payable at SBI, R. E. College Branch , Durgapur-713209
 - b) Detailed technical specifications and literature/drawings/manuals of the goods/services to be supplied.
 - c) Authorized dealership certificate from the original manufacturer.
 - d) Credentials and /or list of organizations where the bidder supplied similar items.
 - e) GST Registration Certificate.
3. **Bid Price:-**
 - a) The contract shall be for the full quantity as described appropriately. Corrections, if any, shall be made by crossing out, initialing, dating and re-writing.
 - b) All dates, taxes and other levies payable by the contractor under the contract shall be included in the total price **F.O.R. NIT Durgapur**.
 - c) The rates quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
 - d) The Prices should be quoted in Indian Rupees for goods/items manufactured in India,.
4. **One Part Bid Inside A Single Outer Cover** clearly marked as “**Price Bid**” in separate sealed covers mentioning the name of the item for which the quotation is submitted, full address of the addressee, name and full address of the bidder.
5. **Validity of Quotation:** Quotation shall remain valid for a period not less than 90 days after the deadline date specified for submission.
6. **Location of Delivery:** The delivery shall be made at Department of Civil Engineering, NIT Durgapur.
7. **Period of Delivery:** The period delivery, which is specific to an item, is mentioned appropriately.
8. **Delivery Option:** The items must be insured and delivered without any extra cost at the Civil Engineering Department of the Institute and will also have to be installed free of cost. The Institute will not be responsible in any way to collect the item(s) from transport agency / any other location on (or even without) payment of freight charges / insurance charges etc. Any form of expenses to be incurred due to transport, loading -unloading, construction of foundation for the machine including fasteners, operating oil, placement of machine on foundation including grouting, leveling, if any, and commissioning and T.A & D.A to the expert team etc. should be borne by the party

- 9. Payment Terms:** Payment shall be made immediately within 30 days after satisfactory installation, commissioning and acceptance of the item.
- 10. Warranty:** Comprehensive on -site warranty shall be applicable to the supplied goods/services generally for a period of 12 months from the date of satisfactory installation, commissioning, demonstration and acceptance.
- 11. Post Warranty Period Maintenance:** It is binding on the part of the successful bidder to provide Post Warranty Period Maintenances on a day -to-day market costs of man, machine, material basis
- 12. Refund of EMD:** The unsuccessful bidders will automatically get full refund of the EMD after finalisation of the tender. Under no circumstances, any interest can be claimed on EMD by the bidder. For getting the refund of the EMD, an official claim must be lodged mentioning the bid No. and the amount of EMD along with original money receipt issued by Cash Section of the Institute.
- 13. Failure of Order Execution:** If a successful bidder after receiving the order fails to execute the order within the stipulated period or does not fulfill any of the terms and conditions in any respect, the Institute reserves the right to cancel the order unilaterally. In such a case, the EMD by the bidder will be forfeited and no claim whatsoever will be entertained thereof.
- 14. Taxes and Duties:** The Institute is exempted from payment of custom and excise duty on items mentioned below: a) Scientific and technical instruments, apparatus, equipment (including computers), b) Accessories, spare parts and consumables thereof, c) Computer software, CD -ROM, recorded magnetic tapes, microfilms, and microchips.
- 15. Concession, if any:** Special concession applicable for Educational Institutions, if any, must be clearly mentioned at the time of submission of tender. If required, the Institute representatives will visit the manufacturing unit for the inspection of the equipment/factory at the cost of the supplier.
- 16. Performance Security:** The successful bidder must submit Performance Security of 10% of the ordered value, on the goods/services supplied irrespective of the origin, before the release of payment either in the form of valid bank guarantee on any nationalized bank or the same amount will be deducted from the billed amount. On satisfactory completion of the warranty period, Performance Security will be released free of any interest on demand. The earnest money deposit of the successful bidder will be returned only after receiving the performance security.
- 17. Liquidated Damage:** Liquidated Damage will be applicable at the rate of 2% per month or part thereof and limited to 10% maximum. The authority reserves the right to cancel the purchase order when LD accumulates to 10%.
- 18. Director's Decision:** The decision made by the Director, National Institute of Technology, Durgapur – 713209 is a binding on all the bidders.
- 19. Settlement of Dispute:** Settlement of any dispute will be made under the jurisdiction of Durgapur Court.
- 20. Rejection of Lowest bid:** - The authority reserves the right to examine the cost analysis made by the bidders on the basis of which the authority also reserves the right to reject the un-natural lowest bids or all bids.

21. **Responsive bids:** - A bid made by a bidder who satisfy the Clause 2 of this Chapter and accepts, in general, all terms and conditions will be termed as responsive bid for further evaluation.
22. **Award of Contract:** - Generally, a responsive bidder with lowest evaluated bid will be awarded the contract. The authority reserves the right to reject a lowest or any or all bids without assigning any reason.
23. Terms and Conditions under this Chapter is applicable, in general, to all Items.

**Head,
Dept. of Civil Engg.**

Item No. 1:- SUPPLY OF FABRICATED HIGH PAYLOAD VIBRATION SHAKE TABLE

Chapter 3: Schedule of Requirements

1. The horizontal table mounted on low friction linear sliding bearing and generating to and fro motion.

Chapter 4: Specifications and Allied Technical Details

1. The general description of the Shake Table is given in Annexure – II

Chapter 5: Special terms and conditions

1. **Special Payment Terms:** - Payment will be made as per Clause 9 of Chapter – 2 (Conditions of Contract).
2. **Book of Records:** - Maintenance of the books of record on the progress of the work, measurement books, and any other documents required during construction for the purpose of releasing bills is the responsibility of the bidder. A cross check of the records maintained by the bidder will be made by the appropriate authority.
3. The bidder may visit the Dept. of Civil Engineering for any clarification.
4. **Earnest Money Deposit:** - The bidder should deposit a sum of Rs. 25,000=00 (Rupees Twenty Five Thousands) only as Earnest Money through bank draft drawn in favour of “National Institute of Technology, Durgapur – 9”
5. **Delivery period:** 8 (eight) calendar weeks from the date of placement of work order.
6. **Terms and Conditions not Covered in This Tender Document:** The terms and conditions as practiced by the Construction Cell of National Institute of Technology Durgapur-713209 shall remain applicable for Terms and Conditions not covered in this Tender Document.

Chapter 6: Price Schedule

1. The bidder should give the price bid in his letterhead as per ANNEXURE –I and make the price bid accordingly. This price bid should clearly state the base price, taxes, duties, and total price. The bidder should duly sign the price bid with date and place.

Chapter 7: Tender Form

The bidder should return this tender document after filling all blank spaces in this tender Form:

To
The Head,
Department of Civil Engineering
National Institute of Technology
Durgapur – 713209
West Bengal, India

Name of the Work: **SUPPLY OF FABRICATED HIGH PAYLOAD VIBRATION SHAKE TABLE**

Sir/Madam,

Having examined the Invitation to Tender, Instructions to Bidders, Conditions of Contract, Schedule of Requirements, Specifications and Allied Technical Details, Special terms and conditions, Price Schedule, Tender Form mentioned above, I/we the undersigned offer to **SUPPLY FABRICATED HIGH PAYLOAD VIBRATION SHAKE TABLE** in conformity with the said bid Document.

1. We undertake, if our tender is accepted, to supply **FABRICATED HIGH PAYLOAD VIBRATION SHAKE TABLE** at your site within the period mentioned in the tender document.
2. Without prejudice to any other rights and remedies of National Institute of Technology Durgapur – 713209 can cancel the work order if we do not execute the work order assigned to us within stipulated period.
3. We agree to abide by this tender and it shall remain binding upon us.
4. This Tender together with your written acceptance thereof, shall constitute a binding contract between us.
5. We understand that you are not bound to accept the lowest or any tender you may receive.
6. We accept all terms and conditions given in the bid document.

Signature of the bidder with date

Seal of the bidder

All sealed covers must be addressed:

To
The Head
Department of Civil Engineering
National Institute of Technology
Durgapur – 713209
West Bengal, India

Annexure - I

PRICE BID

1	2	4	5		6	7	8	9
Sl. No	Name of the goods	Quantity & Unit	Price for each unit		Unit Price	Sales & other taxes payable [admissible only on col. 5(a)]	Total Unit Price	Total Unit Price (in words)
			Ex-factory/ ex-warehouse/ ex-showroom off the self [Customs & Excise duty waived] (a)	Incidental services (b)	(a)+(b)		(6)+(7)	
1	SUPPLY OF FABRICATED HIGH PAYLOAD VIBRATION SHAKE TABLE	01						

We agree to supply the above goods in accordance with the technical specifications and the terms and conditions mentioned in the bid document at prices mentioned above within the period specified in the Invitation for Quotations.

We also confirm that the normal commercial warranty of 12 **months** shall apply to the offered goods.

Signature of Bidder _____

Place:

Name _____

Date:

Business Address _____

Detailed Specification of the Fabricated High Payload Vibration Shake Table

- Capacity : 500kg payload
- Displacement : 0 - 100mm
- Frequency : 0 to 25Hz (Variable at controller end) and 0 to 5 Hz to output end.
- Table Specification: -
 - Dimension: 1m x 1m
 - Provision for through hole for mounting the test structure on the table
 - Material: Steel
 - The table should be supported by steel structure at bottom for rigidity
 - Table thickness: Min 8 mm
 - Table should be fixed on a steel base plate with Min thickness 14 mm
 - Table should move on SS make linear bearings. Two such bearing should be provided.
 - Length of each bearing should be min 1m
 - Suitable arrangement should be provided to protect the bearings from dust
 - Test certificate of the materials of construction as per IS standard should be provided
- Force Generator specification: -
 - Electric drive based system
 - Force: 200kgF or better
 - Suitable cooling arrangement should be incorporated
 - Power supply: 3 Ph, 440VAC, 50Hz or suitable
 - Protection: IP55
- Vibration Control System: -
 - Variable Frequency Control system should be provided
 - Control type: Sine control
 - Power: Should control the above force system
 - Voltage: 3-Ph, 380 to 480V +/- 10%
 - Freq: 40Hz to 63Hz
 - Power Factor: Min 0.98

- Output Freq: 0 to 500Hz
 - Continuous loading: 15.4 Amp
 - Overload capacity: Min 23 Amp
 - Switching Freq: Selectable in the range of 1 / 2/4/8/12 kHz
 - Time of Acceleration / Deceleration: 0.1 to 1800s
 - Close loop speed control: 0.1% of MNP
 - Torque control: < 10ms
 - Temp range: -15degC to 50degC
 - Humidity: 95% RH
 - Protection class: IP54
 - Control system paintings: Powder coated as per RAL 9002
 - Contamination: As per IEC 721-3-3 class
 - Inputs: 2 Analog Inputs (0-10V or 0-20mA)
 - Should capable of taking potentiometer: 10V @ <10kOhm
 - Resolution: 0.1%
 - Accuracy: +/- 1%
 - Should have 2 nos analog outputs
 - Should have atleast 6 nos digital inputs, 12 to 24VDC
 - Minimum 3 nos relay output should be provided
 - Controller should support: Modbus protocol
 - Standards: EMC – 2004/108/EC; 2006/42/EC
 - The control system should have in built LCD display for monitoring of various parameters.
- Coupling of Force System with Table: -
 - The coupling should be made up of carbon steel of better
 - Suitable arrangement for stroke length variation should be provided
 - High efficiency power transmission system should be provided for smooth transfer of the force on the table
 - Control parameters: Following parameters should be controlled / varied-
 - Displacement
 - Frequency

- Protection: Following protection system should be there: -
 - Over voltage
 - Over current
 - Over travel of the table
 - High vibration
 - Over temperature / heating
 - Over load
- Display: Digital display for Voltage, Current, Frequency should be there.
- All the necessary sensors for performing the above task should be provided with necessary signal conditioner, if required.