

NATIONAL INSTITUTE OF TECHNOLOGY
KURUKSHETRA-136119

No. CED/ASD/NITK/2017/99 / 375

Dated: 19/01/18


M/s Institute Website

Sub: INVITATION OF QUOTATIONS FOR SERVO ELECTRIC SHAKE TABLE

1. You are invited to submit your most competitive quotation for the following goods:

Sr.No.	Brief Description & Specifications of Goods	Quantity
1.	Servo Electric Shake Table (Detailed Specifications are attached)	01 Nos.

2. Necessary literature of the goods may please be sent to facilitate to take decision.
3. All duties taxes and other levies payable by the Institute shall be included in the total price. This Institute does not issue Form C or D.
4. Payment will be made Online through RTGS/NEFT within 30 days after receipt of material in good condition and according to specifications. The Bank detail for making online payment may be indicated in the quotation.
5. The supplier shall deposit Earnest Money alongwith the Quotation amounting to Rs. 40000 /- in shape of Accounts Payee Demand Draft, Fixed Deposit Receipt, Bankers Cheque or Bank Guarantee from any commercial Bank in favour of the Director, National Institute of Technology, Kurukshetra. The Quotations without Earnest Money shall be rejected, the EMD will remain valid for a period of 45 days beyond the final validity period of quotation.
6. Performance Security @ 05% of the total value of the equipment may be furnished in shape of Demand Draft, Fixed Deposit Receipt or Bank Guarantee from any Commercial Bank in favour of the Director, NIT Kurukshetra valid upto 60 days after the date of completion of warranty .
7. The items must be supplied within delivery period or delivery period extended by the Institute on the request of the supplier on genuine grounds otherwise the penalty for delayed period @ 0.5% of the amount shall be charged for every week or part thereof and the maximum 10%..
8. The goods are required exclusively for Research Purpose. The Duties are not payable by the Institute.
9. The quotation should remain valid for a period not less than 60 days from the date of submission.
10. The firm must have got **GST No.** printing on their quotation
11. The right of accepting or rejecting any quotation and to cancel the bidding process and reject all quotations without assigning any reason is reserved with the Institute.
12. The due date for receipt of quotation is **05.02.2018** and will be opened on next working day. Please quote on the top of the envelope our Ref. No. and due date of opening.


Consultant (Stores)

TECHNICAL SPECIFICATIONS OF SERVO ELECTRIC SHAKE TABLE

This equipment is used to simulate the Earthquake. It should be computer operated equipment. The user should be able to feed the different types of Ground Motions like Previous Earthquake time Histories, and other base motions like Sine, Square, Saw tooth etc.

The shake table should be consisting of a Servo Motor, Actuator, connecting link, a Top table, linear guide ways The Servo Actuator is controlled through computer. Various Base motions such as sine, square, random etc should be given to the actuator through the Computer and Control software and accordingly the top table should vibrate. Linear guide ways will ensure that the motion of the table is linear. A circular mounting plate should be placed on the vibrating plate through a T-slot, so that, the test structure can be mounted at any desired angle relative to the angle of incidence of the base motion. The top plate should have array of Tapped holes to mount the different experimental models

The Shake Table Should Supplied with the Suitable Branded Laptop/ Computer and should have four modes of Operation and it should be operated with control software.

- 1) Manual Mode
- 2) Cyclic Mode
- 3) Earthquake Mode
- 4) Sine Sweep Mode

Specifications

- 1) Base Motion : Horizontal
- 2) No of Axis : Single
- 3) G Value : 1 g
- 4) Maximum payload : 100 kg
- 5) Sliding table dimension : 500mm x 500 mm ✓
- 6) Table Actuation by : Servo Actuator with
- 7) Actuation Mechanism : Precision Multi Start Roller Screws with Accuracy of 0.01mm
- 8) Motor : Servo Motor with the Control Accuracy of 0.05 Deg or better
- 9) Drive : Servo Motor Drive
- 10) Control panel : Should Have All Basic Functions And Safety Features
- 11) Over Travel Protection : Non Contact Type Electronic Switches with accuracy of 0.01mm
- 12) Emergency Stopping : By Electronic Trigger
- 13) Motion Controller : Electronic Single Axis Expandable type to Multi Axis
- 14) Frequency : 0 -15 Hertz
- 15) Velocity : 0 to 300mm/sec Variable
- 16) Natural Frequency of Equipment : Should be Beyond 150 Hertz
- 17) Resolution For Frequency : 0.05 Hertz (Variable)
- 18) Frequency Control : 1%
- 19) Amplitude : 0 to 200 mm (+/- 100mm)
- 20) Amplitude Resolution : 0.01 mm
- 21) Base Table Bearings : Linear Bearings Having Tolerance of 0.01mm
- 22) Base Table Bearing Shafts : Linear Shaft Hard Chrome plated and ground
- 23) Types of Base Motions : Sine, Sine Sweep, Random (Earthquake), Triangular/Square etc
- 24) Data Feeding : User should be able to feed any Earthquake Data Available on Internet and should be able to create and feed user defined time histories also.

Control Software

Should be able operate the Shake Table in

- a) Manual Mode for Impact with selection of amplitude and Velocity.
- b) Cyclic Mode for Sine, Square, Triangular and Ramp with selection of Amplitude and No of Cycles.
- c) Earthquake Mode, where in user can feed earthquake time histories
- d) Sine Sweep Mode , both in increasing and decreasing mode with target frequency
- e) There should to be FFT Option available in the control software itself.

Bidding Requirement

- 1) The Supplier Should be an ISO Company
- 2) Supplier should confirm the specifications as above.
- 3) The Supplier should have supplied same or similar items to NIT's or other reputed institutes in the past.
- 4) Copies of P.O's and Performance Certificates to be attached along with the Bid if available.
- 5) All related Drawings and Civil Foundation details etc to be submitted along with the bid.
- 6) Supplier should offer for Inspection/Testing of Items at his manufacturing facility before dispatch at supplier cost.
- 7) Unloading of equipments, Installation, Demonstration is supplier responsibility.
- 8) Training in the Institute for a period of one week to be provided.
- 9) Supplier should support for any Additional Training as and when required for a period of one year.

[Handwritten signature]
28.12.17

[Handwritten signature]

[Handwritten signature]
28/12/17