



# भारतीय प्रौद्योगिकी संस्थान (भारतीय खनि विद्यापीठ), धनबाद

धनबाद, झारखण्ड, भारत, पिन-826004

(मानव संसाधन विकास मंत्रालय, भारत सरकार के अधीन राष्ट्रीय महत्व का एक संस्थान)

INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES), DHANBAD

DHANBAD, JHARKHAND, INDIA, PIN-826004

(An Institute of National Importance under Ministry of H.R.D., Govt. of India)

STORES & PURCHASE SECTION Phone:(0326) 2235678 || Email : purchase@iitism.ac.in || Website : www.iitism.ac.in

No. MME/INS/360/18-19

Date: 7 March 2019

## NOTICE INVITING TENDER

### Subject: Supply & Installation of Ultrasonic Flaw Detector.

Indian Institute of Technology (Indian School of Mines), Dhanbad invites quotations for the following to be supplied and delivered in MME Department.

S No	Full Description of items/ store	Qty	Delivery
1	<b>Supply &amp; Installation of Ultrasonic Flaw Detector.</b> (Detailed Specification is given in Annexure – I)	01 No.	At the Earliest /Ex-Stock

### Tender Schedule

Particulars	Date & Time
Bid Security or Earnest Money Deposit	<b>Rs. 8,000.00 (Eight Thousand Only)</b>
Last date and time for submission of tenders	<b>02.04.2019 at 1:00 P.M.</b>
Date and time of opening of tenders	<b>02.04.2019 at 4.00 P.M.</b>

1. You are requested to quote your lowest rates for the supply of above items in the attached format for Financial Bid (Annexure – II - A or B)
2. You may send your representative in the office of the undersigned at the scheduled date and time of opening of tender.
3. Tender should be submitted in sealed cover only superscribed with Enquiry No. and due date at the following address only:

*The Assistant/Deputy Registrar (P&S)*  
*Indian Institute of Technology (Indian School of Mines),*  
*Dhanbad – 826 004 Jharkhand*



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## Terms & Conditions

- 1) The rates should be quoted for each item separately.
- 2) Conditional offer will not be accepted.
- 3) IIT (ISM) does not issue any Form 'C' or 'D' towards sales tax concessional rate. Hence, full rate of sales tax/VAT, GST applicable should be quoted.
- 4) Since IIT(ISM) Dhanbad is an Indian Institute of Technology and subject item will be used for research, hence benefit of reduced rate of GST should be considered if applicable.
- 5) **Educational discount**, if any, should be clearly mentioned.
- 6) Earnest Money Deposit (EMD): Should be submitted in form of A/C payee demand draft drawn in favor of Registrar, IIT(ISM) and payable at SBI, IIT (ISM) campus branch or any other Bank/ Branch located in Dhanbad.
- 7) You are requested to submit your quotation strictly as per the specifications mentioned in the NIT.
- 8) Your tender must be valid for **minimum 90 days** from the date of opening of tender.
- 9) Please mention warranty/ guarantee in your offer clearly. Material/ equipment to be supplied must have minimum warranty/guarantee of **12 months**.
- 10) Each page in the bid document must be numbered properly and duly signed & sealed by the bidder on every page of the bid.
- 11) **The items/ materials shall be required to be delivered at MME Department/ Section through Purchase & Store Section, IIT (ISM) Dhanbad at the risk and cost of the tenderer.**
- 12) Unloading and installation shall be the complete responsibility of the supplier.
- 13) The stores are required to be delivered within 30 days. Late delivery may not be accepted.
- 14) The items offered should be of good quality confirming to BIS standards, wherever applicable.
- 15) **Advance payment is not admissible.** Payment shall normally be made within 30-45 days subject to receipt and acceptance & installation of the ordered materials/items PBG and other documents.
- 16) Successful bidders will have to submit Performance Security (PBG) in the form of Bank Guarantee as per the Purchase Order before releasing payment.
- 17) In the event date on which the tender is opened for acceptance is declared to be a holiday, the tenders shall be deemed to remain open for acceptance till the next working day.
- 18) Please send your sealed offer by Regd. Post/ Speed Post/ Courier only along with Courier receipt. By hand delivery of the tender will not be accepted. Tender/ quotation will be received during IIT (ISM) working hours only (i.e. Monday to Friday). *Late or delayed tenders shall be summarily rejected.*
- 19) Any other information that you may like to obtain, you are free to contact IIT (ISM) before submission of tender.
- 20) IIT (ISM) reserves the right to accept and/or to reject any/ all tenders without assigning any reason.

Assistant Registrar



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## Annexure – I

### TECHNICAL SPECIFICATIONS FOR SUPPLY & INSTALLATION OF ULTRASONIC FLAW DETECTOR

#### Specific Locking Specs:-

1. Pulser: PerfectSquare™ tunable square wave pulser with maximum Pulser Voltage upto 400 V.
2. Battery life: 15 h to 16 h (lithium-ion)
3. System linearity: Horizontal :  $\pm 0.5\%$  FSW and Resolution: 0.25% FSH, amplifier accuracy  $\pm 1$  dB
4. Protection : Water and Dust Resistant – IP66, Shock tested and Vibration Tested
5. Designed to meet the requirements of EN12668-1
6. Corrosion (optional): Can be used as thickness Gage with accuracy of  $\pm 0.05$  mm

#### Specifications for Ultrasonic Flaw Detector:-

7. The Digital Ultrasonic Flaw Detector should have conventional flaw detection capabilities with the efficiency of a highly portable, intuitive instrument. The flaw detector should have the blend of efficient menus and direct access keys which will allow user to take advantage of the highest quality flaw detection platform with exceptional ease of use.
8. Display Type: Sunlight readable display with Full VGA (640 x 480 pixels) transfective color LCD, 60 Hz update rate
9. Environmental Ratings: IP rating: Designed to meet the standards of the Ingress Protection (IP) rating IP66 (knob version) per IEC 60529-2004 (Degrees of Protection provided by enclosures – IP Code). Explosive atmosphere: Safe operation as defined by Class I, Division 2, Group D, as defined in the National Fire Protection Association Code (NFPA 70), Article 500, and tested using MIL-STD-810F Method 511.4, Procedure I.
10. Shock tested: MIL-STD-810F, Method 516.5 Procedure I, 6 cycles each axis, 15g, 11 ms half sine.
11. Vibration tested: MIL-STD-810F, Method 514.5, Procedure I, Annex C, Figure 6, general exposure: 1 hour each axis
12. PerfectSquare™ tunable square wave pulser with maximum Pulser Voltage upto 400 V.
13. Pulse width: Adjustable from 25 ns to 5,000 ns (0.1 MHz) with PerfectSquare™ technology
14. Damping: 50, 100, 200, 400  $\Omega$
15. PRF(Pulse Repetition Frequency) - 10 Hz to 2000 Hz in 10 Hz increments
16. Weight: Should be less than 1.7 kg
17. Display dimensions (W x H, Diag.): 117 mm x 89 mm, 146 mm (4.62 in. x 3.49 in., 5.76 in.)
18. Transducer connections: BNC or Number 1 LEMO
19. Battery type: Single lithium-ion rechargeable standard
20. Battery life: 12 h to 13 h (lithium-ion), 3 h (alkaline)
21. Gain: 0 to 110 dB
22. Maximum input signal: 20 V p-p
23. Receiver input impedance: 400  $\Omega \pm 5\%$
24. Receiver bandwidth: 0.2 MHz to 26.5 MHz at  $-3$  dB
25. Digital filter settings: Eight digital filter sets standard (0.2-10 MHz, 2.0-21.5 MHz, 8.0-26.5 MHz, 0.5-4 MHz, 0.2-1.2 MHz, 1.5-8.5 MHz, 5-15 MHz, DC-10 MHz)



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26. Rectification: Full-wave, Positive Half-wave, Negative Half-wave, RF
27. System linearity: Horizontal :  $\pm 0.5\%$  FSW
28. Resolution: 0.25% FSH, amplifier accuracy  $\pm 1$ dB
29. Reject: 0 to 80% FSH with Visual Warning
30. Amplitude measurement: 0 to 110% full screen height with 0.25% resolution
31. Data storage: 50,000 IDs onboard, removable 2 GB MicroSD card (standard)
32. Software for Data Transfer:Gageview Pro has to be provided
33. Measurement rate: Equivalent to PRF in all modes
34. Automated calibration: Velocity, Zero Offset, Straight Beam (First Backwall or Echo-to-Echo), Angle Beam (Soundpath or Depth)
35. Test modes: Pulse Echo, Dual, or Through Transmission
36. Units: Millimeters, inches, or microseconds
37. Range: 3.36 mm to 13,405 mm (0.132 in. to 527 in.) @ 5,900 m/s (0.2320 in./ $\mu$ s)
38. Velocity: 635 m/s to 15240 m/s (0.0250 in./ $\mu$ s to 0.6000 in./ $\mu$ s)
39. Zero offset: 0 to 750  $\mu$ s
40. Display delay: -59 mm to 13401 mm (-2.323 in. to 527.6 in.) @ longitudinal velocity in steel
41. Refracted angle: 0° to 85° in 0.1° increments
42. Measurement gates; 2 fully independent gates for amplitude and TOF measurements
43. Gate start; Variable over entire displayed range
44. Gate width; Variable from Gate Start to end of displayed range
45. Gate height: Variable from 2 to 95% full screen height
46. Alarms; Positive and Negative Threshold, Minimum Depth (Gate 1 and Gate 2)
47. Measurement display locations: 5 locations available (manual or auto selection)
48. Measurement in Gate (1, 2); Thickness, Soundpath, Projection, Depth, Amplitude, Time-Of-Flight, Min./Max. Depth, Min./Max. Amplitude
49. Other measurements: Overshoot (dB) value for DGS/AVG, ERS (equivalent reflector size) for DGS/AVG, AWS D1.1/D1.5 rating (D), Reject Value
50. DAC/TVG: Standard, Up to 50 points, 110 dB dynamic range
51. Special DAC modes: Custom DAC (up to 6 curves)
52. Curved surface correction: Standard OD or Bar correction for Angle Beam measurements
53. Instrument Inputs/Outputs: USB ports: USB On-The-Go (OTG)
54. Video output: VGA output standard
55. Designed to meet the requirements of EN12668-1
56. Service Center in India
57. Ultrasonic Transducer:-
  - a. Contact Transducer, 2 MHz, 0.50 in
  - b. Angle Beam Transducer, 2 MHz, 45 Deg
  - c. V2 Blocck





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Annexure – II (A)

## 1. PRICE SCHEDULE FOR GOODS BEING OFFERED FROM ABROAD

Name of the Bidder \_\_\_\_\_ (On bidders letter head)

NIT Reference No. **MME/INS/360/18-19**

Date: 7 March 2019

Bidder's Reference No. \_\_\_\_\_

Date:

Sl. No.	Description/Part No./Make Model	Quantity	Unit Price (in foreign currency)	Total Amount (in foreign currency)
1.				
2.				
3.				
Total Ex-Works Price-				
Packing & Forwarding and inland freight				
*FCA (at port)				
Terminal charges, loading on vassal				
**FOB (name of port)				
Air freight & insurance up to destination port				
*CIF				
Carrier charges & insurance up to final destination				
**CIP				
Concessional Custom Duty (Against DSIR Certificate)				
IGST rate (Against IIT (ISM) Certificate)				
Other Duties/taxes/clearance charge, if any				
Transportation charges up to IIT ISM Dhanbad				
Chargeable weight/Gross weight of consignment				
Indian agency Commission (%)				
Installation & Commissioning charge				
Training charges, if any				
Additional Warranty Charges, if any				
Annual Maintenance Charge, if any				
Educational discounts, if any				
Total Ex-Works Price-				

\* & \*\* Mandatory requirement

##Total Bid Price \_\_\_\_\_ in words \_\_\_\_\_

### Note :

Total Bid price in foreign currency \_\_\_\_\_ in words

- Indian agent name & address \_\_\_\_\_
- Installation, commissioning & training charges, if any \_\_\_\_\_
- Please note that Indian agents' commission shall be paid in Indian Rupees only.
- Banker's details such as- Name of account holder, Account Number, Name of Bank, Branch code, RTGS code, NEFT code, SWIFT code etc.
- Price schedule of optional items shall be indicated in a separate sheet in the same performa.
- Quoting Price for FOB/FCA and for CIF/CIP basis, otherwise bid will be rejected.
- Wherever the price quoted on FOB/FCA and CIF/CIP basis are the same, the contract would be made on CIF/CIP basis only.
- Country of Origin, Dimension and Gross Weight must be provided

Signature of Bidder

Name \_\_\_\_\_

Business Address with contact details \_\_\_\_\_



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Annexure – II (B)

## 2.PRICE SCHEDULE FOR GOODS BEING OFFERED WITHIN INDIA

Name of the Bidder\_\_\_\_\_ (On bidders letter head)

NIT Reference No. **MME/INS/360/18-19**

Date: 7 March 2019

Bidder's Reference No. \_\_\_\_\_

Date:

Sl. No.	Description/Part No./Make Model	Quantity	Unit Price (in foreign currency)	Total Amount (in foreign currency)
1.				
2.				
3.				
Ex-Works Price-				
Packing & Forwarding				
Transportation				
FOR (IIT ISM) Dhanbad				
GST/IGST (their rate(s) as the case may be, clearly specified)				
Please note that IIT ISM is eligible for Concessional GST as per Notification No. 45/2017 – Central Tax (Rate) for CGST, 45/2017 – State Tax (Rate) for SGST and 47/2017 – Central Tax (Rate) for IGST,				
Insurance up to Destination/handover (in case of fabrication)				
Installation & Commissioning charge				
Training charges, if any				
Additional Warranty Charges, if any				
Annual Maintenance Charge, if any				

\*(On the basis of the technical specifications submitted)

Total Bid Price\_\_\_\_\_

in words\_\_\_\_\_

Note :

(a) The Price schedule of optional items shall be indicated in a separate sheet in the same Performa.

(b) Cost spare parts may be indicated separately

Signature of Bidder

Name \_\_\_\_\_

Business Address with contact details\_\_\_\_\_