

**Office of the Dean Research and Development
Indian Institute of Engineering Science & Technology (IEST), Shibpur,
Howrah-711 103**

Project Code: DRC/SERB/AE&AM/KD/021/16-17

**Department of Aerospace Engineering and Applied Mechanics
Indian Institute of Engineering Science and Technology, Shibpur
Howrah-711 103**

**Ref.: Tender Advt. No. AM 1230, published in the “Statesman”, “Sanmarg” and
“Bartmaan”, dated 11.01.2017**

Notice Inviting Quotations

Sealed quotations are invited for the supply of (a) 16 MHz Acoustic Doppler Velocimeter (ADV); and (b) Pump-motor complete work including installation: as per the following technical specification. The relevant bidding document can be downloaded from the website. The document can be also obtained from the **Aerospace Engineering and Applied Mechanics** (contact : Prof. Koustuv Debnath) between 9-00 a.m. and 4.00 p.m. on all working days **from 12th January, 2017 to 27th January, 2017**. Last date of submission of sealed quotation is **30th January 2017 by 2.00 p.m.**

Dean (R & D)

(A. Code DRC-T074/16-17)

This is downloadable

**INDIAN INSTITUTE OF ENGINEERING
SCIENCE AND TECHNOLOGY, SHIBPUR**

BIDDING DOCUMENT

(Project Code: DRC/SERB/AE&AM/KD/021/16-17)

**Ref.: Tender Advt. No. AM 1230, published in the “Statesman”, “Sanmarg” and
“Bartmaan”, dated 11.01.2017**

For Supply of

- (a) 16 MHz Acoustic Doppler Velocimeter**
- (b) Pump-motor complete work including installation**

Under

**SERB, DST Project Scheme
Govt. of India (New Delhi)**

Department of Aerospace Engineering and Applied Mechanics

January 09, 2017

**SECTION I: TERMS & CONDITIONS AND IMPORTANT INSTRUCTIONS
FOR BIDDERS**

1. Bidders are to invited to submit sealed quotation as per the technical specifications for tendered item to Dr. Koustuv Debnath, Professor, Department of Aerospace Engineering and Applied Mechanics, on or before 30th January 2017 by 2.00 p.m. except Saturday, Sunday and other public holidays.

2. The last date of receipt of tenders is 30th January 2017 by 2.00 p.m Quotations received later will not be entertained under any circumstances.

3. Date and time of opening of bid is 01st February, 2017 at 11.40 p.m. and the place of opening of bid is Office Room of the Department of Aerospace Engineering and Applied Mechanics, Indian Institute of Engineering Science and Technology, Shibpur, Howrah 711103.

4. Bidders are to submit the quotations in Sealed Cover to the Department of Aerospace Engineering and Applied Mechanics in the following address:

Dr. Koustuv Debnath
Professor
Aerospace Engineering and Applied Mechanics
Indian Institute of Engineering Science and Technology,
Shibpur
Howrah-711103, India

5. Tenderers are to submit Technical Bid and Price Bid separately in two sealed envelopes and should mention on the top of the envelope the contents of the envelope (Technical Bid / Price Bid). The two sealed envelopes should be placed in a common sealed envelope. The common sealed envelope should be inscribed with the Advt. No. along with the bidders name and address.

6. Technical Bid should provide detailed equipment specifications, catalogues, technical details, operating parameters, pre-installation requirements, payment terms, warranty etc. Price Bid should contain price information.

7. The Price Bid should clearly mention the following:

----- Ex Works Price

----- Packing and forwarding charges, if any

----- Freight and insurance, upto Indian Institute of Engineering Science & Technology Shibpur, Howrah, West Bengal, India including loading and unloading charges, if any

----- All taxes, duties, levies applicable

----- Erection, Commissioning and testing charges at IEST Shibpur site

Inclusion of statutory payments/ Tax/Levy at a later stage will not be accepted.

For imported equipment, the quotation should specify the price CIF IEST Shibpur. Central Excise Duty Exemption Certificate and Custom Duty Exemption Certificate will be issued, if required. Clearly mention the cost of Custom Duty and Way Bill in the price bid. Prices quotes for both items should be in Indian Rupees which includes all costs, all applicable taxes, duties, delivery charges, insurance and anything else for supply and installation of the equipment at IEST Shibpur.

8. The materials are to be supplied at a place within Indian Institute of Engineering Science and Technology(IEST), Shibpur premises between 11.00 a.m. and 4.00 p.m. The tenderer will be responsible for any breakage, damage or defect in the equipment detected subsequently. The supply and installation of the equipment should be completed within a period not exceeding 30 days from the placement of the formal work order.

9. The supply and installation of the equipment should be completed within a period not exceeding 3 months from the placement of the formal work order or opening of the LC failing which appropriate action will be taken as per Institute rules.

10. If the supply is not completed within the stipulated period as indicated in the Work Order, a Liquidated Damage @ ½ per cent per week will be imposed subject to maximum of 5% of the value of work order.

11. For Indian purchase (This clause is applicable only for Indian purchase and not applicable for foreign purchase):

12. Bills in triplicate should be presented for payment within 15 days of Supply / Completion of work. No Advance Payment can be made. All bills are to be accompanied by Order copies and Challan Receipt. The Order Number is to be noted on both the Challan and the Bill.

13. Documents to be submitted with the tender:

Tender Documents/Terms & Conditions in Original duly signed by the Proprietor / Partner/ Director of the Company as a token of acceptance of Terms & Conditions of Tender.

14: Customs Duty & Excise Duty: The Institute will not issue any C or D form availing of concessional Sales Tax/ VAT. The Institute will issue Customs Duty Exemption Certificate or Excise Duty Exemption Certificate for foreign purchase, if required.

Indian Institute of Engineering Science and Technology, Shibpur, Howrah reserves the right to accept / reject all or any of the tenders without assigning any reason whatsoever.

We accept the above terms and conditions.

Dated:

Signature of Bidders/Suppliers
With date & Seal

SECTION II: TECHNICAL SPECIFICATIONS

(a) Specification for 16 MHz, Acoustic Doppler velocimeter

16 MHz, Acoustic Doppler velocimeter:. Complete system such that 3D flow velocity data can be directly logged into computer including real time data acquisition software.16-MHz. **ADV should be mounted on a flexible cable** so that the ADV can be oriented in any direction for measurement. The signal conditioning module of ADV should be separated from the ADV probe by a cable of approximately 1m length.

- **Bidders should be authorized by the OEM** (Original Equipment Manufacturer)

Technology: Acoustic Doppler technology; Velocity Range: 3cm/s to 250cm/s;

Accuracy: +/- 1% of measured velocity, 0.25 cm/s; **Resolution:** 0.01cm/s;

Sampling Distance from probe: 5 cm; **Sampling Volume:** 0.09(cc); **Sampling**

Rate: 0.1 Hz to 50 Hz (samples/sec); **Stem:** ADV should be mounted on a flexible

cable so that the ADV can be oriented in any direction for measurement; **Data**

storage and communication: Direct transmission of data to PC through RS

232/USB port in real time and the software should be capable of data collection,

storage, graphical display of data, generation of reports etc.; **Power source:** 12v to24

VDC with rechargeable batteries; Cable length to processor: 10 m

The maker of the sensors that are quoted should have proven track record of being used in real time velocity measurements in flume experiments that have been published in SCI journals (Reference of such literature must be made in the quote).

DELIVERY TIME: Maximum 3 months from date of issue of supply order

(b) Specification for Pump-motor set including (supply, installation and commissioning)

Specifications for pump: Capacity- 300 liters/s (1080 cum/hr); Head- 6-7 meters; Type- vertical wet pit mixed flow; Minimum efficiency of pump: 80%; Bowl efficiency: 83% (Approx); Bowl input power: 25 KW (Approx); Recommended Drive 30KW/6 pole, VSS Motor; Max speed of pump- 1000 RPM. Material of construction: bowl/casing/suction bell- cast iron; impeller- bronze; line shaft / pump shaft- ss-410; discharge head- cast iron; Sump depth: 2000 mm (approx).

Specifications for Motor: Motor of appropriate capacity to run the above pump; TEFC, sq. cage induction motor, vertical solid shaft (SS) flange mounted; Make of motor- Kirloskar/Alstom/Marathon/Crompton & Greaves Ltd.; Service - continuous duty; 3 phase 440V connection, Frequency 50 Hz; rated output: 30 KW

Scope of work:

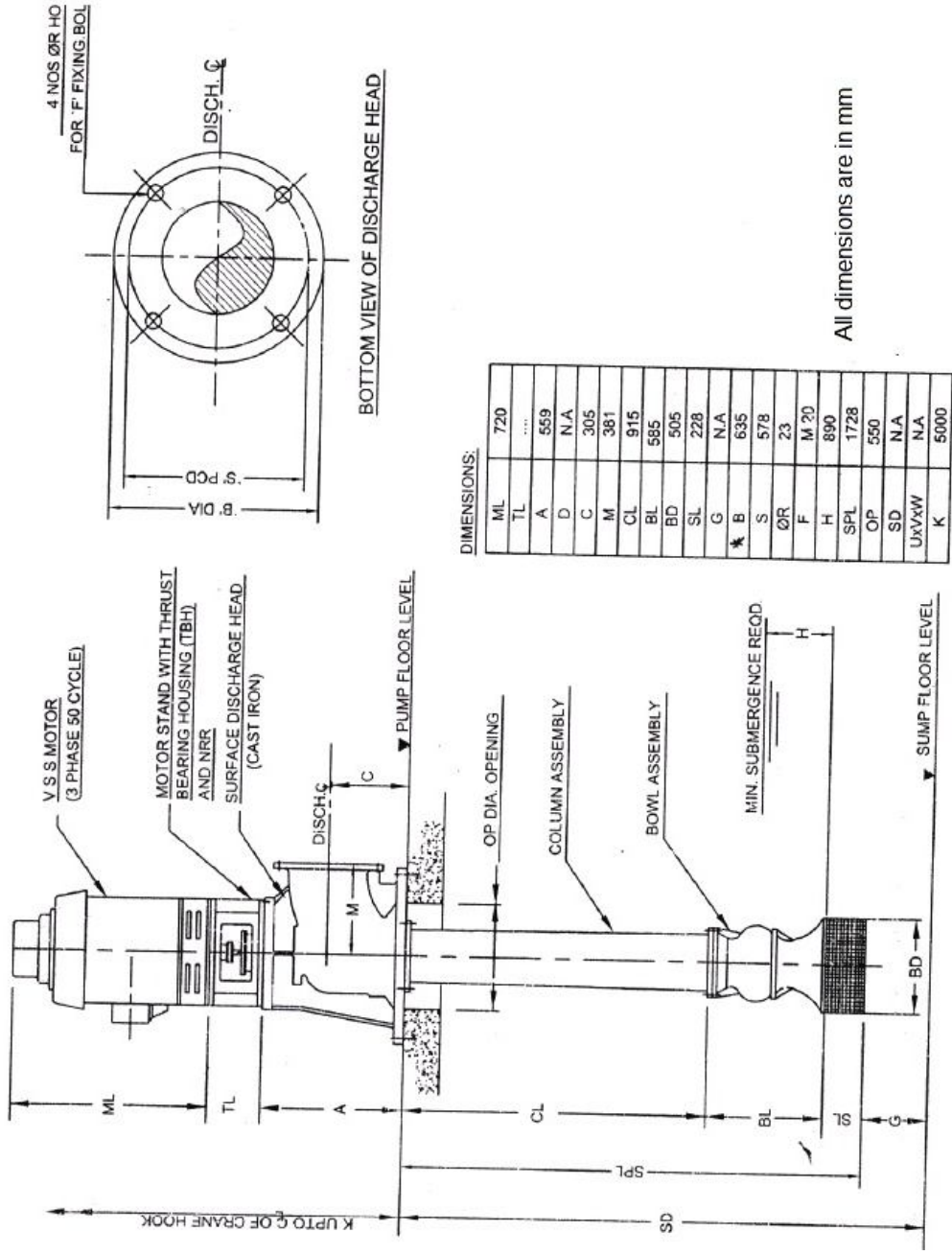
Complete pump with Discharge head; thrust bearing/NRR assembly, Suitable length of column and shaft assembly, bowl assembly, basket strainer, appropriate vertical solid shaft motor to couple with above pump, **supply and installation of gate valve. The suction and delivery dimensions of the pump-motor assembly should exactly match exactly with the suction and delivery pipes of the flume circuit.** The work will include supply and installation of the above items and connect it to the existing flume circuit (for detail dimensions please ref below general arrangement drawing for pump) as housed in the Fluid Mechanics and Hydraulics Laboratory, Department of Aerospace Engineering and Applied Mechanics, IEST, Shibpur and dismantling of the old pump from the existing flume circuit.

Warranty: 12 months from date of commissioning.

EARNEST MONEY: Rs. 5000/- to be submitted along with tender document (in the form of DD payable to “Registrar, BESU, Shibpur”)

DELIVERY TIME: Maximum 3 months from date of issue of supply order

INSTALLATION AND COMMISSIONING TIME: Maximum one month from date of delivery



DIMENSIONS:

ML	720
TL
A	559
D	N/A
C	305
M	381
CL	915
BL	585
BD	505
SL	228
G	N/A
* B	635
S	578
ØR	23
F	M 20
H	890
SPL	1728
OP	550
SD	N/A
Uxvw	N/A
K	5000

All dimensions are in mm

General arrangement drawing for pump with surface discharge