

**INDIAN INSTITUTE OF TECHNOLOGY KANPUR**  
**Department of Earth Sciences**

**Enquiry No: ES/IS/2014-2015/ 24**

**Date: 23.01.2015**

**Subject: Quotation for supply handheld flow/velocity monitoring instrument as mentioned below.**

With reference to the subject mentioned above, you are invited to submit the quotation in a sealed cover in order to reach us by Jan 30<sup>th</sup>, 2015 in the form of a hard copy to the address mentioned below. If you have any questions please call Dr. I. S. Sen at 0512-2596440, email: isen@iitk.ac.in.

**The prospective suppliers are required to send quotation in two parts in sealed envelopes, as "Technical Bid" and "Financial Bid".** The Technical Bid should contain detailed technical specification of the product being offered and should not mention any prices. The Financial Bid should include the detailed price quotation clearly including the cost of the equipment, taxes, service charges if any, shipping and handling charges. **The two separate and sealed envelopes should be clearly marked appropriately as "Technical Bid" and "Financial Bid". Kindly write the inquiry no on the top of envelop.**

**Terms and Conditions:-**

1. Maximum education discount, if any should be offered
2. Validity of quotation should be at least for 60 days
3. Prices should be on CIF and FOB separately (if imported)
4. Prices should include the installation and training cost
5. Normal payment terms for the Institute will be applicable (90% on delivery of the items and the remaining 10% after satisfactory installation/ inspection).
6. Quotation should carry proper certifications like agency certificate, proprietary certificate, etc.
7. Delivery should be made within 3 months

**Technical Specifications for Handheld flow/velocity monitoring instrument:-**

**Performance Specifications**

- Velocity range:  $\pm 0.001$  to 4.0 m/s
- Velocity resolution: 0.0001 m/s
- Velocity accuracy:  $\pm 1\%$  of measured velocity,  $\pm 0.25$  cm/s
- Sampling volume location: 10 cm from centre transducer
- Communication protocol: RS-232
- Power supply: 8 AA batteries
- LCD/Keypad unit: temporarily submersible to 1 m (3 ft)
- Operating/Storage temperature:  $-20^{\circ}$  to  $50^{\circ}\text{C}$

**Essential features**

- The instrument should be very easy to operate and should automatically perform post processing work to avoid manual delay/errors in discharge computation. (At the end of the data run, it should be possible to calculate the discharge just by press of a button to save time)
- The instrument should be unaffected by the presence of electromagnetic or ferromagnetic structures. The instrument should have no moving parts and should be calibration/maintenance free.
- The instrument should be designed for challenging outdoor conditions (such as rain, dust and temperature). The instrument should therefore be rugged and reliable.
- The instrument should measure 2D water velocity and it should attach easily to wading rods.

- The instrument should feature an automatic discharge computation using various international methods, including ISO and USGS standards.
- The instrument should be provided with 2-m cable as the standard length.
- The sensor should be a low-profile 2D water velocity measurement sensor on 2-m flexible cable to measure in depths down to 2 cm (1 inch).
- The instrument should have automatic discharge computation protocols (ISO/USGS mid-section, mean-section, and Japanese). Velocity methods: ISO, USGS, under ice, Kreps, 5-point, multipoint
- The instrument should have inbuilt recorder space: Up to 64 discharge measurements or over 150,000 individual velocity samples
- The instrument should have inbuilt QA/QC checks and discharge uncertainty calculations for improved reliability.
- The instrument should be provided with Windows-based software package that includes diagnostic beam-check, recorder access, data visualization, customizable reports, and multi-language support.
- Wading Rod 1.2 meter should be part of the supply
- Wading Suite (Chest Waders) made of neoprene rubber should also be part of supplies
- Shipping case should be part of the supply
- A complete solution is required including:
  - ✓ 2D sensor probe
  - ✓ Controller and keypad
  - ✓ 2-m flexible cable
  - ✓ Deluxe 2-piece, top-setting wading rod kit (1.2-m Metric or 4-ft English); includes case, mounting brackets
  - ✓ Wading rod mounting bracket for controller/keypad
  - ✓ Offset mounting bracket for ADV probe

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