INDIAN INSTITUTE OF TECHNOLOGY
DEPARTMENT OF CIVIL ENGINEERING

Enquiry letter for purchase of LDV/PDPA

Sub: Quotation for supply, installation, commissioning and training of Phase Doppler Particle Analyzer (PDPA)

Reference: IITK/CE/2015/1004 **Dated: May 25, 2015**

Sir / Madam,

With reference to the subject mentioned above, you are invited to submit the quotation in a sealed cover. Configuration/Specification are given below:

Specifications for Two Component Laser Doppler Velocimeter (LDV) &Phase Doppler Particle Analyzer (PDPA) system:

Laser Type/wavelength/power	Diode Pumped Solid State (DPSS) laser • 532* nm/500mW • 561* nm/300mW Varying DPSS laser power (Software controlled preferred)
Basic System configurations for LDV/PDPA measurements.	One standalone DPSS modules should include: **2C-transceiver DPSS module with 532nm & 561nm (~20m cable lingth along with necessary dual/quad-couplers). Water resistant 2C-transceiver probe.** 2C-Fibre Optic Receiver unit for velocity and size measurements compatible to be used with 2C-DPSS/2C-transceiver module. Cable length ~10m. Should include colour bars for standalone 2C-LDV & 2C-PDPA measurements. Accessory kit for the DPSS modules, including the laser safety glass, alignment blocks, 40x microscope objective lens, interlock bypass, assembly and a set of ball drivers/tools.
Lenses/Beam Expander for DPSS & fibre optic Transceiver modules options:	250mm FL, 350mm FL, 500mm FL, 750mm FL, 50 mm FL (please specify the velocity ranges covered by each FL lens) External beam expander ratios: • For DPSS transceiver module: ~1.75x along with 1000mm FL and 1500mm FL lenses • For Fibre optic transceiver module: ~2.5x along with 1000mm FL and 1500mm FL lenses
Lenses for Receiver unit	300mm FL, 500mm FL, 750mm FL, 1000mm FL, 1500mm FL (please specify the size ranges covered by each receiver's FL lens)
Photo Detector Module	Two channel External photo detector module a per the two laser wavelengths (532nm & 561nm) for velocity and size.

Frequency Signal Processor	Multi bit Digital Burst frequency signal analyser for Two channel velocity and size. Combined FFT and correlation plus burst centring and dynamic sampling rate selection Intensity validation for both size and velocity measurements.
Expected Velocity/size range along with accuracy repeatability and resolution.	• Velocity range -50 to 500 m/s (indicative) • Velocity accuracy < 0.5 % • Velocity repeatability <0.08% • Droplet Size Range 0.5 to 1,000 μm (indicative) • Size repeatability <0.7%
Computer and Software	Windows 7, 64-bit workstation, LDV/PDPA software compatible, Dual Intel Xeon Quad Core 2.4GHz processors, 4GB DDR3 RAM, 1 TB HDD, 22" monitor. Softwarefor LDV/PDPA data acquisition, analysis and presentation.
Traverse system and accessories	• Heavy Duty 3-axis traverses 600mm x 600mm x 600mm along with control unit. Capable of controlling through LDV/PDPA software • Rails: 90mm x 90mm, 1.5m length (Qty 3) along with suitable kit to form U-shape with the rails. • Include Mounting kit & rotating plates for attaching the One DPSS module as LDV/PDPA configuration, ONE 2C-Fibreoptic transceiver module and the Receiver probe to a 90 x 90 mm rail, and pinhole assembly for alignment.
Necessary Upgradable items. Quote separately as upgradable/optional item.	Provide necessary items required to upgrade the 2C-LDV/PDPA system to 3C-LDV/PDPA: • Provision to add one more 1C-transceiver DPSS module & 1C-fibre optic transceiver module. • Provision to upgrade 2C-Fibreoptic receiver unit to 3C-Fibreoptic receiver unit. • Provision to upgrade the photo detector module from Two channels to Three channels with necessary color bar options for standalone 3C-LDV and 3C-PDPA measurements. • Provision to upgrade the Frequency Signal Processor from Two channels to Three channels. Quote separately as upgradable/optional item. • Mounting accessories and any other items if necessary.
Supplier's Capability	Availability of after sales service and support in India. Supplier should compulsorily indicate details of facilities / expertise/ qualification of support staff in India. Factory trained engineer/s should be available in India for complete product support.

The quotation should have the following details:

1. Indicate item-wise pricing on FOB/CIF basis
2. Technical specifications in detail
3. Technical bid and Price bid to be sealed separately (Two-bid system)

4. Warranty period: 3 years inclusive of minimum 3 visits per year within the warranty period for service and application support.
5. User list of similar system supplied.
6. Maximum Educational discount.
7. Payment terms
8. Proprietary Certificate, if applicable
9. Support/Service capability in INDIA
10. Comprehensive AMC prices after 3 years of warranty should be quoted separately
11. Any other relevant details

Terms and condition:-

1. Sealed Quotation must reach to us till June 6, 2015. **Date extended till June 20, 2015.**
2. Prices should be in USD and CIF Delhi.
3. Our Institute is partially exempted from custom duty.
4. The final selection will be made based on weights given to technical merit and pricing as 70% and 30% each, respectively.

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