

October 9th, 2017

**Sub:** Purchase of Particle Counter

**Enquiry no. :** CHE/2017-18/IITK/PA3

We wish to purchase a handheld airborne particle counter with laser diffraction technique.

Kindly send the quotation in sealed envelope to the undersigned by October 18<sup>th</sup>, 2017. The desired specification of the particle counter has been detailed below.

Thanks and regards,

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We are looking for an airborne particle counter for obtaining number of particles in an aerosol and determining the size range within which they lie. The particle counter should provide fast and accurate count in a compact package that can be located on a work bench without the need for vibration isolation or specialized enclosures. The interactive control software should provide easy handling of data.

Desired specification and capability of the particle counter:

**Specifications:**

S.No.		
1.	Type	Airborne
2.	Technique	Laser diffraction
3.	Light Source	Laser diode (>100,000 hours)
4.	Measurement Range	0.3 - 25 $\mu\text{m}$
5.	No. of Channels	Six default channels: 0.3, 0.5, 0.7, 1.0, 2.0, 5.0 $\mu\text{m}$ and user configurable on any channel with 0.1 $\mu\text{m}$ resolution
6.	Sensitivity	0.3 $\mu\text{m}$
7.	Flow Rate	2.83 L/min (0.1 cfm)
8.	Counting Efficiency	50 $\pm$ 20% @ 0.3 $\mu\text{m}$ , 100 $\pm$ 10% @ 0.45 $\mu\text{m}$
9.	Coincidence Loss	<5% @ 70,000 particles/liter or <5% @ 2,000,000 particles/ft <sup>3</sup>
10.	Zero Count	<1 count per 5 minutes
11.	Sampling Time	User defined: (up to 59m59s) and auto repeat (up to 99 times)
12.	Sampling Mode	Cumulative, differential, concentration (counts/liter, counts/cubic foot)
13.	Error Indicator	Excess count limit, optics contamination, loss of power, insufficient battery power
14.	Interface	USB, RS232, RJ45
15.	Internal Memory	6000 data points storage/memory (1000 sets)

16.	Power	Removable rechargeable Lithium battery (7.4V/2800mAh) or 12VDC AC adapter (100-240 input)
17.	Max. Operating Time	Continuous operation > 5 hours with Lithium battery
18.	Dimensions	Handheld: 185mm(H) x 90mm(W) x 48mm(D) Base unit: 152mm (Dia) x 90mm(H)
19.	Weight	< 800 grams (including battery)
20.	Environmental Conditions	Operating: 5 - 45°C, < 90%RH Storage: -20 ~ 65°C, < 90%RH
21.	Expected date of delivery	

	<b>Documentation</b>	
22.	The supplier to provide 2 sets of installation manual, user manual, operation and troubleshooting manuals along with their soft copies.	Supplier to provide a pre-installation guide at the time of quotation.
23.	Installation, satisfactory demonstration of performance and imparting necessary training to our users/students	It will be the responsibility of the supplier to install and demonstrate its quoted performance and impart necessary training to institute. Supplier to submit their detailed standard acceptance plan at the time of quotation.
	Warranty	2 years standard warranty at site for the complete supply. Vendor should clearly mention type of services i.e preventive/breakdown Maintenance/calibration covered under warranty with its interval and cost criteria. 2 years extended warranty is to be quoted as option.
24.	Compliance	Mandatory to comply all the specifications.  This must be duly supported by technical leaflets, brochures and other related literature wherever applicable in support of the offered system.  Supplier must provide also a list of customers who have purchased and installed similar system in their laboratory, their email addresses and contact numbers.  <b>The supplier to prepare a comparison table giving compliance/non-compliance against each point in the RFP, giving corresponding values / details. This is important for proper evaluation of their offers.</b>