TECHNICAL SPECIFICATIONS OF 0.3 SENSITIVITY PORTABLE PARTICLE COUNTER

PLACE: DETAILS OF REQUIREMENT OF PARTICLE COUNTER FOR VELC PROJECT ON ADITYA-L1. THE INSTRUMENT WILL BE USED AT PROF. M.G.K.MENON SPACE SCIENCE LABORATORY AT **CREST** CAMPUS OF INDIAN INSTITUTE OF ASTROPHYSICS (IIAP).

USE: THE PROPOSED PARTICLE COUNTER WILL BE USED IN PROF.MGK MENON LAB (ISO CLASS 3/4 CLEAN ROOM) FOR DAILY PARTICULATE LEVEL MONITORING.

The Laser particle counter shall be of laser diode-based true 0.3 µm particle counter with 1.0 CFM flow rate with at least 8 channels. It shall be designed to operate in ISO Class 1 to Class 7 clean rooms without concerns of it degrading its environment or exceeding concentration limits. Mainly it will be used to monitor the particle counts in ISO 3 & ISO 4 clean room.

The system shall perform statistical calculations and shall give outputs and final reports for ISO 14644-1, FS209E, and BS5295 certification. Provision for sample storage and alarm shall be given.

The system shall include Ethernet and RS-232 communications outputs, and shall accept analog 4-20 mA inputs for connection to external environmental sensors.

Similarly the system shall have analog 4-20 mA outputs for particles and status. It shall have a built-in thermal printer, and user settable alarms.

Compatible software packages shall be quoted as optional accessories. The system shall have a temperature and RH sensor.

Required Features:

- Diode laser light scattering principle
- Eight size ranges: From 0.3 µm to 25.0µm with simultaneous display.
- 1.0 CFM (28.3 LPM) flow rate
- Built-in thermal printer
- Purge (zero count) filter
- Large colour display with touch screen
- Provision for environmental sensors like Temp, RH, velocity, differential pressure etc.,
- High-efficiency exhaust filter for ISO Class 1 – 2
- Used for facility certification as per ISO 14644-1/FS 209E

- Operating environment :Temperature: 10 – 35 °C; Humidity: 20% – 95%
- Multiple Communication Interfaces - USB, Ethernet, RS-485 and USB Flash Drive
- Power ~ 240 VAC, ~50 Hz
- Rechargeable Li-Ion battery
- Relative Humidity & Temperature sensor Deg C
- Stainless steel enclosure
- Calibration standard : Materials traceable to US National Institute of Standards and Technology (NIST)
- Electronic buffer to store the sampled data