

ANNEXURE 'A'

RFP for Prof.MGK Menon Space Science Lab Clean room class 10/1 Fan Filter Units

TECHNICAL SPECIFICATIONS OF CLASS 10/1(Fed Std) CLEAN ROOM FILTERS (FAN FILTER UNITS)

PLACE: DETAILS OF REQUIREMENT OF CLASS 10/1(Fed Std) CLEAN ROOM FILTERS FOR VELC PROJECT ON ADITYA-1 AT PROF. M.G.K.MENON LABORATORY FOR SPACE SCIENCES AT **CREST** CAMPUS OF INDIAN INSTITUTE OF ASTROPHYSICS (IIAP).

USE: THE PROPOSED CLASS 10/1 CLEAN ROOM FILTERS WILL BE USED TO CREATE CLASS 10 (FED STD) CLEAN ENVIRONMENT INSIDE THE SOFTWALL CLEANROOM SETUP.

Specifications:

1. Filter medium shall be PolyTetra Flouro Ethylene Membrane (PTFE)

PTFE membrane has proven to be resistant to high corrosive substances such as Alkaline, Acid and other organic substances.

2. Filter shall have Ultra-high efficiency with low pressure drop

The pressure drop of the filter medium shall be lower than that of conventional glass ULPA, a factor which contributes greatly to reduced energy and space requirements.

3. Filter shall have high resistance to corrosive environment (Acid, Alkali and Organics)

Filter medium to be resistant to high corrosive substances such as Alkaline, Acid and other organic substances.

4. Filter shall have Negligible off-gassing properties

Molecular contaminants from the filter shall be less than

TML(Total Mass Loss) : Less than 1%

CVCM (Collected Volatile Condensable Mass) : Less than 0.1%

No silicone sealant inside the filter module and FFU module.

5. Filter shall have 99.999995% Minimum Efficiency

Particles as fine as 0.12µm in diameter are effectively blocked, making it suitable for use in super cleanroom of Class 1 or blow

6. **Filter shall meet Meets UL 900, Class 1**
7. **Filter shall have Superior Durability**
Filter membrane shall be high intensity and high durability
8. **Water Resistance**
Filter shall have excellent water resistance as compare to glass and low boron media
9. **Impurity-Free**
Filter membrane shall have smaller pore size and fiber diameter than glass media, thus it significantly reduces the levels of off-gassing impurities to almost zero. Impurities such as Boron, Sodaum, Potassium and Silicon
10. **Dimension of the FFU with filter : 605 X 1215 X 330 MM**
11. **Efficiency shall be [99.999995@0.12um\(7N5\)-U-17](#)**
12. **Resistance shall be ~ 80Pa±10%@0.45m/s**
13. **Gasket shall be both sides, EPDM Grey Faceguard shall be air leaving side**
14. **Power: 220V-50Hz – Single phase**
15. **Housing and finishing shall be stainless steel**
16. **Filters shall be replaceable type. Shall be assembled at the bottom of the FFU module**
17. **To be placed on the T-grid structure**
18. **It Shall have speed controls & on – off control**
19. **Provision for BMS Integration is preferred.**
20. **Bidder shall have previous experience in supplying these filters. PO cpies of the same shall be enclosed with the bid.**
21. **Bidder shall be the authorised representative of the OEM. Authorisation letter shall be enclosed with the bid.**

Proposed Set Up

