ENGINEERING SPECIFICATIONS

1.0 Scope

1.1 This specification covers fan powered ceiling modules with room side replaceable HEPA filters for use in cleanroom or clean space applications. Units shall be FlowStar FFU VS250 manufactured by Filtration Group. The size of the units shall be nominal as scheduled.

2.0 Physical Characteristics

2.1 The hood body shall be manufactured from 20GA 304 S/S and all straight seams of the plenum shall be continuously welded. The hood body shall be reinforced so that it is walkable, 250 lbs without deflection.

2.2 The hood body shall have a flush mounted removable downstream screen of 22 gauge perforated T304 stainless steel with 51% open area. The down stream screen is attached to the hood with ¼ turn fasteners.

2.3 The hood body shall be equipped with hanging tabs for attachment of seismic restraints or wire hangers at each corner.

2.4 The unit shall contain an electrically commutated motor with backward curved composite impeller. The motor shall be (120 VAC, 208 VAC, 240 VAC, or 277 VAC) with a current draw of (2.77 A, or 1.85 A) at full load.

2.5 The unit shall have both an On/Off switch and a potentiometer located on top of the unit and room side. There shall be a digital display on the room side of the unit indicating the percent of motor torque and the RPM of the motor.

2.6 There shall be a room side accessible aerosol sample port to validate the upstream challenge concentration.

2.7 Units shall have 5/8” wide flange for installation into lay-in T-Bar ceiling grid or 1-1/2” trim ring for plaster ceilings.

2.8 The filter shall be kept securely in place inside the hood with filter retainers.

2.9 The gel seal filter frame shall be manufactured from anodized extruded aluminum and the sides of the frame shall be joined together so that any contamination of the filter by metal shavings is prevented. Sharp edges and riveted corners where the edges are joined together will not be accepted.

2.10 The filter shall have a downstream gel trough filled with a two component polyurethane gel. Filter bypass is prevented from the housing knife edge to gel seal.

2.11 Filter media shall be micro glass fiber type mini-pleated into closely spaced pleats with thermo-plastic resin separators. The media pack shall be 2” contained within a 2-7/8” or 3-1/2” deep frame.

3.0 Filter Performance

3.1 Each filter shall be tested and certified to have an efficiency of not less than 99.99% per the Institute of Environmental Sciences and Technologies Recommend Practice for HEPA and ULPA filters (IEST-RP-CC001)

3.2 Each filter shall be factory scan tested to a maximum allowable leak rate of 0.01% for HEPA filters and 0.005% for ULPA filters per IEST-RP-CC0034 Section 9. Factory repairs shall not exceed 1% of the filter face area and no individual repair may exceed 2 in^2 (13cm^2).

3.3 The clean filter static pressure drop shall be no greater than —

Tested Face Filter Velocity		
	HEPA- 100fpm	ULPA-100fpm
2"	0.52" w.g.	0.68" w.g.
4"	0.36" w.g.	0.45" w.g.

3.4 The filters shall be approved and listed by Underwriters Laboratories Inc, UL Standard 900

3.5 Filter labels shall have the following information:

- Tested efficiency
- Tested air flow
- Serial number
- Initial resistance at tested air flow
- Part number
- Filter type according to IES-RP-CC-001