



# ULTRASTAR REPLACEABLE TERMINAL MODULE P-RTM SPECIFICATION

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## 1.0 Scope

This specification covers filters for use for cleanroom or similar applications.

## 2.0 Performance characteristics

- 2.1** Filters shall be Ultrastar Pharma Replaceable Terminal Module manufactured by Filtration Group. The size of the filter shall be \_\_\_\_ x \_\_\_\_ x \_\_\_\_".
- 2.2** Each filter shall be tested and certified to have an efficiency of not less than  
- for HEPA filter 99.99% at 0.3  $\mu\text{m}$ .  
- for ULPA filter 99.9995% at 0.1 – 0.2  $\mu\text{m}$ .
- 2.3** Each filter shall be scan tested at the factory and certified in accordance with IES-RP-CC-001.3.
- 2.4** The clean filter static pressure drop shall be no greater than:  
- HEPA filter efficiency 99.99% at 0.3  $\mu\text{m}$ : 2.0" media pack 0.56" w.g.  
2.5" media pack 0.46" w.g.  
- ULPA filter efficiency 99.9995% at 0.1 – 0.2  $\mu\text{m}$ : 2.0" media pack 0.70" w.g.  
2.5" media pack 0.68" w.g.  
When tested on a volumetric basis of 100 cfm per square foot of active filter face area.
- 2.5** The filters shall be approved and listed by Underwriters Laboratories Inc Class 2 when tested according to UL Standard 900.

## 3.0 Physical characteristics

- 3.1** The hood shall be manufactured in 0.063 aluminum, all straight seams of the plenum shall be continuously welded. All other joint shall be intermittently welded and sealed with RTV sealant
- 3.2** The filter frame shall be manufactured in 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 (frame corners are secured with corner clips). Sharp edges where the edges are joined together will not be accepted.
- 3.3** The filter shall have a downstream gel track (reversed gel) that is being sealed up into a knife-edge in the filter housing.
- 3.4** The media pack shall be 2" (51mm) or 2.5" (63 mm) high with 6.5 pleats per inch.
- 3.5** The hood shall have a flush mounted removable downstream screen of 22 gauge perforated T-304 stainless steel with 40% open area. The downstream screen is attached to the hood by stainless steel acorn nuts and washers connected to bolts in each corner.
- 3.6** The hood shall be equipped with provision for attachment of seismic restraints or wire hangers at each corner.
- 3.7** The hood and collar assembly shall be 0.063 aluminum with a 10" or 12" diameter collar.

- 3.8 The hood shall include a butterfly damper, operable from the room side by means of a screwdriver operated flexible shaft.
- 3.9 The filter shall be kept securely in place inside the hood with filter retainers.
- 3.10 Filter media shall be micro glass fiber type mini-pleated into closely spaced pleats with string adhesive separators.
- 3.11 The media pack shall be sealed on all sides with a solid UL-classified polyurethane sealant and form a completely leak proof seal with the frame.
- 3.12 Filter labels shall have the following information:
  - Tested efficiency
  - Tested airflow
  - Initial resistance at tested air flow
  - Serial number
  - Part number
  - Filter type according to IES-RP-CC-001.3

#### **4.0 Available options**

- 4.1 Butterfly damper with fixed damper.
- 4.2 Damper only
- 4.3 Aerosol dispenser system accessible from the room side.
- 4.4 Housing made in T-304 stainless steel
- 4.5 1 ¼" flange for plaster / drywall installation. The flange is available in T-304 stainless steel.
- 4.6 Insulation on the top of the hood. Foil backed fiberglass blanket.

#### **5.0 Quality System**

- 5.1 The manufacturer shall have implemented, or be in process of implementing, an approved international quality system based on ISO 9000 at the facility manufacturing this product
- 5.2 If requested manufacturer shall make available a copy of their Corporate Quality Manual.
- 5.3 If requested the manufacturer shall make available printed performance test results (letter of compliance).