



4. The particulate phase shall consist of a single stage UL Class 2, 99.97% efficient at 0.3 microns HEPA element, meeting ASHRAE Test Standard 52-76.
5. The UVC disinfection fixture shall be a high intensity, single-ended unit, suitable for installation in a cold or moving air stream.
6. The UVC fixture shall be installed in the unit, immediately upstream of the HEPA element, in order to provide maximum opportunity to irradiate any organisms or particulate that is captured by the HEPA element. The UVC element (lamp) and HEPA filter element must be changed by the buyer's maintenance department at least one (1) time per year in order to maintain maximum disinfection capacity, or after 9,000 hours of continuous operation.

C. GENERAL:

1. The self contained air filtration unit shall be a factory fabricated, single-piece unit, with integral housing structure, fabricated from brushed aluminum double wall housing panels and designed for portable use or ceiling suspension. (For portable units, casters are provided to enable the user to move the unit from room to room). The air filter housing shall be include an all aluminum structural framework and integral housing structure that uses a nominal 1" thick thermally insulated aluminum skin panel or a laminated aluminum housing panel.
2. The structural aluminum extrusion framing system shall be as provided by Modular Framing Systems, Inc. The framing system assembly shall be accomplished using structural members and mechanical fasteners.  
  
(Welding is not necessary and not recommended). Precision molded fiberglass corners (three-way) joining elements shall be used to connect the perimeter enclosure framing (profile) members. Vertical and horizontal wall supports, or "omega" extrusions, shall be incorporated and spaced to enable the finished enclosure to withstand the system design static pressures as listed on the equipment schedule. Structural framing profiles and omega supports shall be extruded from 6063 alloy T5 temper aluminum as a minimum.
3. The unit shall include a first stage 120 volt, UVC fixture for HEPA filter Irradiation.
4. The HEPA element is cylindrical type, a 99.97% efficient at 0.3 micron particle size. The UVC fixture is designed to be inserted through the end cap of the HEPA cartridge, yielding uniform irradiation of the inside (capture side) of the element. The HEPA cartridge and UVC fixture are

an integral assembly, and the combined part number is changed once per year, i.e., the life of the UVC lamp is approximately 12-15 months.

5. A 120/1/60 ECM motorized impeller, backwardly inclined plenum type centrifugal fan(s) shall follow the HEPA filter cartridge.
6. Panels shall be joined together with a neat and clean appearance. Any safing, internal partitions, or other tie-ins to the casing shall be made using internal support angle extrusions or panels that are a part of the casing. Such members may be bolted, screwed, or riveted to or through the support structure.
7. A mill finished discharge grille with adjustable blades will be supplied on the top of the unit for portable machines. Portable units with air intake at the bottom of the unit, near the floor.
8. Suction inlet connections shall be on one end of the unit with the supply outlet located on the other end for straight through airflow.
9. Air filters and unit internal components shall be suitable for side access installation.

#### D. UNIT CONSTRUCTION:

1. Housing construction
  - a) The unit housing shall be double wall construction of all aluminum structure and panels, as described above.
  - b) Filter elements shall be side servicing via a removable access panel provided with quarter-turn door latches.
  - c) Wall panels shall be gasketed and sealed against leakage up to a 2" w.g. Silicone sealant, gaskets, or other appropriate pressure sealing means are acceptable for housing sealing use if necessary.
  - d) Panels that are not normally removed for maintenance shall be secured using a "stopper" aluminum wedge member designed to be compatible with the Modular Framing Systems, Inc., aluminum framework.
  - e) HEPA elements are sealed to the filter inlet plate using a compression gasket and bar clamp means. The bar clamp provides a compressive force to the filter gasket via threaded rods and wing nut / lock washer hardware.

2. Filtration Requirements

- a) The normal 2 inch deep cylindrical HEPA element shall have an air flow resistance of approximately 0.75" w.g. at 500 feet per minute.
- b) Filter elements shall be factory installed in the unit prior to shipment.

3. System Airflow Requirements

- a) The unit shall include an ECM motorized impeller, backwardly inclined centrifugal fan(s) to produce a minimum of either 500 or 1000 cfm, depending on the unit model number and capacity, with a system airflow against an external (duct) static pressure of 0.25" w.g.
- b) The unit fan shall operate off of 120/1/60 input power and include an on-off switch.
- c) The unit fan shall be installed after the HEPA filter.

4. Electrical Requirements

- a) The unit shall be factory wired with on-off switch to an internal unit junction box or power cord with plug, for ease of client connection in the field. Portable units are equipped with a hospital grade plug.
- b) The unit shall operate on 120/1/60, and include a 0-10 volt DC potentiometer that provides a variable speed control for air volume selection.
- c) Each unit shall be fully factory tested prior to shipment.
- d) An engraved aluminum nametag shall be provided with unit model number, serial number, operating amps and electrical input requirements.
- e) Provide a unit electrical wiring diagram with each unit.
- f) All wiring shall be in accordance with the latest version of the National Electric Code.

E. DIMENSIONAL REQUIREMENTS:

1. Due to building and air handling unit dimensional constraints, the air filtration unit housing shall not exceed the dimensions as listed on the unit drawing.
2. Portable units will be provided with casters for roll-around use.
3. Access to the unit internal filters and components shall be from one side of the unit.

F. OPTIONAL FEATURES:

1. Supply a Model H800 current switch for use in remote indication.
2. Supply one spare UVC/HEPA element, either a:

Model UVC/HEPA-500 Series	Replacement #12R.
Model UVC/HEPA-1000 Series	Replacement #24R.

G. WARRANTY

1. Isolate units are warranted against defects in material and workmanship for a period of twelve (12) months from date of commissioning or fifteen (15) months from date of shipment, whichever occurs first.