

General

Pureflo-FPM Fan-Powered Module HEPA/ULPA Filter Modules are lightweight unitized low profile units consisting of a fan/motor assembly and a minipleat HEPA/ULPA filter pack, designed to provide unidirectional vertical airflow from tee-bar ceilings. The modules are available in two sizes: nominal 24 in. x 24 in. and 24 in. x 48 in.; and in two types: a standard replaceable unit and a room side replaceable (RSR) filter. Module efficiencies are 99.99% on 0.3 micron particles or 99.9995% on 0.12 micron particles.

Options

- Nominal 10 in. or 12 in. duct collars for conditioned air
- UL Class 1 Dimple Pleat[®] HEPA filter
- 25-30% efficient pleated prefilter
- Power cord for 115V modules
- 220V 50/60 Hz fan motor or 277V 60 Hz fan motor
- Power indicator light

Application & Installation Considerations

Pureflo-FPM modules are recommended for use in Cleanroom applications for fabrication of microelectronics, semiconductors, and medical devices.

The filters in standard modules are table-top replaceable with the entire unit removed from the ceiling. The filters in room side replaceable (RSR) modules have an integral extruded channel filled with cleanroom quality sealing gel. The filters are clamped into the fan plenum against a continuous knife edge that is embedded into the gel for a leakproof seal. Removal of the filter does not disturb the enclosure. Neoprene

gasketed filters are available as an option.

Modules include threaded inserts with 1/4 in. eye-bolts at each top corner for the attachment of seismic restraint wires. Polyfoam gasket material should be applied to the tee-bar surfaces on which the modules rest.

Performance

Pureflo-FPM modules produce HEPA or ULPA filtered air at a velocity of 90 fpm + 15 fpm six inches below the filter face. When using the solid state speed control, the sound level 30 in. from the filter face is approximately 53 dbA (nc45) at a 90 fpm average face velocity and an ambient sound level of 25 dbA.

Construction

HEPA filter: Separatorless minipleat with water-resistant microfine fiberglass media 2.1 in. (53 mm) on STD models, and 2.76 in. (70 mm) on RSR models.

Fan Housing: Mil finish .063 in. aluminum

Protective Grille: Expanded 20 ga. steel, white powder-coated

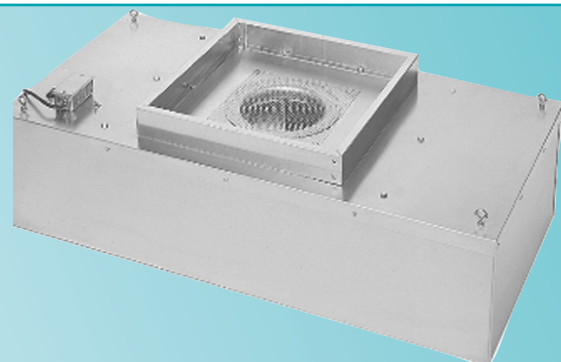
Prefilter: Washable 20 ppi foam (pleated prefilter optional)

Integral Fan/Motor Assembly: Backward-curved fan with sealed bearings, direct-driven by a 115 volt single phase 1/3 HP PSC continuous duty thermally protected motor.

Speed Control: A solid state speed control is also standard on all voltages

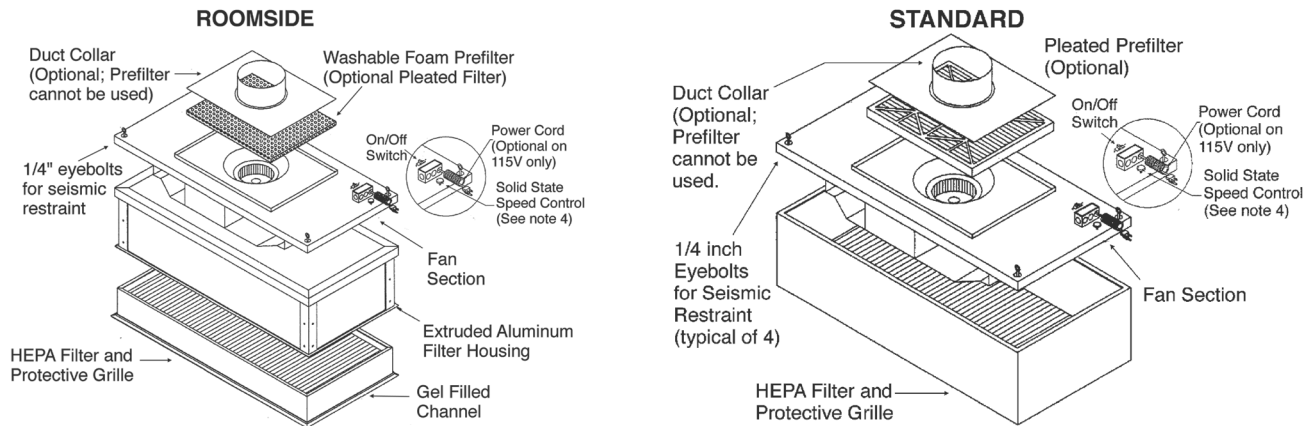
Important Features

- Extremely quiet fan/motor assembly
- HEPA/ULPA filters are replaceable
- Filters are scan-tested after assembly to meet or exceed IEST RP-1 requirements for Type C and F filters
- Dimple Pleat separatorless filter pack for a lightweight and low profile design
- UL listed as a complete unit. Adding a duct collar negates the UL Listing on the electrical assembly.



Room Side Replaceable Module Model Number	Standard Replaceable Module Model Number	Particle Size Efficiency, %	Length in inches		Nominal Air Qty., Cfm (Note 1)	Typical 115V Running Amps	Sensible Heat Output, BtuH	Max. Avail. Static Press. for Prefilter, in. w.g. (Note 3)
			Module Top	Module Bottom				
PF-FPM-493-2424-RSR	PF-FPM-493-2424-STD	99.99	23.87	23.63	360	1.68	659	0.86
PF-FPM-493-2448-RSR	PF-FPM-493-2448-STD	0.3 μ m	47.87	47.63	720	2.04	800	0.72
PF-FPM-591-2424-RSR	PF-FPM-591-2424-STD	99.9995	23.87	23.63	360	1.89	742	0.76
PF-FPM-591-2448-RSR	PF-FPM-591-2448-STD	0.12 μ m	47.87	47.63	720	2.11	828	0.57

1. Nominal air quantity based on 90 fpm velocity and the module's gross face area.
2. All fan motors are 1/3 hp single phase; 1570 rpm at 115, 230 and 277V 60Hz, and 1310 rpm at 230V 50Hz. Full load amps: 2.4 at 115V; .94 at 230V and 277V, 60Hz..
3. Based at 80% of nominal air quantity.
4. Weights: 24x48: Std.= 66 lbs, RSR = 92 lbs.



Guide Specifications

1.0 General

- 1.1 Fan-Powered Terminal HEPA/ULPA Filter Modules shall be Pureflo-FPM as manufactured by Flanders.
- 1.2 Modules shall be UL listed as a complete unit. Adding a duct collar negates the UL Listing on the electrical assembly.
- 1.3 Module sizes, electrical characteristics, efficiencies, capacities, and options shall be as scheduled on the drawings.

2.0 Module Construction

- 2.1 Filters shall be the separatorless minipleat type scan-tested after assembly to meet IEST RP-1 requirements. The filter's protective grille shall be expanded 20 ga. steel white powdercoat painted.
- 2.2 Filters for STD models shall be 2.1 in. (53 mm), and shall be sealed into an anodized aluminum frame. Filters for RSR models shall be 2.76 in. (70 mm) and

shall incorporate an extruded aluminum frame with a gel and knife edge seal design.

- 2.3 Fan housing shall be mill finish .063 in. aluminum.
- 2.4 The integral fan/motor assembly shall consist of a backward-curved centrifugal fan with sealed bearings, direct-driven by a single phase 1/3 hp PSC continuous duty thermally protected motor.
- 2.5 Motor speed shall be controlled by a solid state speed controller.

3.0 Performance

- 3.1 Modules shall produce HEPA or ULPA filtered air at a velocity of 90 fpm + 15 fpm 6 in. below the filter face.
- 3.2 Using the solid state speed control, the sound level 30 in. from the filter face shall be approximately 53 dbA at 90 fpm average face velocity and less than 25 dbA ambient sound level.



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