

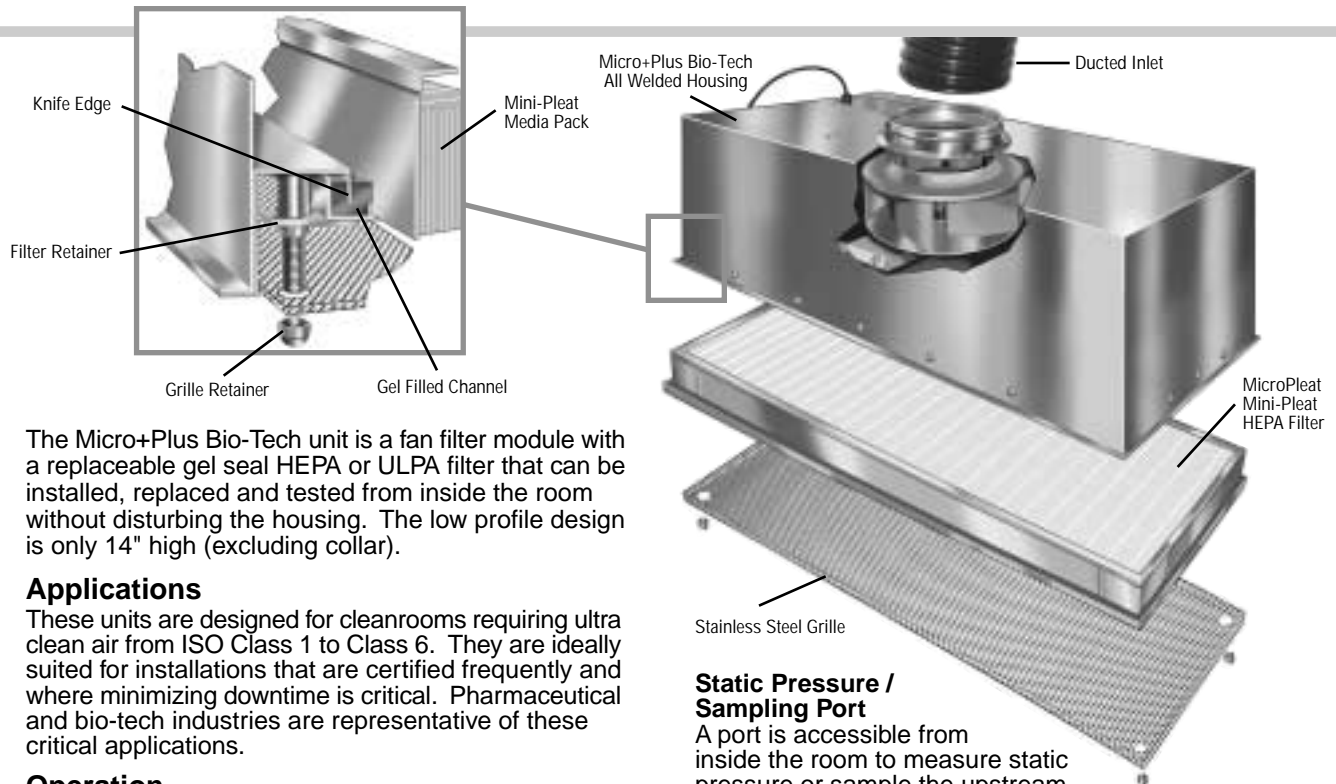


# Micro+Plus™ Bio-Tech

## Fan Filter Ceiling Modules

Aluminum or Stainless Steel Housing - All Welded Construction

*Innovative  
Clean Air  
Solutions*



The Micro+Plus Bio-Tech unit is a fan filter module with a replaceable gel seal HEPA or ULPA filter that can be installed, replaced and tested from inside the room without disturbing the housing. The low profile design is only 14" high (excluding collar).

### Applications

These units are designed for cleanrooms requiring ultra clean air from ISO Class 1 to Class 6. They are ideally suited for installations that are certified frequently and where minimizing downtime is critical. Pharmaceutical and bio-tech industries are representative of these critical applications.

### Operation

The modules are designed for lay in installation in standard 1-1/2" or 2" T-Bar ceiling grid or hard ceilings. Incoming air is supplied to the units through a flexible duct connected to the inlet collar. A removable stainless steel grille mounted on the downstream side of the housing protects the filter and helps create uniform air flow into the clean space. The fan is continuously adjustable from 70 to 120 FPM. Adjustment is made from inside the room. Power usage is 190 watts for AC units; 110 watts for DC units.

### Construction Features

**Housing** - Constructed of .063 aluminum or 304 stainless steel with a 10" or 12" inlet collar.

**Welded Seams** - All straight seams are continuously welded to assure leak free construction. All other joints are intermittently welded and sealed with RTV sealant.

**Electrical Service** - 115 volts, 230 volts, 270 volts AC, single phase; EC system uses electronically commutated DC motors using AC current.

**Stainless Steel Grille** - A stainless steel grille fits flush with the housing and is easily removable from inside the room with the same retainers that secure the filter. The grille is a perforated plate, 40% open.

**Reverse Gel Seal HEPA Filter** - The reverse gel seal cell side design allows the filter to be inserted up into the housing minimizing overall height of the unit and maintaining a flush fit in the ceiling grid. The standard unit is 99.99% efficient on 0.3 micron particles.

### Static Pressure / Sampling Port

A port is accessible from inside the room to measure static pressure or sample the upstream aerosol concentration during on site certification testing.

### EC System Saves Energy, Enhances System Control

Power consumption of EC motors is significantly lower than units operating on AC power. Micro+Plus Bio-Tech EC modules consume approximately 110 watts at 90 FPM. Standard AC units use approximately 190 watts at the same air flow while some competitive units use as much as 400 watts.

EC motors allow all units in the system to be interconnected to a central computer control station where they can be monitored and adjusted to easily and accurately balance the room. The speed of each fan motor can be adjusted individually, in groups or all at once from the central computer. A programmable calendar feature is also available to allow the system to power down during off hours, such as weekends or holidays.

### Options

- 10" or 12" inlet collar
- ULPA filters (99.9995% on .12 microns)
- Extended stainless steel grille
- Undersized unit for 2" T-Bar ceiling grid
- Hanging tabs
- Aerosol dispersion nozzle
- Aerosol dispersion quick disconnect
- Foil insulation
- Stainless steel trim for installing in sheet rock or plaster ceiling. (5/8" or 1-1/2" wide)

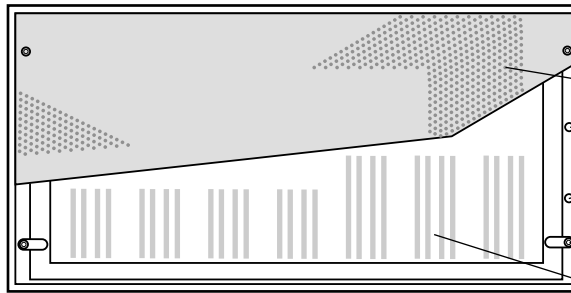
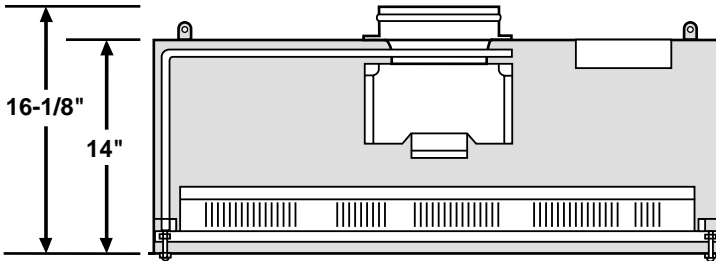
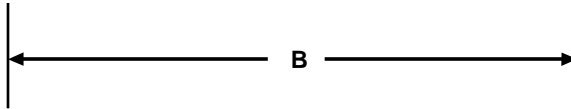
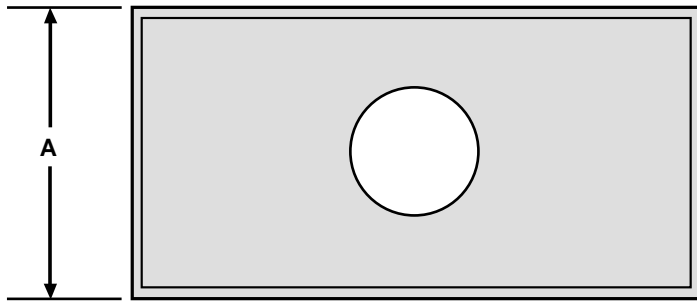
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### Dimensions

Top View



Bottom View

Nominal Size	A		B	
	24"	24"	24"	48"
Flanged Housing for T-Bar Grid				
1-1/2" T-Bar Grid	23-5/8"	23-5/8"	47-5/8"	
2" T-Bar Grid	23-1/8"	23-1/8"	47-1/8"	
Flangless Housing for Hard Ceiling Installation*	22-5/8"	22-5/8"	46-5/8"	

\*Outside dimensions of housing. Trim is field installed.

### Standard Features

- Aluminum or stainless steel housing
- Backward curved motorized impeller for better air flow distribution and quieter operation
- Internally mounted electrical terminal box
- Knife edge housing for positive seal with gel seal HEPA filter
- 10" or 12" inlet collar
- Perforated stainless steel grille
- 99.99% efficiency on 0.3 microns
- 53 mm mini-pleat media pack, rated velocity - 90 FPM

### Reverse Gel Seal Replaceable HEPA Filter Creates Positive Seal

The sealing design of the Micro+Plus Bio-Tech module consists of a knife edge flange in the housing that mates with a gel filled channel around the perimeter of the mini-pleat filter. When the filter is installed, the knife edge penetrates the gel creating a positive seal against leakage. The filter is easily latched into place with four retainers.

- Grille Retainer
- Perforated Grille
- Fan Speed Adjustment
- Static Pressure/Sampling Port
- Filter Retainer
- Mini-Pleat Filter



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