



*Innovative
Clean Air
Solutions*

The Smart Unit MicroPleat™ EC Fan/Filter Modules

*Electronically Commutated DC Motors
with Computerized Control Interface*

Electronically commutated DC motors ("EC" motors) provide significant operating and cost advantages over standard AC powered modules:

- Substantially lower power consumption - only 110 watts at 90 FPM
- Low heat generation
- Computer controlled operation

Compare MicroPleat's Energy Savings to the Competition

Power consumption of EC motors is significantly lower than units operating on AC power. MicroPleat EC modules consume approximately 110 watts at the design air flow of 90 FPM. Airguard standard AC units use approximately 190 watts at the same air flow, while competitive units use as much as 400 watts. The magnitude of the energy savings is enormous, more than sufficient to quickly pay for the cost of the more sophisticated system.

EC Motors Provide the Ultimate in Control Functions

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. To aid in balancing the system, a chart is included with the computer operating instructions correlating motor speed to filter exit velocity.

EC motors with an external electronics package enable the units to operate on AC current (115 volts, 230 volts or 277 volts) with no adjustment or change of equipment. The electronics package can be equipped with an alarm that sounds if the fans operate out of established parameters.

All electronic components required for the installation are provided by Airguard, including the computer, computer interface, electronics package, and wiring. Software to monitor and control the units is loaded on the computer and verified as operational before it is shipped to the job site.



MicroPleat EC fan / filter modules, "The Smart Unit", provide high efficiency air filtration with low energy consumption, low heat generation and low sound levels. They are available with HEPA or ULPA filters and can be built to meet practically any electrical requirement. MicroPleat EC units are ideal for Class 10 to Class 10,000 (ISO Class 1 to Class 5) cleanroom systems.

Other Standard Features of MicroPleat EC Modules

- Low Sound Level - Approximately 53 dBA@90 FPM face velocity as tested in an acoustical laboratory. Actual cleanroom installation will vary depending on the number of units installed and the background noise of the room itself.
- A unique securing fastener provides an airtight seal with uniform pressure between the filter and housing, without screws or requiring tools for removal.
- The housing is made of formed aluminum; the filters have anodized aluminum cell sides.
- Low profile - Housing with filter is only 12" high.



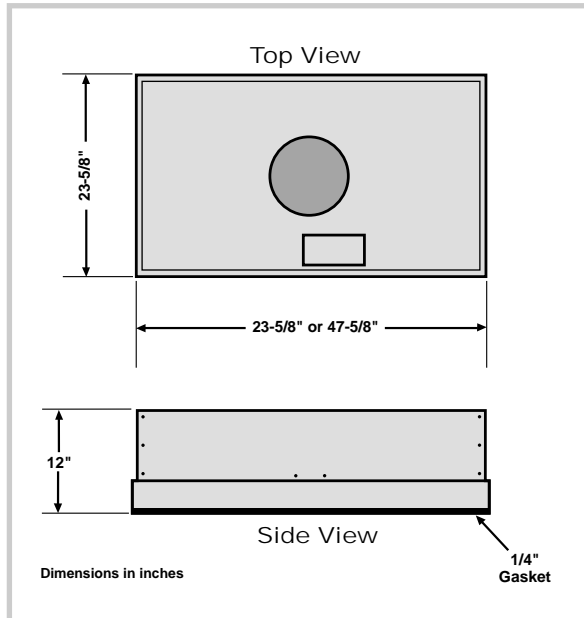
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The Smart Unit

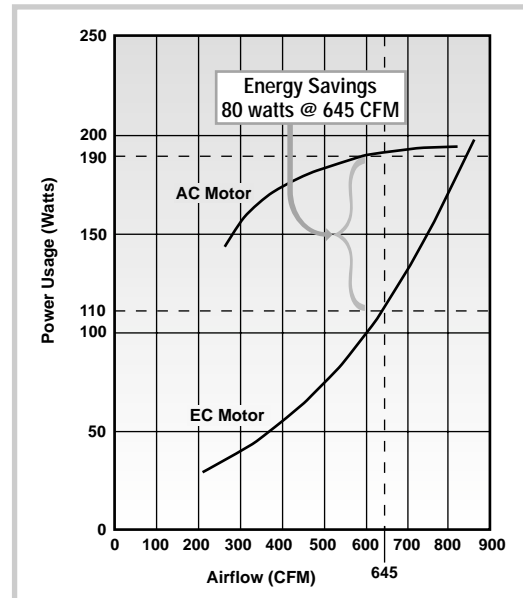
MicroPleat™ EC Fan/Filter Modules

Electronically Commutated DC Motors with Computerized Control Interface

Dimensions



Power Consumption
EC Motor vs. AC Motor - 2' x 4' Unit



Standard Features

- Low energy consumption - 110 Watts
- Low cooling load - 375 BTU/Hr
- Facilitates negative pressure plenum design
- Aluminum fan housing
- Anodized aluminum filter cell sides
- Air velocity variable from 40 to 120 FPM
- Minimum efficiency of 99.99% at 0.3 microns (HEPA)
- All electronic components for computerized control of system

HEPA FILTER

The filter shall be a sealed 2" (53 mm) separatorless mini-pleat filter with an anodized frame with a minimum efficiency of 99.99% at 0.3 microns.

ELECTRICAL

The fan motor shall be an electronically commutated DC motor capable of operation on either 115 volts, 208 Volts, 230 volts, or 277 volts. Each motor shall have an external electronics package and shall be inter-connected to a computer. The operation of each fan motor shall be monitored and controlled by the computer, either individually, in groups, or all simultaneously. The power consumption of the fan motor shall be 110 watts at design conditions.

AIR FLOW

The computer fan control software shall be capable of varying air flow from 40 to 120 FPM, measured six inches from the filter face.

GASKET SEALS

The filter shall have a gasket seal on the air entering side to seal the housing to the filter. The flange on the air leaving side of the filter shall have a gasket to provide an air tight seal to the ceiling grid system. The corners on this gasket shall have a dovetail configuration.

PROTECTIVE SCREEN

An expanded metal screen with a white finish shall be provided on the air leaving side of the HEPA filter.

OPTIONS/ACCESSORIES

- ULPA filter
- Aluminum Protective Screen
- Stainless Steel Protective Screen
- Prefilter
- Inlet Duct Collar Connection
- Roomside Replaceable Filter
- Knife-Edge Filter
- Power Cord (with or w/o Plug)
- Alarm Signal

WARRANTY - Three years on parts, except filters, from date of installation.



AIRGUARD

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