

# PharmaGel™

With Room Side Replaceable HEPA Filter

## DUCTED CEILING FILTER MODULE



### Designed for Pharmaceutical and Biotech Applications

The AAF Flanders PharmaGel HEPA filter ceiling module is ideal for applications requiring an easily replaceable HEPA filter cartridge without risk of bypass leakage. An AAF Flanders gel sealant pocket ensures airtight integrity at the filter to module seal.

The PharmaGel module was designed with the pharmaceutical and biotech industries in mind. Filter cartridges can be tested and replaced without disturbing the module housing. The removable stainless steel perforated grill allows easy wipe down of the modules to prevent cross contamination of the product. Stainless steel trim is also available.

#### Welded Aluminum Housing

The airtight housing is constructed of sturdy (0.063) aluminum. Joints and seams are welded and sealed.

#### Vertical or Horizontal Airflow

PharmaGel modules can be used for vertical or horizontal airflow applications. Horizontal flow must be specified when the modules are ordered to include bottom-edge filter supports.

#### Designed for Tee Grid or Plaster Ceiling

Each housing includes an integral aluminum flange on the downstream side, for use with a conventional T-bar grid system. Optional stainless steel trim is available for mounting in a plaster ceiling.

#### Stainless Steel Perforated Grill

The flush-mounted protective grill is constructed of 22-gauge stainless steel with a perforated design and 40% open area. Four stainless steel washers and acorn nuts hold the grill in place.

#### Adjustable Butterfly Damper

The round top inlet, 10" standard, is designed with a butterfly damper conveniently operated from the downstream or room side, using a rotary-type mechanism. A perforated diffuser plate beneath the damper promotes even distribution of air across the filter.

#### High Efficiency

The AstroCel® II, 27½" HEPA filter, featuring a 2" deep pack and mini-pleat design, provides the lowest pressure drop in the industry with optimum air cleaning efficiency. Filters with 3" and 4" deep packs are also available.

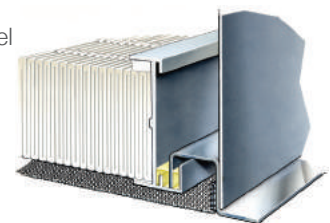
#### Easy Testing

A static pressure port adjacent to the installed filter cartridge is provided for easy measurement of the resistance across the filter, or to serve as an upstream aerosol sample test port.

### Gel Seal Prevents Bypass Leakage

#### Gel Seal Forms Airtight Seal

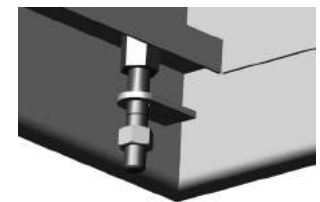
AstroCel II filter cartridges designed for PharmaGel modules each include a pocket of AAF Flanders gel sealant around the perimeter of the filter on the downstream side. When the filter is installed, a knife edge on all four sides of the housing penetrates the channel of gel to form an airtight seal. With the gel sealant pocket located on the downstream side of the housing, there is no dead air space commonly found in competitive products that seal on the upstream side.



AAF Flanders gel sealant in a pocket along the perimeter of the AstroCel® II filter cartridge forms an airtight seal.

#### Sturdy Retainers Protect the Filter

The filter cartridge is held in the housing by four retainers, each located on a threaded stud, which also support the protective grill. To replace the filter cartridge, the retainers are simply turned 90 degrees. The filter retainer studs are designed to avoid penetration through the knife-edge frame and eliminate potential leak paths. The retainer mechanism is also designed to prevent the knife edge from bottoming out in the gel track.



The filter support retainers turn 90 degrees for filter cartridge replacement.

# PharmaGel™ Filter Module

## Filter Selections

The PharmaGel module includes an AAF Flanders AstroCel II LPD 2 $\frac{7}{8}$ " mini-pleat HEPA filter with a 2" media pack that provides 99.99% minimum efficiency. A laser-tested ULPA filter providing 99.9995% efficiency at 0.12 $\mu$ m is also available. AAF Flanders filters are scanned for pinhole leaks before shipping to ensure trouble-free installation. AstroCel II 3" and 4" filters are also available for extra-depth housings.

## Damper

The PharmaGel module standard top inlet has a 10" diameter collar. A 12" diameter collar is also available. Both inlets include a butterfly-type damper. Damper adjustment and air sampling is from the room side of the module through access ports at the end of the module.

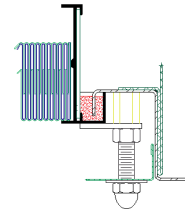
## Ordering Information

	Catalog	
	PGA-43	PGA-83
<b>Housing</b>	23 $\frac{3}{8}$ x 23 $\frac{3}{8}$ x 9	23 $\frac{3}{8}$ x 47 $\frac{3}{8}$ x 9
<b>Filter</b>	21 $\frac{1}{8}$ x 19 $\frac{7}{8}$ x 2 $\frac{7}{8}$	21 $\frac{1}{8}$ x 43 $\frac{7}{8}$ x 2 $\frac{7}{8}$
<b>Rated Airflow</b>	235 CFM @ 0.47 in. w.g.	550 CFM @ 0.47 in. w.g.

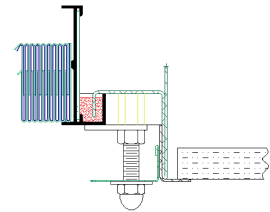
AstroCel® is a registered trademark of AAF International in the U.S. and other countries.

## Options

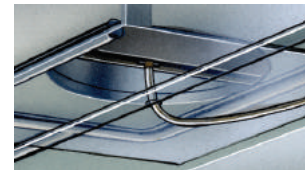
- Modules are available with hanging tabs on the top four corners of the housing.
- Permanent stainless steel perimeter trim (shown at right) is available for drywall installation or applications requiring 100% stainless steel housing material on the room side of the filter. The factory-installed 18-gauge welded trim consists of a one-piece perimeter flange on the downstream side of the housing, including the knife edge that seals the filter into the module.
- An extra wide, 1 $\frac{1}{2}$ ", stainless perimeter flange provides an attractive finished appearance in plaster or gypsum ceilings.
- Removable stainless steel perimeter trim (shown at right) is available for applications where the module is mounted in a plaster or gypsum ceiling.
- Fiberglass insulation, 2" thick, with aluminum foil backing is available to cover the exterior of the module to limit condensation. The insulation has a rating of 25 flame spread, and 50 smoke developed, when tested in accordance with ASTM E-84, and UL-723.
- A fixed perforated diffuser plate can be supplied in place of the adjustable butterfly damper, provided there are dampers already mounted in the ductwork upstream of the module.
- Extended-height PharmaGel module housings are available for deep pleat (4" deep pack) AstroCel II filters, or for side inlets.
- Deep-pack AstroCel II HEPA filters for extended height housings are available in 3" and 4" deep packs to provide longer life and lower pressure drop than competitive designs.
- An extended stainless steel grill protruding 2" below the housing is available for improved distribution of clean air into the room.
- AstroCel II ULPA filters 99.9995% efficient on 0.1 to 0.2 micron size particles are available in 2", 3", and 4" deep packs.
- Aerosol distribution tubes are used for room-side injection and uniform distribution of the challenge aerosol in the module for leak testing. The aerosol is introduced on the downstream side of the module through a plugged  $\frac{1}{2}$ " pipe coupling penetrating the internal flange of the housing. The challenge aerosol is dispersed through a perforated horseshoe-shaped device located on the upstream side of the distribution plate in the top of the module.



Riveted to the aluminum housing at the factory, the permanent stainless steel perimeter trim provides a very attractive finish in the ceiling.



The welded stainless steel angle perimeter trim is inserted and riveted to the module after installation.



Aerosol distribution tubes are ideal for applications with limited access to fans or ductwork upstream of the filter modules.

**AAF | Flanders®**

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