

High Capacity Design

The Alpha 2000 High Capacity HEPA filter is available in a nominal 12" depth configuration. It is designed for optimum performance and low operating costs in both new and replacement systems. The Alpha 2000 saves space, energy, and material and labor costs with 40% more media area than the standard capacity Alpha Cell filter.

Save Space

Alpha 2000 HEPA filters operate at 500 fpm (2000 cfm for a 24" x 24" size) at 1.35 inch w.g. clean pressure drop versus conventional Alpha Cell filters that operate at 250 fpm and .80 inch w.g. clean pressure drop.

Construction

A popular construction option consists of 16 ga. galvaneal frames and moisture-resistant microfine wet-laid fiberglass media folded over hemmed-edge low amplitude corrugated aluminum separators. The filter pack is bonded to the frame by a fire-retardant urethane elastomer to provide a rigid leak-free assembly.

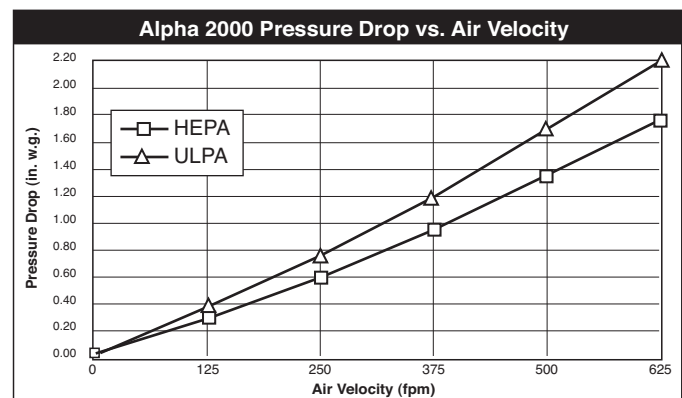
Save Energy

Alpha 2000 filters in a conventional HEPA filter bank impose a lighter load on the fan when operat-

ed at conventional 250 fpm velocities during the life of the filters. The Alpha 2000 99.97% and 99.99% high capacity 24" X 24" X 11.5" filter has a clean pressure drop of 1.0 inch w.g. at 1500 cfm, compared to standard Alpha Cell filters with a clean pressure drop of 1.50 inch w.g. at the same air flow.

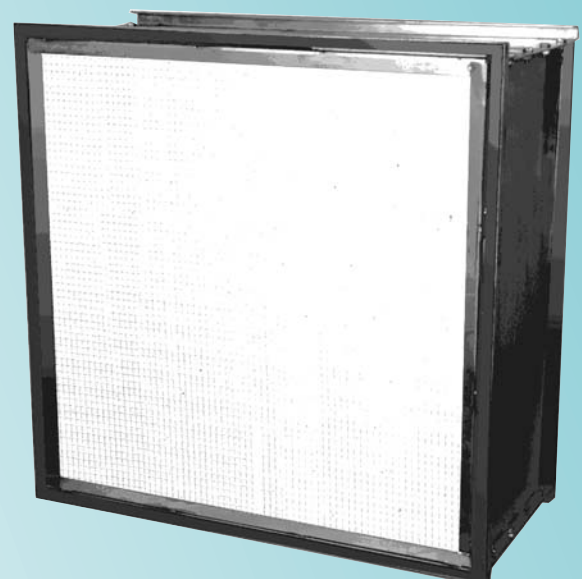
Save Replacement Material and Labor Costs

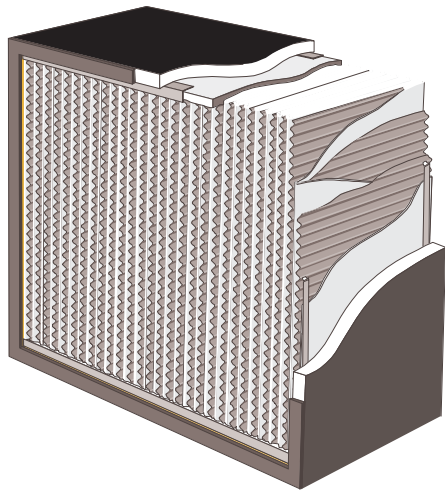
Savings are significant with high capacity Alpha 2000 filters. They operate at lower velocities and provide life cycles up to three times the life of standard capacity filters. Savings are achieved in replacement materials and labor costs as a result of fewer filters.



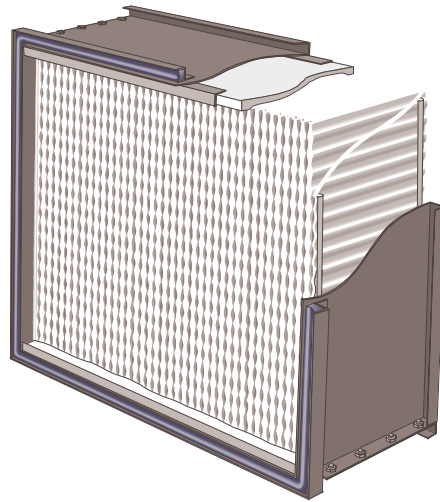
Important Features

- Efficiencies are 99.97% and 99.99% on 0.30 and 99.9995% on 0.12 micrometer particles.
- High capacity Alpha 2000 filters can reduce the filter bank size
- Corrugated aluminum separators stabilize the moisture-resistant media pack (separator style)
- Available as a separatorless media filter with a self-supporting media pack (*Pureform)
- Available in a variety of frame materials in gasket or fluid seal design.





Alpha 2000 with
Separator Style
Media Pack



Alpha 2000 with
Pureform Media
Pack

Separator or Separatorless

Flanders manufactures both conventional Separator Style and Pureform Separatorless HEPA Filters. To make a Separator Style filter, the media is folded over corrugated aluminum separators with hemmed edges to separate the pleats in the filter pack. Flanders manufactures its own filter media, enabling it to develop a unique manufacturing process for the production of Pureform Separatorless HEPA Filters. In one manufacturing operation, Flanders produces a self-supporting and self-separating Pureform Media Pack.

The Pureform Filter offers many advantages over conventional Separator Style HEPA Filters:

- More usable media area for longer service life because of higher dust holding capacity
- Reduced cost of ownership because of longer service life
- Maximum utilization of the media
- Can handle some harsh environments which may attack aluminum separators
- Media pack can be incinerated
- Media is 28 mils thick, which is significantly thicker than conventional 15 mil media used in Separator Style HEPA Filters

ALPHA 2000 COMPONENT CHART

0 - 007 - W - 07 - 00 - IU - 12 - 00 - GG - F

Hardware
 0 = None
 T = Extractor Clips

Efficiency
 007 = 99.97% DOP (PUREFORM)
 011 = 99.97% DOP (SEPARATOR STYLE)
 99.99% on .30 micrometers = SU Sealant

Capacity/Pack Style
 H = SEPARATOR
 W = 11 in. PUREFORM

Frame Material
 02 = 16 GA 409 STAINLESS
 03 = 16 GA 304 STAINLESS
 04 = 3/4 in. FIRE RETARDANT PLYWOOD
 05 - FABRICATED ALUMINUM
 07 - 3/4 in. FIRE RETARDANT PARTICLE BOARD
 08 = 16 GA. GALVANNEAL
 11 = 3/4 in. NON FIRE RETARDANT PARTICLE BOARD

Frame Style
 00 = BOX
 03 = DOUBLE-TURNED FLANGE
 05 = 3/4 in. DEEP CHANNEL
 08 = DOUBLE-TURNED FLANGE, ONE SIDE

Sealant Material
 IU = URETHANE
 SU = URETHANE SCAN TESTED = (99.99% on 0.30 micrometers)

Gasket Material
 0 = NONE
 1 = NEOPRENE
 5 = BLUE JEL

Gasket Location
 0 = NONE
 1 = UPSTREAM
 2 = DOWNSTREAM
 3 - BOTH SIDES

Filter Depth
 D = 5-7/8"
 F = 11-1/2"

Filter Face Size (H x W)
 B = 8" N = 30" R = 6"
 C = 12" P = 36" S = 72"
 E = 18" H = 42" U = 11-3/8"
 G = 24" Q = 48" Y = 23-3/8"

Odd Size Designator
 Odd size designators are an Alpha Numeric description. The first two digits specify the height whole number with an alpha designator specifying the height fraction. The second two digits specify the width whole number with an alpha designator specifying the width fraction. And the last alpha designator specifies the depth. If the height or width is less than 10 inches, use a 0 in front of the dimension.

A = 0" F = 5/16" L = 5/8"
 B = 1-1/16" G = 3/8" M = 11/16"
 C = 1/8" H = 7/16" N = 3/4"
 D = 3/16" J = 1/2" P = 13/16"
 E = 1/4" K = 9/16" Q = 7/8"
 R = 15/16"

Faceguard Material **Faceguard Location**
 0 = NONE 0 = NONE
 1 = GALVANIZED 4X4 MESH 1 = UPSTREAM
 G = ALUMINIZED EXPANDED METAL 2 = DOWNSTREAM
 2 = 17 GA. SS 4X4 MESH 3 = BOTH SIDES
 5 = 22 GA. SS 4X4 MESH

Frame Materials: Alpha 2000 Filters are available in a variety of wood and metal frame materials such as particle board, plywood, galvanized steel and stainless steel.

Gasket and Fluid Seal: The standard gasket seal is 0.75" x 0.25" neoprene for installation on either the upstream, downstream or both sides of the filter. The standard Fluid Seal is Flanders Blu-Jel® Seal which is a two - part silicone material suitable for temperatures up to 390°F.

Faceguards (Optional): Faceguards are used to protect the filter media from mechanical damage. The typical faceguard material is expanded aluminized steel. Galvanized 4 x 4 mesh welded wire and Type 304 stainless steel are also available.

Underwriters Laboratories Qualification: Alpha 2000 Filters are either UL900 Class 1 or Class 2 listed depending on materials of construction.

UL 900 Class 1 — Flanders HEPA Filters are UL 900 Class 1 rated except those filters manufactured with non-fire-retardant wood frames. Upon request, the filter will have a stamp indicating compliance with UL 900 Class 1.

UL 586 — UL 586 is typically required for Nuclear Grade HEPA Filters. Many of the Flanders non-Nuclear HEPA Filters meet the requirements of UL 586. To be listed under UL 586, filters must be submitted to Underwriters Laboratories for extensive testing including spot flame and environmental exposure to heated air. Upon request, a numbered UL 586 label certifying that the filter meets Standard 586 can be applied to the filter (maximum size is 24" x 30").

Banks: Alpha Frames are designed for Alpha 2000 filters in built-up filter banks. Each filter is secured in the frame with four bolt-type fasteners that either compress the gasket or press the knife edge into the gel in the filter channel to maintain a leak-tight seal.

Surelock HEPA Filter Housings are recommended for side-access applications. The filters are sealed in place with either spring-loaded swing arm assemblies or a locking mechanism. The swing arm assemblies or locking mechanism either compress the gasket or press the knife edge into the gel in the filter channel to maintain a leak-tight seal.

Alpha 2000 HEPA Filter Dimensions and Capacities

Filter Depth (inches)	Filter Size and Frame Depth Designator	Actual Face Size (Inches)	CFM Capacity at Clean Pressure Drop, Inches w.g.			Weight (lbs)
			.95	1.35	1.75	
			11-1/2	GG-F	24x24	
	GC-F	24x12	650	920	1180	26
	YY-F	23-3/8x23-3/8	1350	1900	2450	37
	YUF	23-3/8x11-3/8	610	865	1150	25
	GN-F	24x30	1750	2550	3250	45
	CC-F	12x12	290	430	550	14

NOTE: The pressure drop for fluid seal (Separator or Pureform) and scan tested Pureform filters will be approximately 15% higher.

Guide Specifications

1.0 General

- 1.1 Alpha 2000 HEPA filters shall be extended media (separator type) (Pureform separatorless type) filters as manufactured by Flanders.
- 1.2 Filter sizes, capacities and construction options shall be as scheduled on the drawings.
- 1.3 Filters shall be (UL 900 Class 1)(UL586 listed).

2.0 Filter Construction

- 2.1 The filter pack shall be constructed by pleating a continuous sheet of non-woven water-resistant fiberglass media around hemmed-edge corrugated aluminum separators. (or) The filter pack shall be constructed by pleating a continuous sheet of formed, corrugated medium so that the pack is self-supporting without the use of spacers of any kind, including separators, tape strings, adhesives or strips of media.
- 2.2 The filter pack shall be sealed into a (galvaneal) 409 stainless steel) (304 stainless steel) (particle board) (fire-retardant particleboard) (fire-retardant plywood) frame with a fire retardant (polyurethane foam) (solid urethane) sealant. (Steel frames shall be 16 ga.)(Wood frames shall be 3/4" thick.)

- 2.3 (A 40-durometer closed-cell neoprene gasket) (Silicone jel in a channel) shall be provided on one or more sides to seal the filter in the mounting device.

3.0 Performance

- 3.1 Initial and final resistances shall not exceed the scheduled values.
- 3.2 Alpha 2000 HEPA Filters shall have a minimum efficiency of 99.97% on 0.30 micrometer particles when tested at rated capacity on a Q-107 Penetrometer in accordance with IEST-RP-CC-001.3, Type A. Measure the upstream and downstream concentration of these particles with a light scattering photometer, determine the penetration and calculate the efficiency.
- 3.3 Alpha 2000 Scan Tested HEPA Filters shall have a minimum efficiency of 99.99% on 0.30 micrometer particles in accordance with IEST-RP-CC-001.3, Type C. The scan test shall consist of challenging the filter with a high concentration of an approved oil aerosol or PSL Spheres. Utilizing a photometer or particle counter, the media pack and the pack-to-frame seal shall be scanned to insure that there are no leaks greater than .01% of the upstream concentration at 100 fpm face velocity

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